SAR TEST REPORT

For

Benton Technology Co., Ltd

Tablet PC

Test Model: T10_Pro

Additional Model No.: Please Refer to Page 8

Prepared for	:	Benton Technology Co., Ltd
Address	:	101-501 East Block, Building#1, Fuye Road No.4, Guanhu Street, Longhua District, Shenzhen, Guangdong, China
Prepared by	:	Shenzhen LCS Compliance Testing Laboratory Ltd.
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Date of receipt of test sample	:	December 07, 2023
Number of tested samples	:	1
Sample number	:	A12083063-1
Serial number	:	Prototype
Date of Test	:	December 07, 2023 ~ December 26, 2023
Date of Report	:	December 27, 2023

SAR TEST REPORT	
Report Reference No.....:	**LCSA12083063EB**
Date Of Issue.....:	December 27, 2023
Testing Laboratory Name.....:	**Shenzhen LCS Compliance Testing Laboratory Ltd.**
Address.....:	101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Testing Location/ Procedure.....:	Full application of Harmonised standards ■ Partial application of Harmonised standards ☐ Other standard testing method ☐
Applicant's Name.....:	**Benton Technology Co., Ltd**
Address.....:	101-501 East Block, Building#1, Fuye Road No.4, Guanhu Street, Longhua District, Shenzhen, Guangdong, China
Test Specification:	
Standard.....:	FCC 47CFR §2.1093, ANSI/IEEE C95.1-2019, IEEE 1528-2013
Test Report Form No.....:	LCSEMC-1.0
TRF Originator.....:	Shenzhen LCS Compliance Testing Laboratory Ltd.
Master TRF.....:	Dated 2014-09

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Test Item Description.....:	**Tablet PC**
Trade Mark.....:	N/A
Model/Type Reference.....:	T10_Pro
Ratings.....:	Input: 5V⎓2A For AC Adapter Input: 100-240Vac, 50/60Hz, 0.4A max Adapter Output: 5V⎓2A DC 3.85V by Rechargeable Li-ion Battery, 5000mAh
Result .....:	**Positive**

Compiled by:	Supervised by:	Approved by:
Jay Zhan	Cary Luo	Gavin Liang
Jay Zhan/ File administrators	Cary Luo / Technique principal	Gavin Liang/ Manager

SAR -- TEST REPORT

Test Report No. :	LCSA12083063EB	December 27, 2023 Date of issue

EUT.....	:	Tablet PC
Type/Model	:	T10_Pro
Applicant.....	:	**Benton Technology Co., Ltd**
Address.....	:	101-501 East Block, Building#1, Fuye Road No.4, Guanhu Street, Longhua District, Shenzhen, Guangdong, China
Telephone.....	:	/
Fax.....	:	/
Manufacturer.....	:	**Shenzhen Benton Technology Co., LTD**
Address.....	:	East Block, Building#1 Weixinda Industrial Park, No.4 Fuye Road, Wuhe Avenue, Longhua District, Shenzhen, China
Telephone.....	:	/
Fax.....	:	/
Factory.....	:	**Shenzhen Benton Technology Co., LTD**
Address.....	:	East Block, Building#1 Weixinda Industrial Park, No.4 Fuye Road, Wuhe Avenue, Longhua District, Shenzhen, China
Telephone.....	:	/
Fax.....	:	/

Test Result	Positive

The test report merely corresponds to the test sample.
It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revison History

Revision	Issue Date	Revision Content	Revised By
000	December 27, 2023	Initial Issue	---

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1. TEST STANDARDS AND TEST DESCRIPTION

1.1. Statement of Compliance

The maximum of results of SAR found during testing for **T10_Pro** are follows:

<Highest Reported standalone SAR Summary>

Classment Class	Frequency Band	Body (Report SAR1-g (W/kg) (Separation Distance 0mm)
PCE	GSM 850	0.561
	GSM1900	0.512
	WCDMA Band II	0.534
	WCDMA Band V	0.152
	LTE Band 2	0.644
	LTE Band 5	0.463
	LTE Band 12&17	0.455
	LTE Band 66&4	**0.755**
	LTE Band 71	0.046
DTS	WIFI 2.4G	0.237
NII	WIFI 5.2G	0.352
	WIFI 5.8G	0.401

Note

1) This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

2) According to April 2015 TCB workshop, SAR test exclusion can be applied for testing overlapping LTE bands as follows:

a) The maximum output power, including tolerance, for the smaller band must be ≤ the larger band to qualify for the SAR test exclusion.

b) The channel bandwidth and other operating parameters for the smaller band must be fully supported by the larger band.

•LTE Band 17 (704-716 MHz) is covered by LTE band 12 (699-716 MHz) and has the same maximum tune-up power, so only LTE Band 12 needs to be tested.

•LTE Band 4 (1710-1755 MHz) is covered by LTE band 66 (1710-1780 MHz) and has the same maximum tune-up power, so only LTE Band 66 needs to be tested.

<Highest Reported simultaneous SAR Summary>

Exposure Position	Classment Class	(Report SAR1-g (W/kg)	Highest Reported Simultaneous Transmission SAR1-g (W/kg)
Bdoy	PCE	0.755	1.156
	NII	0.401	

1.2. Test Location

Company: Shenzhen LCS Compliance Testing Laboratory Ltd.
Address: 101, 201 Bldg A & 301 Bldg C, Juji Industrial Park Yabianxueziwei, Shajing Street, Baoan District, Shenzhen, 518000, China
Telephone: (86)755-82591330
Fax: (86)755-82591330
Web: www.LCS-cert.com
E-mail: webmaster@LCS-cert.com

1.3. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

Site Description

SAR Lab. : NVLAP Accreditation Code is 600167-0.
FCC Designation Number is CN5024.
CAB identifier is CN0071.
CNAS Registration Number is L4595.
Test Firm Registration Number: 254912.

1.4. Test Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5
Atmospheric pressure:	950-1050mbar
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

1.5. Product Description

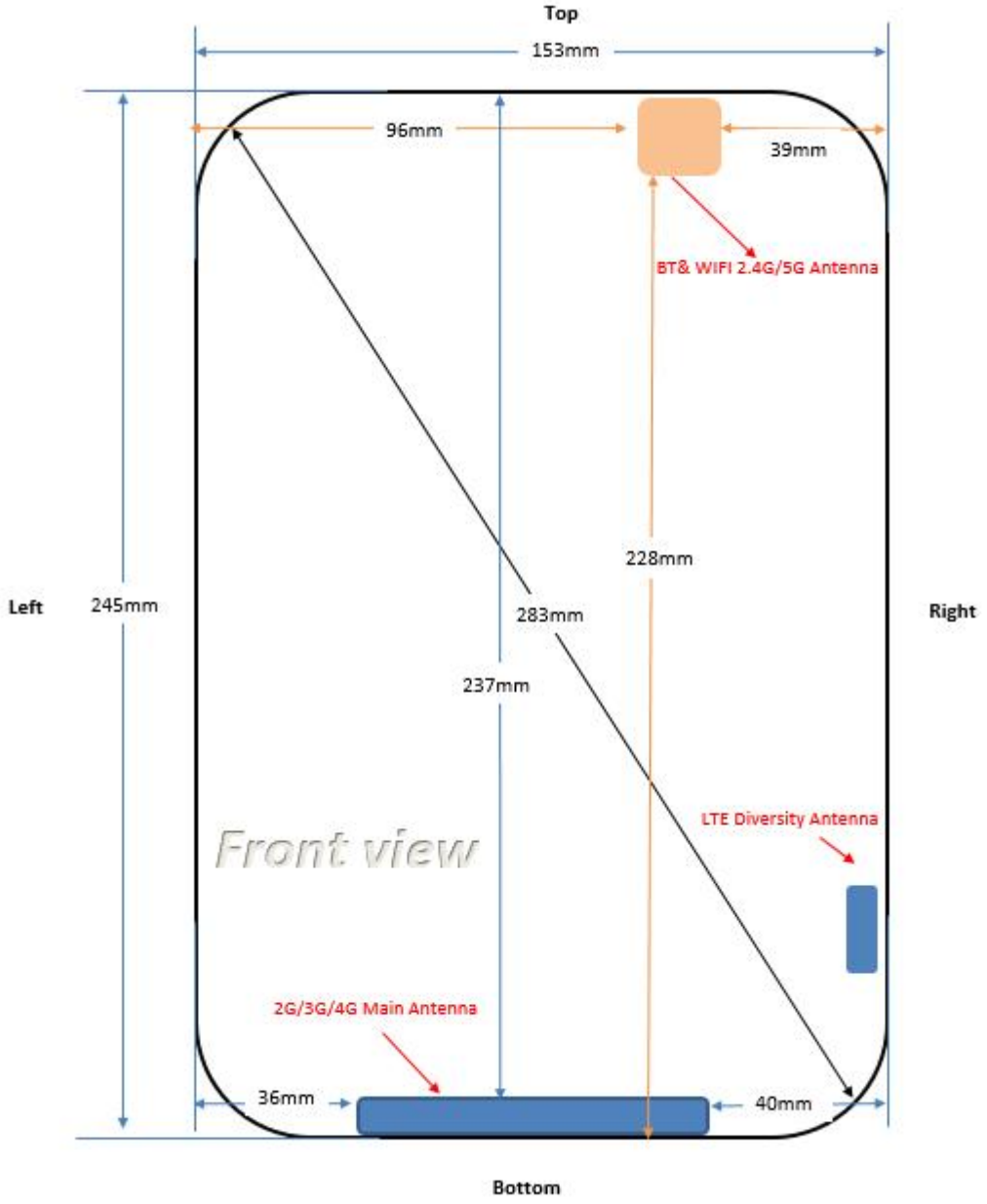
The **Benton Technology Co., Ltd** 's Model: **T10_Pro** or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

General Description	
EUT	Tablet PC
Test Model	T10_Pro
Additional Model No.	T10_Pro MM1, T10_ Pro MM1P, T10_Pro Kids, T10_ Pro MK1, T10_Pro MS1, T10_Pro MS1P
Model Declaration	PCB board, structure and internal of these model(s) are the same, So no additional models were tested
Power Supply	Input: 5V⎓2A For AC Adapter Input: 100-240Vac, 50/60Hz, 0.4A max Adapter Output: 5V⎓2A DC 3.85V by Rechargeable Li-ion Battery, 5000mAh
Hardware Version	WT_F863T-Y_6762_BBA_MB_V5.3
Software Version	/

Technical Characteristics	
Bluetooth	
Frequency Range:	2402MHz~2480MHz
Bluetooth Channel Number:	79 channels for Bluetooth V4.1(DSS) 40 channels for Bluetooth V4.1(DTS)
Bluetooth Channel Spacing:	1MHz for Bluetooth V4.1(DSS) 2MHz for Bluetooth V4.1(DTS)
Bluetooth Modulation Type:	GFSK, π/4-DQPSK, 8-DPSK for Bluetooth V4.1(DSS) GFSK for Bluetooth V4.1(DTS)
Bluetooth Version:	V5.0
Antenna Description:	PIFA Antenna, -1.23dBi (max.)
WIFI(2.4G Band)	
Frequency Range:	2412MHz~2462MHz
Channel Spacing:	5MHz
Channel Number:	11 Channels for 20MHz bandwidth(2412~2462MHz) 7 Channels for 40MHz bandwidth(2422~2452MHz)
Modulation Type	IEEE 802.11b: DSSS (CCK, DQPSK, DBPSK) IEEE 802.11g: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM,QPSK,BPSK)
Antenna Description:	PIFA Antenna, -1.23dBi (max.)
WIFI(5.2G Band)	
Frequency Range:	5180MHz~5240MHz
Channel Number:	4 Channels for 20MHz bandwidth(5180MHz~5240MHz) 2 channels for 40MHz bandwidth(5190MHz~5230MHz) 1 channels for 80MHz bandwidth(5210MHz)
Modulation Type	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description:	PIFA Antenna, 0.49dBi (max.)
WIFI(5.8G Band)	
Frequency Range:	5745MHz~5825MHz
Channel Number:	5 channels for 20MHz bandwidth(5745MHz~5825MHz) 2 channels for 40MHz bandwidth(5755MHz~5795MHz) 1 channels for 80MHz bandwidth(5775MHz)

Modulation Type	IEEE 802.11a: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n: OFDM (64QAM, 16QAM, QPSK, BPSK) IEEE 802.11ac: OFDM (256QAM, 64QAM, 16QAM, QPSK, BPSK)
Antenna Description:	PIFA Antenna, -0.57dBi (max.)
2G	
Support Band:	☒ GSM 850 (U.S.-Band) ☒ PCS 1900 (U.S.-Band)
Release Version:	R99
GPRS Class:	Class 12
EGPRS Class:	Class 12
Type Of Modulation:	GMSK for GSM/GPRS; GMSK/8PSK for EGPRS
Antenna Description:	PIFA Antenna 0.8dBi (max.) For GSM 850 1.5dBi (max.) For PCS 1900
3G	
Support Band:	☒ WCDMA Band II (U.S.-Band) ☒ WCDMA Band V (U.S.-Band)
Release Version:	R8
Type Of Modulation:	QPSK,16QAM
Antenna Description:	PIFA Antenna 1.5dBi (max.) For WCDMA Band II 0.8dBi (max.) For WCDMA Band V
LTE	
Support Band:	☒ E-UTRA Band 2(U.S.-Band) ☒ E-UTRA Band 4(U.S.-Band) ☒ E-UTRA Band 5(U.S.-Band) ☒ E-UTRA Band 12(U.S.-Band) ☒ E-UTRA Band 17(U.S.-Band) ☒ E-UTRA Band 66(U.S.-Band) ☒ E-UTRA Band 71(U.S.-Band)
LTE Release Version:	R9
Type Of Modulation:	QPSK/16QAM
Antenna Description:	PIFA Antenna 1.5dBi (max.) For E-UTRA Band 2 1.4dBi (max.) For E-UTRA Band 4 0.8dBi (max.) For E-UTRA Band 5 0.7dBi (max.) For E-UTRA Band 12 0.7dBi (max.) For E-UTRA Band 17 1.4dBi (max.) For E-UTRA Band 66 0.7dBi (max.) For E-UTRA Band 71
Power Class:	Class 3
Extreme temp. Tolerance:	-30°C to +50°C
Extreme vol. Limits:	3.5VDC to 4.2VDC (nominal: 3.85VDC)
Exposure category:	Uncontrolled Environment General Population

1.6. DUT Antenna Locations



Note:

1) Main Antenna: GSM850/1900, WCDMA Band II /V, LTE Band 2/4/5/12/17/66/71, the Div ant only for Rx.
2) Per KDB 616217, the diagonal length is > 200mm, the device is considered a “tablet” device and needed to test 0mm 1-g body SAR.

1.7. Test Specification

Identity	Document Title
FCC 47CFR §2.1093	Radiofrequency Radiation Exposure Evaluation: Portable Devices
ANSI/IEEE C95.1-2019	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz – 300 GHz.
IEEE 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
KDB 616217 D04	SAR for Tablet and Laptop
KDB 941225 D01	3G SAR Measurement Procedures v03r01
KDB 941225 D05	SAR for LTE Devices v02r05
KDB 248227 D01	SAR Guidance for IEEE 802 11 Wi-Fi SAR v02r02
KDB 447498 D01	General RF Exposure Guidance v06
KDB 865664 D01	SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02	RF Exposure Reporting v01r02
KDB 690783 D01	SAR Listings on Grants v01r03

1.8. RF exposure limits

Human Exposure	Uncontrolled Environment General Population	Controlled Environment Occupational
Spatial Peak SAR* (Brain*Trunk)	**1.60 mW/g**	8.00 mW/g
Spatial Average SAR** (Whole Body)	0.08 mW/g	0.40 mW/g
Spatial Peak SAR*** (Hands/Feet/Ankle/Wrist)	**4.00 mW/g**	20.00 mW/g

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.)

1.9. Equipment list

Test Platform	SPEAG DASY5 Professional					
Description	SAR Test System (Frequency range 300MHz-6GHz)					
Software Reference	DASY52; SEMCAD X					
Hardware Reference						
	Equipment	Manufacturer	Model	Serial Number	Calibration Date	Due date of calibration
☒	PC	Lenovo	NA	NA	NA	NA
☒	Twin Phantom	SPEAG	SAM V5.0	1850	NCR	NCR
☒	ELI Phantom	SPEAG	ELI V6.0	2010	NCR	NCR
☒	DAE	SPEAG	DAE3	419	2023/6/20	2024/6/19
☒	E-Field Probe	SPEAG	EX3DV4	3805	2023/11/23	2024/11/22
☒	Validation Kits	SPEAG	D750V3	1191	2023/6/15	2026/6/14
☒	Validation Kits	SPEAG	D835V2	4d124	2023/10/24	2026/10/23
☒	Validation Kits	SPEAG	D1750V2	1035	2023/6/12	2026/6/11
☒	Validation Kits	SPEAG	D1900V2	5d055	2023/10/20	2026/10/19
☒	Validation Kits	SPEAG	D2450V2	808	2023/10/23	2026/10/22
☒	Validation Kits	SPEAG	D5GHzV2	1046	2023/10/23	2026/10/22
☒	Agilent Network Analyzer	Agilent	8753E	SU38432944	2023/6/9	2024/6/8
☒	Dielectric Probe Kit	SPEAG	DAK3.5	1425	NCR	NCR
☒	Universal Radio Communication Tester	R&S	CMW500	42115	2023/10/29	2024/10/28
☒	Directional Coupler	MCLI/USA	4426-20	03746	2023/6/9	2024/6/8
☒	Power meter	Agilent	E4419B	MY45104493	2023/10/29	2024/10/28
☒	Power meter	Agilent	E4419B	MY45100308	2023/10/29	2024/10/28
☒	Power sensor	Agilent	E9301H	MY41495616	2023/10/29	2024/10/28
☒	Power sensor	Agilent	E9301H	MY41495234	2023/10/29	2024/10/28
☒	Signal Generator	Agilent	E4438C	MY49072627	2023/6/9	2024/6/8
☒	Broadband Preamplifier	/	BP-01M18G	P190501	2023/6/15	2024/6/14
☒	DC POWER SUPPLY	I-SHENG	SP-504	NA	NCR	NCR
☒	Speed reading thermometer	HTC-1	NA	LCS-E-138	2023/6/13	2024/6/12

Note: All the equipments are within the valid period when the tests are performed.

2. SAR MEASUREMENTS SYSTEM CONFIGURATION

2.1. SAR Measurement System

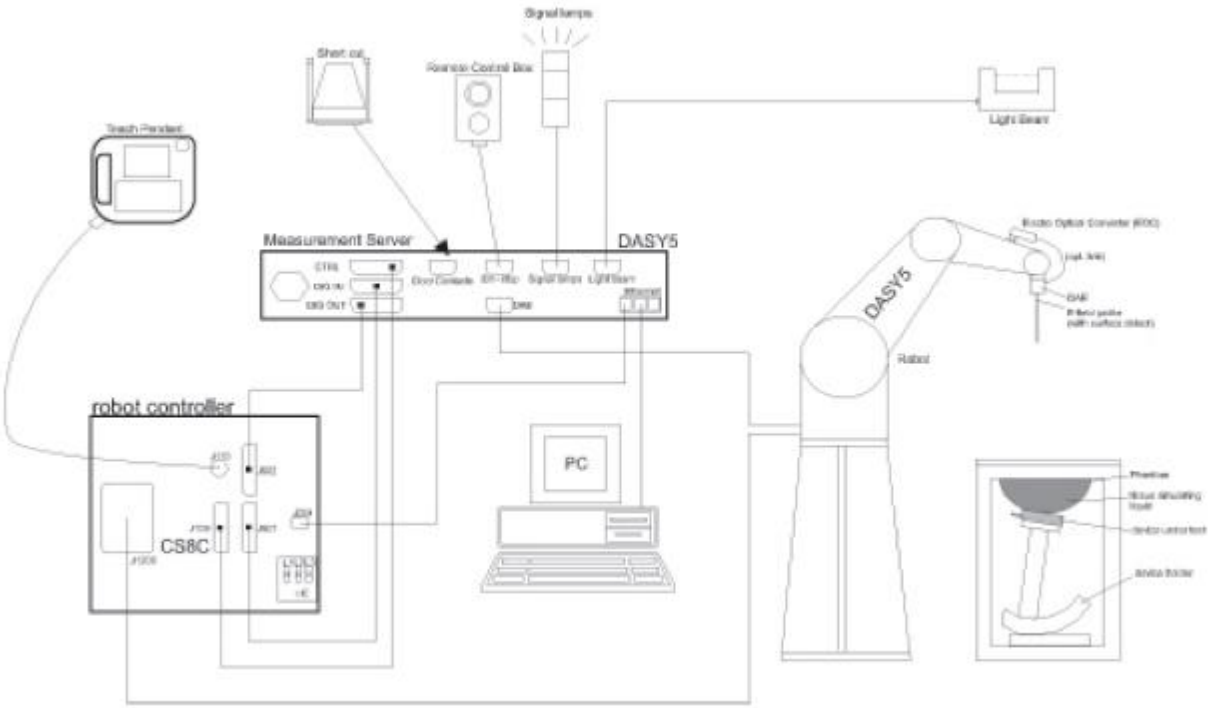
This SAR Measurement System uses a Computer-controlled 3-D stepper motor system (SPEAG DASY5 professional system). A E-field probe is used to determine the internal electric fields. The SAR can be obtained from the equation SAR= σ (|Ei|2)/ ρ where σ and ρ are the conductivity and mass density of the tissue-Simulate.

The DASY5 system for performing compliance tests consists of the following items:
A standard high precision 6-axis robot (Stabile RX family) with controller, teach pendant and software .An arm extension for accommodation the data acquisition electronics (DAE).

A dosimetric probe, i.e., an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.

A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.

The Electro-optical converter (EOC) performs the conversion between optical and electrical of the signals for the digital communication to DAE and for the analog signal from the optical surface detection. The EOC is connected to the measurement server.



F-1. SAR Measurement System Configuration

- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the (absolute) accuracy of the probe positioning.
- A computer operating Windows 7.
- DASY5 software.
- Remote control with teach pendant and additional circuitry for robot safety such as warning lamps, etc.
- The SAM twin phantom enabling testing left-hand, right-hand and Body Worn usage.
- The device holder for handheld mobile phones.
- Tissue simulating liquid mixed according to the given recipes.
- Validation dipole kits allowing to validating the proper functioning of the system.

