



No.: FCCSZ2025-0042-SAR

TEST REPORT

NAME OF SAMPLE : 5G wireless route

CLIENT : Tianjin RoamWiFi Technology Co.,Ltd

CLASSIFICATION OF TEST : N/A

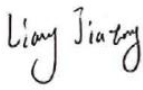
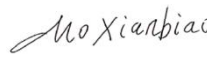
FCC ID : 2ADUBROAMWIFI5GPRO

Max. Body SAR (1g): : **1.03** W/kg

Max. Extremity SAR (10g): : **2.62** W/kg

CVC Testing Technology (Shenzhen) Co., Ltd.



Applicant		Name : Tianjin RoamWiFi Technology Co.,Ltd	
		Address : 209 (TG no. 446, TG, no. 446, animation building C, no. 126 animation road, tianjin eco-city)	
Manufacturer		Name : Tianjin RoamWiFi Technology Co.,Ltd	
		Address : 209 (TG no. 446, TG, no. 446, animation building C, no. 126 animation road, tianjin eco-city)	
Equipment Under Test		Name : 5G wireless route	
		Model/Type : ROAMWIFI 5G Pro	
		Trade mark : ROAMWIFI	
		SerialNO. : N/A	
		Sample NO. : 202505194716-4	
Date of Receipt.	May 19, 2025	Date of Testing	Jun. 15, 2025
Test Specification		Test Result	
ANSI/IEEE Std. C95.1 FCC 47 CFR Part 2 (2.1093) IEEE Std 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: Aug. 22, 2025	
Compiled by:  <u>Liang Jiatong</u> Name Signature	Reviewed by:  <u>Mo Xianbiao</u> Name Signature	Approved by:  <u>Dong Sanbi</u> 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.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCCSZ2025-0042-SAR	Original release	Aug. 22, 2025



1 GENERAL INFORMATION

1.1 GENERAL PRODUCT INFORMATION

PRODUCT	5G wireless route
BRAND	ROAMWIFI
MODEL	ROAMWIFI 5G Pro
ADDITIONAL MODEL	N/A
HW Version	V1.3
SW Version	QDC533SAXFU56_BP01.004V09_Android13.0.0.01.004V09
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(VHT20)/(VHT40)(VHT80): OFDM WLAN 5G 802.11ax(HE80):OFDMA
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 7:2500 MHz~2570 MHz LTE Band 12:699 MHz~ 716 MHz LTE Band 13:777 MHz~ 787 MHz LTE Band 14:788 MHz~ 798 MHz LTE Band 17:706 MHz~714 MHz LTE Band 25:1850 MHz~1915 MHz LTE Band 26: 814 MHz~ 824 MHz,824 MHz~ 849 MHz LTE Band 30:2305 MHz~ 2315 MHz LTE Band 38:2570 MHz~ 2620 MHz LTE Band 40:2305 MHz~ 2315 MH,2350 MHz~ 2360 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz 5G NR n2: 1850 MHz~1910 MHz 5G NR n5: 824 MHz ~ 849 MHz 5G NR n7: 2500 MHz ~2570 MHz 5G NR n12: 699 MHz~ 716 MHz 5G NR n25: 1850 MHz~1915 MHz 5G NR n30:2305 MHz~ 2315 MHz 5G NR n38: 2570 MHz~ 2620 MHz 5G NR n41:2496 MHz~ 2690 MHz 5G NR n48:3550 MHz~ 3700 MHz 5G NR n66: 1710 MHz ~ 1780 MHz 5G NR n71: 665.5 MHz ~ 695.5 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
POWER SUPPLY	1. DC 3.85V (1*3.85V Polymer Li-ion battery)



	DC 9V From Adapter
ANTENNA TYPE	FPC 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
	N5	FDD	15	5,10,15,20
	N7	FDD	15	5,10,15,20
	N12	FDD	15	5,10,15
	N25	FDD	15	5,10,15,20
	N30	FDD	15	10
	N38	TDD	30	5,10,15,20,30,40
	N41	TDD	30	20,30,40,50,60,80,90,100
	N48	TDD	30	10,15,20,30,40
	N66	FDD	15	5,10,15,20
	N71	FDD	15	5,10,15,20
	N77(3450-3550)	TDD	30	10,15,20,30,40,50,60,80,90,100
	N77(3700-3980)	TDD	30	10,15,20,30,40,50,60,80,90,100
	N78(3450-3550)	TDD	30	10,15,20,30,40,50,60,80,90,100
	N78(3700-3800)	TDD	30	10,15,20,30,40,50,60,80,90,100



1.2 TEST Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (°C)	20.5 ~ 22.0
Humidity (%RH)	50 ~ 67

1.3 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)



1.4 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 447498 D04 v01	RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices
6	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
7	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
8	FCC KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
9	FCC KDB 941225 D05 v02r05	SAR for LTE Devices
10	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



1.5 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 Extremity SAR _{10g} (0 cm Gap) (W/kg)
WCDMA II	0.66	1.21
WCDMA IV	1.03	2.22
WCDMA V	0.17	0.11
LTE 7	0.70	1.55
LTE 12&17	0.32	0.59
LTE 13	0.47	0.51
LTE 14	0.44	0.42
LTE 25&2	0.46	1.09
LTE 26&5	0.37	0.21
LTE 30	0.63	2.33
LTE 40	0.33	0.92
LTE 41&38	0.37	0.95
LTE 66&4	0.97	2.62
LTE 71	0.33	0.58
N25&2	0.65	0.98
N5	0.36	0.21
N7	0.71	1.45
N12	0.43	0.33
N30	0.63	2.16
N38	0.13	0.34
N41	0.13	0.31
N48	0.69	1.22
N66	0.91	2.18
N71	0.31	0.65
N77 &N78(3450MHz-3550MHz)	0.57	1.05
N77&N78(3700MHz-3980MHz)	0.61	0.60
2.4G WLAN	0.10	0.08
5.2G WLAN	0.37	0.64
5.8G WLAN	0.40	0.65
Highest Simultaneous Transmission SAR	Body (W/kg)	Extremity (W/kg)
	1.33	3.27

Note:

1. This device supports LTE B2,B17,B5,B38,B4 and B25,B12,B26,B41,B66 . Since the supported frequency span for LTE B2,B17,B5,B38,B4 falls completely within the supports frequency span for LTE B25,B12,B26,B41,B66 ,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,B12,B26,B41,B66.
2. This device supports 5G NR N2,N78 and N25,N77 . Since the supported frequency span for 5G NR N25,N77 falls completely within the supports frequency span for 5G NR N25,N77 ,both 5G NR bands have the same tune-up power, and both 5G NR bands share the same transmission path; therefore ,SAR was only assessed for NR N25,N77.
3. 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:

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

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

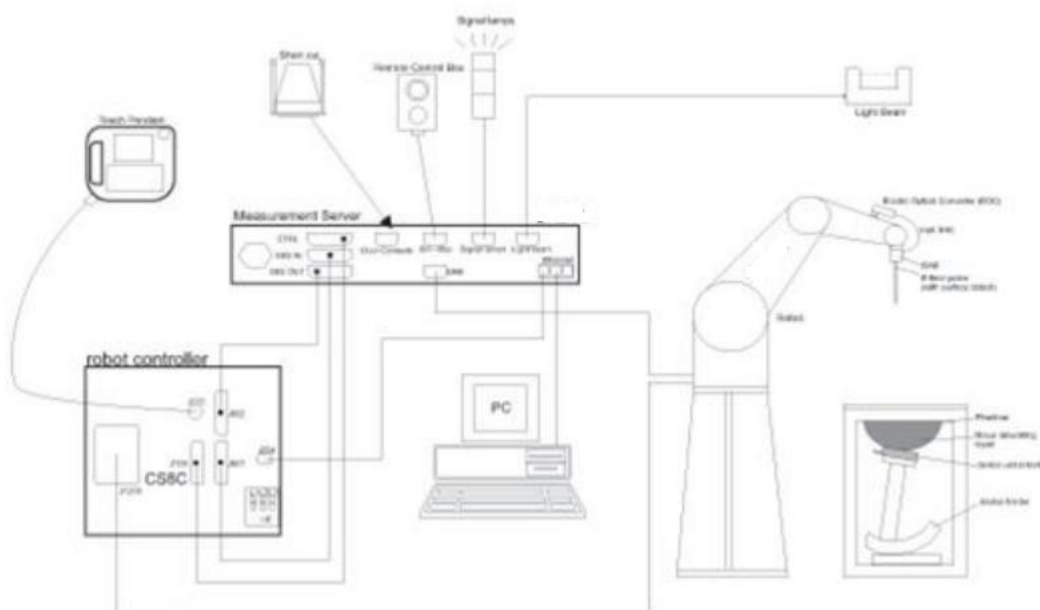
$$SAR = \frac{\sigma E^2}{\rho}$$

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:

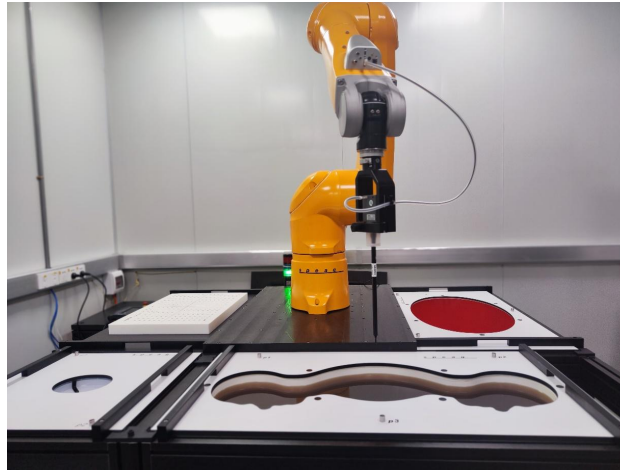


DASY is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The DASY system consists of the following items:



- 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: $< 5 \mu\text{V}$ (with auto zero)
- Input resistance: 200 MOhm
- Input bias current: $< 50 \text{ fA}$
- 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.

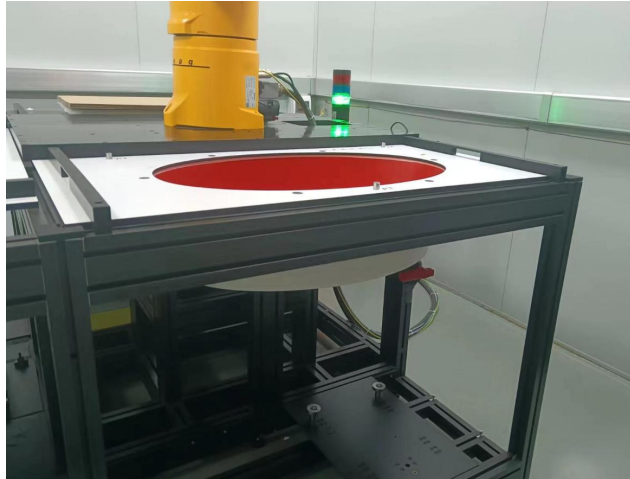
- Material: Vinyl ester, fiberglass reinforced (VE-GF)
- Shell Thickness: 2 ± 0.2 mm (6 ± 0.2 mm at ear point)
- Dimensions: Length: 1000 mm
Width: 500 mm
Height: adjustable feet



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.

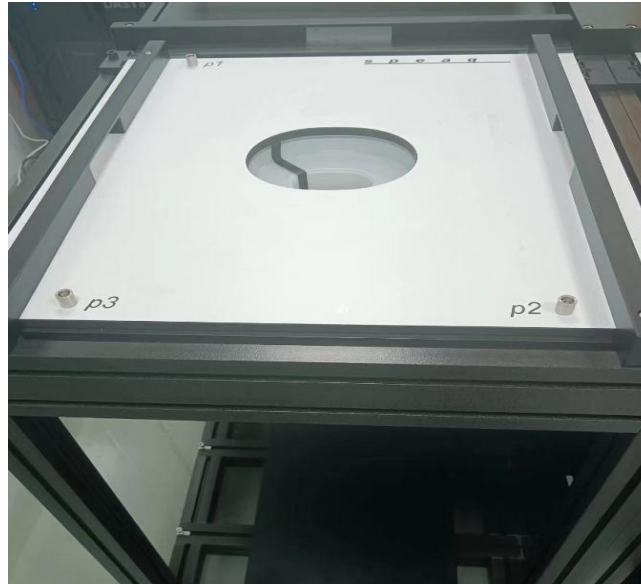




2.5 Wrist Phantom

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 1/4 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

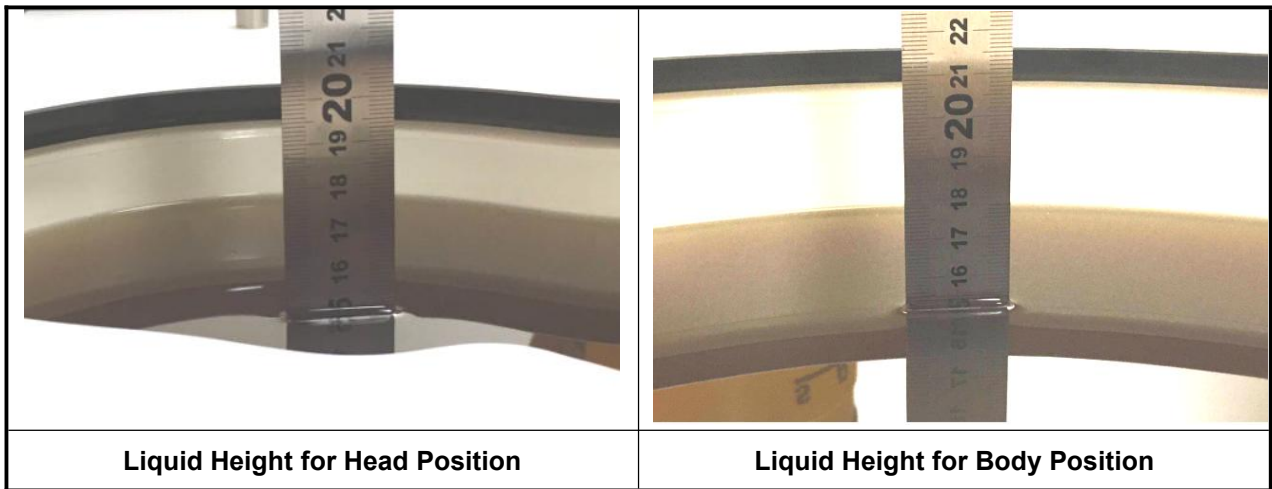




3 Tissue Simulating Liquids

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.



The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528, and KDB 865664 D01 Appendix A. For the body tissue simulating liquids, the dielectric properties are defined in KDB 865664 D01 Appendix A. 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	0.869	40.100	0.89	41.90	-2.36	-4.30	Jun. 15, 2025
H750	750	0.869	40.100	0.89	41.90	-2.36	-4.30	Jun. 16, 2025
H835	835	0.890	40.400	0.90	41.50	-1.11	-2.65	Jun. 17, 2025
H1750	1750	1.330	40.000	1.37	40.10	-2.92	-0.25	Jun. 18, 2025
H1900	1900	1.400	39.700	1.40	40.00	0.00	-0.75	Jun. 19, 2025
H2300	2300	1.680	40.100	1.67	39.50	0.60	1.52	Jun. 20, 2025
H2450	2450	1.790	39.900	1.80	39.20	-0.56	1.79	Jun. 24, 2025
H2600	2600	1.900	39.700	1.96	39.00	-3.06	1.79	Jun. 21, 2025
H2600	2600	1.900	39.700	1.96	39.00	-3.06	1.79	Jun. 22, 2025
H3500	3500	2.840	38.500	2.91	37.90	-2.41	1.58	Jun. 23, 2025
H3700	3700	3.130	38.100	3.12	37.70	0.32	1.06	Jun. 23, 2025
H5G	5250	4.730	36.300	4.71	35.90	0.42	1.11	Jun. 24, 2025
	5800	5.300	35.500	5.27	35.30	0.57	0.57	Jun. 24, 2025

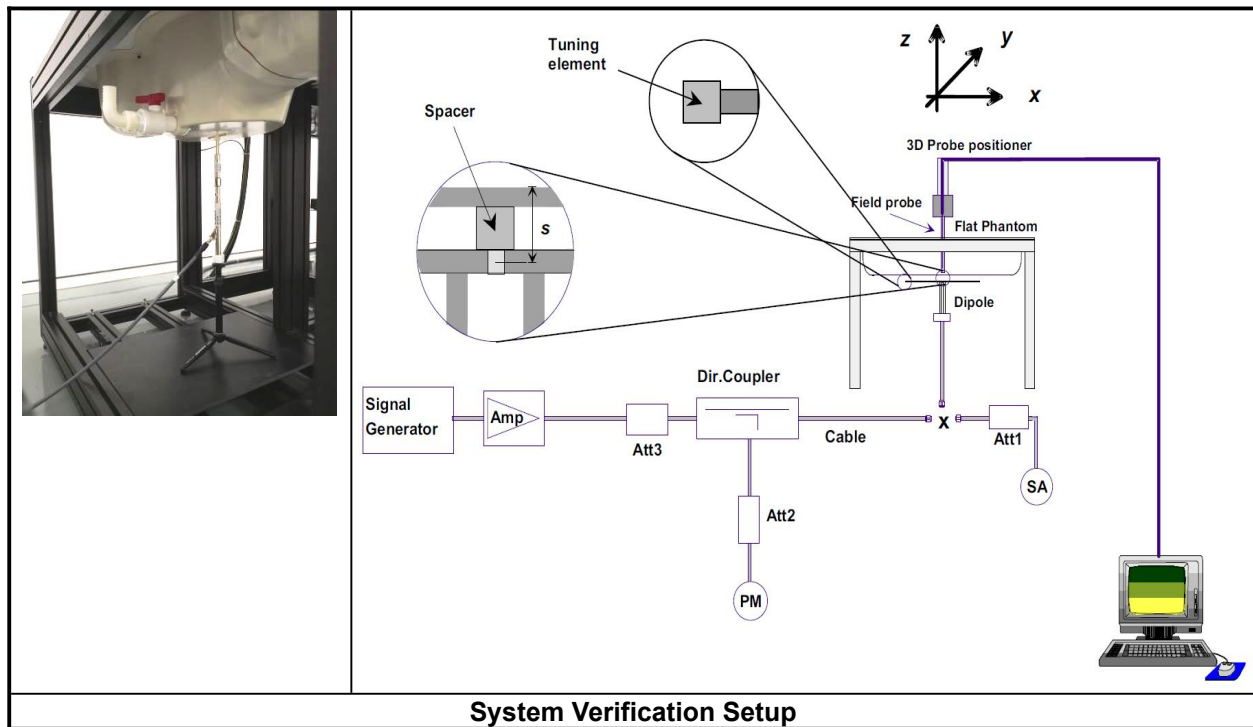
Note:

1. The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within $\pm 5\%$ of the target values. Liquid temperature during the SAR testing must be within $\pm 2^\circ\text{C}$.
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.



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
Jun. 15, 2025	750	8.53	2.10	8.36	-2.02	1109	7628	1557
Jun. 16, 2025	750	8.53	2.13	8.48	-0.62	1109	7628	1557
Jun. 17, 2025	835	9.75	2.38	9.47	-2.85	4d242	7628	1557
Jun. 18, 2025	1750	36.20	9.21	36.66	1.26	1166	7628	1557
Jun. 19, 2025	1900	40.10	9.99	39.76	-0.85	5d229	7628	1557
Jun. 20, 2025	2300	49.00	12.70	50.55	3.16	1087	7628	1557
Jun. 24, 2025	2450	53.40	13.60	54.13	1.36	1014	7628	1557
Jun. 21, 2025	2600	56.80	14.30	56.91	0.20	1153	7628	1557
Jun. 22, 2025	2600	56.80	14.30	56.91	0.20	1153	7628	1557
Jun. 23, 2025	3500	65.10	6.27	62.70	-3.69	1063	7628	1557
Jun. 23, 2025	3700	67.40	6.15	61.50	-8.75	1020	7628	1557
Jun. 24, 2025	5250	79.30	7.61	76.10	-4.04	1280	7628	1557
Jun. 24, 2025	5800	80.70	7.62	76.20	-5.58	1280	7628	1557

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 to 16 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<E, Anritsu_ MT8000A for 5G NR). 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	$\beta_{hs}^{(1)}$	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 $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs} / \beta_c = 30 / 15 \Leftrightarrow \beta_{hs} = 30 / 15 * \beta_c$.
Note 2: CM = 1 for $\beta_c / \beta_d = 12 / 15$, $\beta_{hs} / \beta_c = 24 / 15$.
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 $\beta_c = 11 / 15$ and $\beta_d = 15 / 15$.

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	$\beta_{hs}^{(1)}$	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	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	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 $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs} / \beta_c = 30 / 15 \Leftrightarrow \beta_{hs} = 30 / 15 * \beta_c$.
Note 2: CM = 1 for $\beta_c / \beta_d = 12 / 15$, $\beta_{hs} / \beta_c = 24 / 15$. For all other combinations of DPDCH, 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 $\beta_c = 10 / 15$ and $\beta_d = 15 / 15$.
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 $\beta_c = 14 / 15$ and $\beta_d = 15 / 15$.
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		
13			V	V		
14			V	V		
17			V	V		
25	V	V	V	V	V	V
26	V	V	V	V	V	
30			V	V		
38			V	V	V	V
40			V	V		
41			V	V	V	V
66	V	V	V	V	V	V
71			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.

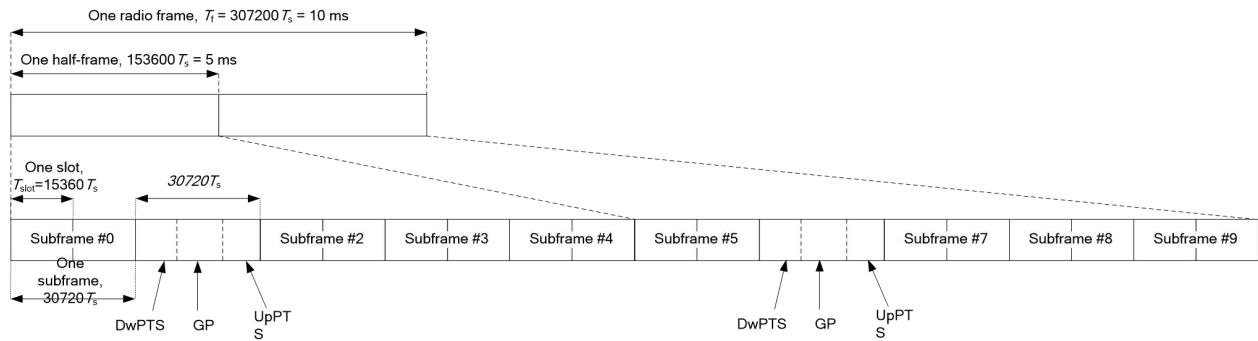


During LTE SAR testing, the related parameters of operating band, channel bandwidth, uplink channel number, modulation type, and RB was set in base station simulator. When the EUT has registered and communicated to base station simulator, the simulator set to make EUT transmitting the maximum radiated 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	4384 • Ts	5120 • Ts	7680 • Ts	4384 • Ts	5120 • Ts
5	6592 • 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%.

<5G NR>

- 5G NR n2/n5/n7/12/25/30/n38/n41/n48/n66/n71/n77/n78 is SA.
- For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - 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.
 - For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 2 and 3, for 16QAM/64QAM/256QAM and smaller bandwidth output power will spot check largest channel bandwidth worst RB configuration to ensure the 16QAM/64QAM/256QAM and smaller bandwidth output power will not ½ dB higher than the same configuration in the largest supported bandwidth.
 - 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.
 - 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
 - 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.
 - 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.
 - 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.
- 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	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM	≤ 2.5		
CP-OFDM	256 QAM	≤ 4.5		
	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 <i>powerBoosting-pi2BPSK</i> and if the IE <i>powerBoostPi2BPSK</i> 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 <i>powerBoostPi2BPSK</i> 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>

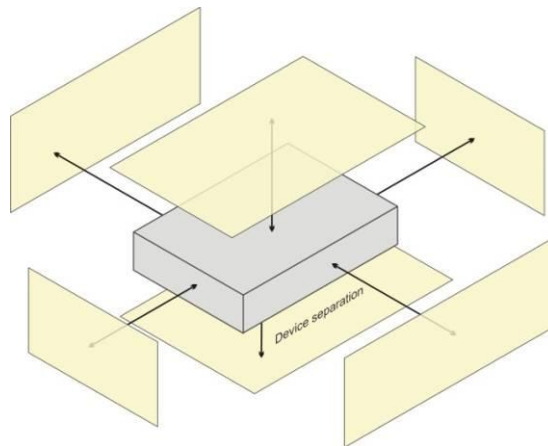
This device has installed Bluetooth engineering testing software which can provide continuous transmitting RF signal. During Bluetooth SAR testing, this device was operated to transmit continuously at the maximum transmission duty with specified transmission mode, operating frequency, lowest data rate,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



Based on the antenna location shown on Appendix D of this report, the SAR testing required for hotspot mode is listed as below.

