



中国认可  
国际互认  
检测  
TESTING  
CNAS L0310



## FCC SAR Compliance Test Report

**Product Name:** Smart Phone

**Model:** VTR-L29

**Report No.:** SYBH(Z-SAR)017032017-2

**FCC ID:** QISVTR-L29

|      |                           |                             |
|------|---------------------------|-----------------------------|
|      | APPROVED<br>(Lab Manager) | PREPARED<br>(Test Engineer) |
| BY   | <i>Wei Huanbin</i>        | <i>Deng Zhao</i>            |
| DATE | 2017-03-27                | 2017-03-27                  |

**Reliability Laboratory of Huawei Technologies Co., Ltd.**

**(Global Compliance and Testing Center of Huawei Technologies Co., Ltd)**

Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District,  
Shenzhen, 518129, P.R.C  
Tel: +86 755 28780808 Fax: +86 755 89652518

※ ※ **Notice** ※ ※

1. The laboratory has passed the accreditation by China National Accreditation Service for Conformity Assessment (CNAS). The accreditation number is L0310.
2. The laboratory has passed the accreditation by The American Association for Laboratory Accreditation (A2LA). The accreditation number is 2174.01 & 2174.02 & 2174.03
3. The laboratory (Reliability Lab of Huawei Technologies Co., Ltd) is also named “Global Compliance and Testing Center of Huawei Technologies Co., Ltd”, the both names have coexisted since 2009.
4. The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.
5. The test report is invalid if there is any evidence of erasure and/or falsification.
6. The test report is only valid for the test samples.
7. Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

## Table of Contents

|       |                                                      |    |
|-------|------------------------------------------------------|----|
| 1     | General Information.....                             | 7  |
| 1.1   | Statement of Compliance.....                         | 7  |
| 1.2   | RF exposure limits.....                              | 8  |
| 1.3   | EUT Description.....                                 | 9  |
| 1.3.1 | General Description.....                             | 12 |
| 1.3.2 | Dynamic antenna switching specification.....         | 14 |
| 1.3.3 | Dynamic antenna tuning Test Configurations.....      | 14 |
| 1.3.4 | TDD LTE specification.....                           | 14 |
| 1.3.5 | Power reduction specification.....                   | 15 |
| 1.3.6 | Downlink LTE CA specification.....                   | 16 |
| 1.4   | Test specification(s).....                           | 25 |
| 1.5   | Testing laboratory.....                              | 25 |
| 1.6   | Applicant and Manufacturer.....                      | 25 |
| 1.7   | Application details.....                             | 25 |
| 1.8   | Ambient Condition.....                               | 25 |
| 2     | SAR Measurement System.....                          | 26 |
| 2.1   | SAR Measurement Set-up.....                          | 26 |
| 2.2   | Test environment.....                                | 27 |
| 2.3   | Data Acquisition Electronics description.....        | 27 |
| 2.4   | Probe description.....                               | 28 |
| 2.5   | Phantom description.....                             | 29 |
| 2.6   | Device holder description.....                       | 30 |
| 2.7   | Test Equipment List.....                             | 31 |
| 3     | SAR Measurement Procedure.....                       | 32 |
| 3.1   | Scanning procedure.....                              | 32 |
| 3.2   | Spatial Peak SAR Evaluation.....                     | 33 |
| 3.3   | Data Storage and Evaluation.....                     | 34 |
| 4     | System Verification Procedure.....                   | 36 |
| 4.1   | Tissue Verification.....                             | 36 |
| 4.2   | System Check.....                                    | 39 |
| 4.3   | System check Procedure.....                          | 40 |
| 5     | SAR measurement variability and uncertainty.....     | 41 |
| 5.1   | SAR measurement variability.....                     | 41 |
| 5.2   | SAR measurement uncertainty.....                     | 41 |
| 6     | SAR Test Configuration.....                          | 42 |
| 6.1   | Test Positions Configuration.....                    | 42 |
| 6.1.1 | General considerations.....                          | 42 |
| 6.1.2 | Head Exposure Condition.....                         | 42 |
| 6.1.3 | Body-worn Exposure Condition.....                    | 43 |
| 6.1.4 | Hotspot Exposure Condition.....                      | 43 |
| 6.2   | 3G SAR Test Reduction Procedure.....                 | 44 |
| 6.3   | GSM Test Configuration.....                          | 44 |
| 6.4   | UMTS Test Configuration.....                         | 45 |
| 6.5   | LTE Test Configuration.....                          | 51 |
| 6.6   | WiFi Test Configuration.....                         | 54 |
| 6.6.1 | Initial Test Position Procedure.....                 | 54 |
| 6.6.2 | Initial Test Configuration Procedure.....            | 54 |
| 6.6.3 | Sub Test Configuration Procedure.....                | 54 |
| 6.6.4 | WiFi 2.4G SAR Test Procedures.....                   | 55 |
| 6.6.5 | WiFi 5G SAR Test Procedures.....                     | 56 |
| 6.7   | Proximity sensor power reduction Configurations..... | 58 |
| 7     | SAR Measurement Results.....                         | 65 |
| 7.1   | Conducted power measurements.....                    | 65 |

|        |                                                                         |     |
|--------|-------------------------------------------------------------------------|-----|
| 7.1.1  | Conducted power measurements of GSM850 (Second Antenna) .....           | 66  |
| 7.1.2  | Conducted power measurements of GSM1900 (Second Antenna) .....          | 67  |
| 7.1.3  | Conducted power measurements of UMTS Band II (Second Antenna) .....     | 68  |
| 7.1.4  | Conducted power measurements of UMTS Band IV (Second Antenna) .....     | 69  |
| 7.1.5  | Conducted power measurements of UMTS Band V (Second Antenna) .....      | 70  |
| 7.1.6  | Conducted power measurements of LTE Band II (Second Antenna) .....      | 71  |
| 7.1.7  | Conducted power measurements of LTE Band IV (Second Antenna) .....      | 74  |
| 7.1.8  | Conducted power measurements of LTE Band V(Second Antenna) .....        | 80  |
| 7.1.9  | Conducted power measurements of LTE Band VII (Second Antenna) .....     | 82  |
| 7.1.10 | Conducted power measurements of LTE Band XII (Second Antenna) .....     | 84  |
| 7.1.11 | Conducted power measurements of LTE Band XVII (Second Antenna) .....    | 86  |
| 7.1.12 | Conducted power measurements of LTE Band XXVI (Second Antenna) .....    | 87  |
| 7.1.13 | Conducted power measurements of LTE Band XXXVIII (Second Antenna) ..... | 93  |
| 7.1.14 | Conducted power measurements of LTE Band XLI (Second Antenna) .....     | 95  |
| 7.1.15 | Conducted power measurements of GSM850 (Main Antenna) .....             | 97  |
| 7.1.16 | Conducted power measurements of GSM1900 (Main Antenna) .....            | 98  |
| 7.1.17 | Conducted power measurements of UMTS Band II (Main Antenna) .....       | 99  |
| 7.1.18 | Conducted power measurements of UMTS Band IV (Main Antenna) .....       | 100 |
| 7.1.19 | Conducted power measurements of UMTS Band V (Main Antenna) .....        | 101 |
| 7.1.20 | Conducted power measurements of LTE Band II (Main Antenna) .....        | 102 |
| 7.1.21 | Conducted power measurements of LTE Band IV (Main Antenna) .....        | 108 |
| 7.1.22 | Conducted power measurements of LTE Band V(Main Antenna) .....          | 111 |
| 7.1.23 | Conducted power measurements of LTE Band VII (Main Antenna) .....       | 113 |
| 7.1.24 | Conducted power measurements of LTE Band XII (Main Antenna) .....       | 121 |
| 7.1.25 | Conducted power measurements of LTE Band XVII (Main Antenna) .....      | 123 |
| 7.1.26 | Conducted power measurements of LTE Band XXVI (Main Antenna) .....      | 124 |
| 7.1.27 | Conducted power measurements of LTE Band XXXVIII (Main Antenna) .....   | 127 |
| 7.1.28 | Conducted power measurements of LTE Band XLI (Main Antenna) .....       | 131 |
| 7.1.29 | Conducted power measurements of Downlink LTE CA .....                   | 133 |
| 7.1.30 | Conducted power measurements of WiFi 2.4G .....                         | 137 |
| 7.1.31 | Conducted power measurements of WiFi 5G .....                           | 139 |
| 7.1.32 | Conducted power measurements of BT .....                                | 147 |
| 7.2    | SAR measurement Results .....                                           | 148 |
| 7.2.1  | SAR measurement Result of GSM850 (Second Antenna) .....                 | 150 |
| 7.2.2  | SAR measurement Result of GSM1900 (Second Antenna) .....                | 152 |
| 7.2.3  | SAR measurement Result of UMTS Band II(Second Antenna) .....            | 154 |
| 7.2.4  | SAR measurement Result of UMTS Band IV(Second Antenna) .....            | 156 |
| 7.2.5  | SAR measurement Result of UMTS Band V(Second Antenna) .....             | 158 |
| 7.2.6  | SAR measurement Result of LTE Band II(Second Antenna) .....             | 160 |
| 7.2.7  | SAR measurement Result of LTE Band IV(Second Antenna) .....             | 163 |
| 7.2.8  | SAR measurement Result of LTE Band V(Second Antenna) .....              | 166 |
| 7.2.9  | SAR measurement Result of LTE Band VII(Second Antenna) .....            | 169 |
| 7.2.10 | SAR measurement Result of LTE Band XII(Second Antenna) .....            | 172 |
| 7.2.11 | SAR measurement Result of LTE Band XVII(Second Antenna) .....           | 174 |
| 7.2.12 | SAR measurement Result of LTE Band XXVI(Second Antenna) .....           | 175 |
| 7.2.13 | SAR measurement Result of LTE Band XXXVIII(Second Antenna) .....        | 177 |
| 7.2.14 | SAR measurement Result of LTE Band XLI(Second Antenna) .....            | 178 |
| 7.2.15 | SAR measurement Result of GSM850(Main Antenna) .....                    | 181 |
| 7.2.16 | SAR measurement Result of GSM1900(Main Antenna) .....                   | 183 |
| 7.2.17 | SAR measurement Result of UMTS Band II(Main Antenna) .....              | 185 |
| 7.2.18 | SAR measurement Result of UMTS Band IV(Main Antenna) .....              | 187 |
| 7.2.19 | SAR measurement Result of UMTS Band V(Main Antenna) .....               | 189 |
| 7.2.20 | SAR measurement Result of LTE Band II (Main Antenna) .....              | 191 |
| 7.2.21 | SAR measurement Result of LTE Band IV(Main Antenna) .....               | 195 |
| 7.2.22 | SAR measurement Result of LTE Band V(Main Antenna) .....                | 198 |
| 7.2.23 | SAR measurement Result of LTE Band VII(Main Antenna) .....              | 201 |

---

|        |                                                                |     |
|--------|----------------------------------------------------------------|-----|
| 7.2.24 | SAR measurement Result of LTE Band XII(Main Antenna) .....     | 205 |
| 7.2.25 | SAR measurement Result of LTE Band XVII(Main Antenna) .....    | 207 |
| 7.2.26 | SAR measurement Result of LTE Band XXVI(Main Antenna).....     | 208 |
| 7.2.27 | SAR measurement Result of LTE Band XXXVIII(Main Antenna) ..... | 211 |
| 7.2.28 | SAR measurement Result of LTE Band XLI(Main Antenna) .....     | 215 |
| 7.2.29 | SAR measurement Result of WiFi 2.4G.....                       | 219 |
| 7.2.30 | SAR measurement Result of WiFi 5G.....                         | 222 |
| 7.3    | Multiple Transmitter Evaluation.....                           | 225 |
| 7.3.1  | Stand-alone SAR test exclusion.....                            | 226 |
| 7.3.2  | Simultaneous Transmission Possibilities .....                  | 227 |
| 7.3.3  | SAR Summation Scenario .....                                   | 228 |
| 7.3.4  | Simultaneous Transmission Conclusion .....                     | 228 |
|        | Appendix A. System Check Plots .....                           | 229 |
|        | Appendix B. SAR Measurement Plots .....                        | 229 |
|        | Appendix C. Calibration Certificate .....                      | 229 |
|        | Appendix D. Photo documentation .....                          | 229 |

※ ※ **Modified History** ※ ※

| REV.    | DESCRIPTION                                                                                                                                                                                                                                     | ISSUED DATE | REMARK    |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-----------|
| Rev.1.0 | Initial Test Report Release.<br>This report shares the same test data of VTR-L29 (report No.: SYBH(Z-SAR)011112016-2 ) and adds the spot check test data at the SAR worst case for each same antenna, frequency band and RF exposure condition. | 2017-03-27  | Deng Zhao |
|         |                                                                                                                                                                                                                                                 |             |           |
|         |                                                                                                                                                                                                                                                 |             |           |
|         |                                                                                                                                                                                                                                                 |             |           |
|         |                                                                                                                                                                                                                                                 |             |           |

# 1 General Information

## 1.1 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for VTR-L29 are as below Table 1.

| Band                                                                                                                                                                      | Max Reported SAR(W/kg) |                        |             |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|-------------|
|                                                                                                                                                                           | 1-g Head               | 1-g Body-worn (15mm) * | 1-g Hotspot |
| GSM850                                                                                                                                                                    | 1.36                   | 0.54                   | 0.82        |
| GSM1900                                                                                                                                                                   | 1.32                   | 0.34                   | 1.21        |
| UMTS Band II                                                                                                                                                              | 1.33                   | 0.54                   | <b>1.36</b> |
| UMTS Band IV                                                                                                                                                              | 1.32                   | 0.51                   | 0.92        |
| UMTS Band V                                                                                                                                                               | <b>1.49</b>            | 0.52                   | 0.74        |
| LTE Band II                                                                                                                                                               | 1.15                   | 0.52                   | 1.17        |
| LTE Band IV                                                                                                                                                               | 1.39                   | 0.50                   | 0.96        |
| LTE Band V                                                                                                                                                                | 1.15                   | 0.44                   | 0.67        |
| LTE Band VII                                                                                                                                                              | 1.06                   | <b>0.54</b>            | 1.36        |
| LTE Band XII                                                                                                                                                              | 1.32                   | 0.26                   | 0.34        |
| LTE Band XVII                                                                                                                                                             | /                      | /                      | /           |
| LTE Band XXVI                                                                                                                                                             | 1.45                   | 0.50                   | 0.73        |
| LTE Band XXIX                                                                                                                                                             | /                      | /                      | /           |
| LTE Band XXXVIII                                                                                                                                                          | 0.71                   | 0.49                   | 1.06        |
| LTE Band XLI                                                                                                                                                              | 1.25                   | 0.54                   | 1.34        |
| WiFi 2.4G                                                                                                                                                                 | 0.94                   | 0.16                   | 0.32        |
| WiFi 5G                                                                                                                                                                   | 0.98                   | 0.07                   | 0.16        |
| <b>The highest reported SAR for head, body-worn, hotspot and simultaneous transmission are 1.49W/kg, 0.54W/kg, 1.36W/kg and 1.58 W/kg respectively per KDB690783 D01.</b> |                        |                        |             |

Table 1:Summary of test result

Note:

- 1)\* For body worn operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and that positions the handset a minimum of 15mm from the body. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.
- 2) According to TCB workshop October,2014 RF Exposure Procedures Update(Overlapping LTE Bands):
  - a) Main and Second Antenna SAR for LTE Band 17 (Frequency range:704-716 MHz) is covered by LTE Band 12 (Frequency range:699-716 MHz) due to similar frequency range,same maximum tune up limit and same channel bandwidth.
  - b) Second Antenna SAR for LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2555-2655 MHz) due to similar frequency range,same maximum tune up limit and same channel bandwidth.
- 3) LTE Band 29 supports downlink only and SAR test is not required.

The device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits according to the FCC rule §2.1093, the ANSI C95.1:1992/IEEE C95.1:1991, the NCRP Report Number 86 for uncontrolled environment, according to the Industry Canada Radio Standards Specification RSS-102 for General Population/Uncontrolled exposure, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528-2013.

## 1.2 RF exposure limits

| Human Exposure                                         | Uncontrolled Environment<br>General Population | Controlled Environment<br>Occupational |
|--------------------------------------------------------|------------------------------------------------|----------------------------------------|
| <b>Spatial Peak SAR*</b><br>(Brain/Body/Arms/Legs)     | <b>1.60 W/kg</b>                               | 8.00 W/kg                              |
| <b>Spatial Average SAR**</b><br>(Whole Body)           | 0.08 W/kg                                      | 0.40 W/kg                              |
| <b>Spatial Peak SAR***</b><br>(Hands/Feet/Ankle/Wrist) | 4.00 W/kg                                      | 20.00 W/kg                             |

Table 2: RF exposure limits

The limit applied in this test report is shown in **bold** letters

Notes:

- \* The Spatial Peak value of the SAR averaged over any 1 gram of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- \*\* The Spatial Average value of the SAR averaged over the whole body.
- \*\*\* The Spatial Peak value of the SAR averaged over any 10 grams of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

**Uncontrolled Environments** are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

**Controlled Environments** are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation).

### 1.3 EUT Description

| Device Information:              |                                                                                                                 |                        |           |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------|------------------------|-----------|
| Product Name:                    | Smart Phone                                                                                                     |                        |           |
| Model:                           | VTR-L29                                                                                                         |                        |           |
| FCC ID :                         | QISVTR-L29                                                                                                      |                        |           |
| IMEI:                            | 1#:862790030196615<br>2#:862790030196672<br>3#:862790030196516                                                  |                        |           |
| Device Type :                    | Portable device                                                                                                 |                        |           |
| Device Phase:                    | Identical Prototype                                                                                             |                        |           |
| Exposure Category:               | Uncontrolled environment / general population                                                                   |                        |           |
| Hardware Version :               | HL1AVTRM                                                                                                        |                        |           |
| Software Version :               | D188-L29C432B083                                                                                                |                        |           |
| Antenna Type :                   | Internal antenna                                                                                                |                        |           |
| Others Accessories               | Headset                                                                                                         |                        |           |
| Device Operating Configurations: |                                                                                                                 |                        |           |
| Supporting Mode(s)               | GSM 850/1900, UMTS BandII/IV/V, LTE Band II/IV/V/VII/XII/XVII/XXVI/XXIX/XXXVIII/XLI, WiFi 2.4G; WiFi 5G; BT,NFC |                        |           |
| Test Modulation                  | GSM(GMSK/8PSK), UMTS(QPSK), LTE(QPSK/16QAM), WiFi(DSSS/OFDM), BT(GFSK)                                          |                        |           |
| Device Class                     | B                                                                                                               |                        |           |
| Operating Frequency Range(s)     | Band                                                                                                            | Tx (MHz)               | Rx (MHz)  |
|                                  | GSM850                                                                                                          | 824-849                | 869-894   |
|                                  | PCS1900                                                                                                         | 1850-1910              | 1930-1990 |
|                                  | UMTS Band II                                                                                                    | 1850-1910              | 1930-1990 |
|                                  | UMTS Band IV                                                                                                    | 1710–1755              | 2110–2155 |
|                                  | UMTS Band V                                                                                                     | 824-849                | 869-894   |
|                                  | LTE Band II                                                                                                     | 1850-1910              | 1930-1990 |
|                                  | LTE Band IV                                                                                                     | 1710–1755              | 2110–2155 |
|                                  | LTE Band V                                                                                                      | 824-849                | 869-894   |
|                                  | LTE Band VII                                                                                                    | 2500-2570              | 2620-2690 |
|                                  | LTE Band XII                                                                                                    | 699-716                | 729-746   |
|                                  | LTE Band XVII                                                                                                   | 704-716                | 734-746   |
|                                  | LTE Band XXVI                                                                                                   | 814-849                | 859-894   |
|                                  | LTE Band XXIX                                                                                                   | NA                     | 717-728   |
|                                  | LTE Band XXXVIII                                                                                                | 2570-2620              | 2570-2620 |
|                                  | LTE Band XLI                                                                                                    | 2555-2655              | 2555-2655 |
|                                  | BT                                                                                                              | 2400-2483.5            |           |
|                                  | WiFi 2.4G                                                                                                       | 2400-2483.5            |           |
|                                  | WiFi 5G                                                                                                         | 5150-5350<br>5470-5850 |           |
|                                  | NFC                                                                                                             | 13.56                  |           |
| GPRS Multislot Class(12)         | Max Number of Timeslots in Uplink:                                                                              |                        | 4         |
|                                  | Max Number of Timeslots in Downlink:                                                                            |                        | 4         |
|                                  | Max Total Timeslot:                                                                                             |                        | 5         |
| EGPRS Multislot Class(12)        | Max Number of Timeslots in Uplink:                                                                              |                        | 4         |
|                                  | Max Number of Timeslots in Downlink:                                                                            |                        | 4         |
|                                  | Max Total Timeslot:                                                                                             |                        | 5         |
| HSDPA UE Category                | 14                                                                                                              |                        |           |

|                               |                                                         |
|-------------------------------|---------------------------------------------------------|
| HSUPA UE Category             | 6                                                       |
| DC-HSDPA UE Category          | 24                                                      |
| Power Class:                  | 4, tested with power level 5(GSM850)                    |
|                               | 1, tested with power level 0(GSM1900)                   |
|                               | 3, tested with power control "all 1"(UMTS Band II)      |
|                               | 3, tested with power control "all 1"(UMTS Band IV)      |
|                               | 3, tested with power control "all 1"(UMTS Band V)       |
|                               | 3, tested with power control all Max.(LTE Band II)      |
|                               | 3, tested with power control all Max.(LTE Band IV)      |
|                               | 3, tested with power control all Max.(LTE Band V)       |
|                               | 3, tested with power control all Max.(LTE Band VII)     |
|                               | 3, tested with power control all Max.(LTE Band XII)     |
|                               | 3, tested with power control all Max.(LTE Band XVII)    |
|                               | 3, tested with power control all Max.(LTE Band XXVI)    |
|                               | 3, tested with power control all Max.(LTE Band XXXVIII) |
|                               | 3, tested with power control all Max.(LTE Band XLI)     |
| Test Channels (low-mid-high): | 128-190-251(GSM850)                                     |
|                               | 512-661-810(GSM1900)                                    |
|                               | 9262-9400-9538(UMTS Band II)                            |
|                               | 1312-1413-1513(UMTS Band IV)                            |
|                               | 4132-4182-4233(UMTS Band V)                             |
|                               | 18607-18900-19193(LTE Band II BW=1.4MHz)                |
|                               | 18615-18900-19185(LTE Band II BW=3MHz)                  |
|                               | 18625-18900-19175(LTE Band II BW=5MHz)                  |
|                               | 18650-18900-19150(LTE Band II BW=10MHz)                 |
|                               | 18675-18900-19125 (LTE Band II BW=15MHz)                |
|                               | 18700-18900-19100(LTE Band II BW=20MHz)                 |
|                               | 19957-20175-20393(LTE Band IV BW=1.4MHz)                |
|                               | 19965-20175-20385(LTE Band IV BW=3MHz)                  |
|                               | 19975-20175-20375(LTE Band IV BW=5MHz)                  |
|                               | 20000-20175-20350 (LTE Band IV BW=10MHz)                |
|                               | 20025-20175-20325 (LTE Band IV BW=15MHz)                |
|                               | 20050-20175-20300(LTE Band IV BW=20MHz)                 |
|                               | 20407-20525-20643(LTE Band V BW=1.4MHz)                 |
|                               | 20415-20525-20635(LTE Band V BW=3MHz)                   |
|                               | 20425-20525-20625(LTE Band V BW=5MHz)                   |
|                               | 20450-20525-20600(LTE Band V BW=10MHz)                  |
|                               | 20775-21100-21425(LTE Band VII BW=5MHz)                 |
|                               | 20800-21100-21400(LTE Band VII BW=10MHz)                |
|                               | 20825-21100-21375(LTE Band VII BW=15MHz)                |
|                               | 20850-21100-21350 (LTE Band VII BW=20MHz)               |
|                               | 23017-23095-23173(LTE Band XII BW=1.4MHz)               |
|                               | 23025-23095-23165(LTE Band XII BW=3MHz)                 |
|                               | 23035-23095-23155(LTE Band XII BW=5MHz)                 |
|                               | 23060-23095-23130(LTE Band XII BW=10MHz)                |
|                               | 23755-23790-23825(LTE Band XVII BW=5MHz)                |
|                               | 23780-23790-23800(LTE Band XVII BW=10MHz)               |
|                               | 26697-26865-27033(LTE Band XXVI BW=1.4MHz)              |
|                               | 26705-26865-27025(LTE Band XXVI BW=3MHz)                |
|                               | 26715-26865-27015(LTE Band XXVI BW=5MHz)                |
|                               | 26750-26865-26990(LTE Band XXVI BW=10MHz)               |
|                               | 26775-26865-26965(LTE Band XXVI BW=15MHz)               |
|                               | 37775-38000-38225(LTE Band XXXVIII BW=5MHz)             |

|  |                                                                                                               |
|--|---------------------------------------------------------------------------------------------------------------|
|  | 37800-38000-38200(LTE Band XXXVIII BW=10MHz)                                                                  |
|  | 37825-38000-38175 (LTE Band XXXVIII BW=15MHz)                                                                 |
|  | 37850-38000-38150(LTE Band XXXVIII BW=20MHz)                                                                  |
|  | 40265-40740-41215(LTE Band XLI BW=5MHz)                                                                       |
|  | 40290-40740-41190(LTE Band XLI BW=10MHz)                                                                      |
|  | 40315-40740-41165(LTE Band XLI BW=15MHz)                                                                      |
|  | 40340-40740-41140(LTE Band XLI BW=20MHz)                                                                      |
|  | 802.11b/g/n 20M:1-6-11 (WiFi 2.4G)                                                                            |
|  | 802.11a/n/ac 20M: 36-40-44-48-52-56-60-64-100-104-108-112-116-120-124-128-132-136-140-144-149-153-157-161-165 |
|  | 802.11 n/ac 40M: 38-46-54-62-102-110-118-126-134-142-151-159                                                  |
|  | 802.11ac 80M: 42-58-106-122-138-155(WiFi 5G)                                                                  |
|  |                                                                                                               |

Table 3:Device information and operating configuration

### 1.3.1 General Description

VTR-L29 is subscriber equipment in the LTE/ WCDMA/GSM system. The LTE frequency band is Band I, Band II, Band III, Band IV, Band V, Band VII, Band VIII, Band IX, Band XII, Band XVII, Band XVIII, Band XIX, Band XX, Band XXVI, Band XXVIII, Band XXIX, Band XXXVIII, Band XXXIX, Band XL and Band XLI. But only Band II, Band IV, Band V, Band VII, Band XII, Band XVII, Band XXVI, Band XXIX, Band XXXVIII, and Band XLI test data included in this report. The HSUPA/HSDPA/UMTS frequency band is Band I, Band II, Band IV, Band V, Band VI, Band VIII and Band XIX, But only Band II, Band IV and Band V test data can be used in this report. The GSM/GPRS/EDGE frequency band includes GSM850 and GSM900 and DCS1800 and PCS1900, but only GSM850 and DCS1900 bands test data included in this report. The Mobile Phone implements such functions as RF signal receiving/transmitting, LTE/ WCDMA /GSM protocol processing, voice, video, MMS service, GPS, AGPS, NFC and WIFI etc. Externally it provides earphone port (to provide voice service) and dual USIM card interfaces. It also provides Bluetooth module to synchronize data between a PC and the phone, or to use the built-in modem of the phone to access the Internet with a PC, or to exchange data with other Bluetooth devices.

#### Battery information :

| Name                | Manufacture                        | Description                                                                                                                                                                                                                                                                         |
|---------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Rechargeable Li-ion | Desay Battery Co., Ltd.            | Battery Model: HB386280ECW<br>Rated capacity: 3100mAh<br>Nominal Voltage:  +3.82V<br>Charging Voltage:  +4.4V |
|                     | Sunwoda Electronic Co., LTD        |                                                                                                                                                                                                                                                                                     |
|                     | SCUD (FUJIAN) Electronics Co., Ltd |                                                                                                                                                                                                                                                                                     |

**Difference description:**

There are three changed points between the VTR-L29(new) and VTR-L29(old):

1 ) Add an alternate NAND FLASH and the related match circuit is changed as well.

| Before                                                                                                                           | After                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Memory type: <b>UFS2.0</b><br>Description: Gear3 2lane RPMB<br>16MB@1key(G3-1lane 4MB RPMB for one exception),3.3V/1.8V,FBGA153b | Memory type: <b>eMMC5.1</b><br>Description:<br>CMDQ,400MHz,3.3V/1.8V,FBGA153 |

2 ) Delete a B40 SAW filter

Description: SAW Filter, 2335MHz, 2.8dB

3 ) PA model change, Add an alternate PA

New model modified the power Bias, the overall performance of the product does not affect.

| Before                                                                                                             | After                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Model: <b>SKY78117-14</b><br>Description: RF Multi-functional<br>Component,HB PAMID(w/ B7<br>DUP),2300~2690MHz,LGA | Model: <b>SKY78117-14A</b><br>Description: RF Multi-functional Component,HB<br>PAMID(w/ B7 DUP) w/ B7 Gain improvment,23<br>00~2690MHz,LGA, |

According to the difference description above, for the same frequency bands, the VTR-L29 (new) SAR is tested at the SAR worst case of VTR-L29 original test report (report No.: SYBH(Z-SAR)011112016-2 ) for each antenna, frequency band and RF exposure condition.

### 1.3.2 Dynamic antenna switching specification

The device has two 2G/3G/4G Tx antennas (Main Antenna and Second Antenna). It can transmit from either Main Antenna or Second Antenna, but they can not transmit simultaneously.

SAR test procedure for dynamic antenna switching is as below:

The Main Antenna and Second Antenna are set to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time. All independent antennas will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered to ensure SAR compliance.

### 1.3.3 Dynamic antenna tuning Test Configurations

The device also supports the dynamic antenna tuning function to optimize transmission efficiency for 1710MHz~2700MHz frequency operations, especially in any hand usage scenario.

**The dynamic antenna tuning function is only applicable for some frequency bands of the 2G/3G/4G main Tx antenna: GSM1900, UMTS Band II/IV, LTE Band II/IV/VII/XXXVIII/XLI;** which is located in the bottom part of the device. The 2G/3G/4G main antenna has two fixed states for these tuning bands: The two states (state 1 and state 2) shares the same antenna, RF path, test channel and conductive power. The software will choose better RSSI as the working state of the main TX antenna based on the RSSI comparison and switch algorithm.

SAR test procedure for dynamic antenna tuning is as below:

- a) Firstly, some test scripts are used to fix the tuning state at state1 or state 2, so that only one antenna tuning state is chosen at a time for SAR test.
- b) Secondly, in order to reduce the number of SAR tests required to demonstrate compliance for the two tuning states, one single point zoom scan SAR measurement between state1 and state 2 for each antenna tuning band and applicable RF exposure condition is considered to identify the higher SAR tuning state that need the full set of normally required SAR measurements and allow SAR test reduction for the other lower SAR conditions.
- c) Thirdly, full normally required SAR measurements are performed for the chosen higher SAR tuning state. The SAR worst case will also be checked for the other state in each antenna tuning band and applicable RF exposure condition to ensure the SAR compliance.

### 1.3.4 TDD LTE specification

The device supports TDD LTE bands. According to KDB 941225 D05 SAR for LTE Devices, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

For this device, TDD LTE SAR should be tested with the highest transmission duty factor (63.33%) , which using Uplink-downlink configuration 0. The detailed TDD LTE test configuration description are provided in Section 6 of this report.

### 1.3.5 Power reduction specification

This device uses a single fixed level of power reduction through static table look-up for SAR compliance and it is triggered by a single event or operation:

- 1) A fixed level power reduction is applied for some frequency bands when hotspot mode becomes active. When the hotspot is disabled, the power value will be recovered.
- 2) A fixed level power reduction is applied for some frequency bands when simultaneously transmitting with the other antennas in certain simultaneous transmission conditions. The standalone SAR compliance still uses the standalone SAR results tested at the maximum output power level without any power reduction.
- 3) This device uses a proximity sensor that shares the same metallic electrode as the main transmitting antenna to facilitate triggering in typical user interactivity with the device.

Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance. The test procedures in KDB 616217 is applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions. The detailed test configuration description are provided in Section 6 of this report.

The following tables summarize the key power reduction information. The detailed full power and reduced tune-up specifications and conducted power measurement results are provided in Section 7 of this report.

| Band          | Second Antenna Power Reduction Level Amount (dB) |  |
|---------------|--------------------------------------------------|--|
|               | Second Antenna+ WiFi Antenna 1 (wifi station)    |  |
| GSM850        | 0.5                                              |  |
| UMTS Band V   | 1.0                                              |  |
| LTE Band IV   | 0.5                                              |  |
| LTE Band XXVI | 0.5                                              |  |

| Band             | Main Antenna Power Reduction Level Amount (dB) |           |                        |
|------------------|------------------------------------------------|-----------|------------------------|
|                  | Hotspot on                                     | Sensor on | Hotspot on + Sensor on |
| UMTS Band II     | 2.1                                            | 0         | 2.1                    |
| LTE Band II      | 1.5                                            | 0         | 1.5                    |
| LTE Band VII     | 0.5                                            | 4.5       | 5.0                    |
| LTE Band XXXVIII | 0                                              | 4.5       | 4.5                    |

| Band                  | WiFi antenna Power Reduction Amount (dB)     |                                                |
|-----------------------|----------------------------------------------|------------------------------------------------|
|                       | Main Antenna + WiFi Antenna 1 (wifi station) | Second Antenna + WiFi Antenna 1 (wifi station) |
| WIFI 2.4G 802.11b     | 0.5                                          | 0.5                                            |
| WIFI 2.4G 802.11g     | 0.5                                          | 0.5                                            |
| WIFI 2.4G 802.11n 20M | 0.5                                          | 0.5                                            |
| WIFI 5G U-NII-1       | 2.0                                          | 2.0                                            |
| WIFI 5G U-NII-2A      | 2.0                                          | 2.0                                            |
| WIFI 5G U-NII-2C      | 2.0                                          | 2.0                                            |
| WIFI 5G U-NII-3       | 0                                            | 0                                              |

### 1.3.6 Downlink LTE CA specification

The device supports downlink LTE Carrier Aggregation (CA) only. Other Release 10 or higher features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO or other antenna diversity configurations etc. All uplink communications are identical to the Release 8 Specifications.

The possible downlink LTE CA combinations supported by this device are as below tables per 3GPP TS 36.101 V13.5.0. The conducted power measurement results of downlink LTE CA are provided in Section 7 of this report per 3GPP TS 36.521-1 V13.3.0. According to KDB 941225 D05A, the downlink LTE CA SAR test is not required and PAG requirements can be excluded.

| intra-band non-contiguous CA                        |  |                                                             |                                      |                                      |                                    |                           |
|-----------------------------------------------------|--|-------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|---------------------------|
| E-UTRA CA configuration / Bandwidth combination set |  |                                                             |                                      |                                      |                                    |                           |
| E-UTRA CA configuration                             |  | Component carriers in order of increasing carrier frequency |                                      |                                      | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
|                                                     |  | Channel bandwidths for carrier [MHz]                        | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] |                                    |                           |
| CA_41A-41A                                          |  | 10,15,20                                                    | 10,15,20                             |                                      | 40                                 | 0                         |
|                                                     |  | 5,10,15,20                                                  | 5,10,15,20                           |                                      | 40                                 | 1                         |

#### Test frequencies for CA\_41A-41A(2555-2655MHz)

| Test Frequency ID                               | CC-Combo / N <sub>RB_agg</sub> [RB] | CC1 Note1 |                    |                          | Wgap [MHz] | CC2 Note1 |                    |                          |
|-------------------------------------------------|-------------------------------------|-----------|--------------------|--------------------------|------------|-----------|--------------------|--------------------------|
|                                                 |                                     | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] |            | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] |
| Max WGap                                        | 25+25                               | 25        | 40265              | 2557.5                   | 90.0       | 25        | 41215              | 2652.5                   |
|                                                 | 25+50                               | 25        | 40265              | 2557.5                   | 85.0       | 50        | 41190              | 2650.0                   |
|                                                 |                                     | 50        | 40290              | 2560.0                   | 85.0       | 25        | 41215              | 2652.5                   |
|                                                 | 25+75                               | 25        | 40265              | 2557.5                   | 80.0       | 75        | 41165              | 2647.5                   |
|                                                 |                                     | 75        | 40315              | 2562.5                   | 80.0       | 25        | 41215              | 2652.5                   |
|                                                 | 50+50                               | 50        | 40290              | 2560.0                   | 80.0       | 50        | 41190              | 2650.0                   |
|                                                 | 25+100                              | 25        | 40265              | 2557.5                   | 75.0       | 100       | 41140              | 2645.0                   |
|                                                 |                                     | 100       | 40340              | 2565.0                   | 75.0       | 25        | 41215              | 2652.5                   |
|                                                 | 50+75                               | 50        | 40290              | 2560.0                   | 75.0       | 75        | 41165              | 2647.5                   |
|                                                 |                                     | 75        | 40315              | 2562.5                   | 75.0       | 50        | 41190              | 2650.0                   |
|                                                 | 50+100                              | 50        | 40290              | 2560.0                   | 70.0       | 100       | 41140              | 2645.0                   |
|                                                 |                                     | 100       | 40340              | 2565.0                   | 70.0       | 50        | 41190              | 2650.0                   |
|                                                 | 75+75                               | 75        | 40315              | 2562.5                   | 70.0       | 75        | 41165              | 2647.5                   |
|                                                 | 75+100                              | 75        | 40315              | 2562.5                   | 65.0       | 100       | 41140              | 2645.0                   |
|                                                 |                                     | 100       | 40340              | 2565.0                   | 65.0       | 75        | 41165              | 2647.5                   |
|                                                 | 100+100                             | 100       | 40340              | 2565.0                   | 60.0       | 100       | 41140              | 2645.0                   |
| Note 1: Carriers in increasing frequency order. |                                     |           |                    |                          |            |           |                    |                          |

### intra-band contiguous CA

| E-UTRA CA configuration / Bandwidth combination set |                                                             |                                      |                                      |                                    |                           |
|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|---------------------------|
| E-UTRA CA configuration                             | Component carriers in order of increasing carrier frequency |                                      |                                      | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
|                                                     | Channel bandwidths for carrier [MHz]                        | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] |                                    |                           |
| CA_2C                                               | 5                                                           | 20                                   |                                      | 40                                 | 0                         |
|                                                     | 10                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 15                                                          | 10, 15, 20                           |                                      |                                    |                           |
|                                                     | 20                                                          | 5, 10, 15, 20                        |                                      |                                    |                           |
| CA_5B                                               | 5,10                                                        | 10                                   |                                      | 20                                 | 0                         |
|                                                     | 10                                                          | 5                                    |                                      |                                    |                           |
| CA_7C                                               | 15                                                          | 15                                   |                                      | 40                                 | 0                         |
|                                                     | 20                                                          | 20                                   |                                      |                                    |                           |
|                                                     | 10                                                          | 20                                   |                                      | 40                                 | 1                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                    |                           |
| CA_12B                                              | 5                                                           | 5, 10                                |                                      | 15                                 | 0                         |
| CA_38C                                              | 15                                                          | 15                                   |                                      | 40                                 | 0                         |
|                                                     | 20                                                          | 20                                   |                                      |                                    |                           |
| CA_41C                                              | 10                                                          | 20                                   |                                      | 40                                 | 0                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                    |                           |
|                                                     | 5, 10                                                       | 20                                   |                                      | 40                                 | 1                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 20                                                          | 5, 10, 15, 20                        |                                      |                                    |                           |
|                                                     | 10                                                          | 15, 20                               |                                      | 40                                 | 2                         |
|                                                     | 15                                                          | 10, 15, 20                           |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                    |                           |
|                                                     | 10                                                          | 20                                   |                                      | 40                                 | 3                         |
|                                                     | 20                                                          | 20                                   |                                      |                                    |                           |
| CA_41D                                              | 10                                                          | 20                                   |                                      | 60                                 | 0                         |
|                                                     | 10                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 15                                                          | 20                                   |                                      |                                    |                           |
|                                                     | 15                                                          | 10, 15, 20                           |                                      |                                    |                           |
|                                                     | 20                                                          | 15, 20                               |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                    |                           |

NOTE 1:The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2:For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

**Table: Test frequencies for CA\_2C**

| Range | CC-Combo /<br>N <sub>RB_agg</sub><br>[RB] | CC1<br>Note1 |                 |                          |                 |                          | CC2<br>Note1 |                 |                          |                 |                          |
|-------|-------------------------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|
|       |                                           | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] |
| Low   | 25+100                                    | 25           | 18633           | 1853.3                   | 633             | 1933.3                   | 100          | 18750           | 1865                     | 750             | 1945                     |
|       |                                           | 100          | 18700           | 1860                     | 700             | 1940                     | 25           | 18817           | 1871.7                   | 817             | 1951.7                   |
|       | 50+75                                     | 50           | 18653           | 1855.3                   | 653             | 1935.3                   | 75           | 18773           | 1867.3                   | 773             | 1947.3                   |
|       |                                           | 75           | 18675           | 1857.5                   | 675             | 1937.5                   | 50           | 18795           | 1869.5                   | 795             | 1949.5                   |
|       | 50+100                                    | 50           | 18655           | 1855.5                   | 655             | 1935.5                   | 100          | 18799           | 1869.9                   | 799             | 1949.9                   |
|       |                                           | 100          | 18700           | 1860                     | 700             | 1940                     | 50           | 18844           | 1874.4                   | 844             | 1954.4                   |
|       | 75+75                                     | 75           | 18675           | 1857.5                   | 675             | 1937.5                   | 75           | 18825           | 1872.5                   | 825             | 1952.5                   |
|       |                                           | 75           | 18678           | 1857.8                   | 678             | 1937.8                   | 100          | 18849           | 1874.9                   | 849             | 1954.9                   |
|       | 75+100                                    | 100          | 18700           | 1860                     | 700             | 1940                     | 75           | 18871           | 1877.1                   | 871             | 1957.1                   |
|       |                                           | 100          | 18700           | 1860                     | 700             | 1940                     | 100          | 18898           | 1879.8                   | 898             | 1959.8                   |
| Mid   | 25+100                                    | 25           | 18808           | 1870.8                   | 808             | 1950.8                   | 100          | 18925           | 1882.5                   | 925             | 1962.5                   |
|       |                                           | 100          | 18875           | 1877.5                   | 875             | 1957.5                   | 25           | 18992           | 1889.2                   | 992             | 1969.2                   |
|       | 50+75                                     | 50           | 18829           | 1872.9                   | 829             | 1952.9                   | 75           | 18949           | 1884.9                   | 949             | 1964.9                   |
|       |                                           | 75           | 18851           | 1875.1                   | 851             | 1955.1                   | 50           | 18971           | 1887.1                   | 971             | 1967.1                   |
|       | 50+100                                    | 50           | 18806           | 1870.6                   | 806             | 1950.6                   | 100          | 18950           | 1885                     | 950             | 1965                     |
|       |                                           | 100          | 18851           | 1875.1                   | 851             | 1955.1                   | 50           | 18995           | 1889.5                   | 995             | 1969.5                   |
|       | 75+75                                     | 75           | 18825           | 1872.5                   | 825             | 1952.5                   | 75           | 18975           | 1887.5                   | 975             | 1967.5                   |
|       |                                           | 75           | 18803           | 1870.3                   | 803             | 1950.3                   | 100          | 18974           | 1887.4                   | 974             | 1967.4                   |
|       | 75+100                                    | 100          | 18826           | 1872.6                   | 826             | 1952.6                   | 75           | 18997           | 1889.7                   | 997             | 1969.7                   |
|       |                                           | 100          | 18801           | 1870.1                   | 801             | 1950.1                   | 100          | 18999           | 1889.9                   | 999             | 1969.9                   |
| High  | 25+100                                    | 25           | 18983           | 1888.3                   | 983             | 1968.3                   | 100          | 19100           | 1900                     | 1100            | 1980                     |
|       |                                           | 100          | 19050           | 1895                     | 1050            | 1975                     | 25           | 19167           | 1906.7                   | 1167            | 1986.7                   |
|       | 50+75                                     | 50           | 19005           | 1890.5                   | 1005            | 1970.5                   | 75           | 19125           | 1902.5                   | 1125            | 1982.5                   |
|       |                                           | 75           | 19027           | 1892.7                   | 1027            | 1972.7                   | 50           | 19147           | 1904.7                   | 1147            | 1984.7                   |
|       | 50+100                                    | 50           | 18956           | 1885.6                   | 956             | 1965.6                   | 100          | 19100           | 1900                     | 1100            | 1980                     |
|       |                                           | 100          | 19001           | 1890.1                   | 1001            | 1970.1                   | 50           | 19145           | 1904.5                   | 1145            | 1984.5                   |
|       | 75+75                                     | 75           | 18975           | 1887.5                   | 975             | 1967.5                   | 75           | 19125           | 1902.5                   | 1125            | 1982.5                   |
|       |                                           | 75           | 18929           | 1882.9                   | 929             | 1962.9                   | 100          | 19100           | 1900                     | 1100            | 1980                     |
|       | 75+100                                    | 100          | 18951           | 1885.1                   | 951             | 1965.1                   | 75           | 19122           | 1902.2                   | 1122            | 1982.2                   |
|       |                                           | 100          | 18902           | 1880.2                   | 902             | 1960.2                   | 100          | 19100           | 1900                     | 1100            | 1980                     |

Note 1: Carriers in increasing frequency order.

**Table: Test frequencies for CA\_5B**

| Range | CC-Combo /<br>N <sub>RB_agg</sub><br>[RB] | CC1<br>Note1 |                 |                          |                 |                          | CC2<br>Note1 |                 |                          |                 |                          |
|-------|-------------------------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|
|       |                                           | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] |
| Low   | 25+50                                     | 25           | 20428           | 826.8                    | 2428            | 871.8                    | 50           | 20500           | 834                      | 2500            | 879                      |
|       | 50+25                                     | 50           | 20450           | 829                      | 2450            | 874                      | 25           | 20522           | 836.2                    | 2522            | 881.2                    |
|       | 50+50                                     | 50           | 20450           | 829                      | 2450            | 874                      | 50           | 20549           | 838.9                    | 2549            | 883.9                    |
| Mid   | 25+50                                     | 25           | 20478           | 831.8                    | 2478            | 876.8                    | 50           | 20550           | 839                      | 2550            | 884                      |
|       | 50+25                                     | 50           | 20500           | 834                      | 2500            | 879                      | 25           | 20572           | 841.2                    | 2572            | 886.2                    |
|       | 50+50                                     | 50           | 20476           | 831.6                    | 2476            | 876.6                    | 50           | 20575           | 841.5                    | 2575            | 886.5                    |
| High  | 25+50                                     | 25           | 20528           | 836.8                    | 2528            | 881.8                    | 50           | 20600           | 844                      | 2600            | 889                      |
|       | 50+25                                     | 50           | 20550           | 839                      | 2550            | 884                      | 25           | 20622           | 846.2                    | 2622            | 891.2                    |
|       | 50+50                                     | 50           | 20501           | 834.1                    | 2501            | 879.1                    | 50           | 20600           | 844                      | 2600            | 889                      |

Note 1: Carriers in increasing frequency order.

**Table: Test frequencies for CA\_7C**

| Range                                           | CC-Combo /<br>NRB_agg<br>[RB] | CC1<br>Note1 |                 |                          |                 |                          | CC2<br>Note1 |                 |                          |                 |                          |
|-------------------------------------------------|-------------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|
|                                                 |                               | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] |
| Low                                             | 50+100                        | 50           | 20805           | 2505.5                   | 2805            | 2625.5                   | 100          | 20949           | 2519.9                   | 2949            | 2639.9                   |
|                                                 |                               | 100          | 20850           | 2510                     | 2850            | 2630                     | 50           | 20994           | 2524.4                   | 2994            | 2644.4                   |
|                                                 | 75+75                         | 75           | 20825           | 2507.5                   | 2825            | 2627.5                   | 75           | 20975           | 2522.5                   | 2975            | 2642.5                   |
|                                                 | 75+100                        | 75           | 20828           | 2507.8                   | 2828            | 2627.8                   | 100          | 20999           | 2524.9                   | 2999            | 2644.9                   |
|                                                 |                               | 100          | 20850           | 2510                     | 2850            | 2630                     | 75           | 21021           | 2527.1                   | 3021            | 2647.1                   |
|                                                 | 100+100                       | 100          | 20850           | 2510                     | 2850            | 2630                     | 100          | 21048           | 2529.8                   | 3048            | 2649.8                   |
| Mid                                             | 50+100                        | 50           | 21006           | 2525.6                   | 3006            | 2645.6                   | 100          | 21150           | 2540                     | 3150            | 2660                     |
|                                                 |                               | 100          | 21051           | 2530.1                   | 3051            | 2650.1                   | 50           | 21195           | 2544.5                   | 3195            | 2664.5                   |
|                                                 | 75+75                         | 75           | 21025           | 2527.5                   | 3025            | 2647.5                   | 75           | 21175           | 2542.5                   | 3175            | 2662.5                   |
|                                                 | 75+100                        | 75           | 21003           | 2525.3                   | 3003            | 2645.3                   | 100          | 21174           | 2542.4                   | 3174            | 2662.4                   |
|                                                 |                               | 100          | 21026           | 2527.6                   | 3026            | 2647.6                   | 75           | 21197           | 2544.7                   | 3197            | 2664.7                   |
|                                                 | 100+100                       | 100          | 21001           | 2525.1                   | 3001            | 2645.1                   | 100          | 21199           | 2544.9                   | 3199            | 2664.9                   |
| High                                            | 50+100                        | 50           | 21206           | 2545.6                   | 3206            | 2665.6                   | 100          | 21350           | 2560                     | 3350            | 2680                     |
|                                                 |                               | 100          | 21251           | 2550.1                   | 3251            | 2670.1                   | 50           | 21395           | 2564.5                   | 3395            | 2684.5                   |
|                                                 | 75+75                         | 75           | 21225           | 2547.5                   | 3225            | 2667.5                   | 75           | 21375           | 2562.5                   | 3375            | 2682.5                   |
|                                                 | 75+100                        | 75           | 21179           | 2542.9                   | 3179            | 2662.9                   | 100          | 21350           | 2560                     | 3350            | 2680                     |
|                                                 |                               | 100          | 21201           | 2545.1                   | 3201            | 2665.1                   | 75           | 21372           | 2562.2                   | 3372            | 2682.2                   |
|                                                 | 100+100                       | 100          | 21152           | 2540.2                   | 3152            | 2660.2                   | 100          | 21350           | 2560                     | 3350            | 2680                     |
| Note 1: Carriers in increasing frequency order. |                               |              |                 |                          |                 |                          |              |                 |                          |                 |                          |

**Table: Test frequencies for CA\_12B**

| Range                                           | CC-Combo /<br>NRB_agg<br>[RB] | CC1<br>Note1 |                 |                          |                 |                          | CC2<br>Note1 |                 |                          |                 |                          |
|-------------------------------------------------|-------------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|--------------|-----------------|--------------------------|-----------------|--------------------------|
|                                                 |                               | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL</sub> | f <sub>UL</sub><br>[MHz] | N <sub>DL</sub> | f <sub>DL</sub><br>[MHz] |
| Low                                             | 25+25                         | 25           | 23035           | 701.5                    | 5035            | 731.5                    | 25           | 23083           | 706.3                    | 5083            | 736.3                    |
|                                                 | 25+50                         | 25           | 23035           | 701.5                    | 5035            | 731.5                    | 50           | 23107           | 708.7                    | 5107            | 738.7                    |
| Mid                                             | 25+25                         | 25           | 23070           | 705                      | 5070            | 735                      | 25           | 23118           | 709.8                    | 5118            | 739.8                    |
|                                                 | 25+50                         | 25           | 23045           | 702.5                    | 5045            | 732.5                    | 50           | 23117           | 709.7                    | 5117            | 739.7                    |
| High                                            | 25+25                         | 25           | 23107           | 708.7                    | 5107            | 738.7                    | 25           | 23155           | 713.5                    | 5155            | 743.5                    |
|                                                 | 25+50                         | 25           | 23058           | 703.8                    | 5058            | 733.8                    | 50           | 23130           | 711                      | 5130            | 741                      |
| Note 1: Carriers in increasing frequency order. |                               |              |                 |                          |                 |                          |              |                 |                          |                 |                          |

**Table: Test frequencies for CA\_38C**

| Range | CC-Combo / NRB_agg [RB] | CC1 Note1 |                    |                          | CC2 Note1 |                    |                          |
|-------|-------------------------|-----------|--------------------|--------------------------|-----------|--------------------|--------------------------|
|       |                         | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] |
| Low   | 75+75                   | 75        | 37825              | 2577.5                   | 75        | 37975              | 2592.5                   |
|       | 100+100                 | 100       | 37850              | 2580                     | 100       | 38048              | 2599.8                   |
| Mid   | 75+75                   | 75        | 37925              | 2587.5                   | 75        | 38075              | 2602.5                   |
|       | 100+100                 | 100       | 37900              | 2585                     | 100       | 38098              | 2604.8                   |
| High  | 75+75                   | 75        | 38025              | 2597.5                   | 75        | 38175              | 2612.5                   |
|       | 100+100                 | 100       | 37952              | 2590.2                   | 100       | 38150              | 2610                     |

Note 1: Carriers in increasing frequency order.

**Table: Test frequencies for CA\_41C(2555-2655MHz)**

| Range | CC-Combo / NRB_agg [RB] | CC1 Note1 |                    |                          | CC2 Note1 |                    |                          |
|-------|-------------------------|-----------|--------------------|--------------------------|-----------|--------------------|--------------------------|
|       |                         | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] | BW [RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub> [MHz] |
| Low   | 25+100                  | 25        | 40265              | 2557.5                   | 100       | 40382              | 2569.2                   |
|       |                         | 100       | 40340              | 2565                     | 25        | 40457              | 2576.7                   |
|       | 50+100                  | 50        | 40290              | 2560                     | 100       | 40434              | 2574.4                   |
|       |                         | 100       | 40340              | 2565                     | 50        | 40484              | 2579.4                   |
|       | 75+75                   | 75        | 40315              | 2562.5                   | 75        | 40465              | 2577.5                   |
|       | 75+100                  | 75        | 40315              | 2562.5                   | 100       | 40486              | 2579.6                   |
|       |                         | 100       | 40340              | 2565                     | 75        | 40511              | 2582.1                   |
|       | 100+100                 | 100       | 40340              | 2565                     | 100       | 40538              | 2584.8                   |
| Mid   | 25+100                  | 25        | 40528              | 2583.8                   | 100       | 40645              | 2595.5                   |
|       |                         | 100       | 40595              | 2590.5                   | 25        | 40712              | 2602.2                   |
|       | 50+100                  | 50        | 40526              | 2583.6                   | 100       | 40670              | 2598.0                   |
|       |                         | 100       | 40571              | 2588.1                   | 50        | 40715              | 2602.5                   |
|       | 75+75                   | 75        | 40545              | 2585.5                   | 75        | 40695              | 2600.5                   |
|       | 75+100                  | 75        | 40523              | 2583.3                   | 100       | 40694              | 2600.4                   |
|       |                         | 100       | 40546              | 2585.6                   | 75        | 40717              | 2602.7                   |
|       | 100+100                 | 100       | 40521              | 2583.1                   | 100       | 40719              | 2602.9                   |
| High  | 25+100                  | 25        | 41023              | 2633.3                   | 100       | 41140              | 2645                     |
|       |                         | 100       | 41098              | 2640.8                   | 25        | 41215              | 2652.5                   |
|       | 50+100                  | 50        | 40996              | 2630.6                   | 100       | 41140              | 2645                     |
|       |                         | 100       | 41046              | 2635.6                   | 50        | 41190              | 2650                     |
|       | 75+75                   | 75        | 41014              | 2632.5                   | 75        | 41165              | 2647.5                   |
|       | 75+100                  | 75        | 40969              | 2627.9                   | 100       | 41140              | 2645                     |
|       |                         | 100       | 40994              | 2630.4                   | 75        | 41165              | 2647.5                   |
|       | 100+100                 | 100       | 40942              | 2625.2                   | 100       | 41140              | 2645                     |

Note 1: Carriers in increasing frequency order.

**Table: Test frequencies for CA\_41D(2555-2655MHz)**

| Range                                           | CC-Combo /<br>N <sub>RB_agg</sub><br>[RB] | CC1<br>Note1 |                    |                             | CC2<br>Note1 |                    |                             | CC3<br>Note1 |                    |                             |
|-------------------------------------------------|-------------------------------------------|--------------|--------------------|-----------------------------|--------------|--------------------|-----------------------------|--------------|--------------------|-----------------------------|
|                                                 |                                           | BW<br>[RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub><br>[MHz] | BW<br>[RB]   | N <sub>UL/DL</sub> | f <sub>UL/DL</sub><br>[MHz] |
| Low                                             | 50+75+100                                 | 50           | 40295              | 2560.5                      | 75           | 40415              | 2572.5                      | 100          | 40586              | 2589.6                      |
|                                                 |                                           | 50           | 40295              | 2560.5                      | 100          | 40439              | 2574.9                      | 75           | 40610              | 2592.0                      |
|                                                 |                                           | 75           | 40318              | 2562.8                      | 50           | 40438              | 2574.8                      | 100          | 40582              | 2589.2                      |
|                                                 |                                           | 75           | 40318              | 2562.8                      | 100          | 40489              | 2579.9                      | 50           | 40633              | 2594.3                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 50           | 40484              | 2579.4                      | 75           | 40604              | 2591.4                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 75           | 40511              | 2582.1                      | 50           | 40631              | 2594.1                      |
|                                                 | 50+100+100                                | 50           | 40295              | 2560.5                      | 100          | 40439              | 2574.9                      | 100          | 40637              | 2594.7                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 50           | 40484              | 2579.4                      | 100          | 40628              | 2593.8                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 100          | 40538              | 2584.8                      | 50           | 40682              | 2599.2                      |
|                                                 | 75+75+100                                 | 75           | 40318              | 2562.8                      | 75           | 40468              | 2577.8                      | 100          | 40639              | 2594.9                      |
|                                                 |                                           | 75           | 40318              | 2562.8                      | 100          | 40489              | 2579.9                      | 75           | 40660              | 2597.0                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 75           | 40511              | 2582.1                      | 75           | 40661              | 2597.1                      |
|                                                 | 75+100+100                                | 75           | 40318              | 2562.8                      | 100          | 40489              | 2579.9                      | 100          | 40687              | 2599.7                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 75           | 40511              | 2582.1                      | 100          | 40682              | 2599.2                      |
|                                                 |                                           | 100          | 40340              | 2565                        | 100          | 40538              | 2584.8                      | 75           | 40709              | 2601.9                      |
|                                                 | 100+100+100                               | 100          | 40340              | 2565                        | 100          | 40538              | 2584.8                      | 100          | 40736              | 2604.6                      |
| Mid                                             | 50+75+100                                 | 50           | 40452              | 2576.2                      | 75           | 40572              | 2588.2                      | 100          | 40743              | 2605.3                      |
|                                                 |                                           | 50           | 40451              | 2576.1                      | 100          | 40595              | 2590.5                      | 75           | 40766              | 2607.6                      |
|                                                 |                                           | 75           | 40477              | 2578.7                      | 50           | 40597              | 2590.7                      | 100          | 40741              | 2605.1                      |
|                                                 |                                           | 75           | 40474              | 2578.4                      | 100          | 40645              | 2595.5                      | 50           | 40789              | 2609.9                      |
|                                                 |                                           | 100          | 40499              | 2580.9                      | 50           | 40643              | 2595.3                      | 75           | 40763              | 2607.3                      |
|                                                 |                                           | 100          | 40497              | 2580.7                      | 75           | 40668              | 2597.8                      | 50           | 40788              | 2609.8                      |
|                                                 | 50+100+100                                | 50           | 40427              | 2573.7                      | 100          | 40571              | 2588.1                      | 100          | 40769              | 2607.9                      |
|                                                 |                                           | 100          | 40476              | 2578.6                      | 50           | 40620              | 2593                        | 100          | 40764              | 2607.4                      |
|                                                 |                                           | 100          | 40472              | 2578.2                      | 100          | 40670              | 2598                        | 50           | 40814              | 2612.4                      |
|                                                 | 75+75+100                                 | 75           | 40448              | 2575.8                      | 75           | 40598              | 2590.8                      | 100          | 40769              | 2607.9                      |
|                                                 |                                           | 75           | 40449              | 2575.9                      | 100          | 40620              | 2593                        | 75           | 40791              | 2610.1                      |
|                                                 |                                           | 100          | 40471              | 2578.1                      | 75           | 40642              | 2595.2                      | 75           | 40792              | 2610.2                      |
|                                                 | 75+100+100                                | 75           | 40424              | 2573.4                      | 100          | 40595              | 2590.5                      | 100          | 40793              | 2610.3                      |
|                                                 |                                           | 100          | 40449              | 2575.9                      | 75           | 40620              | 2593                        | 100          | 40791              | 2610.1                      |
|                                                 |                                           | 100          | 40447              | 2575.7                      | 100          | 40645              | 2595.5                      | 75           | 40816              | 2612.6                      |
|                                                 | 100+100+100                               | 100          | 40422              | 2573.2                      | 100          | 40620              | 2593                        | 100          | 40818              | 2612.8                      |
| High                                            | 50+75+100                                 | 50           | 40849              | 2615.9                      | 75           | 40969              | 2627.9                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 50           | 40847              | 2615.7                      | 100          | 40991              | 2630.1                      | 75           | 41162              | 2647.2                      |
|                                                 |                                           | 75           | 40876              | 2618.6                      | 50           | 40996              | 2630.6                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 75           | 40870              | 2618.0                      | 100          | 41041              | 2635.1                      | 50           | 41185              | 2649.5                      |
|                                                 |                                           | 100          | 40898              | 2620.8                      | 50           | 41042              | 2635.2                      | 75           | 41162              | 2647.2                      |
|                                                 |                                           | 100          | 40894              | 2620.4                      | 75           | 41065              | 2637.5                      | 50           | 41185              | 2649.5                      |
|                                                 | 50+100+100                                | 50           | 40798              | 2610.8                      | 100          | 40942              | 2625.2                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 100          | 40852              | 2616.2                      | 50           | 40996              | 2630.6                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 100          | 40843              | 2615.3                      | 100          | 41041              | 2635.1                      | 50           | 41185              | 2649.5                      |
|                                                 | 75+75+100                                 | 75           | 40819              | 2612.9                      | 75           | 40969              | 2627.9                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 75           | 40820              | 2613.0                      | 100          | 40991              | 2630.1                      | 75           | 41162              | 2647.2                      |
|                                                 |                                           | 100          | 40841              | 2615.1                      | 75           | 41012              | 2632.2                      | 75           | 41162              | 2647.2                      |
|                                                 | 75+100+100                                | 75           | 40771              | 2608.1                      | 100          | 40942              | 2625.2                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 100          | 40798              | 2610.8                      | 75           | 40969              | 2627.9                      | 100          | 41140              | 2645                        |
|                                                 |                                           | 100          | 40793              | 2610.3                      | 100          | 40991              | 2630.1                      | 75           | 41162              | 2647.2                      |
|                                                 | 100+100+100                               | 100          | 40744              | 2605.4                      | 100          | 40942              | 2625.2                      | 100          | 41140              | 2645                        |
| Note 1: Carriers in increasing frequency order. |                                           |              |                    |                             |              |                    |                             |              |                    |                             |

## Inter-band CA(two bands)

| E-UTRA CA configuration / Bandwidth combination set |              |                                                           |       |       |        |        |        |                                    |                           |
|-----------------------------------------------------|--------------|-----------------------------------------------------------|-------|-------|--------|--------|--------|------------------------------------|---------------------------|
| E-UTRA CA Configuration                             | E-UTRA Bands | 1.4 MHz                                                   | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| CA_1A-5A                                            | 1            |                                                           |       |       | Yes    |        |        | 20                                 | 0                         |
|                                                     | 5            |                                                           |       |       | Yes    |        |        |                                    |                           |
|                                                     | 1            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_1A-26A                                           | 1            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 35                                 | 0                         |
|                                                     | 26           |                                                           |       | Yes   | Yes    | Yes    |        |                                    |                           |
|                                                     | 1            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 1                         |
|                                                     | 26           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-5A                                            | 2            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 0                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-12A                                           | 2            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 0                         |
|                                                     | 12           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 2            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                                                     | 12           |                                                           | Yes   | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-17A                                           | 2            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 0                         |
|                                                     | 17           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-28A                                           | 2            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 40                                 | 0                         |
|                                                     | 28           |                                                           |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
| CA_2A-29A                                           | 2            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 0                         |
|                                                     | 29           |                                                           | Yes   | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 2            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 1                         |
|                                                     | 29           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 2            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 2                         |
|                                                     | 29           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2C-29A                                           | 2            | See CA_2C Bandwidth Combination Set 0 in table 5.4.2A.1-1 |       |       |        |        |        | 50                                 | 0                         |
|                                                     | 29           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_3A-5A                                            | 3            |                                                           |       |       | Yes    | Yes    | Yes    | 30                                 | 0                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 3            |                                                           |       |       | Yes    |        |        | 20                                 | 1                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 3            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 2                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_3C-5A                                            | 3            | See CA_3C Bandwidth Combination Set 0 in Table 5.4.2A.1-1 |       |       |        |        |        | 50                                 | 0                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_3A-7A                                            | 3            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 40                                 | 0                         |
|                                                     | 7            |                                                           |       |       | Yes    | Yes    | Yes    |                                    |                           |
| CA_3A-7C                                            | 3            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 60                                 | 0                         |
|                                                     | 7            | See CA_7C Bandwidth Combination Set 0 in table 5.4.2A.1-1 |       |       |        |        |        |                                    |                           |
| CA_3C-7A                                            | 3            | See CA_3C Bandwidth Combination Set 0 in table 5.4.2A.1-1 |       |       |        |        |        | 60                                 | 0                         |
|                                                     | 7            |                                                           |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
|                                                     | 20           |                                                           |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
| CA_3A-26A                                           | 3            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 35                                 | 0                         |
|                                                     | 26           |                                                           |       | Yes   | Yes    | Yes    |        |                                    |                           |
|                                                     | 3            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 1                         |
| 26                                                  |              |                                                           | Yes   | Yes   |        |        |        |                                    |                           |
| CA_4A-5A                                            | 4            |                                                           |       | Yes   | Yes    |        |        | 20                                 | 0                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
|                                                     | 4            |                                                           |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                                                     | 5            |                                                           |       | Yes   | Yes    |        |        |                                    |                           |
| CA_4A-12A                                           | 4            | Yes                                                       | Yes   | Yes   | Yes    |        |        | 20                                 | 0                         |
|                                                     | 12           |                                                           |       | Yes   | Yes    |        |        |                                    |                           |

|            |    |                                                            |                                                          |     |     |     |     |    |   |
|------------|----|------------------------------------------------------------|----------------------------------------------------------|-----|-----|-----|-----|----|---|
|            | 4  | Yes                                                        | Yes                                                      | Yes | Yes | Yes | Yes | 30 | 1 |
|            | 12 |                                                            |                                                          | Yes | Yes |     |     |    |   |
|            | 4  |                                                            |                                                          | Yes | Yes | Yes | Yes | 30 | 2 |
|            | 12 |                                                            | Yes                                                      | Yes | Yes |     |     |    |   |
|            | 4  |                                                            |                                                          | Yes | Yes |     |     | 20 | 3 |
|            | 12 |                                                            |                                                          | Yes | Yes |     |     |    |   |
|            | 4  |                                                            |                                                          | Yes | Yes | Yes | Yes | 30 | 4 |
|            | 12 |                                                            |                                                          | Yes | Yes |     |     |    |   |
| CA_4A-12B  | 4  |                                                            |                                                          | Yes | Yes | Yes | Yes | 35 | 0 |
|            | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.4.2A.1-1 |                                                          |     |     |     |     |    |   |
| CA_4A-17A  | 4  |                                                            |                                                          | Yes | Yes |     |     | 20 | 0 |
|            | 17 |                                                            |                                                          | Yes | Yes |     |     |    |   |
| CA_4A-28A  | 4  |                                                            |                                                          | Yes | Yes | Yes | Yes | 40 | 0 |
|            | 28 |                                                            |                                                          | Yes | Yes | Yes | Yes |    |   |
| CA_4A-29A  | 4  |                                                            |                                                          | Yes | Yes |     |     | 20 | 0 |
|            | 29 |                                                            | Yes                                                      | Yes | Yes |     |     |    |   |
|            | 4  |                                                            |                                                          | Yes | Yes |     |     | 20 | 1 |
|            | 29 |                                                            |                                                          | Yes | Yes |     |     |    |   |
|            | 4  |                                                            |                                                          | Yes | Yes | Yes | Yes | 30 | 2 |
|            | 29 |                                                            |                                                          | Yes | Yes |     |     |    |   |
| CA_5A-7A   | 5  | Yes                                                        | Yes                                                      | Yes | Yes |     |     | 30 | 0 |
|            | 7  |                                                            |                                                          |     | Yes | Yes | Yes |    |   |
| CA_7A-8A   | 7  |                                                            |                                                          |     | Yes | Yes | Yes | 30 | 0 |
|            | 8  |                                                            | Yes                                                      | Yes | Yes |     |     |    |   |
| CA_7A-12A  | 7  |                                                            |                                                          | Yes | Yes | Yes | Yes | 30 | 0 |
|            | 12 |                                                            |                                                          | Yes | Yes |     |     |    |   |
| CA_7A-20A  | 7  |                                                            |                                                          |     | Yes | Yes | Yes | 30 | 0 |
|            | 20 |                                                            |                                                          | Yes | Yes |     |     |    |   |
|            | 7  |                                                            |                                                          |     | Yes | Yes | Yes | 40 | 1 |
|            | 20 |                                                            |                                                          | Yes | Yes | Yes | Yes |    |   |
| CA_7A-28A  | 7  |                                                            |                                                          | Yes | Yes | Yes | Yes | 35 | 0 |
|            | 28 |                                                            |                                                          | Yes | Yes | Yes |     |    |   |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
| CA_7C-28A  | 7  | See CA_7C bandwidth combination set 2 in table 5.6A.1-1    |                                                          |     |     |     |     | 60 | 0 |
|            | 28 |                                                            |                                                          |     | Yes | Yes | Yes |    |   |
| CA_39A-41A | 39 |                                                            |                                                          |     | Yes | Yes | Yes | 40 | 0 |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
| CA_39A-41C | 39 |                                                            |                                                          |     | Yes | Yes | Yes | 60 | 0 |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
| CA_39C-41A | 39 |                                                            | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 |     |     |     |     | 55 | 0 |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
| CA_39C-41C | 39 |                                                            | See CA_39C Bandwidth Combination Set 0 in Table 5.6A.1-1 |     |     |     |     | 75 | 0 |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |
|            | 41 |                                                            |                                                          |     |     |     | Yes |    |   |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.4.2A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal

Note:1) For the inter-band CA combinations above, except CA\_2A-29A, CA\_2C-29A, CA\_4A-12A, CA\_4A-12B, CA\_4A-17A, CA\_4A-28A, CA\_4A-29A, CA\_7A-8A, B8/B12/B17/B28/B29 can not be PCC, other the listed bands above can be used as PCC or SCC.

2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.5.0.

3) The reference test frequencies for CA refers to 3GPP TS 36.508 V13.1.0

## Inter-band CA(three bands)

| E-UTRA CA configuration / Bandwidth combination set                                                                                                                                                                                                                                                                                                       |              |                                                         |       |       |        |        |        |                                    |                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------|-------|-------|--------|--------|--------|------------------------------------|---------------------------|
| E-UTRA CA Configuration                                                                                                                                                                                                                                                                                                                                   | E-UTRA Bands | 1.4 MHz                                                 | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
| CA_1A-3A-5A                                                                                                                                                                                                                                                                                                                                               | 1            |                                                         |       | Yes   | Yes    | Yes    | Yes    | 50                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 5            |                                                         |       | Yes   | Yes    |        |        |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 1            |                                                         |       | Yes   | Yes    |        |        | 40                                 | 1                         |
|                                                                                                                                                                                                                                                                                                                                                           | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 5            |                                                         |       | Yes   | Yes    |        |        |                                    |                           |
| CA_1A-3A-26A                                                                                                                                                                                                                                                                                                                                              | 1            |                                                         |       | Yes   | Yes    | Yes    | Yes    | 50                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 26           |                                                         |       | Yes   | Yes    |        |        |                                    |                           |
| CA_3A-7A-8A                                                                                                                                                                                                                                                                                                                                               | 3            |                                                         |       | Yes   | Yes    | Yes    |        | 40                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 7            |                                                         |       |       | Yes    | Yes    |        |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 8            |                                                         |       | Yes   | Yes    |        |        |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    | 50                                 | 1                         |
|                                                                                                                                                                                                                                                                                                                                                           | 7            |                                                         |       |       | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 8            |                                                         |       | Yes   | Yes    |        |        |                                    |                           |
| CA_3A-7A-20A                                                                                                                                                                                                                                                                                                                                              | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    | 60                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 7            |                                                         |       |       | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 20           |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
| CA_3A-7A-28A                                                                                                                                                                                                                                                                                                                                              | 3            |                                                         |       | Yes   | Yes    | Yes    | Yes    | 60                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 7            |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 28           |                                                         |       | Yes   | Yes    | Yes    | Yes    |                                    |                           |
| CA_3A-7C-28A                                                                                                                                                                                                                                                                                                                                              | 3            |                                                         |       |       | Yes    | Yes    | Yes    | 80                                 | 0                         |
|                                                                                                                                                                                                                                                                                                                                                           | 7            | See CA_7C Bandwidth Combination Set 2 in Table 5.6A.1-1 |       |       |        |        |        |                                    |                           |
|                                                                                                                                                                                                                                                                                                                                                           | 28           |                                                         |       |       | Yes    | Yes    | Yes    |                                    |                           |
| NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.                                                                                                                 |              |                                                         |       |       |        |        |        |                                    |                           |
| NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.                                                                                                                                                                                                                                                            |              |                                                         |       |       |        |        |        |                                    |                           |
| NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.                                                                                                                                                                                                                                                     |              |                                                         |       |       |        |        |        |                                    |                           |
| NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination. |              |                                                         |       |       |        |        |        |                                    |                           |

NOTE 1: The CA Configuration refers to a combination of an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.

NOTE 2: For each band combination, all combinations of indicated bandwidths belong to the set.

NOTE 3: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.

NOTE 4: A terminal which supports a DL CA configuration shall support all the lower order fallback DL CA combinations and it shall support at least one bandwidth combination set for each of the constituent lower order DL combinations containing all the bandwidths specified within each specific combination set of the upper order DL combination.

### NOTE:

- 1) All the listed bands above can be used as PCC or SCC except for CA\_3A\_7A\_8A, B8 cannot be PCC.
- 2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.5.0.
- 3) The reference test frequencies for CA refers to 3GPP TS 36.508 V13.1.0
- 4) Testing is not required in bands or modes not intended/allowed for US operation.

#### 1.4 Test specification(s)

|                                  |                                                                                                                                                                             |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ANSI C95.1:1992 /IEEE C95.1:1991 | Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.( IEEE Std C95.1-1991)                                              |
| IEEE Std 1528-2013               | Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques |
| RSS-102                          | Radio Frequency Exposure Compliance of Radiocommunication Apparatus (All Frequency Bands (Issue 5 of March 2015)                                                            |
| KDB941225 D01                    | 3G SAR Procedures v03                                                                                                                                                       |
| KDB941225 D05                    | SAR for LTE Devices v02r03                                                                                                                                                  |
| KDB941225 D05A                   | LTE Rel.10 KDB Inquiry Sheet v01r02                                                                                                                                         |
| KDB941225 D06                    | Hotspot SAR v02                                                                                                                                                             |
| KDB447498 D01                    | General RF Exposure Guidance v05r02                                                                                                                                         |
| KDB648474 D04                    | Handsets SAR v01r02                                                                                                                                                         |
| KDB248227 D01                    | SAR Guidance for IEEE 802 11 Wi-Fi SAR v02                                                                                                                                  |
| KDB865664 D01                    | SAR measurement 100 MHz to 6 GHz v01r04                                                                                                                                     |
| KDB865664 D02                    | SAR Reporting v01r01                                                                                                                                                        |
| KDB690783 D01                    | SAR Listings on Grants v01r03                                                                                                                                               |
| KDB 616217 D04                   | SAR for laptop and tablets v01r02                                                                                                                                           |

#### 1.5 Testing laboratory

|                        |                                                                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Test Site              | The Reliability Laboratory of Huawei Technologies Co., Ltd.                                                                                                          |
| Test Location          | Section G1,Huawei Base Bantian, Longgang District, Shenzhen 518129, P.R. China                                                                                       |
| Telephone              | +86 755 28780808                                                                                                                                                     |
| Fax                    | +86 755 89652518                                                                                                                                                     |
| State of accreditation | The Test laboratory (area of testing) is accredited according to ISO/IEC 17025.<br>CNAS Registration number: L0310<br>A2LA TESTING CERT #2174.01 & 2174.02 & 2174.03 |

#### 1.6 Applicant and Manufacturer

|              |                                                                                                                             |
|--------------|-----------------------------------------------------------------------------------------------------------------------------|
| Company Name | HUAWEI TECHNOLOGIES CO., LTD                                                                                                |
| Address      | Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C |

#### 1.7 Application details

|                    |            |
|--------------------|------------|
| Start Date of test | 2017-03-20 |
| End Date of test   | 2017-03-27 |

#### 1.8 Ambient Condition

|                     |             |
|---------------------|-------------|
| Ambient temperature | 20°C – 24°C |
| Relative Humidity   | 30% – 70%   |



## 2.2 Test environment

The DASY measurement system is placed at the head end of a room with dimensions: 5 x 2.5 x 3 m<sup>3</sup>, the SAM phantom is placed in a distance of 75 cm from the side walls and 1.1m from the rear wall. Above the test system a 1.5 x 1.5 m<sup>2</sup> array of pyramid absorbers is installed to reduce reflections from the ceiling.

Picture 1 of the photo documentation shows a complete view of the test environment.

The system allows the measurement of SAR values larger than 0.005 mW/g.