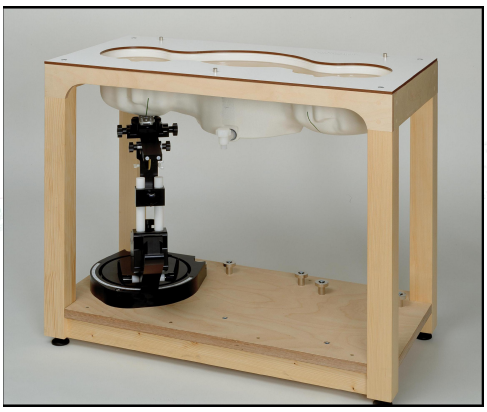
2.2. Isotropic E-field Probe EX3DV4

	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)
Calibration	ISO/IEC 17025 calibration service available.
Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) 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); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

2.3. Data Acquisition Electronics (DAE)

Model	DAE	
Construction	Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY4/5 embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop.	
Measurement Range	-100 to +300 mV (16 bit resolution and two range settings: 4mV,400mV)	
Input Offset Voltage	< 5μV (with auto zero)	
Input Bias Current	< 50 f A	
Dimensions	60 x 60 x 68 mm	

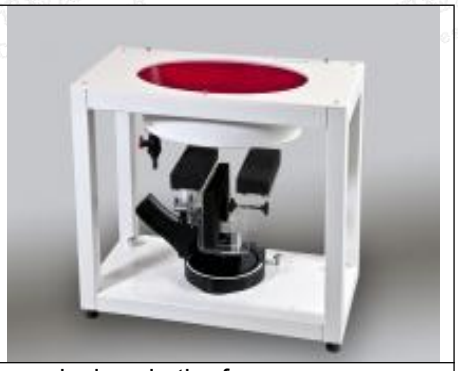
2.4. SAM Twin Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2 ± 0.2 mm (6 ± 0.2 mm at ear point)	
Dimensions (incl. Wooden Support)	Length: 1000 mm Width: 500 mm Height: adjustable feet	
Filling Volume	approx. 25 liters	
Wooden Support	SPEAG standard phantom table	

The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.

Twin SAM V5.0 has the same shell geometry and is manufactured from the same material as Twin SAM V4.0, but has reinforced top structure.

2.5. ELI Phantom

Material	Vinylester, glass fiber reinforced (VE-GF)	
Liquid Compatibility	Compatible with all SPEAG tissue simulating liquids (incl. DGBE type)	
Shell Thickness	2.0 ± 0.2 mm (bottom plate)	
Dimensions	Major axis: 600 mm Minor axis: 400 mm	
Filling Volume	approx. 30 liters	
Wooden Support	SPEAG standard phantom table	

Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles.

ELI V5.0 has the same shell geometry and is manufactured from the same material as ELI4, but has reinforced top structure.

2.6. Device Holder for Transmitters

F-2. **Device Holder for Transmitters**

- The DASY device holder is designed to cope with different positions given in the standard. It has two scales for the device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear reference points). The rotation centres for both scales are the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.
- The DASY device holder has been made out of low-loss POM material having the following dielectric parameters: relative permittivity ε=3 and loss tangent δ=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.

2.7. Measurement procedure

2.7.1. Scanning procedure

Step 1: Power reference measurement

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.

Step 2: Area scan

The SAR distribution at the exposed side of the head was measured at a distance of 4mm from the inner surface of the shell. The area covered the entire dimension of the head and the horizontal grid spacing was 15mm*15mm or 12mm*12mm or 10mm*10mm.Based on the area scan data, the area of the maximum absorption was determined by spline interpolation.

Step 3: Zoom scan

Around this point, a volume of 32mm*32mm*30mm (f≤2GHz), 30mm*30mm*30mm (f for 2-3GHz) and 24mm*24mm*22mm (f for 5-6GHz) was assessed by measuring 5x5x7 points (f≤2GHz), 7x7x7 points (f for 2-3GHz) and 7x7x12 points (f for 5-6GHz). On this basis of this data set, the spatial peak SAR value was evaluated with the following procedure:

The data at the surface was extrapolated, since the centre of the dipoles is 2.0mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.2mm. (This can be variable. Refer to the probe specification).The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1g or 10g) were computed using the 3D-Spline interpolation algorithm. The volume was integrated with the trapezoidal algorithm. One thousand points were interpolated to calculate the average. All neighbouring volumes were evaluated until no neighboring volume with a higher average value was found.

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std. 1528-2013.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Step 4: Power reference measurement (drift)

The Power Drift Measurement job measures the field at the same location as the most recent power reference measurement job within the same procedure, and with the same settings. The indicated drift is mainly the variation of the DUT's output power and should vary max. ± 5 %

2.7.2. Data Storage

The DASY 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], [m W/g], [m W/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.

2.7.3. 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 Normi, ai0, ai1, ai2
- Conversion factor ConvFi
- Diode compression point Dcpi
Device parameters: - Frequency f
- Crest factor cf
Media parameters: - Conductivity ε
- Density ρ

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 DASY 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:

$$V_i = U_i + U_i^2 \cdot cf / dcp_i$$

With Vi = compensated signal of channel i (i = x, y, z)
Ui = input signal of channel i (i = x, y, z)
cf = crest factor of exciting field (DASY parameter)
dcp i = diode compression point (DASY parameter)

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

E-field probes:

$$E_i = (V_i / Norm_i \cdot ConvF)^{1/2}$$

H-field probes:

$$H_i = (V_i)^{1/2} \cdot (a_{i0} + a_{i1} f + a_{i2} f^2) / f$$

With Vi = compensated signal of channel i (i = x, y, z)
Normi = sensor sensitivity of channel I (i = x, y, z)
[mV/(V/m)2] for E-field Probes
ConvF = sensitivity enhancement in solution
aij = sensor sensitivity factors for H-field probes
f = carrier frequency [GHz]
Ei = electric field strength of channel i in V/m
Hi = magnetic field strength of channel i in A/m

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

$$E_{tot} = (E_x^2 + E_Y^2 + E_z^2)^{1/2}$$

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

$$SAR = (Etot^2 \cdot \sigma) / (\varepsilon \cdot 1000)$$

with SAR = local specific absorption rate in mW/g
Etot = total field strength in V/m
σ= conductivity in [mho/m] or [Siemens/m]
ε= equivalent tissue density in g/cm3

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.

$$P_{pwe} = E_{tot}^2{}_2 / 3770 \quad \text{or} \quad P_{pwe} = H_{tot}^2 \cdot 37.7$$

with Ppwe = equivalent power density of a plane wave in mW/cm2
Etot = total electric field strength in V/m
Htot = total magnetic field strength in A/m

3. SAR measurement variability and uncertainty

3.1. 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 ⩾ 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 ⩾ 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 ⩾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.

3.2. SAR measurement uncertainty

Per KDB865664 D01 SAR Measurement 100 MHz to 6 GHz, 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.

4. Description of Test Position

4.1. Body Exposure Condition

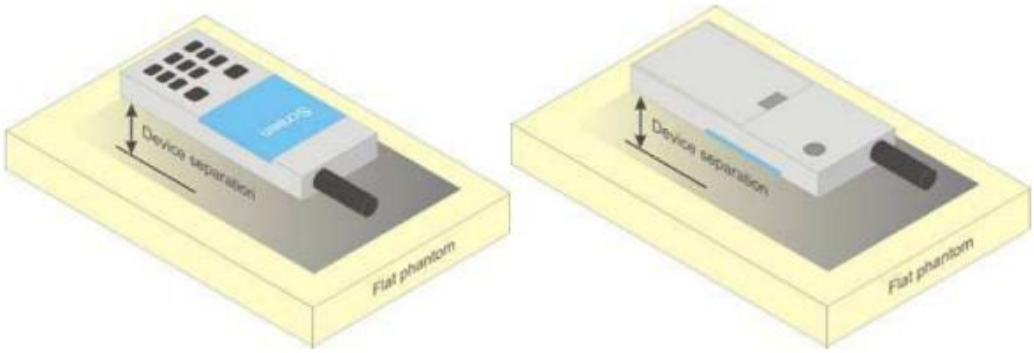
4.1.1. Body-worn accessory exposure conditions

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, 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 Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 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.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



F-1. **Test positions for body-worn devices**

4.1.2. Wireless Router exposure conditions

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ⩾ 9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. For devices with form factors smaller than 9 cm x 5 cm, a test separation distance of 5 mm is required.

4.2. Extremity exposure conditions

Per FCC KDB 648474D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, the device is marketed as “Phablet”.
The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ⩽ 25 mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.

Due to the SAR result, the Main antenna frequency bands are not required to test with 0mm for the Product Specific 10 g SAR.

5. SAR System Verification Procedure

5.1. Tissue Simulate Liquid

5.1.1. Recipes for Tissue Simulate Liquid

The bellowing tables give the recipes for tissue simulating liquids to be used in different frequency bands：

Ingredients (% by weight)	Frequency (MHz)				
	450	700-900	1750-2000	2300-2500	2500-2700
Water	38.56	40.30	55.24	55.00	54.92
Salt (NaCl)	3.95	1.38	0.31	0.2	0.23
Sucrose	56.32	57.90	0	0	0
HEC	0.98	0.24	0	0	0
Bactericide	0.19	0.18	0	0	0
Tween	0	0	44.45	44.80	44.85
Salt: 99+% Pure Sodium Chloride Water: De-ionized, 16 MΩ+ resistivity Tween: Polyoxyethylene (20) sorbitan monolaurate			Sucrose: 98+% Pure Sucrose HEC: Hydroxyethyl Cellulose		
HSL5GHz is composed of the following ingredients： Water：50-65% Mineral oil：10-30% Emulsifiers：8-25% Sodium salt：0-1.5%					

Table 1： Recipe of Tissue Simulate Liquid

5.1.2. Measurement for Tissue Simulate Liquid

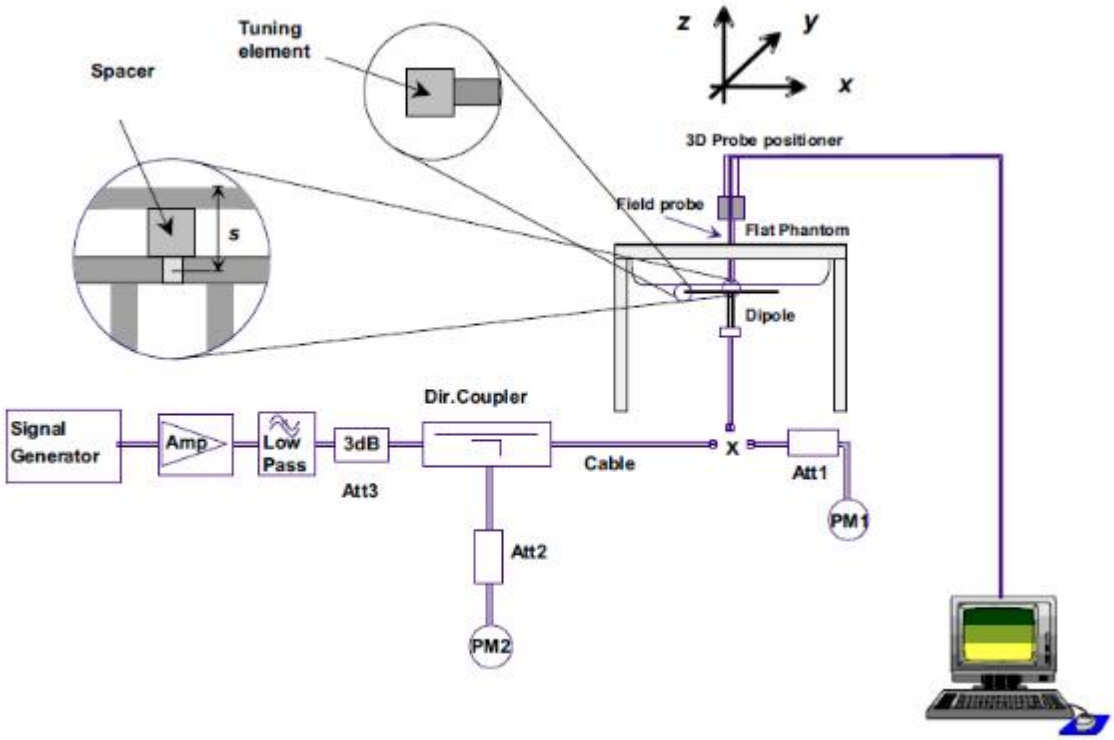
The dielectric properties for this Tissue Simulate Liquids were measured by using the DAKS. The Conductivity (σ) and Permittivity (ρ) are listed in bellow table. For the SAR measurement given in this report. The temperature variation of the Tissue Simulate Liquids was 22±2°C.

Tissue Type	Measured Frequency (MHz)	Target Tissue (±5%)		Measured Tissue		Liquid Temp. (℃)	Measured Date
		ε_r	σ(S/m)	ε_r	σ(S/m)		
750 Head	750	41.9 (39.81~44.00)	0.89 (0.85~0.93)	41.669	0.898	22.7	December 21, 2023
835 Head	835	41.5 (39.43~43.58)	0.9 (0.86~0.95)	41.043	0.901	22.5	December 22, 2023
1750 Head	1750	40.1 (38.10~42.11)	1.37 (1.30~1.44)	39.744	1.358	22.9	December 23, 2023
1900 Head	1900	40 (38.00~42.00)	1.4 (1.33~1.47)	40.287	1.427	23.1	December 25, 2023
2450 Head	2450	39.2 (37.24~41.16)	1.8 (1.71~1.89)	39.101	1.797	22.8	December 17, 2023
5250 Head	5250	36.0 (34.20~37.80)	4.66 (4.43~4.89)	36.701	4.767	22.4	December 26, 2023
5750 Head	5750	35.3 (33.54~37.07)	5.27 (5.01~5.53)	35.804	5.378	22.4	December 26, 2023

Table 2： Measurement result of Tissue electric parameters

5.2. SAR System Check

The microwave circuit arrangement for system Check is sketched in F-1. The daily system accuracy verification occurs within the flat section of the SAM phantom. A SAR measurement was performed to see if the measured SAR was within +/- 10% from the target SAR values. The tests were conducted on the same days as the measurement of the EUT. The obtained results from the system accuracy verification are displayed in the following table (A power level of 250mW (below 3GHz) or 100mW (3-6GHz) was input to the dipole antenna). During the tests, the ambient temperature of the laboratory was in the range 22±2°C, the relative humidity was in the range 60% and the liquid depth above the ear reference points was above 15±0.5 cm in all the cases. It is seen that the system is operating within its specification, as the results are within acceptable tolerance of the reference values.



F-1. the microwave circuit arrangement used for SAR system check

5.2.1. Justification for Extended SAR Dipole Calibrations

1) Referring to KDB865664 D01 requirements for dipole calibration, instead of the typical annual calibration recommended by measurement standards, longer calibration intervals of up to three years may be considered when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable according to the following requirements. Each measured dipole is expected to evaluate with the following criteria at least on annual interval in Appendix C.

a) There is no physical damage on the dipole;
b) System check with specific dipole is within 10% of calibrated value;
c) Return-loss is within 20% of calibrated measurement;
d) Impedance 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.

5.2.2. Summary System Check Result(s)

Validation Kit		Measured SAR 250mW	Measured SAR 250mW	Measured SAR (normalized to 1W)	Measured SAR (normalized to 1W)	Target SAR (normalized to 1W) (±10%)	Target SAR (normalized to 1W) (±10%)	Liquid Temp. (℃)	Measured Date
		1g (W/kg)	10g (W/kg)	1g (W/kg)	10g (W/kg)	1-g(W/kg)	10-g(W/kg)		
D750V2	Head	2.15	1.41	8.60	5.64	8.57 (7.71~9.43)	5.61 (5.05~6.17)	22.7	December 21, 2023
D835V2	Head	2.51	1.63	10.04	6.52	9.59 (8.63~10.55)	6.37 (5.73~7.01)	22.5	December 22, 2023
D1750V2	Head	8.94	4.72	35.76	18.88	35.9 (32.31~39.49)	18.9 (17.01~20.79)	22.9	December 23, 2023
D1900V2	Head	10.20	5.30	40.80	21.20	40.2 (36.18~44.22)	20.9 (18.81~22.99)	23.1	December 25, 2023
D2450V2	Head	12.60	5.79	50.40	23.16	53.5 (48.15~58.85)	24.8 (22.32~27.28)	22.8	December 17, 2023
Validation Kit		**Measured SAR 100mW**	**Measured SAR 100mW**	**Measured SAR (normalized to 1W)**	**Measured SAR (normalized to 1W)**	**Target SAR (normalized to 1W) (±10%)**	**Target SAR (normalized to 1W) (±10%)**	**Liquid Temp. (℃)**	**Measured Date**
		1g (W/kg)	**10g (W/kg)**	**1g (W/kg)**	**10g (W/kg)**	**1-g(W/kg)**	**10-g(W/kg)**		
D5GHzV2	Head (5.25GHz)	7.83	2.29	78.30	22.90	78.1 (70.29~85.91)	22.2 (19.98~24.42)	22.4	December 26, 2023
	Head (5.75GHz)	7.96	2.25	79.60	22.50	77.4 (69.66~85.14)	21.6 (19.44~23.76)	22.4	December 26, 2023

Table 3： Please see the Appendx A

6. SAR measurement procedure

The measurement procedures are as follows:

6.1. Conducted power measurement

a. For WWAN power measurement, use base station simulator connection with RF cable, at maximum power in each supported wireless interface and frequency band.
b. Read the WWAN RF power level from the base station simulator.
c. For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously Transmission, at maximum RF power in each supported wireless interface and frequency band.
d. Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power.

6.2. GSM Test Configuration

SAR tests for GSM 850 and GSM 1900, a communication link is set up with a System Simulator (SS) by air link. Using CMU200 the power level is set to “5” for GSM 850, set to “0” for GSM 1900. 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 timeslots is 4. 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 timeslots is 4.

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. GSM voice and GPRS data use GMSK, which is a constant amplitude modulation with minimal peak to average power difference within the time-slot burst. For EDGE, GMSK is used for MCS 1 – MCS 4 and 8-PSK is used for MCS 5 – MCS 9; where 8-PSK has an inherently higher peak-to-average power ratio. The GMSK and 8-PSK EDGE configurations are considered separately for SAR compliance. The GMSK EDGE configurations are grouped with GPRS and considered with respect to time-averaged maximum output power to determine compliance. The 3G SAR test reduction procedure is applied to 8-PSK EDGE with GMSK GPRS/EDGE as the primary mode.

6.3. UMTS Test Configuration

3G SAR Test Reduction Procedure
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 ≤ ¼ 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 ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.3 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.

<u>Output power Verification</u>

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 requied 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.

<u>Head SAR</u>

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.

Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

1) Body-Worn Accessory SAR

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. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreaing code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

2) Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the "Release 5 HSDPA Data Devices" section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device.The number of HSDSCH/ HS-PDSCHs, HARQ 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 conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors(βc, βd), and HS-DPCCH power offset parameters (ΔACK, ΔNACK, ΔCQI) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set

Table 2: Subtests for UMTS Release 5 HSDPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (note 1, note 2)	CM(dB) (note 3)	MPR(dB)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (note 4)	15/15 (note 4)	64	12/15 (note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note1: $\triangle_{ACK}$, $\triangle_{NACK}$ and $\triangle_{CQI}$= 8⇔ $A_{hs} = \beta_{hs}/\beta_c$=30/15⇔ β_{hs}=30/15*β_c
Note2: CM=1 for β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note3: 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 signaled gain factors for the reference TFC (TFC1,TF1) to β_c=11/15 and β_d=15/15.

HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the "Release 6 HSPA Data Devices" section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the β values indicated in Table 2 and other applicable procedures described in the 'WCDMA Handset' and 'Release 5 HSDPA Data Devices' sections of this document

Table 3: Sub-Test 5 Setup for Release 6 HSUPA

Sub-set	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs}(1)	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (2) (dB)	MPR (dB)	AG(4) Index	E-TFCI
1	11/15(3)	15/15(3)	64	11/15(3)	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15(4)	15/15(4)	64	15/15(4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, ΔNACK and Δ_{CQI} = 8 ⇔ A_{hs} = β_{hs}/β_c = 30/15 ⇔ β_{hs}= 30/15 *β_c.
Note 2: CM = 1 for βc/βd =12/15, β_{hs}/β_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.
Note 3: For subtest 1 the βc/βd ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 10/15 and βd = 15/15.
Note 4: For subtest 5 the βc/βd ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to βc = 14/15 and βd = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.
Note 6: βed can not be set directly; it is set by Absolute Grant Value.

6.4. LTE Test Configuration

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 among 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.8 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.

QPSK with 50% RB allocation
The procedures required for 1 RB allocation in section 4.2.1 are applied to measure the SAR for QPSK with 50% RB allocation.9

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 sections 4.2.1 and 4.2.2 are ≤ 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.

6.5. Power Reduction

The product without any power reduction.

6.6. Power Drift

To control the output power stability during the SAR test, SAR system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. This ensures that the power drift during one measurement is within ±0.2dB.

7. TEST CONDITIONS AND RESULTS

7.1. Conducted Power Results

According KDB 447498 D01 General RF Exposure Guidance v06 Section 4.1 2) states that "Unless it is specified differently in the published RF exposure KDB procedures, these requirements also apply to test reduction and test exclusion considerations. Time-averaged maximum conducted output power applies to SAR and, as required by § 2.1091(c), time-averaged ERP applies to MPE. When an antenna port is not available on the device to support conducted power measurement, such as FRS and certain Part 15 transmitters with built-in integral antennas, the maximum output power allowed for production units should be used to determine RF exposure test exclusion and compliance."

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. According to October 2013TCB Workshop, for GSM / GPRS , the number of time slots to test for SAR should correspond to the highest frame-average maximum output power configuration, considering the possibility of e.g. 3rd party VoIP operation for head and body-worn SAR testing, the EUT was set in GPRS (3Tx slot) for GSM850/GSM1900 band due to their highest frame-average power.
3. For hotspot mode SAR testing, GPRS should be evaluated, therefore the EUT was set in GPRS (3Tx slots) for GSM850/GSM1900 band due to its highest frame-average power.

7.1.1. Conducted power measurement results for GSM850

GSM 850										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		128	190	251			128	190	251	
GSM(GMSK)	GSM	32.66	32.67	32.68	33.00	-9.19	23.47	23.48	23.49	23.81
GPRS(GMSK)	1 TX Slot	32.52	32.56	32.52	33.00	-9.19	23.33	23.37	23.33	23.81
	2 TX Slots	30.97	31.00	30.98	31.50	-6.18	24.79	24.82	24.80	25.32
	3 TX Slots	29.48	29.48	29.46	30.00	-4.42	25.06	25.06	25.04	**25.58**
	4 TX Slots	28.00	28.00	27.94	28.50	-3.17	24.83	24.83	24.77	25.33
EGPRS(8PSK)	1 TX Slot	25.98	25.98	25.97	26.50	-9.19	16.79	16.79	16.78	17.31
	2 TX Slots	24.50	24.49	24.45	25.00	-6.18	18.32	18.31	18.27	18.82
	3 TX Slots	22.97	23.03	22.96	23.50	-4.42	18.55	18.61	18.54	19.08
	4 TX Slots	21.48	21.48	21.48	22.00	-3.17	18.31	18.31	18.31	18.83

7.1.2. Conducted power measurement results for PCS1900

GSM 1900										
Burst Output Power(dBm)					Tune up	Division Factors	Frame-Average Output Power(dBm)			Tune up
Channel		512	661	810			512	661	810	
GSM(GMSK)	GSM	29.70	29.68	29.67	30.00	-9.19	20.51	20.49	20.48	20.81
GPRS(GMSK)	1 TX Slot	29.55	29.56	29.49	30.00	-9.19	20.36	20.37	20.30	20.81
	2 TX Slots	27.96	28.00	27.92	28.50	-6.18	21.78	21.82	21.74	22.32
	3 TX Slots	26.49	26.47	26.47	27.00	-4.42	22.07	22.05	22.05	**22.58**
	4 TX Slots	24.98	25.01	24.93	25.50	-3.17	21.81	21.84	21.76	22.33
EGPRS(8PSK)	1 TX Slot	25.49	25.47	25.46	26.00	-9.19	16.30	16.28	16.27	16.81
	2 TX Slots	23.97	24.01	23.93	24.50	-6.18	17.79	17.83	17.75	18.32
	3 TX Slots	22.45	22.50	22.48	23.00	-4.42	18.03	18.08	18.06	18.58
	4 TX Slots	20.97	21.01	20.92	21.50	-3.17	17.80	17.84	17.75	18.33

Note:

1)CMW500 measures GSM peak and average output power for active timeslots. For SAR the time based 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	1:4.15	1:2.77	1:2.075
Time based avg. power compared to slotted avg. power	-9.19	-6.18	-4.42	-3.17

2)The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

3)Frame-averaged power = 10 x log (Burst-averaged power mW x Slot used / 8

When the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used

When multiple slots can be used, SAR should be tested to account for the maximum source-based time-averaged output power.

