No.: FCCSZ2024-0064-SAR

TEST REPORT

FCC ID	:	2BHTA-AIR2453
NAME OF SAMPLE	:	iFLYTEK Al Recorder S6
CLIENT	:	SYNLANTECHNOLOGY PTE. LTD.
Max. Body SAR (1g):	:	**1.58** W/kg
Max. Face SAR (1g):		**0.88** W/kg
Max. Extremity SAR (10g):	:	**3.28** W/kg
CLASSIFICATION OF TEST	:	N/A

CVC Testing Technology (Shenzhen) Co., Ltd.

Applicant	**Name :** SYNLAN TECHNOLOGY PTE.LTD. **Address :** 7 TEMASEK BOULEVARD #29-01D SUNTEC TOWER ONE SINGAPORE(038987)
Manufacturer	**Name :** SYNLAN TECHNOLOGY PTE.LTD. **Address :** 7 TEMASEK BOULEVARD #29-01D SUNTEC TOWER ONE SINGAPORE(038987)
Equipment Under Test	**Name :** iFLYTEK AI Recorder S6 **Model/Type:** AIR2453 **Trade mark :** iFLYTEK **SerialNO.:** N/A **Sampe NO.:** 7-4

Date of Receipt.	2024.08.27	Date of Testing	2024.09.20

Test Specification	**Test Result**
ANSI/IEEE Std. C95.1 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013 Published RF exposure KDB procedures	Pass

Evaluation of Test Result	The equipment under test was found to comply with the requirements of the standards applied. **Seal of CVC** **Issue Date: 2024.09.30**

Compiled by:	Reviewed by:	Approved by:
Liang Jiatong	Mo Xianbiao	Dong Sanbi
Name Signature	Name Signature	Name Signature

Other Aspects: NONE.

Abbreviations: Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.

TABLE OF CONTENTS

RELEASE CONTROL RECORD **4**

1 GENERAL INFORMATION **5**

1.1 GENERAL PRODUCT INFORMATION 5
1.2 DESCRIPTION OF ACCESSORIES 7
1.3 TEST ENVIRONMENT 7
1.4 TEST LOCATION 7
1.5 TEST STANDARDS AND LIMITS 8
1.6 STATEMENT OF COMPLIANCE 9

2 SAR MEASUREMENT SYSTEM **10**

2.1 DEFINITION OF SPECIFIC ABSORPTION RATE (SAR) 10
2.2 SAR SYSTEM 10
2.3 PROBE 12
2.4 DATE ACQUISITION ELECTRONICS 4 (DAE4) 12
2.5 WRIST PHANTOM 15
2.6 DEVICE HOLDER 15
2.7 SYSTEM VALIDATION DIPOLES 16

3 TISSUE SIMULATING LIQUIDS **17**

3.1 SIMULATING LIQUIDS PARAMETER CHECK 17
3.2 LIQUIDS MEASUREMENT RESULTS 19

4 SAR SYSTEM VALIDATION **20**

4.1 VALIDATION SYSTEM 20
4.2 SYSTEM VALIDATION RESULT 21

5 SAR EVALUATION PROCEDURES **22**

6 SAR MEASUREMENT EVALUATION **23**

6.1 EUT CONFIGURATION AND SETTING 23
6.2 EUT TESTING POSITION 31
6.3 SIMULTANEOUS TRANSMISSION POSSIBILITIES 32

7 MAXIMUM OUTPUT POWER **33**

7.1 DUTY CYCLE 33
7.2 MEASURED CONDUCTED POWER RESULT 36

8 SAR TESTING RESULTS **58**

8.1 SAR TEST REDUCTION CONSIDERATIONS 58
8.2 SAR RESULTS FOR BODY EXPOSURE CONDITION (SEPARATION DISTANCE IS 1.0 CM GAP) 60
8.3 SAR RESULTS FOR IN FRONT FACE EXPOSURE CONDITION (SEPARATION DISTANCE IS 1.0 CM GAP) 66
8.4 SAR RESULTS FOR EXTREMITY EXPOSURE CONDITION (SEPARATION DISTANCE IS 0 CM GAP) 69
8.5 SAR MEASUREMENT VARIABILITY 70
8.6 SIMULTANEOUS MULTI-BAND TRANSMISSION EVALUATION 71

9 EQUITPMENT LIST **86**

10 MEASUREMENT UNCERTAINTY **87**

11 TEST PHOTOS AND RESULTS **89**

11.1 EUT PHOTO 89

12 APPENDIXES **93**

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2024-0064-SAR	Original release	2024.09.30

1 GENERAL INFORMATION

1.1 GENERAL PRODUCT INFORMATION

PRODUCT	iFLYTEK AI Recorder S6
BRAND	iFLYTEK
MODEL	AIR2453
ADDITIONAL MODEL	N/A
MODULATION MODE	WCDMA: RMC 12.2Kbps, HSDPA, HSUPA LTE: QPSK, 16QAM 5G NR: CP-OFDM / DFT-S-OFDM, PI2 BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11b: DSSS WLAN 2.4G 802.11g/n (HT20)/HT40: OFDM WLAN 5G 802.11a/n (HT20)/HT40 /ac(VHT80): OFDM Bluetooth® GFSK, π/4-DQPSK, 8-DPSK, LE 1M, LE 2M
OPERATING FREQUENCY	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1910 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2:1850 MHz~ 1910 MHz LTE Band 4: 1710 MHz~ 1755 MHz LTE Band 5: 824 MHz~ 849 MHz LTE Band 7:2502 MHz~2568 MHz LTE Band 12:699 MHz~ 716 MHz LTE Band 17:706 MHz~714 MHz LTE Band 25:1850 MHz~1915 MHz LTE Band 26: 814 MHz~ 849 MHz LTE Band 38:2572 MHz~ 2617 MHz LTE Band 41: 2498 MHz ~ 2688 MHz 5G NR n2: 1850 MHz~1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~2570 MHz 5G NR n38: 2570 MHz~ 2620 MHz 5G NR n41:2496 MHz~ 2690 MHz 5G NR n77:3450 MHz-3550 MHz.3700 MHz-3980 MHz 5G NR n78:3450 MHz-3550 MHz,3700 MHz-3800 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz to 2480 MHz
Battery	Name:Rechargeable Li-ion Battery Model:AK7 Rated Voltage:3.87V Charge Limit Voltage:4.45V Capacity: 3000mAh
ANTENNA TYPE	PIFA Antenna

Remark:

1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
2. The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power
3. This is provided by the manufacturer. The laboratory is not responsible for technical data provided by the customer
4. 5G NR supports CP-OFDM and DFT-S-OFDM modulation, for DFT-S-OFDM power is higher than CP-OFDM, so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-S-OFDM mode, therefore, CP-OFDM measurement is unnecessary.

<5G NR>

Mode	Band	Duplex	SCS (KHz)	Bandwidths (BW)
SA	N2	FDD	15	5,10,15,20,25,30,40
	N5	FDD	15	5,10,15,20
	N7	FDD	15	5,10,15,20,25,30,40
	N38	TDD	30	10,15,20,30,40
	N41	TDD	30	20,30,40,50,60,80,90,100
	N77(3450-3550)	TDD	30	10,15,20,25,30,40,50,60,80,90,100
	N77(3700-3980)	TDD	30	10,15,20,25,30,40,50,60,80,90,100
	N78(3450-3550)	TDD	30	20,25,30,40,50,60,80,90,100
	N78(3700-3800)	TDD	30	10,15,20,25,30,40,50,60,80,90,100

1.2 DESCRIPTION OF ACCESSORIES

AC Adapter	
BRAND	IFLYTEK
Model No.:	SR-02A
Input:	100-240 V~50/60 Hz
Output:	DC: 5V 2A
AC Cable:	N/A
DC Cable:	Unshielded without ferrite

1.3 TEST Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (℃)	20.5-22.0
Humidity (%RH)	50.1-66.3

1.4 TEST Location

The tests and measurements refer to this report were performed by CVC Testing Technology (Shenzhen) Co., Ltd.

Lab Address:No. 1301-14&16, Guanguang Road, Xinlan Community, Guanlan Subdistrict, Longhua District, Shenzhen, Guangdong, China

Post Code：518110 Tel：0755-23763060-8805

Fax：0755-23763060 E-mail：sz-kf@cvc.org.cn

FCC(Test firm designation number：CN1363)

IC(Test firm CAB identifier number：CN0137)

CNAS(Test firm designation number：L16091)

1.5 TEST Standards and Limits

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
8	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
9	KDB 248227 D01 v02r02	802 11 Wi-Fi SAR

(A). Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

(B). Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure.

Occupational/Controlled Environments:

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

NOTE
GENERAL POPULATION/UNCONTROLLED EXPOSURE
PARTIAL BODY LIMIT
1.6 W/kg

1.6 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Mode	Highest Reported BodySAR$_{1g}$ (1.0 cm Gap) (W/kg)	Highest Reported Face SAR-1g (1.0cm Gap) (W/Kg)	Highest Reported Extremity SAR$_{10g}$ (0 cm Gap) (W/kg)
WCDMA II	1.17	0.54	2.52
WCDMA IV	0.94	0.43	2.97
WCDMA V	0.67	0.33	0.49
LTE 4	0.98	0.35	2.07
LTE 7	0.63	0.43	1.04
LTE 12	0.36	0.24	0.69
LTE 25	1.26	0.37	2.09
LTE 26	0.33	0.13	0.39
LTE 38	0.38	0.16	0.59
LTE 41	0.47	0.20	0.65
N2	1.25	0.49	2.56
N5	0.45	0.32	0.95
N7	1.18	0.52	1.64
N38	1.09	0.59	2.01
N41	0.75	0.37	1.63
N77 (3450MHz-3550MHz)	0.92	0.36	2.99
N77(3700MHz-3980MHz)	0.70	0.13	2.54
N78(3450MHz-3550MHz)	0.72	0.44	2.75
N78(3700MHz-3800MHz)	0.86	0.17	3.28
2.4G WLAN	0.51	0.21	0.54
5.2G WLAN	0.18	0.12	0.21
5.8G WLAN	0.45	0.29	0.40
Bluetooth	0.04	0.01	0.05
Highest Simultaneous Transmission SAR	**Body (W/kg)**	**Face (W/kg)**	**Extremity (W/kg)**
	1.58	**0.88**	**N/A**

Note:

1. This device supports LTE B2 and B25 . Since the supported frequency span for LTE B2 falls completely within the supports frequency span for LTE B25 ,both LTE bands have the same tune-up power, and both LTE bands share the same transmission path; therefore ,SAR was only assessed for LTE B25.
2. This device supports LTE B5 and B26 . Since the supported frequency span for LTE B5 falls completely within the supports frequency span for LTE B26 ,both LTE bands have the same tune-up power, and both LTE bands share the same transmission path; therefore ,SAR was only assessed for LTE B26.
3. This device supports LTE B17 and B12 . Since the supported frequency span for LTE B17 falls completely within the supports frequency span for LTE B12 ,both LTE bands have the same tune-up power, and both LTE bands share the same transmission path; therefore ,SAR was only assessed for LTE B12.
4. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6W/kg as averaged over any 1 gram of tissue; 10-gram SAR for Product Specific 10g SAR, limit: 4.0W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2 SAR Measurement System

2.1 Definition of Specific Absorption Rate (SAR)

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

The SAR definition is the time derivative (rate) of the incremental energy (dW) absorbed by (dissipated in) an incremental mass (dm) contained in a volume element (dv) of a given density (ρ). The equation description is as below:

$$\mathbf{SAR} = \frac{d}{dt}\left(\frac{dW}{dm}\right) = \frac{d}{dt}\left(\frac{dW}{\rho dv}\right)$$

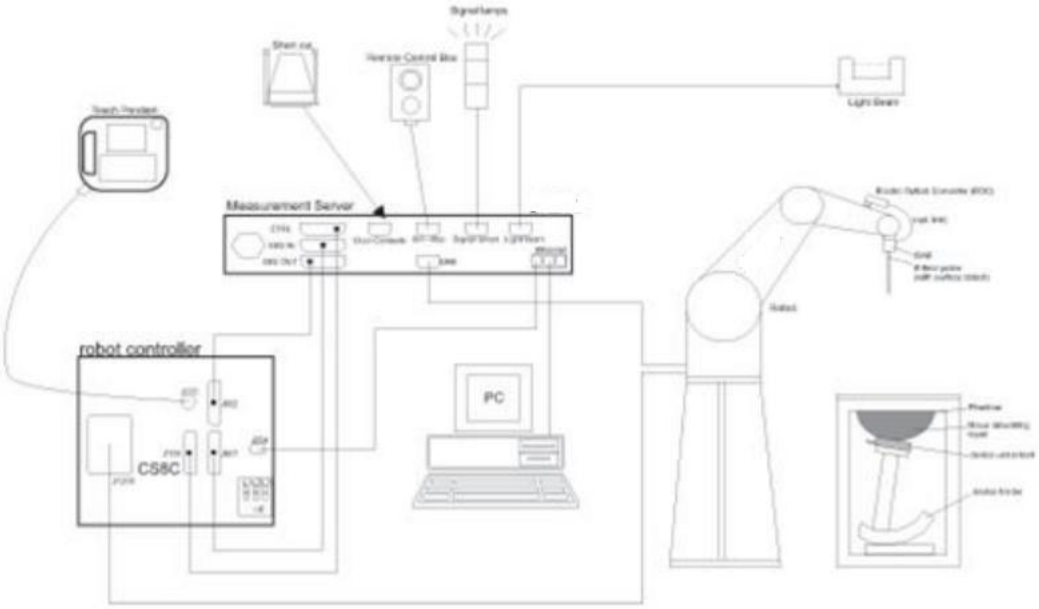
SAR is expressed in units of Watts per kilogram (W/kg) SAR measurement can be related to the electrical field in the tissue by

$$\mathbf{SAR} = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue;
ρ is the mass density of the tissue and E is the RMS electrical field strength.

2.2 SAR System

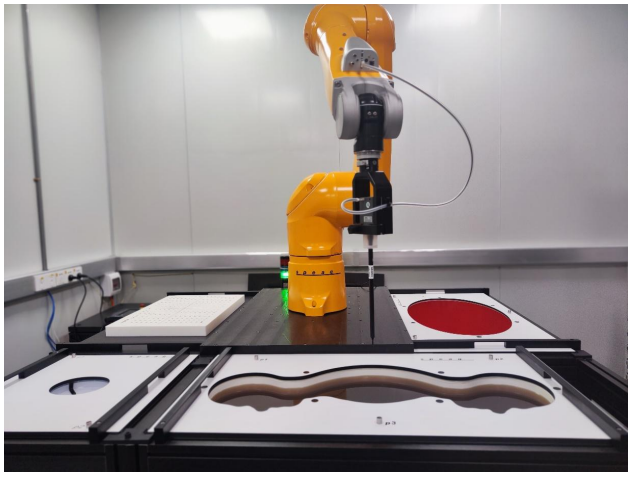
DASY System Diagram:



DASY is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The DASY system consists of the following items:

- Main computer to control all the system
- 6 axis robot
- Data acquisition Electronics
- Miniature E-field probe
- Phone holder
- Head simulating tissue

The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The Open SAR software computes the results to give a SAR value in a 1g or 10g mass.

2.3 Probe

EX3DV4 – Smallest isotropic dosimetric probe for high precision SAR measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 10 GHz with a precision of better than 30%
- Frequency range: 4 MHz – 10 GHz
-Dynamic range: 0.01 W/kg – >100 W/kg
-Tip diameter: 2.5 mm
-Scanning distance: ≥1.4 mm

Figure 1-Speag COMOSAR Dosimetric E field Dipole

2.4 Date Acquisition Electronics 4 (DAE4)

High precision 3-channel differential voltmeter for use with SPEAG's field, SAR, and temperature probes. Serial optical link for communication with the DASY8 measurement server. Two-step probe touch detector for mechanical surface detection and emergency robot stop.
- Measurement range: -100 – +300 mV (16-bit resolution and two range settings: 4 mV, 400 mV)
- Input offset voltage: <5 μV (with auto zero)
- Input resistance: 200 MOhm
- Input bias current: <50 fA
- Battery power: >10 hours of operation (with two 9.6 V NiMH batteries)
- Dimensions (L × W × H): 60 × 60 × 68 mm
- Calibration: ISO/IEC 17025 calibration service available.

2.4.1 SAM-Twin Phantom

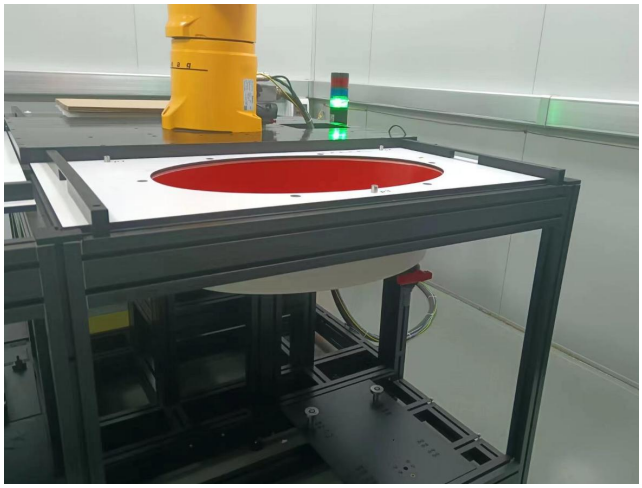
The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEC/IEEE 62209-1528. It enables the dosimetric evaluation of left and right hand phone usage as well as body-mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot.SAM-Twin V5.0 and higher has the same shell geometry and is manufactured from the same material as SAM-Twin V4.0 but with reinforced top structure.

- Material: Vinyl ester, fiberglass reinforced (VE-GF)
- Shell Thickness: 2 ± 0.2 mm (6 ± 0.2 mm at ear point)
- Dimensions:Length: 1000 mm
  Width: 500 mm
  Height: adjustable feet

2.4.2 ELI Phantom

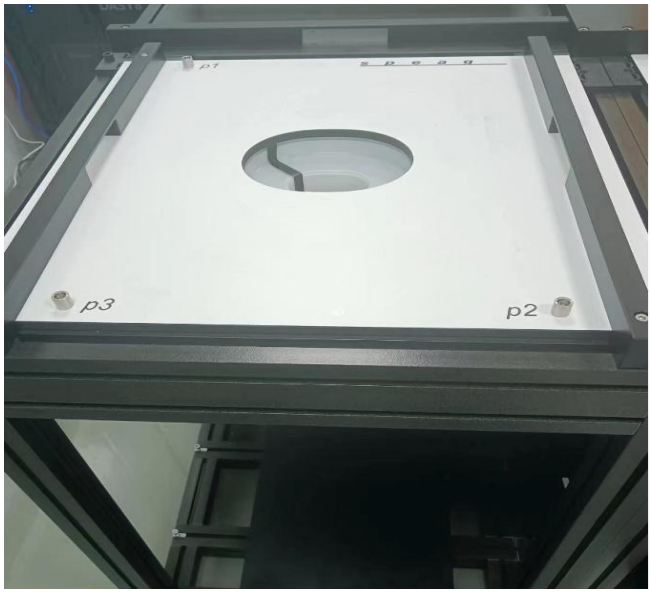
The ELI phantom is used for compliance testing of handheld and body-mounted wireless devices in the frequency range of 4 MHz to 10 GHz. ELI is fully compatible with the IEC/IEEE 62209-1528 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated 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 of SPEAG's dosimetric probes and dipoles.The latest ELI V8.0 phantom shell has optimized pretension in the bottom surface during production, such that the phantom is more robust and with reduced sagging.

- Material:Vinyl ester, fiberglass reinforced (VE-GF)
- Shell Thickness:2.0 ± 0.2 mm (bottom plate)
- Dimensions:Major axis: 600 mm,
  Minor axis: 400 mm
- Filling Volume:approx. 30 liters.



2.5 Wrist Phantom

The Wrist Phantom V10 is shape-compatible with the CTIA approved OTA GFPC-V1 and optimized for specific absorption rate evaluation of watches and other wireless hand accessories.
- Material:Photosensitive epoxy acrylates
- Shell Thickness:2 ± 0.2 mm
- Wrist Shape:Design compatible with CTIA forearm.



2.6 Device Holder

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of ± 0.5 mm would produce a SAR uncertainty of ± 20 %. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

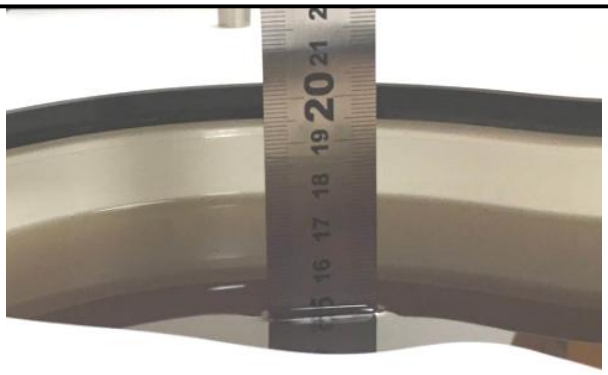
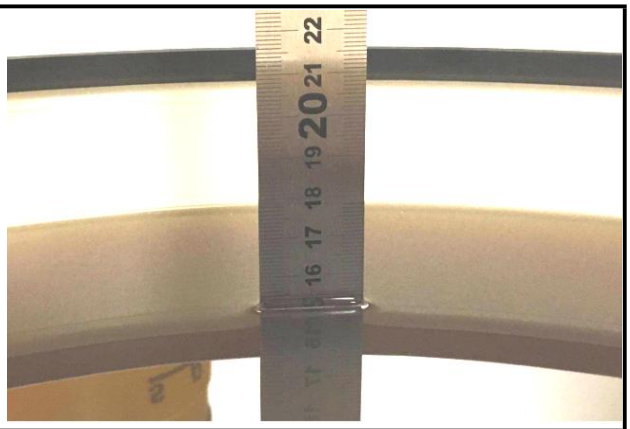
2.7 System Validation Dipoles

Symmetrical dipole with l/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions.
- Frequency: 300 MHz to 10 GHz
- Return loss: >20 dB
- Power capability: >40 W

3 Tissue Simulating Liquids

3.1 Simulating Liquids Parameter Check

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed.

	
Liquid Height for Head Position	**Liquid Height for Body Position**

The dielectric properties of the tissue simulating liquids are defined in IEC 62209-1528. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

Dielectric properties of Tissue Simulating Liquid

Frequency (MHz)	Target Permittivity	Target Conductivity
750	41.9	0.89
835	41.5	0.90
900	41.5	0.97
1450	40.5	1.20
1640	40.3	1.29
1750	40.1	1.37
1800	40.0	1.40
1900	40.0	1.40
2000	40.0	1.40
2100	39.8	1.49
2300	39.5	1.67
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5300	35.9	4.76
5500	35.6	4.96
5600	35.5	5.07
5800	35.3	5.27
6000	35.1	5.48

3.2 Liquids Measurement Results

The measuring results for tissue simulating liquid are shown as below.