## 2.3 Data Acquisition Electronics description

The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

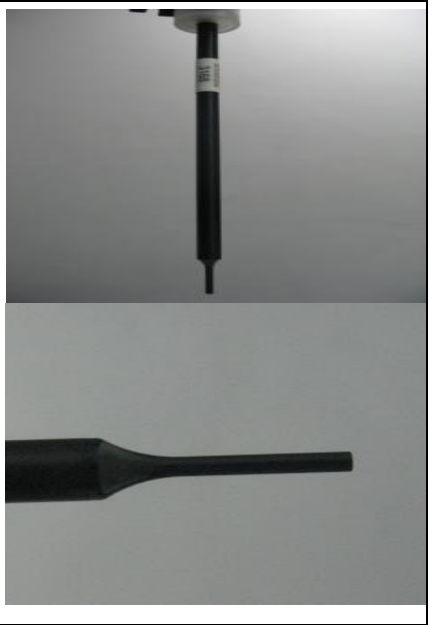
### DAE4

|                       |                          |                                                                                      |
|-----------------------|--------------------------|--------------------------------------------------------------------------------------|
| Input Impedance       | 200MOhm                  |  |
| The Inputs            | symmetrical and floating |                                                                                      |
| Common mode rejection | above 80 dB              |                                                                                      |

## 2.4 Probe description

These probes are specially designed and calibrated for use in liquids with high permittivities. They should not be used in air, since the spherical isotropy in air is poor ( $\pm 2$  dB). The dosimetric probes have special calibrations in various liquids at different frequencies.

### Isotropic E-Field Probe ES3DV3 for Dosimetric Measurements

|               |                                                                                                                                                                                    |                                                                                      |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Construction  | Symmetrical design with triangular core<br>Interleaved sensors<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |  |
| Calibration   | ISO/IEC 17025 calibration service available.                                                                                                                                       |                                                                                      |
| Frequency     | 10 MHz to 4 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 4 GHz)                                                                                                                         |                                                                                      |
| Directivity   | $\pm 0.2$ dB in HSL (rotation around probe axis)<br>$\pm 0.3$ dB in tissue material (rotation normal to probe axis)                                                                |                                                                                      |
| Dynamic range | 5 $\mu$ W/g to > 100 mW/g; Linearity: $\pm 0.2$ dB                                                                                                                                 |                                                                                      |
| Dimensions    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 3.9 mm (Body: 12 mm)<br>Distance from probe tip to dipole centers: 2.0 mm                                                     |                                                                                      |
| Application   | General dosimetry up to 4 GHz<br>Dosimetry in strong gradient fields<br>Compliance tests of mobile phones                                                                          |                                                                                      |

### Isotropic E-Field Probe EX3DV4 for Dosimetric Measurements

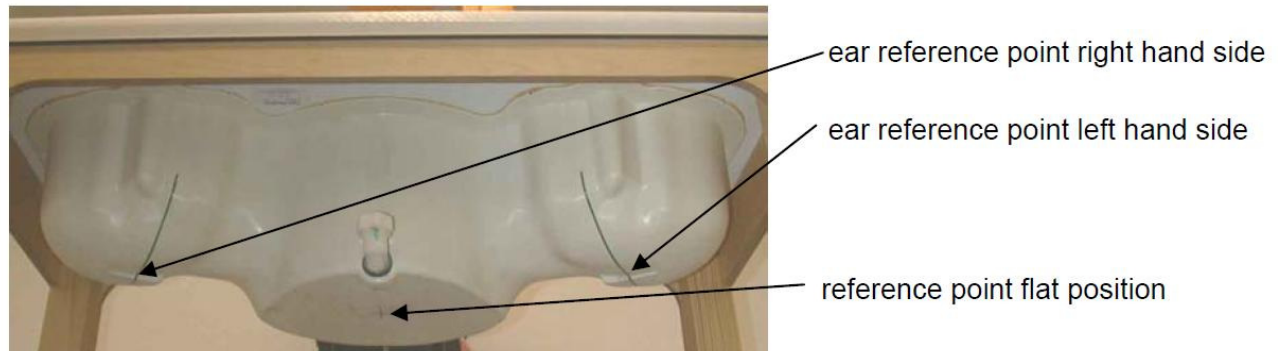
|               |                                                                                                                                                                                                              |                                                                                       |
|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Construction  | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE)                                                  |  |
| Calibration   | ISO/IEC 17025 calibration service available.                                                                                                                                                                 |                                                                                       |
| Frequency     | 10 MHz to >6 GHz; Linearity: $\pm 0.2$ dB (30 MHz to 6 GHz)                                                                                                                                                  |                                                                                       |
| Directivity   | $\pm 0.3$ dB in HSL (rotation around probe axis)<br>$\pm 0.5$ dB in tissue material (rotation normal to probe axis)                                                                                          |                                                                                       |
| Dynamic range | 10 $\mu$ W/g to > 100 mW/g;<br>Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)                                                                                                                      |                                                                                       |
| Dimensions    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                                                                         |                                                                                       |
| Application   | High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields).<br>Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30% |                                                                                       |

## 2.5 Phantom description

### SAM Twin Phantom

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                        |                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------------------------------------------------------------------------------|
| Shell Thickness                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2mm±0.2mm;The ear region:6.0±0.2mm                     |  |
| Filling Volume                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Approximately 25 liters                                |                                                                                     |
| Dimensions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Length:1000mm; Width:500mm;<br>Height: adjustable feet |                                                                                     |
| Measurement Areas                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Left hand<br>Right hand<br>Flat phantom                |                                                                                     |
| <p>The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.</p> |                                                        |                                                                                     |

The following figure shows the definition of reference point:



### ELI4 Phantom

|                                                                                                                                                                                                                                                                |                                     |                                                                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------|
| Shell Thickness                                                                                                                                                                                                                                                | 2mm±0.2mm                           |  |
| Filling Volume                                                                                                                                                                                                                                                 | Approximately 30 liters             |                                                                                       |
| Dimensions                                                                                                                                                                                                                                                     | Major axis:600mm; Minor axis:400mm; |                                                                                       |
| Measurement Areas                                                                                                                                                                                                                                              | Flat phantom                        |                                                                                       |
| The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30MHz to 6GHz. ELI4 is fully compatible with the latest draft of the standard IEC 62209-2 and all known tissue simulating liquids. |                                     |                                                                                       |

The phantom shell material is resistant to all ingredients used in the tissue-equivalent liquid recipes. The shell of the phantom including ear spacers is constructed from low permittivity and low loss material, with a relative permittivity  $2 \leq \epsilon_r \leq 5$  at  $\leq 3$  GHz,  $3 \leq \epsilon_r \leq 4$  at  $> 3$  GHz and a loss tangent  $\leq 0.05$ .

## 2.6 Device holder description

The DASY device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of  $65^\circ$ . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used.



The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon = 3$  and loss tangent  $\sigma = 0.02$ . The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

The device holder permits the device to be positioned with a tolerance of  $\pm 1^\circ$  in the tilt angle.

Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values.

Therefore those devices are normally only tested at the flat part of the SAM.

## 2.7 Test Equipment List

This table gives a complete overview of the SAR measurement equipment.

Devices used during the test described are marked ☒

|                                     | Manufacturer  | Device                               | Type     | Serial number | Date of last calibration* | Valid period |
|-------------------------------------|---------------|--------------------------------------|----------|---------------|---------------------------|--------------|
| <input checked="" type="checkbox"/> | SPEAG         | Dosimetric E-Field Probe             | EX3DV4   | 3736          | 2016-04-26                | One year     |
| <input checked="" type="checkbox"/> | SPEAG         | Dosimetric E-Field Probe             | EX3DV4   | 3744          | 2016-07-26                | One year     |
| <input checked="" type="checkbox"/> | SPEAG         | Dosimetric E-Field Probe             | ES3DV3   | 3168          | 2016-09-27                | One year     |
| <input checked="" type="checkbox"/> | SPEAG         | 750MHz Dipole                        | D750V3   | 1044          | 2016-09-28                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 835MHz Dipole                        | D835V2   | 4d059         | 2016-04-20                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 1750MHz Dipole                       | D1750V2  | 1123          | 2014-07-08                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 1900MHz Dipole                       | D1900V2  | 5d091         | 2015-09-21                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 2450MHz Dipole                       | D2450V2  | 860           | 2016-11-23                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 2600MHz Dipole                       | D2600V2  | 1021          | 2016-07-25                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | 5GHz Dipole                          | D5GHzV2  | 1155          | 2016-04-26                | Three years  |
| <input checked="" type="checkbox"/> | SPEAG         | Data acquisition electronics         | DAE4     | 852           | 2016-04-20                | One year     |
| <input checked="" type="checkbox"/> | SPEAG         | Data acquisition electronics         | DAE4     | 1236          | 2016-11-22                | One year     |
| <input checked="" type="checkbox"/> | SPEAG         | Software                             | DASY     | N/A           | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | SPEAG         | Twin Phantom                         | SAM1     | TP-1475       | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | SPEAG         | Twin Phantom                         | SAM2     | TP-1474       | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | SPEAG         | Twin Phantom                         | SAM3     | TP-1597       | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | SPEAG         | Twin Phantom                         | SAM4     | TP-1620       | NCR                       | NCR          |
| <input type="checkbox"/>            | SPEAG         | Twin Phantom                         | SAM5     | TP-1894       | NCR                       | NCR          |
| <input type="checkbox"/>            | SPEAG         | Twin Phantom                         | SAM6     | TP-1892       | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | R & S         | Universal Radio Communication Tester | CMU 200  | 111379        | 2016-12-29                | One year     |
| <input checked="" type="checkbox"/> | R & S         | Universal Radio Communication Tester | CMW 500  | 158850        | 2016-06-09                | One year     |
| <input checked="" type="checkbox"/> | Agilent       | Network Analyser                     | E5071C   | MY46213349    | 2016-12-30                | One year     |
| <input checked="" type="checkbox"/> | Agilent       | Dielectric Probe Kit                 | 85070E   | 2484          | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | Agilent       | Signal Generator                     | E8257D   | MY49281095    | 2016-08-05                | One year     |
| <input checked="" type="checkbox"/> | MINI-CIRCUITS | Amplifier                            | ZHL-42W  | QA1402001     | NCR                       | NCR          |
| <input checked="" type="checkbox"/> | AR            | Directional Coupler                  | DC7144M1 | 311190        | 2016-05-13                | NCR          |
| <input checked="" type="checkbox"/> | MINI-CIRCUITS | Amplifier                            | ZVE-8G+  | N523101139    | NCR                       | One year     |
| <input checked="" type="checkbox"/> | Agilent       | Dual Directional Coupler             | 772D     | MY52180173    | 2017-01-03                | One year     |
| <input checked="" type="checkbox"/> | R & S         | Power Meter                          | NRP      | 100740        | 2016-05-18                | One year     |
| <input checked="" type="checkbox"/> | R & S         | Power Meter Sensor                   | NRP-Z11  | 106288        | 2016-07-07                | One year     |
| <input checked="" type="checkbox"/> | Agilent       | Power Meter                          | E4417A   | MY45101339    | 2016-12-30                | One year     |
| <input checked="" type="checkbox"/> | Agilent       | Power Meter Sensor                   | E9321A   | MY44420359    | 2016-12-30                | One year     |

Note: 1) Per KDB865664D01 requirements for dipole calibration, the test laboratory has adopted three-year extended calibration interval. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

- There is no physical damage on the dipole;
- System check with specific dipole is within 10% of calibrated value;
- The most recent return-loss result, measured at least annually, deviates by no more than 20% from the previous measurement.
- The most recent measurement of the real or imaginary parts of the impedance, measured at least annually is within 5Ω from the previous measurement.

2) Network analyzer probe calibration against air, distilled water and a shorting block performed before measuring liquid parameters.

3) \*All the equipments are within the valid period when the tests are performed.

### 3 SAR Measurement Procedure

#### 3.1 Scanning procedure

The DASY installation includes predefined files with recommended procedures for measurements and system check. They are read-only document files and destined as fully defined but unmeasured masks. All test positions (head or body-worn) are tested with the same configuration of test steps differing only in the grid definition for the different test positions.

- The “reference” and “drift” measurements are located at the beginning and end of the batch process. They measure the field drift at one single point in the liquid over the complete procedure. The indicated drift is mainly the variation of the DUT’s output power and should vary max. +/- 5 %.
- The “surface check” measurement tests the optical surface detection system of the DASY5/6 system by repeatedly detecting the surface with the optical and mechanical surface detector and comparing the results. The output gives the detecting heights of both systems, the difference between the two systems and the standard deviation of the detection repeatability. Air bubbles or refraction in the liquid due to separation of the sugar-water mixture gives poor repeatability (above  $\pm 0.1\text{mm}$ ). To prevent wrong results tests are only executed when the liquid is free of air bubbles. The difference between the optical surface detection and the actual surface depends on the probe and is specified with each probe. (It does not depend on the surface reflectivity or the probe angle to the surface within  $\pm 30^\circ$ .)
- The “area scan” measures the SAR above the DUT or verification dipole on a parallel plane to the surface. It is used to locate the approximate location of the peak SAR with 2D spline interpolation. The robot performs a stepped movement along one grid axis while the local electrical field strength is measured by the probe. The probe is touching the surface of the SAM during acquisition of measurement values. The standard scan uses large grid spacing for faster measurement. Standard grid spacing for head measurements is 15 mm in x- and y- dimension ( $\leq 2\text{GHz}$ ), 12 mm in x- and y- dimension (2-4 GHz) and 10mm in x- and y- dimension (4-6GHz). If a finer resolution is needed, the grid spacing can be reduced. Grid spacing and orientation have no influence on the SAR result. For special applications where the standard scan method does not find the peak SAR within the grid, e.g. mobile phones with flip cover, the grid can be adapted in orientation. Results of this coarse scan are shown in Appendix B.
- A “zoom scan” measures the field in a volume around the 2D peak SAR value acquired in the previous “coarse” scan. This is a fine grid with maximum scan spatial resolution:  $\Delta x_{\text{zoom}}, \Delta y_{\text{zoom}} \leq 2\text{GHz} - \leq 8\text{mm}$ , 2-4GHz -  $\leq 5\text{ mm}$  and 4-6 GHz- $\leq 4\text{mm}$ ;  $\Delta z_{\text{zoom}} \leq 3\text{GHz} - \leq 5\text{ mm}$ , 3-4 GHz-  $\leq 4\text{mm}$  and 4-6GHz- $\leq 2\text{mm}$  where the robot additionally moves the probe along the z-axis away from the bottom of the Phantom. DASY is also able to perform repeated zoom scans if more than 1 peak is found during area scan. In this document, the evaluated peak 1g and 10g averaged SAR values are shown in the 2D-graphics in Appendix B. Test results relevant for the specified standard (see chapter 1.4.) are shown in table form in chapter 7.2.
- A Z-axis scan measures the total SAR value at the x-and y-position of the maximum SAR value found during the cube scan. The probe is moved away in z-direction from the bottom of the SAM phantom in 2 mm steps. This measurement shows the continuity of the liquid and can - depending in the field strength – also show the liquid depth. A z-axis scan of the measurement with maximum SAR value is shown in Appendix B.

The following table summarizes the area scan and zoom scan resolutions per FCC KDB 865664D01:

| Frequency | Maximun Area Scan resolution<br>( $\Delta x_{area}$ , $\Delta y_{area}$ ) | Maximun Zoom Scan spatial resolution<br>( $\Delta x_{Zoom}$ , $\Delta y_{Zoom}$ ) | Maximun Zoom Scan spatial resolution |                        |                              | Minimum zoom scan volume<br>(x,y,z) |
|-----------|---------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------|------------------------|------------------------------|-------------------------------------|
|           |                                                                           |                                                                                   | Uniform Grid                         | Graded Grad            |                              |                                     |
|           |                                                                           |                                                                                   | $\Delta z_{Zoom}(n)$                 | $\Delta z_{Zoom}(1)^*$ | $\Delta z_{Zoom}(n>1)^*$     |                                     |
| ≤2GHz     | ≤15mm                                                                     | ≤8mm                                                                              | ≤5mm                                 | ≤4mm                   | ≤1.5* $\Delta z_{Zoom}(n-1)$ | ≥30mm                               |
| 2-3GHz    | ≤12mm                                                                     | ≤5mm                                                                              | ≤5mm                                 | ≤4mm                   | ≤1.5* $\Delta z_{Zoom}(n-1)$ | ≥30mm                               |
| 3-4GHz    | ≤12mm                                                                     | ≤5mm                                                                              | ≤4mm                                 | ≤3mm                   | ≤1.5* $\Delta z_{Zoom}(n-1)$ | ≥28mm                               |
| 4-5GHz    | ≤10mm                                                                     | ≤4mm                                                                              | ≤3mm                                 | ≤2.5mm                 | ≤1.5* $\Delta z_{Zoom}(n-1)$ | ≥25mm                               |
| 5-6GHz    | ≤10mm                                                                     | ≤4mm                                                                              | ≤2mm                                 | ≤2mm                   | ≤1.5* $\Delta z_{Zoom}(n-1)$ | ≥22mm                               |

### 3.2 Spatial Peak SAR Evaluation

The spatial peak SAR - value for 1 and 10 g is evaluated after the Cube measurements have been done. The basis of the evaluation are the SAR values measured at the points of the fine cube grid consisting of  $5 \times 5 \times 7$  points( with 8mm horizontal resolution) or  $7 \times 7 \times 7$  points( with 5mm horizontal resolution) or  $8 \times 8 \times 7$  points( with 4mm horizontal resolution). The algorithm that finds the maximal averaged volume is separated into three different stages.

- The data between the dipole center of the probe and the surface of the phantom are extrapolated. This data cannot be measured since the center of the dipole is 2.7 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is about 1 mm (see probe calibration sheet). The extrapolated data from a cube measurement can be visualized by selecting 'Graph Evaluated'.
- The maximum interpolated value is searched with a straight-forward algorithm. Around this maximum the SAR - values averaged over the spatial volumes (1g or 10 g) are computed using the 3d-spline interpolation algorithm. If the volume cannot be evaluated (i.e., if a part of the grid was cut off by the boundary of the measurement area) the evaluation will be started on the corners of the bottom plane of the cube.
- All neighboring volumes are evaluated until no neighboring volume with a higher average value is found.

#### Extrapolation

The extrapolation is based on a least square algorithm [W. Gander, Computermathematik, p.168-180]. Through the points in the first 3 cm along the z-axis, polynomials of order four are calculated. These polynomials are then used to evaluate the points between the surface and the probe tip. The points, calculated from the surface, have a distance of 1 mm from each other.

#### Interpolation

The interpolation of the points is done with a 3d-Spline. The 3d-Spline is composed of three one-dimensional splines with the "Not a knot"-condition [W. Gander, Computermathematik, p.141-150] (x, y and z -direction) [Numerical Recipes in C, Second Edition, p.123ff ].

#### Volume Averaging

At First the size of the cube is calculated. Then the volume is integrated with the trapezoidal algorithm. 8000 points ( $20 \times 20 \times 20$ ) are interpolated to calculate the average.

#### Advanced Extrapolation

DASY5/6 uses the advanced extrapolation option which is able to compensates boundary effects on E-field probes.

### 3.3 Data Storage and Evaluation

#### Data Storage

The DASY5 software stores the acquired data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files with the extension "DAE4". The software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of incorrect parameter settings. For example, if a measurement has been performed with a wrong crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be re-evaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type ([V/m], [A/m], [°C], [mW/g], [mW/cm²], [dBrel], etc.). Some of these units are not available in certain situations or show meaningless results, e.g., a SAR output in a lossless media will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

#### Data Evaluation by SEMCAD

The SEMCAD software automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

|                    |                           |                                         |
|--------------------|---------------------------|-----------------------------------------|
| Probe parameters:  | - Sensitivity             | $\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$ |
|                    | - Conversion factor       | $\text{ConvF}_i$                        |
|                    | - Diode compression point | $\text{Dcpi}$                           |
| Device parameters: | - Frequency               | $f$                                     |
|                    | - Crest factor            | $cf$                                    |
| Media parameters:  | - Conductivity            | $\sigma$                                |
|                    | - Density                 | $\rho$                                  |

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY5 components. In the direct measuring mode of the multimeter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics.

If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power. The formula for each channel can be given as:

$$V_i = U_i + U_{i2} \cdot cf/dcpi$$

with  $V_i$  = compensated signal of channel  $i$  ( $i = x, y, z$ )  
 $U_i$  = input signal of channel  $i$  ( $i = x, y, z$ )  
 $cf$  = crest factor of exciting field (DASY parameter)  
 $dcpi$  = diode compression point (DASY parameter)

From the compensated input signals the primary field data for each channel can be

evaluated:

$$\begin{aligned} \text{E-field probes:} \quad E_i &= (V_i / \text{Norm}_i \cdot \text{ConvF})^{1/2} \\ \text{H-field probes:} \quad H_i &= (V_i)^{1/2} \cdot (a_{i0} + a_{i1}f + a_{i2}f^2)/f \end{aligned}$$

with  $V_i$  = compensated signal of channel i (i = x, y, z)  
 $\text{Norm}_i$  = sensor sensitivity of channel i (i = x, y, z)  
 $[\text{mV}/(\text{V}/\text{m})^2]$  for E-field Probes  
 $\text{ConvF}$  = sensitivity enhancement in solution  
 $a_{ij}$  = sensor sensitivity factors for H-field probes  
 $f$  = carrier frequency [GHz]  
 $E_i$  = electric field strength of channel i in V/m  
 $H_i$  = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{\text{tot}} = (E_x^2 + E_y^2 + E_z^2)^{1/2}$$

The primary field data are used to calculate the derived field units.

$$\text{SAR} = (E_{\text{tot}}^2 \cdot \sigma) / (\rho \cdot 1000)$$

with  $\text{SAR}$  = local specific absorption rate in mW/g  
 $E_{\text{tot}}$  = total field strength in V/m  
 $\sigma$  = conductivity in [mho/m] or [Siemens/m]  
 $\rho$  = equivalent tissue density in  $\text{g}/\text{cm}^3$

Note that the density is normally set to 1 (or 1.06), to account for actual brain density rather than the density of the simulation liquid. The power flow density is calculated assuming the excitation field to be a free space field.

$$P_{\text{pwe}} = E_{\text{tot}}^2 / 3770 \quad \text{or} \quad P_{\text{pwe}} = H_{\text{tot}}^2 \cdot 37.7$$

with  $P_{\text{pwe}}$  = equivalent power density of a plane wave in  $\text{mW}/\text{cm}^2$   
 $E_{\text{tot}}$  = total electric field strength in V/m  
 $H_{\text{tot}}$  = total magnetic field strength in A/m

## 4 System Verification Procedure

### 4.1 Tissue Verification

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine if the dielectric parameters are within the tolerances of the specified target values. The measured conductivity and relative permittivity should be within  $\pm 5\%$  of the target values.

The following materials are used for producing the tissue-equivalent materials.

| Ingredients (% of weight) | Head Tissue |       |       |        |      |        |
|---------------------------|-------------|-------|-------|--------|------|--------|
| Frequency Band (MHz)      | 750         | 835   | 1750  | 1900   | 2450 | 2600   |
| Water                     | 39.2        | 41.45 | 52.64 | 55.242 | 62.7 | 55.242 |
| Salt (NaCl)               | 2.7         | 1.45  | 0.36  | 0.306  | 0.5  | 0.306  |
| Sugar                     | 57.0        | 56.0  | 0.0   | 0.0    | 0.0  | 0.0    |
| HEC                       | 0.0         | 1.0   | 0.0   | 0.0    | 0.0  | 0.0    |
| Bactericide               | 0.0         | 0.1   | 0.0   | 0.0    | 0.0  | 0.0    |
| Triton X-100              | 0.0         | 0.0   | 0.0   | 0.0    | 0.0  | 0.0    |
| DGBE                      | 0.0         | 0.0   | 47.0  | 44.542 | 36.8 | 44.452 |
| Ingredients (% of weight) | Body Tissue |       |       |        |      |        |
| Frequency Band (MHz)      | 750         | 835   | 1750  | 1900   | 2450 | 2600   |
| Water                     | 50.3        | 52.4  | 69.91 | 69.91  | 73.2 | 64.493 |
| Salt (NaCl)               | 1.60        | 1.40  | 0.13  | 0.13   | 0.04 | 0.024  |
| Sugar                     | 47.0        | 45.0  | 0.0   | 0.0    | 0.0  | 0.0    |
| HEC                       | 0.0         | 1.0   | 0.0   | 0.0    | 0.0  | 0.0    |
| Bactericide               | 0.0         | 0.1   | 0.0   | 0.0    | 0.0  | 0.0    |
| Triton X-100              | 0.0         | 0.0   | 0.0   | 0.0    | 0.0  | 0.0    |
| DGBE                      | 0.0         | 0.0   | 29.96 | 29.96  | 26.7 | 32.252 |

#### ☒ Simulating Head Liquid (HBBL600-6000MHz), Manufactured by SPEAG:

| Ingredients | (% by weight) |
|-------------|---------------|
| Water       | 50-65%        |
| Mineral oil | 10-30%        |
| Emulsifiers | 8-25%         |
| Sodium salt | 0-1.5%        |

#### ☒ Simulating Body Liquid (MBBL600-6000MHz), Manufactured by SPEAG:

| Ingredients                     | (% by weight) |
|---------------------------------|---------------|
| Water                           | 60-80%        |
| Esters, Emulsifiers, Inhibitors | 20-40%        |
| Sodium salt                     | 0-1.5%        |

Table 4: Tissue Dielectric Properties

Salt: 99+% Pure Sodium Chloride; Sugar: 98+% Pure Sucrose; Water: De-ionized, 16M $\Omega$ + resistivity  
 HEC: Hydroxyethyl Cellulose; DGBE: 99+% Di(ethylene glycol) butyl ether, [2-(2-butoxyethoxy)ethanol]  
 Triton X-100(ultra pure): Polyethylene glycol mono [4-(1,1,3,3-tetramethylbutyl)phenyl]ether

| Tissue Type  | Target Frequency | Target Tissue |                | Measured Tissue |                | Deviation (Within +/-5% ) |                | Liquid Temp. | Test Date |
|--------------|------------------|---------------|----------------|-----------------|----------------|---------------------------|----------------|--------------|-----------|
|              |                  | $\epsilon_r$  | $\sigma$ [S/m] | $\epsilon_r$    | $\sigma$ [S/m] | $\Delta\epsilon_r$        | $\Delta\sigma$ |              |           |
| 750MHz Head  | 705              | 42.14         | 0.89           | 41.51           | 0.853          | -1.50%                    | -4.19%         | 21.6°C       | 2017/3/21 |
|              | 710              | 42.11         | 0.89           | 41.50           | 0.858          | -1.45%                    | -3.54%         |              |           |
|              | 750              | 41.90         | 0.89           | 41.39           | 0.870          | -1.22%                    | -2.24%         |              |           |
| 835MHz Head  | 825              | 41.60         | 0.90           | 41.61           | 0.906          | 0.02%                     | 0.66%          | 21.5°C       | 2017/3/21 |
|              | 835              | 41.50         | 0.90           | 41.51           | 0.913          | 0.02%                     | 1.48%          |              |           |
|              | 850              | 41.50         | 0.92           | 41.35           | 0.926          | -0.36%                    | 0.68%          |              |           |
| 1750MHz Head | 1710             | 40.10         | 1.35           | 40.53           | 1.320          | 1.07%                     | -2.22%         | 21.8°C       | 2017/3/20 |
|              | 1730             | 40.10         | 1.36           | 40.52           | 1.332          | 1.05%                     | -2.06%         |              |           |
|              | 1750             | 40.10         | 1.37           | 40.51           | 1.344          | 1.02%                     | -1.90%         |              |           |
|              | 1800             | 40.00         | 1.40           | 40.44           | 1.378          | 1.10%                     | -1.57%         |              |           |
| 1900MHz Head | 1850             | 40.00         | 1.40           | 41.51           | 1.377          | 3.78%                     | -1.64%         | 21.8°C       | 2017/3/20 |
|              | 1880             | 40.00         | 1.40           | 41.48           | 1.395          | 3.70%                     | -0.36%         |              |           |
|              | 1900             | 40.00         | 1.40           | 41.45           | 1.405          | 3.63%                     | 0.36%          |              |           |
|              | 1910             | 40.00         | 1.40           | 41.44           | 1.411          | 3.60%                     | 0.79%          |              |           |
| 2450MHz Head | 2410             | 39.30         | 1.76           | 40.28           | 1.835          | 2.49%                     | 4.26%          | 21.4°C       | 2017/3/22 |
|              | 2435             | 39.20         | 1.79           | 40.26           | 1.856          | 2.70%                     | 3.69%          |              |           |
|              | 2450             | 39.20         | 1.80           | 40.20           | 1.871          | 2.55%                     | 3.94%          |              |           |
|              | 2460             | 39.20         | 1.81           | 40.19           | 1.875          | 2.53%                     | 3.59%          |              |           |
| 2600MHz Head | 2510             | 39.12         | 1.86           | 39.98           | 1.930          | 2.20%                     | 3.76%          | 21.7°C       | 2017/3/21 |
|              | 2535             | 39.10         | 1.89           | 40.00           | 1.957          | 2.30%                     | 3.54%          |              |           |
|              | 2560             | 39.00         | 1.92           | 39.95           | 1.972          | 2.44%                     | 2.87%          |              |           |
|              | 2600             | 39.00         | 1.96           | 39.86           | 2.013          | 2.21%                     | 2.70%          |              |           |
|              | 2610             | 38.98         | 1.97           | 39.87           | 2.022          | 2.28%                     | 2.64%          |              |           |
|              | 2645             | 38.93         | 2.01           | 39.79           | 2.044          | 2.21%                     | 1.69%          |              |           |
| 5GHz Head    | 5250             | 35.90         | 4.71           | 35.35           | 4.513          | -1.53%                    | -4.18%         | 21.8°C       | 2017/3/22 |
|              | 5600             | 35.50         | 5.07           | 34.61           | 5.009          | -2.51%                    | -1.20%         |              |           |
|              | 5750             | 35.40         | 5.22           | 34.44           | 5.201          | -2.71%                    | -0.36%         |              |           |

|                 |      |       |      |       |       |        |        |        |           |
|-----------------|------|-------|------|-------|-------|--------|--------|--------|-----------|
| 750MHz<br>Body  | 705  | 55.70 | 0.96 | 55.38 | 0.937 | -0.57% | -2.45% | 21.4°C | 2017/3/21 |
|                 | 710  | 55.70 | 0.96 | 55.41 | 0.939 | -0.52% | -2.24% |        |           |
|                 | 750  | 55.50 | 0.96 | 55.34 | 0.959 | -0.29% | -0.14% |        |           |
| 835MHz<br>Body  | 825  | 55.20 | 0.97 | 53.90 | 0.987 | -2.36% | 1.77%  | 21.5°C | 2017/3/21 |
|                 | 835  | 55.20 | 0.97 | 53.87 | 0.991 | -2.41% | 2.12%  |        |           |
|                 | 850  | 55.20 | 0.99 | 53.81 | 0.996 | -2.52% | 0.65%  |        |           |
| 1750MHz<br>Body | 1710 | 53.50 | 1.46 | 52.59 | 1.439 | -1.70% | -1.44% | 21.8°C | 2017/3/20 |
|                 | 1730 | 53.50 | 1.48 | 52.60 | 1.453 | -1.68% | -1.82% |        |           |
|                 | 1750 | 53.40 | 1.49 | 52.59 | 1.467 | -1.52% | -1.54% |        |           |
|                 | 1800 | 53.30 | 1.52 | 52.53 | 1.506 | -1.44% | -0.92% |        |           |
| 1900MHz<br>Body | 1850 | 53.30 | 1.52 | 53.29 | 1.501 | -0.02% | -1.25% | 21.8°C | 2017/3/20 |
|                 | 1880 | 53.30 | 1.52 | 53.27 | 1.522 | -0.06% | 0.13%  |        |           |
|                 | 1900 | 53.30 | 1.52 | 53.25 | 1.534 | -0.09% | 0.92%  |        |           |
|                 | 1910 | 53.30 | 1.52 | 53.23 | 1.541 | -0.13% | 1.38%  |        |           |
| 2450MHz<br>Body | 2410 | 52.80 | 1.91 | 52.69 | 1.972 | -0.21% | 3.25%  | 22.0°C | 2017/3/22 |
|                 | 2435 | 52.70 | 1.94 | 52.66 | 1.992 | -0.08% | 2.68%  |        |           |
|                 | 2450 | 52.70 | 1.95 | 52.64 | 2.005 | -0.11% | 2.82%  |        |           |
|                 | 2460 | 52.70 | 1.96 | 52.63 | 2.014 | -0.13% | 2.76%  |        |           |
| 2600MHz<br>Body | 2510 | 52.62 | 2.03 | 51.86 | 2.105 | -1.44% | 3.69%  | 21.8°C | 2017/3/21 |
|                 | 2535 | 52.59 | 2.07 | 51.82 | 2.130 | -1.46% | 2.90%  |        |           |
|                 | 2560 | 52.57 | 2.09 | 51.78 | 2.156 | -1.50% | 3.16%  |        |           |
|                 | 2600 | 52.50 | 2.16 | 51.72 | 2.195 | -1.49% | 1.62%  |        |           |
|                 | 2610 | 52.36 | 2.18 | 51.71 | 2.205 | -1.24% | 1.15%  |        |           |
|                 | 2645 | 52.26 | 2.24 | 51.66 | 2.241 | -1.15% | 0.04%  |        |           |
| 5GHz<br>Body    | 5250 | 48.90 | 5.36 | 49.67 | 5.415 | 1.57%  | 1.03%  | 21.8°C | 2017/3/22 |
|                 | 5600 | 48.50 | 5.77 | 49.25 | 5.810 | 1.55%  | 0.69%  |        |           |
|                 | 5750 | 48.30 | 5.94 | 48.68 | 6.091 | 0.79%  | 2.54%  |        |           |

Table 5: Measured Tissue Parameter

Note: 1) The dielectric parameters of the tissue-equivalent liquid should be measured under similar ambient conditions and within 2 °C of the conditions expected during the SAR evaluation to satisfy protocol requirements.

2) KDB 865664 was ensured to be applied for probe calibration frequencies greater than or equal to 50MHz of the EUT frequencies.

3) The above measured tissue parameters were used in the DASY software to perform interpolation via the DASY software to determine actual dielectric parameters at the test frequencies. The SAR test plots may slightly differ from the table above since the DASY rounds to three significant digits.

## 4.2 System Check

The system check is performed for verifying the accuracy of the complete measurement system and performance of the software. The system check is performed with tissue equivalent material according to IEEE P1528 (described above). The following table shows system check results for all frequency bands and tissue liquids used during the tests(Graphic Plot(s) see Appendix A).

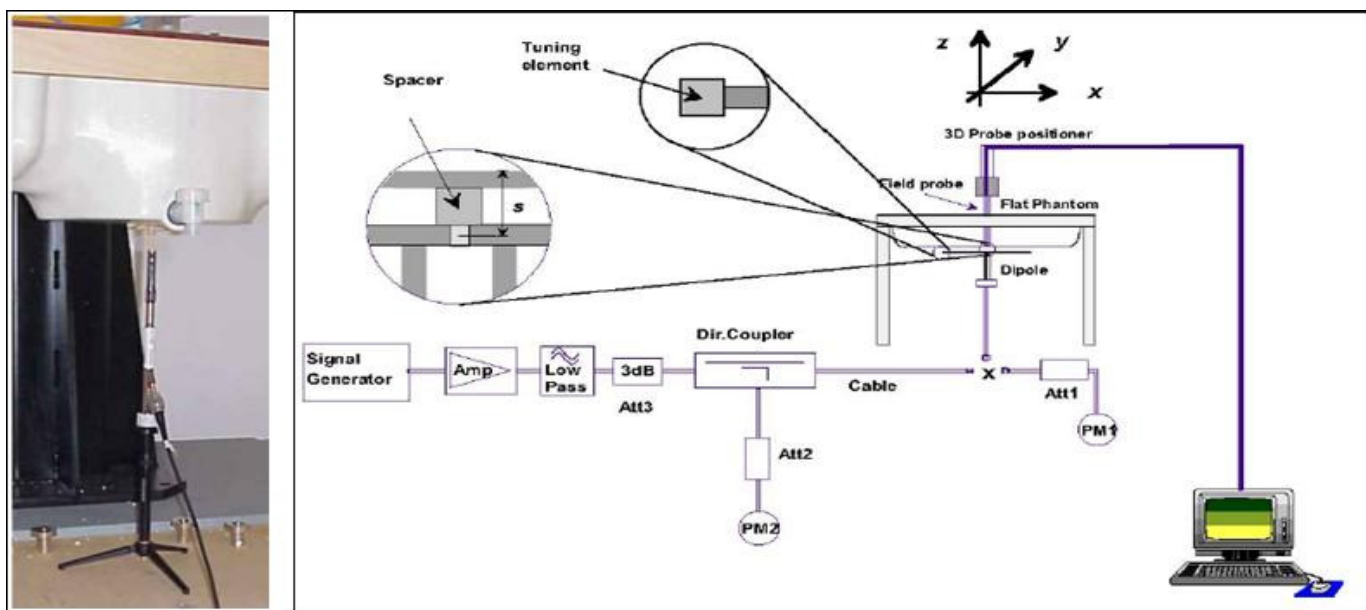
| System Check | Target SAR (1W) |             | Measured SAR (Normalized to 1W) |             | Deviation (Within +/-10% ) |               | Liquid Temp. | Test Date |
|--------------|-----------------|-------------|---------------------------------|-------------|----------------------------|---------------|--------------|-----------|
|              | 1-g (W/kg)      | 10-g (W/kg) | 1-g (W/kg)                      | 10-g (W/kg) | $\Delta$ 1-g               | $\Delta$ 10-g |              |           |
| 750MHz Head  | 8.22            | 5.39        | 8.32                            | 5.48        | 1.22%                      | 1.67%         | 21.6°C       | 2017/3/21 |
| 835MHz Head  | 9.30            | 6.05        | 9.28                            | 6.00        | -0.22%                     | -0.83%        | 21.5°C       | 2017/3/21 |
| 1750MHz Head | 35.10           | 18.60       | 34.92                           | 18.44       | -0.51%                     | -0.86%        | 21.8°C       | 2017/3/20 |
| 1900MHz Head | 40.20           | 21.10       | 41.60                           | 21.48       | 3.48%                      | 1.80%         | 21.8°C       | 2017/3/20 |
| 2450MHz Head | 51.90           | 24.40       | 52.40                           | 24.20       | 0.96%                      | -0.82%        | 21.4°C       | 2017/3/22 |
| 2600MHz Head | 57.10           | 25.60       | 57.20                           | 25.72       | 0.18%                      | 0.47%         | 21.7°C       | 2017/3/21 |
| 5250MHz Head | 74.40           | 21.60       | 70.40                           | 20.00       | -5.38%                     | -7.41%        | 21.8°C       | 2017/3/22 |
|              |                 |             |                                 |             |                            |               |              |           |
| 750MHz Body  | 8.64            | 5.72        | 8.84                            | 5.80        | 2.31%                      | 1.40%         | 21.4°C       | 2017/3/21 |
| 835MHz Body  | 9.41            | 6.20        | 9.96                            | 6.52        | 5.84%                      | 5.16%         | 21.5°C       | 2017/3/21 |
| 1750MHz Body | 36.30           | 19.50       | 36.96                           | 19.56       | 1.82%                      | 0.31%         | 21.8°C       | 2017/3/20 |
| 1900MHz Body | 39.90           | 21.00       | 43.20                           | 22.28       | 8.27%                      | 6.10%         | 21.8°C       | 2017/3/20 |
| 2450MHz Body | 50.60           | 23.80       | 55.60                           | 25.36       | 9.88%                      | 6.55%         | 22.0°C       | 2017/3/22 |
| 2600MHz Body | 54.90           | 24.60       | 58.40                           | 25.88       | 6.38%                      | 5.20%         | 21.8°C       | 2017/3/21 |
| 5600MHz Body | 76.40           | 21.50       | 78.70                           | 22.00       | 3.01%                      | 2.33%         | 21.8°C       | 2017/3/22 |

Table 6: System Check Results

### 4.3 System check Procedure

The system check is performed by using a system check dipole which is positioned parallel to the planar part of the SAM phantom at the reference point. The distance of the dipole to the SAM phantom is determined by a plexiglass spacer. The dipole is connected to the signal source consisting of signal generator and amplifier via a directional coupler, N-connector cable and adaption to SMA. It is fed with a power of 250 mW(below 5GHz) or 100mW(above 5GHz). To adjust this power a power meter is used. The power sensor is connected to the cable before the system check to measure the power at this point and do adjustments at the signal generator. At the outputs of the directional coupler both return loss as well as forward power are controlled during the system check to make sure that emitted power at the dipole is kept constant. This can also be checked by the power drift measurement after the test (result on plot).

System check results have to be equal or near the values determined during dipole calibration (target SAR in table above) with the relevant liquids and test system.



## 5 SAR measurement variability and uncertainty

### 5.1 SAR measurement variability

Per KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04, SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. The additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.80$  W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.80$  W/kg, repeat that measurement once.
- 3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  W/kg (~ 10% from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

The detailed repeated measurement results are shown in Section 7.2.

### 5.2 SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. The equivalent ratio (1.5/1.6) is applied to extremity and occupational exposure conditions.

## 6 SAR Test Configuration

### 6.1 Test Positions Configuration

#### 6.1.1 General considerations

Per IEEE 1528-2013, two imaginary lines on the handset were established: the vertical centerline and the horizontal line (See Figure 1).

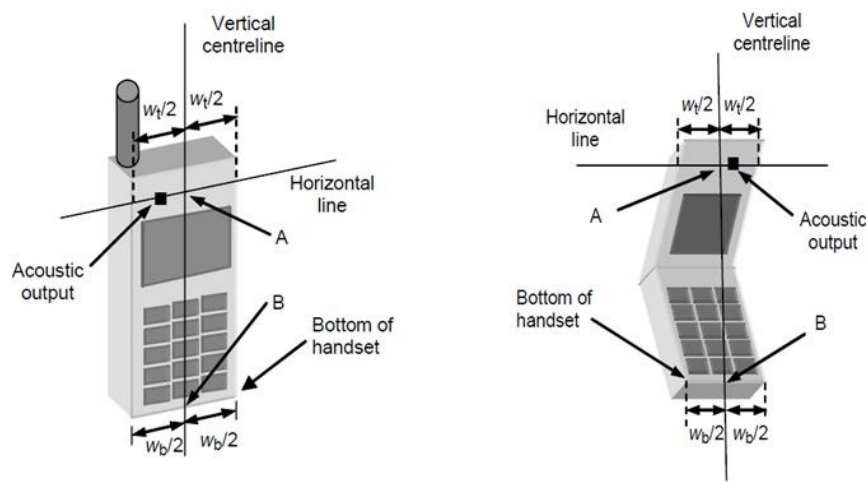


Figure 1 Hand Vertical Center & Horizontal Line Reference Points

#### 6.1.2 Head Exposure Condition

Per IEEE 1528-2013, Head SAR measurements were made in the “cheek” position (See Figure 2) and the “tilt” position (See Figure 3). The device should be tested in both positions on left and right sides of the SAM phantom.

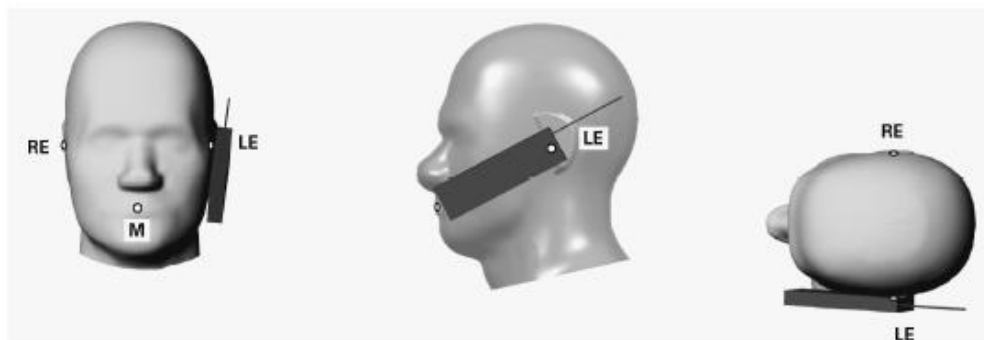


Figure 2 Front, Side and Top View of Cheek Position

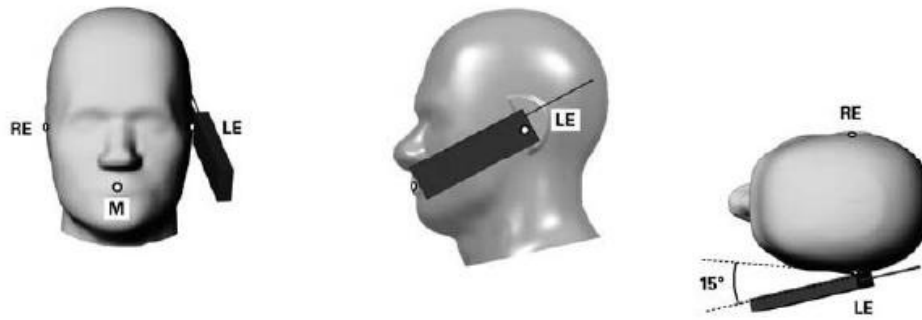


Figure 3 Front, Side and Top View of Tilt 15° Position

Note:

M Mouth reference point

LE Left ear reference point (ERP)

RE Right ear reference point(ERP)

### 6.1.3 Body-worn Exposure Condition

Body-worn operating configurations are tested with the holder attached to the device and positioned against a flat phantom with test separation distance of 15mm in a normal use configuration (See Figure 4). Per FCC KDB648474 D04v01, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2 \text{ W/kg}$ , the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

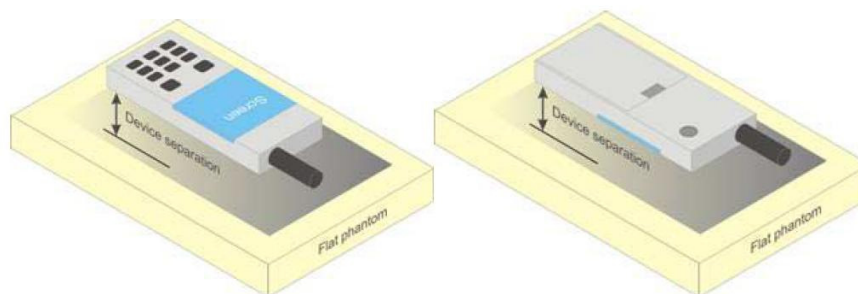


Figure 4 Test position for Body-Worn device

### 6.1.4 Hotspot Exposure Condition

Per FCC KDB 941225D06, The SAR test separation distance for hotspot mode is determined according to device form factor. When the overall length and width of a device is  $> 9 \text{ cm} \times 5 \text{ cm}$ , a test separation distance of 10 mm is required for hotspot mode SAR measurements. A test separation distance of 5 mm or less is required for smaller devices. Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge; for the data modes, wireless technologies and frequency bands supporting hotspot mode. The SAR results are used to

determine simultaneous transmission SAR test exclusion for hotspot mode; otherwise, simultaneous transmission SAR measurement is required.

## 6.2 3G SAR Test Reduction Procedure

Per KDB941225 D01v03, in the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

## 6.3 GSM Test Configuration

SAR tests for GSM850 and GSM1900, a communication link is set up with a base station by air link. Using CMU200 the power lever is set to “5” and “0” in SAR of GSM850 and GSM1900. The tests in the band of GSM850 and GSM1900 are performed in the mode of GPRS/EGPRS function. Since the GPRS class is 12 for this EUT, it has at most 4 timeslots in uplink and at most 4 timeslots in downlink, the maximum total timeslot is 5. The EGPRS class is 12 for this EUT, it has at most 4 timeslots in uplink, and at most 4 timeslots in downlink, the maximum total timeslot is 5.

When SAR tests for EGPRS mode is necessary, GMSK modulation should be used to minimize SAR measurement error due to higher peak-to-average power (PAR) ratios inherent in 8-PSK.

## 6.4 UMTS Test Configuration

### 1) Output Power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

### 2) WCDMA

#### a. Head SAR Measurements

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode.

#### b. Body SAR Measurements-

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode

### 3) HSDPA

SAR for body exposure configurations is measured according to the “Body SAR Measurements” procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode. This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

Per KDB941225 D01v03, the 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures for the highest reported SAR body exposure configuration in 12.2 kbps RMC.

HSDPA should be configured according to UE category of a test device. The number of HS-DSCH/HS-PDSCHs, HAPRQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission condition, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. The  $\beta_c$  and  $\beta_d$  gain factors for DPCCH and DPDCH were set according to the values in the below table,  $\beta_{hs}$  for HS-DPCCH is set automatically to the correct value when  $\Delta ACK$ ,  $\Delta NACK$ ,  $\Delta CQI = 8$ . The variation of the  $\beta_c / \beta_d$  ratio causes a power reduction at sub-tests 2 - 4.

| Sub-test <sup>↗</sup> | $\beta_c$ <sup>↗</sup> | $\beta_d$ <sup>↗</sup> | $\beta_d$ (SF) <sup>↗</sup> | $\beta_c/\beta_d$ <sup>↗</sup> | $\beta_{hs}(1)$ <sup>↗</sup> | CM(dB)(2) <sup>↗</sup> | MPR (dB) <sup>↗</sup> |
|-----------------------|------------------------|------------------------|-----------------------------|--------------------------------|------------------------------|------------------------|-----------------------|
| 1 <sup>↗</sup>        | 2/15 <sup>↗</sup>      | 15/15 <sup>↗</sup>     | 64 <sup>↗</sup>             | 2/15 <sup>↗</sup>              | 4/15 <sup>↗</sup>            | 0.0 <sup>↗</sup>       | 0 <sup>↗</sup>        |
| 2 <sup>↗</sup>        | 12/15(3) <sup>↗</sup>  | 15/15(3) <sup>↗</sup>  | 64 <sup>↗</sup>             | 12/15(3) <sup>↗</sup>          | 24/15 <sup>↗</sup>           | 1.0 <sup>↗</sup>       | 0 <sup>↗</sup>        |
| 3 <sup>↗</sup>        | 15/15 <sup>↗</sup>     | 8/15 <sup>↗</sup>      | 64 <sup>↗</sup>             | 15/8 <sup>↗</sup>              | 30/15 <sup>↗</sup>           | 1.5 <sup>↗</sup>       | 0.5 <sup>↗</sup>      |
| 4 <sup>↗</sup>        | 15/15 <sup>↗</sup>     | 4/15 <sup>↗</sup>      | 64 <sup>↗</sup>             | 15/4 <sup>↗</sup>              | 30/15 <sup>↗</sup>           | 1.5 <sup>↗</sup>       | 0.5 <sup>↗</sup>      |

Note 1:  $\Delta ACK$ ,  $\Delta NACK$  and  $\Delta CQI = 8$       $A_{hs} = \beta_{hs}/\beta_c = 30/15$       $\beta_{hs} = 30/15 * \beta_c$   
Note 2 : CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.<sup>↗</sup>  
Note 3 : For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ <sup>↗</sup>

Table 7: Sub-tests for UMTS Release 5 HSDPA

The measurements were performed with a Fixed Reference Channel (FRC) and H-Set 1 QPSK.

| Parameter                        | Value       |
|----------------------------------|-------------|
| Nominal average inf. bit rate    | 534 kbit/s  |
| Inter-TTI Distance               | 3 TTI's     |
| Number of HARQ Processes         | 2 Processes |
| Information Bit Payload          | 3202 Bits   |
| MAC-d PDU size                   | 336 Bits    |
| Number Code Blocks               | 1 Block     |
| Binary Channel Bits Per TTI      | 4800 Bits   |
| Total Available SMLs in UE       | 19200 SMLs  |
| Number of SMLs per HARQ Process  | 9600 SMLs   |
| Coding Rate                      | 0.67        |
| Number of Physical Channel Codes | 5           |

Table 8: settings of required H-Set 1 QPSK acc. to 3GPP 34.121

| HS-DSCH Category | Maximum HS-DSCH Codes Received | Minimum Inter-TTI Interval | Maximum HS-DSCH Transport Block Bits/HS-DSCH TTI | Total Soft Channel Bits |
|------------------|--------------------------------|----------------------------|--------------------------------------------------|-------------------------|
| 1                | 5                              | 3                          | 7298                                             | 19200                   |
| 2                | 5                              | 3                          | 7298                                             | 28800                   |
| 3                | 5                              | 2                          | 7298                                             | 28800                   |
| 4                | 5                              | 2                          | 7298                                             | 38400                   |
| 5                | 5                              | 1                          | 7298                                             | 57600                   |
| 6                | 5                              | 1                          | 7298                                             | 67200                   |
| 7                | 10                             | 1                          | 14411                                            | 115200                  |
| 8                | 10                             | 1                          | 14411                                            | 134400                  |
| 9                | 15                             | 1                          | 25251                                            | 172800                  |
| 10               | 15                             | 1                          | 27952                                            | 172800                  |
| 11               | 5                              | 2                          | 3630                                             | 14400                   |
| 12               | 5                              | 1                          | 3630                                             | 28800                   |
| 13               | 15                             | 1                          | 34800                                            | 259200                  |
| 14               | 15                             | 1                          | 42196                                            | 259200                  |
| 15               | 15                             | 1                          | 23370                                            | 345600                  |
| 16               | 15                             | 1                          | 27952                                            | 345600                  |

Table 9: HSDPA UE category

#### 4) HSUPA

SAR for body exposure configurations is measured according to the “Body SAR Measurements” procedures of 3G device. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

Per KDB941225 D01v03, the 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures for the highest reported body exposure SAR configuration in 12.2 kbps RMC.

Due to inner loop power control requirements in HSDPA, a commercial communication test set should be used for the output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSDPA should be configured according to the values indicated below as well as other applicable procedures described in the ‘WCDMA Handset’ and ‘Release 5 HSDPA Data Device’ sections of 3G device.

| Sub-test <sup>⌚</sup> | $\beta_c$ <sup>⌚</sup> | $\beta_d$ <sup>⌚</sup> | $\beta_d$ (SF) <sup>⌚</sup> | $\beta_c/\beta_d$ <sup>⌚</sup> | $\beta_{hs}$ <sup>(1)⌚</sup> | $\beta_{ec}$ <sup>⌚</sup> | $\beta_{ed}$ <sup>⌚</sup>                                                      | $\beta_{ec}$ <sup>(SF)<br/>(code)<br/>)⌚</sup> | $\beta_{ed}$ <sup>(code)<br/>)⌚</sup> | CM <sup>(2)⌚</sup><br>(dB)<br>)⌚ | MP<br>R <sup>⌚</sup><br>(dB)<br>)⌚ | AG <sup>(4)⌚</sup><br>Inde<br>x <sup>⌚</sup> | E-<br>TFC<br>I <sup>⌚</sup> |
|-----------------------|------------------------|------------------------|-----------------------------|--------------------------------|------------------------------|---------------------------|--------------------------------------------------------------------------------|------------------------------------------------|---------------------------------------|----------------------------------|------------------------------------|----------------------------------------------|-----------------------------|
| 1 <sup>⌚</sup>        | 11/15 <sup>(3)⌚</sup>  | 15/15 <sup>(3)⌚</sup>  | 64 <sup>⌚</sup>             | 11/15 <sup>(3)⌚</sup>          | 22/15 <sup>⌚</sup>           | 209/22<br>5 <sup>⌚</sup>  | 1039/225 <sup>⌚</sup>                                                          | 4 <sup>⌚</sup>                                 | 1 <sup>⌚</sup>                        | 1.0 <sup>⌚</sup>                 | 0.0 <sup>⌚</sup>                   | 20 <sup>⌚</sup>                              | 75 <sup>⌚</sup>             |
| 2 <sup>⌚</sup>        | 6/15 <sup>⌚</sup>      | 15/15 <sup>⌚</sup>     | 64 <sup>⌚</sup>             | 6/15 <sup>⌚</sup>              | 12/15 <sup>⌚</sup>           | 12/15 <sup>⌚</sup>        | 94/75 <sup>⌚</sup>                                                             | 4 <sup>⌚</sup>                                 | 1 <sup>⌚</sup>                        | 3.0 <sup>⌚</sup>                 | 2.0 <sup>⌚</sup>                   | 12 <sup>⌚</sup>                              | 67 <sup>⌚</sup>             |
| 3 <sup>⌚</sup>        | 15/15 <sup>⌚</sup>     | 9/15 <sup>⌚</sup>      | 64 <sup>⌚</sup>             | 15/9 <sup>⌚</sup>              | 30/15 <sup>⌚</sup>           | 30/15 <sup>⌚</sup>        | $\beta_{ed1}$ :47/1<br>5 <sup>⌚</sup><br>$\beta_{ed2}$ :47/1<br>5 <sup>⌚</sup> | 4 <sup>⌚</sup>                                 | 2 <sup>⌚</sup>                        | 2.0 <sup>⌚</sup>                 | 1.0 <sup>⌚</sup>                   | 15 <sup>⌚</sup>                              | 92 <sup>⌚</sup>             |
| 4 <sup>⌚</sup>        | 2/15 <sup>⌚</sup>      | 15/15 <sup>⌚</sup>     | 64 <sup>⌚</sup>             | 2/15 <sup>⌚</sup>              | 4/15 <sup>⌚</sup>            | 2/15 <sup>⌚</sup>         | 56/75 <sup>⌚</sup>                                                             | 4 <sup>⌚</sup>                                 | 1 <sup>⌚</sup>                        | 3.0 <sup>⌚</sup>                 | 2.0 <sup>⌚</sup>                   | 17 <sup>⌚</sup>                              | 71 <sup>⌚</sup>             |
| 5 <sup>⌚</sup>        | 15/15 <sup>(4)⌚</sup>  | 15/15 <sup>(4)⌚</sup>  | 64 <sup>⌚</sup>             | 15/15 <sup>(4)⌚</sup>          | 30/15 <sup>⌚</sup>           | 24/15 <sup>⌚</sup>        | 134/15 <sup>⌚</sup>                                                            | 4 <sup>⌚</sup>                                 | 1 <sup>⌚</sup>                        | 1.0 <sup>⌚</sup>                 | 0.0 <sup>⌚</sup>                   | 21 <sup>⌚</sup>                              | 81 <sup>⌚</sup>             |

Note 1:  $\Delta$  ACK,  $\Delta$  NACK and  $\Delta$  CQI = 8  $A_{hs} = \beta_{hs}/\beta_c = 30/15$   $\beta_{hs} = 30/15 * \beta_c$ <sup>⌚</sup>

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference<sup>⌚</sup>

Note 3 : For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ <sup>⌚</sup>

Note 4 : For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ <sup>⌚</sup>

Note 5 : Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g<sup>⌚</sup>

Note 6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.<sup>⌚</sup>

Table 10:Subtests for UMTS Release 6 HSUPA

| UE E-DCH Category | Maximum E-DCH Codes Transmitted | Number of HARQ Processes | E-DCH TTI(ms) | Minimum Spreading Factor | Maximum E-DCH Transport Block Bits | Max Rate (Mbps) |
|-------------------|---------------------------------|--------------------------|---------------|--------------------------|------------------------------------|-----------------|
| 1                 | 1                               | 4                        | 10            | 4                        | 7110                               | 0.7296          |
| 2                 | 2                               | 8                        | 2             | 4                        | 2798                               | 1.4592          |
|                   | 2                               | 4                        | 10            | 4                        | 14484                              |                 |
| 3                 | 2                               | 4                        | 10            | 4                        | 14484                              | 1.4592          |
| 4                 | 2                               | 8                        | 2             | 2                        | 5772                               | 2.9185          |
|                   | 2                               | 4                        | 10            | 2                        | 20000                              | 2.00            |
| 5                 | 2                               | 4                        | 10            | 2                        | 20000                              | 2.00            |
| 6<br>(No DPDCH)   | 4                               | 8                        | 10            | 2SF2&2SF                 | 11484                              | 5.76            |
|                   | 4                               | 4                        | 2             | 4                        | 20000                              | 2.00            |
| 7<br>(No DPDCH)   | 4                               | 8                        | 2             | 2SF2&2SF                 | 22996                              | ?               |
|                   | 4                               | 4                        | 10            | 4                        | 20000                              | ?               |

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4. UE categories 1 to 6 support QPSK only. UE category 7 supports QPSK and 16QAM. (TS25.306-7.3.0).

Table 11: HSUPA UE category

## 5) DC-HSDPA

SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a Second serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS 34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

**Table E.5.0: Levels for HSDPA connection setup**

| Parameter During Connection setup | Unit | Value |
|-----------------------------------|------|-------|
| P-CPICH_Ec/Ior                    | dB   | -10   |
| P-CCPCH and SCH_Ec/Ior            | dB   | -12   |
| PICH_Ec/Ior                       | dB   | -15   |
| HS-PDSCH                          | dB   | off   |
| HS-SCCH_1                         | dB   | off   |
| DPCH_Ec/Ior                       | dB   | -5    |
| OCNS_Ec/Ior                       | dB   | -3.1  |

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

The measurements were performed with a Fixed Reference Channel (FRC) H-Set 12 with QPSK

| Parameter                        | Value       |
|----------------------------------|-------------|
| Nominal average inf. bit rate    | 60 kbit/s   |
| Inter-TTI Distance               | 1 TTI's     |
| Number of HARQ Processes         | 6 Processes |
| Information Bit Payload          | 120 Bits    |
| Number Code Blocks               | 1 Block     |
| Binary Channel Bits Per TTI      | 960 Bits    |
| Total Available SMLs in UE       | 19200 SMLs  |
| Number of SMLs per HARQ Process  | 3200 SMLs   |
| Coding Rate                      | 0.15        |
| Number of Physical Channel Codes | 1           |

Table 12: settings of required H-Set 12 QPSK acc. to 3GPP 34.121

Note:

1. The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table above.
2. Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.

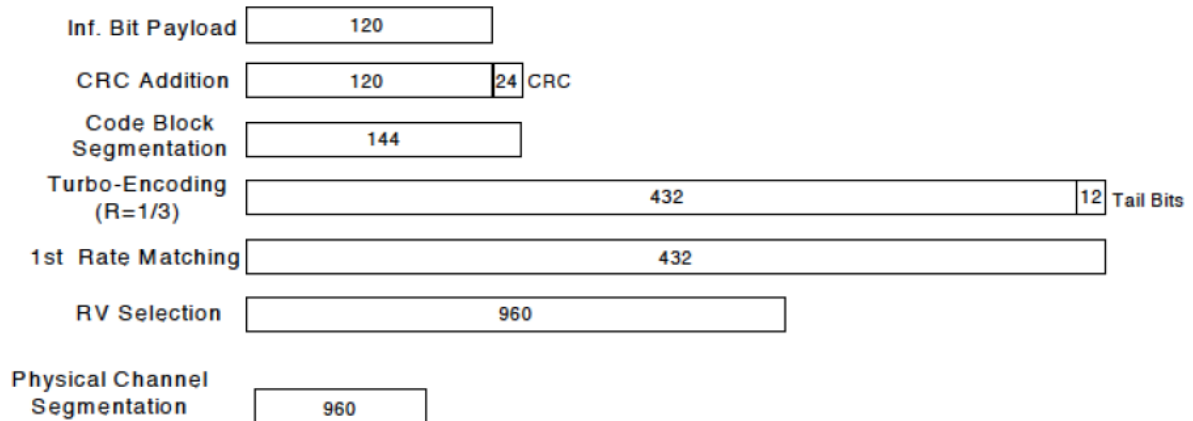


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

The following 4 Sub-tests for HSDPA were completed according to Release 5 procedures. A summary of subtest settings are illustrated below:

| Sub-test <sup>o</sup> | $\beta_c$ <sup>o</sup> | $\beta_d$ <sup>o</sup> | $\beta_d$ (SF) <sup>o</sup> | $\beta_c/\beta_d$ <sup>o</sup> | $\beta_{hs}(1)$ <sup>o</sup> | CM(dB)(2) <sup>o</sup> | MPR (dB) <sup>o</sup> |
|-----------------------|------------------------|------------------------|-----------------------------|--------------------------------|------------------------------|------------------------|-----------------------|
| 1 <sup>o</sup>        | 2/15 <sup>o</sup>      | 15/15 <sup>o</sup>     | 64 <sup>o</sup>             | 2/15 <sup>o</sup>              | 4/15 <sup>o</sup>            | 0.0 <sup>o</sup>       | 0 <sup>o</sup>        |
| 2 <sup>o</sup>        | 12/15(3) <sup>o</sup>  | 15/15(3) <sup>o</sup>  | 64 <sup>o</sup>             | 12/15(3) <sup>o</sup>          | 24/15 <sup>o</sup>           | 1.0 <sup>o</sup>       | 0 <sup>o</sup>        |
| 3 <sup>o</sup>        | 15/15 <sup>o</sup>     | 8/15 <sup>o</sup>      | 64 <sup>o</sup>             | 15/8 <sup>o</sup>              | 30/15 <sup>o</sup>           | 1.5 <sup>o</sup>       | 0.5 <sup>o</sup>      |
| 4 <sup>o</sup>        | 15/15 <sup>o</sup>     | 4/15 <sup>o</sup>      | 64 <sup>o</sup>             | 15/4 <sup>o</sup>              | 30/15 <sup>o</sup>           | 1.5 <sup>o</sup>       | 0.5 <sup>o</sup>      |

Note 1:  $\Delta$  ACK,  $\Delta$  NACK and  $\Delta$  CQI=8      $A_{hs} = \beta_{hs}/\beta_c = 30/15$       $\beta_{hs} = 30/15 * \beta_c$ <sup>o</sup>  
Note 2: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.<sup>o</sup>  
Note 3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ <sup>o</sup>

Up commands are set continuously to set the UE to Max power.

Note:

- 1.The Dual Carriers transmission only applies to HSDPA physical channels
- 2.The Dual Carriers belong to the same Node and are on adjacent carriers.
- 3.The Dual Carriers do not support MIMO to serve UEs configured for dual cell operation
- 4.The Dual Carriers operate in the same frequency band .
- 5.The device doesn't support the modulation of 16QAM in uplink but 64QAM in downlink for DC-HSDPA mode.
- 6.The device doesn't support carrier aggregation for it just can operate in Release 8.

## 6.5 LTE Test Configuration

SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05. The CMW500 and/or MT8821C WideBand Radio Communication Tester was used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR test were performed with the same number of RB and RB offsets transmitting on all TTI frames (Maximum TTI)

### 1) Spectrum Plots for RB configurations

A properly configured base station simulator was used for LTE output power measurements and SAR testing. Therefore, spectrum plots for RB configurations were not required to be included in this report.

### 2) MPR

When MPR is implemented permanently within the UE, regardless of network requirements, only those RB configurations allowed by 3GPP for the channel bandwidth and modulation combinations may be tested with MPR active. Configurations with RB allocations less than the RB thresholds required by 3GPP must be tested without MPR.

The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (RB) |         |       |        |        |        | MPR (dB) |
|------------|-------------------------------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                                         | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                                             | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 16 QAM     | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

### 3) A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by using Network Signalling Value of "NS\_01" on the base station simulator.

### 4) LTE procedures for SAR testing

A) Largest channel bandwidth standalone SAR test requirements

i) QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

## ii) QPSK with 50% RB allocation

The procedures required for 1 RB allocation in i) are applied to measure the SAR for QPSK with 50% RB allocation.

## iii) QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in i) and ii) are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

## iv) Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> \frac{1}{2}$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

## B) Other channel bandwidth standalone SAR test requirements

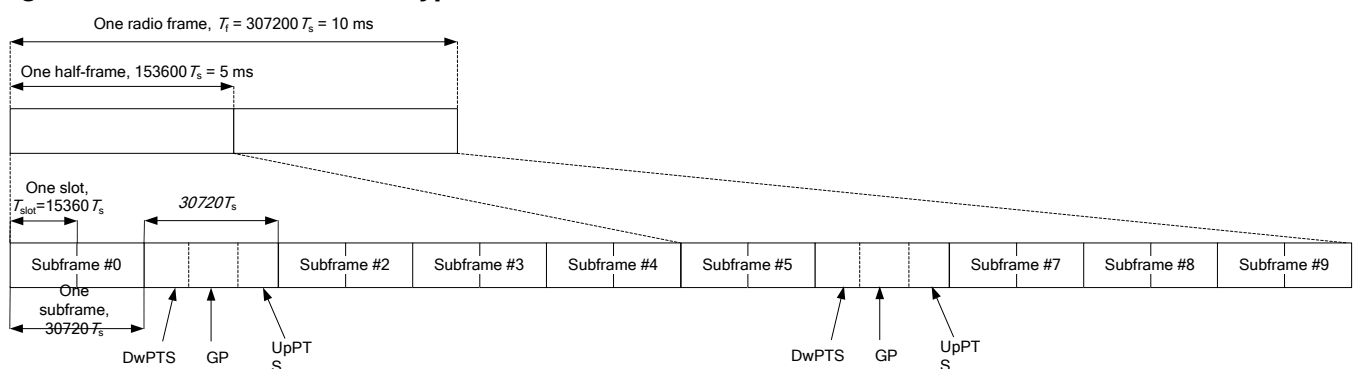
For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

## 5) TDD LTE test configuration

According to KDB 941225 D05 SAR for LTE Devices v02r04, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band 38/41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

**Figure 4.2-1: Frame structure type 2**



**Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

| Special subframe configuration | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|--------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                              | $6592 \cdot T_s$                 | $2192 \cdot T_s$               | $2560 \cdot T_s$                 | $7680 \cdot T_s$                   | $2192 \cdot T_s$               | $2560 \cdot T_s$                 |
| 1                              | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                              | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                              | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                              | $26336 \cdot T_s$                | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  |                                |                                  |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  | -                              |                                  |
| 9                              | $13168 \cdot T_s$                |                                |                                  | -                                  | -                              |                                  |

**Table 4.2-2: Uplink-downlink configurations**

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |  |  |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|--|--|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |  |  |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |  |  |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |  |  |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |  |  |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |  |  |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |  |  |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |  |  |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |  |  |

According to Figure 4.2-1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table 4.2-2:

$$\text{Duty cycle} = (30720T_s \cdot \text{Ups} + \text{Uplink Component} \cdot \text{Specials}) / (307200T_s)$$

About the uplink component of Special subframes, we can figure out by Table 4.2-1:

$$\text{Uplink Component} = \text{UpPTS}$$

In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below. All these sets are OK when we test, or we can set as below.

$$\text{Duty cycle} = [(30720T_s \cdot \text{Ups}) + \text{UpPTS} \cdot \text{Specials}] / (307200T_s)$$

And we can get different Duty cycles under different configurations:

| Uplink-downlink configuration | Subframe number |   |   | Configuration of special subframe |                   |                                  |                   |                                    |                   |                                  |                   |
|-------------------------------|-----------------|---|---|-----------------------------------|-------------------|----------------------------------|-------------------|------------------------------------|-------------------|----------------------------------|-------------------|
|                               |                 |   |   | Normal cyclic prefix in downlink  |                   |                                  |                   | Extended cyclic prefix in downlink |                   |                                  |                   |
|                               |                 |   |   | Normal cyclic prefix in uplink    |                   | Extended cyclic prefix in uplink |                   | Normal cyclic prefix in uplink     |                   | Extended cyclic prefix in uplink |                   |
|                               | D               | S | U | configuration 0~4                 | configuration 5~9 | configuration 0~4                | configuration 5~9 | configuration 0~3                  | configuration 4~7 | configuration 0~3                | configuration 4~7 |
| 0                             | 2               | 2 | 6 | 61.43%                            | 62.85%            | 61.67%                           | 63.33%            | 61.43%                             | 62.85%            | 61.67%                           | 63.33%            |
| 1                             | 4               | 2 | 4 | 41.43%                            | 42.85%            | 41.67%                           | 43.33%            | 41.43%                             | 42.85%            | 41.67%                           | 43.33%            |
| 2                             | 6               | 2 | 2 | 21.43%                            | 22.85%            | 21.67%                           | 23.33%            | 21.43%                             | 22.85%            | 21.67%                           | 23.33%            |
| 3                             | 6               | 1 | 3 | 30.71%                            | 31.43%            | 30.83%                           | 31.67%            | 30.71%                             | 31.43%            | 30.83%                           | 31.67%            |
| 4                             | 7               | 1 | 2 | 20.71%                            | 21.43%            | 20.83%                           | 21.67%            | 20.71%                             | 21.43%            | 20.83%                           | 21.67%            |
| 5                             | 8               | 1 | 1 | 10.71%                            | 11.43%            | 10.83%                           | 11.67%            | 10.71%                             | 11.43%            | 10.83%                           | 11.67%            |
| 6                             | 3               | 2 | 5 | 51.43%                            | 52.85%            | 51.67%                           | 53.33%            | 51.43%                             | 52.85%            | 51.67%                           | 53.33%            |

For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type 2.

## 6.6 WiFi Test Configuration

For WiFi SAR testing, a communication link is set up with the testing software for WiFi mode test. During the test, at the each test frequency channel, the EUT is operated at the RF continuous emission mode. The test procedures in KDB 248227D01 are applied.

### 6.6.1 Initial Test Position Procedure

For exposure condition with multiple test position, such as handsets operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all position in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4 \text{ W/kg}$ , no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is  $\leq 0.8 \text{ W/kg}$  or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is  $> 0.8 \text{ W/kg}$ , SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is  $\leq 1.2 \text{ W/kg}$  or all required channels are tested.

### 6.6.2 Initial Test Configuration Procedure

An initial test configuration is determined for OFDM transmission modes according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. SAR is measured using the highest measured maximum output power channel. For configurations with the same specified or measured maximum output power, additional transmission mode and test channel selection procedures are required (see section 5.3.2 of KDB 248227D01v02). SAR test reduction of subsequent highest output test channels is based on the *reported* SAR of the initial test configuration.

For next to the ear, hotspot mode and UMC mini-tablet exposure configurations where multiple test positions are required, the initial test position procedure is applied to minimize the number of test positions required for SAR measurement using the initial test configuration transmission mode. For fixed exposure conditions that do not have multiple SAR test positions, SAR is measured in the transmission mode determined by the initial test configuration.

When the *reported* SAR of the initial test configuration is  $> 0.8 \text{ W/kg}$ , SAR measurement is required for the subsequent next highest measured output power channel(s) in the initial test configuration until the *reported* SAR is  $\leq 1.2 \text{ W/kg}$  or all required channels are tested.

### 6.6.3 Sub Test Configuration Procedure

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units.

When the highest reported SAR for the initial test configuration, according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2 \text{ W/kg}$ , SAR is not required for that subsequent test configuration.

## 6.6.4 WiFi 2.4G SAR Test Procedures

Separate SAR procedures are applied to DSSS and OFDM configurations in the 2.4 GHz band to simplify DSSS test requirements. For 802.11b DSSS SAR measurements, DSSS SAR procedure applies to fixed exposure test position and initial test position procedure applies to multiple exposure test positions.

### A) 802.11b DSSS SAR Test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either a fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the *reported* SAR of the highest measured maximum output power channel (section 3.1 of of KDB 248227D01v02) for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS in that exposure configuration.
- 2) When the *reported* SAR is  $> 0.8$  W/kg, SAR is required for that exposure configuration using the next highest measured output power channel. When any *reported* SAR is  $> 1.2$  W/kg, SAR is required for the third channel; i.e., all channels require testing.

### B) 2.4GHz 802.11g/n OFDM SAR Test Exclusion Requirements

When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (section 5.3 of of KDB 248227D01v02). SAR is not required for the following 2.4 GHz OFDM conditions.

- 1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
- 2) When the highest *reported* SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg.

### C) 802.11g Wi-Fi CDD and 802.11 n Wi-Fi MIMO specification

The device supports Wi-Fi CDD mode when Wi-Fi working in 802.11g mode.

CDD is a kind of transmit diversity mechanism implemented by applying a different phase delay (cyclic phase delay) for each OFDM subcarrier. It is used in spatial multiplexing to increase diversity between the two spatial paths. In CDD mode, both of the Wi-Fi Tx antennas are transmitting the same information with the same data rate, at the same channel and the same time. CDD means it is not one but two paths of Wi-Fi transmitting as the same time.

Besides, the device also supports Wi-Fi MIMO mode in 802.11 n. The two Wi-Fi antennas can only transmit at the same time in 802.11 n/ac. For 802.11 g/a WIFI CDD and 802.11n/ac Wi-Fi MIMO SAR test, only the scenario two Wi-Fi antennas transmitting at the same time are supported and need to be considered. The common Initial Test Position and OFDM Initial Test Configuration Procedures per KDB 248227D01v02r01 are applied for 2.4G Wi-Fi 802.11g/n SAR test respectively in all applicable RF exposure conditions.

## 6.6.5 WiFi 5G SAR Test Procedures

### A) U-NII-1 and U-NII-2A Bands

For devices that operate in only one of the U-NII-1 and U-NII-2A bands, the normally required SAR procedures for OFDM configurations are applied. For devices that operate in both U-NII bands using the same transmitter and antenna(s), SAR test reduction is determined according to the following:

- 1) When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, both bands are tested independently for SAR.
- 2) When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is  $\leq 1.2$  W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, both bands are tested independently for SAR.
- 3) The two U-NII bands may be aggregated to support a 160 MHz channel on channel number 50. Without additional testing, the maximum output power for this is limited to the lower of the maximum output power certified for the two bands. When SAR measurement is required for at least one of the bands and the highest reported SAR adjusted by the ratio of specified maximum output power of aggregated to standalone band is  $> 1.2$  W/kg, SAR is required for the 160 MHz channel. This procedure does not apply to an aggregated band with maximum output higher than the standalone band(s); the aggregated band must be tested independently for SAR. SAR is not required when the 160 MHz channel is operating at a reduced maximum power and also qualifies for SAR test exclusion.

### B) U-NII-2C and U-NII-3 Bands

The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, all channels that operate at 5.60 – 5.65 GHz must be included to apply the SAR test reduction and measurement procedures.