<UMTS Conducted Power>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station CMW500 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with fo1/2/2024llowing setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_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.

Note 4: For subtest 2 the β_c/β_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 β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station R&S CMW500 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_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.

Note 3: For subtest 1 the β_c/β_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 β_c = 10/15 and β_d = 15/15.

Note 4: For subtest 5 the β_c/β_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 β_c = 14/15 and β_d = 15/15.

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

General Note

1. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.
2. By design, AMR and HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
3. It is expected by the manufacturer that MPR for some HSDPA/HSUPA subtests may differ from the specification of 3GPP, according to the chipset implementation in this model. The implementation and expected deviation are detailed in tune-up procedure exhibit.

7.1.3. Conducted Power Measurement Results(WCDMA Band II)

Item	Band	WCDMA Band II result (dBm)			
		Channel/Frequency(MHz)			
	sub-test	9262/1852.4	9400/1880	9538/1907.6	Tune up
RMC	12.2kbps RMC	23.45	**23.58**	23.47	24.00
HSDPA	Sub –Test 1	22.80	22.97	22.93	23.50
	Sub –Test 2	22.74	22.79	22.87	23.50
	Sub –Test 3	22.83	22.78	22.80	23.50
	Sub –Test 4	22.71	22.85	22.74	23.50
HSUPA	Sub –Test 1	22.76	22.77	22.78	23.50
	Sub –Test 2	22.72	22.82	22.88	23.50
	Sub –Test 3	22.74	22.87	22.79	23.50
	Sub –Test 4	22.74	22.85	22.75	23.50
	Sub –Test 5	22.83	22.90	22.72	23.50

Note:
1) when the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

7.1.4. Conducted Power Measurement Results(WCDMA Band V)

Item	Band	WCDMA Band V result (dBm)			
		Channel/Frequency(MHz)			
	sub-test	4132/826.4	4182/836.4	4233/846.6	Tune up
RMC	12.2kbps RMC	23.44	23.44	**23.49**	24.00
HSDPA	Sub –Test 1	22.86	22.71	22.82	23.50
	Sub –Test 2	22.79	22.70	22.80	23.50
	Sub –Test 3	22.85	22.70	22.85	23.50
	Sub –Test 4	22.73	22.79	22.78	23.50
HSUPA	Sub –Test 1	22.82	22.79	22.77	23.50
	Sub –Test 2	22.88	22.73	22.85	23.50
	Sub –Test 3	22.79	22.87	22.89	23.50
	Sub –Test 4	22.85	22.86	22.78	23.50
	Sub –Test 5	22.84	22.78	22.76	23.50

Note:
2) when the maximum output power variation across the required test channels is > ½ dB, instead of the middle channel, the highest output power channel must be used.

7.1.5. Conducted Power Measurement Results(LTE Band 2)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Tune up
Band2	1.4MHz	QPSK	18607	1RB#0	23.06	23.50
Band2	1.4MHz	16QAM	18607	1RB#0	21.74	22.00
Band2	1.4MHz	QPSK	18607	1RB#2	22.82	23.50
Band2	1.4MHz	16QAM	18607	1RB#2	22.03	22.50
Band2	1.4MHz	QPSK	18607	1RB#5	22.92	23.50
Band2	1.4MHz	16QAM	18607	1RB#5	21.90	22.50
Band2	1.4MHz	QPSK	18607	3RB#0	23.01	23.50
Band2	1.4MHz	16QAM	18607	3RB#0	21.81	22.50
Band2	1.4MHz	QPSK	18607	3RB#1	23.04	23.50
Band2	1.4MHz	16QAM	18607	3RB#1	21.84	22.50
Band2	1.4MHz	QPSK	18607	3RB#3	23.01	23.50
Band2	1.4MHz	16QAM	18607	3RB#3	21.81	22.50
Band2	1.4MHz	QPSK	18607	6RB#0	21.97	22.50
Band2	1.4MHz	16QAM	18607	6RB#0	21.02	21.50
Band2	1.4MHz	QPSK	18900	1RB#0	23.10	23.50
Band2	1.4MHz	16QAM	18900	1RB#0	22.04	22.50
Band2	1.4MHz	QPSK	18900	1RB#2	23.18	23.50
Band2	1.4MHz	16QAM	18900	1RB#2	22.22	22.50
Band2	1.4MHz	QPSK	18900	1RB#5	23.10	23.50
Band2	1.4MHz	16QAM	18900	1RB#5	22.03	22.50
Band2	1.4MHz	QPSK	18900	3RB#0	23.21	23.50
Band2	1.4MHz	16QAM	18900	3RB#0	22.00	22.50
Band2	1.4MHz	QPSK	18900	3RB#1	23.22	23.50
Band2	1.4MHz	16QAM	18900	3RB#1	21.99	22.50
Band2	1.4MHz	QPSK	18900	3RB#3	23.24	23.50
Band2	1.4MHz	16QAM	18900	3RB#3	22.07	22.50
Band2	1.4MHz	QPSK	18900	6RB#0	22.22	22.50
Band2	1.4MHz	16QAM	18900	6RB#0	21.19	21.50
Band2	1.4MHz	QPSK	19193	1RB#0	22.94	23.50
Band2	1.4MHz	16QAM	19193	1RB#0	21.94	22.50
Band2	1.4MHz	QPSK	19193	1RB#2	23.20	23.50
Band2	1.4MHz	16QAM	19193	1RB#2	22.07	22.50
Band2	1.4MHz	QPSK	19193	1RB#5	23.06	23.50
Band2	1.4MHz	16QAM	19193	1RB#5	22.10	22.50
Band2	1.4MHz	QPSK	19193	3RB#0	23.27	24.00

Band2	1.4MHz	16QAM	19193	3RB#0	22.03	22.50
Band2	1.4MHz	QPSK	19193	3RB#1	23.23	23.50
Band2	1.4MHz	16QAM	19193	3RB#1	21.96	22.50
Band2	1.4MHz	QPSK	19193	3RB#3	23.27	24.00
Band2	1.4MHz	16QAM	19193	3RB#3	21.95	22.50
Band2	1.4MHz	QPSK	19193	6RB#0	22.12	22.50
Band2	1.4MHz	16QAM	19193	6RB#0	21.12	21.50
Band2	3MHz	QPSK	18615	1RB#0	22.80	23.50
Band2	3MHz	16QAM	18615	1RB#0	21.89	22.50
Band2	3MHz	QPSK	18615	1RB#8	22.94	23.50
Band2	3MHz	16QAM	18615	1RB#8	21.98	22.50
Band2	3MHz	QPSK	18615	1RB#14	22.85	23.50
Band2	3MHz	16QAM	18615	1RB#14	21.86	22.50
Band2	3MHz	QPSK	18615	8RB#0	21.86	22.50
Band2	3MHz	16QAM	18615	8RB#0	20.87	21.50
Band2	3MHz	QPSK	18615	8RB#4	21.88	22.50
Band2	3MHz	16QAM	18615	8RB#4	20.88	21.50
Band2	3MHz	QPSK	18615	8RB#7	21.80	22.50
Band2	3MHz	16QAM	18615	8RB#7	20.84	21.50
Band2	3MHz	QPSK	18615	15RB#0	21.75	22.00
Band2	3MHz	16QAM	18615	15RB#0	20.87	21.50
Band2	3MHz	QPSK	18900	1RB#0	23.09	23.50
Band2	3MHz	16QAM	18900	1RB#0	22.21	22.50
Band2	3MHz	QPSK	18900	1RB#8	23.28	24.00
Band2	3MHz	16QAM	18900	1RB#8	22.30	23.00
Band2	3MHz	QPSK	18900	1RB#14	23.07	23.50
Band2	3MHz	16QAM	18900	1RB#14	22.15	22.50
Band2	3MHz	QPSK	18900	8RB#0	22.06	22.50
Band2	3MHz	16QAM	18900	8RB#0	21.11	21.50
Band2	3MHz	QPSK	18900	8RB#4	22.11	22.50
Band2	3MHz	16QAM	18900	8RB#4	21.18	21.50
Band2	3MHz	QPSK	18900	8RB#7	22.03	22.50
Band2	3MHz	16QAM	18900	8RB#7	21.11	21.50
Band2	3MHz	QPSK	18900	15RB#0	22.05	22.50
Band2	3MHz	16QAM	18900	15RB#0	21.12	21.50
Band2	3MHz	QPSK	19185	1RB#0	23.02	23.50
Band2	3MHz	16QAM	19185	1RB#0	22.06	22.50
Band2	3MHz	QPSK	19185	1RB#8	23.00	23.50

Band2	3MHz	16QAM	19185	1RB#8	22.19	22.50
Band2	3MHz	QPSK	19185	1RB#14	23.12	23.50
Band2	3MHz	16QAM	19185	1RB#14	22.10	22.50
Band2	3MHz	QPSK	19185	8RB#0	22.07	22.50
Band2	3MHz	16QAM	19185	8RB#0	21.11	21.50
Band2	3MHz	QPSK	19185	8RB#4	22.17	22.50
Band2	3MHz	16QAM	19185	8RB#4	21.07	21.50
Band2	3MHz	QPSK	19185	8RB#7	22.09	22.50
Band2	3MHz	16QAM	19185	8RB#7	21.14	21.50
Band2	3MHz	QPSK	19185	15RB#0	21.96	22.50
Band2	3MHz	16QAM	19185	15RB#0	21.01	21.50
Band2	5MHz	QPSK	18625	1RB#0	22.88	23.50
Band2	5MHz	16QAM	18625	1RB#0	21.93	22.50
Band2	5MHz	QPSK	18625	1RB#12	22.84	23.50
Band2	5MHz	16QAM	18625	1RB#12	21.88	22.50
Band2	5MHz	QPSK	18625	1RB#24	22.76	23.50
Band2	5MHz	16QAM	18625	1RB#24	21.71	22.00
Band2	5MHz	QPSK	18625	12RB#0	21.82	22.50
Band2	5MHz	16QAM	18625	12RB#0	20.73	21.00
Band2	5MHz	QPSK	18625	12RB#6	21.75	22.00
Band2	5MHz	16QAM	18625	12RB#6	20.77	21.50
Band2	5MHz	QPSK	18625	12RB#13	21.85	22.50
Band2	5MHz	16QAM	18625	12RB#13	20.78	21.50
Band2	5MHz	QPSK	18625	25RB#0	21.78	22.50
Band2	5MHz	16QAM	18625	25RB#0	20.84	21.50
Band2	5MHz	QPSK	18900	1RB#0	23.17	23.50
Band2	5MHz	16QAM	18900	1RB#0	22.15	22.50
Band2	5MHz	QPSK	18900	1RB#12	23.21	23.50
Band2	5MHz	16QAM	18900	1RB#12	22.10	22.50
Band2	5MHz	QPSK	18900	1RB#24	23.06	23.50
Band2	5MHz	16QAM	18900	1RB#24	21.95	22.50
Band2	5MHz	QPSK	18900	12RB#0	22.17	22.50
Band2	5MHz	16QAM	18900	12RB#0	21.10	21.50
Band2	5MHz	QPSK	18900	12RB#6	22.16	22.50
Band2	5MHz	16QAM	18900	12RB#6	21.13	21.50
Band2	5MHz	QPSK	18900	12RB#13	22.14	22.50
Band2	5MHz	16QAM	18900	12RB#13	21.12	21.50
Band2	5MHz	QPSK	18900	25RB#0	22.24	22.50

Band2	5MHz	16QAM	18900	25RB#0	21.22	21.50
Band2	5MHz	QPSK	19175	1RB#0	23.00	23.50
Band2	5MHz	16QAM	19175	1RB#0	21.92	22.50
Band2	5MHz	QPSK	19175	1RB#12	23.11	23.50
Band2	5MHz	16QAM	19175	1RB#12	22.05	22.50
Band2	5MHz	QPSK	19175	1RB#24	22.97	23.50
Band2	5MHz	16QAM	19175	1RB#24	21.99	22.50
Band2	5MHz	QPSK	19175	12RB#0	21.86	22.50
Band2	5MHz	16QAM	19175	12RB#0	20.92	21.50
Band2	5MHz	QPSK	19175	12RB#6	21.99	22.50
Band2	5MHz	16QAM	19175	12RB#6	21.02	21.50
Band2	5MHz	QPSK	19175	12RB#13	21.82	22.50
Band2	5MHz	16QAM	19175	12RB#13	21.10	21.50
Band2	5MHz	QPSK	19175	25RB#0	22.03	22.50
Band2	5MHz	16QAM	19175	25RB#0	20.99	21.50
Band2	10MHz	QPSK	18650	1RB#0	23.01	23.50
Band2	10MHz	16QAM	18650	1RB#0	22.00	22.50
Band2	10MHz	QPSK	18650	1RB#24	22.95	23.50
Band2	10MHz	16QAM	18650	1RB#24	22.06	22.50
Band2	10MHz	QPSK	18650	1RB#49	22.87	23.50
Band2	10MHz	16QAM	18650	1RB#49	21.99	22.50
Band2	10MHz	QPSK	18650	25RB#0	21.81	22.50
Band2	10MHz	16QAM	18650	25RB#0	20.89	21.50
Band2	10MHz	QPSK	18650	25RB#12	21.81	22.50
Band2	10MHz	16QAM	18650	25RB#12	20.79	21.50
Band2	10MHz	QPSK	18650	25RB#25	21.81	22.50
Band2	10MHz	16QAM	18650	25RB#25	20.98	21.50
Band2	10MHz	QPSK	18650	50RB#0	22.01	22.50
Band2	10MHz	16QAM	18650	50RB#0	20.80	21.50
Band2	10MHz	QPSK	18900	1RB#0	23.01	23.50
Band2	10MHz	16QAM	18900	1RB#0	22.10	22.50
Band2	10MHz	QPSK	18900	1RB#24	23.17	23.50
Band2	10MHz	16QAM	18900	1RB#24	22.20	22.50
Band2	10MHz	QPSK	18900	1RB#49	23.01	23.50
Band2	10MHz	16QAM	18900	1RB#49	22.03	22.50
Band2	10MHz	QPSK	18900	25RB#0	22.16	22.50
Band2	10MHz	16QAM	18900	25RB#0	21.10	21.50
Band2	10MHz	QPSK	18900	25RB#12	22.13	22.50

Band2	10MHz	16QAM	18900	25RB#12	21.22	21.50
Band2	10MHz	QPSK	18900	25RB#25	22.16	22.50
Band2	10MHz	16QAM	18900	25RB#25	21.14	21.50
Band2	10MHz	QPSK	18900	50RB#0	22.20	22.50
Band2	10MHz	16QAM	18900	50RB#0	21.12	21.50
Band2	10MHz	QPSK	19150	1RB#0	22.96	23.50
Band2	10MHz	16QAM	19150	1RB#0	22.03	22.50
Band2	10MHz	QPSK	19150	1RB#24	23.08	23.50
Band2	10MHz	16QAM	19150	1RB#24	22.17	22.50
Band2	10MHz	QPSK	19150	1RB#49	22.98	23.50
Band2	10MHz	16QAM	19150	1RB#49	22.17	22.50
Band2	10MHz	QPSK	19150	25RB#0	22.15	22.50
Band2	10MHz	16QAM	19150	25RB#0	21.16	21.50
Band2	10MHz	QPSK	19150	25RB#12	22.20	22.50
Band2	10MHz	16QAM	19150	25RB#12	21.19	21.50
Band2	10MHz	QPSK	19150	25RB#25	22.29	23.00
Band2	10MHz	16QAM	19150	25RB#25	21.15	21.50
Band2	10MHz	QPSK	19150	50RB#0	22.02	22.50
Band2	10MHz	16QAM	19150	50RB#0	21.10	21.50
Band2	15MHz	QPSK	18675	1RB#0	22.76	23.50
Band2	15MHz	16QAM	18675	1RB#0	21.68	22.00
Band2	15MHz	QPSK	18675	1RB#38	22.87	23.50
Band2	15MHz	16QAM	18675	1RB#38	21.75	22.00
Band2	15MHz	QPSK	18675	1RB#74	22.75	23.00
Band2	15MHz	16QAM	18675	1RB#74	21.74	22.00
Band2	15MHz	QPSK	18675	38RB#0	21.79	22.50
Band2	15MHz	16QAM	18675	38RB#0	21.86	22.50
Band2	15MHz	QPSK	18675	38RB#18	21.90	22.50
Band2	15MHz	16QAM	18675	38RB#18	21.88	22.50
Band2	15MHz	QPSK	18675	38RB#37	21.86	22.50
Band2	15MHz	16QAM	18675	38RB#37	21.87	22.50
Band2	15MHz	QPSK	18675	75RB#0	21.86	22.50
Band2	15MHz	16QAM	18675	75RB#0	20.81	21.50
Band2	15MHz	QPSK	18900	1RB#0	22.97	23.50
Band2	15MHz	16QAM	18900	1RB#0	21.99	22.50
Band2	15MHz	QPSK	18900	1RB#38	23.02	23.50
Band2	15MHz	16QAM	18900	1RB#38	22.19	22.50
Band2	15MHz	QPSK	18900	1RB#74	22.92	23.50

Band2	15MHz	16QAM	18900	1RB#74	21.95	22.50
Band2	15MHz	QPSK	18900	38RB#0	22.24	22.50
Band2	15MHz	16QAM	18900	38RB#0	22.21	22.50
Band2	15MHz	QPSK	18900	38RB#18	22.14	22.50
Band2	15MHz	16QAM	18900	38RB#18	22.16	22.50
Band2	15MHz	QPSK	18900	38RB#37	22.15	22.50
Band2	15MHz	16QAM	18900	38RB#37	22.27	23.00
Band2	15MHz	QPSK	18900	75RB#0	22.15	22.50
Band2	15MHz	16QAM	18900	75RB#0	21.08	21.50
Band2	15MHz	QPSK	19125	1RB#0	22.90	23.50
Band2	15MHz	16QAM	19125	1RB#0	21.88	22.50
Band2	15MHz	QPSK	19125	1RB#38	22.99	23.50
Band2	15MHz	16QAM	19125	1RB#38	22.14	22.50
Band2	15MHz	QPSK	19125	1RB#74	22.93	23.50
Band2	15MHz	16QAM	19125	1RB#74	21.65	22.00
Band2	15MHz	QPSK	19125	38RB#0	21.80	22.50
Band2	15MHz	16QAM	19125	38RB#0	22.14	22.50
Band2	15MHz	QPSK	19125	38RB#18	21.92	22.50
Band2	15MHz	16QAM	19125	38RB#18	22.15	22.50
Band2	15MHz	QPSK	19125	38RB#37	21.92	22.50
Band2	15MHz	16QAM	19125	38RB#37	21.88	22.50
Band2	15MHz	QPSK	19125	75RB#0	21.78	22.50
Band2	15MHz	16QAM	19125	75RB#0	20.84	21.50
Band2	20MHz	QPSK	18700	1RB#0	22.67	23.00
Band2	20MHz	16QAM	18700	1RB#0	21.57	22.00
Band2	20MHz	QPSK	18700	1RB#49	22.88	23.50
Band2	20MHz	16QAM	18700	1RB#49	21.90	22.50
Band2	20MHz	QPSK	18700	1RB#99	22.70	23.00
Band2	20MHz	16QAM	18700	1RB#99	21.67	22.00
Band2	20MHz	QPSK	18700	50RB#0	21.77	22.50
Band2	20MHz	16QAM	18700	50RB#0	20.75	21.00
Band2	20MHz	QPSK	18700	50RB#25	21.73	22.00
Band2	20MHz	16QAM	18700	50RB#25	20.87	21.50
Band2	20MHz	QPSK	18700	50RB#50	21.82	22.50
Band2	20MHz	16QAM	18700	50RB#50	20.82	21.50
Band2	20MHz	QPSK	18700	100RB#0	21.81	22.50
Band2	20MHz	16QAM	18700	100RB#0	20.85	21.50
Band2	20MHz	QPSK	18900	1RB#0	22.87	23.50

Band2	20MHz	16QAM	18900	1RB#0	21.73	22.00
Band2	20MHz	QPSK	18900	1RB#49	23.29	24.00
Band2	20MHz	16QAM	18900	1RB#49	22.11	22.50
Band2	20MHz	QPSK	18900	1RB#99	22.86	23.50
Band2	20MHz	16QAM	18900	1RB#99	21.82	22.50
Band2	20MHz	QPSK	18900	50RB#0	22.13	22.50
Band2	20MHz	16QAM	18900	50RB#0	21.13	21.50
Band2	20MHz	QPSK	18900	50RB#25	22.17	22.50
Band2	20MHz	16QAM	18900	50RB#25	21.12	21.50
Band2	20MHz	QPSK	18900	50RB#50	22.12	22.50
Band2	20MHz	16QAM	18900	50RB#50	21.16	21.50
Band2	20MHz	QPSK	18900	100RB#0	22.21	22.50
Band2	20MHz	16QAM	18900	100RB#0	21.15	21.50
Band2	20MHz	QPSK	19100	1RB#0	22.78	23.50
Band2	20MHz	16QAM	19100	1RB#0	21.74	22.00
Band2	20MHz	QPSK	19100	1RB#49	23.24	23.50
Band2	20MHz	16QAM	19100	1RB#49	22.05	22.50
Band2	20MHz	QPSK	19100	1RB#99	22.83	23.50
Band2	20MHz	16QAM	19100	1RB#99	21.73	22.00
Band2	20MHz	QPSK	19100	50RB#0	22.05	22.50
Band2	20MHz	16QAM	19100	50RB#0	21.10	21.50
Band2	20MHz	QPSK	19100	50RB#25	22.03	22.50
Band2	20MHz	16QAM	19100	50RB#25	21.05	21.50
Band2	20MHz	QPSK	19100	50RB#50	21.89	22.50
Band2	20MHz	16QAM	19100	50RB#50	20.91	21.50
Band2	20MHz	QPSK	19100	100RB#0	22.09	22.50
Band2	20MHz	16QAM	19100	100RB#0	21.04	21.50