Tissue Type	Frequency (MHz)	Measured Conductivity (σ)	Measured Permittivity (ε_r)	Target Conductivity (σ)	Target Permittivity (ε_r)	Conductivity Deviation (%)	Permittivity Deviation (%)	Test Date
H750	750	0.917	42.900	0.89	41.90	3.03	2.39	Sep. 03, 2024
H850	850	0.953	42.500	0.92	41.50	3.59	2.41	Sep. 04, 2024
H1750	1750	1.370	40.200	1.37	40.10	0.00	0.25	Sep. 03, 2024
H1900	1900	1.450	39.900	1.40	40.00	3.57	-0.25	Sep. 02, 2024
H2450	2450	1.870	38.200	1.80	39.20	3.89	-2.55	Sep. 05, 2024
H2600	2600	1.990	37.900	1.96	39.00	1.53	-2.82	Sep. 09, 2024
H2600	2600	1.990	37.900	1.96	39.00	1.53	-2.82	Sep. 10, 2024
H3500	3500	2.830	38.500	2.91	37.90	-2.75	1.58	Sep. 11, 2024
H3700	3700	3.120	38.300	3.12	37.70	0.00	1.59	Sep. 11, 2024
H5G	5200	4.690	36.400	4.66	36.00	0.64	1.11	Sep. 12, 2024
H5G	5800	5.300	35.500	5.27	35.30	0.57	0.57	Sep. 12, 2024

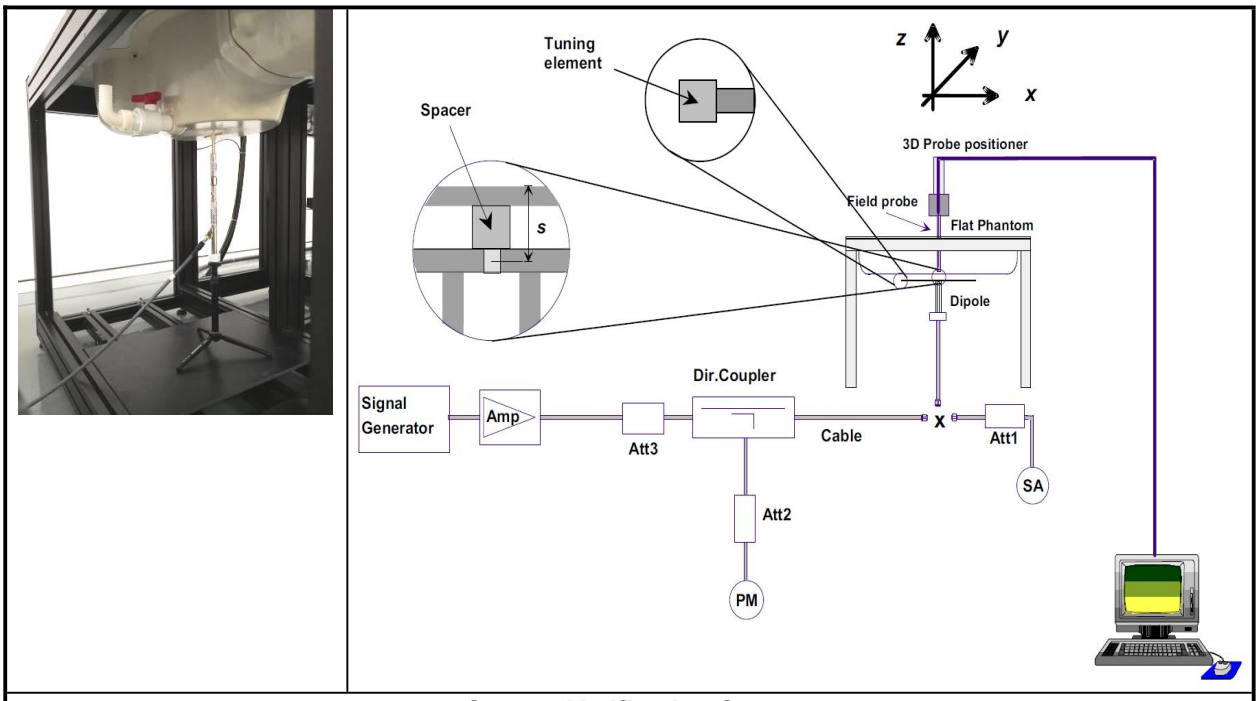
Note:

1. The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within ±5% of the target values. Liquid temperature during the SAR testing must be within ±2 ℃.
2. Since the maximum deviation of dielectric properties of the tissue simulating liquid is within 5%.

4 SAR System Validation

4.1 Validation System

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.



System Verification Setup

The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The spectrum analyzer measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

4.2 System Validation Result

The measuring result for system verification is tabulated as below.

Test Date	Frequency (MHz)	1W Target SAR-1g (W/kg)	Measured SAR-1g (W/kg)	Normalized to 1W SAR-1g (W/kg)	Deviation (%)	Dipole S/N	Probe S/N	DAE S/N
Sep. 03, 2024	750	8.59	2.20	8.80	2.44	1219	7738	1725
Sep. 04, 2024	850	10.10	2.53	10.12	0.20	1026	7738	1725
Sep. 03, 2024	1750	36.60	9.17	36.68	0.22	1192	7738	1725
Sep. 02, 2024	1900	39.80	10.30	41.20	3.52	5d247	7738	1725
Sep. 05, 2024	2450	51.40	12.70	50.80	-1.17	1081	7738	1725
Sep. 09, 2024	2600	56.10	13.70	54.80	-2.32	1195	7738	1725
Sep. 10, 2024	2600	56.10	13.80	55.20	-1.60	1195	7738	1725
Sep. 11, 2024	3500	65.00	6.56	65.60	0.92	1140	7738	1725
Sep. 11, 2024	3700	66.50	6.70	67.00	0.75	1116	7738	1725
Sep. 12, 2024	5200	77.80	7.10	71.00	-8.74	1353	7738	1725
Sep. 12, 2024	5800	80.40	7.70	77.00	-4.23	1353	7738	1725

Note:

Comparing to the reference SAR value provided by SPEAG, the validation data should be within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

5 SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:
-Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface.
-Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.
-Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
-Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.
Area Scan & Zoom Scan:
First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.
When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

6 SAR Measurement Evaluation

6.1 EUT Configuration and Setting

<Connections between EUT and System Simulator>

For WWAN SAR testing, the EUT was linked and controlled by base station emulator (R&S_CMW500 for WCDMA&LTE, Anritsu_ MT8000A for 5GNR). Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

<Considerations Related to WCDMA for Setup and Testing>

WCDMA Handsets Head SAR

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.

WCDMA Handsets Body-worn SAR

SAR for body-worn 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 $DPDCH_n$ configurations supported by the handset with 12.2 kbps RMC as the primary mode.

Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn 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”, for the highest reported SAR body-worn exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

Handsets with Release 6 HSUPA

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn 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”, for the highest reported body-worn 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 measurements is tested for next to the ear head exposure.

Release 5 HSDPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSDPA is measured using an FRC with H-Set 1 in Sub-test 1 and a 12.2 kbps RMC configured in Test Loop Mode 1, for the highest reported SAR configuration in 12.2 kbps RMC without HSDPA. HSDPA is configured according to the applicable UE category of a test device. The number of HS-DSCH / 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 and a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors (β_c, β_d), and HS-DPCCH power offset parameters (Δ_{ACK}, Δ_{NACK}, Δ_{CQI}) are set according to values indicated in below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs} (1)	CM (dB)(2)	MPR
1	2 / 15	15 / 15	64	2 / 15	4 / 15	0.0	0
2	12 / 15 (3)	15 / 15 (3)	64	12 / 15 (3)	24 / 15	1.0	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} = 8 ⇔ $A_{hs} = \beta_{hs} / \beta_c$ = 30 / 15 ⇔ β_{hs} = 30 / 15 * β_c.
Note 2: CM = 1 for β_c / β_d = 12 / 15, β_{hs} / β_c = 24 / 15.
Note 3: 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 signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11 / 15 and β_d = 15 / 15.

Release 6 HSUPA Data Devices

The 3G SAR test reduction procedure is applied to body SAR with 12.2 kbps RMC as the primary mode. Otherwise, body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set 1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode. Otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing. 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 below.

Sub-test	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}, Δ_{NACK} and Δ_{CQI} = 8 ⇔ $A_{hs} = \beta_{hs} / \beta_c$ = 30 / 15 ⇔ 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 signaled 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 signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14 / 15 and β_d = 15 / 15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

HSPA+ SAR Guidance

The 3G SAR test reduction procedure is applied to HSPA+ (uplink) with 12.2 kbps RMC as the primary mode.

Otherwise, when SAR is required for Rel. 6 HSPA, SAR is required for Rel. 7 HSPA+. Power is measured for HSPA+ that supports uplink 16QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.

DC-HSDPA SAR Guidance

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

<Considerations Related to LTE for Setup and Testing>

This device contains LTE transmitter which follows 3GPP standards, is category 3, supports both QPSK and 16QAM modulations, and supported LTE band and channel bandwidth is listed in below. The output power was tested per 3GPP TS 36.521-1 maximum transmit procedures for both QPSK and 16QAM modulation. The results please refer to section 4.6 of this report.

EUT Supported LTE Band and Channel Bandwidth						
LTE Band	BW 1.4 MHz	BW 3 MHz	BW 5 MHz	BW 10 MHz	BW 15 MHz	BW 20 MHz
2	V	V	V	V	V	V
4	V	V	V	V	V	V
5	V	V	V	V		
7			V	V	V	V
12	V	V	V	V		
17			V	V		
25	V	V	V	V	V	V
26	V	V	V	V	V	
38			V	V	V	V
41			V	V	V	V

The LTE maximum power reduction (MPR) in accordance with 3GPP TS 36.101 is active all times during LTE operation. The allowed MPR for the maximum output power is specified in below.

Modulation	Channel Bandwidth / RB Configurations						LTE MPR Setting (dB)
	BW 1.4 MHz	BW 3 MHz	BW 5 MHz	BW 10 MHz	BW 15 MHz	BW 20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16QAM	<= 5	<= 4	<= 8	<= 12	<= 16	<= 18	1
64QAM	> 5	> 4	> 8	> 12	> 16	> 18	2

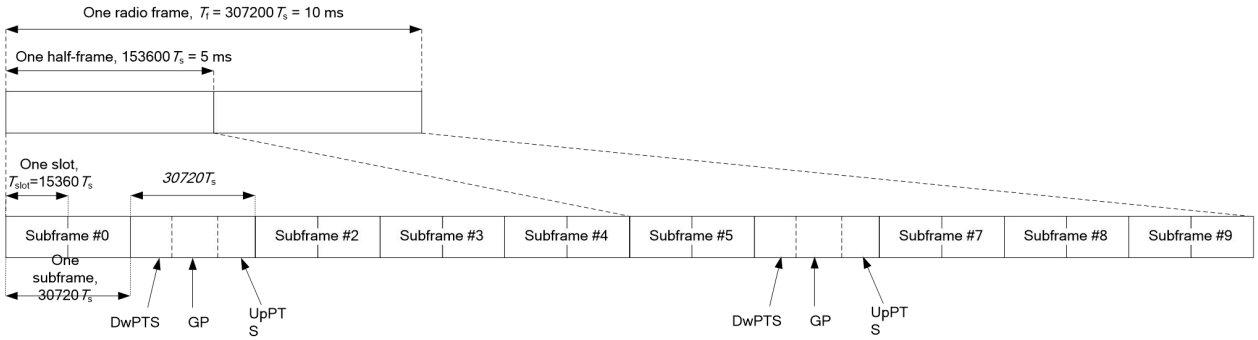
Note: MPR is according to the standard and implemented in the circuit (mandatory).

In addition, the device is compliant with additional maximum power reduction (A-MPR) requirements defined in 3GPP TS 36.101 section 6.2.4 that was disabled for all FCC compliance testing.

During LTE SAR testing, the related parameters of operating band, channel bandwidth, uplink channel number, modulation type, and RB was set in base station simulator. When the EUT has registered and communicated to base station simulator, the simulator set to make EUT transmitting the maximum radiated power.

TDD-LTE Setup Configurations

According to KDB 941225 D05, SAR testing for TDD-LTE device must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD-LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be referred to below.



3GPP TS 36.211 Frame Structure Type 2

Special Subframe Configuration	Normal Cyclic Prefix in Downlink			Extended Cyclic Prefix in Downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink		Normal Cyclic Prefix in Uplink	Extended Cyclic Prefix in Uplink
0	6592·Ts	2192·Ts	2560·Ts	7680·Ts	2192·Ts	2560·Ts
1	19760·Ts			20480·Ts		
2	21952·Ts			23040·Ts		
3	24144·Ts			25600·Ts		
4	26336·Ts			7680·Ts	4384·Ts	5120·Ts
5	6592·Ts	4384·Ts	5120·Ts	20480·Ts		
6	19760·Ts			23040·Ts		
7	21952·Ts			12800·Ts		
8	24144·Ts			-	-	-
9	13168·Ts			-	-	-

3GPP TS 36.211 Configuration of Special Subframe

Uplink-Downlink Configuration	Downlink-to-Uplink Switch-Point Periodicity	Subframe Number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

3GPP TS 36.211 Uplink-Downlink Configurations

The variety of different TD-LTE uplink-downlink configurations allows a network operator to allocate the network's capacity between uplink and downlink traffic to meet the needs of the network. The uplink duty cycle of these seven configurations can readily be computed and shown in below.

UL-DL Configuration	0	1	2	3	4	5	6
Highest Duty-Cycle	63.33%	43.33%	23.33%	31.67%	21.67%	11.67%	53.33%

Considering the highest transmission duty cycle, TDD-LTE was tested using Uplink-Downlink Configuration 0 with 6 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 7 using extended cyclic prefix uplink. Therefore, SAR testing for TDD-LTE was performed at the maximum output power with highest transmission duty cycle of 63.33%.

Considering the highest transmission duty cycle, TDD-LTE was tested using Uplink-Downlink Configuration 6 with 5 uplink subframe and 2 special subframe. The special subframe was set to special subframe configuration 7 using extended cyclic prefix uplink. Therefore, SAR testing for TDD-LTE was performed at the maximum output power with highest transmission duty cycle of 53.33%.

<5G NR>

1. 5G NR n2/n5/n7/n38/n41/n77/n78 is SA.
2. For 5G NR test procedure was following step similar FCC KDB 941225 D05：
   a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is >not ½ dB higher than the same configuration in DFT-s QPSK and the reported SAR for the DFT-s QPSK configuration is ≤ 1.45 W/kg: CP-OFDM testing is not required.
   b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3. for 16QAM64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
   c. SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
   d. 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
   e. 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 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.
   f. PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, P/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
   g. Smaller bandwidth output power for each RB allocation configuration for this device will not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is < 1.45 W/kg, smaller bandwidth SAR testing is not required for this device.

3. 5G NR supports CP-OFDM and DFT-S-OFDM modulation, for DFT-s-OFDM power is higher than CP-OFDM. so only show DFT-s-OFDM power table and chose DFT-s-OFDM to perform SAR testing.
4. For DFT-s-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for the CP-OFDM mode will not higher than DFT-s-OFDM mode. therefore. CP-OFDM measurement is unnecessary

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5[1]	≤ 1.2[1]	≤ 0.2[1]
		≤ 0.5[2]	≤ 0.5[2]	0[2]
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
	256 QAM	≤ 4.5		
CP-OFDM	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM	≤ 3.5		
	256 QAM	≤ 6.5		

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

<Considerations Related to WLAN for Setup and Testing>

In general, various vendor specific external test software and chipset based internal test modes are typically used for SAR measurement. These chipset based test mode utilities are generally hardware and manufacturer dependent, and often include substantial flexibility to reconfigure or reprogram a device. A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. The test frequencies established using test mode must correspond to the actual channel frequencies. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92 - 96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. In addition, a periodic transmission duty factor is required for current generation SAR systems to measure SAR correctly. The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

According to KDB 248227 D01, this device has installed WLAN engineering testing software which can provide continuous transmitting RF signal. During WLAN SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

Initial Test Configuration

An initial test configuration is determined for OFDM transmission modes in 2.4 GHz and 5 GHz bands according to the channel bandwidth, modulation and data rate combination(s) with the highest maximum output power specified for production units in each standalone and aggregated frequency band. When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

Subsequent Test Configuration

SAR measurement requirements for the remaining 802.11 transmission mode configurations that have not been tested in the initial test configuration are determined separately for each standalone and aggregated frequency band, in each exposure condition, according to the maximum output power specified for production units. Additional power measurements may be required to determine if SAR measurements are required for subsequent highest output power channels in a subsequent test configuration. When the highest reported SAR for the initial test configuration according to the initial test position or fixed exposure position requirements, is adjusted by the ratio of the subsequent test configuration to initial test configuration specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for that subsequent test configuration.

SAR Test Configuration and Channel Selection

When multiple channel bandwidth configurations in a frequency band have the same specified maximum output power, the initial test configuration is using largest channel bandwidth, lowest order modulation, lowest data rate, and lowest order 802.11 mode (i.e., 802.11a is chosen over 802.11n then 802.11ac or 802.11g is chosen over 802.11n). After an initial test configuration is determined, if multiple test channels have the same measured maximum output power, the channel chosen for SAR measurement is determined according to the

following.

1) The channel closest to mid-band frequency is selected for SAR measurement.

2) For channels with equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement.

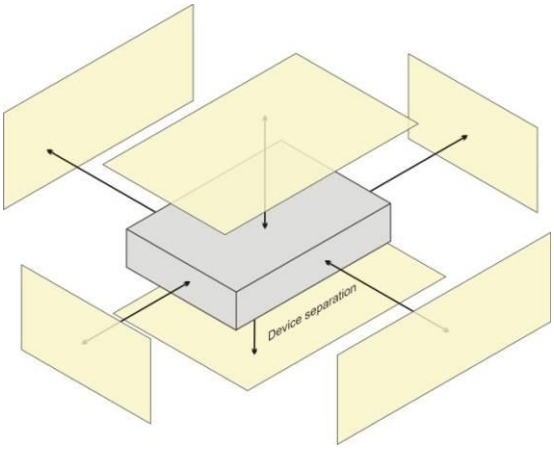
<Considerations Related to Bluetooth for Setup and Testing>

This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate, and maximum output power.

6.2 EUT Testing Position

6.2.1 Body Exposure Conditions

For this devices, SAR evaluation is required on all sides and edges with a transmitting antenna within 25 mm from that surface or edge, at 10 mm separation from a flat phantom, Next to the Body exposure requires 1-g SAR, and add Worst Case at 0 mm separation from a flat phantom, Next to the Hand exposure requires 10-g SAR. for the data modes, wireless technologies and frequency bands supported by the device to determine SAR compliance.



6.2.2 Face Exposure Conditions

This device is a translation machine that works close to the mouth, SAR evaluation on front Face of device, at 10 mm separation from a flat phantom.

6.3 Simultaneous Transmission Possibilities

The simultaneous transmission possibilities for this device are listed as below.

Simultaneous TX Combination	Capable Transmit Configurations	Face Exposure Condition	Body Exposure Condition
1	WWAN + 2.4G WIFI	Yes	Yes
2	WWAN + 5G WIFI	Yes	Yes
3	WWAN + BT	Yes	Yes

Note :

1. The 2.4G WLAN and 5G WLAN cannot transmit simultaneously.
2. The WLAN and Bluetooth cannot transmit simultaneously, so there is no co-location test requirement for WLAN and Bluetooth.

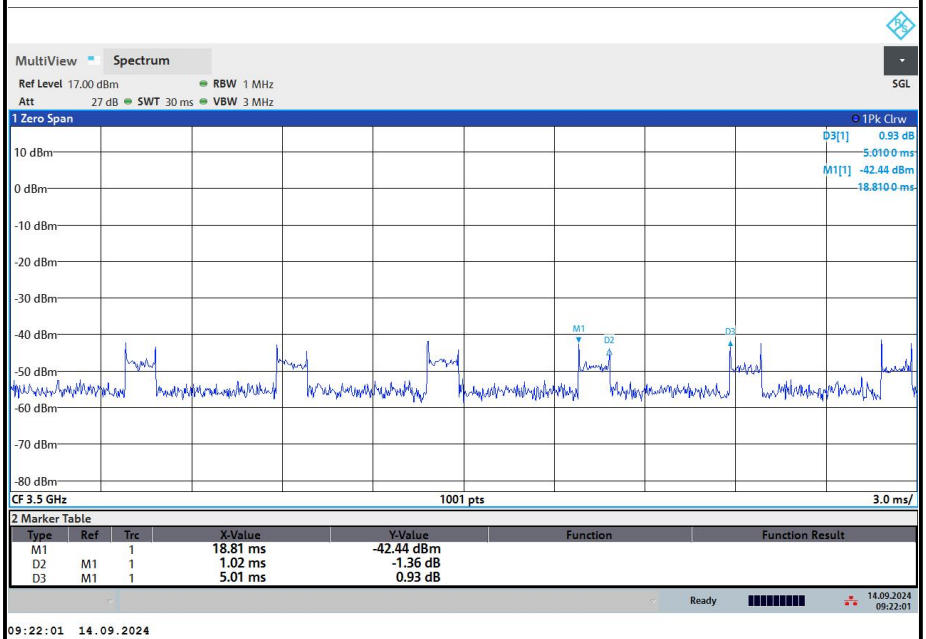
7 Maximum Output Power

7.1 Duty Cycle

<FR1 TDD>

The maximum duty cycle for 5G FR1 TDD PC3 is 20.4%, tested using a connection with a base station. for FR1 TDD SAR scaling need further consideration and the theoretical duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for FR1 TDD reported SAR calculation.

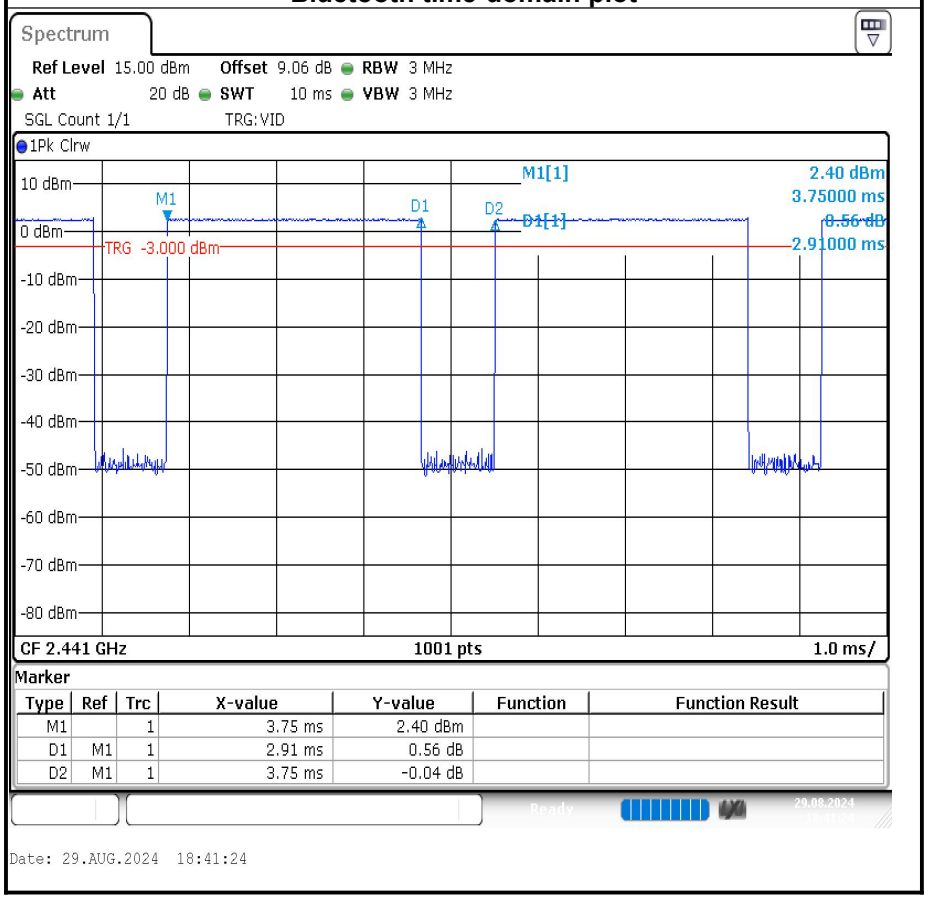
FR1 TDD time-domain plot



<2.4GHz Bluetooth>

The Bluetooth duty cycle are 77.6% as following figure, for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

Bluetooth time-domain plot



Maximum Conducted Power

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

Mode	WCDMA Band II	WCDMA Band IV	WCDMA Band V
RMC 12.2K	23.0	22.5	23.5
HSDPA	22.5	22.0	23.0
HSUPA	22.5	22.0	23.0

Mode	LTE 2	LTE 4	LTE 5
QPSK / 16QAM	21.0	22.0	21.0

Mode	LTE 7	LTE 12	LTE 17
QPSK / 16QAM	22.5	23.5	23.5

Mode	LTE 25	LTE 26	LTE 38
QPSK / 16QAM	21.0	21.0	23.0

Mode	LTE 41
QPSK / 16QAM	23.5

Mode	N2	N5	N7
QPSK / BPSK	21.0	23.0	21.0

Mode	N38	N41	N77(3450~3550)
QPSK / BPSK	25.0	21.5	22.0

Mode	N77(3700~3980)	N78(3450~3550)	N78(3700~3800)
QPSK / BPSK	21.5	22.0	22.0

Mode	2.4G WLAN	5.2G WLAN	5.8G WLAN
802.11b	15.0	N/A	N/A
802.11g	13.5	N/A	N/A
802.11a	N/A	16.5	15.5
802.11n HT20	14.0	15.0	15.0
802.11n HT40	13.5	13.0	14.0
802.11ac VHT20	N/A	15.5	15.0

Mode	2.4G Bluetooth
GFSK	2.5
8DPSK	1.5
LE 1M	0.0
LE 2M	0.0

7.2 Measured Conducted Power Result

Band	WCDMA Band II			WCDMA Band IV			3GPP MPR (dB)
Channel	9262	9400	9538	1312	1413	1513	
Frequency (MHz)	1852.4	1880.0	1907.6	1712.4	1732.6	1752.6	
RMC 12.2K	**22.90**	22.88	22.79	22.24	**22.43**	22.12	-
HSDPA Subtest-1	22.32	22.30	22.21	21.66	21.85	21.54	0
HSDPA Subtest-2	22.25	22.23	22.14	21.59	21.78	21.47	0
HSDPA Subtest-3	21.79	21.77	21.68	21.13	21.32	21.01	0.5
HSDPA Subtest-4	21.73	21.71	21.62	21.07	21.26	20.95	0.5
HSUPA Subtest-1	22.31	22.29	22.20	21.65	21.84	21.53	0
HSUPA Subtest-2	20.55	20.53	20.44	19.89	20.08	19.77	2
HSUPA Subtest-3	21.43	21.41	21.32	20.77	20.96	20.65	1
HSUPA Subtest-4	20.37	20.35	20.26	19.71	19.90	19.59	2
HSUPA Subtest-5	22.47	22.45	22.36	21.81	22.00	21.69	0