When the same transmitter and antenna(s) are used for U-NII-2C band and U-NII-3 band or 5.8 GHz band of §15.247, the bands may be aggregated to enable additional channels with 20, 40 or 80 MHz bandwidth to span across the band gap, as illustrated in Appendix B. The maximum output power for the additional band gap channels is limited to the lower of those certified for the bands. Unless band gap channels are permanently disabled, they must be considered for SAR testing. The frequency range covered by these bands is 380 MHz (5.47 – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. To maintain SAR measurement accuracy and to facilitate test reduction, the channels in U-NII-2C band above 5.65 GHz may be grouped with the 5.8 GHz channels in U-NII-3 or §15.247 band to enable two SAR probe calibration frequency points to cover the bands, including the band gap channels. When band gap channels are supported and the bands are not aggregated for SAR testing, band gap channels must be considered independently in each band according to the normally required OFDM SAR measurement and probe calibration frequency points requirements.

### C) OFDM Transmission Mode SAR Test Configuration and Channel Selection Requirements

The initial test configuration for 5 GHz OFDM transmission modes is determined by the 802.11 configuration with the highest maximum output power specified for production units, including tune-up tolerance, in each standalone and aggregated frequency band. SAR for the initial test configuration is measured using the highest maximum output power channel determined by the default power measurement procedures. When multiple configurations in a frequency band have the same specified maximum output power, the initial test configuration is determined according to the following steps applied sequentially.

- 1) The largest channel bandwidth configuration is selected among the multiple configurations with the same specified maximum output power.
  - 2) If multiple configurations have the same specified maximum output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.
  - 3) If multiple configurations have the same specified maximum output power, largest channel bandwidth and lowest order modulation, the lowest data rate configuration among these configurations is selected.
  - 4) When multiple transmission modes (802.11a/g/n/ac) have the same specified maximum output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n.
- After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the following. These channel selection procedures apply to both the initial test configuration and subsequent test configuration(s), with respect to the default power measurement procedures or additional power measurements required for further SAR test reduction. The same procedures also apply to subsequent highest output power channel(s) selection.
- 1) The channel closest to mid-band frequency is selected for SAR measurement.
  - 2) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

### D) SAR Test Requirements for OFDM configurations

When SAR measurement is required for 802.11 a/n/ac OFDM configurations, each standalone and frequency aggregated band is considered separately for SAR test reduction. When the same transmitter and antenna(s) are used for U-NII-1 and U-NII-2A bands, additional SAR test reduction applies. When band gap channels between U-NII-2C band and 5.8 GHz U-NII-3 or §15.247 band are supported, the highest maximum output power transmission mode configuration and maximum output power channel across the bands must be used to determine SAR test reduction, according to the initial test configuration and subsequent test configuration requirements. In applying the initial test configuration and subsequent test configuration procedures, the 802.11 transmission configuration with the highest specified maximum output power and the channel within a test configuration with the highest measured maximum output power should be clearly distinguished to apply the procedures.

## 6.7 Proximity sensor power reduction Configurations

This device uses a proximity sensor that shares the same metallic electrode as the main transmitting antenna to facilitate triggering in typical user interactivity with the device.

Due to the operating configurations and exposure conditions required by the device, the proximity sensor is used to indicate when the device is held close to a user's body exposure condition. It utilizes the proximity sensor to reduce the output power in specific wireless and operating modes of main antenna to ensure SAR compliance.

The following tables summarize the key power reduction information for proximity sensor. The similar test procedures in KDB 616217 should be applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions. To ensure all production units are compliant, it is generally necessary to reduce the triggering distance determined from the triggering tests by 1 mm, or more if it is necessary, and use the smallest distance for movements to and from the phantom, minus 1 mm, as the sensor triggering distance for determining the SAR measurement distance.

| Main antenna |                                                         |                      |
|--------------|---------------------------------------------------------|----------------------|
| Band         | Sensor Trigger Distance                                 | Power Reduction (dB) |
| LTE B7       | Front side: 15mm<br>Back side: 12mm<br>Bottom side:12mm | 4.5                  |
| LTE B38      | Front side: 15mm<br>Back side: 12mm<br>Bottom side:12mm | 4.5                  |

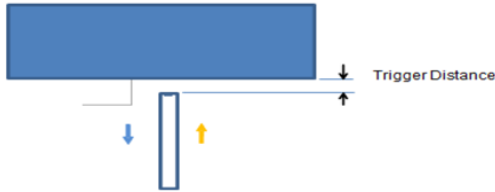
Note:

- 1) Since the capacitive proximity sensor triggering distance for the front side is 15mm, a conservative distance of 14mm was required for additional SAR test at maximum power level with sensor off.
- 2) Since the capacitive proximity sensor triggering distance for the back side and bottom side is 12mm, a conservative distance of 11mm was required for additional SAR test at maximum power level with sensor off.
- 3) SAR tests with proximity sensor power reduction are only required for the sides of frequency bands in the table above. For the other sides or other frequency bands of the device, SAR is still tested at the maximum power level with sensor off.

## 1) Procedures for determining proximity sensor triggering distances

The device was tested by the test lab to determine the proximity sensor triggering distances for the front side, back side and bottom side of the device. To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering minus 1 mm, must be used as the test separation distance for SAR testing.

the proximity sensor triggering distance measurement method are as below:



Picture: Proximity sensor triggering distances assessment Bottom Side



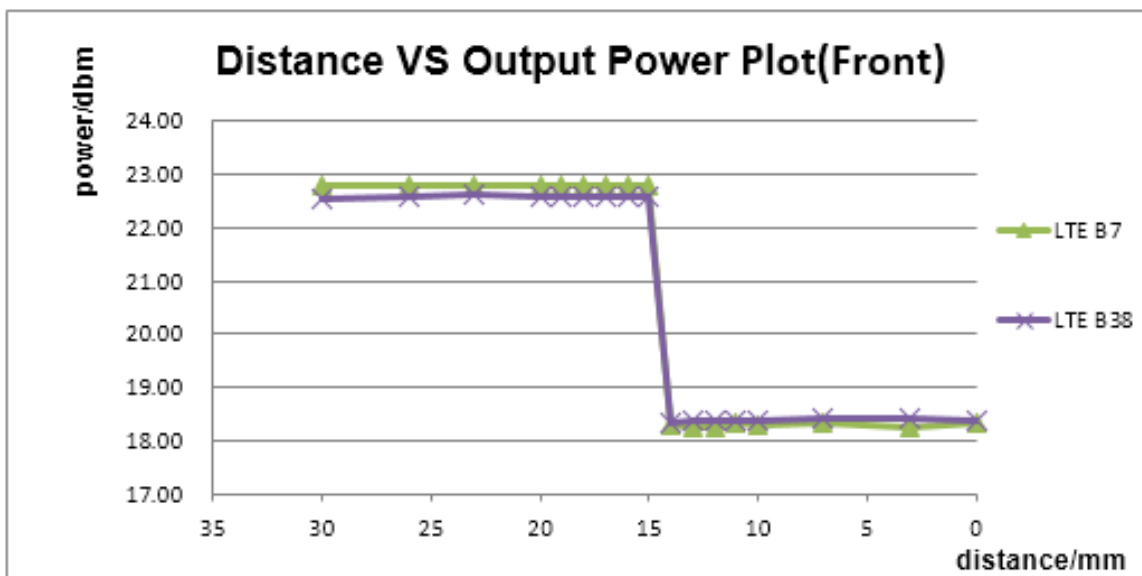
Picture: Proximity sensor triggering distances assessment Front Side and Back side

**Table: Summary of Trigger Distances**

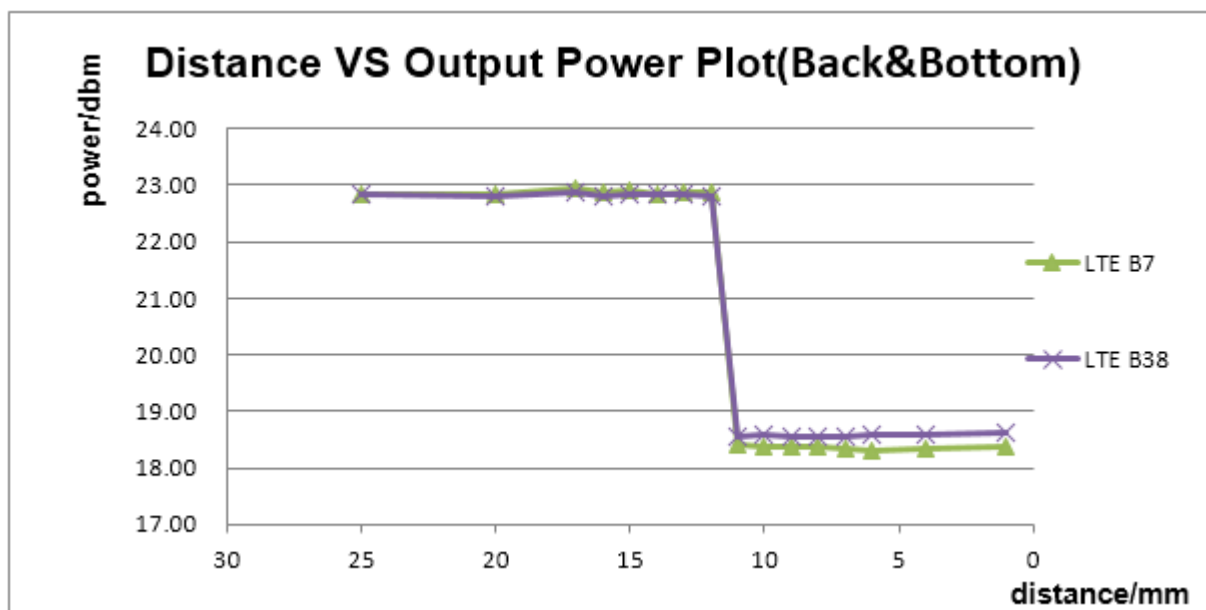
| Band(MHz)        | Trigger distance-Front Side |                          | Trigger distance-Back/Bottom Side |                          |
|------------------|-----------------------------|--------------------------|-----------------------------------|--------------------------|
|                  | Moving toward phantom       | Moving away from phantom | Moving toward phantom             | Moving away from phantom |
| LTE Band VII     | 15mm                        | 15mm                     | 12mm                              | 12mm                     |
| LTE Band XXXVIII | 15mm                        | 15mm                     | 12mm                              | 12mm                     |

The detailed conducted power measurement data to determine the triggering distances is as below:

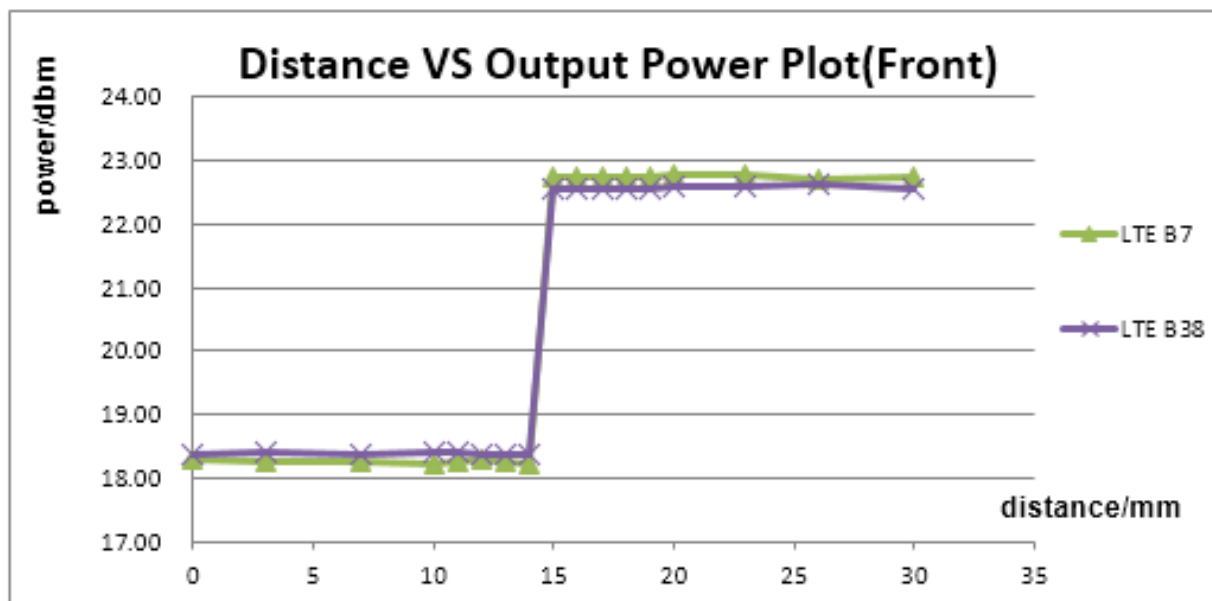
The DUT(Front side) is moved towards the flat phantom(hotspot off):



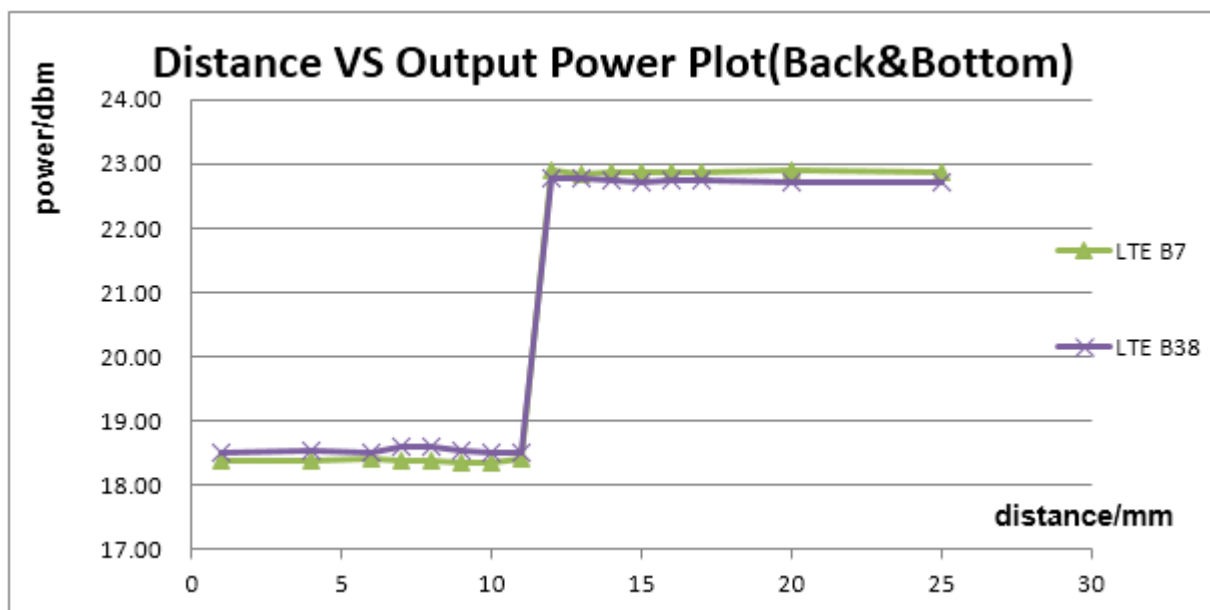
The DUT(back side,bottom side) is moved towards the flat phantom(hotspot off):



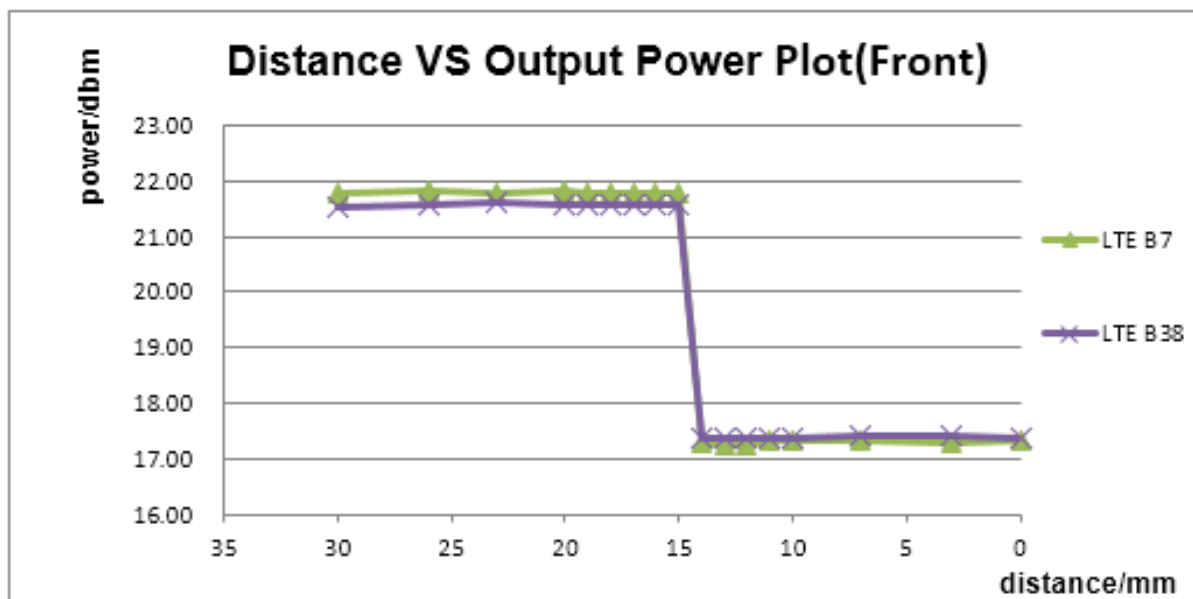
The DUT(Front side) is moved away from the flat phantom(hotspot off):



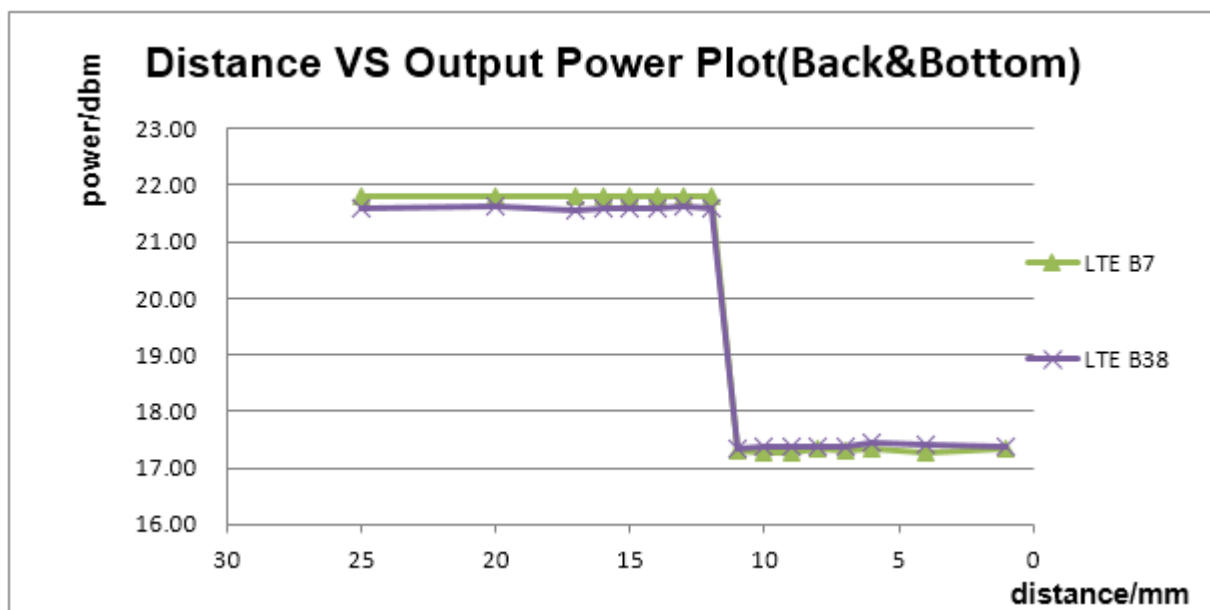
The DUT(back side,bottom side) is moved away from the flat phantom(hotspot off):



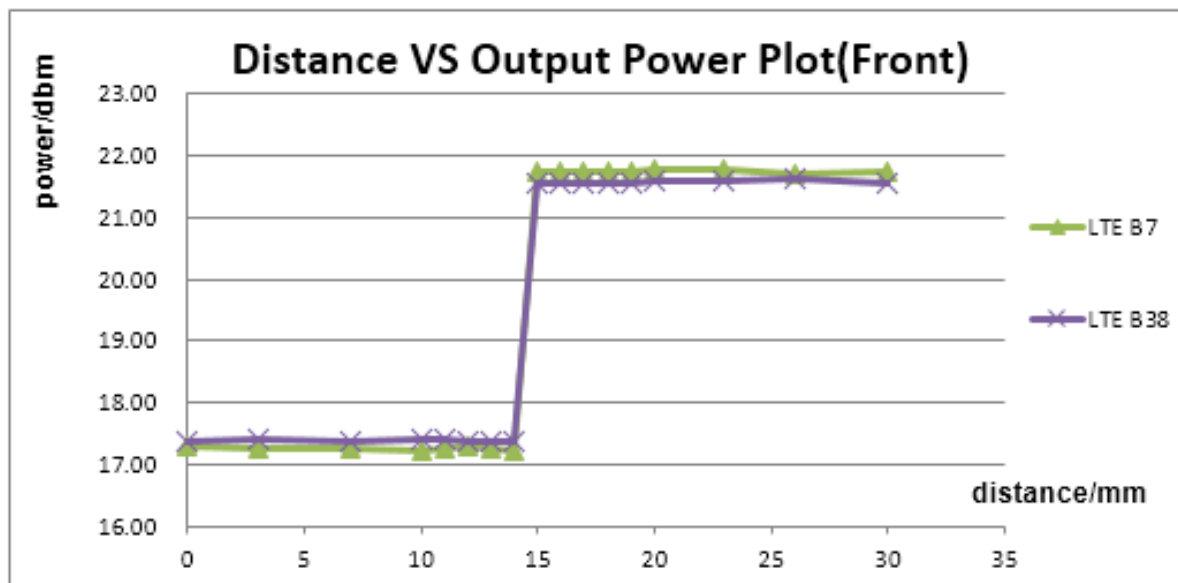
The DUT(Front side) is moved towards the flat phantom(hotspot on):



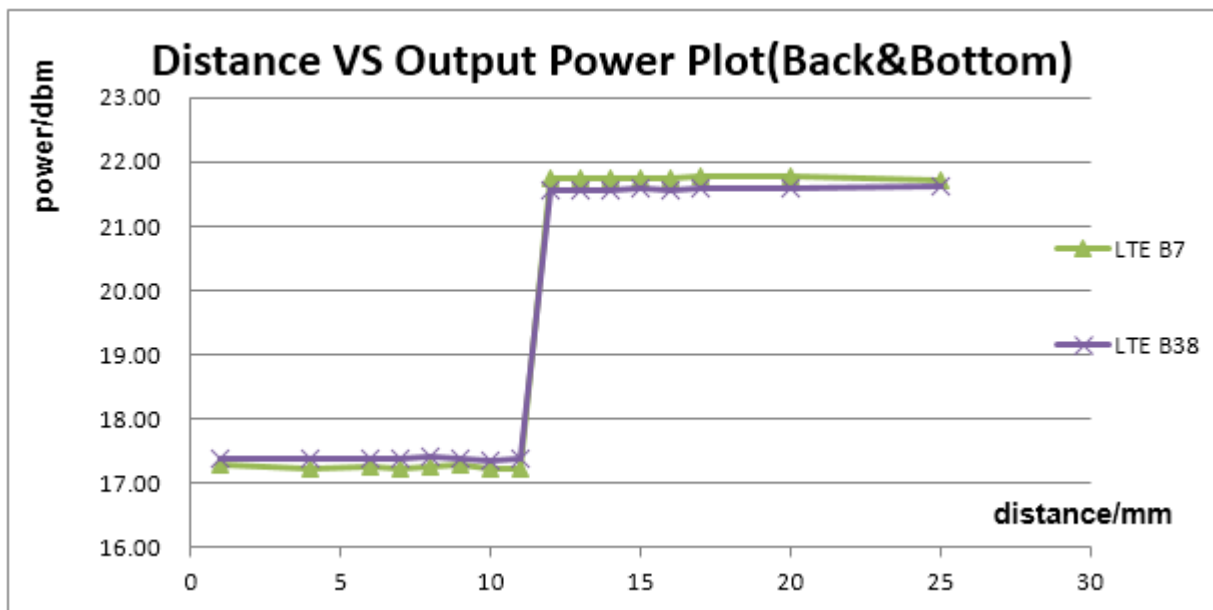
The DUT(back side,bottom side) is moved towards the flat phantom(hotspot on):



The DUT(Front side) is moved away from the flat phantom(hotspot on):



The DUT(back side,bottom side) is moved away from the flat phantom(hotspot on):



**Conclusion:** It can be ensured that the proximity sensor can be valid triggered for the body exposure condition(LTE Band VII/XXXVIII of Main Antenna).

## 2) Procedures for determining antenna and proximity sensor coverage

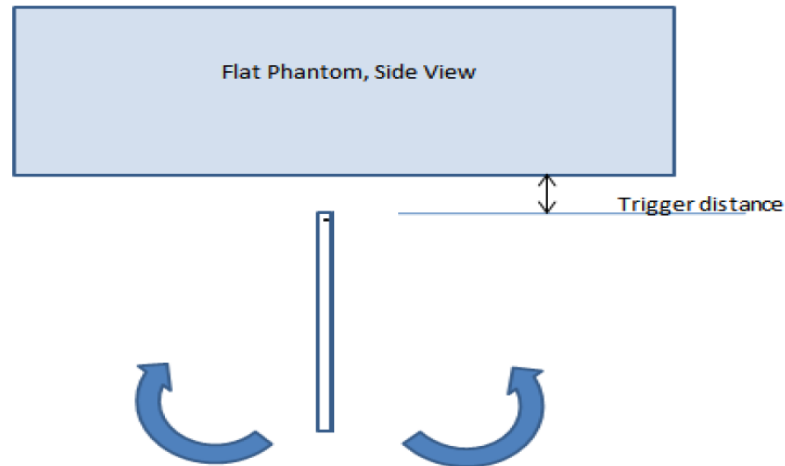
There is no spatial offset between the Main antenna and the proximity sensor element, so procedures for determining the proximity sensor coverage does not need to be assessed.

## 3) Procedures for determining device tilt angle influences to proximity sensor triggering

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom side parallel to the base of the flat phantom for each band.

The EUT was rotated about Bottom side for angles up to  $\pm 45^\circ$ . If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to  $\pm 45^\circ$ .

The proximity sensor triggering tilt angle measurement method are as below:



**Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering(Bottom side)**

| Band(MHz)        | Minimum trigger distance at which power reduction was maintained over $\pm 45^\circ$ | Power Reduction Status |      |      |      |     |    |    |     |     |     |     |  |
|------------------|--------------------------------------------------------------------------------------|------------------------|------|------|------|-----|----|----|-----|-----|-----|-----|--|
|                  |                                                                                      | -45°                   | -35° | -25° | -15° | -5° | 0° | 5° | 15° | 25° | 35° | 45° |  |
| LTE Band VII     | 12mm                                                                                 | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |
| LTE Band XXXVIII | 12mm                                                                                 | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |

**Conclusion:** It can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition (LTE Band VII/XXXVIII of Main Antenna)

## 7 SAR Measurement Results

### 7.1 Conducted power measurements

For the measurements a Rohde & Schwarz Radio Communication Tester CMU 200&CMW500 was used. SAR drift measured at the same position in liquid before and after each SAR test as below 7.2 chapter.

Note: CMU200 measures GSM peak and average output power for active timeslots. For SAR the timebased average power is relevant. The difference in between depends on the duty cycle of the TDMA signal :

| No. of timeslots                                    | 1       | 2       | 3       | 4       |
|-----------------------------------------------------|---------|---------|---------|---------|
| Duty Cycle                                          | 1:8.3   | 1:4.1   | 1:2.77  | 1:2.08  |
| timebased avg. power compared to slotted avg. power | -9.19dB | -6.13dB | -4.42dB | -3.18dB |

The signalling modes differ as follows:

| mode | coding scheme | modulation |
|------|---------------|------------|
| GPRS | CS1 to CS4    | GMSK       |
| EDGE | MCS1 to MCS4  | GMSK       |
| EDGE | MCS5 to MCS9  | 8PSK       |

Apart from modulation change (GMSK/8PSK) coding schemes differ in code rate without influence on the RF signal. Therefore one coding scheme per mode was selected for conducted power measurements.

### 7.1.1 Conducted power measurements of GSM850 (Second Antenna)

| GSM850           |            | Burst-Averaged output Power (dBm) |       |       |       | Division Factors | Frame-Averaged output Power (dBm) |              |              |              |
|------------------|------------|-----------------------------------|-------|-------|-------|------------------|-----------------------------------|--------------|--------------|--------------|
|                  |            | Tune-up                           | 128CH | 190CH | 251CH |                  | Tune-up                           | 128CH        | 190CH        | 251CH        |
| GSM (CS)         |            | 30.50                             | 29.30 | 29.42 | 29.61 | -9.19            | 21.31                             | 20.11        | 20.23        | 20.42        |
| GPRS/EDGE (GMSK) | 1 Tx Slot  | 30.50                             | 29.37 | 29.48 | 29.64 | -9.19            | 21.31                             | 20.18        | 20.29        | 20.45        |
|                  | 2 Tx Slots | 28.50                             | 27.51 | 27.64 | 27.68 | -6.13            | <b>22.37</b>                      | <b>21.38</b> | <b>21.51</b> | <b>21.55</b> |
|                  | 3 Tx Slots | 26.50                             | 25.26 | 25.47 | 25.53 | -4.42            | 22.08                             | 20.84        | 21.05        | 21.11        |
|                  | 4 Tx Slots | 24.00                             | 22.73 | 22.94 | 23.07 | -3.18            | 20.82                             | 19.55        | 19.76        | 19.89        |
| EDGE (8PSK)      | 1 Tx Slot  | 28.00                             | 27.07 | 27.20 | 27.29 | -9.19            | 18.81                             | 17.88        | 18.01        | 18.10        |
|                  | 2 Tx Slots | 25.50                             | 24.79 | 24.86 | 24.82 | -6.13            | 19.37                             | 18.66        | 18.73        | 18.69        |
|                  | 3 Tx Slots | 23.50                             | 22.73 | 22.87 | 23.05 | -4.42            | 19.08                             | 18.31        | 18.45        | 18.63        |
|                  | 4 Tx Slots | 19.50                             | 18.54 | 18.51 | 18.59 | -3.18            | 16.32                             | 15.36        | 15.33        | 15.41        |

Table 13:Conducted power measurement results of GSM850 (Full Power)

| GSM850           |            | Burst-Averaged output Power (dBm) |       |       |       | Division Factors | Frame-Averaged output Power (dBm) |       |       |       |
|------------------|------------|-----------------------------------|-------|-------|-------|------------------|-----------------------------------|-------|-------|-------|
|                  |            | Tune-up                           | 128CH | 190CH | 251CH |                  | Tune-up                           | 128CH | 190CH | 251CH |
| GSM (CS)         |            | 30.00                             | 28.87 | 29.01 | 29.15 | -9.19            | 20.81                             | 19.68 | 19.82 | 19.96 |
| GPRS/EDGE (GMSK) | 1 Tx Slot  | 30.00                             | 28.94 | 29.07 | 29.18 | -9.19            | 20.81                             | 19.75 | 19.88 | 19.99 |
|                  | 2 Tx Slots | 28.00                             | 27.08 | 27.23 | 27.22 | -6.13            | 21.87                             | 20.95 | 21.10 | 21.09 |
|                  | 3 Tx Slots | 26.00                             | 24.83 | 25.06 | 25.07 | -4.42            | 21.58                             | 20.41 | 20.64 | 20.65 |
|                  | 4 Tx Slots | 23.50                             | 22.30 | 22.53 | 22.61 | -3.18            | 20.32                             | 19.12 | 19.35 | 19.43 |
| EDGE (8PSK)      | 1 Tx Slot  | 28.00                             | 26.64 | 26.79 | 26.83 | -9.19            | 18.81                             | 17.45 | 17.60 | 17.64 |
|                  | 2 Tx Slots | 25.50                             | 24.36 | 24.45 | 24.36 | -6.13            | 19.37                             | 18.23 | 18.32 | 18.23 |
|                  | 3 Tx Slots | 23.50                             | 22.30 | 22.46 | 22.59 | -4.42            | 19.08                             | 17.88 | 18.04 | 18.17 |
|                  | 4 Tx Slots | 19.50                             | 17.98 | 18.10 | 18.13 | -3.18            | 16.32                             | 14.80 | 14.92 | 14.95 |

Table 14:Conducted power measurement results of GSM850 (After Synchronous transmission with WiFi station)

Note:

- 1) The conducted power of GSM850 is measured with RMS detector.
- 2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- 3) Per KDB941225 D01v03, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

### 7.1.2 Conducted power measurements of GSM1900 (Second Antenna)

| GSM1900                 |            | Burst-Averaged output Power (dBm) |       |       |       | Division Factors | Frame-Averaged output Power (dBm) |              |              |              |
|-------------------------|------------|-----------------------------------|-------|-------|-------|------------------|-----------------------------------|--------------|--------------|--------------|
|                         |            | Tune-up                           | 512CH | 661CH | 810CH |                  | Tune-up                           | 512CH        | 661CH        | 810CH        |
| GSM (CS)                |            | 25.50                             | 24.98 | 24.97 | 24.96 | -9.19            | 16.31                             | 15.79        | 15.78        | 15.77        |
| GPRS/<br>EDGE<br>(GMSK) | 1 Tx Slot  | 25.50                             | 25.01 | 24.95 | 24.92 | -9.19            | 16.31                             | 15.82        | 15.76        | 15.73        |
|                         | 2 Tx Slots | 23.50                             | 22.73 | 22.69 | 22.64 | -6.13            | <b>17.37</b>                      | <b>16.60</b> | <b>16.56</b> | <b>16.51</b> |
|                         | 3 Tx Slots | 21.00                             | 20.47 | 20.43 | 20.36 | -4.42            | 16.58                             | 16.05        | 16.01        | 15.94        |
|                         | 4 Tx Slots | 20.00                             | 19.37 | 19.27 | 19.23 | -3.18            | 16.82                             | 16.19        | 16.09        | 16.05        |
| EDGE<br>(8PSK)          | 1 Tx Slot  | 24.00                             | 22.91 | 22.96 | 22.92 | -9.19            | 14.81                             | 13.72        | 13.77        | 13.73        |
|                         | 2 Tx Slots | 21.50                             | 20.81 | 20.87 | 20.81 | -6.13            | 15.37                             | 14.68        | 14.74        | 14.68        |
|                         | 3 Tx Slots | 19.00                             | 18.21 | 18.24 | 18.37 | -4.42            | 14.58                             | 13.79        | 13.82        | 13.95        |
|                         | 4 Tx Slots | 17.00                             | 16.09 | 16.12 | 16.21 | -3.18            | 13.82                             | 12.91        | 12.94        | 13.03        |

Table 15: Conducted power measurement results of GSM1900 (Full Power)

Note:

- 1) The conducted power of GSM1900 is measured with RMS detector.
- 2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- 3) Per KDB941225 D01v03, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

### 7.1.3 Conducted power measurements of UMTS Band II (Second Antenna)

| UMTS Band II |              | Tune-up | Conducted Power (dBm) |              |              |
|--------------|--------------|---------|-----------------------|--------------|--------------|
|              |              |         | 9262CH                | 9400CH       | 9538CH       |
| WCDMA        | 12.2kbps RMC | 16.50   | <b>15.97</b>          | <b>16.02</b> | <b>16.07</b> |
|              | 12.2kbps AMR | 16.50   | 15.95                 | 15.99        | 16.05        |
| HSDPA        | Subtest 1    | 16.00   | 15.46                 | 15.43        | 15.44        |
|              | Subtest 2    | 15.50   | 14.73                 | 14.95        | 14.68        |
|              | Subtest 3    | 14.50   | 13.87                 | 14.09        | 13.95        |
|              | Subtest 4    | 14.50   | 13.85                 | 14.08        | 13.94        |
| HSUPA        | Subtest 1    | 13.00   | 12.35                 | 12.37        | 12.37        |
|              | Subtest 2    | 12.50   | 11.69                 | 12.00        | 11.87        |
|              | Subtest 3    | 12.50   | 11.56                 | 11.94        | 11.78        |
|              | Subtest 4    | 12.00   | 11.20                 | 11.41        | 11.26        |
|              | Subtest 5    | 13.00   | 12.17                 | 12.38        | 12.25        |
| DC-HSDPA     | Subtest 1    | 16.00   | 15.45                 | 15.41        | 15.43        |
|              | Subtest 2    | 15.50   | 14.72                 | 14.93        | 14.67        |
|              | Subtest 3    | 14.50   | 13.86                 | 14.07        | 13.94        |
|              | Subtest 4    | 14.50   | 13.84                 | 14.06        | 13.93        |

Table 16: Conducted power measurement results of UMTS Band II (Full Power)

Note:

- 1) The conducted power of UMTS Band II is measured with RMS detector.
- 2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).
- 3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

#### 7.1.4 Conducted power measurements of UMTS Band IV (Second Antenna)

| UMTS Band IV |              | Tune-up | Conducted Power (dBm) |              |              |
|--------------|--------------|---------|-----------------------|--------------|--------------|
|              |              |         | 1312CH                | 1413CH       | 1513CH       |
| WCDMA        | 12.2kbps RMC | 17.50   | <b>16.83</b>          | <b>16.78</b> | <b>16.78</b> |
|              | 12.2kbps AMR | 17.50   | 16.80                 | 16.72        | 16.75        |
| HSDPA        | Subtest 1    | 17.00   | 16.34                 | 16.45        | 16.28        |
|              | Subtest 2    | 17.00   | 16.11                 | 16.12        | 16.06        |
|              | Subtest 3    | 15.50   | 14.73                 | 14.26        | 15.03        |
|              | Subtest 4    | 15.50   | 14.71                 | 14.24        | 15.01        |
| HSUPA        | Subtest 1    | 14.00   | 13.39                 | 12.57        | 13.50        |
|              | Subtest 2    | 14.00   | 12.75                 | 12.32        | 13.07        |
|              | Subtest 3    | 13.50   | 12.59                 | 12.10        | 12.87        |
|              | Subtest 4    | 13.00   | 12.34                 | 11.85        | 12.62        |
|              | Subtest 5    | 14.00   | 13.51                 | 12.89        | 13.37        |
| DC-HSDPA     | Subtest 1    | 17.00   | 16.31                 | 16.44        | 16.27        |
|              | Subtest 2    | 17.00   | 16.08                 | 16.11        | 16.05        |
|              | Subtest 3    | 15.50   | 14.70                 | 14.25        | 15.02        |
|              | Subtest 4    | 15.50   | 14.68                 | 14.23        | 15.00        |

Table 17: Conducted power measurement results of UMTS Band IV (Full Power)

Note:

- 1) The conducted power of UMTS Band IV is measured with RMS detector.
- 2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).
- 3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

### 7.1.5 Conducted power measurements of UMTS Band V (Second Antenna)

| UMTS Band V |              | Tune-up | Conducted Power (dBm) |              |              |
|-------------|--------------|---------|-----------------------|--------------|--------------|
|             |              |         | 4132CH                | 4182CH       | 4233CH       |
| WCDMA       | 12.2kbps RMC | 21.50   | <b>20.80</b>          | <b>20.73</b> | <b>20.72</b> |
|             | 12.2kbps AMR | 21.50   | 20.75                 | 20.71        | 20.73        |
| HSDPA       | Subtest 1    | 21.00   | 20.25                 | 20.23        | 20.23        |
|             | Subtest 2    | 20.50   | 20.00                 | 19.95        | 19.96        |
|             | Subtest 3    | 20.00   | 19.27                 | 19.20        | 19.23        |
|             | Subtest 4    | 20.00   | 19.25                 | 19.20        | 19.21        |
| HSUPA       | Subtest 1    | 18.50   | 17.84                 | 17.55        | 17.71        |
|             | Subtest 2    | 18.00   | 16.81                 | 17.41        | 17.60        |
|             | Subtest 3    | 18.00   | 17.46                 | 17.11        | 17.31        |
|             | Subtest 4    | 18.00   | 17.44                 | 17.38        | 17.46        |
|             | Subtest 5    | 18.50   | 17.81                 | 17.53        | 17.73        |
| DC-HSDPA    | Subtest 1    | 21.00   | 20.23                 | 20.18        | 20.22        |
|             | Subtest 2    | 20.50   | 19.98                 | 19.90        | 19.95        |
|             | Subtest 3    | 20.00   | 19.25                 | 19.15        | 19.22        |
|             | Subtest 4    | 20.00   | 19.23                 | 19.15        | 19.20        |

Table 18: Conducted power measurement results of UMTS Band V (Full Power)

| UMTS Band V |              | Tune-up | Conducted Power (dBm) |              |              |
|-------------|--------------|---------|-----------------------|--------------|--------------|
|             |              |         | 4132CH                | 4182CH       | 4233CH       |
| WCDMA       | 12.2kbps RMC | 20.50   | <b>19.77</b>          | <b>19.70</b> | <b>19.69</b> |
|             | 12.2kbps AMR | 20.50   | 19.72                 | 19.68        | 19.70        |
| HSDPA       | Subtest 1    | 20.00   | 19.22                 | 19.20        | 19.20        |
|             | Subtest 2    | 19.50   | 18.97                 | 18.92        | 18.93        |
|             | Subtest 3    | 19.00   | 18.24                 | 18.17        | 18.20        |
|             | Subtest 4    | 19.00   | 18.22                 | 18.17        | 18.18        |
| HSUPA       | Subtest 1    | 18.50   | 16.81                 | 16.52        | 16.68        |
|             | Subtest 2    | 18.00   | 16.15                 | 16.38        | 16.57        |
|             | Subtest 3    | 18.00   | 16.43                 | 16.08        | 16.28        |
|             | Subtest 4    | 18.00   | 16.41                 | 16.35        | 16.43        |
|             | Subtest 5    | 18.50   | 16.78                 | 16.57        | 16.70        |
| DC-HSDPA    | Subtest 1    | 20.00   | 19.19                 | 19.19        | 19.19        |
|             | Subtest 2    | 19.50   | 18.94                 | 18.91        | 18.92        |
|             | Subtest 3    | 19.00   | 18.21                 | 18.16        | 18.19        |
|             | Subtest 4    | 19.00   | 18.19                 | 18.16        | 18.17        |

Table 19: Conducted power measurement results of UMTS Band V (After Synchronous transmission with WiFi station)

Note:

- 1) The conducted power of UMTS Band V is measured with RMS detector.
- 2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).
- 3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

### 7.1.6 Conducted power measurements of LTE Band II (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18607CH | 18900CH | 19193CH |
| 1.4MHz    | QPSK       | 1       | 0         | 17.00   | 16.09   | 16.81   | 16.88   |
|           |            | 1       | 3         | 17.00   | 16.18   | 16.89   | 16.81   |
|           |            | 1       | 5         | 17.00   | 16.00   | 16.71   | 16.71   |
|           |            | 3       | 0         | 17.00   | 16.17   | 16.85   | 16.74   |
|           |            | 3       | 2         | 17.00   | 16.19   | 16.87   | 16.97   |
|           |            | 3       | 3         | 17.00   | 16.12   | 16.81   | 16.81   |
|           |            | 6       | 0         | 16.00   | 14.79   | 15.27   | 15.46   |
|           | 16QAM      | 1       | 0         | 16.00   | 15.14   | 15.81   | 15.87   |
|           |            | 1       | 3         | 16.00   | 15.44   | 15.98   | 15.97   |
|           |            | 1       | 5         | 16.00   | 15.29   | 15.65   | 15.73   |
|           |            | 3       | 0         | 16.00   | 15.21   | 15.87   | 15.83   |
|           |            | 3       | 2         | 16.00   | 15.31   | 15.80   | 15.87   |
|           |            | 3       | 3         | 16.00   | 15.24   | 15.74   | 15.83   |
|           |            | 6       | 0         | 15.00   | 13.82   | 14.11   | 14.38   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18615CH | 18900CH | 19185CH |
| 3MHz      | QPSK       | 1       | 0         | 17.00   | 15.38   | 16.60   | 16.20   |
|           |            | 1       | 7         | 17.00   | 15.69   | 16.61   | 16.18   |
|           |            | 1       | 14        | 17.00   | 15.28   | 16.28   | 15.50   |
|           |            | 8       | 0         | 16.00   | 14.01   | 15.02   | 14.87   |
|           |            | 8       | 4         | 16.00   | 14.09   | 15.01   | 14.75   |
|           |            | 8       | 7         | 16.00   | 14.23   | 14.93   | 14.52   |
|           |            | 15      | 0         | 16.00   | 14.03   | 14.92   | 14.61   |
|           | 16QAM      | 1       | 0         | 16.00   | 14.57   | 15.43   | 15.20   |
|           |            | 1       | 7         | 16.00   | 14.71   | 15.55   | 15.23   |
|           |            | 1       | 14        | 16.00   | 14.28   | 15.19   | 14.57   |
|           |            | 8       | 0         | 15.00   | 13.15   | 13.86   | 13.74   |
|           |            | 8       | 4         | 15.00   | 13.24   | 13.80   | 13.64   |
|           |            | 8       | 7         | 15.00   | 13.17   | 13.72   | 13.43   |
|           |            | 15      | 0         | 15.00   | 13.09   | 13.70   | 13.54   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18625CH | 18900CH | 19175CH |
| 5MHz      | QPSK       | 1       | 0         | 17.00   | 15.46   | 16.71   | 16.64   |
|           |            | 1       | 13        | 17.00   | 15.68   | 16.77   | 16.42   |
|           |            | 1       | 24        | 17.00   | 15.19   | 16.31   | 15.51   |
|           |            | 12      | 0         | 16.00   | 14.05   | 15.31   | 15.00   |
|           |            | 12      | 6         | 16.00   | 14.13   | 15.38   | 14.99   |
|           |            | 12      | 13        | 16.00   | 14.25   | 15.08   | 14.63   |
|           |            | 25      | 0         | 16.00   | 14.25   | 15.17   | 14.69   |
|           | 16QAM      | 1       | 0         | 16.00   | 14.62   | 15.91   | 15.90   |
|           |            | 1       | 13        | 16.00   | 14.79   | 15.97   | 15.73   |
|           |            | 1       | 24        | 16.00   | 14.36   | 15.54   | 14.89   |
|           |            | 12      | 0         | 15.00   | 13.26   | 14.31   | 13.97   |
|           |            | 12      | 6         | 15.00   | 13.07   | 14.29   | 13.95   |
|           |            | 12      | 13        | 15.00   | 13.23   | 14.05   | 13.64   |
|           |            | 25      | 0         | 15.00   | 13.21   | 14.13   | 13.64   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18650CH | 18900CH | 19150CH |
| 10MHz     | QPSK       | 1       | 0         | 17.00   | 15.50   | 16.74   | 16.42   |
|           |            | 1       | 25        | 17.00   | 15.56   | 16.61   | 16.76   |
|           |            | 1       | 49        | 17.00   | 15.60   | 16.00   | 15.82   |
|           |            | 25      | 0         | 16.00   | 14.12   | 15.05   | 14.95   |
|           |            | 25      | 13        | 16.00   | 14.36   | 14.99   | 14.93   |
|           |            | 25      | 25        | 16.00   | 14.29   | 14.71   | 14.60   |
|           |            | 50      | 0         | 16.00   | 14.10   | 14.62   | 14.63   |
|           | 16QAM      | 1       | 0         | 16.00   | 14.56   | 15.63   | 15.73   |
|           |            | 1       | 25        | 16.00   | 14.70   | 15.59   | 15.94   |
|           |            | 1       | 49        | 16.00   | 14.60   | 14.98   | 15.06   |
|           |            | 25      | 0         | 15.00   | 13.01   | 13.94   | 13.89   |
|           |            | 25      | 13        | 15.00   | 13.05   | 13.84   | 13.88   |
|           |            | 25      | 25        | 15.00   | 13.15   | 13.63   | 13.57   |
|           |            | 50      | 0         | 15.00   | 13.07   | 13.56   | 13.57   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 18675CH      | 18900CH      | 19125CH      |
| 15MHz     | QPSK       | 1       | 0         | 17.00   | 15.33        | 16.56        | 15.84        |
|           |            | 1       | 38        | 17.00   | 15.61        | 16.53        | 16.67        |
|           |            | 1       | 74        | 17.00   | 15.72        | 15.56        | 15.66        |
|           |            | 36      | 0         | 16.00   | 14.05        | 14.91        | 14.74        |
|           |            | 36      | 18        | 16.00   | 14.02        | 14.72        | 15.00        |
|           |            | 36      | 39        | 16.00   | 14.21        | 14.50        | 14.71        |
|           |            | 75      | 0         | 16.00   | 14.09        | 14.98        | 14.53        |
|           | 16QAM      | 1       | 0         | 16.00   | 14.64        | 15.77        | 15.05        |
|           |            | 1       | 38        | 16.00   | 15.03        | 15.74        | 15.80        |
|           |            | 1       | 74        | 16.00   | 15.08        | 14.83        | 14.87        |
|           |            | 36      | 0         | 15.00   | 13.02        | 13.83        | 13.69        |
|           |            | 36      | 18        | 15.00   | 13.21        | 13.67        | 13.91        |
|           |            | 36      | 39        | 15.00   | 13.15        | 13.39        | 13.60        |
|           |            | 75      | 0         | 15.00   | 13.09        | 13.87        | 13.36        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 18700CH      | 18900CH      | 19100CH      |
| 20MHz     | QPSK       | 1       | 0         | 17.00   | 15.28        | 16.56        | 15.57        |
|           |            | 1       | 50        | 17.00   | <b>15.87</b> | <b>16.58</b> | <b>16.50</b> |
|           |            | 1       | 99        | 17.00   | 15.83        | 15.39        | 15.81        |
|           |            | 50      | 0         | 16.00   | 14.05        | <b>15.01</b> | 14.40        |
|           |            | 50      | 25        | 16.00   | 14.46        | 14.63        | 14.88        |
|           |            | 50      | 50        | 16.00   | 14.44        | 14.18        | 14.40        |
|           |            | 100     | 0         | 16.00   | 14.02        | <b>14.87</b> | 14.42        |
|           | 16QAM      | 1       | 0         | 16.00   | 14.53        | 15.72        | 14.73        |
|           |            | 1       | 50        | 16.00   | 15.11        | 15.77        | 15.65        |
|           |            | 1       | 99        | 16.00   | 15.30        | 14.64        | 14.82        |
|           |            | 50      | 0         | 15.00   | 13.08        | 13.96        | 13.26        |
|           |            | 50      | 25        | 15.00   | 13.40        | 13.55        | 13.82        |
|           |            | 50      | 50        | 15.00   | 13.41        | 13.03        | 13.27        |
|           |            | 100     | 0         | 15.00   | 13.05        | 13.68        | 13.28        |

Table 20: Conducted power measurement results of LTE Band II (Full Power)

### 7.1.7 Conducted power measurements of LTE Band IV (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19957CH | 20175CH | 20393CH |
| 1.4MHz    | QPSK       | 1       | 0         | 18.30   | 17.09   | 17.12   | 18.03   |
|           |            | 1       | 3         | 18.30   | 17.18   | 17.07   | 18.16   |
|           |            | 1       | 5         | 18.30   | 17.08   | 16.98   | 18.02   |
|           |            | 3       | 0         | 18.30   | 17.10   | 17.06   | 18.05   |
|           |            | 3       | 2         | 18.30   | 17.17   | 16.99   | 18.13   |
|           |            | 3       | 3         | 18.30   | 17.13   | 17.03   | 18.05   |
|           |            | 6       | 0         | 17.50   | 16.10   | 16.07   | 16.98   |
|           | 16QAM      | 1       | 0         | 18.00   | 16.38   | 16.57   | 17.36   |
|           |            | 1       | 3         | 18.00   | 16.47   | 16.53   | 17.53   |
|           |            | 1       | 5         | 18.00   | 16.17   | 16.37   | 17.40   |
|           |            | 3       | 0         | 18.00   | 16.30   | 16.40   | 17.14   |
|           |            | 3       | 2         | 18.00   | 16.28   | 16.33   | 17.22   |
|           |            | 3       | 3         | 18.00   | 16.23   | 16.15   | 17.15   |
|           |            | 6       | 0         | 16.30   | 14.66   | 14.65   | 15.41   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 19965CH | 20175CH | 20385CH |
| 3MHz      | QPSK       | 1       | 0         | 18.30   | 16.93   | 17.04   | 17.62   |
|           |            | 1       | 7         | 18.30   | 17.28   | 17.16   | 18.02   |
|           |            | 1       | 14        | 18.30   | 17.03   | 16.67   | 17.79   |
|           |            | 8       | 0         | 17.50   | 16.07   | 16.03   | 16.81   |
|           |            | 8       | 4         | 17.50   | 16.13   | 16.06   | 16.84   |
|           |            | 8       | 7         | 17.50   | 16.11   | 15.94   | 16.82   |
|           |            | 15      | 0         | 17.50   | 16.11   | 16.01   | 16.76   |
|           | 16QAM      | 1       | 0         | 18.00   | 16.19   | 16.22   | 16.71   |
|           |            | 1       | 7         | 18.00   | 16.26   | 16.49   | 17.11   |
|           |            | 1       | 14        | 18.00   | 16.33   | 16.05   | 16.85   |
|           |            | 8       | 0         | 16.30   | 14.60   | 14.54   | 15.37   |
|           |            | 8       | 4         | 16.30   | 14.60   | 14.53   | 15.42   |
|           |            | 8       | 7         | 16.30   | 14.61   | 14.39   | 15.37   |
|           |            | 15      | 0         | 16.30   | 14.57   | 14.47   | 15.32   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19975CH | 20175CH | 20375CH |
| 5MHz      | QPSK       | 1       | 0         | 18.30   | 17.02   | 17.16   | 17.63   |
|           |            | 1       | 13        | 18.30   | 17.45   | 17.21   | 17.98   |
|           |            | 1       | 24        | 18.30   | 17.34   | 16.75   | 17.79   |
|           |            | 12      | 0         | 17.50   | 16.20   | 16.16   | 16.76   |
|           |            | 12      | 6         | 17.50   | 16.35   | 16.22   | 16.93   |
|           |            | 12      | 13        | 17.50   | 16.32   | 15.94   | 16.83   |
|           |            | 25      | 0         | 17.50   | 16.31   | 16.08   | 16.61   |
|           | 16QAM      | 1       | 0         | 18.00   | 16.18   | 16.43   | 16.91   |
|           |            | 1       | 13        | 18.00   | 16.53   | 16.59   | 17.33   |
|           |            | 1       | 24        | 18.00   | 16.45   | 16.08   | 17.06   |
|           |            | 12      | 0         | 16.30   | 14.75   | 14.64   | 15.23   |
|           |            | 12      | 6         | 16.30   | 14.87   | 14.64   | 15.38   |
|           |            | 12      | 13        | 16.30   | 14.78   | 14.36   | 15.34   |
|           |            | 25      | 0         | 16.30   | 14.78   | 14.47   | 15.08   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20000CH | 20175CH | 20350CH |
| 10MHz     | QPSK       | 1       | 0         | 18.30   | 17.13   | 17.27   | 17.25   |
|           |            | 1       | 25        | 18.30   | 17.81   | 17.20   | 17.88   |
|           |            | 1       | 49        | 18.30   | 17.70   | 16.86   | 17.94   |
|           |            | 25      | 0         | 17.50   | 16.39   | 16.30   | 16.46   |
|           |            | 25      | 13        | 17.50   | 16.64   | 16.12   | 16.67   |
|           |            | 25      | 25        | 17.50   | 16.72   | 16.06   | 16.81   |
|           |            | 50      | 0         | 17.50   | 16.51   | 16.19   | 16.56   |
|           | 16QAM      | 1       | 0         | 18.00   | 16.04   | 16.51   | 16.56   |
|           |            | 1       | 25        | 18.00   | 16.73   | 16.52   | 17.04   |
|           |            | 1       | 49        | 18.00   | 16.73   | 16.07   | 17.17   |
|           |            | 25      | 0         | 16.30   | 14.83   | 14.75   | 14.75   |
|           |            | 25      | 13        | 16.30   | 15.06   | 14.52   | 15.04   |
|           |            | 25      | 25        | 16.30   | 15.15   | 14.46   | 15.18   |
|           |            | 50      | 0         | 16.30   | 14.94   | 14.52   | 14.95   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20025CH      | 20175CH      | 20325CH      |
| 15MHz     | QPSK       | 1       | 0         | 18.30   | 17.22        | 17.61        | 17.13        |
|           |            | 1       | 38        | 18.30   | 17.97        | 17.34        | 17.75        |
|           |            | 1       | 74        | 18.30   | 17.63        | 17.08        | 18.04        |
|           |            | 36      | 0         | 17.50   | 16.53        | 16.52        | 16.35        |
|           |            | 36      | 18        | 17.50   | 16.81        | 16.43        | 16.49        |
|           |            | 36      | 39        | 17.50   | 16.87        | 16.18        | 16.66        |
|           |            | 75      | 0         | 17.50   | 16.76        | 16.38        | 16.58        |
|           | 16QAM      | 1       | 0         | 18.00   | 16.46        | 16.72        | 16.46        |
|           |            | 1       | 38        | 18.00   | 17.27        | 16.55        | 17.05        |
|           |            | 1       | 74        | 18.00   | 16.94        | 16.19        | 17.32        |
|           |            | 36      | 0         | 16.30   | 15.01        | 14.95        | 14.68        |
|           |            | 36      | 18        | 16.30   | 15.28        | 14.79        | 14.76        |
|           |            | 36      | 39        | 16.30   | 15.31        | 14.58        | 14.98        |
|           |            | 75      | 0         | 16.30   | 15.15        | 14.72        | 14.86        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20050CH      | 20175CH      | 20300CH      |
| 20MHz     | QPSK       | 1       | 0         | 18.30   | 17.16        | <b>17.67</b> | 17.04        |
|           |            | 1       | 50        | 18.30   | <b>18.05</b> | 17.26        | 17.45        |
|           |            | 1       | 99        | 18.30   | 17.29        | 17.00        | <b>17.95</b> |
|           |            | 50      | 0         | 17.50   | 16.70        | <b>16.61</b> | 16.12        |
|           |            | 50      | 25        | 17.50   | <b>16.87</b> | 16.29        | <b>16.45</b> |
|           |            | 50      | 50        | 17.50   | 16.78        | 16.10        | 16.44        |
|           |            | 100     | 0         | 17.50   | <b>16.79</b> | 16.42        | 16.34        |
|           | 16QAM      | 1       | 0         | 18.00   | 16.38        | 16.72        | 16.24        |
|           |            | 1       | 50        | 18.00   | 17.31        | 16.44        | 16.67        |
|           |            | 1       | 99        | 18.00   | 16.48        | 16.10        | 17.13        |
|           |            | 50      | 0         | 16.30   | 15.15        | 15.06        | 14.51        |
|           |            | 50      | 25        | 16.30   | 15.31        | 14.65        | 14.84        |
|           |            | 50      | 50        | 16.30   | 15.23        | 14.49        | 14.85        |
|           |            | 100     | 0         | 16.30   | 15.22        | 14.73        | 14.66        |

Table 21: Conducted power measurement results of LTE Band IV (Full Power)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19957CH | 20175CH | 20393CH |
| 1.4MHz    | QPSK       | 1       | 0         | 17.80   | 16.78   | 16.79   | 17.63   |
|           |            | 1       | 3         | 17.80   | 16.79   | 16.72   | 17.72   |
|           |            | 1       | 5         | 17.80   | 16.65   | 16.52   | 17.54   |
|           |            | 3       | 0         | 17.80   | 16.73   | 16.69   | 17.67   |
|           |            | 3       | 2         | 17.80   | 16.75   | 16.68   | 17.73   |
|           |            | 3       | 3         | 17.80   | 16.70   | 16.57   | 17.63   |
|           |            | 6       | 0         | 17.00   | 15.71   | 15.59   | 16.62   |
|           | 16QAM      | 1       | 0         | 17.50   | 15.80   | 15.79   | 16.62   |
|           |            | 1       | 3         | 17.50   | 15.88   | 15.78   | 16.75   |
|           |            | 1       | 5         | 17.50   | 15.62   | 15.64   | 16.58   |
|           |            | 3       | 0         | 17.50   | 15.60   | 15.73   | 16.47   |
|           |            | 3       | 2         | 17.50   | 15.62   | 15.57   | 16.54   |
|           |            | 3       | 3         | 17.50   | 15.57   | 15.55   | 16.50   |
|           |            | 6       | 0         | 15.80   | 14.15   | 13.91   | 14.84   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 19965CH | 20175CH | 20385CH |
| 3MHz      | QPSK       | 1       | 0         | 17.80   | 16.48   | 16.58   | 17.25   |
|           |            | 1       | 7         | 17.80   | 16.79   | 16.76   | 17.63   |
|           |            | 1       | 14        | 17.80   | 16.55   | 16.18   | 17.37   |
|           |            | 8       | 0         | 17.00   | 15.68   | 15.57   | 16.39   |
|           |            | 8       | 4         | 17.00   | 15.73   | 15.54   | 16.47   |
|           |            | 8       | 7         | 17.00   | 15.72   | 15.39   | 16.43   |
|           |            | 15      | 0         | 17.00   | 15.66   | 15.48   | 16.35   |
|           | 16QAM      | 1       | 0         | 17.50   | 15.60   | 15.63   | 16.20   |
|           |            | 1       | 7         | 17.50   | 15.96   | 15.75   | 16.61   |
|           |            | 1       | 14        | 17.50   | 15.58   | 15.51   | 16.46   |
|           |            | 8       | 0         | 15.80   | 14.14   | 14.00   | 14.73   |
|           |            | 8       | 4         | 15.80   | 14.16   | 13.94   | 14.78   |
|           |            | 8       | 7         | 15.80   | 14.16   | 13.84   | 14.78   |
|           |            | 15      | 0         | 15.80   | 14.13   | 13.92   | 14.67   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19975CH | 20175CH | 20393CH |
| 5MHz      | QPSK       | 1       | 0         | 17.80   | 16.59   | 16.61   | 17.13   |
|           |            | 1       | 13        | 17.80   | 16.93   | 16.71   | 17.51   |
|           |            | 1       | 24        | 17.80   | 16.84   | 16.20   | 17.28   |
|           |            | 12      | 0         | 17.00   | 15.70   | 15.61   | 16.29   |
|           |            | 12      | 6         | 17.00   | 15.85   | 15.6    | 16.39   |
|           |            | 12      | 13        | 17.00   | 15.81   | 15.35   | 16.33   |
|           |            | 25      | 0         | 17.00   | 15.81   | 15.47   | 16.12   |
|           | 16QAM      | 1       | 0         | 17.50   | 15.66   | 15.78   | 16.40   |
|           |            | 1       | 13        | 17.50   | 16.07   | 15.89   | 16.73   |
|           |            | 1       | 24        | 17.50   | 15.88   | 15.54   | 16.49   |
|           |            | 12      | 0         | 15.80   | 14.25   | 14.07   | 14.72   |
|           |            | 12      | 6         | 15.80   | 14.35   | 14.07   | 14.75   |
|           |            | 12      | 13        | 15.80   | 14.28   | 13.86   | 14.70   |
|           |            | 25      | 0         | 15.80   | 14.25   | 13.93   | 14.50   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20000CH | 20175CH | 20350CH |
| 10MHz     | QPSK       | 1       | 0         | 17.80   | 16.69   | 16.78   | 16.82   |
|           |            | 1       | 25        | 17.80   | 17.36   | 16.77   | 17.25   |
|           |            | 1       | 49        | 17.80   | 17.24   | 16.42   | 17.37   |
|           |            | 25      | 0         | 17.00   | 15.94   | 15.79   | 15.94   |
|           |            | 25      | 13        | 17.00   | 16.17   | 15.55   | 16.16   |
|           |            | 25      | 25        | 17.00   | 16.22   | 15.54   | 16.23   |
|           |            | 50      | 0         | 17.00   | 16.04   | 15.58   | 16.06   |
|           | 16QAM      | 1       | 0         | 17.50   | 15.80   | 15.84   | 15.92   |
|           |            | 1       | 25        | 17.50   | 16.34   | 15.91   | 16.30   |
|           |            | 1       | 49        | 17.50   | 16.35   | 15.67   | 16.22   |
|           |            | 25      | 0         | 15.80   | 14.39   | 14.20   | 14.33   |
|           |            | 25      | 13        | 15.80   | 14.59   | 13.96   | 14.54   |
|           |            | 25      | 25        | 15.80   | 14.66   | 13.87   | 14.62   |
|           |            | 50      | 0         | 15.80   | 14.49   | 14.02   | 14.43   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20025CH      | 20175CH      | 20325CH      |
| 15MHz     | QPSK       | 1       | 0         | 17.80   | 16.75        | 17.01        | 16.75        |
|           |            | 1       | 38        | 17.80   | 17.36        | 16.75        | 17.20        |
|           |            | 1       | 74        | 17.80   | 17.14        | 16.65        | 17.56        |
|           |            | 36      | 0         | 17.00   | 16.13        | 15.93        | 15.92        |
|           |            | 36      | 18        | 17.00   | 16.34        | 15.79        | 15.98        |
|           |            | 36      | 39        | 17.00   | 16.34        | 15.70        | 16.15        |
|           |            | 75      | 0         | 17.00   | 16.25        | 15.78        | 16.08        |
|           | 16QAM      | 1       | 0         | 17.50   | 15.85        | 16.18        | 15.89        |
|           |            | 1       | 38        | 17.50   | 16.58        | 15.93        | 16.34        |
|           |            | 1       | 74        | 17.50   | 16.21        | 15.88        | 16.65        |
|           |            | 36      | 0         | 15.80   | 14.58        | 14.38        | 14.23        |
|           |            | 36      | 18        | 15.80   | 14.78        | 14.21        | 14.36        |
|           |            | 36      | 39        | 15.80   | 14.79        | 14.05        | 14.52        |
|           |            | 75      | 0         | 15.80   | 14.69        | 14.19        | 14.42        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20050CH      | 20175CH      | 20300CH      |
| 20MHz     | QPSK       | 1       | 0         | 17.80   | 16.80        | <b>17.07</b> | 16.62        |
|           |            | 1       | 50        | 17.80   | <b>17.61</b> | 16.67        | 16.96        |
|           |            | 1       | 99        | 17.80   | 16.78        | 16.74        | <b>17.40</b> |
|           |            | 50      | 0         | 17.00   | 16.19        | 16.07        | 15.73        |
|           |            | 50      | 25        | 17.00   | <b>16.26</b> | 15.70        | 16.04        |
|           |            | 50      | 50        | 17.00   | 16.12        | 15.69        | 16.07        |
|           |            | 100     | 0         | 17.00   | <b>16.17</b> | 15.87        | 15.89        |
|           | 16QAM      | 1       | 0         | 17.50   | 15.94        | 16.11        | 15.84        |
|           |            | 1       | 50        | 17.50   | 16.71        | 15.72        | 16.11        |
|           |            | 1       | 99        | 17.50   | 16.08        | 15.75        | 16.55        |
|           |            | 50      | 0         | 15.80   | 14.70        | 14.54        | 14.03        |
|           |            | 50      | 25        | 15.80   | 14.75        | 14.13        | 14.33        |
|           |            | 50      | 50        | 15.80   | 14.63        | 14.01        | 14.45        |
|           |            | 100     | 0         | 15.80   | 14.71        | 14.32        | 14.26        |

Table 22: Conducted power measurement results of LTE Band IV (After Synchronous transmission with WiFi station)

### 7.1.8 Conducted power measurements of LTE Band V(Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20407CH | 20525CH | 20643CH |
| 1.4MHz    | QPSK       | 1       | 0         | 20.00   | 18.86   | 18.95   | 18.85   |
|           |            | 1       | 3         | 20.00   | 18.94   | 19.00   | 19.12   |
|           |            | 1       | 5         | 20.00   | 18.83   | 18.96   | 19.09   |
|           |            | 3       | 0         | 20.00   | 18.88   | 18.98   | 18.87   |
|           |            | 3       | 2         | 20.00   | 18.90   | 18.95   | 18.97   |
|           |            | 3       | 3         | 20.00   | 18.89   | 18.95   | 18.54   |
|           |            | 6       | 0         | 19.00   | 17.90   | 17.89   | 18.01   |
|           | 16QAM      | 1       | 0         | 19.00   | 17.48   | 17.43   | 17.51   |
|           |            | 1       | 3         | 19.00   | 17.57   | 17.69   | 17.86   |
|           |            | 1       | 5         | 19.00   | 17.42   | 17.69   | 17.81   |
|           |            | 3       | 0         | 19.00   | 17.51   | 17.53   | 17.43   |
|           |            | 3       | 2         | 19.00   | 17.54   | 17.49   | 17.61   |
|           |            | 3       | 3         | 19.00   | 17.50   | 17.49   | 17.72   |
|           |            | 6       | 0         | 18.00   | 16.39   | 16.37   | 16.45   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20415CH | 20525CH | 20635CH |
| 3MHz      | QPSK       | 1       | 0         | 20.00   | 18.79   | 18.79   | 18.40   |
|           |            | 1       | 7         | 20.00   | 18.92   | 19.02   | 18.93   |
|           |            | 1       | 14        | 20.00   | 18.52   | 18.78   | 18.92   |
|           |            | 8       | 0         | 19.00   | 17.95   | 17.84   | 17.65   |
|           |            | 8       | 4         | 19.00   | 17.91   | 17.90   | 17.78   |
|           |            | 8       | 7         | 19.00   | 17.76   | 17.81   | 17.85   |
|           |            | 15      | 0         | 19.00   | 17.85   | 17.83   | 17.81   |
|           | 16QAM      | 1       | 0         | 19.00   | 17.03   | 17.21   | 17.05   |
|           |            | 1       | 7         | 19.00   | 17.18   | 17.73   | 17.27   |
|           |            | 1       | 14        | 19.00   | 17.05   | 17.66   | 17.32   |
|           |            | 8       | 0         | 18.00   | 16.37   | 16.39   | 16.18   |
|           |            | 8       | 4         | 18.00   | 16.35   | 16.43   | 16.24   |
|           |            | 8       | 7         | 18.00   | 16.18   | 16.44   | 16.30   |
|           |            | 15      | 0         | 18.00   | 16.28   | 16.37   | 16.23   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20425CH      | 20525CH      | 20625CH      |
| 5MHz      | QPSK       | 1       | 0         | 20.00   | 18.76        | 18.58        | 18.73        |
|           |            | 1       | 13        | 20.00   | 18.80        | 18.94        | 18.80        |
|           |            | 1       | 24        | 20.00   | 18.31        | 18.74        | 18.72        |
|           |            | 12      | 0         | 19.00   | 17.88        | 17.82        | 17.84        |
|           |            | 12      | 6         | 19.00   | 17.84        | 17.98        | 17.84        |
|           |            | 12      | 13        | 19.00   | 17.62        | 17.87        | 17.61        |
|           |            | 25      | 0         | 19.00   | 17.70        | 17.72        | 17.77        |
|           | 16QAM      | 1       | 0         | 19.00   | 17.50        | 17.41        | 17.48        |
|           |            | 1       | 13        | 19.00   | 17.49        | 17.79        | 17.55        |
|           |            | 1       | 24        | 19.00   | 17.14        | 17.64        | 17.49        |
|           |            | 12      | 0         | 18.00   | 16.34        | 16.36        | 16.39        |
|           |            | 12      | 6         | 18.00   | 16.28        | 16.45        | 16.38        |
|           |            | 12      | 13        | 18.00   | 16.07        | 16.41        | 16.11        |
|           |            | 25      | 0         | 18.00   | 16.12        | 16.27        | 16.26        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20450CH      | 20525CH      | 20600CH      |
| 10MHz     | QPSK       | 1       | 0         | 20.00   | 19.00        | 18.88        | 19.25        |
|           |            | 1       | 25        | 20.00   | <b>19.38</b> | <b>19.45</b> | <b>19.39</b> |
|           |            | 1       | 49        | 20.00   | 18.74        | 19.13        | 19.05        |
|           |            | 25      | 0         | 19.00   | 18.13        | 18.21        | 18.42        |
|           |            | 25      | 13        | 19.00   | 18.15        | 18.28        | <b>18.45</b> |
|           |            | 25      | 25        | 19.00   | 17.89        | 18.25        | 18.29        |
|           |            | 50      | 0         | 19.00   | 18.05        | 18.12        | <b>18.38</b> |
|           | 16QAM      | 1       | 0         | 19.00   | 17.93        | 17.37        | 18.10        |
|           |            | 1       | 25        | 19.00   | 18.01        | 18.12        | 18.23        |
|           |            | 1       | 49        | 19.00   | 17.56        | 17.88        | 17.80        |
|           |            | 25      | 0         | 18.00   | 16.69        | 16.69        | 16.86        |
|           |            | 25      | 13        | 18.00   | 16.72        | 16.75        | 16.90        |
|           |            | 25      | 25        | 18.00   | 16.46        | 16.76        | 16.78        |
|           |            | 50      | 0         | 18.00   | 16.54        | 16.62        | 16.91        |

Table 23: Conducted power measurement results of LTE Band V(Full Power)

### 7.1.9 Conducted power measurements of LTE Band VII (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20775CH | 21100CH | 21425CH |
| 5MHz      | QPSK       | 1       | 0         | 15.20   | 13.41   | 13.28   | 14.85   |
|           |            | 1       | 13        | 15.20   | 13.72   | 13.59   | 14.90   |
|           |            | 1       | 24        | 15.20   | 13.33   | 13.21   | 14.76   |
|           |            | 12      | 0         | 14.20   | 12.56   | 12.43   | 13.93   |
|           |            | 12      | 6         | 14.20   | 12.66   | 12.51   | 13.96   |
|           |            | 12      | 13        | 14.20   | 12.52   | 12.32   | 13.80   |
|           |            | 25      | 0         | 14.20   | 12.50   | 12.41   | 13.84   |
|           | 16QAM      | 1       | 0         | 14.40   | 12.63   | 13.61   | 14.35   |
|           |            | 1       | 13        | 14.40   | 12.97   | 13.67   | 14.34   |
|           |            | 1       | 24        | 14.40   | 12.49   | 13.15   | 14.22   |
|           |            | 12      | 0         | 13.20   | 11.51   | 12.27   | 12.79   |
|           |            | 12      | 6         | 13.20   | 11.62   | 12.22   | 12.82   |
|           |            | 12      | 13        | 13.20   | 11.48   | 11.94   | 12.65   |
|           |            | 25      | 0         | 13.20   | 11.38   | 11.99   | 12.65   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20800CH | 21100CH | 21400CH |
| 10MHz     | QPSK       | 1       | 0         | 15.20   | 13.33   | 14.47   | 14.36   |
|           |            | 1       | 25        | 15.20   | 13.67   | 14.47   | 14.91   |
|           |            | 1       | 49        | 15.20   | 13.63   | 13.98   | 14.79   |
|           |            | 25      | 0         | 14.20   | 12.62   | 13.38   | 13.50   |
|           |            | 25      | 13        | 14.20   | 12.53   | 13.30   | 13.71   |
|           |            | 25      | 25        | 14.20   | 12.56   | 13.16   | 13.80   |
|           |            | 50      | 0         | 14.20   | 12.28   | 13.24   | 13.79   |
|           | 16QAM      | 1       | 0         | 14.40   | 12.60   | 13.50   | 13.46   |
|           |            | 1       | 25        | 14.40   | 12.92   | 13.53   | 14.35   |
|           |            | 1       | 49        | 14.40   | 12.87   | 13.01   | 14.21   |
|           |            | 25      | 0         | 13.20   | 11.58   | 12.13   | 12.41   |
|           |            | 25      | 13        | 13.20   | 11.47   | 12.04   | 12.52   |
|           |            | 25      | 25        | 13.20   | 11.54   | 11.95   | 12.57   |
|           |            | 50      | 0         | 13.20   | 11.22   | 12.01   | 12.68   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20825CH      | 21100CH      | 21375CH      |
| 15MHz     | QPSK       | 1       | 0         | 15.20   | 13.28        | 14.22        | 13.63        |
|           |            | 1       | 38        | 15.20   | 13.95        | 14.43        | 14.76        |
|           |            | 1       | 74        | 15.20   | 13.67        | 13.69        | 14.64        |
|           |            | 36      | 0         | 14.20   | 12.50        | 13.38        | 13.19        |
|           |            | 36      | 18        | 14.20   | 12.86        | 13.34        | 13.42        |
|           |            | 36      | 39        | 14.20   | 12.85        | 13.07        | 13.66        |
|           |            | 75      | 0         | 14.20   | 12.34        | 13.25        | 13.79        |
|           | 16QAM      | 1       | 0         | 14.40   | 12.45        | 13.30        | 12.86        |
|           |            | 1       | 38        | 14.40   | 13.09        | 13.62        | 13.96        |
|           |            | 1       | 74        | 14.40   | 13.10        | 12.81        | 13.95        |
|           |            | 36      | 0         | 13.20   | 11.39        | 12.15        | 12.01        |
|           |            | 36      | 18        | 13.20   | 11.77        | 12.09        | 12.27        |
|           |            | 36      | 39        | 13.20   | 11.65        | 11.89        | 12.50        |
|           |            | 75      | 0         | 13.20   | 11.24        | 12.01        | 12.63        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20850CH      | 21100CH      | 21350CH      |
| 20MHz     | QPSK       | 1       | 0         | 15.20   | 13.41        | 14.41        | 13.76        |
|           |            | 1       | 50        | 15.20   | 14.10        | <b>14.48</b> | 14.65        |
|           |            | 1       | 99        | 15.20   | <b>14.14</b> | 13.80        | <b>14.94</b> |
|           |            | 50      | 0         | 14.20   | 12.83        | 13.21        | 13.61        |
|           |            | 50      | 25        | 14.20   | 13.06        | 13.52        | <b>13.82</b> |
|           |            | 50      | 50        | 14.20   | 12.78        | 13.50        | 13.52        |
|           |            | 100     | 0         | 14.20   | 12.69        | 13.42        | <b>13.88</b> |
|           | 16QAM      | 1       | 0         | 14.40   | 12.78        | 13.92        | 12.94        |
|           |            | 1       | 50        | 14.40   | 13.40        | 13.84        | 13.82        |
|           |            | 1       | 99        | 14.40   | 13.58        | 13.11        | 14.14        |
|           |            | 50      | 0         | 13.20   | 11.71        | 11.91        | 12.45        |
|           |            | 50      | 25        | 13.20   | 11.85        | 12.12        | 12.62        |
|           |            | 50      | 50        | 13.20   | 11.47        | 12.27        | 12.30        |
|           |            | 100     | 0         | 13.20   | 11.47        | 12.10        | 12.73        |