Antenna	Front Face	Rear Face	Left Side	Right Side	Top Side	Bottom Side
WWAN Ant-0	V	V	V	V	V	
WWAN Ant-4	V	V		V		
WWAN Ant-5	V	V		V		V
WWAN Ant-7	V	V		V	V	
WLAN Ant-2	V	V		V		V
WLAN Ant-3	V	V	V			



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

Note :

1. The 2.4G WLAN and 5G WLAN cannot transmit simultaneously.



7 Maximum Output Power

7.1 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	24.5	23.0	24.5
HSDPA	24.0	22.5	24.0
HSUPA	24.0	22.5	24.0

Mode	LTE 2	LTE 4	LTE 5
QPSK / 16QAM	24.0	23.0	24.5

Mode	LTE 7	LTE 12	LTE 13
QPSK / 16QAM	24.0	25.0	24.5

Mode	LTE 14	LTE 17	LTE 25
QPSK / 16QAM	24.5	25.0	24.0

Mode	LTE 26	LTE 30	LTE 38
QPSK / 16QAM	24.5	23.0	24.0

Mode	LTE 40	LTE 41	LTE 66
QPSK / 16QAM	23.5	24.0	23.0

Mode	LTE 71
QPSK / 16QAM	24.5

Mode	N2	N5	N7
QPSK / BPSK	25.0	25.0	24.5

Mode	N12	N25	N30
QPSK / BPSK	25.0	25.0	24.5

Mode	N38	N41	N48
QPSK / BPSK	25.5	28.0	20.0

Mode	N66	N71	N77(3450~3550)
QPSK / BPSK	22.0	25.0	23.5

Mode	N77(3700~3980)	N78(3450~3550)	N78(3700~3800)
QPSK / BPSK	23.5	23.5	23.5

**<WLAN 2.4G>**

Mode	802.11b (1Mbps)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Ant0 tune-up	11.0	10.0	10.5
Ant1 tune-up	10.0	10.5	11.0
Mimo	13.5	13.0	13.5
Mode	802.11g (6Mbps)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Ant0 tune-up	5.0	4.0	4.5
Ant1 tune-up	5.0	5.0	5.5
Mimo	8.0	8.0	8.0
Mode	802.11n (HT20) (MCS0)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Ant0 tune-up	4.5	4.0	4.0
Ant1 tune-up	5.0	5.0	5.0
Mimo	7.5	7.5	7.5
Mode	802.11n (HT40) (MCS0)		
Channel / Frequency (MHz)	3 (2422)	6 (2437)	9 (2452)
Ant0 tune-up	4.5	4.5	4.5
Ant1 tune-up	5.5	5.0	5.0
Mimo	8.0	8.0	8.0
Mode	802.11ax (HE20) (MCS0)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Ant0 tune-up	5.0	5.0	5.5
Ant1 tune-up	5.0	5.0	5.0
Mimo	8.0	8.0	8.5
Mode	802.11ax (HE40) (MCS0)		
Channel / Frequency (MHz)	3 (2422)	6 (2437)	9 (2452)
Ant0 tune-up	5.0	5.0	5.0
Ant1 tune-up	5.0	4.5	4.5
Mimo	8.0	8.0	8.0

**<WLAN 5.2G>**

Mode	802.11a (6Mbps)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Ant 0 Tune up	14.0	14.0	14.0	14.0
Ant 1 Tune up	13.0	12.5	12.5	12.5
Mimo	16.5	16.0	16.0	16.0
Mode	802.11ac (VHT20) (MCS0)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Ant 0 Tune up	13.0	13.0	13.0	13.5
Ant 1 Tune up	11.5	11.5	11.5	12.0
Mimo	15.0	15.0	15.0	16.0
Mode	802.11ac (VHT40) (MCS0)			
Channel / Frequency (MHz)	38 (5190)		46 (5230)	
Ant 0 Tune up	13.0		13.0	
Ant 1 Tune up	11.5		11.5	
Mimo	15.5		15.5	
Mode	802.11ac (VHT80) (MCS0)			
Channel / Frequency (MHz)	42 (5210)			
Ant 0 Tune up	13.5			
Ant 1 Tune up	12.0			
Mimo	16.0			
Mode	802.11ax (HE20) (MCS0)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Ant 0 Tune up	13.0	13.0	13.0	14.0
Ant 1 Tune up	11.5	11.0	11.5	12.0
Mimo	15.5	15.5	15.5	16.0
Mode	802.11ax (HE40) (MCS0)			
Channel / Frequency (MHz)	38 (5190)		46 (5230)	
Ant 0 Tune up	13.0		13.0	
Ant 1 Tune up	11.0		11.0	
Mimo	15.0		15.0	
Mode	802.11ax (HE80) (MCS0)			
Channel / Frequency (MHz)	42 (5210)			
Ant 0 Tune up	13.5			
Ant 1 Tune up	12.0			
Mimo	16.0			

**<WLAN 5.8G>**

Mode	802.11a (6Mbps)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Ant 0 Tune up	14.5	14.5	14.0	14.0	14.0
Ant 1 Tune up	12.5	12.5	12.5	12.5	11.0
Mimo	16.5	16.5	16.5	16.0	16.0
Mode	802.11ac (VHT20) (MCS0)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Ant 0 Tune up	14.0	14.0	13.5	13.5	13.5
Ant 1 Tune up	12.0	12.0	12.0	12.0	11.0
Mimo	16.0	16.0	16.0	15.5	15.5
Mode	802.11ac (VHT40) (MCS0)				
Channel / Frequency (MHz)	151 (5755)		159 (5795)		
Ant 0 Tune up	14.0		14.0		
Ant 1 Tune up	12.5		12.5		
Mimo	16.5		16.5		
Mode	802.11ac (VHT80) (MCS0)				
Channel / Frequency (MHz)	155 (5775)				
Ant 0 Tune up	14.5				
Ant 1 Tune up	13.0				
Mimo	17.0				
Mode	802.11ax (HE20) (MCS0)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Ant 0 Tune up	14.0	14.0	14.0	14.0	14.0
Ant 1 Tune up	12.5	12.5	12.5	12.0	12.0
Mimo	16.5	16.5	16.5	16.0	16.0
Mode	802.11ax (HE40) (MCS0)				
Channel / Frequency (MHz)	151 (5755)		159 (5795)		
Ant 0 Tune up	14.0		14.0		
Ant 1 Tune up	12.0		12.0		
Mimo	16.0		16.0		
Mode	802.11ax (HE80) (MCS0)				
Channel / Frequency (MHz)	155 (5775)				
Ant 0 Tune up	14.5				
Ant 1 Tune up	13.0				
Mimo	17.0				



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	24.22	24.24	23.92	22.75	22.80	22.60	-
HSDPA Subtest-1	23.66	23.68	23.36	22.19	22.24	22.04	0
HSDPA Subtest-2	23.60	23.62	23.30	22.13	22.18	21.98	0
HSDPA Subtest-3	23.14	23.16	22.84	21.67	21.72	21.52	0.5
HSDPA Subtest-4	23.08	23.10	22.78	21.61	21.66	21.46	0.5
HSUPA Subtest-1	23.63	23.65	23.33	22.16	22.21	22.01	0
HSUPA Subtest-2	21.87	21.89	21.57	20.40	20.45	20.25	2
HSUPA Subtest-3	22.75	22.77	22.45	21.28	21.33	21.13	1
HSUPA Subtest-4	21.69	21.71	21.39	20.22	20.27	20.07	2
HSUPA Subtest-5	23.79	23.81	23.49	22.32	22.37	22.17	0

