FCC SAR REPORT

Applicant:	Sun Cupid Technology (HK) Ltd.
Address of Applicant:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.

Equipment Under Test (EUT)

Product Name:	LTE Smart Phone
Model No.:	S6701L, B15
Trade mark	NUU
FCC ID:	2ADINS6701L
Applicable standards:	FCC 47 CFR Part 2.1093
Date of Test:	09 Aug., 2021 ~ 19 Aug., 2021
Test Result:	Maximum Reported 1-g SAR (W/kg) Head: 0.574 Body: 0.619 Hotspot: 0.779

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the JYT product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

2 Version

Version No.	Date	Description
00	*27 Aug., 2021*	*Original*

Tested by: Carl Wei ***Date:*** *27 Aug., 2021*

Test Engineer

Reviewed by: Janet Wei ***Date:*** *27 Aug., 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	0.147	PCE	0.574
	GSM 1900	0.518		
	WCDMA Band V	0.170		
	WCDMA Band IV	0.049		
	WCDMA Band II	0.119		
	LTE Band 2	0.180		
	LTE Band 4	0.060		
	LTE Band 5	0.178		
	LTE Band 12	0.123		
	LTE Band 13	0.127		
	LTE Band 25	0.212		
	LTE Band 26	0.180		
	LTE Band 41	0.198		
	LTE Band 66	0.116		
	WLAN 2.4 GHz	0.574	DTS	
	Bluetooth	0.023	DSS	
Body (10 mm Gap)	GSM 850	0.358	PCE	0.619
	GSM 1900	0.619		
	WCDMA Band V	0.220		
	WCDMA Band IV	0.404		
	WCDMA Band II	0.479		
	LTE Band 2	0.581		
	LTE Band 4	0.383		
	LTE Band 5	0.186		
	LTE Band 12	0.174		
	LTE Band 13	0.164		
	LTE Band 25	0.575		
	LTE Band 26	0.221		
	LTE Band 41	0.091		
	LTE Band 66	0.326		
	WLAN 2.4 GHz	0.147	DTS	
	Bluetooth	0.050	DSS	
Hotspot (10 mm Gap)	GSM 850	0.358	PCE	0.779
	GSM 1900	0.619		
	WCDMA Band V	0.220		
	WCDMA Band IV	0.748		
	WCDMA Band II	0.682		
	LTE Band 2	0.779		
	LTE Band 4	0.603		
	LTE Band 5	0.186		
	LTE Band 12	0.174		
	LTE Band 13	0.164		
	LTE Band 25	0.652		
	LTE Band 26	0.221		
	LTE Band 41	0.107		
	LTE Band 66	0.589		
	WLAN 2.4 GHz	0.147	DTS	
	Bluetooth	0.050	DSS	

<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 Tilted	GSM 1900	0.423	PCE	0.880
	WLAN 2.4 GHz	0.457	DTS	

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.

5 General Information

5.1 Client Information

Applicant:	Sun Cupid Technology (HK) Ltd.
Address of Applicant:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.
Manufacturer:	Sun Cupid Technology (HK) Ltd.
Address of Manufacturer:	16/F, CEO Tower, 77 Wing Hong Street, Cheung Sha Wan, Kowloon, Hong Kong.
Factory:	Suncupid (ShenZhen) Electronic Ltd
Address:	Baolong Industrial City, Longgang District, Shenzhen Hi-Tech Road, Building 1, A 7, China.

5.2 General Description of EUT

Product Name:	LTE Smart Phone		
Model No.:	S6701L, B15		
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 12: 698MHz~716MHz
		Band 13: 777MHz~787MHz	Band 25 : 1850MHz-1915MHz
		Band 26 :814MHz~849MHz	Band 41: 2555MHz~2655MHz
		Band 66 :1710MHz~1780MHz	
	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
	Wi-Fi:	☒802.11b(DSSS)	☒802.11a/g/n/ac (OFDM)
	Bluetooth:	☒BDR(GFSK)	☒EDR(π/4-DQPSK, 8DPSK) ☒LE(GFSK)
Antenna Type:	Internal Antenna		
Antenna Gain:	GSM 850: -1.20 dBi; PCS 1900: -1.20 dBi WCDMA Band V: -1.10 dBi ;WCDMA Band II: -1.10 dBi; WCDMA Band IV: -1.10 dBi LTE Band 2: 0.50 dBi; LTE Band 4: 0.50 dBi LTE Band 5: 0.50 dBi; LTE Band 12: 0.50 dBi LTE Band 13: 0.50 dBi; LTE Band 25: 0.50 dBi LTE Band 26: 0.50 dBi; LTE Band 41: 0.50 dBi LTE Band 66: 0.50 dBi; Bluetooth: 2.10 dBi; 2.4G Wi-Fi: 2.10 dBi; 5G Wi-Fi: 2.10 dBi		
(E)GPRS Class:	(E)GPRS Class: 12		
Dimensions (L*W*H):	169 mm (L)× 77 mm (W)× 9 mm (H)		

Accessories information:	Model: TPA-10120150UU Input: AC100-240V, 50/60Hz, 0.6A Output: DC 3.6~6.0V, 3A ; DC 6.0~9.0V, 2A ; DC 9.0-12.0V, 1.5A	Battery: Rechargeable Li-ion Polymer Battery DC3.85V, Rated capacity 4900mAh, typical capacity 5000mAh
		Headset: Support headset
Remark:	Model No.: S6701L, B15 were identical inside, the electrical circuit design, layout, components used and internal wiring, with only difference being model name.	