7.1.6. Conducted Power Measurement Results(LTE Band 4)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Tune up
Band4	1.4MHz	QPSK	19957	1RB#0	23.45	24.00
Band4	1.4MHz	16QAM	19957	1RB#0	22.14	22.50
Band4	1.4MHz	QPSK	19957	1RB#2	23.17	23.50
Band4	1.4MHz	16QAM	19957	1RB#2	22.34	23.00
Band4	1.4MHz	QPSK	19957	1RB#5	23.37	24.00
Band4	1.4MHz	16QAM	19957	1RB#5	22.28	23.00
Band4	1.4MHz	QPSK	19957	3RB#0	23.34	24.00
Band4	1.4MHz	16QAM	19957	3RB#0	22.22	22.50
Band4	1.4MHz	QPSK	19957	3RB#1	23.39	24.00
Band4	1.4MHz	16QAM	19957	3RB#1	22.19	22.50
Band4	1.4MHz	QPSK	19957	3RB#3	23.38	24.00
Band4	1.4MHz	16QAM	19957	3RB#3	22.17	22.50
Band4	1.4MHz	QPSK	19957	6RB#0	22.37	23.00
Band4	1.4MHz	16QAM	19957	6RB#0	21.43	22.00
Band4	1.4MHz	QPSK	20175	1RB#0	23.14	23.50
Band4	1.4MHz	16QAM	20175	1RB#0	21.98	22.50
Band4	1.4MHz	QPSK	20175	1RB#2	23.19	23.50
Band4	1.4MHz	16QAM	20175	1RB#2	22.06	22.50
Band4	1.4MHz	QPSK	20175	1RB#5	23.12	23.50
Band4	1.4MHz	16QAM	20175	1RB#5	21.88	22.50
Band4	1.4MHz	QPSK	20175	3RB#0	23.11	23.50
Band4	1.4MHz	16QAM	20175	3RB#0	21.91	22.50
Band4	1.4MHz	QPSK	20175	3RB#1	23.15	23.50
Band4	1.4MHz	16QAM	20175	3RB#1	21.89	22.50
Band4	1.4MHz	QPSK	20175	3RB#3	23.21	23.50
Band4	1.4MHz	16QAM	20175	3RB#3	21.89	22.50
Band4	1.4MHz	QPSK	20175	6RB#0	21.82	22.50
Band4	1.4MHz	16QAM	20175	6RB#0	20.91	21.50
Band4	1.4MHz	QPSK	20393	1RB#0	22.94	23.50
Band4	1.4MHz	16QAM	20393	1RB#0	21.54	22.00
Band4	1.4MHz	QPSK	20393	1RB#2	23.01	23.50
Band4	1.4MHz	16QAM	20393	1RB#2	21.88	22.50
Band4	1.4MHz	QPSK	20393	1RB#5	23.07	23.50
Band4	1.4MHz	16QAM	20393	1RB#5	21.90	22.50

Band4	1.4MHz	QPSK	20393	3RB#0	23.23	23.50
Band4	1.4MHz	16QAM	20393	3RB#0	21.97	22.50
Band4	1.4MHz	QPSK	20393	3RB#1	23.22	23.50
Band4	1.4MHz	16QAM	20393	3RB#1	21.97	22.50
Band4	1.4MHz	QPSK	20393	3RB#3	23.33	24.00
Band4	1.4MHz	16QAM	20393	3RB#3	21.94	22.50
Band4	1.4MHz	QPSK	20393	6RB#0	22.07	22.50
Band4	1.4MHz	16QAM	20393	6RB#0	21.08	21.50
Band4	3MHz	QPSK	19965	1RB#0	23.26	24.00
Band4	3MHz	16QAM	19965	1RB#0	22.31	23.00
Band4	3MHz	QPSK	19965	1RB#8	23.36	24.00
Band4	3MHz	16QAM	19965	1RB#8	22.41	23.00
Band4	3MHz	QPSK	19965	1RB#14	23.27	24.00
Band4	3MHz	16QAM	19965	1RB#14	22.29	23.00
Band4	3MHz	QPSK	19965	8RB#0	22.32	23.00
Band4	3MHz	16QAM	19965	8RB#0	21.33	22.00
Band4	3MHz	QPSK	19965	8RB#4	22.34	23.00
Band4	3MHz	16QAM	19965	8RB#4	21.32	22.00
Band4	3MHz	QPSK	19965	8RB#7	22.28	23.00
Band4	3MHz	16QAM	19965	8RB#7	21.32	22.00
Band4	3MHz	QPSK	19965	15RB#0	22.27	23.00
Band4	3MHz	16QAM	19965	15RB#0	21.21	21.50
Band4	3MHz	QPSK	20175	1RB#0	23.16	23.50
Band4	3MHz	16QAM	20175	1RB#0	22.09	22.50
Band4	3MHz	QPSK	20175	1RB#8	23.30	24.00
Band4	3MHz	16QAM	20175	1RB#8	22.04	22.50
Band4	3MHz	QPSK	20175	1RB#14	23.10	23.50
Band4	3MHz	16QAM	20175	1RB#14	21.67	22.00
Band4	3MHz	QPSK	20175	8RB#0	21.84	22.50
Band4	3MHz	16QAM	20175	8RB#0	20.84	21.50
Band4	3MHz	QPSK	20175	8RB#4	21.88	22.50
Band4	3MHz	16QAM	20175	8RB#4	20.71	21.00
Band4	3MHz	QPSK	20175	8RB#7	21.75	22.00
Band4	3MHz	16QAM	20175	8RB#7	20.85	21.50
Band4	3MHz	QPSK	20175	15RB#0	21.86	22.50
Band4	3MHz	16QAM	20175	15RB#0	20.75	21.00
Band4	3MHz	QPSK	20385	1RB#0	23.13	23.50
Band4	3MHz	16QAM	20385	1RB#0	21.73	22.00

Band4	3MHz	QPSK	20385	1RB#8	23.09	23.50
Band4	3MHz	16QAM	20385	1RB#8	21.92	22.50
Band4	3MHz	QPSK	20385	1RB#14	23.17	23.50
Band4	3MHz	16QAM	20385	1RB#14	21.79	22.50
Band4	3MHz	QPSK	20385	8RB#0	22.14	22.50
Band4	3MHz	16QAM	20385	8RB#0	20.95	21.50
Band4	3MHz	QPSK	20385	8RB#4	22.27	23.00
Band4	3MHz	16QAM	20385	8RB#4	21.18	21.50
Band4	3MHz	QPSK	20385	8RB#7	22.11	22.50
Band4	3MHz	16QAM	20385	8RB#7	21.06	21.50
Band4	3MHz	QPSK	20385	15RB#0	22.05	22.50
Band4	3MHz	16QAM	20385	15RB#0	20.99	21.50
Band4	5MHz	QPSK	19975	1RB#0	23.40	24.00
Band4	5MHz	16QAM	19975	1RB#0	22.23	22.50
Band4	5MHz	QPSK	19975	1RB#12	23.26	24.00
Band4	5MHz	16QAM	19975	1RB#12	21.94	22.50
Band4	5MHz	QPSK	19975	1RB#24	22.81	23.50
Band4	5MHz	16QAM	19975	1RB#24	22.02	22.50
Band4	5MHz	QPSK	19975	12RB#0	21.78	22.50
Band4	5MHz	16QAM	19975	12RB#0	20.73	21.00
Band4	5MHz	QPSK	19975	12RB#6	21.83	22.50
Band4	5MHz	16QAM	19975	12RB#6	20.87	21.50
Band4	5MHz	QPSK	19975	12RB#13	21.87	22.50
Band4	5MHz	16QAM	19975	12RB#13	20.78	21.50
Band4	5MHz	QPSK	19975	25RB#0	21.77	22.50
Band4	5MHz	16QAM	19975	25RB#0	20.86	21.50
Band4	5MHz	QPSK	20175	1RB#0	23.01	23.50
Band4	5MHz	16QAM	20175	1RB#0	21.79	22.50
Band4	5MHz	QPSK	20175	1RB#12	22.62	23.00
Band4	5MHz	16QAM	20175	1RB#12	21.83	22.50
Band4	5MHz	QPSK	20175	1RB#24	22.53	23.00
Band4	5MHz	16QAM	20175	1RB#24	21.71	22.00
Band4	5MHz	QPSK	20175	12RB#0	21.66	22.00
Band4	5MHz	16QAM	20175	12RB#0	20.79	21.50
Band4	5MHz	QPSK	20175	12RB#6	21.64	22.00
Band4	5MHz	16QAM	20175	12RB#6	20.74	21.00
Band4	5MHz	QPSK	20175	12RB#13	21.73	22.00
Band4	5MHz	16QAM	20175	12RB#13	20.83	21.50

Band4	5MHz	QPSK	20175	25RB#0	21.82	22.50
Band4	5MHz	16QAM	20175	25RB#0	20.71	21.00
Band4	5MHz	QPSK	20375	1RB#0	22.58	23.00
Band4	5MHz	16QAM	20375	1RB#0	21.44	22.00
Band4	5MHz	QPSK	20375	1RB#12	22.63	23.00
Band4	5MHz	16QAM	20375	1RB#12	21.55	22.00
Band4	5MHz	QPSK	20375	1RB#24	22.51	23.00
Band4	5MHz	16QAM	20375	1RB#24	21.47	22.00
Band4	5MHz	QPSK	20375	12RB#0	21.51	22.00
Band4	5MHz	16QAM	20375	12RB#0	20.59	21.00
Band4	5MHz	QPSK	20375	12RB#6	21.57	22.00
Band4	5MHz	16QAM	20375	12RB#6	20.60	21.00
Band4	5MHz	QPSK	20375	12RB#13	21.55	22.00
Band4	5MHz	16QAM	20375	12RB#13	20.67	21.00
Band4	5MHz	QPSK	20375	25RB#0	21.63	22.00
Band4	5MHz	16QAM	20375	25RB#0	20.67	21.00
Band4	10MHz	QPSK	20000	1RB#0	23.44	24.00
Band4	10MHz	16QAM	20000	1RB#0	22.45	23.00
Band4	10MHz	QPSK	20000	1RB#24	23.42	24.00
Band4	10MHz	16QAM	20000	1RB#24	22.15	22.50
Band4	10MHz	QPSK	20000	1RB#49	23.17	23.50
Band4	10MHz	16QAM	20000	1RB#49	22.31	23.00
Band4	10MHz	QPSK	20000	25RB#0	22.05	22.50
Band4	10MHz	16QAM	20000	25RB#0	21.38	22.00
Band4	10MHz	QPSK	20000	25RB#12	22.17	22.50
Band4	10MHz	16QAM	20000	25RB#12	20.90	21.50
Band4	10MHz	QPSK	20000	25RB#25	21.85	22.50
Band4	10MHz	16QAM	20000	25RB#25	20.94	21.50
Band4	10MHz	QPSK	20000	50RB#0	21.97	22.50
Band4	10MHz	16QAM	20000	50RB#0	20.89	21.50
Band4	10MHz	QPSK	20175	1RB#0	23.14	23.50
Band4	10MHz	16QAM	20175	1RB#0	21.66	22.00
Band4	10MHz	QPSK	20175	1RB#24	22.67	23.00
Band4	10MHz	16QAM	20175	1RB#24	21.74	22.00
Band4	10MHz	QPSK	20175	1RB#49	22.58	23.00
Band4	10MHz	16QAM	20175	1RB#49	21.44	22.00
Band4	10MHz	QPSK	20175	25RB#0	21.67	22.00
Band4	10MHz	16QAM	20175	25RB#0	20.72	21.00

Band4	10MHz	QPSK	20175	25RB#12	21.66	22.00
Band4	10MHz	16QAM	20175	25RB#12	20.79	21.50
Band4	10MHz	QPSK	20175	25RB#25	21.60	22.00
Band4	10MHz	16QAM	20175	25RB#25	20.70	21.00
Band4	10MHz	QPSK	20175	50RB#0	21.76	22.50
Band4	10MHz	16QAM	20175	50RB#0	20.77	21.50
Band4	10MHz	QPSK	20350	1RB#0	23.01	23.50
Band4	10MHz	16QAM	20350	1RB#0	21.35	22.00
Band4	10MHz	QPSK	20350	1RB#24	22.73	23.00
Band4	10MHz	16QAM	20350	1RB#24	21.45	22.00
Band4	10MHz	QPSK	20350	1RB#49	22.55	23.00
Band4	10MHz	16QAM	20350	1RB#49	21.49	22.00
Band4	10MHz	QPSK	20350	25RB#0	21.73	22.00
Band4	10MHz	16QAM	20350	25RB#0	20.76	21.50
Band4	10MHz	QPSK	20350	25RB#12	21.69	22.00
Band4	10MHz	16QAM	20350	25RB#12	20.85	21.50
Band4	10MHz	QPSK	20350	25RB#25	21.75	22.00
Band4	10MHz	16QAM	20350	25RB#25	20.77	21.50
Band4	10MHz	QPSK	20350	50RB#0	22.00	22.50
Band4	10MHz	16QAM	20350	50RB#0	20.85	21.50
Band4	15MHz	QPSK	20025	1RB#0	22.97	23.50
Band4	15MHz	16QAM	20025	1RB#0	21.83	22.50
Band4	15MHz	QPSK	20025	1RB#38	22.76	23.50
Band4	15MHz	16QAM	20025	1RB#38	21.87	22.50
Band4	15MHz	QPSK	20025	1RB#74	22.49	23.00
Band4	15MHz	16QAM	20025	1RB#74	21.63	22.00
Band4	15MHz	QPSK	20025	38RB#0	21.69	22.00
Band4	15MHz	16QAM	20025	38RB#0	21.66	22.00
Band4	15MHz	QPSK	20025	38RB#18	21.75	22.00
Band4	15MHz	16QAM	20025	38RB#18	21.70	22.00
Band4	15MHz	QPSK	20025	38RB#37	21.68	22.00
Band4	15MHz	16QAM	20025	38RB#37	21.68	22.00
Band4	15MHz	QPSK	20025	75RB#0	21.68	22.00
Band4	15MHz	16QAM	20025	75RB#0	20.71	21.00
Band4	15MHz	QPSK	20175	1RB#0	22.69	23.00
Band4	15MHz	16QAM	20175	1RB#0	21.56	22.00
Band4	15MHz	QPSK	20175	1RB#38	22.49	23.00
Band4	15MHz	16QAM	20175	1RB#38	21.67	22.00

Band4	15MHz	QPSK	20175	1RB#74	22.38	23.00
Band4	15MHz	16QAM	20175	1RB#74	21.55	22.00
Band4	15MHz	QPSK	20175	38RB#0	21.81	22.50
Band4	15MHz	16QAM	20175	38RB#0	21.74	22.00
Band4	15MHz	QPSK	20175	38RB#18	21.71	22.00
Band4	15MHz	16QAM	20175	38RB#18	21.70	22.00
Band4	15MHz	QPSK	20175	38RB#37	21.71	22.00
Band4	15MHz	16QAM	20175	38RB#37	21.80	22.50
Band4	15MHz	QPSK	20175	75RB#0	21.71	22.00
Band4	15MHz	16QAM	20175	75RB#0	20.73	21.00
Band4	15MHz	QPSK	20325	1RB#0	22.68	23.00
Band4	15MHz	16QAM	20325	1RB#0	21.31	22.00
Band4	15MHz	QPSK	20325	1RB#38	22.69	23.00
Band4	15MHz	16QAM	20325	1RB#38	21.50	22.00
Band4	15MHz	QPSK	20325	1RB#74	22.61	23.00
Band4	15MHz	16QAM	20325	1RB#74	21.25	21.50
Band4	15MHz	QPSK	20325	38RB#0	21.63	22.00
Band4	15MHz	16QAM	20325	38RB#0	21.76	22.50
Band4	15MHz	QPSK	20325	38RB#18	21.71	22.00
Band4	15MHz	16QAM	20325	38RB#18	21.65	22.00
Band4	15MHz	QPSK	20325	38RB#37	21.66	22.00
Band4	15MHz	16QAM	20325	38RB#37	21.67	22.00
Band4	15MHz	QPSK	20325	75RB#0	21.71	22.00
Band4	15MHz	16QAM	20325	75RB#0	20.68	21.00
Band4	20MHz	QPSK	20050	1RB#0	23.03	23.50
Band4	20MHz	16QAM	20050	1RB#0	21.83	22.50
Band4	20MHz	QPSK	20050	1RB#49	23.01	23.50
Band4	20MHz	16QAM	20050	1RB#49	22.04	22.50
Band4	20MHz	QPSK	20050	1RB#99	22.43	23.00
Band4	20MHz	16QAM	20050	1RB#99	21.45	22.00
Band4	20MHz	QPSK	20050	50RB#0	21.84	22.50
Band4	20MHz	16QAM	20050	50RB#0	21.00	21.50
Band4	20MHz	QPSK	20050	50RB#25	21.83	22.50
Band4	20MHz	16QAM	20050	50RB#25	20.81	21.50
Band4	20MHz	QPSK	20050	50RB#50	21.66	22.00
Band4	20MHz	16QAM	20050	50RB#50	20.58	21.00
Band4	20MHz	QPSK	20050	100RB#0	21.79	22.50
Band4	20MHz	16QAM	20050	100RB#0	20.73	21.00

Band4	20MHz	QPSK	20175	1RB#0	22.99	23.50
Band4	20MHz	16QAM	20175	1RB#0	21.60	22.00
Band4	20MHz	QPSK	20175	1RB#49	22.80	23.50
Band4	20MHz	16QAM	20175	1RB#49	22.04	22.50
Band4	20MHz	QPSK	20175	1RB#99	22.33	23.00
Band4	20MHz	16QAM	20175	1RB#99	21.53	22.00
Band4	20MHz	QPSK	20175	50RB#0	21.63	22.00
Band4	20MHz	16QAM	20175	50RB#0	20.70	21.00
Band4	20MHz	QPSK	20175	50RB#25	21.66	22.00
Band4	20MHz	16QAM	20175	50RB#25	20.65	21.00
Band4	20MHz	QPSK	20175	50RB#50	21.63	22.00
Band4	20MHz	16QAM	20175	50RB#50	20.70	21.00
Band4	20MHz	QPSK	20175	100RB#0	21.65	22.00
Band4	20MHz	16QAM	20175	100RB#0	20.68	21.00
Band4	20MHz	QPSK	20300	1RB#0	22.48	23.00
Band4	20MHz	16QAM	20300	1RB#0	21.21	21.50
Band4	20MHz	QPSK	20300	1RB#49	22.59	23.00
Band4	20MHz	16QAM	20300	1RB#49	21.56	22.00
Band4	20MHz	QPSK	20300	1RB#99	22.30	23.00
Band4	20MHz	16QAM	20300	1RB#99	21.14	21.50
Band4	20MHz	QPSK	20300	50RB#0	21.56	22.00
Band4	20MHz	16QAM	20300	50RB#0	20.68	21.00
Band4	20MHz	QPSK	20300	50RB#25	21.55	22.00
Band4	20MHz	16QAM	20300	50RB#25	20.62	21.00
Band4	20MHz	QPSK	20300	50RB#50	21.76	22.50
Band4	20MHz	16QAM	20300	50RB#50	20.78	21.50
Band4	20MHz	QPSK	20300	100RB#0	21.65	22.00
Band4	20MHz	16QAM	20300	100RB#0	20.78	21.50

7.1.7. Conducted Power Measurement Results(LTE Band 5)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Tune up
Band5	1.4MHz	QPSK	20407	1RB#0	23.46	24.00
Band5	1.4MHz	16QAM	20407	1RB#0	22.02	22.50
Band5	1.4MHz	QPSK	20407	1RB#2	23.16	23.50
Band5	1.4MHz	16QAM	20407	1RB#2	22.32	23.00
Band5	1.4MHz	QPSK	20407	1RB#5	23.35	24.00
Band5	1.4MHz	16QAM	20407	1RB#5	22.20	22.50
Band5	1.4MHz	QPSK	20407	3RB#0	23.28	24.00
Band5	1.4MHz	16QAM	20407	3RB#0	22.09	22.50
Band5	1.4MHz	QPSK	20407	3RB#1	23.30	24.00
Band5	1.4MHz	16QAM	20407	3RB#1	22.11	22.50
Band5	1.4MHz	QPSK	20407	3RB#3	23.32	24.00
Band5	1.4MHz	16QAM	20407	3RB#3	22.14	22.50
Band5	1.4MHz	QPSK	20407	6RB#0	22.39	23.00
Band5	1.4MHz	16QAM	20407	6RB#0	21.41	22.00
Band5	1.4MHz	QPSK	20525	1RB#0	23.21	23.50
Band5	1.4MHz	16QAM	20525	1RB#0	21.99	22.50
Band5	1.4MHz	QPSK	20525	1RB#2	23.29	24.00
Band5	1.4MHz	16QAM	20525	1RB#2	22.10	22.50
Band5	1.4MHz	QPSK	20525	1RB#5	23.21	23.50
Band5	1.4MHz	16QAM	20525	1RB#5	21.94	22.50
Band5	1.4MHz	QPSK	20525	3RB#0	23.20	23.50
Band5	1.4MHz	16QAM	20525	3RB#0	21.99	22.50
Band5	1.4MHz	QPSK	20525	3RB#1	23.17	23.50
Band5	1.4MHz	16QAM	20525	3RB#1	22.00	22.50
Band5	1.4MHz	QPSK	20525	3RB#3	23.26	24.00
Band5	1.4MHz	16QAM	20525	3RB#3	22.05	22.50
Band5	1.4MHz	QPSK	20525	6RB#0	22.21	22.50
Band5	1.4MHz	16QAM	20525	6RB#0	21.05	21.50
Band5	1.4MHz	QPSK	20643	1RB#0	22.86	23.50
Band5	1.4MHz	16QAM	20643	1RB#0	21.62	22.00
Band5	1.4MHz	QPSK	20643	1RB#2	23.06	23.50
Band5	1.4MHz	16QAM	20643	1RB#2	21.81	22.50
Band5	1.4MHz	QPSK	20643	1RB#5	22.93	23.50
Band5	1.4MHz	16QAM	20643	1RB#5	21.73	22.00
Band5	1.4MHz	QPSK	20643	3RB#0	23.10	23.50