Band	WCDMA Band V			3GPP MPR (dB)
Channel	4132	4182	4233	
Frequency (MHz)	826.4	836.4	846.6	
RMC 12.2K	24.16	24.19	24.23	-
HSDPA Subtest-1	23.60	23.63	23.67	0
HSDPA Subtest-2	23.54	23.57	23.61	0
HSDPA Subtest-3	23.08	23.11	23.15	0.5
HSDPA Subtest-4	23.02	23.05	23.09	0.5
HSUPA Subtest-1	23.57	23.60	23.64	0
HSUPA Subtest-2	21.81	21.84	21.88	2
HSUPA Subtest-3	22.69	22.72	22.76	1
HSUPA Subtest-4	21.63	21.66	21.70	2
HSUPA Subtest-5	23.73	23.76	23.80	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	23.61	23.66	23.51	0	22.67	22.58	22.38	1
	1	2	23.57	23.66	23.42	0	22.55	22.53	22.02	1
	1	5	23.65	23.34	23.34	0	22.59	22.57	21.97	1
	3	0	23.69	23.64	23.31	0	22.73	22.49	22.41	1
	3	1	23.67	23.54	23.40	0	22.68	22.56	22.37	1
	3	3	23.61	23.52	23.32	0	22.57	22.61	22.45	1
	6	0	22.63	22.71	22.52	1	21.59	21.69	21.37	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	23.47	23.56	23.43	0	22.68	22.58	22.22	1
	1	7	23.51	23.59	23.37	0	22.47	22.59	22.00	1
	1	14	23.49	23.35	23.21	0	22.50	22.59	22.08	1
	8	0	22.59	22.63	22.41	1	21.62	21.60	21.40	2
	8	3	22.63	22.69	22.34	1	21.64	21.63	21.34	2
	8	7	22.49	22.62	22.46	1	21.63	21.63	21.45	2
	15	0	22.62	22.57	22.47	1	21.72	21.52	21.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18625	Mid CH 18900	High CH 19175		Low CH 18625	Mid CH 18900	High CH 19175	
			1852.5 MHz	1880.0 MHz	1907.5 MHz		1852.5 MHz	1880.0 MHz	1907.5 MHz	
2 / 5M	1	0	23.62	23.58	23.50	0	22.61	22.51	22.23	1
	1	12	23.62	23.49	23.42	0	22.37	22.63	22.08	1
	1	24	23.60	23.34	23.30	0	22.52	22.43	22.11	1
	12	0	22.52	22.59	22.42	1	21.72	21.64	21.31	2
	12	6	22.70	22.62	22.30	1	21.56	21.61	21.46	2
	12	13	22.66	22.56	22.35	1	21.66	21.52	21.45	2
	25	0	22.72	22.61	22.46	1	21.69	21.57	21.49	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18650	Mid CH 18900	High CH 19150		Low CH 18650	Mid CH 18900	High CH 19150	
			1855.0 MHz	1880.0 MHz	1905.0 MHz		1855.0 MHz	1880.0 MHz	1905.0 MHz	
2 / 10M	1	0	23.56	23.60	23.55	0	22.56	22.60	22.40	1
	1	24	23.67	23.52	23.38	0	22.38	22.48	22.11	1
	1	49	23.56	23.50	23.28	0	22.50	22.42	22.08	1
	25	0	22.67	22.56	22.34	1	21.60	21.65	21.47	2
	25	12	22.64	22.62	22.33	1	21.65	21.65	21.30	2
	25	25	22.55	22.53	22.40	1	21.59	21.65	21.34	2
	50	0	22.67	22.70	22.52	1	21.55	21.59	21.49	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18675	Mid CH 18900	High CH 19125		Low CH 18675	Mid CH 18900	High CH 19125	
			1857.5 MHz	1880.0 MHz	1902.5 MHz		1857.5 MHz	1880.0 MHz	1902.5 MHz	
2 / 15M	1	0	23.55	23.65	23.50	0	22.54	22.59	22.35	1
	1	37	23.49	23.63	23.37	0	22.54	22.55	22.11	1
	1	74	23.67	23.50	23.27	0	22.64	22.47	22.03	1
	36	0	22.64	22.71	22.31	1	21.68	21.62	21.45	2
	36	19	22.62	22.64	22.40	1	21.52	21.63	21.34	2
	36	39	22.54	22.61	22.37	1	21.65	21.69	21.43	2
	75	0	22.59	22.69	22.41	1	21.54	21.51	21.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 18700	Mid CH 18900	High CH 19100		Low CH 18700	Mid CH 18900	High CH 19100	
			1860.0 MHz	1880.0 MHz	1900.0 MHz		1860.0 MHz	1880.0 MHz	1900.0 MHz	
2 / 20M	1	0	23.63	23.71	23.62	0	22.69	22.70	22.40	1
	1	50	23.69	23.67	23.48	0	22.56	22.66	22.15	1
	1	99	23.68	23.52	23.40	0	22.69	22.60	22.15	1
	50	0	22.72	22.75	22.47	1	21.78	21.69	21.51	2
	50	25	22.73	22.71	22.45	1	21.71	21.69	21.47	2
	50	50	22.69	22.68	22.49	1	21.68	21.72	21.49	2
	100	0	22.78	22.73	22.53	1	21.74	21.70	21.54	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19957	Mid CH 20175	High CH 20393		Low CH 19957	Mid CH 20175	High CH 20393	
			1710.7 MHz	1732.5 MHz	1754.3 MHz		1710.7 MHz	1732.5 MHz	1754.3 MHz	
4 / 1.4M	1	0	22.62	22.44	22.50	0	21.68	21.49	21.57	1
	1	2	22.39	22.51	22.45	0	21.65	21.42	21.42	1
	1	5	22.58	22.34	22.33	0	21.34	21.40	21.34	1
	3	0	22.52	22.37	22.38	0	21.54	21.27	21.42	1
	3	1	22.48	22.33	22.46	0	21.54	21.36	21.42	1
	3	3	22.45	22.39	22.36	0	21.35	21.42	21.48	1
	6	0	21.35	21.52	21.46	1	20.34	20.46	20.35	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19965	Mid CH 20175	High CH 20385		Low CH 19965	Mid CH 20175	High CH 20385	
			1711.5 MHz	1732.5 MHz	1753.5 MHz		1711.5 MHz	1732.5 MHz	1753.5 MHz	
4 / 3M	1	0	22.48	22.34	22.42	0	21.69	21.49	21.41	1
	1	7	22.33	22.44	22.40	0	21.57	21.48	21.40	1
	1	14	22.42	22.35	22.20	0	21.25	21.42	21.45	1
	8	0	21.42	21.36	21.48	1	20.43	20.38	20.41	2
	8	3	21.44	21.48	21.40	1	20.50	20.43	20.39	2
	8	7	21.33	21.49	21.50	1	20.41	20.44	20.48	2
	15	0	21.34	21.38	21.41	1	20.47	20.29	20.45	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 19975	Mid CH 20175	High CH 20375		Low CH 19975	Mid CH 20175	High CH 20375	
			1712.5 MHz	1732.5 MHz	1752.5 MHz		1712.5 MHz	1732.5 MHz	1752.5 MHz	
4 / 5M	1	0	22.63	22.36	22.49	0	21.62	21.42	21.42	1
	1	12	22.44	22.34	22.45	0	21.47	21.52	21.48	1
	1	24	22.53	22.34	22.29	0	21.27	21.26	21.48	1
	12	0	21.35	21.32	21.49	1	20.53	20.42	20.32	2
	12	6	21.51	21.41	21.36	1	20.42	20.41	20.51	2
	12	13	21.50	21.43	21.39	1	20.44	20.33	20.48	2
	25	0	21.44	21.42	21.40	1	20.44	20.34	20.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20000	Mid CH 20175	High CH 20350		Low CH 20000	Mid CH 20175	High CH 20350	
			1715.0 MHz	1732.5 MHz	1750.0 MHz		1715.0 MHz	1732.5 MHz	1750.0 MHz	
4 / 10M	1	0	22.57	22.38	22.54	0	21.57	21.51	21.59	1
	1	24	22.49	22.37	22.41	0	21.48	21.37	21.51	1
	1	49	22.49	22.50	22.27	0	21.25	21.25	21.45	1
	25	0	21.50	21.29	21.41	1	20.41	20.43	20.48	2
	25	12	21.45	21.41	21.39	1	20.51	20.45	20.35	2
	25	25	21.39	21.40	21.44	1	20.37	20.46	20.37	2
	50	0	21.39	21.51	21.46	1	20.30	20.36	20.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20025	Mid CH 20175	High CH 20325		Low CH 20025	Mid CH 20175	High CH 20325	
			1717.5 MHz	1732.5 MHz	1747.5 MHz		1717.5 MHz	1732.5 MHz	1747.5 MHz	
4 / 15M	1	0	22.56	22.43	22.49	0	21.55	21.50	21.54	1
	1	37	22.31	22.48	22.40	0	21.64	21.44	21.51	1
	1	74	22.60	22.50	22.26	0	21.39	21.30	21.40	1
	36	0	21.47	21.44	21.38	1	20.49	20.40	20.46	2
	36	19	21.43	21.43	21.46	1	20.38	20.43	20.39	2
	36	39	21.38	21.48	21.41	1	20.43	20.50	20.46	2
	75	0	21.31	21.50	21.35	1	20.29	20.28	20.45	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20050	Mid CH 20175	High CH 20300		Low CH 20050	Mid CH 20175	High CH 20300	
			1720.0 MHz	1732.5 MHz	1745.0 MHz		1720.0 MHz	1732.5 MHz	1745.0 MHz	
4 / 20M	1	0	22.64	22.49	22.61	0	21.70	21.61	21.59	1
	1	50	22.51	22.52	22.51	0	21.66	21.55	21.55	1
	1	99	22.61	22.52	22.39	0	21.44	21.43	21.52	1
	50	0	21.55	21.48	21.54	1	20.59	20.47	20.52	2
	50	25	21.54	21.50	21.51	1	20.57	20.49	20.52	2
	50	50	21.53	21.55	21.53	1	20.46	20.53	20.52	2
	100	0	21.50	21.54	21.47	1	20.49	20.47	20.52	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20407	Mid CH 20525	High CH 20643		Low CH 20407	Mid CH 20525	High CH 20643	
			824.7 MHz	836.5 MHz	848.3 MHz		824.7 MHz	836.5 MHz	848.3 MHz	
5 / 1.4M	1	0	24.04	24.17	24.08	0	23.20	23.12	23.10	1
	1	2	24.18	24.10	24.19	0	23.09	22.86	22.95	1
	1	5	23.99	24.20	24.07	0	23.12	23.03	22.97	1
	3	0	24.00	24.21	24.11	0	23.10	23.14	23.05	1
	3	1	24.07	24.11	24.01	0	23.09	23.10	23.05	1
	3	3	24.14	24.04	24.26	0	23.13	23.20	23.12	1
	6	0	23.18	23.03	23.08	1	22.11	22.07	22.09	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20415	Mid CH 20525	High CH 20635		Low CH 20415	Mid CH 20525	High CH 20635	
			825.5 MHz	836.5 MHz	847.5 MHz		825.5 MHz	836.5 MHz	847.5 MHz	
5 / 3M	1	0	24.11	24.19	24.17	0	23.04	23.00	23.06	1
	1	7	24.05	24.12	24.09	0	23.19	23.03	23.13	1
	1	14	24.08	24.14	24.05	0	23.15	23.04	23.00	1
	8	0	23.08	23.07	23.09	1	21.98	22.11	22.14	2
	8	3	23.04	23.00	23.11	1	22.02	22.09	22.00	2
	8	7	23.06	23.05	23.10	1	22.10	22.25	22.14	2
	15	0	23.13	23.04	23.02	1	22.18	22.10	22.21	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3G PP MPR (dB)
			Low CH 20425	Mid CH 20525	High CH 20625		Low CH 20425	Mid CH 20525	High CH 20625	
			826.5 MHz	836.5 MHz	846.5 MHz		826.5 MHz	836.5 MHz	846.5 MHz	
5 / 5M	1	0	24.01	24.07	24.25	0	23.14	23.06	23.03	1
	1	12	24.12	24.18	24.19	0	23.20	22.89	23.12	1
	1	24	24.06	24.19	24.13	0	23.13	23.07	23.08	1
	12	0	23.14	23.16	23.02	1	22.06	22.12	22.11	2
	12	6	22.97	23.14	23.05	1	22.12	22.03	22.11	2
	12	13	23.12	23.13	23.12	1	22.16	22.15	22.19	2
	25	0	23.03	23.05	23.13	1	22.01	22.11	22.22	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20450	Mid CH 20525	High CH 20600		Low CH 20450	Mid CH 20525	High CH 20600	
			829.0 MHz	836.5 MHz	844.0 MHz		829.0 MHz	836.5 MHz	844.0 MHz	
5 / 10M	1	0	24.19	24.22	24.25	0	23.21	23.20	23.22	1
	1	24	24.20	24.27	24.29	0	23.25	23.06	23.14	1
	1	49	24.10	24.24	24.18	0	23.16	23.13	23.15	1
	25	0	23.17	23.21	23.19	1	22.16	22.20	22.20	2
	25	12	23.13	23.18	23.21	1	22.17	22.22	22.20	2
	25	25	23.18	23.21	23.26	1	22.20	22.26	22.27	2
	50	0	23.23	23.17	23.15	1	22.20	22.18	22.25	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20775	Mid CH 21100	High CH 21425		Low CH 20775	Mid CH 21100	High CH 21425	
			2502.5 MHz	2535.0 MHz	2567.5 MHz		2502.5 MHz	2535.0 MHz	2567.5 MHz	
7 / 5M	1	0	23.10	23.22	23.29	0	21.99	22.44	22.22	1
	1	12	23.13	23.24	23.15	0	22.27	22.18	22.18	1
	1	24	23.23	23.22	23.05	0	22.24	22.44	22.18	1
	12	0	22.15	22.34	22.32	1	21.24	21.33	21.20	2
	12	6	22.22	22.30	22.32	1	21.23	21.34	21.34	2
	12	13	22.22	22.16	22.28	1	21.30	21.21	21.33	2
	25	0	22.33	22.29	22.24	1	21.35	21.18	21.34	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20800	Mid CH 21100	High CH 21400		Low CH 20800	Mid CH 21100	High CH 21400	
			2505.0 MHz	2535.0 MHz	2565.0 MHz		2505.0 MHz	2535.0 MHz	2565.0 MHz	
7 / 10M	1	0	23.12	23.12	23.35	0	22.03	22.34	22.27	1
	1	24	23.24	23.23	23.19	0	22.16	22.18	22.06	1
	1	49	23.22	23.29	23.18	0	22.21	22.45	22.02	1
	25	0	22.23	22.36	22.26	1	21.22	21.24	21.30	2
	25	12	22.23	22.21	22.25	1	21.33	21.30	21.18	2
	25	25	22.21	22.15	22.32	1	21.29	21.29	21.33	2
	50	0	22.37	22.15	22.37	1	21.29	21.31	21.28	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 20825	Mid CH 21100	High CH 21375		Low CH 20825	Mid CH 21100	High CH 21375	
			2507.5 MHz	2535.0 MHz	2562.5 MHz		2507.5 MHz	2535.0 MHz	2562.5 MHz	
7 / 15M	1	0	23.06	23.16	23.33	0	22.14	22.38	22.26	1
	1	37	23.13	23.34	23.26	0	22.26	22.34	22.23	1
	1	74	23.27	23.16	23.15	0	22.17	22.49	22.07	1
	36	0	22.22	22.28	22.38	1	21.21	21.33	21.35	2
	36	19	22.35	22.24	22.25	1	21.37	21.30	21.29	2
	36	39	22.36	22.17	22.35	1	21.32	21.23	21.15	2
	75	0	22.27	22.17	22.21	1	21.28	21.18	21.31	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	23.25	23.28	23.36	0	22.15	22.48	22.37	1
	1	50	23.31	23.35	23.35	0	22.30	22.35	22.24	1
	1	99	23.27	23.30	23.24	0	22.28	22.55	22.20	1
	50	0	22.33	22.36	22.40	1	21.37	21.37	21.39	2
	50	25	22.36	22.30	22.37	1	21.37	21.36	21.37	2
	50	50	22.39	22.34	22.35	1	21.35	21.39	21.34	2
	100	0	22.38	22.35	22.39	1	21.36	21.33	21.39	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	24.14	24.04	24.01	0	22.99	22.95	23.01	1
	1	2	24.05	24.09	23.97	0	22.99	22.93	22.91	1
	1	5	23.89	23.95	24.03	0	23.16	23.05	22.72	1
	3	0	23.90	24.00	24.05	0	22.95	22.87	22.99	1
	3	1	24.03	24.09	23.98	0	23.09	22.90	22.99	1
	3	3	24.06	24.12	23.99	0	22.97	23.12	22.89	1
	6	0	22.99	23.00	22.87	1	22.15	22.08	21.88	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	24.06	24.09	24.15	0	23.06	23.08	23.03	1
	1	7	23.97	24.08	23.92	0	22.99	22.97	22.90	1
	1	14	24.05	23.89	23.89	0	23.13	22.99	22.82	1
	8	0	23.02	23.02	22.96	1	21.98	21.94	21.91	2
	8	3	23.02	22.93	23.06	1	22.00	22.04	21.92	2
	8	7	22.99	23.12	22.98	1	21.97	22.14	22.03	2
	15	0	23.06	23.05	22.97	1	22.16	21.95	21.89	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	24.07	23.91	23.99	0	22.96	23.05	22.89	1
	1	12	23.96	24.15	24.06	0	23.00	23.00	22.79	1
	1	24	24.08	23.82	23.87	0	23.07	23.04	22.64	1
	12	0	23.08	23.09	22.92	1	22.04	21.96	22.06	2
	12	6	23.01	23.02	22.98	1	21.98	22.01	22.09	2
	12	13	22.96	23.14	23.11	1	22.04	22.07	21.88	2
	25	0	23.07	22.99	22.93	1	22.13	22.00	21.84	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	24.15	24.10	24.19	0	23.09	23.13	23.04	1
	1	24	24.15	24.18	24.10	0	23.12	23.02	22.95	1
	1	49	24.09	23.97	24.04	0	23.21	23.14	22.84	1
	25	0	23.09	23.10	23.09	1	22.11	22.03	22.08	2
	25	12	23.09	23.10	23.07	1	22.11	22.06	22.10	2
	25	25	23.12	23.14	23.15	1	22.15	22.15	22.05	2
	50	0	23.16	23.10	23.01	1	22.18	22.09	22.00	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23205	Mid CH 23230	High CH 23255		Low CH 23205	Mid CH 23230	High CH 23255	
			779.5 MHz	782 MHz	784.5 MHz		779.5 MHz	782 MHz	784.5 MHz	
13 / 5M	1	0	24.20	24.30	24.24	0	23.11	23.12	23.37	1
	1	12	24.29	24.32	24.29	0	23.30	23.31	23.46	1
	1	24	24.12	24.22	24.25	0	23.25	23.12	23.30	1
	12	0	23.16	23.23	23.19	1	22.18	22.15	22.24	2
	12	6	23.15	23.26	23.20	1	22.21	22.14	22.19	2
	12	13	23.25	23.29	23.24	1	22.20	22.19	22.37	2
	25	0	23.25	23.20	23.30	1	22.28	22.13	22.24	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
				Mid CH 23230				Mid CH 23230		
				782 MHz				782 MHz		
13 / 10M	1	0		24.25		0		23.18		1
	1	24		24.32		0		23.37		1
	1	49		24.22		0		23.22		1
	25	0		23.29		1		22.24		2
	25	12		23.29		1		22.25		2
	25	25		23.31		1		22.26		2
	50	0		23.27		1		22.27		2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 23305	Mid CH 23330	High CH 23355		Low CH 23305	Mid CH 23330	High CH 23355	
			790.5 MHz	793 MHz	795.5 MHz		790.5 MHz	793 MHz	795.5 MHz	
14 / 5M	1	0	23.95	23.93	23.95	0	23.07	22.88	23.03	1
	1	12	24.06	24.05	23.93	0	23.04	23.03	22.96	1
	1	24	23.88	23.97	23.91	0	23.12	22.97	22.97	1
	12	0	22.96	22.94	22.93	1	22.08	21.96	21.99	2
	12	6	23.00	22.93	22.91	1	22.10	22.02	22.05	2
	12	13	23.03	22.96	22.94	1	21.88	21.91	21.96	2
	25	0	22.97	22.93	22.98	1	21.93	21.92	21.96	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
				Mid CH 23330				Low CH 23330		
				793 MHz				793 MHz		
14 / 10M	1	0		24.13		0		23.07		1
	1	24		24.07		0		23.15		1
	1	49		24.02		0		23.14		1
	25	0		23.07		1		22.09		2
	25	12		23.07		1		22.11		2
	25	25		23.09		1		22.07		2
	50	0		23.01		1		22.11		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	24.37	24.56	24.37	0	23.45	23.35	23.34	1
	1	12	24.58	24.41	24.55	0	23.48	23.54	23.49	1
	1	24	24.39	24.35	24.43	0	23.15	23.24	23.13	1
	12	0	23.30	23.41	23.52	1	22.35	22.44	22.53	2
	12	6	23.56	23.49	23.36	1	22.60	22.54	22.54	2
	12	13	23.58	23.46	23.47	1	22.56	22.54	22.46	2
	25	0	23.37	23.45	23.55	1	22.47	22.38	22.55	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	24.53	24.59	24.53	0	23.49	23.52	23.48	1
	1	24	24.61	24.57	24.63	0	23.55	23.58	23.59	1
	1	49	24.55	24.51	24.54	0	23.34	23.42	23.33	1
	25	0	23.50	23.55	23.54	1	22.47	22.54	22.55	2
	25	12	23.62	23.55	23.50	1	22.65	22.56	22.58	2
	25	25	23.60	23.62	23.64	1	22.63	22.59	22.59	2
	50	0	23.54	23.52	23.58	1	22.53	22.53	22.56	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	23.50	23.51	23.02	0	22.32	22.49	22.02	1
	1	2	23.38	23.44	23.08	0	22.58	22.52	21.99	1
	1	5	23.64	23.15	23.45	0	22.29	22.27	21.93	1
	3	0	23.57	23.46	23.11	0	22.64	22.47	22.15	1
	3	1	23.64	23.51	23.08	0	22.61	22.46	22.17	1
	3	3	23.48	23.43	23.26	0	22.46	22.34	22.17	1
	6	0	22.53	22.44	22.31	1	21.63	21.52	21.37	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26055	Mid CH 26365	High CH 26675		Low CH 26055	Mid CH 26365	High CH 26675	
			1851.5 MHz	1882.5 MHz	1913.5 MHz		1851.5 MHz	1882.5 MHz	1913.5 MHz	
25 / 3M	1	0	23.45	23.43	23.02	0	22.34	22.56	22.16	1
	1	7	23.43	23.40	23.12	0	22.42	22.50	21.97	1
	1	14	23.52	23.12	23.45	0	22.16	22.28	21.94	1
	8	0	22.61	22.51	22.02	1	21.70	21.55	21.00	2
	8	3	22.49	22.44	22.22	1	21.56	21.56	21.20	2
	8	7	22.59	22.42	22.20	1	21.62	21.46	21.19	2
	15	0	22.48	22.49	22.35	1	21.51	21.46	21.37	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26065	Mid CH 26365	High CH 26665		Low CH 26065	Mid CH 26365	High CH 26665	
			1852.5 MHz	1882.5 MHz	1912.5 MHz		1852.5 MHz	1882.5 MHz	1912.5 MHz	
25 / 5M	1	0	23.51	23.41	23.03	0	22.27	22.48	22.09	1
	1	12	23.40	23.52	23.23	0	22.56	22.56	21.93	1
	1	24	23.45	23.26	23.30	0	22.21	22.32	21.93	1
	12	0	22.49	22.57	22.11	1	21.62	21.54	21.07	2
	12	6	22.57	22.50	22.17	1	21.46	21.43	21.06	2
	12	13	22.51	22.54	22.17	1	21.60	21.41	21.23	2
	25	0	22.56	22.50	22.35	1	21.50	21.40	21.23	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26090	Mid CH 26365	High CH 26640		Low CH 26090	Mid CH 26365	High CH 26640	
			1855.0 MHz	1882.5 MHz	1910.0 MHz		1855.0 MHz	1882.5 MHz	1910.0 MHz	
25 / 10M	1	0	23.35	23.51	23.04	0	22.45	22.48	22.10	1
	1	24	23.50	23.49	23.14	0	22.54	22.61	21.94	1
	1	49	23.57	23.18	23.39	0	22.15	22.23	21.90	1
	25	0	22.58	22.56	22.17	1	21.51	21.45	21.05	2
	25	12	22.53	22.47	22.11	1	21.57	21.50	21.03	2
	25	25	22.51	22.34	22.31	1	21.62	21.34	21.27	2
	50	0	22.64	22.54	22.27	1	21.64	21.42	21.37	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26115	Mid CH 26365	High CH 26615		Low CH 26115	Mid CH 26365	High CH 26615	
			1857.5 MHz	1882.5 MHz	1907.5 MHz		1857.5 MHz	1882.5 MHz	1907.5 MHz	
25 / 15M	1	0	23.34	23.35	23.13	0	22.37	22.56	22.03	1
	1	37	23.52	23.45	23.11	0	22.55	22.53	21.96	1
	1	74	23.60	23.17	23.39	0	22.20	22.27	21.87	1
	36	0	22.52	22.56	22.16	1	21.56	21.55	21.00	2
	36	19	22.56	22.55	22.15	1	21.53	21.49	21.10	2
	36	39	22.63	22.41	22.23	1	21.64	21.36	21.18	2
	75	0	22.53	22.59	22.40	1	21.60	21.48	21.28	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26140	Mid CH 26365	High CH 26590		Low CH 26140	Mid CH 26365	High CH 26590	
			1860.0 MHz	1882.5 MHz	1905.0 MHz		1860.0 MHz	1882.5 MHz	1905.0 MHz	
25 / 20M	1	0	23.52	23.52	23.19	0	22.47	22.65	22.19	1
	1	50	23.57	23.53	23.27	0	22.59	22.64	22.11	1
	1	99	23.64	23.32	23.46	0	22.35	22.35	22.06	1
	50	0	22.64	22.63	22.22	1	21.71	21.64	21.19	2
	50	25	22.66	22.63	22.27	1	21.65	21.63	21.21	2
	50	50	22.65	22.54	22.34	1	21.65	21.52	21.31	2
	100	0	22.64	22.59	22.45	1	21.65	21.60	21.39	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26697	Mid CH 26865	High CH 27033		Low CH 26697	Mid CH 26865	High CH 27033	
			814.7 MHz	831.5 MHz	848.3 MHz		814.7 MHz	831.5 MHz	848.3 MHz	
26 / 1.4M	1	0	24.02	23.82	23.92	0	22.74	22.80	22.80	1
	1	2	24.10	23.85	23.94	0	22.74	22.88	22.72	1
	1	5	24.01	23.67	23.85	0	22.69	22.44	22.75	1
	3	0	24.01	23.80	23.94	0	22.92	22.93	22.82	1
	3	1	24.02	23.89	23.85	0	22.88	22.86	22.88	1
	3	3	23.90	23.95	23.93	0	22.89	22.86	23.01	1
	6	0	22.95	22.97	22.90	1	21.78	21.96	21.81	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26705	Mid CH 26865	High CH 27025		Low CH 26705	Mid CH 26865	High CH 27025	
			815.5 MHz	831.5 MHz	847.5 MHz		815.5 MHz	831.5 MHz	847.5 MHz	
26 / 3M	1	0	23.96	23.99	23.86	0	22.82	22.66	22.68	1
	1	7	24.09	23.77	23.86	0	22.76	22.93	22.81	1
	1	14	23.84	23.62	23.70	0	22.56	22.46	22.82	1
	8	0	23.04	22.89	22.96	1	21.85	21.88	21.87	2
	8	3	22.96	22.86	22.90	1	21.77	21.92	21.80	2
	8	7	22.94	22.91	22.89	1	21.99	21.89	21.94	2
	15	0	22.95	22.91	22.99	1	21.91	21.81	21.96	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 26715	Mid CH 26865	High CH 27015		Low CH 26715	Mid CH 26865	High CH 27015	
			816.5 MHz	831.5 MHz	846.5 MHz		816.5 MHz	831.5 MHz	846.5 MHz	
26 / 5M	1	0	23.94	23.87	23.90	0	22.84	22.67	22.73	1
	1	12	24.02	23.78	23.85	0	22.84	22.84	22.78	1
	1	24	23.87	23.76	23.72	0	22.58	22.40	22.65	1
	12	0	23.15	22.84	22.95	1	21.85	21.86	21.90	2
	12	6	23.07	22.76	22.86	1	21.70	21.85	21.77	2
	12	13	23.01	22.91	22.87	1	21.86	21.86	22.03	2
	25	0	22.95	22.89	22.86	1	21.77	21.77	21.88	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	24.05	23.91	23.81	0	22.81	22.78	22.71	1
	1	24	24.03	23.84	23.86	0	22.70	22.83	22.64	1
	1	49	23.95	23.70	23.69	0	22.56	22.44	22.67	1
	25	0	23.04	22.81	22.87	1	21.84	21.85	21.98	2
	25	12	23.00	22.79	22.94	1	21.85	21.84	21.94	2
	25	25	22.89	22.88	22.80	1	21.92	21.87	22.03	2
	50	0	23.08	22.91	23.00	1	21.83	21.90	21.79	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	24.12	24.00	23.96	0	22.90	22.81	22.86	1
	1	37	24.11	23.87	23.99	0	22.89	22.99	22.82	1
	1	74	24.04	23.82	23.87	0	22.76	22.59	22.85	1
	36	0	23.16	22.99	22.98	1	21.98	21.99	22.00	2
	36	19	23.14	22.95	22.97	1	21.90	21.95	21.97	2
	36	39	23.08	22.98	22.99	1	21.99	22.01	22.05	2
	75	0	23.14	23.04	23.02	1	21.91	21.97	21.98	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 27685	Mid CH 27710	High CH 27735		Low CH 27685	Mid CH 27710	High CH 27735	
			2307.5 MHz	2310 MHz	2312.5 MHz		2307.5 MHz	2310 MHz	2312.5 MHz	
30 / 5M	1	0	21.85	22.14	22.11	0	21.34	21.15	21.26	1
	1	12	21.69	21.98	21.95	0	21.32	21.13	21.24	1
	1	24	21.53	21.82	21.79	0	21.41	21.22	21.33	1
	12	0	21.21	21.50	21.47	1	20.55	20.36	20.47	2
	12	6	20.97	21.26	21.23	1	20.39	20.20	20.31	2
	12	13	21.07	21.36	21.33	1	20.31	20.12	20.23	2
	25	0	20.93	21.22	21.19	1	20.39	20.20	20.31	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
				Mid CH 27710				Mid CH 27710		
				2310 MHz				2310 MHz		
30 / 10M	1	0		22.29		0		21.24		1
	1	24		22.07		0		21.30		1
	1	49		22.00		0		21.33		1
	25	0		21.52		1		20.43		2
	25	12		21.41		1		20.37		2
	25	25		21.43		1		20.27		2
	50	0		21.32		1		20.31		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	23.46	23.57	23.60	0	22.20	22.54	22.65	1
	1	12	23.43	23.54	23.49	0	22.34	22.71	22.90	1
	1	24	23.52	23.53	23.62	0	22.30	22.65	22.65	1
	12	0	22.32	22.41	22.56	1	21.43	21.44	21.58	2
	12	6	22.37	22.50	22.55	1	21.40	21.51	21.69	2
	12	13	22.41	22.56	22.53	1	21.37	21.53	21.70	2
	25	0	22.50	22.55	22.55	1	21.41	21.51	21.71	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	23.31	23.40	23.58	0	22.28	22.56	22.54	1
	1	24	23.32	23.59	23.50	0	22.29	22.73	22.89	1
	1	49	23.46	23.44	23.51	0	22.31	22.56	22.68	1
	25	0	22.46	22.47	22.69	1	21.48	21.53	21.72	2
	25	12	22.43	22.53	22.53	1	21.48	21.40	21.58	2
	25	25	22.46	22.61	22.58	1	21.38	21.60	21.71	2
	50	0	22.33	22.48	22.55	1	21.49	21.52	21.52	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	23.31	23.52	23.50	0	22.26	22.54	22.51	1
	1	37	23.45	23.52	23.53	0	22.39	22.63	22.74	1
	1	74	23.38	23.56	23.62	0	22.29	22.69	22.69	1
	36	0	22.42	22.55	22.61	1	21.36	21.57	21.73	2
	36	19	22.36	22.45	22.51	1	21.47	21.45	21.71	2
	36	39	22.50	22.62	22.67	1	21.37	21.59	21.68	2
	75	0	22.33	22.52	22.59	1	21.46	21.61	21.61	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	23.47	23.58	23.66	0	22.35	22.65	22.68	1
	1	50	23.49	23.65	23.68	0	22.48	22.80	22.92	1
	1	99	23.52	23.59	23.64	0	22.45	22.71	22.77	1
	50	0	22.50	22.58	22.70	1	21.56	21.61	21.76	2
	50	25	22.49	22.58	22.70	1	21.51	21.60	21.76	2
	50	50	22.59	22.65	22.72	1	21.54	21.72	21.78	2
	100	0	22.51	22.61	22.73	1	21.57	21.63	21.71	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 38725	Mid CH 38750	High CH 38775		Low CH 38725	Mid CH 38750	High CH 38775	
			2307.5 MHz	2310 MHz	2312.5 MHz		2307.5 MHz	2310 MHz	2312.5 MHz	
40/ 5M	1	0	22.55	22.66	22.78	0	21.94	21.95	21.87	1
	1	12	22.85	22.92	22.88	0	21.93	21.89	22.01	1
	1	24	22.64	22.71	22.68	0	21.92	21.97	21.93	1
	12	0	22.05	22.11	21.96	1	20.87	20.97	20.93	2
	12	6	21.86	22.06	21.91	1	20.65	20.69	20.59	2
	12	13	21.94	22.00	21.91	1	20.55	20.49	20.40	2
	25	0	21.83	21.99	22.06	1	20.45	20.39	20.18	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
				Mid CH 38750				Mid CH 38750		
				2310 MHz				2310 MHz		
40/ 10M	1	0		22.81		0		22.09		1
	1	24		23.01		0		22.06		1
	1	49		22.76		0		22.03		1
	25	0		22.16		1		21.33		2
	25	12		22.10		1		21.28		2
	25	25		22.08		1		21.22		2
	50	0		22.11		1		21.19		2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 39175	Mid CH 39200	High CH 39225		Low CH 39175	Mid CH 39200	High CH 39225	
			2352.5 MHz	2355 MHz	2357.5 MHz		2352.5 MHz	2355 MHz	2357.5 MHz	
40/ 5M	1	0	22.72	22.78	22.91	0	21.94	21.91	21.84	1
	1	12	22.94	22.96	22.93	0	22.03	21.95	22.08	1
	1	24	22.82	22.84	22.82	0	22.01	22.02	21.99	1
	12	0	22.20	22.21	22.07	1	21.18	21.24	21.21	2
	12	6	22.02	22.17	22.03	1	21.16	21.06	21.14	2
	12	13	22.06	22.07	21.99	1	21.13	21.10	21.11	2
	25	0	22.00	22.11	22.19	1	21.01	21.17	21.19	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
				Mid CH 39200				Mid CH 39200		
				2355 MHz				2355 MHz		
40/ 10M	1	0		22.93		0		22.05		1
	1	24		23.05		0		22.12		1
	1	49		22.89		0		22.08		1
	25	0		22.26		1		21.32		2
	25	12		22.21		1		21.25		2
	25	25		22.15		1		21.21		2
	50	0		22.23		1		21.24		2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 39675	Mid CH 40620	High CH 41565		Low CH 39675	Mid CH 40620	High CH 41565	
			2498.5 MHz	2593 MHz	2687.5 MHz		2498.5 MHz	2593 MHz	2687.5 MHz	
41/ 5	1	0	23.38	23.47	23.51	0	22.40	22.41	22.41	1
	1	12	23.37	23.47	23.27	0	22.25	22.43	22.56	1
	1	24	23.22	23.63	23.37	0	22.30	22.56	22.49	1
	12	0	22.53	22.48	22.59	1	21.53	21.59	21.61	2
	12	6	22.40	22.59	22.49	1	21.53	21.43	21.43	2
	12	13	22.28	22.59	22.48	1	21.50	21.66	21.40	2
	25	0	22.60	22.54	22.53	1	21.44	21.46	21.61	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 39700	Mid CH 40620	High CH 41540		Low CH 39700	Mid CH 40620	High CH 41540	
			2501 MHz	2593 MHz	2685 MHz		2501 MHz	2593 MHz	2685 MHz	
41/ 10	1	0	23.49	23.47	23.54	0	22.43	22.33	22.50	1
	1	24	23.42	23.42	23.31	0	22.30	22.45	22.46	1
	1	49	23.24	23.56	23.45	0	22.30	22.70	22.56	1
	25	0	22.47	22.55	22.63	1	21.43	21.45	21.61	2
	25	12	22.39	22.53	22.52	1	21.56	21.53	21.55	2
	25	25	22.48	22.62	22.41	1	21.33	21.50	21.43	2
	50	0	22.60	22.46	22.43	1	21.39	21.57	21.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 39725	Mid CH 40620	High CH 41515		Low CH 39725	Mid CH 40620	High CH 41540	
			2503.5 MHz	2593 MHz	2682.5 MHz		2503.5 MHz	2593 MHz	2685 MHz	
41/ 15	1	0	23.48	23.45	23.54	0	22.52	22.34	22.55	1
	1	37	23.36	23.52	23.31	0	22.27	22.33	22.41	1
	1	74	23.36	23.53	23.35	0	22.44	22.70	22.46	1
	36	0	22.47	22.53	22.58	1	21.44	21.50	21.44	2
	36	19	22.46	22.51	22.47	1	21.41	21.50	21.41	2
	36	39	22.33	22.57	22.36	1	21.39	21.66	21.50	2
	75	0	22.60	22.54	22.59	1	21.49	21.62	21.52	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 39750	Mid CH 40620	High CH 41490		Low CH 39790	Mid CH 40620	High CH 41490	
			2506 MHz	2593 MHz	2680 MHz		2510 MHz	2593 MHz	2680 MHz	
41/ 20	1	0	23.50	23.58	23.62	0	22.53	22.53	22.60	1
	1	50	23.50	23.60	23.45	0	22.39	22.50	22.60	1
	1	99	23.38	23.69	23.51	0	22.49	22.74	22.64	1
	50	0	22.57	22.66	22.63	1	21.58	21.63	21.62	2
	50	25	22.57	22.65	22.63	1	21.61	21.60	21.60	2
	50	50	22.48	22.64	22.51	1	21.52	21.66	21.54	2
	100	0	22.63	22.64	22.60	1	21.57	21.65	21.63	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131979	Mid CH 132322	High CH 132665		Low CH 131979	Mid CH 132322	High CH 132665	
			1710.7 MHz	1745 MHz	1779.3 MHz		1710.7 MHz	1745 MHz	1779.3 MHz	
66 / 1.4M	1	0	22.55	22.58	22.50	0	21.68	21.49	21.57	1
	1	2	22.39	22.51	22.45	0	21.65	21.42	21.42	1
	1	5	22.58	22.34	22.33	0	21.34	21.40	21.34	1
	3	0	22.52	22.37	22.38	1	21.54	21.27	21.42	1
	3	1	22.48	22.40	22.46	1	21.54	21.36	21.42	1
	3	3	22.45	22.39	22.36	1	21.35	21.42	21.48	1
	6	0	21.35	21.52	21.46	1	20.34	20.46	20.35	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131987	Mid CH 132322	High CH 132657		Low CH 131987	Mid CH 132322	High CH 132657	
			1711.5 MHz	1745 MHz	1778.5 MHz		1711.5 MHz	1745 MHz	1778.5 MHz	
66 / 3M	1	0	22.41	22.48	22.42	0	21.69	21.49	21.41	1
	1	7	22.33	22.44	22.40	0	21.57	21.48	21.40	1
	1	14	22.42	22.35	22.20	0	21.25	21.42	21.45	1
	8	0	21.42	21.36	21.48	1	20.43	20.38	20.41	2
	8	3	21.44	21.55	21.40	1	20.50	20.43	20.39	2
	8	7	21.33	21.49	21.50	1	20.41	20.44	20.48	2
	15	0	21.34	21.38	21.41	1	20.47	20.29	20.45	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 131997	Mid CH 132322	High CH 132647		Low CH 131997	Mid CH 132322	High CH 132647	
			1712.5 MHz	1745 MHz	1777.5 MHz		1712.5 MHz	1745 MHz	1777.5 MHz	
66 / 5M	1	0	22.56	22.50	22.49	0	21.62	21.42	21.42	1
	1	12	22.44	22.34	22.45	0	21.47	21.52	21.48	1
	1	24	22.53	22.34	22.29	0	21.27	21.26	21.48	1
	12	0	21.35	21.32	21.49	1	20.53	20.42	20.32	2
	12	6	21.51	21.48	21.36	1	20.42	20.41	20.51	2
	12	13	21.50	21.43	21.39	1	20.44	20.33	20.48	2
	25	0	21.44	21.42	21.40	1	20.44	20.34	20.47	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132022	Mid CH 132322	High CH 132622		Low CH 132022	Mid CH 132322	High CH 132622	
			1715 MHz	1745 MHz	1775 MHz		1715 MHz	1745 MHz	1775 MHz	
66 / 10M	1	0	22.50	22.52	22.54	0	21.57	21.51	21.59	1
	1	24	22.49	22.37	22.41	0	21.48	21.37	21.51	1
	1	49	22.49	22.50	22.27	0	21.25	21.25	21.45	1
	25	0	21.50	21.29	21.41	1	20.41	20.43	20.48	2
	25	12	21.45	21.48	21.39	1	20.51	20.45	20.35	2
	25	25	21.39	21.40	21.44	1	20.37	20.46	20.37	2
	50	0	21.39	21.51	21.46	1	20.30	20.36	20.47	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132047	Mid CH 132322	High CH 132597		Low CH 132047	Mid CH 132322	High CH 132597	
			1717.5 MHz	1745 MHz	1772.5 MHz		1717.5 MHz	1745 MHz	1772.5 MHz	
66 / 15M	1	0	22.49	22.57	22.49	0	21.55	21.50	21.54	1
	1	37	22.31	22.48	22.40	0	21.64	21.44	21.51	1
	1	74	22.60	22.50	22.26	0	21.39	21.30	21.40	1
	36	0	21.47	21.44	21.38	1	20.49	20.40	20.46	2
	36	19	21.43	21.50	21.46	1	20.38	20.43	20.39	2
	36	39	21.38	21.48	21.41	1	20.43	20.50	20.46	2
	75	0	21.31	21.50	21.35	1	20.29	20.28	20.45	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 132072	Mid CH 132322	High CH 132572		Low CH 132072	Mid CH 132322	High CH 132572	
			1720 MHz	1745 MHz	1770 MHz		1720 MHz	1745 MHz	1770 MHz	
66 / 20M	1	0	22.57	22.63	22.61	0	21.70	21.61	21.59	1
	1	50	22.51	22.52	22.51	0	21.66	21.55	21.55	1
	1	99	22.61	22.52	22.39	0	21.44	21.43	21.52	1
	50	0	21.55	21.48	21.54	1	20.59	20.47	20.52	2
	50	25	21.54	21.57	21.51	1	20.57	20.49	20.52	2
	50	50	21.53	21.55	21.53	1	20.46	20.53	20.52	2
	100	0	21.50	21.54	21.47	1	20.49	20.47	20.52	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 133147	Mid CH 133297	High CH 133447		Low CH 133147	Mid CH 133297	High CH 133447	
			665.5 MHz	680.5 MHz	695.5 MHz		665.5 MHz	680.5 MHz	695.5 MHz	
71 / 5M	1	0	24.00	23.75	23.82	0	22.81	22.70	22.75	1
	1	12	23.80	23.73	23.87	0	22.51	22.81	22.67	1
	1	24	23.91	23.62	23.71	0	22.49	22.74	22.62	1
	12	0	22.82	22.74	22.85	1	21.91	21.85	21.73	2
	12	6	22.97	22.77	22.78	1	21.87	21.86	21.84	2
	12	13	22.86	22.71	22.73	1	21.90	21.68	21.75	2
	25	0	22.95	22.72	22.88	1	22.00	21.77	21.86	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 133172	Mid CH 133297	High CH 133422		Low CH 133172	Mid CH 133297	High CH 133422	
			668 MHz	680.5 MHz	693 MHz		668 MHz	680.5 MHz	693 MHz	
71 / 10M	1	0	23.94	23.77	23.87	0	22.76	22.79	22.92	1
	1	24	23.85	23.76	23.83	0	22.52	22.66	22.70	1
	1	49	23.87	23.78	23.69	0	22.47	22.73	22.59	1
	25	0	22.97	22.71	22.77	1	21.79	21.86	21.89	2
	25	12	22.91	22.77	22.81	1	21.96	21.90	21.68	2
	25	25	22.75	22.68	22.78	1	21.83	21.81	21.64	2
	50	0	22.90	22.81	22.94	1	21.86	21.79	21.86	2



LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 133179	Mid CH 133297	High CH 133397		Low CH 133172	Mid CH 133297	High CH 133422	
			670.5 MHz	680.5 MHz	690.5 MHz		668 MHz	680.5 MHz	693 MHz	
71 / 15M	1	0	23.93	23.82	23.82	0	22.74	22.78	22.87	1
	1	37	23.67	23.87	23.82	0	22.68	22.73	22.70	1
	1	74	23.98	23.78	23.68	0	22.61	22.78	22.54	1
	36	0	22.94	22.86	22.74	1	21.87	21.83	21.87	2
	36	19	22.89	22.79	22.88	1	21.83	21.88	21.72	2
	36	39	22.74	22.76	22.75	1	21.89	21.85	21.73	2
	75	0	22.82	22.80	22.83	1	21.85	21.71	21.84	2

LTE Band / BW	RB Size	RB Offset	QPSK			3GPP MPR (dB)	16QAM			3GPP MPR (dB)
			Low CH 133222	Mid CH 133297	High CH 133372		Low CH 133222	Mid CH 133297	High CH 133372	
			673 MHz	680.5 MHz	688 MHz		673 MHz	680.5 MHz	688 MHz	
71 / 20M	1	0	24.01	23.88	23.94	0	22.89	22.89	22.92	1
	1	50	23.87	23.91	23.93	0	22.70	22.84	22.74	1
	1	99	23.99	23.80	23.81	0	22.66	22.91	22.66	1
	50	0	23.02	22.90	22.90	1	21.97	21.90	21.93	2
	50	25	23.00	22.86	22.93	1	22.02	21.94	21.85	2
	50	50	22.89	22.83	22.87	1	21.92	21.88	21.79	2
	100	0	23.01	22.84	22.95	1	22.05	21.90	21.91	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					372000	376000	380000		
Frequency (MHz)					1860	1880	1900		
N2/20 M	DFT-s-OFDM	π/2 BPSK	1	1	24.35	24.45	24.33	25.0	0.0
		π/2 BPSK	1	53	24.38	24.41	24.26		
		π/2 BPSK	1	104	24.40	24.37	24.18		
		π/2 BPSK	50	0	24.28	24.21	24.10	25.0	0.0
		π/2 BPSK	50	28	24.49	24.42	24.31	25.0	0.0
		π/2 BPSK	50	56	24.35	24.28	24.17	25.0	0.0
		π/2 BPSK	100	0	24.55	24.44	24.26		
		QPSK	1	1	24.41	24.34	24.33	25.0	0.0
		QPSK	1	53	24.44	24.38	24.28		
		QPSK	1	104	24.47	24.41	24.23		
		QPSK	50	0	24.39	24.32	24.08	25.0	0.0
		QPSK	50	28	24.58	24.51	24.27	25.0	0.0
		QPSK	50	56	24.45	24.38	24.14	25.0	0.0
		QPSK	100	0	24.52	24.43	24.31		
		16QAM	1	1	23.09	23.02	23.01	23.5	1.5
		64QAM	1	1	21.98	21.91	21.90	22.5	2.5
		256QAM	1	1	20.63	20.56	20.55	21.0	4.0
Channel					371500	376000	380500	limit	MPR (dB)
Frequency (MHz)					1857.5	1880	1902.5		
15 M	QPSK		1	1	24.32	24.25	24.24	25.0	0.0
Channel					371000	376000	381000	Tune-up limit	MPR (dB)
Frequency (MHz)					1855	1880	1905		
10 M	QPSK		1	1	24.32	24.42	24.3	25.0	0.0
Channel					370500	376000	381500	Tune-up limit	MPR (dB)
Frequency (MHz)					1852.5	1880	1907.5		
5 M	QPSK		1	1	24.43	24.36	24.35	25.0	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	$\pi/2$ BPSK	1	1	24.29	24.37	24.15	25.0	0.0
		$\pi/2$ BPSK	1	53	24.30	24.39	24.22		
		$\pi/2$ BPSK	1	104	24.31	24.40	24.28		
		$\pi/2$ BPSK	50	0	24.26	24.15	24.23	25.0	0.0
		$\pi/2$ BPSK	50	28	24.35	24.24	24.32	25.0	0.0
		$\pi/2$ BPSK	50	56	24.31	24.20	24.28	25.0	0.0
		$\pi/2$ BPSK	100	0	24.39	24.33	24.32		
		QPSK	1	1	24.42	24.41	24.25	25.0	0.0
		QPSK	1	53	24.39	24.38	24.27		
		QPSK	1	104	24.36	24.34	24.28		
		QPSK	50	0	24.25	24.20	24.12	25.0	0.0
		QPSK	50	28	24.38	24.33	24.25	25.0	0.0
		QPSK	50	56	24.31	24.26	24.18	25.0	0.0
		QPSK	100	0	24.38	24.38	24.41		
		16QAM	1	1	23.18	23.17	23.01	23.5	1.5
		64QAM	1	1	22.21	22.20	22.04	22.5	2.5
		256QAM	1	1			21.08	21.16	20.94
Channel					166300	167300	168300	Tune-up limit	MPR (dB)
Frequency (MHz)					831.5	836.5	841.5		
15 M	QPSK		1	1	24.36	24.35	24.19	25.0	0.0
Channel					165800	167300	168800	Tune-up limit	MPR (dB)
Frequency (MHz)					829	836.5	844		
10 M	QPSK		1	1	24.25	24.33	24.11	25.0	0.0
Channel					165300	167300	169300	Tune-up limit	MPR (dB)
Frequency (MHz)					826.5	836.5	846.5		
5 M	QPSK		1	1	24.34	24.33	24.17	25.0	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					502500	507000	512000		
Frequency (MHz)					2512.5	2535	2560		
N7/20 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	24.26	24.13	23.98	24.5	0.0
		$\pi/2$ BPSK	1	53	24.26	24.14	24.13		
		$\pi/2$ BPSK	1	104	24.25	24.15	24.28		
		$\pi/2$ BPSK	50	0	24.19	23.97	23.98	24.5	0.0
		$\pi/2$ BPSK	50	28	24.31	24.09	24.10	24.5	0.0
		$\pi/2$ BPSK	50	56	24.24	24.02	24.03	24.5	0.0
		$\pi/2$ BPSK	100	0	24.30	23.99	24.07		
		QPSK	1	1	24.30	24.08	23.95	24.5	0.0
		QPSK	1	53	24.31	24.10	24.10		
		QPSK	1	104	24.32	24.11	24.24		
		QPSK	50	0	24.07	23.96	23.99	24.5	0.0
		QPSK	50	28	24.19	24.08	24.11	24.5	0.0
		QPSK	50	56	24.12	24.01	24.04	24.5	0.0
		QPSK	100	0	24.21	24.12	24.07		
		16QAM	1	1	24.14	23.85	23.76	24.5	0.0
		64QAM	1	1	22.88	22.77	22.54	23.5	1.0
		256QAM	1	1	20.02	19.97	19.89	20.5	4.0
Channel					501500	507000	512500	Tune-up limit	MPR (dB)
Frequency (MHz)					2507	2535	2562.5		
15 M	QPSK		1	1	24.24	24.02	23.89	24.5	0.0
Channel					501000	507000	513000	Tune-up limit	MPR (dB)
Frequency (MHz)					2505	2535	2565		
10 M	QPSK		1	1	24.27	24.05	23.92	24.5	0.0
Channel					500500	507000	513500	Tune-up limit	MPR (dB)
Frequency (MHz)					2502.5	2535	2567.5		
5 M	QPSK		1	1	24.23	24.1	23.95	24.5	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					141300	141500	141700		
Frequency (MHz)					706.5	707.5	708.5		
N12/15 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	24.21	24.28	24.20	25.0	0.0
		$\pi/2$ BPSK	1	36	24.29	24.34	24.29		
		$\pi/2$ BPSK	1	77	24.36	24.40	24.37		
		$\pi/2$ BPSK	36	0	24.19	24.28	24.24	25.0	0.0
		$\pi/2$ BPSK	36	18	24.28	24.37	24.33	25.0	0.0
		$\pi/2$ BPSK	36	39	24.22	24.31	24.27	25.0	0.0
		$\pi/2$ BPSK	75	0	24.38	24.45	24.38		
		QPSK	1	1	24.26	24.30	24.28	25.0	0.0
		QPSK	1	36	24.35	24.38	24.27		
		QPSK	1	77	24.44	24.45	24.25		
		QPSK	36	0	24.19	24.29	24.19	25.0	0.0
		QPSK	36	18	24.28	24.38	24.28	25.0	0.0
		QPSK	36	39	24.24	24.34	24.24	25.0	0.0
		QPSK	75	0	24.38	24.47	24.40		
		16QAM	1	1	24.19	24.19	24.17	24.5	0.5
		64QAM	1	1	22.92		22.85	22.91	23.5
		256QAM	1	1	20.15	20.31	20.17	21.0	4.0
Channel					140800	141500	142200	Tune-up limit	MPR (dB)
Frequency (MHz)					704	707.5	711		
10 M	QPSK		1	1	24.21	24.25	24.23	25.0	0.0
Channel					140300	141500	142700	Tune-up limit	MPR (dB)
Frequency (MHz)					711.5	707.5	713.5		
5 M	QPSK		1	1	24.18	24.25	24.17	25.0	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					372000	376500	381000		
Frequency (MHz)					1860	1882.5	1905		
N25/20 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	24.38	24.39	24.26	25.0	0.0
		$\pi/2$ BPSK	1	53	24.44	24.38	24.28		
		$\pi/2$ BPSK	1	104	24.50	24.36	24.29		
		$\pi/2$ BPSK	50	0	24.30	24.27	24.08	25.0	0.0
		$\pi/2$ BPSK	50	28	24.38	24.35	24.16	25.0	0.0
		$\pi/2$ BPSK	50	56	24.34	24.31	24.12	25.0	0.0
		$\pi/2$ BPSK	100	0	24.51	24.46	24.26		
		QPSK	1	1	24.24	24.51	24.36	25.0	0.0
		QPSK	1	53	24.39	24.49	24.35		
		QPSK	1	104	24.53	24.47	24.33		
		QPSK	50	0	24.32	24.38	24.13	25.0	0.0
		QPSK	50	28	24.40	24.46	24.21	25.0	0.0
		QPSK	50	56	24.36	24.42	24.17	25.0	0.0
		QPSK	100	0	24.57	24.42	24.21		
		16QAM	1	1	24.24	24.36	24.17	25.0	0.5
		64QAM	1	1	22.89	23.10	23.04	23.5	1.5
		256QAM	1	1	20.24	20.34	20.18	21.0	4.0
Channel					371500	376500	381500	Tune-up limit	MPR (dB)
Frequency (MHz)					1857.5	1882.5	1907.5		
15 M	QPSK		1	1	24.34	24.35	24.22	25.0	0.0
Channel					371000	376500	382000	Tune-up limit	MPR (dB)
Frequency (MHz)					1855	1882.5	1910		
10 M	QPSK		1	1	24.22	24.49	24.34	25.0	0.0
Channel					370500	376500	382500	Tune-up limit	MPR (dB)
Frequency (MHz)					1852.5	1882.5	1912.5		
5 M	QPSK		1	1	24.35	24.36	24.23	25.0	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						462000		24.5	0.0
Frequency (MHz)						2310			
N30/10 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1		23.94		24.5	0.0
		$\pi/2$ BPSK	1	25		23.98			
		$\pi/2$ BPSK	1	49		24.02			
		$\pi/2$ BPSK	25	0		24.05		24.5	0.0
		$\pi/2$ BPSK	25	12		24.12		24.5	0.0
		$\pi/2$ BPSK	25	25		24.07		24.5	0.0
		$\pi/2$ BPSK	50	0		23.91			
		QPSK	1	1		24.01		24.5	0.0
		QPSK	1	25		24.07			
		QPSK	1	49		24.10			
		QPSK	25	0		24.04		24.5	0.0
		QPSK	25	12		24.13		24.5	0.0
		QPSK	25	25		24.10		24.5	0.0
		QPSK	50	0		24.03			
		16QAM	1	1		23.85		24.5	0.0
		64QAM	1	1		22.69		23.0	1.5
		256QAM	1	1		19.89		20.5	4.0