5.3 Maximum RF Output Power

Mode	Average Power (dBm)	
	GSM 850	GSM 1900
GSM (Voice)	33.01	29.44
GPRS (1 TX Slot)	32.96	29.41
GPRS (2 TX Slots)	32.28	28.66
GPRS (3 TX Slots)	30.57	26.87
GPRS (4 TX Slots)	29.58	25.80
EGPRS (1 TX Slot)	27.97	25.38
EGPRS (2 TX Slots)	26.78	24.32
EGPRS (3 TX Slots)	24.68	22.22
EGPRS (4 TX Slots)	23.50	21.13

Mode	Average Power (dBm)		
	WCDMA Band V	WCDMA Band IV	WCDMA Band II
AMR 12.2 kbps	23.72	23.11	23.41
RMC 12.2 kbps	23.84	23.21	23.49
HSDPA Sub-test 1	22.81	22.23	22.53
HSDPA Sub-test 2	22.31	21.79	22.15
HSDPA Sub-test 3	22.26	21.73	21.98
HSDPA Sub-test 4	22.24	21.67	21.95
HSUPA Sub-test 1	20.79	20.23	20.48
HSUPA Sub-test 2	21.29	20.73	21.01
HSUPA Sub-test 3	21.80	21.22	21.52
HSUPA Sub-test 4	20.84	20.24	20.52
HSUPA Sub-test 5	22.81	22.24	22.51

Mode	Average Power (dBm)								
	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 12	LTE Band 13	LTE Band 25	LTE Band 26	LTE Band 41	LTE Band 66
BW/1.4 MHz	23.34	22.98	23.58	23.42	/	23.35	23.65	/	23.21
BW/3.0 MHz	23.30	22.94	23.51	23.41	/	23.19	23.55	/	23.21
BW/5.0 MHz	23.27	22.91	23.56	23.37	23.35	23.21	23.61	22.43	23.19
BW/10 MHz	23.38	23.10	23.59	23.65	23.52	23.34	23.67	22.51	23.26
BW/15 MHz	23.21	22.91	/	/	/	23.13	23.54	22.24	23.26
BW/20 MHz	23.34	23.06	/	/	/	23.31	/	22.41	23.28

WLAN 2.4 GHz Band Average Power (dBm)				
Mode/Band	b	g	n (HT-20)	n (HT-40)
WLAN 2.4GHz	15.12	12.64	12.52	12.16

WLAN 5.2 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.2GHz	6.45	6.12	5.90	5.80	6.37	5.89

WLAN 5.8 GHz Band Average Power (dBm)						
Mode/Band	a	ac 20	ac 40	ac 80	n 20	n 40
WLAN 5.8GHz	6.89	6.76	5.81	5.67	6.79	5.81

Bluetooth Average Power (dBm)				
Mode/Band	1 Mbps(GFSK)	2 Mbps(π/4DQPSK)	3 Mbps (8DPSK)	LE (BT 4.0)
Bluetooth	10.29	9.45	9.76	-3.60

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
5#	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

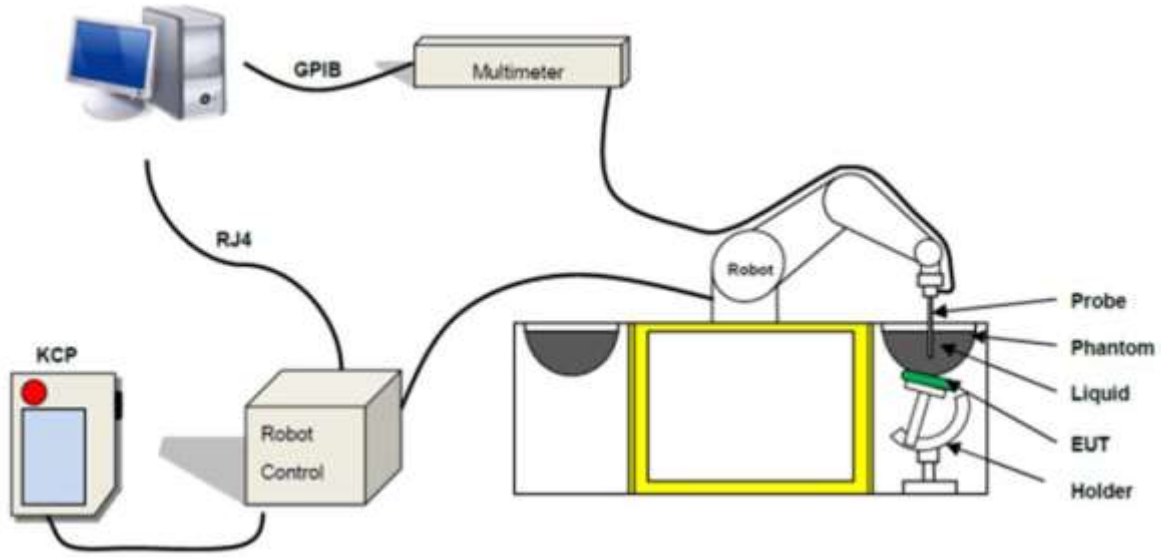


Fig. 8.1 MVG COMOSAR System Configurations

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.