Band	WCDMA Band V			3GPP MPR (dB)
Channel	4132	4182	4233	
Frequency (MHz)	826.4	836.4	846.6	
RMC 12.2K	23.40	23.25	**23.44**	-
HSDPA Subtest-1	22.82	22.67	22.86	0
HSDPA Subtest-2	22.75	22.60	22.79	0
HSDPA Subtest-3	22.29	22.14	22.33	0.5
HSDPA Subtest-4	22.23	22.08	22.27	0.5
HSUPA Subtest-1	22.81	22.66	22.85	0
HSUPA Subtest-2	21.05	20.90	21.09	2
HSUPA Subtest-3	21.93	21.78	21.97	1
HSUPA Subtest-4	20.87	20.72	20.91	2
HSUPA Subtest-5	22.97	22.82	23.01	0

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18607	Mid CH 18900	High CH 19193		Low CH 18607	Mid CH 18900	High CH 19193	
			1850.7 MHz	1880.0 MHz	1909.3 MHz		1850.7 MHz	1880.0 MHz	1909.3 MHz	
2 / 1.4M	1	0	22.88	22.64	22.38	0	21.90	21.77	21.93	1
	1	2	22.82	22.72	22.47	0	21.77	21.62	21.68	1
	1	5	22.77	22.41	22.33	0	21.61	21.65	21.56	1
	3	0	22.95	22.66	22.41	0	21.84	21.66	21.82	1
	3	1	22.90	22.62	22.54	0	21.81	21.68	21.77	1
	3	3	22.87	22.58	22.37	0	21.73	21.70	21.83	1
	6	0	21.83	21.75	21.56	1	20.71	20.82	20.72	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18615	Mid CH 18900	High CH 19185		Low CH 18615	Mid CH 18900	High CH 19185	
			1851.5 MHz	1880.0 MHz	1908.5 MHz		1851.5 MHz	1880.0 MHz	1908.5 MHz	
2 / 3M	1	0	22.74	22.54	22.30	0	21.91	21.77	21.77	1
	1	7	22.76	22.65	22.42	0	21.69	21.68	21.66	1
	1	14	22.61	22.42	22.20	0	21.52	21.67	21.67	1
	8	0	21.85	21.65	21.51	1	20.73	20.77	20.81	2
	8	3	21.86	21.77	21.48	1	20.77	20.75	20.74	2
	8	7	21.75	21.68	21.51	1	20.79	20.72	20.83	2
	15	0	21.82	21.61	21.51	1	20.84	20.65	20.82	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18625 1852.5 MHz	Mid CH 18900 1880.0 MHz	High CH 19175 1907.5 MHz		Low CH 18625 1852.5 MHz	Mid CH 18900 1880.0 MHz	High CH 19175 1907.5 MHz	
2 / 5M	1	0	22.89	22.56	22.37	0	21.84	21.70	21.78	1
	1	12	22.87	22.55	22.47	0	21.59	21.72	21.74	1
	1	24	22.72	22.41	22.29	0	21.54	21.51	21.70	1
	12	0	21.78	21.61	21.52	1	20.83	20.81	20.72	2
	12	6	21.93	21.70	21.44	1	20.69	20.73	20.86	2
	12	13	21.92	21.62	21.40	1	20.82	20.61	20.83	2
	25	0	21.92	21.65	21.50	1	20.81	20.70	20.84	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18650 1855.0 MHz	Mid CH 18900 1880.0 MHz	High CH 19150 1905.0 MHz		Low CH 18650 1855.0 MHz	Mid CH 18900 1880.0 MHz	High CH 19150 1905.0 MHz	
2 / 10M	1	0	22.83	22.58	22.42	0	21.79	21.79	21.95	1
	1	24	22.92	22.58	22.43	0	21.60	21.57	21.77	1
	1	49	22.68	22.57	22.27	0	21.52	21.50	21.67	1
	25	0	21.93	21.58	21.44	1	20.71	20.82	20.88	2
	25	12	21.87	21.70	21.47	1	20.78	20.77	20.70	2
	25	25	21.81	21.59	21.45	1	20.75	20.74	20.72	2
	50	0	21.87	21.74	21.56	1	20.67	20.72	20.84	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18675 1857.5 MHz	Mid CH 18900 1880.0 MHz	High CH 19125 1902.5 MHz		Low CH 18675 1857.5 MHz	Mid CH 18900 1880.0 MHz	High CH 19125 1902.5 MHz	
2 / 15M	1	0	22.82	22.63	22.37	0	21.77	21.78	21.90	1
	1	37	22.74	22.69	22.42	0	21.76	21.64	21.77	1
	1	74	22.79	22.57	22.26	0	21.66	21.55	21.62	1
	36	0	21.90	21.73	21.41	1	20.79	20.79	20.86	2
	36	19	21.85	21.72	21.54	1	20.65	20.75	20.74	2
	36	39	21.80	21.67	21.42	1	20.81	20.78	20.81	2
	75	0	21.79	21.73	21.45	1	20.66	20.64	20.82	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18700 1860.0 MHz	Mid CH 18900 1880.0 MHz	High CH 19100 1900.0 MHz		Low CH 18700 1860.0 MHz	Mid CH 18900 1880.0 MHz	High CH 19100 1900.0 MHz	
2 / 20M	1	0	22.90	22.69	22.49	0	21.92	21.89	21.95	1
	1	50	**22.94**	22.73	22.53	0	21.78	21.75	21.81	1
	1	99	22.80	22.59	22.39	0	21.71	21.68	21.74	1
	50	0	21.98	21.77	21.57	1	20.89	20.86	20.92	2
	50	25	21.96	21.79	21.59	1	20.84	20.81	20.87	2
	50	50	21.95	21.74	21.54	1	20.84	20.81	20.87	2
	100	0	21.98	21.77	21.57	1	20.86	20.83	20.89	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19957 1710.7 MHz	Mid CH 20175 1732.5 MHz	High CH 20393 1754.3 MHz		Low CH 19957 1710.7 MHz	Mid CH 20175 1732.5 MHz	High CH 20393 1754.3 MHz	
4 / 1.4M	1	0	21.61	21.63	21.53	0	20.88	20.73	20.92	1
	1	2	21.62	21.78	21.69	0	20.87	20.70	20.79	1
	1	5	21.63	21.53	21.61	0	20.72	20.74	20.68	1
	3	0	21.66	21.63	21.54	0	20.85	20.77	20.86	1
	3	1	21.57	21.51	21.59	0	20.86	20.70	20.84	1
	3	3	21.61	21.55	21.53	0	20.87	20.84	20.88	1
	6	0	20.51	20.69	20.66	1	19.72	19.81	19.74	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19965 1711.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20385 1753.5 MHz		Low CH 19965 1711.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20385 1753.5 MHz	
4 / 3M	1	0	21.47	21.53	21.45	0	20.89	20.73	20.76	1
	1	7	21.56	21.71	21.64	0	20.79	20.76	20.77	1
	1	14	21.47	21.54	21.48	0	20.63	20.76	20.79	1
	8	0	20.56	20.62	20.64	1	19.74	19.88	19.85	2
	8	3	20.53	20.66	20.53	1	19.82	19.77	19.81	2
	8	7	20.49	20.65	20.67	1	19.93	19.86	19.88	2
	15	0	20.50	20.55	20.61	1	19.85	19.64	19.84	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19975 1712.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20375 1752.5 MHz		Low CH 19975 1712.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20375 1752.5 MHz	
4 / 5M	1	0	21.62	21.55	21.52	0	20.82	20.66	20.77	1
	1	12	21.67	21.61	21.69	0	20.69	20.80	20.85	1
	1	24	21.58	21.53	21.57	0	20.65	20.60	20.82	1
	12	0	20.49	20.58	20.65	1	19.84	19.92	19.76	2
	12	6	20.60	20.59	20.49	1	19.74	19.75	19.93	2
	12	13	20.66	20.59	20.56	1	19.96	19.75	19.88	2
	25	0	20.60	20.59	20.60	1	19.82	19.69	19.86	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20000 1715.0 MHz	Mid CH 20175 1732.5 MHz	High CH 20350 1750.0 MHz		Low CH 20000 1715.0 MHz	Mid CH 20175 1732.5 MHz	High CH 20350 1750.0 MHz	
4 / 10M	1	0	21.56	21.57	21.57	0	20.77	20.75	20.94	1
	1	24	21.72	21.64	21.65	0	20.70	20.65	20.88	1
	1	49	21.54	21.69	21.55	0	20.63	20.59	20.79	1
	25	0	20.64	20.55	20.57	1	19.72	19.93	19.92	2
	25	12	20.54	20.59	20.52	1	19.83	19.79	19.77	2
	25	25	20.55	20.56	20.61	1	19.89	19.88	19.77	2
	50	0	20.55	20.68	20.66	1	19.68	19.71	19.86	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20025 1717.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20325 1747.5 MHz		Low CH 20025 1717.5 MHz	Mid CH 20175 1732.5 MHz	High CH 20325 1747.5 MHz	
4 / 15M	1	0	21.55	21.62	21.52	0	20.75	20.74	20.89	1
	1	37	21.54	21.75	21.64	0	20.86	20.72	20.88	1
	1	74	21.65	21.69	21.54	0	20.77	20.64	20.74	1
	36	0	20.61	20.70	20.54	1	19.80	19.90	19.90	2
	36	19	20.52	20.61	20.59	1	19.70	19.77	19.81	2
	36	39	20.54	20.64	20.58	1	19.95	19.92	19.86	2
	75	0	20.47	20.67	20.55	1	19.67	19.63	19.84	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20050 1720.0 MHz	Mid CH 20175 1732.5 MHz	High CH 20300 1745.0 MHz		Low CH 20050 1720.0 MHz	Mid CH 20175 1732.5 MHz	High CH 20300 1745.0 MHz	
4 / 20M	1	0	21.63	21.68	21.64	0	20.90	20.85	20.94	1
	1	50	21.74	**21.79**	21.75	0	20.88	20.83	20.92	1
	1	99	21.66	21.71	21.67	0	20.82	20.77	20.86	1
	50	0	20.69	20.74	20.70	1	19.90	19.97	19.96	2
	50	25	20.63	20.68	20.64	1	19.89	19.83	19.94	2
	50	50	20.69	20.71	20.70	1	19.98	19.95	19.92	2
	100	0	20.66	20.71	20.67	1	19.87	19.82	19.91	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20407 824.7 MHz	Mid CH 20525 836.5 MHz	High CH 20643 848.3 MHz		Low CH 20407 824.7 MHz	Mid CH 20525 836.5 MHz	High CH 20643 848.3 MHz	
5 / 1.4M	1	0	20.02	20.31	20.04	0	19.27	19.37	19.32	1
	1	2	20.26	20.30	20.22	0	18.85	18.98	18.98	1
	1	5	20.15	20.41	20.19	0	18.94	19.05	18.96	1
	3	0	20.07	20.43	20.20	0	19.19	19.36	19.26	1
	3	1	20.19	20.37	20.09	0	19.14	19.27	19.23	1
	3	3	20.23	20.29	20.31	0	19.10	19.28	19.18	1
	6	0	19.25	19.35	19.27	1	18.12	18.27	18.21	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20415 825.5 MHz	Mid CH 20525 836.5 MHz	High CH 20635 847.5 MHz		Low CH 20415 825.5 MHz	Mid CH 20525 836.5 MHz	High CH 20635 847.5 MHz	
5 / 3M	1	0	20.09	20.33	20.13	0	19.11	19.25	19.28	1
	1	7	20.13	20.32	20.12	0	18.95	19.15	19.16	1
	1	14	20.24	20.35	20.17	0	18.97	19.06	18.99	1
	8	0	19.15	19.29	19.18	1	18.07	18.33	18.35	2
	8	3	19.16	19.26	19.19	1	18.07	18.26	18.18	2
	8	7	19.15	19.30	19.15	1	18.07	18.33	18.20	2
	15	0	19.20	19.36	19.21	1	18.19	18.30	18.33	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3G PP MPR (dB)
			Low CH 20425 826.5 MHz	Mid CH 20525 836.5 MHz	High CH 20625 846.5 MHz		Low CH 20425 826.5 MHz	Mid CH 20525 836.5 MHz	High CH 20625 846.5 MHz	
5 / 5M	1	0	19.99	20.21	20.21	0	19.21	19.31	19.25	1
	1	12	20.20	20.38	20.22	0	18.96	19.01	19.15	1
	1	24	20.22	20.40	20.25	0	18.95	19.09	19.07	1
	12	0	19.21	19.38	19.11	1	18.15	18.34	18.32	2
	12	6	19.09	19.40	19.13	1	18.17	18.20	18.29	2

	12	13	19.21	19.38	19.17	1	18.13	18.23	18.25	2
	25	0	19.10	19.37	19.32	1	18.02	18.31	18.34	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20450 829.0 MHz	Mid CH 20525 836.5 MHz	High CH 20600 844.0 MHz		Low CH 20450 829.0 MHz	Mid CH 20525 836.5 MHz	High CH 20600 844.0 MHz	
5 / 10M	1	0	20.17	20.36	20.21	0	19.28	19.45	19.44	1
	1	24	20.28	**20.47**	20.32	0	19.01	19.18	19.17	1
	1	49	20.26	20.45	20.30	0	18.98	19.15	19.14	1
	25	0	19.24	19.43	19.28	1	18.25	18.42	18.41	2
	25	12	19.25	19.44	19.29	1	18.22	18.39	18.38	2
	25	25	19.27	19.46	19.31	1	18.17	18.34	18.33	2
	50	0	19.30	19.49	19.34	1	18.21	18.38	18.37	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20775 2502.5 MHz	Mid CH 21100 2535.0 MHz	High CH 21425 2567.5 MHz		Low CH 20775 2502.5 MHz	Mid CH 21100 2535.0 MHz	High CH 21425 2567.5 MHz	
7 / 5M	1	0	22.20	22.14	22.05	0	21.29	21.34	21.27	1
	1	12	22.22	22.14	21.97	0	21.30	21.09	21.24	1
	1	24	22.42	22.23	22.04	0	21.38	21.24	21.37	1
	12	0	21.20	21.21	21.07	1	20.30	20.32	20.21	2
	12	6	21.26	21.26	21.13	1	20.31	20.36	20.39	2
	12	13	21.24	21.07	21.10	1	20.37	20.17	20.38	2
	25	0	21.40	21.24	21.07	1	20.45	20.24	20.38	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20800 2505.0 MHz	Mid CH 21100 2535.0 MHz	High CH 21400 2565.0 MHz		Low CH 20800 2505.0 MHz	Mid CH 21100 2535.0 MHz	High CH 21400 2565.0 MHz	
7 / 10M	1	0	22.22	22.04	22.11	0	21.33	21.24	21.32	1
	1	24	22.33	22.13	22.01	0	21.19	21.09	21.12	1
	1	49	22.41	22.30	22.17	0	21.35	21.25	21.21	1
	25	0	21.28	21.23	21.01	1	20.28	20.23	20.31	2
	25	12	21.27	21.17	21.06	1	20.41	20.32	20.23	2
	25	25	21.23	21.06	21.14	1	20.36	20.25	20.38	2
	50	0	21.44	21.10	21.20	1	20.39	20.37	20.32	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20825 2507.5 MHz	Mid CH 21100 2535.0 MHz	High CH 21375 2562.5 MHz		Low CH 20825 2507.5 MHz	Mid CH 21100 2535.0 MHz	High CH 21375 2562.5 MHz	
7 / 15M	1	0	22.16	22.08	22.09	0	21.44	21.28	21.31	1
	1	37	22.22	22.24	22.08	0	21.29	21.25	21.29	1
	1	74	22.46	22.17	22.14	0	21.31	21.29	21.26	1
	36	0	21.27	21.15	21.13	1	20.27	20.32	20.36	2
	36	19	21.39	21.20	21.06	1	20.45	20.32	20.34	2
	36	39	21.38	21.08	21.17	1	20.39	20.19	20.20	2
	75	0	21.34	21.12	21.04	1	20.38	20.24	20.35	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20850	Mid CH 21100	High CH 21350		Low CH 20850	Mid CH 21100	High CH 21350	
			2510.0 MHz	2535.0 MHz	2560.0 MHz		2510.0 MHz	2535.0 MHz	2560.0 MHz	
7 / 20M	1	0	22.35	22.20	22.12	0	21.45	21.38	21.42	1
	1	50	22.40	22.25	22.17	0	21.33	21.26	21.30	1
	1	99	**22.46**	22.31	22.23	0	21.42	21.35	21.39	1
	50	0	21.38	21.23	21.15	1	20.43	20.36	20.40	2
	50	25	21.40	21.26	21.18	1	20.45	20.38	20.42	2
	50	50	21.41	21.25	21.17	1	20.42	20.35	20.39	2
	100	0	21.45	21.30	21.22	1	20.46	20.39	20.43	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23017	Mid CH 23095	High CH 23173		Low CH 23017	Mid CH 23095	High CH 23173	
			699.7 MHz	707.5 MHz	715.3 MHz		699.7 MHz	707.5 MHz	715.3 MHz	
12 / 1.4M	1	0	22.88	22.63	22.73	0	21.77	21.60	21.83	1
	1	2	22.75	22.56	22.74	0	21.66	21.61	21.74	1
	1	5	22.59	22.57	22.80	0	21.78	21.65	21.70	1
	3	0	22.93	22.82	23.10	0	21.78	21.69	21.84	1
	3	1	23.02	22.87	23.01	0	21.85	21.62	21.75	1
	3	3	22.93	22.77	22.85	0	21.73	21.79	21.74	1
	6	0	21.86	21.73	21.91	1	20.90	20.83	20.80	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23025	Mid CH 23095	High CH 23165		Low CH 23025	Mid CH 23095	High CH 23165	
			700.5 MHz	707.5 MHz	714.5 MHz		700.5 MHz	707.5 MHz	714.5 MHz	
12 / 3M	1	0	22.80	22.68	22.87	0	21.84	21.73	21.85	1
	1	7	22.67	22.55	22.69	0	21.66	21.65	21.73	1
	1	14	22.75	22.51	22.66	0	21.75	21.59	21.80	1
	8	0	22.05	21.84	22.01	1	20.81	20.76	20.76	2
	8	3	22.01	21.71	22.09	1	20.76	20.76	20.68	2
	8	7	21.86	21.77	21.84	1	20.73	20.81	20.88	2
	15	0	21.93	21.78	22.01	1	20.91	20.70	20.81	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23035	Mid CH 23095	High CH 23155		Low CH 23035	Mid CH 23095	High CH 23155	
			701.5 MHz	707.5 MHz	713.5 MHz		701.5 MHz	707.5 MHz	713.5 MHz	
12 / 5M	1	0	22.81	22.50	22.71	0	21.74	21.70	21.71	1
	1	12	22.66	22.62	22.83	0	21.67	21.68	21.62	1
	1	24	22.78	22.44	22.64	0	21.69	21.64	21.62	1
	12	0	22.11	21.91	21.97	1	20.87	20.78	20.91	2
	12	6	22.00	21.80	22.01	1	20.74	20.73	20.85	2
	12	13	21.83	21.79	21.97	1	20.80	20.74	20.73	2
	25	0	21.94	21.72	21.97	1	20.88	20.75	20.76	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23060	Mid CH 23095	High CH 23130		Low CH 23060	Mid CH 23095	High CH 23130	
			704.0 MHz	707.5 MHz	711.0 MHz		704.0 MHz	707.5 MHz	711.0 MHz	
12 / 10M	1	0	22.89	22.69	**22.91**	0	21.87	21.78	21.86	1
	1	24	22.85	22.65	22.87	0	21.79	21.70	21.78	1
	1	49	22.79	22.59	22.81	0	21.83	21.74	21.82	1
	25	0	22.12	21.92	22.14	1	20.94	20.85	20.93	2
	25	12	22.08	21.88	22.10	1	20.87	20.78	20.86	2
	25	25	21.99	21.79	22.01	1	20.91	20.82	20.90	2
	50	0	22.03	21.83	22.05	1	20.93	20.84	20.92	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23755	Mid CH 23790	High CH 23825		Low CH 23755	Mid CH 23790	High CH 23825	
			706.5 MHz	710.0 MHz	713.5 MHz		706.5 MHz	710.0 MHz	713.5 MHz	
17 / 5M	1	0	23.17	23.43	23.23	0	22.83	22.32	22.45	1
	1	12	23.28	23.28	23.29	0	22.71	22.36	22.40	1
	1	24	23.07	23.20	23.18	0	22.51	22.14	22.22	1
	12	0	22.08	22.27	22.32	1	21.90	21.54	21.72	2
	12	6	22.16	22.29	22.14	1	21.96	21.61	21.69	2
	12	13	22.25	22.24	22.16	1	21.84	21.48	21.50	2
	25	0	22.11	22.34	22.31	1	21.92	21.45	21.69	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23780	Mid CH 23790	High CH 23800		Low CH 23780	Mid CH 23790	High CH 23800	
			709.0 MHz	710.0 MHz	711.0 MHz		709.0 MHz	710.0 MHz	711.0 MHz	
17 / 10M	1	0	23.33	**23.46**	23.39	0	22.87	22.49	22.59	1
	1	24	23.31	23.44	23.37	0	22.78	22.40	22.50	1
	1	49	23.23	23.36	23.29	0	22.70	22.32	22.42	1
	25	0	22.28	22.41	22.34	1	22.02	21.64	21.74	2
	25	12	22.22	22.35	22.28	1	22.01	21.63	21.73	2
	25	25	22.27	22.40	22.33	1	21.91	21.53	21.63	2
	50	0	22.28	22.41	22.34	1	21.98	21.60	21.70	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26047	Mid CH 26365	High CH 26683		Low CH 26047	Mid CH 26365	High CH 26683	
			1850.7 MHz	1882.5 MHz	1914.3 MHz		1850.7 MHz	1882.5 MHz	1914.3 MHz	
25 / 1.4M	1	0	20.33	20.40	20.02	0	19.17	19.25	19.22	1
	1	2	20.15	20.31	19.99	0	19.23	19.21	19.19	1
	1	5	20.31	20.20	20.14	0	19.11	19.18	19.11	1
	3	0	20.32	20.28	20.12	0	19.30	19.29	19.40	1
	3	1	20.30	20.26	19.97	0	19.29	19.25	19.36	1
	3	3	20.10	20.22	20.03	0	19.08	19.18	19.20	1
	6	0	19.23	19.25	19.04	1	18.29	18.32	18.36	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26055 1851.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26675 1913.5 MHz		Low CH 26055 1851.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26675 1913.5 MHz	
25 / 3M	1	0	20.28	20.32	20.02	0	19.19	19.32	19.36	1
	1	7	20.20	20.27	20.03	0	19.07	19.19	19.17	1
	1	14	20.19	20.17	20.14	0	18.98	19.19	19.12	1
	8	0	19.36	19.33	19.03	1	18.36	18.37	18.25	2
	8	3	19.15	19.19	19.11	1	18.24	18.35	18.39	2
	8	7	19.21	19.21	18.97	1	18.24	18.30	18.22	2
	15	0	19.18	19.30	19.08	1	18.17	18.26	18.36	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26065 1852.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26665 1912.5 MHz		Low CH 26065 1852.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26665 1912.5 MHz	
25 / 5M	1	0	20.34	20.30	20.03	0	19.12	19.24	19.29	1
	1	12	20.17	20.39	20.14	0	19.21	19.25	19.13	1
	1	24	20.12	20.31	19.99	0	19.03	19.23	19.11	1
	12	0	19.24	19.39	19.12	1	18.28	18.36	18.32	2
	12	6	19.23	19.25	19.06	1	18.14	18.22	18.25	2
	12	13	19.13	19.33	18.94	1	18.22	18.25	18.26	2
	25	0	19.26	19.31	19.08	1	18.16	18.20	18.22	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26090 1855.0 MHz	Mid CH 26365 1882.5 MHz	High CH 26640 1910.0 MHz		Low CH 26090 1855.0 MHz	Mid CH 26365 1882.5 MHz	High CH 26640 1910.0 MHz	
25 / 10M	1	0	20.18	20.40	20.04	0	19.30	19.24	19.30	1
	1	24	20.27	20.36	20.05	0	19.19	19.30	19.14	1
	1	49	20.24	20.23	20.08	0	18.97	19.14	19.08	1
	25	0	19.33	19.38	19.18	1	18.17	18.27	18.30	2
	25	12	19.19	19.22	19.00	1	18.25	18.29	18.22	2
	25	25	19.13	19.13	19.08	1	18.24	18.18	18.30	2
	50	0	19.34	19.35	19.00	1	18.30	18.22	18.36	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26115 1857.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26615 1907.5 MHz		Low CH 26115 1857.5 MHz	Mid CH 26365 1882.5 MHz	High CH 26615 1907.5 MHz	
25 / 15M	1	0	20.17	20.24	20.13	0	19.22	19.32	19.23	1
	1	37	20.29	20.32	20.02	0	19.20	19.22	19.16	1
	1	74	20.27	20.22	20.08	0	19.02	19.18	19.05	1
	36	0	19.27	19.38	19.17	1	18.22	18.37	18.25	2
	36	19	19.22	19.30	19.04	1	18.21	18.28	18.29	2
	36	39	19.25	19.20	19.00	1	18.26	18.20	18.21	2
	75	0	19.23	19.40	19.13	1	18.26	18.28	18.27	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26140 1860.0 MHz	Mid CH 26365 1882.5 MHz	High CH 26590 1905.0 MHz		Low CH 26140 1860.0 MHz	Mid CH 26365 1882.5 MHz	High CH 26590 1905.0 MHz	
25 / 20M	1	0	20.40	**20.41**	20.19	0	19.32	19.41	19.39	1
	1	50	20.34	20.40	20.18	0	19.24	19.33	19.31	1
	1	99	20.31	20.37	20.15	0	19.17	19.26	19.24	1
	50	0	19.39	19.45	19.23	1	18.37	18.46	18.44	2
	50	25	19.32	19.38	19.16	1	18.33	18.42	18.40	2
	50	50	19.27	19.33	19.11	1	18.27	18.36	18.34	2
	100	0	19.34	19.40	19.18	1	18.31	18.40	18.38	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26697 814.7 MHz	Mid CH 26865 831.5 MHz	High CH 27033 848.3 MHz		Low CH 26697 814.7 MHz	Mid CH 26865 831.5 MHz	High CH 27033 848.3 MHz	
26 / 1.4M	1	0	20.27	20.19	20.37	0	19.08	19.30	19.26	1
	1	2	20.39	20.38	20.39	0	19.17	19.28	19.30	1
	1	5	20.39	20.27	20.44	0	19.21	19.20	19.26	1
	3	0	20.24	20.20	20.39	0	19.29	19.36	19.25	1
	3	1	20.14	20.20	20.18	0	19.29	19.29	19.30	1
	3	3	20.19	20.34	20.35	0	19.05	19.07	19.19	1
	6	0	19.16	19.28	19.27	1	18.10	18.29	18.14	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26705 815.5 MHz	Mid CH 26865 831.5 MHz	High CH 27025 847.5 MHz		Low CH 26705 815.5 MHz	Mid CH 26865 831.5 MHz	High CH 27025 847.5 MHz	
26 / 3M	1	0	20.21	20.36	20.31	0	19.16	19.16	19.14	1
	1	7	20.38	20.30	20.31	0	19.19	19.33	19.39	1
	1	14	20.22	20.22	20.29	0	19.08	19.22	19.33	1
	8	0	19.27	19.29	19.41	1	18.22	18.31	18.30	2
	8	3	19.08	19.17	19.23	1	18.18	18.35	18.22	2
	8	7	19.23	19.30	19.31	1	18.15	18.10	18.12	2
	15	0	19.16	19.22	19.36	1	18.23	18.14	18.29	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26715 816.5 MHz	Mid CH 26865 831.5 MHz	High CH 27015 846.5 MHz		Low CH 26715 816.5 MHz	Mid CH 26865 831.5 MHz	High CH 27015 846.5 MHz	
26 / 5M	1	0	20.19	20.24	20.35	0	19.18	19.17	19.19	1
	1	12	20.31	20.31	20.30	0	19.27	19.24	19.36	1
	1	24	20.25	20.36	20.31	0	19.10	19.16	19.16	1
	12	0	19.38	19.24	19.40	1	18.22	18.29	18.33	2
	12	6	19.19	19.07	19.19	1	18.11	18.28	18.19	2
	12	13	19.30	19.30	19.29	1	18.02	18.07	18.21	2
	25	0	19.16	19.20	19.23	1	18.09	18.10	18.21	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26740	Mid CH 26865	High CH 26990		Low CH 26740	Mid CH 26865	High CH 26990	
			819.0 MHz	831.5 MHz	844.0 MHz		819.0 MHz	831.5 MHz	844.0 MHz	
26 / 10M	1	0	20.30	20.28	20.26	0	19.15	19.28	19.17	1
	1	24	20.32	20.37	20.31	0	19.13	19.23	19.22	1
	1	49	20.33	20.30	20.28	0	19.08	19.20	19.18	1
	25	0	19.27	19.21	19.32	1	18.21	18.28	18.41	2
	25	12	19.12	19.10	19.27	1	18.26	18.27	18.36	2
	25	25	19.18	19.27	19.22	1	18.08	18.08	18.21	2
	50	0	19.29	19.22	19.37	1	18.15	18.23	18.12	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26765	Mid CH 26865	High CH 26965		Low CH 26765	Mid CH 26865	High CH 26965	
			821.5 MHz	831.5 MHz	841.5 MHz		821.5 MHz	831.5 MHz	841.5 MHz	
26 / 15M	1	0	20.37	20.37	20.41	0	19.24	19.31	19.32	1
	1	37	20.40	20.40	20.44	0	19.32	19.39	19.40	1
	1	74	20.42	20.42	**20.46**	0	19.28	19.35	19.36	1
	36	0	19.39	19.39	19.43	1	18.35	18.42	18.43	2
	36	19	19.26	19.26	19.30	1	18.31	18.38	18.39	2
	36	39	19.37	19.37	19.41	1	18.15	18.22	18.23	2
	75	0	19.35	19.35	19.39	1	18.23	18.30	18.31	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 37775	Mid CH 38000	High CH 38225		Low CH 37775	Mid CH 38000	High CH 38225	
			2572.5 MHz	2595 MHz	2617.5 MHz		2572.5 MHz	2595 MHz	2617.5 MHz	
38/ 5M	1	0	22.53	22.48	22.89	0	21.48	21.58	21.88	1
	1	12	22.66	22.56	22.54	0	21.53	21.64	21.93	1
	1	24	22.75	22.64	22.91	0	21.54	21.69	21.85	1
	12	0	21.57	21.53	21.74	1	20.67	20.69	20.90	2
	12	6	21.64	21.63	21.67	1	20.69	20.77	21.01	2
	12	13	21.67	21.71	21.60	1	20.73	20.77	21.10	2
	25	0	21.79	21.69	21.64	1	20.55	20.65	20.99	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 37800	Mid CH 38000	High CH 38200		Low CH 37800	Mid CH 38000	High CH 38200	
			2575 MHz	2595 MHz	2615 MHz		2575 MHz	2595 MHz	2615 MHz	
38/ 10M	1	0	22.38	22.31	22.87	0	21.56	21.60	21.77	1
	1	24	22.55	22.61	22.55	0	21.48	21.66	21.92	1
	1	49	22.69	22.55	22.80	0	21.55	21.60	21.88	1
	25	0	21.71	21.59	21.87	1	20.72	20.78	21.04	2
	25	12	21.70	21.66	21.65	1	20.77	20.66	20.90	2
	25	25	21.72	21.76	21.65	1	20.74	20.84	21.11	2
	50	0	21.62	21.62	21.64	1	20.63	20.66	20.80	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 37825	Mid CH 38000	High CH 38175		Low CH 37825	Mid CH 38000	High CH 38175	
			2577.5 MHz	2595 MHz	2612.5 MHz		2577.5 MHz	2595 MHz	2612.5 MHz	
38/ 15M	1	0	22.38	22.43	22.79	0	21.54	21.58	21.74	1
	1	37	22.68	22.54	22.58	0	21.58	21.56	21.77	1
	1	74	22.61	22.67	22.91	0	21.53	21.73	21.89	1
	36	0	21.67	21.67	21.79	1	20.60	20.82	21.05	2
	36	19	21.63	21.58	21.63	1	20.76	20.71	21.03	2
	36	39	21.76	21.77	21.74	1	20.73	20.83	21.08	2
	75	0	21.62	21.66	21.68	1	20.60	20.75	20.89	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 37850	Mid CH 38000	High CH 38150		Low CH 37850	Mid CH 38000	High CH 38150	
			2580 MHz	2595 MHz	2610 MHz		2580 MHz	2595 MHz	2610 MHz	
38/ 20M	1	0	22.54	22.49	**22.95**	0	21.63	21.69	21.91	1
	1	50	22.72	22.67	22.73	0	21.67	21.73	21.95	1
	1	99	22.75	22.70	22.93	0	21.69	21.75	21.97	1
	50	0	21.75	21.70	21.88	1	20.80	20.86	21.08	2
	50	25	21.76	21.71	21.82	1	20.80	20.86	21.08	2
	50	50	21.85	21.80	21.79	1	20.90	20.96	21.18	2
	100	0	21.80	21.75	21.82	1	20.71	20.77	20.99	2