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					518000	519000	520000		
Frequency (MHz)					2590	2595	2600		
N38/40 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	24.36	24.46	24.29	25.5	0.0
		$\pi/2$ BPSK	1	53	24.60	24.65	24.58		
		$\pi/2$ BPSK	1	104	24.83	24.84	24.86		
		$\pi/2$ BPSK	50	0	24.35	24.39	24.45	25.5	0.0
		$\pi/2$ BPSK	50	28	24.53	24.57	24.63	25.5	0.0
		$\pi/2$ BPSK	50	56	24.41	24.45	24.51	25.5	0.0
		$\pi/2$ BPSK	100	0	24.56	24.60	24.66		
		QPSK	1	1	24.40	24.47	24.34		
		QPSK	1	53	24.61	24.65	24.64	25.5	0.0
		QPSK	1	104	24.82	24.82	24.93		
		QPSK	50	0	24.33	24.43	24.44		
		QPSK	50	28	24.54	24.64	24.65	25.5	0.0
		QPSK	50	56	24.40	24.50	24.51	25.5	0.0
		QPSK	100	0	24.61	24.60	24.70		
		16QAM	1	1	24.55	24.60	24.59		
		64QAM	1	1	22.95	22.90	22.45	23.5	2.0
		256QAM	1	1	20.53	20.47	20.53	21.0	4.5
Channel					517000	519000	521000	Tune-up limit	MPR (dB)
Frequency (MHz)					2585	2595	2605		
30 M	QPSK		1	1	24.34	24.41	24.28	25.5	0.0
Channel					516000	519000	522000	Tune-up limit	MPR (dB)
Frequency (MHz)					2580	2595	2610		
20 M	QPSK		1	1	24.34	24.44	24.27	25.5	0.0
Channel					515500	519000	522500	Tune-up limit	MPR (dB)
Frequency (MHz)					2577.5	2595	26125		
15 M	QPSK		1	1	24.39	24.46	24.33	25.5	0.0
Channel					515000	519000	523000	Tune-up limit	MPR (dB)
Frequency (MHz)					2575	2595	2615		
10 M	QPSK		1	1	24.35	24.45	24.28	25.5	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	$\pi/2$ BPSK	1	1	27.29	26.49	26.60	28.0	0.0
		$\pi/2$ BPSK	1	137	27.48	26.98	27.10		
		$\pi/2$ BPSK	1	271	27.67	27.46	27.60		
		$\pi/2$ BPSK	135	1	26.88	26.85	26.81	27.5	0.5
		$\pi/2$ BPSK	135	138	27.12	27.09	27.05	28.0	0.0
		$\pi/2$ BPSK	135	271	26.97	26.94	26.90	27.5	0.5
		$\pi/2$ BPSK	270	0	26.72	26.59	26.59		
		QPSK	1	1	27.30	26.50	26.59	28.0	0.0
		QPSK	1	137	27.44	26.95	27.07		
		QPSK	1	271	27.58	27.39	27.55		
		QPSK	135	1	26.89	26.82	26.83	27.5	0.5
		QPSK	135	138	27.11	27.04	27.05	28.0	0.0
		QPSK	135	271	26.94	26.87	26.88	27.5	0.5
		QPSK	270	0	26.31	26.10	26.05		
		16QAM	1	1	26.35	25.52	25.38	27.0	1.0
		64QAM	1	1	24.84	24.07	24.23	25.0	3.0
		256QAM	1	1	22.33	21.65	21.68	23.0	5.0
Channel					508200	518598	528996	Tune-up limit	MPR (dB)
Frequency (MHz)					2541	2592.99	2644.98		
90 M	QPSK		1	1	27.28	26.48	26.57	28.0	0
Channel					507204	518598	529998	Tune-up limit	MPR (dB)
Frequency (MHz)					2536.02	2592.99	2649.99		
80 M	QPSK		1	1	27.26	26.46	20.21	28.0	0
Channel					505200	518598	531996	Tune-up limit	MPR (dB)
Frequency (MHz)					2526	2592.99	2656.98		
60 M	QPSK		1	1	27.25	26.45	26.54	28.0	0
Channel					504204	518598	532998	Tune-up limit	MPR (dB)
Frequency (MHz)					2521.02	2592.99	2664.99		
50 M	QPSK		1	1	27.30	26.50	26.59	28.0	0
Channel					503202	518598	534000	Tune-up limit	MPR (dB)
Frequency (MHz)					2516.01	2592.99	2670		
40 M	QPSK		1	1	27.28	26.48	26.57	28.0	0
Channel					502200	518598	534996	Tune-up limit	MPR (dB)
Frequency (MHz)					2511	2592.99	2674.98		
30 M	QPSK		1	1	27.29	26.49	26.58	28.0	0
Channel					501204	518598	535998	Tune-up limit	MPR (dB)
Frequency (MHz)					2506.02	2592.99	2679.99		
20 M	QPSK		1	1	27.14	26.34	26.45	28.0	0
Channel					500700	518598	536496	Tune-up limit	MPR (dB)
Frequency (MHz)					2503.5	2592.99	2682.48		
15 M	QPSK		1	1	27.2	26.4	26.51	28.0	0
Channel					500202	518598	537000	Tune-up limit	MPR (dB)
Frequency (MHz)					2501.01	2592.99	2685		
10 M	QPSK		1	1	27.22	26.42	26.51	28.0	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					638000	641666	645332		
Frequency (MHz)					3570	3624.99	3679.98		
N48/40 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	19.64	19.39	19.66	20.0	0.0
		$\pi/2$ BPSK	1	53	19.22	19.15	19.28		
		$\pi/2$ BPSK	1	104	18.80	18.91	18.89		
		$\pi/2$ BPSK	50	0	19.47	19.18	19.42	20.0	0.0
		$\pi/2$ BPSK	50	28	19.61	19.32	19.56	20.0	0.0
		$\pi/2$ BPSK	50	56	19.54	19.25	19.49	20.0	0.0
		$\pi/2$ BPSK	100	0	19.10	18.90	19.12		
		QPSK	1	1	19.60	19.37	19.69	20.0	0.0
		QPSK	1	53	18.99	18.87	19.06		
		QPSK	1	104	18.38	18.36	18.42		
		QPSK	50	0	19.29	19.25	19.46	20.0	0.0
		QPSK	50	28	19.42	19.38	19.59	20.0	0.0
		QPSK	50	56	19.35	19.31	19.52	20.0	0.0
		QPSK	100	0	18.47	18.41	18.51		
		16QAM	1	1	18.52	18.21	18.44	19.0	1.0
		64QAM	1	1	17.14	16.84	16.97	17.5	2.5
		256QAM	1	1	14.83	14.51	14.83	15.0	5.0
Channel					637168	641666	646166	Tune-up limit	MPR (dB)
Frequency (MHz)					3557.52	3624.99	3692.49		
20 M	QPSK		1	1	19.57	19.34	19.66	20.0	0.0
Channel					637000	641666	646332	Tune-up limit	MPR (dB)
Frequency (MHz)					3555	3624.99	3694.98		
15 M	QPSK		1	1	19.62	19.37	19.64	20.0	0.0
Channel					637334	641666	646000	Tune-up limit	MPR (dB)
Frequency (MHz)					3560.01	3624.99	3690		
10 M	QPSK		1	1	19.09	18.89	19.11	20.0	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					344000	349000	354000		
Frequency (MHz)					1720	1745	1770		
N66/20 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	21.62	21.69	21.67	22.0	0.0
		$\pi/2$ BPSK	1	53	21.71	21.68	21.72		
		$\pi/2$ BPSK	1	104	21.79	21.67	21.76		
		$\pi/2$ BPSK	50	0	21.59	21.60	21.54	22.0	0.0
		$\pi/2$ BPSK	50	28	21.72	21.73	21.67	22.0	0.0
		$\pi/2$ BPSK	50	56	21.65	21.66	21.60	22.0	0.0
		$\pi/2$ BPSK	100	0	21.73	21.71	21.66		
		QPSK	1	1	21.63	21.77	21.66	22.0	0.0
		QPSK	1	53	21.72	21.71	21.71		
		QPSK	1	104	21.80	21.64	21.76		
		QPSK	50	0	21.64	21.63	21.54	22.0	0.0
		QPSK	50	28	21.77	21.76	21.67	22.0	0.0
		QPSK	50	56	21.71	21.70	21.61	22.0	0.0
		QPSK	100	0	21.69	21.75	21.66		
		16QAM	1	1	21.57	21.46	21.48	22.0	0.0
		64QAM	1	1	20.26	20.39	20.29	21.0	1.0
		256QAM	1	1	17.52	17.59	17.57	18.0	4.0
Channel					343500	349000	354500	Tune-up limit	MPR (dB)
Frequency (MHz)					1717.5	1745	1772.5		
15 M	QPSK		1	1	21.57	21.71	21.60	22.0	0.0
Channel					343000	349000	355000	Tune-up limit	MPR (dB)
Frequency (MHz)					1715	1745	1775		
10 M	QPSK		1	1	21.62	21.67	21.65	22.0	0.0
Channel					342500	349000	355500	Tune-up limit	MPR (dB)
Frequency (MHz)					1712.5	1745	1777.5		
5 M	QPSK		1	1	21.66	21.61	21.73	22.0	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					134600	136100	137600		
Frequency (MHz)					673	680.5	688		
N71/20 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1	24.42	24.25	24.29	25.0	0.0
		$\pi/2$ BPSK	1	53	24.43	24.18	24.07		
		$\pi/2$ BPSK	1	104	24.44	24.10	23.85		
		$\pi/2$ BPSK	50	0	24.27	24.13	23.99	25.0	0.0
		$\pi/2$ BPSK	50	28	24.44	24.30	24.16	25.0	0.0
		$\pi/2$ BPSK	50	56	24.31	24.17	24.03	25.0	0.0
		$\pi/2$ BPSK	100	0	24.28	24.33	24.15		
		QPSK	1	1	24.46	24.32	24.29	25.0	0.0
		QPSK	1	53	24.43	24.27	24.09		
		QPSK	1	104	24.39	24.21	23.88		
		QPSK	50	0	24.28	24.18	23.97	25.0	0.0
		QPSK	50	28	24.45	24.35	24.14	25.0	0.0
		QPSK	50	56	24.33	24.23	24.02	25.0	0.0
		QPSK	100	0	24.41	24.20	24.14		
		16QAM	1	1	24.18	24.14	24.10	24.5	0.5
		64QAM	1	1	22.95	23.00	22.87	23.5	1.5
		256QAM	1	1	20.09	19.91	19.97	20.5	4.5
Channel					134100	136100	138100	Tune-up limit	MPR (dB)
Frequency (MHz)					670.5	680.5	690.5		
15 M	QPSK		1	1	24.40	24.26	24.23	25.0	0.0
Channel					133600	136100	138600	Tune-up limit	MPR (dB)
Frequency (MHz)					668	680.5	690.5		
10 M	QPSK		1	1	24.39	24.22	24.26	25.0	0.0
Channel					133100	136100	139100	Tune-up limit	MPR (dB)
Frequency (MHz)					665.5	680.5	695.5		
5 M	QPSK		1	1	24.44	24.3	24.27	25.0	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						633334			
Frequency (MHz)						3500.01			
N77/100 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1		22.90		23.5	0.0
		$\pi/2$ BPSK	1	137		22.17			
		$\pi/2$ BPSK	1	271		21.44			
		$\pi/2$ BPSK	135	0		22.95		23.5	0.0
		$\pi/2$ BPSK	135	69		23.01		23.5	0.0
		$\pi/2$ BPSK	135	138		22.87		23.5	0.0
		$\pi/2$ BPSK	270	0		22.98		23.5	0.0
		QPSK	1	1		22.96		23.5	0.0
		QPSK	1	137		21.23			
		QPSK	1	271		21.33			
		QPSK	135	0		22.77		23.5	0.0
		QPSK	135	69		22.85		23.5	0.0
		QPSK	135	138		22.73		23.5	0.0
		QPSK	270	0		22.79		23.5	0.0
		16QAM	1	1		22.93		23.5	0.0
		64QAM	1	1		21.57		22.0	1.5
256QAM	1	1		19.84		20.5	3.0		
Channel					633000	633334	633668	Tune-up limit	MPR (dB)
Frequency (MHz)					3495	3500.01	3502.02		
90 M	QPSK		1	1	22.84	22.87	22.86	23.5	0.0
Channel					632668	633334	634000	Tune-up limit	MPR (dB)
Frequency (MHz)					3490.02	3500.01	3510		
80 M	QPSK		1	1	22.84	22.79	22.92	23.5	0.0
Channel					632000	633334	634668	Tune-up limit	MPR (dB)
Frequency (MHz)					3480	3500.01	352002		
60 M	QPSK		1	1	22.87	22.85	22.86	23.5	0.0
Channel					631668	633334	635000	Tune-up limit	MPR (dB)
Frequency (MHz)					3475.02	3500.01	3525		
50 M	QPSK		1	1	22.79	22.78	22.83	23.5	0.0
Channel					631334	633334	635334	Tune-up limit	MPR (dB)
Frequency (MHz)					3470.01	3500.01	3530.01		
40 M	QPSK		1	1	22.84	22.77	22.83	23.5	0.0
Channel					631000	633334	635668	Tune-up limit	MPR (dB)
Frequency (MHz)					3465	3500.01	3535.02		
30 M	QPSK		1	1	22.80	22.82	22.86	23.5	0.0
Channel					630834	633334	635834	Tune-up limit	MPR (dB)
Frequency (MHz)					3462.51	3500.01	3537.51		
25 M	QPSK		1	1	22.78	22.88	22.91	23.5	0.0
Channel					630668	633334	636000	Tune-up limit	MPR (dB)
Frequency (MHz)					3460.02	3500.01	3540		
20 M	QPSK		1	1	22.73	22.81	22.91	23.5	0.0
Channel					630500	633334	636168	Tune-up limit	MPR (dB)
Frequency (MHz)					3457.5	3500.01	3542.52		
15 M	QPSK		1	1	22.81	22.92	22.88	23.5	0.0
Channel					630334	633334	636334	Tune-up limit	MPR (dB)
Frequency (MHz)					3455.01	3500.01	3545.01		
10 M	QPSK		1	1	22.86	22.79	22.94	23.5	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	$\pi/2$ BPSK	1	1	22.51	22.66	22.22	23.5	0.0
		$\pi/2$ BPSK	1	137	22.68	22.61	22.27		
		$\pi/2$ BPSK	1	271	22.84	22.56	22.31		
		$\pi/2$ BPSK	135	0	22.83	22.39	22.80	23.5	0.0
		$\pi/2$ BPSK	135	69	23.05	22.61	23.02	23.5	0.0
		$\pi/2$ BPSK	135	138	22.89	22.45	22.86	23.5	0.0
		$\pi/2$ BPSK	270	0	22.84	22.61	22.95	23.5	0.0
		QPSK	1	1	22.45	22.78	22.19	23.5	0.0
		QPSK	1	137	22.49	22.49	22.16		
		QPSK	1	271	22.53	22.19	22.12		
		QPSK	135	0	22.59	22.28	22.79	23.5	0.0
		QPSK	135	69	22.81	22.50	23.01	23.5	0.0
		QPSK	135	138	22.65	22.34	22.85	23.5	0.0
		QPSK	270	0	22.27	22.67	22.59	23.5	0.0
		16QAM	1	1	21.61	22.81	22.40	23.5	0.0
64QAM	1	1	20.57	21.40	20.83	22.0	1.5		
256QAM	1	1	18.87	19.58	19.17	20.0	3.5		
Channel					649668	656000	662334	Tune-up limit	MPR (dB)
Frequency (MHz)					3745.02	3840	3935.01		
90 M	QPSK		1	1	22.43	22.76	22.17	23.5	0
Channel					649334	656000	662668	Tune-up limit	MPR (dB)
Frequency (MHz)					3740.01	3840	3940.02		
80 M	QPSK		1	1	22.43	22.76	22.17	23.5	0
Channel					648668	656000	663334	Tune-up limit	MPR (dB)
Frequency (MHz)					3730.02	3840	3950.01		
60 M	QPSK		1	1	22.21	22.61	22.53	23.0	0.5
Channel					648334	656000	663668	Tune-up limit	MPR (dB)
Frequency (MHz)					3725.01	3840	3955.02		
50 M	QPSK		1	1	22.63	22.19	22.60	23.0	0.5
Channel					648000	656000	664000	Tune-up limit	MPR (dB)
Frequency (MHz)					3720	3840	3960		
40 M	QPSK		1	1	22.46	22.61	22.17	23.0	0
Channel					647668	656000	664334	Tune-up limit	MPR (dB)
Frequency (MHz)					3715.02	3840	3965.01		
30 M	QPSK		1	1	22.46	22.79	22.20	23.5	0
Channel					647500	656000	664500	Tune-up limit	MPR (dB)
Frequency (MHz)					3712.5	3840	3967.5		
25 M	QPSK		1	1	22.49	22.64	22.2	23.0	0
Channel					647334	656000	664668	Tune-up limit	MPR (dB)
Frequency (MHz)					3710.01	3840	3970.02		
20 M	QPSK		1	1	22.34	22.74	22.66	23.0	0.5
Channel					647168	656000	664834	Tune-up limit	MPR (dB)
Frequency (MHz)					3707.52	3840	3972.51		
15 M	QPSK		1	1	22.44	22.77	22.18	23.5	0
Channel					647000	656000	665000	Tune-up limit	MPR (dB)
Frequency (MHz)					3705	3840	3970		
10 M	QPSK		1	1	22.48	22.63	22.19	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						633334			
Frequency (MHz)						3500.01			
N78/100 M	DFT-s-OFDM	$\pi/2$ BPSK	1	1		22.92		23.5	0.0
		$\pi/2$ BPSK	1	137		22.08			
		$\pi/2$ BPSK	1	271		21.49			
		$\pi/2$ BPSK	135	0		22.78		23.5	0.0
		$\pi/2$ BPSK	135	69		22.99		23.5	0.0
		$\pi/2$ BPSK	135	138		22.82		23.5	0.0
		$\pi/2$ BPSK	270	0		23.04			
		QPSK	1	1		22.87			
		QPSK	1	137		22.04		23.5	0.0
		QPSK	1	271		21.31			
		QPSK	135	0		22.68			
		QPSK	135	69		22.98		23.5	0.0
		QPSK	135	138		22.71		23.5	0.0
		QPSK	270	0		23.09			
		16QAM	1	1		22.78			
64QAM	1	1		21.54		22.0	1.5		
256QAM	1	1		20.08		20.5	3.0		
Channel					633000	633334	633668	Tune-up limit	MPR (dB)
Frequency (MHz)					3495	3500.01	3502.02		
90 M	QPSK		1	1	22.68	22.79	22.81	23.5	0.0
Channel					632668	633334	634000	Tune-up limit	MPR (dB)
Frequency (MHz)					3490.02	3500.01	3510		
80 M	QPSK		1	1	22.88	22.92	22.79	23.5	0.0
Channel					632000	633334	634668	Tune-up limit	MPR (dB)
Frequency (MHz)					3480	3500.01	352002		
60 M	QPSK		1	1	22.84	22.78	22.75	23.5	0.0
Channel					631668	633334	635000	Tune-up limit	MPR (dB)
Frequency (MHz)					3475.02	3500.01	3525		
50 M	QPSK		1	1	22.69	22.71	22.77	23.5	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	0.0
Channel					631000	633334	635668	Tune-up limit	MPR (dB)
Frequency (MHz)					3465	3500.01	3535.02		
30 M	QPSK		1	1	22.79	22.76	22.73	23.5	0.0
Channel					630834	633334	635834	Tune-up limit	MPR (dB)
Frequency (MHz)					3462.51	3500.01	3537.51		
25 M	QPSK		1	1	22.77	22.71	22.76	23.5	0.0
Channel					630668	633334	636000	Tune-up limit	MPR (dB)
Frequency (MHz)					3460.02	3500.01	3540		
20 M	QPSK		1	1	22.71	22.69	22.78	23.5	0.0
Channel					630500	633334	636166	Tune-up limit	MPR (dB)
Frequency (MHz)					3457.5	3500.01	3542.49		
15 M	QPSK		1	1	22.85	22.69	22.77	23.5	0.0
Channel					630334	633334	636334	Tune-up limit	MPR (dB)
Frequency (MHz)					3455.01	3500.01	3545.01		
10 M	QPSK		1	1	22.74	22.86	22.85	23.5	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	$\pi/2$ BPSK	1	1		22.74		23.0	0.0
		$\pi/2$ BPSK	1	137		21.24			
		$\pi/2$ BPSK	1	271		21.85			
		$\pi/2$ BPSK	135	0		22.15		22.5	0.0
		$\pi/2$ BPSK	135	69		22.50		23.0	0.0
		$\pi/2$ BPSK	135	138		22.34		23.0	0.0
		$\pi/2$ BPSK	270	0		22.91		23.5	0.0
		QPSK	1	1		22.52		23.0	0.0
		QPSK	1	137		22.17			
		QPSK	1	271		21.56			
		QPSK	135	0		22.35		23.0	0.0
		QPSK	135	69		22.61		23.0	0.0
		QPSK	135	138		22.42		23.0	0.0
		QPSK	270	0		22.27		23.0	0.0
		16QAM	1	1		22.21		22.5	0.5
		64QAM	1	1		20.62		21.0	2.0
256QAM	1	1		19.17		19.5	3.5		
Channel					649668	650000	650334	Tune-up limit	MPR (dB)
Frequency (MHz)					3745.02	3750	3755.01		
90 M	QPSK		1	1	22.54	22.60	22.37	23.0	0.0
Channel					649334	650000	650668	Tune-up limit	MPR (dB)
Frequency (MHz)					3740.01	3750	3760.02		
80 M	QPSK		1	1	22.52	22.57	22.39	23.0	0.0
Channel					648668	650000	651334	Tune-up limit	MPR (dB)
Frequency (MHz)					3730.02	3750	3770.01		
60 M	QPSK		1	1	22.53	22.56	22.48	23.0	0.0
Channel					648334	650000	651668	Tune-up limit	MPR (dB)
Frequency (MHz)					3725.01	3750	3755.02		
50 M	QPSK		1	1	22.56	22.50	22.45	23.0	0.0
Channel					648000	650000	652000	Tune-up limit	MPR (dB)
Frequency (MHz)					3720	3750	3780		
40 M	QPSK		1	1	22.48	22.55	22.63	23.0	0.0
Channel					647668	650000	652334	Tune-up limit	MPR (dB)
Frequency (MHz)					3715.02	3750	3785.01		
30 M	QPSK		1	1	22.46	22.49	22.41	23.0	0.0
Channel					647500	650000	652500	Tune-up limit	MPR (dB)
Frequency (MHz)					3712.5	3750	3787.5		
25 M	QPSK		1	1	22.37	22.42	22.45	23.0	0.0
Channel					647334	650000	652668	Tune-up limit	MPR (dB)
Frequency (MHz)					3710.01	3750	3790.02		
20 M	QPSK		1	1	22.53	22.48	22.44	23.0	0.0
Channel					647168	650000	652834	Tune-up limit	MPR (dB)
Frequency (MHz)					3707.52	3750	3792.51		
15 M	QPSK		1	1	22.38	22.53	22.46	23.0	0.0
Channel					647000	650000	653000	Tune-up limit	MPR (dB)
Frequency (MHz)					3705	3750	3795		
10 M	QPSK		1	1	22.45	22.41	22.53	23.0	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(Ant 0)	10.49	9.40	9.99
Average Power(Ant 1)	9.95	10.16	10.56
Average Power(Ant 0+1)	13.24	12.81	13.29
Mode	802.11g (6Mbps)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Average Power(Ant 0)	4.67	3.93	4.21
Average Power(Ant 1)	4.70	4.78	5.11
Average Power(Ant 0+1)	7.70	7.39	7.69
Mode	802.11n (HT20) (MCS0)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Average Power(Ant 0)	4.26	3.45	3.64
Average Power(Ant 1)	4.44	4.42	4.78
Average Power(Ant 0+1)	7.36	6.97	7.26
Mode	802.11n (HT40) (MCS0)		
Channel / Frequency (MHz)	3 (2422)	6 (2437)	9 (2452)
Average Power(Ant 0)	4.48	4.28	3.91
Average Power(Ant 1)	5.22	4.64	4.37
Average Power(Ant 0+1)	7.88	7.47	7.16
Mode	802.11ax (HE20) (MCS0)		
Channel / Frequency (MHz)	1 (2412)	6 (2437)	11 (2462)
Average Power(Ant 0)	4.30	4.62	5.00
Average Power(Ant 1)	4.60	4.77	4.99
Average Power(Ant 0+1)	7.46	7.71	8.01
Mode	802.11ax (HE40) (MCS0)		
Channel / Frequency (MHz)	3 (2422)	6 (2437)	9 (2452)
Average Power(Ant 0)	4.96	4.93	4.53
Average Power(Ant 1)	4.82	4.32	4.14
Average Power(Ant 0+1)	7.90	7.65	7.35

**<WLAN 5.2G>**

Mode	802.11a (6Mbps)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Average Power(Ant 0)	13.74	13.47	13.50	13.59
Average Power(Ant 1)	12.52	12.10	12.12	12.17
Average Power(Ant 0+1)	16.18	15.85	15.87	15.95
Mode	802.11ac (VHT20) (MCS0)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Average Power(Ant 0)	12.42	12.18	12.53	13.31
Average Power(Ant 1)	11.16	10.77	11.21	11.85
Average Power(Ant 0+1)	14.85	14.54	14.93	15.65
Mode	802.11ac (VHT40) (MCS0)			
Channel / Frequency (MHz)	38 (5190)		46 (5230)	
Average Power(Ant 0)	12.86		12.87	
Average Power(Ant 1)	11.27		11.45	
Average Power(Ant 0+1)	15.15		15.23	
Mode	802.11ac (VHT80) (MCS0)			
Channel / Frequency (MHz)	42 (5210)			
Average Power(Ant 0)	13.48			
Average Power(Ant 1)	11.93			
Average Power(Ant 0+1)	15.78			
Mode	802.11ax (HE20) (MCS0)			
Channel / Frequency (MHz)	36 (5180)	40 (5200)	44 (5220)	48 (5240)
Average Power(Ant 0)	12.71	12.48	12.87	13.56
Average Power(Ant 1)	11.27	10.91	11.33	11.95
Average Power(Ant 0+1)	15.06	14.78	15.18	15.84
Mode	802.11ax (HE40) (MCS0)			
Channel / Frequency (MHz)	38 (5190)		46 (5230)	
Average Power(Ant 0)	12.51		12.53	
Average Power(Ant 1)	10.82		10.92	
Average Power(Ant 0+1)	14.76		14.81	
Mode	802.11ax (HE80) (MCS0)			
Channel / Frequency (MHz)	42 (5210)			
Average Power(Ant 0)	13.39			
Average Power(Ant 1)	11.87			
Average Power(Ant 0+1)	15.71			

**<WLAN 5.8G>**

Mode	802.11a (6Mbps)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Average Power(Ant 0)	14.04	13.92	13.80	13.69	13.62
Average Power(Ant 1)	12.33	12.26	12.34	11.89	10.93
Average Power(Ant 0+1)	16.28	16.18	16.14	15.89	15.49
Mode	802.11ac (VHT20) (MCS0)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Average Power(Ant 0)	13.61	13.51	13.40	13.33	13.28
Average Power(Ant 1)	11.92	11.93	11.97	11.17	10.59
Average Power(Ant 0+1)	15.86	15.80	15.75	15.39	15.15
Mode	802.11ac (VHT40) (MCS0)				
Channel / Frequency (MHz)	151 (5755)		159 (5795)		
Average Power(Ant 0)	13.98		13.75		
Average Power(Ant 1)	12.23		12.38		
Average Power(Ant 0+1)	16.20		16.13		
Mode	802.11ac (VHT80) (MCS0)				
Channel / Frequency (MHz)	155 (5775)				
Average Power(Ant 0)	14.42				
Average Power(Ant 1)	12.89				
Average Power(Ant 0+1)	16.73				
Mode	802.11ax (HE20) (MCS0)				
Channel / Frequency (MHz)	149 (5745)	153 (5765)	157 (5785)	161 (5805)	165 (5825)
Average Power(Ant 0)	13.74	13.72	13.70	13.56	13.37
Average Power(Ant 1)	12.32	12.19	12.08	11.87	11.40
Average Power(Ant 0+1)	16.10	16.03	15.98	15.81	15.51
Mode	802.11ax (HE40) (MCS0)				
Channel / Frequency (MHz)	151 (5755)		159 (5795)		
Average Power(Ant 0)	13.66		13.49		
Average Power(Ant 1)	11.78		11.97		
Average Power(Ant 0+1)	15.83		15.81		
Mode	802.11ax (HE80) (MCS0)				
Channel / Frequency (MHz)	155 (5775)				
Average Power(Ant 0)	14.39				
Average Power(Ant 1)	12.90				
Average Power(Ant 0+1)	16.72				



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 $\leq 1/4$ 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 ≤ 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 $\frac{1}{2}$ 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.	Ant.	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-1g (W/kg)	Scaled SAR-1g (W/kg)
1	WCDMA II	RMC12.2K	Front Face	1	9400	Ant0	24.5	24.24	1.06	-0.10	0.352	0.37
	WCDMA II	RMC12.2K	Rear Face	1	9400	Ant0	24.5	24.24	1.06	0.03	0.622	0.66
	WCDMA II	RMC12.2K	Left Side	1	9400	Ant0	24.5	24.24	1.06	0.02	0.041	0.04
	WCDMA II	RMC12.2K	Right Side	1	9400	Ant0	24.5	24.24	1.06	-0.02	0.235	0.25
	WCDMA II	RMC12.2K	Top Side	1	9400	Ant0	24.5	24.24	1.06	-0.05	0.244	0.26
2	WCDMA IV	RMC12.2K	Front Face	1	1413	Ant0	23.0	22.80	1.05	0.01	0.98	1.03
	WCDMA IV	RMC12.2K	Rear Face	1	1413	Ant0	23.0	22.80	1.05	0.03	0.759	0.79
	WCDMA IV	RMC12.2K	Left Side	1	1413	Ant0	23.0	22.80	1.05	0.02	0.167	0.17
	WCDMA IV	RMC12.2K	Right Side	1	1413	Ant0	23.0	22.80	1.05	-0.02	0.422	0.44
	WCDMA IV	RMC12.2K	Top Side	1	1413	Ant0	23.0	22.80	1.05	-0.05	0.142	0.15
	WCDMA IV	RMC12.2K	Front Face	1	1312	Ant0	23.0	22.75	1.06	-0.04	0.84	0.89
	WCDMA IV	RMC12.2K	Front Face	1	1513	Ant0	23.0	22.60	1.10	0.03	0.891	0.98
	WCDMA IV	RMC12.2K	Front Face	1	1413	Ant0	23.0	22.80	1.05	-0.06	0.965	1.01
	WCDMA V	RMC12.2K	Front Face	1	4233	Ant0	24.5	24.23	1.06	0.08	0.103	0.11
3	WCDMA V	RMC12.2K	Rear Face	1	4233	Ant0	24.5	24.23	1.06	0.04	0.157	0.17
	WCDMA V	RMC12.2K	Left Side	1	4233	Ant0	24.5	24.23	1.06	0.02	0.116	0.12
	WCDMA V	RMC12.2K	Right Side	1	4233	Ant0	24.5	24.23	1.06	-0.02	0.047	0.05
	WCDMA V	RMC12.2K	Top Side	1	4233	Ant0	24.5	24.23	1.06	-0.05	0.008	0.01



Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Ant.	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)
4	LTE 7	QPSK20M	Front Face	1	21350	Ant5	1	0	24.0	23.36	1.16	0.05	0.604	0.70
	LTE 7	QPSK20M	Rear Face	1	21350	Ant5	1	0	24.0	23.36	1.16	-0.06	0.472	0.55
	LTE 7	QPSK20M	Right Side	1	21350	Ant5	1	0	24.0	23.36	1.16	0.01	0.462	0.54
	LTE 7	QPSK20M	Bottom Side	1	21350	Ant5	1	0	24.0	23.36	1.16	0.03	0.054	0.06
	LTE 7	QPSK20M	Front Face	1	21350	Ant5	50	0	23.0	22.40	1.15	0.02	0.483	0.55
	LTE 7	QPSK20M	Rear Face	1	21350	Ant5	50	0	23.0	22.40	1.15	-0.02	0.378	0.43
	LTE 7	QPSK20M	Right Side	1	21350	Ant5	50	0	23.0	22.40	1.15	-0.05	0.370	0.42
	LTE 7	QPSK20M	Bottom Side	1	21350	Ant5	50	0	23.0	22.40	1.15	-0.04	0.043	0.05
5	LTE 12&17	QPSK10M	Front Face	1	23130	Ant0	1	0	25.0	24.19	1.21	0.02	0.265	0.32
	LTE 12&17	QPSK10M	Rear Face	1	23130	Ant0	1	0	25.0	24.19	1.21	0.09	0.139	0.17
	LTE 12&17	QPSK10M	Left Side	1	23130	Ant0	1	0	25.0	24.19	1.21	-0.07	0.058	0.07
	LTE 12&17	QPSK10M	Right Side	1	23130	Ant0	1	0	25.0	24.19	1.21	0.05	0.161	0.19
	LTE 12&17	QPSK10M	Top Side	1	23130	Ant0	1	0	25.0	24.19	1.21	-0.06	0.036	0.04
	LTE 12&17	QPSK10M	Front Face	1	23130	Ant0	25	25	24.0	23.15	1.22	0.01	0.212	0.26
	LTE 12&17	QPSK10M	Rear Face	1	23130	Ant0	25	25	24.0	23.15	1.22	0.03	0.112	0.14
	LTE 12&17	QPSK10M	Left Side	1	23130	Ant0	25	25	24.0	23.15	1.22	0.02	0.046	0.06
	LTE 12&17	QPSK10M	Right Side	1	23130	Ant0	25	25	24.0	23.15	1.22	-0.02	0.129	0.16
	LTE 12&17	QPSK10M	Top Side	1	23130	Ant0	25	25	24.0	23.15	1.22	-0.05	0.029	0.04
6	LTE 13	QPSK10M	Front Face	1	23230	Ant0	1	24	24.5	24.32	1.04	-0.01	0.452	0.47
	LTE 13	QPSK10M	Rear Face	1	23230	Ant0	1	24	24.5	24.32	1.04	0.02	0.329	0.34
	LTE 13	QPSK10M	Left Side	1	23230	Ant0	1	24	24.5	24.32	1.04	0.09	0.181	0.19
	LTE 13	QPSK10M	Right Side	1	23230	Ant0	1	24	24.5	24.32	1.04	-0.07	0.22	0.23
	LTE 13	QPSK10M	Top Side	1	23230	Ant0	1	24	24.5	24.32	1.04	0.05	0.039	0.04
	LTE 13	QPSK10M	Front Face	1	23230	Ant0	25	25	23.5	23.31	1.04	-0.06	0.361	0.38
	LTE 13	QPSK10M	Rear Face	1	23230	Ant0	25	25	23.5	23.31	1.04	0.01	0.263	0.27
	LTE 13	QPSK10M	Left Side	1	23230	Ant0	25	25	23.5	23.31	1.04	0.03	0.145	0.15
	LTE 13	QPSK10M	Right Side	1	23230	Ant0	25	25	23.5	23.31	1.04	0.02	0.176	0.18
	LTE 13	QPSK10M	Top Side	1	23230	Ant0	25	25	23.5	23.31	1.04	0.00	0.031	0.03
7	LTE 14	QPSK10M	Front Face	1	23330	Ant0	1	24	24.5	24.32	1.04	0.04	0.419	0.44
	LTE 14	QPSK10M	Rear Face	1	23330	Ant0	1	24	24.5	24.32	1.04	-0.01	0.348	0.36
	LTE 14	QPSK10M	Left Side	1	23330	Ant0	1	24	24.5	24.32	1.04	-0.01	0.187	0.19
	LTE 14	QPSK10M	Right Side	1	23330	Ant0	1	24	24.5	24.32	1.04	0.02	0.213	0.22
	LTE 14	QPSK10M	Top Side	1	23330	Ant0	1	24	24.5	24.32	1.04	0.09	0.041	0.04
	LTE 14	QPSK10M	Front Face	1	23330	Ant0	25	25	23.5	23.31	1.04	-0.07	0.335	0.35
	LTE 14	QPSK10M	Rear Face	1	23330	Ant0	25	25	23.5	23.31	1.04	0.05	0.278	0.29
	LTE 14	QPSK10M	Left Side	1	23330	Ant0	25	25	23.5	23.31	1.04	-0.06	0.150	0.16
	LTE 14	QPSK10M	Right Side	1	23330	Ant0	25	25	23.5	23.31	1.04	0.01	0.171	0.18
	LTE 14	QPSK10M	Top Side	1	23330	Ant0	25	25	23.5	23.31	1.04	0.03	0.033	0.03
	LTE 25&2	QPSK20M	Front Face	1	26140	Ant0	1	99	24.0	23.64	1.09	0.01	0.414	0.45
8	LTE 25&2	QPSK20M	Rear Face	1	26140	Ant0	1	99	24.0	23.64	1.09	0.01	0.428	0.46
	LTE 25&2	QPSK20M	Left Side	1	26140	Ant0	1	99	24.0	23.64	1.09	0.04	0.041	0.04
	LTE 25&2	QPSK20M	Right Side	1	26140	Ant0	1	99	24.0	23.64	1.09	-0.01	0.303	0.33
	LTE 25&2	QPSK20M	Top Side	1	26140	Ant0	1	99	24.0	23.64	1.09	-0.01	0.168	0.18
	LTE 25&2	QPSK20M	Front Face	1	26140	Ant0	50	25	23.0	22.66	1.08	0.02	0.332	0.36
	LTE 25&2	QPSK20M	Rear Face	1	26140	Ant0	50	25	23.0	22.66	1.08	0.09	0.343	0.37
	LTE 25&2	QPSK20M	Left Side	1	26140	Ant0	50	25	23.0	22.66	1.08	-0.07	0.033	0.04
	LTE 25&2	QPSK20M	Right Side	1	26140	Ant0	50	25	23.0	22.66	1.08	0.05	0.243	0.26
	LTE 25&2	QPSK20M	Top Side	1	26140	Ant0	50	25	23.0	22.66	1.08	-0.06	0.135	0.15
	LTE 26&5	QPSK15M	Front Face	1	26765	Ant0	1	0	24.5	24.12	1.09	0.00	0.267	0.29



9	LTE 26&5	QPSK15M	Rear Face	1	26765	Ant0	1	0	24.5	24.12	1.09	0.07	0.342	0.37
	LTE 26&5	QPSK15M	Left Side	1	26765	Ant0	1	0	24.5	24.12	1.09	0.01	0.186	0.20
	LTE 26&5	QPSK15M	Right Side	1	26765	Ant0	1	0	24.5	24.12	1.09	0.01	0.17	0.19
	LTE 26&5	QPSK15M	Top Side	1	26765	Ant0	1	0	24.5	24.12	1.09	0.04	0.03	0.03
	LTE 26&5	QPSK15M	Front Face	1	26765	Ant0	36	0	23.5	23.16	1.08	-0.01	0.214	0.23
	LTE 26&5	QPSK15M	Rear Face	1	26765	Ant0	36	0	23.5	23.16	1.08	-0.01	0.274	0.30
	LTE 26&5	QPSK15M	Left Side	1	26765	Ant0	36	0	23.5	23.16	1.08	0.02	0.149	0.16
	LTE 26&5	QPSK15M	Right Side	1	26765	Ant0	36	0	23.5	23.16	1.08	0.09	0.136	0.15
	LTE 26&5	QPSK15M	Top Side	1	26765	Ant0	36	0	23.5	23.16	1.08	-0.07	0.024	0.03
10	LTE 30	QPSK10M	Front Face	1	27710	Ant7	1	0	23.0	22.29	1.18	0.01	0.556	0.65
	LTE 30	QPSK10M	Rear Face	1	27710	Ant7	1	0	23.0	22.29	1.18	0.00	0.347	0.41
	LTE 30	QPSK10M	Right Side	1	27710	Ant7	1	0	23.0	22.29	1.18	0.07	0.367	0.43
	LTE 30	QPSK10M	Top Side	1	27710	Ant7	1	0	23.0	22.29	1.18	0.01	0.083	0.10
	LTE 30	QPSK10M	Front Face	1	27710	Ant7	25	0	22.0	21.52	1.12	0.01	0.445	0.50
	LTE 30	QPSK10M	Rear Face	1	27710	Ant7	25	0	22.0	21.52	1.12	0.04	0.278	0.31
	LTE 30	QPSK10M	Right Side	1	27710	Ant7	25	0	22.0	21.52	1.12	-0.01	0.294	0.33
	LTE 30	QPSK10M	Top Side	1	27710	Ant7	25	0	22.0	21.52	1.12	-0.01	0.067	0.07
11	LTE 40	QPSK10M	Front Face	1	39200	Ant5	1	0	23.5	23.05	1.11	0.07	0.298	0.33
	LTE 40	QPSK10M	Rear Face	1	39200	Ant5	1	0	23.5	23.05	1.11	0.04	0.247	0.27
	LTE 40	QPSK10M	Right Side	1	39200	Ant5	1	0	23.5	23.05	1.11	-0.01	0.201	0.22
	LTE 40	QPSK10M	Bottom Side	1	39200	Ant5	1	0	23.5	23.05	1.11	-0.01	0.088	0.10
	LTE 40	QPSK10M	Front Face	1	39200	Ant5	25	0	22.5	22.26	1.06	0.02	0.239	0.25
	LTE 40	QPSK10M	Rear Face	1	39200	Ant5	25	0	22.5	22.26	1.06	0.09	0.198	0.21
	LTE 40	QPSK10M	Right Side	1	39200	Ant5	25	0	22.5	22.26	1.06	-0.07	0.161	0.17
	LTE 40	QPSK10M	Bottom Side	1	39200	Ant5	25	0	22.5	22.26	1.06	0.05	0.072	0.08
12	LTE 41&38	QPSK20M	Front Face	1	40620	Ant5	1	99	24.0	23.69	1.07	0.01	0.349	0.37
	LTE 41&38	QPSK20M	Rear Face	1	40620	Ant5	1	99	24.0	23.69	1.07	-0.06	0.228	0.24
	LTE 41&38	QPSK20M	Right Side	1	40620	Ant5	1	99	24.0	23.69	1.07	0.00	0.212	0.23
	LTE 41&38	QPSK20M	Bottom Side	1	40620	Ant5	1	99	24.0	23.69	1.07	0.07	0.057	0.06
	LTE 41&38	QPSK20M	Front Face	1	40620	Ant5	50	0	23.0	22.66	1.08	0.01	0.279	0.30
	LTE 41&38	QPSK20M	Rear Face	1	40620	Ant5	50	0	23.0	22.66	1.08	-0.03	0.194	0.21
	LTE 41&38	QPSK20M	Right Side	1	40620	Ant5	50	0	23.0	22.66	1.08	0.04	0.171	0.18
	LTE 41&38	QPSK20M	Bottom Side	1	40620	Ant5	50	0	23.0	22.66	1.08	0.07	0.046	0.05
13	LTE 66&4	QPSK20M	Front Face	1	132322	Ant0	1	0	23.0	22.63	1.09	0.02	0.887	0.97
	LTE 66&4	QPSK20M	Rear Face	1	132322	Ant0	1	0	23.0	22.63	1.09	0.04	0.693	0.75
	LTE 66&4	QPSK20M	Left Side	1	132322	Ant0	1	0	23.0	22.63	1.09	-0.01	0.159	0.17
	LTE 66&4	QPSK20M	Right Side	1	132322	Ant0	1	0	23.0	22.63	1.09	-0.01	0.352	0.38
	LTE 66&4	QPSK20M	Top Side	1	132322	Ant0	1	0	23.0	22.63	1.09	0.02	0.291	0.32
	LTE 66&4	QPSK20M	Front Face	1	132322	Ant0	50	25	22.0	21.57	1.10	0.09	0.712	0.79
	LTE 66&4	QPSK20M	Rear Face	1	132322	Ant0	50	25	22.0	21.57	1.10	-0.07	0.554	0.61
	LTE 66&4	QPSK20M	Left Side	1	132322	Ant0	50	25	22.0	21.57	1.10	0.05	0.128	0.14
	LTE 66&4	QPSK20M	Right Side	1	132322	Ant0	50	25	22.0	21.57	1.10	-0.06	0.282	0.31
	LTE 66&4	QPSK20M	Top Side	1	132322	Ant0	50	25	22.0	21.57	1.10	0.09	0.233	0.26
	LTE 66&4	QPSK20M	Front Face	1	132072	Ant0	1	0	23.0	22.57	1.10	-0.07	0.816	0.90
	LTE 66&4	QPSK20M	Front Face	1	132572	Ant0	1	0	23.0	22.61	1.09	0.05	0.743	0.81
	LTE 66&4	QPSK20M	Front Face	1	132322	Ant0	100	0	22.0	21.54	1.11	-0.06	0.703	0.78
	LTE 66&4	QPSK20M	Front Face	1	132322	Ant0	1	0	23.0	22.63	1.09	0.01	0.873	0.95
	LTE 71	QPSK20M	Front Face	1	133222	Ant0	1	0	24.5	24.01	1.12	0.01	0.16	0.18
14	LTE 71	QPSK20M	Rear Face	1	133222	Ant0	1	0	24.5	24.01	1.12	0.01	0.295	0.33
	LTE 71	QPSK20M	Left Side	1	133222	Ant0	1	0	24.5	24.01	1.12	-0.01	0.121	0.14
	LTE 71	QPSK20M	Right Side	1	133222	Ant0	1	0	24.5	24.01	1.12	0.02	0.107	0.12
	LTE 71	QPSK20M	Top Side	1	133222	Ant0	1	0	24.5	24.01	1.12	0.09	0.024	0.03



	LTE 71	QPSK20M	Front Face	1	133222	Ant0	50	0	23.5	23.02	1.12	-0.07	0.128	0.14
	LTE 71	QPSK20M	Rear Face	1	133222	Ant0	50	0	23.5	23.02	1.12	0.05	0.164	0.18
	LTE 71	QPSK20M	Left Side	1	133222	Ant0	50	0	23.5	23.02	1.12	-0.06	0.097	0.11
	LTE 71	QPSK20M	Right Side	1	133222	Ant0	50	0	23.5	23.02	1.12	0.09	0.086	0.10
	LTE 71	QPSK20M	Top Side	1	133222	Ant0	50	0	23.5	23.02	1.12	0.05	0.019	0.02

Plot No.	Band	SCS (KHz)	Mode	Test Position	Separation Distance (cm)	Ch.	Ant.	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)
15	n25&2	15	DFT-s-OFDM QPSK20M	Front Face	1	376500	Ant0	1	1	25.0	24.51	1.12	0.13	0.5	0.56
	n25&2	15	DFT-s-OFDM QPSK20M	Rear Face	1	376500	Ant0	1	1	25.0	24.51	1.12	0.16	0.582	0.65
	n25&2	15	DFT-s-OFDM QPSK20M	Left Side	1	376500	Ant0	1	1	25.0	24.51	1.12	-0.07	0.092	0.10
	n25&2	15	DFT-s-OFDM QPSK20M	Right Side	1	376500	Ant0	1	1	25.0	24.51	1.12	0.05	0.283	0.32
	n25&2	15	DFT-s-OFDM QPSK20M	Top Side	1	376500	Ant0	1	1	25.0	24.51	1.12	-0.04	0.163	0.18
	n25&2	15	DFT-s-OFDM QPSK20M	Front Face	1	376500	Ant0	50	28	25.0	24.46	1.13	-0.11	0.424	0.48
	n25&2	15	DFT-s-OFDM QPSK20M	Rear Face	1	376500	Ant0	50	28	25.0	24.46	1.13	0.03	0.553	0.63
	n25&2	15	DFT-s-OFDM QPSK20M	Left Side	1	376500	Ant0	50	28	25.0	24.46	1.13	0.09	0.114	0.13
	n25&2	15	DFT-s-OFDM QPSK20M	Right Side	1	376500	Ant0	50	28	25.0	24.46	1.13	-0.07	0.249	0.28
	n25&2	15	DFT-s-OFDM QPSK20M	Top Side	1	376500	Ant0	50	28	25.0	24.46	1.13	0.05	0.157	0.18
16	n5	15	DFT-s-OFDM QPSK20M	Front Face	1	166800	Ant0	1	1	25.0	24.42	1.14	-0.12	0.293	0.33
	n5	15	DFT-s-OFDM QPSK20M	Rear Face	1	166800	Ant0	1	1	25.0	24.42	1.14	-0.01	0.311	0.36
	n5	15	DFT-s-OFDM QPSK20M	Left Side	1	166800	Ant0	1	1	25.0	24.42	1.14	-0.01	0.235	0.27
	n5	15	DFT-s-OFDM QPSK20M	Right Side	1	166800	Ant0	1	1	25.0	24.42	1.14	0.02	0.192	0.22
	n5	15	DFT-s-OFDM QPSK20M	Top Side	1	166800	Ant0	1	1	25.0	24.42	1.14	0.09	0.04	0.05
	n5	15	DFT-s-OFDM QPSK20M	Front Face	1	166800	Ant0	50	28	25.0	24.38	1.15	-0.07	0.209	0.24
	n5	15	DFT-s-OFDM QPSK20M	Rear Face	1	166800	Ant0	50	28	25.0	24.38	1.15	0.05	0.212	0.24
	n5	15	DFT-s-OFDM QPSK20M	Left Side	1	166800	Ant0	50	28	25.0	24.38	1.15	-0.06	0.208	0.24
	n5	15	DFT-s-OFDM QPSK20M	Right Side	1	166800	Ant0	50	28	25.0	24.38	1.15	0.09	0.141	0.16
	n5	15	DFT-s-OFDM QPSK20M	Top Side	1	166800	Ant0	50	28	25.0	24.38	1.15	-0.07	0.038	0.04
17	n7	15	DFT-s-OFDM QPSK20M	Front Face	1	502500	Ant5	1	104	24.5	24.32	1.04	-0.03	0.622	0.65
	n7	15	DFT-s-OFDM QPSK20M	Rear Face	1	502500	Ant5	1	104	24.5	24.32	1.04	-0.11	0.59	0.61
	n7	15	DFT-s-OFDM QPSK20M	Right Side	1	502500	Ant5	1	104	24.5	24.32	1.04	0.03	0.59	0.61
	n7	15	DFT-s-OFDM QPSK20M	Bottom Side	1	502500	Ant5	1	104	24.5	24.32	1.04	0.01	0.355	0.37
	n7	15	DFT-s-OFDM QPSK20M	Front Face	1	502500	Ant5	50	28	24.5	24.19	1.07	-0.02	0.564	0.61
	n7	15	DFT-s-OFDM QPSK20M	Rear Face	1	502500	Ant5	50	28	24.5	24.19	1.07	0.00	0.661	0.71
	n7	15	DFT-s-OFDM QPSK20M	Right Side	1	502500	Ant5	50	28	24.5	24.19	1.07	0.07	0.562	0.60
	n7	15	DFT-s-OFDM QPSK20M	Bottom Side	1	502500	Ant5	50	28	24.5	24.19	1.07	-0.02	0.416	0.45
18	n12	15	DFT-s-OFDM QPSK15M	Front Face	1	141500	Ant0	1	1	25.0	24.45	1.14	0.01	0.365	0.41
	n12	15	DFT-s-OFDM QPSK15M	Rear Face	1	141500	Ant0	1	1	25.0	24.45	1.14	-0.02	0.376	0.43
	n12	15	DFT-s-OFDM QPSK15M	Left Side	1	141500	Ant0	1	1	25.0	24.45	1.14	-0.01	0.128	0.15
	n12	15	DFT-s-OFDM QPSK15M	Right Side	1	141500	Ant0	1	1	25.0	24.45	1.14	0.02	0.193	0.22
	n12	15	DFT-s-OFDM QPSK15M	Top Side	1	141500	Ant0	1	1	25.0	24.45	1.14	0.09	0.035	0.04
	n12	15	DFT-s-OFDM QPSK15M	Front Face	1	141500	Ant0	36	18	25.0	24.38	1.15	-0.07	0.287	0.33
	n12	15	DFT-s-OFDM QPSK15M	Rear Face	1	141500	Ant0	36	18	25.0	24.38	1.15	0.05	0.255	0.29
	n12	15	DFT-s-OFDM QPSK15M	Left Side	1	141500	Ant0	36	18	25.0	24.38	1.15	-0.06	0.097	0.11
	n12	15	DFT-s-OFDM QPSK15M	Right Side	1	141500	Ant0	36	18	25.0	24.38	1.15	0.09	0.16	0.18
	n12	15	DFT-s-OFDM QPSK15M	Top Side	1	141500	Ant0	36	18	25.0	24.38	1.15	-0.07	0.029	0.03
19	n30	15	DFT-s-OFDM QPSK10M	Front Face	1	462000	Ant7	1	1	24.5	24.01	1.12	-0.13	0.567	0.63
	n30	15	DFT-s-OFDM QPSK10M	Rear Face	1	462000	Ant7	1	1	24.5	24.01	1.12	0.01	0.472	0.53
	n30	15	DFT-s-OFDM QPSK10M	Right Side	1	462000	Ant7	1	1	24.5	24.01	1.12	-0.01	0.483	0.54
	n30	15	DFT-s-OFDM QPSK10M	Top Side	1	462000	Ant7	1	1	24.5	24.01	1.12	0.02	0.109	0.12
	n30	15	DFT-s-OFDM QPSK10M	Front Face	1	462000	Ant7	25	12	24.5	24.13	1.09	0.09	0.543	0.59