Table 24: Conducted power measurement results of LTE Band VII (Full Power)

### 7.1.10 Conducted power measurements of LTE Band XII (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 23017CH | 23095CH | 23173CH |
| 1.4MHz    | QPSK       | 1       | 0         | 22.00   | 20.90   | 20.57   | 21.47   |
|           |            | 1       | 3         | 22.00   | 21.12   | 20.63   | 21.32   |
|           |            | 1       | 5         | 22.00   | 21.20   | 20.46   | 20.90   |
|           |            | 3       | 0         | 22.00   | 21.00   | 20.57   | 21.38   |
|           |            | 3       | 2         | 22.00   | 21.07   | 20.55   | 21.25   |
|           |            | 3       | 3         | 22.00   | 21.11   | 20.47   | 21.01   |
|           |            | 6       | 0         | 21.00   | 19.54   | 19.11   | 19.82   |
|           | 16QAM      | 1       | 0         | 22.00   | 20.45   | 20.11   | 21.28   |
|           |            | 1       | 3         | 22.00   | 20.62   | 20.16   | 21.22   |
|           |            | 1       | 5         | 22.00   | 20.80   | 20.15   | 20.81   |
|           |            | 3       | 0         | 22.00   | 20.63   | 20.13   | 21.03   |
|           |            | 3       | 2         | 22.00   | 20.68   | 20.16   | 20.89   |
|           |            | 3       | 3         | 22.00   | 20.72   | 20.09   | 20.70   |
|           |            | 6       | 0         | 20.00   | 18.17   | 18.11   | 18.36   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 23025CH | 23095CH | 23165CH |
| 3MHz      | QPSK       | 1       | 0         | 22.00   | 20.74   | 20.61   | 21.45   |
|           |            | 1       | 7         | 22.00   | 21.47   | 20.66   | 21.64   |
|           |            | 1       | 14        | 22.00   | 21.27   | 20.36   | 20.71   |
|           |            | 8       | 0         | 21.00   | 19.60   | 19.23   | 20.08   |
|           |            | 8       | 4         | 21.00   | 20.01   | 19.10   | 20.06   |
|           |            | 8       | 7         | 21.00   | 19.76   | 19.07   | 19.67   |
|           |            | 15      | 0         | 21.00   | 19.65   | 19.09   | 19.95   |
|           | 16QAM      | 1       | 0         | 22.00   | 20.25   | 20.16   | 21.04   |
|           |            | 1       | 7         | 22.00   | 20.87   | 20.32   | 21.09   |
|           |            | 1       | 14        | 22.00   | 20.76   | 20.04   | 20.34   |
|           |            | 8       | 0         | 20.00   | 18.22   | 18.08   | 18.60   |
|           |            | 8       | 4         | 20.00   | 18.56   | 18.11   | 18.51   |
|           |            | 8       | 7         | 20.00   | 18.33   | 18.13   | 18.14   |
|           |            | 15      | 0         | 20.00   | 18.06   | 18.06   | 18.45   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 23035CH      | 23095CH      | 23155CH      |
| 5MHz      | QPSK       | 1       | 0         | 22.00   | 20.68        | 20.58        | 20.97        |
|           |            | 1       | 13        | 22.00   | 21.53        | 20.52        | 21.63        |
|           |            | 1       | 24        | 22.00   | 21.61        | 21.31        | 21.54        |
|           |            | 12      | 0         | 21.00   | 19.72        | 19.18        | 20.20        |
|           |            | 12      | 6         | 21.00   | 19.97        | 19.19        | 20.36        |
|           |            | 12      | 13        | 21.00   | 19.72        | 19.05        | 19.77        |
|           |            | 25      | 0         | 21.00   | 19.70        | 19.19        | 19.92        |
|           | 16QAM      | 1       | 0         | 22.00   | 20.51        | 20.40        | 20.82        |
|           |            | 1       | 13        | 22.00   | 21.34        | 20.36        | 21.63        |
|           |            | 1       | 24        | 22.00   | 21.37        | 21.20        | 21.38        |
|           |            | 12      | 0         | 20.00   | 18.23        | 18.21        | 18.72        |
|           |            | 12      | 6         | 20.00   | 18.54        | 18.33        | 18.89        |
|           |            | 12      | 13        | 20.00   | 18.23        | 18.34        | 18.36        |
|           |            | 25      | 0         | 20.00   | 18.22        | 18.21        | 18.39        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 23060CH      | 23095CH      | 23130CH      |
| 10MHz     | QPSK       | 1       | 0         | 22.00   | 21.16        | <b>21.54</b> | 20.88        |
|           |            | 1       | 25        | 22.00   | <b>21.53</b> | 21.09        | <b>21.70</b> |
|           |            | 1       | 49        | 22.00   | 20.53        | 21.31        | 21.12        |
|           |            | 25      | 0         | 21.00   | 20.31        | 19.83        | 19.57        |
|           |            | 25      | 13        | 21.00   | 20.01        | 19.69        | <b>20.38</b> |
|           |            | 25      | 25        | 21.00   | 19.62        | 19.59        | 20.17        |
|           |            | 50      | 0         | 21.00   | 19.94        | 19.62        | <b>19.96</b> |
|           | 16QAM      | 1       | 0         | 22.00   | 21.04        | 21.13        | 20.69        |
|           |            | 1       | 25        | 22.00   | 21.38        | 20.65        | 21.43        |
|           |            | 1       | 49        | 22.00   | 20.33        | 20.86        | 20.91        |
|           |            | 25      | 0         | 20.00   | 18.71        | 18.30        | 18.07        |
|           |            | 25      | 13        | 20.00   | 18.52        | 18.21        | 18.65        |
|           |            | 25      | 25        | 20.00   | 18.12        | 18.11        | 18.66        |
|           |            | 50      | 0         | 20.00   | 18.45        | 18.12        | 18.43        |

Table 25: Conducted power measurement results of LTE Band XII (Full Power)

### 7.1.11 Conducted power measurements of LTE Band XVII (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 23755CH | 23790CH | 23825CH |
| 5MHz      | QPSK       | 1       | 0         | 22.00   | 20.89   | 20.62   | 21.31   |
|           |            | 1       | 13        | 22.00   | 20.84   | 21.39   | 21.91   |
|           |            | 1       | 24        | 22.00   | 21.51   | 21.87   | 21.86   |
|           |            | 12      | 0         | 21.00   | 19.49   | 19.54   | 20.30   |
|           |            | 12      | 6         | 21.00   | 19.38   | 19.87   | 20.63   |
|           |            | 12      | 13        | 21.00   | 19.29   | 19.81   | 20.36   |
|           |            | 25      | 0         | 21.00   | 19.46   | 19.76   | 20.42   |
|           | 16QAM      | 1       | 0         | 22.00   | 20.09   | 20.07   | 20.54   |
|           |            | 1       | 13        | 22.00   | 20.13   | 20.55   | 21.63   |
|           |            | 1       | 24        | 22.00   | 20.68   | 21.67   | 21.12   |
|           |            | 12      | 0         | 20.00   | 18.01   | 18.01   | 18.76   |
|           |            | 12      | 6         | 20.00   | 18.11   | 18.36   | 19.00   |
|           |            | 12      | 13        | 20.00   | 18.21   | 18.29   | 18.79   |
|           |            | 25      | 0         | 20.00   | 18.06   | 18.25   | 18.88   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 23780CH | 23790CH | 23800CH |
| 10MHz     | QPSK       | 1       | 0         | 22.00   | 21.27   | 21.10   | 21.04   |
|           |            | 1       | 25        | 22.00   | 21.48   | 21.62   | 21.78   |
|           |            | 1       | 49        | 22.00   | 21.86   | 21.84   | 21.49   |
|           |            | 25      | 0         | 21.00   | 19.83   | 19.77   | 19.96   |
|           |            | 25      | 13        | 21.00   | 20.13   | 20.25   | 20.63   |
|           |            | 25      | 25        | 21.00   | 20.52   | 20.70   | 20.79   |
|           |            | 50      | 0         | 21.00   | 20.14   | 20.32   | 20.52   |
|           | 16QAM      | 1       | 0         | 22.00   | 20.33   | 20.34   | 20.44   |
|           |            | 1       | 25        | 22.00   | 20.53   | 21.06   | 21.39   |
|           |            | 1       | 49        | 22.00   | 21.21   | 21.36   | 20.83   |
|           |            | 25      | 0         | 20.00   | 18.45   | 18.33   | 18.47   |
|           |            | 25      | 13        | 20.00   | 18.62   | 18.80   | 19.15   |
|           |            | 25      | 25        | 20.00   | 19.03   | 19.17   | 19.25   |
|           |            | 50      | 0         | 20.00   | 18.69   | 18.85   | 19.07   |

Table 26: Conducted power measurement results of LTE Band XVII (Full Power)

### 7.1.12 Conducted power measurements of LTE Band XXVI (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26697CH | 26865CH | 27033CH |
| 1.4MHz    | QPSK       | 1       | 0         | 21.30   | 20.10   | 19.86   | 20.10   |
|           |            | 1       | 3         | 21.30   | 20.77   | 20.66   | 20.75   |
|           |            | 1       | 5         | 21.30   | 19.87   | 20.38   | 19.79   |
|           |            | 3       | 0         | 21.30   | 20.17   | 19.34   | 20.08   |
|           |            | 3       | 2         | 21.30   | 19.63   | 19.72   | 19.77   |
|           |            | 3       | 3         | 21.30   | 19.76   | 19.73   | 19.89   |
|           |            | 6       | 0         | 20.50   | 19.50   | 19.19   | 19.50   |
|           | 16QAM      | 1       | 0         | 20.30   | 19.28   | 19.35   | 19.23   |
|           |            | 1       | 3         | 20.30   | 19.88   | 18.70   | 20.21   |
|           |            | 1       | 5         | 20.30   | 18.76   | 19.26   | 19.22   |
|           |            | 3       | 0         | 20.30   | 18.54   | 18.36   | 18.31   |
|           |            | 3       | 2         | 20.30   | 18.37   | 18.35   | 18.35   |
|           |            | 3       | 3         | 20.30   | 18.36   | 18.39   | 18.51   |
|           |            | 6       | 0         | 19.30   | 18.19   | 17.95   | 18.41   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26705CH | 26865CH | 27025CH |
| 3MHz      | QPSK       | 1       | 0         | 21.30   | 20.53   | 20.28   | 20.09   |
|           |            | 1       | 7         | 21.30   | 20.51   | 20.45   | 20.49   |
|           |            | 1       | 14        | 21.30   | 20.28   | 20.25   | 20.41   |
|           |            | 8       | 0         | 20.50   | 19.54   | 19.29   | 19.41   |
|           |            | 8       | 4         | 20.50   | 19.63   | 19.45   | 19.25   |
|           |            | 8       | 7         | 20.50   | 19.81   | 19.34   | 19.44   |
|           |            | 15      | 0         | 20.50   | 19.45   | 19.37   | 19.53   |
|           | 16QAM      | 1       | 0         | 20.30   | 19.36   | 19.23   | 19.41   |
|           |            | 1       | 7         | 20.30   | 19.75   | 18.59   | 20.13   |
|           |            | 1       | 14        | 20.30   | 18.62   | 19.74   | 19.00   |
|           |            | 8       | 0         | 19.30   | 18.45   | 18.05   | 18.34   |
|           |            | 8       | 4         | 19.30   | 18.25   | 18.07   | 18.43   |
|           |            | 8       | 7         | 19.30   | 18.03   | 17.97   | 18.69   |
|           |            | 15      | 0         | 19.30   | 18.16   | 18.18   | 18.73   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26715CH | 26865CH | 27015CH |
| 5MHz      | QPSK       | 1       | 0         | 21.30   | 20.57   | 20.18   | 20.22   |
|           |            | 1       | 13        | 21.30   | 20.66   | 20.46   | 20.41   |
|           |            | 1       | 24        | 21.30   | 20.85   | 20.91   | 20.95   |
|           |            | 12      | 0         | 20.50   | 19.57   | 19.29   | 19.31   |
|           |            | 12      | 6         | 20.50   | 19.67   | 19.45   | 19.33   |
|           |            | 12      | 13        | 20.50   | 19.63   | 19.34   | 19.22   |
|           |            | 25      | 0         | 20.50   | 19.35   | 19.56   | 19.41   |
|           | 16QAM      | 1       | 0         | 20.30   | 19.03   | 19.08   | 19.56   |
|           |            | 1       | 13        | 20.30   | 20.11   | 18.59   | 20.24   |
|           |            | 1       | 24        | 20.30   | 18.70   | 19.28   | 18.75   |
|           |            | 12      | 0         | 19.30   | 18.82   | 18.14   | 18.64   |
|           |            | 12      | 6         | 19.30   | 18.19   | 18.22   | 18.26   |
|           |            | 12      | 13        | 19.30   | 18.47   | 18.11   | 18.40   |
|           |            | 25      | 0         | 19.30   | 18.34   | 18.40   | 18.63   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26750CH | 26865CH | 26990CH |
| 10MHz     | QPSK       | 1       | 0         | 21.30   | 20.59   | 20.30   | 20.76   |
|           |            | 1       | 25        | 21.30   | 20.96   | 20.83   | 20.78   |
|           |            | 1       | 49        | 21.30   | 20.36   | 20.48   | 20.32   |
|           |            | 25      | 0         | 20.50   | 19.65   | 19.45   | 19.70   |
|           |            | 25      | 13        | 20.50   | 19.93   | 19.81   | 19.54   |
|           |            | 25      | 25        | 20.50   | 19.94   | 19.64   | 19.73   |
|           |            | 50      | 0         | 20.50   | 19.78   | 19.49   | 19.83   |
|           | 16QAM      | 1       | 0         | 20.30   | 19.46   | 19.44   | 19.28   |
|           |            | 1       | 25        | 20.30   | 19.90   | 18.81   | 20.25   |
|           |            | 1       | 49        | 20.30   | 18.65   | 19.36   | 18.87   |
|           |            | 25      | 0         | 19.30   | 18.59   | 18.44   | 18.51   |
|           |            | 25      | 13        | 19.30   | 18.14   | 18.08   | 18.36   |
|           |            | 25      | 25        | 19.30   | 18.43   | 18.41   | 18.79   |
|           |            | 50      | 0         | 19.30   | 18.13   | 18.01   | 18.43   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 26775CH      | 26865CH      | 26965CH      |
| 15MHz     | QPSK       | 1       | 0         | 21.30   | 19.87        | 19.85        | 19.86        |
|           |            | 1       | 38        | 21.30   | <b>20.52</b> | <b>20.18</b> | <b>20.71</b> |
|           |            | 1       | 74        | 21.30   | 19.52        | 19.94        | 19.58        |
|           |            | 36      | 0         | 20.50   | <b>19.57</b> | 19.02        | 19.29        |
|           |            | 36      | 18        | 20.50   | 19.21        | <b>19.05</b> | 19.26        |
|           |            | 36      | 39        | 20.50   | 19.01        | 19.04        | <b>19.42</b> |
|           |            | 75      | 0         | 20.50   | 19.02        | 19.02        | <b>19.38</b> |
|           | 16QAM      | 1       | 0         | 20.30   | 19.01        | 19.08        | 19.06        |
|           |            | 1       | 38        | 20.30   | 19.67        | 18.56        | 20.05        |
|           |            | 1       | 74        | 20.30   | 18.53        | 19.24        | 18.73        |
|           |            | 36      | 0         | 19.30   | 18.39        | 18.03        | 18.16        |
|           |            | 36      | 18        | 19.30   | 18.10        | 18.05        | 18.11        |
|           |            | 36      | 39        | 19.30   | 17.98        | 17.93        | 18.35        |
|           |            | 75      | 0         | 19.30   | 17.95        | 17.93        | 18.25        |

Table 27: Conducted power measurement results of LTE Band XXVI (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26697CH | 26865CH | 27033CH |
| 1.4MHz    | QPSK       | 1       | 0         | 20.80   | 19.59   | 19.35   | 19.59   |
|           |            | 1       | 3         | 20.80   | 20.26   | 20.15   | 20.24   |
|           |            | 1       | 5         | 20.80   | 19.36   | 19.87   | 19.28   |
|           |            | 3       | 0         | 20.80   | 19.66   | 18.83   | 19.57   |
|           |            | 3       | 2         | 20.80   | 19.12   | 19.21   | 19.26   |
|           |            | 3       | 3         | 20.80   | 19.25   | 19.22   | 19.38   |
|           |            | 6       | 0         | 20.00   | 18.99   | 18.68   | 18.99   |
|           | 16QAM      | 1       | 0         | 19.80   | 18.77   | 18.84   | 18.72   |
|           |            | 1       | 3         | 19.80   | 19.37   | 18.19   | 19.70   |
|           |            | 1       | 5         | 19.80   | 18.25   | 18.75   | 18.71   |
|           |            | 3       | 0         | 19.80   | 18.03   | 17.85   | 17.86   |
|           |            | 3       | 2         | 19.80   | 17.86   | 17.84   | 17.84   |
|           |            | 3       | 3         | 19.80   | 17.85   | 17.88   | 18.00   |
|           |            | 6       | 0         | 18.80   | 17.68   | 17.44   | 17.90   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26705CH | 26865CH | 27025CH |
| 3MHz      | QPSK       | 1       | 0         | 20.80   | 20.05   | 19.80   | 19.61   |
|           |            | 1       | 7         | 20.80   | 20.03   | 19.97   | 20.01   |
|           |            | 1       | 14        | 20.80   | 19.80   | 19.77   | 19.93   |
|           |            | 8       | 0         | 20.00   | 19.06   | 18.81   | 18.93   |
|           |            | 8       | 4         | 20.00   | 19.15   | 18.97   | 18.77   |
|           |            | 8       | 7         | 20.00   | 19.33   | 18.86   | 18.96   |
|           |            | 15      | 0         | 20.00   | 18.97   | 18.89   | 19.05   |
|           | 16QAM      | 1       | 0         | 19.80   | 18.88   | 18.75   | 18.93   |
|           |            | 1       | 7         | 19.80   | 19.27   | 18.11   | 19.65   |
|           |            | 1       | 14        | 19.80   | 18.14   | 19.26   | 18.52   |
|           |            | 8       | 0         | 18.80   | 17.97   | 17.57   | 17.86   |
|           |            | 8       | 4         | 18.80   | 17.77   | 17.59   | 17.95   |
|           |            | 8       | 7         | 18.80   | 17.55   | 17.49   | 18.21   |
|           |            | 15      | 0         | 18.80   | 17.68   | 17.70   | 18.25   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26715CH | 26865CH | 27015CH |
| 5MHz      | QPSK       | 1       | 0         | 20.80   | 20.04   | 19.65   | 19.69   |
|           |            | 1       | 13        | 20.80   | 20.13   | 19.93   | 19.88   |
|           |            | 1       | 24        | 20.80   | 20.32   | 20.38   | 20.42   |
|           |            | 12      | 0         | 20.00   | 19.04   | 18.76   | 18.78   |
|           |            | 12      | 6         | 20.00   | 19.14   | 18.92   | 18.80   |
|           |            | 12      | 13        | 20.00   | 19.10   | 18.81   | 18.69   |
|           |            | 25      | 0         | 20.00   | 18.82   | 19.03   | 18.88   |
|           | 16QAM      | 1       | 0         | 19.80   | 18.50   | 18.55   | 19.03   |
|           |            | 1       | 13        | 19.80   | 19.58   | 18.06   | 19.71   |
|           |            | 1       | 24        | 19.80   | 18.17   | 18.75   | 18.22   |
|           |            | 12      | 0         | 18.80   | 18.29   | 17.61   | 18.11   |
|           |            | 12      | 6         | 18.80   | 17.66   | 17.69   | 17.73   |
|           |            | 12      | 13        | 18.80   | 17.94   | 17.58   | 17.87   |
|           |            | 25      | 0         | 18.80   | 17.81   | 17.87   | 18.10   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26750CH | 26865CH | 26990CH |
| 10MHz     | QPSK       | 1       | 0         | 20.80   | 20.06   | 19.77   | 20.23   |
|           |            | 1       | 25        | 20.80   | 20.43   | 20.30   | 20.25   |
|           |            | 1       | 49        | 20.80   | 19.83   | 19.95   | 19.79   |
|           |            | 25      | 0         | 20.00   | 19.12   | 18.92   | 19.17   |
|           |            | 25      | 13        | 20.00   | 19.40   | 19.28   | 19.01   |
|           |            | 25      | 25        | 20.00   | 19.41   | 19.11   | 19.20   |
|           |            | 50      | 0         | 20.00   | 19.25   | 18.96   | 19.30   |
|           | 16QAM      | 1       | 0         | 19.80   | 18.93   | 18.91   | 18.75   |
|           |            | 1       | 25        | 19.80   | 19.37   | 18.28   | 19.72   |
|           |            | 1       | 49        | 19.80   | 18.12   | 18.83   | 18.34   |
|           |            | 25      | 0         | 18.80   | 18.06   | 17.91   | 17.98   |
|           |            | 25      | 13        | 18.80   | 17.61   | 17.55   | 17.83   |
|           |            | 25      | 25        | 18.80   | 17.90   | 17.88   | 18.26   |
|           |            | 50      | 0         | 18.80   | 17.60   | 17.48   | 17.90   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 26775CH      | 26865CH      | 26965CH      |
| 15MHz     | QPSK       | 1       | 0         | 20.80   | 19.40        | 19.38        | 19.39        |
|           |            | 1       | 38        | 20.80   | <b>20.05</b> | <b>19.71</b> | <b>20.24</b> |
|           |            | 1       | 74        | 20.80   | 19.05        | 19.47        | 19.11        |
|           |            | 36      | 0         | 20.00   | <b>19.10</b> | 18.55        | <b>18.82</b> |
|           |            | 36      | 18        | 20.00   | 18.74        | <b>18.58</b> | 18.79        |
|           |            | 36      | 39        | 20.00   | 18.54        | 18.57        | <b>18.95</b> |
|           |            | 75      | 0         | 20.00   | 18.55        | 18.55        | <b>18.91</b> |
|           | 16QAM      | 1       | 0         | 19.80   | 18.54        | 18.61        | 18.59        |
|           |            | 1       | 38        | 19.80   | 19.20        | 18.09        | 19.58        |
|           |            | 1       | 74        | 19.80   | 18.06        | 18.77        | 18.26        |
|           |            | 36      | 0         | 18.80   | 17.92        | 17.56        | 17.69        |
|           |            | 36      | 18        | 18.80   | 17.63        | 17.58        | 17.64        |
|           |            | 36      | 39        | 18.80   | 17.51        | 17.46        | 17.88        |
|           |            | 75      | 0         | 18.80   | 17.48        | 17.46        | 17.78        |

Table 28: Conducted power measurement results of LTE Band XXVI (After Synchronous transmission with WiFi station)

### 7.1.13 Conducted power measurements of LTE Band XXXVIII (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 37775CH | 38000CH | 38225CH |
| 5MHz      | QPSK       | 1       | 0         | 19.00   | 17.35   | 18.01   | 18.29   |
|           |            | 1       | 13        | 19.00   | 17.73   | 18.24   | 18.43   |
|           |            | 1       | 24        | 19.00   | 17.31   | 17.82   | 18.00   |
|           |            | 12      | 0         | 18.00   | 16.56   | 17.21   | 17.48   |
|           |            | 12      | 6         | 18.00   | 16.68   | 17.28   | 17.53   |
|           |            | 12      | 13        | 18.00   | 16.52   | 17.13   | 17.30   |
|           |            | 25      | 0         | 18.00   | 16.54   | 17.16   | 17.34   |
|           | 16QAM      | 1       | 0         | 18.20   | 16.65   | 17.43   | 17.70   |
|           |            | 1       | 13        | 18.20   | 17.06   | 17.67   | 17.84   |
|           |            | 1       | 24        | 18.20   | 16.64   | 17.25   | 17.38   |
|           |            | 12      | 0         | 17.00   | 15.52   | 16.28   | 16.52   |
|           |            | 12      | 6         | 17.00   | 15.66   | 16.36   | 16.58   |
|           |            | 12      | 13        | 17.00   | 15.57   | 16.21   | 16.27   |
|           |            | 25      | 0         | 17.00   | 15.53   | 16.24   | 16.24   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 37800CH | 38000CH | 38200CH |
| 10MHz     | QPSK       | 1       | 0         | 19.00   | 17.47   | 18.14   | 18.45   |
|           |            | 1       | 25        | 19.00   | 17.77   | 18.41   | 18.53   |
|           |            | 1       | 49        | 19.00   | 17.63   | 18.23   | 18.23   |
|           |            | 25      | 0         | 18.00   | 16.61   | 17.19   | 17.43   |
|           |            | 25      | 13        | 18.00   | 16.72   | 17.24   | 17.41   |
|           |            | 25      | 25        | 18.00   | 16.68   | 17.19   | 17.40   |
|           |            | 50      | 0         | 18.00   | 16.54   | 17.21   | 17.41   |
|           | 16QAM      | 1       | 0         | 18.20   | 16.64   | 17.72   | 17.96   |
|           |            | 1       | 25        | 18.20   | 17.03   | 17.91   | 17.93   |
|           |            | 1       | 49        | 18.20   | 16.85   | 17.82   | 17.68   |
|           |            | 25      | 0         | 17.00   | 15.50   | 16.24   | 16.44   |
|           |            | 25      | 13        | 17.00   | 15.68   | 16.29   | 16.41   |
|           |            | 25      | 25        | 17.00   | 15.63   | 16.24   | 16.38   |
|           |            | 50      | 0         | 17.00   | 15.52   | 16.28   | 16.38   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 37825CH | 38000CH | 38175CH |
| 15MHz     | QPSK       | 1       | 0         | 19.00   | 17.33   | 17.98   | 18.40   |
|           |            | 1       | 38        | 19.00   | 17.87   | 18.45   | 18.67   |
|           |            | 1       | 74        | 19.00   | 17.65   | 18.20   | 18.14   |
|           |            | 36      | 0         | 18.00   | 16.69   | 17.22   | 17.54   |
|           |            | 36      | 18        | 18.00   | 16.96   | 17.35   | 17.56   |
|           |            | 36      | 39        | 18.00   | 16.84   | 17.30   | 17.42   |
|           |            | 75      | 0         | 18.00   | 16.63   | 17.25   | 17.50   |
|           | 16QAM      | 1       | 0         | 18.20   | 16.43   | 17.28   | 17.61   |
|           |            | 1       | 38        | 18.20   | 17.01   | 17.76   | 17.94   |
|           |            | 1       | 74        | 18.20   | 16.70   | 17.48   | 17.41   |
|           |            | 36      | 0         | 17.00   | 15.49   | 16.18   | 16.46   |
|           |            | 36      | 18        | 17.00   | 15.84   | 16.31   | 16.50   |
|           |            | 36      | 39        | 17.00   | 15.82   | 16.25   | 16.36   |
|           |            | 75      | 0         | 17.00   | 15.49   | 16.21   | 16.36   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 37850CH | 38000CH | 38150CH |
| 20MHz     | QPSK       | 1       | 0         | 19.00   | 17.82   | 18.36   | 18.69   |
|           |            | 1       | 50        | 19.00   | 18.17   | 18.63   | 18.76   |
|           |            | 1       | 99        | 19.00   | 18.32   | 18.61   | 18.55   |
|           |            | 50      | 0         | 18.00   | 16.99   | 17.43   | 17.60   |
|           |            | 50      | 25        | 18.00   | 16.93   | 17.49   | 17.76   |
|           |            | 50      | 50        | 18.00   | 17.17   | 17.50   | 17.60   |
|           |            | 100     | 0         | 18.00   | 17.04   | 17.50   | 17.67   |
|           | 16QAM      | 1       | 0         | 18.20   | 17.21   | 17.54   | 17.85   |
|           |            | 1       | 50        | 18.20   | 17.55   | 17.82   | 17.97   |
|           |            | 1       | 99        | 18.20   | 17.67   | 17.84   | 17.72   |
|           |            | 50      | 0         | 17.00   | 15.89   | 16.35   | 16.61   |
|           |            | 50      | 25        | 17.00   | 15.84   | 16.42   | 16.73   |
|           |            | 50      | 50        | 17.00   | 16.13   | 16.43   | 16.58   |
|           |            | 100     | 0         | 17.00   | 15.93   | 16.42   | 16.56   |

Table 29: Conducted power measurement results of LTE Band XXXVIII (Full Power)

#### 7.1.14 Conducted power measurements of LTE Band XLI (Second Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 40265CH | 40740CH | 41215CH |
| 5MHz      | QPSK       | 1       | 0         | 19.00   | 17.60   | 18.21   | 18.25   |
|           |            | 1       | 13        | 19.00   | 17.67   | 18.28   | 18.41   |
|           |            | 1       | 24        | 19.00   | 17.24   | 17.82   | 17.99   |
|           |            | 12      | 0         | 18.00   | 16.72   | 17.25   | 17.40   |
|           |            | 12      | 6         | 18.00   | 16.74   | 17.23   | 17.39   |
|           |            | 12      | 13        | 18.00   | 16.52   | 17.00   | 17.18   |
|           |            | 25      | 0         | 18.00   | 16.57   | 17.11   | 17.21   |
|           | 16QAM      | 1       | 0         | 18.20   | 16.69   | 17.26   | 17.73   |
|           |            | 1       | 13        | 18.20   | 16.88   | 17.43   | 17.91   |
|           |            | 1       | 24        | 18.20   | 16.45   | 16.95   | 17.45   |
|           |            | 12      | 0         | 17.00   | 15.63   | 16.35   | 16.10   |
|           |            | 12      | 6         | 17.00   | 15.66   | 16.33   | 16.17   |
|           |            | 12      | 13        | 17.00   | 15.46   | 16.11   | 15.97   |
|           |            | 25      | 0         | 17.00   | 15.56   | 16.12   | 16.08   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 40290CH | 40740CH | 41190CH |
| 10MHz     | QPSK       | 1       | 0         | 19.00   | 17.69   | 18.31   | 18.35   |
|           |            | 1       | 25        | 19.00   | 17.73   | 18.30   | 18.43   |
|           |            | 1       | 49        | 19.00   | 17.43   | 18.00   | 18.23   |
|           |            | 25      | 0         | 18.00   | 16.63   | 17.21   | 17.26   |
|           |            | 25      | 13        | 18.00   | 16.64   | 17.18   | 17.26   |
|           |            | 25      | 25        | 18.00   | 16.60   | 17.08   | 17.17   |
|           |            | 50      | 0         | 18.00   | 16.76   | 17.14   | 17.18   |
|           | 16QAM      | 1       | 0         | 18.20   | 16.75   | 17.53   | 17.27   |
|           |            | 1       | 25        | 18.20   | 16.95   | 17.62   | 17.45   |
|           |            | 1       | 49        | 18.20   | 16.56   | 17.24   | 17.12   |
|           |            | 25      | 0         | 17.00   | 15.58   | 16.23   | 16.03   |
|           |            | 25      | 13        | 17.00   | 15.57   | 16.23   | 16.06   |
|           |            | 25      | 25        | 17.00   | 15.45   | 16.11   | 15.97   |
|           |            | 50      | 0         | 17.00   | 15.70   | 16.19   | 15.92   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 40315CH      | 40740CH      | 41165CH      |
| 15MHz     | QPSK       | 1       | 0         | 19.00   | 17.60        | 18.06        | 18.12        |
|           |            | 1       | 38        | 19.00   | 17.73        | 18.29        | 18.41        |
|           |            | 1       | 74        | 19.00   | 17.14        | 17.92        | 18.13        |
|           |            | 36      | 0         | 18.00   | 16.76        | 17.30        | 17.25        |
|           |            | 36      | 18        | 18.00   | 16.62        | 17.20        | 17.35        |
|           |            | 36      | 39        | 18.00   | 16.45        | 17.08        | 17.16        |
|           |            | 75      | 0         | 18.00   | 16.71        | 17.09        | 17.20        |
|           | 16QAM      | 1       | 0         | 18.20   | 16.77        | 17.31        | 17.02        |
|           |            | 1       | 38        | 18.20   | 17.10        | 17.68        | 17.50        |
|           |            | 1       | 74        | 18.20   | 16.42        | 17.19        | 17.02        |
|           |            | 36      | 0         | 17.00   | 15.68        | 16.09        | 16.11        |
|           |            | 36      | 18        | 17.00   | 15.52        | 16.10        | 16.24        |
|           |            | 36      | 39        | 17.00   | 15.32        | 15.94        | 16.01        |
|           |            | 75      | 0         | 17.00   | 15.50        | 16.02        | 16.02        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 40340CH      | 40740CH      | 41140CH      |
| 20MHz     | QPSK       | 1       | 0         | 19.00   | <b>17.94</b> | 18.35        | 18.05        |
|           |            | 1       | 50        | 19.00   | 17.58        | <b>18.41</b> | <b>18.44</b> |
|           |            | 1       | 99        | 19.00   | 17.60        | 18.29        | 18.26        |
|           |            | 50      | 0         | 18.00   | <b>16.79</b> | <b>17.41</b> | <b>17.44</b> |
|           |            | 50      | 25        | 18.00   | 16.54        | 17.35        | 17.34        |
|           |            | 50      | 50        | 18.00   | 16.54        | 17.33        | 17.17        |
|           |            | 100     | 0         | 18.00   | 16.78        | 17.31        | <b>17.33</b> |
|           | 16QAM      | 1       | 0         | 18.20   | 17.13        | 17.30        | 16.98        |
|           |            | 1       | 50        | 18.20   | 17.13        | 17.52        | 17.57        |
|           |            | 1       | 99        | 18.20   | 16.92        | 17.10        | 17.35        |
|           |            | 50      | 0         | 17.00   | 15.50        | 16.36        | 16.10        |
|           |            | 50      | 25        | 17.00   | 15.37        | 16.32        | 16.21        |
|           |            | 50      | 50        | 17.00   | 15.31        | 16.14        | 15.98        |
|           |            | 100     | 0         | 17.00   | 15.60        | 16.15        | 16.15        |

Table 30: Conducted power measurement results of LTE Band XLI (Full Power)

### 7.1.15 Conducted power measurements of GSM850 (Main Antenna)

| GSM850           |            | Burst-Averaged output Power (dBm) |       |       |       | Division Factors | Frame-Averaged output Power (dBm) |              |              |              |
|------------------|------------|-----------------------------------|-------|-------|-------|------------------|-----------------------------------|--------------|--------------|--------------|
|                  |            | Tune-up                           | 128CH | 190CH | 251CH |                  | Tune-up                           | 128CH        | 190CH        | 251CH        |
| GSM (CS)         |            | 33.50                             | 32.51 | 32.54 | 32.62 | -9.19            | 24.31                             | 23.32        | 23.35        | 23.43        |
| GPRS/EDGE (GMSK) | 1 Tx Slot  | 33.50                             | 32.48 | 32.58 | 32.59 | -9.19            | 24.31                             | 23.29        | 23.39        | 23.40        |
|                  | 2 Tx Slots | 31.00                             | 30.15 | 30.37 | 30.38 | -6.13            | <b>24.87</b>                      | <b>24.02</b> | <b>24.24</b> | <b>24.25</b> |
|                  | 3 Tx Slots | 29.00                             | 27.95 | 28.17 | 28.22 | -4.42            | 24.58                             | 23.53        | 23.75        | 23.80        |
|                  | 4 Tx Slots | 27.50                             | 26.53 | 26.75 | 26.86 | -3.18            | 24.32                             | 23.35        | 23.57        | 23.68        |
| EDGE (8PSK)      | 1 Tx Slot  | 27.50                             | 26.64 | 26.82 | 26.83 | -9.19            | 18.31                             | 17.45        | 17.63        | 17.64        |
|                  | 2 Tx Slots | 25.00                             | 24.26 | 24.34 | 24.36 | -6.13            | 18.87                             | 18.13        | 18.21        | 18.23        |
|                  | 3 Tx Slots | 23.00                             | 21.97 | 22.20 | 22.25 | -4.42            | 18.58                             | 17.55        | 17.78        | 17.83        |
|                  | 4 Tx Slots | 21.50                             | 19.80 | 19.86 | 19.87 | -3.18            | 18.32                             | 16.62        | 16.68        | 16.69        |

Table 31: Conducted power measurement results of GSM850 (Main Antenna)

Note:

- 1) The conducted power of GSM850 is measured with RMS detector.
- 2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- 3) Per KDB941225 D01v03, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

### 7.1.16 Conducted power measurements of GSM1900 (Main Antenna)

| GSM1900                 |            | Burst-Averaged output Power (dBm) |       |       |       | Division Factors | Frame-Averaged output Power (dBm) |              |              |              |
|-------------------------|------------|-----------------------------------|-------|-------|-------|------------------|-----------------------------------|--------------|--------------|--------------|
|                         |            | Tune-up                           | 512CH | 661CH | 810CH |                  | Tune-up                           | 512CH        | 661CH        | 810CH        |
| GSM (CS)                |            | 31.00                             | 30.03 | 30.01 | 29.99 | -9.19            | 21.81                             | 20.84        | 20.82        | 20.80        |
| GPRS/<br>EDGE<br>(GMSK) | 1 Tx Slot  | 31.00                             | 30.01 | 30.00 | 29.97 | -9.19            | 21.81                             | 20.82        | 20.81        | 20.78        |
|                         | 2 Tx Slots | 28.00                             | 27.63 | 27.32 | 27.29 | -6.13            | <b>21.87</b>                      | <b>21.50</b> | <b>21.19</b> | <b>21.16</b> |
|                         | 3 Tx Slots | 26.00                             | 25.40 | 25.35 | 25.26 | -4.42            | 21.58                             | 20.98        | 20.93        | 20.84        |
|                         | 4 Tx Slots | 24.50                             | 23.71 | 23.66 | 23.74 | -3.18            | 21.32                             | 20.53        | 20.48        | 20.56        |
| EDGE<br>(8PSK)          | 1 Tx Slot  | 26.50                             | 25.71 | 25.68 | 25.48 | -9.19            | 17.31                             | 16.52        | 16.49        | 16.29        |
|                         | 2 Tx Slots | 24.00                             | 23.34 | 23.29 | 23.23 | -6.13            | 17.87                             | 17.21        | 17.16        | 17.10        |
|                         | 3 Tx Slots | 22.00                             | 21.24 | 21.28 | 21.18 | -4.42            | 17.58                             | 16.82        | 16.86        | 16.76        |
|                         | 4 Tx Slots | 21.00                             | 19.71 | 20.02 | 19.89 | -3.18            | 17.82                             | 16.53        | 16.84        | 16.71        |

Table 32: Conducted power measurement results of GSM1900 (Main Antenna)

Note:

- 1) The conducted power of GSM1900 is measured with RMS detector.
- 2) Frame-averaged output power was calculated from the measured burst-averaged output power by converting the slot powers into linear units and calculating the energy over 8 timeslots.
- 3) Per KDB941225 D01v03, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

### 7.1.17 Conducted power measurements of UMTS Band II (Main Antenna)

| UMTS Band II |              | Tune-up | Conducted Power (dBm) |              |              |
|--------------|--------------|---------|-----------------------|--------------|--------------|
|              |              |         | 9262CH                | 9400CH       | 9538CH       |
| WCDMA        | 12.2kbps RMC | 23.60   | <b>23.12</b>          | <b>23.24</b> | <b>23.19</b> |
|              | 12.2kbps AMR | 23.60   | 23.14                 | 23.22        | 23.18        |
| HSDPA        | Subtest 1    | 23.60   | 22.45                 | 22.45        | 22.53        |
|              | Subtest 2    | 23.10   | 22.22                 | 22.28        | 22.31        |
|              | Subtest 3    | 22.60   | 21.47                 | 21.51        | 21.53        |
|              | Subtest 4    | 22.60   | 21.47                 | 21.50        | 21.51        |
| HSUPA        | Subtest 1    | 21.10   | 19.85                 | 20.27        | 19.65        |
|              | Subtest 2    | 20.10   | 19.01                 | 18.85        | 19.03        |
|              | Subtest 3    | 21.10   | 19.78                 | 19.51        | 19.45        |
|              | Subtest 4    | 21.10   | 19.91                 | 19.47        | 19.57        |
|              | Subtest 5    | 21.10   | 20.17                 | 19.81        | 19.85        |
| DC-HSDPA     | Subtest 1    | 23.60   | 22.43                 | 22.44        | 22.50        |
|              | Subtest 2    | 23.10   | 22.20                 | 22.27        | 22.28        |
|              | Subtest 3    | 22.60   | 21.45                 | 21.50        | 21.50        |
|              | Subtest 4    | 22.60   | 21.45                 | 21.49        | 21.48        |

Table 33: Conducted power measurement results of UMTS Band II (Full Power)

| UMTS Band II |              | Tune-up | Conducted Power (dBm) |              |              |
|--------------|--------------|---------|-----------------------|--------------|--------------|
|              |              |         | 9262CH                | 9400CH       | 9538CH       |
| WCDMA        | 12.2kbps RMC | 21.50   | <b>20.99</b>          | <b>20.94</b> | <b>20.98</b> |
|              | 12.2kbps AMR | 21.50   | 20.98                 | 20.92        | 20.97        |
| HSDPA        | Subtest 1    | 21.00   | 20.44                 | 20.46        | 20.42        |
|              | Subtest 2    | 21.00   | 20.25                 | 20.23        | 20.23        |
|              | Subtest 3    | 20.00   | 19.48                 | 19.45        | 19.47        |
|              | Subtest 4    | 20.00   | 19.48                 | 19.44        | 19.45        |
| HSUPA        | Subtest 1    | 19.00   | 17.83                 | 18.07        | 17.57        |
|              | Subtest 2    | 18.00   | 17.33                 | 17.07        | 17.20        |
|              | Subtest 3    | 18.50   | 17.74                 | 17.50        | 17.50        |
|              | Subtest 4    | 19.00   | 17.86                 | 17.99        | 17.75        |
|              | Subtest 5    | 19.00   | 18.13                 | 18.07        | 17.91        |
| DC-HSDPA     | Subtest 1    | 21.00   | 20.41                 | 20.45        | 20.41        |
|              | Subtest 2    | 21.00   | 20.22                 | 20.22        | 20.22        |
|              | Subtest 3    | 20.00   | 19.45                 | 19.44        | 19.46        |
|              | Subtest 4    | 20.00   | 19.45                 | 19.43        | 19.44        |

Table 34: Conducted power measurement results of UMTS Band II (Hotspot on)

Note: 1) The conducted power of UMTS Band II is measured with RMS detector.

2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).

3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

### 7.1.18 Conducted power measurements of UMTS Band IV (Main Antenna)

| UMTS Band IV |              | Tune-up | Conducted Power (dBm) |              |              |
|--------------|--------------|---------|-----------------------|--------------|--------------|
|              |              |         | 1312CH                | 1413CH       | 1513CH       |
| WCDMA        | 12.2kbps RMC | 23.60   | <b>22.77</b>          | <b>22.73</b> | <b>22.70</b> |
|              | 12.2kbps AMR | 23.60   | 22.76                 | 22.71        | 22.68        |
| HSDPA        | Subtest 1    | 23.00   | 22.22                 | 22.19        | 22.15        |
|              | Subtest 2    | 23.00   | 21.98                 | 21.98        | 21.92        |
|              | Subtest 3    | 22.00   | 21.25                 | 21.21        | 21.19        |
|              | Subtest 4    | 22.00   | 21.24                 | 21.22        | 21.17        |
| HSUPA        | Subtest 1    | 21.00   | 19.85                 | 19.43        | 19.77        |
|              | Subtest 2    | 20.00   | 18.96                 | 18.77        | 18.97        |
|              | Subtest 3    | 20.50   | 19.66                 | 19.36        | 19.59        |
|              | Subtest 4    | 20.50   | 19.63                 | 19.24        | 19.55        |
|              | Subtest 5    | 21.00   | 20.02                 | 19.64        | 19.98        |
| DC-HSDPA     | Subtest 1    | 23.00   | 22.19                 | 22.18        | 22.14        |
|              | Subtest 2    | 23.00   | 21.95                 | 21.97        | 21.91        |
|              | Subtest 3    | 22.00   | 21.22                 | 21.20        | 21.18        |
|              | Subtest 4    | 22.00   | 21.21                 | 21.21        | 21.16        |

Table 35: Conducted power measurement results of UMTS Band IV (Main Antenna)

Note: 1) The conducted power of UMTS Band IV is measured with RMS detector.

2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).

3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

### 7.1.19 Conducted power measurements of UMTS Band V (Main Antenna)

| UMTS Band V |              | Tune-up | Conducted Power (dBm) |              |              |
|-------------|--------------|---------|-----------------------|--------------|--------------|
|             |              |         | 4132CH                | 4182CH       | 4233CH       |
| WCDMA       | 12.2kbps RMC | 24.00   | <b>23.26</b>          | <b>23.23</b> | <b>23.22</b> |
|             | 12.2kbps AMR | 24.00   | 23.24                 | 23.22        | 23.23        |
| HSDPA       | Subtest 1    | 23.50   | 22.72                 | 22.69        | 22.69        |
|             | Subtest 2    | 23.00   | 22.48                 | 22.47        | 22.47        |
|             | Subtest 3    | 22.50   | 21.70                 | 21.66        | 21.69        |
|             | Subtest 4    | 22.50   | 21.69                 | 21.64        | 21.68        |
| HSUPA       | Subtest 1    | 21.00   | 20.11                 | 20.02        | 20.12        |
|             | Subtest 2    | 20.00   | 19.41                 | 19.31        | 19.32        |
|             | Subtest 3    | 21.00   | 19.92                 | 19.85        | 19.98        |
|             | Subtest 4    | 21.00   | 19.93                 | 19.87        | 19.82        |
|             | Subtest 5    | 21.00   | 20.15                 | 20.19        | 20.32        |
| DC-HSDPA    | Subtest 1    | 23.50   | 22.69                 | 22.68        | 22.70        |
|             | Subtest 2    | 23.00   | 22.45                 | 22.46        | 22.48        |
|             | Subtest 3    | 22.50   | 21.67                 | 21.65        | 21.70        |
|             | Subtest 4    | 22.50   | 21.66                 | 21.63        | 21.69        |

Table 36: Conducted power measurement results of UMTS Band V (Main Antenna)

Note:

- 1) The conducted power of UMTS Band V is measured with RMS detector.
- 2) The bolded 12.2kbps RMC mode was selected for SAR testing(the primary mode).
- 3) Per KDB941225 D01v03, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest *reported* SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

### 7.1.20 Conducted power measurements of LTE Band II (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18607CH | 18900CH | 19193CH |
| 1.4MHz    | QPSK       | 1       | 0         | 24.00   | 22.86   | 23.72   | 23.23   |
|           |            | 1       | 3         | 24.00   | 22.88   | 23.70   | 22.96   |
|           |            | 1       | 5         | 24.00   | 22.79   | 23.51   | 22.63   |
|           |            | 3       | 0         | 24.00   | 22.81   | 23.61   | 23.17   |
|           |            | 3       | 2         | 24.00   | 22.86   | 23.59   | 22.98   |
|           |            | 3       | 3         | 24.00   | 22.81   | 23.50   | 22.75   |
|           |            | 6       | 0         | 23.00   | 21.32   | 21.89   | 21.86   |
|           | 16QAM      | 1       | 0         | 24.00   | 22.13   | 22.86   | 22.68   |
|           |            | 1       | 3         | 24.00   | 22.16   | 22.79   | 22.42   |
|           |            | 1       | 5         | 24.00   | 22.02   | 22.62   | 22.22   |
|           |            | 3       | 0         | 24.00   | 22.08   | 22.67   | 22.48   |
|           |            | 3       | 2         | 24.00   | 22.05   | 22.57   | 22.33   |
|           |            | 3       | 3         | 24.00   | 22.13   | 22.53   | 22.12   |
|           |            | 6       | 0         | 23.00   | 21.37   | 22.00   | 21.85   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18615CH | 18900CH | 19185CH |
| 3MHz      | QPSK       | 1       | 0         | 24.00   | 22.75   | 23.46   | 23.76   |
|           |            | 1       | 7         | 24.00   | 22.98   | 23.61   | 23.47   |
|           |            | 1       | 14        | 24.00   | 22.71   | 23.19   | 22.53   |
|           |            | 8       | 0         | 23.00   | 21.33   | 21.95   | 22.35   |
|           |            | 8       | 4         | 23.00   | 21.33   | 21.84   | 22.14   |
|           |            | 8       | 7         | 23.00   | 21.28   | 21.74   | 21.84   |
|           |            | 15      | 0         | 23.00   | 21.28   | 21.77   | 22.07   |
|           | 16QAM      | 1       | 0         | 24.00   | 22.11   | 22.62   | 23.02   |
|           |            | 1       | 7         | 24.00   | 22.43   | 22.52   | 22.84   |
|           |            | 1       | 14        | 24.00   | 22.16   | 22.16   | 22.14   |
|           |            | 8       | 0         | 23.00   | 21.29   | 22.01   | 22.31   |
|           |            | 8       | 4         | 23.00   | 21.28   | 21.90   | 22.07   |
|           |            | 8       | 7         | 23.00   | 21.21   | 21.80   | 21.78   |
|           |            | 15      | 0         | 23.00   | 21.20   | 21.71   | 21.99   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18625CH | 18900CH | 19175CH |
| 5MHz      | QPSK       | 1       | 0         | 24.00   | 22.83   | 23.58   | 23.95   |
|           |            | 1       | 13        | 24.00   | 23.11   | 23.71   | 23.84   |
|           |            | 1       | 24        | 24.00   | 22.80   | 23.19   | 22.54   |
|           |            | 12      | 0         | 23.00   | 21.37   | 22.19   | 22.55   |
|           |            | 12      | 6         | 23.00   | 21.54   | 22.13   | 22.51   |
|           |            | 12      | 13        | 23.00   | 21.40   | 21.74   | 22.02   |
|           |            | 25      | 0         | 23.00   | 21.39   | 21.89   | 22.16   |
|           | 16QAM      | 1       | 0         | 24.00   | 22.04   | 22.98   | 23.45   |
|           |            | 1       | 13        | 24.00   | 22.34   | 22.97   | 23.39   |
|           |            | 1       | 24        | 24.00   | 22.05   | 22.43   | 22.17   |
|           |            | 12      | 0         | 23.00   | 21.29   | 22.16   | 22.54   |
|           |            | 12      | 6         | 23.00   | 21.43   | 22.10   | 22.47   |
|           |            | 12      | 13        | 23.00   | 21.33   | 21.72   | 22.00   |
|           |            | 25      | 0         | 23.00   | 21.18   | 21.89   | 22.11   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18650CH | 18900CH | 19150CH |
| 10MHz     | QPSK       | 1       | 0         | 24.00   | 22.84   | 23.48   | 23.7    |
|           |            | 1       | 25        | 24.00   | 23.13   | 23.61   | 23.54   |
|           |            | 1       | 49        | 24.00   | 23.22   | 23.16   | 22.80   |
|           |            | 25      | 0         | 23.00   | 21.49   | 21.97   | 22.55   |
|           |            | 25      | 13        | 23.00   | 21.47   | 21.77   | 22.55   |
|           |            | 25      | 25        | 23.00   | 21.59   | 21.62   | 22.11   |
|           |            | 50      | 0         | 23.00   | 21.58   | 21.48   | 22.18   |
|           | 16QAM      | 1       | 0         | 24.00   | 22.34   | 22.67   | 22.93   |
|           |            | 1       | 25        | 24.00   | 22.36   | 22.69   | 23.56   |
|           |            | 1       | 49        | 24.00   | 22.45   | 22.17   | 22.34   |
|           |            | 25      | 0         | 23.00   | 21.40   | 21.99   | 22.55   |
|           |            | 25      | 13        | 23.00   | 21.38   | 21.78   | 22.51   |
|           |            | 25      | 25        | 23.00   | 21.50   | 21.61   | 22.04   |
|           |            | 50      | 0         | 23.00   | 21.48   | 21.43   | 22.19   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 18675CH      | 18900CH      | 19125CH      |
| 15MHz     | QPSK       | 1       | 0         | 24.00   | 22.75        | 23.59        | 23.35        |
|           |            | 1       | 38        | 24.00   | 23.52        | 23.79        | 23.88        |
|           |            | 1       | 74        | 24.00   | 23.20        | 23.05        | 22.72        |
|           |            | 36      | 0         | 23.00   | 21.41        | 22.13        | 22.48        |
|           |            | 36      | 18        | 23.00   | 21.78        | 21.88        | 22.62        |
|           |            | 36      | 39        | 23.00   | 21.99        | 21.71        | 22.31        |
|           |            | 75      | 0         | 23.00   | 21.76        | 22.17        | 22.18        |
|           | 16QAM      | 1       | 0         | 24.00   | 22.12        | 22.89        | 22.67        |
|           |            | 1       | 38        | 24.00   | 22.73        | 22.99        | 23.31        |
|           |            | 1       | 74        | 24.00   | 22.64        | 22.28        | 22.14        |
|           |            | 36      | 0         | 23.00   | 21.39        | 22.11        | 22.48        |
|           |            | 36      | 18        | 23.00   | 21.76        | 21.85        | 22.61        |
|           |            | 36      | 39        | 23.00   | 21.98        | 21.67        | 22.23        |
|           |            | 75      | 0         | 23.00   | 21.72        | 22.13        | 22.14        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 18700CH      | 18900CH      | 19100CH      |
| 20MHz     | QPSK       | 1       | 0         | 24.00   | 22.57        | 23.19        | 23.03        |
|           |            | 1       | 50        | 24.00   | <b>23.56</b> | <b>23.74</b> | <b>23.88</b> |
|           |            | 1       | 99        | 24.00   | 22.74        | 22.89        | 22.75        |
|           |            | 50      | 0         | 23.00   | 21.46        | 22.18        | 22.05        |
|           |            | 50      | 25        | 23.00   | 22.22        | 21.68        | <b>22.62</b> |
|           |            | 50      | 50        | 23.00   | 22.08        | 21.38        | 21.93        |
|           |            | 100     | 0         | 23.00   | 21.61        | 21.93        | <b>21.99</b> |
|           | 16QAM      | 1       | 0         | 24.00   | 22.12        | 22.82        | 22.34        |
|           |            | 1       | 50        | 24.00   | 22.80        | 23.12        | 23.22        |
|           |            | 1       | 99        | 24.00   | 22.21        | 22.39        | 22.12        |
|           |            | 50      | 0         | 23.00   | 21.34        | 22.18        | 21.94        |
|           |            | 50      | 25        | 23.00   | 22.10        | 21.65        | 22.53        |
|           |            | 50      | 50        | 23.00   | 21.97        | 21.35        | 21.90        |
|           |            | 100     | 0         | 23.00   | 21.47        | 21.87        | 21.95        |

Table 37: Conducted power measurement results of LTE Band II (Full Power)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18607CH | 18900CH | 19193CH |
| 1.4MHz    | QPSK       | 1       | 0         | 22.50   | 20.78   | 21.51   | 21.80   |
|           |            | 1       | 3         | 22.50   | 20.90   | 21.47   | 21.65   |
|           |            | 1       | 5         | 22.50   | 20.80   | 21.36   | 21.31   |
|           |            | 3       | 0         | 22.50   | 20.81   | 21.43   | 21.68   |
|           |            | 3       | 2         | 22.50   | 20.85   | 21.49   | 21.60   |
|           |            | 3       | 3         | 22.50   | 20.79   | 21.42   | 21.42   |
|           |            | 6       | 0         | 22.50   | 20.85   | 21.45   | 21.59   |
|           | 16QAM      | 1       | 0         | 22.50   | 21.03   | 21.62   | 22.16   |
|           |            | 1       | 3         | 22.50   | 21.09   | 21.52   | 21.97   |
|           |            | 1       | 5         | 22.50   | 21.05   | 21.59   | 21.64   |
|           |            | 3       | 0         | 22.50   | 20.86   | 21.68   | 21.63   |
|           |            | 3       | 2         | 22.50   | 20.91   | 21.58   | 21.53   |
|           |            | 3       | 3         | 22.50   | 20.85   | 21.42   | 21.42   |
|           |            | 6       | 0         | 22.50   | 20.81   | 21.39   | 21.49   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18615CH | 18900CH | 19185CH |
| 3MHz      | QPSK       | 1       | 0         | 22.50   | 20.74   | 21.43   | 21.95   |
|           |            | 1       | 7         | 22.50   | 20.98   | 21.52   | 21.87   |
|           |            | 1       | 14        | 22.50   | 20.73   | 21.10   | 21.15   |
|           |            | 8       | 0         | 22.50   | 20.87   | 21.58   | 22.00   |
|           |            | 8       | 4         | 22.50   | 20.89   | 21.47   | 21.78   |
|           |            | 8       | 7         | 22.50   | 20.84   | 21.38   | 21.51   |
|           |            | 15      | 0         | 22.50   | 20.85   | 21.41   | 21.71   |
|           | 16QAM      | 1       | 0         | 22.50   | 20.83   | 21.59   | 21.96   |
|           |            | 1       | 7         | 22.50   | 21.11   | 21.63   | 21.87   |
|           |            | 1       | 14        | 22.50   | 20.80   | 21.36   | 21.10   |
|           |            | 8       | 0         | 22.50   | 20.87   | 21.50   | 22.02   |
|           |            | 8       | 4         | 22.50   | 20.89   | 21.38   | 21.77   |
|           |            | 8       | 7         | 22.50   | 20.84   | 21.29   | 21.52   |
|           |            | 15      | 0         | 22.50   | 20.76   | 21.31   | 21.64   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 18625CH | 18900CH | 19175CH |
| 5MHz      | QPSK       | 1       | 0         | 22.50   | 20.78   | 21.52   | 22.11   |
|           |            | 1       | 13        | 22.50   | 21.08   | 21.56   | 22.12   |
|           |            | 1       | 24        | 22.50   | 20.80   | 20.97   | 21.14   |
|           |            | 12      | 0         | 22.50   | 20.90   | 21.65   | 22.10   |
|           |            | 12      | 6         | 22.50   | 21.10   | 21.66   | 22.10   |
|           |            | 12      | 13        | 22.50   | 21.06   | 21.29   | 21.66   |
|           |            | 25      | 0         | 22.50   | 20.96   | 21.42   | 21.75   |
|           | 16QAM      | 1       | 0         | 22.50   | 21.05   | 21.88   | 22.43   |
|           |            | 1       | 13        | 22.50   | 21.33   | 21.89   | 22.39   |
|           |            | 1       | 24        | 22.50   | 21.02   | 21.30   | 21.50   |
|           |            | 12      | 0         | 22.50   | 20.89   | 21.61   | 22.12   |
|           |            | 12      | 6         | 22.50   | 21.02   | 21.60   | 22.11   |
|           |            | 12      | 13        | 22.50   | 20.96   | 21.22   | 21.65   |
|           |            | 25      | 0         | 22.50   | 20.85   | 21.34   | 21.74   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 18650CH | 18900CH | 19150CH |
| 10MHz     | QPSK       | 1       | 0         | 22.50   | 20.90   | 21.80   | 21.96   |
|           |            | 1       | 25        | 22.50   | 21.18   | 21.66   | 22.32   |
|           |            | 1       | 49        | 22.50   | 21.39   | 21.24   | 21.48   |
|           |            | 25      | 0         | 22.50   | 21.15   | 21.63   | 22.21   |
|           |            | 25      | 13        | 22.50   | 21.06   | 21.49   | 22.12   |
|           |            | 25      | 25        | 22.50   | 21.18   | 21.24   | 21.76   |
|           |            | 50      | 0         | 22.50   | 21.24   | 21.22   | 21.84   |
|           | 16QAM      | 1       | 0         | 22.50   | 20.99   | 21.87   | 22.09   |
|           |            | 1       | 25        | 22.50   | 21.32   | 21.76   | 22.48   |
|           |            | 1       | 49        | 22.50   | 21.43   | 21.36   | 21.50   |
|           |            | 25      | 0         | 22.50   | 21.07   | 21.56   | 22.17   |
|           |            | 25      | 13        | 22.50   | 20.98   | 21.41   | 22.06   |
|           |            | 25      | 25        | 22.50   | 21.10   | 21.25   | 21.73   |
|           |            | 50      | 0         | 22.50   | 21.14   | 21.14   | 21.80   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 18675CH      | 18900CH      | 19125CH      |
| 15MHz     | QPSK       | 1       | 0         | 22.50   | 20.77        | 21.62        | 21.65        |
|           |            | 1       | 38        | 22.50   | 21.39        | 21.54        | 22.23        |
|           |            | 1       | 74        | 22.50   | 21.40        | 20.95        | 21.30        |
|           |            | 36      | 0         | 22.50   | 20.97        | 21.53        | 22.17        |
|           |            | 36      | 18        | 22.50   | 21.25        | 21.30        | 22.31        |
|           |            | 36      | 39        | 22.50   | 21.49        | 21.19        | 21.94        |
|           |            | 75      | 0         | 22.50   | 21.26        | 21.62        | 21.82        |
|           | 16QAM      | 1       | 0         | 22.50   | 21.05        | 21.92        | 21.87        |
|           |            | 1       | 38        | 22.50   | 21.65        | 21.79        | 22.47        |
|           |            | 1       | 74        | 22.50   | 21.67        | 21.29        | 21.58        |
|           |            | 36      | 0         | 22.50   | 20.95        | 21.47        | 22.08        |
|           |            | 36      | 18        | 22.50   | 21.23        | 21.24        | 22.22        |
|           |            | 36      | 39        | 22.50   | 21.44        | 21.13        | 21.90        |
|           |            | 75      | 0         | 22.50   | 21.21        | 21.57        | 21.74        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 18700CH      | 18900CH      | 19100CH      |
| 20MHz     | QPSK       | 1       | 0         | 22.50   | 20.75        | <b>21.65</b> | 21.43        |
|           |            | 1       | 50        | 22.50   | <b>21.51</b> | 21.56        | <b>22.14</b> |
|           |            | 1       | 99        | 22.50   | 21.27        | 21.20        | 21.45        |
|           |            | 50      | 0         | 22.50   | 21.08        | <b>21.68</b> | 21.71        |
|           |            | 50      | 25        | 22.50   | <b>21.71</b> | 21.18        | <b>22.23</b> |
|           |            | 50      | 50        | 22.50   | 21.63        | 20.86        | 21.60        |
|           |            | 100     | 0         | 22.50   | 21.21        | 21.43        | 21.67        |
|           | 16QAM      | 1       | 0         | 22.50   | 21.10        | 21.82        | 21.69        |
|           |            | 1       | 50        | 22.50   | 21.85        | 21.64        | <b>22.34</b> |
|           |            | 1       | 99        | 22.50   | 21.63        | 21.42        | 21.65        |
|           |            | 50      | 0         | 22.50   | 21.07        | 21.64        | 21.65        |
|           |            | 50      | 25        | 22.50   | 21.71        | 21.14        | 22.18        |
|           |            | 50      | 50        | 22.50   | 21.63        | 20.94        | 21.56        |
|           |            | 100     | 0         | 22.50   | 21.17        | 21.34        | 21.61        |

Table 38: Conducted power measurement results of LTE Band II (Hotspot on)

### 7.1.21 Conducted power measurements of LTE Band IV (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19957CH | 20175CH | 20393CH |
| 1.4MHz    | QPSK       | 1       | 0         | 24.00   | 23.02   | 22.79   | 23.48   |
|           |            | 1       | 3         | 24.00   | 23.08   | 22.71   | 23.40   |
|           |            | 1       | 5         | 24.00   | 22.93   | 22.46   | 23.12   |
|           |            | 3       | 0         | 24.00   | 23.00   | 22.68   | 23.43   |
|           |            | 3       | 2         | 24.00   | 23.01   | 22.58   | 23.34   |
|           |            | 3       | 3         | 24.00   | 22.94   | 22.49   | 23.19   |
|           |            | 6       | 0         | 23.00   | 22.02   | 21.70   | 22.42   |
|           | 16QAM      | 1       | 0         | 23.50   | 22.12   | 22.07   | 22.89   |
|           |            | 1       | 3         | 23.50   | 22.12   | 22.03   | 22.66   |
|           |            | 1       | 5         | 23.50   | 22.05   | 21.82   | 22.58   |
|           |            | 3       | 0         | 23.50   | 22.06   | 21.82   | 22.53   |
|           |            | 3       | 2         | 23.50   | 21.98   | 21.75   | 22.49   |
|           |            | 3       | 3         | 23.50   | 21.99   | 21.73   | 22.35   |
|           |            | 6       | 0         | 22.50   | 21.44   | 21.33   | 22.00   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 19965CH | 20175CH | 20385CH |
| 3MHz      | QPSK       | 1       | 0         | 24.00   | 22.79   | 22.62   | 23.39   |
|           |            | 1       | 7         | 24.00   | 22.94   | 22.74   | 23.41   |
|           |            | 1       | 14        | 24.00   | 22.77   | 22.41   | 23.02   |
|           |            | 8       | 0         | 23.00   | 21.98   | 21.78   | 22.52   |
|           |            | 8       | 4         | 23.00   | 21.96   | 21.74   | 22.48   |
|           |            | 8       | 7         | 23.00   | 21.93   | 21.62   | 22.37   |
|           |            | 15      | 0         | 23.00   | 21.92   | 21.71   | 22.39   |
|           | 16QAM      | 1       | 0         | 23.50   | 22.06   | 21.83   | 22.62   |
|           |            | 1       | 7         | 23.50   | 22.21   | 22.10   | 22.70   |
|           |            | 1       | 14        | 23.50   | 22.07   | 21.64   | 22.22   |
|           |            | 8       | 0         | 22.50   | 21.47   | 21.21   | 22.20   |
|           |            | 8       | 4         | 22.50   | 21.44   | 21.16   | 22.16   |
|           |            | 8       | 7         | 22.50   | 21.42   | 21.04   | 22.05   |
|           |            | 15      | 0         | 22.50   | 21.35   | 21.13   | 22.04   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 19975CH | 20175CH | 20375CH |
| 5MHz      | QPSK       | 1       | 0         | 24.00   | 22.95   | 22.66   | 23.40   |
|           |            | 1       | 13        | 24.00   | 23.18   | 22.75   | 23.41   |
|           |            | 1       | 24        | 24.00   | 22.91   | 22.38   | 23.03   |
|           |            | 12      | 0         | 23.00   | 22.09   | 21.81   | 22.61   |
|           |            | 12      | 6         | 23.00   | 22.18   | 21.83   | 22.69   |
|           |            | 12      | 13        | 23.00   | 22.07   | 21.64   | 22.46   |
|           |            | 25      | 0         | 23.00   | 22.19   | 21.72   | 22.36   |
|           | 16QAM      | 1       | 0         | 23.50   | 22.17   | 22.04   | 22.75   |
|           |            | 1       | 13        | 23.50   | 22.41   | 22.19   | 23.04   |
|           |            | 1       | 24        | 23.50   | 22.16   | 21.81   | 22.41   |
|           |            | 12      | 0         | 22.50   | 21.59   | 21.25   | 22.08   |
|           |            | 12      | 6         | 22.50   | 21.70   | 21.28   | 22.20   |
|           |            | 12      | 13        | 22.50   | 21.61   | 21.08   | 21.94   |
|           |            | 25      | 0         | 22.50   | 21.57   | 21.18   | 21.84   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20000CH | 20175CH | 20350CH |
| 10MHz     | QPSK       | 1       | 0         | 24.00   | 22.82   | 22.75   | 23.20   |
|           |            | 1       | 25        | 24.00   | 23.26   | 22.79   | 23.47   |
|           |            | 1       | 49        | 24.00   | 22.96   | 22.67   | 23.13   |
|           |            | 25      | 0         | 23.00   | 22.13   | 21.87   | 22.33   |
|           |            | 25      | 13        | 23.00   | 22.23   | 21.76   | 22.42   |
|           |            | 25      | 25        | 23.00   | 22.16   | 21.78   | 22.36   |
|           |            | 50      | 0         | 23.00   | 22.09   | 21.76   | 22.28   |
|           | 16QAM      | 1       | 0         | 23.50   | 22.19   | 21.86   | 22.52   |
|           |            | 1       | 25        | 23.50   | 22.65   | 21.99   | 22.91   |
|           |            | 1       | 49        | 23.50   | 22.25   | 21.77   | 22.51   |
|           |            | 25      | 0         | 22.50   | 21.65   | 21.34   | 21.83   |
|           |            | 25      | 13        | 22.50   | 21.77   | 21.22   | 21.92   |
|           |            | 25      | 25        | 22.50   | 21.68   | 21.26   | 21.90   |
|           |            | 50      | 0         | 22.50   | 21.62   | 21.23   | 21.77   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel      |
|-----------|------------|---------|-----------|---------|---------|---------|--------------|
|           |            |         |           |         | 20025CH | 20175CH | 20325CH      |
| 15MHz     | QPSK       | 1       | 0         | 24.00   | 22.97   | 22.79   | 22.97        |
|           |            | 1       | 38        | 24.00   | 23.30   | 22.75   | 23.56        |
|           |            | 1       | 74        | 24.00   | 22.86   | 22.81   | 23.28        |
|           |            | 36      | 0         | 23.00   | 22.20   | 21.92   | 22.28        |
|           |            | 36      | 18        | 23.00   | 22.26   | 22.00   | 22.39        |
|           |            | 36      | 39        | 23.00   | 22.14   | 21.93   | 22.36        |
|           |            | 75      | 0         | 23.00   | 22.18   | 21.93   | 22.40        |
|           | 16QAM      | 1       | 0         | 23.50   | 22.23   | 22.07   | 22.45        |
|           |            | 1       | 38        | 23.50   | 22.53   | 22.17   | 23.18        |
|           |            | 1       | 74        | 23.50   | 22.07   | 22.12   | 22.72        |
|           |            | 36      | 0         | 22.50   | 21.66   | 21.45   | 21.80        |
|           |            | 36      | 18        | 22.50   | 21.72   | 21.48   | 21.83        |
|           |            | 36      | 39        | 22.50   | 21.61   | 21.52   | 21.83        |
|           |            | 75      | 0         | 22.50   | 21.60   | 21.46   | 21.82        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel      |
|           |            |         |           |         | 20050CH | 20175CH | 20300CH      |
| 20MHz     | QPSK       | 1       | 0         | 24.00   | 22.96   | 22.83   | 22.91        |
|           |            | 1       | 50        | 24.00   | 23.31   | 22.84   | <b>23.49</b> |
|           |            | 1       | 99        | 24.00   | 22.62   | 22.73   | 23.43        |
|           |            | 50      | 0         | 23.00   | 22.20   | 22.02   | 22.13        |
|           |            | 50      | 25        | 23.00   | 22.15   | 21.93   | <b>22.45</b> |
|           |            | 50      | 50        | 23.00   | 21.97   | 21.92   | 22.35        |
|           |            | 100     | 0         | 23.00   | 22.07   | 22.00   | 22.29        |
|           | 16QAM      | 1       | 0         | 23.50   | 22.38   | 22.29   | 22.17        |
|           |            | 1       | 50        | 23.50   | 22.76   | 22.33   | 22.69        |
|           |            | 1       | 99        | 23.50   | 22.16   | 22.37   | 22.57        |
|           |            | 50      | 0         | 22.50   | 21.63   | 21.49   | 21.67        |
|           |            | 50      | 25        | 22.50   | 21.59   | 21.39   | 21.97        |
|           |            | 50      | 50        | 22.50   | 21.46   | 21.43   | 21.81        |
|           |            | 100     | 0         | 22.50   | 21.56   | 21.46   | 21.74        |

Table 39: Conducted power measurement results of LTE Band IV(Full Power)

### 7.1.22 Conducted power measurements of LTE Band V(Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20407CH | 20525CH | 20643CH |
| 1.4MHz    | QPSK       | 1       | 0         | 23.50   | 22.55   | 22.18   | 22.19   |
|           |            | 1       | 3         | 23.50   | 22.69   | 22.20   | 22.31   |
|           |            | 1       | 5         | 23.50   | 22.57   | 22.13   | 22.32   |
|           |            | 3       | 0         | 23.50   | 22.66   | 22.13   | 22.26   |
|           |            | 3       | 2         | 23.50   | 22.72   | 22.14   | 22.32   |
|           |            | 3       | 3         | 23.50   | 22.67   | 22.12   | 22.28   |
|           |            | 6       | 0         | 22.50   | 21.63   | 21.12   | 21.38   |
|           | 16QAM      | 1       | 0         | 22.50   | 21.28   | 20.66   | 21.16   |
|           |            | 1       | 3         | 22.50   | 21.39   | 20.67   | 21.29   |
|           |            | 1       | 5         | 22.50   | 21.32   | 20.65   | 21.32   |
|           |            | 3       | 0         | 22.50   | 21.12   | 20.73   | 20.94   |
|           |            | 3       | 2         | 22.50   | 21.19   | 20.66   | 20.99   |
|           |            | 3       | 3         | 22.50   | 21.17   | 20.65   | 20.96   |
|           |            | 6       | 0         | 22.00   | 21.13   | 20.45   | 20.86   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20415CH | 20525CH | 20635CH |
| 3MHz      | QPSK       | 1       | 0         | 23.50   | 22.45   | 22.07   | 22.34   |
|           |            | 1       | 7         | 23.50   | 22.74   | 22.16   | 22.44   |
|           |            | 1       | 14        | 23.50   | 22.38   | 22.07   | 22.24   |
|           |            | 8       | 0         | 22.50   | 21.61   | 21.14   | 21.47   |
|           |            | 8       | 4         | 22.50   | 21.65   | 21.14   | 21.35   |
|           |            | 8       | 7         | 22.50   | 21.52   | 21.11   | 21.27   |
|           |            | 15      | 0         | 22.50   | 21.56   | 21.10   | 21.45   |
|           | 16QAM      | 1       | 0         | 22.50   | 20.85   | 20.61   | 20.76   |
|           |            | 1       | 7         | 22.50   | 21.33   | 20.82   | 20.99   |
|           |            | 1       | 14        | 22.50   | 20.88   | 20.61   | 20.82   |
|           |            | 8       | 0         | 22.00   | 21.08   | 20.50   | 20.92   |
|           |            | 8       | 4         | 22.00   | 21.13   | 20.49   | 20.89   |
|           |            | 8       | 7         | 22.00   | 21.01   | 20.44   | 20.83   |
|           |            | 15      | 0         | 22.00   | 21.03   | 20.45   | 20.93   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20425CH      | 20525CH      | 20625CH      |
| 5MHz      | QPSK       | 1       | 0         | 23.50   | 22.33        | 21.92        | 22.54        |
|           |            | 1       | 13        | 23.50   | 22.56        | 22.13        | 22.42        |
|           |            | 1       | 24        | 23.50   | 22.16        | 21.84        | 22.11        |
|           |            | 12      | 0         | 22.50   | 21.50        | 21.17        | 21.66        |
|           |            | 12      | 6         | 22.50   | 21.55        | 21.21        | 21.63        |
|           |            | 12      | 13        | 22.50   | 21.40        | 21.11        | 21.25        |
|           |            | 25      | 0         | 22.50   | 21.36        | 21.04        | 21.58        |
|           | 16QAM      | 1       | 0         | 22.50   | 21.02        | 20.64        | 21.28        |
|           |            | 1       | 13        | 22.50   | 21.32        | 20.85        | 21.26        |
|           |            | 1       | 24        | 22.50   | 20.88        | 20.58        | 20.93        |
|           |            | 12      | 0         | 22.00   | 20.98        | 20.59        | 21.06        |
|           |            | 12      | 6         | 22.00   | 21.06        | 20.58        | 21.08        |
|           |            | 12      | 13        | 22.00   | 20.87        | 20.51        | 20.68        |
|           |            | 25      | 0         | 22.00   | 20.83        | 20.40        | 21.05        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20450CH      | 20525CH      | 20600CH      |
| 10MHz     | QPSK       | 1       | 0         | 23.50   | 22.69        | 22.25        | 22.45        |
|           |            | 1       | 25        | 23.50   | <b>22.78</b> | <b>22.51</b> | <b>22.91</b> |
|           |            | 1       | 49        | 23.50   | 22.14        | 22.44        | 22.24        |
|           |            | 25      | 0         | 22.50   | 21.90        | 21.52        | 21.78        |
|           |            | 25      | 13        | 22.50   | 21.88        | 21.49        | <b>22.11</b> |
|           |            | 25      | 25        | 22.50   | 21.48        | 21.47        | 21.97        |
|           |            | 50      | 0         | 22.50   | 21.72        | 21.40        | 22.02        |
|           | 16QAM      | 1       | 0         | 22.50   | 21.57        | 20.90        | 21.19        |
|           |            | 1       | 25        | 22.50   | 21.72        | 21.19        | 21.80        |
|           |            | 1       | 49        | 22.50   | 20.98        | 20.94        | 21.07        |
|           |            | 25      | 0         | 22.00   | 21.28        | 20.95        | 21.22        |
|           |            | 25      | 13        | 22.00   | 21.33        | 20.92        | 21.51        |
|           |            | 25      | 25        | 22.00   | 20.94        | 20.81        | 21.38        |
|           |            | 50      | 0         | 22.00   | 21.12        | 20.76        | 21.48        |

Table 40: Conducted power measurement results of LTE Band V(Full Power)