Band5	1.4MHz	16QAM	20643	3RB#0	21.70	22.00
Band5	1.4MHz	QPSK	20643	3RB#1	22.97	23.50
Band5	1.4MHz	16QAM	20643	3RB#1	21.59	22.00
Band5	1.4MHz	QPSK	20643	3RB#3	23.15	23.50
Band5	1.4MHz	16QAM	20643	3RB#3	21.64	22.00
Band5	1.4MHz	QPSK	20643	6RB#0	22.04	22.50
Band5	1.4MHz	16QAM	20643	6RB#0	21.00	21.50
Band5	3MHz	QPSK	20415	1RB#0	23.17	23.50
Band5	3MHz	16QAM	20415	1RB#0	22.17	22.50
Band5	3MHz	QPSK	20415	1RB#8	23.33	24.00
Band5	3MHz	16QAM	20415	1RB#8	22.34	23.00
Band5	3MHz	QPSK	20415	1RB#14	23.27	24.00
Band5	3MHz	16QAM	20415	1RB#14	22.18	22.50
Band5	3MHz	QPSK	20415	8RB#0	22.23	22.50
Band5	3MHz	16QAM	20415	8RB#0	21.21	21.50
Band5	3MHz	QPSK	20415	8RB#4	22.27	23.00
Band5	3MHz	16QAM	20415	8RB#4	21.23	21.50
Band5	3MHz	QPSK	20415	8RB#7	22.23	22.50
Band5	3MHz	16QAM	20415	8RB#7	21.20	21.50
Band5	3MHz	QPSK	20415	15RB#0	22.13	22.50
Band5	3MHz	16QAM	20415	15RB#0	21.21	21.50
Band5	3MHz	QPSK	20525	1RB#0	23.17	23.50
Band5	3MHz	16QAM	20525	1RB#0	22.15	22.50
Band5	3MHz	QPSK	20525	1RB#8	23.35	24.00
Band5	3MHz	16QAM	20525	1RB#8	22.15	22.50
Band5	3MHz	QPSK	20525	1RB#14	23.24	23.50
Band5	3MHz	16QAM	20525	1RB#14	21.99	22.50
Band5	3MHz	QPSK	20525	8RB#0	22.11	22.50
Band5	3MHz	16QAM	20525	8RB#0	21.11	21.50
Band5	3MHz	QPSK	20525	8RB#4	22.16	22.50
Band5	3MHz	16QAM	20525	8RB#4	21.15	21.50
Band5	3MHz	QPSK	20525	8RB#7	22.07	22.50
Band5	3MHz	16QAM	20525	8RB#7	21.12	21.50
Band5	3MHz	QPSK	20525	15RB#0	22.09	22.50
Band5	3MHz	16QAM	20525	15RB#0	21.00	21.50
Band5	3MHz	QPSK	20635	1RB#0	23.01	23.50
Band5	3MHz	16QAM	20635	1RB#0	21.71	22.00
Band5	3MHz	QPSK	20635	1RB#8	22.88	23.50

Band5	3MHz	16QAM	20635	1RB#8	21.89	22.50
Band5	3MHz	QPSK	20635	1RB#14	22.94	23.50
Band5	3MHz	16QAM	20635	1RB#14	21.75	22.00
Band5	3MHz	QPSK	20635	8RB#0	22.00	22.50
Band5	3MHz	16QAM	20635	8RB#0	21.03	21.50
Band5	3MHz	QPSK	20635	8RB#4	22.04	22.50
Band5	3MHz	16QAM	20635	8RB#4	21.01	21.50
Band5	3MHz	QPSK	20635	8RB#7	21.94	22.50
Band5	3MHz	16QAM	20635	8RB#7	20.91	21.50
Band5	3MHz	QPSK	20635	15RB#0	21.82	22.50
Band5	3MHz	16QAM	20635	15RB#0	20.77	21.50
Band5	5MHz	QPSK	20425	1RB#0	23.25	23.50
Band5	5MHz	16QAM	20425	1RB#0	22.22	22.50
Band5	5MHz	QPSK	20425	1RB#12	23.32	24.00
Band5	5MHz	16QAM	20425	1RB#12	22.23	22.50
Band5	5MHz	QPSK	20425	1RB#24	23.24	23.50
Band5	5MHz	16QAM	20425	1RB#24	22.13	22.50
Band5	5MHz	QPSK	20425	12RB#0	22.20	22.50
Band5	5MHz	16QAM	20425	12RB#0	21.14	21.50
Band5	5MHz	QPSK	20425	12RB#6	22.16	22.50
Band5	5MHz	16QAM	20425	12RB#6	21.18	21.50
Band5	5MHz	QPSK	20425	12RB#13	22.22	22.50
Band5	5MHz	16QAM	20425	12RB#13	21.21	21.50
Band5	5MHz	QPSK	20425	25RB#0	22.17	22.50
Band5	5MHz	16QAM	20425	25RB#0	21.23	21.50
Band5	5MHz	QPSK	20525	1RB#0	23.20	23.50
Band5	5MHz	16QAM	20525	1RB#0	22.31	23.00
Band5	5MHz	QPSK	20525	1RB#12	23.13	23.50
Band5	5MHz	16QAM	20525	1RB#12	22.24	22.50
Band5	5MHz	QPSK	20525	1RB#24	23.04	23.50
Band5	5MHz	16QAM	20525	1RB#24	22.09	22.50
Band5	5MHz	QPSK	20525	12RB#0	22.19	22.50
Band5	5MHz	16QAM	20525	12RB#0	21.18	21.50
Band5	5MHz	QPSK	20525	12RB#6	22.19	22.50
Band5	5MHz	16QAM	20525	12RB#6	21.23	21.50
Band5	5MHz	QPSK	20525	12RB#13	22.15	22.50
Band5	5MHz	16QAM	20525	12RB#13	21.21	21.50
Band5	5MHz	QPSK	20525	25RB#0	22.27	23.00

Band5	5MHz	16QAM	20525	25RB#0	21.15	21.50
Band5	5MHz	QPSK	20625	1RB#0	22.95	23.50
Band5	5MHz	16QAM	20625	1RB#0	21.82	22.50
Band5	5MHz	QPSK	20625	1RB#12	23.06	23.50
Band5	5MHz	16QAM	20625	1RB#12	21.95	22.50
Band5	5MHz	QPSK	20625	1RB#24	22.86	23.50
Band5	5MHz	16QAM	20625	1RB#24	21.71	22.00
Band5	5MHz	QPSK	20625	12RB#0	21.97	22.50
Band5	5MHz	16QAM	20625	12RB#0	20.90	21.50
Band5	5MHz	QPSK	20625	12RB#6	21.94	22.50
Band5	5MHz	16QAM	20625	12RB#6	20.96	21.50
Band5	5MHz	QPSK	20625	12RB#13	21.90	22.50
Band5	5MHz	16QAM	20625	12RB#13	20.93	21.50
Band5	5MHz	QPSK	20625	25RB#0	21.96	22.50
Band5	5MHz	16QAM	20625	25RB#0	20.94	21.50
Band5	10MHz	QPSK	20450	1RB#0	23.35	24.00
Band5	10MHz	16QAM	20450	1RB#0	22.29	23.00
Band5	10MHz	QPSK	20450	1RB#24	23.46	24.00
Band5	10MHz	16QAM	20450	1RB#24	22.39	23.00
Band5	10MHz	QPSK	20450	1RB#49	23.26	24.00
Band5	10MHz	16QAM	20450	1RB#49	22.32	23.00
Band5	10MHz	QPSK	20450	25RB#0	22.38	23.00
Band5	10MHz	16QAM	20450	25RB#0	21.33	22.00
Band5	10MHz	QPSK	20450	25RB#12	22.37	23.00
Band5	10MHz	16QAM	20450	25RB#12	21.25	21.50
Band5	10MHz	QPSK	20450	25RB#25	22.30	23.00
Band5	10MHz	16QAM	20450	25RB#25	21.42	22.00
Band5	10MHz	QPSK	20450	50RB#0	22.43	23.00
Band5	10MHz	16QAM	20450	50RB#0	21.34	22.00
Band5	10MHz	QPSK	20525	1RB#0	23.26	24.00
Band5	10MHz	16QAM	20525	1RB#0	22.16	22.50
Band5	10MHz	QPSK	20525	1RB#24	23.27	24.00
Band5	10MHz	16QAM	20525	1RB#24	22.10	22.50
Band5	10MHz	QPSK	20525	1RB#49	23.10	23.50
Band5	10MHz	16QAM	20525	1RB#49	21.83	22.50
Band5	10MHz	QPSK	20525	25RB#0	22.19	22.50
Band5	10MHz	16QAM	20525	25RB#0	21.20	21.50
Band5	10MHz	QPSK	20525	25RB#12	22.09	22.50

Band5	10MHz	16QAM	20525	25RB#12	21.18	21.50
Band5	10MHz	QPSK	20525	25RB#25	22.12	22.50
Band5	10MHz	16QAM	20525	25RB#25	21.12	21.50
Band5	10MHz	QPSK	20525	50RB#0	22.30	23.00
Band5	10MHz	16QAM	20525	50RB#0	21.13	21.50
Band5	10MHz	QPSK	20600	1RB#0	23.09	23.50
Band5	10MHz	16QAM	20600	1RB#0	21.80	22.50
Band5	10MHz	QPSK	20600	1RB#24	23.20	23.50
Band5	10MHz	16QAM	20600	1RB#24	21.81	22.50
Band5	10MHz	QPSK	20600	1RB#49	22.82	23.50
Band5	10MHz	16QAM	20600	1RB#49	21.77	22.50
Band5	10MHz	QPSK	20600	25RB#0	22.22	22.50
Band5	10MHz	16QAM	20600	25RB#0	21.23	21.50
Band5	10MHz	QPSK	20600	25RB#12	22.22	22.50
Band5	10MHz	16QAM	20600	25RB#12	21.23	21.50
Band5	10MHz	QPSK	20600	25RB#25	22.16	22.50
Band5	10MHz	16QAM	20600	25RB#25	21.05	21.50
Band5	10MHz	QPSK	20600	50RB#0	22.08	22.50
Band5	10MHz	16QAM	20600	50RB#0	21.09	21.50

7.1.8. Conducted Power Measurement Results(LTE Band 12)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	Tune up
Band12	1.4MHz	QPSK	23017	1RB#0	23.73	24.00
Band12	1.4MHz	16QAM	23017	1RB#0	22.31	23.00
Band12	1.4MHz	QPSK	23017	1RB#2	23.42	24.00
Band12	1.4MHz	16QAM	23017	1RB#2	22.62	23.00
Band12	1.4MHz	QPSK	23017	1RB#5	23.58	24.00
Band12	1.4MHz	16QAM	23017	1RB#5	22.50	23.00
Band12	1.4MHz	QPSK	23017	3RB#0	23.50	24.00
Band12	1.4MHz	16QAM	23017	3RB#0	22.30	23.00
Band12	1.4MHz	QPSK	23017	3RB#1	23.54	24.00
Band12	1.4MHz	16QAM	23017	3RB#1	22.31	23.00
Band12	1.4MHz	QPSK	23017	3RB#3	23.57	24.00
Band12	1.4MHz	16QAM	23017	3RB#3	22.35	23.00
Band12	1.4MHz	QPSK	23017	6RB#0	22.59	23.00
Band12	1.4MHz	16QAM	23017	6RB#0	21.60	22.00
Band12	1.4MHz	QPSK	23095	1RB#0	23.50	24.00
Band12	1.4MHz	16QAM	23095	1RB#0	22.33	23.00
Band12	1.4MHz	QPSK	23095	1RB#2	23.65	24.00
Band12	1.4MHz	16QAM	23095	1RB#2	22.56	23.00
Band12	1.4MHz	QPSK	23095	1RB#5	23.46	24.00
Band12	1.4MHz	16QAM	23095	1RB#5	22.30	23.00
Band12	1.4MHz	QPSK	23095	3RB#0	23.47	24.00
Band12	1.4MHz	16QAM	23095	3RB#0	22.30	23.00
Band12	1.4MHz	QPSK	23095	3RB#1	23.47	24.00
Band12	1.4MHz	16QAM	23095	3RB#1	22.34	23.00
Band12	1.4MHz	QPSK	23095	3RB#3	23.56	24.00
Band12	1.4MHz	16QAM	23095	3RB#3	22.35	23.00
Band12	1.4MHz	QPSK	23095	6RB#0	22.50	23.00
Band12	1.4MHz	16QAM	23095	6RB#0	21.31	22.00
Band12	1.4MHz	QPSK	23173	1RB#0	23.12	23.50
Band12	1.4MHz	16QAM	23173	1RB#0	21.91	22.50
Band12	1.4MHz	QPSK	23173	1RB#2	23.31	24.00
Band12	1.4MHz	16QAM	23173	1RB#2	22.18	22.50
Band12	1.4MHz	QPSK	23173	1RB#5	23.21	23.50
Band12	1.4MHz	16QAM	23173	1RB#5	22.06	22.50
Band12	1.4MHz	QPSK	23173	3RB#0	23.38	24.00

Band12	1.4MHz	16QAM	23173	3RB#0	22.15	22.50
Band12	1.4MHz	QPSK	23173	3RB#1	23.40	24.00
Band12	1.4MHz	16QAM	23173	3RB#1	22.18	22.50
Band12	1.4MHz	QPSK	23173	3RB#3	23.42	24.00
Band12	1.4MHz	16QAM	23173	3RB#3	22.05	22.50
Band12	1.4MHz	QPSK	23173	6RB#0	22.25	22.50
Band12	1.4MHz	16QAM	23173	6RB#0	21.26	22.00
Band12	3MHz	QPSK	23025	1RB#0	23.45	24.00
Band12	3MHz	16QAM	23025	1RB#0	22.42	23.00
Band12	3MHz	QPSK	23025	1RB#8	23.57	24.00
Band12	3MHz	16QAM	23025	1RB#8	22.60	23.00
Band12	3MHz	QPSK	23025	1RB#14	23.56	24.00
Band12	3MHz	16QAM	23025	1RB#14	22.47	23.00
Band12	3MHz	QPSK	23025	8RB#0	22.45	23.00
Band12	3MHz	16QAM	23025	8RB#0	21.50	22.00
Band12	3MHz	QPSK	23025	8RB#4	22.50	23.00
Band12	3MHz	16QAM	23025	8RB#4	21.41	22.00
Band12	3MHz	QPSK	23025	8RB#7	22.46	23.00
Band12	3MHz	16QAM	23025	8RB#7	21.45	22.00
Band12	3MHz	QPSK	23025	15RB#0	22.45	23.00
Band12	3MHz	16QAM	23025	15RB#0	21.46	22.00
Band12	3MHz	QPSK	23095	1RB#0	23.49	24.00
Band12	3MHz	16QAM	23095	1RB#0	22.35	23.00
Band12	3MHz	QPSK	23095	1RB#8	23.68	24.00
Band12	3MHz	16QAM	23095	1RB#8	22.47	23.00
Band12	3MHz	QPSK	23095	1RB#14	23.42	24.00
Band12	3MHz	16QAM	23095	1RB#14	22.23	22.50
Band12	3MHz	QPSK	23095	8RB#0	22.41	23.00
Band12	3MHz	16QAM	23095	8RB#0	21.41	22.00
Band12	3MHz	QPSK	23095	8RB#4	22.49	23.00
Band12	3MHz	16QAM	23095	8RB#4	21.40	22.00
Band12	3MHz	QPSK	23095	8RB#7	22.40	23.00
Band12	3MHz	16QAM	23095	8RB#7	21.41	22.00
Band12	3MHz	QPSK	23095	15RB#0	22.44	23.00
Band12	3MHz	16QAM	23095	15RB#0	21.34	22.00
Band12	3MHz	QPSK	23165	1RB#0	23.31	24.00
Band12	3MHz	16QAM	23165	1RB#0	21.99	22.50
Band12	3MHz	QPSK	23165	1RB#8	23.19	23.50

Band12	3MHz	16QAM	23165	1RB#8	22.16	22.50
Band12	3MHz	QPSK	23165	1RB#14	23.37	24.00
Band12	3MHz	16QAM	23165	1RB#14	22.05	22.50
Band12	3MHz	QPSK	23165	8RB#0	22.35	23.00
Band12	3MHz	16QAM	23165	8RB#0	21.32	22.00
Band12	3MHz	QPSK	23165	8RB#4	22.42	23.00
Band12	3MHz	16QAM	23165	8RB#4	21.30	22.00
Band12	3MHz	QPSK	23165	8RB#7	22.24	22.50
Band12	3MHz	16QAM	23165	8RB#7	21.22	21.50
Band12	3MHz	QPSK	23165	15RB#0	22.16	22.50
Band12	3MHz	16QAM	23165	15RB#0	21.08	21.50
Band12	5MHz	QPSK	23035	1RB#0	23.52	24.00
Band12	5MHz	16QAM	23035	1RB#0	22.44	23.00
Band12	5MHz	QPSK	23035	1RB#12	23.63	24.00
Band12	5MHz	16QAM	23035	1RB#12	22.59	23.00
Band12	5MHz	QPSK	23035	1RB#24	23.48	24.00
Band12	5MHz	16QAM	23035	1RB#24	22.38	23.00
Band12	5MHz	QPSK	23035	12RB#0	22.51	23.00
Band12	5MHz	16QAM	23035	12RB#0	21.44	22.00
Band12	5MHz	QPSK	23035	12RB#6	22.48	23.00
Band12	5MHz	16QAM	23035	12RB#6	21.45	22.00
Band12	5MHz	QPSK	23035	12RB#13	22.43	23.00
Band12	5MHz	16QAM	23035	12RB#13	21.45	22.00
Band12	5MHz	QPSK	23035	25RB#0	22.45	23.00
Band12	5MHz	16QAM	23035	25RB#0	21.50	22.00
Band12	5MHz	QPSK	23095	1RB#0	23.49	24.00
Band12	5MHz	16QAM	23095	1RB#0	22.60	23.00
Band12	5MHz	QPSK	23095	1RB#12	23.52	24.00
Band12	5MHz	16QAM	23095	1RB#12	22.54	23.00
Band12	5MHz	QPSK	23095	1RB#24	23.39	24.00
Band12	5MHz	16QAM	23095	1RB#24	22.38	23.00
Band12	5MHz	QPSK	23095	12RB#0	22.51	23.00
Band12	5MHz	16QAM	23095	12RB#0	21.48	22.00
Band12	5MHz	QPSK	23095	12RB#6	22.49	23.00
Band12	5MHz	16QAM	23095	12RB#6	21.58	22.00
Band12	5MHz	QPSK	23095	12RB#13	22.53	23.00
Band12	5MHz	16QAM	23095	12RB#13	21.60	22.00
Band12	5MHz	QPSK	23095	25RB#0	22.61	23.00

Band12	5MHz	16QAM	23095	25RB#0	21.46	22.00
Band12	5MHz	QPSK	23155	1RB#0	23.32	24.00
Band12	5MHz	16QAM	23155	1RB#0	22.17	22.50
Band12	5MHz	QPSK	23155	1RB#12	23.37	24.00
Band12	5MHz	16QAM	23155	1RB#12	22.31	23.00
Band12	5MHz	QPSK	23155	1RB#24	23.17	23.50
Band12	5MHz	16QAM	23155	1RB#24	22.11	22.50
Band12	5MHz	QPSK	23155	12RB#0	22.36	23.00
Band12	5MHz	16QAM	23155	12RB#0	21.35	22.00
Band12	5MHz	QPSK	23155	12RB#6	22.38	23.00
Band12	5MHz	16QAM	23155	12RB#6	21.37	22.00
Band12	5MHz	QPSK	23155	12RB#13	22.17	22.50
Band12	5MHz	16QAM	23155	12RB#13	21.24	21.50
Band12	5MHz	QPSK	23155	25RB#0	22.28	23.00
Band12	5MHz	16QAM	23155	25RB#0	21.27	22.00
Band12	10MHz	QPSK	23060	1RB#0	23.67	24.00
Band12	10MHz	16QAM	23060	1RB#0	22.57	23.00
Band12	10MHz	QPSK	23060	1RB#24	23.69	24.00
Band12	10MHz	16QAM	23060	1RB#24	22.64	23.00
Band12	10MHz	QPSK	23060	1RB#49	23.45	24.00
Band12	10MHz	16QAM	23060	1RB#49	22.54	23.00
Band12	10MHz	QPSK	23060	25RB#0	22.62	23.00
Band12	10MHz	16QAM	23060	25RB#0	21.61	22.00
Band12	10MHz	QPSK	23060	25RB#12	22.60	23.00
Band12	10MHz	16QAM	23060	25RB#12	21.49	22.00
Band12	10MHz	QPSK	23060	25RB#25	22.47	23.00
Band12	10MHz	16QAM	23060	25RB#25	21.59	22.00
Band12	10MHz	QPSK	23060	50RB#0	22.74	23.00
Band12	10MHz	16QAM	23060	50RB#0	21.54	22.00
Band12	10MHz	QPSK	23095	1RB#0	23.49	24.00
Band12	10MHz	16QAM	23095	1RB#0	22.44	23.00
Band12	10MHz	QPSK	23095	1RB#24	23.61	24.00
Band12	10MHz	16QAM	23095	1RB#24	22.47	23.00
Band12	10MHz	QPSK	23095	1RB#49	23.31	24.00
Band12	10MHz	16QAM	23095	1RB#49	22.12	22.50
Band12	10MHz	QPSK	23095	25RB#0	22.53	23.00
Band12	10MHz	16QAM	23095	25RB#0	21.54	22.00
Band12	10MHz	QPSK	23095	25RB#12	22.52	23.00

Band12	10MHz	16QAM	23095	25RB#12	21.62	22.00
Band12	10MHz	QPSK	23095	25RB#25	22.42	23.00
Band12	10MHz	16QAM	23095	25RB#25	21.46	22.00
Band12	10MHz	QPSK	23095	50RB#0	22.59	23.00
Band12	10MHz	16QAM	23095	50RB#0	21.53	22.00
Band12	10MHz	QPSK	23130	1RB#0	23.44	24.00
Band12	10MHz	16QAM	23130	1RB#0	22.18	22.50
Band12	10MHz	QPSK	23130	1RB#24	23.54	24.00
Band12	10MHz	16QAM	23130	1RB#24	22.18	22.50
Band12	10MHz	QPSK	23130	1RB#49	23.26	24.00
Band12	10MHz	16QAM	23130	1RB#49	22.13	22.50
Band12	10MHz	QPSK	23130	25RB#0	22.49	23.00
Band12	10MHz	16QAM	23130	25RB#0	21.46	22.00
Band12	10MHz	QPSK	23130	25RB#12	22.47	23.00
Band12	10MHz	16QAM	23130	25RB#12	21.48	22.00
Band12	10MHz	QPSK	23130	25RB#25	22.32	23.00
Band12	10MHz	16QAM	23130	25RB#25	21.22	21.50
Band12	10MHz	QPSK	23130	50RB#0	22.28	23.00
Band12	10MHz	16QAM	23130	50RB#0	21.27	22.00

