FCC SAR REPORT

Applicant:	INFINIX MOBILITY LIMITED
Address of Applicant:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT

Equipment Under Test (EUT)

Product Name:	Mobile Phone
Model No.:	X6815B
Trade mark	Infinix
FCC ID:	2AIZN-X6815B
Applicable standards:	FCC 47 CFR Part 2.1093
Date of Test:	16 Dec., 2021 ~ 26 Dec., 2021
Test Result:	Maximum Reported 1-g SAR (W/kg) Head: 1.112 Body: 1.014 Hotspot: 1.175

Authorized Signature:

Bruce Zhang
Laboratory Manager

2 Version

Version No.	Date	Description
00	*12 Jan., 2021*	*Original*

Tested by: Vieta Zhang ***Date:*** *12 Jan., 2021*

Test Engineer

Reviewed by: Wiby Zhang ***Date:*** *12 Jan., 2021*

Project Engineer

3 Contents

4 SAR Results Summary

The maximum results of Specific Absorption Rate (SAR) found during test as bellows:
<Highest Reported standalone SAR Summary>

Exposure Position	Frequency Band	Reported 1-g SAR (W/kg)	Equipment Class	Highest Reported 1-g SAR (W/kg)
Head	GSM 850	1.112	PCE	1.112
	GSM 1900	0.694		
	WCDMA Band V	0.965		
	WCDMA Band IV	0.567		
	WCDMA Band II	0.758		
	LTE Band 2	0.731		
	LTE Band 5	0.789		
	LTE Band 7	1.080		
	LTE Band 12	0.206		
	LTE Band 41	0.403		
	LTE Band 66	0.513		
	NR n41	0.186		
	NRn77 (3450MHz~3550MHz)	0.263		
	NRn77 (3700MHz~3980MHz)	0.263		
	WLAN 2.4 GHz	0.439	DTS	
	WLAN 5.2 GHz	0.370	NII	
	WLAN 5.8 GHz	0.168		
Body (10 mm Gap)	GSM 850	0.618	PCE	1.014
	GSM 1900	1.014		
	WCDMA Band V	0.373		
	WCDMA Band IV	0.222		
	WCDMA Band II	0.366		
	LTE Band 2	0.312		
	LTE Band 5	0.326		
	LTE Band 7	0.311		
	LTE Band 12	0.098		
	LTE Band 41	0.126		
	LTE Band 66	0.209		
	NR n41	0.106		
	NRn77 (3450MHz~3550MHz)	0.169		
	NRn77 (3700MHz~3980MHz)	0.165		
	WLAN 2.4GHz	0.176	DTS	
	WLAN 5.2 GHz	0.066	NII	
	WLAN 5.8 GHz	0.123		
Hotspot (10 mm Gap)	GSM 850	0.618	PCE	1.175
	GSM 1900	1.175		
	WCDMA Band V	0.373		
	WCDMA Band IV	0.283		
	WCDMA Band II	0.366		
	LTE Band 2	0.359		
	LTE Band 5	0.326		
	LTE Band 7	0.346		
	LTE Band 12	0.098		
	LTE Band 41	0.126		
	LTE Band 66	0.263		
	NR n41	0.106		

	NRn77 (3450MHz~3550MHz)	0.169		
	NRn77 (3700MHz~3980MHz)	0.165		
	WLAN 2.4 GHz	0.176	DTS	
	WLAN 5.2 GHz	0.066	NII	
	WLAN 5.8 GHz	0.123		

<Highest Reported simultaneous SAR Summary>

Exposure Position	Frequency Band	Reported 1-g SAR (W/kg)	Equipment Class	Highest Reported Simultaneous Transmission 1-g SAR (W/kg)
Left Cheek	WWAN	0.855	PCE	1.549
	WLAN 2.4 GHz ANT1	0.337	DTS	
	WLAN 2.4 GHz ANT2	0.357		

Note:

1. The highest simultaneous transmission is scalar summation of Reported standalone SAR per FCC KDB 690783 D01 v01r03, and scalar SAR summation of all possible simultaneous transmission scenarios are < 1.6W/kg.
2. This device is compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.
3. For FDD-LTE Band 4, is full covered by FDD-LTE Band 66, so only FDD-LTE Band 66 was tested. For FDD-LTE Band 17, is full covered by FDD-LTE Band 12, so only FDD-LTE Band 12 was tested. For TDD-LTE Band 38, is full covered by TDD-LTE Band 41, so only TDD-LTE Band 41 was tested. For NR n38, is full covered by NR n41, so only NR n41 was tested. For NR n78, is full covered by NR n77, so only NR n77 was tested

5 General Information

5.1 Client Information

Applicant:	INFINIX MOBILITY LIMITED
Address of Applicant:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Manufacturer:	INFINIX MOBILITY LIMITED
Address of Manufacturer:	FLAT 39 8/F BLOCK D WAH LOK INDUSTRIAL CENTRE 31-35 SHAN MEI STREET FOTAN NT
Factory:	SHENZHEN TECNO TECHNOLOGY CO., LTD.
Address:	101, Building 24, Waijing Industrial Park, Fumin Community, Fucheng Street, Longhua District, Shenzhen City, P.R.China

5.2 General Description of EUT

Product Name:	Mobile Phone			
Model No.:	X6815B			
Category of device	Portable device			
Operation Frequency:	2G :	GSM850: 824.2~848.8 MHz	PCS 1900: 1850.2~1909.8 MHz	
	3G :	Band II: 1852.4~1907.6 MHz	Band V: 826.4~846.6 MHz	
		Band IV: 1712.4~1752.6 MHz		
	4G :	Band 2 :1850MHz~1910MHz	Band 4 :1710MHz~1755MHz	
		Band 5 :824MHz~849MHz	Band 7: 2500MHz~2570MHz	
		Band 12: 699MHz~716MHz	Band 17: 704MHz~716MHz	
		Band 38: 2570MHz~2620MHz	Band 41: 2555MHz~2655MHz	
		Band 66 :1710MHz~1780MHz		
	5G NR	n38: 2570MHz~2620MHz	n41: 2535MHz~2655MHz	
		n77: 3450MHz~3550MHz	n77: 3700MHz~3980MHz	
		n78: 3450MHz~3550MHz	n78: 3700MHz~3800MHz	
	Wi-Fi:	2412MHz~2462MHz	5150MHz-5250MHz	
		5725MHz-5825MHz		
	Bluetooth: 2402 MHz ~ 2480 MHz			
Modulation technology:	2G:	☒Voice(GMSK)	☒GPRS(GMSK)	☒EGPRS(GMSK, 8PSK)
	3G:	☒RCM(QPSK)	☒HSUPA(QPSK)	☒HSDPA(QPSK,16QAM)
	4G:	☒QPSK	☒16QAM	☒64QAM
	5G NR:	☒CP-OFDM(QPSK,16QAM,64QAM,256QAM)		
		☒DFT-s-OFDM(π/2 -BPSK,QPSK,16QAM,64QAM,256QAM)		
	Wi-Fi:	☒802.11b(DSSS)	☒802.11a/g/n/ax (OFDM)	
	Bluetooth:	☒BDR(GFSK)	☒EDR(π/4-DQPSK, 8DPSK)	☒LE(GFSK)
	SA: NR n38, n41, n77, n78			
	NSA(EN-DC): DC_5A_n78A, DC_41A_n78A, DC_66A_n78A			
Antenna Type:	Internal Antenna			
Antenna Gain:	GSM 850: -5.0dBi; PCS 1900: -0.5dBi WCDMA Band V: -5.0dBi ;WCDMA Band II: -0.5dBi; WCDMA Band IV: -0.5dBi			

	LTE Band 2: -0.5dBi; LTE Band 4: -0.5dBi LTE Band 5: -5.0dBi; LTE Band 7: -1.0dBi LTE Band 12: -2.0dBi ; LTE Band 17: -6.0dBi LTE Band 38: -1.5dBi ; LTE Band 41: -1.0dBi LTE Band 66: -1.5dBi n38: 0.5dBi ; n41: 0.5dBi n77: 0.5dBi ; n78: 0.4dBi Bluetooth: 2.3dBi; 2.4G Wi-Fi ANT 1: 2.3dBi; 2.4G Wi-Fi ANT 2: -6.0dBi 5G Wi-Fi ANT 1: 1.3dBi; 5G Wi-Fi ANT 2: 0.8dBi	
(E)GPRS Class:	(E)GPRS Class: 12	
Dimensions (L*W*H):	173 mm (L)× 78 mm (W)× 11 mm (H)	
Accessories information:	Adapter: Model: U330XSA Input: AC100-240V, 50/60Hz, 1.5A Output: DC 5.0V, 3.0A or 10V, 3.3A	Battery: Rechargeable Li-ion Battery 3.87V/4900mAh Headset: Support headset

5.3 Maximum RF Output Power

Mode	Average Power (dBm)	
	GSM 850	GSM 1900
GSM (Voice)	33.25	29.66
GPRS (1 TX Slot)	33.21	29.67
GPRS (2 TX Slots)	32.36	28.93
GPRS (3 TX Slots)	30.45	27.11
GPRS (4 TX Slots)	29.37	26.00
EGPRS (1 TX Slot)	27.48	26.43
EGPRS (2 TX Slots)	26.40	25.50
EGPRS (3 TX Slots)	24.22	23.49
EGPRS (4 TX Slots)	23.11	22.26

Mode	Average Power (dBm)		
	WCDMA Band V	WCDMA Band IV	WCDMA Band II
AMR 12.2 kbps	23.64	23.44	23.34
RMC 12.2 kbps	23.68	23.55	23.42
HSDPA Sub-test 1	22.72	22.52	22.39
HSDPA Sub-test 2	22.21	21.99	21.84
HSDPA Sub-test 3	22.26	22.04	21.86
HSDPA Sub-test 4	22.21	22.01	21.91
HSUPA Sub-test 1	20.41	20.49	20.30
HSUPA Sub-test 2	20.96	21.00	20.84
HSUPA Sub-test 3	21.46	21.51	21.34
HSUPA Sub-test 4	20.47	20.50	20.35
HSUPA Sub-test 5	22.48	22.54	22.34

Mode	Average Power (dBm)					
	LTE Band 2	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 41	LTE Band 66
BW/1.4 MHz	23.12	22.97	/	23.15	/	22.96
BW/3.0 MHz	22.45	22.95	/	23.25	/	22.94
BW/5.0 MHz	22.68	23.15	23.07	23.47	23.02	23.23
BW/10 MHz	22.48	22.99	22.94	23.28	23.03	23.14
BW/15 MHz	22.81	/	22.90	/	23.09	23.03
BW/20 MHz	23.04	/	23.01	/	22.96	23.12

Mode	Average Power (dBm)		
	NR Band n41	NR Band n77 3450-3550	NR Band n77 3700-3980
BW/10MHz	26.31	25.67	25.63
BW/15MHz	26.37	25.78	25.54
BW/20MHz	26.40	25.67	25.53
BW/30MHz	26.33	25.67	25.41
BW/40MHz	26.31	25.64	25.34
BW/50MHz	26.39	25.68	25.40
BW/60MHz	26.38	25.70	25.36
BW/80MHz	26.30	25.70	25.36
BW/90MHz	26.25	25.64	25.37
BW/100MHz	26.20	25.50	25.31

WIFI ANT 1

WLAN 2.4 GHz Band Average Power (dBm)						
Mode/Band	b	g	n (HT20)	ax20	n(HT40)	ax40
WLAN 2.4GHz	16.67	17.35	12.43	14.31	9.88	13.04

WLAN 5.2 GHz Band Average Power (dBm)									
Mode/Band	a	ac 20	ax20	n 20	ac40	ax40	n40	ac80	ax80
WLAN 5.2GHz	15.21	14.33	12.74	14.14	13.60	8.68	12.47	12.77	7.71

WLAN 5.8 GHz Band Average Power (dBm)									
Mode/Band	a	ac 20	ax20	n20	ac40	ax40	n40	ac80	ax80
WLAN 5.8GHz	15.81	14.25	13.79	14.96	14.59	12.76	15.10	14.08	12.47

WIFI ANT 2

WLAN 2.4 GHz Band Average Power (dBm)						
Mode/Band	b	g	n (HT20)	ax20	n(HT40)	ax40
WLAN 2.4GHz	17.48	18.04	13.02	15.03	10.78	13.99

WLAN 5.2 GHz Band Average Power (dBm)									
Mode/Band	a	ac 20	ax20	n 20	ac40	ax40	n40	ac80	ax80
WLAN 5.2GHz	16.86	16.28	14.32	15.91	15.39	12.39	15.35	14.93	12.13

WLAN 5.8 GHz Band Average Power (dBm)									
Mode/Band	a	ac 20	ax20	n20	ac40	ax40	n40	ac80	ax80
WLAN 5.8GHz	15.18	17.46	16.23	14.92	16.77	14.83	15.43	16.54	14.99

BT

Bluetooth Average Power (dBm)			
Mode/Band	1Mbps(GFSK)	2 Mbps(π/4DQPSK)	3 Mbps (8DPSK)
Bluetooth	5.30	4.68	5.00

Bluetooth Average Power (dBm)				
Mode/Band	BLE PHY 1M	BLE PHY 2M	BLE-Coded PHY S=2	BLE-Coded PHY S=8
Bluetooth	-0.25	0.09	0.10	0.12

5.4 Environment of Test Site

Temperature:	18°C ~25 °C
Humidity:	35%~75% RH
Atmospheric Pressure:	1010 mbar

5.5 Test Sample Plan

Sample Number	Used for Test Items
3#	SAR
***Remark**: JianYan Testing Group Shenzhen Co., Ltd. is only responsible for the test project data of the above samples, and will keep the above samples for a month.*	

5.6 Test Location

JianYan Testing Group Shenzhen Co., Ltd.
No.101, Building 8, Innovation Wisdom Port, No.155 Hongtian Road, Huangpu Community,Xinqiao Street, Bao'an District, Shenzhen, Guangdong,People's Republic of China.
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info-JYTee@lets.com, Website: http://www.ccis-cb.com

6 Introduction

6.1 Introduction

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.

6.2 SAR Definition

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:

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

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

$$SAR = C\left(\frac{\delta T}{\delta t}\right)$$

Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength. However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

7 RF Exposure Limits

7.1 Uncontrolled Environment

Uncontrolled Environments are defined as locations where there is the exposure of individuals who have no knowledge or control of their exposure. The general population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

7.2 Controlled Environment

Controlled Environments are defined as locations where there is exposure that may be incurred by persons who are aware of the potential for exposure, (i.e. as a result of employment or occupation). In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

7.3 RF Exposure Limits

SAR Human Exposure Specified in ANSI/IEEE C95.1-1992 and Health Canada Safety Code 6

HUMAN EXPOSURE LIMITS		
	UNCONTROLLED ENVIRONMENT *General Population* (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT *Occupational* (W/kg) or (mW/g)
SPATIAL PEAK SAR Brain	1.6	8.0
SPATIAL AVERAGE SAR Whole Body	0.08	0.4
SPATIAL PEAK SAR Hands, Feet, Ankles, Wrists	4.0	20

Note:

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

8 SAR Measurement System

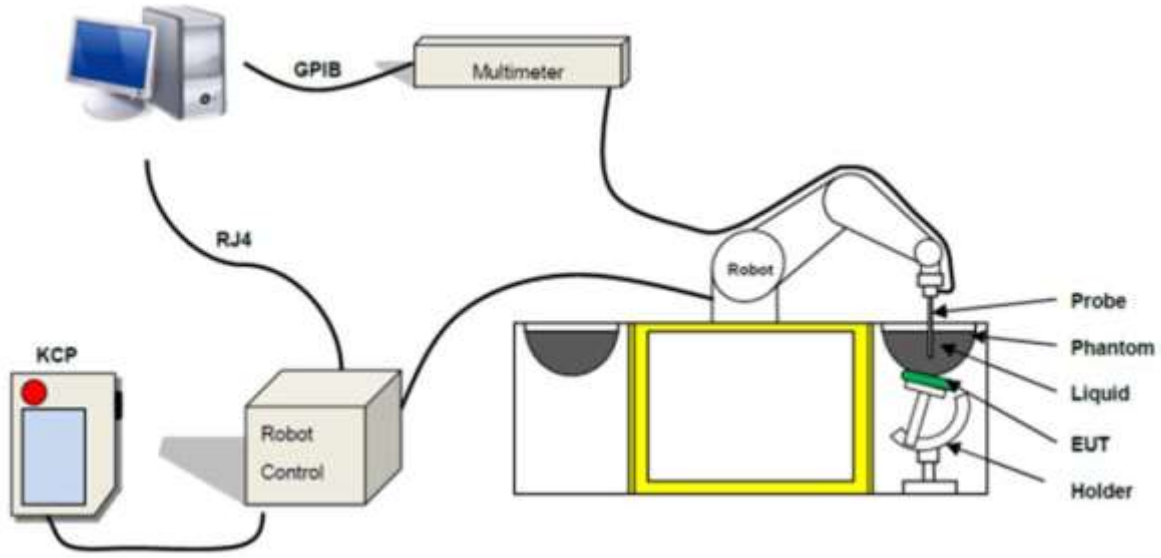


Fig. 8.1 MVG COMOSAR System Configurations

These measurements were performed with the automated near-field scanning system COMOSAR from MVG. The system is based on a high precision robot (working range: 850 mm), which positions the probes with a positional repeatability of better than ± 0.02 mm. Special E- and H-field probes have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines to the data acquisition unit.

The SAR measurements were conducted with dosimetric probe (manufactured by MVG), designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe has been calibrated according to the procedure described in SAR standard with accuracy of better than ±10%.The spherical isotropy was evaluated with the procedure described in SAR standard and found to be better than ±0.25 dB. The phantom used was the SAM Phantom as described in FCC supplement C, IEEE P1528.

The MVG COMOSAR system for performance compliance tests is illustrated above graphically. This system consists of the following items:

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

8.1 E-Field Probe

The SAR measurement is conducted with the dosimetric probe (manufactured by MVG). The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

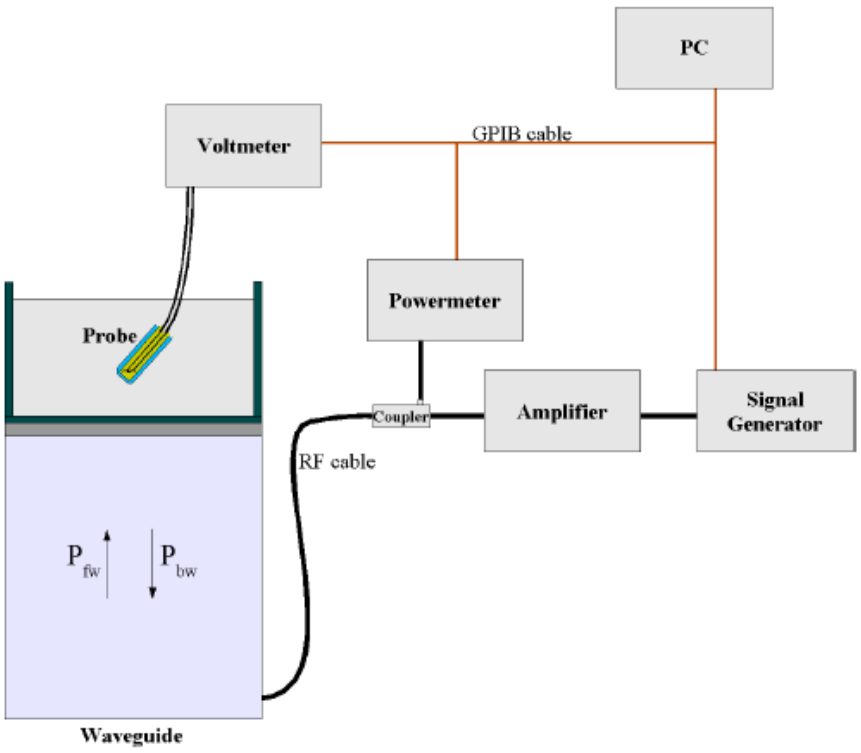
➢ **E-Field Probe Specification**

Device Type	COMOSAR DOSIMETRIC E FIELD PROBE
Model	SSE2
Frequency Range	150 MHz to 6 GHz
Dynamic Range	0.01W/kg to 100W/kg
Probe linearity	<0.25dB
Dimensions	Overall length: 330 mm Tip diameter: 2.5 mm Distance between dipoles / probe extremity: 1 mm

Fig. 8.2 Photo of E-Field Probe

➢ **E-Field Probe Calibration**

Probe calibration is realized, in compliance with EN/IEC 62209-1/-2 and IEEE 1528 std, with CALISAR, MVG proprietary calibration system. The calibration is performed with the technique using reference waveguide.



$$SAR = \frac{4(P_{fw} - P_{bw})}{ab\sigma}\cos^2\left(\pi\frac{y}{a}\right)c^{(2\pi/\sigma)}$$

Where :

Pfw	=	Forward Power
Pbw	=	Backward Power
a and b	=	Waveguide Dimensions
ı	=	Skin Depth

Keithley configuration

Rate=Medium; Filter=ON; RDGS=10; FILTER TYPE=MOVING AVERAGE; RANGE AUTO

After each calibration, a SAR measurement performed on a validation dipole and compared with a NPL calibrated probe, to verify it.

The Calibration factors, CF(N), for the 3 sensors corresponding to dipole 1, dipole 2 and dipole 3 are:

CF(N)=SAR(N)/Vlin(N) (N=1,2,3)

The linearized output voltage Vlin(N) is obtained from the displayed output voltage V(N) using

Vlin(N)=V(N)*(1+V(N)/DCP(N)) N=1,2,3

Where the DCP is the dipole compression point in mV

8.2 Robot

The COMOSAR system uses the high precision robots from KUKA. For the 6-axis controller system, the robot controller version (KUKA-KRC2sr) from KUKA is used. The KUKA robot series have many features that are important for our application:

- High precision (repeatability 0.02 mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

Fig. 8.4 Photo of Robot

8.3 Phantom

<SAM Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume **Dimensions**	Approx. 27 liters Length: 1000mm; Width: 500mm; Height: 200mm
Material	Fiberglass based
Relative permittivity	3-4
Loss tangent	0.02
Measurement Areas	Left Head, Right Head, Flat phantom

Fig. 8.7 Photo of SAM Phantom

The phantom developed by MVG is produced in accordance with the specified in the standards. It has been designed to fit the COMOSAR phantom tables and is delivered with a plastic cover to prevent liquid evaporation.

8.4 Device Holder

The positioning system is made of an extremely stable material, which ensures easy handling and reproducible positioning. It also allows correct positioning of the dipoles referenced by the IEEE, ANSI and IEC.