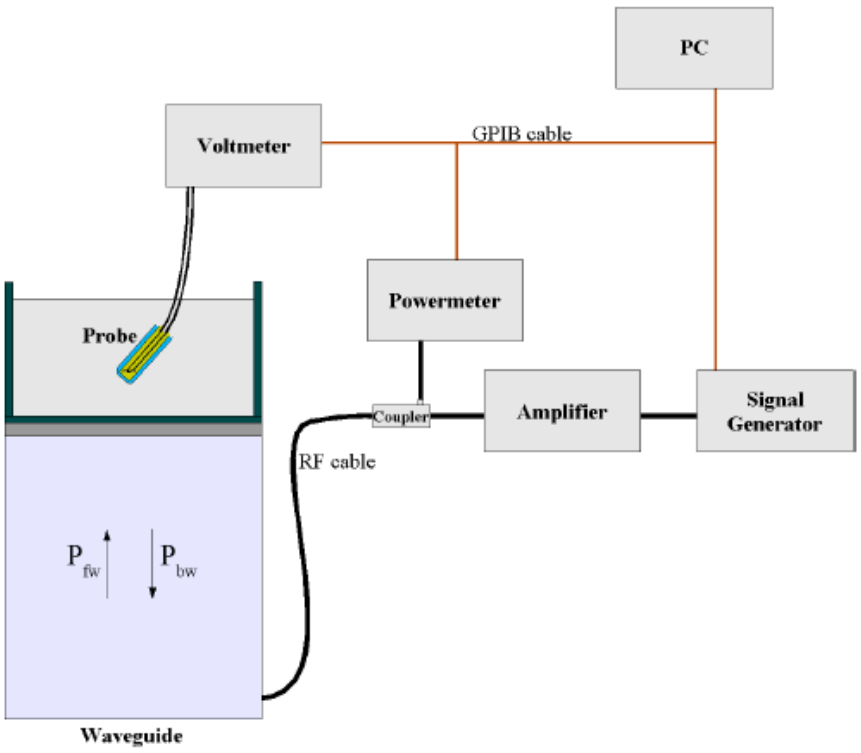
➢ **E-Field Probe Specification**

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
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
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	06.17.2021
Simulated Station	Rohde & Schwarz	CMW500	WXJ008-3	07.22.2021	07.21.2022
HP	Network Analyzer	8753D	WXJ024	06.18.2020	06.17.2021
KEYSIGHT	EPM Series Power Meter	N1914A	WXJ075	11.12.2020	11.11.2021
KEYSIGHT	E-Series Power Sensor	E9300H	WXJ075-2	08.21.2020	08.20.2021
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.

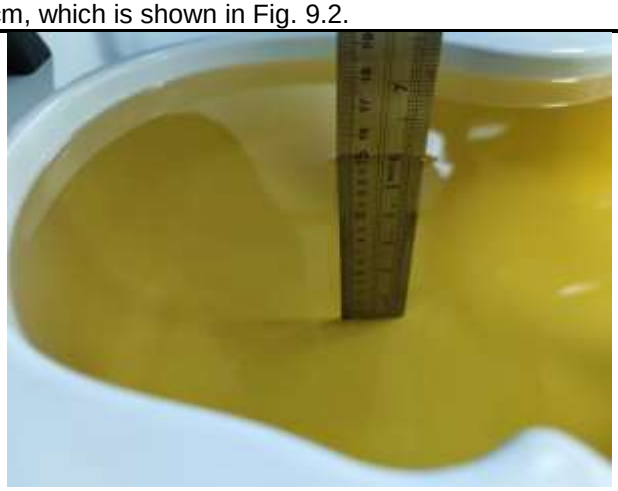


Fig. 9.1 Photo of Liquid Height for Head SAR (depth>15cm)

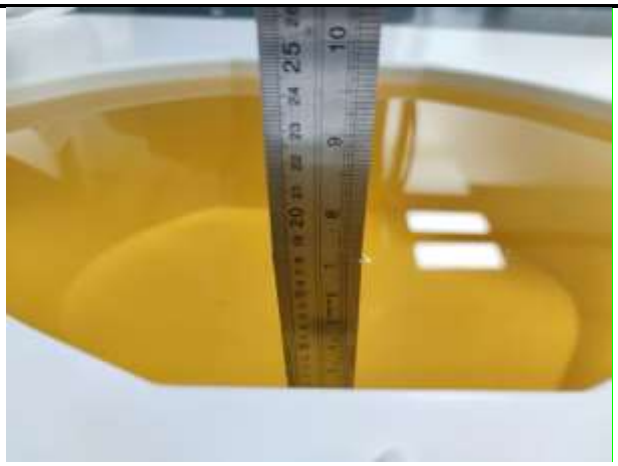


Fig. 9.2 Photo of Liquid Height for Body SAR (depth>15cm)