LTE Band / BW	RB Size	RB Offset	QPSK					3GPP MPR (dB)	16QAM					3GPP MPR (dB)
			Low CH 39675 2498.5 MHz	Mid CH 40148 2545.8 MHz	Mid CH 40620 2593 MHz	MidCH 40193 2640.3 MHz	High CH 41565 2687.5 MHz		Low CH 39675 2498.5 MHz	Mid CH 40148 2545.8 MHz	Mid CH 40620 2593 MHz	MidCH 40193 2640.3 MHz	High CH 41565 2687.5 MHz	
41/ 5M	1	0	22.86	22.99	23.12	23.07	23.09	0	22.08	21.98	22.07	21.79	21.63	1
	1	12	22.51	22.63	22.76	22.66	22.68	0	22.22	22.18	22.27	22.09	21.93	1
	1	24	22.44	22.66	22.79	22.66	22.68	0	22.20	22.10	22.19	22.01	21.85	1
	12	0	21.91	21.89	22.02	22.11	22.13	1	20.96	20.86	20.95	20.77	20.61	2
	12	6	21.53	21.76	21.89	21.76	21.78	1	20.94	20.74	20.83	20.62	20.46	2
	12	13	21.57	21.84	21.97	21.94	21.96	1	20.98	20.89	20.98	20.63	20.47	2
	25	0	21.72	21.77	21.90	21.88	21.90	1	20.94	20.77	20.86	20.82	20.66	2

LTE Band / BW	RB Size	RB Offset	QPSK					3GPP MPR (dB)	16QAM					3GPP MPR (dB)
			Low CH 39700 2501 MHz	Mid CH 40160 2547 MHz	Mid CH 40620 2593 MHz	Mid CH 41080 2639 MHz	High CH 41540 2685 MHz		Low CH 39700 2501 MHz	Mid CH 40160 2547 MHz	Mid CH 40620 2593 MHz	Mid CH 41080 2639 MHz	High CH 41540 2685 MHz	
41/ 10M	1	0	22.97	22.99	23.12	23.10	23.12	0	22.11	21.90	21.99	21.88	21.72	1
	1	24	22.56	22.58	22.71	22.70	22.72	0	22.27	22.20	22.29	21.99	21.83	1
	1	49	22.46	22.59	22.72	22.74	22.76	0	22.20	22.24	22.33	22.08	21.92	1
	25	0	21.85	21.96	22.09	22.15	22.17	1	20.86	20.72	20.81	20.77	20.61	2
	25	12	21.52	21.70	21.83	21.79	21.81	1	20.97	20.84	20.93	20.74	20.58	2
	25	25	21.77	21.87	22.00	21.87	21.89	1	20.81	20.73	20.82	20.66	20.50	2
	50	0	21.72	21.69	21.82	21.78	21.80	1	20.89	20.88	20.97	20.68	20.52	2

LTE Band / BW	RB Size	RB Offset	QPSK					3GPP MPR (dB)	16QAM					3GPP MPR (dB)
			Low CH 39725 2503.5 MHz	Mid CH 40173 2548.3 MHz	Mid CH 40620 2593 MHz	Mid CH 41068 2637.8 MHz	High CH 41515 2682.5 MHz		Low CH 39725 2503.5 MHz	Mid CH 40173 2548.3 MHz	Mid CH 40620 2593 MHz	Mid CH 41068 2637.8 MHz	High CH 41515 2682.5 MHz	
41/ 15M	1	0	22.96	22.97	23.10	23.10	23.12	0	22.20	21.91	22.00	21.93	21.77	1
	1	37	22.50	22.68	22.81	22.70	22.72	0	22.24	22.08	22.17	21.94	21.78	1
	1	74	22.58	22.56	22.69	22.64	22.66	0	22.34	22.24	22.33	21.98	21.82	1
	36	0	21.85	21.94	22.07	22.10	22.12	1	20.87	20.77	20.86	20.60	20.44	2
	36	19	21.59	21.68	21.81	21.74	21.76	1	20.82	20.81	20.90	20.60	20.44	2
	36	39	21.62	21.82	21.95	21.82	21.84	1	20.87	20.89	20.98	20.73	20.57	2
	75	0	21.72	21.77	21.90	21.94	21.96	1	20.99	20.93	21.02	20.73	20.57	2

LTE Band / BW	RB Size	RB Offset	QPSK					3GPP MPR (dB)	16QAM					3GPP MPR (dB)
			Low CH 39750 2506 MHz	Mid CH 40185 2549.5 MHz	Mid CH 40620 2593 MHz	Mid CH 41055 2646.5 MHz	High CH 41490 2680 MHz		Low CH 39750 2506 MHz	Mid CH 40185 2549.5 MHz	Mid CH 40620 2593 MHz	Mid CH 41055 2646.5 MHz	High CH 41490 2680 MHz	
41/ 20M	1	0	22.98	23.10	**23.23**	23.18	23.20	0	22.21	22.10	22.19	21.98	21.82	1
	1	50	22.64	22.76	22.89	22.84	22.86	0	22.36	22.25	22.34	22.13	21.97	1
	1	99	22.60	22.72	22.85	22.80	22.82	0	22.39	22.28	22.37	22.16	22.00	1
	50	0	21.95	22.07	**22.20**	22.15	22.17	1	21.01	20.90	20.99	20.78	20.62	2
	50	25	21.70	21.82	21.95	21.90	21.92	1	21.02	20.91	21.00	20.79	20.63	2
	50	50	21.77	21.89	22.02	21.97	21.99	1	21.00	20.89	20.98	20.77	20.61	2
	100	0	21.75	21.87	22.00	21.95	21.97	1	21.07	20.96	21.05	20.84	20.68	2

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**374000**	**376000**	**378000**		
Frequency (MHz)					**1870**	**1880**	**1890**		
N2/40 M	DFT-s-OFDM	**π/2 BPSK**	1	1	20.19	20.27	20.19	21.0	0.0
		π/2 BPSK	1	108	20.15	20.18	20.09		
		π/2 BPSK	1	214	20.12	20.20	20.06		
		π/2 BPSK	108	0	20.18	20.26	20.16	21.0	0.0
		π/2 BPSK	108	54	20.12	20.28	20.14	21.0	0.0
		π/2 BPSK	108	108	20.08	20.11	20.02	21.0	0.0
		π/2 BPSK	216	0	20.09	20.26	20.14		
		QPSK	1	1	20.24	**20.32**	20.28	21.0	0.0
		QPSK	1	108	20.20	20.28	20.24		
		QPSK	1	214	20.26	20.30	20.19		
		QPSK	108	0	20.13	20.26	20.09	21.0	0.0
		QPSK	108	54	20.14	**20.28**	20.18	21.0	0.0
		QPSK	108	108	20.05	20.11	20.04	21.0	0.0
		QPSK	216	0	20.15	20.27	20.07		
		16QAM	1	1	**18.50**	17.86	17.41	19.0	2.0
		64QAM	1	1	**18.15**	17.80	17.45	18.5	2.5
		256QAM	1	1	**14.74**	14.51	14.09	15.0	6.0
Channel					**37350**	**376000**	**378500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1867.5**	**1880**	**1892.5**		
35 M	**QPSK**		1	1	20.15	20.23	20.15	21.0	0
Channel					**373000**	**376000**	**379000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1865**	**1880**	**1895**		
30 M	**QPSK**		1	1	20.13	20.21	20.13	21.0	0
Channel					**372500**	**376000**	**379500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1862.5**	**1880**	**1897.5**		
25 M	**QPSK**		1	1	20.14	20.23	20.10	21.0	0
Channel					**372000**	**376000**	**380000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1860**	**1880**	**1900**		
20 M	**QPSK**		1	1	20.1	20.08	20.15	21.0	0
Channel					**371500**	**376000**	**380500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1857.5**	**1880**	**1902.5**		
15 M	**QPSK**		1	1	20.12	20.08	20.12	21.0	0
Channel					**371000**	**376000**	**381000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1855**	**1880**	**1905**		
10 M	**QPSK**		1	1	20.08	20.10	20.10	21.0	0
Channel					**370500**	**376000**	**381500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**1852.5**	**1880**	**1907.5**		
5 M	**QPSK**		1	1	20.11	20.15	20.05	21.0	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**166800**	**167300**	**167800**		
Frequency (MHz)					**834**	**836.5**	**839**		
N5/20 M	DFT-s-OFDM	**π/2 BPSK**	1	1	22.42	22.41	22.35	23.0	0.0
		π/2 BPSK	1	53	22.38	**22.50**	22.46		
		π/2 BPSK	1	104	22.28	22.32	22.40		
		π/2 BPSK	50	0	21.18	21.24	21.26	22.0	1.0
		π/2 BPSK	50	28	21.32	21.44	21.40	22.0	1.0
		π/2 BPSK	50	56	21.26	21.34	21.29	22.0	1.0
		π/2 BPSK	100	0	21.24	21.38	21.20		
		QPSK	1	1	22.35	**22.65**	22.41	23.0	0.0
		QPSK	1	53	22.33	22.61	22.38		
		QPSK	1	104	22.31	**22.59**	22.37		
		QPSK	50	0	21.19	21.26	21.17	22.0	1.0
		QPSK	50	28	21.28	21.35	21.20	22.0	1.0
		QPSK	50	56	21.22	21.30	21.25	23.0	0.0
		QPSK	100	0	22.33	22.50	22.46		
		16QAM	1	1	21.22	**21.50**	21.28	22.0	1.0
		64QAM	1	1	19.82	**20.12**	19.88	20.5	2.5
		256QAM	1	1	18.07	**18.37**	18.13	19.0	4.0
Channel					**166300**	**167300**	**168300**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**831.5**	**836.5**	**841.5**		
15 M	**QPSK**		1	1	22.29	22.59	22.35	23.0	0
Channel					**165800**	**167300**	**168800**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**829**	**836.5**	**844**		
10 M	**QPSK**		1	1	22.15	22.46	22.27	23.0	0
Channel					**165300**	**167300**	**169300**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**826.5**	**836.5**	**846.5**		
5 M	**QPSK**		1	1	22.19	22.44	22.23	23.0	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**504000**	**507000**	**510000**		
Frequency (MHz)					**2520**	**2535**	**2550**		
N7/40 M	DFT-s-OFDM	**π/2 BPSK**	1	1	20.45	20.53	20.63	21.0	0.0
		π/2 BPSK	1	108	20.35	20.38	20.53		
		π/2 BPSK	1	214	20.57	20.39	20.49		
		π/2 BPSK	108	0	20.28	20.31	20.37	21.0	0.0
		π/2 BPSK	108	54	20.39	20.37	20.56	21.0	0.0
		π/2 BPSK	108	108	20.36	20.29	20.26	21.0	0.0
		π/2 BPSK	216	0	20.40	20.36	20.48		
		QPSK	1	1	20.47	20.55	**20.65**	21.0	0.0
		QPSK	1	108	20.37	20.40	20.55		
		QPSK	1	214	20.60	20.42	20.52		
		QPSK	108	0	20.32	20.35	20.41	21.0	0.0
		QPSK	108	54	20.44	20.42	**20.61**	21.0	0.0
		QPSK	108	108	20.38	20.31	20.28	21.0	0.0
		QPSK	216	0	20.47	20.43	**20.55**		
		16QAM	1	1	20.05	20.18	20.24	20.5	0.5
		64QAM	1	1	18.62	18.73	18.68	19.0	2.0
		256QAM	1	1	17.08	17.22	17.23	17.5	3.5
Channel					**503000**	**507000**	**511000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2515**	**2535**	**2555**		
30 M	**QPSK**		1	1	20.43	20.50	20.59	21	0
Channel					**502500**	**507000**	**511500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2512.5**	**2535**	**2557.5**		
25 M	**QPSK**		1	1	20.48	20.52	20.61	21	0
Channel					**502500**	**507000**	**511500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2512.5**	**2535**	**2557.5**		
20 M	**QPSK**		1	1	20.44	20.56	20.47	21	0
Channel					**501500**	**507000**	**512500**	Tune-up limit	MPR (dB)
Frequency (MHz)					**2507**	**2535**	**2562.5**		
15 M	**QPSK**		1	1	20.42	20.54	20.46	21	0
Channel					**501000**	**507000**	**513000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2505**	**2535**	**2565**		
10 M	**QPSK**		1	1	20.41	20.44	20.52	21	0
Channel					**500500**	**507000**	**513500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2502.5**	**2535**	**2567.5**		
5 M	**QPSK**		1	1	20.46	20.4	20.51	21	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**518004**	**519000**	**519996**		
Frequency (MHz)					**2590.02**	**2595**	**2599.98**		
N38/40 M	DFT-s-OFDM	**π/2 BPSK**	1	1	24.04	23.94	24.04	25.0	0.0
		π/2 BPSK	1	53	24.25	24.18	24.30		
		π/2 BPSK	1	104	24.39	24.30	24.46		
		π/2 BPSK	50	0	22.38	22.19	22.35	23.0	2.0
		π/2 BPSK	50	28	22.43	22.08	22.21	23.0	2.0
		π/2 BPSK	50	56	22.35	22.10	22.26	23.0	2.0
		π/2 BPSK	100	0	22.93	22.76	22.89		
		QPSK	1	1	24.22	24.02	24.18	25.0	0.0
		QPSK	1	53	24.33	24.15	24.26		
		QPSK	1	104	**24.48**	24.27	24.45		
		QPSK	50	0	22.26	22.10	22.17	23.0	2.0
		QPSK	50	28	**22.30**	22.13	22.24	23.0	2.0
		QPSK	50	56	22.26	22.11	22.17	23.0	2.0
		QPSK	100	0	**22.56**	22.48	22.30		
		16QAM	1	1	23.55	23.42	23.37	24.0	1.0
		64QAM	1	1	22.32	22.25	22.18	23.0	2.0
		256QAM	1	1	21.65	21.59	21.44	22.0	3.0
Channel					**517002**	**519000**	**520998**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2585.01**	**2595**	**2604.99**		
30 M	**QPSK**		1	1	24.27	24.33	24.20	25.0	0
Channel					**516000**	**519000**	**522000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2580**	**2595**	**2610**		
20 M	**QPSK**		1	1	24.36	24.32	24.42	25.0	0
Channel					**515502**	**519000**	**522498**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2577.51**	**2595**	**2612.49**		
15 M	**QPSK**		1	1	24.29	24.38	24.24	25.0	0
Channel					**515004**	**519000**	**522996**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2575.02**	**2595**	**2614.98**		
10 M	**QPSK**		1	1	24.22	24.36	24.35	25.0	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**509202**	**518598**	**528000**		
Frequency (MHz)					**2546.01**	**2592.99**	**2640**		
N41/100 M	DFT-s-OFDM	**π/2 BPSK**	1	1	20.35	**20.77**	20.21	21.5	0.0
		π/2 BPSK	1	137	19.87	19.95	19.87		
		π/2 BPSK	1	271	18.89	18.30	18.49		
		π/2 BPSK	135	1	18.89	18.77	18.68	19.5	2.0
		π/2 BPSK	135	138	19.01	**19.04**	18.58	19.5	2.0
		π/2 BPSK	135	271	18.82	18.66	18.59	19.5	2.0
		π/2 BPSK	270	0	18.80	**19.31**	18.77		
		QPSK	1	1	20.23	20.56	20.25	21.0	0.5
		QPSK	1	137	19.69	19.47	19.52		
		QPSK	1	271	18.71	18.13	18.49		
		QPSK	135	1	18.90	18.69	18.42	19.5	2.0
		QPSK	135	138	18.94	18.54	18.67	19.5	2.0
		QPSK	135	271	18.76	18.60	18.53	19.5	2.0
		QPSK	270	0	19.02	19.21	18.92		
		16QAM	1	1	18.44	18.42	18.47	19.0	2.5
		64QAM	1	1	18.77	18.55	18.46	19.5	2.0
		256QAM	1	1	18.60	18.37	18.41	19.5	2.0
Channel					**508200**	**518598**	**528996**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2541**	**2592.99**	**2644.98**		
90 M	**BPSK**		1	1	20.34	20.70	20.22	21.5	0
Channel					**507204**	**518598**	**529998**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2536.02**	**2592.99**	**2649.99**		
80 M	**BPSK**		1	1	20.32	20.68	20.21	21.5	0
Channel					**505200**	**518598**	**531996**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2526**	**2592.99**	**2656.98**		
60 M	**BPSK**		1	1	20.31	20.67	20.19	21.5	0
Channel					**504204**	**518598**	**532998**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2521.02**	**2592.99**	**2664.99**		
50 M	**BPSK**		1	1	20.36	20.72	20.24	21.5	0
Channel					**503202**	**518598**	**534000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2516.01**	**2592.99**	**2670**		
40 M	**BPSK**		1	1	20.34	20.70	20.22	21.5	0
Channel					**502200**	**518598**	**535000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2511**	**2592.99**	**2675**		
30 M	**BPSK**		1	1	20.35	20.66	20.26	21.5	0
Channel					**501204**	**518598**	**535998**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**2506.02**	**2592.99**	**2679.9**		
20 M	**BPSK**		1	1	20.42	20.68	20.31	21.5	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel						**633334**			
Frequency (MHz)						**3500.01**			
N77/100 M	DFT-s-OFDM	**π/2 BPSK**	1	1		**21.26**		22.0	0.0
		π/2 BPSK	1	137		21.05			
		π/2 BPSK	1	271		20.14			
		π/2 BPSK	135	0		**20.91**		21.5	0.5
		π/2 BPSK	135	69		21.14		21.5	0.5
		π/2 BPSK	135	138		21.02		21.5	0.5
		π/2 BPSK	270	0		21.41		22.0	0.0
		QPSK	1	1		**21.35**		22.0	0.0
		QPSK	1	137		21.10			
		QPSK	1	271		20.20			
		QPSK	135	0		20.77		21.5	0.5
		QPSK	135	69		21.15		21.5	0.5
		QPSK	135	138		21.03		21.5	0.5
		QPSK	270	0		**21.42**		22.0	0.0
		16QAM	1	1		**21.18**		21.5	0.5
		64QAM	1	1		**21.10**		21.5	0.5
		256QAM	1	1		**21.12**		21.5	0.5
Channel					**633000**	**633334**	**633668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3495**	**3500.01**	**3502.02**		
90 M	**QPSK**		1	1	21.34	21.35	21.29	22.0	0
Channel					**632668**	**633334**	**634000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3490.02**	**3500.01**	**3510**		
80 M	**QPSK**		1	1	21.32	21.34	21.29	22.0	0
Channel					**632000**	**633334**	**634668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3480**	**3500.01**	**352002**		
60 M	**QPSK**		1	1	21.3	21.31	21.25	22.0	0
Channel					**631668**	**633334**	**635000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3475.02**	**3500.01**	**3525**		
50 M	**QPSK**		1	1	21.22	21.27	21.32	22.0	0
Channel					**631334**	**633334**	**635334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3470.01**	**3500.01**	**3530.01**		
40 M	**QPSK**		1	1	21.35	21.22	21.26	22.0	0
Channel					**631000**	**633334**	**635668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3465**	**3500.01**	**3535.02**		
30 M	**QPSK**		1	1	21.20	21.25	21.28	22.0	0
Channel					**630834**	**633334**	**635834**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3462.51**	**3500.01**	**3537.51**		
25 M	**QPSK**		1	1	21.3	21.26	21.33	22.0	0
Channel					**630668**	**633334**	**636000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3460.02**	**3500.01**	**3540**		
20 M	**QPSK**		1	1	21.26	21.32	21.32	22.0	0
Channel					**630500**	**633334**	**636168**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3457.5**	**3500.01**	**3542.52**		
15 M	**QPSK**		1	1	21.24	21.29	21.31	22.0	0
Channel					**630334**	**633334**	**636334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3455.01**	**3500.01**	**3545.01**		
10 M	**QPSK**		1	1	21.3	21.28	21.22	22.0	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel					**650000**	**656000**	**662000**		
Frequency (MHz)					**3750**	**3840**	**3930**		
N77/100 M	DFT-s-OFDM	**π/2 BPSK**	1	1	**20.90**	20.80	20.76	21.5	0.0
		π/2 BPSK	1	137	20.65	20.78	20.55		
		π/2 BPSK	1	271	20.70	20.81	20.49		
		π/2 BPSK	135	0	**20.10**	19.98	19.89	20.5	1.0
		π/2 BPSK	135	69	20.15	19.82	19.87	20.5	1.0
		π/2 BPSK	135	138	19.96	19.79	19.68	20.5	1.0
		π/2 BPSK	270	0	21.23	21.05	20.64	21.5	0.0
		QPSK	1	1	**20.92**	20.82	20.78	21.5	0.0
		QPSK	1	137	20.62	20.86	20.69		
		QPSK	1	271	20.18	20.72	20.49		
		QPSK	135	0	20.09	19.84	19.78	20.5	1.0
		QPSK	135	69	**20.18**	19.97	19.89	20.5	1.0
		QPSK	135	138	19.93	19.79	19.68	20.5	1.0
		QPSK	270	0	**21.30**	21.19	21.22	21.5	0.0
		16QAM	1	1	20.91	20.88	**20.93**	21.5	0.0
		64QAM	1	1	**20.99**	20.86	20.91	21.5	0.0
		256QAM	1	1	**20.97**	20.82	20.89	21.5	0.0
Channel					**649668**	**656000**	**662334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3745.02**	**3840**	**3935.01**		
90 M	**QPSK**		1	1	20.90	20.80	20.76	21.5	0
Channel					**649334**	**656000**	**662668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3740.01**	**3840**	**3940.02**		
80 M	**QPSK**		1	1	20.91	20.82	20.79	21.5	0
Channel					**648668**	**656000**	**663334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3730.02**	**3840**	**3950.01**		
60 M	**QPSK**		1	1	20.93	20.84	20.8	21.5	0
Channel					**648334**	**656000**	**663668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3725.01**	**3840**	**3955.02**		
50 M	**QPSK**		1	1	20.86	20.76	20.72	21.5	0
Channel					**648000**	**656000**	**664000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3720**	**3840**	**3960**		
40 M	**QPSK**		1	1	20.92	20.80	20.78	21.5	0
Channel					**647668**	**656000**	**664334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3715.02**	**3840**	**3965.01**		
30 M	**QPSK**		1	1	20.92	20.85	20.79	21.5	0
Channel					**647500**	**656000**	**664500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3712.5**	**3840**	**3967.5**		
25 M	**QPSK**		1	1	20.89	20.84	20.81	21.5	0
Channel					**647334**	**656000**	**664668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3710.01**	**3840**	**3970.02**		
20 M	**QPSK**		1	1	20.88	20.81	20.78	21.5	0
Channel					**647168**	**656000**	**664834**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3707.52**	**3840**	**3972.51**		
15 M	**QPSK**		1	1	20.87	20.8	20.77	21.5	0
Channel					**647000**	**656000**	**665000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3705**	**3840**	**3970**		
10 M	**QPSK**		1	1	20.86	20.75	20.79	21.5	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel						**633334**			
Frequency (MHz)						**3500.01**			
N78/100 M	DFT-s-OFDM	**π/2 BPSK**	1	1		**21.69**		22.0	0.0
		π/2 BPSK	1	137		20.96			
		π/2 BPSK	1	271		20.46			
		π/2 BPSK	135	0		21.32		22.0	0.0
		π/2 BPSK	135	69		21.40		22.0	0.0
		π/2 BPSK	135	138		21.35		22.0	0.0
		π/2 BPSK	270	0		**21.65**			
		QPSK	1	1		**21.74**		22.0	0.0
		QPSK	1	137		21.25			
		QPSK	1	271		20.68			
		QPSK	135	0		21.38		22.0	0.0
		QPSK	135	69		**21.42**		22.0	0.0
		QPSK	135	138		21.29		22.0	0.0
		QPSK	270	0		21.66			
		16QAM	1	1		21.37		22.0	0.0
		64QAM	1	1		21.58		22.0	0.0
		256QAM	1	1		21.47		22.0	0.0
Channel					**633000**	**633334**	**633668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3495**	**3500.01**	**3502.02**		
90 M	**QPSK**		1	1	21.62	21.68	21.81	22.0	0
Channel					**632668**	**633334**	**634000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3490.02**	**3500.01**	**3510**		
80 M	**QPSK**		1	1	21.68	21.69	21.79	22.0	0
Channel					**632000**	**633334**	**634668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3480**	**3500.01**	**352002**		
60 M	**QPSK**		1	1	21.64	21.68	21.75	22.0	0
Channel					**631668**	**633334**	**635000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3475.02**	**3500.01**	**3525**		
50 M	**QPSK**		1	1	21.69	21.71	21.76	22.0	0
Channel					**631334**	**633334**	**635334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3470.01**	**3500.01**	**3530.01**		
40 M	**QPSK**		1	1	21.65	21.67	21.76	22.0	0
Channel					**631000**	**633334**	**635668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3465**	**3500.01**	**3535.02**		
30 M	**QPSK**		1	1	21.63	21.66	21.73	22.0	0
Channel					**630834**	**633334**	**635834**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3462.51**	**3500.01**	**3537.51**		
25 M	**QPSK**		1	1	21.67	21.7	21.76	22.0	0
Channel					**630668**	**633334**	**636000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3460.02**	**3500.01**	**3540**		
20 M	**QPSK**		1	1	21.71	21.69	21.78	22.0	0