### 7.1.23 Conducted power measurements of LTE Band VII (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20775CH | 21100CH | 21425CH |
| 5MHz      | QPSK       | 1       | 0         | 23.50   | 22.73   | 22.88   | 22.24   |
|           |            | 1       | 13        | 23.50   | 23.13   | 23.24   | 22.83   |
|           |            | 1       | 24        | 23.50   | 22.53   | 22.94   | 22.78   |
|           |            | 12      | 0         | 23.00   | 22.17   | 22.37   | 21.92   |
|           |            | 12      | 6         | 23.00   | 22.23   | 22.52   | 22.03   |
|           |            | 12      | 13        | 23.00   | 22.08   | 22.39   | 22.09   |
|           |            | 25      | 0         | 23.00   | 22.08   | 22.36   | 22.01   |
|           | 16QAM      | 1       | 0         | 23.00   | 22.14   | 22.46   | 21.34   |
|           |            | 1       | 13        | 23.00   | 22.64   | 22.68   | 22.08   |
|           |            | 1       | 24        | 23.00   | 21.95   | 22.50   | 21.87   |
|           |            | 12      | 0         | 22.00   | 21.28   | 21.68   | 20.75   |
|           |            | 12      | 6         | 22.00   | 21.37   | 21.75   | 20.87   |
|           |            | 12      | 13        | 22.00   | 21.23   | 21.76   | 20.91   |
|           |            | 25      | 0         | 22.00   | 21.14   | 21.60   | 20.83   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20800CH | 21100CH | 21400CH |
| 10MHz     | QPSK       | 1       | 0         | 23.50   | 22.80   | 22.88   | 21.62   |
|           |            | 1       | 25        | 23.50   | 22.99   | 23.28   | 22.08   |
|           |            | 1       | 49        | 23.50   | 22.45   | 23.25   | 22.46   |
|           |            | 25      | 0         | 23.00   | 22.38   | 22.48   | 21.27   |
|           |            | 25      | 13        | 23.00   | 22.25   | 22.60   | 21.35   |
|           |            | 25      | 25        | 23.00   | 22.04   | 22.69   | 21.58   |
|           |            | 50      | 0         | 23.00   | 22.02   | 22.59   | 21.47   |
|           | 16QAM      | 1       | 0         | 23.00   | 22.20   | 21.74   | 21.30   |
|           |            | 1       | 25        | 23.00   | 22.53   | 22.32   | 21.84   |
|           |            | 1       | 49        | 23.00   | 21.85   | 22.14   | 22.00   |
|           |            | 25      | 0         | 22.00   | 21.30   | 20.98   | 20.36   |
|           |            | 25      | 13        | 22.00   | 21.19   | 21.15   | 20.56   |
|           |            | 25      | 25        | 22.00   | 21.19   | 21.37   | 20.84   |
|           |            | 50      | 0         | 22.00   | 20.91   | 21.16   | 20.71   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20825CH      | 21100CH      | 21375CH      |
| 15MHz     | QPSK       | 1       | 0         | 23.50   | 22.70        | 22.04        | 21.88        |
|           |            | 1       | 38        | 23.50   | 22.94        | 22.96        | 21.97        |
|           |            | 1       | 74        | 23.50   | 22.11        | 23.04        | 22.60        |
|           |            | 36      | 0         | 23.00   | 22.19        | 21.88        | 21.31        |
|           |            | 36      | 18        | 23.00   | 22.21        | 22.14        | 21.24        |
|           |            | 36      | 39        | 23.00   | 21.81        | 22.27        | 21.44        |
|           |            | 75      | 0         | 23.00   | 21.92        | 22.18        | 21.63        |
|           | 16QAM      | 1       | 0         | 23.00   | 21.95        | 21.52        | 21.42        |
|           |            | 1       | 38        | 23.00   | 22.32        | 22.29        | 21.67        |
|           |            | 1       | 74        | 23.00   | 21.56        | 22.30        | 22.17        |
|           |            | 36      | 0         | 22.00   | 21.11        | 20.92        | 20.46        |
|           |            | 36      | 18        | 22.00   | 21.46        | 21.21        | 20.31        |
|           |            | 36      | 39        | 22.00   | 20.99        | 21.45        | 20.64        |
|           |            | 75      | 0         | 22.00   | 20.87        | 21.22        | 20.85        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20850CH      | 21100CH      | 21350CH      |
| 20MHz     | QPSK       | 1       | 0         | 23.50   | <b>23.00</b> | 22.22        | 22.77        |
|           |            | 1       | 50        | 23.50   | 22.77        | 22.98        | 22.14        |
|           |            | 1       | 99        | 23.50   | 22.28        | <b>23.33</b> | <b>22.96</b> |
|           |            | 50      | 0         | 23.00   | 22.41        | 21.63        | 22.07        |
|           |            | 50      | 25        | 23.00   | 22.02        | 22.18        | 21.72        |
|           |            | 50      | 50        | 23.00   | 21.40        | <b>22.71</b> | 21.39        |
|           |            | 100     | 0         | 23.00   | 21.84        | <b>22.34</b> | 22.08        |
|           | 16QAM      | 1       | 0         | 23.00   | 22.36        | 21.73        | 22.21        |
|           |            | 1       | 50        | 23.00   | 22.26        | 22.38        | 21.78        |
|           |            | 1       | 99        | 23.00   | 21.66        | 22.78        | 22.34        |
|           |            | 50      | 0         | 22.00   | 21.30        | 20.69        | 21.31        |
|           |            | 50      | 25        | 22.00   | 21.32        | 21.24        | 20.83        |
|           |            | 50      | 50        | 22.00   | 20.55        | 21.91        | 20.63        |
|           |            | 100     | 0         | 22.00   | 21.09        | 21.37        | 21.19        |

Table 41: Conducted power measurement results of LTE Band VII (Full Power)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20775CH | 21100CH | 21425CH |
| 5MHz      | QPSK       | 1       | 0         | 19.00   | 17.60   | 17.61   | 17.56   |
|           |            | 1       | 13        | 19.00   | 18.03   | 17.77   | 17.72   |
|           |            | 1       | 24        | 19.00   | 17.65   | 17.42   | 17.51   |
|           |            | 12      | 0         | 18.00   | 16.86   | 16.59   | 16.66   |
|           |            | 12      | 6         | 18.00   | 17.02   | 16.71   | 16.68   |
|           |            | 12      | 13        | 18.00   | 16.93   | 16.55   | 16.58   |
|           |            | 25      | 0         | 18.00   | 16.84   | 16.56   | 16.60   |
|           | 16QAM      | 1       | 0         | 18.00   | 17.01   | 16.82   | 16.78   |
|           |            | 1       | 13        | 18.00   | 17.55   | 16.94   | 16.97   |
|           |            | 1       | 24        | 18.00   | 17.12   | 16.61   | 16.85   |
|           |            | 12      | 0         | 17.00   | 15.82   | 15.56   | 15.78   |
|           |            | 12      | 6         | 17.00   | 15.98   | 15.61   | 15.78   |
|           |            | 12      | 13        | 17.00   | 15.97   | 15.44   | 15.64   |
|           |            | 25      | 0         | 17.00   | 15.75   | 15.51   | 15.68   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20800CH | 21100CH | 21400CH |
| 10MHz     | QPSK       | 1       | 0         | 19.00   | 17.67   | 17.66   | 17.51   |
|           |            | 1       | 25        | 19.00   | 18.12   | 17.85   | 17.75   |
|           |            | 1       | 49        | 19.00   | 17.88   | 17.73   | 17.68   |
|           |            | 25      | 0         | 18.00   | 17.19   | 16.69   | 16.58   |
|           |            | 25      | 13        | 18.00   | 17.11   | 16.65   | 16.55   |
|           |            | 25      | 25        | 18.00   | 16.95   | 16.70   | 16.61   |
|           |            | 50      | 0         | 18.00   | 16.82   | 16.63   | 16.67   |
|           | 16QAM      | 1       | 0         | 18.00   | 17.00   | 16.69   | 16.82   |
|           |            | 1       | 25        | 18.00   | 17.38   | 16.80   | 16.99   |
|           |            | 1       | 49        | 18.00   | 16.98   | 16.72   | 16.97   |
|           |            | 25      | 0         | 17.00   | 16.03   | 15.59   | 15.71   |
|           |            | 25      | 13        | 17.00   | 16.01   | 15.57   | 15.60   |
|           |            | 25      | 25        | 17.00   | 16.07   | 15.61   | 15.64   |
|           |            | 50      | 0         | 17.00   | 15.72   | 15.52   | 15.73   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20825CH | 21100CH | 21375CH |
| 15MHz     | QPSK       | 1       | 0         | 19.00   | 17.52   | 17.30   | 17.43   |
|           |            | 1       | 38        | 19.00   | 18.14   | 17.78   | 17.67   |
|           |            | 1       | 74        | 19.00   | 17.63   | 17.63   | 17.49   |
|           |            | 36      | 0         | 18.00   | 17.00   | 16.68   | 16.64   |
|           |            | 36      | 18        | 18.00   | 17.18   | 16.72   | 16.50   |
|           |            | 36      | 39        | 18.00   | 16.97   | 16.73   | 16.60   |
|           |            | 75      | 0         | 18.00   | 16.63   | 16.74   | 16.96   |
|           | 16QAM      | 1       | 0         | 18.00   | 16.93   | 16.67   | 16.76   |
|           |            | 1       | 38        | 18.00   | 17.44   | 17.01   | 16.83   |
|           |            | 1       | 74        | 18.00   | 16.98   | 16.86   | 16.74   |
|           |            | 36      | 0         | 17.00   | 15.86   | 15.58   | 15.68   |
|           |            | 36      | 18        | 17.00   | 16.29   | 15.60   | 15.65   |
|           |            | 36      | 39        | 17.00   | 15.93   | 15.79   | 15.60   |
|           |            | 75      | 0         | 17.00   | 15.73   | 15.59   | 16.01   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20850CH | 21100CH | 21350CH |
| 20MHz     | QPSK       | 1       | 0         | 19.00   | 17.85   | 17.69   | 17.88   |
|           |            | 1       | 50        | 19.00   | 17.95   | 17.81   | 18.08   |
|           |            | 1       | 99        | 19.00   | 18.00   | 18.11   | 17.85   |
|           |            | 50      | 0         | 18.00   | 17.11   | 16.48   | 17.25   |
|           |            | 50      | 25        | 18.00   | 17.16   | 16.74   | 17.31   |
|           |            | 50      | 50        | 18.00   | 16.65   | 17.35   | 16.59   |
|           |            | 100     | 0         | 18.00   | 16.83   | 16.91   | 17.39   |
|           | 16QAM      | 1       | 0         | 18.00   | 17.51   | 17.07   | 17.27   |
|           |            | 1       | 50        | 18.00   | 17.65   | 17.06   | 16.94   |
|           |            | 1       | 99        | 18.00   | 17.34   | 17.36   | 17.06   |
|           |            | 50      | 0         | 17.00   | 16.28   | 15.41   | 16.44   |
|           |            | 50      | 25        | 17.00   | 16.20   | 15.68   | 16.19   |
|           |            | 50      | 50        | 17.00   | 15.56   | 16.17   | 15.64   |
|           |            | 100     | 0         | 17.00   | 15.98   | 15.84   | 16.51   |

Table 42: Conducted power measurement results of LTE Band VII (Sensor on)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20775CH | 21100CH | 21425CH |
| 5MHz      | QPSK       | 1       | 0         | 23.00   | 21.84   | 21.75   | 21.04   |
|           |            | 1       | 13        | 23.00   | 21.54   | 22.18   | 21.77   |
|           |            | 1       | 24        | 23.00   | 21.81   | 21.74   | 21.48   |
|           |            | 12      | 0         | 23.00   | 22.26   | 22.16   | 21.60   |
|           |            | 12      | 6         | 23.00   | 22.32   | 22.23   | 21.74   |
|           |            | 12      | 13        | 23.00   | 22.26   | 22.10   | 21.80   |
|           |            | 25      | 0         | 23.00   | 22.18   | 22.07   | 21.68   |
|           | 16QAM      | 1       | 0         | 23.00   | 22.09   | 22.09   | 21.40   |
|           |            | 1       | 13        | 23.00   | 22.41   | 22.31   | 22.06   |
|           |            | 1       | 24        | 23.00   | 21.84   | 22.11   | 21.81   |
|           |            | 12      | 0         | 23.00   | 21.30   | 21.15   | 21.54   |
|           |            | 12      | 6         | 23.00   | 21.38   | 21.31   | 21.64   |
|           |            | 12      | 13        | 23.00   | 21.18   | 21.16   | 21.18   |
|           |            | 25      | 0         | 23.00   | 21.25   | 21.20   | 21.28   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20800CH | 21100CH | 21400CH |
| 10MHz     | QPSK       | 1       | 0         | 23.00   | 22.04   | 21.63   | 21.13   |
|           |            | 1       | 25        | 23.00   | 22.44   | 22.29   | 21.50   |
|           |            | 1       | 49        | 23.00   | 21.71   | 22.04   | 21.57   |
|           |            | 25      | 0         | 23.00   | 22.49   | 22.06   | 21.40   |
|           |            | 25      | 13        | 23.00   | 22.35   | 22.19   | 21.42   |
|           |            | 25      | 25        | 23.00   | 22.11   | 22.24   | 21.56   |
|           |            | 50      | 0         | 23.00   | 22.10   | 22.15   | 21.51   |
|           | 16QAM      | 1       | 0         | 23.00   | 22.12   | 21.75   | 21.19   |
|           |            | 1       | 25        | 23.00   | 22.45   | 22.41   | 21.81   |
|           |            | 1       | 49        | 23.00   | 21.81   | 22.09   | 21.88   |
|           |            | 25      | 0         | 23.00   | 21.35   | 21.08   | 21.01   |
|           |            | 25      | 13        | 23.00   | 21.24   | 21.26   | 21.02   |
|           |            | 25      | 25        | 23.00   | 21.31   | 21.46   | 21.13   |
|           |            | 50      | 0         | 23.00   | 21.08   | 21.28   | 21.06   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20825CH | 21100CH | 21375CH |
| 15MHz     | QPSK       | 1       | 0         | 23.00   | 21.81   | 21.18   | 21.03   |
|           |            | 1       | 38        | 23.00   | 22.21   | 22.22   | 21.39   |
|           |            | 1       | 74        | 23.00   | 21.36   | 22.07   | 21.60   |
|           |            | 36      | 0         | 23.00   | 22.21   | 21.94   | 21.38   |
|           |            | 36      | 18        | 23.00   | 22.27   | 22.25   | 21.32   |
|           |            | 36      | 39        | 23.00   | 21.84   | 22.29   | 21.45   |
|           |            | 75      | 0         | 23.00   | 21.76   | 22.23   | 21.62   |
|           | 16QAM      | 1       | 0         | 23.00   | 21.81   | 21.48   | 21.22   |
|           |            | 1       | 38        | 23.00   | 22.31   | 22.43   | 21.50   |
|           |            | 1       | 74        | 23.00   | 21.54   | 22.33   | 21.83   |
|           |            | 36      | 0         | 23.00   | 21.09   | 21.34   | 21.11   |
|           |            | 36      | 18        | 23.00   | 21.47   | 21.27   | 21.31   |
|           |            | 36      | 39        | 23.00   | 21.04   | 21.46   | 21.35   |
|           |            | 75      | 0         | 23.00   | 21.06   | 21.23   | 21.08   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20850CH | 21100CH | 21350CH |
| 20MHz     | QPSK       | 1       | 0         | 23.00   | 22.00   | 21.34   | 21.79   |
|           |            | 1       | 50        | 23.00   | 22.00   | 22.31   | 21.53   |
|           |            | 1       | 99        | 23.00   | 21.35   | 22.42   | 21.83   |
|           |            | 50      | 0         | 23.00   | 22.21   | 21.67   | 22.08   |
|           |            | 50      | 25        | 23.00   | 22.03   | 22.30   | 21.82   |
|           |            | 50      | 50        | 23.00   | 21.40   | 22.74   | 21.58   |
|           |            | 100     | 0         | 23.00   | 21.74   | 22.37   | 22.04   |
|           | 16QAM      | 1       | 0         | 23.00   | 22.29   | 21.67   | 21.86   |
|           |            | 1       | 50        | 23.00   | 22.35   | 22.34   | 21.64   |
|           |            | 1       | 99        | 23.00   | 21.68   | 22.14   | 21.98   |
|           |            | 50      | 0         | 23.00   | 21.40   | 21.08   | 21.26   |
|           |            | 50      | 25        | 23.00   | 21.18   | 21.33   | 21.15   |
|           |            | 50      | 50        | 23.00   | 21.21   | 21.89   | 21.22   |
|           |            | 100     | 0         | 23.00   | 21.07   | 21.44   | 21.13   |

Table 43: Conducted power measurement results of LTE Band VII (Hotspot on)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 20775CH | 21100CH | 21425CH |
| 5MHz      | QPSK       | 1       | 0         | 18.50   | 17.17   | 17.33   | 17.14   |
|           |            | 1       | 13        | 18.50   | 17.76   | 17.40   | 17.38   |
|           |            | 1       | 24        | 18.50   | 17.45   | 17.12   | 17.04   |
|           |            | 12      | 0         | 18.50   | 17.52   | 17.37   | 17.40   |
|           |            | 12      | 6         | 18.50   | 17.70   | 17.40   | 17.34   |
|           |            | 12      | 13        | 18.50   | 17.59   | 17.29   | 17.24   |
|           |            | 25      | 0         | 18.50   | 17.53   | 17.31   | 17.25   |
|           | 16QAM      | 1       | 0         | 18.50   | 17.54   | 17.52   | 17.44   |
|           |            | 1       | 13        | 18.50   | 18.10   | 17.57   | 17.65   |
|           |            | 1       | 24        | 18.50   | 17.67   | 17.31   | 17.32   |
|           |            | 12      | 0         | 18.50   | 16.76   | 16.67   | 16.71   |
|           |            | 12      | 6         | 18.50   | 16.98   | 16.67   | 16.72   |
|           |            | 12      | 13        | 18.50   | 16.90   | 16.60   | 16.56   |
|           |            | 25      | 0         | 18.50   | 16.79   | 16.57   | 16.56   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 20800CH | 21100CH | 21400CH |
| 10MHz     | QPSK       | 1       | 0         | 18.50   | 17.37   | 17.44   | 17.25   |
|           |            | 1       | 25        | 18.50   | 17.79   | 17.44   | 17.34   |
|           |            | 1       | 49        | 18.50   | 17.56   | 17.32   | 17.24   |
|           |            | 25      | 0         | 18.50   | 17.79   | 17.45   | 17.32   |
|           |            | 25      | 13        | 18.50   | 17.67   | 17.38   | 17.28   |
|           |            | 25      | 25        | 18.50   | 17.82   | 17.44   | 17.15   |
|           |            | 50      | 0         | 18.50   | 17.47   | 17.34   | 17.20   |
|           | 16QAM      | 1       | 0         | 18.50   | 17.71   | 17.68   | 17.53   |
|           |            | 1       | 25        | 18.50   | 18.03   | 17.70   | 17.60   |
|           |            | 1       | 49        | 18.50   | 17.86   | 17.65   | 17.34   |
|           |            | 25      | 0         | 18.50   | 16.61   | 16.62   | 16.63   |
|           |            | 25      | 13        | 18.50   | 16.53   | 16.62   | 16.65   |
|           |            | 25      | 25        | 18.50   | 16.71   | 16.63   | 16.52   |
|           |            | 50      | 0         | 18.50   | 16.66   | 16.58   | 16.57   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 20825CH      | 21100CH      | 21375CH      |
| 15MHz     | QPSK       | 1       | 0         | 18.50   | 17.21        | 17.12        | 17.23        |
|           |            | 1       | 38        | 18.50   | 17.87        | 17.40        | 17.39        |
|           |            | 1       | 74        | 18.50   | 17.35        | 17.08        | 17.03        |
|           |            | 36      | 0         | 18.50   | 17.65        | 17.44        | 17.35        |
|           |            | 36      | 18        | 18.50   | 17.87        | 17.40        | 17.27        |
|           |            | 36      | 39        | 18.50   | 17.73        | 17.36        | 17.16        |
|           |            | 75      | 0         | 18.50   | 17.47        | 17.33        | 17.53        |
|           | 16QAM      | 1       | 0         | 18.50   | 17.40        | 17.40        | 17.39        |
|           |            | 1       | 38        | 18.50   | 18.07        | 17.66        | 17.55        |
|           |            | 1       | 74        | 18.50   | 17.59        | 17.36        | 17.21        |
|           |            | 36      | 0         | 18.50   | 16.56        | 16.55        | 16.74        |
|           |            | 36      | 18        | 18.50   | 16.85        | 16.67        | 16.67        |
|           |            | 36      | 39        | 18.50   | 16.74        | 16.65        | 16.58        |
|           |            | 75      | 0         | 18.50   | 16.57        | 16.57        | 16.54        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 20850CH      | 21100CH      | 21350CH      |
| 20MHz     | QPSK       | 1       | 0         | 18.50   | <b>17.50</b> | 17.59        | 17.23        |
|           |            | 1       | 50        | 18.50   | 17.49        | 17.41        | 17.26        |
|           |            | 1       | 99        | 18.50   | 17.42        | <b>17.63</b> | <b>17.42</b> |
|           |            | 50      | 0         | 18.50   | <b>17.91</b> | 17.18        | <b>17.81</b> |
|           |            | 50      | 25        | 18.50   | 17.88        | 17.46        | 17.76        |
|           |            | 50      | 50        | 18.50   | 17.24        | <b>17.94</b> | 17.22        |
|           |            | 100     | 0         | 18.50   | 17.53        | <b>17.44</b> | 17.92        |
|           | 16QAM      | 1       | 0         | 18.50   | 18.01        | 17.83        | 17.83        |
|           |            | 1       | 50        | 18.50   | 18.39        | 17.67        | 17.78        |
|           |            | 1       | 99        | 18.50   | 18.15        | 17.59        | 17.54        |
|           |            | 50      | 0         | 18.50   | 16.82        | 16.54        | 17.19        |
|           |            | 50      | 25        | 18.50   | 16.88        | 16.51        | 16.80        |
|           |            | 50      | 50        | 18.50   | 16.57        | 16.63        | 16.53        |
|           |            | 100     | 0         | 18.50   | 16.52        | 16.65        | 16.98        |

Table 44: Conducted power measurement results of LTE Band VII (Hotspot on+sensor on)

#### 7.1.24 Conducted power measurements of LTE Band XII (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 23017CH | 23095CH | 23173CH |
| 1.4MHz    | QPSK       | 1       | 0         | 23.50   | 22.02   | 22.12   | 22.72   |
|           |            | 1       | 3         | 23.50   | 22.13   | 22.16   | 22.51   |
|           |            | 1       | 5         | 23.50   | 22.29   | 21.98   | 22.12   |
|           |            | 3       | 0         | 23.50   | 22.17   | 22.04   | 22.57   |
|           |            | 3       | 2         | 23.50   | 22.20   | 22.01   | 22.51   |
|           |            | 3       | 3         | 23.50   | 22.22   | 21.95   | 22.38   |
|           |            | 6       | 0         | 22.50   | 20.75   | 20.66   | 21.18   |
|           | 16QAM      | 1       | 0         | 23.00   | 21.65   | 21.80   | 22.44   |
|           |            | 1       | 3         | 23.00   | 21.88   | 21.59   | 22.41   |
|           |            | 1       | 5         | 23.00   | 21.96   | 21.64   | 22.04   |
|           |            | 3       | 0         | 23.00   | 21.67   | 21.65   | 22.23   |
|           |            | 3       | 2         | 23.00   | 21.79   | 21.56   | 22.09   |
|           |            | 3       | 3         | 23.00   | 21.78   | 21.49   | 21.99   |
|           |            | 6       | 0         | 21.50   | 20.30   | 20.14   | 20.62   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 23025CH | 23095CH | 23165CH |
| 3MHz      | QPSK       | 1       | 0         | 23.50   | 21.87   | 22.06   | 22.57   |
|           |            | 1       | 7         | 23.50   | 22.56   | 22.08   | 22.76   |
|           |            | 1       | 14        | 23.50   | 22.45   | 21.78   | 22.06   |
|           |            | 8       | 0         | 22.50   | 20.77   | 20.81   | 21.30   |
|           |            | 8       | 4         | 22.50   | 21.11   | 20.68   | 21.32   |
|           |            | 8       | 7         | 22.50   | 20.86   | 20.58   | 21.00   |
|           |            | 15      | 0         | 22.50   | 20.79   | 20.66   | 21.15   |
|           | 16QAM      | 1       | 0         | 23.00   | 21.41   | 21.52   | 22.15   |
|           |            | 1       | 7         | 23.00   | 22.01   | 21.50   | 22.26   |
|           |            | 1       | 14        | 23.00   | 21.92   | 21.59   | 21.69   |
|           |            | 8       | 0         | 21.50   | 20.31   | 20.33   | 20.77   |
|           |            | 8       | 4         | 21.50   | 20.62   | 20.21   | 20.80   |
|           |            | 8       | 7         | 21.50   | 20.37   | 20.07   | 20.50   |
|           |            | 15      | 0         | 21.50   | 20.17   | 20.10   | 20.63   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 23035CH      | 23095CH      | 23155CH      |
| 5MHz      | QPSK       | 1       | 0         | 23.50   | 21.88        | 22.04        | 22.11        |
|           |            | 1       | 13        | 23.50   | 22.68        | 21.99        | 22.84        |
|           |            | 1       | 24        | 23.50   | 22.86        | 22.76        | 22.81        |
|           |            | 12      | 0         | 22.50   | 20.86        | 20.74        | 21.41        |
|           |            | 12      | 6         | 22.50   | 21.15        | 20.70        | 21.60        |
|           |            | 12      | 13        | 22.50   | 20.94        | 20.52        | 21.07        |
|           |            | 25      | 0         | 22.50   | 20.86        | 20.76        | 21.21        |
|           | 16QAM      | 1       | 0         | 23.00   | 21.47        | 21.91        | 22.05        |
|           |            | 1       | 13        | 23.00   | 22.28        | 21.71        | 22.72        |
|           |            | 1       | 24        | 23.00   | 22.65        | 22.53        | 22.72        |
|           |            | 12      | 0         | 21.50   | 20.28        | 20.20        | 20.87        |
|           |            | 12      | 6         | 21.50   | 20.62        | 20.18        | 21.07        |
|           |            | 12      | 13        | 21.50   | 20.47        | 20.02        | 20.58        |
|           |            | 25      | 0         | 21.50   | 20.32        | 20.26        | 20.76        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 23060CH      | 23095CH      | 23130CH      |
| 10MHz     | QPSK       | 1       | 0         | 23.50   | 22.30        | <b>22.82</b> | 22.33        |
|           |            | 1       | 25        | 23.50   | <b>22.80</b> | 22.61        | <b>22.88</b> |
|           |            | 1       | 49        | 23.50   | 21.94        | 22.54        | 22.47        |
|           |            | 25      | 0         | 22.50   | 21.48        | 21.27        | 21.05        |
|           |            | 25      | 13        | 22.50   | 21.34        | 21.22        | <b>21.51</b> |
|           |            | 25      | 25        | 22.50   | 21.09        | 21.00        | 21.34        |
|           |            | 50      | 0         | 22.50   | 21.22        | 21.07        | 21.23        |
|           | 16QAM      | 1       | 0         | 23.00   | 22.10        | 22.40        | 22.21        |
|           |            | 1       | 25        | 23.00   | 22.71        | 22.21        | 22.67        |
|           |            | 1       | 49        | 23.00   | 21.74        | 21.98        | 22.28        |
|           |            | 25      | 0         | 21.50   | 20.88        | 20.82        | 20.51        |
|           |            | 25      | 13        | 21.50   | 20.79        | 20.67        | 20.98        |
|           |            | 25      | 25        | 21.50   | 20.65        | 20.50        | 20.84        |
|           |            | 50      | 0         | 21.50   | 20.73        | 20.54        | 20.80        |

Table 45: Conducted power measurement results of LTE Band XII (Full Power)

### 7.1.25 Conducted power measurements of LTE Band XVII (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel  |
|-----------|------------|---------|-----------|---------|---------|---------|----------|
|           |            |         |           |         | 23755CH | 23790CH | 23825 CH |
| 5MHz      | QPSK       | 1       | 0         | 23.50   | 22.64   | 22.29   | 22.52    |
|           |            | 1       | 13        | 23.50   | 22.58   | 22.70   | 23.49    |
|           |            | 1       | 24        | 23.50   | 23.09   | 23.47   | 23.34    |
|           |            | 12      | 0         | 22.50   | 21.24   | 21.17   | 21.61    |
|           |            | 12      | 6         | 22.50   | 21.15   | 21.36   | 21.86    |
|           |            | 12      | 13        | 22.50   | 21.03   | 21.15   | 21.72    |
|           |            | 25      | 0         | 22.50   | 21.23   | 21.23   | 21.70    |
|           | 16QAM      | 1       | 0         | 23.00   | 21.72   | 21.45   | 21.87    |
|           |            | 1       | 13        | 23.00   | 21.77   | 21.95   | 22.77    |
|           |            | 1       | 24        | 23.00   | 22.22   | 22.83   | 22.75    |
|           |            | 12      | 0         | 21.50   | 20.63   | 20.59   | 21.04    |
|           |            | 12      | 6         | 21.50   | 20.60   | 20.79   | 21.36    |
|           |            | 12      | 13        | 21.50   | 20.48   | 20.61   | 21.23    |
|           |            | 25      | 0         | 21.50   | 20.65   | 20.69   | 21.23    |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel  |
|           |            |         |           |         | 23780CH | 23790CH | 23800CH  |
| 10MHz     | QPSK       | 1       | 0         | 23.50   | 22.93   | 22.83   | 22.78    |
|           |            | 1       | 25        | 23.50   | 23.01   | 23.27   | 23.39    |
|           |            | 1       | 49        | 23.50   | 23.37   | 23.40   | 23.03    |
|           |            | 25      | 0         | 22.50   | 21.62   | 21.50   | 21.63    |
|           |            | 25      | 13        | 22.50   | 21.63   | 21.76   | 22.11    |
|           |            | 25      | 25        | 22.50   | 21.86   | 22.04   | 22.22    |
|           |            | 50      | 0         | 22.50   | 21.66   | 21.83   | 22.11    |
|           | 16QAM      | 1       | 0         | 23.00   | 22.10   | 22.11   | 21.99    |
|           |            | 1       | 25        | 23.00   | 22.13   | 22.43   | 22.50    |
|           |            | 1       | 49        | 23.00   | 22.44   | 22.62   | 22.26    |
|           |            | 25      | 0         | 21.50   | 21.04   | 20.96   | 21.11    |
|           |            | 25      | 13        | 21.50   | 21.10   | 21.21   | 21.35    |
|           |            | 25      | 25        | 21.50   | 21.30   | 21.46   | 21.44    |
|           |            | 50      | 0         | 21.50   | 21.12   | 21.25   | 21.37    |

Table 46: Conducted power measurement results of LTE Band XVII (Full Power)

### 7.1.26 Conducted power measurements of LTE Band XXVI (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26697CH | 26865CH | 27033CH |
| 1.4MHz    | QPSK       | 1       | 0         | 23.40   | 21.46   | 21.97   | 21.57   |
|           |            | 1       | 3         | 23.40   | 22.44   | 22.21   | 22.65   |
|           |            | 1       | 5         | 23.40   | 21.54   | 21.52   | 21.45   |
|           |            | 3       | 0         | 23.40   | 21.50   | 21.43   | 21.49   |
|           |            | 3       | 2         | 23.40   | 21.57   | 21.45   | 21.43   |
|           |            | 3       | 3         | 23.40   | 21.55   | 21.51   | 21.61   |
|           |            | 6       | 0         | 22.40   | 21.03   | 21.04   | 21.37   |
|           | 16QAM      | 1       | 0         | 22.40   | 20.84   | 21.05   | 20.69   |
|           |            | 1       | 3         | 22.40   | 21.84   | 21.24   | 21.82   |
|           |            | 1       | 5         | 22.40   | 20.82   | 20.51   | 20.61   |
|           |            | 3       | 0         | 22.40   | 21.14   | 21.17   | 21.03   |
|           |            | 3       | 2         | 22.40   | 21.13   | 21.04   | 21.39   |
|           |            | 3       | 3         | 22.40   | 21.08   | 20.76   | 21.56   |
|           |            | 6       | 0         | 22.40   | 20.96   | 20.93   | 21.30   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26705CH | 26865CH | 27025CH |
| 3MHz      | QPSK       | 1       | 0         | 23.40   | 21.43   | 22.00   | 21.56   |
|           |            | 1       | 7         | 23.40   | 22.41   | 22.21   | 22.63   |
|           |            | 1       | 14        | 23.40   | 21.59   | 21.45   | 21.41   |
|           |            | 8       | 0         | 22.40   | 21.21   | 21.22   | 21.10   |
|           |            | 8       | 4         | 22.40   | 21.19   | 21.17   | 21.45   |
|           |            | 8       | 7         | 22.40   | 21.23   | 20.85   | 21.54   |
|           |            | 15      | 0         | 22.40   | 21.10   | 21.08   | 21.35   |
|           | 16QAM      | 1       | 0         | 22.40   | 20.85   | 21.00   | 20.69   |
|           |            | 1       | 7         | 22.40   | 21.80   | 21.32   | 21.85   |
|           |            | 1       | 14        | 22.40   | 20.87   | 20.57   | 20.56   |
|           |            | 8       | 0         | 22.40   | 21.14   | 21.15   | 21.07   |
|           |            | 8       | 4         | 22.40   | 21.07   | 21.11   | 21.35   |
|           |            | 8       | 7         | 22.40   | 21.10   | 20.77   | 21.15   |
|           |            | 15      | 0         | 22.40   | 20.91   | 20.94   | 21.32   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 26715CH | 26865CH | 27015CH |
| 5MHz      | QPSK       | 1       | 0         | 23.40   | 21.51   | 21.95   | 21.56   |
|           |            | 1       | 13        | 23.40   | 22.38   | 22.21   | 22.64   |
|           |            | 1       | 24        | 23.40   | 21.54   | 21.48   | 21.49   |
|           |            | 12      | 0         | 22.40   | 21.24   | 21.25   | 21.14   |
|           |            | 12      | 6         | 22.40   | 21.18   | 21.08   | 21.47   |
|           |            | 12      | 13        | 22.40   | 21.17   | 20.88   | 21.62   |
|           |            | 25      | 0         | 22.40   | 21.05   | 21.04   | 21.35   |
|           | 16QAM      | 1       | 0         | 22.40   | 20.88   | 21.00   | 20.72   |
|           |            | 1       | 13        | 22.40   | 21.77   | 21.29   | 21.83   |
|           |            | 1       | 24        | 22.40   | 20.88   | 20.55   | 20.59   |
|           |            | 12      | 0         | 22.40   | 21.10   | 21.21   | 21.06   |
|           |            | 12      | 6         | 22.40   | 21.15   | 21.13   | 21.39   |
|           |            | 12      | 13        | 22.40   | 21.10   | 20.72   | 21.48   |
|           |            | 25      | 0         | 22.40   | 20.96   | 20.98   | 21.29   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 26750CH | 26865CH | 26990CH |
| 10MHz     | QPSK       | 1       | 0         | 23.40   | 21.49   | 21.91   | 21.52   |
|           |            | 1       | 25        | 23.40   | 22.39   | 22.24   | 22.68   |
|           |            | 1       | 49        | 23.40   | 21.58   | 21.46   | 21.46   |
|           |            | 25      | 0         | 22.40   | 21.22   | 21.26   | 21.12   |
|           |            | 25      | 13        | 22.40   | 21.22   | 21.09   | 21.45   |
|           |            | 25      | 25        | 22.40   | 21.24   | 20.90   | 21.57   |
|           |            | 50      | 0         | 22.40   | 21.03   | 21.02   | 21.34   |
|           | 16QAM      | 1       | 0         | 22.40   | 20.88   | 20.98   | 20.69   |
|           |            | 1       | 25        | 22.40   | 21.77   | 21.30   | 21.78   |
|           |            | 1       | 49        | 22.40   | 20.84   | 20.50   | 20.54   |
|           |            | 25      | 0         | 22.40   | 21.06   | 21.18   | 21.02   |
|           |            | 25      | 13        | 22.40   | 21.09   | 21.05   | 21.38   |
|           |            | 25      | 25        | 22.40   | 21.06   | 20.74   | 21.50   |
|           |            | 50      | 0         | 22.40   | 20.97   | 20.95   | 21.34   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 26775CH      | 26865CH      | 26965CH      |
| 15MHz     | QPSK       | 1       | 0         | 23.40   | 21.42        | 21.91        | 21.52        |
|           |            | 1       | 38        | 23.40   | <b>22.47</b> | <b>22.15</b> | <b>22.63</b> |
|           |            | 1       | 74        | 23.40   | 21.51        | 21.45        | 21.43        |
|           |            | 36      | 0         | 22.40   | 21.2         | 21.19        | 21.06        |
|           |            | 36      | 18        | 22.40   | 21.14        | 21.07        | 21.42        |
|           |            | 36      | 39        | 22.40   | 21.16        | 20.81        | <b>21.53</b> |
|           |            | 75      | 0         | 22.40   | 21.01        | 21.00        | 21.33        |
|           | 16QAM      | 1       | 0         | 22.40   | 20.80        | 20.96        | 20.65        |
|           |            | 1       | 38        | 22.40   | 21.76        | 21.22        | 21.76        |
|           |            | 1       | 74        | 22.40   | 20.78        | 20.49        | 20.52        |
|           |            | 36      | 0         | 22.40   | 21.05        | 21.11        | 21.01        |
|           |            | 36      | 18        | 22.40   | 21.06        | 21.04        | 21.30        |
|           |            | 36      | 39        | 22.40   | 21.03        | 20.68        | 21.47        |
|           |            | 75      | 0         | 22.40   | 20.91        | 20.89        | 21.28        |

Table 47: Conducted power measurement results of LTE Band XXVI (Full Power)

### 7.1.27 Conducted power measurements of LTE Band XXXVIII (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 37775CH | 38000CH | 38225CH |
| 5MHz      | QPSK       | 1       | 0         | 24.50   | 22.89   | 23.09   | 23.80   |
|           |            | 1       | 13        | 24.50   | 22.97   | 23.27   | 23.91   |
|           |            | 1       | 24        | 24.50   | 22.51   | 22.97   | 23.44   |
|           |            | 12      | 0         | 23.50   | 22.04   | 22.22   | 23.04   |
|           |            | 12      | 6         | 23.50   | 22.06   | 22.28   | 23.09   |
|           |            | 12      | 13        | 23.50   | 21.83   | 22.10   | 22.86   |
|           |            | 25      | 0         | 23.50   | 21.95   | 22.12   | 22.91   |
|           | 16QAM      | 1       | 0         | 23.50   | 21.96   | 22.00   | 22.90   |
|           |            | 1       | 13        | 23.50   | 22.13   | 22.15   | 23.00   |
|           |            | 1       | 24        | 23.50   | 21.59   | 21.83   | 22.54   |
|           |            | 12      | 0         | 22.50   | 21.11   | 21.30   | 22.03   |
|           |            | 12      | 6         | 22.50   | 21.16   | 21.34   | 22.08   |
|           |            | 12      | 13        | 22.50   | 20.94   | 21.15   | 21.86   |
|           |            | 25      | 0         | 22.50   | 21.07   | 21.16   | 21.92   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 37800CH | 38000CH | 38200CH |
| 10MHz     | QPSK       | 1       | 0         | 24.50   | 22.84   | 22.86   | 23.84   |
|           |            | 1       | 25        | 24.50   | 22.95   | 23.27   | 23.96   |
|           |            | 1       | 49        | 24.50   | 22.65   | 23.10   | 23.57   |
|           |            | 25      | 0         | 23.50   | 21.99   | 22.14   | 22.94   |
|           |            | 25      | 13        | 23.50   | 22.01   | 22.18   | 22.94   |
|           |            | 25      | 25        | 23.50   | 21.88   | 22.17   | 22.92   |
|           |            | 50      | 0         | 23.50   | 21.84   | 22.15   | 22.93   |
|           | 16QAM      | 1       | 0         | 23.50   | 21.87   | 22.02   | 22.52   |
|           |            | 1       | 25        | 23.50   | 22.02   | 22.36   | 22.88   |
|           |            | 1       | 49        | 23.50   | 21.58   | 22.12   | 22.41   |
|           |            | 25      | 0         | 22.50   | 21.03   | 21.21   | 21.98   |
|           |            | 25      | 13        | 22.50   | 21.04   | 21.25   | 21.99   |
|           |            | 25      | 25        | 22.50   | 20.92   | 21.22   | 21.97   |
|           |            | 50      | 0         | 22.50   | 20.90   | 21.19   | 21.99   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 37825CH      | 38000CH      | 38175CH      |
| 15MHz     | QPSK       | 1       | 0         | 24.50   | 22.61        | 22.64        | 23.51        |
|           |            | 1       | 38        | 24.50   | 22.83        | 23.25        | 24.00        |
|           |            | 1       | 74        | 24.50   | 22.53        | 23.11        | 23.48        |
|           |            | 36      | 0         | 23.50   | 21.92        | 22.08        | 22.88        |
|           |            | 36      | 18        | 23.50   | 22.10        | 22.25        | 22.98        |
|           |            | 36      | 39        | 23.50   | 21.83        | 22.21        | 22.86        |
|           |            | 75      | 0         | 23.50   | 21.76        | 22.11        | 22.91        |
|           | 16QAM      | 1       | 0         | 23.50   | 21.68        | 21.67        | 22.25        |
|           |            | 1       | 38        | 23.50   | 21.90        | 22.32        | 23.02        |
|           |            | 1       | 74        | 23.50   | 21.51        | 22.15        | 22.49        |
|           |            | 36      | 0         | 22.50   | 20.97        | 21.12        | 21.90        |
|           |            | 36      | 18        | 22.50   | 21.16        | 21.30        | 22.00        |
|           |            | 36      | 39        | 22.50   | 20.84        | 21.19        | 21.93        |
|           |            | 75      | 0         | 22.50   | 20.82        | 21.14        | 21.95        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 37850CH      | 38000CH      | 38150CH      |
| 20MHz     | QPSK       | 1       | 0         | 24.50   | 22.90        | 22.91        | 23.53        |
|           |            | 1       | 50        | 24.50   | <b>23.11</b> | <b>23.47</b> | <b>24.02</b> |
|           |            | 1       | 99        | 24.50   | 22.89        | 23.41        | 23.66        |
|           |            | 50      | 0         | 23.50   | 22.11        | 22.23        | 22.84        |
|           |            | 50      | 25        | 23.50   | 21.97        | 22.34        | <b>23.15</b> |
|           |            | 50      | 50        | 23.50   | 22.03        | 22.44        | 23.01        |
|           |            | 100     | 0         | 23.50   | 21.99        | 22.34        | 23.00        |
|           | 16QAM      | 1       | 0         | 23.50   | 22.04        | 22.02        | 22.35        |
|           |            | 1       | 50        | 23.50   | 22.19        | 22.50        | 23.00        |
|           |            | 1       | 99        | 23.50   | 21.90        | 22.53        | 22.62        |
|           |            | 50      | 0         | 22.50   | 21.22        | 21.32        | 21.78        |
|           |            | 50      | 25        | 22.50   | 21.02        | 21.41        | 22.18        |
|           |            | 50      | 50        | 22.50   | 21.06        | 21.43        | 22.02        |
|           |            | 100     | 0         | 22.50   | 21.06        | 21.38        | 22.04        |

Table 48: Conducted power measurement results of LTE Band XXXVIII (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 37775CH | 38000CH | 38225CH |
| 5MHz      | QPSK       | 1       | 0         | 20.00   | 18.77   | 18.67   | 19.57   |
|           |            | 1       | 13        | 20.00   | 18.87   | 18.82   | 19.72   |
|           |            | 1       | 24        | 20.00   | 18.31   | 18.41   | 19.34   |
|           |            | 12      | 0         | 19.00   | 17.88   | 17.88   | 18.68   |
|           |            | 12      | 6         | 19.00   | 17.91   | 17.89   | 18.73   |
|           |            | 12      | 13        | 19.00   | 17.60   | 17.70   | 18.53   |
|           |            | 25      | 0         | 19.00   | 17.77   | 17.73   | 18.56   |
|           | 16QAM      | 1       | 0         | 19.00   | 17.65   | 17.81   | 18.68   |
|           |            | 1       | 13        | 19.00   | 17.82   | 18.04   | 18.85   |
|           |            | 1       | 24        | 19.00   | 17.22   | 17.60   | 18.48   |
|           |            | 12      | 0         | 18.00   | 16.86   | 16.82   | 17.69   |
|           |            | 12      | 6         | 18.00   | 16.94   | 16.84   | 17.77   |
|           |            | 12      | 13        | 18.00   | 16.66   | 16.69   | 17.56   |
|           |            | 25      | 0         | 18.00   | 16.71   | 16.69   | 17.48   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 37800CH | 38000CH | 38200CH |
| 10MHz     | QPSK       | 1       | 0         | 20.00   | 18.74   | 18.73   | 19.35   |
|           |            | 1       | 25        | 20.00   | 18.77   | 18.92   | 19.69   |
|           |            | 1       | 49        | 20.00   | 18.34   | 18.70   | 19.44   |
|           |            | 25      | 0         | 19.00   | 17.82   | 17.76   | 18.43   |
|           |            | 25      | 13        | 19.00   | 17.82   | 17.78   | 18.56   |
|           |            | 25      | 25        | 19.00   | 17.63   | 17.74   | 18.57   |
|           |            | 50      | 0         | 19.00   | 17.60   | 17.75   | 18.53   |
|           | 16QAM      | 1       | 0         | 19.00   | 17.95   | 17.66   | 18.31   |
|           |            | 1       | 25        | 19.00   | 17.95   | 17.94   | 18.71   |
|           |            | 1       | 49        | 19.00   | 17.57   | 17.71   | 18.48   |
|           |            | 25      | 0         | 18.00   | 16.71   | 16.61   | 17.29   |
|           |            | 25      | 13        | 18.00   | 16.73   | 16.68   | 17.42   |
|           |            | 25      | 25        | 18.00   | 16.54   | 16.64   | 17.45   |
|           |            | 50      | 0         | 18.00   | 16.58   | 16.70   | 17.44   |

| Bandwidth | Modulation | RB size | RB offset | TUNE-UP | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 37825CH      | 38000CH      | 38175CH      |
| 15MHz     | QPSK       | 1       | 0         | 20.00   | 18.64        | 18.47        | 18.92        |
|           |            | 1       | 38        | 20.00   | 18.79        | 18.94        | 19.47        |
|           |            | 1       | 74        | 20.00   | 18.19        | 18.65        | 19.20        |
|           |            | 36      | 0         | 19.00   | 17.76        | 17.67        | 18.22        |
|           |            | 36      | 18        | 19.00   | 17.86        | 17.82        | 18.49        |
|           |            | 36      | 39        | 19.00   | 17.49        | 17.79        | 18.49        |
|           |            | 75      | 0         | 19.00   | 17.46        | 17.72        | 18.36        |
|           | 16QAM      | 1       | 0         | 19.00   | 17.73        | 17.60        | 18.02        |
|           |            | 1       | 38        | 19.00   | 17.95        | 18.11        | 18.59        |
|           |            | 1       | 74        | 19.00   | 17.30        | 17.78        | 18.37        |
|           |            | 36      | 0         | 18.00   | 16.64        | 16.52        | 17.14        |
|           |            | 36      | 18        | 18.00   | 16.76        | 16.68        | 17.37        |
|           |            | 36      | 39        | 18.00   | 16.38        | 16.63        | 17.40        |
|           |            | 75      | 0         | 18.00   | 16.42        | 16.60        | 17.26        |
| Bandwidth | Modulation | RB size | RB offset | TUNE-UP | Channel      | Channel      | Channel      |
|           |            |         |           |         | 37850CH      | 38000CH      | 38150CH      |
| 20MHz     | QPSK       | 1       | 0         | 20.00   | 18.89        | 18.65        | 18.93        |
|           |            | 1       | 50        | 20.00   | <b>18.96</b> | <b>18.99</b> | <b>19.50</b> |
|           |            | 1       | 99        | 20.00   | 18.59        | 18.95        | 19.47        |
|           |            | 50      | 0         | 19.00   | 17.84        | 17.85        | 18.08        |
|           |            | 50      | 25        | 19.00   | 17.70        | 17.88        | 18.35        |
|           |            | 50      | 50        | 19.00   | 17.72        | 17.86        | <b>18.45</b> |
|           |            | 100     | 0         | 19.00   | 17.77        | 17.89        | 18.31        |
|           | 16QAM      | 1       | 0         | 19.00   | 18.36        | 18.14        | 18.14        |
|           |            | 1       | 50        | 19.00   | 18.30        | 18.45        | 18.66        |
|           |            | 1       | 99        | 19.00   | 17.95        | 18.45        | 18.72        |
|           |            | 50      | 0         | 18.00   | 16.88        | 16.81        | 17.16        |
|           |            | 50      | 25        | 18.00   | 16.67        | 16.90        | 17.42        |
|           |            | 50      | 50        | 18.00   | 16.67        | 16.87        | 17.53        |
|           |            | 100     | 0         | 18.00   | 16.71        | 16.86        | 17.34        |

Table 49: Conducted power measurement results of LTE Band XXXVIII (Sensor on)

### 7.1.28 Conducted power measurements of LTE Band XLI (Main Antenna)

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|-----------|------------|---------|-----------|---------|---------|---------|---------|
|           |            |         |           |         | 40265CH | 40740CH | 41215CH |
| 5MHz      | QPSK       | 1       | 0         | 24.50   | 23.09   | 23.44   | 23.23   |
|           |            | 1       | 13        | 24.50   | 23.42   | 23.54   | 23.41   |
|           |            | 1       | 24        | 24.50   | 22.81   | 23.15   | 23.14   |
|           |            | 12      | 0         | 23.50   | 22.22   | 22.46   | 22.38   |
|           |            | 12      | 6         | 23.50   | 22.30   | 22.45   | 22.39   |
|           |            | 12      | 13        | 23.50   | 22.09   | 22.26   | 22.19   |
|           |            | 25      | 0         | 23.50   | 22.11   | 22.35   | 22.21   |
|           | 16QAM      | 1       | 0         | 23.50   | 21.99   | 22.25   | 22.32   |
|           |            | 1       | 13        | 23.50   | 22.32   | 22.45   | 22.56   |
|           |            | 1       | 24        | 23.50   | 21.70   | 21.92   | 22.08   |
|           |            | 12      | 0         | 22.50   | 21.24   | 21.46   | 21.24   |
|           |            | 12      | 6         | 22.50   | 21.33   | 21.43   | 21.24   |
|           |            | 12      | 13        | 22.50   | 21.05   | 21.24   | 21.06   |
|           |            | 25      | 0         | 22.50   | 21.07   | 21.34   | 21.09   |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel | Channel | Channel |
|           |            |         |           |         | 40290CH | 40740CH | 41190CH |
| 10MHz     | QPSK       | 1       | 0         | 24.50   | 22.90   | 23.31   | 23.32   |
|           |            | 1       | 25        | 24.50   | 23.33   | 23.57   | 23.32   |
|           |            | 1       | 49        | 24.50   | 22.83   | 23.27   | 23.19   |
|           |            | 25      | 0         | 23.50   | 22.15   | 22.37   | 22.14   |
|           |            | 25      | 13        | 23.50   | 22.23   | 22.41   | 22.18   |
|           |            | 25      | 25        | 23.50   | 22.21   | 22.38   | 22.12   |
|           |            | 50      | 0         | 23.50   | 22.37   | 22.37   | 22.09   |
|           | 16QAM      | 1       | 0         | 23.50   | 21.75   | 22.23   | 22.06   |
|           |            | 1       | 25        | 23.50   | 22.24   | 22.55   | 22.23   |
|           |            | 1       | 49        | 23.50   | 21.86   | 22.23   | 21.94   |
|           |            | 25      | 0         | 22.50   | 21.13   | 21.35   | 21.05   |
|           |            | 25      | 13        | 22.50   | 21.19   | 21.39   | 21.07   |
|           |            | 25      | 25        | 22.50   | 21.20   | 21.36   | 21.01   |
|           |            | 50      | 0         | 22.50   | 21.36   | 21.34   | 21.02   |

| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|-----------|------------|---------|-----------|---------|--------------|--------------|--------------|
|           |            |         |           |         | 40315CH      | 40740CH      | 41165CH      |
| 15MHz     | QPSK       | 1       | 0         | 24.50   | 22.82        | 23.04        | 23.03        |
|           |            | 1       | 38        | 24.50   | 23.40        | 23.54        | 23.22        |
|           |            | 1       | 74        | 24.50   | 22.58        | 23.31        | 22.91        |
|           |            | 36      | 0         | 23.50   | 22.32        | 22.38        | 22.16        |
|           |            | 36      | 18        | 23.50   | 22.27        | 22.42        | 22.27        |
|           |            | 36      | 39        | 23.50   | 22.12        | 22.41        | 22.08        |
|           |            | 75      | 0         | 23.50   | 22.24        | 22.32        | 22.10        |
|           | 16QAM      | 1       | 0         | 23.50   | 21.55        | 21.95        | 21.84        |
|           |            | 1       | 38        | 23.50   | 22.38        | 22.50        | 22.21        |
|           |            | 1       | 74        | 23.50   | 21.56        | 22.31        | 21.82        |
|           |            | 36      | 0         | 22.50   | 21.31        | 21.34        | 21.10        |
|           |            | 36      | 18        | 22.50   | 21.26        | 21.42        | 21.20        |
|           |            | 36      | 39        | 22.50   | 21.13        | 21.37        | 21.00        |
|           |            | 75      | 0         | 22.50   | 21.23        | 21.32        | 21.03        |
| Bandwidth | Modulation | RB size | RB offset | Tune-up | Channel      | Channel      | Channel      |
|           |            |         |           |         | 40340CH      | 40740CH      | 41140CH      |
| 20MHz     | QPSK       | 1       | 0         | 24.50   | 23.12        | 23.13        | 23.06        |
|           |            | 1       | 50        | 24.50   | <b>23.24</b> | <b>23.58</b> | <b>23.26</b> |
|           |            | 1       | 99        | 24.50   | 22.71        | 23.54        | 23.13        |
|           |            | 50      | 0         | 23.50   | 22.29        | 22.47        | 22.36        |
|           |            | 50      | 25        | 23.50   | 22.28        | 22.54        | 22.35        |
|           |            | 50      | 50        | 23.50   | 22.07        | <b>22.60</b> | 22.12        |
|           |            | 100     | 0         | 23.50   | 22.23        | <b>22.45</b> | 22.30        |
|           | 16QAM      | 1       | 0         | 23.50   | 22.02        | 22.18        | 21.94        |
|           |            | 1       | 50        | 23.50   | 22.45        | 22.67        | 22.30        |
|           |            | 1       | 99        | 23.50   | 21.87        | 22.66        | 22.10        |
|           |            | 50      | 0         | 22.50   | 21.30        | 21.35        | 21.33        |
|           |            | 50      | 25        | 22.50   | 21.22        | 21.43        | 21.28        |
|           |            | 50      | 50        | 22.50   | 21.11        | 21.49        | 21.04        |
|           |            | 100     | 0         | 22.50   | 21.27        | 21.42        | 21.25        |

Table 50: Conducted power measurement results of LTE Band XLI (Full Power)

## 7.1.29 Conducted power measurements of Downlink LTE CA

In this section, the following conducted power measurement results of downlink LTE carrier aggregation are provided to quantify downlink only carrier aggregation SAR test exclusion per KDB 941225 D05A.

Uplink maximum output power is measured with downlink carrier aggregation active, using the channel with highest measured maximum output power when downlink carrier aggregation is inactive, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

Power test equipment: R&S Radio Communication Tester CMW500 and Anritsu Radio Communication Analyzer MT8821C were used.

A) The conducted power measurement results of downlink LTE CA are as below(Second antenna):

| DL LTE CA Class | PCC      |                      |                |                  |                |                  |                |                | SCC1     |                      |                | SCC 2    |                      |                | SCC 3    |                      |                | Power                    |                          |         |
|-----------------|----------|----------------------|----------------|------------------|----------------|------------------|----------------|----------------|----------|----------------------|----------------|----------|----------------------|----------------|----------|----------------------|----------------|--------------------------|--------------------------|---------|
|                 | PCC Band | PCC Band-width (MHz) | PCC UL RB size | PCC UL RB offset | PCC DL RB size | PCC DL RB offset | PCC UL Channel | PCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | Rel 8 LTE Tx Power (dBm) | DL LTE CA Tx Power (dBm) | Tune-up |
| CA_2C           | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 2        | 20                   | 902            | /        | /                    | /              | /        | /                    | /              | 16.50                    | 16.50                    | 17.00   |
| CA_5B           | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 5        | 10                   | 2501           | /        | /                    | /              | /        | /                    | /              | 19.39                    | 18.90                    | 20.00   |
| CA_7C           | 7        | 20                   | 1              | 99               | 100            | 0                | 21350          | 3350           | 7        | 20                   | 3152           | /        | /                    | /              | /        | /                    | /              | 14.94                    | 14.80                    | 15.20   |
| CA_12B          | 12       | 10                   | 1              | 25               | 50             | 0                | 23130          | 5130           | 12       | 5                    | 5058           | /        | /                    | /              | /        | /                    | /              | 21.70                    | 21.80                    | 22.00   |
| CA_38C          | 38       | 20                   | 1              | 50               | 100            | 0                | 38150          | 38150          | 38       | 20                   | 37952          | /        | /                    | /              | /        | /                    | /              | 18.76                    | 18.50                    | 19.00   |
| CA_41C          | 41       | 20                   | 1              | 50               | 100            | 0                | 41140          | 41140          | 41       | 20                   | 40942          | /        | /                    | /              | /        | /                    | /              | 18.44                    | 18.26                    | 19.00   |
| CA_1A-5A        | 5        | 10                   | 1              | 25               | 50             | 0                | 20525          | 2525           | 1        | 20                   | 300            | /        | /                    | /              | /        | /                    | /              | 19.45                    | 19.35                    | 20.00   |
| CA_1A-26A       | 26       | 10                   | 1              | 25               | 50             | 0                | 26750          | 8750           | 1        | 20                   | 300            | /        | /                    | /              | /        | /                    | /              | 20.96                    | 20.90                    | 21.30   |
| CA_2A-5A        | 2        | 5                    | 1              | 13               | 25             | 0                | 18900          | 900            | 5        | 10                   | 2525           | /        | /                    | /              | /        | /                    | /              | 16.77                    | 16.80                    | 17.00   |
|                 | 5        | 10                   | 1              | 25               | 50             | 0                | 20525          | 2525           | 2        | 20                   | 900            | /        | /                    | /              | /        | /                    | /              | 19.45                    | 19.35                    | 20.00   |
| CA_2A-12A       | 2        | 5                    | 1              | 13               | 25             | 0                | 18900          | 900            | 12       | 10                   | 5095           | /        | /                    | /              | /        | /                    | /              | 16.77                    | 16.80                    | 17.00   |
|                 | 12       | 10                   | 1              | 25               | 50             | 0                | 23130          | 5130           | 2        | 20                   | 900            | /        | /                    | /              | /        | /                    | /              | 21.70                    | 20.70                    | 22.00   |
| CA_2A-17A       | 2        | 5                    | 1              | 13               | 25             | 0                | 18900          | 900            | 17       | 10                   | 5790           | /        | /                    | /              | /        | /                    | /              | 16.77                    | 16.80                    | 17.00   |
|                 | 17       | 5                    | 1              | 13               | 25             | 0                | 23825          | 5825           | 2        | 10                   | 900            | /        | /                    | /              | /        | /                    | /              | 21.91                    | 21.70                    | 22.00   |
| CA_2A-28A       | 2        | 5                    | 1              | 13               | 25             | 0                | 18900          | 900            | 28       | 20                   | 9460           | /        | /                    | /              | /        | /                    | /              | 16.77                    | 16.80                    | 17.00   |
| CA_2A-29A       | 2        | 5                    | 1              | 13               | 25             | 0                | 18900          | 900            | 29       | 10                   | 9715           | /        | /                    | /              | /        | /                    | /              | 16.77                    | 16.80                    | 17.00   |
| CA_3A-5A        | 5        | 10                   | 1              | 25               | 50             | 0                | 20525          | 2525           | 3        | 20                   | 1575           | /        | /                    | /              | /        | /                    | /              | 19.45                    | 19.30                    | 20.00   |
| CA_3A-7A        | 7        | 20                   | 1              | 99               | 100            | 0                | 21350          | 3350           | 3        | 20                   | 1575           | /        | /                    | /              | /        | /                    | /              | 14.94                    | 14.66                    | 15.20   |

|              |    |    |   |    |     |   |       |       |    |    |       |    |    |       |   |   |   |       |       |       |
|--------------|----|----|---|----|-----|---|-------|-------|----|----|-------|----|----|-------|---|---|---|-------|-------|-------|
| CA_3A-26A    | 26 | 10 | 1 | 25 | 50  | 0 | 26750 | 8750  | 3  | 20 | 1575  | /  | /  | /     | / | / | / | 20.96 | 20.90 | 21.30 |
| CA_4A-5A     | 4  | 20 | 1 | 50 | 100 | 0 | 20050 | 2050  | 5  | 10 | 2525  | /  | /  | /     | / | / | / | 18.05 | 18.00 | 18.30 |
|              | 5  | 10 | 1 | 25 | 50  | 0 | 20525 | 2525  | 4  | 20 | 2175  | /  | /  | /     | / | / | / | 19.45 | 19.30 | 20.00 |
| CA_4A-12A    | 4  | 20 | 1 | 50 | 100 | 0 | 20050 | 2050  | 12 | 10 | 5095  | /  | /  | /     | / | / | / | 18.05 | 18.00 | 18.30 |
| CA_4A-17A    | 4  | 5  | 1 | 13 | 25  | 0 | 20375 | 2375  | 17 | 10 | 5790  | /  | /  | /     | / | / | / | 17.98 | 17.50 | 18.30 |
| CA_4A-28A    | 4  | 20 | 1 | 50 | 100 | 0 | 20050 | 2050  | 28 | 20 | 9460  | /  | /  | /     | / | / | / | 18.05 | 18.00 | 18.30 |
| CA_4A-29A    | 4  | 20 | 1 | 50 | 100 | 0 | 20050 | 2050  | 29 | 10 | 9715  | /  | /  | /     | / | / | / | 18.05 | 18.00 | 18.30 |
| CA_5A-7A     | 5  | 10 | 1 | 25 | 50  | 0 | 20525 | 2525  | 7  | 20 | 3100  | /  | /  | /     | / | / | / | 19.45 | 19.30 | 20.00 |
|              | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 5  | 10 | 2525  | /  | /  | /     | / | / | / | 14.94 | 14.60 | 15.20 |
| CA_7A-8A     | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 8  | 10 | 3625  | /  | /  | /     | / | / | / | 14.94 | 14.00 | 15.20 |
| CA_7A-12A    | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 12 | 10 | 5095  | /  | /  | /     | / | / | / | 14.94 | 14.60 | 15.20 |
|              | 12 | 10 | 1 | 25 | 50  | 0 | 23130 | 5130  | 7  | 20 | 3100  | /  | /  | /     | / | / | / | 21.70 | 21.80 | 22.00 |
| CA_7A-20A    | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 20 | 10 | 6300  | /  | /  | /     | / | / | / | 14.94 | 14.60 | 15.20 |
| CA_7A-28A    | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 28 | 20 | 9460  | /  | /  | /     | / | / | / | 14.94 | 14.60 | 15.20 |
| CA_39A-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 39 | 20 | 38450 | /  | /  | /     | / | / | / | 18.44 | 18.00 | 19.00 |
| CA_41A-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40340 | /  | /  | /     | / | / | / | 18.44 | 18.10 | 19.00 |
| CA_1A-3A-5A  | 5  | 10 | 1 | 25 | 50  | 0 | 20525 | 2525  | 1  | 20 | 300   | 3  | 20 | 1575  | / | / | / | 19.45 | 19.30 | 20.00 |
| CA_1A-3A-26A | 26 | 10 | 1 | 25 | 50  | 0 | 26750 | 8750  | 1  | 20 | 300   | 3  | 20 | 1575  | / | / | / | 20.96 | 20.86 | 21.30 |
| CA_2C-29A    | 2  | 20 | 1 | 50 | 100 | 0 | 19100 | 1100  | 2  | 20 | 902   | 29 | 10 | 9715  | / | / | / | 16.50 | 16.60 | 17.00 |
| CA_3C-7A     | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 3  | 20 | 1652  | 3  | 20 | 1775  | / | / | / | 14.94 | 14.93 | 15.20 |
| CA_3C-5A     | 5  | 10 | 1 | 25 | 50  | 0 | 20525 | 2525  | 3  | 20 | 1652  | 3  | 20 | 1775  | / | / | / | 19.45 | 19.35 | 20.00 |
| CA_3A-7C     | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 7  | 20 | 3152  | 3  | 20 | 1575  | / | / | / | 14.94 | 14.70 | 15.20 |
| CA_3A-7A-8A  | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 3  | 20 | 1575  | 8  | 10 | 3625  | / | / | / | 14.94 | 14.40 | 15.20 |
| CA_3A-7A-20A | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 3  | 20 | 1575  | 20 | 20 | 6300  | / | / | / | 14.94 | 14.60 | 15.20 |
| CA_3A-7A-28A | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 3  | 20 | 1575  | 28 | 20 | 9460  | / | / | / | 14.94 | 14.92 | 15.20 |
| CA_4A-12B    | 4  | 20 | 1 | 50 | 100 | 0 | 20050 | 2050  | 12 | 10 | 5130  | 12 | 5  | 5058  | / | / | / | 18.05 | 18.10 | 18.30 |
| CA_7C-28A    | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 7  | 20 | 3152  | 28 | 20 | 9460  | / | / | / | 14.94 | 14.87 | 15.20 |
| CA_39C-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 39 | 20 | 38401 | 39 | 15 | 38572 | / | / | / | 18.44 | 18.37 | 19.00 |
| CA_39A-41C   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 39 | 20 | 38450 | / | / | / | 18.44 | 17.92 | 19.00 |
| CA_41D       | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 41 | 20 | 40744 | / | / | / | 18.44 | 17.96 | 19.00 |

|              |    |    |   |    |     |   |       |       |    |    |       |    |    |       |    |    |       |       |       |       |
|--------------|----|----|---|----|-----|---|-------|-------|----|----|-------|----|----|-------|----|----|-------|-------|-------|-------|
| CA_3A-7C-28A | 7  | 20 | 1 | 99 | 100 | 0 | 21350 | 3350  | 7  | 20 | 3152  | 28 | 20 | 9460  | 3  | 20 | 1575  | 14.94 | 14.89 | 15.20 |
| CA_39C-41C   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 39 | 20 | 38401 | 39 | 15 | 38572 | 18.44 | 17.95 | 19.00 |

B) The conducted power measurement results of downlink LTE CA are as below (Main antenna):

| DL LTE CA Class | PCC      |                      |                |                  |                |                  |                |                | SCC1     |                      |                | SCC 2    |                      |                | SCC 3    |                      |                | Power                    |                          |         |
|-----------------|----------|----------------------|----------------|------------------|----------------|------------------|----------------|----------------|----------|----------------------|----------------|----------|----------------------|----------------|----------|----------------------|----------------|--------------------------|--------------------------|---------|
|                 | PCC Band | PCC Band-width (MHz) | PCC UL RB size | PCC UL RB offset | PCC DL RB size | PCC DL RB offset | PCC UL Channel | PCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | SCC Band | SCC Band-width (MHz) | SCC DL Channel | Rel 8 LTE Tx Power (dBm) | DL LTE CA Tx Power (dBm) | Tune-up |
| CA_5B           | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 5        | 10                   | 2501           | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.90                    | 23.50   |
| CA_12B          | 12       | 10                   | 1              | 25               | 50             | 0                | 23130          | 5130           | 12       | 5                    | 5058           | /        | /                    | /              | /        | /                    | /              | 22.88                    | 22.85                    | 23.50   |
| CA_2C           | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 2        | 20                   | 902            | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.70                    | 24.00   |
| CA_7C           | 7        | 20                   | 1              | 0                | 100            | 0                | 20850          | 2850           | 7        | 20                   | 3048           | /        | /                    | /              | /        | /                    | /              | 23.00                    | 22.90                    | 23.50   |
| CA_38C          | 38       | 20                   | 1              | 50               | 100            | 0                | 38150          | 38150          | 38       | 20                   | 37952          | /        | /                    | /              | /        | /                    | /              | 24.02                    | 23.60                    | 24.50   |
| CA_41C          | 41       | 20                   | 1              | 50               | 100            | 0                | 41140          | 41140          | 41       | 20                   | 40942          | /        | /                    | /              | /        | /                    | /              | 23.26                    | 23.10                    | 24.50   |
| CA_1A-5A        | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 1        | 20                   | 300            | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.90                    | 23.50   |
| CA_1A-26A       | 26       | 10                   | 1              | 25               | 50             | 0                | 26990          | 8990           | 1        | 20                   | 300            | /        | /                    | /              | /        | /                    | /              | 22.68                    | 22.50                    | 23.40   |
| CA_2A-5A        | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 5        | 10                   | 2525           | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.80                    | 24.00   |
|                 | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 2        | 20                   | 900            | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.90                    | 23.50   |
| CA_2A-12A       | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 12       | 10                   | 5095           | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.80                    | 24.00   |
|                 | 12       | 10                   | 1              | 25               | 50             | 0                | 23130          | 5130           | 2        | 20                   | 900            | /        | /                    | /              | /        | /                    | /              | 22.88                    | 22.90                    | 23.50   |
| CA_2A-17A       | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 17       | 10                   | 5790           | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.80                    | 24.00   |
|                 | 17       | 5                    | 1              | 13               | 25             | 0                | 23825          | 5825           | 2        | 10                   | 900            | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.00                    | 23.50   |
| CA_2A-28A       | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 28       | 15                   | 9435           | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.80                    | 24.00   |
| CA_2A-29A       | 2        | 20                   | 1              | 50               | 100            | 0                | 19100          | 1100           | 29       | 10                   | 9715           | /        | /                    | /              | /        | /                    | /              | 23.88                    | 23.80                    | 24.00   |
| CA_3A-5A        | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 3        | 20                   | 1575           | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.90                    | 23.50   |
| CA_3A-7A        | 7        | 20                   | 1              | 50               | 100            | 0                | 21100          | 3100           | 3        | 20                   | 1575           | /        | /                    | /              | /        | /                    | /              | 23.33                    | 23.27                    | 23.50   |
| CA_3A-26A       | 26       | 10                   | 1              | 25               | 50             | 0                | 26990          | 8990           | 3        | 20                   | 1575           | /        | /                    | /              | /        | /                    | /              | 22.68                    | 22.80                    | 23.40   |
| CA_4A-5A        | 4        | 20                   | 1              | 50               | 100            | 0                | 20300          | 2300           | 5        | 10                   | 2525           | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.30                    | 24.00   |
|                 | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 4        | 20                   | 2175           | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.90                    | 23.50   |
| CA_4A-12A       | 4        | 20                   | 1              | 50               | 100            | 0                | 20300          | 2300           | 12       | 10                   | 5095           | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.30                    | 24.00   |
| CA_4A-17A       | 4        | 20                   | 1              | 50               | 100            | 0                | 20300          | 2300           | 17       | 10                   | 5790           | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.06                    | 24.00   |
| CA_4A-28A       | 4        | 20                   | 1              | 50               | 100            | 0                | 20300          | 2300           | 28       | 20                   | 9460           | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.00                    | 24.00   |
| CA_4A-29A       | 4        | 20                   | 1              | 50               | 100            | 0                | 20300          | 2300           | 29       | 10                   | 9715           | /        | /                    | /              | /        | /                    | /              | 23.49                    | 23.01                    | 24.00   |
| CA_5A-7A        | 5        | 10                   | 1              | 25               | 50             | 0                | 20600          | 2600           | 7        | 20                   | 3100           | /        | /                    | /              | /        | /                    | /              | 22.91                    | 22.88                    | 23.50   |

|              |    |    |   |    |     |   |       |       |    |    |       |    |    |       |    |    |       |       |       |       |
|--------------|----|----|---|----|-----|---|-------|-------|----|----|-------|----|----|-------|----|----|-------|-------|-------|-------|
|              | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 5  | 10 | 2525  | /  | /  | /     | /  | /  | /     | 23.33 | 23.28 | 23.50 |
| CA_7A-8A     | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 8  | 10 | 3625  | /  | /  | /     | /  | /  | /     | 23.33 | 23.30 | 23.50 |
| CA_7A-12A    | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 12 | 10 | 5095  | /  | /  | /     | /  | /  | /     | 23.33 | 23.30 | 23.50 |
|              | 12 | 10 | 1 | 25 | 50  | 0 | 23130 | 5130  | 7  | 20 | 3100  | /  | /  | /     | /  | /  | /     | 22.88 | 22.90 | 23.50 |
| CA_7A-20A    | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 20 | 10 | 6300  | /  | /  | /     | /  | /  | /     | 23.33 | 22.23 | 23.50 |
| CA_7A-28A    | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 28 | 15 | 9435  | /  | /  | /     | /  | /  | /     | 23.33 | 23.33 | 23.50 |
| CA_39A-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 40740 | 40740 | 41 | 20 | 40340 | /  | /  | /     | /  | /  | /     | 23.58 | 23.00 | 24.50 |
| CA_41A-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 40740 | 40740 | 39 | 20 | 38450 | /  | /  | /     | /  | /  | /     | 23.58 | 23.07 | 24.50 |
| CA_1A-3A-5A  | 5  | 10 | 1 | 25 | 50  | 0 | 20600 | 2600  | 1  | 20 | 300   | 3  | 20 | 1575  | /  | /  | /     | 22.91 | 22.90 | 23.50 |
| CA_1A-3A-26A | 26 | 10 | 1 | 25 | 50  | 0 | 26990 | 8990  | 1  | 20 | 300   | 3  | 20 | 1575  | /  | /  | /     | 22.68 | 22.51 | 23.40 |
| CA_2C-29A    | 2  | 20 | 1 | 50 | 100 | 0 | 19100 | 1100  | 2  | 20 | 902   | 29 | 10 | 9715  | /  | /  | /     | 23.88 | 23.70 | 24.00 |
| CA_3C-7A     | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 3  | 20 | 1652  | 3  | 20 | 1775  | /  | /  | /     | 23.33 | 23.20 | 23.50 |
| CA_3C-5A     | 5  | 10 | 1 | 25 | 50  | 0 | 20600 | 2600  | 3  | 20 | 1652  | 3  | 20 | 1775  | /  | /  | /     | 22.91 | 22.90 | 23.50 |
| CA_3A-7C     | 7  | 20 | 1 | 0  | 100 | 0 | 20850 | 2850  | 7  | 20 | 3048  | 3  | 20 | 1575  | /  | /  | /     | 23.00 | 22.97 | 23.50 |
| CA_3A-7A-8A  | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 3  | 20 | 1575  | 8  | 10 | 3625  | /  | /  | /     | 23.33 | 23.40 | 23.50 |
| CA_3A-7A-20A | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 3  | 20 | 1575  | 20 | 20 | 6300  | /  | /  | /     | 23.33 | 23.40 | 23.50 |
| CA_3A-7A-28A | 7  | 20 | 1 | 50 | 100 | 0 | 21100 | 3100  | 3  | 20 | 1575  | 28 | 20 | 9460  | /  | /  | /     | 23.33 | 23.30 | 23.50 |
| CA_4A-12B    | 4  | 20 | 1 | 50 | 100 | 0 | 20300 | 2300  | 12 | 10 | 5130  | 12 | 5  | 5058  | /  | /  | /     | 23.49 | 23.40 | 24.00 |
| CA_7C-28A    | 7  | 20 | 1 | 0  | 100 | 0 | 20850 | 2850  | 7  | 20 | 3048  | 28 | 20 | 9460  | /  | /  | /     | 23.33 | 23.40 | 23.50 |
| CA_39A-41C   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 39 | 20 | 38450 | /  | /  | /     | 23.26 | 23.00 | 24.50 |
| CA_41D       | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 41 | 20 | 40744 | /  | /  | /     | 23.26 | 22.94 | 24.50 |
| CA_39C-41A   | 41 | 20 | 1 | 50 | 100 | 0 | 40740 | 40740 | 39 | 20 | 38401 | 39 | 15 | 38572 | /  | /  | /     | 23.58 | 22.96 | 24.50 |
| CA_3A-7C-28A | 7  | 20 | 1 | 0  | 100 | 0 | 20850 | 2850  | 7  | 20 | 3048  | 28 | 20 | 9460  | 3  | 20 | 1575  | 23.00 | 22.96 | 23.50 |
| CA_39C-41C   | 41 | 20 | 1 | 50 | 100 | 0 | 41140 | 41140 | 41 | 20 | 40942 | 39 | 20 | 38401 | 39 | 15 | 38572 | 23.26 | 23.00 | 24.50 |

Note: Testing is not required in bands or modes not intended/allowed for US operation.

### 7.1.30 Conducted power measurements of WiFi 2.4G

The output power of WiFi antenna is as following:

| Mode           | Ant  | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|----------------|------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11b        | Ant1 | 1       | 2412            | 1                | 17      | 16.01               | Yes               |
|                |      | 6       | 2437            |                  |         | 16.62               | Yes               |
|                |      | 11      | 2462            |                  |         | 15.92               | Yes               |
|                | Ant2 | 1       | 2412            | 1                | 14.5    | 13.63               | Yes               |
|                |      | 6       | 2437            |                  |         | 13.89               | Yes               |
|                |      | 11      | 2462            |                  |         | 13.49               | Yes               |
| 802.11g        | Ant1 | 1       | 2412            | 6.5              | 16      | Not required        | No                |
|                |      | 6       | 2437            |                  |         | Not required        | No                |
|                |      | 11      | 2462            |                  |         | Not required        | No                |
|                | Ant2 | 1       | 2412            | 6.5              | 13.5    | Not required        | No                |
|                |      | 6       | 2437            |                  |         | Not required        | No                |
|                |      | 11      | 2462            |                  |         | Not required        | No                |
| 802.11n<br>20M | Ant1 | 1       | 2412            | 13.5             | 15      | Not required        | No                |
|                |      | 6       | 2437            |                  |         | Not required        | No                |
|                |      | 11      | 2462            |                  |         | Not required        | No                |
|                | Ant2 | 1       | 2412            | 13.5             | 12.5    | Not required        | No                |
|                |      | 6       | 2437            |                  |         | Not required        | No                |
|                |      | 11      | 2462            |                  |         | Not required        | No                |

Table 51: Conducted power measurement results of WiFi 2.4G(Full power level).