	n30	15	DFT-s-OFDM QPSK10M	Rear Face	1	462000	Ant7	25	12	24.5	24.13	1.09	-0.07	0.484	0.53
	n30	15	DFT-s-OFDM QPSK10M	Right Side	1	462000	Ant7	25	12	24.5	24.13	1.09	-0.06	0.459	0.50
	n30	15	DFT-s-OFDM QPSK10M	Top Side	1	462000	Ant7	25	12	24.5	24.13	1.09	-0.04	0.112	0.12
20	n38	30	DFT-s-OFDM QPSK40M	Front Face	1	520000	Ant5	1	104	25.5	24.93	1.14	0.06	0.115	0.13
	n38	30	DFT-s-OFDM QPSK40M	Rear Face	1	520000	Ant5	1	104	25.5	24.93	1.14	0.01	0.105	0.12
	n38	30	DFT-s-OFDM QPSK40M	Right Side	1	520000	Ant5	1	104	25.5	24.93	1.14	-0.03	0.071	0.08
	n38	30	DFT-s-OFDM QPSK40M	Bottom Side	1	520000	Ant5	1	104	25.5	24.93	1.14	-0.02	0.029	0.03
	n38	30	DFT-s-OFDM QPSK40M	Front Face	1	520000	Ant5	50	28	25.5	24.65	1.22	-0.01	0.091	0.11
	n38	30	DFT-s-OFDM QPSK40M	Rear Face	1	520000	Ant5	50	28	25.5	24.65	1.22	0.02	0.101	0.12
	n38	30	DFT-s-OFDM QPSK40M	Right Side	1	520000	Ant5	50	28	25.5	24.65	1.22	0.00	0.068	0.08
	n38	30	DFT-s-OFDM QPSK40M	Bottom Side	1	520000	Ant5	50	28	25.5	24.65	1.22	-0.07	0.02	0.02
21	n41	30	DFT-s-OFDM BPSK100M	Front Face	1	509202	Ant5	1	271	28.0	27.67	1.08	0.02	0.119	0.13
	n41	30	DFT-s-OFDM BPSK100M	Rear Face	1	509202	Ant5	1	271	28.0	27.67	1.08	0.00	0.094	0.10
	n41	30	DFT-s-OFDM BPSK100M	Right Side	1	509202	Ant5	1	271	28.0	27.67	1.08	0.01	0.084	0.09
	n41	30	DFT-s-OFDM BPSK100M	Bottom Side	1	509202	Ant5	1	271	28.0	27.67	1.08	-0.02	0.016	0.02
	n41	30	DFT-s-OFDM BPSK100M	Front Face	1	509202	Ant5	135	138	28.0	27.12	1.22	-0.01	0.091	0.11
	n41	30	DFT-s-OFDM BPSK100M	Rear Face	1	509202	Ant5	135	138	28.0	27.12	1.22	0.02	0.079	0.10
	n41	30	DFT-s-OFDM BPSK100M	Right Side	1	509202	Ant5	135	138	28.0	27.12	1.22	0.09	0.066	0.08
	n41	30	DFT-s-OFDM BPSK100M	Bottom Side	1	509202	Ant5	135	138	28.0	27.12	1.22	-0.01	0.016	0.02
	n48	30	DFT-s-OFDM QPSK40M	Front Face	1	645332	Ant4	1	1	20.0	19.69	1.07	-0.08	0.161	0.17
22	n48	30	DFT-s-OFDM QPSK40M	Rear Face	1	645332	Ant4	1	1	20.0	19.69	1.07	-0.05	0.641	0.69
	n48	30	DFT-s-OFDM QPSK40M	Right Side	1	645332	Ant4	1	1	20.0	19.69	1.07	0.00	0.133	0.14
	n48	30	DFT-s-OFDM QPSK40M	Front Face	1	645332	Ant4	50	28	20.0	19.59	1.10	0.01	0.151	0.17
	n48	30	DFT-s-OFDM QPSK40M	Rear Face	1	645332	Ant4	50	28	20.0	19.59	1.10	-0.02	0.625	0.69
	n48	30	DFT-s-OFDM QPSK40M	Right Side	1	645332	Ant4	50	28	20.0	19.59	1.10	-0.01	0.175	0.19
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	344000	Ant0	1	104	22.0	21.80	1.05	-0.05	0.781	0.82
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	344000	Ant0	1	104	22.0	21.80	1.05	0.00	0.801	0.84
	n66	15	DFT-s-OFDM QPSK20M	Left Side	1	344000	Ant0	1	104	22.0	21.80	1.05	0.01	0.174	0.18
	n66	15	DFT-s-OFDM QPSK20M	Right Side	1	344000	Ant0	1	104	22.0	21.80	1.05	-0.02	0.324	0.34
	n66	15	DFT-s-OFDM QPSK20M	Top Side	1	344000	Ant0	1	104	22.0	21.80	1.05	-0.04	0.397	0.42
23	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	344000	Ant0	50	28	22.0	21.77	1.05	-0.13	0.866	0.91
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	344000	Ant0	50	28	22.0	21.77	1.05	0.01	0.821	0.87
	n66	15	DFT-s-OFDM QPSK20M	Left Side	1	344000	Ant0	50	28	22.0	21.77	1.05	-0.02	0.201	0.21
	n66	15	DFT-s-OFDM QPSK20M	Right Side	1	344000	Ant0	50	28	22.0	21.77	1.05	-0.01	0.346	0.36
	n66	15	DFT-s-OFDM QPSK20M	Top Side	1	344000	Ant0	50	28	22.0	21.77	1.05	0.02	0.363	0.38
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	349000	Ant0	1	104	22.0	21.64	1.09	0.09	0.833	0.90
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	354000	Ant0	1	104	22.0	21.76	1.06	-0.07	0.842	0.89
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	349000	Ant0	50	28	22.0	21.76	1.06	0.05	0.852	0.90
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	354000	Ant0	50	28	22.0	21.67	1.08	-0.06	0.824	0.89
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	349000	Ant0	1	104	22.0	21.64	1.09	0.09	0.672	0.73
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	354000	Ant0	1	104	22.0	21.76	1.06	-0.07	0.576	0.61
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	349000	Ant0	50	28	22.0	21.76	1.06	-0.05	0.633	0.67
	n66	15	DFT-s-OFDM QPSK20M	Rear Face	1	354000	Ant0	50	28	22.0	21.67	1.08	0.03	0.578	0.62
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	344000	Ant0	100	0	22.0	21.69	1.07	0.01	0.845	0.91
	n66	15	DFT-s-OFDM QPSK20M	Front Face	1	344000	Ant0	50	28	22.0	21.77	1.05	-0.02	0.831	0.88
	n71	15	DFT-s-OFDM QPSK20M	Front Face	1	134600	Ant0	1	1	25.0	24.46	1.13	0.07	0.177	0.20
24	n71	15	DFT-s-OFDM QPSK20M	Rear Face	1	134600	Ant0	1	1	25.0	24.46	1.13	0.04	0.277	0.31
	n71	15	DFT-s-OFDM QPSK20M	Left Side	1	134600	Ant0	1	1	25.0	24.46	1.13	-0.01	0.112	0.13
	n71	15	DFT-s-OFDM QPSK20M	Right Side	1	134600	Ant0	1	1	25.0	24.46	1.13	0.02	0.103	0.12
	n71	15	DFT-s-OFDM QPSK20M	Top Side	1	134600	Ant0	1	1	25.0	24.46	1.13	0.09	0.021	0.02
	n71	15	DFT-s-OFDM QPSK20M	Front Face	1	134600	Ant0	50	28	25.0	24.45	1.14	-0.01	0.211	0.24
	n71	15	DFT-s-OFDM QPSK20M	Rear Face	1	134600	Ant0	50	28	25.0	24.45	1.14	0.05	0.225	0.26



	n71	15	DFT-s-OFDM QPSK20M	Left Side	1	134600	Ant0	50	28	25.0	24.45	1.14	-0.06	0.115	0.13
	n71	15	DFT-s-OFDM QPSK20M	Right Side	1	134600	Ant0	50	28	25.0	24.45	1.14	0.09	0.081	0.09
	n71	15	DFT-s-OFDM QPSK20M	Top Side	1	134600	Ant0	50	28	25.0	24.45	1.14	-0.07	0.024	0.03
	n77&n78-1	30	DFT-s-OFDM BPSK100M	Front Face	1	633334	Ant4	1	1	23.5	22.90	1.15	-0.06	0.161	0.18
	n77&n78-1	30	DFT-s-OFDM BPSK100M	Rear Face	1	633334	Ant4	1	1	23.5	22.90	1.15	-0.02	0.401	0.46
	n77&n78-1	30	DFT-s-OFDM BPSK100M	Right Side	1	633334	Ant4	1	1	23.5	22.90	1.15	-0.01	0.494	0.57
	n77&n78-1	30	DFT-s-OFDM BPSK100M	Front Face	1	633334	Ant4	135	69	23.5	23.01	1.12	0.06	0.166	0.19
	n77&n78-1	30	DFT-s-OFDM BPSK100M	Rear Face	1	633334	Ant4	135	69	23.5	23.01	1.12	-0.03	0.297	0.33
25	n77&n78-1	30	DFT-s-OFDM BPSK100M	Right Side	1	633334	Ant4	135	69	23.5	23.01	1.12	0.05	0.506	0.57
	n77&n78-2	30	DFT-s-OFDM BPSK100M	Front Face	1	650000	Ant4	1	271	23.5	22.84	1.16	0.00	0.133	0.15
	n77&n78-2	30	DFT-s-OFDM BPSK100M	Rear Face	1	650000	Ant4	1	271	23.5	22.84	1.16	-0.01	0.273	0.32
	n77&n78-2	30	DFT-s-OFDM BPSK100M	Right Side	1	650000	Ant4	1	271	23.5	22.84	1.16	0.06	0.425	0.49
	n77&n78-2	30	DFT-s-OFDM BPSK100M	Front Face	1	650000	Ant4	135	69	23.5	23.05	1.11	-0.04	0.154	0.17
	n77&n78-2	30	DFT-s-OFDM BPSK100M	Rear Face	1	650000	Ant4	135	69	23.5	23.05	1.11	0.00	0.299	0.33
26	n77&n78-2	30	DFT-s-OFDM BPSK100M	Right Side	1	650000	Ant4	135	69	23.5	23.05	1.11	0.00	0.551	0.61



Plot No.	Band	Mode	Test Position	Separation Distance (cm)	Ch.	Ant.	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	Ant2	11.0	10.49	1.12	-0.01	0.019	0.02
	802.11b	-	Rear Face	1	1	Ant2	11.0	10.49	1.12	0.00	0.031	0.03
	802.11b	-	Right Side	1	1	Ant2	11.0	10.49	1.12	-0.03	0.019	0.02
27	802.11b	-	Bottom Side	1	1	Ant2	11.0	10.49	1.12	0.01	0.091	0.10
	802.11b	-	Front Face	1	11	Ant3	11.0	10.52	1.12	-0.04	0.037	0.04
	802.11b	-	Rear Face	1	11	Ant3	11.0	10.52	1.12	0.06	0.031	0.03
	802.11b	-	Left Side	1	11	Ant3	11.0	10.52	1.12	-0.02	0.067	0.07
	802.11a	-	Front Face	1	36	Ant2	14.0	13.74	1.06	-0.14	0.039	0.04
	802.11a	-	Rear Face	1	36	Ant2	14.0	13.74	1.06	0.09	0.196	0.21
	802.11a	-	Right Side	1	36	Ant2	14.0	13.74	1.06	-0.01	0.013	0.01
	802.11a	-	Bottom Side	1	36	Ant2	14.0	13.74	1.06	-0.04	0.219	0.23
	802.11a	-	Front Face	1	36	Ant3	13.0	12.52	1.12	-0.07	0.101	0.11
	802.11a	-	Rear Face	1	36	Ant3	13.0	12.52	1.12	0.02	0.22	0.25
28	802.11a	-	Left Side	1	36	Ant3	13.0	12.52	1.12	0.07	0.327	0.37
	802.11ac	VHT80	Front Face	1	155	Ant2	14.5	14.42	1.02	-0.03	0.047	0.05
	802.11ac	VHT80	Rear Face	1	155	Ant2	14.5	14.42	1.02	0.05	0.311	0.32
	802.11ac	VHT80	Right Side	1	155	Ant2	14.5	14.42	1.02	-0.07	0.265	0.27
29	802.11ac	VHT80	Bottom Side	1	155	Ant2	14.5	14.42	1.02	0.05	0.389	0.40
	802.11ac	VHT80	Front Face	1	155	Ant3	13.0	12.89	1.03	-0.04	0.101	0.10
	802.11ac	VHT80	Rear Face	1	155	Ant3	13.0	12.89	1.03	-0.02	0.071	0.07
	802.11ac	VHT80	Left Side	1	155	Ant3	13.0	12.89	1.03	0.00	0.283	0.29



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

Plot No.	Band	SCS	Mode	Test Position	Separation Distance (cm)	Ch.	Ant.	RB#	RB Offset	Max. Tune-up Power (dBm)	Measured Conducted Power (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR-10g (W/kg)	Scaled SAR-10g (W/kg)
30	WCDMA II	-	RMC12.2K	Rear Face	0	9400	Ant0	-	-	24.5	24.24	1.06	-0.02	1.14	1.21
31	WCDMA IV	-	RMC12.2K	Front Face	0	1413	Ant0	-	-	23.0	22.80	1.05	-0.02	2.12	2.22
32	WCDMA V	-	RMC12.2K	Rear Face	1	4233	Ant0	-	-	24.5	24.23	1.06	-0.02	0.104	0.11
33	LTE 7	-	QPSK20M	Front Face	0	21350	Ant5	1	0	24.0	23.36	1.16	-0.03	1.34	1.55
34	LTE 12&17	-	QPSK10M	Front Face	0	23130	Ant0	1	0	25.0	24.19	1.21	-0.02	0.491	0.59
35	LTE 13	-	QPSK10M	Front Face	0	23230	Ant0	1	24	24.5	24.32	1.04	-0.03	0.487	0.51
36	LTE 14	-	QPSK10M	Front Face	0	23330	Ant0	1	24	24.5	24.32	1.04	-0.01	0.406	0.42
37	LTE 25&2	-	QPSK20M	Rear Face	0	26140	Ant0	1	99	24.0	23.64	1.09	-0.02	1.0	1.09
38	LTE 26&5	-	QPSK15M	Rear Face	0	26765	Ant0	1	0	24.5	24.12	1.09	-0.08	0.188	0.21
39	LTE 30	-	QPSK10M	Front Face	0	27710	Ant7	1	0	23.0	22.29	1.18	0.03	1.98	2.33
40	LTE 40	-	QPSK10M	Front Face	0	39200	Ant5	1	0	23.5	23.05	1.11	0.00	0.832	0.92
41	LTE 41&38	-	QPSK20M	Front Face	0	40620	Ant5	1	99	24.0	23.69	1.07	-0.01	0.886	0.95
42	LTE 66&4	-	QPSK20M	Front Face	0	132322	Ant0	1	0	23.0	22.63	1.09	0.00	2.41	2.62
43	LTE 71	-	QPSK20M	Rear Face	0	133222	Ant0	1	0	24.5	24.01	1.12	0.01	0.52	0.58
44	n25&2	15	DFT-s-OFDM QPSK20M	Rear Face	0	376500	Ant0	1	1	25.0	24.51	1.12	-0.13	0.871	0.98
45	n5	15	DFT-s-OFDM QPSK20M	Rear Face	0	166800	Ant0	1	1	25.0	24.42	1.14	-0.02	0.187	0.21
46	n7	15	DFT-s-OFDM QPSK20M	Rear Face	0	502500	Ant5	50	28	24.5	24.19	1.07	-0.01	1.35	1.45
47	n12	15	DFT-s-OFDM QPSK15M	Rear Face	0	141500	Ant0	1	1	25.0	24.45	1.14	-0.01	0.289	0.33
48	n30	15	DFT-s-OFDM QPSK10M	Front Face	0	462000	Ant7	1	1	24.5	24.01	1.12	0.04	1.93	2.16
49	n38	30	DFT-s-OFDM QPSK40M	Front Face	0	520000	Ant5	1	104	25.5	24.93	1.14	-0.06	0.298	0.34
50	n41	30	DFT-s-OFDM BPSK100M	Front Face	0	509202	Ant5	1	271	28.0	27.67	1.08	-0.04	0.287	0.31
51	n48	30	DFT-s-OFDM QPSK40M	Rear Face	0	645332	Ant4	1	1	20.0	19.69	1.07	-0.05	1.14	1.22
52	n66	15	DFT-s-OFDM QPSK20M	Front Face	0	344000	Ant0	50	28	22.0	21.77	1.05	-0.01	2.07	2.18
53	n71	15	DFT-s-OFDM QPSK20M	Rear Face	0	134600	Ant0	1	1	25.0	24.46	1.13	-0.03	0.571	0.65
54	n77&n78-1	30	DFT-s-OFDM BPSK100M	Right Side	0	633334	Ant4	135	69	23.5	23.01	1.12	0.07	0.942	1.05
55	n77&n78-2	30	DFT-s-OFDM BPSK100M	Right Side	0	650000	Ant4	135	69	23.5	23.05	1.11	-0.01	0.54	0.60
56	802.11b	-	-	Bottom Side	0	1	Ant2	-	-	11.0	10.49	1.12	-0.09	0.067	0.08
57	802.11a	-	-	Left Side	0	36	Ant3	-	-	13.0	12.52	1.12	-0.09	0.574	0.64
58	802.11ac	-	VHT80	Bottom Side	0	155	Ant2	-	-	14.5	14.42	1.02	0.03	0.639	0.65



8.4 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 IV	Front Face	1413	0.98	0.965	1.02	N/A	N/A	N/A	N/A
LTE 66&4	Front Face	132322	0.887	0.873	1.02	N/A	N/A	N/A	N/A
N66	Front Face	344000	0.866	0.831	1.04	N/A	N/A	N/A	N/A



8.5 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.

<MIMO_WLAN 2.4G>

Test Position	Max. SAR_Ant.0	Max. SAR_Ant.1	SAR MIMO
Front Face	0.02	0.04	0.06
Rear Face	0.03	0.03	0.06
Left Side		0.07	0.07
Right Side	0.02		0.02
Top Side			
Bottom Side	0.10		0.10

<MIMO_WLAN 5.2G>

Test Position	Max. SAR_Ant.0	Max. SAR_Ant.1	SAR MIMO
Front Face	0.04	0.11	0.15
Rear Face	0.21	0.25	0.46
Left Side		0.37	0.37
Right Side	0.01		0.01
Top Side			
Bottom Side	0.23		0.23

<MIMO_WLAN 5.8G>

Test Position	Max. SAR_Ant.0	Max. SAR_Ant.1	SAR MIMO
Front Face	0.05	0.10	0.15
Rear Face	0.32	0.07	0.39
Left Side		0.29	0.29
Right Side	0.27		0.27
Top Side			
Bottom Side	0.40		0.40



No.	Conditions (SAR1 + SAR2)	Exposure Condition	Test Position	Max. SAR1	Max. SAR2	SAR Summation	SPLSR Analysis
1	WCDMA II + WLAN (DTS)	Body	Front Face	0.37	0.06	0.43	Σ SAR < 1.6, Not required
			Rear Face	0.66	0.06	0.72	Σ SAR < 1.6, Not required
			Left Side	0.04	0.07	0.11	Σ SAR < 1.6, Not required
			Right Side	0.25	0.02	0.27	Σ SAR < 1.6, Not required
			Top Side	0.26		0.26	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	1.21	0.08	1.29	Σ SAR < 1.6, Not required
2	WCDMA IV + WLAN (DTS)	Body	Front Face	1.03	0.06	1.09	Σ SAR < 1.6, Not required
			Rear Face	0.79	0.06	0.85	Σ SAR < 1.6, Not required
			Left Side	0.17	0.07	0.24	Σ SAR < 1.6, Not required
			Right Side	0.44	0.02	0.46	Σ SAR < 1.6, Not required
			Top Side	0.15		0.15	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Front Face	2.22	0.08	2.30	Σ SAR < 1.6, Not required
3	WCDMA V + WLAN (DTS)	Body	Front Face	0.11	0.06	0.17	Σ SAR < 1.6, Not required
			Rear Face	0.17	0.06	0.23	Σ SAR < 1.6, Not required
			Left Side	0.12	0.07	0.19	Σ SAR < 1.6, Not required
			Right Side	0.05	0.02	0.07	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.00	0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.11	0.08	0.19	Σ SAR < 1.6, Not required
4	LTE 7 + WLAN (DTS)	Body	Front Face	0.70	0.06	0.76	Σ SAR < 1.6, Not required
			Rear Face	0.55	0.06	0.61	Σ SAR < 1.6, Not required
			Left Side		0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.54	0.02	0.56	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.06	0.10	0.16	Σ SAR < 1.6, Not required
		Extremity	Front Face	1.55	0.08	1.63	Σ SAR < 1.6, Not required
5	LTE 12&17 + WLAN (DTS)	Body	Front Face	0.32	0.06	0.38	Σ SAR < 1.6, Not required
			Rear Face	0.17	0.06	0.23	Σ SAR < 1.6, Not required
			Left Side	0.07	0.07	0.14	Σ SAR < 1.6, Not required
			Right Side	0.19	0.02	0.21	Σ SAR < 1.6, Not required
			Top Side	0.04		0.04	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.59	0.08	0.67	Σ SAR < 1.6, Not required



6	LTE 13 + WLAN (DTS)	Body	Front Face	0.47	0.06	0.53	ΣSAR < 1.6, Not required			
			Rear Face	0.34	0.06	0.40	ΣSAR < 1.6, Not required			
			Left Side	0.19	0.07	0.26	ΣSAR < 1.6, Not required			
			Right Side	0.23	0.02	0.25	ΣSAR < 1.6, Not required			
			Top Side	0.04		0.04	ΣSAR < 1.6, Not required			
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required			
7	LTE 14 + WLAN (DTS)	Body	Front Face	0.51	0.08	0.59	ΣSAR < 1.6, Not required			
			Rear Face	0.44	0.06	0.50	ΣSAR < 1.6, Not required			
			Left Side	0.36	0.06	0.42	ΣSAR < 1.6, Not required			
			Left Side	0.19	0.07	0.26	ΣSAR < 1.6, Not required			
			Right Side	0.22	0.02	0.24	ΣSAR < 1.6, Not required			
			Top Side	0.04		0.04	ΣSAR < 1.6, Not required			
8	LTE 25&2 + WLAN (DTS)	Body	Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required			
			Extremity	Rear Face	0.42	0.08	0.50	ΣSAR < 1.6, Not required		
			9	LTE 26&5 + WLAN (DTS)	Body	Front Face	0.45	0.06	0.51	ΣSAR < 1.6, Not required
						Rear Face	0.46	0.06	0.52	ΣSAR < 1.6, Not required
						Left Side	0.04	0.07	0.11	ΣSAR < 1.6, Not required
						Right Side	0.33	0.02	0.35	ΣSAR < 1.6, Not required
Top Side	0.18					0.18	ΣSAR < 1.6, Not required			
Bottom Side		0.10				0.10	ΣSAR < 1.6, Not required			
10	LTE 30 + WLAN (DTS)	Body	Extremity	Rear Face	1.09	0.08	1.17	ΣSAR < 1.6, Not required		
			11	LTE 40	Body	Front Face	0.29	0.06	0.35	ΣSAR < 1.6, Not required
						Rear Face	0.37	0.06	0.43	ΣSAR < 1.6, Not required
						Left Side	0.20	0.07	0.27	ΣSAR < 1.6, Not required
						Right Side	0.19	0.02	0.21	ΣSAR < 1.6, Not required
						Top Side	0.03		0.03	ΣSAR < 1.6, Not required
Bottom Side		0.10				0.10	ΣSAR < 1.6, Not required			
11	LTE 40	Body	Extremity	Front Face	0.21	0.08	0.29	ΣSAR < 1.6, Not required		
			11	LTE 40	Body	Front Face	0.65	0.06	0.71	ΣSAR < 1.6, Not required
						Rear Face	0.41	0.06	0.47	ΣSAR < 1.6, Not required
						Left Side	0.00	0.07	0.07	ΣSAR < 1.6, Not required
						Right Side	0.43	0.02	0.45	ΣSAR < 1.6, Not required
						Top Side	0.10		0.10	ΣSAR < 1.6, Not required
Bottom Side		0.10				0.10	ΣSAR < 1.6, Not required			
11	LTE 40	Body	Extremity	Front Face	2.33	0.08	2.41	ΣSAR < 1.6, Not required		
			Front Face	0.33	0.06	0.39	ΣSAR < 1.6, Not required			



	+ WLAN (DTS)		Rear Face	0.27	0.06	0.33	Σ SAR < 1.6, Not required
			Left Side	0.00	0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.22	0.02	0.24	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.10	0.10	0.20	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.92	0.08	1.00	Σ SAR < 1.6, Not required
12	LTE 41&38 + WLAN (DTS)	Body	Front Face	0.37	0.06	0.43	Σ SAR < 1.6, Not required
			Rear Face	0.24	0.06	0.30	Σ SAR < 1.6, Not required
			Left Side		0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.23	0.02	0.25	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.06	0.10	0.16	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.95	0.08	1.03	Σ SAR < 1.6, Not required
13	LTE 66&4 + WLAN (DTS)	Body	Front Face	0.97	0.06	1.03	Σ SAR < 1.6, Not required
			Rear Face	0.75	0.06	0.81	Σ SAR < 1.6, Not required
			Left Side	0.17	0.07	0.24	Σ SAR < 1.6, Not required
			Right Side	0.38	0.02	0.40	Σ SAR < 1.6, Not required
			Top Side	0.32		0.32	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	2.62	0.08	2.70	Σ SAR < 1.6, Not required
14	LTE 71 + WLAN (DTS)	Body	Front Face	0.18	0.06	0.24	Σ SAR < 1.6, Not required
			Rear Face	0.33	0.06	0.39	Σ SAR < 1.6, Not required
			Left Side	0.14	0.07	0.21	Σ SAR < 1.6, Not required
			Right Side	0.12	0.02	0.14	Σ SAR < 1.6, Not required
			Top Side	0.03		0.03	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.58	0.08	0.66	Σ SAR < 1.6, Not required
15	N25&2 + WLAN (DTS)	Body	Front Face	0.56	0.06	0.62	Σ SAR < 1.6, Not required
			Rear Face	0.65	0.06	0.71	Σ SAR < 1.6, Not required
			Left Side	0.13	0.07	0.20	Σ SAR < 1.6, Not required
			Right Side	0.32	0.02	0.34	Σ SAR < 1.6, Not required
			Top Side	0.18		0.18	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.98	0.08	1.06	Σ SAR < 1.6, Not required
16	N5 + WLAN (DTS)	Body	Front Face	0.33	0.06	0.39	Σ SAR < 1.6, Not required
			Rear Face	0.36	0.06	0.42	Σ SAR < 1.6, Not required