BW (MHz)	Modulation	Modulation	RB Size	RB Offset	Power Low Ch./Frep.	Power Mid Ch./Frep.	Power High Ch./Frep.	Tune-up (dBm)	MPR (dB)
Channel						**650000**			
Frequency (MHz)						**3750**			
N78/100 M	DFT-s-OFDM	**π/2 BPSK**	1	1		**21.63**		22.0	0.0
		π/2 BPSK	1	137		21.42			
		π/2 BPSK	1	271		21.00			
		π/2 BPSK	135	0		**21.62**		22.0	0.0
		π/2 BPSK	135	69		21.55		22.0	0.0
		π/2 BPSK	135	138		21.53		22.0	0.0
		π/2 BPSK	270	0		21.59		22.0	0.0
		QPSK	1	1		**21.65**		22.0	0.0
		QPSK	1	137		21.36			
		QPSK	1	271		21.04			
		QPSK	135	0		21.52		22.0	0.0
		QPSK	135	69		**21.65**		22.0	0.0
		QPSK	135	138		21.59		22.0	0.0
		QPSK	270	0		**21.60**		22.0	0.0
		16QAM	1	1		21.53		22.0	0.0
		64QAM	1	1		21.50		22.0	0.0
		256QAM	1	1		21.42		22.0	0.0
Channel					**649668**	**650000**	**650334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3745.02**	**3750**	**3755.01**		
90 M	**QPSK**		1	1	21.54	21.60	21.37	22.0	0
Channel					**649334**	**650000**	**650668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3740.01**	**3750**	**3760.02**		
80 M	**QPSK**		1	1	21.52	21.57	21.38	22.0	0
Channel					648668	650000	651334	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3730.02**	**3750**	**3770.01**		
60 M	**QPSK**		1	1	21.53	21.56	21.33	22.0	0
Channel					**648334**	**650000**	**651668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3725.01**	**3750**	**3755.02**		
50 M	**QPSK**		1	1	21.56	21.50	21.39	22.0	0
Channel					**648000**	**650000**	**652000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3720**	**3750**	**3780**		
40 M	**QPSK**		1	1	21.48	21.52	21.36	22.0	0
Channel					**647668**	**650000**	**652334**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3715.02**	**3750**	**3785.01**		
30 M	**QPSK**		1	1	21.46	21.49	21.40	22.0	0
Channel					**647500**	**650000**	**652500**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3712.5**	**3750**	**3787.5**		
25 M	**QPSK**		1	1	21.37	21.4	21.42	22.0	0
Channel					**647334**	**650000**	**652668**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3710.01**	**3750**	**3790.02**		
20 M	**QPSK**		1	1	21.35	21.38	21.41	22.0	0
Channel					**647168**	**650000**	**652834**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3707.52**	**3750**	**3792.51**		
15 M	**QPSK**		1	1	21.29	21.33	21.37	22.0	0
Channel					**647000**	**650000**	**653000**	**Tune-up limit**	**MPR (dB)**
Frequency (MHz)					**3705**	**3750**	**3795**		
10 M	**QPSK**		1	1	21.30	21.36	21.34	22.0	0

All Rate have been tested, the Worst average power (Unit: dBm) is shown as below.

<WLAN 2.4G>

Mode	**802.11b (1Mbps)**		
Channel / Frequency (MHz)	**1 (2412)**	**6 (2437)**	**11 (2462)**
Average Power	**14.76**	13.94	13.56
Mode	**802.11g (6Mbps)**		
Channel / Frequency (MHz)	**1 (2412)**	**6 (2437)**	**11 (2462)**
Average Power	13.27	13.28	12.88
Mode	**802.11n (HT20) (MCS0)**		
Channel / Frequency (MHz)	**1 (2412)**	**6 (2437)**	**11 (2462)**
Average Power	13.38	**13.80**	12.69
Mode	**802.11n (HT40) (MCS0)**		
Channel / Frequency (MHz)	**3 (2422)**	**6 (2437)**	**9 (2452)**
Average Power	**13.04**	**13.04**	13.02

<WLAN 5.2G>

Mode	**802.11a (6Mbps)**		
Channel / Frequency (MHz)	**36 (5180)**	**40 (5200)**	**48 (5240)**
Average Power	**16.37**	16.23	15.42
Mode	**802.11n (HT20) (MCS0)**		
Channel / Frequency (MHz)	**36 (5180)**	**40 (5200)**	**48 (5240)**
Average Power	13.71	**14.85**	13.89
Mode	**802.11n (HT40) (MCS0)**		
Channel / Frequency (MHz)	**38 (5190)**	**46 (5230)**	
Average Power	12.6	**12.83**	
Mode	**802.11ac (VHT20) (MCS0)**		
Channel / Frequency (MHz)	**40 (5200)**	**40 (5200)**	**48 (5240)**
Average Power	13.89	**15.47**	13.99

<WLAN 5.8G>

Mode	**802.11a (6Mbps)**		
Channel / Frequency (MHz)	**149 (5745)**	**157 (5785)**	**165 (5825)**
Average Power	15.12	**15.13**	14.59
Mode	**802.11n (HT20) (MCS0)**		
Channel / Frequency (MHz)	**149 (5745)**	**157 (5785)**	**165 (5825)**
Average Power	14.64	14.65	14.12
Mode	**802.11n (HT40) (MCS0)**		
Channel / Frequency (MHz)	**151 (5755)**	**159 (5795)**	
Average Power	**13.85**	13.34	
Mode	**802.11ac (VHT20) (MCS0)**		
Channel / Frequency (MHz)	**149 (5745)**	**157 (5785)**	**165 (5825)**
Average Power	14.74	**14.76**	14.22

<Bluetooth>

Mode	**Bluetooth GFSK**		
Channel / Frequency (MHz)	**0 (2402)**	**39 (2441)**	**78 (2480)**
Average Power	1.45	**2.07**	1.79
Mode	**Bluetooth 8DPSK**		
Channel / Frequency (MHz)	**0 (2402)**	**39 (2441)**	**78 (2480)**
Average Power	0.10	0.20	**1.26**
Mode	**Bluetooth LE 1M**		
Channel / Frequency (MHz)	**0 (2402)**	**39 (2441)**	**78 (2480)**
Average Power	**-0.25**	-1.09	-0.72
Mode	**Bluetooth LE 2M**		
Channel / Frequency (MHz)	**0 (2402)**	**19 (2440)**	**39 (2480)**
Average Power	**-0.29**	-1.00	-0.75

8 SAR Testing Results

8.1 SAR Test Reduction Considerations

<KDB 447498 D01, General RF Exposure Guidance>

Testing of other required channels within the operating mode of a frequency band is not required when the reported SAR for the mid-band or highest output power channel is:

(1) ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz

(2) ≤ 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

(3) ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz

<KDB 941225 D01, 3G SAR Measurement 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 ≤ 1/4 dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

<KDB 941225 D05, SAR Evaluation Considerations for LTE Devices>

(1) QPSK with 1 RB and 50% RB allocation

Start with the largest channel bandwidth and measure SAR, 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; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

(2) 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 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.

(3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > 1/2 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

(4) Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is > 1/2 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

5G NR Note:

For 5G NR test procedure was following step similar FCC KDB 941225 D05:

(1) SAR testing start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
(2) 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
(3) 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 are s 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.
(4) PI/2 BPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in QPSK, also reported SAR for the QPSK configuration is less than 1.45 W/kg, PI/2 BPSK/16QAM/64QAM/256QAM SAR testing are not required.
(5) Smaller bandwidth output power for each RB allocation configuration for this device will not % dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤1.45 W/kg, smaller bandwidth SAR testing is not required for this device.

<KDB 248227 D01, SAR Guidance for Wi-Fi Transmitters>

(1) For WLAN 2.4 GHz, the highest measured maximum output power channel for DSSS was selected for SAR measurement. When the reported SAR is <= 0.8 W/kg, no further SAR testing is required. Otherwise, SAR is evaluated at the next highest measured output power channel. When any reported SAR is > 1.2 W/kg, SAR is required for the third channel. For OFDM modes (802.11g/n), SAR is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and it is <= 1.2 W/kg.
(2) For WLAN 5 GHz, the initial test configuration was selected according to the transmission mode with the highest maximum output power. When the reported SAR of initial test configuration is > 0.8 W/kg, SAR is required for the subsequent highest measured output power channel until the reported SAR result is <= 1.2 W/kg or all required channels are measured. For other transmission modes, SAR is not required when the highest reported SAR for initial test configuration is adjusted by the ratio of subsequent test configuration to initial test configuration specified maximum output power and it is <= 1.2 W/kg.
(3) For WLAN MIMO mode, the power-based standalone SAR test exclusion or the sum of SAR provision in KDB 447498 to determine simultaneous transmission SAR test exclusion should be applied. Otherwise, SAR for MIMO mode will be measured with all applicable antennas transmitting simultaneously at the specified maximum output power of MIMO operation.

8.2 SAR Results for Body Exposure Condition (Separation Distance is 1.0 cm Gap)

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	WCDMA II	RMC12.2K	Front Face	1	9262	23.0	22.90	1.02	0.03	0.532	0.54
	WCDMA II	RMC12.2K	Rear Face	1	9262	23.0	22.90	1.02	-0.05	0.59	0.60
P1	WCDMA II	RMC12.2K	Right Side	1	9262	23.0	22.90	1.02	0.03	1.14	**1.17**
	WCDMA II	RMC12.2K	Bottom Side	1	9262	23.0	22.90	1.02	-0.03	0.569	0.58
	WCDMA II	RMC12.2K	Right Side	1	9400	23.0	22.88	1.03	0.01	1.05	1.08
	WCDMA II	RMC12.2K	Right Side	1	9538	23.0	22.79	1.05	0.00	0.9	0.94
	WCDMA II	RMC12.2K	Right Side	1	9262	23.0	22.90	1.02	-0.01	1.12	1.15
	WCDMA IV	RMC12.2K	Front Face	1	1413	22.5	22.43	1.02	-0.03	0.419	0.43
	WCDMA IV	RMC12.2K	Rear Face	1	1413	22.5	22.43	1.02	-0.02	0.432	0.44
P2	WCDMA IV	RMC12.2K	Right Side	1	1413	22.5	22.43	1.02	0.01	0.923	**0.94**
	WCDMA IV	RMC12.2K	Bottom Side	1	1413	22.5	22.43	1.02	-0.02	0.346	0.35
	WCDMA IV	RMC12.2K	Right Side	1	1312	22.5	22.24	1.06	-0.02	0.683	0.73
	WCDMA IV	RMC12.2K	Right Side	1	1513	22.5	22.12	1.09	0.05	0.787	0.86
	WCDMA IV	RMC12.2K	Right Side	1	1413	22.5	22.43	1.02	-0.05	0.914	0.93
	WCDMA V	RMC12.2K	Front Face	1	4233	23.5	23.44	1.01	-0.03	0.321	0.33
	WCDMA V	RMC12.2K	Rear Face	1	4233	23.5	23.44	1.01	-0.01	0.386	0.39
P3	WCDMA V	RMC12.2K	Left Side	1	4233	23.5	23.44	1.01	0.02	0.656	**0.67**
	WCDMA V	RMC12.2K	Right Side	1	4233	23.5	23.44	1.01	0.02	0.197	0.20
	WCDMA V	RMC12.2K	Bottom Side	1	4233	23.5	23.44	1.01	0.02	0.34	0.34

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	LTE 4	QPSK20M	Front Face	1	20175	1	50	22.0	21.79	1.05	-0.13	0.33	0.35
	LTE 4	QPSK20M	Rear Face	1	20175	1	50	22.0	21.79	1.05	0.03	0.331	0.35
P4	LTE 4	QPSK20M	Right Side	1	20175	1	50	22.0	21.79	1.05	0.06	0.937	0.98
	LTE 4	QPSK20M	Bottom Side	1	20175	1	50	22.0	21.79	1.05	-0.10	0.336	0.35
	LTE 4	QPSK20M	Front Face	1	20175	50	0	21.0	20.74	1.06	0.07	0.275	0.29
	LTE 4	QPSK20M	Rear Face	1	20175	50	0	21.0	20.74	1.06	-0.01	0.267	0.28
	LTE 4	QPSK20M	Right Side	1	20175	50	0	21.0	20.74	1.06	-0.03	0.575	0.61
	LTE 4	QPSK20M	Bottom Side	1	20175	50	0	21.0	20.74	1.06	0.02	0.236	0.25
	LTE 4	QPSK20M	Right Side	1	20050	1	50	22.0	21.74	1.06	-0.07	0.913	0.97
	LTE 4	QPSK20M	Right Side	1	20300	1	50	22.0	21.75	1.06	-0.13	0.896	0.95
	LTE 4	QPSK20M	Right Side	1	20175	100	0	21.0	20.71	1.07	0.02	0.479	0.51
	LTE 4	QPSK20M	Right Side	1	20175	1	50	22.0	21.79	1.05	-0.12	0.91	0.96
	LTE 7	QPSK20M	Front Face	1	20850	1	99	22.5	22.46	1.01	0.02	0.424	0.43
	LTE 7	QPSK20M	Rear Face	1	20850	1	99	22.5	22.46	1.01	-0.02	0.518	0.52
P5	LTE 7	QPSK20M	Left Side	1	20850	1	99	22.5	22.46	1.01	-0.17	0.62	**0.63**
	LTE 7	QPSK20M	Top Side	1	20850	1	99	22.5	22.46	1.01	-0.04	0.106	0.11
	LTE 7	QPSK20M	Front Face	1	20850	50	50	21.5	21.41	1.02	0.03	0.366	0.37
	LTE 7	QPSK20M	Rear Face	1	20850	50	50	21.5	21.41	1.02	0.04	0.462	0.47
	LTE 7	QPSK20M	Left Side	1	20850	50	50	21.5	21.41	1.02	0.01	0.536	0.55
	LTE 7	QPSK20M	Top Side	1	20850	50	50	21.5	21.41	1.02	0.02	0.103	0.11
	LTE 12	QPSK10M	Front Face	1	23130	1	0	23.5	22.91	1.15	0.03	0.207	0.24
	LTE 12	QPSK10M	Rear Face	1	23130	1	0	23.5	22.91	1.15	-0.08	0.267	0.31
P6	LTE 12	QPSK10M	Left Side	1	23130	1	0	23.5	22.91	1.15	0.01	0.31	**0.36**
	LTE 12	QPSK10M	Right Side	1	23130	1	0	23.5	22.91	1.15	-0.01	0.164	0.19
	LTE 12	QPSK10M	Bottom Side	1	23130	1	0	23.5	22.91	1.15	0.07	0.145	0.17
	LTE 12	QPSK10M	Front Face	1	23130	25	0	22.5	22.14	1.09	0.02	0.155	0.17
	LTE 12	QPSK10M	Rear Face	1	23130	25	0	22.5	22.14	1.09	0.03	0.198	0.22
	LTE 12	QPSK10M	Left Side	1	23130	25	0	22.5	22.14	1.09	0.00	0.206	0.22
	LTE 12	QPSK10M	Right Side	1	23130	25	0	22.5	22.14	1.09	0.03	0.112	0.12
	LTE 12	QPSK10M	Bottom Side	1	23130	25	0	22.5	22.14	1.09	0.01	0.107	0.12
	LTE 25	QPSK20M	Front Face	1	26365	1	0	21.0	20.41	1.15	-0.04	0.321	0.37
	LTE 25	QPSK20M	Rear Face	1	26365	1	0	21.0	20.41	1.15	0.02	0.35	0.40
	LTE 25	QPSK20M	Right Side	1	26365	1	0	21.0	20.41	1.15	-0.10	1.03	1.18
	LTE 25	QPSK20M	Bottom Side	1	26365	1	0	21.0	20.41	1.15	0.00	0.36	0.41
	LTE 25	QPSK20M	Front Face	1	26365	50	0	20.0	19.45	1.14	0.03	0.268	0.30
	LTE 25	QPSK20M	Rear Face	1	26365	50	0	20.0	19.45	1.14	-0.05	0.302	0.34
	LTE 25	QPSK20M	Right Side	1	26365	50	0	20.0	19.45	1.14	0.05	0.796	0.90
	LTE 25	QPSK20M	Bottom Side	1	26365	50	0	20.0	19.45	1.14	0.05	0.303	0.34
P7	LTE 25	QPSK20M	Right Side	1	26140	1	0	21.0	20.40	1.15	0.01	1.1	**1.26**
	LTE 25	QPSK20M	Right Side	1	26590	1	0	21.0	20.19	1.21	-0.01	0.955	1.15
	LTE 25	QPSK20M	Right Side	1	26140	50	0	20.0	19.39	1.15	-0.09	0.966	1.11
	LTE 25	QPSK20M	Right Side	1	26590	50	0	20.0	19.23	1.19	-0.03	0.976	1.17
	LTE 25	QPSK20M	Right Side	1	26365	100	0	20.0	19.40	1.15	0.00	0.91	1.04
	LTE 25	QPSK20M	Right Side	1	26140	1	0	21.0	20.40	1.15	-0.02	1.04	1.19
	LTE 26	QPSK15M	Front Face	1	26965	1	74	21.0	20.46	1.13	-0.07	0.112	0.13
	LTE 26	QPSK15M	Rear Face	1	26965	1	74	21.0	20.46	1.13	-0.02	0.123	0.14
P8	LTE 26	QPSK15M	Left Side	1	26965	1	74	21.0	20.46	1.13	0.01	0.291	**0.33**
	LTE 26	QPSK15M	Right Side	1	26965	1	74	21.0	20.46	1.13	0.03	0.033	0.04
	LTE 26	QPSK15M	Bottom Side	1	26965	1	74	21.0	20.46	1.13	-0.06	0.134	0.15
	LTE 26	QPSK15M	Front Face	1	26965	36	0	20.0	19.43	1.14	-0.01	0.068	0.08
	LTE 26	QPSK15M	Rear Face	1	26965	36	0	20.0	19.43	1.14	-0.03	0.077	0.09
	LTE 26	QPSK15M	Left Side	1	26965	36	0	20.0	19.43	1.14	0.06	0.218	0.25
	LTE 26	QPSK15M	Right Side	1	26965	36	0	20.0	19.43	1.14	0.02	0.028	0.03
	LTE 26	QPSK15M	Bottom Side	1	26965	36	0	20.0	19.43	1.14	-0.02	0.08	0.09
	LTE 38	QPSK20M	Front Face	1	38150	1	0	23.0	22.95	1.01	0.00	0.158	0.16
	LTE 38	QPSK20M	Rear Face	1	38150	1	0	23.0	22.95	1.01	0.01	0.242	0.24
P9	LTE 38	QPSK20M	Left Side	1	38150	1	0	23.0	22.95	1.01	-0.02	0.377	**0.38**
	LTE 38	QPSK20M	Top Side	1	38150	1	0	23.0	22.95	1.01	-0.02	0.057	0.06