7.1.9. Conducted Power Measurement Results(LTE Band 17)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	Verdict
Band17	5MHz	QPSK	23755	1RB#0	23.26	24.00
Band17	5MHz	16QAM	23755	1RB#0	22.06	22.50
Band17	5MHz	QPSK	23755	1RB#12	23.30	24.00
Band17	5MHz	16QAM	23755	1RB#12	22.10	22.50
Band17	5MHz	QPSK	23755	1RB#24	23.24	23.50
Band17	5MHz	16QAM	23755	1RB#24	22.01	22.50
Band17	5MHz	QPSK	23755	12RB#0	22.33	23.00
Band17	5MHz	16QAM	23755	12RB#0	21.68	22.00
Band17	5MHz	QPSK	23755	12RB#6	22.26	23.00
Band17	5MHz	16QAM	23755	12RB#6	21.57	22.00
Band17	5MHz	QPSK	23755	12RB#13	22.24	22.50
Band17	5MHz	16QAM	23755	12RB#13	21.62	22.00
Band17	5MHz	QPSK	23755	25RB#0	22.25	22.50
Band17	5MHz	16QAM	23755	25RB#0	21.67	22.00
Band17	5MHz	QPSK	23790	1RB#0	23.05	23.50
Band17	5MHz	16QAM	23790	1RB#0	21.54	22.00
Band17	5MHz	QPSK	23790	1RB#12	23.13	23.50
Band17	5MHz	16QAM	23790	1RB#12	21.70	22.00
Band17	5MHz	QPSK	23790	1RB#24	23.02	23.50
Band17	5MHz	16QAM	23790	1RB#24	21.53	22.00
Band17	5MHz	QPSK	23790	12RB#0	22.11	22.50
Band17	5MHz	16QAM	23790	12RB#0	21.52	22.00
Band17	5MHz	QPSK	23790	12RB#6	22.12	22.50
Band17	5MHz	16QAM	23790	12RB#6	21.53	22.00
Band17	5MHz	QPSK	23790	12RB#13	22.11	22.50
Band17	5MHz	16QAM	23790	12RB#13	21.09	21.50
Band17	5MHz	QPSK	23790	25RB#0	22.20	22.50
Band17	5MHz	16QAM	23790	25RB#0	21.64	22.00
Band17	5MHz	QPSK	23825	1RB#0	23.21	23.50
Band17	5MHz	16QAM	23825	1RB#0	22.08	22.50
Band17	5MHz	QPSK	23825	1RB#12	23.18	23.50
Band17	5MHz	16QAM	23825	1RB#12	22.02	22.50
Band17	5MHz	QPSK	23825	1RB#24	23.04	23.50
Band17	5MHz	16QAM	23825	1RB#24	22.29	23.00
Band17	5MHz	QPSK	23825	12RB#0	22.19	22.50
Band17	5MHz	16QAM	23825	12RB#0	21.02	21.50

Band17	5MHz	QPSK	23825	12RB#6	22.09	22.50
Band17	5MHz	16QAM	23825	12RB#6	21.04	21.50
Band17	5MHz	QPSK	23825	12RB#13	22.08	22.50
Band17	5MHz	16QAM	23825	12RB#13	21.12	21.50
Band17	5MHz	QPSK	23825	25RB#0	22.14	22.50
Band17	5MHz	16QAM	23825	25RB#0	20.99	21.50
Band17	10MHz	QPSK	23780	1RB#0	23.27	24.00
Band17	10MHz	16QAM	23780	1RB#0	21.90	22.50
Band17	10MHz	QPSK	23780	1RB#24	23.13	23.50
Band17	10MHz	16QAM	23780	1RB#24	21.83	22.50
Band17	10MHz	QPSK	23780	1RB#49	23.13	23.50
Band17	10MHz	16QAM	23780	1RB#49	21.72	22.00
Band17	10MHz	QPSK	23780	25RB#0	22.23	22.50
Band17	10MHz	16QAM	23780	25RB#0	21.59	22.00
Band17	10MHz	QPSK	23780	25RB#12	22.32	23.00
Band17	10MHz	16QAM	23780	25RB#12	21.55	22.00
Band17	10MHz	QPSK	23780	25RB#25	22.25	22.50
Band17	10MHz	16QAM	23780	25RB#25	21.12	21.50
Band17	10MHz	QPSK	23780	50RB#0	22.09	22.50
Band17	10MHz	16QAM	23780	50RB#0	21.52	22.00
Band17	10MHz	QPSK	23790	1RB#0	23.19	23.50
Band17	10MHz	16QAM	23790	1RB#0	22.03	22.50
Band17	10MHz	QPSK	23790	1RB#24	23.16	23.50
Band17	10MHz	16QAM	23790	1RB#24	21.86	22.50
Band17	10MHz	QPSK	23790	1RB#49	23.04	23.50
Band17	10MHz	16QAM	23790	1RB#49	21.78	22.50
Band17	10MHz	QPSK	23790	25RB#0	22.14	22.50
Band17	10MHz	16QAM	23790	25RB#0	21.69	22.00
Band17	10MHz	QPSK	23790	25RB#12	22.12	22.50
Band17	10MHz	16QAM	23790	25RB#12	21.67	22.00
Band17	10MHz	QPSK	23790	25RB#25	21.99	22.50
Band17	10MHz	16QAM	23790	25RB#25	21.15	21.50
Band17	10MHz	QPSK	23790	50RB#0	22.20	22.50
Band17	10MHz	16QAM	23790	50RB#0	21.53	22.00
Band17	10MHz	QPSK	23800	1RB#0	23.17	23.50
Band17	10MHz	16QAM	23800	1RB#0	22.66	23.00
Band17	10MHz	QPSK	23800	1RB#24	23.16	23.50
Band17	10MHz	16QAM	23800	1RB#24	22.66	23.00

Band17	10MHz	QPSK	23800	1RB#49	22.98	23.50
Band17	10MHz	16QAM	23800	1RB#49	22.92	23.50
Band17	10MHz	QPSK	23800	25RB#0	22.12	22.50
Band17	10MHz	16QAM	23800	25RB#0	21.59	22.00
Band17	10MHz	QPSK	23800	25RB#12	22.15	22.50
Band17	10MHz	16QAM	23800	25RB#12	21.63	22.00
Band17	10MHz	QPSK	23800	25RB#25	22.21	22.50
Band17	10MHz	16QAM	23800	25RB#25	21.27	22.00
Band17	10MHz	QPSK	23800	50RB#0	22.10	22.50
Band17	10MHz	16QAM	23800	50RB#0	21.40	22.00

7.1.10. Conducted Power Measurement Results(LTE Band 66)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	Tune up
Band66	1.4MHz	QPSK	131979	1RB#0	23.62	24.00
Band66	1.4MHz	16QAM	131979	1RB#0	22.28	23.00
Band66	1.4MHz	QPSK	131979	1RB#2	23.26	24.00
Band66	1.4MHz	16QAM	131979	1RB#2	22.56	23.00
Band66	1.4MHz	QPSK	131979	1RB#5	23.49	24.00
Band66	1.4MHz	16QAM	131979	1RB#5	22.42	23.00
Band66	1.4MHz	QPSK	131979	3RB#0	23.49	24.00
Band66	1.4MHz	16QAM	131979	3RB#0	22.31	23.00
Band66	1.4MHz	QPSK	131979	3RB#1	23.51	24.00
Band66	1.4MHz	16QAM	131979	3RB#1	22.27	23.00
Band66	1.4MHz	QPSK	131979	3RB#3	23.49	24.00
Band66	1.4MHz	16QAM	131979	3RB#3	22.27	23.00
Band66	1.4MHz	QPSK	131979	6RB#0	22.49	23.00
Band66	1.4MHz	16QAM	131979	6RB#0	21.54	22.00
Band66	1.4MHz	QPSK	132322	1RB#0	23.22	23.50
Band66	1.4MHz	16QAM	132322	1RB#0	21.98	22.50
Band66	1.4MHz	QPSK	132322	1RB#2	23.27	24.00
Band66	1.4MHz	16QAM	132322	1RB#2	22.13	22.50
Band66	1.4MHz	QPSK	132322	1RB#5	23.18	23.50
Band66	1.4MHz	16QAM	132322	1RB#5	21.97	22.50
Band66	1.4MHz	QPSK	132322	3RB#0	23.23	23.50
Band66	1.4MHz	16QAM	132322	3RB#0	22.07	22.50
Band66	1.4MHz	QPSK	132322	3RB#1	23.26	24.00
Band66	1.4MHz	16QAM	132322	3RB#1	22.09	22.50
Band66	1.4MHz	QPSK	132322	3RB#3	23.40	24.00
Band66	1.4MHz	16QAM	132322	3RB#3	22.10	22.50
Band66	1.4MHz	QPSK	132322	6RB#0	22.19	22.50
Band66	1.4MHz	16QAM	132322	6RB#0	21.00	21.50
Band66	1.4MHz	QPSK	132665	1RB#0	22.88	23.50
Band66	1.4MHz	16QAM	132665	1RB#0	21.89	22.50
Band66	1.4MHz	QPSK	132665	1RB#2	23.05	23.50
Band66	1.4MHz	16QAM	132665	1RB#2	22.04	22.50
Band66	1.4MHz	QPSK	132665	1RB#5	23.00	23.50
Band66	1.4MHz	16QAM	132665	1RB#5	21.98	22.50
Band66	1.4MHz	QPSK	132665	3RB#0	23.19	23.50

Band66	1.4MHz	16QAM	132665	3RB#0	21.97	22.50
Band66	1.4MHz	QPSK	132665	3RB#1	23.19	23.50
Band66	1.4MHz	16QAM	132665	3RB#1	21.91	22.50
Band66	1.4MHz	QPSK	132665	3RB#3	23.23	23.50
Band66	1.4MHz	16QAM	132665	3RB#3	21.83	22.50
Band66	1.4MHz	QPSK	132665	6RB#0	22.01	22.50
Band66	1.4MHz	16QAM	132665	6RB#0	21.01	21.50
Band66	3MHz	QPSK	131987	1RB#0	23.32	24.00
Band66	3MHz	16QAM	131987	1RB#0	22.42	23.00
Band66	3MHz	QPSK	131987	1RB#8	23.43	24.00
Band66	3MHz	16QAM	131987	1RB#8	22.54	23.00
Band66	3MHz	QPSK	131987	1RB#14	23.31	24.00
Band66	3MHz	16QAM	131987	1RB#14	22.38	23.00
Band66	3MHz	QPSK	131987	8RB#0	22.38	23.00
Band66	3MHz	16QAM	131987	8RB#0	21.38	22.00
Band66	3MHz	QPSK	131987	8RB#4	22.43	23.00
Band66	3MHz	16QAM	131987	8RB#4	21.43	22.00
Band66	3MHz	QPSK	131987	8RB#7	22.39	23.00
Band66	3MHz	16QAM	131987	8RB#7	21.36	22.00
Band66	3MHz	QPSK	131987	15RB#0	22.32	23.00
Band66	3MHz	16QAM	131987	15RB#0	21.41	22.00
Band66	3MHz	QPSK	132322	1RB#0	23.17	23.50
Band66	3MHz	16QAM	132322	1RB#0	22.13	22.50
Band66	3MHz	QPSK	132322	1RB#8	23.35	24.00
Band66	3MHz	16QAM	132322	1RB#8	22.12	22.50
Band66	3MHz	QPSK	132322	1RB#14	23.24	23.50
Band66	3MHz	16QAM	132322	1RB#14	22.07	22.50
Band66	3MHz	QPSK	132322	8RB#0	22.14	22.50
Band66	3MHz	16QAM	132322	8RB#0	21.17	21.50
Band66	3MHz	QPSK	132322	8RB#4	22.20	22.50
Band66	3MHz	16QAM	132322	8RB#4	21.18	21.50
Band66	3MHz	QPSK	132322	8RB#7	22.14	22.50
Band66	3MHz	16QAM	132322	8RB#7	21.17	21.50
Band66	3MHz	QPSK	132322	15RB#0	22.15	22.50
Band66	3MHz	16QAM	132322	15RB#0	21.11	21.50
Band66	3MHz	QPSK	132657	1RB#0	23.07	23.50
Band66	3MHz	16QAM	132657	1RB#0	22.09	22.50
Band66	3MHz	QPSK	132657	1RB#8	22.97	23.50

Band66	3MHz	16QAM	132657	1RB#8	22.13	22.50
Band66	3MHz	QPSK	132657	1RB#14	23.08	23.50
Band66	3MHz	16QAM	132657	1RB#14	22.10	22.50
Band66	3MHz	QPSK	132657	8RB#0	22.14	22.50
Band66	3MHz	16QAM	132657	8RB#0	21.14	21.50
Band66	3MHz	QPSK	132657	8RB#4	22.18	22.50
Band66	3MHz	16QAM	132657	8RB#4	21.15	21.50
Band66	3MHz	QPSK	132657	8RB#7	22.08	22.50
Band66	3MHz	16QAM	132657	8RB#7	21.10	21.50
Band66	3MHz	QPSK	132657	15RB#0	22.01	22.50
Band66	3MHz	16QAM	132657	15RB#0	21.04	21.50
Band66	5MHz	QPSK	131997	1RB#0	23.49	24.00
Band66	5MHz	16QAM	131997	1RB#0	22.46	23.00
Band66	5MHz	QPSK	131997	1RB#12	23.38	24.00
Band66	5MHz	16QAM	131997	1RB#12	22.43	23.00
Band66	5MHz	QPSK	131997	1RB#24	23.28	24.00
Band66	5MHz	16QAM	131997	1RB#24	22.22	22.50
Band66	5MHz	QPSK	131997	12RB#0	22.41	23.00
Band66	5MHz	16QAM	131997	12RB#0	21.31	22.00
Band66	5MHz	QPSK	131997	12RB#6	22.37	23.00
Band66	5MHz	16QAM	131997	12RB#6	21.35	22.00
Band66	5MHz	QPSK	131997	12RB#13	22.37	23.00
Band66	5MHz	16QAM	131997	12RB#13	21.37	22.00
Band66	5MHz	QPSK	131997	25RB#0	22.36	23.00
Band66	5MHz	16QAM	131997	25RB#0	21.43	22.00
Band66	5MHz	QPSK	132322	1RB#0	23.16	23.50
Band66	5MHz	16QAM	132322	1RB#0	22.36	23.00
Band66	5MHz	QPSK	132322	1RB#12	23.19	23.50
Band66	5MHz	16QAM	132322	1RB#12	22.36	23.00
Band66	5MHz	QPSK	132322	1RB#24	23.11	23.50
Band66	5MHz	16QAM	132322	1RB#24	22.23	22.50
Band66	5MHz	QPSK	132322	12RB#0	22.19	22.50
Band66	5MHz	16QAM	132322	12RB#0	21.26	22.00
Band66	5MHz	QPSK	132322	12RB#6	22.23	22.50
Band66	5MHz	16QAM	132322	12RB#6	21.25	21.50
Band66	5MHz	QPSK	132322	12RB#13	22.30	23.00
Band66	5MHz	16QAM	132322	12RB#13	21.36	22.00
Band66	5MHz	QPSK	132322	25RB#0	22.37	23.00

Band66	5MHz	16QAM	132322	25RB#0	21.25	21.50
Band66	5MHz	QPSK	132647	1RB#0	23.05	23.50
Band66	5MHz	16QAM	132647	1RB#0	21.99	22.50
Band66	5MHz	QPSK	132647	1RB#12	23.11	23.50
Band66	5MHz	16QAM	132647	1RB#12	22.07	22.50
Band66	5MHz	QPSK	132647	1RB#24	22.91	23.50
Band66	5MHz	16QAM	132647	1RB#24	21.89	22.50
Band66	5MHz	QPSK	132647	12RB#0	22.03	22.50
Band66	5MHz	16QAM	132647	12RB#0	20.98	21.50
Band66	5MHz	QPSK	132647	12RB#6	22.06	22.50
Band66	5MHz	16QAM	132647	12RB#6	21.11	21.50
Band66	5MHz	QPSK	132647	12RB#13	22.00	22.50
Band66	5MHz	16QAM	132647	12RB#13	20.97	21.50
Band66	5MHz	QPSK	132647	25RB#0	22.04	22.50
Band66	5MHz	16QAM	132647	25RB#0	21.06	21.50
Band66	10MHz	QPSK	132022	1RB#0	23.53	24.00
Band66	10MHz	16QAM	132022	1RB#0	22.47	23.00
Band66	10MHz	QPSK	132022	1RB#24	23.51	24.00
Band66	10MHz	16QAM	132022	1RB#24	22.52	23.00
Band66	10MHz	QPSK	132022	1RB#49	23.21	23.50
Band66	10MHz	16QAM	132022	1RB#49	22.38	23.00
Band66	10MHz	QPSK	132022	25RB#0	22.50	23.00
Band66	10MHz	16QAM	132022	25RB#0	21.45	22.00
Band66	10MHz	QPSK	132022	25RB#12	22.45	23.00
Band66	10MHz	16QAM	132022	25RB#12	21.40	22.00
Band66	10MHz	QPSK	132022	25RB#25	22.22	22.50
Band66	10MHz	16QAM	132022	25RB#25	21.42	22.00
Band66	10MHz	QPSK	132022	50RB#0	22.52	23.00
Band66	10MHz	16QAM	132022	50RB#0	21.38	22.00
Band66	10MHz	QPSK	132322	1RB#0	23.18	23.50
Band66	10MHz	16QAM	132322	1RB#0	22.10	22.50
Band66	10MHz	QPSK	132322	1RB#24	23.39	24.00
Band66	10MHz	16QAM	132322	1RB#24	22.22	22.50
Band66	10MHz	QPSK	132322	1RB#49	23.24	23.50
Band66	10MHz	16QAM	132322	1RB#49	22.01	22.50
Band66	10MHz	QPSK	132322	25RB#0	22.16	22.50
Band66	10MHz	16QAM	132322	25RB#0	21.25	21.50
Band66	10MHz	QPSK	132322	25RB#12	22.15	22.50

Band66	10MHz	16QAM	132322	25RB#12	21.26	22.00
Band66	10MHz	QPSK	132322	25RB#25	22.28	23.00
Band66	10MHz	16QAM	132322	25RB#25	21.30	22.00
Band66	10MHz	QPSK	132322	50RB#0	22.39	23.00
Band66	10MHz	16QAM	132322	50RB#0	21.28	22.00
Band66	10MHz	QPSK	132622	1RB#0	23.12	23.50
Band66	10MHz	16QAM	132622	1RB#0	22.07	22.50
Band66	10MHz	QPSK	132622	1RB#24	23.24	23.50
Band66	10MHz	16QAM	132622	1RB#24	22.20	22.50
Band66	10MHz	QPSK	132622	1RB#49	22.94	23.50
Band66	10MHz	16QAM	132622	1RB#49	22.10	22.50
Band66	10MHz	QPSK	132622	25RB#0	22.33	23.00
Band66	10MHz	16QAM	132622	25RB#0	21.39	22.00
Band66	10MHz	QPSK	132622	25RB#12	22.32	23.00
Band66	10MHz	16QAM	132622	25RB#12	21.33	22.00
Band66	10MHz	QPSK	132622	25RB#25	22.18	22.50
Band66	10MHz	16QAM	132622	25RB#25	21.06	21.50
Band66	10MHz	QPSK	132622	50RB#0	22.16	22.50
Band66	10MHz	16QAM	132622	50RB#0	21.22	21.50
Band66	15MHz	QPSK	132047	1RB#0	23.29	24.00
Band66	15MHz	16QAM	132047	1RB#0	22.31	23.00
Band66	15MHz	QPSK	132047	1RB#38	23.36	24.00
Band66	15MHz	16QAM	132047	1RB#38	22.46	23.00
Band66	15MHz	QPSK	132047	1RB#74	23.06	23.50
Band66	15MHz	16QAM	132047	1RB#74	22.17	22.50
Band66	15MHz	QPSK	132047	38RB#0	22.39	23.00
Band66	15MHz	16QAM	132047	38RB#0	22.37	23.00
Band66	15MHz	QPSK	132047	38RB#18	22.35	23.00
Band66	15MHz	16QAM	132047	38RB#18	22.34	23.00
Band66	15MHz	QPSK	132047	38RB#37	22.36	23.00
Band66	15MHz	16QAM	132047	38RB#37	22.33	23.00
Band66	15MHz	QPSK	132047	75RB#0	22.40	23.00
Band66	15MHz	16QAM	132047	75RB#0	21.27	22.00
Band66	15MHz	QPSK	132322	1RB#0	23.12	23.50
Band66	15MHz	16QAM	132322	1RB#0	22.22	22.50
Band66	15MHz	QPSK	132322	1RB#38	23.15	23.50
Band66	15MHz	16QAM	132322	1RB#38	22.27	23.00
Band66	15MHz	QPSK	132322	1RB#74	23.03	23.50

Band66	15MHz	16QAM	132322	1RB#74	22.12	22.50
Band66	15MHz	QPSK	132322	38RB#0	22.41	23.00
Band66	15MHz	16QAM	132322	38RB#0	22.38	23.00
Band66	15MHz	QPSK	132322	38RB#18	22.36	23.00
Band66	15MHz	16QAM	132322	38RB#18	22.29	23.00
Band66	15MHz	QPSK	132322	38RB#37	22.34	23.00
Band66	15MHz	16QAM	132322	38RB#37	22.44	23.00
Band66	15MHz	QPSK	132322	75RB#0	22.33	23.00
Band66	15MHz	16QAM	132322	75RB#0	21.34	22.00
Band66	15MHz	QPSK	132597	1RB#0	23.12	23.50
Band66	15MHz	16QAM	132597	1RB#0	22.11	22.50
Band66	15MHz	QPSK	132597	1RB#38	23.09	23.50
Band66	15MHz	16QAM	132597	1RB#38	22.25	22.50
Band66	15MHz	QPSK	132597	1RB#74	23.07	23.50
Band66	15MHz	16QAM	132597	1RB#74	21.98	22.50
Band66	15MHz	QPSK	132597	38RB#0	22.22	22.50
Band66	15MHz	16QAM	132597	38RB#0	22.21	22.50
Band66	15MHz	QPSK	132597	38RB#18	22.21	22.50
Band66	15MHz	16QAM	132597	38RB#18	22.24	22.50
Band66	15MHz	QPSK	132597	38RB#37	22.18	22.50
Band66	15MHz	16QAM	132597	38RB#37	22.08	22.50
Band66	15MHz	QPSK	132597	75RB#0	22.21	22.50
Band66	15MHz	16QAM	132597	75RB#0	21.12	21.50
Band66	20MHz	QPSK	132072	1RB#0	23.23	23.50
Band66	20MHz	16QAM	132072	1RB#0	22.14	22.50
Band66	20MHz	QPSK	132072	1RB#49	23.33	24.00
Band66	20MHz	16QAM	132072	1RB#49	22.29	23.00
Band66	20MHz	QPSK	132072	1RB#99	22.95	23.50
Band66	20MHz	16QAM	132072	1RB#99	21.89	22.50
Band66	20MHz	QPSK	132072	50RB#0	22.36	23.00
Band66	20MHz	16QAM	132072	50RB#0	21.38	22.00
Band66	20MHz	QPSK	132072	50RB#25	22.32	23.00
Band66	20MHz	16QAM	132072	50RB#25	21.42	22.00
Band66	20MHz	QPSK	132072	50RB#50	22.19	22.50
Band66	20MHz	16QAM	132072	50RB#50	21.24	21.50
Band66	20MHz	QPSK	132072	100RB#0	22.29	23.00
Band66	20MHz	16QAM	132072	100RB#0	21.36	22.00
Band66	20MHz	QPSK	132322	1RB#0	23.06	23.50