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 were 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	23.1	0.88	41.54	0.89	41.9	-1.12	-0.86	±5	08.13.2021
835	22.9	0.92	41.82	0.90	41.5	2.22	0.77	±5	08.12.2021
835	23.1	0.91	41.20	0.90	41.5	1.11	-0.72	±5	08.13.2021
1750	22.5	1.36	39.78	1.37	40.1	-0.73	-0.80	±5	08.18.2021
1900	22.5	1.42	39.35	1.40	40.0	1.43	-1.63	±5	08.18.2021
1900	22.9	1.43	39.70	1.40	40.0	2.14	-0.75	±5	08.19.2021
2450	22.6	1.78	39.66	1.80	39.2	-1.11	1.17	±5	08.09.2021
2600	22.7	1.98	38.82	1.96	39.0	1.02	-0.46	±5	08.10.2021

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:

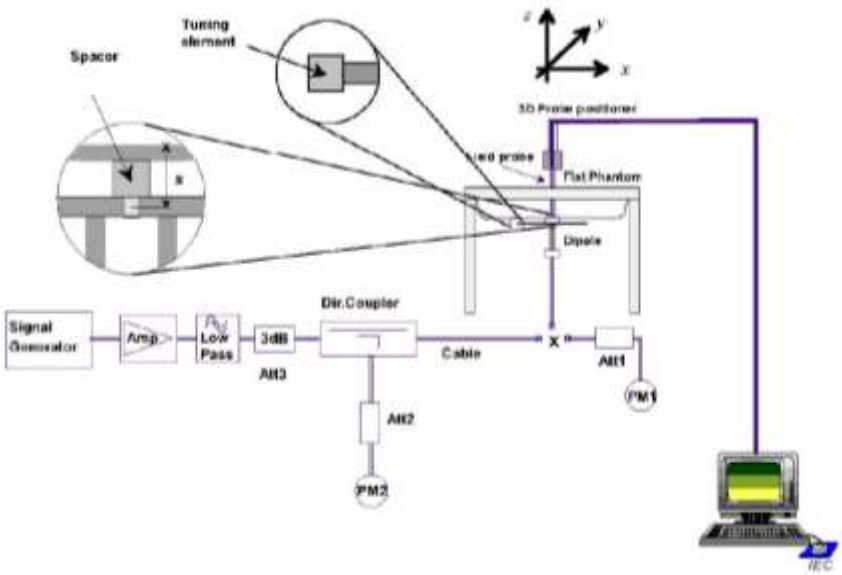


Fig.10.1 System Verification Setup Diagram

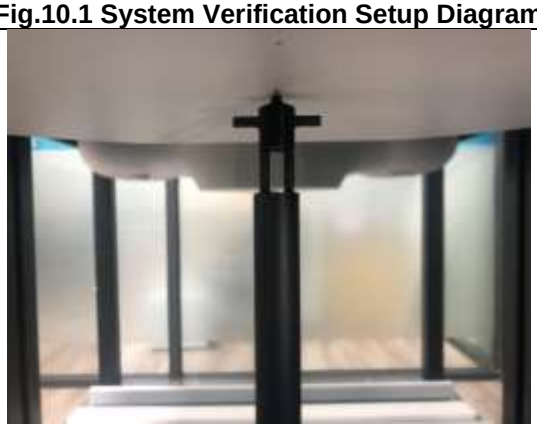


Fig.10.2 Photo of Dipole setup

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➢ **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 (%)
08.13.2021	750	100	0.845	8.45	8.57	-1.40
08.12.2021	835	100	1.020	10.20	9.57	6.58
08.13.2021	835	100	0.978	9.78	9.57	2.19
08.18.2021	1750	100	3.507	35.07	36.50	-3.92
08.18.2021	1900	100	4.015	40.15	39.60	1.36
08.19.2021	1900	100	4.179	41.79	39.60	5.53
08.09.2021	2450	100	5.062	50.62	52.92	-4.35
08.10.2021	2600	100	5.593	55.93	55.47	0.83

11 EUT Testing Position

This EUT was tested in ten different positions. They are right cheek/right tilted/left cheek/left tilted for head, Front/Back/ Left /Right /Top /Bottom 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

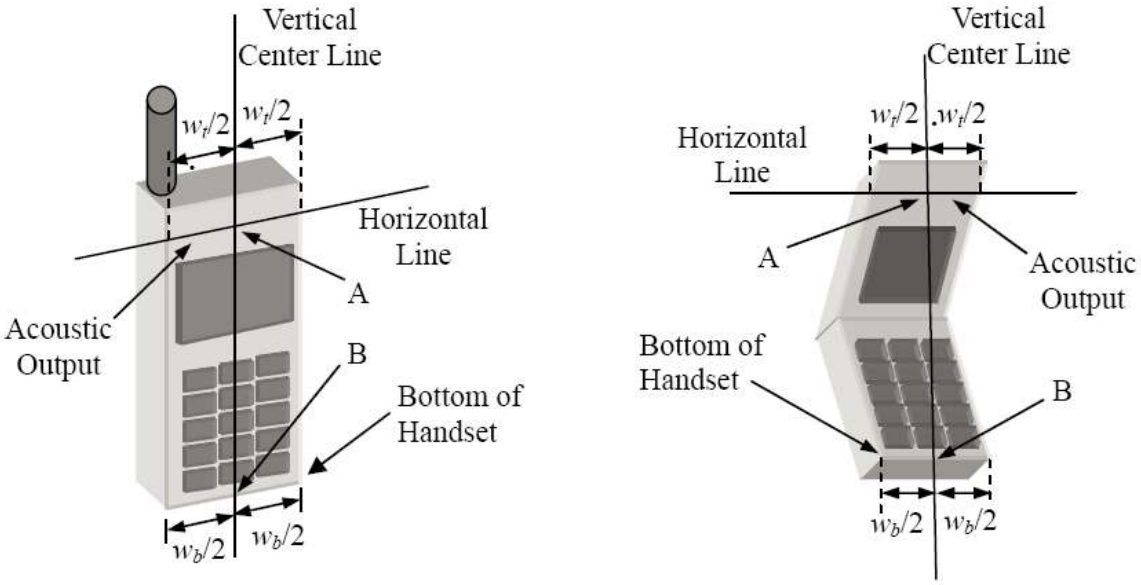


Fig. 11.2 Illustration for Handset Vertical and Horizontal Reference Lines

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.