			Left Side	0.27	0.07	0.34	Σ SAR < 1.6, Not required
			Right Side	0.22	0.02	0.24	Σ SAR < 1.6, Not required
			Top Side	0.05		0.05	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.21	0.08	0.29	Σ SAR < 1.6, Not required
17	N7 + WLAN (DTS)	Body	Front Face	0.65	0.06	0.71	Σ SAR < 1.6, Not required
			Rear Face	0.71	0.06	0.77	Σ SAR < 1.6, Not required
			Left Side		0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.61	0.02	0.63	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.45	0.10	0.55	Σ SAR < 1.6, Not required
		Extremity	Rear Face	1.45	0.08	1.53	Σ SAR < 1.6, Not required
18	N12 + WLAN (DTS)	Body	Front Face	0.41	0.06	0.47	Σ SAR < 1.6, Not required
			Rear Face	0.43	0.06	0.49	Σ SAR < 1.6, Not required
			Left Side	0.15	0.07	0.22	Σ SAR < 1.6, Not required
			Right Side	0.22	0.02	0.24	Σ SAR < 1.6, Not required
			Top Side	0.04		0.04	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.33	0.08	0.41	Σ SAR < 1.6, Not required
19	N30 + WLAN (DTS)	Body	Front Face	0.63	0.06	0.69	Σ SAR < 1.6, Not required
			Rear Face	0.53	0.06	0.59	Σ SAR < 1.6, Not required
			Left Side	0.00	0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.54	0.02	0.56	Σ SAR < 1.6, Not required
			Top Side	0.12		0.12	Σ SAR < 1.6, Not required
			Bottom Side		0.10	0.10	Σ SAR < 1.6, Not required
		Extremity	Front Face	2.16	0.08	2.24	Σ SAR < 1.6, Not required
20	N38 + WLAN (DTS)	Body	Front Face	0.13	0.06	0.19	Σ SAR < 1.6, Not required
			Rear Face	0.12	0.06	0.18	Σ SAR < 1.6, Not required
			Left Side		0.07	0.07	Σ SAR < 1.6, Not required
			Right Side	0.08	0.02	0.10	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.03	0.10	0.13	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.34	0.08	0.42	Σ SAR < 1.6, Not required
21	N41 + WLAN (DTS)	Body	Front Face	0.13	0.06	0.19	Σ SAR < 1.6, Not required
			Rear Face	0.10	0.06	0.16	Σ SAR < 1.6, Not required
			Left Side		0.07	0.07	Σ SAR < 1.6, Not required



			Right Side	0.09	0.02	0.11	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side	0.02	0.10	0.12	ΣSAR < 1.6, Not required
22	N48 + WLAN (DTS)	Body	Front Face	0.31	0.08	0.39	ΣSAR < 1.6, Not required
			Rear Face	0.69	0.06	0.75	ΣSAR < 1.6, Not required
			Left Side		0.07	0.07	ΣSAR < 1.6, Not required
			Right Side	0.14	0.02	0.16	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required
		Extremity	Rear Face	1.22	0.08	1.30	ΣSAR < 1.6, Not required
23	N66 + WLAN (DTS)	Body	Front Face	0.91	0.06	0.97	ΣSAR < 1.6, Not required
			Rear Face	0.87	0.06	0.93	ΣSAR < 1.6, Not required
			Left Side	0.21	0.07	0.28	ΣSAR < 1.6, Not required
			Right Side	0.36	0.02	0.38	ΣSAR < 1.6, Not required
			Top Side	0.38		0.38	ΣSAR < 1.6, Not required
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required
		Extremity	Front Face	2.18	0.08	2.26	ΣSAR < 1.6, Not required
24	N71 + WLAN (DTS)	Body	Front Face	0.24	0.06	0.30	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.06	0.37	ΣSAR < 1.6, Not required
			Left Side	0.13	0.07	0.20	ΣSAR < 1.6, Not required
			Right Side	0.12	0.02	0.14	ΣSAR < 1.6, Not required
			Top Side	0.03		0.03	ΣSAR < 1.6, Not required
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required
		Extremity	Rear Face	0.65	0.08	0.73	ΣSAR < 1.6, Not required
25	N77&78 + WLAN (DTS)	Body	Front Face	0.19	0.06	0.25	ΣSAR < 1.6, Not required
			Rear Face	0.46	0.06	0.52	ΣSAR < 1.6, Not required
			Left Side		0.07	0.07	ΣSAR < 1.6, Not required
			Right Side	0.57	0.02	0.59	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required
		Extremity	Right Side	1.05	0.08	1.13	ΣSAR < 1.6, Not required
26	N77&78 + WLAN (DTS)	Body	Front Face	0.17	0.06	0.23	ΣSAR < 1.6, Not required
			Rear Face	0.33	0.06	0.39	ΣSAR < 1.6, Not required
			Left Side		0.07	0.07	ΣSAR < 1.6, Not required
			Right Side	0.61	0.02	0.63	ΣSAR < 1.6, Not required



			Top Side				ΣSAR < 1.6, Not required
			Bottom Side		0.10	0.10	ΣSAR < 1.6, Not required
27	WCDMA II + WLAN (NII)	Extremity	Right Side	0.60	0.08	0.68	ΣSAR < 1.6, Not required
		Body	Front Face	0.37	0.15	0.52	ΣSAR < 1.6, Not required
			Rear Face	0.66	0.46	1.12	ΣSAR < 1.6, Not required
			Left Side	0.04	0.37	0.41	ΣSAR < 1.6, Not required
			Right Side	0.25	0.27	0.52	ΣSAR < 1.6, Not required
			Top Side	0.26		0.26	ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
28	WCDMA IV + WLAN (NII)	Extremity	Rear Face	1.21	0.65	1.86	ΣSAR < 1.6, Not required
		Body	Front Face	1.03	0.15	1.18	ΣSAR < 1.6, Not required
			Rear Face	0.79	0.46	1.25	ΣSAR < 1.6, Not required
			Left Side	0.17	0.37	0.54	ΣSAR < 1.6, Not required
			Right Side	0.44	0.27	0.71	ΣSAR < 1.6, Not required
			Top Side	0.15		0.15	ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
29	WCDMA V + WLAN (NII)	Extremity	Front Face	2.22	0.65	2.87	ΣSAR < 1.6, Not required
		Body	Front Face	0.11	0.15	0.26	ΣSAR < 1.6, Not required
			Rear Face	0.17	0.46	0.63	ΣSAR < 1.6, Not required
			Left Side	0.12	0.37	0.49	ΣSAR < 1.6, Not required
			Right Side	0.05	0.27	0.32	ΣSAR < 1.6, Not required
			Top Side	0.01		0.01	ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
30	LTE 7 + WLAN (NII)	Extremity	Rear Face	0.11	0.65	0.76	ΣSAR < 1.6, Not required
		Body	Front Face	0.70	0.15	0.85	ΣSAR < 1.6, Not required
			Rear Face	0.55	0.46	1.01	ΣSAR < 1.6, Not required
			Left Side		0.37	0.37	ΣSAR < 1.6, Not required
			Right Side	0.54	0.27	0.81	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side	0.06	0.40	0.46	ΣSAR < 1.6, Not required
31	LTE 12&17 + WLAN (NII)	Extremity	Front Face	1.55	0.65	2.20	ΣSAR < 1.6, Not required
		Body	Front Face	0.32	0.15	0.47	ΣSAR < 1.6, Not required
			Rear Face	0.17	0.46	0.63	ΣSAR < 1.6, Not required
			Left Side	0.07	0.37	0.44	ΣSAR < 1.6, Not required
			Right Side	0.19	0.27	0.46	ΣSAR < 1.6, Not required
			Top Side	0.04		0.04	ΣSAR < 1.6, Not required



			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.59	0.65	1.24	Σ SAR < 1.6, Not required
32	LTE 13 + WLAN (NII)	Body	Front Face	0.47	0.15	0.62	Σ SAR < 1.6, Not required
			Rear Face	0.34	0.46	0.80	Σ SAR < 1.6, Not required
			Left Side	0.19	0.37	0.56	Σ SAR < 1.6, Not required
			Right Side	0.23	0.27	0.50	Σ SAR < 1.6, Not required
			Top Side	0.04		0.04	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.51	0.65	1.16	Σ SAR < 1.6, Not required
33	LTE 14 + WLAN (NII)	Body	Front Face	0.44	0.15	0.59	Σ SAR < 1.6, Not required
			Rear Face	0.36	0.46	0.82	Σ SAR < 1.6, Not required
			Left Side	0.19	0.37	0.56	Σ SAR < 1.6, Not required
			Right Side	0.22	0.27	0.49	Σ SAR < 1.6, Not required
			Top Side	0.04		0.04	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.42	0.65	1.07	Σ SAR < 1.6, Not required
34	LTE 25&2 + WLAN (NII)	Body	Front Face	0.45	0.15	0.60	Σ SAR < 1.6, Not required
			Rear Face	0.46	0.46	0.92	Σ SAR < 1.6, Not required
			Left Side	0.04	0.37	0.41	Σ SAR < 1.6, Not required
			Right Side	0.33	0.27	0.60	Σ SAR < 1.6, Not required
			Top Side	0.18		0.18	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	1.09	0.65	1.74	Σ SAR < 1.6, Not required
35	LTE 26&5 + WLAN (NII)	Body	Front Face	0.29	0.15	0.44	Σ SAR < 1.6, Not required
			Rear Face	0.37	0.46	0.83	Σ SAR < 1.6, Not required
			Left Side	0.20	0.37	0.57	Σ SAR < 1.6, Not required
			Right Side	0.19	0.27	0.46	Σ SAR < 1.6, Not required
			Top Side	0.03		0.03	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.21	0.65	0.86	Σ SAR < 1.6, Not required
36	LTE 30 + WLAN (NII)	Body	Front Face	0.65	0.15	0.80	Σ SAR < 1.6, Not required
			Rear Face	0.41	0.46	0.87	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.43	0.27	0.70	Σ SAR < 1.6, Not required
			Top Side	0.10		0.10	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required



		Extremity	Front Face	2.33	0.65	2.98	Σ SAR < 1.6, Not required
37	LTE 40 + WLAN (NII)	Body	Front Face	0.33	0.15	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.27	0.46	0.73	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.22	0.27	0.49	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.10	0.40	0.50	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.92	0.65	1.57	Σ SAR < 1.6, Not required
38	LTE 41&38 + WLAN (NII)	Body	Front Face	0.37	0.15	0.52	Σ SAR < 1.6, Not required
			Rear Face	0.24	0.46	0.70	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.23	0.27	0.50	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.06	0.40	0.46	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.95	0.65	1.60	Σ SAR < 1.6, Not required
39	LTE 66&4 + WLAN (NII)	Body	Front Face	0.97	0.15	1.12	Σ SAR < 1.6, Not required
			Rear Face	0.75	0.46	1.21	Σ SAR < 1.6, Not required
			Left Side	0.17	0.37	0.54	Σ SAR < 1.6, Not required
			Right Side	0.38	0.27	0.65	Σ SAR < 1.6, Not required
			Top Side	0.32		0.32	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	2.62	0.65	3.27	Σ SAR < 1.6, Not required
40	LTE 71 + WLAN (NII)	Body	Front Face	0.18	0.15	0.33	Σ SAR < 1.6, Not required
			Rear Face	0.33	0.46	0.79	Σ SAR < 1.6, Not required
			Left Side	0.14	0.37	0.51	Σ SAR < 1.6, Not required
			Right Side	0.12	0.27	0.39	Σ SAR < 1.6, Not required
			Top Side	0.03		0.03	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.58	0.65	1.23	Σ SAR < 1.6, Not required
41	N25&2 + WLAN (NII)	Body	Front Face	0.56	0.15	0.71	Σ SAR < 1.6, Not required
			Rear Face	0.65	0.46	1.11	Σ SAR < 1.6, Not required
			Left Side	0.13	0.37	0.50	Σ SAR < 1.6, Not required
			Right Side	0.32	0.27	0.59	Σ SAR < 1.6, Not required
			Top Side	0.18		0.18	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.98	0.65	1.63	Σ SAR < 1.6, Not required



42	N5 + WLAN (NII)	Body	Front Face	0.33	0.15	0.48	Σ SAR < 1.6, Not required
			Rear Face	0.36	0.46	0.82	Σ SAR < 1.6, Not required
			Left Side	0.27	0.37	0.64	Σ SAR < 1.6, Not required
			Right Side	0.22	0.27	0.49	Σ SAR < 1.6, Not required
			Top Side	0.05		0.05	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Rear Face	0.21	0.65	0.86	Σ SAR < 1.6, Not required
43	N7 + WLAN (NII)	Body	Front Face	0.65	0.15	0.80	Σ SAR < 1.6, Not required
			Rear Face	0.71	0.46	1.17	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.61	0.27	0.88	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.45	0.40	0.85	Σ SAR < 1.6, Not required
		Extremity	Rear Face	1.45	0.65	2.10	Σ SAR < 1.6, Not required
44	N12 + WLAN (NII)	Body	Front Face	0.41	0.15	0.56	Σ SAR < 1.6, Not required
			Rear Face	0.43	0.46	0.89	Σ SAR < 1.6, Not required
			Left Side	0.15	0.37	0.52	Σ SAR < 1.6, Not required
			Right Side	0.22	0.27	0.49	Σ SAR < 1.6, Not required
			Top Side	0.04		0.04	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.33	0.65	0.98	Σ SAR < 1.6, Not required
45	N30 + WLAN (NII)	Body	Front Face	0.63	0.15	0.78	Σ SAR < 1.6, Not required
			Rear Face	0.53	0.46	0.99	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.54	0.27	0.81	Σ SAR < 1.6, Not required
			Top Side	0.12		0.12	Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Front Face	2.16	0.65	2.81	Σ SAR < 1.6, Not required
46	N38 + WLAN (NII)	Body	Front Face	0.13	0.15	0.28	Σ SAR < 1.6, Not required
			Rear Face	0.12	0.46	0.58	Σ SAR < 1.6, Not required
			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.08	0.27	0.35	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side	0.03	0.40	0.43	Σ SAR < 1.6, Not required
		Extremity	Front Face	0.34	0.65	0.99	Σ SAR < 1.6, Not required
47	N41	Body	Front Face	0.13	0.15	0.28	Σ SAR < 1.6, Not required



	+ WLAN (NII)		Rear Face	0.10	0.46	0.56	ΣSAR < 1.6, Not required
			Left Side		0.37	0.37	ΣSAR < 1.6, Not required
			Right Side	0.09	0.27	0.36	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side	0.02	0.40	0.42	ΣSAR < 1.6, Not required
		Extremity	Front Face	0.31	0.65	0.96	ΣSAR < 1.6, Not required
48	N48 + WLAN (NII)	Body	Front Face	0.17	0.15	0.32	ΣSAR < 1.6, Not required
			Rear Face	0.69	0.46	1.15	ΣSAR < 1.6, Not required
			Left Side		0.37	0.37	ΣSAR < 1.6, Not required
			Right Side	0.14	0.27	0.41	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
		Extremity	Rear Face	1.22	0.65	1.87	ΣSAR < 1.6, Not required
49	N66 + WLAN (NII)	Body	Front Face	0.91	0.15	1.06	ΣSAR < 1.6, Not required
			Rear Face	0.87	0.46	1.33	ΣSAR < 1.6, Not required
			Left Side	0.21	0.37	0.58	ΣSAR < 1.6, Not required
			Right Side	0.36	0.27	0.63	ΣSAR < 1.6, Not required
			Top Side	0.38		0.38	ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
		Extremity	Front Face	2.18	0.65	2.83	ΣSAR < 1.6, Not required
50	N71 + WLAN (NII)	Body	Front Face	0.24	0.15	0.39	ΣSAR < 1.6, Not required
			Rear Face	0.31	0.46	0.77	ΣSAR < 1.6, Not required
			Left Side	0.13	0.37	0.50	ΣSAR < 1.6, Not required
			Right Side	0.12	0.27	0.39	ΣSAR < 1.6, Not required
			Top Side	0.03		0.03	ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
		Extremity	Rear Face	0.65	0.65	1.30	ΣSAR < 1.6, Not required
51	N77&78 + WLAN (NII)	Body	Front Face	0.19	0.15	0.34	ΣSAR < 1.6, Not required
			Rear Face	0.46	0.46	0.92	ΣSAR < 1.6, Not required
			Left Side		0.37	0.37	ΣSAR < 1.6, Not required
			Right Side	0.57	0.27	0.84	ΣSAR < 1.6, Not required
			Top Side				ΣSAR < 1.6, Not required
			Bottom Side		0.40	0.40	ΣSAR < 1.6, Not required
		Extremity	Right Side	1.05	0.65	1.70	ΣSAR < 1.6, Not required
52	N77&78 + WLAN (NII)	Body	Front Face	0.17	0.15	0.32	ΣSAR < 1.6, Not required
			Rear Face	0.33	0.46	0.79	ΣSAR < 1.6, Not required



			Left Side		0.37	0.37	Σ SAR < 1.6, Not required
			Right Side	0.61	0.27	0.88	Σ SAR < 1.6, Not required
			Top Side				Σ SAR < 1.6, Not required
			Bottom Side		0.40	0.40	Σ SAR < 1.6, Not required
		Extremity	Right Side	0.60	0.65	1.25	Σ SAR < 1.6, Not required



9 Equipment List

Equipment	Manufacturer	Model	SN	Cal. Data	Cal. interval
System Validation Dipole	SPEAG	D750V3	1109	Jun. 07, 2024	3 years
System Validation Dipole	SPEAG	D835V2	4d242	Jun. 07, 2024	3 years
System Validation Dipole	SPEAG	D1750V2	1166	Jun. 07, 2024	3 years
System Validation Dipole	SPEAG	D1900V2	5d229	Jun. 06, 2024	3 years
System Validation Dipole	SPEAG	D2000V2	1089	Jun. 07, 2024	3 years
System Validation Dipole	SPEAG	D2300V2	1087	Jun. 07, 2024	3 years
System Validation Dipole	SPEAG	D2450V2	1014	Jun. 06, 2024	3 years
System Validation Dipole	SPEAG	D2600V2	1153	Jun. 06, 2024	3 years
System Validation Dipole	SPEAG	D3500V2	1063	Jun. 06, 2024	3 years
System Validation Dipole	SPEAG	D3700V2	1020	Jun. 06, 2024	3 years
System Validation Dipole	SPEAG	D3900V2	1030	Feb. 01, 2023	3 years
System Validation Dipole	SPEAG	D4900V2	1022	Jan. 30, 2023	3 years
System Validation Dipole	SPEAG	D5GHzV2	1280	Jun. 06, 2024	3 years
Dosimetric E-Field Probe	SPEAG	EX3DV4	7628	Jul. 03, 2024	1 year
Data Acquisition Electronics	SPEAG	DAE4	1557	Oct. 08, 2024	1 year
Wideband Radio Communication Tester	R&S	CMW500	168558	May. 25, 2025	1 year
Wideband Radio Communication Tester	Anritsu	MT8000A	6272354169	Jan. 08, 2025	1 year
Signal Analyzer	R&S	FSV	104408	May. 20, 2025	1 year
Vector Network Analyzer	R&S	ZNB 40	101544	May. 20, 2025	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. 08, 2025	1 year
Directional Coupler	/	SHX-DC04/12-20N	2206171042	Jan. 08, 2025	1 year
Coaxial attenuator	R&S	8491A	1424.6721k02-10 1845-HX	Sep. 20, 2024	1 year
Coaxial attenuator	R&S	8491A	1424.6721K02-10 1843-aM	Sep. 20, 2024	1 year
Digital Thermometer	LKM	DTM3000	3946	Jan. 15, 2025	1 year
temperature and humidity indicator	LINI-T	A10T	C193561473	Apr. 29, 2025	1 year
Head Tissue Simulating Liquid	SPEAG	HBBL600-10000V6	SLAAH U16 BC(Batch: 220525-1)	Jun. 01, 2022	N/A
Power Amplifier Mini circuit	mini-circuits	ZVA-183W-S+	726202215	Jan. 08, 2025	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 ($\pm$ %)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)	Vi Veff
Measurement System Errors								
Probe Calibration	$\pm 11.0\%$	Normal ($k=2$)	2	1	1	$\pm 5.5\%$	$\pm 5.5\%$	∞
Probe Calibration Drift	$\pm 1.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.0\%$	$\pm 1.0\%$	∞
Probe Linearity	$\pm 4.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 2.7\%$	$\pm 2.7\%$	∞
Broadband Signal	$\pm 3.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.7\%$	$\pm 1.7\%$	∞
Probe Isotropy	$\pm 7.6\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 4.4\%$	$\pm 4.4\%$	∞
Other Probe + Electronic	$\pm 0.7\%$	Normal	1	1	1	$\pm 0.7\%$	$\pm 0.7\%$	∞
RF Ambient	$\pm 1.8\%$	Normal	1	1	1	$\pm 1.8\%$	$\pm 1.8\%$	∞
Probe Positioning	$\pm 0.006\text{mm}$	Normal	1	0.14	0.14	$\pm 0.10\%$	$\pm 0.10\%$	∞
Data Processing	$\pm 1.2\%$	Normal	1	1	1	$\pm 1.2\%$	$\pm 1.2\%$	∞
Phantom and Device Errors								
Conductivity (meas.) ^{DAK}	$\pm 2.5\%$	Normal	1	0.78	0.71	$\pm 2.0\%$	$\pm 1.8\%$	100
Conductivity (temp.) ^{BB}	$\pm 3.3\%$	Rectangular	$\sqrt{3}$	0.78	0.71	$\pm 1.5\%$	$\pm 1.4\%$	∞
Phantom Permittivity	$\pm 14.0\%$	Rectangular	$\sqrt{3}$	0	0	$\pm 0\%$	$\pm 0\%$	∞
Distance DUT – TSL	$\pm 2.0\%$	Normal	1	2	2	$\pm 4.0\%$	$\pm 4.0\%$	∞
Device Positioning	$\pm 2.4\%/\pm 2.8\%$	Normal	1	1	1	$\pm 2.8\%$	$\pm 2.8\%$	30
Device Holder	$\pm 3.4\%/\pm 3.5\%$	Normal	1	1	1	$\pm 3.5\%$	$\pm 3.5\%$	30
DUT Modulation ^m	$\pm 2.4\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.4\%$	$\pm 1.4\%$	∞
Time-average SAR	$\pm 1.7\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 1.0\%$	$\pm 1.0\%$	∞
DUT drift	$\pm 2.5\%$	Normal	1	1	1	$\pm 2.5\%$	$\pm 2.5\%$	30
Val Antenna Unc. ^{val}	$\pm 0.0\%$	Normal	1	1	1	$\pm 0\%$	$\pm 0\%$	
Unc. Input Power ^{val}	$\pm 0.0\%$	Normal	1	1	1	$\pm 0\%$	$\pm 0\%$	
Correction to the SAR results								
$C(\epsilon, \sigma)$	$\pm 1.9\%$	Normal	1	1	0.84	$\pm 1.9\%$	$\pm 1.6\%$	
SAR scaling ^p	$\pm 0.0\%$	Rectangular	$\sqrt{3}$	1	1	$\pm 0\%$	$\pm 0\%$	
Combined Standard Uncertainty (K = 1)						$\pm 12.54\%$	$\pm 12.44\%$	
Expanded Uncertainty (K = 2)						$\pm 25.1\%$	$\pm 24.9\%$	

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	±13.1%	Normal (k=2)	2	1	1	± 6.55 %	± 6.55 %	∞
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 Appendixes

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

11.1 Appendix A: SAR Plots of System Verification

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

11.2 Appendix B: SAR Plots of SAR Measurement

11.3 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 tester, reviewer and approver;
- (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 results apply to the samples as received. The sample information is provided by the customer and laboratory is not responsible for its authenticity;
- (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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