<Device Holder for SAM Phantom>

Model	Handset Positioning System
Material properties	The positioning system is made of PETP. This material offers a low permittivity of 3.2 and low loss, with a loss tangent of 0.005 to minimize the influence of the DUT on measurement results.
Mechanical properties	The positioning system developed by MVG allows a positioning resolution better than 1 mm. The system is fixed on a bottom rail “x axis” so that the positioning system can be quickly moved from the right to the left part of the phantom. In addition, it can be moved on a perpendicular “y axis” and the height can be adapted. The system is also composed of three rotation points for accurate positioning of the device’s acoustical output.
Accuracy and precision	A curved rail on the top part allows the fast switch from the cheek to the tilt position. The required 15° angle for the tilt position can be easily checked thanks to a printed scale on the curved rail with a tolerance of ± 1°

Fig. 8.9 Photo of Device Holder

8.5 Test Equipment List

Manufacturer	Equipment Description	Model	Management Number	Cal. Information	
				Last Cal.	Due Date
MVG	COMOSAR DOSIMETRIC E FIELD PROBE	SSE2	WXJ076	05.20.2021	05.19.2022
MVG	COMOSAR 750 MHz REFERENCE DIPOLE	SID750	WXJ076-4	01.14.2021	01.13.2024
MVG	COMOSAR 835 MHz REFERENCE DIPOLE	SID835	WXJ076-5	01.14.2021	01.13.2024
MVG	COMOSAR 1750 MHz REFERENCE DIPOLE	SID1750	WXJ076-8	01.14.2021	01.13.2024
MVG	COMOSAR 1900 MHz REFERENCE DIPOLE	SID1900	WXJ076-9	01.14.2021	01.13.2024
MVG	COMOSAR 2450 MHz REFERENCE DIPOLE	SID2450	WXJ076-12	01.14.2021	01.13.2024
MVG	COMOSAR 2600 MHz REFERENCE DIPOLE	SID2600	WXJ076-13	01.14.2021	01.13.2024
MVG	COMOSAR 3300 MHz REFERENCE DIPOLE	SID3300	WXJ076-14	01.14.2021	01.13.2024
MVG	COMOSAR 3500 MHz REFERENCE DIPOLE	SID3500	WXJ076-15	01.14.2021	01.13.2024
MVG	COMOSAR 3700 MHz REFERENCE DIPOLE	SID3700	WXJ076-16	01.14.2021	01.13.2024
MVG	COMOSAR 3900 MHz REFERENCE DIPOLE	SID3900	WXJ076-17	01.14.2021	01.13.2024
MVG	COMOSAR 5200-5800 MHz REFERENCE DIPOLE	SID5000	WXJ076-21	01.14.2021	01.13.2024
KEITHLEY	DIGIT MULTIMETER	DMM6500	WXJ076-1	12.17.2019	12.16.2022
MVG	MVG Measurement Software	OpenSAR	Version: V5_01_09	N.C.R	N.C.R
MVG	COMOSAR IEEE SAM PHANTOM	N/A	WXG009-2	N.C.R	N.C.R
MVG	COMOSAR IEEE SAM PHANTOM	N/A	WXG009-3	N.C.R	N.C.R
MVG	MOBILE PHONE POSITIONNING SYSTEM	N/A	WXG009-4	N.C.R	N.C.R
KUKA	Robot	KR 6 R900 sixx	WXG009-1	N.C.R	N.C.R
KEYSIGHT	UXM 5G Wireless Test Platform	E7515B	WXJ008-6	10.27.2021	10.26.2022
Anritsu	Universal Radio Communication Analyzer	MT8820C	WXJ008-5	03.03.2021	03.02.2022
R&S	Universal Radio Communication Tester	CMU200	WXJ008-2	06.18.2020	06.17.2022
HP	Network Analyzer	8753D	WXJ024	06.18.2020	06.17.2022
KEYSIGHT	EPM Series Power Meter	N1914A	WXJ075	08.29.2021	08.28.2022
KEYSIGHT	E-Series Power Sensor	E9300H	WXJ075-1	08.29.2021	08.28.2022
KEYSIGHT	E-Series Power Sensor	E9300H	WXJ075-2	08.29.2021	08.28.2022
KEYSIGHT	Signal Generator	N5173B	WXJ006-7	03.25.2021	03.24.2022
Huber Suhner	RF Cable	SUCOFLEX	WXG008-13	See Note 3	
Huber Suhner	RF Cable	SUCOFLEX	WXG008-14	See Note 3	
Huber Suhner	RF Cable	SUCOFLEX	WXG008-15	See Note 3	
Weinschel	Attenuator	23-3-34	WXG008-16	See Note 3	
Anritsu	Directional Coupler	MP654A	WXG008-17	See Note 3	
MVG	LIMESAR DIELECTRIC PROBE	SCLMP	WXG009-5	See Note 4	
TXC	Broadband Amplifier	BBA018000	WXG008-11	See Note 5	

Note:

1. The calibration certificate of MVG can be referred to appendix C of this report.
2. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.

4. The dielectric probe kit was calibrated via the network analyzer, with the specified procedure (calibrated in pure water) and calibration kit (standard) short circuit, before the dielectric measurement. The specific procedure and calibration kit are provided by MVG.
5. In system check we need to monitor the level on the spectrum analyzer, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1 W input power according to the ratio of 1 W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the spectrum analyzer is critical and we do have calibration for it
6. Attenuator insertion loss is calibrated by the network Analyzer, which the calibration is valid, before system check.
7. N.C.R means No Calibration Requirement.

9 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. 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, which is shown in Fig. 9.1, for body SAR testing, the liquid height from the center of the flat phantom to liquid top surface is larger than 15 cm, which is shown in Fig. 9.2.

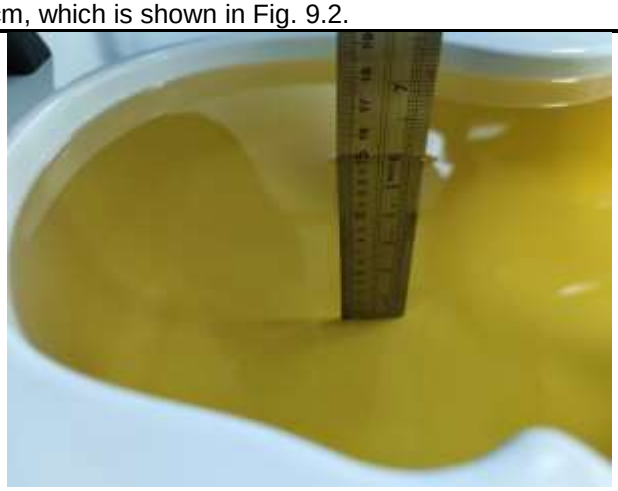


Fig. 9.1 Photo of Liquid Height for Head SAR (depth>15cm)

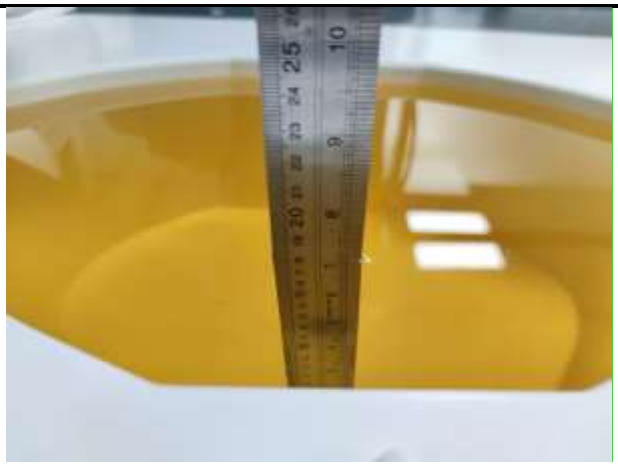


Fig. 9.2 Photo of Liquid Height for Body SAR (depth>15cm)

The relative permittivity and conductivity of the tissue material should be within ±5% of the values given in the table below recommended by the FCC OET 65 supplement C and RSS 102 Issue 5.

Target Frequency	Head		Body	
(MHz)	εr	σ(S/m)	εr	σ(S/m)
150	52.3	0.76	61.9	0.80
300	45.3	0.87	58.2	0.92
450	43.5	0.87	56.7	0.94
835	41.5	0.90	55.2	0.97
900	41.5	0.97	55.0	1.05
915	41.5	0.98	55.0	1.06
1450	40.5	1.20	54.0	1.30
1610	40.3	1.29	53.8	1.40
1800-2000	40.0	1.40	53.3	1.52
2450	39.2	1.80	52.7	1.95
3000	38.5	2.40	52.0	2.73
5800	35.3	5.27	48.2	6.00

(εr = relative permittivity, σ = conductivity and ρ = 1000 kg/m

The dielectric parameters of liquids wer e verified prior to the SAR evaluation using a MVG Liquid measurement Kit and an Agilent Network Analyzer.
The following table shows the measuring results for simulating liquid.

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Conductivity Target(σ)	Permittivity Target(εr)	Delta (σ)%	Delta (εr)%	Limit (%)	Date (mm/dd/yy)
750	22.5	0.87	42.08	0.89	41.90	-2.25	0.43	±5	12.16.2021
835	22.5	0.89	41.20	0.90	41.50	-1.11	-0.72	±5	12.16.2021
1750	22.3	1.34	40.15	1.37	40.10	-2.19	0.12	±5	12.20.2021
1900	22.3	1.42	39.25	1.40	40.00	1.43	-1.88	±5	12.20.2021
2450	22.7	1.77	39.54	1.80	39.20	-1.67	0.87	±5	12.21.2021
2600	22.7	1.91	38.76	1.96	39.00	-2.55	-0.62	±5	12.21.2021
3300	21.6	2.81	38.44	2.71	38.20	3.69	0.63	±5	12.24.2021
3500	21.6	2.90	37.61	2.91	37.90	-0.34	-0.77	±5	12.24.2021
3700	21.6	3.20	37.55	3.12	37.70	2.56	-0.40	±5	12.24.2021
3900	21.6	3.41	37.41	3.32	37.50	2.71	-0.24	±5	12.24.2021
5200	21.2	4.74	36.11	4.66	36.00	1.72	0.31	±5	12.26.2021
5800	21.2	5.25	35.17	5.27	35.30	-0.38	-0.37	±5	12.26.2021

10 SAR System Verification

Each ComoSAR system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the OpenSAR software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix it underneath the flat phantom and a corresponding distance holder.

- **Purpose of System Performance check**

  The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results. The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

- **System Setup**

In the simplified setup for system evaluation, the EUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:

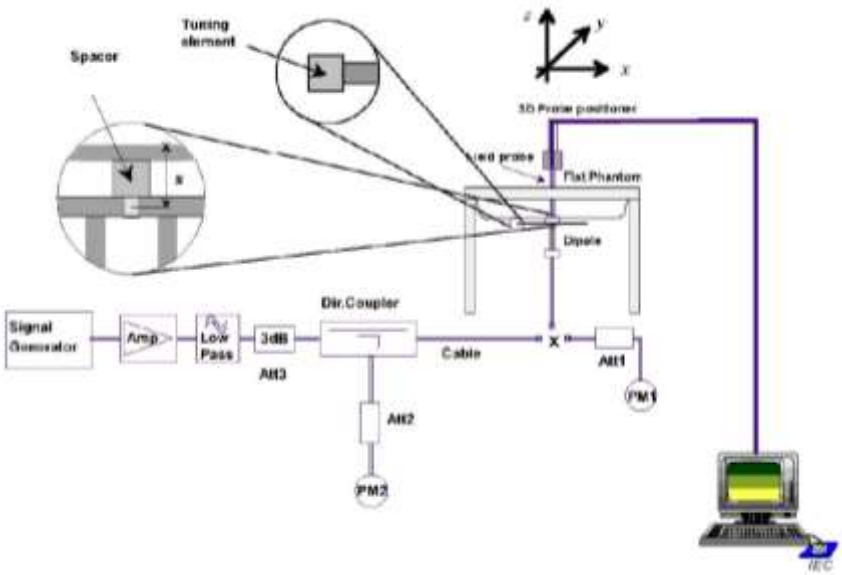


Fig.10.1 System Verification Setup Diagram

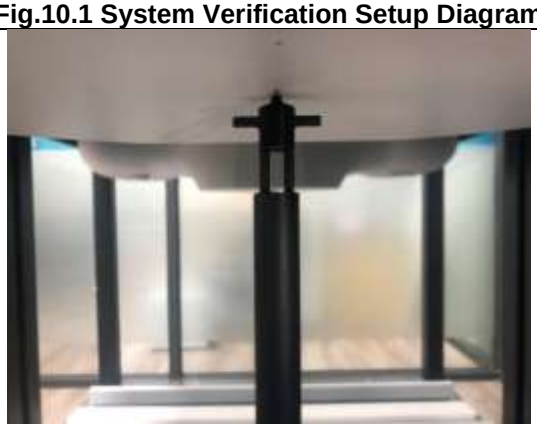


Fig.10.2 Photo of Dipole setup

➢ **System Verification Results**

Comparing to the original SAR value provided by MVG, the verification data should be within its specification of 10%. The table as below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix C of this report.

Date (mm/dd/yy)	Frequency (MHz)	Power fed onto dipole (mW)	Measured 1g SAR (W/kg)	Normalized to 1W 1g SAR (W/kg)	1W Target 1g SAR (W/kg)	Deviation (%)
12.16.2021	750	100	0.856	8.56	8.57	-0.12
12.16.2021	835	100	0.960	9.60	9.57	0.31
12.20.2021	1750	100	3.671	36.71	36.5	0.58
12.20.2021	1900	100	3.845	38.45	39.6	-2.90
12.21.2021	2450	100	5.318	53.18	52.92	0.49
12.21.2021	2600	100	5.614	56.14	55.47	1.21
12.24.2021	3300	100	6.661	66.61	66.54	0.11
12.24.2021	3500	100	6.854	68.54	67.11	2.13
12.24.2021	3700	100	6.784	67.84	68.36	-0.76
12.24.2021	3900	100	6.805	68.05	66.92	1.69
12.26.2021	5200	100	7.645	76.45	76.67	-0.29
12.26.2021	5800	100	7.888	78.88	78.36	0.66

11 EUT Testing Position

This EUT was tested in Nine different positions. They are right cheek/right tilted/left cheek/left tilted for head, Front/Back/ Left /Right /Top of the EUT with phantom 10 mm gap, as illustrated below, please refer to Appendix B for the test setup photos.

11.1 Handset Reference Points

- The vertical centreline passes through two points on the front side of the handset – the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centreline and passes the center of the acoustic output. The horizontal line is also tangential to the handset at point A.
- The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centreline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.

Fig.11.1 Illustration for Front, Back and Side of SAM Phantom

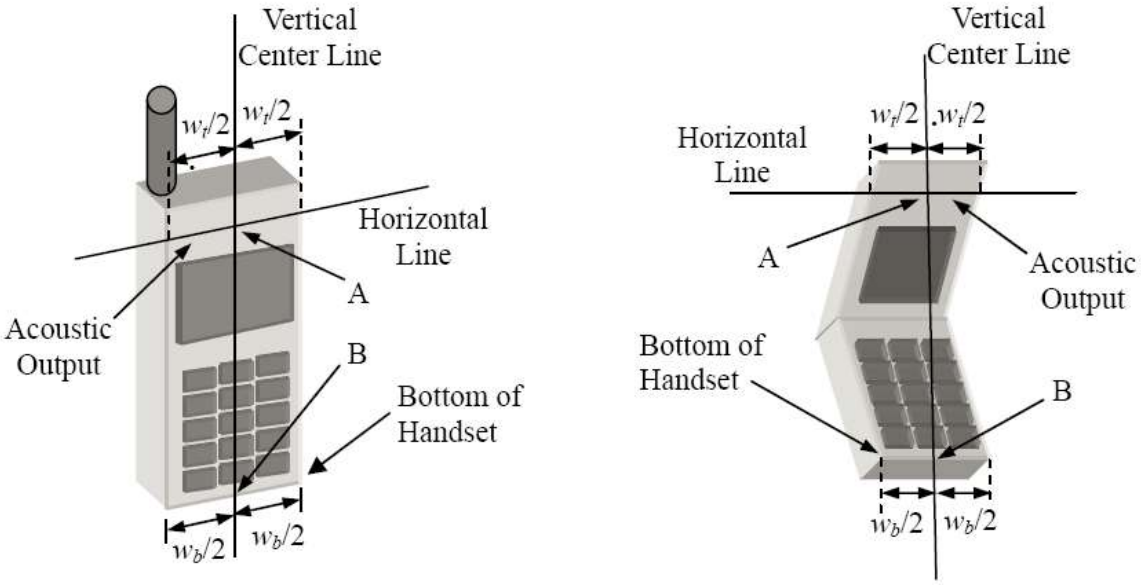


Fig. 11.2 Illustration for Handset Vertical and Horizontal Reference Lines

11.2 Positioning for Cheek / Touch

- To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear and LE: Left Ear) and align the center of the ear piece with the line RE-LE.
- To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost (see below figure)

Fig. 11.3 Illustration for Cheek Position

11.3 Positioning for Ear / 15º Tilt

- To position the device in the “cheek” position described above.
- While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see figure below).

Fig.11.4 Illustration for Tilted Position

11.4 SAR Evaluations near the Mouth/Jaw Regions of the SAM Phantom

Antennas located near the bottom of a phone may require SAR measurements around the mouth and jaw regions of the SAM head phantom. This typically applies to clam-shell style phones that are generally longer in the unfolded normal use positions or to certain older style long rectangular phones.

Under these circumstances, the following procedures apply, adopted from the FCC guidance on SAR handsets document FCC KDB Publication 648474 D04v01r03. The SAR required in these regions of SAM should be measured using a flat phantom. The phone should be positioned with a separation distance of 4 mm between the ear reference point (ERP) and the outer surface of the flat phantom shell. While maintaining this distance at the ERP location, the low (bottom) edge of the phone should be lowered from the phantom to establish the same separation distance between the peak SAR locations identified by the truncated partial SAR distribution measured with the SAM phantom. The distance from the peak SAR location to the phone is determined by the straight line passing perpendicularly through the phantom surface. When it is not feasible to maintain 4 mm separation at the ERP while also establishing the required separation at the peak SAR location, the top edge of the phone will be allowed to touch the phantom with a separation < 4 mm at the ERP. The phone should not be tilted to the left or right while placed in this inclined position to the flat phantom.

11.5 Body Worn Accessory Configurations

- To position the device parallel to the phantom surface with either keypad up or down.
- To adjust the device parallel to the flat phantom.
- To adjust the distance between the device surface and the flat phantom to 10 mm or holster surface and the flat phantom to 0 mm.

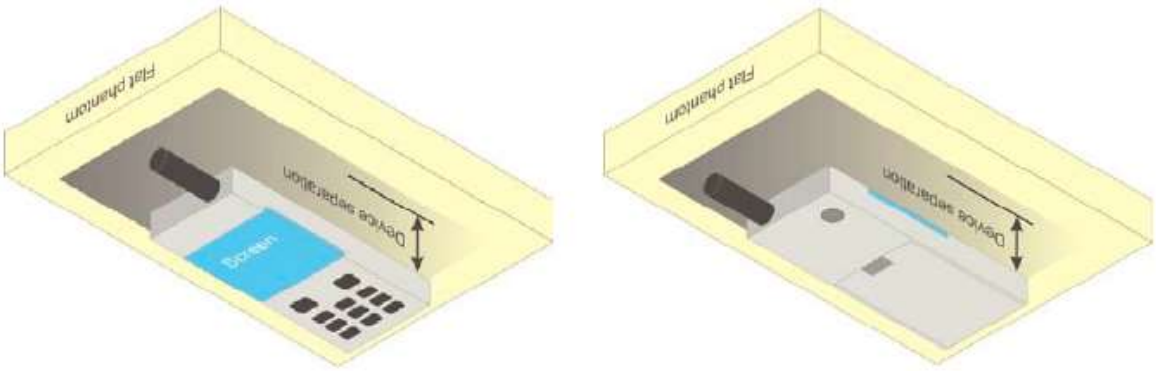


Fig.11.5 Illustration for Body Worn Position

11.6 Wireless Router (Hotspot) Configurations

Some battery-operated handsets have the capability to transmit and receive internet connectivity through simultaneous transmission of WIFI in conjunction with a separate licensed transmitter. The FCC has provided guidance in KDB Publication 941225 D06 where SAR test considerations for handsets (L x W ≥
9 cm x 5 cm) are based on a composite test separation distance of 10 mm from the front, back and edges of the device with antennas 2.5 cm or closer to the edge of the device, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. Therefore, SAR must be evaluated for each frequency transmission and mode separately and summed with the WIFI transmitter according to KDB 648474 publication procedures. The “Portable Hotspot” feature on the handset was NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

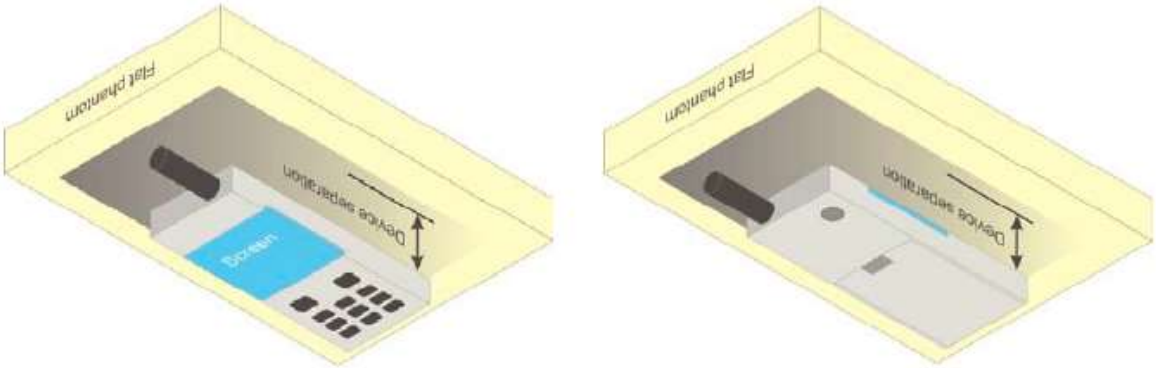


Fig.11.6 Illustration for Hotspot Position

12 Measurement Procedures

The measurement procedures are as bellows:

<Conducted power measurement>
- For WWAN power measurement, use base station simulator to configure EUT WWAN transition in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
- Read the WWAN RF power level from the base station simulator.
- For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band.
- Connect EUT RF port through RF cable to the power meter or spectrum analyzer, and measure WLAN/BT output power.

<Conducted power measurement>
- Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
- Place the EUT in positions as Appendix B demonstrates.
- Set scan area, grid size and other setting on the OpenSAR software.
- Measure SAR results for the highest power channel on each testing position.
- Find out the largest SAR result on these testing positions of each band.
- Measure SAR results for other channels in worst SAR testing position if the Reported SAR or highest power channel is larger than 0.8 W/kg.

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- Power reference measurement
- Area scan
- Zoom scan
- Power drift measurement

12.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The OpenSAR software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a “cube” measurement. The measured volume must include the 1g and 10 g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine. The system always gives the maximum values for 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:
- Extraction of the measured data (grid and values) from the Zoom Scan.
- Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters).
- Generation of a high-resolution mesh within the measured volume.
- Interpolation of all measured values form the measurement grid to the high-resolution grid
- Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- Calculation of the averaged SAR within masses of 1g and 10g.

12.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurement are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

12.3 Area & Zoom Scan Procedures

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 10g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.

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

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the ***reported*** SAR from the *area scan based 1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

12.4 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software can combine and subsequently superpose these measurement data to calculating the multiband SAR.

12.5 SAR Averaged Methods

In COMOSAR system, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1g and 10g cubes, the extrapolation distance should not be larger than 5 mm.

12.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In OpenSAR measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. If the power drifts more than 5%, the SAR will be retested.

13 Conducted RF Output Power

13.1 GSM Conducted Power

Band: GSM 850	Burst Average Power (dBm)			Frame-Average Power(dBm)		
Channel	128	190	251	128	190	251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
GSM (GMSK, Voice)	32.86	**33.25**	33.05	23.83	24.22	24.02
GPRS (GMSK, 1 TX slot)	32.87	33.21	33.02	23.84	24.18	23.99
GPRS (GMSK, 2 TX slots)	32.00	32.36	32.17	25.98	26.34	26.15
GPRS (GMSK, 3 TX slots)	30.09	30.45	30.27	25.83	26.19	26.01
GPRS (GMSK, 4 TX slots)	28.98	**29.37**	29.21	25.97	**26.36**	26.20
EGPRS (8PSK, 1 TX slot)	27.48	27.11	27.11	18.45	18.08	18.08
EGPRS (8PSK, 2 TX slots)	26.40	26.17	26.20	20.38	20.15	20.18
EGPRS (8PSK, 3 TX slots)	24.22	24.00	24.02	19.96	19.74	19.76
EGPRS (8PSK, 4 TX slots)	23.11	22.89	22.86	20.10	19.88	19.85

Remark:

1. The frame-averaged power is linearly reported the maximum burst averaged power over 8 time slots. The calculated method are shown as below:
   The duty cycle "x" of different time slots as below:
   1 TX slot is 1/8, 2 TX slots is 2/8, 3 TX slots is 3/8 and 4 TX slots is 4/8
   Based on the calculation formula:
   Frame-averaged power = Burst averaged power + 10 1og (x)
   So,
   Frame-averaged power (1 TX slot) = Burst averaged power (1 TX slot)– 9.03
   Frame-averaged power (2 TX slots) = Burst averaged power (2 TX slots)– 6.02
   Frame-averaged power (3 TX slots) = Burst averaged power (3 TX slots)– 4.26
   Frame-averaged power (4 TX slots) = Burst averaged power (4 TX slots) – 3.01
2. CS1 coding scheme was used in GPRS conducted power measurements and SAR testing, MCS5 coding scheme was used in EGPRS conducted power measurements and SAR testing (if necessary).

Note:

1. For Head SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in GSM 850 Voice mode.
2. For Hotspot mode SAR testing, GPRS and EGPRS mode should be evaluated, therefore the EUT was set in GPRS 4 TX slots mode due to the highest frame-averaged power.
3. For GPRS multi time slots SAR measurement, when the measured maximum output power levels are within 0.25 dB of each other, test the configuration with the most number of time slots.
4. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.