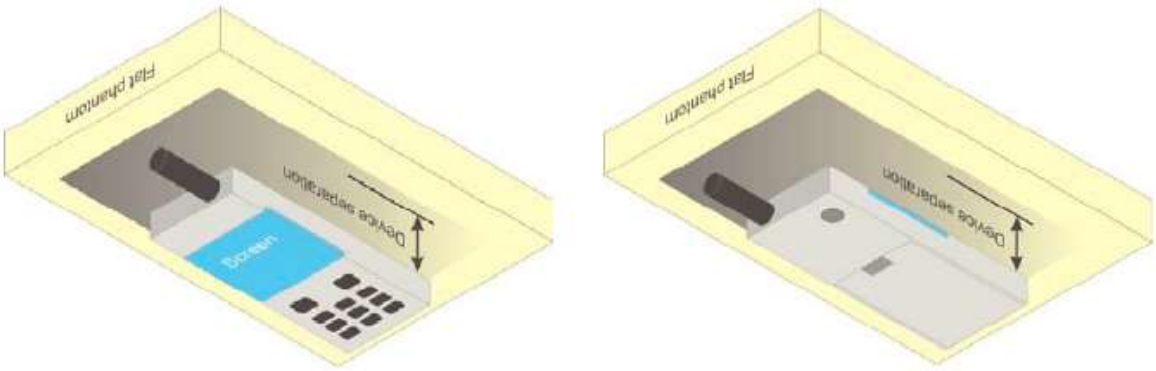


Fig.11.5 Illustration for Body Worn Position

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.

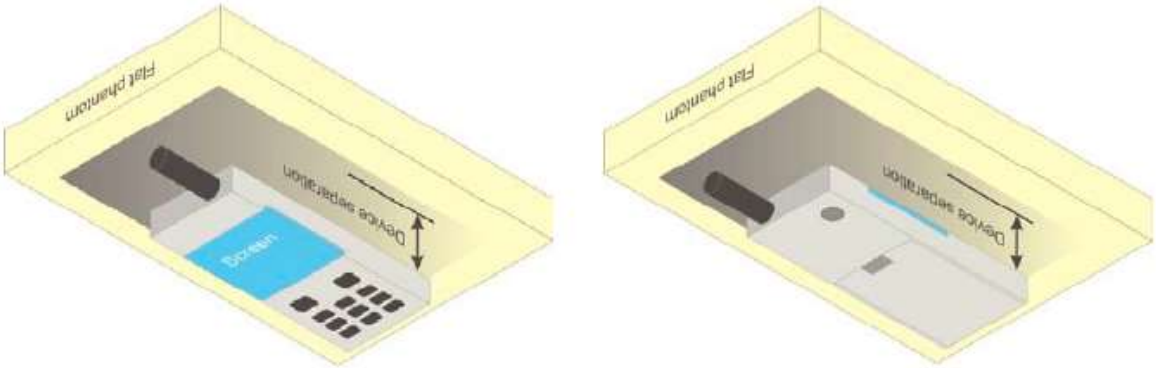


Fig.11.6 Illustration for Hotspot Position

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)	32.89	**33.01**	32.95	23.86	23.98	23.92
GPRS (GMSK, 1 TX slot)	32.81	32.96	32.90	23.78	23.93	23.87
GPRS (GMSK, 2 TX slots)	32.10	32.28	32.19	26.08	26.26	26.17
GPRS (GMSK, 3 TX slots)	30.38	30.57	30.47	26.12	26.31	26.21
GPRS (GMSK, 4 TX slots)	29.38	**29.58**	29.47	26.37	**26.57**	26.46
EGPRS (8PSK, 1 TX slot)	27.82	27.97	27.63	18.79	18.94	18.60
EGPRS (8PSK, 2 TX slots)	26.60	26.78	26.46	20.58	20.76	20.44
EGPRS (8PSK, 3 TX slots)	24.46	24.68	24.28	20.20	20.42	20.02
EGPRS (8PSK, 4 TX slots)	23.33	23.50	23.15	20.32	20.49	20.14

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 Body worn SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in GSM 850 Voice mode.
3. 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.
4. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
5. The EUT do not support DTM and VoIP function.