	LTE 38	QPSK20M	Front Face	1	38150	50	0	22.0	21.88	1.03	0.03	0.105	0.11
	LTE 38	QPSK20M	Rear Face	1	38150	50	0	22.0	21.88	1.03	0.02	0.194	0.20
	LTE 38	QPSK20M	Left Side	1	38150	50	0	22.0	21.88	1.03	-0.07	0.259	0.27
	LTE 38	QPSK20M	Top Side	1	38150	50	0	22.0	21.88	1.03	-0.01	0.095	0.10
	LTE 41	QPSK20M	Front Face	1	40620	1	0	23.5	23.23	1.06	0.03	0.19	0.20
	LTE 41	QPSK20M	Rear Face	1	40620	1	0	23.5	23.23	1.06	-0.07	0.248	0.26
P10	LTE 41	QPSK20M	Left Side	1	40620	1	0	23.5	23.23	1.06	-0.10	0.437	**0.47**
	LTE 41	QPSK20M	Top Side	1	40620	1	0	23.5	23.23	1.06	0.03	0.066	0.07
	LTE 41	QPSK20M	Front Face	1	40620	50	0	22.5	22.20	1.07	0.06	0.179	0.19
	LTE 41	QPSK20M	Rear Face	1	40620	50	0	22.5	22.20	1.07	-0.02	0.222	0.24
	LTE 41	QPSK20M	Left Side	1	40620	50	0	22.5	22.20	1.07	-0.03	0.414	0.44
	LTE 41	QPSK20M	Top Side	1	40620	50	0	22.5	22.20	1.07	0.01	0.063	0.07

Plot No.	Band	SCS	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	N 2	15KHz	DFT-s-OFDM QPSK40M	Front Face	1	376000	1	1	-	21.0	20.32	1.17	-0.02	0.419	0.49
	N 2	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	376000	1	1	-	21.0	20.32	1.17	0.04	0.532	0.62
P11	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	376000	1	1	-	21.0	20.32	1.17	-0.11	1.07	**1.25**
	N 2	15KHz	DFT-s-OFDM QPSK40M	Bottom Side	1	376000	1	1	-	21.0	20.32	1.17	-0.01	0.54	0.63
	N 2	15KHz	DFT-s-OFDM QPSK40M	Front Face	1	376000	108	54	-	21.0	20.30	1.17	0.01	0.402	0.47
	N 2	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	376000	108	54	-	21.0	20.30	1.17	0.08	0.489	0.57
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	376000	108	54	-	21.0	20.30	1.17	0.15	0.874	1.03
	N 2	15KHz	DFT-s-OFDM QPSK40M	Bottom Side	1	376000	108	54	-	21.0	20.30	1.17	0.00	0.47	0.55
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	37400	1	1	-	21.0	20.24	1.19	0.05	0.915	1.09
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	37800	1	1	-	21.0	20.28	1.18	-0.04	0.93	1.10
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	37400	108	54	-	21.0	20.14	1.22	0.02	0.867	1.06
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	37800	108	54	-	21.0	20.18	1.21	-0.12	0.835	1.01
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	376000	216	0	-	20.5	20.27	1.05	-0.10	0.993	1.05
	N 2	15KHz	DFT-s-OFDM QPSK40M	Right Side	1	376000	1	1	-	21.0	20.32	1.17	-0.09	1.05	1.23
	N 5	15KHz	DFT-s-OFDM QPSK20M	Front Face	1	167300	1	1	-	23.0	22.65	1.08	0.00	0.293	0.32
	N 5	15KHz	DFT-s-OFDM QPSK20M	Rear Face	1	167300	1	1	-	23.0	22.65	1.08	-0.01	0.332	0.36
P12	N 5	15KHz	DFT-s-OFDM QPSK20M	Left Side	1	167300	1	1	-	23.0	22.65	1.08	0.01	0.419	**0.45**
	N 5	15KHz	DFT-s-OFDM QPSK20M	Right Side	1	167300	1	1	-	23.0	22.65	1.08	0.06	0.089	0.10
	N 5	15KHz	DFT-s-OFDM QPSK20M	Bottom Side	1	167300	1	1	-	23.0	22.65	1.08	0.00	0.227	0.25
	N 5	15KHz	DFT-s-OFDM QPSK20M	Front Face	1	167300	50	28	-	22.0	21.35	1.16	-0.05	0.194	0.23
	N 5	15KHz	DFT-s-OFDM QPSK20M	Rear Face	1	167300	50	28	-	22.0	21.35	1.16	-0.05	0.213	0.25
	N 5	15KHz	DFT-s-OFDM QPSK20M	Left Side	1	167300	50	28	-	22.0	21.35	1.16	-0.02	0.373	0.43
	N 5	15KHz	DFT-s-OFDM QPSK20M	Right Side	1	167300	50	28	-	22.0	21.35	1.16	0.02	0.09	0.10
	N 5	15KHz	DFT-s-OFDM QPSK20M	Bottom Side	1	167300	50	28	-	22.0	21.35	1.16	-0.05	0.158	0.18
	N 7	15KHz	DFT-s-OFDM QPSK40M	Front Face	1	510000	1	1	-	21.0	20.65	1.08	-0.06	0.479	0.52
	N 7	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	510000	1	1	-	21.0	20.65	1.08	-0.16	0.8	0.87
P13	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	510000	1	1	-	21.0	20.65	1.08	-0.14	1.09	**1.18**
	N 7	15KHz	DFT-s-OFDM QPSK40M	Top Side	1	510000	1	1	-	21.0	20.65	1.08	0.03	0.097	0.11
	N 7	15KHz	DFT-s-OFDM QPSK40M	Front Face	1	510000	108	54	-	21.0	20.61	1.09	-0.08	0.469	0.51
	N 7	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	510000	108	54	-	21.0	20.61	1.09	-0.04	0.658	0.72
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	510000	108	54	-	21.0	20.61	1.09	0.02	0.993	1.09
	N 7	15KHz	DFT-s-OFDM QPSK40M	Top Side	1	510000	108	54	-	21.0	20.61	1.09	0.08	0.079	0.09
	N 7	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	504000	1	1	-	21.0	20.47	1.13	-0.06	0.747	0.84
	N 7	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	507000	1	1	-	21.0	20.55	1.11	0.02	0.838	0.93
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	504000	1	1	-	21.0	20.47	1.13	-0.06	0.902	1.02
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	507000	1	1	-	21.0	20.55	1.11	0.02	0.975	1.08
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	504000	108	54	-	21.0	20.44	1.14	-0.05	0.943	1.07
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	507000	108	54	-	21.0	20.42	1.14	0.03	0.88	1.01
	N 7	15KHz	DFT-s-OFDM QPSK40M	Rear Face	1	507000	216	0	-	21.0	20.55	1.11	0.04	0.75	0.83
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	510000	216	0	-	21.0	20.55	1.11	-0.07	0.983	1.09
	N 7	15KHz	DFT-s-OFDM QPSK40M	Left Side	1	510000	1	1	-	21.0	20.65	1.08	0.03	1.01	1.09
	N 38	30KHz	DFT-s-OFDM QPSK40M	Front Face	1	518004	1	104	20.4	25.0	24.48	1.13	-0.04	0.107	0.59
	N 38	30KHz	DFT-s-OFDM QPSK40M	Rear Face	1	518004	1	104	20.4	25.0	24.48	1.13	-0.13	0.16	0.89
P14	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	1	518004	1	104	20.4	25.0	24.48	1.13	-0.05	0.196	**1.09**
	N 38	30KHz	DFT-s-OFDM QPSK40M	Top Side	1	518004	1	104	20.4	25.0	24.48	1.13	0.02	0.027	0.15
	N 38	30KHz	DFT-s-OFDM QPSK40M	Front Face	1	518004	50	28	20.4	23.0	22.30	1.17	-0.01	0.067	0.39
	N 38	30KHz	DFT-s-OFDM QPSK40M	Rear Face	1	518004	50	28	20.4	23.0	22.30	1.17	-0.09	0.101	0.58
	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	1	518004	50	28	20.4	23.0	22.30	1.17	0.02	0.137	0.79
	N 38	30KHz	DFT-s-OFDM QPSK40M	Top Side	1	518004	50	28	20.4	23.0	22.30	1.17	-0.02	0.015	0.09
	N 38	30KHz	DFT-s-OFDM QPSK40M	Rear Face	1	519000	1	104	20.4	25.0	24.27	1.18	-0.15	0.112	0.65
	N 38	30KHz	DFT-s-OFDM QPSK40M	Rear Face	1	519996	1	104	20.4	25.0	24.45	1.14	-0.07	0.106	0.59
	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	1	519000	1	104	20.4	25.0	24.27	1.18	0.00	0.185	1.08
	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	1	519996	1	104	20.4	25.0	24.45	1.14	0.05	0.178	0.99
	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	1	518004	100	0	20.4	23.0	22.56	1.11	-0.08	0.123	0.67
	N 41	30KHz	DFT-s-OFDM BPSK100M	Front Face	1	518598	1	1	20.4	21.5	20.77	1.18	-0.06	0.063	0.37
	N 41	30KHz	DFT-s-OFDM BPSK100M	Rear Face	1	518598	1	1	20.4	21.5	20.77	1.18	-0.09	0.069	0.40
P15	N 41	30KHz	DFT-s-OFDM BPSK100M	Left Side	1	518598	1	1	20.4	21.5	20.77	1.18	-0.02	0.129	**0.75**
	N 41	30KHz	DFT-s-OFDM BPSK100M	Top Side	1	518598	1	1	20.4	21.5	20.77	1.18	-0.03	0.02	0.12
	N 41	30KHz	DFT-s-OFDM BPSK100M	Front Face	1	518598	135	138	20.4	19.5	19.04	1.11	0.01	0.037	0.20

	N 41	30KHz	DFT-s-OFDM BPSK100M	Rear Face	1	518598	135	138	20.4	19.5	19.04	1.11	-0.01	0.044	0.24
	N 41	30KHz	DFT-s-OFDM BPSK100M	Left Side	1	518598	135	138	20.4	19.5	19.04	1.11	-0.03	0.101	0.55
	N 41	30KHz	DFT-s-OFDM BPSK100M	Top Side	1	518598	135	138	20.4	19.5	19.04	1.11	-0.04	0.011	0.06
	N 77	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	633334	1	1	20.4	22.0	21.35	1.16	-0.10	0.062	0.35
	N 77	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	633334	1	1	20.4	22.0	21.35	1.16	0.07	0.096	0.55
	N 77	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	633334	1	1	20.4	22.0	21.35	1.16	-0.09	0.16	0.91
	N 77	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	633334	1	1	20.4	22.0	21.35	1.16	0.04	0.024	0.14
	N 77	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	633334	135	69	20.4	21.5	21.15	1.08	-0.01	0.068	0.36
	N 77	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	633334	135	69	20.4	21.5	21.15	1.08	-0.04	0.10	0.53
P16	N 77	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	633334	135	69	20.4	21.5	21.15	1.08	-0.04	0.172	**0.92**
	N 77	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	633334	135	69	20.4	21.5	21.15	1.08	0.06	0.021	0.11
	N 77	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	633334	270	0	20.4	22.0	21.42	1.14	-0.11	0.159	0.89
	N 77	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	650000	1	1	20.4	21.5	20.92	1.14	0.01	0.022	0.12
	N 77	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	650000	1	1	20.4	21.5	20.92	1.14	0.02	0.053	0.30
P17	N 77	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	650000	1	1	20.4	21.5	20.92	1.14	-0.09	0.124	**0.70**
	N 77	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	650000	1	1	20.4	21.5	20.92	1.14	0.01	0.02	0.11
	N 77	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	650000	135	69	20.4	20.5	20.18	1.08	-0.08	0.025	0.13
	N 77	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	650000	135	69	20.4	20.5	20.18	1.08	-0.01	0.059	0.31
	N 77	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	650000	135	69	20.4	20.5	20.18	1.08	-0.07	0.093	0.49
	N 77	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	650000	135	69	20.4	20.5	20.18	1.08	0.04	0.022	0.12
	N 78	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	633334	1	1	20.4	22.0	21.74	1.06	0.01	0.076	0.40
	N 78	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	633334	1	1	20.4	22.0	21.74	1.06	-0.11	0.129	0.67
P18	N 78	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	633334	1	1	20.4	22.0	21.74	1.06	-0.08	0.138	**0.72**
	N 78	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	633334	1	1	20.4	22.0	21.74	1.06	-0.02	0.02	0.10
	N 78	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	633334	135	69	20.4	22.0	21.42	1.14	-0.08	0.078	0.44
	N 78	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	633334	135	69	20.4	22.0	21.42	1.14	-0.01	0.12	0.67
	N 78	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	633334	135	69	20.4	22.0	21.42	1.14	-0.08	0.125	0.70
	N 78	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	633334	135	69	20.4	22.0	21.42	1.14	-0.10	0.018	0.10
	N 78	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	650000	1	1	20.4	22.0	21.65	1.08	-0.06	0.032	0.17
	N 78	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	650000	1	1	20.4	22.0	21.65	1.08	-0.11	0.101	0.54
	N 78	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	650000	1	1	20.4	22.0	21.65	1.08	0.07	0.136	0.72
	N 78	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	650000	1	1	20.4	22.0	21.65	1.08	0.03	0.02	0.11
	N 78	30KHz	DFT-s-OFDM QPSK100M	Front Face	1	650000	135	69	20.4	22.0	21.65	1.08	0.04	0.024	0.13
	N 78	30KHz	DFT-s-OFDM QPSK100M	Rear Face	1	650000	135	69	20.4	22.0	21.65	1.08	0.00	0.108	0.57
P19	N 78	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	650000	135	69	20.4	22.0	21.65	1.08	-0.02	0.162	**0.86**
	N 78	30KHz	DFT-s-OFDM QPSK100M	Bottom Side	1	650000	135	69	20.4	22.0	21.65	1.08	0.00	0.018	0.10
	N 78	30KHz	DFT-s-OFDM QPSK100M	Right Side	1	650000	270	0	20.4	22.0	21.60	1.10	0.00	0.152	0.82

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
	802.11b	-	Front Face	1	1	100	15.0	14.76	1.06	-0.08	0.203	0.21
	802.11b	-	Rear Face	1	1	100	15.0	14.76	1.06	-0.04	0.248	0.26
P20	802.11b	-	Right Side	1	1	100	15.0	14.76	1.06	-0.05	0.458	**0.48**
	802.11b	-	Top Side	1	1	100	15.0	14.76	1.06	-0.03	0.032	0.03
	802.11a	HT20	Front Face	1	36	100	16.5	16.37	1.03	-0.08	0.118	0.12
P21	802.11a	HT20	Rear Face	1	36	100	16.5	16.37	1.03	0.06	0.176	**0.18**
	802.11a	HT20	Right Side	1	36	100	16.5	16.37	1.03	-0.03	0.155	0.16
	802.11a	HT20	Top Side	1	36	100	16.5	16.37	1.03	-0.06	0.045	0.05
	802.11a	HT20	Front Face	1	157	100	15.5	15.13	1.09	0.00	0.267	0.29
P22	802.11a	HT20	Rear Face	1	157	100	15.5	15.13	1.09	-0.06	0.409	**0.45**
	802.11a	HT20	Right Side	1	157	100	15.5	15.13	1.09	-0.02	0.294	0.32
	802.11a	HT20	Top Side	1	157	100	15.5	15.13	1.09	0.00	0.08	0.09
	BT	-	Front Face	1	39	77.6	2.5	2.07	1.10	0.06	0.008	0.01
	BT	-	Rear Face	1	39	77.6	2.5	2.07	1.10	0.06	0.008	0.01
P23	BT	-	Right Side	1	39	77.6	2.5	2.07	1.10	0.01	0.025	**0.04**
	BT	-	Top Side	1	39	77.6	2.5	2.07	1.10	0.02	<0.001	<0.01

8.3 SAR Results for In Front Face Exposure Condition (Separation Distance is 1.0 cm Gap)

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
P24	WCDMA II	RMC12.2K	In Front Face	1	9262	23.0	22.90	1.02	0.03	0.532	**0.54**
P25	WCDMA IV	RMC12.2K	In Front Face	1	1413	22.5	22.43	1.02	-0.03	0.419	**0.43**
P26	WCDMA V	RMC12.2K	In Front Face	1	4233	23.5	23.44	1.01	-0.03	0.321	**0.33**

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
P27	LTE 4	QPSK20M	In Front Face	1	20175	1	50	22.0	21.79	1.05	-0.13	0.33	**0.35**
	LTE 4	QPSK20M	In Front Face	1	20175	50	0	21.0	20.74	1.06	0.07	0.275	0.29
P28	LTE 7	QPSK20M	In Front Face	1	20850	1	99	22.5	22.46	1.01	0.02	0.424	**0.43**
	LTE 7	QPSK20M	In Front Face	1	20850	50	50	21.5	21.41	1.02	0.03	0.366	0.37
P29	LTE 12	QPSK10M	In Front Face	1	23130	1	0	23.5	22.91	1.15	0.03	0.207	**0.24**
	LTE 12	QPSK10M	In Front Face	1	23130	25	0	22.5	22.14	1.09	0.02	0.155	0.17
P30	LTE 25	QPSK20M	In Front Face	1	26365	1	0	21.0	20.41	1.15	-0.04	0.321	**0.37**
	LTE 25	QPSK20M	In Front Face	1	26365	50	0	20.0	19.45	1.14	0.03	0.268	0.30
P31	LTE 26	QPSK15M	In Front Face	1	26965	1	74	21.0	20.46	1.13	-0.07	0.112	**0.13**
	LTE 26	QPSK15M	In Front Face	1	26965	36	0	20.0	19.43	1.14	-0.01	0.068	0.08
P32	LTE 38	QPSK20M	In Front Face	1	38150	1	0	23.0	22.95	1.01	0.00	0.158	**0.16**
	LTE 38	QPSK20M	In Front Face	1	38150	50	0	22.0	21.88	1.03	0.03	0.105	0.11
P33	LTE 41	QPSK20M	In Front Face	1	40620	1	0	23.5	23.23	1.06	0.03	0.19	**0.20**
	LTE 41	QPSK20M	In Front Face	1	40620	50	0	22.5	22.20	1.07	0.06	0.179	0.19

Plot No.	Band	SCS	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
P34	N 2	15KHz	DFT-s-OFDM QPSK40M	In Front Face	1	376000	1	1	-	21.0	20.32	1.17	-0.02	0.419	**0.49**
	N 2	15KHz	DFT-s-OFDM QPSK40M	In Front Face	1	376000	108	54	-	21.0	20.30	1.17	0.01	0.402	0.47
P35	N 5	15KHz	DFT-s-OFDM QPSK20M	In Front Face	1	167300	1	1	-	23.0	22.65	1.08	0.00	0.293	**0.32**
	N 5	15KHz	DFT-s-OFDM QPSK20M	In Front Face	1	167300	50	28	-	22.0	21.35	1.16	-0.05	0.194	0.23
P36	N 7	15KHz	DFT-s-OFDM QPSK40M	In Front Face	1	510000	1	1	-	21.0	20.65	1.08	-0.06	0.479	**0.52**
	N 7	15KHz	DFT-s-OFDM QPSK40M	In Front Face	1	510000	108	54	-	21.0	20.61	1.09	-0.08	0.469	0.51
P37	N 38	30KHz	DFT-s-OFDM QPSK40M	In Front Face	1	518004	1	104	20.4	25.0	24.48	1.13	-0.04	0.107	**0.59**
	N 38	30KHz	DFT-s-OFDM QPSK40M	In Front Face	1	518004	50	28	20.4	23.0	22.30	1.17	-0.01	0.067	0.39
P38	N 41	30KHz	DFT-s-OFDM BPSK100M	In Front Face	1	518598	1	1	20.4	21.5	20.77	1.18	-0.06	0.063	**0.37**
	N 41	30KHz	DFT-s-OFDM BPSK100M	In Front Face	1	518598	135	138	20.4	19.5	19.04	1.11	0.01	0.037	0.20
	N 77	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	633334	1	1	20.4	22.0	21.35	1.16	-0.10	0.062	0.35
P39	N 77	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	633334	135	69	20.4	21.5	21.15	1.08	-0.01	0.068	**0.36**
	N 77	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	650000	1	1	20.4	21.5	20.92	1.14	0.01	0.022	0.12
P40	N 77	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	650000	135	69	20.4	20.5	20.18	1.08	-0.08	0.025	**0.13**
P41	N 78	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	633334	1	1	20.4	22.0	21.74	1.06	0.01	0.076	0.40
	N 78	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	633334	135	69	20.4	22.0	21.42	1.14	-0.08	0.078	**0.44**
P42	N 78	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	650000	1	1	20.4	22.0	21.65	1.08	-0.06	0.032	**0.17**
	N 78	30KHz	DFT-s-OFDM QPSK100M	In Front Face	1	650000	135	69	20.4	22.0	21.65	1.08	0.04	0.024	0.13

Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
P43	802.11b	-	In Front Face	1	1	1	15.0	14.76	1.06	-0.08	0.203	**0.21**
P44	802.11a	HT20	In Front Face	1	36	1	16.5	16.37	1.03	-0.08	0.118	**0.12**
P45	802.11a	HT20	In Front Face	1	157	1	15.5	15.13	1.09	0.00	0.267	**0.29**
P46	BT	-	In Front Face	1	39	77.6	2.5	2.07	1.10	0.06	0.008	**0.01**

8.4 SAR Results for Extremity Exposure Condition (Separation Distance is 0 cm Gap)

Plot No.	Band	SCS	Mode	Test Position	Separation Distance (cm)	Ch.	RB#	RB Offset	Duty Cycle (%)	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-10g (W/kg)	Scaled SAR-10g (W/kg)
P47	WCDMA II	-	RMC12.2K	Right Side	0	9262	-	-	-	23.0	22.90	1.02	0.04	2.46	**2.52**
P48	WCDMA IV	-	RMC12.2K	Right Side	0	1413	-	-	-	22.5	22.43	1.02	-0.01	2.92	**2.97**
P49	WCDMA V	-	RMC12.2K	Left Side	0	4233	-	-	-	23.5	23.44	1.01	0.00	0.484	**0.49**
P50	LTE 4	-	QPSK20M	Right Side	0	20175	1	50	-	22.0	21.79	1.05	0.04	1.97	**2.07**
P51	LTE 7	-	QPSK20M	Left Side	0	20850	1	99	-	22.5	22.46	1.01	0.13	1.03	**1.04**
P52	LTE 12	-	QPSK10M	Left Side	0	23130	1	0	-	23.5	22.91	1.15	-0.09	0.605	**0.69**
P53	LTE 25	-	QPSK20M	Right Side	0	26140	1	0	-	21.0	20.40	1.15	-0.01	1.82	**2.09**
P54	LTE 26	-	QPSK15M	Left Side	0	26965	1	74	-	21.0	20.46	1.13	-0.05	0.346	**0.39**
P55	LTE 38	-	QPSK20M	Left Side	0	38150	1	0	-	23.0	22.95	1.01	-0.03	0.586	**0.59**
P56	LTE 41	-	QPSK20M	Left Side	0	40620	1	0	-	23.5	23.23	1.06	-0.08	0.61	**0.65**
P57	N2	15KHz	DFT-s-OFDM QPSK40M	Right Side	0	376000	1	1	-	21.0	20.32	1.17	-0.03	2.19	**2.56**
P58	N5	15KHz	DFT-s-OFDM QPSK20M	Left Side	0	167300	1	1	-	23.0	22.65	1.08	-0.03	0.879	**0.95**
P59	N7	15KHz	DFT-s-OFDM QPSK40M	Left Side	0	510000	1	1	-	21.0	20.65	1.08	0.00	1.51	**1.64**
P60	N 38	30KHz	DFT-s-OFDM QPSK40M	Left Side	0	518004	1	104	20.4	25.0	24.48	1.13	0.01	0.363	**2.01**
P61	N41	30KHz	DFT-s-OFDM BPSK100M	Left Side	0	518598	1	1	20.4	21.5	20.77	1.18	-0.04	0.28	**1.63**
P62	N77	30KHz	DFT-s-OFDM QPSK100M	Right Side	0	633334	135	69	20.4	21.5	21.15	1.08	0.01	0.561	**2.99**
P63	N77	30KHz	DFT-s-OFDM QPSK100M	Right Side	0	650000	1	1	20.4	21.5	20.92	1.14	0.00	0.453	**2.54**
P64	N78	30KHz	DFT-s-OFDM BPSK100M	Right Side	0	633334	1	1	20.4	22.0	21.74	1.06	-0.03	0.527	**2.75**
P65	N78	30KHz	DFT-s-OFDM QPSK100M	Right Side	0	650000	135	69	20.4	22.0	21.65	1.08	-0.08	0.616	**3.28**
P66	802.11b	-	-	Right Side	0	1	-	-	100	15.0	14.76	1.06	-0.01	0.51	**0.54**
P67	802.11a	-	-	Rear Face	0	36	-	-	100	16.5	16.37	1.03	-0.04	0.202	**0.21**
P68	802.11a	-	-	Rear Face	0	157	-	-	100	15.5	15.13	1.09	-0.01	0.364	**0.40**
P69	BT	-	-	Right Side	0	39	-	-	77.6	2.5	2.07	1.10	0.02	0.035	**0.05**

8.5 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10, the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These 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.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is >= 0.80 W/kg, repeat that measurement once.
3. 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, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20, and the original, first or second repeated measurement is >= 1.5 W/kg, perform a third repeated measurement.