Band66	20MHz	16QAM	132322	1RB#0	22.18	22.50
Band66	20MHz	QPSK	132322	1RB#49	23.21	23.50
Band66	20MHz	16QAM	132322	1RB#49	22.47	23.00
Band66	20MHz	QPSK	132322	1RB#99	22.98	23.50
Band66	20MHz	16QAM	132322	1RB#99	22.10	22.50
Band66	20MHz	QPSK	132322	50RB#0	22.17	22.50
Band66	20MHz	16QAM	132322	50RB#0	21.25	21.50
Band66	20MHz	QPSK	132322	50RB#25	22.12	22.50
Band66	20MHz	16QAM	132322	50RB#25	21.18	21.50
Band66	20MHz	QPSK	132322	50RB#50	22.23	22.50
Band66	20MHz	16QAM	132322	50RB#50	21.31	22.00
Band66	20MHz	QPSK	132322	100RB#0	22.24	22.50
Band66	20MHz	16QAM	132322	100RB#0	21.23	21.50
Band66	20MHz	QPSK	132572	1RB#0	22.93	23.50
Band66	20MHz	16QAM	132572	1RB#0	21.89	22.50
Band66	20MHz	QPSK	132572	1RB#49	23.37	24.00
Band66	20MHz	16QAM	132572	1RB#49	22.21	22.50
Band66	20MHz	QPSK	132572	1RB#99	22.75	23.00
Band66	20MHz	16QAM	132572	1RB#99	21.65	22.00
Band66	20MHz	QPSK	132572	50RB#0	22.16	22.50
Band66	20MHz	16QAM	132572	50RB#0	21.24	21.50
Band66	20MHz	QPSK	132572	50RB#25	22.32	23.00
Band66	20MHz	16QAM	132572	50RB#25	21.17	21.50
Band66	20MHz	QPSK	132572	50RB#50	21.98	22.50
Band66	20MHz	16QAM	132572	50RB#50	21.03	21.50
Band66	20MHz	QPSK	132572	100RB#0	22.15	22.50
Band66	20MHz	16QAM	132572	100RB#0	21.14	21.50

7.1.11. Conducted Power Measurement Results(LTE Band 71)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	Tune up
Band71	5MHz	QPSK	133147	1RB#0	23.33	24.00
Band71	5MHz	16QAM	133147	1RB#0	21.92	22.50
Band71	5MHz	QPSK	133147	1RB#12	22.98	23.50
Band71	5MHz	16QAM	133147	1RB#12	22.08	22.50
Band71	5MHz	QPSK	133147	1RB#24	23.16	23.50
Band71	5MHz	16QAM	133147	1RB#24	22.05	22.50
Band71	5MHz	QPSK	133147	12RB#0	21.96	22.50
Band71	5MHz	16QAM	133147	12RB#0	21.02	21.50
Band71	5MHz	QPSK	133147	12RB#6	22.00	22.50
Band71	5MHz	16QAM	133147	12RB#6	21.02	21.50
Band71	5MHz	QPSK	133147	12RB#13	22.04	22.50
Band71	5MHz	16QAM	133147	12RB#13	21.05	21.50
Band71	5MHz	QPSK	133147	25RB#0	22.10	22.50
Band71	5MHz	16QAM	133147	25RB#0	21.20	21.50
Band71	5MHz	QPSK	133297	1RB#0	22.93	23.50
Band71	5MHz	16QAM	133297	1RB#0	21.94	22.50
Band71	5MHz	QPSK	133297	1RB#12	22.94	23.50
Band71	5MHz	16QAM	133297	1RB#12	21.93	22.50
Band71	5MHz	QPSK	133297	1RB#24	22.92	23.50
Band71	5MHz	16QAM	133297	1RB#24	21.90	22.50
Band71	5MHz	QPSK	133297	12RB#0	21.91	22.50
Band71	5MHz	16QAM	133297	12RB#0	20.92	21.50
Band71	5MHz	QPSK	133297	12RB#6	21.88	22.50
Band71	5MHz	16QAM	133297	12RB#6	20.92	21.50
Band71	5MHz	QPSK	133297	12RB#13	21.85	22.50
Band71	5MHz	16QAM	133297	12RB#13	20.89	21.50
Band71	5MHz	QPSK	133297	25RB#0	21.88	22.50
Band71	5MHz	16QAM	133297	25RB#0	20.85	21.50
Band71	5MHz	QPSK	133447	1RB#0	23.11	23.50
Band71	5MHz	16QAM	133447	1RB#0	22.03	22.50
Band71	5MHz	QPSK	133447	1RB#12	23.35	24.00
Band71	5MHz	16QAM	133447	1RB#12	22.20	22.50
Band71	5MHz	QPSK	133447	1RB#24	23.42	24.00
Band71	5MHz	16QAM	133447	1RB#24	22.31	23.00
Band71	5MHz	QPSK	133447	12RB#0	22.35	23.00

Band71	5MHz	16QAM	133447	12RB#0	21.30	22.00
Band71	5MHz	QPSK	133447	12RB#6	22.30	23.00
Band71	5MHz	16QAM	133447	12RB#6	21.29	22.00
Band71	5MHz	QPSK	133447	12RB#13	22.36	23.00
Band71	5MHz	16QAM	133447	12RB#13	21.29	22.00
Band71	5MHz	QPSK	133447	25RB#0	22.27	23.00
Band71	5MHz	16QAM	133447	25RB#0	21.33	22.00
Band71	10MHz	QPSK	133172	1RB#0	23.11	23.50
Band71	10MHz	16QAM	133172	1RB#0	21.95	22.50
Band71	10MHz	QPSK	133172	1RB#24	23.38	24.00
Band71	10MHz	16QAM	133172	1RB#24	22.16	22.50
Band71	10MHz	QPSK	133172	1RB#49	23.00	23.50
Band71	10MHz	16QAM	133172	1RB#49	21.78	22.50
Band71	10MHz	QPSK	133172	25RB#0	22.16	22.50
Band71	10MHz	16QAM	133172	25RB#0	21.18	21.50
Band71	10MHz	QPSK	133172	25RB#12	22.16	22.50
Band71	10MHz	16QAM	133172	25RB#12	21.20	21.50
Band71	10MHz	QPSK	133172	25RB#25	22.08	22.50
Band71	10MHz	16QAM	133172	25RB#25	21.09	21.50
Band71	10MHz	QPSK	133172	50RB#0	22.07	22.50
Band71	10MHz	16QAM	133172	50RB#0	21.21	21.50
Band71	10MHz	QPSK	133297	1RB#0	22.87	23.50
Band71	10MHz	16QAM	133297	1RB#0	21.76	22.50
Band71	10MHz	QPSK	133297	1RB#24	23.16	23.50
Band71	10MHz	16QAM	133297	1RB#24	21.90	22.50
Band71	10MHz	QPSK	133297	1RB#49	23.04	23.50
Band71	10MHz	16QAM	133297	1RB#49	21.79	22.50
Band71	10MHz	QPSK	133297	25RB#0	22.02	22.50
Band71	10MHz	16QAM	133297	25RB#0	20.99	21.50
Band71	10MHz	QPSK	133297	25RB#12	22.03	22.50
Band71	10MHz	16QAM	133297	25RB#12	21.02	21.50
Band71	10MHz	QPSK	133297	25RB#25	21.84	22.50
Band71	10MHz	16QAM	133297	25RB#25	20.90	21.50
Band71	10MHz	QPSK	133297	50RB#0	21.97	22.50
Band71	10MHz	16QAM	133297	50RB#0	20.91	21.50
Band71	10MHz	QPSK	133422	1RB#0	23.13	23.50
Band71	10MHz	16QAM	133422	1RB#0	22.08	22.50
Band71	10MHz	QPSK	133422	1RB#24	23.28	24.00

Band71	10MHz	16QAM	133422	1RB#24	22.46	23.00
Band71	10MHz	QPSK	133422	1RB#49	23.41	24.00
Band71	10MHz	16QAM	133422	1RB#49	22.45	23.00
Band71	10MHz	QPSK	133422	25RB#0	22.25	22.50
Band71	10MHz	16QAM	133422	25RB#0	21.16	21.50
Band71	10MHz	QPSK	133422	25RB#12	22.29	23.00
Band71	10MHz	16QAM	133422	25RB#12	21.17	21.50
Band71	10MHz	QPSK	133422	25RB#25	22.24	22.50
Band71	10MHz	16QAM	133422	25RB#25	21.26	22.00
Band71	10MHz	QPSK	133422	50RB#0	22.12	22.50
Band71	10MHz	16QAM	133422	50RB#0	21.14	21.50
Band71	15MHz	QPSK	133197	1RB#0	23.09	23.50
Band71	15MHz	16QAM	133197	1RB#0	22.27	23.00
Band71	15MHz	QPSK	133197	1RB#38	22.94	23.50
Band71	15MHz	16QAM	133197	1RB#38	22.11	22.50
Band71	15MHz	QPSK	133197	1RB#74	22.85	23.50
Band71	15MHz	16QAM	133197	1RB#74	21.98	22.50
Band71	15MHz	QPSK	133197	38RB#0	22.13	22.50
Band71	15MHz	16QAM	133197	38RB#0	22.09	22.50
Band71	15MHz	QPSK	133197	38RB#18	22.02	22.50
Band71	15MHz	16QAM	133197	38RB#18	22.04	22.50
Band71	15MHz	QPSK	133197	38RB#37	21.96	22.50
Band71	15MHz	16QAM	133197	38RB#37	22.03	22.50
Band71	15MHz	QPSK	133197	75RB#0	22.06	22.50
Band71	15MHz	16QAM	133197	75RB#0	21.10	21.50
Band71	15MHz	QPSK	133297	1RB#0	23.02	23.50
Band71	15MHz	16QAM	133297	1RB#0	21.84	22.50
Band71	15MHz	QPSK	133297	1RB#38	22.91	23.50
Band71	15MHz	16QAM	133297	1RB#38	21.73	22.00
Band71	15MHz	QPSK	133297	1RB#74	23.10	23.50
Band71	15MHz	16QAM	133297	1RB#74	21.76	22.50
Band71	15MHz	QPSK	133297	38RB#0	21.70	22.00
Band71	15MHz	16QAM	133297	38RB#0	21.72	22.00
Band71	15MHz	QPSK	133297	38RB#18	21.77	22.50
Band71	15MHz	16QAM	133297	38RB#18	21.79	22.50
Band71	15MHz	QPSK	133297	38RB#37	21.83	22.50
Band71	15MHz	16QAM	133297	38RB#37	21.85	22.50
Band71	15MHz	QPSK	133297	75RB#0	22.08	22.50

Band71	15MHz	16QAM	133297	75RB#0	20.99	21.50
Band71	15MHz	QPSK	133397	1RB#0	22.86	23.50
Band71	15MHz	16QAM	133397	1RB#0	21.91	22.50
Band71	15MHz	QPSK	133397	1RB#38	23.12	23.50
Band71	15MHz	16QAM	133397	1RB#38	22.19	22.50
Band71	15MHz	QPSK	133397	1RB#74	23.32	24.00
Band71	15MHz	16QAM	133397	1RB#74	22.31	23.00
Band71	15MHz	QPSK	133397	38RB#0	21.87	22.50
Band71	15MHz	16QAM	133397	38RB#0	21.82	22.50
Band71	15MHz	QPSK	133397	38RB#18	22.11	22.50
Band71	15MHz	16QAM	133397	38RB#18	22.13	22.50
Band71	15MHz	QPSK	133397	38RB#37	22.22	22.50
Band71	15MHz	16QAM	133397	38RB#37	22.29	23.00
Band71	15MHz	QPSK	133397	75RB#0	22.18	22.50
Band71	15MHz	16QAM	133397	75RB#0	21.12	21.50
Band71	20MHz	QPSK	133222	1RB#0	23.12	23.50
Band71	20MHz	16QAM	133222	1RB#0	22.11	22.50
Band71	20MHz	QPSK	133222	1RB#49	23.17	23.50
Band71	20MHz	16QAM	133222	1RB#49	22.19	22.50
Band71	20MHz	QPSK	133222	1RB#99	22.80	23.50
Band71	20MHz	16QAM	133222	1RB#99	21.96	22.50
Band71	20MHz	QPSK	133222	50RB#0	22.06	22.50
Band71	20MHz	16QAM	133222	50RB#0	21.12	21.50
Band71	20MHz	QPSK	133222	50RB#25	22.08	22.50
Band71	20MHz	16QAM	133222	50RB#25	21.11	21.50
Band71	20MHz	QPSK	133222	50RB#50	21.90	22.50
Band71	20MHz	16QAM	133222	50RB#50	21.00	21.50
Band71	20MHz	QPSK	133222	100RB#0	22.07	22.50
Band71	20MHz	16QAM	133222	100RB#0	20.99	21.50
Band71	20MHz	QPSK	133322	1RB#0	22.76	23.50
Band71	20MHz	16QAM	133322	1RB#0	21.66	22.00
Band71	20MHz	QPSK	133322	1RB#49	22.93	23.50
Band71	20MHz	16QAM	133322	1RB#49	21.86	22.50
Band71	20MHz	QPSK	133322	1RB#99	23.06	23.50
Band71	20MHz	16QAM	133322	1RB#99	21.80	22.50
Band71	20MHz	QPSK	133322	50RB#0	22.01	22.50
Band71	20MHz	16QAM	133322	50RB#0	21.05	21.50
Band71	20MHz	QPSK	133322	50RB#25	22.04	22.50

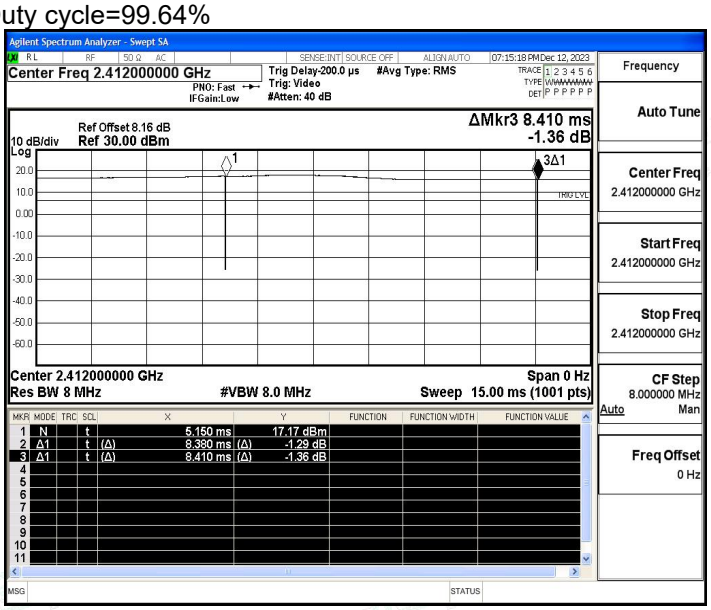
Band71	20MHz	16QAM	133322	50RB#25	21.06	21.50
Band71	20MHz	QPSK	133322	50RB#50	22.15	22.50
Band71	20MHz	16QAM	133322	50RB#50	21.20	21.50
Band71	20MHz	QPSK	133322	100RB#0	22.28	23.00
Band71	20MHz	16QAM	133322	100RB#0	21.05	21.50
Band71	20MHz	QPSK	133372	1RB#0	22.81	23.50
Band71	20MHz	16QAM	133372	1RB#0	21.69	22.00
Band71	20MHz	QPSK	133372	1RB#49	23.28	24.00
Band71	20MHz	16QAM	133372	1RB#49	22.09	22.50
Band71	20MHz	QPSK	133372	1RB#99	23.15	23.50
Band71	20MHz	16QAM	133372	1RB#99	22.19	22.50
Band71	20MHz	QPSK	133372	50RB#0	22.33	23.00
Band71	20MHz	16QAM	133372	50RB#0	21.26	22.00
Band71	20MHz	QPSK	133372	50RB#25	22.26	23.00
Band71	20MHz	16QAM	133372	50RB#25	21.20	21.50
Band71	20MHz	QPSK	133372	50RB#50	22.43	23.00
Band71	20MHz	16QAM	133372	50RB#50	21.29	22.00
Band71	20MHz	QPSK	133372	100RB#0	22.21	22.50
Band71	20MHz	16QAM	133372	100RB#0	21.23	21.50

7.1.12. Conducted Power Measurement Results(WIFI 2.4G)

Test Mode	Antenna	Freq(MHz)	Conducted Power (dBm)	Tune up
11B	Ant1	2412	**15.70**	**16.00**
		2437	15.48	16.00
		2462	15.12	15.50
11G	Ant1	2412	14.11	14.50
		2437	13.85	14.50
		2462	13.45	14.00
11N20SISO	Ant1	2412	14.09	14.50
		2437	13.83	14.50
		2462	13.54	14.00
11N40SISO	Ant1	2422	14.12	14.50
		2437	14.39	15.00
		2452	13.78	14.50

Note:
a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.
c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.

WIFI 2.4G (802.11b):
Duty cycle=99.64%

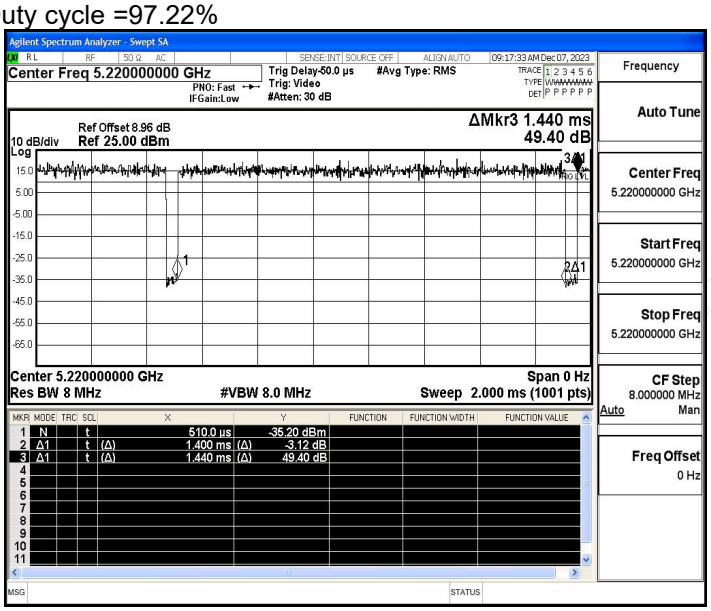


7.1.13. Conducted Power Measurement Results(WIFI 5.2G)

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Tune up
NVNT	a	5180	Ant1	11.61	0.15	11.76	12.50
NVNT	a	5220	Ant1	11.76	0.12	**11.88**	**12.50**
NVNT	a	5240	Ant1	11.53	0.12	11.65	12.00
NVNT	n20	5180	Ant1	11.61	0.13	11.74	12.00
NVNT	n20	5220	Ant1	10.96	0.13	11.09	11.50
NVNT	n20	5240	Ant1	10.78	0.13	10.91	11.50
NVNT	n40	5190	Ant1	11.04	0.33	11.37	12.00
NVNT	n40	5230	Ant1	11.07	0.26	11.33	12.00
NVNT	ac20	5180	Ant1	11.15	0.16	11.31	12.00
NVNT	ac20	5220	Ant1	10.94	0.16	11.10	11.50
NVNT	ac20	5240	Ant1	11.08	0.13	11.21	11.50
NVNT	ac40	5190	Ant1	11.03	0.32	11.35	12.00
NVNT	ac40	5230	Ant1	11.35	0.32	11.67	12.00
NVNT	ac80	5210	Ant1	11.11	0.63	11.74	12.00

Note:
a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.
c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.

WIFI 5.2G (802.11a):
Duty cycle =97.22%

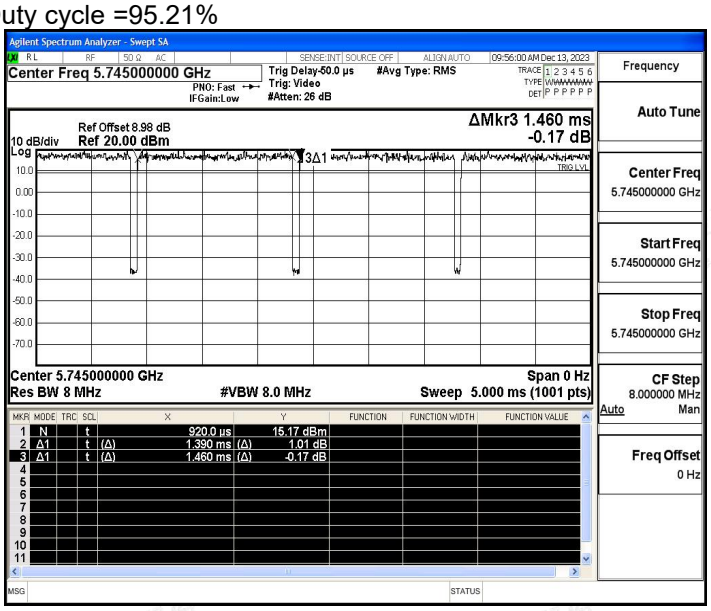


7.1.14. Conducted Power Measurement Results(WIFI 5.8G)

Condition	Mode	Frequency (MHz)	Antenna	Conducted Power (dBm)	Duty Factor (dB)	Total Power (dBm)	Tune up
NVNT	a	5745	Ant1	12.76	0.21	12.97	13.50
NVNT	a	5785	Ant1	11.89	0.18	12.07	12.50
NVNT	a	5825	Ant1	11.16	0.18	11.34	12.00
NVNT	n20	5745	Ant1	12.86	0.22	13.08	13.50
NVNT	n20	5785	Ant1	12.27	0.25	12.52	13.00
NVNT	n20	5825	Ant1	11.56	0.22	11.78	12.50
NVNT	n40	5755	Ant1	12.52	0.49	13.01	13.50
NVNT	n40	5795	Ant1	11.85	0.49	12.34	13.00
NVNT	ac20	5745	Ant1	13.04	0.21	13.25	13.50
NVNT	ac20	5785	Ant1	12.21	0.21	12.42	13.00
NVNT	ac20	5825	Ant1	11.38	0.21	11.59	12.00
NVNT	ac40	5755	Ant1	12.25	0.49	12.74	13.00
NVNT	ac40	5795	Ant1	11.45	0.41	11.86	12.50
NVNT	ac80	5775	Ant1	11.61	0.79	12.40	13.00

Note:
a) Power must be measured at each transmit antenna port according to the DSSS and OFDM transmission configurations in each standalone and aggregated frequency band.
b) Power measurement is required for the transmission mode configuration with the highest maximum output power specified for production units.
1) When the same highest maximum output power specification applies to multiple transmission modes, the largest channel bandwidth configuration with the lowest order modulation and lowest data rate is measured.
2) When the same highest maximum output power is specified for multiple largest channel bandwidth configurations with the same lowest order modulation or lowest order modulation and lowest data rate, power measurement is required for all equivalent 802.11 configurations with the same maximum output power.
c) For each transmission mode configuration, power must be measured for the highest and lowest channels; and at the mid-band channel(s) when there are at least 3 channels. For configurations with multiple mid-band channels, due to an even number of channels, both channels should be measured.