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)	29.39	**29.44**	29.26	20.36	20.41	20.23
GPRS (GMSK, 1 TX slot)	29.34	29.41	29.23	20.31	20.38	20.20
GPRS (GMSK, 2 TX slots)	28.58	28.66	28.48	22.56	22.64	22.46
GPRS (GMSK, 3 TX slots)	26.82	26.87	26.69	22.56	22.61	22.43
GPRS (GMSK, 4 TX slots)	25.74	**25.80**	25.62	22.73	**22.79**	22.61
EGPRS (8PSK, 1 TX slot)	25.38	25.37	25.20	16.35	16.34	16.17
EGPRS (8PSK, 2 TX slots)	24.28	24.32	24.14	18.26	18.30	18.12
EGPRS (8PSK, 3 TX slots)	22.19	22.22	22.02	17.93	17.96	17.76
EGPRS (8PSK, 4 TX slots)	21.13	21.13	20.96	18.12	18.12	17.95

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 Body worn SAR testing, GSM Voice mode should be evaluated, therefore the EUT was set in GSM Voice 1900 mode.
3. 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.
4. Per KDB447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
5. The EUT do not support DTM and VoIP function.

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	23.60	23.63	23.72
RMC 12.2 kbps	23.64	23.73	**23.84**
HSDPA Sub-test 1	22.62	22.69	22.81
HSDPA Sub-test 2	22.21	22.21	22.31
HSDPA Sub-test 3	22.14	22.16	22.26
HSDPA Sub-test 4	22.06	22.12	22.24
HSUPA Sub-test 1	20.65	20.70	20.79
HSUPA Sub-test 2	21.15	21.22	21.29
HSUPA Sub-test 3	21.68	21.71	21.80
HSUPA Sub-test 4	20.69	20.75	20.84
HSUPA Sub-test 5	22.67	22.71	22.81

WCDMA Average power (dBm)			
Band	WCDMA Band IV		
Channel	1312	1413	1513
Frequency (MHz)	1712.4	1732.6	1752.6
AMR 12.2 kbps	22.97	23.04	23.11
RMC 12.2 kbps	23.03	**23.21**	23.16
HSDPA Sub-test 1	22.08	22.23	22.15
HSDPA Sub-test 2	21.69	21.79	21.73
HSDPA Sub-test 3	21.58	21.73	21.66
HSDPA Sub-test 4	21.54	21.67	21.62
HSUPA Sub-test 1	20.09	20.23	20.15
HSUPA Sub-test 2	20.57	20.73	20.69
HSUPA Sub-test 3	21.08	21.22	21.19
HSUPA Sub-test 4	20.10	20.24	20.20
HSUPA Sub-test 5	22.09	22.24	22.18

WCDMA Average power (dBm)			
Band	WCDMA Band II		
Channel	9262	9400	9538
Frequency (MHz)	1852.4	1880.0	1907.6
AMR 12.2 kbps	23.41	23.34	23.19
RMC 12.2 kbps	**23.49**	23.47	23.33
HSDPA Sub-test 1	22.53	22.53	22.36
HSDPA Sub-test 2	22.15	22.01	21.85
HSDPA Sub-test 3	21.98	21.97	21.76
HSDPA Sub-test 4	21.95	21.93	21.85
HSUPA Sub-test 1	20.48	20.48	20.28
HSUPA Sub-test 2	21.01	20.99	20.82
HSUPA Sub-test 3	21.52	21.50	21.31
HSUPA Sub-test 4	20.52	20.49	20.33
HSUPA Sub-test 5	22.51	22.48	22.31

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.
3. AMR, HSDPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.

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

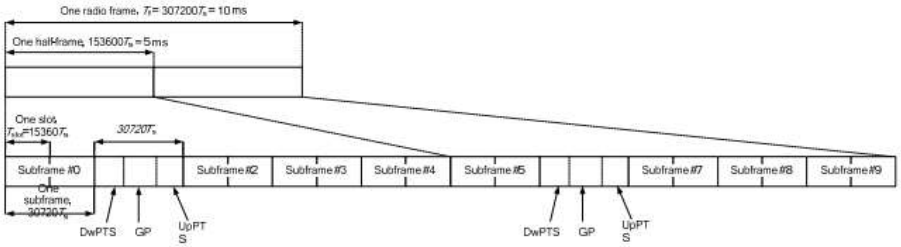


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity)

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	23.16	23.18	23.03
			1	2	23.32	23.34	23.16
			1	5	23.16	23.16	23.06
			3	0	22.34	22.28	22.16
			3	1	22.33	22.27	22.13
			3	2	22.31	22.40	22.09
			6	0	22.29	22.26	22.12
		16QAM	1	0	22.15	22.07	22.02
			1	2	22.21	22.25	22.09
			1	5	22.10	22.04	22.06
			3	0	21.09	21.06	21.03
			3	1	21.16	21.11	20.95
			3	2	21.12	21.03	21.09
			6	0	21.16	21.05	20.98

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	23.30	23.19	23.08
			1	7	23.28	23.24	23.12
			1	14	23.25	23.17	23.14
			8	0	22.29	22.26	22.10
			8	4	22.30	22.25	22.11
			8	7	22.27	22.30	22.09
			15	0	22.23	22.19	22.09
		16QAM	1	0	22.11	22.24	22.03
			1	7	22.08	22.22	21.90
			1	14	22.04	22.20	21.85
			8	0	21.22	21.27	21.07
			8	4	21.21	21.24	21.06
			8	7	21.23	21.26	21.05
			15	0	21.12	21.20	20.93