Band: PCS 1900	Burst Average Power (dBm)			Frame-Average Power(dBm)		
Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
GSM (GMSK, Voice)	**29.66**	29.56	29.31	20.63	20.53	20.28
GPRS (GMSK, 1 TX slot)	29.67	29.50	29.27	20.64	20.47	20.24
GPRS (GMSK, 2 TX slots)	28.93	28.82	28.61	22.91	22.80	22.59
GPRS (GMSK, 3 TX slots)	**27.11**	27.05	26.92	**22.85**	22.79	22.66
GPRS (GMSK, 4 TX slots)	26.00	25.99	25.87	22.99	22.98	22.86
EGPRS (8PSK, 1 TX slot)	26.25	26.43	26.38	17.22	17.40	17.35
EGPRS (8PSK, 2 TX slots)	25.16	25.50	25.49	19.14	19.48	19.47
EGPRS (8PSK, 3 TX slots)	23.10	23.49	23.45	18.84	19.23	19.19
EGPRS (8PSK, 4 TX slots)	21.92	22.26	22.25	18.91	19.25	19.24

Remark:

3. The frame-averaged power is linearly reported the maximum burst averaged power over 8 time slots. The calculated method are shown as below:
   The duty cycle "x" of different time slots as below:
   1 TX slot is 1/8, 2 TX slots is 2/8, 3 TX slots is 3/8 and 4 TX slots is 4/8
   Based on the calculation formula:
   Frame-averaged power = Burst averaged power + 10 1og (x)
   So,
   Frame-averaged power (1 TX slot) = Burst averaged power (1 TX slot)– 9.03
   Frame-averaged power (2 TX slots) = Burst averaged power (2 TX slots)– 6.02
   Frame-averaged power (3 TX slots) = Burst averaged power (3 TX slots)– 4.26
   Frame-averaged power (4 TX slots) = Burst averaged power (4 TX slots) – 3.01
4. CS1 coding scheme was used in GPRS conducted power measurements and SAR testing, MCS5 coding scheme was used in EGPRS conducted power measurements and SAR testing (if necessary).

Note:

1. For Head SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in GSM 1900 Voice mode.
2. For Hotspot mode SAR testing, GPRS and EGPRS mode should be evaluated, therefore the EUT was set in GPRS 3 TX slots mode due to the highest frame-averaged power.
3. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.

13.2 WCDMA Conducted Power

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

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Rohde & Schwarz CMU200 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table 1

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{hs} (1)	CM (dB) (2)
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15 (3)	15/15 (3)	64	12/15 (3)	24/15	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

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 β_c/β_d =12/15, β_{hs}/β_c=24/15.
Note 3: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

HSDPA Sub-test setup configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Rohde & Schwarz CMU200 referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table 2

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

Note 1: Δ_{ACK}, Δ_{NACK} and $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.
Note 6: β_{ed} cannot be set directly; it is set by Absolute Grant Value.

HSUPA Sub-test setup configuration

WCDMA Conducted Power:

WCDMA Average power (dBm)			
Band	WCDMA Band V		
Channel	4132	4183	4233
Frequency (MHz)	826.4	836.6	846.6
AMR 12.2 kbps	23.37	23.61	23.64
RMC 12.2 kbps	23.35	23.61	**23.68**
HSDPA Sub-test 1	22.42	22.63	22.72
HSDPA Sub-test 2	21.90	22.13	22.21
HSDPA Sub-test 3	21.95	22.18	22.26
HSDPA Sub-test 4	21.88	22.13	22.21
HSUPA Sub-test 1	20.15	20.38	20.41
HSUPA Sub-test 2	20.66	20.88	20.96
HSUPA Sub-test 3	21.18	21.4	21.46
HSUPA Sub-test 4	20.19	20.42	20.47
HSUPA Sub-test 5	22.19	22.42	22.48

WCDMA Average power (dBm)			
Band	WCDMA Band IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
AMR 12.2 kbps	23.44	23.14	23.34
RMC 12.2 kbps	**23.55**	23.13	23.35
HSDPA Sub-test 1	22.52	22.11	22.33
HSDPA Sub-test 2	21.99	21.60	21.83
HSDPA Sub-test 3	22.04	21.66	21.89
HSDPA Sub-test 4	22.01	21.59	21.84
HSUPA Sub-test 1	20.49	20.08	20.32
HSUPA Sub-test 2	21.00	20.62	20.83
HSUPA Sub-test 3	21.51	21.12	21.35
HSUPA Sub-test 4	20.50	20.12	20.36
HSUPA Sub-test 5	22.54	22.13	22.37

WCDMA Average power (dBm)			
Band	WCDMA Band II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
AMR 12.2 kbps	23.12	23.14	23.34
RMC 12.2 kbps	23.15	23.21	**23.42**
HSDPA Sub-test 1	22.13	22.17	22.39
HSDPA Sub-test 2	21.61	21.64	21.84
HSDPA Sub-test 3	21.64	21.67	21.86
HSDPA Sub-test 4	21.59	21.63	21.91
HSUPA Sub-test 1	20.07	20.08	20.30
HSUPA Sub-test 2	20.59	20.63	20.84
HSUPA Sub-test 3	21.11	21.16	21.34
HSUPA Sub-test 4	20.12	20.15	20.35
HSUPA Sub-test 5	22.13	22.16	22.34

Note:

1. Applying the subtest setup in Table C.11.1.3 of 3GPP TS 34.121-1
2. Per KDB 941225 D01, RMC 12.2kbps mode is used to evaluate SAR due the highest output power. If AMR 12.2 kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2 kbps can be excluded.

13.3 LTE Conducted Power

13.3.1 Largest channel bandwidth standalone SAR test requirements

QPSK with 1 RB allocation

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel.8 When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.

QPSK with 50% RB allocation

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

QPSK with 100% RB allocation

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in sections 4.2.1 and 4.2.2 are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

Higher order modulations

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in sections 4.2.1, 5.2.2 and 4.2.3 to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is > ½ dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg.

13.3.2 Other channel bandwidth standalone SAR test requirements

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section 4.2 to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > ½ 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. The equivalent channel configuration for the RB allocation, RB offset and modulation etc. is determined for the smaller channel bandwidth according to the same number of RB allocated in the largest channel bandwidth. For example, 50 RB in 10 MHz channel bandwidth does not apply to 5 MHz channel bandwidth; therefore, this cannot be tested in the smaller channel bandwidth. However, 50% RB allocation in 10 MHz channel bandwidth is equivalent to 100% RB allocation in 5 MHz channel bandwidth; therefore, these are the equivalent configurations to be compared to determine the specific channel and configuration in the smaller channel bandwidth that need SAR testing.

13.3.3 TDD LTE configuration setup for SAR measurement

According to KDB 941225 D05v02r03 and April 2013 TCB workshop slides, SAR must be tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

- see 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “special subframe S” contains both uplink and downlink transmissions and must be taken into consideration to determine the transmission duty factor
  - according to the worst case uplink and downlink cyclic prefix requirements for UpPTS to determine the highest SAR test duty factor

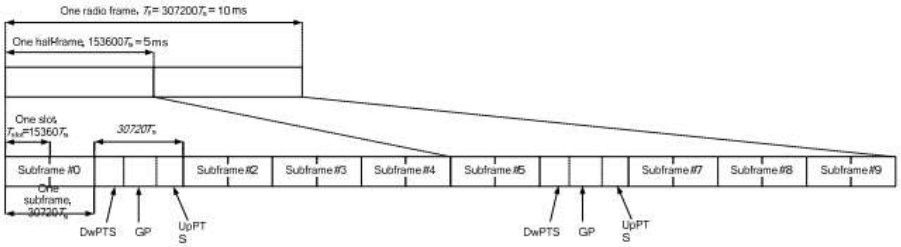


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity)

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

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

Per 3GPP 36.211 section 4.2, each radio frame of length T_f=37200·*T*s = 10 ms consists of two half-frames of length 153600·Ts = 5ms each. Each half-frame consists of five subframes of length 30720 ·*T*s = 1ms. So, the uplink duty factor in special subframe as below:

Special Subframe configuration	Normal cyclic prefix in downlink		Extended cyclic prefix in downlink	
	Duty factor of Uplink		Duty factor of Uplink	
	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink	Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	7.14%	8.33%	7.14%	8.33%
1	7.14%	8.33%	7.14%	8.33%
2	7.14%	8.33%	7.14%	8.33%
3	7.14%	8.33%	7.14%	8.33%
4	7.14%	8.33%	14.27%	16.67%
5	14.27%	16.67%	14.27%	16.67%
6	14.27%	16.67%	14.27%	16.67%
7	14.27%	16.67%	14.27%	16.67%
8	14.27%	16.67%	/	/
9	14.27%	16.67%	/	/

Table 4.2-2: Uplink-downlink configurations

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

According to above table:

1. The highest duty factor is configuration 0;
2. The duty factor of uplink in one half-frame with normal cyclic prefix is: (3ms + 0.143ms)/5ms=62.86%;
3. The duty factor of uplink in one half-frame with extended cyclic prefix is: (3ms + 0.167ms)/5ms=63.34%;
4. For purpose to get the worst case SAR test duty factor, the duty factor of normal cyclic prefix in uplink scaled-up to the extended cyclic prefix in uplink, the scaling factor is 63.34%/62.86%=1.008, and the scaling factor will be taken into the final measured SAR.

LTE Band 2 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
Band 2	1.4	QPSK	1	0	22.93	22.97	23.12
			1	2	22.90	22.95	23.11
			1	5	22.98	22.92	23.07
			3	0	21.99	22.01	22.14
			3	1	21.98	22.03	22.14
			3	2	21.97	22.02	22.14
			6	0	21.97	21.99	22.24
		16QAM	1	0	22.07	22.12	22.03
			1	2	22.09	22.14	22.05
			1	5	22.08	22.13	22.02
			3	0	21.86	21.91	22.13
			3	1	21.86	21.88	22.12
			3	2	21.86	21.88	22.14
			6	0	20.98	20.84	21.19

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
Band 2	3	QPSK	1	0	22.21	22.27	22.45
			1	7	22.23	22.24	22.44
			1	14	22.26	22.19	22.39
			8	0	21.17	21.28	21.49
			8	4	21.20	21.27	21.51
			8	7	21.24	21.20	21.49
			15	0	21.20	21.20	21.48
		16QAM	1	0	21.35	21.48	21.36
			1	7	21.39	21.38	21.38
			1	14	21.42	21.37	21.36
			8	0	20.23	20.29	20.54
			8	4	20.24	20.27	20.54
			8	7	20.28	20.15	20.50
			15	0	20.21	20.14	20.44

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
Band 2	5	QPSK	1	0	22.35	22.44	22.66
			1	12	22.41	22.32	22.68
			1	24	22.48	22.33	22.68
			12	0	21.23	21.31	21.58
			12	6	21.23	21.32	21.56
			12	11	21.23	21.32	21.59
			25	0	21.26	21.30	21.54
		16QAM	1	0	21.24	21.54	21.63
			1	12	21.26	21.49	21.59
			1	24	21.34	21.51	21.62
			12	0	20.18	20.33	20.59
			12	6	20.17	20.34	20.55
			12	11	20.19	20.34	20.55
			25	0	20.25	20.26	20.55

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18650	18900	19150
					1855.0MHz	1880.0MHz	1905.0MHz
Band 2	10	QPSK	1	0	22.26	22.37	22.35
			1	24	22.06	22.30	22.47
			1	49	22.45	22.16	22.48
			25	0	21.26	21.35	21.54
			25	12	21.23	21.35	21.56
			25	24	21.27	21.38	21.53
			50	0	21.37	21.32	21.58
		16QAM	1	0	21.04	21.52	21.28
			1	24	21.48	21.45	21.42
			1	49	21.59	21.38	21.41
			25	0	20.23	20.42	20.60
			25	12	20.22	20.40	20.58
			25	24	20.24	20.42	20.61
			50	0	20.30	20.31	20.51

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18675	18900	19125
					1857.5MHz	1880.0MHz	1902.5MHz
Band 2	15	QPSK	1	0	22.21	22.36	22.63
			1	37	22.45	22.22	22.81
			1	74	22.53	22.47	22.78
			36	0	21.21	21.80	21.73
			36	16	21.26	21.80	21.76
			36	35	21.27	21.77	21.74
			75	0	21.41	21.69	21.81
		16QAM	1	0	21.35	21.64	21.58
			1	37	21.58	21.54	21.73
			1	74	21.69	21.80	21.72
			36	0	20.19	20.79	20.75
			36	16	20.20	20.79	20.74
			36	35	20.19	20.81	20.73
			75	0	20.35	20.66	20.81

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18700	18900	19100
					1860.0MHz	1880.0MHz	1900.0MHz
Band 2	20	QPSK	1	0	22.76	22.82	22.52
			1	49	23.04	22.71	22.70
			1	99	22.99	22.62	22.73
			50	0	21.74	21.88	21.74
			50	24	21.76	21.88	21.70
			50	49	21.76	21.89	21.75
			100	0	21.87	21.77	21.75
		16QAM	1	0	21.70	22.09	21.59
			1	49	21.98	21.98	21.82
			1	99	21.93	21.89	21.89
			50	0	20.68	20.86	20.79
			50	24	20.68	20.86	20.76
			50	49	20.70	20.93	20.73
			100	0	20.81	20.72	20.75

LTE Band 5 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
Band 5	1.4	QPSK	1	0	22.44	22.94	22.90
			1	2	22.38	22.92	22.88
			1	5	22.46	22.94	22.88
			3	0	22.46	22.97	22.92
			3	1	22.53	22.96	22.94
			3	2	22.53	22.96	22.92
			6	0	21.49	21.94	21.95
		16QAM	1	0	21.46	22.13	21.81
			1	2	21.53	22.19	21.82
			1	5	21.46	22.14	21.83
			3	0	21.45	21.87	21.90
			3	1	21.47	21.87	21.87
			3	2	21.45	21.86	21.87
			6	0	20.54	20.83	20.89

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20415	20525	20635
					825.5MHz	836.5MHz	847.5MHz
Band 5	3	QPSK	1	0	22.56	22.85	22.95
			1	7	22.63	22.93	22.91
			1	14	22.62	22.93	22.87
			8	0	21.53	21.88	21.95
			8	4	21.53	21.86	21.97
			8	7	21.58	21.95	21.91
			15	0	21.54	21.92	21.93
		16QAM	1	0	21.75	22.06	21.86
			1	7	21.77	22.10	21.82
			1	14	21.79	22.09	21.81
			8	0	20.57	20.87	20.96
			8	4	20.59	20.85	20.96
			8	7	20.60	20.94	20.97
			15	0	20.54	20.81	20.85

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20425	20525	20625
					826.5MHz	836.5MHz	846.5MHz
Band 5	5	QPSK	1	0	22.57	23.00	23.13
			1	12	22.71	23.07	23.09
			1	24	22.83	23.10	23.15
			12	0	21.55	21.85	22.00
			12	6	21.58	21.88	22.00
			12	11	21.59	21.87	22.02
			25	0	21.60	21.91	21.98
		16QAM	1	0	21.57	22.12	22.11
			1	12	21.59	22.22	22.04
			1	24	21.68	22.26	22.04
			12	0	20.57	20.89	21.02
			12	6	20.57	20.91	21.01
			12	11	20.56	20.91	21.00
			25	0	20.62	20.88	20.96

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20450	20525	20600
					829MHz	836.5MHz	844MHz
Band 5	10	QPSK	1	0	22.56	22.73	22.93
			1	24	22.71	22.98	22.99
			1	49	22.86	22.97	22.94
			25	0	21.62	21.82	21.99
			25	12	21.58	21.86	21.98
			25	24	21.63	21.84	21.98
			50	0	21.71	21.97	21.98
		16QAM	1	0	21.69	21.95	21.87
			1	24	21.84	22.11	21.88
			1	49	22.04	22.16	21.86
			25	0	20.61	20.89	21.01
			25	12	20.61	20.89	21.00
			25	24	20.59	20.88	21.02
			50	0	20.68	20.96	20.97

LTE Band 7 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20775	21100	21425
					2502.5MHz	2535.0MHz	2567.5MHz
Band 7	5	QPSK	1	0	23.07	22.78	22.77
			1	12	23.04	22.74	22.75
			1	24	23.05	22.74	22.76
			12	0	21.91	21.64	21.64
			12	6	21.84	21.68	21.68
			12	11	21.88	21.65	21.66
			25	0	21.93	21.66	21.63
		16QAM	1	0	21.93	21.93	21.73
			1	12	21.89	21.88	21.70
			1	24	21.92	21.92	21.71
			12	0	20.88	20.70	20.65
			12	6	20.90	20.67	20.66
			12	11	20.90	20.70	20.66
			25	0	20.95	20.65	20.60

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20800	21100	21400
					2505.0MHz	2535.0MHz	2565.0MHz
Band 7	10	QPSK	1	0	22.92	22.66	22.60
			1	24	22.94	22.64	22.58
			1	49	22.89	22.62	22.56
			25	0	21.85	21.66	21.67
			25	12	21.88	21.65	21.67
			25	24	21.87	21.66	21.66
			50	0	21.87	21.65	21.63
		16QAM	1	0	22.05	21.88	21.53
			1	24	22.07	21.83	21.47
			1	49	22.03	21.82	21.51
			25	0	20.87	20.71	20.69
			25	12	20.83	20.71	20.72
			25	24	20.86	20.71	20.72
			50	0	20.86	20.67	20.61

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20825	21100	21375
					2507.5MHz	2535.0MHz	2562.5MHz
Band 7	15	QPSK	1	0	22.86	22.59	22.58
			1	37	22.90	22.59	22.62
			1	74	22.80	22.51	22.52
			36	0	21.79	21.64	21.64
			36	16	21.82	21.64	21.60
			36	35	21.79	21.65	21.62
			75	0	21.84	21.62	21.65
		16QAM	1	0	21.98	21.94	21.48
			1	37	22.06	21.93	21.56
			1	74	21.97	21.84	21.49
			36	0	20.79	20.70	20.59
			36	16	20.80	20.75	20.62
			36	35	20.76	20.73	20.61
			75	0	20.74	20.63	20.63

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20850	21100	21350
					2510.0MHz	2535.0MHz	2560.0MHz
Band 7	20	QPSK	1	0	22.89	22.60	22.32
			1	49	23.01	22.64	22.47
			1	99	22.80	22.48	22.36
			50	0	21.82	21.55	21.64
			50	24	21.81	21.62	21.67
			50	49	21.83	21.56	21.65
			100	0	21.73	21.61	21.55
		16QAM	1	0	21.85	21.85	21.46
			1	49	21.90	21.88	21.65
			1	99	21.78	21.78	21.54
			50	0	20.75	20.62	20.66
			50	24	20.76	20.59	20.68
			50	49	20.76	20.61	20.64
			100	0	20.71	20.54	20.56

LTE Band 12 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23017	23095	23175
					699.7MHz	707.5MHz	715.3MHz
Band 12	1.4	QPSK	1	0	23.15	23.08	23.14
			1	2	23.07	23.06	23.10
			1	5	23.12	23.07	23.15
			3	0	22.23	22.06	22.22
			3	1	22.22	22.06	22.22
			3	2	22.24	22.05	22.22
			6	0	22.16	22.18	22.22
		16QAM	1	0	22.36	22.01	22.15
			1	2	22.41	22.02	22.30
			1	5	22.37	21.95	22.22
			3	0	22.11	22.15	22.10
			3	1	22.10	22.16	22.11
			3	2	22.13	22.14	22.09
			6	0	21.12	21.23	21.33

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23025	23095	23165
					700.5MHz	707.5MHz	714.5MHz
Band 12	3	QPSK	1	0	23.25	23.07	23.10
			1	7	23.17	23.11	23.15
			1	14	23.17	23.10	23.11
			8	0	22.13	22.14	22.15
			8	4	22.10	22.16	22.18
			8	7	22.10	22.16	22.16
			15	0	22.07	22.16	22.13
		16QAM	1	0	22.34	22.37	22.02
			1	7	22.32	22.30	22.00
			1	14	22.35	22.29	22.10
			8	0	21.27	21.21	21.26
			8	4	21.26	21.19	21.25
			8	7	21.30	21.25	21.28
			15	0	21.21	21.18	21.17

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23035	23095	23155
					701.5MHz	707.5MHz	713.5MHz
Band 12	5	QPSK	1	0	23.41	23.27	23.38
			1	12	23.33	23.27	23.29
			1	24	23.25	23.34	23.47
			12	0	22.05	22.18	22.20
			12	6	22.08	22.18	22.17
			12	11	22.07	22.20	22.22
			25	0	22.09	22.18	22.12
		16QAM	1	0	22.16	22.37	22.29
			1	12	22.18	22.37	22.24
			1	24	22.18	22.44	22.34
			12	0	21.16	21.31	21.31
			12	6	21.16	21.31	21.26
			12	11	21.17	21.30	21.27
			25	0	21.22	21.27	21.21

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23060	23095	23130
					704MHz	707.5MHz	711MHz
Band 12	10	QPSK	1	0	23.22	23.05	23.05
			1	24	23.21	23.13	23.17
			1	49	23.28	23.18	23.23
			25	0	22.10	22.16	22.12
			25	12	22.10	22.18	22.12
			25	24	22.10	22.18	22.11
			50	0	22.16	22.26	22.15
		16QAM	1	0	22.35	22.27	22.01
			1	24	22.37	22.34	22.10
			1	49	22.41	22.34	22.20
			25	0	21.14	21.33	21.28
			25	12	21.20	21.33	21.30
			25	24	21.15	21.34	21.31
			50	0	21.19	21.31	21.19

LTE Band 41 part:

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					39675	40148	40620	41093	41565
					2498.5MHz	2545.5MHz	2593.0MHz	2640.3MHz	2687.5MHz
Band 41	5	QPSK	1	0	22.26	22.64	22.58	22.62	23.02
			1	12	22.19	22.59	22.58	22.59	22.99
			1	24	22.25	22.63	22.63	22.63	23.00
			12	0	21.30	21.70	21.47	21.62	22.09
			12	6	21.24	21.65	21.50	21.60	22.06
			12	11	21.29	21.66	21.50	21.61	22.03
			25	0	21.21	21.65	21.50	21.60	22.08
		16QAM	1	0	21.59	21.95	21.85	21.92	22.31
			1	12	21.52	21.91	21.85	21.89	22.29
			1	24	21.55	21.93	21.84	21.90	22.31
			12	0	20.28	20.68	20.46	20.60	21.07
			12	6	20.30	20.68	20.49	20.62	21.06
			12	11	20.27	20.67	20.43	20.59	21.06
			25	0	20.23	20.64	20.48	20.58	21.04

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					39700	40160	40620	41080	41540
					2501.0MHz	2547.0MHz	2593.0MHz	2639.0MHz	2685.0MHz
Band 41	10	QPSK	1	0	22.20	22.56	22.40	22.51	22.92
			1	24	22.24	22.64	22.52	22.60	23.03
			1	49	22.18	22.59	22.48	22.55	22.99
			25	0	21.20	21.57	21.45	21.53	21.94
			25	12	21.18	21.58	21.49	21.55	21.98
			25	24	21.19	21.61	21.44	21.55	22.03
			50	0	21.22	21.64	21.46	21.58	22.06
		16QAM	1	0	21.54	21.70	21.75	21.71	21.85
			1	24	21.61	21.77	21.85	21.80	21.93
			1	49	21.54	21.74	21.90	21.79	21.94
			25	0	20.21	20.60	20.55	20.58	20.98
			25	12	20.22	20.62	20.51	20.58	21.01
			25	24	20.23	20.62	20.52	20.58	21.00
			50	0	20.17	20.58	20.45	20.53	20.98

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					39725	40173	40620	41068	41515
					2503.5MHz	2548.5MHz	2593.0MHz	2637.8MHz	2682.5MHz
Band 41	15	QPSK	1	0	22.13	22.51	22.32	22.45	22.89
			1	37	22.26	22.68	22.46	22.60	23.09
			1	74	22.14	22.59	22.49	22.56	23.04
			36	0	21.14	21.50	21.45	21.48	21.85
			36	16	21.15	21.53	21.46	21.50	21.90
			36	35	21.16	21.51	21.43	21.48	21.86
			75	0	21.23	21.59	21.43	21.53	21.94
		16QAM	1	0	21.52	21.70	21.67	21.69	21.88
			1	37	21.57	21.80	21.86	21.82	22.03
			1	74	21.52	21.77	21.85	21.79	22.01
			36	0	20.16	20.52	20.47	20.50	20.87
			36	16	20.17	20.52	20.43	20.49	20.87
			36	35	20.19	20.52	20.43	20.49	20.84
			75	0	20.16	20.53	20.45	20.50	20.90