Note: 1) The Average conducted power of WiFi is measured with RMS detector.

| Mode             | Ant  | Channel | Frequency (MHz) | Data Rate        | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|------------------|------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11n-20M MIMO | Ant1 | 1       | 2412            | MCS0             | /       | 13.63               | /                 |
|                  |      | 6       | 2437            |                  | /       | 13.86               | /                 |
|                  |      | 11      | 2462            |                  | /       | 13.43               | /                 |
|                  | Ant2 | 1       | 2412            | MCS0             | /       | 11.52               | /                 |
|                  |      | 6       | 2437            |                  | /       | 11.75               | /                 |
|                  |      | 11      | 2462            |                  | /       | 11.36               | /                 |
|                  | Sum  | 1       | 2412            | MCS0             | 16.5    | 15.71               | No                |
|                  |      | 6       | 2437            |                  |         | 15.94               | No                |
|                  |      | 11      | 2462            |                  |         | 15.53               | No                |
| Mode             | Ant  | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
| 802.11g CDD      | Ant1 | 1       | 2412            | 6                | /       | 14.75               | /                 |
|                  |      | 6       | 2437            |                  | /       | 15.14               | /                 |
|                  |      | 11      | 2462            |                  | /       | 14.61               | /                 |
|                  | Ant2 | 1       | 2412            | 6                | /       | 12.44               | /                 |
|                  |      | 6       | 2437            |                  | /       | 12.74               | /                 |
|                  |      | 11      | 2462            |                  | /       | 12.09               | /                 |
|                  | Sum  | 1       | 2412            | 6                | 17.5    | 16.76               | Yes               |
|                  |      | 6       | 2437            |                  |         | 17.11               | Yes               |
|                  |      | 11      | 2462            |                  |         | 16.54               | Yes               |

Table 52: Conducted power measurement results of WiFi 2.4G (MIMO&CDD)

Note: 1) The Average conducted power of WiFi is measured with RMS detector.

| Mode        | Ant  | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|-------------|------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11b     | Ant1 | 1       | 2412            | 1                | 16.5    | 15.45               | Yes               |
|             |      | 6       | 2437            |                  |         | 16.15               | Yes               |
|             |      | 11      | 2462            |                  |         | 15.61               | Yes               |
| 802.11g     | Ant1 | 1       | 2412            | 6                | 15.5    | Not required        | No                |
|             |      | 6       | 2437            |                  |         | Not required        | No                |
|             |      | 11      | 2462            |                  |         | Not required        | No                |
| 802.11n 20M | Ant1 | 1       | 2412            | 6.5              | 14.5    | Not required        | No                |
|             |      | 6       | 2437            |                  |         | Not required        | No                |
|             |      | 11      | 2462            |                  |         | Not required        | No                |

Table 53: Conducted power measurement results of WiFi 2.4G (2G/3G/4G antenna simultaneous transmission with WIFI station).

Note: 1) The Average conducted power of WiFi is measured with RMS detector.

### 7.1.31 Conducted power measurements of WiFi 5G

| Mode    | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|---------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11a | Ant1    | CH 36   | 5180            | 6                | 12.5    | 11.64               | No                |
|         |         | CH 40   | 5200            |                  |         | <b>11.68</b>        | Yes               |
|         |         | CH 44   | 5220            |                  |         | 11.35               | No                |
|         |         | CH 48   | 5240            |                  |         | 11.27               | No                |
|         |         | CH 52   | 5260            |                  |         | <b>11.98</b>        | Yes               |
|         |         | CH 56   | 5280            |                  |         | <b>11.76</b>        | Yes               |
|         |         | CH 60   | 5300            |                  |         | <b>11.58</b>        | Yes               |
|         |         | CH 64   | 5320            |                  |         | <b>11.64</b>        | Yes               |
|         |         | CH 100  | 5500            |                  |         | 11.69               | No                |
|         |         | CH 104  | 5520            |                  |         | 11.84               | No                |
|         |         | CH 108  | 5540            |                  |         | 11.76               | No                |
|         |         | CH 112  | 5560            |                  |         | 11.84               | No                |
|         |         | CH 116  | 5580            |                  |         | <b>12.11</b>        | Yes               |
|         |         | CH 120  | 5600            |                  |         | 11.96               | No                |
|         |         | CH 124  | 5620            |                  |         | 11.88               | No                |
|         |         | CH 128  | 5640            |                  |         | 12.02               | No                |
|         |         | CH 132  | 5660            |                  |         | 11.83               | No                |
|         |         | CH 136  | 5680            |                  |         | 11.61               | No                |
|         |         | CH 140  | 5700            |                  |         | 11.68               | No                |
|         |         | CH 144  | 5720            |                  |         | 11.62               | No                |
|         |         | CH 149  | 5745*           |                  |         | 11.47               | No                |
|         |         | CH 153  | 5765            |                  |         | 11.43               | No                |
|         |         | CH 157  | 5785            |                  |         | 11.41               | No                |
|         |         | CH 161  | 5805            |                  |         | <b>11.80</b>        | Yes               |
|         |         | CH 165  | 5825            |                  |         | 11.46               | Yes               |

Table 54: Conducted power measurement results of WiFi 5G 802.11a (Full Power).

| Mode                              | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|-----------------------------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11n<br/>20M<br/>(5GHz)</b> | <b>Ant1</b> | CH 36   | 5180            | 6.5              | 12.5    | 11.74               | No                |
|                                   |             | CH 40   | 5200            |                  |         | 11.63               | No                |
|                                   |             | CH 44   | 5220            |                  |         | 11.62               | No                |
|                                   |             | CH 48   | 5240            |                  |         | 11.54               | No                |
|                                   |             | CH 52   | 5260            |                  |         | 11.49               | No                |
|                                   |             | CH 56   | 5280            |                  |         | 11.65               | No                |
|                                   |             | CH 60   | 5300            |                  |         | 11.77               | No                |
|                                   |             | CH 64   | 5320            |                  |         | 11.88               | No                |
|                                   |             | CH 100  | 5500            |                  |         | 11.81               | No                |
|                                   |             | CH 104  | 5520            |                  |         | 11.86               | No                |
|                                   |             | CH 108  | 5540            |                  |         | 11.75               | No                |
|                                   |             | CH 112  | 5560            |                  |         | 11.54               | No                |
|                                   |             | CH 116  | 5580            |                  |         | 11.62               | No                |
|                                   |             | CH 120  | 5600            |                  |         | 11.91               | No                |
|                                   |             | CH 124  | 5620            |                  |         | 11.81               | No                |
|                                   |             | CH 128  | 5640            |                  |         | 11.73               | No                |
|                                   |             | CH 132  | 5660            |                  |         | 11.87               | No                |
|                                   |             | CH 136  | 5680            |                  |         | 11.68               | No                |
|                                   |             | CH 140  | 5700            |                  |         | 11.46               | No                |
|                                   |             | CH 144  | 5720            |                  |         | 11.63               | No                |
|                                   |             | CH 149  | 5745            |                  |         | 11.47               | No                |
|                                   |             | CH 153  | 5765            |                  |         | 11.49               | No                |
|                                   |             | CH 157  | 5785            |                  |         | 11.28               | No                |
|                                   |             | CH 161  | 5805            |                  |         | 11.51               | No                |
|                                   |             | CH 165  | 5825            |                  |         | 11.48               | No                |

Table 55: Conducted power measurement results of WiFi 5G 802.11n 20M (Full Power).

| Mode                              | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|-----------------------------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11n<br/>40M<br/>(5GHz)</b> | <b>Ant1</b> | CH 38   | 5190            | 13.5             | 10      | Not required        | No                |
|                                   |             | CH 46   | 5230            |                  |         | Not required        | No                |
|                                   |             | CH 54   | 5270            |                  |         | Not required        | No                |
|                                   |             | CH 62   | 5310            |                  |         | Not required        | No                |
|                                   |             | CH 102  | 5510            |                  |         | Not required        | No                |
|                                   |             | CH 110  | 5550            |                  |         | Not required        | No                |
|                                   |             | CH 118  | 5590            |                  |         | Not required        | No                |
|                                   |             | CH 126  | 5630            |                  |         | Not required        | No                |
|                                   |             | CH 134  | 5670            |                  |         | Not required        | No                |
|                                   |             | CH 142  | 5710            |                  |         | Not required        | No                |
|                                   |             | CH 151  | 5755            |                  |         | Not required        | No                |
|                                   |             | CH 159  | 5795            |                  |         | Not required        | No                |

Table 56: Conducted power measurement results of WiFi 5G 802.11n 40M (Full Power).

| Mode                       | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|----------------------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11ac-20M (5GHz)</b> | <b>Ant1</b> | CH 36   | 5180            | 6.5              | 12.5    | 11.41               | No                |
|                            |             | CH 40   | 5200            |                  |         | 11.52               | No                |
|                            |             | CH 44   | 5220            |                  |         | 11.66               | No                |
|                            |             | CH 48   | 5240            |                  |         | 11.47               | No                |
|                            |             | CH 52   | 5260            |                  |         | 11.25               | No                |
|                            |             | CH 56   | 5280            |                  |         | 11.42               | No                |
|                            |             | CH 60   | 5300            |                  |         | 11.26               | No                |
|                            |             | CH 64   | 5320            |                  |         | 11.66               | No                |
|                            |             | CH 100  | 5500            |                  |         | 11.43               | No                |
|                            |             | CH 104  | 5520            |                  |         | 11.38               | No                |
|                            |             | CH 108  | 5540            |                  |         | 11.54               | No                |
|                            |             | CH 112  | 5560            |                  |         | 11.66               | No                |
|                            |             | CH 116  | 5580            |                  |         | 11.77               | No                |
|                            |             | CH 120  | 5600            |                  |         | 11.85               | No                |
|                            |             | CH 124  | 5620            |                  |         | 11.65               | No                |
|                            |             | CH 128  | 5640            |                  |         | 11.70               | No                |
|                            |             | CH 132  | 5660            |                  |         | 11.59               | No                |
|                            |             | CH 136  | 5680            |                  |         | 11.38               | No                |
|                            |             | CH 140  | 5700            |                  |         | 11.46               | No                |
|                            |             | CH 144  | 5720            |                  |         | 11.75               | No                |
|                            |             | CH 149  | 5745            |                  |         | 11.65               | No                |
|                            |             | CH 153  | 5765            |                  |         | 11.57               | No                |
|                            |             | CH 157  | 5785            |                  |         | 11.71               | No                |
|                            |             | CH 161  | 5805            |                  |         | 11.40               | No                |
|                            |             | CH 165  | 5825            |                  |         | 11.58               | No                |

Table 57: Conducted power measurement results of WiFi 5G 802.11ac 20M (Full Power).

| Mode                       | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|----------------------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11ac-40M (5GHz)</b> | <b>Ant1</b> | CH 38   | 5190            | 13.5             | 10      | Not required        | No                |
|                            |             | CH 46   | 5230            |                  |         | Not required        | No                |
|                            |             | CH 54   | 5270            |                  |         | Not required        | No                |
|                            |             | CH 62   | 5310            |                  |         | Not required        | No                |
|                            |             | CH 102  | 5510            |                  |         | Not required        | No                |
|                            |             | CH 110  | 5550            |                  |         | Not required        | No                |
|                            |             | CH 118  | 5590            |                  |         | Not required        | No                |
|                            |             | CH 126  | 5630            |                  |         | Not required        | No                |
|                            |             | CH 134  | 5670            |                  |         | Not required        | No                |
|                            |             | CH 142  | 5710            |                  |         | Not required        | No                |
|                            |             | CH 151  | 5755            |                  |         | Not required        | No                |
|                            |             | CH 159  | 5795            |                  |         | Not required        | No                |

Table 58: Conducted power measurement results of WiFi 5G 802.11ac 40M (Full Power).

| Mode                               | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|------------------------------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11ac<br/>80M<br/>(5GHz)</b> | <b>Ant1</b> | CH 42   | 5210            | 29.3             | 10      | Not required        | No                |
|                                    |             | CH 58   | 5290            |                  |         | Not required        | No                |
|                                    |             | CH 106  | 5530            |                  |         | Not required        | No                |
|                                    |             | CH 122  | 5610            |                  |         | Not required        | No                |
|                                    |             | CH 138  | 5690            |                  |         | Not required        | No                |
|                                    |             | CH 155  | 5775            |                  |         | Not required        | No                |

Table 59: Conducted power measurement results of WiFi 5G 802.11ac 80M (Full Power).

| Mode           | Antenna     | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|----------------|-------------|---------|-----------------|------------------|---------|---------------------|-------------------|
| <b>802.11a</b> | <b>Ant1</b> | CH 36   | 5180            | 6                | 10.5    | 9.15                | No                |
|                |             | CH 40   | 5200            |                  |         | 8.69                | No                |
|                |             | CH 44   | 5220            |                  |         | 8.68                | No                |
|                |             | CH 48   | 5240            |                  |         | 8.71                | No                |
|                |             | CH 52   | 5260            |                  |         | <b>9.41</b>         | Yes               |
|                |             | CH 56   | 5280            |                  |         | 9.32                | No                |
|                |             | CH 60   | 5300            |                  |         | 9.16                | No                |
|                |             | CH 64   | 5320            |                  |         | 9.35                | No                |
|                |             | CH 100  | 5500            |                  |         | 9.43                | No                |
|                |             | CH 104  | 5520            |                  |         | 9.35                | No                |
|                |             | CH 108  | 5540            |                  |         | 9.46                | No                |
|                |             | CH 112  | 5560            |                  |         | 9.58                | No                |
|                |             | CH 116  | 5580            |                  |         | 9.61                | No                |
|                |             | CH 120  | 5600            |                  |         | 9.49                | No                |
|                |             | CH 124  | 5620            |                  |         | 9.63                | No                |
|                |             | CH 128  | 5640            |                  |         | 9.35                | No                |
|                |             | CH 132  | 5660            |                  |         | <b>9.71</b>         | Yes               |
|                |             | CH 136  | 5680            |                  |         | 9.18                | No                |
|                |             | CH 140  | 5700            |                  |         | 9.31                | No                |
|                |             | CH 144  | 5720            |                  |         | 9.21                | No                |
|                |             | CH 149  | 5745*           |                  | 12.5    | 11.47               | No                |
|                |             | CH 153  | 5765            |                  |         | 11.43               | No                |
|                |             | CH 157  | 5785            |                  |         | 11.41               | No                |
|                |             | CH 161  | 5805            |                  |         | 11.80               | No                |
|                |             | CH 165  | 5825            |                  |         | 11.46               | No                |

Table 60: Conducted power measurement results of WiFi 5G 802.11a (2G/3G/4G antenna simultaneous transmission with WIFI station).

| Mode                     | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|--------------------------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11n<br>20M<br>(5GHz) | Ant1    | CH 36   | 5180            | 6.5              | 10.5    | 9.66                | No                |
|                          |         | CH 40   | 5200            |                  |         | 9.55                | No                |
|                          |         | CH 44   | 5220            |                  |         | 9.54                | No                |
|                          |         | CH 48   | 5240            |                  |         | 9.46                | No                |
|                          |         | CH 52   | 5260            |                  |         | 9.41                | No                |
|                          |         | CH 56   | 5280            |                  |         | 9.57                | No                |
|                          |         | CH 60   | 5300            |                  |         | 9.69                | No                |
|                          |         | CH 64   | 5320            |                  |         | 9.73                | No                |
|                          |         | CH 100  | 5500            |                  |         | 9.66                | No                |
|                          |         | CH 104  | 5520            |                  |         | 9.71                | No                |
|                          |         | CH 108  | 5540            |                  |         | 9.60                | No                |
|                          |         | CH 112  | 5560            |                  |         | 9.39                | No                |
|                          |         | CH 116  | 5580            |                  |         | 9.47                | No                |
|                          |         | CH 120  | 5600            |                  |         | 9.76                | No                |
|                          |         | CH 124  | 5620            |                  |         | 9.80                | No                |
|                          |         | CH 128  | 5640            |                  |         | 9.72                | No                |
|                          |         | CH 132  | 5660            |                  |         | 9.86                | No                |
|                          |         | CH 136  | 5680            |                  |         | 9.67                | No                |
|                          |         | CH 140  | 5700            |                  |         | 9.45                | No                |
|                          |         | CH 144  | 5720            |                  |         | 9.62                | No                |
|                          |         | CH 149  | 5745            |                  | 12.5    | 11.47               | No                |
|                          |         | CH 153  | 5765            |                  |         | 11.49               | No                |
|                          |         | CH 157  | 5785            |                  |         | 11.28               | No                |
|                          |         | CH 161  | 5805            |                  |         | 11.51               | No                |
|                          |         | CH 165  | 5825            |                  |         | 11.48               | No                |

Table 61: Conducted power measurement results of WiFi 5G 802.11n 20M (2G/3G/4G antenna simultaneous transmission with WIFI station).

| Mode                     | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|--------------------------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11n<br>40M<br>(5GHz) | Ant1    | CH 38   | 5190            | 13.5             | 8       | Not required        | No                |
|                          |         | CH 46   | 5230            |                  |         | Not required        | No                |
|                          |         | CH 54   | 5270            |                  |         | Not required        | No                |
|                          |         | CH 62   | 5310            |                  |         | Not required        | No                |
|                          |         | CH 102  | 5510            |                  |         | Not required        | No                |
|                          |         | CH 110  | 5550            |                  |         | Not required        | No                |
|                          |         | CH 118  | 5590            |                  |         | Not required        | No                |
|                          |         | CH 126  | 5630            |                  |         | Not required        | No                |
|                          |         | CH 134  | 5670            |                  |         | Not required        | No                |
|                          |         | CH 142  | 5710            |                  |         | Not required        | No                |
|                          |         | CH 151  | 5755            |                  | 10      | Not required        | No                |
|                          |         | CH 159  | 5795            |                  |         | Not required        | No                |

Table 62: Conducted power measurement results of WiFi 5G 802.11n 40M (2G/3G/4G antenna simultaneous transmission with WIFI station).

| Mode                | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|---------------------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11ac-20M (5GHz) | Ant1    | CH 36   | 5180            | 6.5              | 10.5    | 9.20                | No                |
|                     |         | CH 40   | 5200            |                  |         | 9.31                | No                |
|                     |         | CH 44   | 5220            |                  |         | 9.45                | No                |
|                     |         | CH 48   | 5240            |                  |         | 9.26                | No                |
|                     |         | CH 52   | 5260            |                  |         | 9.04                | No                |
|                     |         | CH 56   | 5280            |                  |         | 9.21                | No                |
|                     |         | CH 60   | 5300            |                  |         | 9.05                | No                |
|                     |         | CH 64   | 5320            |                  |         | 9.45                | No                |
|                     |         | CH 100  | 5500            |                  |         | 9.38                | No                |
|                     |         | CH 104  | 5520            |                  |         | 9.33                | No                |
|                     |         | CH 108  | 5540            |                  |         | 9.49                | No                |
|                     |         | CH 112  | 5560            |                  |         | 9.61                | No                |
|                     |         | CH 116  | 5580            |                  |         | 9.72                | No                |
|                     |         | CH 120  | 5600            |                  |         | 9.80                | No                |
|                     |         | CH 124  | 5620            |                  |         | 9.60                | No                |
|                     |         | CH 128  | 5640            |                  |         | 9.65                | No                |
|                     |         | CH 132  | 5660            |                  |         | 9.44                | No                |
|                     |         | CH 136  | 5680            |                  |         | 9.23                | No                |
|                     |         | CH 140  | 5700            |                  |         | 9.31                | No                |
|                     |         | CH 144  | 5720            |                  |         | 9.60                | No                |
|                     |         | CH 149  | 5745            |                  | 12.5    | 11.65               | No                |
|                     |         | CH 153  | 5765            |                  |         | 11.57               | No                |
|                     |         | CH 157  | 5785            |                  |         | 11.71               | No                |
|                     |         | CH 161  | 5805            |                  |         | 11.40               | No                |
|                     |         | CH 165  | 5825            |                  |         | 11.58               | No                |

Table 63: Conducted power measurement results of WiFi 5G 802.11ac 20M (2G/3G/4G antenna simultaneous transmission with WIFI station).

| Mode                | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|---------------------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11ac-40M (5GHz) | Ant1    | CH 38   | 5190            | 13.5             | 8       | Not required        | No                |
|                     |         | CH 46   | 5230            |                  |         | Not required        | No                |
|                     |         | CH 54   | 5270            |                  |         | Not required        | No                |
|                     |         | CH 62   | 5310            |                  |         | Not required        | No                |
|                     |         | CH 102  | 5510            |                  |         | Not required        | No                |
|                     |         | CH 110  | 5550            |                  |         | Not required        | No                |
|                     |         | CH 118  | 5590            |                  |         | Not required        | No                |
|                     |         | CH 126  | 5630            |                  |         | Not required        | No                |
|                     |         | CH 134  | 5670            |                  |         | Not required        | No                |
|                     |         | CH 142  | 5710            |                  |         | Not required        | No                |
|                     |         | CH 151  | 5755            |                  | 10      | Not required        | No                |
|                     |         | CH 159  | 5795            |                  |         | Not required        | No                |

Table 64: Conducted power measurement results of WiFi 5G 802.11ac 40M (2G/3G/4G antenna simultaneous transmission with WIFI station).

| Mode                | Antenna | Channel | Frequency (MHz) | Data Rate (Mbps) | Tune-up | Average Power (dBm) | SAR Test (Yes/No) |
|---------------------|---------|---------|-----------------|------------------|---------|---------------------|-------------------|
| 802.11ac 80M (5GHz) | Ant1    | CH 42   | 5210            | 29.3             | 8       | Not required        | No                |
|                     |         | CH 58   | 5290            |                  |         | Not required        | No                |
|                     |         | CH 106  | 5530            |                  |         | Not required        | No                |
|                     |         | CH 122  | 5610            |                  |         | Not required        | No                |
|                     |         | CH 138  | 5690            |                  |         | Not required        | No                |
|                     |         | CH 155  | 5775            |                  | 10      | Not required        | No                |

Table 65: Conducted power measurement results of WiFi 5G 802.11ac 80M (2G/3G/4G antenna simultaneous transmission with WIFI station).

### 7.1.32 Conducted power measurements of BT

The output power of BT antenna is as following:

| BT 2450 | Tune-up | Average Conducted Power (dBm) |      |      |
|---------|---------|-------------------------------|------|------|
|         |         | 0CH                           | 39CH | 78CH |
| DH5     | 10      | 8.38                          | 9.58 | 8.02 |
| 2DH5    | 10      | 6.14                          | 6.21 | 4.27 |
| 3DH5    | 10      | 5.79                          | 6.19 | 4.01 |

| BT 2450 | Tune-up | Average Conducted Power (dBm) |      |      |
|---------|---------|-------------------------------|------|------|
|         |         | 0CH                           | 19CH | 39CH |
| BT BLE  | 10      | 2.76                          | 2.71 | 1.21 |

Table 66: Conducted power measurement results of BT.

Note: The conducted power of BT is measured with RMS detector.

## 7.2 SAR measurement Results

### General Notes:

1) Per KDB447498 D01, all SAR measurement results are scaled to the maximum tune-up tolerance limit to demonstrate SAR compliance.

2) Per KDB447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- $\leq 0.8\text{W/kg}$  for 1-g or  $2.0\text{W/kg}$  for 10-g respectively, when the transmission band is  $\leq 100\text{MHz}$ .
- $\leq 0.6\text{ W/kg}$  or  $1.5\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- $\leq 0.4\text{ W/kg}$  or  $1.0\text{ W/kg}$ , for 1-g or 10-g respectively, when the transmission band is  $\geq 200\text{ MHz}$ .

When the maximum output power variation across the required test channels is  $> \frac{1}{2}\text{ dB}$ , instead of the middle channel, the highest output power channel must be used.

3) Per KDB865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is  $\geq 0.8\text{W/kg}$ ; if the deviation among the repeated measurement is  $\leq 20\%$ , and the measured SAR  $< 1.45\text{W/Kg}$ , only one repeated measurement is required.

4) Per KDB941225 D06, the DUT Dimension is bigger than 9 cm x 5 cm, so 10mm is chosen as the test separation distance for Hotspot mode. When the antenna-to-edge distance is greater than 2.5cm, such position does not need to be tested.

5) Per KDB648474 D04, SAR is evaluated without a headset connected to the device. When the standalone reported body-worn SAR is  $\leq 1.2\text{ W/kg}$ , no additional SAR evaluations using a headset are required.

6) Per KDB865664 D02, SAR plot is only required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination; Plots are also required when the measured SAR is  $> 1.5\text{ W/kg}$ , or  $> 7.0\text{ W/kg}$  for occupational exposure. The published RF exposure KDB procedures may require additional plots; for example, to support SAR to peak location separation ratio test exclusion and/or volume scan post-processing(Refer to appendix B for details).

7) Additional SAR tests in simultaneous transmission fixed power reduction scenario are also tested in some frequency bands and required test positions for the SAR worst case, which are only used to ensure simultaneous transmission SAR test exclusion. The standalone SAR compliance still uses the SAR results tested at the maximum output power level.

8) Per KDB 648474D04, for handsets with additional batteries, the highest reported SAR for each wireless technology, frequency band, operating mode and applicable exposure condition (head, body-worn accessory, hotspot mode, etc.) must be repeated with the specific accessory attached. In addition, for test cases where the measured SAR for a handset is greater than  $1.2\text{ W/kg}$ , these tests should also be repeated with the additional batteries.

9) Per KDB 648474 D04, Phones with built-in NFC functions do not require separate SAR testing and can generally be tested according to the SAR measurement procedures normally required for the phone. Influences of the hardware introduced by the built-in NFC functions are inherently considered through testing of the other transmitters that require SAR.

**GSM Notes:**

- 1) Per KDB941225 D01, SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
- 2) Per KDB648474 D04v01r02, the device does not support DTM function. Body-worn accessory testing is typically associated with voice operations. Therefore, GSM voice was evaluated for body-worn SAR.

**UMTS Notes:**

- 1) Per KDB941225 D01, When the maximum output power and tune-up tolerance specified for production units in a Second mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of Second to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the Second mode.

**LTE Notes:**

- 1) The LTE test configurations are determined according to KDB941225 D05 SAR for LTE Devices v02r03. The general test procedures used for SAR testing can be found in Section 6.5.
- 2) A-MPR was disabled for all SAR test by setting NS\_01 on the base station simulator. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI)
- 3) According to KDB 941225 D05, for Time-Division Duplex (TDD) systems, SAR is tested using a fixed periodic duty factor according to the highest transmission duty factor (63.33%) implemented for the device and supported by the defined 3GPP LTE TDD configurations.

**WiFi Notes:**

Per KDB248227D01:

- 1) When reported SAR for the initial test position is  $\leq 0.4$  W/kg, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR position until the reported SAR result is  $\leq 0.8$  W/kg or all test position are measured. For all positions/configurations tested using the initial test position and subsequent test positions, when the *reported* SAR is  $> 0.8$  W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the *reported* SAR is  $\leq 1.2$  W/kg or all required channels are tested..
- 2) The highest SAR measured for the initial test position or initial test configuration should be used to determine SAR test exclusion according to the sum of 1-g SAR and SAR peak to location ratio provisions in KDB 447498. In addition, a test lab may also choose to perform standalone SAR measurements for test positions and 802.11 configurations that are not required by the initial test position or initial test configuration procedures and apply the results to determine simultaneous transmission SAR test exclusion, according to sum of 1-g and SAR peak to location ratio requirements to reduce the number of simultaneous transmission SAR measurements.

## 7.2.1 SAR measurement Result of GSM850 (Second Antenna)

| Test Position of Head                                                            | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|----------------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                                  |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)                        |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                                       | 190/836.6                | GSM       | 0.618            | 0.339 | 0.10             | 29.42                 | 30.50               | 0.792                | /                | /        |
| Left tilt                                                                        | 190/836.6                | GSM       | 0.551            | 0.287 | -0.11            | 29.42                 | 30.50               | 0.707                | /                | /        |
| Right touch                                                                      | 190/836.6                | GSM       | 0.987            | 0.532 | 0.11             | 29.42                 | 30.50               | 1.266                | /                | /        |
| Right touch                                                                      | 128/824.2                | GSM       | 0.886            | 0.474 | -0.01            | 29.30                 | 30.50               | 1.168                | /                | /        |
| Right touch                                                                      | 251/848.8                | GSM       | 0.947            | 0.514 | -0.02            | 29.61                 | 30.50               | 1.162                | /                | /        |
| Right tilt                                                                       | 190/836.6                | GSM       | 0.767            | 0.366 | -0.11            | 29.42                 | 30.50               | 0.984                | /                | /        |
| Right tilt                                                                       | 128/824.2                | GSM       | 0.674            | 0.328 | 0.10             | 29.30                 | 30.50               | 0.889                | /                | /        |
| Right tilt                                                                       | 251/848.8                | GSM       | 0.771            | 0.377 | 0.00             | 29.61                 | 30.50               | 0.946                | /                | /        |
| Tested at the worst position with SIM2                                           |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                                      | 190/836.6                | GSM       | 0.940            | 0.509 | 0.09             | 29.42                 | 30.50               | 1.205                | /                | /        |
| Tested at the worst position with battery 2#                                     |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                                      | 190/836.6                | GSM       | 1.050            | 0.562 | 0.17             | 29.42                 | 30.50               | 1.346                | /                | /        |
| Right touch-Repeated                                                             | 190/836.6                | GSM       | 0.970            | 0.507 | -0.01            | 29.42                 | 30.50               | 1.244                | /                | /        |
| Tested at the worst position with battery 3#                                     |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                                      | 190/836.6                | GSM       | 1.020            | 0.554 | -0.08            | 29.42                 | 30.50               | 1.308                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2          |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                                      | 190/836.6                | GSM       | 1.060            | 0.577 | 0.03             | 29.42                 | 30.50               | 1.359                | /                | Yes      |
| Additional SAR test (Second antenna simultaneous transmission with WIFI antenna) |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                                      | 190/836.6                | GSM       | 0.942            | 0.510 | -0.08            | 29.01                 | 30.00               | 1.183                | /                | /        |
| Right touch                                                                      | 128/824.2                | GSM       | 0.873            | 0.469 | -0.01            | 28.87                 | 30.00               | 1.132                | /                | /        |
| Right touch                                                                      | 251/848.8                | GSM       | 0.927            | 0.504 | 0.02             | 29.15                 | 30.00               | 1.127                | /                | /        |

Table 67: Head SAR test results of GSM850

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 190/836.6                 | GSM       | 0.169            | 0.128 | -0.01            | 29.42                 | 30.50               | 0.217                | /                | /        |
| Back Side                                                               | 190/836.6                 | GSM       | 0.192            | 0.145 | -0.03            | 29.42                 | 30.50               | 0.246                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                 | GSM       | 0.189            | 0.144 | -0.07            | 29.42                 | 30.50               | 0.242                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                 | GSM       | 0.185            | 0.130 | -0.05            | 29.42                 | 30.50               | 0.237                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                 | GSM       | 0.197            | 0.149 | -0.08            | 29.42                 | 30.50               | 0.253                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                 | GSM       | <b>0.207</b>     | 0.159 | -0.07            | 29.42                 | 30.50               | <b>0.265</b>         | /                | Yes      |

Table 68: Body-Worn SAR test results of GSM850

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 190/836.6                 | GPRS 2TS  | 0.285            | 0.179 | 0.00             | 27.64                 | 28.50               | 0.347                | /                | /        |
| Back Side                                                               | 190/836.6                 | GPRS 2TS  | 0.337            | 0.187 | 0.06             | 27.64                 | 28.50               | 0.411                | /                | /        |
| Left Side                                                               | 190/836.6                 | GPRS 2TS  | 0.401            | 0.271 | -0.09            | 27.64                 | 28.50               | 0.489                | /                | /        |
| Top Side                                                                | 190/836.6                 | GPRS 2TS  | 0.203            | 0.100 | -0.10            | 27.64                 | 28.50               | 0.247                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 190/836.6                 | GPRS 2TS  | 0.382            | 0.258 | -0.06            | 27.64                 | 28.50               | 0.466                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 190/836.6                 | GPRS 2TS  | 0.387            | 0.262 | -0.04            | 27.64                 | 28.50               | 0.472                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 190/836.6                 | GPRS 2TS  | 0.381            | 0.258 | -0.07            | 27.64                 | 28.50               | 0.464                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 190/836.6                 | GPRS 2TS  | 0.417            | 0.285 | 0.09             | 27.64                 | 28.50               | 0.508                | /                | Yes      |

Table 69: Hotspot SAR test results of GSM850

## 7.2.2 SAR measurement Result of GSM1900 (Second Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 661/1880                 | GSM       | 0.514            | 0.319 | -0.01            | 24.97                 | 25.50               | 0.581                | /                | /        |
| Left tilt                                                               | 661/1880                 | GSM       | 0.386            | 0.237 | 0.01             | 24.97                 | 25.50               | 0.436                | /                | /        |
| Right touch                                                             | 661/1880                 | GSM       | 1.100            | 0.606 | 0.00             | 24.97                 | 25.50               | 1.243                | /                | /        |
| Right touch                                                             | 512/1850.2               | GSM       | <b>1.170</b>     | 0.644 | 0.04             | 24.98                 | 25.50               | <b>1.319</b>         | /                | /        |
| Right touch-repeated                                                    | 512/1850.2               | GSM       | 1.120            | 0.623 | -0.06            | 24.98                 | 25.50               | 1.262                | /                | /        |
| Right touch                                                             | 810/1909.8               | GSM       | 1.050            | 0.576 | 0.01             | 24.96                 | 25.50               | 1.189                | /                | /        |
| Right tilt                                                              | 661/1880                 | GSM       | 0.719            | 0.387 | 0.01             | 24.97                 | 25.50               | 0.812                | /                | /        |
| Right tilt                                                              | 512/1850.2               | GSM       | 0.752            | 0.406 | 0.03             | 24.98                 | 25.50               | 0.848                | /                | /        |
| Right tilt                                                              | 810/1909.8               | GSM       | 0.685            | 0.372 | -0.03            | 24.96                 | 25.50               | 0.776                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 512/1850.2               | GSM       | 1.160            | 0.639 | -0.10            | 24.98                 | 25.50               | 1.308                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 512/1850.2               | GSM       | 1.030            | 0.573 | -0.01            | 24.98                 | 25.50               | 1.161                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 512/1850.2               | GSM       | 1.040            | 0.573 | -0.06            | 24.98                 | 25.50               | 1.172                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 512/1850.2               | GSM       | 0.945            | 0.521 | -0.06            | 24.98                 | 25.50               | 1.065                | /                | Yes      |

Table 70: Head SAR test results of GSM1900

| Test Position of Body-Worn with 15mm                                    | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.087            | 0.054 | 0.09             | 24.97                 | 25.50               | 0.099                | /                | /        |
| Back Side                                                               | 661/1880                 | GSM       | <b>0.105</b>     | 0.067 | 0.16             | 24.97                 | 25.50               | <b>0.119</b>         | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 661/1880                 | GSM       | 0.100            | 0.061 | -0.13            | 24.97                 | 25.50               | 0.113                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 661/1880                 | GSM       | 0.098            | 0.060 | 0.01             | 24.97                 | 25.50               | 0.111                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 661/1880                 | GSM       | 0.102            | 0.066 | 0.06             | 24.97                 | 25.50               | 0.115                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 661/1880                 | GSM       | 0.073            | 0.046 | 0.11             | 24.97                 | 25.50               | 0.083                | /                | Yes      |

Table 71: Body-Worn SAR test results of GSM1900

| Test Position of Hotspot with 10mm                                      | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GPRS 2TS  | 0.192            | 0.124 | 0.10             | 22.69                 | 23.50               | 0.231                | /                | /        |
| Back Side                                                               | 661/1880                 | GPRS 2TS  | 0.211            | 0.134 | -0.10            | 22.69                 | 23.50               | 0.254                | /                | /        |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | <b>0.252</b>     | 0.150 | 0.03             | 22.69                 | 23.50               | <b>0.304</b>         | /                | /        |
| Top Side                                                                | 661/1880                 | GPRS 2TS  | 0.198            | 0.101 | -0.02            | 22.69                 | 23.50               | 0.239                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | 0.249            | 0.148 | 0.09             | 22.69                 | 23.50               | 0.300                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | 0.221            | 0.124 | 0.14             | 22.69                 | 23.50               | 0.266                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | 0.227            | 0.135 | 0.14             | 22.69                 | 23.50               | 0.274                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | 0.161            | 0.093 | 0.00             | 22.69                 | 23.50               | 0.194                | /                | Yes      |

Table 72: Hotspot SAR test results of GSM1900

### 7.2.3 SAR measurement Result of UMTS Band II(Second Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 9400/1880                | RMC       | 0.419            | 0.264 | 0.01             | 16.02                 | 16.50               | 0.468                | /                | /        |
| Left tilt                                                               | 9400/1880                | RMC       | 0.326            | 0.202 | 0.07             | 16.02                 | 16.50               | 0.364                | /                | /        |
| Right touch                                                             | 9400/1880                | RMC       | 1.120            | 0.614 | 0.07             | 16.02                 | 16.50               | 1.251                | /                | /        |
| Right tilt                                                              | 9400/1880                | RMC       | 0.711            | 0.381 | -0.10            | 16.02                 | 16.50               | 0.794                | /                | /        |
| Right touch                                                             | 9262/1852.4              | RMC       | 1.110            | 0.617 | 0.01             | 15.97                 | 16.50               | 1.254                | /                | /        |
| Right touch                                                             | 9538/1907.6              | RMC       | <b>1.200</b>     | 0.657 | 0.02             | 16.07                 | 16.50               | <b>1.325</b>         | /                | /        |
| Right touch-Repeated                                                    | 9538/1907.6              | RMC       | 1.180            | 0.649 | -0.04            | 16.07                 | 16.50               | 1.303                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9538/1907.6              | RMC       | 1.040            | 0.577 | 0.06             | 16.07                 | 16.50               | 1.148                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9538/1907.6              | RMC       | 1.020            | 0.559 | -0.01            | 16.07                 | 16.50               | 1.126                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9538/1907.6              | RMC       | 0.976            | 0.538 | -0.01            | 16.07                 | 16.50               | 1.078                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9538/1907.6              | RMC       | 0.995            | 0.544 | -0.01            | 16.07                 | 16.50               | 1.099                | /                | Yes      |

Table 73: Head SAR test results of UMTS Band II

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 9400/1880                 | RMC       | 0.097            | 0.059 | 0.12             | 16.02                 | 16.50               | 0.108                | /                | /        |
| Back Side                                                               | 9400/1880                 | RMC       | <b>0.113</b>     | 0.072 | 0.14             | 16.02                 | 16.50               | <b>0.126</b>         | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.107            | 0.068 | -0.04            | 16.02                 | 16.50               | 0.120                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.102            | 0.066 | -0.12            | 16.02                 | 16.50               | 0.114                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.109            | 0.070 | -0.08            | 16.02                 | 16.50               | 0.122                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.102            | 0.065 | 0.14             | 16.02                 | 16.50               | 0.114                | /                | Yes      |

Table 74: Body-Worn SAR test results of UMTS Band II

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 9400/1880                 | RMC       | 0.113            | 0.071 | 0.07             | 16.02                 | 16.50               | 0.126                | /                | /        |
| Back Side                                                               | 9400/1880                 | RMC       | 0.121            | 0.075 | 0.19             | 16.02                 | 16.50               | 0.135                | /                | /        |
| Left Side                                                               | 9400/1880                 | RMC       | 0.127            | 0.074 | 0.11             | 16.02                 | 16.50               | 0.142                | /                | /        |
| Top Side                                                                | 9400/1880                 | RMC       | 0.097            | 0.049 | 0.01             | 16.02                 | 16.50               | 0.108                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 9400/1880                 | RMC       | 0.127            | 0.074 | 0.19             | 16.02                 | 16.50               | 0.142                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 9400/1880                 | RMC       | 0.146            | 0.086 | 0.04             | 16.02                 | 16.50               | 0.163                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 9400/1880                 | RMC       | 0.138            | 0.082 | 0.07             | 16.02                 | 16.50               | 0.154                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 9400/1880                 | RMC       | 0.108            | 0.063 | 0.16             | 16.02                 | 16.50               | 0.121                | /                | Yes      |

Table 75: Hotspot SAR test results of UMTS Band II

## 7.2.4 SAR measurement Result of UMTS Band IV(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 1413/1732.6               | RMC       | 0.445            | 0.282 | -0.08            | 16.78                 | 17.50               | 0.525                | /                | /        |
| Left tilt                                                               | 1413/1732.6               | RMC       | 0.383            | 0.232 | -0.01            | 16.78                 | 17.50               | 0.452                | /                | /        |
| Right touch                                                             | 1413/1732.6               | RMC       | 1.060            | 0.598 | -0.01            | 16.78                 | 17.50               | 1.251                | /                | /        |
| Right touch                                                             | 1312/1712.4               | RMC       | 1.010            | 0.570 | -0.02            | 16.83                 | 17.50               | 1.178                | /                | /        |
| Right touch                                                             | 1513/1752.6               | RMC       | <b>1.120</b>     | 0.626 | 0.00             | 16.78                 | 17.50               | <b>1.322</b>         | /                | /        |
| Right touch-repeated                                                    | 1513/1752.6               | RMC       | 1.100            | 0.619 | 0.00             | 16.78                 | 17.50               | 1.298                | /                | /        |
| Right tilt                                                              | 1413/1732.6               | RMC       | 0.760            | 0.401 | 0.02             | 16.78                 | 17.50               | 0.897                | /                | /        |
| Right tilt                                                              | 1312/1712.4               | RMC       | 0.732            | 0.386 | 0.01             | 16.83                 | 17.50               | 0.854                | /                | /        |
| Right tilt                                                              | 1513/1752.6               | RMC       | 0.804            | 0.426 | -0.01            | 16.78                 | 17.50               | 0.949                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 1.050            | 0.598 | -0.02            | 16.78                 | 17.50               | 1.239                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.929            | 0.519 | 0.00             | 16.78                 | 17.50               | 1.097                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.929            | 0.518 | 0.06             | 16.78                 | 17.50               | 1.097                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.911            | 0.522 | 0.01             | 16.78                 | 17.50               | 1.075                | /                | Yes      |

Table 76: Head SAR test results of UMTS Band IV

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 1413/1732.6               | RMC       | 0.066            | 0.044 | 0.19             | 16.78                 | 17.50               | 0.078                | /                | /        |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.084            | 0.048 | 0.03             | 16.78                 | 17.50               | 0.099                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.083            | 0.048 | 0.18             | 16.78                 | 17.50               | 0.098                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.067            | 0.042 | 0.10             | 16.78                 | 17.50               | 0.080                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.076            | 0.047 | 0.14             | 16.78                 | 17.50               | 0.089                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1413/1732.6               | RMC       | <b>0.085</b>     | 0.048 | 0.01             | 16.78                 | 17.50               | <b>0.100</b>         | /                | Yes      |

Table 77: Body-Worn SAR test results of UMTS Band IV

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 1413/1732.6               | RMC       | 0.146            | 0.081 | 0.12             | 16.78                 | 17.50               | 0.172                | /                | /        |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.166            | 0.092 | -0.07            | 16.78                 | 17.50               | 0.196                | /                | /        |
| Left Side                                                               | 1413/1732.6               | RMC       | 0.150            | 0.086 | -0.06            | 16.78                 | 17.50               | 0.177                | /                | /        |
| Top Side                                                                | 1413/1732.6               | RMC       | 0.207            | 0.109 | 0.13             | 16.78                 | 17.50               | 0.244                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Top Side                                                                | 1413/1732.6               | RMC       | 0.197            | 0.104 | -0.01            | 16.78                 | 17.50               | 0.233                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Top Side                                                                | 1413/1732.6               | RMC       | 0.184            | 0.098 | 0.18             | 16.78                 | 17.50               | 0.217                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Top Side                                                                | 1413/1732.6               | RMC       | 0.136            | 0.072 | 0.13             | 16.78                 | 17.50               | 0.161                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Top Side                                                                | 1413/1732.6               | RMC       | <b>0.223</b>     | 0.117 | -0.08            | 16.78                 | 17.50               | <b>0.263</b>         | /                | Yes      |

Table 78: Hotspot SAR test results of UMTS Band IV

## 7.2.5 SAR measurement Result of UMTS Band V(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 4182/836.4                | RMC       | 0.725            | 0.398 | 0.10             | 20.73                 | 21.50               | 0.866                | /                | /        |
| Left touch                                                              | 4132/826.4                | RMC       | 0.711            | 0.390 | 0.05             | 20.80                 | 21.50               | 0.835                | /                | /        |
| Left touch                                                              | 4233/846.6                | RMC       | 0.720            | 0.393 | -0.05            | 20.72                 | 21.50               | 0.862                | /                | /        |
| Left tilt                                                               | 4182/836.4                | RMC       | 0.684            | 0.347 | 0.05             | 20.73                 | 21.50               | 0.817                | /                | /        |
| Left tilt                                                               | 4132/826.4                | RMC       | 0.648            | 0.336 | 0.04             | 20.80                 | 21.50               | 0.761                | /                | /        |
| Left tilt                                                               | 4233/846.6                | RMC       | 0.686            | 0.347 | 0.00             | 20.72                 | 21.50               | 0.821                | /                | /        |
| Right touch                                                             | 4182/836.4                | RMC       | 1.090            | 0.581 | -0.01            | 20.73                 | 21.50               | 1.301                | /                | /        |
| Right touch                                                             | 4132/826.4                | RMC       | 1.110            | 0.590 | 0.03             | 20.80                 | 21.50               | 1.304                | /                | /        |
| Right touch                                                             | 4233/846.6                | RMC       | 1.040            | 0.560 | -0.04            | 20.72                 | 21.50               | 1.245                | /                | /        |
| Right tilt                                                              | 4182/836.4                | RMC       | 0.920            | 0.443 | 0.00             | 20.73                 | 21.50               | 1.098                | /                | /        |
| Right tilt                                                              | 4132/826.4                | RMC       | 0.909            | 0.439 | -0.04            | 20.80                 | 21.50               | 1.068                | /                | /        |
| Right tilt                                                              | 4233/846.6                | RMC       | 0.892            | 0.432 | -0.05            | 20.72                 | 21.50               | 1.067                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4132/826.4                | RMC       | 1.220            | 0.635 | -0.07            | 20.80                 | 21.50               | 1.433                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4132/826.4                | RMC       | 1.270            | 0.651 | -0.05            | 20.80                 | 21.50               | 1.492                | /                | /        |
| Right touch-repeated                                                    | 4132/826.4                | RMC       | 1.220            | 0.635 | -0.07            | 20.80                 | 21.50               | 1.433                | /                | /        |
| Right touch-holder perturbation verification                            | 4132/826.4                | RMC       | 1.240            | 0.646 | -0.07            | 20.80                 | 21.50               | 1.457                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4132/826.4                | RMC       | 1.220            | 0.633 | -0.02            | 20.80                 | 21.50               | 1.433                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4182/836.4                | RMC       | 1.030            | 0.558 | 0.00             | 20.80                 | 21.50               | 1.210                | /                | Yes      |
| Additional SAR test (After Synchronous transmission with WiFi station)  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4182/836.4                | RMC       | 0.943            | 0.513 | 0.07             | 19.70                 | 20.50               | 1.134                | /                | /        |
| Right touch                                                             | 4132/826.4                | RMC       | 0.934            | 0.502 | -0.03            | 19.77                 | 20.50               | 1.105                | /                | /        |
| Right touch                                                             | 4233/846.6                | RMC       | 0.903            | 0.494 | -0.01            | 19.69                 | 20.50               | 1.088                | /                | /        |

Table 79: Head SAR test results of UMTS Band V

Note: According to 201610 FCC TCB workshop RF exposure slides, when the highest reported SAR of an antenna is > 1.2 W/kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.

| Test Position<br>of Body-Worn<br>with 15mm                              | Test<br>channel /<br>Freq.(MHz) | Test<br>Mode | SAR Value<br>(W/kg) |       | Powe<br>r Drift<br>(dB) | Conducted<br>Power<br>(dBm) | Tune-<br>up<br>Power<br>(dBm) | Scaled<br>SAR1-g<br>(W/kg) | Ant<br>Tuning<br>State | SAR<br>Plot |
|-------------------------------------------------------------------------|---------------------------------|--------------|---------------------|-------|-------------------------|-----------------------------|-------------------------------|----------------------------|------------------------|-------------|
|                                                                         |                                 |              | 1-g                 | 10-g  |                         |                             |                               |                            |                        |             |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                                 |              |                     |       |                         |                             |                               |                            |                        |             |
| Front Side                                                              | 4182/836.4                      | RMC          | 0.158               | 0.119 | -0.03                   | 20.73                       | 21.50                         | 0.189                      | /                      | /           |
| Back Side                                                               | 4182/836.4                      | RMC          | <b>0.186</b>        | 0.140 | -0.08                   | 20.73                       | 21.50                         | <b>0.222</b>               | /                      | /           |
| Tested at the worst position with SIM2                                  |                                 |              |                     |       |                         |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.180               | 0.135 | -0.09                   | 20.73                       | 21.50                         | 0.215                      | /                      | /           |
| Tested at the worst position with battery 2#                            |                                 |              |                     |       |                         |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.176               | 0.133 | -0.11                   | 20.73                       | 21.50                         | 0.210                      | /                      | /           |
| Tested at the worst position with battery 3#                            |                                 |              |                     |       |                         |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.173               | 0.131 | -0.09                   | 20.73                       | 21.50                         | 0.207                      | /                      | /           |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                                 |              |                     |       |                         |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.156               | 0.094 | -0.08                   | 20.73                       | 21.50                         | 0.186                      | /                      | Yes         |

Table 80: Body-Worn SAR test results of UMTS Band V

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 4182/836.4                | RMC       | 0.264            | 0.150 | -0.03            | 20.73                 | 21.50               | 0.315                | /                | /        |
| Back Side                                                               | 4182/836.4                | RMC       | 0.311            | 0.174 | -0.08            | 20.73                 | 21.50               | 0.371                | /                | /        |
| Left Side                                                               | 4182/836.4                | RMC       | 0.328            | 0.222 | -0.07            | 20.73                 | 21.50               | 0.392                | /                | /        |
| Top Side                                                                | 4182/836.4                | RMC       | 0.250            | 0.115 | -0.13            | 20.73                 | 21.50               | 0.298                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 4182/836.4                | RMC       | 0.333            | 0.225 | -0.06            | 20.73                 | 21.50               | 0.398                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 4182/836.4                | RMC       | 0.343            | 0.231 | -0.08            | 20.73                 | 21.50               | 0.410                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 4182/836.4                | RMC       | <b>0.354</b>     | 0.239 | -0.09            | 20.73                 | 21.50               | <b>0.423</b>         | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left Side                                                               | 4182/836.4                | RMC       | 0.288            | 0.197 | 0.03             | 20.73                 | 21.50               | 0.344                | /                | Yes      |

Table 81: Hotspot SAR test results of UMTS Band V

## 7.2.6 SAR measurement Result of LTE Band II(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 18900/1880                | 20M QPSK 1RB#50   | 0.244            | 0.153 | -0.04            | 16.58                 | 17.00               | 0.269                            | /                | /        |
| Left tilt                                                               | 18900/1880                | 20M QPSK 1RB#50   | 0.233            | 0.142 | 0.02             | 16.58                 | 17.00               | 0.257                            | /                | /        |
| Right touch                                                             | 18900/1880                | 20M QPSK 1RB#50   | 0.622            | 0.347 | -0.06            | 16.58                 | 17.00               | 0.685                            | /                | /        |
| Right tilt                                                              | 18900/1880                | 20M QPSK 1RB#50   | 0.467            | 0.260 | 0.04             | 16.58                 | 17.00               | 0.514                            | /                | /        |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.610            | 0.341 | 0.05             | 15.87                 | 17.00               | 0.791                            | /                | /        |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.842            | 0.468 | 0.05             | 16.50                 | 17.00               | 0.945                            | /                | /        |
| Right touch-repeated                                                    | 19100/1900                | 20M QPSK 1RB#50   | <b>0.898</b>     | 0.491 | -0.12            | 16.50                 | 17.00               | <b>1.008</b>                     | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 18900/1880                | 20M QPSK 50%RB#0  | 0.177            | 0.107 | 0.07             | 15.01                 | 16.00               | 0.222                            | /                | /        |
| Left tilt                                                               | 18900/1880                | 20M QPSK 50%RB#0  | 0.172            | 0.105 | 0.11             | 15.01                 | 16.00               | 0.216                            | /                | /        |
| Right touch                                                             | 18900/1880                | 20M QPSK 50%RB#0  | 0.428            | 0.237 | 0.03             | 15.01                 | 16.00               | 0.538                            | /                | /        |
| Right tilt                                                              | 18700/1860                | 20M QPSK 50%RB#0  | 0.331            | 0.185 | 0.05             | 15.01                 | 16.00               | 0.416                            | /                | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 18900/1880                | 20M QPSK 100%RB#0 | 0.467            | 0.258 | 0.06             | 14.87                 | 16.00               | 0.606                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.762            | 0.429 | -0.03            | 16.50                 | 17.00               | 0.855                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.740            | 0.406 | -0.05            | 16.50                 | 17.00               | 0.830                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.728            | 0.401 | 0.00             | 16.50                 | 17.00               | 0.817                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.721            | 0.409 | -0.02            | 16.50                 | 17.00               | 0.809                            | /                | Yes      |

Table 82: Head SAR test results of LTE Band II

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | 0.071            | 0.040 | 0.19             | 16.58                 | 17.00               | 0.078                            | /                | /        |
| Back Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.056            | 0.036 | 0.07             | 16.58                 | 17.00               | 0.061                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 50%RB#0 | 0.055            | 0.032 | 0.14             | 15.01                 | 16.00               | 0.069                            | /                | /        |
| Back Side                                                               | 18900/1880                | 20M QPSK 50%RB#0 | 0.045            | 0.029 | -0.06            | 15.01                 | 16.00               | 0.057                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | 0.052            | 0.033 | 0.00             | 16.58                 | 17.00               | 0.057                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | 0.042            | 0.026 | 0.19             | 16.58                 | 17.00               | 0.047                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | 0.048            | 0.030 | 0.19             | 16.58                 | 17.00               | 0.053                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | <b>0.077</b>     | 0.048 | 0.08             | 16.58                 | 17.00               | <b>0.085</b>                     | /                | Yes      |

Table 83: Body-Worn SAR test results of LTE Band II

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 1RB#50  | 0.091            | 0.057 | 0.15             | 16.58                 | 17.00               | 0.100                            | /                | /        |
| Back Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.096            | 0.060 | 0.17             | 16.58                 | 17.00               | 0.105                            | /                | /        |
| Left Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.106            | 0.062 | 0.01             | 16.58                 | 17.00               | 0.117                            | /                | /        |
| Top Side                                                                | 18900/1880                | 20M QPSK 1RB#50  | 0.071            | 0.036 | -0.06            | 16.58                 | 17.00               | 0.079                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 18900/1880                | 20M QPSK 50%RB#0 | 0.069            | 0.041 | 0.15             | 15.01                 | 16.00               | 0.087                            | /                | /        |
| Back Side                                                               | 18900/1880                | 20M QPSK 50%RB#0 | 0.074            | 0.044 | 0.14             | 15.01                 | 16.00               | 0.092                            | /                | /        |
| Left Side                                                               | 18900/1880                | 20M QPSK 50%RB#0 | 0.079            | 0.045 | 0.02             | 15.01                 | 16.00               | 0.099                            | /                | /        |
| Top Side                                                                | 18900/1880                | 20M QPSK 50%RB#0 | 0.055            | 0.029 | -0.02            | 15.01                 | 16.00               | 0.070                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.100            | 0.057 | -0.11            | 16.58                 | 17.00               | 0.110                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.089            | 0.051 | -0.06            | 16.58                 | 17.00               | 0.098                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | 0.105            | 0.059 | 0.02             | 16.58                 | 17.00               | 0.116                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                               | 18900/1880                | 20M QPSK 1RB#50  | <b>0.158</b>     | 0.091 | 0.08             | 16.58                 | 17.00               | <b>0.174</b>                     | /                | Yes      |

Table 84: Hotspot SAR test results of LTE Band II

## 7.2.7 SAR measurement Result of LTE Band IV(Second Antenna)

| Test Position of Head                                                  | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                        |                           |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)              |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                    |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Left touch                                                             | 20050/1720                | 20M QPSK 1RB#50   | 0.405            | 0.259 | -0.03            | 18.05                  | 18.30               | 0.429                            | /                | /        |
| Left tilt                                                              | 20050/1720                | 20M QPSK 1RB#50   | 0.295            | 0.179 | 0.03             | 18.05                  | 18.30               | 0.312                            | /                | /        |
| Right touch                                                            | 20050/1720                | 20M QPSK 1RB#50   | 0.897            | 0.506 | 0.00             | 18.05                  | 18.30               | 0.950                            | /                | /        |
| Right touch                                                            | 20175/1732.5              | 20M QPSK 1RB#0    | 0.879            | 0.497 | -0.02            | 17.67                  | 18.30               | 1.016                            | /                | /        |
| Right touch                                                            | 20300/1745                | 20M QPSK 1RB#99   | 0.992            | 0.558 | 0.02             | 17.95                  | 18.30               | 1.075                            | /                | /        |
| Right tilt                                                             | 20050/1720                | 20M QPSK 1RB#50   | 0.653            | 0.347 | -0.02            | 18.05                  | 18.30               | 0.692                            | /                | /        |
| 50%RB                                                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Left touch                                                             | 20050/1720                | 20M QPSK 50%RB#25 | 0.332            | 0.212 | -0.01            | 16.87                  | 17.50               | 0.384                            | /                | /        |
| Left tilt                                                              | 20050/1720                | 20M QPSK 50%RB#25 | 0.265            | 0.156 | 0.04             | 16.87                  | 17.50               | 0.306                            | /                | /        |
| Right touch                                                            | 20050/1720                | 20M QPSK 50%RB#25 | 0.729            | 0.411 | 0.02             | 16.87                  | 17.50               | 0.843                            | /                | /        |
| Right touch                                                            | 20175/1732.5              | 20M QPSK 50%RB#0  | 0.826            | 0.465 | 0.02             | 16.61                  | 17.50               | 1.014                            | /                | /        |
| Right touch                                                            | 20300/1745                | 20M QPSK 50%RB#25 | <b>1.090</b>     | 0.610 | 0.02             | 16.45                  | 17.50               | <b>1.388</b>                     | /                | /        |
| Right touch-repeated                                                   | 20300/1745                | 20M QPSK 50%RB#25 | 1.050            | 0.597 | -0.02            | 16.45                  | 17.50               | 1.337                            | /                | /        |
| Right tilt                                                             | 20050/1720                | 20M QPSK 50%RB#25 | 0.522            | 0.279 | -0.01            | 16.87                  | 17.50               | 0.603                            | /                | /        |
| 100%RB                                                                 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20050/1720                | 20M QPSK 100%RB#0 | 0.716            | 0.415 | -0.01            | 16.79                  | 17.50               | 0.843                            | /                | /        |
| Tested at the worst position with SIM2                                 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20300/1745                | 20M QPSK 50%RB#25 | 1.080            | 0.612 | 0.05             | 16.45                  | 17.50               | 1.375                            | /                | /        |
| Tested at the worst position with battery 2#                           |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20300/1745                | 20M QPSK 50%RB#25 | 0.938            | 0.523 | 0.03             | 16.45                  | 17.50               | 1.195                            | /                | /        |
| Tested at the worst position with battery 3#                           |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20300/1745                | 20M QPSK 50%RB#25 | 0.988            | 0.551 | 0.08             | 16.45                  | 17.50               | 1.258                            | /                | /        |
| Additional SAR test (After Synchronous transmission with WiFi station) |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20050/1720                | 20M QPSK 1RB#50   | 0.772            | 0.436 | 0.09             | 17.61                  | 17.80               | 0.807                            | /                | /        |
| Right touch                                                            | 20175/1732.5              | 20M QPSK 1RB#0    | 0.710            | 0.406 | -0.06            | 17.07                  | 17.80               | 0.840                            | /                | /        |
| Right touch                                                            | 20300/1745                | 20M QPSK 1RB#99   | 0.799            | 0.452 | 0.06             | 17.40                  | 17.80               | 0.876                            | /                | /        |
| 50%RB                                                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                            | 20050/1720                | 20M QPSK 50%RB#25 | 0.611            | 0.345 | -0.16            | 16.26                  | 17.00               | 0.725                            | /                | /        |

| 100%RB                                                                  |            |                      |       |       |       |       |       |       |   |     |
|-------------------------------------------------------------------------|------------|----------------------|-------|-------|-------|-------|-------|-------|---|-----|
| Right touch                                                             | 20050/1720 | 20M QPSK<br>100%RB#0 | 0.655 | 0.375 | -0.11 | 16.17 | 17.00 | 0.793 | / | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |            |                      |       |       |       |       |       |       |   |     |
| Right touch                                                             | 20300/1745 | 20M QPSK<br>50%RB#25 | 0.902 | 0.497 | 0.04  | 16.45 | 17.50 | 1.149 | / | Yes |

Table 85: Head SAR test results of LTE Band IV

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 20050/1720                | 20M QPSK 1RB#50   | 0.079            | 0.052 | 0.18             | 18.05                  | 18.30               | 0.083                            | /                | /        |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | <b>0.095</b>     | 0.053 | -0.07            | 18.05                  | 18.30               | <b>0.100</b>                     | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 20050/1720                | 20M QPSK 50%RB#25 | 0.062            | 0.039 | 0.02             | 16.87                  | 17.50               | 0.072                            | /                | /        |
| Back Side                                                               | 20050/1720                | 20M QPSK 50%RB#25 | 0.069            | 0.043 | 0.06             | 16.87                  | 17.50               | 0.079                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.087            | 0.057 | 0.00             | 18.05                  | 18.30               | 0.092                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.088            | 0.050 | -0.05            | 18.05                  | 18.30               | 0.093                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.091            | 0.052 | 0.08             | 18.05                  | 18.30               | 0.097                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.059            | 0.033 | -0.12            | 18.05                  | 18.30               | 0.062                            | /                | Yes      |

Table 86: Body-Worn SAR test results of LTE Band IV

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20050/1720                | 20M QPSK 1RB#50   | 0.142            | 0.078 | 0.11             | 18.05                 | 18.30               | 0.150                            | /                | /        |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.162            | 0.089 | 0.18             | 18.05                 | 18.30               | 0.172                            | /                | /        |
| Left Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.132            | 0.076 | -0.07            | 18.05                 | 18.30               | 0.140                            | /                | /        |
| Top Side                                                                | 20050/1720                | 20M QPSK 1RB#50   | 0.206            | 0.108 | -0.18            | 18.05                 | 18.30               | 0.218                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20050/1720                | 20M QPSK 50%RB#25 | 0.118            | 0.067 | -0.11            | 16.87                 | 17.50               | 0.136                            | /                | /        |
| Back Side                                                               | 20050/1720                | 20M QPSK 50%RB#25 | 0.133            | 0.076 | 0.06             | 16.87                 | 17.50               | 0.154                            | /                | /        |
| Left Side                                                               | 20050/1720                | 20M QPSK 50%RB#25 | 0.129            | 0.077 | -0.05            | 16.87                 | 17.50               | 0.149                            | /                | /        |
| Top Side                                                                | 20050/1720                | 20M QPSK 50%RB#25 | 0.199            | 0.102 | -0.18            | 16.87                 | 17.50               | 0.230                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Top Side                                                                | 20050/1720                | 20M QPSK 50%RB#25 | 0.181            | 0.094 | 0.10             | 16.87                 | 17.50               | 0.209                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Top Side                                                                | 20050/1720                | 20M QPSK 50%RB#25 | <b>0.242</b>     | 0.129 | -0.19            | 16.87                 | 17.50               | <b>0.280</b>                     | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Top Side                                                                | 20050/1720                | 20M QPSK 50%RB#25 | 0.146            | 0.076 | -0.10            | 16.87                 | 17.50               | 0.169                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Top Side                                                                | 20050/1720                | 20M QPSK 50%RB#25 | 0.168            | 0.088 | -0.01            | 18.05                 | 18.30               | 0.178                            | /                | Yes      |

Table 87: Hotspot SAR test results of LTE Band IV

## 7.2.8 SAR measurement Result of LTE Band V(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 20525/836.5               | 10M QPSK 1RB#25   | 0.522            | 0.285 | 0.11             | 19.45                 | 20.00               | 0.592                            | /                | /        |
| Left tilt                                                               | 20525/836.5               | 10M QPSK 1RB#25   | 0.485            | 0.280 | 0.05             | 19.45                 | 20.00               | 0.550                            | /                | /        |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | <b>1.010</b>     | 0.542 | -0.02            | 19.45                 | 20.00               | <b>1.146</b>                     | /                | /        |
| Right touch -repeated                                                   | 20525/836.5               | 10M QPSK 1RB#25   | 0.946            | 0.509 | 0.06             | 19.45                 | 20.00               | 1.074                            | /                | /        |
| Right touch                                                             | 20450/829                 | 10M QPSK 1RB#25   | 0.980            | 0.522 | 0.00             | 19.38                 | 20.00               | 1.130                            | /                | /        |
| Right touch                                                             | 20600/844                 | 10M QPSK 1RB#25   | 0.820            | 0.441 | 0.03             | 19.39                 | 20.00               | 0.944                            | /                | /        |
| Right tilt                                                              | 20525/836.5               | 10M QPSK 1RB#25   | 0.692            | 0.334 | 0.06             | 19.45                 | 20.00               | 0.785                            | /                | /        |
| Right tilt                                                              | 20450/829                 | 10M QPSK 1RB#25   | 0.746            | 0.363 | 0.05             | 19.38                 | 20.00               | 0.860                            | /                | /        |
| Right tilt                                                              | 20600/844                 | 10M QPSK 1RB#25   | 0.697            | 0.336 | 0.08             | 19.39                 | 20.00               | 0.802                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 20600/844                 | 10M QPSK 50%RB#13 | 0.450            | 0.246 | 0.05             | 18.45                 | 19.00               | 0.511                            | /                | /        |
| Left tilt                                                               | 20600/844                 | 10M QPSK 50%RB#13 | 0.420            | 0.243 | 0.06             | 18.45                 | 19.00               | 0.477                            | /                | /        |
| Right touch                                                             | 20600/844                 | 10M QPSK 50%RB#13 | 0.646            | 0.345 | -0.04            | 18.45                 | 19.00               | 0.733                            | /                | /        |
| Right tilt                                                              | 20600/844                 | 10M QPSK 50%RB#13 | 0.501            | 0.284 | -0.04            | 18.45                 | 19.00               | 0.569                            | /                | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20600/844                 | 10M QPSK 100%RB#0 | 0.681            | 0.362 | 0.04             | 18.38                 | 19.00               | 0.786                            | /                | /        |
| Right tilt                                                              | 20600/844                 | 10M QPSK 100%RB#0 | 0.496            | 0.282 | -0.04            | 18.38                 | 19.00               | 0.572                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.931            | 0.505 | -0.03            | 19.45                 | 20.00               | 1.057                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.877            | 0.467 | -0.04            | 19.45                 | 20.00               | 0.995                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.919            | 0.492 | 0.00             | 19.45                 | 20.00               | 1.043                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.972            | 0.52  | -0.10            | 19.45                 | 20.00               | 1.103                            | /                | Yes      |

Table 88: Head SAR test results of LTE Band V

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20525/836.5               | 10M QPSK 1RB#25  | 0.090            | 0.067 | -0.10            | 19.45                 | 20.00               | 0.102                            | /                | /        |
| Back Side                                                               | 20525/836.5               | 10M QPSK 1RB#25  | 0.093            | 0.055 | -0.16            | 19.45                 | 20.00               | 0.105                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 25RB#13 | 0.092            | 0.058 | -0.15            | 18.45                 | 19.00               | 0.104                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | <b>0.107</b>     | 0.063 | -0.11            | 18.45                 | 19.00               | <b>0.121</b>                     | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.102            | 0.060 | -0.14            | 18.45                 | 19.00               | 0.116                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.103            | 0.068 | -0.14            | 18.45                 | 19.00               | 0.117                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.104            | 0.069 | -0.12            | 18.45                 | 19.00               | 0.118                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.106            | 0.064 | -0.04            | 18.45                 | 19.00               | 0.120                            | /                | Yes      |

Table 89: Body-Worn SAR test results of LTE Band V

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20525/836.5               | 10M QPSK 1RB#25  | 0.181            | 0.119 | -0.01            | 19.45                 | 20.00               | 0.205                            | /                | /        |
| Back Side                                                               | 20525/836.5               | 10M QPSK 1RB#25  | 0.217            | 0.134 | -0.12            | 19.45                 | 20.00               | 0.246                            | /                | /        |
| Left Side                                                               | 20525/836.5               | 10M QPSK 1RB#25  | 0.178            | 0.119 | -0.07            | 19.45                 | 20.00               | 0.202                            | /                | /        |
| Top Side                                                                | 20525/836.5               | 10M QPSK 1RB#25  | 0.130            | 0.065 | -0.15            | 19.45                 | 20.00               | 0.148                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 25RB#13 | 0.193            | 0.126 | -0.10            | 18.45                 | 19.00               | 0.219                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | <b>0.242</b>     | 0.133 | -0.15            | 18.45                 | 19.00               | <b>0.275</b>                     | /                | /        |
| Left Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.169            | 0.113 | -0.02            | 18.45                 | 19.00               | 0.192                            | /                | /        |
| Top Side                                                                | 20600/844                 | 10M QPSK 25RB#13 | 0.138            | 0.069 | -0.14            | 18.45                 | 19.00               | 0.157                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.232            | 0.154 | -0.1             | 18.45                 | 19.00               | 0.263                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.238            | 0.131 | -0.12            | 18.45                 | 19.00               | 0.270                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.240            | 0.132 | -0.08            | 18.45                 | 19.00               | 0.272                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.219            | 0.123 | 0.00             | 18.45                 | 19.00               | 0.249                            | /                | Yes      |

Table 90: Hotspot SAR test results of LTE Band V

## 7.2.9 SAR measurement Result of LTE Band VII(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 21350/2560                | 20M QPSK 1RB#99   | 0.268            | 0.149 | 0.10             | 14.94                 | 15.20               | 0.285                            | /                | /        |
| Left tilt                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.274            | 0.138 | 0.18             | 14.94                 | 15.20               | 0.291                            | /                | /        |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 1.000            | 0.501 | -0.14            | 14.94                 | 15.20               | 1.062                            | /                | /        |
| Right touch-repeated                                                    | 21350/2560                | 20M QPSK 1RB#99   | 0.947            | 0.473 | 0.05             | 14.94                 | 15.20               | 1.005                            | /                | /        |
| Right touch                                                             | 20850/2510                | 20M QPSK 1RB#99   | 0.749            | 0.368 | 0.16             | 14.14                 | 15.20               | 0.956                            | /                | /        |
| Right touch                                                             | 21100/2535                | 20M QPSK 1RB#50   | 0.843            | 0.420 | 0.19             | 14.48                 | 15.20               | 0.995                            | /                | /        |
| Right tilt                                                              | 21350/2560                | 20M QPSK 1RB#99   | 0.810            | 0.371 | 0.01             | 14.94                 | 15.20               | 0.860                            | /                | /        |
| Right tilt                                                              | 20850/2510                | 20M QPSK 1RB#99   | 0.682            | 0.335 | 0.16             | 14.14                 | 15.20               | 0.871                            | /                | /        |
| Right tilt                                                              | 21100/2535                | 20M QPSK 1RB#50   | 0.616            | 0.301 | 0.19             | 14.48                 | 15.20               | 0.727                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 21350/2560                | 20M QPSK 50%RB#25 | 0.208            | 0.115 | 0.11             | 13.82                 | 14.20               | 0.227                            | /                | /        |
| Left tilt                                                               | 21350/2560                | 20M QPSK 50%RB#25 | 0.209            | 0.104 | 0.09             | 13.82                 | 14.20               | 0.228                            | /                | /        |
| Right touch                                                             | 21350/2560                | 20M QPSK 50%RB#25 | 0.700            | 0.354 | 0.13             | 13.82                 | 14.20               | 0.764                            | /                | /        |
| Right tilt                                                              | 21350/2560                | 20M QPSK 50%RB#25 | 0.608            | 0.280 | 0.16             | 13.82                 | 14.20               | 0.664                            | /                | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 100%RB#0 | 0.660            | 0.338 | 0.15             | 13.88                 | 14.20               | 0.710                            | /                | /        |
| Right tilt                                                              | 21350/2560                | 20M QPSK 100%RB#0 | 0.620            | 0.285 | 0.16             | 13.88                 | 14.20               | 0.667                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.988            | 0.468 | 0.10             | 14.94                 | 15.20               | 1.049                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.806            | 0.346 | -0.07            | 14.94                 | 15.20               | 0.856                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.930            | 0.468 | 0.01             | 14.94                 | 15.20               | 0.987                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.940            | 0.468 | 0.18             | 14.94                 | 15.20               | 0.998                            | /                | Yes      |

Table 91: Head SAR test results of LTE Band VII

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21350/2560                | 20M QPSK 1RB#99   | 0.080            | 0.046 | -0.12            | 14.94                 | 15.20               | 0.085                            | /                | /        |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | <b>0.093</b>     | 0.052 | -0.07            | 14.94                 | 15.20               | <b>0.099</b>                     | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21350/2560                | 20M QPSK 50%RB#25 | 0.062            | 0.035 | -0.09            | 13.82                 | 14.20               | 0.068                            | /                | /        |
| Back Side                                                               | 21350/2560                | 20M QPSK 50%RB#25 | 0.071            | 0.039 | 0.19             | 13.82                 | 14.20               | 0.077                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.092            | 0.051 | -0.18            | 14.94                 | 15.20               | 0.098                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.089            | 0.049 | -0.08            | 14.94                 | 15.20               | 0.095                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.088            | 0.049 | -0.16            | 14.94                 | 15.20               | 0.093                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.053            | 0.028 | -0.04            | 14.94                 | 15.20               | 0.056                            | /                | Yes      |

Table 92: Body-Worn SAR test results of LTE Band VII

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21350/2560                | 20M QPSK 1RB#99   | 0.163            | 0.090 | 0.09             | 14.94                 | 15.20               | 0.173                            | /                | /        |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.184            | 0.098 | 0.02             | 14.94                 | 15.20               | 0.195                            | /                | /        |
| Left Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.162            | 0.085 | -0.01            | 14.94                 | 15.20               | 0.172                            | /                | /        |
| Top Side                                                                | 21350/2560                | 20M QPSK 1RB#99   | 0.052            | 0.026 | 0.16             | 14.94                 | 15.20               | 0.056                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21350/2560                | 20M QPSK 50%RB#25 | 0.124            | 0.068 | 0.15             | 13.82                 | 14.20               | 0.135                            | /                | /        |
| Back Side                                                               | 21350/2560                | 20M QPSK 50%RB#25 | 0.136            | 0.074 | -0.07            | 13.82                 | 14.20               | 0.148                            | /                | /        |
| Left Side                                                               | 21350/2560                | 20M QPSK 50%RB#25 | 0.122            | 0.064 | -0.03            | 13.82                 | 14.20               | 0.133                            | /                | /        |
| Top Side                                                                | 21350/2560                | 20M QPSK 50%RB#25 | 0.037            | 0.018 | 0.04             | 13.82                 | 14.20               | 0.040                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.186            | 0.099 | -0.11            | 14.94                 | 15.20               | 0.197                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.179            | 0.095 | 0.06             | 14.94                 | 15.20               | 0.190                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | <b>0.188</b>     | 0.100 | -0.05            | 14.94                 | 15.20               | <b>0.200</b>                     | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21350/2560                | 20M QPSK 1RB#99   | 0.104            | 0.055 | 0.01             | 14.94                 | 15.20               | 0.110                            | /                | Yes      |

Table 93: Hotspot SAR test results of LTE Band VII

## 7.2.10 SAR measurement Result of LTE Band XII(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.456            | 0.245 | 0.14             | 21.70                 | 22.00               | 0.489                            | /                | /        |
| Left tilt                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.385            | 0.231 | 0.04             | 21.70                 | 22.00               | 0.413                            | /                | /        |
| Right touch                                                             | 23130/711                 | 10M QPSK 1RB#25   | 0.951            | 0.494 | 0.01             | 21.70                 | 22.00               | 1.019                            | /                | /        |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 1.190            | 0.627 | 0.04             | 21.53                 | 22.00               | 1.323                            | /                | /        |
| Right touch-repeated                                                    | 23060/704                 | 10M QPSK 1RB#25   | 1.160            | 0.676 | 0.02             | 21.53                 | 22.00               | 1.290                            | /                | /        |
| Right touch                                                             | 23095/707.5               | 10M QPSK 1RB#0    | 0.999            | 0.524 | -0.05            | 21.54                 | 22.00               | 1.113                            | /                | /        |
| Right tilt                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.644            | 0.372 | 0.03             | 21.70                 | 22.00               | 0.690                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.312            | 0.192 | -0.02            | 20.38                 | 21.00               | 0.360                            | /                | /        |
| Left tilt                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.281            | 0.169 | 0.06             | 20.38                 | 21.00               | 0.324                            | /                | /        |
| Right touch                                                             | 23130/711                 | 10M QPSK 50%RB#13 | 0.692            | 0.402 | 0.01             | 20.38                 | 21.00               | 0.798                            | /                | /        |
| Right tilt                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.465            | 0.269 | 0.00             | 20.38                 | 21.00               | 0.536                            | /                | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23130/711                 | 10M QPSK 100%RB#0 | 0.569            | 0.330 | 0.01             | 19.96                 | 21.00               | 0.723                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 1.160            | 0.676 | -0.01            | 21.53                 | 22.00               | 1.290                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.851            | 0.435 | 0.00             | 21.53                 | 22.00               | 0.946                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.879            | 0.451 | 0.16             | 21.53                 | 22.00               | 0.977                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 1.070            | 0.556 | 0.11             | 21.54                 | 22.00               | 1.190                            | /                | Yes      |

Table 94: Head SAR test results of LTE Band XII

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.118            | 0.087 | -0.15            | 21.70                 | 22.00               | 0.126                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | <b>0.147</b>     | 0.105 | -0.02            | 21.70                 | 22.00               | <b>0.158</b>                     | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.088            | 0.062 | -0.05            | 20.38                 | 21.00               | 0.102                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.109            | 0.076 | -0.01            | 20.38                 | 21.00               | 0.126                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.147            | 0.102 | -0.01            | 21.70                 | 22.00               | 0.158                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.120            | 0.083 | 0.05             | 21.70                 | 22.00               | 0.129                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.122            | 0.088 | 0.00             | 21.70                 | 22.00               | 0.131                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.147            | 0.106 | -0.11            | 21.70                 | 22.00               | 0.158                            | /                | Yes      |

Table 95: Body-Worn SAR test results of LTE Band XII

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.222            | 0.127 | -0.10            | 21.70                 | 22.00               | 0.238                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | <b>0.317</b>     | 0.179 | -0.14            | 21.70                 | 22.00               | <b>0.340</b>                     | /                | /        |
| Left Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.167            | 0.115 | -0.01            | 21.70                 | 22.00               | 0.179                            | /                | /        |
| Top Side                                                                | 23130/711                 | 10M QPSK 1RB#25   | 0.170            | 0.096 | 0.01             | 21.70                 | 22.00               | 0.182                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.168            | 0.111 | 0.08             | 20.38                 | 21.00               | 0.194                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.186            | 0.117 | 0.01             | 20.38                 | 21.00               | 0.215                            | /                | /        |
| Left Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.126            | 0.087 | -0.07            | 20.38                 | 21.00               | 0.145                            | /                | /        |
| Top Side                                                                | 23130/711                 | 10M QPSK 50%RB#13 | 0.131            | 0.073 | 0.07             | 20.38                 | 21.00               | 0.151                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.254            | 0.144 | -0.04            | 21.70                 | 22.00               | 0.323                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.301            | 0.171 | 0.01             | 21.70                 | 22.00               | 0.311                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.290            | 0.165 | -0.03            | 21.70                 | 22.00               | 0.311                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.275            | 0.153 | -0.07            | 21.70                 | 22.00               | 0.295                            | /                | Yes      |

Table 96: Hotspot SAR test results of LTE Band XII

### 7.2.11 SAR measurement Result of LTE Band XVII(Second Antenna)

SAR for LTE Band 17 (Frequency range:704-716 MHz) is covered by LTE Band 12 (Frequency range:699-716 MHz) due to similar frequency range,same maximum tune up limit and same channel bandwidth.