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	23.18	23.11	23.03
			1	12	23.27	23.26	23.15
			1	24	23.13	23.13	23.02
			12	0	22.26	22.15	22.08
			12	6	22.21	22.19	22.00
			12	11	22.25	22.14	22.05
			25	0	22.25	22.22	22.06
		16QAM	1	0	22.13	22.16	21.91
			1	12	22.20	22.34	22.03
			1	24	22.06	22.19	21.96
			12	0	21.15	21.15	20.98
			12	6	21.19	21.13	20.99
			12	11	21.13	21.13	20.98
			25	0	21.22	21.20	21.11

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	23.17	23.22	23.04
			1	24	23.25	23.38	23.37
			1	49	23.03	23.19	23.04
			25	0	22.29	22.22	22.16
			25	12	22.28	22.22	22.16
			25	24	22.33	22.26	22.14
			50	0	22.25	22.28	22.15
		16QAM	1	0	22.20	22.06	21.82
			1	24	22.35	22.28	22.04
			1	49	22.18	22.11	21.91
			25	0	21.19	21.26	21.17
			25	12	21.23	21.23	21.13
			25	24	21.25	21.25	21.16
			50	0	21.23	21.26	21.16

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	23.12	23.07	23.01
			1	37	23.12	23.21	23.13
			1	74	23.02	23.09	23.07
			36	0	22.30	22.27	22.21
			36	16	22.28	22.25	22.22
			36	35	22.27	22.23	22.17
			75	0	22.26	22.31	22.27
		16QAM	1	0	22.14	22.24	22.05
			1	37	22.16	22.38	21.94
			1	74	22.06	22.25	21.84
			36	0	21.21	21.24	21.08
			36	16	21.26	21.24	21.15
			36	35	21.20	21.28	21.07
			75	0	21.17	21.25	21.24

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	23.25	23.17	23.09
			1	49	23.33	23.34	23.20
			1	99	23.07	23.15	23.07
			50	0	22.26	22.15	22.17
			50	24	22.24	22.19	22.23
			50	49	22.22	22.16	22.25
			100	0	22.14	22.11	22.22
		16QAM	1	0	22.12	22.05	22.19
			1	49	22.15	22.29	22.31
			1	99	22.03	22.10	22.18
			50	0	21.19	21.14	21.24
			50	24	21.22	21.11	21.24
			50	49	21.17	21.12	21.23
			100	0	21.12	21.12	21.15

LTE Band 4 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19957	20175	20393
					1710.7MHz	1732.5MHz	1754.3MHz
Band 4	1.4	QPSK	1	0	22.66	22.92	22.79
			1	2	22.69	22.98	22.86
			1	5	22.67	22.85	22.76
			3	0	21.78	21.91	21.85
			3	1	21.83	21.91	21.88
			3	2	21.75	21.88	21.89
			6	0	21.73	21.85	21.79
		16QAM	1	0	21.58	21.58	21.53
			1	2	21.79	21.73	21.63
			1	5	21.61	21.62	21.47
			3	0	20.76	20.74	20.68
			3	1	20.83	20.73	20.74
			3	2	20.75	20.71	20.72
			6	0	20.72	20.72	20.71

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19965	20175	20385
					1711.5MHz	1732.5MHz	1753.5MHz
Band 4	3	QPSK	1	0	22.69	22.90	22.79
			1	7	22.73	22.94	22.80
			1	14	22.67	22.93	22.87
			8	0	21.70	21.87	21.80
			8	4	21.69	21.85	21.81
			8	7	21.73	21.81	21.82
			15	0	21.70	21.83	21.75
		16QAM	1	0	21.71	21.72	21.53
			1	7	21.70	21.58	21.63
			1	14	21.62	21.63	21.65
			8	0	20.69	20.76	20.78
			8	4	20.72	20.80	20.81
			8	7	20.69	20.76	20.79
			15	0	20.67	20.71	20.70

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19975	20175	20375
					1712.5MHz	1732.5MHz	1752.5MHz
Band 4	5	QPSK	1	0	22.66	22.79	22.72
			1	12	22.75	22.91	22.87
			1	24	22.70	22.80	22.81
			12	0	21.67	21.80	21.77
			12	6	21.66	21.87	21.74
			12	11	21.67	21.84	21.83
			25	0	21.66	21.84	21.82
		16QAM	1	0	21.56	21.80	21.71
			1	12	21.68	21.91	21.74
			1	24	21.59	21.81	21.65
			12	0	20.60	20.86	20.83
			12	6	20.59	20.81	20.79
			12	11	20.60	20.82	20.76
			25	0	20.65	20.79	20.85

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20000	20175	20350
					1715.0MHz	1732.5MHz	1750.0MHz
Band 4	10	QPSK	1	0	22.68	22.89	22.73
			1	24	22.72	23.10	22.91
			1	49	22.68	22.93	22.82
			25	0	21.69	21.91	21.80
			25	12	21.72	21.89	21.82
			25	24	21.71	21.91	21.85
			50	0	21.73	21.91	21.83
		16QAM	1	0	21.72	21.67	21.50
			1	24	21.73	21.75	21.61
			1	49	21.71	21.67	21.58
			25	0	20.64	20.87	20.82
			25	12	20.65	20.90	20.86
			25	24	20.64	20.92	20.84
			50	0	20.72	20.86	20.83