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					39750	40185	40620	41055	41490
					2506.0MHz	2549.5MHz	2593.0MHz	2636.5MHz	2680.0MHz
Band 41	20	QPSK	1	0	22.15	22.40	22.20	22.33	22.64
			1	49	22.24	22.60	22.48	22.56	22.96
			1	99	22.22	22.59	22.49	22.55	22.95
			50	0	21.20	21.56	21.47	21.53	21.91
			50	24	21.23	21.57	21.44	21.52	21.90
			50	49	21.17	21.55	21.41	21.50	21.92
			100	0	21.24	21.59	21.46	21.55	21.94
		16QAM	1	0	21.32	21.33	21.42	21.36	21.34
			1	49	21.43	21.53	21.69	21.58	21.63
			1	99	21.37	21.50	21.65	21.55	21.62
			50	0	20.21	20.56	20.43	20.52	20.91
			50	24	20.16	20.52	20.41	20.48	20.88
			50	49	20.18	20.54	20.42	20.50	20.90
			100	0	20.18	20.55	20.45	20.51	20.91

Note:

1. Per KDB 447498 D01v05r02 section 4.1, 6), the required test channels number is 5 for LTE Band 41.

LTE Band 66 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131979	132322	132665
					1710.70MHz	1745.00MHz	1779.30MHz
Band 66	1.4	QPSK	1	0	22.85	22.85	22.59
			1	2	22.83	22.77	22.47
			1	5	22.83	22.80	22.48
			3	0	22.96	22.71	22.52
			3	1	22.96	22.75	22.49
			3	2	22.95	22.73	22.48
			6	0	21.92	21.70	21.52
		16QAM	1	0	21.97	22.00	21.39
			1	2	22.03	22.07	21.43
			1	5	21.96	22.03	21.40
			3	0	21.90	21.63	21.48
			3	1	21.88	21.63	21.44
			3	2	21.88	21.65	21.43
			6	0	20.97	20.56	20.48

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131987	132322	132657
					1711.50MHz	1745.00MHz	1778.50MHz
Band 66	3	QPSK	1	0	22.89	22.77	22.50
			1	7	22.90	22.63	22.43
			1	14	22.94	22.70	22.49
			8	0	21.78	21.64	21.65
			8	4	21.76	21.65	21.65
			8	7	21.82	21.72	21.67
			15	0	21.87	21.69	21.65
		16QAM	1	0	22.05	21.87	21.39
			1	7	22.02	21.85	21.38
			1	14	22.08	21.86	21.40
			8	0	20.87	20.62	20.69
			8	4	20.87	20.64	20.67
			8	7	20.89	20.68	20.66
			15	0	20.87	20.62	20.61

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					131997	132322	132647
					1712.50MHz	1745.00MHz	1777.50MHz
Band 66	5	QPSK	1	0	23.19	22.95	22.78
			1	12	23.19	22.96	22.81
			1	24	23.23	23.01	22.80
			12	0	22.03	21.82	21.73
			12	6	22.00	21.85	21.72
			12	11	22.04	21.86	21.72
			25	0	22.06	21.89	21.70
		16QAM	1	0	22.04	22.08	21.71
			1	12	22.03	22.13	21.76
			1	24	22.07	22.16	21.83
			12	0	21.01	20.86	20.69
			12	6	21.02	20.88	20.71
			12	11	21.01	20.87	20.72
			25	0	21.07	20.83	20.69

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132022	132322	132622
					1715.00MHz	1745.00MHz	1775.00MHz
Band 66	10	QPSK	1	0	23.08	22.68	22.54
			1	24	23.14	22.84	22.57
			1	49	23.03	22.89	22.63
			25	0	22.10	21.80	21.62
			25	12	22.09	21.77	21.59
			25	24	22.09	21.77	21.63
			50	0	22.12	21.92	21.64
		16QAM	1	0	22.20	21.90	21.45
			1	24	22.28	22.03	21.51
			1	49	22.17	22.07	21.58
			25	0	21.07	20.76	20.67
			25	12	21.08	20.80	20.66
			25	24	21.06	20.77	20.66
			50	0	21.05	20.90	20.58

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132047	132322	132597
					1717.50MHz	1745.00MHz	1772.50MHz
Band 66	15	QPSK	1	0	23.03	22.61	22.57
			1	37	23.03	22.80	22.59
			1	74	22.82	22.84	22.62
			36	0	22.06	21.74	21.59
			36	16	22.05	21.76	21.62
			36	35	22.00	21.78	21.62
			75	0	22.03	21.88	21.60
		16QAM	1	0	22.18	21.91	21.48
			1	37	22.15	22.10	21.51
			1	74	21.99	22.16	21.55
			36	0	21.02	20.81	20.57
			36	16	21.05	20.82	20.60
			36	35	21.05	20.80	20.59
			75	0	20.97	20.83	20.61

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					132072	132322	132572
					1720.00MHz	1745.00MHz	1770.00MHz
Band 66	20	QPSK	1	0	23.12	22.65	22.52
			1	49	23.08	22.87	22.45
			1	99	22.87	22.94	22.55
			50	0	22.12	21.77	21.69
			50	24	22.11	21.77	21.67
			50	49	22.07	21.76	21.66
			100	0	22.00	21.86	21.58
		16QAM	1	0	22.06	21.95	21.73
			1	49	22.05	22.18	21.59
			1	99	21.83	22.25	21.72
			50	0	21.07	20.76	20.68
			50	24	21.06	20.77	20.69
			50	49	21.04	20.78	20.68
			100	0	20.97	20.81	20.59

13.4 NR Conducted Power

NR n41 part

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					508002	519000	529998
					2540.01MHz	2595MHz	2649.99MHz
n41	30	10	12@6	DFT_BPSK	25.75	26.13	26.30
			1@1	DFT_BPSK	25.67	26.08	26.23
			1@22	DFT_BPSK	25.69	26.21	26.22
			12@6	DFT_QPSK	25.75	26.16	26.31
			1@1	DFT_QPSK	25.61	25.96	26.10
			1@22	DFT_QPSK	25.54	26.05	26.06
			12@6	DFT_QAM16	24.86	25.24	25.39
			1@1	DFT_QAM16	24.87	25.16	25.46
			1@22	DFT_QAM16	24.73	25.31	25.44
			12@6	DFT_QAM64	23.42	23.86	23.92
			1@1	DFT_QAM64	23.38	23.63	23.80
			1@22	DFT_QAM64	23.20	23.77	23.75
			12@6	DFT_QAM256	21.37	21.77	21.96
			1@1	DFT_QAM256	21.52	21.84	21.79
			1@22	DFT_QAM256	21.44	21.86	22.09
			12@6	CP_QPSK	24.30	24.75	24.92
			1@1	CP_QPSK	24.49	24.63	24.90
			1@22	CP_QPSK	24.33	24.77	24.93
			12@6	CP_QAM16	23.85	24.29	24.43
			1@1	CP_QAM16	24.14	24.21	24.67
			1@22	CP_QAM16	24.10	24.22	24.36
			12@6	CP_QAM64	22.39	22.80	22.85
			1@1	CP_QAM64	22.34	22.56	22.77
			1@22	CP_QAM64	22.28	22.70	22.93
			12@6	CP_QAM256	19.42	19.75	19.99
			1@1	CP_QAM256	19.81	19.93	20.31
			1@22	CP_QAM256	19.73	20.11	20.21

NR Band	SCS	Bandwidth	RB Allocation	Modulation	Average Power (dBm)		
	(KHz)	(MHz)			508500	519000	529500
					2542.5MHz	2595MHz	2647.5MHz
n41	30	15	18@9	DFT_BPSK	25.71	26.16	26.36
			1@1	DFT_BPSK	25.67	26.09	26.16
			1@36	DFT_BPSK	25.69	26.24	26.25
			18@9	DFT_QPSK	25.67	26.14	26.37
			1@1	DFT_QPSK	25.54	25.89	26.05
			1@36	DFT_QPSK	25.49	26.02	26.11
			18@9	DFT_QAM16	24.80	25.23	25.46
			1@1	DFT_QAM16	24.75	25.20	25.25
			1@36	DFT_QAM16	24.72	25.21	25.31
			18@9	DFT_QAM64	23.32	23.74	23.96
			1@1	DFT_QAM64	23.25	23.67	23.82
			1@36	DFT_QAM64	23.22	23.71	23.85
			18@9	DFT_QAM256	21.38	21.79	21.98
			1@1	DFT_QAM256	21.46	21.83	21.75
			1@36	DFT_QAM256	21.47	22.00	21.79
			19@9	CP_QPSK	24.28	24.74	24.92
			1@1	CP_QPSK	24.41	24.69	24.92
			1@36	CP_QPSK	24.39	24.89	24.87
			19@9	CP_QAM16	23.82	24.28	24.18
			1@1	CP_QAM16	23.71	24.46	24.28
			1@36	CP_QAM16	23.65	24.56	24.24
			19@9	CP_QAM64	22.29	22.64	22.89
			1@1	CP_QAM64	22.02	22.77	23.00
			1@36	CP_QAM64	22.03	22.51	22.53
			19@9	CP_QAM256	19.23	19.75	19.90
			1@1	CP_QAM256	19.62	20.05	20.11
			1@36	CP_QAM256	19.62	20.03	20.22

NR Band	SCS	Bandwidth	RB Allocation	Modulation	Average Power (dBm)		
					509004	519000	528996
	(KHz)	(MHz)			2545.02MHz	2595MHz	2644.98MHz
n41	30	20	25@12	DFT_BPSK	25.68	26.18	26.32
			1@1	DFT_BPSK	25.57	25.88	26.14
			1@49	DFT_BPSK	25.59	26.22	26.27
			25@12	DFT_QPSK	25.73	26.23	26.40
			1@1	DFT_QPSK	25.51	25.87	26.03
			1@49	DFT_QPSK	25.40	26.01	26.09
			25@12	DFT_QAM16	24.75	25.27	25.40
			1@1	DFT_QAM16	24.70	24.96	25.21
			1@49	DFT_QAM16	24.79	25.33	25.26
			25@12	DFT_QAM64	23.33	23.77	23.93
			1@1	DFT_QAM64	23.24	23.56	23.72
			1@49	DFT_QAM64	23.21	23.72	23.72
			25@12	DFT_QAM256	21.37	21.79	22.01
			1@1	DFT_QAM256	21.50	21.43	21.64
			1@49	DFT_QAM256	21.42	22.03	21.65
			25@12	CP_QPSK	24.27	24.70	24.90
			1@1	CP_QPSK	24.14	24.50	24.80
			1@49	CP_QPSK	24.34	24.87	24.83
			25@12	CP_QAM16	23.82	24.21	24.45
			1@1	CP_QAM16	24.02	24.13	24.39
			1@49	CP_QAM16	23.96	24.40	24.42
			25@12	CP_QAM64	22.26	22.67	22.88
			1@1	CP_QAM64	22.40	22.38	22.57
			1@49	CP_QAM64	21.97	22.59	22.87
			25@12	CP_QAM256	19.46	19.82	20.10
			1@1	CP_QAM256	19.55	19.88	20.09
			1@49	CP_QAM256	19.66	20.39	20.50

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					509004	519000	528000
					2545.02MHz	2595MHz	2640MHz
n41	30	30	36@18	DFT_BPSK	25.77	26.20	26.29
			1@1	DFT_BPSK	25.55	25.87	26.12
			1@76	DFT_BPSK	25.71	26.19	26.04
			36@18	DFT_QPSK	25.74	26.22	26.33
			1@1	DFT_QPSK	25.35	25.79	26.03
			1@76	DFT_QPSK	25.59	26.04	26.11
			36@18	DFT_QAM16	24.79	25.20	25.43
			1@1	DFT_QAM16	24.53	24.85	25.19
			1@76	DFT_QAM16	24.77	25.26	25.13
			36@18	DFT_QAM64	23.31	23.71	23.92
			1@1	DFT_QAM64	23.04	23.40	23.58
			1@76	DFT_QAM64	23.26	23.75	23.62
			36@18	DFT_QAM256	21.33	21.77	21.92
			1@1	DFT_QAM256	21.08	21.65	21.80
			1@76	DFT_QAM256	21.22	21.92	21.89
			39@19	CP_QPSK	24.23	24.78	24.84
			1@1	CP_QPSK	24.04	24.58	24.80
			1@76	CP_QPSK	24.41	24.87	24.86
			39@19	CP_QAM16	23.72	24.15	24.58
			1@1	CP_QAM16	23.59	23.81	23.94
			1@76	CP_QAM16	23.95	24.10	24.18
			39@19	CP_QAM64	22.33	22.74	22.97
			1@1	CP_QAM64	21.92	22.16	22.44
			1@76	CP_QAM64	22.10	22.49	22.39
			39@19	CP_QAM256	19.52	19.94	20.06
			1@1	CP_QAM256	19.80	19.71	20.13
			1@76	CP_QAM256	20.01	20.06	20.09

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					511002	519000	526998
					2555.01MHz	2595MHz	2634.99MHz
n41	30	40	50@25	DFT_BPSK	25.80	26.22	26.31
			1@1	DFT_BPSK	25.36	25.60	25.83
			1@104	DFT_BPSK	25.60	25.99	25.86
			50@25	DFT_QPSK	25.83	26.16	26.31
			1@1	DFT_QPSK	25.16	25.50	25.81
			1@104	DFT_QPSK	25.62	25.85	25.73
			50@25	DFT_QAM16	24.86	25.23	25.33
			1@1	DFT_QAM16	24.39	24.66	25.09
			1@104	DFT_QAM16	24.71	25.18	24.96
			50@25	DFT_QAM64	23.33	23.61	23.88
			1@1	DFT_QAM64	23.04	23.22	23.52
			1@104	DFT_QAM64	23.20	23.65	23.58
			50@25	DFT_QAM256	21.45	21.68	21.85
			1@1	DFT_QAM256	21.16	21.39	21.72
			1@104	DFT_QAM256	21.22	21.76	21.71
			53@26	CP_QPSK	24.29	24.68	24.90
			1@1	CP_QPSK	24.06	24.42	24.60
			1@104	CP_QPSK	24.41	24.62	24.64
			53@26	CP_QAM16	23.80	24.20	24.36
			1@1	CP_QAM16	23.28	24.03	24.29
			1@104	CP_QAM16	23.64	24.36	23.84
			53@26	CP_QAM64	22.40	22.72	22.90
			1@1	CP_QAM64	22.06	22.13	22.44
			1@104	CP_QAM64	21.91	22.49	22.56
			53@26	CP_QAM256	19.46	19.80	20.01
			1@1	CP_QAM256	19.42	19.82	20.07
			1@104	CP_QAM256	19.64	20.14	19.92

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					512004	519000	525996
					2560.02MHz	2595MHz	2629.98MHz
n41	30	50	64@32	DFT_BPSK	25.84	26.23	26.39
			1@1	DFT_BPSK	25.53	25.84	26.21
			1@131	DFT_BPSK	25.78	26.13	26.13
			64@32	DFT_QPSK	25.90	26.16	26.39
			1@1	DFT_QPSK	25.48	25.71	25.94
			1@131	DFT_QPSK	25.73	26.08	26.00
			64@32	DFT_QAM16	24.95	25.30	25.40
			1@1	DFT_QAM16	24.65	25.01	25.19
			1@131	DFT_QAM16	24.93	25.37	25.29
			64@32	DFT_QAM64	23.37	23.73	23.91
			1@1	DFT_QAM64	23.13	23.40	23.78
			1@131	DFT_QAM64	23.37	23.75	23.73
			64@32	DFT_QAM256	21.48	21.78	21.99
			1@1	DFT_QAM256	21.36	21.27	21.96
			1@131	DFT_QAM256	21.64	22.03	21.64
			67@33	CP_QPSK	24.37	24.74	24.86
			1@1	CP_QPSK	24.23	24.55	24.81
			1@131	CP_QPSK	24.58	24.78	24.82
			67@33	CP_QAM16	23.82	24.24	24.37
			1@1	CP_QAM16	24.03	24.05	24.16
			1@131	CP_QAM16	24.24	24.35	24.28
			67@33	CP_QAM64	22.47	22.70	22.96
			1@1	CP_QAM64	22.16	22.45	22.77
			1@131	CP_QAM64	22.54	22.94	22.81
			67@33	CP_QAM256	19.45	19.70	19.97
			1@1	CP_QAM256	19.66	20.22	20.43
			1@131	CP_QAM256	19.93	20.21	20.06

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					513000	519000	525000
					2565MHz	2595MHz	2625MHz
n41	30	60	81@40	DFT_BPSK	25.96	26.13	26.32
			1@1	DFT_BPSK	25.45	25.59	25.80
			1@160	DFT_BPSK	25.76	25.97	25.86
			81@40	DFT_QPSK	25.97	26.19	26.38
			1@1	DFT_QPSK	25.50	25.59	25.67
			1@160	DFT_QPSK	25.83	25.94	25.82
			81@40	DFT_QAM16	24.98	25.24	25.37
			1@1	DFT_QAM16	24.61	24.78	24.96
			1@160	DFT_QAM16	24.95	25.04	25.15
			81@40	DFT_QAM64	23.53	23.76	23.92
			1@1	DFT_QAM64	22.79	23.11	23.38
			1@160	DFT_QAM64	23.06	23.48	23.55
			81@40	DFT_QAM256	21.58	21.77	21.93
			1@1	DFT_QAM256	21.05	21.40	21.33
			1@160	DFT_QAM256	21.48	21.68	21.77
			81@40	CP_QPSK	24.42	24.67	24.85
			1@1	CP_QPSK	23.82	24.26	24.46
			1@160	CP_QPSK	24.14	24.50	24.43
			81@40	CP_QAM16	23.96	24.23	24.35
			1@1	CP_QAM16	23.32	23.63	23.69
			1@160	CP_QAM16	23.76	23.98	24.43
			81@40	CP_QAM64	22.52	22.73	22.94
			1@1	CP_QAM64	21.79	21.92	22.65
			1@160	CP_QAM64	22.08	22.38	22.28
			81@40	CP_QAM256	19.49	19.74	19.88
			1@1	CP_QAM256	19.14	19.51	19.74
			1@160	CP_QAM256	19.57	19.98	19.97

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					515004	519000	522996
					2575.02MHz	2595MHz	2614.95MHz
n41	30	80	108@54	DFT_BPSK	26.04	26.13	26.30
			1@1	DFT_BPSK	25.20	25.14	25.44
			1@215	DFT_BPSK	25.84	25.71	25.62
			108@54	DFT_QPSK	25.96	26.17	26.28
			1@1	DFT_QPSK	25.16	24.99	25.28
			1@215	DFT_QPSK	25.75	25.51	25.52
			108@54	DFT_QAM16	25.01	25.06	25.36
			1@1	DFT_QAM16	24.42	24.16	24.65
			1@215	DFT_QAM16	25.00	24.79	24.85
			108@54	DFT_QAM64	23.66	23.74	23.90
			1@1	DFT_QAM64	22.89	22.87	23.21
			1@215	DFT_QAM64	23.29	23.32	23.21
			108@54	DFT_QAM256	21.55	21.74	21.83
			1@1	DFT_QAM256	20.93	20.89	21.26
			1@215	DFT_QAM256	21.42	21.40	21.21
			109@54	CP_QPSK	24.49	24.68	24.81
			1@1	CP_QPSK	23.81	23.88	24.00
			1@215	CP_QPSK	24.20	24.26	24.33
			109@54	CP_QAM16	24.10	24.18	24.35
			1@1	CP_QAM16	23.19	23.18	23.96
			1@215	CP_QAM16	23.72	23.67	24.13
			109@54	CP_QAM64	22.65	22.72	22.89
			1@1	CP_QAM64	21.41	21.74	22.18
			1@215	CP_QAM64	22.02	22.29	22.40
			109@54	CP_QAM256	19.53	19.67	19.84
			1@1	CP_QAM256	19.37	19.28	19.49
			1@215	CP_QAM256	19.84	19.83	19.70

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					516000	519000	522000
					2580MHz	2595MHz	2610MHz
n41	30	90	120@60	DFT_BPSK	26.01	26.19	26.25
			1@1	DFT_BPSK	25.10	24.96	25.23
			1@243	DFT_BPSK	25.65	25.46	25.49
			120@60	DFT_QPSK	26.01	26.09	26.23
			1@1	DFT_QPSK	24.84	24.86	25.14
			1@243	DFT_QPSK	25.51	25.38	25.38
			120@60	DFT_QAM16	24.99	25.15	25.28
			1@1	DFT_QAM16	24.07	24.10	24.38
			1@243	DFT_QAM16	24.63	24.74	24.64
			120@60	DFT_QAM64	23.52	23.71	23.82
			1@1	DFT_QAM64	22.76	22.61	22.81
			1@243	DFT_QAM64	23.26	23.11	23.08
			120@60	DFT_QAM256	21.66	21.70	21.87
			1@1	DFT_QAM256	20.85	20.73	21.05
			1@243	DFT_QAM256	21.02	21.29	21.27
			123@61	CP_QPSK	24.53	24.65	24.77
			1@1	CP_QPSK	23.73	23.77	23.98
			1@243	CP_QPSK	24.33	24.15	24.32
			123@61	CP_QAM16	23.96	24.19	24.25
			1@1	CP_QAM16	22.93	22.87	23.70
			1@243	CP_QAM16	23.41	23.96	23.46
			123@61	CP_QAM64	22.57	22.71	22.78
			1@1	CP_QAM64	21.81	21.52	21.86
			1@243	CP_QAM64	22.34	22.01	22.25
			123@61	CP_QAM256	19.56	19.66	19.87
			1@1	CP_QAM256	19.07	18.92	19.40
			1@243	CP_QAM256	19.63	19.59	19.63

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					517002	519000	520998
					2585.01MHz	2595MHz	2604.99MHz
n41	30	100	135@67	DFT_BPSK	25.99	26.09	26.17
			1@1	DFT_BPSK	24.92	24.70	24.84
			1@271	DFT_BPSK	25.45	25.38	25.36
			135@67	DFT_QPSK	26.03	26.14	26.20
			1@1	DFT_QPSK	24.68	24.70	24.73
			1@271	DFT_QPSK	25.28	25.25	25.19
			135@67	DFT_QAM16	25.10	25.14	25.19
			1@1	DFT_QAM16	24.06	23.87	23.86
			1@271	DFT_QAM16	24.41	24.57	24.43
			135@67	DFT_QAM64	23.58	23.69	23.77
			1@1	DFT_QAM64	22.40	22.38	22.43
			1@271	DFT_QAM64	22.93	23.02	22.90
			137@68	DFT_QAM256	21.69	21.74	21.82
			1@1	DFT_QAM256	20.61	20.56	20.59
			1@271	DFT_QAM256	21.10	21.13	21.08
			137@68	CP_QPSK	24.61	24.68	24.69
			1@1	CP_QPSK	23.54	23.50	23.53
			1@271	CP_QPSK	24.15	24.14	24.08
			137@68	CP_QAM16	24.08	24.17	24.22
			1@1	CP_QAM16	23.22	23.21	23.22
			1@271	CP_QAM16	23.72	23.33	23.84
			137@68	CP_QAM64	22.64	22.63	22.69
			1@1	CP_QAM64	21.37	21.35	21.44
			1@271	CP_QAM64	21.96	21.87	21.88
			137@68	CP_QAM256	19.71	19.67	19.80
			1@1	CP_QAM256	18.74	18.71	19.00
			1@271	CP_QAM256	19.42	19.43	19.31

NR n77(3450MHz-3550MHz) part

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					630334	633334	636332
					3455.01MHz	3500.01MHz	3544.98MHz
n77 3450-3550	30	10	12@6	DFT_BPSK	25.43	25.63	25.50
			1@1	DFT_BPSK	25.46	25.67	25.59
			1@22	DFT_BPSK	25.25	25.36	25.22
			12@6	DFT_QPSK	25.47	25.65	25.53
			1@1	DFT_QPSK	25.28	25.51	25.45
			1@22	DFT_QPSK	25.10	25.37	25.09
			12@6	DFT_QAM16	24.47	24.68	24.52
			1@1	DFT_QAM16	24.91	25.04	24.98
			1@22	DFT_QAM16	24.71	24.81	24.62
			12@6	DFT_QAM64	22.92	23.14	23.08
			1@1	DFT_QAM64	23.17	23.43	23.28
			1@22	DFT_QAM64	23.04	23.17	22.71
			12@6	DFT_QAM256	21.10	21.22	21.11
			1@1	DFT_QAM256	21.26	21.39	21.30
			1@22	DFT_QAM256	21.06	21.17	21.35
			12@6	CP_QPSK	24.05	24.13	23.98
			1@1	CP_QPSK	24.09	24.23	24.09
			1@22	CP_QPSK	23.74	23.83	23.58
			12@6	CP_QAM16	23.56	23.68	23.54
			1@1	CP_QAM16	23.12	23.44	23.67
			1@22	CP_QAM16	23.10	23.30	22.99
			12@6	CP_QAM64	21.96	22.24	22.00
			1@1	CP_QAM64	21.93	22.18	22.67
			1@22	CP_QAM64	21.71	21.94	21.78
			12@6	CP_QAM256	19.09	19.16	19.02
			1@1	CP_QAM256	19.42	19.34	19.18
			1@22	CP_QAM256	19.27	19.03	19.17