## 7.2.12 SAR measurement Result of LTE Band XXVI(Second Antenna)

| Test Position of Head                                            | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                  |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)        |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                       | 26965/841.5               | 15M QPSK 1RB#38   | 0.696            | 0.400 | -0.11            | 20.71                 | 21.30               | 0.797                            | /                | /        |
| Left tilt                                                        | 26965/841.5               | 15M QPSK 1RB#38   | 0.647            | 0.344 | -0.03            | 20.71                 | 21.30               | 0.741                            | /                | /        |
| Right touch                                                      | 26965/841.5               | 15M QPSK 1RB#38   | 0.997            | 0.521 | 0.02             | 20.71                 | 21.30               | 1.142                            | /                | /        |
| Right touch                                                      | 26775/822.5               | 15M QPSK 1RB#38   | 1.020            | 0.528 | -0.04            | 20.52                 | 21.30               | 1.221                            | /                | /        |
| Right touch                                                      | 26865/831.5               | 15M QPSK 1RB#38   | 1.120            | 0.577 | 0.11             | 20.18                 | 21.30               | 1.449                            | /                | /        |
| Right touch-Repeated                                             | 26865/831.5               | 15M QPSK 1RB#38   | 1.110            | 0.575 | -0.03            | 20.18                 | 21.30               | 1.437                            | /                | /        |
| Right tilt                                                       | 26965/841.5               | 15M QPSK 1RB#38   | 0.894            | 0.413 | 0.01             | 20.71                 | 21.30               | 1.024                            | /                | /        |
| Right tilt                                                       | 26775/822.5               | 15M QPSK 1RB#38   | 0.835            | 0.390 | 0.03             | 20.52                 | 21.30               | 0.999                            | /                | /        |
| Right tilt                                                       | 26865/831.5               | 15M QPSK 1RB#38   | 0.840            | 0.389 | -0.02            | 20.18                 | 21.30               | 1.087                            | /                | /        |
| 50%RB                                                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                       | 26775/822.5               | 15M QPSK 50%RB#0  | 0.405            | 0.231 | -0.17            | 19.57                 | 20.50               | 0.502                            | /                | /        |
| Left tilt                                                        | 26775/822.5               | 15M QPSK 50%RB#0  | 0.329            | 0.174 | -0.07            | 19.57                 | 20.50               | 0.408                            | /                | /        |
| Right touch                                                      | 26775/822.5               | 15M QPSK 50%RB#0  | 0.772            | 0.399 | 0.17             | 19.57                 | 20.50               | 0.956                            | /                | /        |
| Right touch                                                      | 26865/831.5               | 15M QPSK 50%RB#18 | 0.849            | 0.445 | -0.14            | 19.05                 | 20.50               | 1.186                            |                  |          |
| Right touch                                                      | 26965/841.5               | 15M QPSK 50%RB#39 | 0.850            | 0.446 | 0.05             | 19.42                 | 20.50               | 1.090                            |                  |          |
| Right tilt                                                       | 26775/822.5               | 15M QPSK 50%RB#0  | 0.577            | 0.270 | 0.01             | 19.57                 | 20.50               | 0.715                            | /                | /        |
| 100%RB                                                           |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                      | 26965/841.5               | 15M QPSK 100%RB#0 | 0.837            | 0.435 | -0.03            | 19.38                 | 20.50               | 1.083                            | /                | /        |
| Right tilt                                                       | 26965/841.5               | 15M QPSK 100%RB#0 | 0.756            | 0.444 | -0.15            | 19.38                 | 20.50               | 0.978                            | /                | /        |
| Tested at the worst position with SIM2                           |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                      | 26865/831.5               | 15M QPSK 1RB#38   | 1.070            | 0.554 | -0.02            | 20.18                 | 21.30               | 1.385                            | /                | /        |
| Tested at the worst position with battery 2#                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                      | 26865/831.5               | 15M QPSK 1RB#38   | 1.070            | 0.552 | 0.04             | 20.18                 | 21.30               | 1.385                            | /                | /        |
| Tested at the worst position with battery 3#                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                      | 26865/831.5               | 15M QPSK 1RB#38   | 1.010            | 0.53  | 0.05             | 20.18                 | 21.30               | 1.307                            | /                | /        |
| Additional SAR test(simultaneous transmission with WIFI antenna) |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                      | 26965/841.5               | 15M QPSK 1RB#38   | 0.855            | 0.446 | -0.01            | 20.24                 | 20.80               | 0.973                            | /                | /        |

|                                                                         |             |                      |       |       |       |       |       |       |   |     |
|-------------------------------------------------------------------------|-------------|----------------------|-------|-------|-------|-------|-------|-------|---|-----|
| Right touch                                                             | 26775/822.5 | 15M QPSK<br>1RB#38   | 0.886 | 0.458 | 0.06  | 20.05 | 20.80 | 1.053 | / | /   |
| Right touch                                                             | 26865/831.5 | 15M QPSK<br>1RB#38   | 1.010 | 0.506 | -0.07 | 19.71 | 20.80 | 1.298 | / | /   |
| 50%RB                                                                   |             |                      |       |       |       |       |       |       |   |     |
| Right touch                                                             | 26775/822.5 | 15M QPSK<br>50%RB#0  | 0.695 | 0.352 | 0.01  | 19.10 | 20.00 | 0.855 | / | /   |
| Right touch                                                             | 26865/831.5 | 15M QPSK<br>50%RB#18 | 0.756 | 0.385 | -0.01 | 18.58 | 20.00 | 1.048 | / | /   |
| Right touch                                                             | 26965/841.5 | 15M QPSK<br>50%RB#0  | 0.763 | 0.392 | 0.04  | 18.82 | 20.00 | 1.001 | / | /   |
| 100%RB                                                                  |             |                      |       |       |       |       |       |       |   |     |
| Right touch                                                             | 26965/841.5 | 15M QPSK<br>1RB#38   | 0.748 | 0.368 | 0.00  | 18.91 | 20.00 | 0.961 | / | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |             |                      |       |       |       |       |       |       |   |     |
| Right touch                                                             | 26865/831.5 | 15M QPSK<br>1RB#38   | 1.020 | 0.544 | 0.07  | 20.18 | 21.30 | 1.320 | / | Yes |

Table 97: Head SAR test results of LTE Band XXVI

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 1RB#38  | 0.142            | 0.107 | 0.00             | 20.71                 | 21.30               | 0.163                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | <b>0.166</b>     | 0.120 | -0.09            | 20.71                 | 21.30               | <b>0.190</b>                     | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26775/822.5               | 15M QPSK 50%RB#0 | 0.067            | 0.051 | -0.03            | 19.57                 | 20.50               | 0.083                            | /                | /        |
| Back Side                                                               | 26775/822.5               | 15M QPSK 50%RB#0 | 0.076            | 0.058 | -0.07            | 19.57                 | 20.50               | 0.095                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.161            | 0.118 | -0.06            | 20.71                 | 21.30               | 0.184                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.158            | 0.114 | 0.04             | 20.71                 | 21.30               | 0.181                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.158            | 0.114 | -0.03            | 20.71                 | 21.30               | 0.181                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.148            | 0.109 | -0.03            | 20.71                 | 21.30               | 0.170                            | /                | Yes      |

Table 98: Body-Worn SAR test results of LTE Band XXVI

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 1RB#38  | 0.274            | 0.155 | -0.16            | 20.71                 | 21.30               | 0.314                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | <b>0.389</b>     | 0.213 | -0.11            | 20.71                 | 21.30               | <b>0.446</b>                     | /                | /        |
| Left Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.285            | 0.193 | -0.05            | 20.71                 | 21.30               | 0.326                            | /                | /        |
| Top Side                                                                | 26965/841.5               | 15M QPSK 1RB#38  | 0.271            | 0.133 | -0.15            | 20.71                 | 21.30               | 0.310                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26775/822.5               | 15M QPSK 50%RB#0 | 0.100            | 0.057 | 0.03             | 19.57                 | 20.50               | 0.124                            | /                | /        |
| Back Side                                                               | 26775/822.5               | 15M QPSK 50%RB#0 | 0.123            | 0.069 | -0.03            | 19.57                 | 20.50               | 0.152                            | /                | /        |
| Left Side                                                               | 26775/822.5               | 15M QPSK 50%RB#0 | 0.140            | 0.095 | -0.02            | 19.57                 | 20.50               | 0.173                            | /                | /        |
| Top Side                                                                | 26775/822.5               | 15M QPSK 50%RB#0 | 0.083            | 0.041 | -0.16            | 19.57                 | 20.50               | 0.103                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.371            | 0.205 | -0.15            | 20.71                 | 21.30               | 0.425                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.360            | 0.199 | -0.02            | 20.71                 | 21.30               | 0.412                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.347            | 0.192 | 0.00             | 20.71                 | 21.30               | 0.397                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38  | 0.332            | 0.186 | 0.02             | 20.71                 | 21.30               | 0.380                            | /                | Yes      |

Table 99: Hotspot SAR test results of LTE Band XXVI

### 7.2.13 SAR measurement Result of LTE Band XXXVIII(Second Antenna)

SAR for LTE Band 38 (Frequency range: 2570-2620 MHz) is covered by LTE Band 41 (Frequency range: 2555-2655 MHz) due to similar frequency range,same maximum tune up limit and same channel bandwidth.

## 7.2.14 SAR measurement Result of LTE Band XLI(Second Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 41140/2645                | 20M QPSK 1RB#50   | 0.282            | 0.152 | 0.09             | 18.44                 | 19.00               | 0.321                            | /                | /        |
| Left tilt                                                               | 41140/2645                | 20M QPSK 1RB#50   | 0.302            | 0.140 | -0.14            | 18.44                 | 19.00               | 0.344                            | /                | /        |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | <b>1.100</b>     | 0.548 | 0.07             | 18.44                 | 19.00               | <b>1.251</b>                     | /                | /        |
| Right touch-Repeated                                                    | 41140/2645                | 20M QPSK 1RB#50   | 1.010            | 0.506 | 0.00             | 18.44                 | 19.00               | 1.149                            | /                | /        |
| Right touch                                                             | 40340/2565                | 20M QPSK 1RB#0    | 0.781            | 0.391 | 0.07             | 17.94                 | 19.00               | 0.997                            | /                | /        |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.974            | 0.479 | -0.01            | 18.41                 | 19.00               | 1.116                            | /                | /        |
| Right tilt                                                              | 41140/2645                | 20M QPSK 1RB#50   | 0.912            | 0.453 | 0.12             | 18.44                 | 19.00               | 1.038                            | /                | /        |
| Right tilt                                                              | 40340/2565                | 20M QPSK 1RB#0    | 0.687            | 0.320 | 0.01             | 17.94                 | 19.00               | 0.877                            | /                | /        |
| Right tilt                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.872            | 0.383 | 0.11             | 18.41                 | 19.00               | 0.999                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 41140/2645                | 20M QPSK 50%RB#0  | 0.228            | 0.122 | -0.02            | 17.44                 | 18.00               | 0.259                            | /                | /        |
| Left tilt                                                               | 41140/2646                | 20M QPSK 50%RB#0  | 0.255            | 0.119 | -0.12            | 17.44                 | 18.00               | 0.290                            | /                | /        |
| Right touch                                                             | 41140/2647                | 20M QPSK 50%RB#0  | 0.815            | 0.400 | -0.04            | 17.44                 | 18.00               | 0.927                            | /                | /        |
| Right touch                                                             | 40340/2565                | 20M QPSK 50%RB#0  | 0.573            | 0.280 | -0.04            | 16.79                 | 18.00               | 0.757                            | /                | /        |
| Right touch                                                             | 40740/2605                | 20M QPSK 50%RB#0  | 0.733            | 0.357 | -0.10            | 17.41                 | 18.00               | 0.840                            | /                | /        |
| Right tilt                                                              | 41140/2647                | 20M QPSK 50%RB#0  | 0.662            | 0.299 | -0.02            | 17.44                 | 18.00               | 0.753                            | /                | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 41140/2647                | 20M QPSK 100%RB#0 | 0.922            | 0.452 | 0.10             | 17.33                 | 18.00               | 1.076                            | /                | /        |
| Right tilt                                                              | 41140/2647                | 20M QPSK 100%RB#0 | 0.897            | 0.388 | 0.08             | 17.33                 | 18.00               | 1.047                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | 1.020            | 0.494 | -0.08            | 18.44                 | 19.00               | 1.160                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | 0.907            | 0.449 | 0.08             | 18.44                 | 19.00               | 1.032                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | 1.020            | 0.499 | 0.10             | 18.44                 | 19.00               | 1.160                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | 0.862            | 0.444 | -0.02            | 18.44                 | 19.00               | 0.981                            | /                | Yes      |

Table 100: Head SAR test results of LTE Band XLI

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.103            | 0.057 | 0.15             | 18.44                 | 19.00               | 0.117                            | /                | /        |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.100            | 0.054 | -0.19            | 18.44                 | 19.00               | 0.114                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 50%RB#0 | 0.084            | 0.047 | 0.04             | 17.44                 | 18.00               | 0.096                            | /                | /        |
| Back Side                                                               | 41140/2645                | 20M QPSK 50%RB#0 | 0.083            | 0.045 | 0.13             | 17.44                 | 18.00               | 0.094                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.092            | 0.051 | -0.16            | 18.44                 | 19.00               | 0.104                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.089            | 0.049 | 0.01             | 18.44                 | 19.00               | 0.101                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.090            | 0.050 | 0.02             | 18.44                 | 19.00               | 0.102                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.091            | 0.049 | -0.04            | 18.44                 | 19.00               | 0.103                            | /                | Yes      |

Table 101: Body-Worn SAR test results of LTE Band XLI

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 1RB#50  | 0.172            | 0.093 | -0.10            | 18.44                 | 19.00               | 0.196                            | /                | /        |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | <b>0.223</b>     | 0.117 | -0.1             | 18.44                 | 19.00               | <b>0.254</b>                     | /                | /        |
| Left Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.199            | 0.101 | -0.07            | 18.44                 | 19.00               | 0.226                            | /                | /        |
| Top Side                                                                | 41140/2645                | 20M QPSK 1RB#50  | 0.080            | 0.038 | 0.08             | 18.44                 | 19.00               | 0.091                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 41140/2645                | 20M QPSK 50%RB#0 | 0.150            | 0.081 | -0.03            | 17.44                 | 18.00               | 0.171                            | /                | /        |
| Back Side                                                               | 41140/2645                | 20M QPSK 50%RB#0 | 0.161            | 0.090 | 0.13             | 17.44                 | 18.00               | 0.183                            | /                | /        |
| Left Side                                                               | 41140/2645                | 20M QPSK 50%RB#0 | 0.165            | 0.086 | -0.10            | 17.44                 | 18.00               | 0.188                            | /                | /        |
| Top Side                                                                | 41140/2645                | 20M QPSK 50%RB#0 | 0.067            | 0.031 | -0.11            | 17.44                 | 18.00               | 0.076                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.212            | 0.113 | 0.11             | 18.44                 | 19.00               | 0.241                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.216            | 0.114 | 0.06             | 18.44                 | 19.00               | 0.246                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.216            | 0.115 | 0.03             | 18.44                 | 19.00               | 0.246                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 41140/2645                | 20M QPSK 1RB#50  | 0.172            | 0.091 | 0.01             | 18.44                 | 19.00               | 0.196                            | /                | Yes      |

Table 102: Hotspot SAR test results of LTE Band XLI

## 7.2.15 SAR measurement Result of GSM850(Main Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 190/836.6                | GSM       | 0.267            | 0.204 | 0.14             | 32.54                 | 33.50               | 0.333                | /                | /        |
| Left tilt                                                               | 190/836.6                | GSM       | 0.181            | 0.125 | 0.04             | 32.54                 | 33.50               | 0.226                | /                | /        |
| Right touch                                                             | 190/836.6                | GSM       | 0.296            | 0.226 | 0.06             | 32.54                 | 33.50               | 0.369                | /                | /        |
| Right tilt                                                              | 190/836.6                | GSM       | 0.163            | 0.125 | -0.03            | 32.54                 | 33.50               | 0.203                | /                | /        |
| Right touch                                                             | 128/824.2                | GSM       | 0.251            | 0.193 | 0.19             | 32.51                 | 33.50               | 0.315                | /                | /        |
| Right touch                                                             | 251/848.8                | GSM       | 0.372            | 0.283 | 0.08             | 32.62                 | 33.50               | 0.456                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 251/848.8                | GSM       | 0.311            | 0.237 | 0.12             | 32.62                 | 33.50               | 0.381                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 251/848.8                | GSM       | 0.393            | 0.300 | -0.11            | 32.62                 | 33.50               | 0.481                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 251/848.8                | GSM       | 0.392            | 0.299 | -0.05            | 32.62                 | 33.50               | 0.480                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 251/848.8                | GSM       | 0.354            | 0.266 | 0.05             | 32.62                 | 33.50               | 0.434                | /                | Yes      |

Table 103: Head SAR test results of GSM850

| Test Position of Body-Worn with 15mm                                    | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 190/836.6                | GSM       | 0.302            | 0.229 | -0.05            | 32.54                 | 33.50               | 0.377                | /                | /        |
| Back Side                                                               | 190/836.6                | GSM       | 0.330            | 0.250 | -0.07            | 32.54                 | 33.50               | 0.412                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                | GSM       | 0.321            | 0.244 | -0.07            | 32.54                 | 33.50               | 0.400                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                | GSM       | 0.308            | 0.218 | -0.07            | 32.54                 | 33.50               | 0.384                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                | GSM       | 0.311            | 0.237 | -0.04            | 32.54                 | 33.50               | 0.388                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 190/836.6                | GSM       | <b>0.432</b>     | 0.331 | -0.04            | 32.54                 | 33.50               | <b>0.539</b>         | /                | Yes      |

Table 104: Body-Worn SAR test results of GSM850

| Test Position of Hotspot with 10mm                                      | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 190/836.6                | GPRS 2TS  | 0.497            | 0.380 | -0.03            | 30.37                 | 31.00               | 0.575                | /                | /        |
| Back Side                                                               | 190/836.6                | GPRS 2TS  | 0.512            | 0.391 | -0.11            | 30.37                 | 31.00               | 0.592                | /                | /        |
| Left Side                                                               | 190/836.6                | GPRS 2TS  | 0.368            | 0.250 | -0.12            | 30.37                 | 31.00               | 0.425                | /                | /        |
| Right Side                                                              | 190/836.6                | GPRS 2TS  | 0.687            | 0.469 | -0.05            | 30.37                 | 31.00               | 0.817                | /                | /        |
| Right Side                                                              | 128/824.2                | GPRS 2TS  | 0.650            | 0.433 | 0.04             | 30.15                 | 31.00               | 0.791                | /                | /        |
| Right Side                                                              | 251/848.8                | GPRS 2TS  | 0.669            | 0.446 | -0.03            | 30.38                 | 31.00               | 0.772                | /                | /        |
| Bottom Side                                                             | 190/836.6                | GPRS 2TS  | 0.152            | 0.074 | -0.18            | 30.37                 | 31.00               | 0.176                | /                | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 190/836.6                | GPRS 2TS  | 0.681            | 0.454 | 0.04             | 30.37                 | 31.00               | 0.787                | /                | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 190/836.6                | GPRS 2TS  | 0.707            | 0.483 | 0.01             | 30.37                 | 31.00               | 0.794                | /                | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 190/836.6                | GPRS 2TS  | 0.711            | 0.484 | 0.01             | 30.37                 | 31.00               | 0.822                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 190/836.6                | GPRS 2TS  | 0.650            | 0.446 | 0.00             | 30.37                 | 31.00               | 0.751                | /                | Yes      |

Table 105: Hotspot SAR test results of GSM850

## 7.2.16 SAR measurement Result of GSM1900(Main Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 661/1880                 | GSM       | 0.402            | 0.234 | 0.07             | 30.01                 | 31.00               | 0.505                | State 1          | /        |
| Right touch                                                             | 661/1880                 | GSM       | <b>0.429</b>     | 0.271 | 0.08             | 30.01                 | 31.00               | <b>0.539</b>         | State 2          | /        |
| Left touch                                                              | 661/1880                 | GSM       | 0.310            | 0.200 | 0.00             | 30.01                 | 31.00               | 0.389                | State 2          | /        |
| Left tilt                                                               | 661/1880                 | GSM       | 0.148            | 0.088 | 0.15             | 30.01                 | 31.00               | 0.186                | State 2          | /        |
| Right tilt                                                              | 661/1880                 | GSM       | 0.170            | 0.100 | 0.02             | 30.01                 | 31.00               | 0.214                | State 2          | /        |
| Right touch                                                             | 512/1850.2               | GSM       | 0.423            | 0.270 | 0.11             | 30.03                 | 31.00               | 0.529                | State 2          | /        |
| Right touch                                                             | 810/1909.8               | GSM       | 0.393            | 0.246 | 0.02             | 29.99                 | 31.00               | 0.496                | State 2          | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 661/1880                 | GSM       | 0.412            | 0.262 | 0.02             | 30.01                 | 31.00               | 0.517                | State 2          | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 661/1880                 | GSM       | 0.365            | 0.215 | 0.05             | 30.01                 | 31.00               | 0.458                | State 2          | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 661/1880                 | GSM       | 0.428            | 0.273 | 0.08             | 30.01                 | 31.00               | 0.538                | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 661/1880                 | GSM       | 0.348            | 0.216 | -0.04            | 30.01                 | 31.00               | 0.437                | State 2          | Yes      |

Table 106: Head SAR test results of GSM1900

| Test Position of Body-Worn with 15mm                                    | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.263            | 0.147 | -0.06            | 30.01                 | 31.00               | 0.330                | State 2          | /        |
| Front Side                                                              | 661/1880                 | GSM       | <b>0.274</b>     | 0.156 | -0.04            | 30.01                 | 31.00               | <b>0.344</b>         | State 1          | /        |
| Back Side                                                               | 661/1880                 | GSM       | 0.232            | 0.131 | 0.15             | 30.01                 | 31.00               | 0.291                | State 1          | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.245            | 0.139 | -0.07            | 30.01                 | 31.00               | 0.308                | State 1          | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.217            | 0.125 | -0.07            | 30.01                 | 31.00               | 0.273                | State 1          | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.211            | 0.124 | -0.07            | 30.01                 | 31.00               | 0.265                | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GSM       | 0.248            | 0.138 | -0.16            | 30.01                 | 31.00               | 0.311                | State 1          | Yes      |

Table 107: Body-Worn SAR test results of GSM1900

| Test Position of Hotspot with 10mm                                      | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 661/1880                 | GPRS 2TS  | 0.603            | 0.319 | -0.13            | 27.32                 | 28.00               | 0.705                | State 1          | /        |
| Front Side                                                              | 661/1880                 | GPRS 2TS  | 0.708            | 0.369 | 0.05             | 27.32                 | 28.00               | 0.828                | State 2          | /        |
| Front Side                                                              | 512/1850.2               | GPRS 2TS  | 0.475            | 0.262 | -0.09            | 27.63                 | 28.00               | 0.517                | State 2          | /        |
| Front Side                                                              | 810/1909.8               | GPRS 2TS  | 0.768            | 0.395 | 0.04             | 27.29                 | 28.00               | 0.904                | State 2          | /        |
| Back Side                                                               | 661/1880                 | GPRS 2TS  | 0.599            | 0.314 | -0.09            | 27.32                 | 28.00               | 0.701                | State 2          | /        |
| Left Side                                                               | 661/1880                 | GPRS 2TS  | 0.040            | 0.021 | 0.02             | 27.32                 | 28.00               | 0.046                | State 2          | /        |
| Right Side                                                              | 661/1880                 | GPRS 2TS  | 0.393            | 0.225 | -0.07            | 27.32                 | 28.00               | 0.460                | State 2          | /        |
| Bottom Side                                                             | 661/1880                 | GPRS 2TS  | 0.688            | 0.342 | -0.08            | 27.32                 | 28.00               | 0.805                | State 2          | /        |
| Bottom Side                                                             | 512/1850.2               | GPRS 2TS  | 0.480            | 0.241 | 0.02             | 27.63                 | 28.00               | 0.523                | State 2          | /        |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.999            | 0.494 | -0.17            | 27.29                 | 28.00               | 1.176                | State 2          | /        |
| Bottom side-repeated                                                    | 810/1909.8               | GPRS 2TS  | 1.030            | 0.507 | -0.13            | 27.29                 | 28.00               | 1.213                | State 2          | /        |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.936            | 0.495 | -0.12            | 27.29                 | 28.00               | 1.102                | State 1          | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.873            | 0.430 | 0.08             | 27.29                 | 28.00               | 1.028                | State 2          | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.859            | 0.427 | -0.14            | 27.29                 | 28.00               | 1.012                | State 2          | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.890            | 0.440 | -0.03            | 27.29                 | 28.00               | 1.048                | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Bottom Side                                                             | 810/1909.8               | GPRS 2TS  | 0.835            | 0.413 | -0.18            | 27.29                 | 28.00               | 0.983                | State 2          | Yes      |

Table 108: Hotspot SAR test results of GSM1900

## 7.2.17 SAR measurement Result of UMTS Band II(Main Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                          |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9400/1880                | RMC       | 0.926            | 0.584 | -0.01            | 23.24                 | 23.60               | 1.006                | State 1          | /        |
| Right touch                                                             | 9400/1880                | RMC       | <b>0.955</b>     | 0.603 | 0.10             | 23.24                 | 23.60               | <b>1.038</b>         | State 2          | /        |
| Left touch                                                              | 9400/1880                | RMC       | 0.518            | 0.309 | 0.18             | 23.24                 | 23.60               | 0.563                | State 2          | /        |
| Left tilt                                                               | 9400/1880                | RMC       | 0.334            | 0.196 | 0.08             | 23.24                 | 23.60               | 0.363                | State 2          | /        |
| Right touch-Repeated                                                    | 9400/1880                | RMC       | 0.888            | 0.566 | -0.04            | 23.24                 | 23.60               | 0.965                | State 2          | /        |
| Right tilt                                                              | 9400/1880                | RMC       | 0.287            | 0.175 | -0.09            | 23.24                 | 23.60               | 0.312                | State 2          | /        |
| Right touch                                                             | 9262/1852.4              | RMC       | 0.923            | 0.590 | 0.08             | 23.12                 | 23.60               | 1.031                | State 2          | /        |
| Right touch                                                             | 9538/1907.6              | RMC       | 0.896            | 0.562 | 0.08             | 23.19                 | 23.60               | 0.985                | State 2          | /        |
| Tested at the worst position with SIM2                                  |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9400/1880                | RMC       | 0.905            | 0.574 | -0.05            | 23.24                 | 23.60               | 0.983                | State 2          | /        |
| Tested at the worst position with battery 2#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9400/1880                | RMC       | 0.856            | 0.542 | -0.17            | 23.24                 | 23.60               | 0.930                | State 2          | /        |
| Tested at the worst position with battery 3#                            |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9400/1880                | RMC       | 0.822            | 0.521 | 0.07             | 23.24                 | 23.60               | 0.893                | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 9400/1880                | RMC       | 0.807            | 0.502 | 0.06             | 23.24                 | 23.60               | 0.877                | State 2          | Yes      |

Table 109: Head SAR test results of UMTS Band II

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 9400/1880                 | RMC       | 0.447            | 0.256 | -0.14            | 23.24                 | 23.60               | 0.486                | State 1          | /        |
| Front Side                                                              | 9400/1880                 | RMC       | 0.451            | 0.270 | -0.09            | 23.24                 | 23.60               | 0.490                | State 2          | /        |
| Back Side                                                               | 9400/1880                 | RMC       | <b>0.493</b>     | 0.272 | 0.15             | 23.24                 | 23.60               | <b>0.536</b>         | State 2          | /        |
| Back Side                                                               | 9400/1880                 | RMC       | 0.456            | 0.253 | 0.10             | 23.24                 | 23.60               | 0.495                | State 1          | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.440            | 0.246 | 0.15             | 23.24                 | 23.60               | 0.502                | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.440            | 0.246 | 0.15             | 23.24                 | 23.60               | 0.478                | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.403            | 0.232 | 0.15             | 23.24                 | 23.60               | 0.438                | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 9400/1880                 | RMC       | 0.482            | 0.261 | 0.06             | 23.24                 | 23.60               | 0.524                | State 2          | Yes      |

Table 110: Body-Worn SAR test results of UMTS Band II

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|------------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                        |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                        |                     |                      |                  |          |
| Front Side                                                              | 9400/1880                 | RMC       | 0.596            | 0.325 | -0.16            | 20.94                  | 21.50               | 0.678                | State 1          | /        |
| Front Side                                                              | 9400/1880                 | RMC       | 0.629            | 0.339 | -0.02            | 20.94                  | 21.50               | 0.716                | State 2          | /        |
| Back Side                                                               | 9400/1880                 | RMC       | 0.751            | 0.385 | -0.06            | 20.94                  | 21.50               | 0.854                | State 2          | /        |
| Back Side                                                               | 9262/1852.4               | RMC       | 0.626            | 0.343 | 0.00             | 20.99                  | 21.50               | 0.704                | State 2          | /        |
| Back Side                                                               | 9538/1907.6               | RMC       | 0.885            | 0.442 | 0.12             | 20.98                  | 21.50               | 0.998                | State 2          | /        |
| Left Side                                                               | 9400/1880                 | RMC       | 0.037            | 0.022 | 0.11             | 20.94                  | 21.50               | 0.042                | State 2          | /        |
| Right Side                                                              | 9400/1880                 | RMC       | 0.513            | 0.306 | 0.06             | 20.94                  | 21.50               | 0.584                | State 2          | /        |
| Bottom Side                                                             | 9400/1880                 | RMC       | 0.924            | 0.453 | 0.00             | 20.94                  | 21.50               | 1.051                | State 2          | /        |
| Bottom Side                                                             | 9262/1852.4               | RMC       | 0.694            | 0.345 | 0.02             | 20.99                  | 21.50               | 0.780                | State 2          | /        |
| Bottom Side                                                             | 9538/1907.6               | RMC       | <b>1.210</b>     | 0.588 | 0.03             | 20.98                  | 21.50               | <b>1.364</b>         | State 2          | /        |
| Bottom Side                                                             | 9538/1907.6               | RMC       | 1.050            | 0.521 | -0.09            | 20.98                  | 21.50               | 1.184                | State 1          | /        |
| Bottom Side-Repeated                                                    | 9538/1907.6               | RMC       | 1.200            | 0.627 | -0.19            | 20.98                  | 21.50               | 1.353                | State 2          | /        |
| Bottom Side-holder perturbation verification                            | 9538/1907.6               | RMC       | 1.190            | 0.585 | 0.01             | 20.98                  | 21.50               | 1.341                | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                        |                     |                      |                  |          |
| Bottom Side                                                             | 9538/1907.6               | RMC       | 1.030            | 0.508 | -0.07            | 20.98                  | 21.50               | 1.161                | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                        |                     |                      |                  |          |
| Bottom Side                                                             | 9538/1907.6               | RMC       | 1.030            | 0.511 | -0.15            | 20.98                  | 21.50               | 1.161                | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                        |                     |                      |                  |          |
| Bottom Side                                                             | 9538/1907.6               | RMC       | 1.020            | 0.516 | -0.18            | 20.98                  | 21.50               | 1.150                | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                        |                     |                      |                  |          |
| Bottom Side                                                             | 9538/1907.6               | RMC       | 0.868            | 0.435 | -0.10            | 20.98                  | 21.50               | 0.978                | State 2          | Yes      |

Table 111: Hotspot SAR test results of UMTS Band II

Note: According to 201610 FCC TCB workshop RF exposure slides, when the highest reported SAR of an antenna is > 1.2 W/kg, holder perturbation verification is required for each antenna, using the highest SAR configuration among all applicable frequency bands.

## 7.2.18 SAR measurement Result of UMTS Band IV(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1413/1732.6               | RMC       | 0.543            | 0.359 | -0.02            | 22.73                 | 23.60               | 0.663                | State 2          | /        |
| Right touch                                                             | 1413/1732.6               | RMC       | 0.549            | 0.361 | -0.04            | 22.73                 | 23.60               | 0.671                | State 1          | /        |
| Left touch                                                              | 1413/1732.6               | RMC       | 0.359            | 0.245 | 0.12             | 22.73                 | 23.60               | 0.439                | State 1          | /        |
| Left tilt                                                               | 1413/1732.6               | RMC       | 0.264            | 0.158 | -0.03            | 22.73                 | 23.60               | 0.323                | State 1          | /        |
| Right tilt                                                              | 1413/1732.6               | RMC       | 0.205            | 0.131 | -0.11            | 22.73                 | 23.60               | 0.250                | State 1          | /        |
| Right touch                                                             | 1312/1712.4               | RMC       | 0.498            | 0.327 | 0.11             | 22.77                 | 23.60               | 0.603                | State 1          | /        |
| Right touch                                                             | 1513/1752.6               | RMC       | <b>0.619</b>     | 0.402 | 0.16             | 22.70                 | 23.60               | <b>0.762</b>         | State 1          | /        |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.554            | 0.332 | 0.07             | 22.70                 | 23.60               | 0.682                | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.604            | 0.393 | 0.16             | 22.70                 | 23.60               | 0.743                | State 1          | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.494            | 0.293 | 0.01             | 22.70                 | 23.60               | 0.608                | State 1          | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.506            | 0.300 | -0.04            | 22.70                 | 23.60               | 0.623                | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 1513/1752.6               | RMC       | 0.571            | 0.371 | 0.06             | 22.70                 | 23.60               | 0.702                | State 1          | Yes      |

Table 112: Head SAR test results of UMTS Band IV

| Test Position<br>of Body-Worn<br>with 15mm                              | Test<br>channel /<br>Freq.(MHz) | Test<br>Mode | SAR Value<br>(W/kg) |       | Power<br>Drift<br>(dB) | Conducted<br>Power<br>(dBm) | Tune-<br>up<br>Power<br>(dBm) | Scaled<br>SAR1-g<br>(W/kg) | Ant<br>Tuning<br>State | SAR<br>Plot |
|-------------------------------------------------------------------------|---------------------------------|--------------|---------------------|-------|------------------------|-----------------------------|-------------------------------|----------------------------|------------------------|-------------|
|                                                                         |                                 |              | 1-g                 | 10-g  |                        |                             |                               |                            |                        |             |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Front Side                                                              | 1413/1732.6                     | RMC          | 0.396               | 0.271 | 0.01                   | 22.73                       | 23.60                         | 0.484                      | State 2                | /           |
| Front Side                                                              | 1413/1732.6                     | RMC          | 0.406               | 0.273 | -0.01                  | 22.73                       | 23.60                         | 0.496                      | State 1                | /           |
| Back Side                                                               | 1413/1732.6                     | RMC          | <b>0.421</b>        | 0.280 | 0.09                   | 22.73                       | 23.60                         | <b>0.514</b>               | State 1                | /           |
| Back Side                                                               | 1413/1732.6                     | RMC          | 0.380               | 0.240 | 0.04                   | 22.73                       | 23.60                         | 0.464                      | State 2                | /           |
| Tested at the worst position with SIM2                                  |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 1413/1732.6                     | RMC          | 0.413               | 0.276 | 0.01                   | 22.73                       | 23.60                         | 0.505                      | State 1                | /           |
| Tested at the worst position with battery 2#                            |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 1413/1732.6                     | RMC          | 0.353               | 0.236 | 0.06                   | 22.73                       | 23.60                         | 0.431                      | State 1                | /           |
| Tested at the worst position with battery 3#                            |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 1413/1732.6                     | RMC          | 0.351               | 0.222 | -0.08                  | 22.73                       | 23.60                         | 0.429                      | State 1                | /           |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 1413/1732.6                     | RMC          | 0.385               | 0.257 | 0.07                   | 22.73                       | 23.60                         | 0.470                      | State 1                | Yes         |

Table 113: Body-Worn SAR test results of UMTS Band IV

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.617            | 0.405 | 0.05             | 22.73                 | 23.60               | 0.754                | State 2          | /        |
| Back Side                                                               | 1413/1732.6               | RMC       | 0.662            | 0.425 | 0.02             | 22.73                 | 23.60               | 0.809                | State 1          | /        |
| Front Side                                                              | 1413/1732.6               | RMC       | 0.606            | 0.395 | -0.03            | 22.73                 | 23.60               | 0.740                | State 1          | /        |
| Back Side                                                               | 1312/1712.4               | RMC       | <b>0.761</b>     | 0.494 | 0.04             | 22.77                 | 23.60               | <b>0.921</b>         | State 1          | /        |
| Back Side                                                               | 1312/1712.4               | RMC       | 0.695            | 0.447 | 0.05             | 22.77                 | 23.60               | 0.841                | State 2          | /        |
| Back Side                                                               | 1513/1752.6               | RMC       | 0.606            | 0.386 | 0.05             | 22.70                 | 23.60               | 0.746                | State 1          | /        |
| Left Side                                                               | 1413/1732.6               | RMC       | 0.127            | 0.074 | -0.02            | 22.73                 | 23.60               | 0.155                | State 1          | /        |
| Right Side                                                              | 1413/1732.6               | RMC       | 0.404            | 0.231 | 0.06             | 22.73                 | 23.60               | 0.494                | State 1          | /        |
| Bottom Side                                                             | 1413/1732.6               | RMC       | 0.293            | 0.156 | 0.14             | 22.73                 | 23.60               | 0.358                | State 1          | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1312/1712.4               | RMC       | 0.686            | 0.442 | -0.11            | 22.77                 | 23.60               | 0.830                | State 1          | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1312/1712.4               | RMC       | 0.668            | 0.424 | -0.19            | 22.77                 | 23.60               | 0.809                | State 1          | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1312/1712.4               | RMC       | 0.665            | 0.422 | 0.00             | 22.77                 | 23.60               | 0.805                | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Back Side                                                               | 1312/1712.4               | RMC       | 0.726            | 0.446 | -0.09            | 22.77                 | 23.60               | 0.879                | State 1          | Yes      |

Table 114: Hotspot SAR test results of UMTS Band IV

## 7.2.19 SAR measurement Result of UMTS Band V(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Left touch                                                              | 4182/836.4                | RMC       | 0.286            | 0.218 | 0.18             | 23.23                 | 24.00               | 0.341                | /                | /        |
| Left tilt                                                               | 4182/836.4                | RMC       | 0.190            | 0.142 | 0.14             | 23.23                 | 24.00               | 0.227                | /                | /        |
| Right touch                                                             | 4182/836.4                | RMC       | 0.318            | 0.243 | 0.17             | 23.23                 | 24.00               | 0.380                | /                | /        |
| Right tilt                                                              | 4182/836.4                | RMC       | 0.177            | 0.135 | 0.01             | 23.23                 | 24.00               | 0.211                | /                | /        |
| Right touch                                                             | 4132/826.4                | RMC       | 0.305            | 0.233 | 0.10             | 23.26                 | 24.00               | 0.362                | /                | /        |
| Right touch                                                             | 4233/846.6                | RMC       | 0.342            | 0.261 | 0.16             | 23.22                 | 24.00               | 0.409                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4233/846.6                | RMC       | 0.421            | 0.32  | -0.07            | 23.22                 | 24.00               | 0.504                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4233/846.6                | RMC       | <b>0.429</b>     | 0.324 | 0.06             | 23.22                 | 24.00               | <b>0.513</b>         | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4233/846.6                | RMC       | 0.415            | 0.316 | -0.01            | 23.22                 | 24.00               | 0.497                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right touch                                                             | 4233/846.6                | RMC       | 0.355            | 0.268 | 0.02             | 23.22                 | 24.00               | 0.425                |                  |          |

Table 115: Head SAR test results of UMTS Band V

| Test Position<br>of Body-Worn<br>with 15mm                              | Test<br>channel /<br>Freq.(MHz) | Test<br>Mode | SAR Value<br>(W/kg) |       | Power<br>Drift<br>(dB) | Conducted<br>Power<br>(dBm) | Tune-<br>up<br>Power<br>(dBm) | Scaled<br>SAR1-g<br>(W/kg) | Ant<br>Tuning<br>State | SAR<br>Plot |
|-------------------------------------------------------------------------|---------------------------------|--------------|---------------------|-------|------------------------|-----------------------------|-------------------------------|----------------------------|------------------------|-------------|
|                                                                         |                                 |              | 1-g                 | 10-g  |                        |                             |                               |                            |                        |             |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Front Side                                                              | 4182/836.4                      | RMC          | 0.366               | 0.278 | -0.01                  | 23.23                       | 24.00                         | 0.437                      | /                      | /           |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.395               | 0.300 | -0.02                  | 23.23                       | 24.00                         | 0.472                      | /                      | /           |
| Tested at the worst position with SIM2                                  |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.393               | 0.298 | 0.03                   | 23.23                       | 24.00                         | 0.469                      | /                      | /           |
| Tested at the worst position with battery 2#                            |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.415               | 0.315 | -0.01                  | 23.23                       | 24.00                         | 0.496                      | /                      | /           |
| Tested at the worst position with battery 3#                            |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.403               | 0.306 | 0.01                   | 23.23                       | 24.00                         | 0.481                      | /                      | /           |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                                 |              |                     |       |                        |                             |                               |                            |                        |             |
| Back Side                                                               | 4182/836.4                      | RMC          | 0.437               | 0.335 | -0.03                  | 23.23                       | 24.00                         | 0.522                      | /                      | Yes         |

Table 116: Body-Worn SAR test results of UMTS Band V

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR1-g (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-------|------------------|-----------------------|---------------------|----------------------|------------------|----------|
|                                                                         |                           |           | 1-g              | 10-g  |                  |                       |                     |                      |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Front Side                                                              | 4182/836.4                | RMC       | 0.391            | 0.299 | -0.04            | 23.23                 | 24.00               | 0.467                | /                | /        |
| Back Side                                                               | 4182/836.4                | RMC       | 0.415            | 0.317 | 0.00             | 23.23                 | 24.00               | 0.496                | /                | /        |
| Left Side                                                               | 4182/836.4                | RMC       | 0.325            | 0.219 | -0.09            | 23.23                 | 24.00               | 0.388                | /                | /        |
| Right Side                                                              | 4182/836.4                | RMC       | 0.578            | 0.391 | -0.03            | 23.23                 | 24.00               | 0.690                | /                | /        |
| Bottom Side                                                             | 4182/836.4                | RMC       | 0.128            | 0.065 | -0.14            | 23.23                 | 24.00               | 0.153                | /                | /        |
| Tested at the worst position with SIM2                                  |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 4182/836.4                | RMC       | 0.586            | 0.395 | -0.04            | 23.23                 | 24.00               | 0.700                | /                | /        |
| Tested at the worst position with battery 2#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 4182/836.4                | RMC       | 0.622            | 0.42  | -0.01            | 23.23                 | 24.00               | 0.743                | /                | /        |
| Tested at the worst position with battery 3#                            |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 4182/836.4                | RMC       | 0.590            | 0.398 | 0.00             | 23.23                 | 24.00               | 0.704                | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |       |                  |                       |                     |                      |                  |          |
| Right Side                                                              | 4182/836.4                | RMC       | 0.604            | 0.412 | -0.01            | 23.23                 | 24.00               | 0.721                | /                | Yes      |

Table 117: Hotspot SAR test results of UMTS Band V

## 7.2.20 SAR measurement Result of LTE Band II (Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.751            | 0.435 | -0.03            | 23.88                 | 24.00               | 0.772                            | State 2          | /        |
| Right touch                                                             | 19100/1900                | 20M QPSK 1RB#50   | 0.766            | 0.481 | -0.10            | 23.88                 | 24.00               | 0.787                            | State 1          | /        |
| Left touch                                                              | 19100/1900                | 20M QPSK 1RB#50   | 0.439            | 0.279 | 0.10             | 23.88                 | 24.00               | 0.451                            | State 1          | /        |
| Left tilt                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.300            | 0.171 | -0.01            | 23.88                 | 24.00               | 0.308                            | State 1          | /        |
| Right tilt                                                              | 19100/1900                | 20M QPSK 1RB#50   | 0.248            | 0.149 | -0.08            | 23.88                 | 24.00               | 0.255                            | State 1          | /        |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.942            | 0.601 | 0.13             | 23.56                 | 24.00               | 1.042                            | State 1          | /        |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.860            | 0.550 | 0.05             | 23.56                 | 24.00               | 0.952                            | State 2          | /        |
| Right touch-repeated                                                    | 18700/1860                | 20M QPSK 1RB#50   | 0.940            | 0.600 | 0.03             | 23.56                 | 24.00               | 1.040                            | State 1          | /        |
| Right touch                                                             | 18900/1880                | 20M QPSK 1RB#50   | 0.851            | 0.537 | 0.15             | 23.74                 | 24.00               | 0.904                            | State 1          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 19100/1900                | 20M QPSK 50%RB#25 | 0.328            | 0.193 | 0.18             | 22.62                 | 23.00               | 0.358                            | State 1          | /        |
| Left tilt                                                               | 19100/1900                | 20M QPSK 50%RB#25 | 0.239            | 0.136 | -0.05            | 22.62                 | 23.00               | 0.261                            | State 1          | /        |
| Right touch                                                             | 19100/1900                | 20M QPSK 50%RB#25 | 0.560            | 0.322 | 0.13             | 22.62                 | 23.00               | 0.611                            | State 1          | /        |
| Right tilt                                                              | 19100/1900                | 20M QPSK 50%RB#25 | 0.198            | 0.118 | 0.01             | 22.62                 | 23.00               | 0.216                            | State 1          | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 19100/1900                | 20M QPSK 100%RB#0 | 0.543            | 0.314 | 0.05             | 21.99                 | 23.00               | 0.685                            | State 1          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.927            | 0.594 | 0.09             | 23.56                 | 24.00               | 1.026                            | State 1          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.782            | 0.499 | 0.11             | 23.56                 | 24.00               | 0.865                            | State 1          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 0.800            | 0.510 | -0.05            | 23.56                 | 24.00               | 0.885                            | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 18700/1860                | 20M QPSK 1RB#50   | 1.040            | 0.645 | -0.03            | 23.56                 | 24.00               | 1.151                            | State 1          | Yes      |

Table 118: Head SAR test results of LTE Band II

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 19100/1900                | 20M QPSK 1RB#50   | 0.416            | 0.235 | -0.06            | 23.88                 | 24.00               | 0.428                            | State 1          | /        |
| Front Side                                                              | 19100/1900                | 20M QPSK 1RB#50   | 0.479            | 0.269 | -0.08            | 23.88                 | 24.00               | 0.492                            | State 2          | /        |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | <b>0.509</b>     | 0.280 | -0.04            | 23.88                 | 24.00               | <b>0.523</b>                     | State 2          | /        |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.452            | 0.255 | -0.04            | 23.88                 | 24.00               | 0.465                            | State 1          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 19100/1900                | 20M QPSK 50%RB#25 | 0.329            | 0.186 | -0.07            | 22.62                 | 23.00               | 0.359                            | State 2          | /        |
| Back Side                                                               | 19100/1900                | 20M QPSK 50%RB#25 | 0.368            | 0.209 | 0.11             | 22.62                 | 23.00               | 0.402                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.418            | 0.237 | 0.11             | 23.88                 | 24.00               | 0.430                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.412            | 0.233 | 0.11             | 23.88                 | 24.00               | 0.424                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.478            | 0.27  | 0.12             | 23.88                 | 24.00               | 0.491                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.508            | 0.279 | -0.08            | 23.88                 | 24.00               | 0.522                            | State 2          | Yes      |

Table 119: Body-Worn SAR test results of LTE Band II

| Test Position of Hotspot with 10mm                        | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SA R Plot |
|-----------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|-----------|
|                                                           |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2) |                           |                   |                  |       |                  |                       |                     |                                  |                  |           |
| 1RB                                                       |                           |                   |                  |       |                  |                       |                     |                                  |                  |           |
| Front Side                                                | 19100/1900                | 20M QPSK 1RB#50   | 0.742            | 0.390 | -0.14            | 22.14                 | 22.50               | 0.806                            | State 1          | /         |
| Front Side                                                | 19100/1900                | 20M QPSK 1RB#50   | 0.779            | 0.401 | -0.11            | 22.14                 | 22.50               | 0.846                            | State 2          | /         |
| Front Side                                                | 18700/1860                | 20M QPSK 1RB#50   | 0.616            | 0.328 | 0.04             | 21.51                 | 22.50               | 0.774                            | State 2          | /         |
| Front Side                                                | 18900/1880                | 20M QPSK 1RB#0    | 0.557            | 0.294 | -0.06            | 21.65                 | 22.50               | 0.677                            | State 2          | /         |
| Back Side                                                 | 19100/1900                | 20M QPSK 1RB#50   | 0.805            | 0.404 | 0.07             | 22.14                 | 22.50               | 0.875                            | State 2          | /         |
| Back Side                                                 | 18700/1860                | 20M QPSK 1RB#50   | 0.645            | 0.341 | 0.08             | 21.51                 | 22.50               | 0.810                            | State 2          | /         |
| Back Side                                                 | 18900/1880                | 20M QPSK 1RB#0    | 0.594            | 0.317 | 0.04             | 21.65                 | 22.50               | 0.722                            | State 2          | /         |
| Left Side                                                 | 19100/1900                | 20M QPSK 1RB#50   | 0.081            | 0.045 | -0.09            | 22.14                 | 22.50               | 0.088                            | State 2          | /         |
| Right Side                                                | 19100/1900                | 20M QPSK 1RB#50   | 0.398            | 0.226 | -0.18            | 22.14                 | 22.50               | 0.432                            | State 2          | /         |
| Bottom Side                                               | 19100/1900                | 20M QPSK 1RB#50   | 0.961            | 0.473 | -0.12            | 22.14                 | 22.50               | 1.044                            | State 2          | /         |
| Bottom Side                                               | 18700/1860                | 20M QPSK 1RB#50   | 0.657            | 0.327 | 0.03             | 21.51                 | 22.50               | 0.825                            | State 2          | /         |
| Bottom Side                                               | 18900/1880                | 20M QPSK 1RB#0    | 0.622            | 0.309 | -0.07            | 21.65                 | 22.50               | 0.756                            | State 2          | /         |
| 50%RB                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |           |
| Front Side                                                | 19100/1900                | 20M QPSK 50%RB#25 | 0.753            | 0.384 | -0.13            | 22.23                 | 22.50               | 0.801                            | State 2          | /         |
| Front Side                                                | 18700/1860                | 20M QPSK 50%RB#25 | 0.623            | 0.336 | 0.00             | 21.71                 | 22.50               | 0.747                            | State 2          | /         |
| Front Side                                                | 18900/1880                | 20M QPSK 50%RB#0  | 0.544            | 0.285 | -0.06            | 21.68                 | 22.50               | 0.657                            | State 2          | /         |
| Back Side                                                 | 19100/1900                | 20M QPSK 50%RB#25 | 0.816            | 0.408 | 0.12             | 22.23                 | 22.50               | 0.868                            | State 2          | /         |
| Back Side                                                 | 18700/1860                | 20M QPSK 50%RB#25 | 0.697            | 0.378 | 0.08             | 21.71                 | 22.50               | 0.836                            | State 2          | /         |
| Back Side                                                 | 18900/1880                | 20M QPSK 50%RB#0  | 0.605            | 0.320 | 0.06             | 21.68                 | 22.50               | 0.731                            | State 2          | /         |
| Left Side                                                 | 19100/1900                | 20M QPSK 50%RB#25 | 0.083            | 0.047 | -0.08            | 22.23                 | 22.50               | 0.088                            | State 2          | /         |
| Right Side                                                | 19100/1900                | 20M QPSK 50%RB#25 | 0.417            | 0.237 | -0.10            | 22.23                 | 22.50               | 0.444                            | State 2          | /         |
| Bottom Side                                               | 19100/1900                | 20M QPSK 50%RB#25 | 1.100            | 0.571 | -0.08            | 22.23                 | 22.50               | 1.171                            | State 2          | /         |
| Bottom Side                                               | 19100/1900                | 20M QPSK 50%RB#25 | 1.000            | 0.491 | -0.09            | 22.23                 | 22.50               | 1.064                            | State 1          | /         |
| Bottom Side-repeated                                      | 19100/1900                | 20M QPSK 50%RB#25 | 1.000            | 0.492 | -0.15            | 22.23                 | 22.50               | 1.064                            | State 2          | /         |
| Bottom Side                                               | 18700/1860                | 20M QPSK 50%RB#25 | 0.685            | 0.340 | 0.03             | 21.71                 | 22.50               | 0.822                            | State 2          | /         |
| Bottom Side                                               | 18900/1880                | 20M QPSK 50%RB#0  | 0.663            | 0.327 | -0.04            | 21.68                 | 22.50               | 0.801                            | State 2          | /         |

| 100%RB                                                                  |            |                      |       |       |       |       |       |       |         |     |
|-------------------------------------------------------------------------|------------|----------------------|-------|-------|-------|-------|-------|-------|---------|-----|
| Front Side                                                              | 19100/1900 | 20M QPSK<br>100%RB#0 | 0.704 | 0.385 | -0.02 | 21.67 | 22.50 | 0.852 | State 2 | /   |
| Back Side                                                               | 19100/1900 | 20M QPSK<br>100%RB#0 | 0.744 | 0.404 | 0.16  | 21.67 | 22.50 | 0.901 | State 2 | /   |
| Bottom Side                                                             | 19100/1900 | 20M QPSK<br>100%RB#0 | 0.961 | 0.471 | -0.08 | 21.67 | 22.50 | 1.163 | State 2 | /   |
| Tested at the worst position with SIM2                                  |            |                      |       |       |       |       |       |       |         |     |
| Bottom Side                                                             | 19100/1900 | 20M QPSK<br>50%RB#25 | 0.955 | 0.46  | -0.13 | 22.23 | 22.50 | 1.016 | State 2 | /   |
| Tested at the worst position with battery 2#                            |            |                      |       |       |       |       |       |       |         |     |
| Bottom Side                                                             | 19100/1900 | 20M QPSK<br>50%RB#25 | 0.865 | 0.426 | -0.12 | 22.23 | 22.50 | 0.920 | State 2 | /   |
| Tested at the worst position with battery 3#                            |            |                      |       |       |       |       |       |       |         |     |
| Bottom Side                                                             | 19100/1900 | 20M QPSK<br>50%RB#25 | 0.864 | 0.426 | -0.10 | 22.23 | 22.50 | 0.919 | State 2 | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |            |                      |       |       |       |       |       |       |         |     |
| Bottom Side                                                             | 19100/1900 | 20M QPSK<br>50%RB#25 | 1.080 | 0.538 | -0.07 | 22.23 | 22.50 | 1.149 | State 2 | Yes |

Table 120: Hotspot SAR test results of LTE Band II

## 7.2.21 SAR measurement Result of LTE Band IV(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conduct ed Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tunin g State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|-------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                        |                     |                                  |                   |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Left touch                                                              | 20300/1745                | 20M QPSK 1RB#50  | 0.339            | 0.230 | 0.02             | 23.49                  | 24.00               | 0.381                            | State 1           | /        |
| Left touch                                                              | 20300/1745                | 20M QPSK 1RB#50  | 0.357            | 0.241 | -0.09            | 23.49                  | 24.00               | 0.401                            | State 2           | /        |
| Left tilt                                                               | 20300/1745                | 20M QPSK 1RB#50  | 0.251            | 0.164 | 0.04             | 23.49                  | 24.00               | 0.282                            | State 2           | /        |
| Right touch                                                             | 20300/1745                | 20M QPSK 1RB#50  | 0.445            | 0.293 | 0.07             | 23.49                  | 24.00               | 0.500                            | State 2           | /        |
| Right touch                                                             | 20050/1720                | 20M QPSK 1RB#50  | 0.532            | 0.352 | -0.01            | 23.31                  | 24.00               | 0.624                            | State 2           | /        |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | <b>0.587</b>     | 0.387 | 0.07             | 22.84                  | 24.00               | <b>0.767</b>                     | State 2           | /        |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | 0.529            | 0.352 | 0.10             | 22.84                  | 24.00               | 0.691                            | State 1           | /        |
| Right tilt                                                              | 20300/1745                | 20M QPSK 1RB#50  | 0.224            | 0.151 | -0.02            | 23.49                  | 24.00               | 0.252                            | State 2           | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Left touch                                                              | 20300/1745                | 20M QPSK 50RB#25 | 0.313            | 0.213 | 0.08             | 22.45                  | 23.00               | 0.355                            | State 2           | /        |
| Left tilt                                                               | 20300/1745                | 20M QPSK 50RB#25 | 0.222            | 0.146 | 0.01             | 22.45                  | 23.00               | 0.252                            | State 2           | /        |
| Right touch                                                             | 20300/1745                | 20M QPSK 50RB#25 | 0.379            | 0.248 | 0.07             | 22.45                  | 23.00               | 0.430                            | State 2           | /        |
| Right tilt                                                              | 20300/1745                | 20M QPSK 50RB#25 | 0.185            | 0.124 | -0.11            | 22.45                  | 23.00               | 0.210                            | State 2           | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | 0.525            | 0.351 | 0.17             | 22.84                  | 24.00               | 0.686                            | State 2           | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | 0.551            | 0.370 | 0.11             | 22.84                  | 24.00               | 0.720                            | State 2           | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | 0.513            | 0.344 | 0.05             | 22.84                  | 24.00               | 0.670                            | State 2           | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                        |                     |                                  |                   |          |
| Right touch                                                             | 20175/1732.5              | 20M QPSK 1RB#50  | 0.581            | 0.382 | -0.05            | 22.84                  | 24.00               | 0.759                            | State 2           | Yes      |

Table 121: Head SAR test results of LTE Band IV

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 20300/1745                | 20M QPSK 1RB#50   | 0.326            | 0.207 | -0.03            | 23.49                  | 24.00               | 0.367                            | State 2          | /        |
| Front Side                                                              | 20300/1745                | 20M QPSK 1RB#50   | 0.365            | 0.230 | -0.09            | 23.49                  | 24.00               | 0.410                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.387            | 0.260 | -0.01            | 23.49                  | 24.00               | 0.435                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.376            | 0.239 | 0.12             | 23.49                  | 24.00               | 0.423                            | State 2          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 20300/1745                | 20M QPSK 50%RB#25 | 0.295            | 0.187 | 0.01             | 22.45                  | 23.00               | 0.335                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 50%RB#25 | 0.341            | 0.216 | 0.10             | 22.45                  | 23.00               | 0.387                            | State 1          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.315            | 0.2   | 0.01             | 23.49                  | 24.00               | 0.354                            | State 1          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.339            | 0.214 | 0.12             | 23.49                  | 24.00               | 0.381                            | State 1          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.348            | 0.22  | 0.1              | 23.49                  | 24.00               | 0.391                            | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | <b>0.447</b>     | 0.301 | -0.05            | 23.49                  | 24.00               | <b>0.503</b>                     | State 1          | Yes      |

Table 122: Body-Worn SAR test results of LTE Band IV

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20300/1745                | 20M QPSK 1RB#50   | 0.483            | 0.328 | -0.07            | 23.49                 | 24.00               | 0.543                            | State 2          | /        |
| Front Side                                                              | 20300/1745                | 20M QPSK 1RB#50   | 0.577            | 0.376 | -0.14            | 23.49                 | 24.00               | 0.649                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.625            | 0.396 | -0.04            | 23.49                 | 24.00               | 0.703                            | State 1          | /        |
| Left Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.153            | 0.092 | -0.14            | 23.49                 | 24.00               | 0.172                            | State 1          | /        |
| Right Side                                                              | 20300/1745                | 20M QPSK 1RB#50   | 0.413            | 0.251 | 0.03             | 23.49                 | 24.00               | 0.464                            | State 1          | /        |
| Bottom Side                                                             | 20300/1745                | 20M QPSK 1RB#50   | 0.385            | 0.201 | 0.04             | 23.49                 | 24.00               | 0.433                            | State 1          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20300/1745                | 20M QPSK 50%RB#25 | 0.498            | 0.322 | 0.00             | 22.45                 | 23.00               | 0.565                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 50%RB#25 | 0.525            | 0.332 | 0.14             | 22.45                 | 23.00               | 0.596                            | State 1          | /        |
| Left Side                                                               | 20300/1745                | 20M QPSK 50%RB#25 | 0.112            | 0.067 | 0.03             | 22.45                 | 23.00               | 0.127                            | State 1          | /        |
| Right Side                                                              | 20300/1745                | 20M QPSK 50%RB#25 | 0.355            | 0.215 | -0.01            | 22.45                 | 23.00               | 0.403                            | State 1          | /        |
| Bottom Side                                                             | 20300/1745                | 20M QPSK 50%RB#25 | 0.307            | 0.162 | 0.08             | 22.45                 | 23.00               | 0.348                            | State 1          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.649            | 0.408 | 0.06             | 23.49                 | 24.00               | 0.730                            | State 1          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.706            | 0.459 | 0.02             | 23.49                 | 24.00               | 0.794                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.656            | 0.414 | 0.08             | 23.49                 | 24.00               | 0.738                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.645            | 0.409 | 0.10             | 23.49                 | 24.00               | 0.725                            | State 1          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20300/1745                | 20M QPSK 1RB#50   | 0.854            | 0.516 | -0.11            | 23.49                 | 24.00               | 0.960                            | State 1          | Yes      |
| Back Side-Repeated                                                      | 20300/1745                | 20M QPSK 1RB#50   | 0.792            | 0.487 | -0.10            | 23.49                 | 24.00               | 0.891                            | State 1          | /        |
| Back Side                                                               | 20050/1720                | 20M QPSK 1RB#50   | 0.648            | 0.400 | -0.05            | 23.49                 | 24.00               | 0.729                            | State 1          | /        |
| Back Side                                                               | 20175/1732.5              | 20M QPSK 1RB#50   | 0.678            | 0.415 | 0.00             | 23.49                 | 24.00               | 0.762                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 50%RB#25 | 0.640            | 0.392 | -0.01            | 22.45                 | 23.00               | 0.726                            | State 1          | /        |
| Back Side                                                               | 20300/1745                | 20M QPSK 100%RB#0 | 0.661            | 0.409 | -0.05            | 22.29                 | 23.00               | 0.778                            | State 1          | /        |

Table 123: Hotspot SAR test results of LTE Band IV

## 7.2.22 SAR measurement Result of LTE Band V(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 20600/844                 | 10M QPSK 1RB#25   | 0.242            | 0.182 | 0.17             | 22.91                 | 23.50               | 0.277                            | /                | /        |
| Left tilt                                                               | 20600/844                 | 10M QPSK 1RB#25   | 0.168            | 0.115 | 0.02             | 22.91                 | 23.50               | 0.192                            | /                | /        |
| Right touch                                                             | 20600/844                 | 10M QPSK 1RB#25   | 0.288            | 0.218 | 0.19             | 22.91                 | 23.50               | 0.330                            | /                | /        |
| Right tilt                                                              | 20600/844                 | 10M QPSK 1RB#25   | 0.148            | 0.100 | 0.03             | 22.91                 | 23.50               | 0.170                            | /                | /        |
| Right touch                                                             | 20450/829                 | 10M QPSK 1RB#25   | 0.180            | 0.125 | 0.01             | 22.78                 | 23.50               | 0.212                            | /                | /        |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.332            | 0.255 | 0.17             | 22.51                 | 23.50               | 0.417                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 20600/844                 | 10M QPSK 50%RB#13 | 0.200            | 0.151 | 0.14             | 22.11                 | 22.50               | 0.219                            | /                | /        |
| Left tilt                                                               | 20600/844                 | 10M QPSK 50%RB#13 | 0.134            | 0.092 | 0.05             | 22.11                 | 22.50               | 0.147                            | /                | /        |
| Right touch                                                             | 20600/844                 | 10M QPSK 50%RB#13 | 0.228            | 0.157 | 0.19             | 22.11                 | 22.50               | 0.249                            | /                | /        |
| Right tilt                                                              | 20600/844                 | 10M QPSK 50%RB#13 | 0.123            | 0.084 | 0.01             | 22.11                 | 22.50               | 0.135                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.331            | 0.253 | 0.10             | 22.51                 | 23.50               | 0.416                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.414            | 0.313 | 0.03             | 22.51                 | 23.50               | 0.520                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.412            | 0.312 | 0.09             | 22.51                 | 23.50               | 0.517                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 20525/836.5               | 10M QPSK 1RB#25   | 0.334            | 0.250 | 0.07             | 22.51                 | 23.50               | 0.420                            | /                | Yes      |

Table 124: Head SAR test results of LTE Band V

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.327            | 0.231 | -0.05            | 22.91                 | 23.50               | 0.375                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.366            | 0.277 | 0.00             | 22.91                 | 23.50               | 0.419                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 25RB#13 | 0.274            | 0.193 | -0.05            | 22.11                 | 22.50               | 0.300                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.286            | 0.203 | 0.04             | 22.11                 | 22.50               | 0.313                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.364            | 0.275 | -0.02            | 22.91                 | 23.50               | 0.417                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.355            | 0.269 | -0.02            | 22.91                 | 23.50               | 0.407                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.358            | 0.271 | -0.02            | 22.91                 | 23.50               | 0.410                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | <b>0.386</b>     | 0.296 | 0.00             | 22.91                 | 23.50               | <b>0.442</b>                     | /                | Yes      |

Table 125: Body-Worn SAR test results of LTE Band V

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode        | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                  | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.312            | 0.237 | -0.07            | 22.91                 | 23.50               | 0.357                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.377            | 0.287 | -0.04            | 22.91                 | 23.50               | 0.432                            | /                | /        |
| Left Side                                                               | 20600/844                 | 10M QPSK 1RB#25  | 0.215            | 0.145 | -0.10            | 22.91                 | 23.50               | 0.246                            | /                | /        |
| Right Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.458            | 0.309 | -0.09            | 22.91                 | 23.50               | 0.525                            | /                | /        |
| Bottom Side                                                             | 20600/844                 | 10M QPSK 1RB#25  | 0.108            | 0.053 | -0.15            | 22.91                 | 23.50               | 0.124                            | /                | /        |
| 50%RB                                                                   |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 20600/844                 | 10M QPSK 25RB#13 | 0.268            | 0.203 | -0.04            | 22.11                 | 22.50               | 0.293                            | /                | /        |
| Back Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.279            | 0.211 | 0.04             | 22.11                 | 22.50               | 0.305                            | /                | /        |
| Left Side                                                               | 20600/844                 | 10M QPSK 25RB#13 | 0.178            | 0.120 | -0.17            | 22.11                 | 22.50               | 0.195                            | /                | /        |
| Right Side                                                              | 20600/844                 | 10M QPSK 25RB#13 | 0.396            | 0.265 | -0.07            | 22.11                 | 22.50               | 0.433                            | /                | /        |
| Bottom Side                                                             | 20600/844                 | 10M QPSK 25RB#13 | 0.099            | 0.049 | -0.16            | 22.11                 | 22.50               | 0.109                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.455            | 0.306 | -0.09            | 22.91                 | 23.50               | 0.521                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.454            | 0.306 | 0.01             | 22.91                 | 23.50               | 0.520                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.530            | 0.358 | -0.13            | 22.91                 | 23.50               | 0.607                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                  |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                              | 20600/844                 | 10M QPSK 1RB#25  | 0.585            | 0.397 | -0.07            | 22.91                 | 23.50               | 0.670                            | /                | Yes      |

Table 126: Hotspot SAR test results of LTE Band V

### 7.2.23 SAR measurement Result of LTE Band VII(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21100/2535                | 20M QPSK 1RB#99   | 0.384            | 0.222 | 0.04             | 23.33                 | 23.50               | 0.399                            | State 1          | /        |
| Right touch                                                             | 21100/2535                | 20M QPSK 1RB#99   | 0.741            | 0.391 | 0.07             | 23.33                 | 23.50               | 0.771                            | State 2          | /        |
| Left touch                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.288            | 0.162 | -0.06            | 23.33                 | 23.50               | 0.299                            | State 2          |          |
| Left tilt                                                               | 21100/2535                | 20M QPSK 1RB#99   | 0.245            | 0.121 | 0.00             | 23.33                 | 23.50               | 0.255                            | State 2          | /        |
| Right tilt                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.203            | 0.101 | 0.00             | 23.33                 | 23.50               | 0.211                            | State 2          | /        |
| Right touch                                                             | 20850/2510                | 20M QPSK 1RB#0    | 0.350            | 0.187 | -0.02            | 23.00                 | 23.50               | 0.393                            | State 2          | /        |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.844            | 0.451 | -0.10            | 22.96                 | 23.50               | 0.956                            | State 2          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 21100/2535                | 20M QPSK 50%RB#50 | 0.244            | 0.134 | 0.17             | 22.71                 | 23.00               | 0.261                            | State 2          | /        |
| Left tilt                                                               | 21100/2535                | 20M QPSK 50%RB#50 | 0.180            | 0.095 | 0.07             | 22.71                 | 23.00               | 0.192                            | State 2          | /        |
| Right touch                                                             | 21100/2535                | 20M QPSK 50%RB#50 | 0.727            | 0.391 | -0.01            | 22.71                 | 23.00               | 0.777                            | State 2          | /        |
| Right tilt                                                              | 21100/2535                | 20M QPSK 50%RB#50 | 0.166            | 0.082 | -0.09            | 22.71                 | 23.00               | 0.177                            | State 2          | /        |
| 100%RB                                                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21100/2535                | 20M QPSK 100%RB#0 | 0.501            | 0.258 | 0.18             | 22.34                 | 23.00               | 0.583                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.876            | 0.466 | -0.11            | 22.96                 | 23.50               | 0.992                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.925            | 0.493 | 0.14             | 22.96                 | 23.50               | 1.047                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | <b>0.937</b>     | 0.499 | 0.19             | 22.96                 | 23.50               | <b>1.061</b>                     | State 2          | /        |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.391            | 0.226 | 0.04             | 22.96                 | 23.50               | 0.443                            | State 1          | /        |
| Right touch-repeated                                                    | 21350/2560                | 20M QPSK 1RB#99   | 0.890            | 0.473 | -0.18            | 22.96                 | 23.50               | 1.008                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 21350/2560                | 20M QPSK 1RB#99   | 0.685            | 0.368 | 0.16             | 22.96                 | 23.50               | 0.776                            | State 2          | Yes      |

Table 127: Head SAR test results of LTE Band VII

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 21100/2535                | 20M QPSK 1RB#99   | 0.339            | 0.194 | -0.18            | 23.33                 | 23.50               | 0.353                            | State 1          | /        |
| Back Side                                                               | 21100/2535                | 20M QPSK 1RB#99   | 0.476            | 0.253 | 0.04             | 23.33                 | 23.50               | 0.495                            | State 2          | /        |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | <b>0.522</b>     | 0.280 | -0.10            | 23.33                 | 23.50               | <b>0.543</b>                     | State 2          | /        |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.411            | 0.215 | 0.01             | 23.33                 | 23.50               | 0.427                            | State 1          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21100/2535                | 20M QPSK 50%RB#50 | 0.454            | 0.244 | 0.10             | 22.71                 | 23.00               | 0.485                            | State 2          | /        |
| Back Side                                                               | 21100/2535                | 20M QPSK 50%RB#50 | 0.418            | 0.218 | 0.01             | 22.71                 | 23.00               | 0.447                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.492            | 0.259 | -0.03            | 23.33                 | 23.50               | 0.512                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.511            | 0.276 | -0.08            | 23.33                 | 23.50               | 0.531                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.503            | 0.272 | -0.10            | 23.33                 | 23.50               | 0.523                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 21100/2535                | 20M QPSK 1RB#99   | 0.340            | 0.158 | -0.11            | 23.33                 | 23.50               | 0.354                            | State 2          | Yes      |

Table 128: Body-Worn SAR test results of LTE Band VII

| Test Position of Hotspot with 10mm                        | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-----------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                           |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2) |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                       |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                 | 21100/2535                | 20M QPSK 1RB#99   | 0.377            | 0.206 | 0.14             | 17.63                 | 18.50               | 0.461                            | State 1          | /        |
| Back Side                                                 | 21100/2535                | 20M QPSK 1RB#99   | 0.651            | 0.281 | 0.06             | 17.63                 | 18.50               | 0.795                            | State 2          | /        |
| Front Side                                                | 21100/2535                | 20M QPSK 1RB#99   | 0.552            | 0.242 | -0.18            | 17.63                 | 18.50               | 0.674                            | State 2          | /        |
| Left Side                                                 | 21100/2535                | 20M QPSK 1RB#99   | 0.071            | 0.037 | -0.16            | 22.42                 | 23.00               | 0.081                            | State 2          | /        |
| Right Side                                                | 21100/2535                | 20M QPSK 1RB#99   | 0.845            | 0.452 | -0.17            | 22.42                 | 23.00               | 0.966                            | State 2          | /        |
| Right Side                                                | 20850/2510                | 20M QPSK 1RB#0    | 0.514            | 0.264 | 0.07             | 22.00                 | 23.00               | 0.647                            | State 2          | /        |
| Right Side                                                | 21350/2560                | 20M QPSK 1RB#99   | 0.822            | 0.429 | 0.14             | 21.83                 | 23.00               | 1.076                            | State 2          | /        |
| Bottom Side                                               | 21100/2535                | 20M QPSK 1RB#99   | 0.629            | 0.243 | 0.15             | 17.63                 | 18.50               | 0.769                            | State 2          | /        |
| 50%RB                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                | 21100/2535                | 20M QPSK 50%RB#50 | 0.474            | 0.204 | 0.05             | 17.94                 | 18.50               | 0.539                            | State 2          | /        |
| Back Side                                                 | 21100/2535                | 20M QPSK 50%RB#50 | 0.453            | 0.197 | -0.15            | 17.94                 | 18.50               | 0.515                            | State 2          | /        |
| Left Side                                                 | 21100/2535                | 20M QPSK 50%RB#50 | 0.065            | 0.033 | 0.04             | 22.74                 | 23.00               | 0.069                            | State 2          | /        |
| Right Side                                                | 21100/2535                | 20M QPSK 50%RB#50 | 0.665            | 0.361 | -0.15            | 22.74                 | 23.00               | 0.706                            | State 2          | /        |
| Bottom Side                                               | 21100/2535                | 20M QPSK 50%RB#50 | 0.322            | 0.123 | -0.11            | 17.94                 | 18.50               | 0.366                            | State 2          | /        |
| 100%RB                                                    |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                | 21100/2535                | 20M QPSK 100%RB#0 | 0.688            | 0.368 | 0.14             | 22.37                 | 23.00               | 0.795                            | State 2          | /        |
| Tested at the worst position with SIM2                    |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                | 21350/2560                | 20M QPSK 1RB#99   | 0.789            | 0.423 | -0.19            | 21.83                 | 23.00               | 1.033                            | State 2          | /        |
| Tested at the worst position with battery 2#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                | 21350/2560                | 20M QPSK 1RB#99   | 0.726            | 0.392 | -0.11            | 21.83                 | 23.00               | 0.950                            | State 2          | /        |
| Tested at the worst position with battery 3#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right Side                                                | 21350/2560                | 20M QPSK 1RB#99   | 0.759            | 0.409 | -0.11            | 21.83                 | 23.00               | 0.994                            | State 2          | /        |
| Additional SAR test result with sensor off                |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side-11mm                                            | 21350/2560                | 20M QPSK 1RB#99   | 1.040            | 0.453 | 0.00             | 21.83                 | 23.00               | 1.362                            | State 2          | /        |
| Back Side                                                 | 21350/2560                | 20M QPSK 1RB#99   | 0.533            | 0.261 | 0.01             | 21.83                 | 23.00               | 0.698                            | State 1          | /        |
| Back Side-Repeated-11mm                                   | 21350/2560                | 20M QPSK 1RB#99   | 1.020            | 0.449 | 0.18             | 21.83                 | 23.00               | 1.335                            | State 2          | /        |
| Back Side-11mm                                            | 21100/2535                | 20M QPSK 1RB#99   | 0.954            | 0.418 | 0.04             | 22.42                 | 23.00               | 1.090                            | State 2          | /        |

|                                                                         |            |                   |       |       |       |       |       |       |         |     |
|-------------------------------------------------------------------------|------------|-------------------|-------|-------|-------|-------|-------|-------|---------|-----|
| Back Side-11mm                                                          | 20850/2510 | 20M QPSK 1RB#0    | 0.615 | 0.270 | -0.10 | 22.00 | 23.00 | 0.774 | State 2 | /   |
| Bottom Side-11mm                                                        | 21350/2560 | 20M QPSK 1RB#99   | 1.010 | 0.393 | -0.14 | 21.83 | 23.00 | 1.322 | State 2 | /   |
| Bottom Side-11mm                                                        | 21100/2535 | 20M QPSK 1RB#99   | 0.937 | 0.411 | 0.08  | 22.42 | 23.00 | 1.071 | State 2 | /   |
| Bottom Side-11mm                                                        | 20850/2510 | 20M QPSK 1RB#0    | 0.604 | 0.265 | -0.01 | 22.00 | 23.00 | 0.760 | State 2 | /   |
| Front Side-14mm                                                         | 21350/2560 | 20M QPSK 1RB#99   | 0.577 | 0.309 | 0.00  | 21.83 | 23.00 | 0.755 | State 2 | /   |
| 50%RB                                                                   |            |                   |       |       |       |       |       |       |         |     |
| Back Side-11mm                                                          | 21100/2535 | 20M QPSK 50%RB#50 | 1.020 | 0.446 | 0.05  | 22.74 | 23.00 | 1.083 | State 2 | /   |
| Back Side-11mm                                                          | 20850/2510 | 20M QPSK 50%RB#0  | 0.643 | 0.282 | 0.10  | 22.21 | 23.00 | 0.771 | State 2 | /   |
| Back Side-11mm                                                          | 21350/2560 | 20M QPSK 50%RB#0  | 0.826 | 0.359 | 0.11  | 22.08 | 23.00 | 1.021 | State 2 | /   |
| Bottom Side-11mm                                                        | 21100/2535 | 20M QPSK 50%RB#50 | 1.000 | 0.439 | 0.09  | 22.74 | 23.00 | 1.062 | State 2 | /   |
| Bottom Side-11mm                                                        | 20850/2510 | 20M QPSK 50%RB#0  | 0.615 | 0.267 | 0.06  | 22.21 | 23.00 | 0.738 | State 2 | /   |
| Bottom Side-11mm                                                        | 21350/2560 | 20M QPSK 50%RB#0  | 0.796 | 0.348 | 0.13  | 22.08 | 23.00 | 0.984 | State 2 | /   |
| Front Side-14mm                                                         | 21100/2535 | 20M QPSK 50%RB#50 | 0.465 | 0.200 | 0.07  | 22.74 | 23.00 | 0.494 | State 2 | /   |
| 100%RB                                                                  |            |                   |       |       |       |       |       |       |         |     |
| Back Side-11mm                                                          | 21100/2535 | 20M QPSK 100%RB#0 | 0.884 | 0.386 | 0.07  | 22.37 | 23.00 | 1.022 | State 2 | /   |
| Bottom Side-11mm                                                        | 21100/2535 | 20M QPSK 100%RB#0 | 0.868 | 0.380 | 0.15  | 22.37 | 23.00 | 1.004 | State 2 | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |            |                   |       |       |       |       |       |       |         |     |
| Back Side                                                               | 21350/2560 | 20M QPSK 1RB#99   | 0.822 | 0.352 | -0.14 | 21.83 | 23.00 | 1.076 | State 2 | Yes |

Table 129: Hotspot SAR test results of LTE Band VII

## 7.2.24 SAR measurement Result of LTE Band XII(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.120            | 0.096 | 0.14             | 22.88                 | 23.50               | 0.138                            | /                | /        |
| Left tilt                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.104            | 0.073 | 0.06             | 22.88                 | 23.50               | 0.120                            | /                | /        |
| Right touch                                                             | 23130/711                 | 10M QPSK 1RB#25   | 0.132            | 0.104 | -0.02            | 22.88                 | 23.50               | 0.152                            | /                | /        |
| Right tilt                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.092            | 0.064 | 0.10             | 22.88                 | 23.50               | 0.106                            | /                | /        |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | <b>0.238</b>     | 0.187 | -0.08            | 22.80                 | 23.50               | <b>0.280</b>                     | /                | /        |
| Right touch                                                             | 23095/707.5               | 10M QPSK 1RB#0    | 0.180            | 0.127 | 0.19             | 22.82                 | 23.50               | 0.211                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.095            | 0.067 | 0.12             | 21.51                 | 22.50               | 0.119                            | /                | /        |
| Left tilt                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.086            | 0.060 | 0.10             | 21.51                 | 22.50               | 0.108                            | /                | /        |
| Right touch                                                             | 23130/711                 | 10M QPSK 50%RB#13 | 0.103            | 0.072 | 0.10             | 21.51                 | 22.50               | 0.129                            | /                | /        |
| Right tilt                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.075            | 0.053 | 0.13             | 21.51                 | 22.50               | 0.095                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.221            | 0.155 | 0.1              | 22.80                 | 23.50               | 0.260                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.195            | 0.137 | 0.07             | 22.80                 | 23.50               | 0.229                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.196            | 0.138 | 0.17             | 22.80                 | 23.50               | 0.230                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 23060/704                 | 10M QPSK 1RB#25   | 0.209            | 0.164 | 0.14             | 22.80                 | 23.50               | 0.246                            | /                | Yes      |

Table 130: Head SAR test results of LTE Band XII

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.176            | 0.126 | -0.01            | 22.88                 | 23.50               | 0.203                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.188            | 0.144 | 0.02             | 22.88                 | 23.50               | 0.217                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.135            | 0.096 | -0.02            | 21.51                 | 22.50               | 0.170                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.140            | 0.100 | 0.00             | 21.51                 | 22.50               | 0.176                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.175            | 0.125 | 0.00             | 22.88                 | 23.50               | 0.202                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.172            | 0.123 | 0.00             | 22.88                 | 23.50               | 0.198                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.173            | 0.123 | -0.01            | 22.88                 | 23.50               | 0.200                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | <b>0.224</b>     | 0.172 | 0.02             | 22.88                 | 23.50               | <b>0.258</b>                     | /                | Yes      |

Table 131: Body-Worn SAR test results of LTE Band XII

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.221            | 0.169 | 0.06             | 22.88                 | 23.50               | 0.255                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.244            | 0.182 | -0.01            | 22.88                 | 23.50               | 0.281                            | /                | /        |
| Left Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.150            | 0.102 | -0.03            | 22.88                 | 23.50               | 0.173                            | /                | /        |
| Right Side                                                              | 23130/711                 | 10M QPSK 1RB#25   | 0.212            | 0.146 | 0.00             | 22.88                 | 23.50               | 0.245                            | /                | /        |
| Bottom Side                                                             | 23130/711                 | 10M QPSK 1RB#25   | 0.091            | 0.054 | -0.04            | 22.88                 | 23.50               | 0.105                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.172            | 0.123 | -0.03            | 21.51                 | 22.50               | 0.216                            | /                | /        |
| Back Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.189            | 0.133 | 0.00             | 21.51                 | 22.50               | 0.237                            | /                | /        |
| Left Side                                                               | 23130/711                 | 10M QPSK 50%RB#13 | 0.115            | 0.079 | -0.08            | 21.51                 | 22.50               | 0.144                            | /                | /        |
| Right Side                                                              | 23130/711                 | 10M QPSK 50%RB#13 | 0.164            | 0.113 | 0.05             | 21.51                 | 22.50               | 0.206                            | /                | /        |
| Bottom Side                                                             | 23130/711                 | 10M QPSK 50%RB#13 | 0.070            | 0.042 | -0.04            | 21.51                 | 22.50               | 0.088                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.235            | 0.175 | -0.02            | 22.88                 | 23.50               | 0.271                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.238            | 0.168 | 0.02             | 22.88                 | 23.50               | 0.275                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.233            | 0.165 | 0.04             | 22.88                 | 23.50               | 0.269                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 23130/711                 | 10M QPSK 1RB#25   | 0.274            | 0.207 | 0.00             | 22.88                 | 23.50               | 0.316                            | /                | Yes      |

Table 132: Hotspot SAR test results of LTE Band XII

### 7.2.25 SAR measurement Result of LTE Band XVII(Main Antenna)

SAR for LTE Band 17 (Frequency range:704-716 MHz) is covered by LTE Band 12 (Frequency range:699-716 MHz) due to similar frequency range,same maximum tune up limit and same channel bandwidth.