Band	Test Position	Ch.	Original Measured SAR-1g (W/kg)	1st Repeated SAR-1g (W/kg)	L/S Ratio	2nd Repeated SAR-1g (W/kg)	L/S Ratio	3rd Repeated SAR-1g (W/kg)	L/S Ratio
WCDMA II	Right Side	9262	1.14	1.12	1.02	N/A	N/A	N/A	N/A
WCDMA IV	Right Side	1413	0.923	0.914	1.01	N/A	N/A	N/A	N/A
LTE 4	Right Side	20175	0.937	0.91	1.03	N/A	N/A	N/A	N/A
LTE 25	Right Side	26140	1.1	1.04	1.06	N/A	N/A	N/A	N/A
N2	Right Side	376000	1.07	1.05	1.02	N/A	N/A	N/A	N/A
N7	Left Side	510000	1.09	1.01	1.08	N/A	N/A	N/A	N/A

8.6 Simultaneous Multi-band Transmission Evaluation

<SAR Summation Analysis>

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR_{1g} of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR_{1g} 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR_{1g} is greater than the SAR limit (SAR_{1g} 1.6 W/kg), SAR test exclusion is determined by the SPLSR.

No.	Conditions (SAR1 + SAR2)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	SAR Summation	SPLSR Analysis
1	WCDMA II + WLAN 2.4G	Face	Front Face	0.54	0.21	0.75	ΣSAR < 1.6, Not required
		Body	Front Face	0.54	0.21	0.75	ΣSAR < 1.6, Not required
			Rear Face	0.60	0.26	0.86	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	0.00	ΣSAR < 1.6, Not required
			Right Side	1.17	0.48	1.65	**Analyzed as below**
			Top Side	0.00	0.03	0.03	ΣSAR < 1.6, Not required
			Bottom Side	0.58	0.00	0.58	ΣSAR < 1.6, Not required
2	WCDMA IV + WLAN 2.4G	Face	Front Face	0.43	0.21	0.64	ΣSAR < 1.6, Not required
		Body	Front Face	0.43	0.21	0.64	ΣSAR < 1.6, Not required
			Rear Face	0.44	0.26	0.70	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	0.00	ΣSAR < 1.6, Not required
			Right Side	0.94	0.48	1.42	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	0.03	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	0.35	ΣSAR < 1.6, Not required
3	WCDMA V + WLAN 2.4G	Face	Front Face	0.33	0.21	0.54	ΣSAR < 1.6, Not required
		Body	Front Face	0.33	0.21	0.54	ΣSAR < 1.6, Not required
			Rear Face	0.39	0.26	0.65	ΣSAR < 1.6, Not required
			Left Side	0.67	0.00	0.67	ΣSAR < 1.6, Not required
			Right Side	0.20	0.48	0.68	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	0.03	ΣSAR < 1.6, Not required
			Bottom Side	0.34	0.00	0.34	ΣSAR < 1.6, Not required
4	LTE 4 + WLAN 2.4G	Face	Front Face	0.35	0.21	0.56	ΣSAR < 1.6, Not required
		Body	Front Face	0.35	0.21	0.56	ΣSAR < 1.6, Not required

			Rear Face	0.35	0.26	**0.61**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.98	0.48	**1.46**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	**0.35**	ΣSAR < 1.6, Not required
5	**LTE 7 + WLAN 2.4G**	Face	Front Face	0.43	0.21	**0.64**	ΣSAR < 1.6, Not required
		Body	Front Face	0.43	0.21	**0.64**	ΣSAR < 1.6, Not required
			Rear Face	0.52	0.26	**0.78**	ΣSAR < 1.6, Not required
			Left Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.03	**0.14**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
6	**LTE 12 + WLAN 2.4G**	Face	Front Face	0.24	0.21	**0.45**	ΣSAR < 1.6, Not required
		Body	Front Face	0.24	0.21	**0.45**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.26	**0.57**	ΣSAR < 1.6, Not required
			Left Side	0.36	0.00	**0.36**	ΣSAR < 1.6, Not required
			Right Side	0.19	0.48	**0.67**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.17	0.00	**0.17**	ΣSAR < 1.6, Not required
7	**LTE 25 + WLAN 2.4G**	Face	Front Face	0.37	0.21	**0.58**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.21	**0.58**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.26	**0.66**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.26	0.48	**1.74**	**Analyzed as below**
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.41	0.00	**0.41**	ΣSAR < 1.6, Not required
8	**LTE 26 + WLAN 2.4G**	Face	Front Face	0.13	0.21	**0.34**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.21	**0.34**	ΣSAR < 1.6, Not required
			Rear Face	0.14	0.26	**0.40**	ΣSAR < 1.6, Not required
			Left Side	0.33	0.00	**0.33**	ΣSAR < 1.6,

							Not required
			Right Side	0.04	0.48	**0.52**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.15	0.00	**0.15**	ΣSAR < 1.6, Not required
9	**LTE 38 + WLAN 2.4G**	Face	Front Face	0.16	0.21	**0.37**	ΣSAR < 1.6, Not required
		Body	Front Face	0.16	0.21	**0.37**	ΣSAR < 1.6, Not required
			Rear Face	0.24	0.26	**0.50**	ΣSAR < 1.6, Not required
			Left Side	0.38	0.00	**0.38**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.10	0.03	**0.13**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
10	**LTE 41 + WLAN 2.4G**	Face	Front Face	0.20	0.21	**0.41**	ΣSAR < 1.6, Not required
		Body	Front Face	0.20	0.21	**0.41**	ΣSAR < 1.6, Not required
			Rear Face	0.26	0.26	**0.52**	ΣSAR < 1.6, Not required
			Left Side	0.47	0.00	**0.47**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.07	0.03	**0.10**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
11	**N2 + WLAN 2.4G**	Face	Front Face	0.49	0.21	**0.70**	ΣSAR < 1.6, Not required
		Body	Front Face	0.49	0.21	**0.70**	ΣSAR < 1.6, Not required
			Rear Face	0.62	0.26	**0.88**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.25	0.48	**1.73**	**Analyzed as below**
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
12	**N 5 + WLAN 2.4G**	Face	Front Face	0.32	0.21	**0.53**	ΣSAR < 1.6, Not required
		Body	Front Face	0.32	0.21	**0.53**	ΣSAR < 1.6, Not required
			Rear Face	0.36	0.26	**0.62**	ΣSAR < 1.6, Not required
			Left Side	0.45	0.00	**0.45**	ΣSAR < 1.6, Not required
			Right Side	0.10	0.48	**0.58**	ΣSAR < 1.6, Not required

			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.25	0.00	**0.25**	ΣSAR < 1.6, Not required
13	**N 7 + WLAN 2.4G**	Face	Front Face	0.52	0.21	**0.73**	ΣSAR < 1.6, Not required
		Body	Front Face	0.52	0.21	**0.73**	ΣSAR < 1.6, Not required
			Rear Face	0.93	0.26	**1.19**	ΣSAR < 1.6, Not required
			Left Side	1.18	0.00	**1.18**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.03	**0.14**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
14	**N 38 + WLAN 2.4G**	Face	Front Face	0.59	0.21	**0.80**	ΣSAR < 1.6, Not required
		Body	Front Face	0.59	0.21	**0.80**	ΣSAR < 1.6, Not required
			Rear Face	0.89	0.26	**1.15**	ΣSAR < 1.6, Not required
			Left Side	1.09	0.00	**1.09**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.15	0.03	**0.18**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
15	**N 41 + WLAN 2.4G**	Face	Front Face	0.37	0.21	**0.58**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.21	**0.58**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.26	**0.66**	ΣSAR < 1.6, Not required
			Left Side	0.75	0.00	**0.75**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.48	**0.48**	ΣSAR < 1.6, Not required
			Top Side	0.12	0.03	**0.15**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
16	**N 77 (3450-3550) + WLAN 2.4G**	Face	Front Face	0.36	0.21	**0.57**	ΣSAR < 1.6, Not required
		Body	Front Face	0.36	0.21	**0.57**	ΣSAR < 1.6, Not required
			Rear Face	0.55	0.26	**0.81**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.92	0.48	**1.40**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.14	0.00	**0.14**	ΣSAR < 1.6,

							Not required
17	N 77 (3700-3980) + WLAN 2.4G	Face	Front Face	0.13	0.21	**0.34**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.21	**0.34**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.26	**0.57**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.70	0.48	**1.18**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.12	0.00	**0.12**	ΣSAR < 1.6, Not required
18	N 78 (3450-3550) + WLAN 2.4G	Face	Front Face	0.44	0.21	**0.65**	ΣSAR < 1.6, Not required
		Body	Front Face	0.44	0.21	**0.65**	ΣSAR < 1.6, Not required
			Rear Face	0.67	0.26	**0.93**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.72	0.48	**1.20**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.10	0.00	**0.10**	ΣSAR < 1.6, Not required
19	N 77 (3700-3800) + WLAN 2.4G	Face	Front Face	0.17	0.21	**0.38**	ΣSAR < 1.6, Not required
		Body	Front Face	0.17	0.21	**0.38**	ΣSAR < 1.6, Not required
			Rear Face	0.57	0.26	**0.83**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.86	0.48	**1.34**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.03	**0.03**	ΣSAR < 1.6, Not required
			Bottom Side	0.11	0.00	**0.11**	ΣSAR < 1.6, Not required
20	WCDMA II + WLAN 5G	Face	Front Face	0.54	0.29	**0.83**	ΣSAR < 1.6, Not required
		Body	Front Face	0.54	0.29	**0.83**	ΣSAR < 1.6, Not required
			Rear Face	0.60	0.45	**1.05**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.17	0.32	**1.49**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.58	0.00	**0.58**	ΣSAR < 1.6, Not required
21	WCDMA IV + WLAN 5G	Face	Front Face	0.43	0.29	**0.72**	ΣSAR < 1.6, Not required

		Body	Front Face	0.43	0.29	**0.72**	ΣSAR < 1.6, Not required
			Rear Face	0.44	0.45	**0.89**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.94	0.32	**1.26**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	**0.35**	ΣSAR < 1.6, Not required
22	**WCDMA V + WLAN 5G**	Face	Front Face	0.33	0.29	**0.62**	ΣSAR < 1.6, Not required
		Body	Front Face	0.33	0.29	**0.62**	ΣSAR < 1.6, Not required
			Rear Face	0.39	0.45	**0.84**	ΣSAR < 1.6, Not required
			Left Side	0.67	0.00	**0.67**	ΣSAR < 1.6, Not required
			Right Side	0.20	0.32	**0.52**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.34	0.00	**0.34**	ΣSAR < 1.6, Not required
23	**LTE 4 + WLAN 5G**	Face	Front Face	0.35	0.29	**0.64**	ΣSAR < 1.6, Not required
		Body	Front Face	0.35	0.29	**0.64**	ΣSAR < 1.6, Not required
			Rear Face	0.35	0.45	**0.80**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.98	0.32	**1.30**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	**0.35**	ΣSAR < 1.6, Not required
24	**LTE 7 + WLAN 5G**	Face	Front Face	0.43	0.29	**0.72**	ΣSAR < 1.6, Not required
		Body	Front Face	0.43	0.29	**0.72**	ΣSAR < 1.6, Not required
			Rear Face	0.52	0.45	**0.97**	ΣSAR < 1.6, Not required
			Left Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.09	**0.20**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
25	**LTE 12 + WLAN 5G**	Face	Front Face	0.24	0.29	**0.53**	ΣSAR < 1.6, Not required
		Body	Front Face	0.24	0.29	**0.53**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.45	**0.76**	ΣSAR < 1.6,

							Not required
			Left Side	0.36	0.00	**0.36**	ΣSAR < 1.6, Not required
			Right Side	0.19	0.32	**0.51**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.17	0.00	**0.17**	ΣSAR < 1.6, Not required
26	**LTE 25 + WLAN 5G**	Face	Front Face	0.37	0.29	**0.66**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.29	**0.66**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.45	**0.85**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.26	0.32	**1.58**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.41	0.00	**0.41**	ΣSAR < 1.6, Not required
27	**LTE 26 + WLAN 5G**	Face	Front Face	0.13	0.29	**0.42**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.29	**0.42**	ΣSAR < 1.6, Not required
			Rear Face	0.14	0.45	**0.59**	ΣSAR < 1.6, Not required
			Left Side	0.33	0.00	**0.33**	ΣSAR < 1.6, Not required
			Right Side	0.04	0.32	**0.36**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.15	0.00	**0.15**	ΣSAR < 1.6, Not required
28	**LTE 38 + WLAN 5G**	Face	Front Face	0.16	0.29	**0.45**	ΣSAR < 1.6, Not required
		Body	Front Face	0.16	0.29	**0.45**	ΣSAR < 1.6, Not required
			Rear Face	0.24	0.45	**0.69**	ΣSAR < 1.6, Not required
			Left Side	0.38	0.00	**0.38**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.10	0.09	**0.19**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
29	**LTE 41 + WLAN 5G**	Face	Front Face	0.20	0.29	**0.49**	ΣSAR < 1.6, Not required
		Body	Front Face	0.20	0.29	**0.49**	ΣSAR < 1.6, Not required
			Rear Face	0.26	0.45	**0.71**	ΣSAR < 1.6, Not required
			Left Side	0.47	0.00	**0.47**	ΣSAR < 1.6, Not required

			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.07	0.09	**0.16**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
30	**N2 + WLAN 5G**	Face	Front Face	0.49	0.29	**0.78**	ΣSAR < 1.6, Not required
		Body	Front Face	0.49	0.29	**0.78**	ΣSAR < 1.6, Not required
			Rear Face	0.62	0.45	**1.07**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.25	0.32	**1.57**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
31	**N 5 + WLAN 5G**	Face	Front Face	0.32	0.29	**0.61**	ΣSAR < 1.6, Not required
		Body	Front Face	0.32	0.29	**0.61**	ΣSAR < 1.6, Not required
			Rear Face	0.36	0.45	**0.81**	ΣSAR < 1.6, Not required
			Left Side	0.45	0.00	**0.45**	ΣSAR < 1.6, Not required
			Right Side	0.10	0.32	**0.42**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.25	0.00	**0.25**	ΣSAR < 1.6, Not required
32	**N 7 + WLAN 5G**	Face	Front Face	0.52	0.29	**0.81**	ΣSAR < 1.6, Not required
		Body	Front Face	0.52	0.29	**0.81**	ΣSAR < 1.6, Not required
			Rear Face	0.93	0.45	**1.38**	ΣSAR < 1.6, Not required
			Left Side	1.18	0.00	**1.18**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.09	**0.20**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
33	**N 38 + WLAN 5G**	Face	Front Face	0.59	0.29	**0.88**	ΣSAR < 1.6, Not required
		Body	Front Face	0.59	0.29	**0.88**	ΣSAR < 1.6, Not required
			Rear Face	0.89	0.45	**1.34**	ΣSAR < 1.6, Not required
			Left Side	1.09	0.00	**1.09**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.15	0.09	**0.24**	ΣSAR < 1.6,

							Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
34	**N 41 + WLAN 5G**	Face	Front Face	0.37	0.29	**0.66**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.29	**0.66**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.45	**0.85**	ΣSAR < 1.6, Not required
			Left Side	0.75	0.00	**0.75**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.32	**0.32**	ΣSAR < 1.6, Not required
			Top Side	0.12	0.09	**0.21**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
35	**N 77 (3450-3550) + WLAN 5G**	Face	Front Face	0.36	0.29	**0.65**	ΣSAR < 1.6, Not required
		Body	Front Face	0.36	0.29	**0.65**	ΣSAR < 1.6, Not required
			Rear Face	0.55	0.45	**1.00**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.92	0.32	**1.24**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.14	0.00	**0.14**	ΣSAR < 1.6, Not required
36	**N 77 (3700-3980) + WLAN 5G**	Face	Front Face	0.13	0.29	**0.42**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.29	**0.42**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.45	**0.76**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.70	0.32	**1.02**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.12	0.00	**0.12**	ΣSAR < 1.6, Not required
37	**N 78 (3450-3550) + WLAN 5G**	Face	Front Face	0.44	0.29	**0.73**	ΣSAR < 1.6, Not required
		Body	Front Face	0.44	0.29	**0.73**	ΣSAR < 1.6, Not required
			Rear Face	0.67	0.45	**1.12**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.72	0.32	**1.04**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.10	0.00	**0.10**	ΣSAR < 1.6, Not required

38	N 77 (3700-3800) + WLAN 5G	Face	Front Face	0.17	0.29	**0.46**	ΣSAR < 1.6, Not required
		Body	Front Face	0.17	0.29	**0.46**	ΣSAR < 1.6, Not required
			Rear Face	0.57	0.45	**1.02**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.86	0.32	**1.18**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.09	**0.09**	ΣSAR < 1.6, Not required
			Bottom Side	0.11	0.00	**0.11**	ΣSAR < 1.6, Not required
39	WCDMA II + BT	Face	Front Face	0.54	0.01	**0.55**	ΣSAR < 1.6, Not required
		Body	Front Face	0.54	0.01	**0.55**	ΣSAR < 1.6, Not required
			Rear Face	0.60	0.01	**0.61**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.17	0.04	**1.21**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.58	0.00	**0.58**	ΣSAR < 1.6, Not required
40	WCDMA IV + BT	Face	Front Face	0.43	0.01	**0.44**	ΣSAR < 1.6, Not required
		Body	Front Face	0.43	0.01	**0.44**	ΣSAR < 1.6, Not required
			Rear Face	0.44	0.01	**0.45**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.94	0.04	**0.98**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	**0.35**	ΣSAR < 1.6, Not required
41	WCDMA V + BT	Face	Front Face	0.33	0.01	**0.34**	ΣSAR < 1.6, Not required
		Body	Front Face	0.33	0.01	**0.34**	ΣSAR < 1.6, Not required
			Rear Face	0.39	0.01	**0.40**	ΣSAR < 1.6, Not required
			Left Side	0.67	0.00	**0.67**	ΣSAR < 1.6, Not required
			Right Side	0.20	0.04	**0.24**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.34	0.00	**0.34**	ΣSAR < 1.6, Not required
42	LTE 4 + BT	Face	Front Face	0.35	0.01	**0.36**	ΣSAR < 1.6, Not required
		Body	Front Face	0.35	0.01	**0.36**	ΣSAR < 1.6,

							Not required
			Rear Face	0.35	0.01	**0.36**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.98	0.04	**1.02**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.35	0.00	**0.35**	ΣSAR < 1.6, Not required
43	**LTE 7 + BT**	Face	Front Face	0.43	0.01	**0.44**	ΣSAR < 1.6, Not required
		Body	Front Face	0.43	0.01	**0.44**	ΣSAR < 1.6, Not required
			Rear Face	0.52	0.01	**0.53**	ΣSAR < 1.6, Not required
			Left Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.00	**0.11**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
44	**LTE 12 + BT**	Face	Front Face	0.24	0.01	**0.25**	ΣSAR < 1.6, Not required
		Body	Front Face	0.24	0.01	**0.25**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.01	**0.32**	ΣSAR < 1.6, Not required
			Left Side	0.36	0.00	**0.36**	ΣSAR < 1.6, Not required
			Right Side	0.19	0.04	**0.23**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.17	0.00	**0.17**	ΣSAR < 1.6, Not required
45	**LTE 25 + BT**	Face	Front Face	0.37	0.01	**0.38**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.01	**0.38**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.01	**0.41**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.26	0.04	**1.30**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.41	0.00	**0.41**	ΣSAR < 1.6, Not required
46	**LTE 26 + BT**	Face	Front Face	0.13	0.01	**0.14**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.01	**0.14**	ΣSAR < 1.6, Not required
			Rear Face	0.14	0.01	**0.15**	ΣSAR < 1.6, Not required

			Left Side	0.33	0.00	**0.33**	ΣSAR < 1.6, Not required
			Right Side	0.04	0.04	**0.08**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.15	0.00	**0.15**	ΣSAR < 1.6, Not required
47	**LTE 38 + BT**	Face	Front Face	0.16	0.01	**0.17**	ΣSAR < 1.6, Not required
		Body	Front Face	0.16	0.01	**0.17**	ΣSAR < 1.6, Not required
			Rear Face	0.24	0.01	**0.25**	ΣSAR < 1.6, Not required
			Left Side	0.38	0.00	**0.38**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.10	0.00	**0.10**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
48	**LTE 41 + BT**	Face	Front Face	0.20	0.01	**0.21**	ΣSAR < 1.6, Not required
		Body	Front Face	0.20	0.01	**0.21**	ΣSAR < 1.6, Not required
			Rear Face	0.26	0.01	**0.27**	ΣSAR < 1.6, Not required
			Left Side	0.47	0.00	**0.47**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.07	0.00	**0.07**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
49	**N2 + BT**	Face	Front Face	0.49	0.01	**0.50**	ΣSAR < 1.6, Not required
		Body	Front Face	0.49	0.01	**0.50**	ΣSAR < 1.6, Not required
			Rear Face	0.62	0.01	**0.63**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	1.25	0.04	**1.29**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.63	0.00	**0.63**	ΣSAR < 1.6, Not required
50	**N 5 + BT**	Face	Front Face	0.32	0.01	**0.33**	ΣSAR < 1.6, Not required
		Body	Front Face	0.32	0.01	**0.33**	ΣSAR < 1.6, Not required
			Rear Face	0.36	0.01	**0.37**	ΣSAR < 1.6, Not required
			Left Side	0.45	0.00	**0.45**	ΣSAR < 1.6, Not required
			Right Side	0.10	0.04	**0.14**	ΣSAR < 1.6,

							Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.25	0.00	**0.25**	ΣSAR < 1.6, Not required
51	**N 7 + BT**	Face	Front Face	0.52	0.01	**0.53**	ΣSAR < 1.6, Not required
		Body	Front Face	0.52	0.01	**0.53**	ΣSAR < 1.6, Not required
			Rear Face	0.93	0.01	**0.94**	ΣSAR < 1.6, Not required
			Left Side	1.18	0.00	**1.18**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.11	0.00	**0.11**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
52	**N 38 + BT**	Face	Front Face	0.59	0.01	**0.60**	ΣSAR < 1.6, Not required
		Body	Front Face	0.59	0.01	**0.60**	ΣSAR < 1.6, Not required
			Rear Face	0.89	0.01	**0.90**	ΣSAR < 1.6, Not required
			Left Side	1.09	0.00	**1.09**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.15	0.00	**0.15**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
53	**N 41 + BT**	Face	Front Face	0.37	0.01	**0.38**	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.01	**0.38**	ΣSAR < 1.6, Not required
			Rear Face	0.40	0.01	**0.41**	ΣSAR < 1.6, Not required
			Left Side	0.75	0.00	**0.75**	ΣSAR < 1.6, Not required
			Right Side	0.00	0.04	**0.04**	ΣSAR < 1.6, Not required
			Top Side	0.12	0.00	**0.12**	ΣSAR < 1.6, Not required
			Bottom Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
54	**N 77 (3450-3550) + BT**	Face	Front Face	0.36	0.01	**0.37**	ΣSAR < 1.6, Not required
		Body	Front Face	0.36	0.01	**0.37**	ΣSAR < 1.6, Not required
			Rear Face	0.55	0.01	**0.56**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.92	0.04	**0.96**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required

			Bottom Side	0.14	0.00	**0.14**	ΣSAR < 1.6, Not required
55	**N 77 (3700-3980) + BT**	Face	Front Face	0.13	0.01	**0.14**	ΣSAR < 1.6, Not required
		Body	Front Face	0.13	0.01	**0.14**	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.01	**0.32**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.70	0.04	**0.74**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.12	0.00	**0.12**	ΣSAR < 1.6, Not required
56	**N 78 (3450-3550) + BT**	Face	Front Face	0.44	0.01	**0.45**	ΣSAR < 1.6, Not required
		Body	Front Face	0.44	0.01	**0.45**	ΣSAR < 1.6, Not required
			Rear Face	0.67	0.01	**0.68**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.72	0.04	**0.76**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.10	0.00	**0.10**	ΣSAR < 1.6, Not required
57	**N 77 (3700-3800) + BT**	Face	Front Face	0.17	0.01	**0.18**	ΣSAR < 1.6, Not required
		Body	Front Face	0.17	0.01	**0.18**	ΣSAR < 1.6, Not required
			Rear Face	0.57	0.01	**0.58**	ΣSAR < 1.6, Not required
			Left Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Right Side	0.86	0.04	**0.90**	ΣSAR < 1.6, Not required
			Top Side	0.00	0.00	**0.00**	ΣSAR < 1.6, Not required
			Bottom Side	0.11	0.00	**0.11**	ΣSAR < 1.6, Not required

<SAR to Peak Location Separation Ratio Analysis>

The simultaneous transmitting antennas in each operating mode and exposure condition combination are considered one pair at a time to determine the SPLSR. When SAR is measured for both antennas in the pair, the peak location separation distance is computed by the following formula.

$$\text{Peak Location Separation Distance} = \sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2}$$

Where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the area or zoom scans.