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					630500	633334	636166
					3457.5MHz	3500.01MHz	3542.49MHz
n77 3450-3550	30	15	18@9	DFT_BPSK	25.43	25.57	25.53
			1@1	DFT_BPSK	25.54	25.78	25.59
			1@36	DFT_BPSK	25.29	25.32	25.24
			18@9	DFT_QPSK	25.42	25.59	25.46
			1@1	DFT_QPSK	25.35	25.62	25.37
			1@36	DFT_QPSK	25.08	25.27	25.11
			18@9	DFT_QAM16	24.50	24.60	24.67
			1@1	DFT_QAM16	24.80	24.90	24.76
			1@36	DFT_QAM16	24.68	24.45	24.42
			18@9	DFT_QAM64	23.06	23.29	23.16
			1@1	DFT_QAM64	23.22	23.16	23.30
			1@36	DFT_QAM64	22.67	23.04	22.65
			18@9	DFT_QAM256	21.09	21.27	21.15
			1@1	DFT_QAM256	21.50	21.49	21.52
			1@36	DFT_QAM256	21.30	21.35	21.16
			19@9	CP_QPSK	23.89	24.04	24.01
			1@1	CP_QPSK	23.86	24.10	24.00
			1@36	CP_QPSK	23.58	23.76	23.52
			19@9	CP_QAM16	23.51	23.59	23.63
			1@1	CP_QAM16	23.19	23.99	23.67
			1@36	CP_QAM16	23.04	23.57	23.29
			19@9	CP_QAM64	21.97	22.13	22.07
			1@1	CP_QAM64	22.49	22.70	22.30
			1@36	CP_QAM64	21.70	22.22	22.21
			19@9	CP_QAM256	19.02	19.16	19.03
			1@1	CP_QAM256	19.40	19.67	19.38
			1@36	CP_QAM256	19.19	19.25	19.01

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					630668	633334	636000
					3460.02MHz	3500.01MHz	3540MHz
n77 3450-3550	30	20	25@12	DFT_BPSK	25.38	25.64	25.58
			1@1	DFT_BPSK	25.34	25.67	25.44
			1@49	DFT_BPSK	25.26	25.22	25.16
			25@12	DFT_QPSK	25.42	25.62	25.61
			1@1	DFT_QPSK	25.26	25.51	25.41
			1@49	DFT_QPSK	25.09	25.07	24.97
			25@12	DFT_QAM16	24.48	24.68	24.64
			1@1	DFT_QAM16	24.77	25.13	24.92
			1@49	DFT_QAM16	24.59	24.53	24.48
			25@12	DFT_QAM64	22.91	23.14	23.08
			1@1	DFT_QAM64	23.09	23.40	23.31
			1@49	DFT_QAM64	22.70	22.59	22.57
			25@12	DFT_QAM256	20.93	21.29	21.14
			1@1	DFT_QAM256	21.22	21.43	21.25
			1@49	DFT_QAM256	21.03	21.21	21.09
			25@12	CP_QPSK	24.01	24.13	24.10
			1@1	CP_QPSK	23.63	24.18	23.95
			1@49	CP_QPSK	23.50	23.52	23.62
			25@12	CP_QAM16	23.49	23.66	23.59
			1@1	CP_QAM16	23.20	23.50	23.57
			1@49	CP_QAM16	23.48	23.23	23.22
			25@12	CP_QAM64	21.89	22.15	22.15
			1@1	CP_QAM64	22.22	22.76	22.26
			1@49	CP_QAM64	22.15	22.18	22.14
			25@12	CP_QAM256	18.96	19.19	19.16
			1@1	CP_QAM256	18.97	19.45	19.10
			1@49	CP_QAM256	19.19	19.01	18.89

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					631000	633334	635666
					3465MHz	3500.01MHz	3534.99MHz
n77 3450-3550	30	30	36@18	DFT_BPSK	25.33	25.60	25.60
			1@1	DFT_BPSK	25.34	25.59	25.32
			1@76	DFT_BPSK	25.53	25.12	25.02
			36@18	DFT_QPSK	25.30	25.67	25.64
			1@1	DFT_QPSK	25.17	25.56	25.16
			1@76	DFT_QPSK	25.37	25.02	24.89
			36@18	DFT_QAM16	24.44	24.70	24.67
			1@1	DFT_QAM16	24.25	24.98	24.48
			1@76	DFT_QAM16	24.80	24.47	24.16
			36@18	DFT_QAM64	22.84	23.09	23.12
			1@1	DFT_QAM64	23.04	23.06	23.02
			1@76	DFT_QAM64	22.85	22.58	22.69
			36@18	DFT_QAM256	20.97	21.21	21.27
			1@1	DFT_QAM256	21.30	21.62	21.02
			1@76	DFT_QAM256	21.25	21.14	20.98
			39@19	CP_QPSK	23.94	24.17	24.12
			1@1	CP_QPSK	23.64	24.09	23.72
			1@76	CP_QPSK	23.75	23.46	23.55
			39@19	CP_QAM16	23.34	23.59	23.60
			1@1	CP_QAM16	23.11	23.59	23.54
			1@76	CP_QAM16	23.58	23.01	22.91
			39@19	CP_QAM64	21.82	22.06	22.08
			1@1	CP_QAM64	21.67	22.57	22.30
			1@76	CP_QAM64	22.51	22.15	21.31
			39@19	CP_QAM256	18.94	19.15	19.20
			1@1	CP_QAM256	19.20	19.13	18.80
			1@76	CP_QAM256	19.35	19.03	18.50

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					631334	633334	635332
					3470.01MHz	3500.01MHz	3529.98MHz
n77 3450-3550	30	40	50@25	DFT_BPSK	25.41	25.56	25.59
			1@1	DFT_BPSK	25.06	25.31	24.86
			1@104	DFT_BPSK	25.47	25.07	24.88
			50@25	DFT_QPSK	25.41	25.64	25.64
			1@1	DFT_QPSK	24.94	25.13	24.72
			1@104	DFT_QPSK	25.27	24.82	24.59
			50@25	DFT_QAM16	24.46	24.67	24.61
			1@1	DFT_QAM16	24.07	24.68	24.21
			1@104	DFT_QAM16	24.41	24.18	23.95
			50@25	DFT_QAM64	22.95	23.14	23.11
			1@1	DFT_QAM64	22.53	23.06	22.28
			1@104	DFT_QAM64	23.10	22.77	22.53
			50@25	DFT_QAM256	20.99	21.17	21.18
			1@1	DFT_QAM256	20.88	21.12	20.78
			1@104	DFT_QAM256	21.18	20.70	20.52
			53@26	CP_QPSK	23.99	24.10	24.08
			1@1	CP_QPSK	23.27	23.82	23.28
			1@104	CP_QPSK	23.80	23.41	23.20
			53@26	CP_QAM16	23.40	23.53	23.58
			1@1	CP_QAM16	22.91	23.15	23.01
			1@104	CP_QAM16	23.47	23.05	22.90
			53@26	CP_QAM64	22.07	22.09	22.13
			1@1	CP_QAM64	21.89	21.98	21.55
			1@104	CP_QAM64	22.35	21.68	21.76
			53@26	CP_QAM256	19.01	19.14	19.12
			1@1	CP_QAM256	18.98	19.08	18.39
			1@104	CP_QAM256	19.27	18.53	18.54

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					631668	633334	635000
					3475.02MHz	3500.01MHz	3525MHz
n77 3450-3550	30	50	64@32	DFT_BPSK	25.65	25.66	25.62
			1@1	DFT_BPSK	25.39	25.49	25.31
			1@131	DFT_BPSK	25.40	25.41	25.15
			64@32	DFT_QPSK	25.55	25.68	25.55
			1@1	DFT_QPSK	25.20	25.48	25.33
			1@131	DFT_QPSK	25.25	25.20	24.93
			64@32	DFT_QAM16	24.67	24.76	24.61
			1@1	DFT_QAM16	24.58	24.82	24.74
			1@131	DFT_QAM16	24.76	24.72	24.00
			64@32	DFT_QAM64	23.15	23.22	23.09
			1@1	DFT_QAM64	23.13	23.13	22.99
			1@131	DFT_QAM64	22.88	23.09	22.42
			64@32	DFT_QAM256	21.29	21.19	21.09
			1@1	DFT_QAM256	21.03	21.45	21.04
			1@131	DFT_QAM256	21.37	21.31	21.04
			67@33	CP_QPSK	24.06	24.10	24.00
			1@1	CP_QPSK	23.76	23.78	23.65
			1@131	CP_QPSK	23.81	23.81	23.45
			67@33	CP_QAM16	23.63	23.58	23.54
			1@1	CP_QAM16	23.07	23.35	23.23
			1@131	CP_QAM16	23.45	23.42	23.17
			67@33	CP_QAM64	22.14	22.18	22.07
			1@1	CP_QAM64	21.99	21.92	22.42
			1@131	CP_QAM64	22.41	22.44	22.16
			67@33	CP_QAM256	19.22	19.22	19.11
			1@1	CP_QAM256	19.10	19.24	19.16
			1@131	CP_QAM256	19.13	19.17	18.91

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					632000	633334	634666
					3480MHz	3500.01MHz	3519.99MHz
n77 3450-3550	30	60	81@40	DFT_BPSK	25.70	25.66	25.55
			1@1	DFT_BPSK	25.17	25.08	25.47
			1@160	DFT_BPSK	25.02	25.24	24.99
			81@40	DFT_QPSK	25.67	25.69	25.55
			1@1	DFT_QPSK	25.04	24.98	25.27
			1@160	DFT_QPSK	24.80	25.10	24.81
			81@40	DFT_QAM16	24.65	24.62	24.54
			1@1	DFT_QAM16	24.33	24.31	24.81
			1@160	DFT_QAM16	24.03	24.43	24.27
			81@40	DFT_QAM64	23.21	23.17	23.06
			1@1	DFT_QAM64	22.53	22.43	22.89
			1@160	DFT_QAM64	22.44	22.60	22.62
			81@40	DFT_QAM256	21.26	21.21	21.09
			1@1	DFT_QAM256	21.12	20.98	21.44
			1@160	DFT_QAM256	20.92	21.20	20.93
			81@40	CP_QPSK	24.17	24.13	24.05
			1@1	CP_QPSK	23.41	23.51	23.92
			1@160	CP_QPSK	23.33	23.76	23.39
			81@40	CP_QAM16	23.63	23.62	23.50
			1@1	CP_QAM16	23.39	23.13	23.77
			1@160	CP_QAM16	23.27	23.21	22.77
			81@40	CP_QAM64	22.29	22.16	21.99
			1@1	CP_QAM64	21.87	21.47	22.34
			1@160	CP_QAM64	21.71	21.68	21.74
			81@40	CP_QAM256	19.28	19.24	19.11
			1@1	CP_QAM256	19.18	19.01	19.40
			1@160	CP_QAM256	19.07	19.31	18.86

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					632668	633334	634000
					3490.02MHz	3500.01MHz	3510MHz
n77 3450-3550	30	80	108@54	DFT_BPSK	25.66	25.65	25.52
			1@1	DFT_BPSK	24.94	24.71	24.90
			1@215	DFT_BPSK	25.11	25.00	24.72
			108@54	DFT_QPSK	25.70	25.66	25.57
			1@1	DFT_QPSK	24.75	24.51	24.63
			1@215	DFT_QPSK	24.91	24.85	24.59
			108@54	DFT_QAM16	24.72	24.71	24.50
			1@1	DFT_QAM16	24.20	24.13	24.24
			1@215	DFT_QAM16	24.45	24.29	23.98
			108@54	DFT_QAM64	23.22	23.21	23.08
			1@1	DFT_QAM64	22.55	22.27	22.67
			1@215	DFT_QAM64	22.57	22.86	22.29
			108@54	DFT_QAM256	21.27	21.18	21.05
			1@1	DFT_QAM256	20.84	20.81	20.64
			1@215	DFT_QAM256	21.13	21.07	20.59
			109@54	CP_QPSK	24.13	24.04	23.94
			1@1	CP_QPSK	23.26	22.99	23.35
			1@215	CP_QPSK	23.54	23.30	23.10
			109@54	CP_QAM16	23.64	23.67	23.56
			1@1	CP_QAM16	23.24	22.65	22.80
			1@215	CP_QAM16	23.04	23.01	23.00
			109@54	CP_QAM64	22.20	22.10	22.03
			1@1	CP_QAM64	21.77	21.19	21.27
			1@215	CP_QAM64	21.99	22.13	21.18
			109@54	CP_QAM256	19.25	19.16	19.05
			1@1	CP_QAM256	18.43	18.18	18.30
			1@215	CP_QAM256	18.53	18.49	18.48

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					633000	633334	633666
					3495MHz	3500.01MHz	3504.99MHz
n77 3450-3550	30	90	120@60	DFT_BPSK	25.61	25.60	25.54
			1@1	DFT_BPSK	24.73	24.69	24.67
			1@243	DFT_BPSK	-24.26	24.81	24.69
			120@60	DFT_QPSK	25.56	25.64	25.53
			1@1	DFT_QPSK	24.63	24.75	24.48
			1@243	DFT_QPSK	24.83	24.84	24.52
			120@60	DFT_QAM16	24.62	24.55	24.57
			1@1	DFT_QAM16	24.01	23.70	24.01
			1@243	DFT_QAM16	24.26	23.79	23.55
			120@60	DFT_QAM64	23.11	23.17	23.17
			1@1	DFT_QAM64	22.55	22.03	22.01
			1@243	DFT_QAM64	22.51	22.10	22.04
			120@60	DFT_QAM256	21.22	21.15	21.14
			1@1	DFT_QAM256	20.54	20.61	20.62
			1@243	DFT_QAM256	20.64	20.74	20.32
			123@61	CP_QPSK	24.00	24.07	23.96
			1@1	CP_QPSK	23.31	23.07	22.93
			1@243	CP_QPSK	23.45	23.16	23.15
			123@61	CP_QAM16	23.58	23.61	23.56
			1@1	CP_QAM16	22.63	22.77	22.52
			1@243	CP_QAM16	22.74	22.95	22.68
			123@61	CP_QAM64	22.04	22.04	22.07
			1@1	CP_QAM64	21.72	21.02	21.63
			1@243	CP_QAM64	21.18	21.14	21.10
			123@61	CP_QAM256	19.10	19.16	19.09
			1@1	CP_QAM256	18.24	18.62	18.43
			1@243	CP_QAM256	18.72	18.80	18.17

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
						633334	
						3500.01MHz	
n77 3450-3550	30	100	135@67	DFT_BPSK		25.48	
			1@1	DFT_BPSK		24.60	
			1@271	DFT_BPSK		24.48	
			135@67	DFT_QPSK		25.50	
			1@1	DFT_QPSK		24.62	
			1@271	DFT_QPSK		24.39	
			135@67	DFT_QAM16		24.58	
			1@1	DFT_QAM16		23.62	
			1@271	DFT_QAM16		23.48	
			135@67	DFT_QAM64		23.08	
			1@1	DFT_QAM64		21.95	
			1@271	DFT_QAM64		21.76	
			135@67	DFT_QAM256		21.11	
			1@1	DFT_QAM256		20.51	
			1@271	DFT_QAM256		20.30	
			137@68	CP_QPSK		24.07	
			1@1	CP_QPSK		22.93	
			1@271	CP_QPSK		22.71	
			137@68	CP_QAM16		23.51	
			1@1	CP_QAM16		22.74	
			1@271	CP_QAM16		22.49	
			137@68	CP_QAM64		22.07	
			1@1	CP_QAM64		21.00	
			1@271	CP_QAM64		20.78	
			137@68	CP_QAM256		19.16	
			1@1	CP_QAM256		18.55	
			1@271	CP_QAM256		18.35	

NR n77(3700MHz-3980MHz) part

NR Band	SCS	Bandwidth	RB Allocation	Modulation	Average Power (dBm)		
					647000	656000	665000
	(KHz)	(MHz)			3705.6MHz	3840MHz	3975MHz
n77 3700-3980	30	10	12@6	DFT_BPSK	24.31	25.37	25.55
			1@1	DFT_BPSK	24.31	25.22	25.42
			1@22	DFT_BPSK	24.12	25.38	25.63
			12@6	DFT_QPSK	24.34	25.39	25.56
			1@1	DFT_QPSK	24.21	25.21	25.28
			1@22	DFT_QPSK	24.04	25.30	25.49
			12@6	DFT_QAM16	23.38	24.43	24.55
			1@1	DFT_QAM16	23.55	24.32	24.45
			1@22	DFT_QAM16	23.39	24.46	24.71
			12@6	DFT_QAM64	21.77	22.95	23.07
			1@1	DFT_QAM64	21.62	22.46	22.99
			1@22	DFT_QAM64	21.65	22.67	23.24
			12@6	DFT_QAM256	19.86	20.96	21.05
			1@1	DFT_QAM256	20.24	20.81	21.03
			1@22	DFT_QAM256	19.69	21.29	21.52
			12@6	CP_QPSK	22.75	23.87	23.94
			1@1	CP_QPSK	22.94	23.58	23.85
			1@22	CP_QPSK	22.75	23.88	23.90
			12@6	CP_QAM16	22.35	23.42	23.52
			1@1	CP_QAM16	21.92	22.86	23.02
			1@22	CP_QAM16	22.03	23.09	23.63
			12@6	CP_QAM64	20.89	22.07	22.03
			1@1	CP_QAM64	21.21	21.60	21.74
			1@22	CP_QAM64	20.94	22.34	22.04
			12@6	CP_QAM256	17.84	19.01	19.12
			1@1	CP_QAM256	18.24	19.04	19.23
			1@22	CP_QAM256	18.03	19.24	19.42

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					647168	656000	664832
					3707.52MHz	3840MHz	3972.48MHz
n77 3700-3980	30	15	18@9	DFT_BPSK	24.23	25.37	25.46
			1@1	DFT_BPSK	24.35	25.15	25.21
			1@36	DFT_BPSK	23.87	25.39	25.54
			18@9	DFT_QPSK	24.18	25.39	25.44
			1@1	DFT_QPSK	24.33	25.07	25.19
			1@36	DFT_QPSK	23.83	25.22	25.52
			18@9	DFT_QAM16	23.31	24.45	24.50
			1@1	DFT_QAM16	23.11	24.25	24.41
			1@36	DFT_QAM16	23.15	24.58	24.77
			18@9	DFT_QAM64	21.82	22.86	23.06
			1@1	DFT_QAM64	21.69	22.35	22.85
			1@36	DFT_QAM64	21.42	22.57	23.21
			18@9	DFT_QAM256	19.76	20.93	21.03
			1@1	DFT_QAM256	20.18	20.91	21.08
			1@36	DFT_QAM256	19.79	20.97	21.38
			19@9	CP_QPSK	22.68	23.80	23.89
			1@1	CP_QPSK	22.54	23.56	23.68
			1@36	CP_QPSK	22.42	23.77	23.91
			19@9	CP_QAM16	22.30	23.40	23.50
			1@1	CP_QAM16	22.22	22.80	23.28
			1@36	CP_QAM16	21.83	23.08	23.49
			19@9	CP_QAM64	20.73	21.92	22.02
			1@1	CP_QAM64	21.05	21.66	22.18
			1@36	CP_QAM64	20.70	22.26	22.15
			19@9	CP_QAM256	17.78	18.85	19.03
			1@1	CP_QAM256	17.75	18.57	18.67
			1@36	CP_QAM256	17.31	19.06	19.23

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					647334	656000	664666
					3710.01MHz	3840MHz	3969.99MHz
n77 3700-3980	30	20	25@12	DFT_BPSK	24.15	25.39	25.43
			1@1	DFT_BPSK	24.22	24.98	25.14
			1@49	DFT_BPSK	23.82	25.40	25.51
			25@12	DFT_QPSK	24.11	25.41	25.41
			1@1	DFT_QPSK	24.09	24.87	25.00
			1@49	DFT_QPSK	23.65	25.27	25.53
			25@12	DFT_QAM16	23.13	24.42	24.38
			1@1	DFT_QAM16	23.47	23.80	24.39
			1@49	DFT_QAM16	22.92	24.62	24.30
			25@12	DFT_QAM64	21.71	22.92	22.94
			1@1	DFT_QAM64	21.85	22.25	22.74
			1@49	DFT_QAM64	21.01	22.98	22.82
			25@12	DFT_QAM256	19.73	20.96	21.03
			1@1	DFT_QAM256	19.77	20.85	21.01
			1@49	DFT_QAM256	19.57	21.24	21.41
			25@12	CP_QPSK	22.59	23.84	23.80
			1@1	CP_QPSK	22.70	23.45	23.51
			1@49	CP_QPSK	22.16	23.66	23.91
			25@12	CP_QAM16	22.17	23.40	23.32
			1@1	CP_QAM16	22.09	23.00	22.86
			1@49	CP_QAM16	21.68	23.32	23.23
			25@12	CP_QAM64	20.65	21.85	21.93
			1@1	CP_QAM64	21.05	21.99	21.45
			1@49	CP_QAM64	20.31	21.61	21.80
			25@12	CP_QAM256	17.66	18.92	18.98
			1@1	CP_QAM256	17.61	18.79	19.03
			1@49	CP_QAM256	17.23	19.20	19.41

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					647668	656000	664332
					3715.02MHz	3840MHz	3964.98MHz
n77 3700-3980	30	30	36@18	DFT_BPSK	24.07	25.41	25.27
			1@1	DFT_BPSK	24.12	24.71	25.07
			1@76	DFT_BPSK	23.82	25.27	25.29
			36@18	DFT_QPSK	24.03	25.37	25.30
			1@1	DFT_QPSK	24.10	24.63	24.96
			1@76	DFT_QPSK	23.81	25.05	25.15
			36@18	DFT_QAM16	23.03	24.33	24.31
			1@1	DFT_QAM16	22.86	23.86	24.14
			1@76	DFT_QAM16	22.99	24.42	24.30
			36@18	DFT_QAM64	21.50	22.79	22.78
			1@1	DFT_QAM64	21.45	22.16	22.58
			1@76	DFT_QAM64	21.30	22.68	22.87
			36@18	DFT_QAM256	19.59	20.88	20.94
			1@1	DFT_QAM256	19.93	20.27	20.95
			1@76	DFT_QAM256	19.61	20.77	21.20
			39@19	CP_QPSK	22.56	23.88	23.81
			1@1	CP_QPSK	22.52	23.25	23.55
			1@76	CP_QPSK	22.17	23.70	23.82
			39@19	CP_QAM16	21.98	23.27	23.26
			1@1	CP_QAM16	22.00	22.46	23.26
			1@76	CP_QAM16	21.53	23.33	23.13
			39@19	CP_QAM64	20.55	21.83	21.77
			1@1	CP_QAM64	20.93	20.92	22.01
			1@76	CP_QAM64	20.60	21.33	21.51
			39@19	CP_QAM256	17.56	18.92	18.91
			1@1	CP_QAM256	17.92	18.57	18.95
			1@76	CP_QAM256	17.57	19.01	18.77

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					648000	656000	664000
					3720MHz	3840MHz	3960MHz
n77 3700-3980	30	40	50@25	DFT_BPSK	24.02	25.34	25.30
			1@1	DFT_BPSK	23.87	24.42	24.90
			1@104	DFT_BPSK	23.71	24.98	25.20
			50@25	DFT_QPSK	23.96	25.27	25.32
			1@1	DFT_QPSK	23.73	24.42	24.73
			1@104	DFT_QPSK	23.64	25.01	24.99
			50@25	DFT_QAM16	23.06	24.41	24.33
			1@1	DFT_QAM16	23.01	23.59	23.97
			1@104	DFT_QAM16	22.89	23.77	24.24
			50@25	DFT_QAM64	21.51	22.86	22.81
			1@1	DFT_QAM64	21.03	22.02	22.51
			1@104	DFT_QAM64	20.91	22.28	22.79
			50@25	DFT_QAM256	19.58	20.89	20.98
			1@1	DFT_QAM256	19.61	20.26	20.49
			1@104	DFT_QAM256	19.22	20.49	20.69
			53@26	CP_QPSK	22.42	23.75	23.68
			1@1	CP_QPSK	22.35	22.84	23.25
			1@104	CP_QPSK	22.16	23.42	23.48
			53@26	CP_QAM16	21.99	23.34	23.29
			1@1	CP_QAM16	21.77	22.12	22.89
			1@104	CP_QAM16	21.39	22.88	23.08
			53@26	CP_QAM64	20.51	21.90	21.83
			1@1	CP_QAM64	20.30	21.31	21.41
			1@104	CP_QAM64	20.50	21.25	21.69
			53@26	CP_QAM256	17.54	18.86	18.90
			1@1	CP_QAM256	17.56	18.13	18.55
			1@104	CP_QAM256	17.43	18.81	18.83