WIFI 5.8G (802.11a):
Duty cycle =95.21%



7.1.15. Conducted Power Measurement Results(Bluetooth)

Test Mode	Antenna	Frequency [MHz]	Conducted Power (dBm)	Tune up
DH5	Ant1	2402	0.36	1.00
		2441	0.47	1.00
		2480	0.56	1.00
2DH5	Ant1	2402	-0.03	0.50
		2441	0.14	0.50
		2480	0.20	0.50
3DH5	Ant1	2402	0.02	0.50
		2441	0.16	0.50
		2480	0.41	1.00

Test Mode	Antenna	Frequency [MHz]	Conducted Power (dBm)	Tune up
BLE_1M	Ant1	2402	-0.21	0.50
		2440	**1.94**	**2.50**
		2480	0.78	1.50
BLE_2M	Ant1	2402	-0.33	0.00
		2440	1.71	2.00
		2480	0.61	1.00

7.2. Stand-alone SAR test evaluation

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and Product specific 10g SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition is satisfied. These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm

MHz	5	10	15	20	25	mm
150	39	77	116	155	194	*SAR Test Exclusion Threshold* (mW)
300	27	55	82	110	137	
450	22	45	67	89	112	
835	16	33	49	66	82	
900	16	32	47	63	79	
1500	12	24	37	49	61	
1900	11	22	33	44	54	
2450	10	19	29	38	48	
3600	8	16	24	32	40	
5200	7	13	20	26	33	
5400	6	13	19	26	32	
5800	6	12	19	25	31	
MHz	30	35	40	45	50	mm
150	232	271	310	349	387	*SAR Test Exclusion Threshold* (mW)
300	164	192	219	246	274	
450	134	157	179	201	224	
835	98	115	131	148	164	
900	95	111	126	142	158	
1500	73	86	98	110	122	
1900	65	76	87	98	109	
2450	57	67	77	86	96	
3600	47	55	63	71	79	
5200	39	46	53	59	66	
5400	39	45	52	58	65	
5800	37	44	50	56	62	

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

The test exclusions are applicable only when the minimum test separation distance is > 50 mm and for transmission frequencies between 100 MHz and 6 GHz.

SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and > 50 mm

MHz	50	60	70	80	90	100	110	120	130	140	150	160	170	180	190	mm
100	474	481	487	494	501	507	514	521	527	534	541	547	554	561	567	
150	387	397	407	417	427	437	447	457	467	477	487	497	507	517	527	
300	274	294	314	334	354	374	394	414	434	454	474	494	514	534	554	
450	224	254	284	314	344	374	404	434	464	494	524	554	584	614	644	
835	164	220	275	331	387	442	498	554	609	665	721	776	832	888	943	
900	158	218	278	338	398	458	518	578	638	698	758	818	878	938	998	
1500	122	222	322	422	522	622	722	822	922	1022	1122	1222	1322	1422	1522	mW
1900	109	209	309	409	509	609	709	809	909	1009	1109	1209	1309	1409	1509	
2450	96	196	296	396	496	596	696	796	896	996	1096	1196	1296	1396	1496	
3600	79	179	279	379	479	579	679	779	879	979	1079	1179	1279	1379	1479	
5200	66	166	266	366	466	566	666	766	866	966	1066	1166	1266	1366	1466	
5400	65	165	265	365	465	565	665	765	865	965	1065	1165	1265	1365	1465	
5800	62	162	262	362	462	562	662	762	862	962	1062	1162	1262	1362	1462	

According to the table above, Standalone SAR exclusion calculation for this device are as below:

Freq. Band	Frequency (MHz)	Position	Test Separation (mm)	Max Power (dBm)	Max Power (mW)	Exclusion Threshold (mW)	Exclusion (Yes/No)
BT	2440	Rear side	5	2.5	1.78	10	Yes
	2440	Left side	96	2.5	1.78	556	Yes
	2440	Right side	39	2.5	1.78	75	Yes
	2440	Top side	5	2.5	1.78	10	Yes
	2440	Bottom side	228	2.5	1.78	1496	Yes
Wi-Fi 2.4G	2412	Rear side	5	16.0	39.81	10	No
	2412	Left side	96	16.0	39.81	556	Yes
	2412	Right side	39	16.0	39.81	75	Yes
	2412	Top side	5	16.0	39.81	10	No
	2412	Bottom side	228	16.0	39.81	1496	Yes
Wi-Fi 5.2G	5220	Rear side	5	12.5	17.78	7	No
	5220	Left side	96	12.5	17.78	526	Yes
	5220	Right side	39	12.5	17.78	51.6	Yes
	5220	Top side	5	12.5	17.78	7	No
	5220	Bottom side	228	12.5	17.78	1466	Yes
Wi-Fi 5.8G	5745	Rear side	5	13.5	22.39	6	No
	5745	Left side	96	13.5	22.39	522	Yes
	5745	Right side	39	13.5	22.39	48.8	Yes
	5745	Top side	5	13.5	22.39	6	No
	5745	Bottom side	228	13.5	22.39	1462	Yes

Freq. Band	Frequency (MHz)	Position	Test Separation (mm)	Max Power (dBm)	Max Power (mW)	Exclusion Threshold (mW)	Exclusion (Yes/No)
GSM 850	836.6	Rear side	5	25.58	361.41	16	No
	836.6	Left side	36	25.58	361.41	118.2	No
	836.6	Right side	40	25.58	361.41	148	No
	836.6	Top side	237	25.58	361.41	943	Yes
	836.6	Bottom side	5	25.58	361.41	16	No
PCS 1900	1850.2	Rear side	5	22.58	181.13	11	No
	1850.2	Left side	36	22.58	181.13	78.2	No
	1850.2	Right side	40	22.58	181.13	87	No
	1850.2	Top side	237	22.58	181.13	1509	Yes
	1850.2	Bottom side	5	22.58	181.13	11	No
WCDMA Band II	1880	Rear side	5	24.0	251.19	11	No
	1880	Left side	36	24.0	251.19	78.2	No
	1880	Right side	40	24.0	251.19	87	No
	1880	Top side	237	24.0	251.19	1509	Yes
	1880	Bottom side	5	24.0	251.19	11	No
WCDMA Band V	846.6	Rear side	5	24.0	251.19	16	No
	846.6	Left side	36	24.0	251.19	118.2	No
	846.6	Right side	40	24.0	251.19	148	No
	846.6	Top side	237	24.0	251.19	943	Yes
	846.6	Bottom side	5	24.0	251.19	16	No
LTE Band 2	1880	Rear side	5	24.0	251.19	11	No
	1880	Left side	36	24.0	251.19	78.2	No
	1880	Right side	40	24.0	251.19	87	No
	1880	Top side	237	24.0	251.19	1509	Yes
	1880	Bottom side	5	24.0	251.19	11	No
LTE Band 5	829	Rear side	5	24.0	251.19	16	No
	829	Left side	36	24.0	251.19	118.2	No
	829	Right side	40	24.0	251.19	148	No
	829	Top side	237	24.0	251.19	943	Yes
	829	Bottom side	5	24.0	251.19	16	No
LTE Band 12&17	704	Rear side	5	24.0	251.19	16	No
	704	Left side	36	24.0	251.19	118.2	No
	704	Right side	40	24.0	251.19	148	No
	704	Top side	237	24.0	251.19	943	Yes
	704	Bottom side	5	24.0	251.19	16	No
LTE Band 66&4	1770	Rear side	5	24.0	251.19	11	No
	1770	Left side	36	24.0	251.19	78.2	No
	1770	Right side	40	24.0	251.19	87	No
	1770	Top side	237	24.0	251.19	1509	Yes
	1770	Bottom side	5	24.0	251.19	11	No
LTE Band 71	688	Rear side	5	24.0	251.19	16	No
	688	Left side	36	24.0	251.19	118.2	No
	688	Right side	40	24.0	251.19	148	No
	688	Top side	237	24.0	251.19	943	Yes
	688	Bottom side	5	24.0	251.19	16	No

From what is shown in the table above, we can draw the conclusion that:

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom
BT	Body	N/A	No	No	No	No	No
WIFI 2.4G	Body	N/A	Yes	No	No	Yes	No
WIFI 5.2G	Body	N/A	Yes	No	No	Yes	No
WIFI 5.8G	Body	N/A	Yes	No	No	Yes	No

EUT Sides for SAR Testing							
Mode	Exposure Condition	Front	Back	Left	Right	Top	Bottom
GSM 850	Body	N/A	Yes	Yes	Yes	No	Yes
PCS 1900	Body	N/A	Yes	Yes	Yes	No	Yes
WCDMA Band II	Body	N/A	Yes	Yes	Yes	No	Yes
WCDMA Band V	Body	N/A	Yes	Yes	Yes	No	Yes
LTE Band 2	Body	N/A	Yes	Yes	Yes	No	Yes
LTE Band 5	Body	N/A	Yes	Yes	Yes	No	Yes
LTE Band 12&17	Body	N/A	Yes	Yes	Yes	No	Yes
LTE Band 66&4	Body	N/A	Yes	Yes	Yes	No	Yes
LTE Band 71	Body	N/A	Yes	Yes	Yes	No	Yes

EUT Sides for SAR Testing.

Note:
According to KDB616217, exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary.

7.3. SAR Measurement Results

The calculated SAR is obtained by the following formula:

Reported SAR=Measured SAR*$10^{(Ptarget-Pmeasured))/10}$

Scaling factor=$10^{(Ptarget-Pmeasured))/10}$

Reported SAR= Measured SAR* Scaling factor

Where

P_{target} is the power of manufacturing upper limit;

$P_{measured}$ is the measured power;

Measured SAR is measured SAR at measured power which including power drift)

Reported SAR which including Power Drift and Scaling factor

7.3.1. SAR Results[GSM 850]

SAR Values [GSM850]								
Ch/ Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR_{1-g} results(W/kg)	
							Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)								
190/836.6	GPRS 3TS	Rear side	29.48	30.00	0.17	1.127	**0.498**	**0.561**
190/836.6	GPRS 3TS	Left side	29.48	30.00	0.15	1.127	0.012	0.014
190/836.6	GPRS 3TS	Right side	29.48	30.00	-0.08	1.127	0.035	0.039
190/836.6	GPRS 3TS	Bottom side	29.48	30.00	-0.02	1.127	0.254	0.286

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

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:

- ⩽ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ⩽ 100MHz.
- ⩽ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ⩽ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ⩾ 200 MHz.

7.3.2. SAR Results[PCS 1900]

SAR Values [GSM1900]								
Ch/ Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR_{1-g} results(W/kg)	
							Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)								
512/1850.2	GPRS 3TS	Rear side	26.49	27.00	0.08	1.125	**0.455**	**0.512**
512/1850.2	GPRS 3TS	Left side	26.49	27.00	0.11	1.125	0.062	0.070
512/1850.2	GPRS 3TS	Right side	26.49	27.00	-0.03	1.125	0.023	0.026
512/1850.2	GPRS 3TS	Bottom side	26.49	27.00	-0.15	1.125	0.412	0.463

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.

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:

- ⩽ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ⩽ 100MHz.
- ⩽ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
- ⩽ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ⩾ 200 MHz.

7.3.3. SAR Results [WCDMA Band II]

SAR Values [WCDMA Band II]								
Ch/ Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR_{1-g} results(W/kg)	
							Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)								
9400/1880	RMC	Rear side	23.58	24.00	-0.04	1.102	**0.485**	**0.534**
9400/1880	RMC	Left side	23.58	24.00	-0.08	1.102	0.075	0.083
9400/1880	RMC	Right side	23.58	24.00	0.09	1.102	0.029	0.032
9400/1880	RMC	Bottom side	23.58	24.00	-0.13	1.102	0.432	0.476

Note:
1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
● ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
● ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
● ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.
3) RMC* - RMC 12.2kbps mode;

7.3.4. SAR Results [WCDMA Band V]

SAR Values [WCDMA Band V]								
Ch/ Freq. (MHz)	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (%)	Scaling Factor	SAR_{1-g} results(W/kg)	
							Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)								
4233/846.6	RMC	Rear side	23.49	24.00	-0.10	1.125	**0.402**	**0.452**
4233/846.6	RMC	Left side	23.49	24.00	0.05	1.125	0.010	0.011
4233/846.6	RMC	Right side	23.49	24.00	0.12	1.125	0.026	0.029
4233/846.6	RMC	Bottom side	23.49	24.00	0.06	1.125	0.218	0.245

Note:
1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
● ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
● ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
● ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.
3) RMC* - RMC 12.2kbps mode;

7.3.5. SAR Results [LTE Band 2]

SAR Values [LTE Band 2]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)<1RB>									
18900/1880	20M	QPSK 1RB_49	Rear side	23.29	24.00	-0.14	1.178	**0.547**	**0.644**
18900/1880	20M	QPSK 1RB_49	Left side	23.29	24.00	-0.02	1.178	0.081	0.095
18900/1880	20M	QPSK 1RB_49	Right side	23.29	24.00	-0.05	1.178	0.035	0.041
18900/1880	20M	QPSK 1RB_49	Bottom side	23.29	24.00	-0.10	1.178	0.508	0.598
measured / reported SAR numbers - Body (Test data distance 0mm)<50%RB>									
18900/1880	20M	QPSK 50RB_25	Rear side	22.17	22.50	0.06	1.079	0.483	0.521
18900/1880	20M	QPSK 50RB_25	Left side	22.17	22.50	0.19	1.079	0.062	0.067
18900/1880	20M	QPSK 50RB_25	Right side	22.17	22.50	-0.03	1.079	0.022	0.024
18900/1880	20M	QPSK 50RB_25	Bottom side	22.17	22.50	0.19	1.079	0.456	0.492

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.3.6. SAR Results [LTE Band 5]

SAR Values [LTE Band 5]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)<1RB>									
20450/829	10M	QPSK 1RB_24	Rear side	23.46	24.00	0.03	1.132	**0.409**	**0.463**
20450/829	10M	QPSK 1RB_24	Left side	23.46	24.00	-0.15	1.132	0.015	0.017
20450/829	10M	QPSK 1RB_24	Right side	23.46	24.00	-0.01	1.132	0.037	0.042
20450/829	10M	QPSK 1RB_24	Bottom side	23.46	24.00	-0.13	1.132	0.226	0.256
measured / reported SAR numbers - Body (Test data distance 0mm)<50%RB>									
20450/829	10M	QPSK 25RB_0	Rear side	22.38	23.00	-0.19	1.153	0.367	0.423
20450/829	10M	QPSK 25RB_0	Left side	22.38	23.00	-0.08	1.153	0.011	0.013
20450/829	10M	QPSK 25RB_0	Right side	22.38	23.00	-0.01	1.153	0.029	0.033
20450/829	10M	QPSK 25RB_0	Bottom side	22.38	23.00	0.06	1.153	0.205	0.236

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.3.7. SAR Results [LTE Band 12]

SAR Values [LTE Band 12]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)<1RB>									
23060/704	10M	QPSK 1RB_24	Rear side	23.69	24.00	-0.07	1.074	**0.424**	**0.455**
23060/704	10M	QPSK 1RB_24	Left side	23.69	24.00	0.18	1.074	0.016	0.017
23060/704	10M	QPSK 1RB_24	Right side	23.69	24.00	0.16	1.074	0.031	0.033
23060/704	10M	QPSK 1RB_24	Bottom side	23.69	24.00	-0.11	1.074	0.235	0.252
measured / reported SAR numbers - Body (Test data distance 0mm)<50%RB>									
23060/704	10M	QPSK 25RB_0	Rear side	22.62	23.00	-0.20	1.091	0.385	0.420
23060/704	10M	QPSK 25RB_0	Left side	22.62	23.00	0.00	1.091	0.014	0.015
23060/704	10M	QPSK 25RB_0	Right side	22.62	23.00	-0.01	1.091	0.025	0.027
23060/704	10M	QPSK 25RB_0	Bottom side	22.62	23.00	0.06	1.091	0.210	0.229

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.3.8. SAR Results [LTE Band 66]

SAR Values [LTE Band 66]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)<1RB>									
132572/1770	20M	QPSK 1RB_49	Rear side	23.37	24.00	0.16	1.156	**0.653**	**0.755**
132572/1770	20M	QPSK 1RB_49	Left side	23.37	24.00	-0.16	1.156	0.088	0.102
132572/1770	20M	QPSK 1RB_49	Right side	23.37	24.00	-0.12	1.156	0.040	0.046
132572/1770	20M	QPSK 1RB_49	Bottom side	23.37	24.00	-0.07	1.156	0.628	0.726
measured / reported SAR numbers - Body (Test data distance 0mm)<50%RB>									
132572/1770	20M	QPSK 50RB_25	Rear side	22.32	23.00	-0.02	1.169	0.601	0.703
132572/1770	20M	QPSK 50RB_25	Left side	22.32	23.00	0.04	1.169	0.080	0.094
132572/1770	20M	QPSK 50RB_25	Right side	22.32	23.00	0.10	1.169	0.033	0.039
132572/1770	20M	QPSK 50RB_25	Bottom side	22.32	23.00	0.08	1.169	0.569	0.665

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.3.9. SAR Results [LTE Band 71]

SAR Values [LTE Band 71]									
Ch/ Freq. (MHz)	BW.	Channel Type	Test Position	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)<1RB>									
133372/688	20M	QPSK 1RB_49	Rear side	23.28	24.00	-0.01	1.180	**0.039**	**0.046**
133372/688	20M	QPSK 1RB_49	Left side	23.28	24.00	0.00	1.180	0.006	0.007
133372/688	20M	QPSK 1RB_49	Right side	23.28	24.00	0.00	1.180	0.010	0.012
133372/688	20M	QPSK 1RB_49	Bottom side	23.28	24.00	-0.14	1.180	0.016	0.019
measured / reported SAR numbers - Body (Test data distance 0mm)<50%RB>									
133372/688	20M	QPSK 50RB_50	Rear side	22.43	23.00	-0.20	1.140	0.035	0.040
133372/688	20M	QPSK 50RB_50	Left side	22.43	23.00	0.00	1.140	0.005	0.006
133372/688	20M	QPSK 50RB_50	Right side	22.43	23.00	0.00	1.140	0.008	0.009
133372/688	20M	QPSK 50RB_50	Bottom side	22.43	23.00	-0.10	1.140	0.012	0.014

Note:

1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
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:
   - ≤ 0.8W/kg for 1-g or 2.0W/kg for 10-g respectively, when the transmission band is ≤ 100MHz.
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz.
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz.

7.3.10. SAR Results [WIFI 2.4G]

SAR Values [WIFI 2.4G]									
Ch/ Freq. (MHz)	Channel Type	Test Position	Duty Cycle	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} results(W/kg)	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)									
1/2412	802.11b	Rear side	1.004	15.70	16.00	0.13	1.072	**0.220**	**0.237**
1/2412	802.11b	Top side	1.004	15.70	16.00	-0.10	1.072	0.135	0.145

Note:
1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB 648474 D04, Product Specific 10-g SAR test is not required for this frequency band since hotspot mode 1-g reported SAR < 1.2 W/kg.
3) When 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 ≤ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

7.3.11. SAR Results [WIFI 5.2G]

SAR Values [WIFI 5.2G]									
Ch/ Freq. (MHz)	Channel Type	Test Position	Duty Cycle Factor	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} *results(W/kg)*	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)									
44/5220	802.11a	Rear side	1.029	11.88	12.50	0.00	1.153	**0.297**	**0.352**
44/5220	802.11a	Top side	1.029	11.88	12.50	-0.15	1.153	0.168	0.199

Note:
1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB 648474 D04, Product Specific 10-g SAR test is not required for this frequency band since hotspot mode 1-g reported SAR < 1.2 W/kg.
3) When 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 ≤ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

7.3.12. SAR Results [WIFI 5.8G]

SAR Values [WIFI 5.8G]									
Ch/ Freq. (MHz)	Channel Type	Test Position	Duty Cycle Factor	Conducted Power (dBm)	Maximum Allowed Power (dBm)	Power Drift (dB)	Scaling Factor	SAR_{1-g} *results(W/kg)*	
								Measured	Reported
measured / reported SAR numbers - Body (Test data distance 0mm)									
149/5745	802.11a	Rear side	1.050	12.97	13.50	0.00	1.130	**0.338**	**0.401**
149/5745	802.11a	Top side	1.050	12.97	13.50	0.18	1.130	0.182	0.216

Note:
1) The maximum Scaled SAR value is marked in bold. Graph results refer to Appendix B.
2) Per KDB 648474 D04, Product Specific 10-g SAR test is not required for this frequency band since hotspot mode 1-g reported SAR < 1.2 W/kg.
3) When 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 ≤ 1.2 W/kg, SAR test for the other 802.11 modes are not required.

7.4. Multiple Transmitter Evaluation

7.4.1. Simultaneous SAR SAR test evaluation

Simultaneous Transmission Possibilities

NO.	Simultaneous Tx Combination	Body
1	GSM Voice/ DATA + BT	Yes
2	GSM Voice/ DATA + WiFi 2.4G	Yes
3	GSM Voice/ DATA + WiFi 5G	Yes
4	UMTS + BT	Yes
5	UMTS + WiFi 2.4G	Yes
6	UMTS + WiFi 5G	Yes
7	LTE + BT	Yes
8	LTE + WiFi 2.4G	Yes
9	LTE + WiFi 5G	Yes

Note:
1) Wi-Fi and Bluetooth share the same Tx antenna and can't transmit simultaneously.
2) The device does not support DTM function.

7.4.2. Estimated SAR

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

• (max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 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.

Estimated SAR Result

Freq. Band	Frequency (GHz)	Test Position	max. power (dBm)	max. power (mw)	Test Separation (mm)	Estimated 1g SAR (W/kg)
Bluetooth	2.48	Body	2.5	1.78	5	0.075

7.4.3. Simultaneous Transmission SAR Summation Scenario

Test position		Main Antenna SARmax (W/kg)									WiFi Antenna SARmax (W/kg)				Summed 1g SARmax (W/kg)
		GSM 850	GSM 1900	WCDMA Band II	WCDMA Band V	LTE Band 2	LTE Band 5	LTE Band 12	LTE Band 66	LTE Band 71	WLAN 2.4G	WLAN 5.2G	WLAN 5.8G	BT	
Body	Back side	0.561	0.512	0.534	0.452	0.644	0.463	0.455	0.755	0.046	0.237	0.352	0.401	0.075	**1.156**
	Left side	0.014	0.070	0.083	0.011	0.095	0.017	0.017	0.102	0.007	/	/	/	/	0.102
	Right side	0.039	0.026	0.032	0.029	0.041	0.042	0.033	0.046	0.012	/	/	/	/	0.046
	Top side	/	/	/	/	/	/	/	/	/	0.145	0.199	0.216	0.075	0.216
	Bottom side	0.286	0.463	0.476	0.245	0.598	0.256	0.252	0.726	0.019	/	/	/	/	0.726

7.5. Measurement Uncertainty

Not required as SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is ≥ 1.5 W/kg for 1-g SAR accoridng to KDB865664D01.

APPENDIX A: DETAILED SYSTEM CHECK RESULTS

APPENDIX B: DETAILED TEST RESULTS

APPENDIX C: CALIBRATION CERTIFICATE

APPENDIX D: PHOTOGRAPHS

.....The End of Test Report.....