When standalone test exclusion applies, SAR is estimated; the peak location is assumed to be at the feed-point or geometric center of the antenna. Due to curvatures on the SAM phantom, when SAR is estimated for one of the antennas in an antenna pair, the measured peak SAR location will be translated onto the test device to determine the peak location separation for the antenna pair.

The SPLSR is determined by the following formula.

$$\text{SPLSR} = \frac{(\text{SAR}_1 + \text{SAR}_2)^{1.5}}{R_i}$$

Where SAR_1 and SAR_2 are the highest reported or estimated SAR for each antenna in the pair, and R_i is the separation distance between the peak SAR locations for the antenna pair in mm.

When the SPLSR is <= 0.04, the simultaneous transmission SAR is not required. Otherwise, the enlarged zoom scan and volume scan post-processing procedures will be performed.

Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R_i, mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
WCDMA II Ch9262	Body	Right Side	1.17	-0.0214	-0.0387	-0.207	77.7	0.027	SPLSR < 0.04, Not required
802.11b Ch1			0.48	-0.0235	0.039	-0.207			

Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R_i, mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
LTE 25 Ch26140	Body	Right Side	1.26	-0.0171	-0.0406	-0.2070	79.9	0.029	SPLSR < 0.04, Not required
802.11b Ch1			0.48	-0.0235	0.039	-0.207			

Conditions	Exposure Condition	Test Position	SAR Value (W/kg)	Coordinates			Peak Location Separation Distance (R_i, mm)	SPLSR	Simultaneous Transmission SAR Test
				x	y	z			
n2 Ch376000	Body	Right Side	1.25	-0.0241	-0.0373	-0.2070	76.3	0.030	SPLSR < 0.04, Not required
802.11b Ch1			0.48	-0.0235	0.039	-0.207			

9 Equitpment List

Equipment	Manufacturer	Model	SN	Cal. Data	Cal. interval
System Validation Dipole	SPEAG	D450V3	1118	May. 27, 2022	3 years
System Validation Dipole	SPEAG	D750V3	1219	May. 22, 2022	3 years
System Validation Dipole	SPEAG	D850V2	1026	May. 23, 2022	3 years
System Validation Dipole	SPEAG	D1450V2	1092	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D1750V2	1192	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D1900V2	5d247	May. 23, 2022	3 years
System Validation Dipole	SPEAG	D2000V2	1099	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2300V2	1126	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2450V2	1081	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D2600V2	1195	May. 25, 2022	3 years
System Validation Dipole	SPEAG	D3500V2	1140	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D3700V2	1116	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D3900V2	1087	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D4900V2	1066	May. 24, 2022	3 years
System Validation Dipole	SPEAG	D5GHzV2	1353	May. 27, 2022	3 years
System Validation Dipole	SPEAG	D6.5GHz|V2	1057	May. 24, 2022	3 years
Dosimetric E-Field Probe	SPEAG	EX3DV4	7738	Dec. 13, 2023	1 year
Data Acquisition Electronics	SPEAG	DAE4	1725	Oct. 26, 2023	1 year
Wideband Radio Communication Tester	R&S	CMW500	168558	May. 25, 2024	1 year
Wideband Radio Communication Tester	Anritsu	MT8000A	6272354169	Jan. 10, 2024	1 year
Signal Analyzer	R&S	FSV	104408	May. 22, 2024	1 year
Vector Network Analyzer	R&S	ZNB 40	101544	May. 25, 2024	1 year
Dielectric assessment Kit	SPEAG	DAK-3.5	1327	Oct. 22, 2022	N/A
Signal Generator	R&S	SMB 100B	101440	Sep. 23, 2024	1 year
Power Sensor	R&S	NRP18S-10	101843	Sep. 20, 2024	1 year
Power Sensor	R&S	NRP18S-10	101845	Sep. 20, 2024	1 year
DC Power Supply	Topward	3303D	810984	Sep. 20, 2024	1 year
Cavity Coupler	/	/	LS0300103	Jan. 17, 2024	1 year
Directional Couper	/	SHX-DC04/12-20N	2206171042	Jan. 17, 2024	1 year
Coaxial attenuator	R&S	8491A	1424.6721k02-101845-HX	Sep. 20, 2024	1 year
Coaxial attenuator	R&S	8491A	1424.6721K02-101843-aM	Sep. 20, 2024	1 year
Digital Thermometer	LKM	DTM3000	3946	Jan. 15, 2024	1 year
temperature and humidity indicator	LINI-T	A10T	C193561473	Apr. 28, 2024	1 year
Power Amplifier Mini circuit	mini-circuits	ZVA-183W-S+	726202215	Jan. 10, 2024	1 year
PHANTOM	SPEAG	ELI V8.0	2171	N/A	N/A
PHANTOM	SPEAG	SAM-Twin V8.0	2097	N/A	N/A

10 Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)	Vi Veff
Measurement System Errors								
Probe Calibration	±12.7%	Normal (k=2)	2	1	1	± 6.35 %	± 6.35 %	∞
Probe Calibration Drift	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
Probe Linearity	±4.7%	Rectangular	√3	1	1	±2.7%	±2.7%	∞
Broadband Signal	±3.0%	Rectangular	√3	1	1	±1.7%	±1.7%	∞
Probe Isotropy	±7.6%	Rectangular	√3	1	1	±4.4%	±4.4%	∞
Other Probe + Electronic	±0.7%	Normal	1	1	1	±0.7%	±0.7%	∞
RF Ambient	±1.8%	Normal	1	1	1	±1.8%	±1.8%	∞
Probe Positioning	±0.006mm	Normal	1	0.14	0.14	±0.10%	±0.10%	∞
Data Processing	±1.2%	Normal	1	1	1	±1.2%	±1.2%	∞
Phantom and Device Errors								
Conductivity (meas.)[DAK]	±2.5%	Normal	1	0.78	0.71	±2.0%	±1.8%	100
Conductivity (temp.)[BB]	±3.3%	Rectangular	√3	0.78	0.71	±1.5%	±1.4%	∞
Phantom Permittivity	±14.0%	Rectangular	√3	0	0	±0%	±0%	∞
Distance DUT – TSL	±2.0%	Normal	1	2	2	±4.0%	±4.0%	∞
Device Positioning	±2.4%/±2.8%	Normal	1	1	1	±2.8%	±2.8%	30
Device Holder	±3.4%/±3.5%	Normal	1	1	1	±3.5%	±3.5%	30
DUT Modulation[m]	±2.4%	Rectangular	√3	1	1	±1.4%	±1.4%	∞
Time-average SAR	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
DUT drift	±2.5%	Normal	1	1	1	±2.5%	±2.5%	30
Val Antenna Unc.[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Unc. Input Power[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Correction to the SAR results								
C(ε,σ)	±1.9%	Normal	1	1	0.84	±1.9%	±1.6%	
SAR scaling[p]	±0.0%	Rectangular	√3	1	1	±0%	±0%	
Combined Standard Uncertainty (K = 1)						±12.54%	±12.44%	
Expanded Uncertainty (K = 2)						**±25.1%**	**±24.9%**	

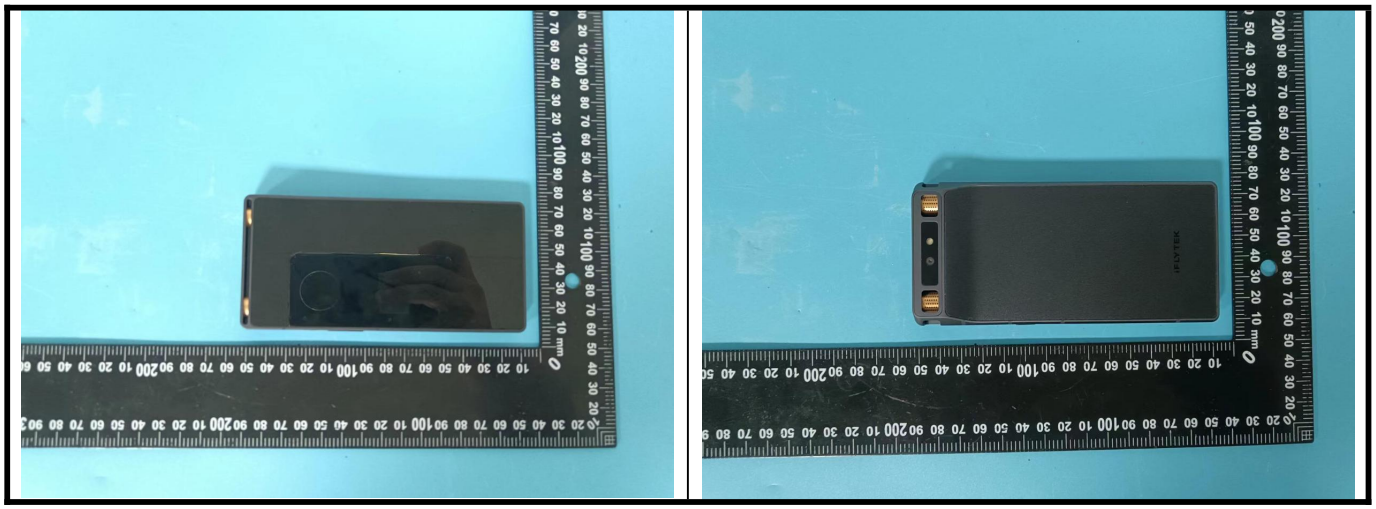
Uncertainty budget for frequency range 300 MHz to 3 GHz

Source of Uncertainty	Tolerance (± %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)	Vi Veff
Measurement System Errors								
Probe Calibration	±13.9%	Normal (k=2)	2	1	1	± 6.95 %	± 6.95 %	∞
Probe Calibration Drift	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
Probe Linearity	±4.7%	Rectangular	√3	1	1	±2.7%	±2.7%	∞
Broadband Signal	±2.6%	Rectangular	√3	1	1	±1.5%	±1.5%	∞
Probe Isotropy	±7.6%	Rectangular	√3	1	1	±4.4%	±4.4%	∞
Other Probe + Electronic	±1.2%	Normal	1	1	1	±1.2%	±1.2%	∞
RF Ambient	±1.8%	Normal	1	1	1	±1.8%	±1.8%	∞
Probe Positioning	±0.005mm	Normal	1	0.29	0.29	±0.15%	±0.15%	∞
Data Processing	±2.3%	Normal	1	1	1	±2.3%	±2.3%	∞
Phantom and Device Errors								
Conductivity (meas.)[DAK]	±2.5%	Normal	1	0.78	0.71	±2.0%	±1.8%	60
Conductivity (temp.)[BB]	±3.3%	Rectangular	√3	0.78	0.71	±1.5%	±1.4%	∞
Phantom Permittivity	±14.0%	Rectangular	√3	0.25	0.25	±2%	±2%	∞
Distance DUT – TSL	±2.0%	Normal	1	2	2	±4.0%	±4.0%	∞
Device Positioning	±2.4%/±2.8%	Normal	1	1	1	±2.8%	±2.8%	30
Device Holder	±3.4%/±3.5%	Normal	1	1	1	±3.5%	±3.5%	30
DUT Modulation[m]	±2.4%	Rectangular	√3	1	1	±1.4%	±1.4%	∞
Time-average SAR	±1.7%	Rectangular	√3	1	1	±1.0%	±1.0%	∞
DUT drift	±2.5%	Normal	1	1	1	±2.5%	±2.5%	30
Val Antenna Unc.[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Unc. Input Power[val]	±0.0%	Normal	1	1	1	±0%	±0%	
Correction to the SAR results								
Deviation to Target	±1.9%	Normal	1	1	0.84	±1.9%	±1.6%	
SAR scaling[p]	±0.0%	Rectangular	√3	1	1	±0%	±0%	
Combined Standard Uncertainty (K = 1)						±12.8%	±12.7%	
Expanded Uncertainty (K = 2)						**±26.1%**	**±25.9%**	

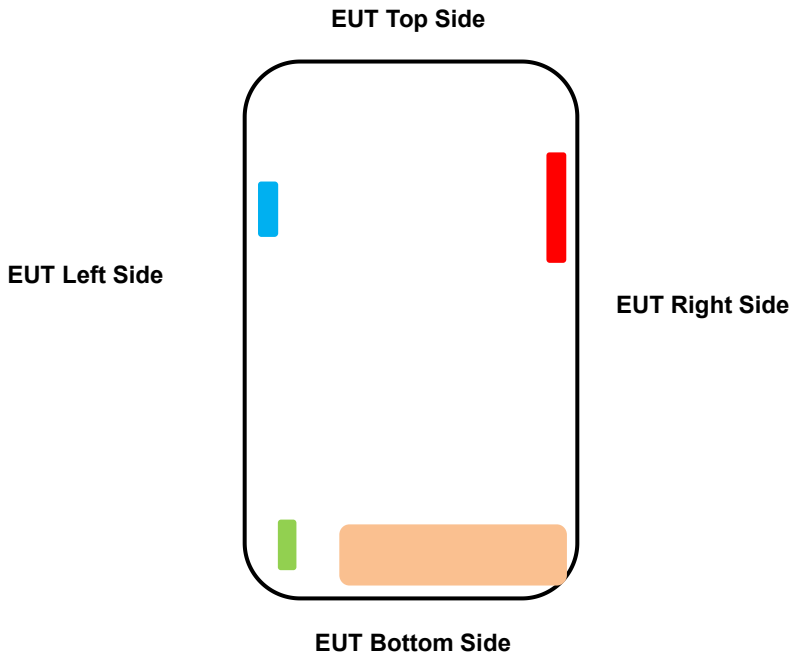
Uncertainty budget for frequency range 3 GHz to 6 GHz

11 Test Photos and Results

11.1 EUT Photo



<EUT Antenna Location>



<EUT Front View>

WWAN Ant-1

WWAN Ant-2

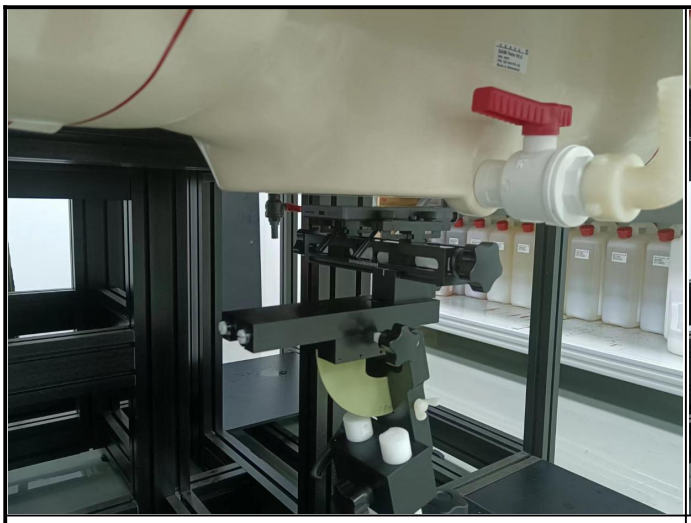
WWAN Ant-3

WLAN / BT Ant-7

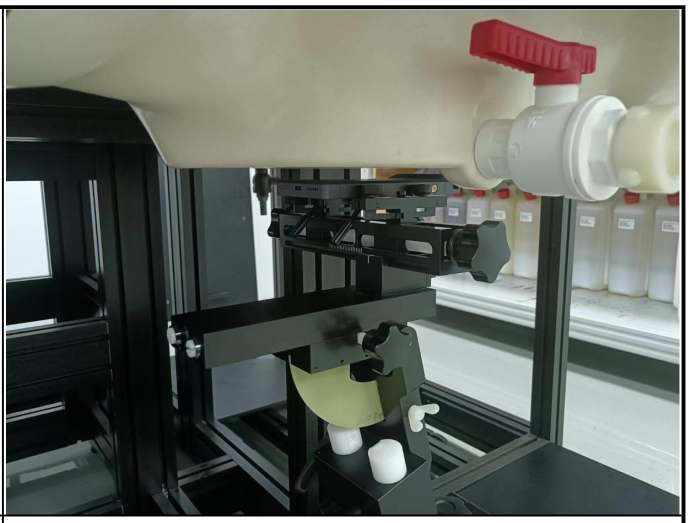
The separation distance for antenna to edge:

Antenna	To Left Side (mm)	To Right Side (mm)	To Top Side (mm)	To Bottom Side (mm)
WWAN Ant-1	0	17	123	0
WWAN Ant-2	60	0	123	0
WWAN Ant-3	0	60	34	81
WLAN / BT Ant-7	60	0	38	100

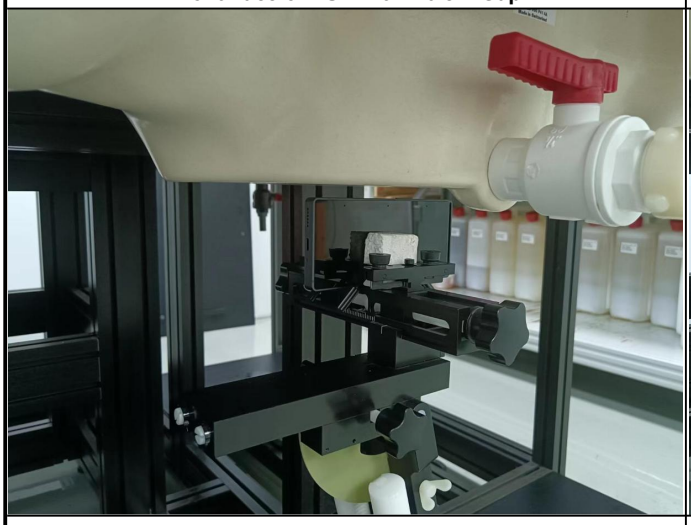
<Photographs of SAR Setup>



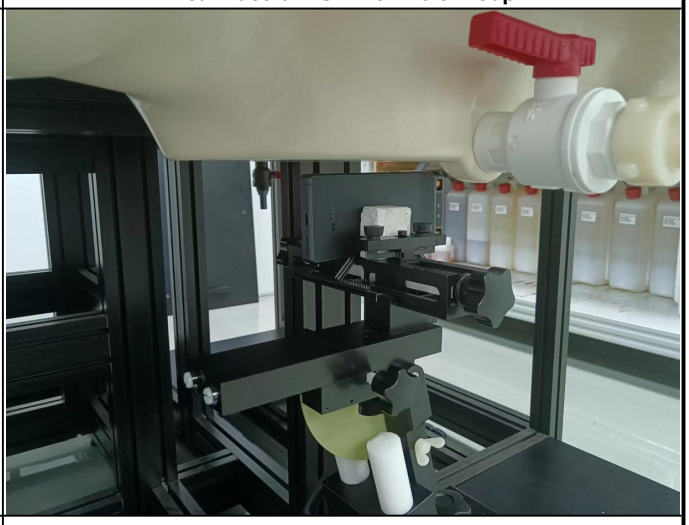
Front Face of EUT with 1.0 cm Gap



Rear Face of EUT with 1.0 cm Gap

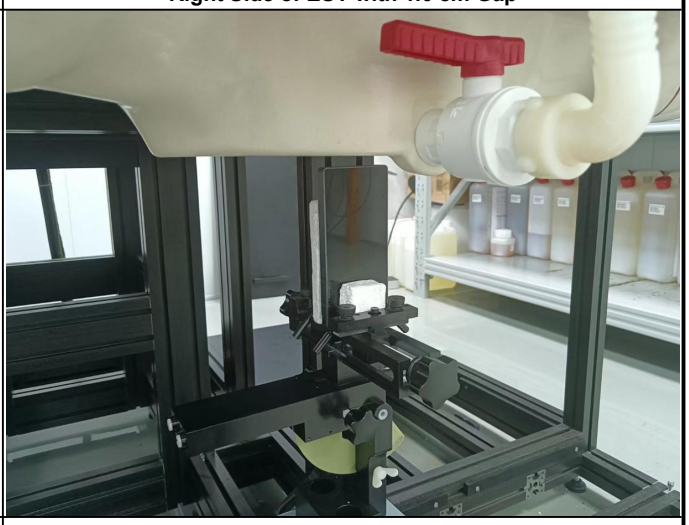


Left Side of EUT with 1.0 cm Gap

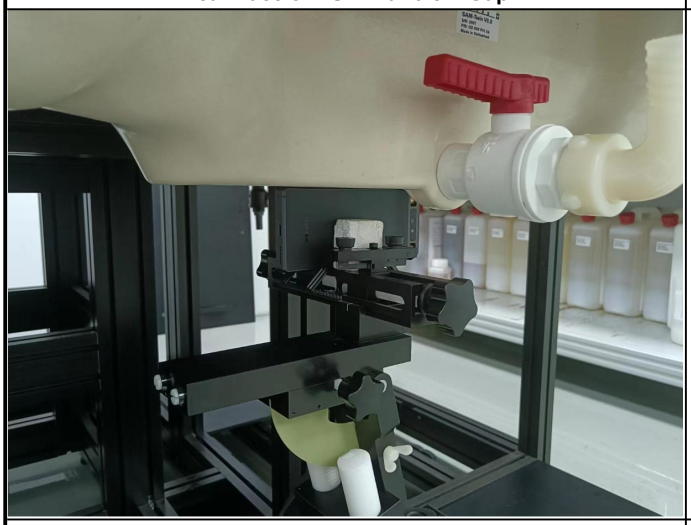


Right Side of EUT with 1.0 cm Gap

Top Side of EUT with 1.0 cm Gap



Bottom Side of EUT with 1.0 cm Gap

Rear Face of EUT with 0 cm Gap	**Left Side of EUT with 0 cm Gap**
	
Right Side of EUT with 0 cm Gap	

12 Appendixes

All attachments are integral parts of this test report. This applies especially to the following appendix:

Appendix A: SAR Plots of System Verification

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

Appendix B: SAR Plots of SAR Measurement

Appendix C: Calibration Certificate for probe and Dipole

Refer the appendix Calibration Report.

Important

(1) The test report is invalid without the official stamp of CVC;

(2) Any part photocopies of the test report are forbidden without the written permission from CVC;

(3) The test report is invalid without the signatures of Approval and Reviewer;

(4) The test report is invalid if altered;

(5) Objections to the test report must be submitted to CVC within 15 days.

(6) Generally, commission test is responsible for the tested samples only.

(7) As for the test result “-” or “N” means “not applicable”, “/” means “not test”, “P” means “pass” and “F” means “fail”

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