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					648334	656000	663666
					3725.01MHz	3840MHz	3954.99MHz
n77 3700-3980	30	50	64@32	DFT_BPSK	24.11	25.33	25.32
			1@1	DFT_BPSK	24.17	24.67	25.10
			1@131	DFT_BPSK	23.86	25.26	25.36
			64@32	DFT_QPSK	24.08	25.40	25.27
			1@1	DFT_QPSK	24.18	24.52	24.85
			1@131	DFT_QPSK	23.72	25.19	25.25
			64@32	DFT_QAM16	23.16	24.40	24.29
			1@1	DFT_QAM16	22.91	23.84	23.91
			1@131	DFT_QAM16	23.11	24.31	24.59
			64@32	DFT_QAM64	21.66	22.93	22.88
			1@1	DFT_QAM64	21.40	21.99	22.23
			1@131	DFT_QAM64	21.14	22.64	22.61
			64@32	DFT_QAM256	19.66	20.90	20.95
			1@1	DFT_QAM256	19.69	20.47	20.60
			1@131	DFT_QAM256	19.38	20.86	20.92
			67@33	CP_QPSK	22.47	23.85	23.77
			1@1	CP_QPSK	22.65	22.98	23.39
			1@131	CP_QPSK	22.24	23.67	23.85
			67@33	CP_QAM16	21.93	23.37	23.32
			1@1	CP_QAM16	21.74	22.66	22.64
			1@131	CP_QAM16	21.73	23.03	22.97
			67@33	CP_QAM64	20.54	21.85	21.83
			1@1	CP_QAM64	20.44	21.50	21.22
			1@131	CP_QAM64	20.73	22.01	22.46
			67@33	CP_QAM256	17.58	18.95	18.90
			1@1	CP_QAM256	17.97	18.40	19.01
			1@131	CP_QAM256	17.27	18.58	19.23

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					648668	656000	663332
					3730.02MHz	3840MHz	3949.98MHz
n77 3700-3980	30	60	81@40	DFT_BPSK	24.14	25.36	25.36
			1@1	DFT_BPSK	23.98	24.52	24.83
			1@160	DFT_BPSK	23.76	25.20	25.21
			81@40	DFT_QPSK	24.14	25.31	25.29
			1@1	DFT_QPSK	23.88	24.36	24.72
			1@160	DFT_QPSK	23.69	25.10	25.19
			81@40	DFT_QAM16	23.05	24.44	24.31
			1@1	DFT_QAM16	23.07	23.64	23.97
			1@160	DFT_QAM16	22.89	24.36	24.43
			81@40	DFT_QAM64	21.65	22.85	22.84
			1@1	DFT_QAM64	21.33	21.84	22.19
			1@160	DFT_QAM64	20.69	22.58	22.47
			81@40	DFT_QAM256	19.70	20.91	20.98
			1@1	DFT_QAM256	19.45	20.04	20.43
			1@160	DFT_QAM256	19.25	20.72	20.89
			81@40	CP_QPSK	22.57	23.85	23.83
			1@1	CP_QPSK	22.24	22.92	23.31
			1@160	CP_QPSK	22.06	23.59	23.54
			81@40	CP_QAM16	22.10	23.34	23.36
			1@1	CP_QAM16	21.92	22.43	22.94
			1@160	CP_QAM16	21.89	22.97	23.30
			81@40	CP_QAM64	20.58	21.81	21.84
			1@1	CP_QAM64	20.66	21.24	21.07
			1@160	CP_QAM64	20.37	21.39	21.45
			81@40	CP_QAM256	17.63	18.94	18.96
			1@1	CP_QAM256	17.90	18.43	18.84
			1@160	CP_QAM256	17.73	19.23	19.32

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					649334	656000	662666
					3740.01MHz	3840MHz	3939.99MHz
n77 3700-3980	30	80	108@54	DFT_BPSK	24.22	25.33	25.36
			1@1	DFT_BPSK	23.87	24.11	24.81
			1@215	DFT_BPSK	23.80	25.04	25.04
			108@54	DFT_QPSK	24.25	25.31	25.32
			1@1	DFT_QPSK	23.69	23.90	24.66
			1@215	DFT_QPSK	23.65	24.88	24.85
			108@54	DFT_QAM16	23.22	24.35	24.37
			1@1	DFT_QAM16	22.87	23.21	23.97
			1@215	DFT_QAM16	22.93	24.07	24.09
			108@54	DFT_QAM64	21.79	22.89	22.88
			1@1	DFT_QAM64	21.14	21.42	22.24
			1@215	DFT_QAM64	21.10	22.29	22.27
			108@54	DFT_QAM256	19.78	20.95	20.92
			1@1	DFT_QAM256	19.33	19.64	20.34
			1@215	DFT_QAM256	19.38	20.58	20.67
			109@54	CP_QPSK	22.66	23.86	23.78
			1@1	CP_QPSK	22.27	22.51	23.35
			1@215	CP_QPSK	22.27	23.48	23.58
			109@54	CP_QAM16	22.28	23.43	23.32
			1@1	CP_QAM16	21.45	21.82	23.02
			1@215	CP_QAM16	21.93	22.74	22.85
			109@54	CP_QAM64	20.69	21.86	21.80
			1@1	CP_QAM64	20.47	20.11	20.97
			1@215	CP_QAM64	19.84	21.12	21.19
			109@54	CP_QAM256	17.74	18.93	18.89
			1@1	CP_QAM256	17.42	18.03	18.76
			1@215	CP_QAM256	17.40	19.06	19.07

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					649668	656000	662332
					3745.02MHz	3840MHz	3934.98MHz
n77 3700-3980	30	90	120@60	DFT_BPSK	24.22	25.37	25.35
			1@1	DFT_BPSK	23.71	23.78	24.71
			1@243	DFT_BPSK	23.82	24.89	25.05
			120@60	DFT_QPSK	24.23	25.27	25.31
			1@1	DFT_QPSK	23.63	23.70	24.52
			1@243	DFT_QPSK	23.78	24.79	24.75
			120@60	DFT_QAM16	23.20	24.28	24.29
			1@1	DFT_QAM16	22.93	23.08	23.85
			1@243	DFT_QAM16	23.04	23.94	24.24
			120@60	DFT_QAM64	21.78	22.83	22.86
			1@1	DFT_QAM64	20.90	20.97	22.15
			1@243	DFT_QAM64	20.96	22.03	22.21
			120@60	DFT_QAM256	19.71	20.89	20.91
			1@1	DFT_QAM256	19.15	19.25	20.27
			1@243	DFT_QAM256	19.21	20.36	20.58
			123@61	CP_QPSK	22.61	23.79	23.78
			1@1	CP_QPSK	21.98	22.17	23.12
			1@243	CP_QPSK	22.18	23.33	23.38
			123@61	CP_QAM16	22.20	23.36	23.26
			1@1	CP_QAM16	22.31	21.97	22.86
			1@243	CP_QAM16	22.06	23.01	22.75
			123@61	CP_QAM64	20.63	21.75	21.75
			1@1	CP_QAM64	20.31	20.04	20.91
			1@243	CP_QAM64	20.49	21.09	21.27
			123@61	CP_QAM256	17.76	18.89	18.93
			1@1	CP_QAM256	17.25	17.43	18.48
			1@243	CP_QAM256	17.38	18.96	18.95

NR Band	SCS (KHz)	Bandwidth (MHz)	RB Allocation	Modulation	Average Power (dBm)		
					650000	656000	662000
					3750MHz	3840MHz	3930MHz
n77 3700-3980	30	100	135@67	DFT_BPSK	24.23	25.26	25.31
			1@1	DFT_BPSK	23.45	23.39	24.62
			1@271	DFT_BPSK	23.89	24.56	24.78
			135@67	DFT_QPSK	24.24	25.25	25.22
			1@1	DFT_QPSK	23.41	23.42	24.53
			1@271	DFT_QPSK	23.85	24.38	24.56
			135@67	DFT_QAM16	23.25	24.26	24.26
			1@1	DFT_QAM16	22.72	22.79	24.03
			1@271	DFT_QAM16	23.10	23.81	23.75
			135@67	DFT_QAM64	21.69	22.80	22.83
			1@1	DFT_QAM64	20.62	20.90	22.13
			1@271	DFT_QAM64	21.07	22.05	22.04
			135@67	DFT_QAM256	19.83	20.90	20.93
			1@1	DFT_QAM256	19.03	19.02	20.09
			1@271	DFT_QAM256	19.35	20.05	20.36
			137@68	CP_QPSK	22.69	23.78	23.76
			1@1	CP_QPSK	21.84	21.88	22.95
			1@271	CP_QPSK	22.15	22.91	23.16
			137@68	CP_QAM16	22.19	23.37	23.35
			1@1	CP_QAM16	21.95	21.64	22.79
			1@271	CP_QAM16	22.08	22.40	22.88
			137@68	CP_QAM64	20.78	21.79	21.82
			1@1	CP_QAM64	20.13	19.61	20.87
			1@271	CP_QAM64	20.60	21.21	21.88
			137@68	CP_QAM256	17.79	18.87	18.93
			1@1	CP_QAM256	17.09	17.09	18.45
			1@271	CP_QAM256	17.43	18.56	18.61

13.5 WLAN 2.4 GHz Band Conducted Power

ANT 1

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 b	802.11 g	802.11n (HT20)	802.11ax20
CH 01	2412	**16.67**	**17.35**	12.43	14.31
CH 06	2437	16.38	15.46	10.55	12.54
CH 11	2462	16.03	16.79	11.93	13.82

Average Power (dBm)			
Channel	Frequency (MHz)	802.11n (HT40)	802.11ax40
CH 03	2422	9.35	12.57
CH 06	2437	8.77	11.94
CH 09	2452	9.88	13.04

ANT 2

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 b	802.11 g	802.11n (HT20)	802.11ax20
CH 01	2412	**17.48**	**18.04**	13.02	15.03
CH 06	2437	17.04	17.75	12.77	14.85
CH 11	2462	17.14	17.87	12.83	14.78

Average Power (dBm)			
Channel	Frequency (MHz)	802.11n (HT40)	802.11ax40
CH 03	2422	10.41	13.64
CH 06	2437	10.78	13.96
CH 09	2452	10.77	13.99

Note:

1. Per KDB 447498 D01v06, the 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*) / (*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison

   For ANT 1

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
b/CH 01	2.412	17.0	50.12	5	15.53	3.0
g/CH 01	2.412	17.5	56.23	5	17.43	3.0

   For ANT 2

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
b/CH 01	2.412	18.0	63.10	5	19.56	3.0
g/CH 01	2.412	18.5	70.79	5	21.94	3.0

2. Base on the result of note1, RF exposure evaluation of 802.11 b mode is required.
3. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
4. Per KDB 248227 D01v02r02, In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. SAR is not required for the following 2.4 GHz OFDM conditions:
   1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.
   2) When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
5. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
6. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle of ANT 1 and ANT 2 is 99.92%, so the duty cycle factor is 1.01.

13.6 WLAN 5.2GHz Band Conducted Power

WIFI ANT 1

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 ax20	802.11 n20
CH 36	5180	14.20	13.37	11.68	13.14
CH 40	5200	12.19	14.31	12.73	14.14
CH 48	5240	**15.21**	14.33	12.74	14.13

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 ac40	802.11 ax40	802.11 n40
CH 38	5190	13.46	8.08	11.61
CH 46	5230	13.60	8.68	12.47

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac80	802.11 ax80
CH 42	5210	12.77	7.71

WIFI ANT 2

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 ax20	802.11 n20
CH 36	5180	16.74	15.81	14.27	15.91
CH 40	5200	16.42	16.02	13.76	15.75
CH 48	5240	**16.86**	16.28	14.32	15.83

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 ac40	802.11 ax40	802.11 n40
CH 38	5190	15.37	12.39	15.35
CH 46	5230	15.39	12.09	15.11

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac80	802.11 ax80
CH 42	5210	14.93	12.13

Note:

7. Per KDB 447498 D01v06, the 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*) / (*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison

   For ANT 1

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
a/CH 48	5.240	15.5	35.48	5	16.25	3

   For ANT 2

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
a/CH 48	5.240	17.0	50.12	5	22.95	3

8. Base on the result of note1, RF exposure evaluation of 802.11 a mode is not required.
9. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
10. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
11. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle of ANT 1 and ANT 2 is 100%, so the duty cycle factor is 1.

13.7 WLAN 5.8GHz Band Conducted Power

WIFI ANT 1

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 ax20	802.11 n20
CH 149	5745	12.47	14.07	13.55	13.93
CH 157	5785	13.24	14.25	13.48	14.00
CH 165	5825	**15.81**	13.19	13.79	14.96

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 ac40	802.11 ax40	802.11 n40
CH 151	5755	14.59	12.76	13.57
CH 159	5795	14.31	12.63	15.10

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac80	802.11 ax80
CH 155	5775	14.08	12.47

WIFI ANT 2

Average Power (dBm)					
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 ax20	802.11 n20
CH 149	5745	14.88	**17.46**	15.56	14.56
CH 157	5785	14.84	17.45	15.84	14.43
CH 165	5825	15.18	15.49	16.23	14.92

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 ac40	802.11 ax40	802.11 n40
CH 151	5755	16.71	14.83	15.43
CH 159	5795	16.77	14.80	13.91

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac80	802.11 ax80
CH 155	5775	16.54	14.99

Note:

12. Per KDB 447498 D01v06, the 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
    [(*max. power of channel, including tune-up tolerance, mW*) / (*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where
    - f(GHz) is the RF channel transmit frequency in GHz
    - Power and distance are rounded to the nearest mW and mm before calculation
    - The result is rounded to one decimal place for comparison

    For ANT 1

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
a/CH 165	5.825	16.0	39.81	5	19.19	3

    For ANT 2

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
ac20/CH 149	5.745	17.5	56.23	5	26.99	3

13. Base on the result of note1, RF exposure evaluation of 802.11 a mode is not required.
14. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
15. The output power of all data rate were pre-scan, just the worst case (the lowest data rate) of all mode were shown in report.
16. Per KDB 248227 D01V02r02 section 2.2, when the EUT in continuously transmitting mode, the actual duty cycle of ANT 1 and ANT 2 is 100%, so the duty cycle factor is 1.

13.8 Bluetooth Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	GFSK	π/4-DQPSK	8DPSK
CH 00	2402	**5.30**	4.68	4.97
CH 39	2441	5.29	4.60	5.00
CH 78	2480	4.14	3.75	4.14

Average Power (dBm)					
Channel	Frequency (MHz)	BLE 1M PHY	BLE 2M PHY	BLE-Coded PHY S=2	BLE-Coded PHY S=8
CH 00	2402	-0.37	-0.16	0.01	-0.01
CH 20	2442	-0.25	0.09	0.10	0.12
CH 39	2480	-1.47	-1.13	-1.15	-1.15

Note:

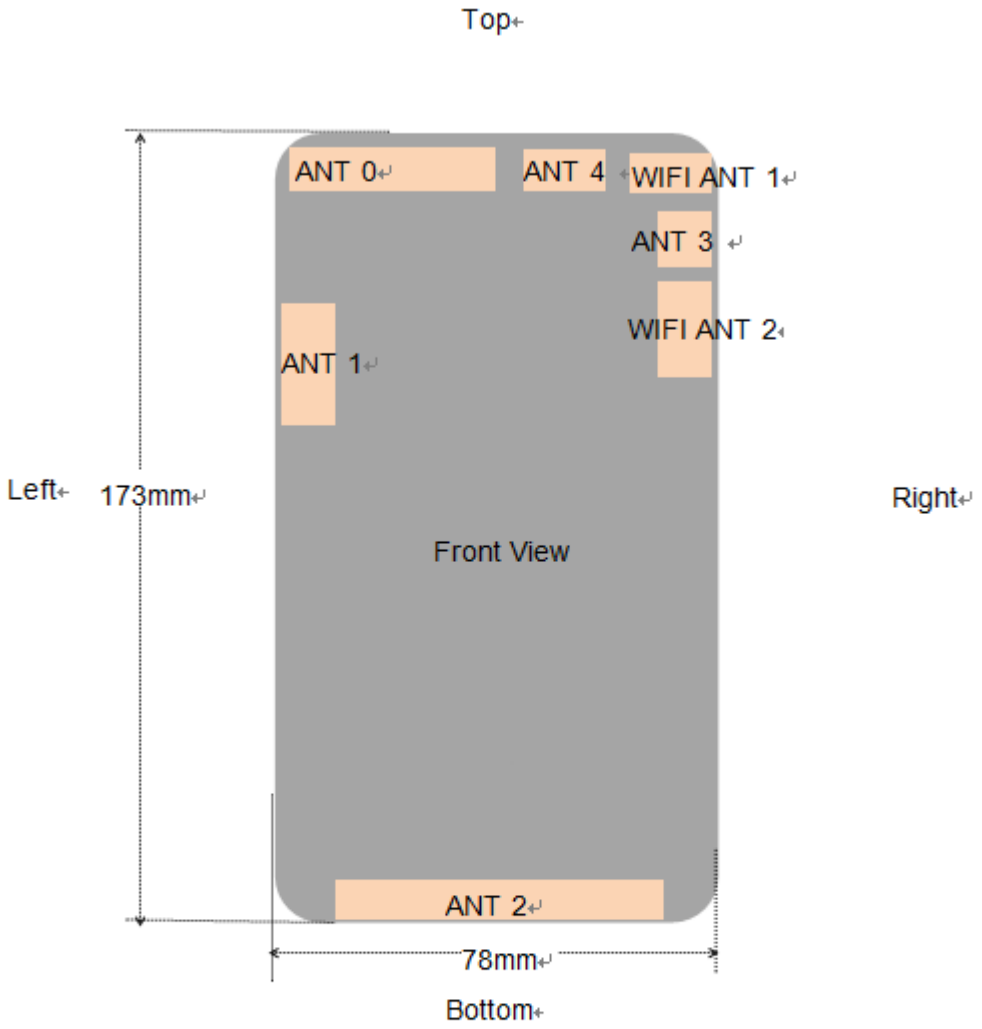
1. Per KDB 447498 D01v06, the 1-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*) / (*min. test separation distance, mm*)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison

Channel	Frequency (GHz)	Max. tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
CH 00	2.402	5.5	3.55	5	1.10	3

2. The max. tune-up power was provided by manufacturer, base on the result of note 1, RF exposure evaluation is not required.
3. The output power of all data rate were pre-scan, just the worst case of all mode were shown in report.
4. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according is applied to determine SAR test exclusion.

14 Exposure Positions Consideration

14.1 EUT Antenna Locations



Note 1:
ANT 0: GSM&WCDMA&LTE ANT(TX/PRX)，5G NR n41 ANT(PRX MIMO).
ANT 1: 5G NR n38/n41/n77/n78 ANT(TX/PRX/DRX)
ANT 2: GSM&WCDMA&LTE ANT(DRX)，5G NR n41 ANT(DRX MIMO).
ANT 3: 5G NR n77/n78 ANT(PRX MIMO).
ANT 4: 5G NR n77/n78 ANT(DRX MIMO).
WIFI ANT 1: WIFI/BT/GPS ANT
WIFI ANT 2: WIFI MIMO ANT
Note 2:
Display diagonal dimension: 167mm
Overall diagonal dimension: 177mm

Fig.14.1 EUT Antenna Locations

Note: This antenna diagram is only used as a reference for the distance from the antenna to each edge. For the specific shape of the antenna, please refer to the physical photo.

14.2 Test Positions Consideration

Distance of Antennas to EUT edge/surface Test distance: 10mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
ANT 0	<25mm	<25mm	<25mm	155mm	35mm	<25mm
ANT 1	<25mm	<25mm	28mm	103mm	69mm	<25mm
WIFI ANT 1	<25mm	<25mm	<25mm	162mm	<25mm	54mm
WIFI ANT 2	<25mm	<25mm	29mm	129mm	<25mm	68mm

Test Positions Test distance: 10mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
ANT 0	Yes	Yes	Yes	No	No	Yes
ANT 1	Yes	Yes	No	No	No	Yes
WIFI ANT 1	Yes	Yes	Yes	No	Yes	No
WIFI ANT 2	Yes	Yes	No	No	Yes	No

Note:

1. ANT 0: GSM&WCDMA&LTE ANT(TX/PRX)，5G NR n41 ANT(PRX MIMO).
2. ANT 1: 5G NR n38/n41/n77/n78 ANT(TX/PRX/DRX)
3. WIFI ANT 1: WIFI/BT/GPS ANT
4. WIFI ANT 2: WIFI MIMO ANT
5. Head/Body-worn/Hotspot mode SAR assessments are required.
6. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm * 5cm, the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.
7. Per KDB 447498 D01v06, for handsets the test separation distance is determined by the smallest distance between the outer surface of the device and the user, which is 0 mm for head SAR, 10 mm for hotspot SAR, and 10 mm for body-worn SAR.