## 7.2.26 SAR measurement Result of LTE Band XXVI(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Left touch                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.314            | 0.239 | -0.17            | 22.63                  | 23.40               | 0.375                            | /                | /        |
| Left tilt                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.211            | 0.146 | -0.04            | 22.63                  | 23.40               | 0.252                            | /                | /        |
| Right touch                                                             | 26965/841.5               | 15M QPSK 1RB#38   | 0.393            | 0.296 | -0.08            | 22.63                  | 23.40               | 0.469                            | /                | /        |
| Right tilt                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.213            | 0.148 | 0.17             | 22.63                  | 23.40               | 0.254                            | /                | /        |
| Right touch                                                             | 26775/822.5               | 15M QPSK 1RB#38   | 0.372            | 0.284 | -0.01            | 22.47                  | 23.40               | 0.461                            | /                | /        |
| Right touch                                                             | 26865/831.5               | 15M QPSK 1RB#38   | 0.222            | 0.170 | 0.16             | 22.15                  | 23.40               | 0.296                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Left touch                                                              | 26965/841.5               | 15M QPSK 50%RB#39 | 0.184            | 0.127 | 0.14             | 21.53                  | 22.40               | 0.225                            | /                | /        |
| Left tilt                                                               | 26965/841.5               | 15M QPSK 50%RB#39 | 0.130            | 0.090 | 0.12             | 21.53                  | 22.40               | 0.159                            | /                | /        |
| Right touch                                                             | 26965/841.5               | 15M QPSK 50%RB#39 | 0.224            | 0.154 | 0.14             | 21.53                  | 22.40               | 0.274                            | /                | /        |
| Right tilt                                                              | 26965/841.5               | 15M QPSK 50%RB#39 | 0.124            | 0.083 | 0.09             | 21.53                  | 22.40               | 0.152                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 26965/841.5               | 15M QPSK 1RB#38   | 0.385            | 0.292 | 0.09             | 22.63                  | 23.40               | 0.460                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 26965/841.5               | 15M QPSK 1RB#38   | 0.381            | 0.289 | 0.08             | 22.63                  | 23.40               | 0.455                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 26965/841.5               | 15M QPSK 1RB#38   | 0.389            | 0.294 | 0.09             | 22.63                  | 23.40               | 0.464                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 26965/841.5               | 15M QPSK 1RB#38   | <b>0.396</b>     | 0.295 | 0.10             | 22.63                  | 23.40               | <b>0.473</b>                     | /                | Yes      |

Table 133: Head SAR test results of LTE Band XXVI

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.348            | 0.264 | -0.12            | 22.63                 | 23.40               | 0.416                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.375            | 0.284 | -0.06            | 22.63                 | 23.40               | 0.448                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 50%RB#39 | 0.207            | 0.157 | -0.04            | 21.53                 | 22.40               | 0.253                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 50%RB#39 | 0.225            | 0.170 | -0.02            | 21.53                 | 22.40               | 0.275                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.379            | 0.287 | 0.02             | 22.63                 | 23.40               | 0.453                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.368            | 0.279 | -0.04            | 22.63                 | 23.40               | 0.439                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.387            | 0.293 | 0.01             | 22.63                 | 23.40               | 0.462                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.421            | 0.322 | -0.03            | 22.63                 | 23.40               | 0.503                            | /                | Yes      |

Table 134: Body-Worn SAR test results of LTE Band XXVI

| Test Position of Hotspot with 10mm                                      | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducte d Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.416            | 0.315 | -0.14            | 22.63                  | 23.40               | 0.497                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.416            | 0.319 | 0.01             | 22.63                  | 23.40               | 0.497                            | /                | /        |
| Left Side                                                               | 26965/841.5               | 15M QPSK 1RB#38   | 0.305            | 0.206 | -0.18            | 22.63                  | 23.40               | 0.364                            | /                | /        |
| Right Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.608            | 0.410 | -0.11            | 22.63                  | 23.40               | 0.726                            | /                | /        |
| Bottom Side                                                             | 26965/841.5               | 15M QPSK 1RB#38   | 0.146            | 0.073 | -0.09            | 22.63                  | 23.40               | 0.174                            | /                | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Front Side                                                              | 26965/841.5               | 15M QPSK 50%RB#39 | 0.253            | 0.178 | -0.12            | 21.53                  | 22.40               | 0.309                            | /                | /        |
| Back Side                                                               | 26965/841.5               | 15M QPSK 50%RB#39 | 0.253            | 0.179 | -0.07            | 21.53                  | 22.40               | 0.309                            | /                | /        |
| Left Side                                                               | 26965/841.5               | 15M QPSK 50%RB#39 | 0.171            | 0.115 | -0.09            | 21.53                  | 22.40               | 0.209                            | /                | /        |
| Right Side                                                              | 26965/841.5               | 15M QPSK 50%RB#39 | 0.374            | 0.252 | -0.11            | 21.53                  | 22.40               | 0.457                            | /                | /        |
| Bottom Side                                                             | 26965/841.5               | 15M QPSK 50%RB#39 | 0.095            | 0.048 | -0.07            | 21.53                  | 22.40               | 0.116                            | /                | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.589            | 0.398 | -0.13            | 22.63                  | 23.40               | 0.703                            | /                | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.577            | 0.39  | -0.12            | 22.63                  | 23.40               | 0.689                            | /                | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.537            | 0.361 | -0.15            | 22.63                  | 23.40               | 0.641                            | /                | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right Side                                                              | 26965/841.5               | 15M QPSK 1RB#38   | 0.614            | 0.417 | -0.05            | 22.63                  | 23.40               | 0.733                            | /                | Yes      |

Table 135: Hotspot SAR test results of LTE Band XXVI

## 7.2.27 SAR measurement Result of LTE Band XXXVIII(Main Antenna)

| Test Position of Head                                                   | Test channel /Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conduct ed Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|--------------------------|-------------------|------------------|-------|------------------|------------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                          |                   | 1-g              | 10-g  |                  |                        |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| 1RB                                                                     |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 38150/2610               | 20M QPSK 1RB#50   | 0.252            | 0.134 | 0.16             | 24.02                  | 24.50               | 0.281                            | State 1          | /        |
| Right touch                                                             | 38150/2610               | 20M QPSK 1RB#50   | 0.469            | 0.253 | 0.13             | 24.02                  | 24.50               | 0.524                            | State 2          | /        |
| Left touch                                                              | 38150/2610               | 20M QPSK 1RB#50   | 0.240            | 0.131 | 0.18             | 24.02                  | 24.50               | 0.268                            | State 2          | /        |
| Left tilt                                                               | 38150/2610               | 20M QPSK 1RB#50   | 0.228            | 0.105 | 0.14             | 24.02                  | 24.50               | 0.255                            | State 2          | /        |
| Right tilt                                                              | 38150/2610               | 20M QPSK 1RB#50   | 0.137            | 0.067 | 0.19             | 24.02                  | 24.50               | 0.153                            | State 2          | /        |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.500            | 0.269 | 0.06             | 23.11                  | 24.50               | 0.689                            | State 2          | /        |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.233            | 0.137 | 0.11             | 23.11                  | 24.50               | 0.321                            | State 1          | /        |
| Right touch                                                             | 38000/2595               | 20M QPSK 1RB#50   | 0.465            | 0.251 | 0.06             | 23.47                  | 24.50               | 0.589                            | State 2          | /        |
| 50%RB                                                                   |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Left touch                                                              | 38150/2610               | 20M QPSK 50%RB#25 | 0.191            | 0.099 | 0.16             | 23.15                  | 23.50               | 0.207                            | State 2          | /        |
| Left tilt                                                               | 38150/2610               | 20M QPSK 50%RB#25 | 0.195            | 0.090 | 0.18             | 23.15                  | 23.50               | 0.211                            | State 2          | /        |
| Right touch                                                             | 38150/2610               | 20M QPSK 50%RB#25 | 0.376            | 0.195 | 0.05             | 23.15                  | 23.50               | 0.408                            | State 2          | /        |
| Right tilt                                                              | 38150/2610               | 20M QPSK 50%RB#25 | 0.400            | 0.203 | 0.02             | 23.15                  | 23.50               | 0.434                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.489            | 0.264 | 0.13             | 23.11                  | 24.50               | 0.673                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.454            | 0.236 | 0.17             | 23.11                  | 24.50               | 0.625                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.470            | 0.243 | 0.02             | 23.11                  | 24.50               | 0.647                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                          |                   |                  |       |                  |                        |                     |                                  |                  |          |
| Right touch                                                             | 37850/2580               | 20M QPSK 1RB#50   | 0.517            | 0.276 | 0.15             | 23.11                  | 24.50               | 0.712                            | State 2          | Yes      |

Table 136: Head SAR test results of LTE Band XXXVIII

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | 0.313            | 0.169 | 0.05             | 24.02                 | 24.50               | 0.350                            | State 1          | /        |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | <b>0.435</b>     | 0.202 | -0.05            | 24.02                 | 24.50               | <b>0.486</b>                     | State 2          | /        |
| Back Side                                                               | 38150/2610                | 20M QPSK 1RB#50   | 0.399            | 0.207 | -0.02            | 24.02                 | 24.50               | 0.446                            | State 2          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 50%RB#25 | 0.408            | 0.175 | -0.01            | 23.15                 | 23.50               | 0.442                            | State 2          | /        |
| Back Side                                                               | 38150/2610                | 20M QPSK 50%RB#25 | 0.330            | 0.169 | 0.02             | 23.15                 | 23.50               | 0.358                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | 0.403            | 0.22  | -0.03            | 24.02                 | 24.50               | 0.450                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | 0.365            | 0.199 | 0.01             | 24.02                 | 24.50               | 0.408                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | 0.354            | 0.192 | -0.1             | 24.02                 | 24.50               | 0.395                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 38150/2610                | 20M QPSK 1RB#50   | 0.318            | 0.148 | -0.14            | 24.02                 | 24.50               | 0.355                            | State 2          | Yes      |

Table 137: Body-Worn SAR test results of LTE Band XXXVIII

| Test Position of Hotspot with 10mm                        | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-----------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                           |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2) |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                       |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.212            | 0.119 | 0.14             | 19.50                 | 20.00               | 0.238                            | State 1          | /        |
| Back Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.444            | 0.189 | 0.08             | 19.50                 | 20.00               | 0.498                            | State 2          | /        |
| Front Side                                                | 38150/2610                | 20M QPSK 1RB#50   | 0.261            | 0.147 | -0.18            | 19.50                 | 20.00               | 0.293                            | State 2          | /        |
| Left Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.564            | 0.292 | 0.07             | 24.02                 | 24.50               | 0.630                            | State 2          | /        |
| Right Side                                                | 38150/2610                | 20M QPSK 1RB#50   | 0.062            | 0.032 | 0.06             | 24.02                 | 24.50               | 0.069                            | State 2          | /        |
| Bottom Side                                               | 38150/2610                | 20M QPSK 1RB#50   | 0.150            | 0.067 | -0.02            | 19.50                 | 20.00               | 0.168                            | State 2          | /        |
| 50%RB                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                | 38150/2610                | 20M QPSK 50%RB#50 | 0.216            | 0.123 | 0.11             | 18.45                 | 19.00               | 0.245                            | State 2          | /        |
| Back Side                                                 | 38150/2610                | 20M QPSK 50%RB#50 | 0.308            | 0.154 | 0.13             | 18.45                 | 19.00               | 0.350                            | State 2          | /        |
| Left Side                                                 | 38150/2610                | 20M QPSK 50%RB#50 | 0.463            | 0.234 | 0.01             | 23.14                 | 23.50               | 0.503                            | State 2          | /        |
| Right Side                                                | 38150/2610                | 20M QPSK 50%RB#50 | 0.053            | 0.027 | 0.04             | 23.14                 | 23.50               | 0.057                            | State 2          | /        |
| Bottom Side                                               | 38150/2610                | 20M QPSK 50%RB#50 | 0.128            | 0.056 | -0.05            | 18.45                 | 19.00               | 0.145                            | State 2          | /        |
| Tested at the worst position with SIM2                    |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.542            | 0.283 | 0.08             | 24.02                 | 24.50               | 0.605                            | State 2          | /        |
| Tested at the worst position with battery 2#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.550            | 0.281 | 0.04             | 24.02                 | 24.50               | 0.614                            | State 2          | /        |
| Tested at the worst position with battery 3#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.501            | 0.258 | 0.08             | 24.02                 | 24.50               | 0.560                            | State 2          | /        |
| Additional SAR test result with sensor off                |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side-11mm                                            | 38150/2610                | 20M QPSK 1RB#50   | 0.946            | 0.402 | 0.06             | 24.02                 | 24.50               | 1.057                            | State 2          | /        |
| Back Side-Repeated-11mm                                   | 38150/2610                | 20M QPSK 1RB#50   | 0.933            | 0.412 | 0.14             | 24.02                 | 24.50               | 1.042                            | State 2          | /        |
| Back Side                                                 | 38150/2610                | 20M QPSK 1RB#50   | 0.516            | 0.268 | 0.13             | 24.02                 | 24.50               | 0.576                            | State 1          | /        |
| Back Side-11mm                                            | 37850/2580                | 20M QPSK 1RB#50   | 0.699            | 0.322 | 0.07             | 23.11                 | 24.50               | 0.963                            | State 2          | /        |
| Back Side-11mm                                            | 38000/2595                | 20M QPSK 1RB#50   | 0.786            | 0.388 | 0.14             | 23.47                 | 24.50               | 0.996                            | State 2          | /        |
| Bottom Side-11mm                                          | 38150/2610                | 20M QPSK 1RB#50   | 0.899            | 0.339 | 0.08             | 24.02                 | 24.50               | 1.004                            | State 2          | /        |
| Bottom Side-11mm                                          | 37850/2580                | 20M QPSK 1RB#50   | 0.678            | 0.368 | 0.15             | 23.11                 | 24.50               | 0.934                            | State 2          | /        |

|                                                                         |            |                      |       |       |      |       |       |       |         |     |
|-------------------------------------------------------------------------|------------|----------------------|-------|-------|------|-------|-------|-------|---------|-----|
| Bottom Side-11mm                                                        | 38000/2595 | 20M QPSK<br>1RB#50   | 0.759 | 0.324 | 0.07 | 23.47 | 24.50 | 0.962 | State 2 | /   |
| Front Side-14mm                                                         | 38150/2610 | 20M QPSK<br>1RB#50   | 0.510 | 0.232 | 0.03 | 24.02 | 24.50 | 0.570 | State 2 | /   |
| 50%RB                                                                   |            |                      |       |       |      |       |       |       |         |     |
| Back Side-11mm                                                          | 38150/2610 | 20M QPSK<br>50%RB#25 | 0.710 | 0.345 | 0.06 | 23.14 | 23.50 | 0.771 | State 2 | /   |
| Bottom Side-11mm                                                        | 38150/2610 | 20M QPSK<br>50%RB#25 | 0.703 | 0.296 | 0.14 | 23.14 | 23.50 | 0.764 | State 2 | /   |
| Front Side-14mm                                                         | 38150/2610 | 20M QPSK<br>1RB#50   | 0.457 | 0.232 | 0.01 | 23.14 | 23.50 | 0.496 | State 2 | /   |
| 100%RB                                                                  |            |                      |       |       |      |       |       |       |         |     |
| Back Side-11mm                                                          | 38150/2610 | 20M QPSK<br>100%RB#0 | 0.705 | 0.342 | 0.19 | 23.00 | 23.50 | 0.791 | State 2 | /   |
| Bottom Side-11mm                                                        | 38150/2610 | 20M QPSK<br>100%RB#0 | 0.698 | 0.301 | 0.05 | 23.00 | 23.50 | 0.783 | State 2 | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |            |                      |       |       |      |       |       |       |         |     |
| Back Side                                                               | 38150/2610 | 20M QPSK<br>1RB#50   | 0.813 | 0.328 | 0.05 | 24.02 | 24.50 | 0.908 | State 2 | Yes |

Table 138: Hotspot SAR test results of LTE Band XXXVIII

## 7.2.28 SAR measurement Result of LTE Band XLI(Main Antenna)

| Test Position of Head                                                   | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.223            | 0.130 | 0.18             | 23.58                 | 24.50               | 0.276                            | State 1          | /        |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.510            | 0.274 | 0.19             | 23.58                 | 24.50               | 0.630                            | State 2          | /        |
| Left touch                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.217            | 0.122 | 0.17             | 23.58                 | 24.50               | 0.268                            | State 2          | /        |
| Left tilt                                                               | 40740/2605                | 20M QPSK 1RB#50   | 0.196            | 0.098 | 0.16             | 23.58                 | 24.50               | 0.242                            | State 2          | /        |
| Right tilt                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.124            | 0.061 | 0.00             | 23.58                 | 24.50               | 0.153                            | State 2          | /        |
| Right touch                                                             | 40340/2565                | 20M QPSK 1RB#50   | 0.429            | 0.233 | 0.05             | 23.24                 | 24.50               | 0.573                            | State 2          | /        |
| Right touch                                                             | 41140/2645                | 20M QPSK 1RB#50   | 0.270            | 0.146 | 0.14             | 23.26                 | 24.50               | 0.359                            | State 2          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Left touch                                                              | 40740/2605                | 20M QPSK 50%RB#50 | 0.167            | 0.093 | 0.02             | 22.60                 | 23.50               | 0.205                            | State 2          | /        |
| Left tilt                                                               | 40740/2605                | 20M QPSK 50%RB#50 | 0.171            | 0.084 | -0.04            | 22.60                 | 23.50               | 0.210                            | State 2          | /        |
| Right touch                                                             | 40740/2605                | 20M QPSK 50%RB#50 | 0.407            | 0.217 | 0.07             | 22.60                 | 23.50               | 0.501                            | State 2          | /        |
| Right tilt                                                              | 40740/2605                | 20M QPSK 50%RB#50 | 0.108            | 0.055 | 0.00             | 22.60                 | 23.50               | 0.133                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.508            | 0.272 | 0.08             | 23.58                 | 24.50               | 0.628                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.495            | 0.264 | 0.09             | 23.58                 | 24.50               | 0.612                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.501            | 0.268 | 0.00             | 23.58                 | 24.50               | 0.619                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Right touch                                                             | 40740/2605                | 20M QPSK 1RB#50   | 0.533            | 0.283 | -0.15            | 23.58                 | 24.50               | 0.659                            | State 2          | Yes      |

Table 139: Head SAR test results of LTE Band XLI

| Test Position of Body-Worn with 15mm                                    | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-------------------------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                                         |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.213            | 0.122 | 0.13             | 23.58                 | 24.50               | 0.263                            | State 1          | /        |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | <b>0.437</b>     | 0.228 | 0.06             | 23.58                 | 24.50               | <b>0.540</b>                     | State 2          | /        |
| Back Side                                                               | 40740/2605                | 20M QPSK 1RB#50   | 0.360            | 0.188 | 0.06             | 23.58                 | 24.50               | 0.445                            | State 2          | /        |
| 50%RB                                                                   |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 50%RB#50 | 0.321            | 0.173 | 0.03             | 22.60                 | 23.50               | 0.395                            | State 2          | /        |
| Back Side                                                               | 40740/2605                | 20M QPSK 50%RB#50 | 0.290            | 0.154 | 0.11             | 22.60                 | 23.50               | 0.357                            | State 2          | /        |
| Tested at the worst position with SIM2                                  |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.414            | 0.217 | 0.00             | 23.58                 | 24.50               | 0.512                            | State 2          | /        |
| Tested at the worst position with battery 2#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.413            | 0.212 | 0.12             | 23.58                 | 24.50               | 0.510                            | State 2          | /        |
| Tested at the worst position with battery 3#                            |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.413            | 0.213 | -0.09            | 23.58                 | 24.50               | 0.510                            | State 2          | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                              | 40740/2605                | 20M QPSK 1RB#50   | 0.319            | 0.149 | -0.09            | 23.58                 | 24.50               | 0.394                            | State 2          | Yes      |

Table 140: Body-Worn SAR test results of LTE Band XLI

| Test Position of Hotspot with 10mm                        | Test channel / Freq.(MHz) | Test Mode         | SAR Value (W/kg) |       | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled SAR <sub>1-g</sub> (W/kg) | Ant Tuning State | SAR Plot |
|-----------------------------------------------------------|---------------------------|-------------------|------------------|-------|------------------|-----------------------|---------------------|----------------------------------|------------------|----------|
|                                                           |                           |                   | 1-g              | 10-g  |                  |                       |                     |                                  |                  |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2) |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| 1RB                                                       |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                 | 40740/2605                | 20M QPSK 1RB#50   | 0.428            | 0.229 | -0.16            | 23.58                 | 24.50               | 0.529                            | State 1          | /        |
| Back Side                                                 | 40740/2605                | 20M QPSK 1RB#50   | <b>1.080</b>     | 0.462 | 0.07             | 23.58                 | 24.50               | <b>1.335</b>                     | State 2          | /        |
| Back Side-repeated                                        | 40740/2605                | 20M QPSK 1RB#50   | 1.060            | 0.455 | -0.08            | 23.58                 | 24.50               | 1.310                            | State 2          | /        |
| Back Side                                                 | 40340/2565                | 20M QPSK 1RB#50   | 0.896            | 0.384 | -0.04            | 23.24                 | 24.50               | 1.198                            | State 2          | /        |
| Back Side                                                 | 41140/2645                | 20M QPSK 1RB#50   | 0.637            | 0.286 | -0.11            | 23.26                 | 24.50               | 0.847                            | State 2          | /        |
| Front Side                                                | 40740/2605                | 20M QPSK 1RB#50   | 0.944            | 0.410 | -0.17            | 23.58                 | 24.50               | 1.167                            | State 2          | /        |
| Front Side                                                | 40340/2565                | 20M QPSK 1RB#50   | 0.783            | 0.427 | 0.03             | 23.24                 | 24.50               | 1.047                            | State 2          | /        |
| Front Side                                                | 41140/2645                | 20M QPSK 1RB#50   | 0.656            | 0.349 | -0.06            | 23.26                 | 24.50               | 0.873                            | State 2          | /        |
| Left Side                                                 | 40740/2605                | 20M QPSK 1RB#50   | 0.052            | 0.026 | -0.05            | 23.58                 | 24.50               | 0.064                            | State 2          | /        |
| Right Side                                                | 40740/2605                | 20M QPSK 1RB#50   | 0.631            | 0.324 | -0.09            | 23.58                 | 24.50               | 0.780                            | State 2          | /        |
| Bottom Side                                               | 40740/2605                | 20M QPSK 1RB#50   | 0.966            | 0.360 | -0.03            | 23.58                 | 24.50               | 1.194                            | State 2          | /        |
| Bottom Side                                               | 40340/2565                | 20M QPSK 1RB#50   | 0.772            | 0.290 | -0.14            | 23.24                 | 24.50               | 1.032                            | State 2          | /        |
| Bottom Side                                               | 41140/2645                | 20M QPSK 1RB#50   | 0.531            | 0.216 | -0.15            | 23.26                 | 24.50               | 0.706                            | State 2          | /        |
| 50%RB                                                     |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                | 40740/2605                | 20M QPSK 50%RB#50 | 0.771            | 0.334 | 0.13             | 22.60                 | 23.50               | 0.949                            | State 2          | /        |
| Back Side                                                 | 40740/2605                | 20M QPSK 50%RB#50 | 0.736            | 0.330 | -0.16            | 22.60                 | 23.50               | 0.905                            | State 2          | /        |
| Left Side                                                 | 40740/2605                | 20M QPSK 50%RB#50 | 0.043            | 0.021 | 0.03             | 22.60                 | 23.50               | 0.053                            | State 2          | /        |
| Right Side                                                | 40740/2605                | 20M QPSK 50%RB#50 | 0.533            | 0.266 | -0.06            | 22.60                 | 23.50               | 0.656                            | State 2          | /        |
| Bottom Side                                               | 40740/2605                | 20M QPSK 50%RB#50 | 0.646            | 0.254 | -0.16            | 22.60                 | 23.50               | 0.795                            | State 2          | /        |
| 100%RB                                                    |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Front Side                                                | 40740/2605                | 20M QPSK 100%RB#0 | 0.711            | 0.312 | -0.16            | 22.45                 | 23.50               | 0.905                            | State 2          | /        |
| Back Side                                                 | 40740/2605                | 20M QPSK 100%RB#0 | 0.786            | 0.339 | -0.14            | 22.45                 | 23.50               | 1.001                            | State 2          | /        |
| Bottom Side                                               | 40740/2605                | 20M QPSK 100%RB#0 | 0.847            | 0.310 | -0.19            | 22.45                 | 23.50               | 1.079                            | State 2          | /        |
| Tested at the worst position with SIM2                    |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                 | 40740/2605                | 20M QPSK 1RB#50   | 0.976            | 0.421 | -0.08            | 23.58                 | 24.50               | 1.206                            | State 2          | /        |
| Tested at the worst position with battery 2#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |
| Back Side                                                 | 40740/2605                | 20M QPSK 1RB#50   | 0.903            | 0.394 | -0.11            | 23.58                 | 24.50               | 1.116                            | State 2          | /        |
| Tested at the worst position with battery 3#              |                           |                   |                  |       |                  |                       |                     |                                  |                  |          |

|                                                                         |            |                    |       |       |       |       |       |       |         |     |
|-------------------------------------------------------------------------|------------|--------------------|-------|-------|-------|-------|-------|-------|---------|-----|
| Back Side                                                               | 40740/2605 | 20M QPSK<br>1RB#50 | 1.070 | 0.462 | -0.13 | 23.58 | 24.50 | 1.322 | State 2 | /   |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |            |                    |       |       |       |       |       |       |         |     |
| Back Side                                                               | 40740/2605 | 20M QPSK<br>1RB#50 | 0.905 | 0.379 | 0.08  | 23.58 | 24.50 | 1.119 | State 2 | Yes |

Table 141: Hotspot SAR test results of LTE Band XLI

## 7.2.29 SAR measurement Result of WiFi 2.4G

| Test Position of Head                                                                              | Test channel /Freq.(MHz) | Test Mode | SAR Value (W/kg) |              | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot |
|----------------------------------------------------------------------------------------------------|--------------------------|-----------|------------------|--------------|------------------|-----------------------|---------------------|-----------------------|--------------------|------------------------|----------|
|                                                                                                    |                          |           | Area Scan        | Zoom Scan    |                  |                       |                     |                       |                    |                        |          |
|                                                                                                    |                          |           | 1-g              | 1-g          |                  |                       |                     |                       |                    |                        |          |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)                                          |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| WiFi ANT1                                                                                          |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 6/2437                   | 802.11 b  | 0.486            | 0.576        | 0.180            | 16.62                 | 17.00               | 0.629                 | 98.96%             | 0.635                  | /        |
| Left tilt                                                                                          | 6/2437                   | 802.11 b  | 0.361            | 0.430        | 0.060            | 16.62                 | 17.00               | 0.469                 | 98.96%             | 0.474                  | /        |
| Right touch                                                                                        | 6/2437                   | 802.11 b  | 0.173            | /            | -0.150           | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /        |
| Right tilt                                                                                         | 6/2437                   | 802.11 b  | 0.176            | /            | 0.100            | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /        |
| Left touch                                                                                         | 1/2412                   | 802.11 b  | 0.501            | 0.593        | -0.180           | 16.01                 | 17.00               | 0.745                 | 98.96%             | 0.753                  | /        |
| Left touch                                                                                         | 11/2462                  | 802.11 b  | 0.356            | 0.412        | 0.140            | 15.92                 | 17.00               | 0.528                 | 98.96%             | 0.534                  | /        |
| Tested at the worst position with battery 2#                                                       |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 1/2412                   | 802.11 b  | 0.570            | 0.699        | -0.060           | 16.01                 | 17.00               | 0.878                 | 98.96%             | 0.887                  | /        |
| Tested at the worst position with battery 3#                                                       |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 1/2412                   | 802.11 b  | 0.533            | 0.676        | 0.150            | 16.01                 | 17.00               | 0.849                 | 98.96%             | 0.858                  | /        |
| WiFi ANT2                                                                                          |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 6/2437                   | 802.11 b  | 0.140            | /            | 0.140            | 13.89                 | 14.50               | /                     | 98.96%             | /                      | /        |
| Left tilt                                                                                          | 6/2437                   | 802.11 b  | 0.107            | /            | 0.120            | 13.89                 | 14.50               | /                     | 98.96%             | /                      | /        |
| Right touch                                                                                        | 6/2437                   | 802.11 b  | 0.475            | 0.442        | 0.040            | 13.89                 | 14.50               | 0.509                 | 98.96%             | 0.514                  | /        |
| Right tilt                                                                                         | 6/2437                   | 802.11 b  | 0.238            | 0.213        | -0.080           | 13.89                 | 14.50               | 0.245                 | 98.96%             | 0.248                  | /        |
| Right touch                                                                                        | 1/2412                   | 802.11 b  | 0.385            | 0.355        | 0.110            | 13.63                 | 14.50               | 0.434                 | 98.96%             | 0.438                  |          |
| Right touch                                                                                        | 11/2462                  | 802.11 b  | 0.435            | 0.409        | 0.100            | 13.49                 | 14.50               | 0.516                 | 98.96%             | 0.522                  |          |
| WiFi CDD/MIMO                                                                                      |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 6/2437                   | 802.11 g  | 0.395            | 0.464        | -0.040           | 17.11                 | 17.50               | 0.508                 | 92.90%             | 0.546                  | /        |
| Left tilt                                                                                          | 6/2437                   | 802.11 g  | 0.342            | /            | 0.020            | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /        |
| Right touch                                                                                        | 6/2437                   | 802.11 g  | 0.397            | 0.364        | -0.180           | 17.11                 | 17.50               | 0.398                 | 92.90%             | 0.429                  | /        |
| Right tilt                                                                                         | 6/2437                   | 802.11 g  | 0.276            | /            | 0.110            | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /        |
| Left touch                                                                                         | 1/2412                   | 802.11 g  | 0.402            | 0.464        | 0.030            | 16.76                 | 17.50               | 0.550                 | 92.90%             | 0.592                  | /        |
| Left touch                                                                                         | 11/2462                  | 802.11 g  | 0.293            | 0.324        | 0.050            | 16.54                 | 17.50               | 0.404                 | 92.90%             | 0.435                  |          |
| Additional SAR test(2G/3G/4G antenna simultaneous transmission with WIFI antenna)                  |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| WiFi ANT1                                                                                          |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 6/2437                   | 802.11 b  | 0.467            | 0.520        | 0.100            | 16.15                 | 16.50               | 0.564                 | 98.96%             | 0.570                  | /        |
| Right touch                                                                                        | 6/2437                   | 802.11 b  | 0.164            | 0.159        | 0.110            | 16.15                 | 16.50               | 0.172                 | 98.96%             | 0.174                  | /        |
| Right tilt                                                                                         | 6/2437                   | 802.11 b  | 0.135            | 0.132        | -0.120           | 16.15                 | 16.50               | 0.143                 | 98.96%             | 0.145                  | /        |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2                            |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 1/2412                   | 802.11 b  | 0.859            | <b>0.744</b> | -0.06            | 16.01                 | 17.00               | <b>0.934</b>          | 98.96%             | <b>0.944</b>           | Yes      |
| Additional SAR test(2G/3G/4G antenna simultaneous transmission with WIFI antenna) with new VTR-L29 |                          |           |                  |              |                  |                       |                     |                       |                    |                        |          |
| Left touch                                                                                         | 6/2437                   | 802.11 b  | 0.656            | 0.592        | 0.010            | 16.15                 | 16.50               | 0.642                 | 98.96%             | 0.648                  | /        |
| Left tilt                                                                                          | 6/2437                   | 802.11 b  | 0.585            | 0.544        | 0.050            | 16.15                 | 16.50               | 0.590                 | 98.96%             | 0.596                  | /        |
| Right touch                                                                                        | 6/2437                   | 802.11 b  | 0.178            | 0.182        | 0.070            | 16.15                 | 16.50               | 0.197                 | 98.96%             | 0.199                  | /        |
| Right tilt                                                                                         | 6/2437                   | 802.11 b  | 0.155            | 0.163        | 0.040            | 16.15                 | 16.50               | 0.177                 | 98.96%             | 0.179                  | /        |

Table 142: Head SAR test results of WiFi 2.4G

Note: Per KDB248227D01, for Head SAR test of WiFi 2.4G,

1) For WiFi SISO : SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest *reported* SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.

2) For WiFi CDD/MIMO: SAR is measured for 2.4 GHz 802.11g CDD using the initial test position procedure. The highest adjusted SAR is < 1.2 W/kg, so SAR for 802.11n MIMO is not required.

| Test Position of Body-Worn 15mm                                         | Test channel /Freq. (MHz) | Test Mode | SAR Value (W/kg) |              | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot. |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|--------------|------------------|-----------------------|---------------------|-----------------------|--------------------|------------------------|-----------|
|                                                                         |                           |           | Area Scan        | Zoom Scan    |                  |                       |                     |                       |                    |                        |           |
|                                                                         |                           |           | 1-g              | 1-g          |                  |                       |                     |                       |                    |                        |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| WiFi ANT1                                                               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 b  | 0.069            | /            | -0.090           | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /         |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.097            | 0.098        | 0.130            | 16.62                 | 17.00               | 0.107                 | 98.96%             | 0.108                  | /         |
| WiFi ANT2                                                               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 b  | 0.056            | 0.054        | 0.080            | 13.89                 | 14.50               | 0.063                 | 98.96%             | 0.063                  | /         |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.058            | /            | -0.140           | 13.89                 | 14.50               | 0.037                 | 98.96%             | /                      | /         |
| WiFi CDD/MIMO                                                           |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 g  | /                | 0.054        | 0.120            | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /         |
| Back Side                                                               | 6/2437                    | 802.11 g  | 0.079            | 0.078        | 0.130            | 17.11                 | 17.50               | 0.086                 | 92.90%             | 0.092                  | /         |
| Tested at the worst position with battery 2#( WiFi ANT1)                |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.096            | 0.096        | 0.010            | 16.62                 | 17.00               | 0.105                 | 98.96%             | 0.106                  | /         |
| Tested at the worst position with battery 3#( WiFi ANT1)                |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.092            | 0.093        | 0.100            | 16.62                 | 17.00               | 0.102                 | 98.96%             | 0.103                  | /         |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.148            | <b>0.147</b> | -0.120           | 16.62                 | 17.00               | <b>0.160</b>          | 98.96%             | <b>0.162</b>           | Yes       |

Table 143: Body-Worn SAR test results of WiFi 2.4G

Note: Per KDB248227D01, for Body-worn SAR test of WiFi 2.4G,

1) For WiFi SISO : SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest *reported* SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.

2) For WiFi CDD/MIMO: SAR is measured for 2.4 GHz 802.11g CDD using the initial test position procedure. The highest adjusted SAR is < 1.2 W/kg, so SAR for 802.11n MIMO is not required.

| Test Position of Hotspot with 10mm                                      | Test channel /Freq. (MHz) | Test Mode | SAR Value (W/kg) |              | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Scaled 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot. |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|--------------|------------------|-----------------------|---------------------|-----------------------|--------------------|------------------------|-----------|
|                                                                         |                           |           | Area Scan        | Zoom Scan    |                  |                       |                     |                       |                    |                        |           |
|                                                                         |                           |           | 1-g              | 1-g          |                  |                       |                     |                       |                    |                        |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| WiFi ANT1                                                               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 b  | 0.119            | /            | 0.030            | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /         |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.193            | /            | 0.040            | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /         |
| Right Side                                                              | 6/2437                    | 802.11 b  | 0.200            | 0.195        | -0.130           | 16.62                 | 17.00               | 0.213                 | 98.96%             | 0.215                  | /         |
| Top Side                                                                | 6/2437                    | 802.11 b  | 0.078            | /            | -0.170           | 16.62                 | 17.00               | /                     | 98.96%             | /                      | /         |
| WiFi ANT2                                                               |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 b  | 0.110            | 0.105        | 0.050            | 13.89                 | 14.50               | 0.121                 | 98.96%             | 0.122                  | /         |
| Back Side                                                               | 6/2437                    | 802.11 b  | 0.108            | /            | 0.040            | 13.89                 | 14.50               | /                     | 98.96%             | /                      | /         |
| Right Side                                                              | 6/2437                    | 802.11 b  | 0.013            | /            | 0.180            | 13.89                 | 14.50               | /                     | 98.96%             | /                      | /         |
| Top Side                                                                | 6/2437                    | 802.11 b  | 0.037            | /            | 0.180            | 13.89                 | 14.50               | /                     | 98.96%             | /                      | /         |
| WiFi CDD/MIMO                                                           |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Front Side                                                              | 6/2437                    | 802.11 g  | 0.096            | /            | -0.080           | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /         |
| Back Side                                                               | 6/2437                    | 802.11 g  | 0.163            | 0.158        | -0.110           | 17.11                 | 17.50               | 0.173                 | 92.90%             | 0.186                  | /         |
| Left Side                                                               | 6/2437                    | 802.11 g  | 0.082            | /            | -0.140           | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /         |
| Right Side                                                              | 6/2437                    | 802.11 g  | 0.136            | /            | -0.140           | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /         |
| Top Side                                                                | 6/2437                    | 802.11 g  | 0.108            | /            | -0.070           | 17.11                 | 17.50               | /                     | 92.90%             | /                      | /         |
| Tested at the worst position with battery 2# (WiFi ANT1)                |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Right Side                                                              | 6/2437                    | 802.11 b  | 0.178            | 0.172        | -0.150           | 16.62                 | 17.00               | 0.188                 | 98.96%             | 0.190                  | /         |
| Tested at the worst position with battery 3#( WiFi ANT1)                |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Right Side                                                              | 6/2437                    | 802.11 b  | 0.170            | 0.163        | -0.100           | 16.62                 | 17.00               | 0.178                 | 98.96%             | 0.180                  | /         |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |              |                  |                       |                     |                       |                    |                        |           |
| Right Side                                                              | 6/2437                    | 802.11 b  | 0.300            | <b>0.289</b> | -0.190           | 16.62                 | 17.00               | <b>0.315</b>          | 98.96%             | <b>0.319</b>           | Yes       |

Table 144: Hotspot SAR test results of WiFi 2.4G

Note: Per KDB248227D01, for Hotspot SAR test of WiFi 2.4G,

- 1) For WiFi SISO : SAR is measured for 2.4 GHz 802.11b DSSS using the initial test position procedure. The highest *reported* SAR for DSSS is adjusted by the ratio of OFDM 802.11g/n to DSSS specified maximum output power and the adjusted SAR is < 1.2 W/kg, so SAR for 802.11g/n is not required.
- 2) For WiFi CDD/MIMO: SAR is measured for 2.4 GHz 802.11g CDD using the initial test position procedure. The highest adjusted SAR is < 1.2 W/kg, so SAR for 802.11n MIMO is not required.

## 7.2.30 SAR measurement Result of WiFi 5G

| Test Position of Head                                                             | Test channel /Freq. (MHz) | Test Mode | SAR Value (W/kg) |           | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Reported 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot. |
|-----------------------------------------------------------------------------------|---------------------------|-----------|------------------|-----------|------------------|-----------------------|---------------------|-------------------------|--------------------|------------------------|-----------|
|                                                                                   |                           |           | Area Scan        | Zoom Scan |                  |                       |                     |                         |                    |                        |           |
|                                                                                   |                           |           | 1-g              | 1-g       |                  |                       |                     |                         |                    |                        |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)                         |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Test data of U-NII-2A                                                             |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 52/5260                   | 802.11a   | 0.506            | 0.523     | 0.147            | 11.98                 | 12.50               | 0.590                   | 92.82%             | 0.635                  | /         |
| Left tilt                                                                         | 52/5260                   | 802.11a   | 0.370            | 0.377     | 0.190            | 11.98                 | 12.50               | 0.425                   | 92.82%             | 0.458                  | /         |
| Right touch                                                                       | 52/5260                   | 802.11a   | 0.185            | /         | 0.160            | 11.98                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Right tilt                                                                        | 52/5260                   | 802.11a   | 0.190            | /         | 0.140            | 11.98                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Left touch                                                                        | 56/5280                   | 802.11a   | 0.495            | 0.616     | 0.170            | 11.76                 | 12.50               | 0.730                   | 92.82%             | 0.787                  | /         |
| Left touch                                                                        | 60/5300                   | 802.11a   | 0.494            | 0.623     | 0.060            | 11.58                 | 12.50               | 0.770                   | 92.82%             | 0.830                  | /         |
| Left touch                                                                        | 64/5320                   | 802.11a   | 0.561            | 0.743     | -0.030           | 11.64                 | 12.50               | 0.906                   | 92.82%             | 0.976                  | /         |
| Test data of U-NII-2C                                                             |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 116/5580                  | 802.11a   | 0.441            | 0.503     | 0.120            | 12.11                 | 12.50               | 0.550                   | 92.82%             | 0.593                  | /         |
| Left tilt                                                                         | 116/5580                  | 802.11a   | 0.388            | 0.384     | 0.160            | 12.11                 | 12.50               | 0.420                   | 92.82%             | 0.453                  | /         |
| Right touch                                                                       | 116/5580                  | 802.11a   | 0.256            | /         | 0.160            | 12.11                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Right tilt                                                                        | 116/5580                  | 802.11a   | 0.252            | /         | 0.180            | 12.11                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Test data of U-NII-3                                                              |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 161/5805                  | 802.11a   | 0.347            | 0.455     | -0.010           | 11.80                 | 12.50               | 0.535                   | 92.82%             | 0.576                  | /         |
| Left tilt                                                                         | 161/5805                  | 802.11a   | 0.314            | 0.403     | 0.150            | 11.80                 | 12.50               | 0.473                   | 92.82%             | 0.510                  | /         |
| Right touch                                                                       | 161/5805                  | 802.11a   | 0.207            | 0.204     | -0.010           | 11.80                 | 12.50               | 0.240                   | 92.82%             | 0.258                  | /         |
| Right tilt                                                                        | 161/5805                  | 802.11a   | 0.189            | 0.245     | 0.150            | 11.80                 | 12.50               | 0.288                   | 92.82%             | 0.310                  | /         |
| Tested at the worst position with battery 2#                                      |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 64/5320                   | 802.11a   | 0.551            | 0.701     | -0.020           | 11.64                 | 12.50               | 0.855                   | 92.82%             | 0.921                  | /         |
| Tested at the worst position with battery 3#                                      |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 64/5320                   | 802.11a   | 0.514            | 0.676     | 0.000            | 11.64                 | 12.50               | 0.824                   | 92.82%             | 0.888                  | /         |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2           |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 64/5320                   | 802.11a   | 0.574            | 0.644     | 0.160            | 11.64                 | 12.50               | 0.785                   | 92.82%             | 0.846                  | Yes       |
| Additional SAR test(2G/3G/4G antenna simultaneous transmission with WIFI antenna) |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Test data of U-NII-2A                                                             |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 52/5260                   | 802.11a   | 0.255            | 0.279     | 0.080            | 9.41                  | 10.50               | 0.359                   | 92.82%             | 0.386                  | /         |
| Right touch                                                                       | 52/5260                   | 802.11a   | 0.133            | 0.155     | 0.130            | 9.41                  | 10.50               | 0.199                   | 92.82%             | 0.215                  | /         |
| Right tilt                                                                        | 52/5260                   | 802.11a   | 0.104            | 0.115     | 0.170            | 9.41                  | 10.50               | 0.148                   | 92.82%             | 0.159                  | /         |
| Test data of U-NII-2C                                                             |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Left touch                                                                        | 132/5660                  | 802.11a   | 0.271            | 0.328     | 0.100            | 9.71                  | 10.50               | 0.393                   | 92.82%             | 0.424                  | /         |
| Right touch                                                                       | 132/5660                  | 802.11a   | 0.141            | 0.135     | -0.140           | 9.71                  | 10.50               | 0.162                   | 92.82%             | 0.174                  | /         |
| Right tilt                                                                        | 132/5660                  | 802.11a   | 0.147            | 0.172     | 0.160            | 9.71                  | 10.50               | 0.206                   | 92.82%             | 0.222                  | /         |

Table 145: Head SAR test results of WiFi 5G

Note: For Head SAR test of WiFi 5G

1) Per KDB 248227D01, as the same maximum output power is specified for U-NII-1(5.2G) and U-NII-2A(5.3G) bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. As the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration.

2) The 802.11a mode is selected as Initial Test Configuration for SAR test according to the specified maximum output power. As the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR test for the other 802.11 modes are not required.

| Test Position of Body-Worn with 15mm                                    | Test channel /Freq. (MHz) | Test Mode | SAR Value (W/kg) |           | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Reported 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot. |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-----------|------------------|-----------------------|---------------------|-------------------------|--------------------|------------------------|-----------|
|                                                                         |                           |           | Area Scan        | Zoom Scan |                  |                       |                     |                         |                    |                        |           |
|                                                                         |                           |           | 1-g              | 1-g       |                  |                       |                     |                         |                    |                        |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Test data of U-NII-2A                                                   |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 52/5260                   | 802.11a   | 0.067            | 0.041     | 0.120            | 11.98                 | 12.50               | 0.046                   | 92.82%             | 0.050                  | /         |
| Back Side                                                               | 52/5260                   | 802.11a   | 0.044            | /         | 0.160            | 11.98                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Test data of U-NII-2C                                                   |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 116/5580                  | 802.11a   | 0.060            | 0.060     | 0.150            | 12.11                 | 12.50               | 0.066                   | 92.82%             | 0.071                  | /         |
| Back Side                                                               | 116/5580                  | 802.11a   | 0.041            | /         | 0.000            | 12.11                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Test data of U-NII-3                                                    |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 161/5805                  | 802.11a   | 0.052            | 0.048     | 0.120            | 11.80                 | 12.50               | 0.056                   | 92.82%             | 0.061                  | /         |
| Back Side                                                               | 161/5805                  | 802.11a   | 0.036            | /         | 0.000            | 11.80                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Tested at the worst position with battery 2#                            |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 120/5600                  | 802.11a   | 0.066            | 0.063     | 0.000            | 12.11                 | 12.50               | 0.069                   | 92.82%             | 0.074                  | /         |
| Tested at the worst position with battery 3#                            |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 120/5600                  | 802.11a   | 0.058            | 0.053     | -0.120           | 12.11                 | 12.50               | 0.058                   | 92.82%             | 0.063                  | /         |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 120/5600                  | 802.11a   | 0.052            | 0.040     | 0.000            | 12.11                 | 12.50               | 0.044                   | 92.82%             | 0.047                  | Yes       |

Table 146: Body-Worn SAR test results of WiFi 5G

Note: Per KDB248227D01, for Body-Worn SAR test of WiFi 5G:

1) For WiFi 5G U-NII-1, U-NII-2A, U-NII-2C and U-NII-3 bands, the 802.11a mode is selected as Initial Test Configuration for SAR test according to the specified maximum output power. As the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR test for the other 802.11 modes are not required.

2) For WiFi 5G U-NII-1 and U-NII-2A bands, as the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. As the highest *reported* SAR is  $< 1.2$  W/kg, SAR is not required for the U-NII-1 band.

| Test Position of Hotspot with 10mm                                      | Test channel /Freq. (MHz) | Test Mode | SAR Value (W/kg) |           | Power Drift (dB) | Conducted Power (dBm) | Tune-up Power (dBm) | Reported 1-g SAR (W/kg) | Actual duty factor | Reported SAR1-g (W/kg) | SAR Plot. |
|-------------------------------------------------------------------------|---------------------------|-----------|------------------|-----------|------------------|-----------------------|---------------------|-------------------------|--------------------|------------------------|-----------|
|                                                                         |                           |           | Area Scan        | Zoom Scan |                  |                       |                     |                         |                    |                        |           |
|                                                                         |                           |           | 1-g              | 1-g       |                  |                       |                     |                         |                    |                        |           |
| Test data from VTR-L29(report NO.:SYBH(Z-SAR)011112016-2)               |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Test data of U-NII-1                                                    |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 40/5200                   | 802.11a   | 0.063            | /         | -0.120           | 11.68                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Back Side                                                               | 40/5200                   | 802.11a   | 0.052            | /         | 0.000            | 11.68                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Right Side                                                              | 40/5200                   | 802.11a   | 0.087            | 0.086     | 0.110            | 11.68                 | 12.50               | 0.103                   | 92.82%             | 0.111                  | /         |
| Top Side                                                                | 40/5200                   | 802.11a   | 0.043            | /         | 0.140            | 11.68                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Test data of U-NII-3                                                    |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Front Side                                                              | 161/5805                  | 802.11a   | 0.072            | /         | -0.030           | 11.80                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Back Side                                                               | 161/5805                  | 802.11a   | 0.056            | /         | -0.140           | 11.80                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Right Side                                                              | 161/5805                  | 802.11a   | 0.109            | 0.108     | 0.160            | 11.80                 | 12.50               | 0.127                   | 92.82%             | 0.137                  | /         |
| Top Side                                                                | 161/5805                  | 802.11a   | 0.028            | /         | -0.190           | 11.80                 | 12.50               | /                       | 92.82%             | /                      | /         |
| Tested at the worst position with battery 2#                            |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Right Side                                                              | 161/5805                  | 802.11a   | 0.125            | 0.127     | -0.130           | 11.80                 | 12.50               | 0.149                   | 92.82%             | 0.161                  | /         |
| Tested at the worst position with battery 3#                            |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Right Side                                                              | 161/5805                  | 802.11a   | 0.078            | 0.077     | 0.070            | 11.80                 | 12.50               | 0.090                   | 92.82%             | 0.097                  | /         |
| Tested at the SAR worst case from the report no.:SYBH(Z-SAR)011112016-2 |                           |           |                  |           |                  |                       |                     |                         |                    |                        |           |
| Right Side                                                              | 161/5805                  | 802.11a   | 0.131            | 0.122     | 0.160            | 11.80                 | 12.50               | 0.143                   | 92.82%             | 0.154                  | Yes       |

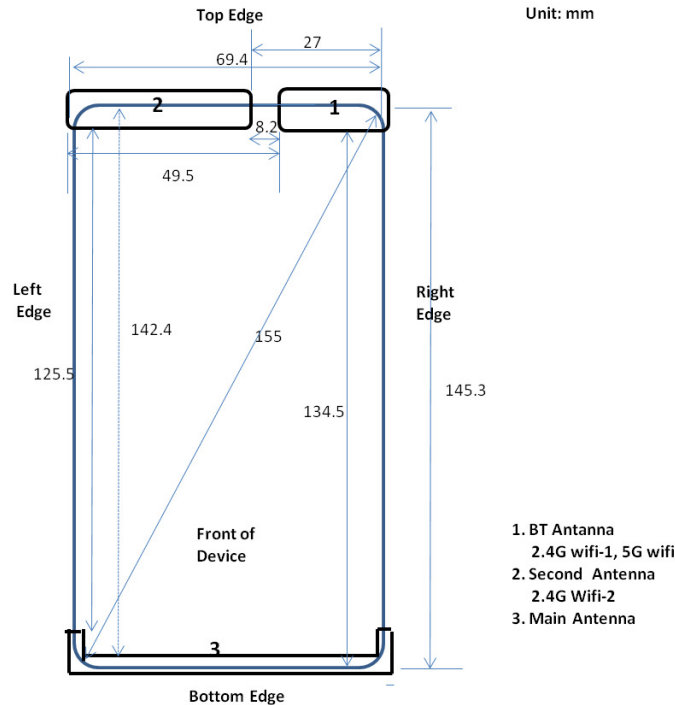
Table 147: Hotspot SAR test results of WiFi 5G

Note : For Hotspot SAR test of WiFi 5G:

- 1) As WiFi 5G hotspot is only supported for U-NII-1(5.2G) and U-NII-3 (5.8G) bands, therefore U-NII-2A (5.3G) and U-NII-2C(5.5G) were not evaluated for hotspot condition.
- 2) For U-NII-1(5.2G) and U-NII-3 (5.8G) bands, the 802.11a mode is selected as Initial Test Configuration for SAR test according to the specified maximum output power. As the highest reported SAR for the initial test configuration is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is  $\leq 1.2$  W/kg, SAR test for the other 802.11 modes are not required.

### 7.3 Multiple Transmitter Evaluation

The following tables list information which is relevant for the decision if a simultaneous transmit evaluation is necessary according to FCC KDB 447498D01 General RF Exposure Guidance v05r02. The location of the antennas inside the device is shown as below picture:



Note:

- 1) The device supports the dynamic antenna switching function to optimize transmission efficiency for wide range frequency operations. It has two 2G/3G/4G Tx antennas: Main Antenna(Ant 1) and Second Antenna(Ant 2). It can transmit from either Main Antenna or Second Antenna. The Main Antenna and Second Antenna can not transmit simultaneously.
- 2) WiFi 2.4G Ant 2 and 2G&3G&4G second ant(Ant 2) share the same Tx antenna and can't transmit simultaneously. WiFi Ant 2 only supports WiFi 2.4G.
- 3) Main antenna and the proximity sensor element share the same position.
- 4) Per KDB 648474 D04, because the diagonal distance of this device is <160mm, it is not considered a "Phablet" device.

| Mode         | Exposure Condition | Front Side | Back Side | Left Side | Right Side | Top Side | Bottom Side |
|--------------|--------------------|------------|-----------|-----------|------------|----------|-------------|
| Main ant     | Hotspot            | Yes        | Yes       | Yes       | Yes        | No       | Yes         |
| Second ant   | Hotspot            | Yes        | Yes       | Yes       | No         | Yes      | No          |
| WiFi Ant1/BT | Hotspot            | Yes        | Yes       | No        | Yes        | Yes      | No          |
| WiFi Ant2    | Hotspot            | Yes        | Yes       | Yes       | No         | Yes      | No          |

Table 148: Sides for Hotspot SAR testing

Note:

- 1) Per KDB 941225 D06 and KDB 648474 D04, particular DUT edges were not required to be evaluated for Hotspot SAR if the antenna-to-edge distance is greater than 2.5cm;
- 2) WiFi 5G hotspot is only supported for U-NII-1 and U-NII-3, therefore U-NII-2A and U-NII-2C were not evaluated for hotspot condition.

### 7.3.1 Stand-alone SAR test exclusion

Per FCC KDB 447498D01v06, the 1-g SAR and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where:

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

| Mode | Position      | $P_{\text{max}}$<br>(dBm)* | $P_{\text{max}}$<br>(mW) | Distance<br>(mm) | f<br>(GHz) | Calculation<br>Result | SAR<br>Exclusion<br>threshold | SAR test<br>exclusion |
|------|---------------|----------------------------|--------------------------|------------------|------------|-----------------------|-------------------------------|-----------------------|
| BT   | Body-<br>Worn | 10.00                      | 10.00                    | 15               | 2.480      | 1.05                  | 3.00                          | Yes                   |

Table 149: Standalone SAR test exclusion for BT

Note:

- 1)\* - maximum possible output power declared by manufacturer
- 2) Held to ear configurations are not applicable to Bluetooth for this device.

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:

$(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})/x}] \text{ W/kg}$  for test separation distances  $\leq 50$  mm, where  $x = 7.5$  for 1-g SAR and  $x = 18.75$  for 10-g SAR.

When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

| Mode | Position      | $P_{\text{max}}$<br>(dBm)* | $P_{\text{max}}$<br>(mW) | Distance<br>(mm) | f<br>(GHz) | X    | Estimated<br>SAR (W/Kg)* |
|------|---------------|----------------------------|--------------------------|------------------|------------|------|--------------------------|
| BT   | Body-<br>worn | 10.00                      | 10.00                    | 15               | 2.480      | 7.50 | 0.140                    |

Table 150: Estimated SAR calculation for BT

Note:

- 1) \* - maximum possible output power declared by manufacturer
- 2) Held to ear configurations are not applicable to Bluetooth and therefore were not considered for simultaneous transmission.

### 7.3.2 Simultaneous Transmission Possibilities

The Simultaneous Transmission Possibilities of this device are as below:

| NO. | Simultaneous Tx Combination            | Head | Body-worn | Hotspot |
|-----|----------------------------------------|------|-----------|---------|
| 1   | GSM Voice(Ant 1) + BT                  | N/A  | Yes       | N/A     |
| 2   | GSM DATA(Ant 1) + BT                   | N/A  | Yes       | N/A     |
| 3   | GSM Voice(Ant 2) + BT                  | N/A  | Yes       | N/A     |
| 4   | GSM DATA (Ant 2)+ BT                   | N/A  | Yes       | N/A     |
| 5   | GSM Voice(Ant 1) + WiFi 2.4G (Ant 1)   | Yes  | Yes       | N/A     |
| 6   | GSM DATA(Ant 1) + WiFi 2.4G (Ant 1)    | N/A  | Yes       | Yes     |
| 7   | GSM Voice(Ant 2) + WiFi 2.4G (Ant 1)   | Yes  | Yes       | N/A     |
| 8   | GSM DATA(Ant 2) + WiFi 2.4G (Ant 1)    | N/A  | Yes       | Yes     |
| 9   | UMTS Voice(Ant 1) + BT                 | N/A  | Yes       | N/A     |
| 10  | UMTS Data(Ant 1) + BT                  | N/A  | Yes       | N/A     |
| 11  | UMTS Voice(Ant 2) + BT                 | N/A  | Yes       | N/A     |
| 12  | UMTS Data(Ant 2) + BT                  | N/A  | Yes       | N/A     |
| 13  | UMTS Voice(Ant 1) + WiFi 2.4G (Ant 1)  | Yes  | Yes       | N/A     |
| 14  | UMTS Data (Ant 1) + WiFi 2.4G (Ant 1)  | N/A  | Yes       | Yes     |
| 15  | UMTS Voice (Ant 2) + WiFi 2.4G (Ant 1) | Yes  | Yes       | N/A     |
| 16  | UMTS Data (Ant 2)+ WiFi 2.4G (Ant 1)   | N/A  | Yes       | Yes     |
| 17  | LTE (Ant 1) + WiFi 2.4G (Ant 1)        | Yes  | Yes       | Yes     |
| 18  | LTE(Ant 1) + BT                        | N/A  | Yes       | N/A     |
| 19  | LTE (Ant 2) + WiFi 2.4G (Ant 1)        | Yes  | Yes       | Yes     |
| 20  | LTE (Ant 2) + BT                       | N/A  | Yes       | N/A     |
| 21  | GSM Voice(Ant 1) + WiFi 5G             | Yes  | Yes       | N/A     |
| 22  | GSM DATA(Ant 1) + WiFi 5G              | N/A  | Yes       | Yes     |
| 23  | GSM Voice(Ant 2) + WiFi 5G             | Yes  | Yes       | N/A     |
| 24  | GSM DATA(Ant 2) + WiFi 5G              | N/A  | Yes       | Yes     |
| 25  | UMTS Voice(Ant 1) + WiFi 5G            | Yes  | Yes       | N/A     |
| 26  | UMTS Data (Ant 1) + WiFi 5G            | N/A  | Yes       | Yes     |
| 27  | UMTS Voice (Ant 2) + WiFi 5G           | Yes  | Yes       | N/A     |
| 28  | UMTS Data (Ant 2)+ WiFi 5G             | N/A  | Yes       | Yes     |
| 29  | LTE (Ant 1) + WiFi 5G                  | Yes  | Yes       | Yes     |
| 30  | LTE (Ant 2) + WiFi 5G                  | Yes  | Yes       | Yes     |

Table 151: Simultaneous Transmission Possibilities

Note :

- 1) WiFi 2.4G, WiFi 5G and Bluetooth can't transmit simultaneously.
- 2) WiFi 2.4G has two Tx antennas. WiFi 2.4G 802.11g/n support 2\*2 CDD/MIMO function.
- 3) WiFi 2.4G Ant 2 and 2G&3G&4G second ant(Ant 2) share the same Tx antenna and can't transmit simultaneously.
- 4) WiFi 2.4G Ant 2 and 2G&3G&4G main ant(Ant 1) can't transmit simultaneously by design.
- 5) 2G&3G&4G main antenna(Ant1) and second antenna(Ant 2) can't transmit simultaneously
- 6) VOIP 3rd party applications may possibly be installed and used by the user.
- 7) Held to ear configurations are not applicable to Bluetooth and therefore were not considered for simultaneous transmission.
- 8) The device does not support DTM function.

### 7.3.3 SAR Summation Scenario

The yellow color SAR test data in the following summed SAR tables represent that the additional SAR test results in simultaneous transmission fixed power reduction scenario are used to ensure simultaneous transmission SAR test exclusion. For the other SAR test data in the summed SAR tables, the more conservative SAR test results at the maximum output power level without any power reduction are used.

| Test Position     |             | Main antenna SAR <sub>Max</sub><br>(Main Modem) |         |                 |                 |                |                |                |               |                 |                 |                  |                     | WiFi antenna 1/BT<br>SAR <sub>Max</sub> |           |         | Σ1-g SAR<br>(1.6W/kg<br>Limit) | SPLSR | Volume<br>scan |     |
|-------------------|-------------|-------------------------------------------------|---------|-----------------|-----------------|----------------|----------------|----------------|---------------|-----------------|-----------------|------------------|---------------------|-----------------------------------------|-----------|---------|--------------------------------|-------|----------------|-----|
|                   |             | GSM850                                          | GSM1900 | UMTS Band<br>II | UMTS Band<br>IV | UMTS Band<br>V | LTE<br>Band II | LTE<br>Band IV | LTE<br>Band V | LTE<br>Band VII | LTE<br>Band XII | LTE<br>Band XXVI | LTE<br>Band XXXVIII | LTE<br>Band XLI                         | WiFi 2.4G | WiFi 5G | BT                             |       |                |     |
| Head              | Left touch  | 0.333                                           | 0.389   | 0.563           | 0.439           | 0.341          | 0.451          | 0.401          | 0.277         | 0.299           | 0.138           | 0.375            | 0.268               | 0.648                                   | 0.576     | /       | 1.211                          | N/A   | N/A            |     |
|                   | Left tilt   | 0.226                                           | 0.186   | 0.363           | 0.323           | 0.227          | 0.308          | 0.282          | 0.192         | 0.255           | 0.120           | 0.252            | 0.255               | 0.242                                   | 0.596     | 0.576   | /                              | 0.959 | N/A            | N/A |
|                   | Right touch | 0.481                                           | 0.539   | 1.038           | 0.762           | 0.513          | 1.042          | 0.767          | 0.520         | 1.061           | 0.280           | 0.473            | 0.712               | 0.659                                   | 0.199     | 0.258   | /                              | 1.319 | N/A            | N/A |
|                   | Right tilt  | 0.203                                           | 0.214   | 0.312           | 0.250           | 0.211          | 0.255          | 0.252          | 0.170         | 0.211           | 0.106           | 0.254            | 0.153               | 0.153                                   | 0.179     | 0.310   | /                              | 0.622 | N/A            | N/A |
| Body-worn<br>15mm | Front side  | 0.377                                           | 0.344   | 0.490           | 0.496           | 0.437          | 0.492          | 0.410          | 0.375         | 0.543           | 0.203           | 0.416            | 0.486               | 0.540                                   | 0.162     | 0.074   | 0.140                          | 0.705 | N/A            | N/A |
|                   | Back side   | 0.539                                           | 0.291   | 0.536           | 0.514           | 0.522          | 0.551          | 0.503          | 0.442         | 0.495           | 0.258           | 0.503            | 0.446               | 0.445                                   | 0.162     | 0.074   | 0.140                          | 0.713 | N/A            | N/A |
| Hotspot           | Front side  | 0.575                                           | 0.904   | 0.716           | 0.740           | 0.467          | 0.846          | 0.649          | 0.357         | 0.755           | 0.255           | 0.497            | 0.570               | 1.167                                   | 0.319     | 0.161   | /                              | 1.486 | N/A            | N/A |
|                   | Back side   | 0.592                                           | 0.701   | 0.998           | 0.921           | 0.496          | 0.875          | 0.794          | 0.432         | 1.362           | 0.316           | 0.497            | 1.057               | 1.335                                   | /         | /       | /                              | 1.362 | N/A            | N/A |
|                   | Left side   | 0.425                                           | 0.046   | 0.042           | 0.155           | 0.388          | 0.088          | 0.172          | 0.246         | 0.081           | 0.173           | 0.364            | 0.614               | 0.064                                   | 0.319     | 0.161   | /                              | 0.933 | N/A            | N/A |
|                   | Right side  | 0.822                                           | 0.460   | 0.584           | 0.494           | 0.743          | 0.444          | 0.464          | 0.670         | 1.178           | 0.245           | 0.726            | 0.069               | 0.780                                   | /         | /       | /                              | 1.178 | N/A            | N/A |
|                   | Top side    | /                                               | /       | /               | /               | /              | /              | /              | /             | /               | /               | /                | /                   | /                                       | 0.319     | 0.161   | /                              | 0.319 | N/A            | N/A |
|                   | Bottom side | 0.176                                           | 1.213   | 1.364           | 0.358           | 0.153          | 1.171          | 0.433          | 0.124         | 1.322           | 0.105           | 0.174            | 1.004               | 1.194                                   | /         | /       | /                              | 1.364 | N/A            | N/A |

Table 152: SAR Simultaneous Tx Combination of Main antenna and WiFi antenna 1/BT.

| Test Position |             | Second antenna SAR <sub>Max</sub> (Main Modem) |         |                 |                 |                |                |                |               |                 |                 |                  |                 | WiFi antenna 1/BT<br>SAR <sub>Max</sub> |         |       | Σ1-g SAR<br>(1.6W/kg<br>Limit) | SPLSR | Volume<br>scan |
|---------------|-------------|------------------------------------------------|---------|-----------------|-----------------|----------------|----------------|----------------|---------------|-----------------|-----------------|------------------|-----------------|-----------------------------------------|---------|-------|--------------------------------|-------|----------------|
|               |             | GSM850                                         | GSM1900 | UMTS Band<br>II | UMTS Band<br>IV | UMTS Band<br>V | LTE<br>Band II | LTE<br>Band IV | LTE<br>Band V | LTE<br>Band VII | LTE<br>Band XII | LTE<br>Band XXVI | LTE<br>Band XLI | WiFi 2.4G                               | WiFi 5G | BT    |                                |       |                |
| Head          | Left touch  | 0.792                                          | 0.581   | 0.468           | 0.525           | 0.866          | 0.269          | 0.429          | 0.592         | 0.285           | 0.489           | 0.797            | 0.321           | 0.648                                   | 0.576   | /     | 1.514                          | N/A   | N/A            |
|               | Left tilt   | 0.707                                          | 0.436   | 0.364           | 0.452           | 0.821          | 0.257          | 0.312          | 0.550         | 0.291           | 0.413           | 0.741            | 0.344           | 0.596                                   | 0.576   | /     | 1.417                          | N/A   | N/A            |
|               | Right touch | 1.183                                          | 1.319   | 1.325           | 1.322           | 1.134          | 1.008          | 0.876          | 1.146         | 1.062           | 1.323           | 1.298            | 1.251           | 0.199                                   | 0.258   | /     | 1.583                          | N/A   | N/A            |
|               | Right tilt  | 0.984                                          | 0.848   | 0.794           | 0.949           | 1.098          | 0.514          | 0.692          | 0.860         | 0.860           | 0.690           | 1.087            | 1.038           | 0.179                                   | 0.310   | /     | 1.408                          | N/A   | N/A            |
| Body 15mm     | Front side  | 0.217                                          | 0.099   | 0.108           | 0.078           | 0.189          | 0.085          | 0.083          | 0.104         | 0.085           | 0.126           | 0.163            | 0.117           | 0.162                                   | 0.074   | 0.140 | 0.379                          | N/A   | N/A            |
|               | Back side   | 0.265                                          | 0.119   | 0.126           | 0.100           | 0.222          | 0.061          | 0.100          | 0.121         | 0.099           | 0.158           | 0.190            | 0.114           | 0.162                                   | 0.074   | 0.140 | 0.427                          | N/A   | N/A            |
|               | Front side  | 0.347                                          | 0.231   | 0.126           | 0.172           | 0.315          | 0.100          | 0.150          | 0.219         | 0.173           | 0.238           | 0.314            | 0.196           | 0.319                                   | 0.161   | /     | 0.666                          | N/A   | N/A            |
|               | Back side   | 0.411                                          | 0.254   | 0.135           | 0.196           | 0.371          | 0.105          | 0.172          | 0.275         | 0.200           | 0.340           | 0.446            | 0.254           | /                                       | /       | /     | 0.446                          | N/A   | N/A            |
| Hotspot       | Left side   | 0.508                                          | 0.304   | 0.163           | 0.177           | 0.423          | 0.174          | 0.149          | 0.202         | 0.172           | 0.179           | 0.326            | 0.226           | 0.319                                   | 0.161   | /     | 0.827                          | N/A   | N/A            |
|               | Right side  | /                                              | /       | /               | /               | /              | /              | /              | /             | /               | /               | /                | /               | /                                       | /       | /     | 0.000                          | N/A   | N/A            |
|               | Top side    | 0.247                                          | 0.239   | 0.108           | 0.263           | 0.298          | 0.079          | 0.256          | 0.157         | 0.056           | 0.182           | 0.310            | 0.091           | 0.319                                   | 0.161   | /     | 0.629                          | N/A   | N/A            |
|               | Bottom side | /                                              | /       | /               | /               | /              | /              | /              | /             | /               | /               | /                | /               | /                                       | /       | /     | 0.000                          | N/A   | N/A            |

Table 153: SAR Simultaneous Tx Combination of Second antenna and WiFi antenna 1/BT.

### 7.3.4 Simultaneous Transmission Conclusion

The above numeral summed SAR results is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore simultaneous transmission SAR with Volume Scans is not required per KDB 447498 D01v06.

#### **Appendix A. System Check Plots**

(Pls See Appendix No.: SYBH(Z-SAR)017032017-2A, total: 15 pages)

#### **Appendix B. SAR Measurement Plots**

(Pls See Appendix No.: SYBH(Z-SAR) 017032017-2B, total: 83 pages)

#### **Appendix C. Calibration Certificate**

(Pls See Appendix No.: SYBH(Z-SAR) 017032017-2C, total: 109 pages)

#### **Appendix D. Photo documentation**

(Pls See Appendix No.: SYBH(Z-SAR) 017032017-2D, total: 6 pages)

---

## **End**