15 SAR Test Results Summary

15.1 Standalone Head SAR Data

➢ GSM Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GSM850/Voice	Right Cheek	190	836.6	33.25	0.76	33.5	0.963	1.059	1.020
	GSM850/Voice	Right Cheek	128	824.2	32.86	-1.05	33.5	0.824	1.159	0.955
1	GSM850/Voice	Right Cheek	251	848.8	33.05	1.35	33.5	**1.003**	1.109	1.112
	GSM850/Voice	**Right Cheek**	**251**	**848.8**	**33.05**	**0.35**	**33.5**	**0.974**	**1.109**	**1.080**
	GSM850/Voice	Right Tilted	190	836.6	33.25	1.32	33.5	0.745	1.059	0.789
	GSM850/Voice	Left Cheek	190	836.6	33.25	-1.47	33.5	0.685	1.059	0.725
	GSM850/Voice	Left Tilted	190	836.6	33.25	-1.11	33.5	0.652	1.059	0.690
	GSM1900/Voice	Right Cheek	512	1850.2	29.66	-3.64	30.0	0.465	1.081	0.503
2	GSM1900/Voice	Right Tilted	512	1850.2	29.66	1.59	30.0	**0.642**	1.081	0.694
	GSM1900/Voice	Left Cheek	512	1850.2	29.66	-1.15	30.0	0.246	1.081	0.266
	GSM1900/Voice	Left Tilted	512	1850.2	29.66	-2.26	30.0	0.395	1.081	0.427
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
3	Band V/RMC	Right Cheek	4233	846.6	23.68	-1.07	24.0	**0.897**	1.076	0.965
	Band V/RMC	**Right Cheek**	**4233**	**846.6**	**23.68**	**1.05**	**24.0**	**0.885**	**1.076**	**0.952**
	Band V/RMC	Right Cheek	4132	826.4	23.35	-1.53	24.0	0.723	1.161	0.839
	Band V/RMC	Right Cheek	4183	836.6	23.61	-0.81	24.0	0.832	1.094	0.910
	Band V/RMC	Right Tilted	4233	846.6	23.68	1.76	24.0	0.728	1.076	0.783
	Band V/RMC	Left Cheek	4233	846.6	23.68	-1.32	24.0	0.717	1.076	0.771
	Band V/RMC	Left Tilted	4233	846.6	23.68	-1.26	24.0	0.608	1.076	0.654
	Band IV/RMC	Right Cheek	1312	1712.4	23.55	-4.56	24.0	0.377	1.109	0.418
4	Band IV/RMC	Right Tilted	1312	1712.4	23.55	-4.98	24.0	**0.511**	1.109	0.567
	Band IV/RMC	Left Cheek	1312	1712.4	23.55	-2.41	24.0	0.331	1.109	0.367
	Band IV/RMC	Left Tilted	1312	1712.4	23.55	-0.98	24.0	0.476	1.109	0.528
	Band II/RMC	Right Cheek	9538	1907.6	23.42	-4.11	24.0	0.412	1.143	0.471
5	Band II/RMC	Right Tilted	9538	1907.6	23.42	-1.94	24.0	**0.663**	1.143	0.758
	Band II/RMC	Left Cheek	9538	1907.6	23.42	-4.55	24.0	0.386	1.143	0.441
	Band II/RMC	Left Tilted	9538	1907.6	23.42	-2.43	24.0	0.606	1.143	0.693
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#49	Right Cheek	18700	1860	23.04	-0.10	23.5	0.498	1.112	0.554
6	Band2/1RB#49	Right Tilted	18700	1860	23.04	-1.61	23.5	**0.657**	1.112	0.731
	Band2/1RB#49	Left Cheek	18700	1860	23.04	-3.06	23.5	0.299	1.112	0.332
	Band2/1RB#49	Left Tilted	18700	1860	23.04	-1.97	23.5	0.385	1.112	0.428
	Band2/50%RB#49	Right Cheek	18900	1880	21.89	1.77	22.5	0.452	1.151	0.520
	Band2/50%RB#49	Right Tilted	18900	1880	21.89	-0.95	22.5	0.603	1.151	0.694
	Band2/50%RB#49	Left Cheek	18900	1880	21.89	-0.24	22.5	0.251	1.151	0.289
	Band2/50%RB#49	Left Tilted	18900	1880	21.89	0.25	22.5	0.346	1.151	0.398
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
7	Band5/1RB#24	Right Cheek	20600	844	22.99	-1.17	23.5	**0.701**	1.125	0.789
	Band5/1RB#24	Right Tilted	20600	844	22.99	-0.08	23.5	0.641	1.125	0.721
	Band5/1RB#24	Left Cheek	20600	844	22.99	-1.95	23.5	0.659	1.125	0.741
	Band5/1RB#24	Left Tilted	20600	844	22.99	1.44	23.5	0.589	1.125	0.663
	Band5/50%RB#0	Right Cheek	20600	844	21.98	0.21	22.5	0.659	1.127	0.743
	Band5/50%RB#0	Right Tilted	20600	844	21.98	0.20	22.5	0.602	1.127	0.678
	Band5/50%RB#0	Left Cheek	20600	844	21.98	-0.51	22.5	0.539	1.127	0.607
	Band5/50%RB#0	Left Tilted	20600	844	21.98	0.55	22.5	0.568	1.127	0.640
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#49	Right Cheek	20850	2510	23.01	0.58	23.5	0.679	1.119	0.760
	Band7/1RB#49	Right Tilted	20850	2510	23.01	-4.27	23.5	0.770	1.119	0.862
8	Band7/1RB#49	Right Tilted	21100	2535	22.64	-3.15	23.5	**0.886**	1.219	1.080
	Band7/1RB#49	**Right Tilted**	**21100**	**2535**	**22.64**	**2.01**	**23.5**	**0.874**	**1.219**	**1.065**
	Band7/1RB#49	Right Tilted	21350	2560	22.47	-0.35	23.5	0.841	1.268	1.066
	Band7/1RB#49	Left Cheek	20850	2510	23.01	1.35	23.5	0.569	1.119	0.637
	Band7/1RB#49	Left Tilted	20850	2510	23.01	-2.24	23.5	0.649	1.119	0.726
	Band7/50%RB#49	Right Cheek	20850	2510	21.83	-0.90	22.0	0.746	1.040	0.776
	Band7/50%RB#49	Right Tilted	20850	2510	21.83	-1.68	22.0	0.729	1.040	0.758
	Band7/50%RB#49	Left Cheek	20850	2510	21.83	-0.39	22.0	0.643	1.040	0.669
	Band7/50%RB#49	Left Tilted	20850	2510	21.83	0.42	22.0	0.618	1.040	0.643
	Band7/100%RB#0	Right Cheek	20850	2510	21.73	-0.08	22.0	0.698	1.064	0.743
	Band7/100%RB#0	Right Tilted	20850	2510	21.73	-0.91	22.0	0.701	1.064	0.746
	Band7/100%RB#0	Left Cheek	20850	2510	21.73	-1.10	22.0	0.602	1.064	0.641
	Band7/100%RB#0	Left Tilted	20850	2510	21.73	-0.27	22.0	0.547	1.064	0.582
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
9	Band12/1RB#49	Right Cheek	23060	704	23.28	-1.22	23.5	**0.196**	1.052	0.206
	Band12/1RB#49	Right Tilted	23060	704	23.28	-0.60	23.5	0.181	1.052	0.190
	Band12/1RB#49	Left Cheek	23060	704	23.28	-2.80	23.5	0.143	1.052	0.150
	Band12/1RB#49	Left Tilted	23060	704	23.28	-1.10	23.5	0.130	1.052	0.137
	Band12/50%RB#0	Right Cheek	23095	707.5	22.26	0.47	22.5	0.179	1.057	0.189
	Band12/50%RB#0	Right Tilted	23095	707.5	22.26	0.45	22.5	0.156	1.057	0.165
	Band12/50%RB#0	Left Cheek	23095	707.5	22.26	-0.42	22.5	0.132	1.057	0.140
	Band12/50%RB#0	Left Tilted	23095	707.5	22.26	0.84	22.5	0.118	1.057	0.125
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ TDD-LTE Band 41(20MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	Band41/1RB#49	Right Cheek	41140	2645	22.96	0.06	23.5	0.312	1.132	1.008	0.356
10	Band41/1RB#49	Right Tilted	41140	2645	22.96	2.49	23.5	**0.353**	1.132	1.008	0.403
	Band41/1RB#49	Left Cheek	41140	2645	22.96	1.55	23.5	0.198	1.132	1.008	0.226
	Band41/1RB#49	Left Tilted	41140	2645	22.96	-0.67	23.5	0.229	1.132	1.008	0.261
	Band41/50%RB#49	Right Cheek	41140	2645	21.92	-1.70	22.5	0.289	1.143	1.008	0.333
	Band41/50%RB#49	Right Tilted	41140	2645	21.92	-1.78	22.5	0.325	1.143	1.008	0.374
	Band41/50%RB#49	Left Cheek	41140	2645	21.92	-0.62	22.5	0.175	1.143	1.008	0.202
	Band41/50%RB#49	Left Tilted	41140	2645	21.92	-0.20	22.5	0.199	1.143	1.008	0.229
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ FDD-LTE Band 66(20MHz) QPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	Right Cheek	132072	1720	23.12	-0.83	23.5	0.410	1.091	0.447
11	Band66/1RB#0	Right Tilted	132072	1720	23.12	-1.31	23.5	**0.470**	1.091	0.513
	Band66/1RB#0	Left Cheek	132072	1720	23.12	-0.27	23.5	0.289	1.091	0.315
	Band66/1RB#0	Left Tilted	132072	1720	23.12	1.12	23.5	0.336	1.091	0.367
	Band66/50%RB#0	Right Cheek	132072	1720	22.12	0.95	22.5	0.375	1.091	0.409
	Band66/50%RB#0	Right Tilted	132072	1720	22.12	-1.22	22.5	0.446	1.091	0.487
	Band66/50%RB#0	Left Cheek	132072	1720	22.12	1.54	22.5	0.256	1.091	0.279
	Band66/50%RB#0	Left Tilted	132072	1720	22.12	-0.58	22.5	0.306	1.091	0.334
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ NR n41 DFT-BPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
12	NR n41 DFT-BPSK /1@271 100M	Right Cheek	517002	2585.01	25.45	0.95	26.0	**0.164**	1.135	0.186
	NR n41 DFT-BPSK /1@271 100M	Right Tilted	517002	2585.01	25.45	-1.22	26.0	0.123	1.135	0.140
	NR n41 DFT-BPSK /1@271 100M	Left Cheek	517002	2585.01	25.45	1.54	26.0	0.076	1.135	0.086
	NR n41 DFT-BPSK /1@271 100M	Left Tilted	517002	2585.01	25.45	-0.58	26.0	0.062	1.135	0.070
	NR n41 DFT-BPSK /135RB#67 100M	Right Cheek	520998	2604.99	26.17	0.95	26.5	0.142	1.079	0.153
	NR n41 DFT-BPSK /135RB#67 100M	Right Tilted	520998	2604.99	26.17	-1.22	26.5	0.123	1.079	0.133
	NR n41 DFT-BPSK /135RB#67 100M	Left Cheek	520998	2604.99	26.17	1.54	26.5	0.068	1.079	0.073
	NR n41 DFT-BPSK /135RB#67 100M	Left Tilted	520998	2604.99	26.17	-0.58	26.5	0.530	1.079	0.572
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**				

➢ NR n77(3450MHz~3550MHz) DFT-BPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@1 100M	Right Cheek	633334	3500.01	24.60	-0.92	25.0	0.203	1.096	0.222
	NR n77 DFT-BPSK /1@1 100M	Right Tilted	633334	3500.01	24.60	1.64	25.0	0.147	1.096	0.161
	NR n77 DFT-BPSK /1@1 100M	Left Cheek	633334	3500.01	24.60	-1.68	25.0	0.084	1.096	0.092
	NR n77 DFT-BPSK /1@1 100M	Left Tilted	633334	3500.01	24.60	0.14	25.0	0.073	1.096	0.080
13	NR n77 DFT-BPSK /135RB#67 100M	Right Cheek	633334	3500.01	25.48	0.95	26.0	**0.233**	1.127	0.263
	NR n77 DFT-BPSK /135RB#67 100M	Right Tilted	633334	3500.01	25.48	-1.22	26.0	0.187	1.127	0.211
	NR n77 DFT-BPSK /135RB#67 100M	Left Cheek	633334	3500.01	25.48	1.54	26.0	0.101	1.127	0.114
	NR n77 DFT-BPSK /135RB#67 100M	Left Tilted	633334	3500.01	25.48	-0.58	26.0	0.088	1.127	0.099
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**				

➢ NR n77(3700MHz~3980MHz) DFT-BPSK Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@271 100M	Right Cheek	662000	3930	24.78	0.95	25.0	0.214	1.052	0.225
	NR n77 DFT-BPSK /1@271 100M	Right Tilted	662000	3930	24.78	-1.22	25.0	0.154	1.052	0.162
	NR n77 DFT-BPSK /1@271 100M	Left Cheek	662000	3930	24.78	1.54	25.0	0.094	1.052	0.099
	NR n77 DFT-BPSK /1@271 100M	Left Tilted	662000	3930	24.78	-0.58	25.0	0.067	1.052	0.070
14	NR n77 DFT-BPSK /135RB#67 100M	Right Cheek	662000	3930	25.31	0.95	26.0	**0.224**	1.172	0.263
	NR n77 DFT-BPSK /135RB#67 100M	Right Tilted	662000	3930	25.31	-1.22	26.0	0.161	1.172	0.189
	NR n77 DFT-BPSK /135RB#67 100M	Left Cheek	662000	3930	25.31	1.54	26.0	0.088	1.172	0.103
	NR n77 DFT-BPSK /135RB#67 100M	Left Tilted	662000	3930	25.31	-0.58	26.0	0.063	1.172	0.074
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**1.6 W/kg (mW/g) Averaged over 1g**			

➢ WLAN 2.4 GHz Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b ANT 1	Right Cheek	1	2412	16.67	3.80	17.0	0.237	1.079	1.010	0.258
	2.4GHz/802.11b ANT 1	Right Tilted	1	2412	16.67	-4.22	17.0	0.225	1.079	1.010	0.245
	2.4GHz/802.11b ANT 1	Left Cheek	1	2412	16.67	-1.55	17.0	0.309	1.079	1.010	0.337
15	2.4GHz/802.11b ANT 1	Left Tilted	1	2412	16.67	-1.34	17.0	**0.403**	1.079	1.010	0.439
	2.4GHz/802.11b ANT 2	Right Cheek	1	2412	17.48	1.10	18.0	0.155	1.127	1.010	0.176
	2.4GHz/802.11b ANT 2	Right Tilted	1	2412	17.48	-1.15	18.0	0.108	1.127	1.010	0.123
	2.4GHz/802.11b ANT 2	Left Cheek	1	2412	17.48	-1.33	18.0	0.314	1.127	1.010	0.357
	2.4GHz/802.11b ANT 2	Left Tilted	1	2412	17.48	-0.31	18.0	0.217	1.127	1.010	0.247
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**1.6 W/kg (mW/g) Averaged over 1g**				

➢ WLAN 5.2 GHz Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a ANT 1	Right Cheek	48	5240	15.21	1.19	15.5	0.189	1.069	1.000	0.202
	5.2GHz/802.11a ANT 1	Right Tilted	48	5240	15.21	1.81	15.5	0.248	1.069	1.000	0.265
	5.2GHz/802.11a ANT 1	Left Cheek	48	5240	15.21	-0.22	15.5	0.230	1.069	1.000	0.246
16	5.2GHz/802.11a ANT 1	Left Tilted	48	5240	15.21	-1.64	15.5	**0.346**	1.069	1.000	0.370
	5.2GHz/802.11a ANT 2	Right Cheek	48	5240	16.86	0.86	17.0	0.211	1.033	1.000	0.218
	5.2GHz/802.11a ANT 2	Right Tilted	48	5240	16.86	-0.92	17.0	0.164	1.033	1.000	0.169
	5.2GHz/802.11a ANT 2	Left Cheek	48	5240	16.86	1.75	17.0	0.305	1.033	1.000	0.315
	5.2GHz/802.11a ANT 2	Left Tilted	48	5240	16.86	0.46	17.0	0.202	1.033	1.000	0.209
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.8 GHz Head SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR1g (W/kg)	Scaling Factor	D.C Factor	Reported SAR1g (W/kg)
	5.8GHz/802.11a ANT 1	Right Cheek	165	5825	15.81	-0.16	16.0	0.136	1.045	1.000	0.142
	5.8GHz/802.11a ANT 1	Right Tilted	165	5825	15.81	1.42	16.0	0.105	1.045	1.000	0.110
17	5.8GHz/802.11a ANT 1	Left Cheek	165	5825	15.81	-0.29	16.0	**0.161**	1.045	1.000	0.168
	5.8GHz/802.11a ANT 1	Left Tilted	165	5825	15.81	-1.51	16.0	0.133	1.045	1.000	0.139
	5.8GHz/802.11ac20 ANT 2	Right Cheek	149	5745	17.46	0.36	17.5	0.101	1.009	1.000	0.102
	5.8GHz/802.11ac20 ANT 2	Right Tilted	149	5745	17.46	1.41	17.5	0.085	1.009	1.000	0.086
	5.8GHz/802.11ac20 ANT 2	Left Cheek	149	5745	17.46	-0.64	17.5	0.143	1.009	1.000	0.144
	5.8GHz/802.11ac20 ANT 2	Left Tilted	149	5745	17.46	-1.69	17.5	0.097	1.009	1.000	0.098
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Per KDB 447498 D01v06, for each exposure position, if the highest output power channel Reported SAR ≤ 0.8W/kg, other channels SAR testing is not necessary.
2. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg.
3. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
4. Per KDB 248227 D01v02r02, for 802.11b DSSS , when the reported SAR of the highest measured maximum output power channel for the exposure configuration is ≤ 0.8 W/kg, no further SAR testing is required in that exposure configuration.
5. Per KDB 248227 D01v02r02, OFDM 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 the adjusted SAR is ≤ 1.2 W/kg. For WIFI ANT 1 Cuz the maximum output power specified for OFDM and DSSS are 50.12mW(17.0dBm) and 56.23mW(17.5dBm), the scaled SAR would be 0.439×(50.12/56.23)=0.389W/Kg<1.2 W/kg, For WIFI ANT 2 Cuz the maximum output power specified for OFDM and DSSS are 63.1mW(18.0dBm) and 70.79mW(18.5dBm), the scaled SAR would be 0.246×(35.97/42.76)=0.280W/Kg<1.2 W/kg therefore, SAR is not required for OFDM.
6. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.

15.2 Standalone Body SAR

➢ GSM Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GPRS850/4 slots	Front	190	836.6	29.37	-3.98	29.5	0.379	1.030	0.390
18	GPRS850/4 slots	Back	190	836.6	29.37	-3.08	29.5	**0.600**	1.030	0.618
	GPRS1900/3 slots	Front	661	1880	27.05	1.15	27.5	0.434	1.109	0.481
19	GPRS1900/3 slots	Back	661	1880	27.05	-1.20	27.5	**0.914**	1.109	1.014
	GPRS1900/3 slots	Back	512	1850.2	27.11	-1.74	27.5	0.887	1.094	0.970
	GPRS1900/3 slots	Back	810	1909.8	26.92	-3.13	27.5	0.750	1.143	0.857
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band V/RMC	Front	4233	846.6	23.68	-2.37	24.0	0.205	1.076	0.221
20	Band V/RMC	Back	4233	846.6	23.68	-4.38	24.0	**0.347**	1.076	0.373
	Band IV/RMC	Front	1312	1712.4	23.55	1.83	24.0	0.113	1.109	0.125
21	Band IV/RMC	Back	1312	1712.4	23.55	1.10	24.0	**0.200**	1.109	0.222
	Band II/RMC	Front	9538	1907.6	23.42	-1.30	24.0	0.159	1.143	0.182
22	Band II/RMC	Back	9538	1907.6	23.42	0.90	24.0	**0.320**	1.143	0.366
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#49	Front	18700	1860	23.04	-2.22	23.5	0.125	1.112	0.139
23	Band2/1RB#49	Back	18700	1860	23.04	-2.76	23.5	**0.281**	1.112	0.312
	Band2/50%RB#49	Front	18900	1880	21.89	0.47	22.5	0.118	1.151	0.136
	Band2/50%RB#49	Back	18900	1880	21.89	-0.87	22.5	0.267	1.151	0.307
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band5/1RB#24	Front	20600	844	22.99	-4.14	23.5	0.146	1.125	0.164
24	Band5/1RB#24	Back	20600	844	22.99	-3.24	23.5	**0.290**	1.125	0.326
	Band5/50%RB#0	Front	20600	844	21.98	-1.04	22.5	0.132	1.127	0.149
	Band5/50%RB#0	Back	20600	844	21.98	1.52	22.5	0.278	1.127	0.313
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#49	Front	20850	2510	23.01	4.00	23.5	0.181	1.119	0.203
25	Band7/1RB#49	Back	20850	2510	23.01	-0.04	23.5	**0.278**	1.119	0.311
	Band7/50%RB#49	Front	20850	2510	21.83	0.17	22.0	0.163	1.040	0.170
	Band7/50%RB#49	Back	20850	2510	21.83	-0.66	22.0	0.257	1.040	0.267
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band12/1RB#49	Front	23060	704	23.28	0.48	23.5	0.051	1.052	0.054
26	Band12/1RB#49	Back	23060	704	23.28	0.47	23.5	**0.093**	1.052	0.098
	Band12/50%RB#0	Front	23095	707.5	22.26	-1.65	22.5	0.042	1.057	0.044
	Band12/50%RB#0	Back	23095	707.5	22.26	0.04	22.5	0.083	1.057	0.088
ANSI / IEEE C913.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ TDD-LTE Band 41(20MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	Band41/1RB#49	Front	41140	2645	22.96	0.37	23.5	0.063	1.132	1.008	0.072
27	Band41/1RB#49	Back	41140	2645	22.96	-1.69	23.5	**0.110**	1.132	1.008	0.126
	Band41/50%RB#49	Front	41140	2645	21.92	-0.60	22.5	0.058	1.143	1.008	0.067
	Band41/50%RB#49	Back	41140	2645	21.92	-1.45	22.5	0.103	1.143	1.008	0.119
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ FDD-LTE Band 66(20MHz) QPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	Front	132072	1720	23.12	1.31	23.5	0.112	1.091	0.122
28	Band66/1RB#0	Back	132072	1720	23.12	-2.00	23.5	**0.192**	1.091	0.209
	Band66/50%RB#0	Front	132072	1720	22.12	-1.72	22.5	0.102	1.091	0.111
	Band66/50%RB#0	Back	132072	1720	22.12	-1.82	22.5	0.183	1.091	0.200
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ NR n41 DFT-BPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n41 DFT-BPSK /1@271 100M	Front	517002	2585.01	25.45	-1.39	26.0	0.053	1.135	0.060
29	NR n41 DFT-BPSK /1@271 100M	Back	517002	2585.01	25.45	0.06	26.0	**0.093**	1.135	0.106
	NR n41 DFT-BPSK /135RB#67 100M	Front	520998	2604.99	26.17	-0.87	26.5	0.043	1.079	0.046
	NR n41 DFT-BPSK /135RB#67 100M	Back	520998	2604.99	26.17	1.96	26.5	0.086	1.079	0.093
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**1.6 W/kg (mW/g) Averaged over 1g**			

➢ NR n77(3450MHz~3550MHz) DFT-BPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@1 100M	Front	633334	3500.01	24.60	-1.17	25.0	0.062	1.096	0.068
	NR n77 DFT-BPSK /1@1 100M	Back	633334	3500.01	24.60	0.00	25.0	0.135	1.096	0.148
	NR n77 DFT-BPSK /135RB#67 100M	Front	633334	3500.01	25.48	-1.17	26.0	0.076	1.127	0.086
30	NR n77 DFT-BPSK /135RB#67 100M	Back	633334	3500.01	25.48	0.00	26.0	**0.150**	1.127	0.169
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**1.6 W/kg (mW/g) Averaged over 1g**			

➢ NR n77(3700MHz~3980MHz) DFT-BPSK Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@271 100M	Front	662000	3930	24.78	1.63	25.0	0.052	1.052	0.055
	NR n77 DFT-BPSK /1@271 100M	Back	662000	3930	24.78	0.47	25.0	0.125	1.052	0.132
	NR n77 DFT-BPSK /135RB#67 100M	Front	662000	3930	25.31	-1.64	26.0	0.082	1.172	0.096
31	NR n77 DFT-BPSK /135RB#67 100M	Back	662000	3930	25.31	-1.06	26.0	**0.141**	1.172	0.165
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population							**1.6 W/kg (mW/g) Averaged over 1g**			

➢ WLAN 2.4 GHz Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b ANT 1	Front	1	2412	16.67	2.48	17.0	0.062	1.079	1.010	0.068
	2.4GHz/802.11b ANT 1	Back	1	2412	16.67	1.04	17.0	0.088	1.079	1.010	0.096
	2.4GHz/802.11b ANT 2	Front	1	2412	17.48	-0.08	18.0	0.082	1.127	1.010	0.093
32	2.4GHz/802.11b ANT 2	Back	1	2412	17.48	2.72	18.0	**0.155**	1.127	1.010	0.176
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.2 GHz Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a ANT 1	Front	48	5240	15.21	-2.55	15.5	0.010	1.069	1.000	0.011
	5.2GHz/802.11a ANT 1	Back	48	5240	15.21	-0.44	15.5	0.056	1.069	1.000	0.060
	5.2GHz/802.11a ANT 2	Front	48	5240	16.86	-0.27	17.0	0.020	1.033	1.000	0.021
33	5.2GHz/802.11a ANT 2	Back	48	5240	16.86	-1.87	17.0	**0.064**	1.033	1.000	0.066
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.8 GHz Body SAR

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.8GHz/802.11a ANT 1	Front	165	5825	15.81	-1.99	16.0	0.026	1.045	1.000	0.027
	5.8GHz/802.11a ANT 1	Back	165	5825	15.81	-1.63	16.0	0.110	1.045	1.000	0.115
	5.8GHz/802.11ac20 ANT 2	Front	149	5745	17.46	-0.18	17.5	0.038	1.009	1.000	0.038
34	5.8GHz/802.11ac20 ANT 2	Back	149	5745	17.46	0.55	17.5	**0.122**	1.009	1.000	0.123
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Body-worn SAR testing was performed at 10mm separation, and this distance is determined by the handset manufacturer that there will be body-worn accessories that users may acquire at the time of equipment certification, to enable users to purchase aftermarket body-worn accessories with the required minimum separation.
2. Per KDB 941225 D06v02r01, when the same wireless modes and device transmission configurations are required for testing body-worn accessories and hotspot mode, it is not necessary to test body-worn accessory SAR for the same device orientation if the test separation distance for hotspot mode is more conservative than that used for body-worn accessories.
3. Body-worn exposure conditions are intended to voice call operations, therefore GSM voice call is selected to be tested.
4. Per KDB 648474 D04v01r03, when the *Reported* SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
5. The WLAN SAR perform the front and back position, due considered the simultaneous SAR for body-worn.
6. Per KDB 447498 D01v06, for each exposure position, if the highest output channel Reported SAR ≤0.8W/kg, other channels SAR testing is not necessary.
7. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥0.8W/kg.
8. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
9. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
10. Highlight part of test data means repeated test.

15.3 Body SAR in Hotspot Mode

➢ GSM Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	GPRS850/4 slots	Front	190	836.6	29.37	-3.98	29.5	0.379	1.030	0.390
18	GPRS850/4 slots	Back	190	836.6	29.37	-3.08	29.5	**0.600**	1.030	0.618
	GPRS850/4 slots	Left	190	836.6	29.37	-1.47	29.5	0.142	1.030	0.146
	GPRS850/4 slots	Top	190	836.6	29.37	1.68	29.5	0.490	1.030	0.505
	GPRS1900/3 slots	Front	661	1880	27.05	1.15	27.5	0.434	1.109	0.481
19	GPRS1900/3 slots	Back	661	1880	27.05	-1.20	27.5	**0.914**	1.109	1.014
	GPRS1900/3 slots	Back	512	1850.2	27.11	-1.74	27.5	0.887	1.094	0.970
	GPRS1900/3 slots	Back	810	1909.8	26.92	-3.13	27.5	0.750	1.143	0.857
	GPRS1900/3 slots	Left	661	1880	27.05	0.13	27.5	0.185	1.109	0.205
	GPRS1900/3 slots	Top	661	1880	27.05	1.39	27.5	1.001	1.109	1.110
35	GPRS1900/3 slots	Top	512	1850.2	27.11	-1.27	27.5	**1.074**	1.094	1.175
	GPRS1900/3 slots	Top	512	1850.2	27.11	1.12	27.5	0.985	1.094	1.078
	GPRS1900/3 slots	Top	810	1909.8	26.92	-1.24	27.5	0.806	1.143	0.921
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WCDMA Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band V/RMC	Front	4233	846.6	23.68	-2.37	24.0	0.205	1.076	0.221
20	Band V/RMC	Back	4233	846.6	23.68	-4.38	24.0	**0.347**	1.076	0.373
	Band V/RMC	Left	4233	846.6	23.68	1.24	24.0	0.128	1.076	0.138
	Band V/RMC	Top	4233	846.6	23.68	-3.01	24.0	0.262	1.076	0.282
	Band IV/RMC	Front	1312	1712.4	23.55	1.83	24.0	0.113	1.109	0.125
21	Band IV/RMC	Back	1312	1712.4	23.55	1.10	24.0	**0.200**	1.109	0.222
	Band IV/RMC	Left	1312	1712.4	23.55	0.52	24.0	0.094	1.109	0.104
36	Band IV/RMC	Top	1312	1712.4	23.55	-4.04	24.0	**0.255**	1.109	0.283
	Band II/RMC	Front	9538	1907.6	23.42	-1.30	24.0	0.159	1.143	0.182
22	Band II/RMC	Back	9538	1907.6	23.42	0.90	24.0	**0.320**	1.143	0.366
	Band II/RMC	Left	9538	1907.6	23.42	0.52	24.0	0.123	1.143	0.141
	Band II/RMC	Top	9538	1907.6	23.42	-1.62	24.0	0.298	1.143	0.341
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 2(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band2/1RB#49	Front	18700	1860	23.04	-2.22	23.5	0.125	1.112	0.139
23	Band2/1RB#49	Back	18700	1860	23.04	-2.76	23.5	**0.281**	1.112	0.312
	Band2/1RB#49	Left	18700	1860	23.04	1.10	23.5	0.102	1.112	0.113
37	Band2/1RB#49	Top	18700	1860	23.04	-3.42	23.5	**0.323**	1.112	0.359
	Band2/50%RB#49	Front	18900	1880	21.89	0.47	22.5	0.118	1.151	0.136
	Band2/50%RB#49	Back	18900	1880	21.89	-0.87	22.5	0.267	1.151	0.307
	Band2/50%RB#49	Left	18900	1880	21.89	1.12	22.5	0.092	1.151	0.106
	Band2/50%RB#49	Top	18900	1880	21.89	-1.15	22.5	0.298	1.151	0.343
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 5(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band5/1RB#24	Front	20600	844	22.99	-4.14	23.5	0.146	1.125	0.164
24	Band5/1RB#24	Back	20600	844	22.99	-3.24	23.5	**0.290**	1.125	0.326
	Band5/1RB#24	Left	20600	844	22.99	-1.38	23.5	0.121	1.125	0.136
	Band5/1RB#24	Top	20600	844	22.99	-3.23	23.5	0.174	1.125	0.196
	Band5/50%RB#0	Front	20600	844	21.98	-1.04	22.5	0.132	1.127	0.149
	Band5/50%RB#0	Back	20600	844	21.98	1.52	22.5	0.278	1.127	0.313
	Band5/50%RB#0	Left	20600	844	21.98	-0.15	22.5	0.113	1.127	0.127
	Band5/50%RB#0	Top	20600	844	21.98	1.80	22.5	0.161	1.127	0.181
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 7(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band7/1RB#49	Front	20850	2510	23.01	4.00	23.5	0.181	1.119	0.203
25	Band7/1RB#49	Back	20850	2510	23.01	-0.04	23.5	**0.278**	1.119	0.311
	Band7/1RB#49	Left	20850	2510	23.01	1.25	23.5	0.128	1.119	0.143
38	Band7/1RB#49	Top	20850	2510	23.01	2.96	23.5	**0.309**	1.119	0.346
	Band7/50%RB#49	Front	20850	2510	21.83	0.17	22.0	0.163	1.040	0.170
	Band7/50%RB#49	Back	20850	2510	21.83	-0.66	22.0	0.257	1.040	0.267
	Band7/50%RB#49	Left	20850	2510	21.83	0.69	22.0	0.108	1.040	0.112
	Band7/50%RB#49	Top	20850	2510	21.83	1.79	22.0	0.279	1.040	0.290
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 12(10MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band12/1RB#49	Front	23060	704	23.28	0.48	23.5	0.051	1.052	0.054
26	Band12/1RB#49	Back	23060	704	23.28	0.47	23.5	**0.093**	1.052	0.098
	Band12/1RB#49	Left	23060	704	23.28	-0.44	23.5	0.041	1.052	0.043
	Band12/1RB#49	Top	23060	704	23.28	-4.72	23.5	0.034	1.052	0.036
	Band12/50%RB#0	Front	23095	707.5	22.26	-1.65	22.5	0.042	1.057	0.044
	Band12/50%RB#0	Back	23095	707.5	22.26	0.04	22.5	0.083	1.057	0.088
	Band12/50%RB#0	Left	23095	707.5	22.26	1.88	22.5	0.037	1.057	0.039
	Band12/50%RB#0	Top	23095	707.5	22.26	-1.72	22.5	0.031	1.057	0.033
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ TDD-LTE Band 41(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	Band41/1RB#49	Front	41140	2645	22.96	0.37	23.5	0.063	1.132	1.008	0.072
27	Band41/1RB#49	Back	41140	2645	22.96	-1.69	23.5	**0.110**	1.132	1.008	0.126
	Band41/1RB#49	Left	41140	2645	22.96	2.33	23.5	0.042	1.132	1.008	0.048
	Band41/1RB#49	Top	41140	2645	22.96	-0.70	23.5	0.102	1.132	1.008	0.116
	Band41/50%RB#49	Front	41140	2645	21.92	-0.60	22.5	0.058	1.143	1.008	0.067
	Band41/50%RB#49	Back	41140	2645	21.92	-1.45	22.5	0.103	1.143	1.008	0.119
	Band41/50%RB#49	Left	41140	2645	21.92	-0.34	22.5	0.037	1.143	1.008	0.043
	Band41/50%RB#49	Top	41140	2645	21.92	-1.88	22.5	0.099	1.143	1.008	0.114
ANSI / IEEE C95.1 – SAFETY LIMIT					**1.6 W/kg (mW/g)**						

Spatial Peak Uncontrolled Exposure/General Population	Averaged over 1g

➢ FDD-LTE Band 66(20MHz) QPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	Reported SAR_{1g} (W/kg)
	Band66/1RB#0	Front	132072	1720	23.12	1.31	23.5	0.112	1.091	0.122
28	Band66/1RB#0	Back	132072	1720	23.12	-2.00	23.5	**0.192**	1.091	0.209
	Band66/1RB#0	Left	132072	1720	23.12	-0.79	23.5	0.089	1.091	0.097
39	Band66/1RB#0	Top	132072	1720	23.12	-1.25	23.5	**0.241**	1.091	0.263
	Band66/50%RB#0	Front	132072	1720	22.12	-1.72	22.5	0.102	1.091	0.111
	Band66/50%RB#0	Back	132072	1720	22.12	-1.82	22.5	0.183	1.091	0.200
	Band66/50%RB#0	Left	132072	1720	22.12	1.54	22.5	0.081	1.091	0.088
	Band66/50%RB#0	Top	132072	1720	22.12	1.32	22.5	0.223	1.091	0.243
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ NR n41 DFT-BPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n41 DFT-BPSK /1@271 100M	Front	517002	2585.01	25.45	-1.39	26.0	0.053	1.135	0.060
29	NR n41 DFT-BPSK /1@271 100M	Back	517002	2585.01	25.45	0.06	26.0	**0.093**	1.135	0.106
	NR n41 DFT-BPSK /1@271 100M	Left	517002	2585.01	25.45	-0.07	26.0	0.079	1.135	0.090
	NR n41 DFT-BPSK /135RB#67 100M	Front	520998	2604.99	26.17	-0.87	26.5	0.043	1.079	0.046
	NR n41 DFT-BPSK /135RB#67 100M	Back	520998	2604.99	26.17	1.96	26.5	0.086	1.079	0.093
	NR n41 DFT-BPSK /135RB#67 100M	Left	520998	2604.99	26.17	-0.70	26.5	0.068	1.079	0.073
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ NR n77(3450MHz~3550MHz) DFT-BPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@1 100M	Front	633334	3500.01	24.60	-1.17	25.0	0.062	1.096	0.068
	NR n77 DFT-BPSK /1@1 100M	Back	633334	3500.01	24.60	0.00	25.0	0.135	1.096	0.148
	NR n77 DFT-BPSK /1@1 100M	Left	633334	3500.01	24.60	0.59	25.0	0.115	1.096	0.126
	NR n77 DFT-BPSK /135RB#67 100M	Front	633334	3500.01	25.48	-1.17	26.0	0.076	1.127	0.086

30	NR n77 DFT-BPSK /135RB#67 100M	Back	633334	3500.01	25.48	0.00	26.0	**0.150**	1.127	0.169
	NR n77 DFT-BPSK /135RB#67 100M	Left	633334	3500.01	25.48	0.59	26.0	0.134	1.127	0.151
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						**1.6 W/kg (mW/g) Averaged over 1g**				

➢ NR n77(3700MHz~3980MHz) DFT-BPSK Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{10g} (W/kg)	Scaling Factor	Reported SAR_{10g} (W/kg)
	NR n77 DFT-BPSK /1@271 100M	Front	662000	3930	24.78	1.63	25.0	0.052	1.052	0.055
	NR n77 DFT-BPSK /1@271 100M	Back	662000	3930	24.78	0.47	25.0	0.125	1.052	0.132
	NR n77 DFT-BPSK /1@271 100M	Left	662000	3930	24.78	-1.41	25.0	0.110	1.052	0.116
	NR n77 DFT-BPSK /135RB#67 100M	Front	662000	3930	25.31	-1.64	26.0	0.082	1.172	0.096
31	NR n77 DFT-BPSK /135RB#67 100M	Back	662000	3930	25.31	-1.06	26.0	**0.141**	1.172	0.165
	NR n77 DFT-BPSK /135RB#67 100M	Left	662000	3930	25.31	1.40	26.0	0.127	1.172	0.149
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ WLAN 2.4GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	2.4GHz/802.11b ANT 1	Front	1	2412	16.67	2.48	17.0	0.062	1.079	1.010	0.068
	2.4GHz/802.11b ANT 1	Back	1	2412	16.67	1.04	17.0	0.088	1.079	1.010	0.096
	2.4GHz/802.11b ANT 1	Right	1	2412	16.67	-0.61	17.0	0.047	1.079	1.010	0.051
	2.4GHz/802.11b ANT 1	Top	1	2412	16.67	1.06	17.0	0.139	1.079	1.010	0.151
	2.4GHz/802.11b ANT 2	Front	1	2412	17.48	-0.08	18.0	0.082	1.127	1.010	0.093
32	2.4GHz/802.11b ANT 2	Back	1	2412	17.48	2.72	18.0	**0.155**	1.127	1.010	0.176
	2.4GHz/802.11b ANT 2	Right	1	2412	17.48	0.69	18.0	0.104	1.127	1.010	0.118
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ WLAN 5.2GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.2GHz/802.11a ANT 1	Front	48	5240	15.21	-2.55	15.5	0.010	1.069	1.000	0.011
	5.2GHz/802.11a ANT 1	Back	48	5240	15.21	-0.44	15.5	0.056	1.069	1.000	0.060
	5.2GHz/802.11a ANT 1	Right	48	5240	15.21	0.97	15.5	0.026	1.069	1.000	0.028
	5.2GHz/802.11a ANT 1	Top	48	5240	15.21	-0.03	15.5	0.051	1.069	1.000	0.055
	5.2GHz/802.11a ANT 2	Front	48	5240	16.86	-0.27	17.0	0.020	1.033	1.000	0.021
33	5.2GHz/802.11a ANT 2	Back	48	5240	16.86	-1.87	17.0	**0.064**	1.033	1.000	0.066
	5.2GHz/802.11a ANT 2	Left	48	5240	16.86	1.21	17.0	0.033	1.033	1.000	0.034

ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population	1.6 W/kg (mW/g) Averaged over 1g

➢ WLAN 5.8GHz Body SAR in Hotspot mode

Plot No.	Band/Mode	Test Position	CH.	Freq. (MHz)	Ave. Power (dBm)	Variation (%)	Tune-Up Limit (dBm)	Meas. SAR_{1g} (W/kg)	Scaling Factor	D.C Factor	Reported SAR_{1g} (W/kg)
	5.8GHz/802.11a ANT 1	Front	165	5825	15.81	-1.99	16.0	0.026	1.045	1.000	0.027
	5.8GHz/802.11a ANT 1	Back	165	5825	15.81	-1.63	16.0	0.110	1.045	1.000	0.115
	5.8GHz/802.11a ANT 1	Right	165	5825	15.81	-1.80	16.0	0.031	1.045	1.000	0.032
	5.8GHz/802.11a ANT 1	Top	165	5825	15.81	0.05	16.0	0.056	1.045	1.000	0.059
	5.8GHz/802.11ac20 ANT 2	Front	149	5745	17.46	-0.18	17.5	0.038	1.009	1.000	0.038
34	5.8GHz/802.11ac20 ANT 2	Back	149	5745	17.46	0.55	17.5	**0.122**	1.009	1.000	0.123
	5.8GHz/802.11ac20 ANT 2	Left	149	5745	17.46	-0.34	17.5	0.085	1.009	1.000	0.086
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

Note:

1. Per KDB 447498 D01v06, for each exposure position, if the highest output channel Reported SAR ≤0.8W/kg, other channels SAR testing is not necessary.
2. Additional WLAN SAR testing was performed for simultaneous transmission analysis.
3. For Hotspot SAR testing, per KDB 941225 D06v02r01, for EUT dimension ≥ 9cm*5cm, the test distance is 10mm. SAR must be measured for all surfaces and sides with a transmitting antenna located within 2.5cm from that surface or edge.
4. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA output power is < 0.25dB higher than RMC 12.2kbps, or Reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA SAR evaluation can be excluded.
5. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥0.8W/kg.
6. Per KDB 648474 D04v01r03, when the Reported SAR for a body-worn accessory measured without a headset connected to the handset is > 1.2 W/kg, SAR testing with a headset connected to the handset is required.
7. Per KDB 941225 D05v02r05, 100% RB allocation SAR measurement is not required when 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.
8. According to KDB 865664 D02v01r02, SAR plot is required for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination.
9. Highlight part of test data means repeated test.

15.4 Repeated SAR measurement

Band/ Mode	Test Position	CH.	Freq. (MHz)	Measured SAR (W/kg)				
				Original	1st Repeated		2nd Repeated	
					Value	Ratio	Value	Ratio
GSM850/Voice	Right Cheek	251	848.8	1.003	0.974	1.03	/	/
Band V/RMC	Right Cheek	4233	846.6	0.897	0.885	1.01	/	/
Band7/1RB#49	Right Tilted	21100	2535	0.886	0.874	1.01	/	/
GPRS1900/3 slots	Top	512	1850.2	1.074	0.985	1.09	/	/
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population				**1.6 W/kg (mW/g) Averaged over 1g**				

Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8 W/kg
2. Per KDB 865664 D01v01r04, if the ratio of *original* and *repeated* is ≤ 1.2 and the measured SAR <1.45 W/kg, only one repeated measurement is required.

15.5 Multi-Band Simultaneous Transmission Considerations

➢ **Simultaneous Transmission Capabilities**

According to FCC KDB Publication 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown in below Figure and are color-coded to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

Fig.15.1 Simultaneous Transmission Paths

➢ **Simultaneous Transmission Procedures**

This device contains transmitters that may operate simultneously. Therefore simultaneous transmission analysis is required. Per FCC KDB 447498 D01v06, simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the simultaneous transmitting antennas in a specific a physical test configuration is ≤ 1.6 W/kg. When standalone SAR is not required to be measured, per FCC KDB 447498 D01v06 4.3.2), the following equation must be used to estimate the standalone 1g SAR for simultaneous transmission assessment involving that transmitter.

$$\text{Estimated SAR} = \frac{\sqrt{f(GHz)}}{7.5} \cdot \frac{\text{Max. power of channel, mW}}{\text{Min. Separation Distance, mm}}$$

Mode	Max. tune-up Power (dBm)	Exposure Position	Head	Body	Hotspot
		Test Distance (mm)	0	10	10
Bluetooth	5.5	Estimated SAR (W/kg)	0.147	0.073	0.073

Note:

1. When the minimum *test separation distance* is < 5 mm, a distance of 5 mm according is applied to determine estimated SAR.

➢ **Multi-Band simultaneous Transmission Consideration**

	Position	Applicable Combination
Simultaneous Transmission Consideration	Head	WWAN (Voice) + WLAN (MIMO)
		WWAN (Voice) + Bluetooth
	Body	WWAN (Data) + WLAN (MIMO)
		WWAN (Data) + Bluetooth
	Hotspot	WWAN (Data) + WLAN (MIMO)
		WWAN (Data) + Bluetooth

Note:

1. For ANT 2 WLAN 2.4GHz Band and Bluetooth share the same antenna, and cannot transmit simultaneously.
2. GSM/WCDMA/LTE shares the same antenna, and cannot transmit simultaneously.
3. The Report SAR summation is calculated based on the same configuration and test position.
4. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
   i. Scalar SAR summation < 1.6 W/kg.
   ii. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*), and the peak separation distance is determined from the square root of $[(x_1-x_2)^2 + (y_1-y_2)^2 + (z_1-z_2)^2]$, where (x_1, y_1, z_1) and (x_2, y_2, z_2) are the coordinates of the extrapolated peak SAR locations in the zoom scan If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary
   iii. Simultaneously transmission SAR measurement, and the Reported multi-band SAR < 1.6 W/kg

15.6 SAR Simultaneous Transmission Analysis

➢ **5G NR EN-DC Simultaneous Transmission**

Position		Standalone SAR(W/kg)		Σ SAR_{1g} (W/kg)
		LTE Band 5	NR n77 SA	5G NR EN-DC
Head	Right Cheek	0.789	0.263	1.052
	Right Tilted	0.721	0.211	0.932
	Left Cheek	0.741	0.114	0.855
	Left Tilted	0.663	0.099	0.762
Body- worn	Front	0.164	0.096	0.260
	Back	0.326	0.169	0.495
Hotspot	Front	0.164	0.096	0.260
	Back	0.326	0.169	0.495
	Left	0.136	0.151	0.287
	Right	0.000	0.000	0.000
	Top	0.196	0.000	0.196
	Bottom	0.000	0.000	0.000

Position		Standalone SAR(W/kg)		Σ SAR_{1g} (W/kg)
		LTE Band 41	NR n77 SA	5G NR EN-DC
Head	Right Cheek	0.356	0.263	0.619
	Right Tilted	0.403	0.211	0.614
	Left Cheek	0.226	0.114	0.340
	Left Tilted	0.261	0.099	0.360
Body- worn	Front	0.072	0.096	0.168
	Back	0.126	0.169	0.295
Hotspot	Front	0.072	0.096	0.168
	Back	0.126	0.169	0.295
	Left	0.048	0.151	0.199
	Right	0.000	0.000	0.000
	Top	0.116	0.000	0.116
	Bottom	0.000	0.000	0.000

Position		Standalone SAR(W/kg)		Σ SAR_{1g} (W/kg)
		LTE Band 66	NR n77 SA	5G NR EN-DC
Head	Right Cheek	0.447	0.263	0.710
	Right Tilted	0.513	0.211	0.724
	Left Cheek	0.315	0.114	0.429
	Left Tilted	0.367	0.099	0.466
Body- worn	Front	0.122	0.096	0.218
	Back	0.209	0.169	0.378
Hotspot	Front	0.122	0.096	0.218
	Back	0.209	0.169	0.378
	Left	0.097	0.151	0.248
	Right	0.000	0.000	0.000
	Top	0.263	0.000	0.263
	Bottom	0.000	0.000	0.000

Position		Standalone SAR(W/kg)				Σ SAR_{1g} (W/kg)	
		1	2	3	4	1+2+3	1+3+4
		WWAN	2.4G WLAN ANT 1	2.4G WLAN ANT 2	BT ANT2		
Head	Right Cheek	1.112	0.258	0.176	0.147	1.546	1.435
	Right Tilted	1.080	0.245	0.123	0.147	1.448	1.350
	Left Cheek	0.855	0.337	0.357	0.147	**1.549**	1.416
	Left Tilted	0.762	0.439	0.247	0.147	1.448	1.156
Body-worn	Front	0.481	0.068	0.093	0.073	0.642	0.647
	Back	1.014	0.096	0.176	0.073	1.286	1.263
Hotspot	Front	0.481	0.068	0.093	0.073	0.642	0.647
	Back	1.014	0.096	0.176	0.073	1.286	1.263
	Left	0.287	0.000	0.000	0.073	0.287	0.360
	Right	0.000	0.051	0.118	0.073	0.169	0.191
	Top	1.175	0.151	0.000	0.073	1.326	1.248
	Bottom	0.000	0.000	0.000	0.073	0.000	0.073

Position		Standalone SAR(W/kg)				Σ SAR_{1g} (W/kg)	
		1	2	3	4	1+2+3	1+3+4
		WWAN	5.2G WLAN ANT 1	5.2G WLAN ANT 2	BT ANT2		
Head	Right Cheek	1.112	0.202	0.218	0.147	**1.532**	1.477
	Right Tilted	1.080	0.265	0.169	0.147	1.514	1.396
	Left Cheek	0.855	0.246	0.315	0.147	1.416	1.317
	Left Tilted	0.762	0.370	0.209	0.147	1.341	1.118
Body-worn	Front	0.481	0.011	0.021	0.073	0.513	0.575
	Back	1.014	0.060	0.066	0.073	1.140	1.153
Hotspot	Front	0.481	0.011	0.021	0.073	0.513	0.575
	Back	1.014	0.060	0.066	0.073	1.140	1.153
	Left	0.287	0.000	0.000	0.073	0.287	0.360
	Right	0.000	0.028	0.034	0.073	0.062	0.107
	Top	1.175	0.055	0.000	0.073	1.230	1.248
	Bottom	0.000	0.000	0.000	0.073	0.000	0.073

Position		Standalone SAR(W/kg)				Σ SAR_{1g} (W/kg)	
		1	2	3	4	1+2+3	1+3+4
		WWAN	5.8G WLAN ANT2	5.8G WLAN ANT3	BT ANT2		
Head	Right Cheek	1.112	0.142	0.102	0.147	1.356	**1.361**
	Right Tilted	1.080	0.110	0.086	0.147	1.276	1.313
	Left Cheek	0.855	0.168	0.144	0.147	1.167	1.146
	Left Tilted	0.762	0.139	0.098	0.147	0.999	1.007
Body-worn	Front	0.481	0.027	0.038	0.073	0.546	0.592
	Back	1.014	0.115	0.123	0.073	1.252	1.210
Hotspot	Front	0.481	0.027	0.038	0.073	0.546	0.592
	Back	1.014	0.115	0.123	0.073	1.252	1.210
	Left	0.287	0.000	0.086	0.073	0.373	0.446
	Right	0.000	0.032	0.000	0.073	0.032	0.073
	Top	1.175	0.059	0.000	0.073	1.234	1.248
	Bottom	0.000	0.000	0.000	0.073	0.000	0.073

➢ **Simultaneous Transmission Conclusion**

The above numerical summed SAR results for all the case simultaneous transmission conditions were below the SAR limit. Therefore, the above analysis is sufficient to determine that simultaneous transmission cases will not exceed the SAR limit and therefore no measured volumetric simultaneous SAR summation is required per FCC KDB Publication 447498 D01v06.

15.7 Measurement Uncertainty

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

16 Reference

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[4]. OpenSAR V5 Software User Manual

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[12]. FCC KDB 865664 D01 v01r04, “SAR MEASUREMENT REQUIREMENTS FOR 100 MHz TO 6 GHz”, August 2015