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20025	20175	20325
					1717.5MHz	1732.5MHz	1747.5MHz
Band 4	15	QPSK	1	0	22.50	22.79	22.67
			1	37	22.68	22.91	22.73
			1	74	22.66	22.76	22.72
			36	0	21.74	21.98	21.91
			36	16	21.71	21.92	21.89
			36	35	21.72	21.97	21.88
			75	0	21.80	21.95	21.86
		16QAM	1	0	21.72	21.54	21.69
			1	37	21.77	21.66	21.79
			1	74	21.77	21.49	21.77
			36	0	20.75	20.83	20.81
			36	16	20.73	20.87	20.83
			36	35	20.73	20.81	20.82
			75	0	20.78	20.89	20.78

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20050	20175	20300
					1720.0MHz	1732.5MHz	1745.0MHz
Band 4	20	QPSK	1	0	22.61	22.70	22.74
			1	49	22.89	23.06	22.89
			1	99	22.78	22.74	22.65
			50	0	21.58	21.77	21.85
			50	24	21.59	21.82	21.84
			50	49	21.55	21.80	21.86
			100	0	21.65	21.87	21.76
		16QAM	1	0	21.49	21.81	21.54
			1	49	21.80	21.84	21.73
			1	99	21.68	21.75	21.53
			50	0	20.60	20.77	20.93
			50	24	20.60	20.80	20.90
			50	49	20.58	20.91	20.91
			100	0	20.68	20.76	20.79

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	23.41	23.41	23.39
			1	2	23.41	23.58	23.42
			1	5	23.36	23.49	23.38
			3	0	22.45	22.51	22.47
			3	1	22.48	22.53	22.45
			3	2	22.41	22.52	22.52
			6	0	22.43	22.47	22.49
		16QAM	1	0	22.25	22.30	22.15
			1	2	22.48	22.34	22.46
			1	5	22.31	22.25	22.13
			3	0	21.32	21.32	21.23
			3	1	21.31	21.33	21.27
			3	2	21.25	21.34	21.25
			6	0	21.30	21.31	21.24

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	23.43	23.46	23.51
			1	7	23.50	23.40	23.50
			1	14	23.45	23.44	23.47
			8	0	22.39	22.45	22.48
			8	4	22.40	22.44	22.47
			8	7	22.38	22.44	22.45
			15	0	22.38	22.40	22.43
		16QAM	1	0	22.38	22.43	22.33
			1	7	22.26	22.41	22.23
			1	14	22.28	22.40	22.30
			8	0	21.40	21.46	21.41
			8	4	21.40	21.40	21.43
			8	7	21.35	21.40	21.38
			15	0	21.26	21.42	21.35

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	23.41	23.33	23.42
			1	12	23.56	23.54	23.55
			1	24	23.42	23.37	23.41
			12	0	22.40	22.41	22.50
			12	6	22.39	22.44	22.46
			12	11	22.42	22.40	22.50
			25	0	22.44	22.48	22.49
		16QAM	1	0	22.29	22.37	22.26
			1	12	22.40	22.54	22.44
			1	24	22.30	22.44	22.35
			12	0	21.34	21.41	21.50
			12	6	21.37	21.50	21.45
			12	11	21.36	21.42	21.42
			25	0	21.44	21.42	21.46

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	23.41	23.49	23.48
			1	24	23.54	23.57	23.59
			1	49	23.35	23.48	23.38
			25	0	22.40	22.41	22.46
			25	12	22.44	22.43	22.42
			25	24	22.45	22.47	22.48
			50	0	22.44	22.41	22.35
		16QAM	1	0	22.40	22.27	22.18
			1	24	22.58	22.41	22.34
			1	49	22.41	22.31	22.19
			25	0	21.40	21.47	21.51
			25	12	21.43	21.45	21.51
			25	24	21.41	21.45	21.50
			50	0	21.47	21.43	21.37

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	23.41	23.33	23.16
			1	2	23.42	23.41	23.28
			1	5	23.31	23.22	23.18
			3	0	22.36	22.31	22.23
			3	1	22.35	22.30	22.24
			3	2	22.37	22.33	22.25
			6	0	22.29	22.30	22.23
		16QAM	1	0	22.19	22.17	22.06
			1	2	22.34	22.28	22.22
			1	5	22.19	22.11	22.05
			3	0	21.19	21.16	21.10
			3	1	21.24	21.15	21.04
			3	2	21.16	21.18	21.03
			6	0	21.12	21.16	21.05

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	23.41	23.36	23.35
			1	7	23.36	23.36	23.26
			1	14	23.30	23.31	23.29
			8	0	22.25	22.31	22.31
			8	4	22.29	22.29	22.34
			8	7	22.35	22.28	22.28
			15	0	22.33	22.29	22.28
		16QAM	1	0	22.46	22.25	22.12
			1	7	22.30	22.23	22.24
			1	14	22.35	22.16	22.17
			8	0	21.32	21.29	21.31
			8	4	21.32	21.29	21.33
			8	7	21.36	21.24	21.27
			15	0	21.35	21.17	21.16

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	23.14	23.27	23.22
			1	12	23.23	23.31	23.37
			1	24	23.17	23.27	23.22
			12	0	22.34	22.41	22.24
			12	6	22.32	22.42	22.22
			12	11	22.26	22.42	22.21
			25	0	22.30	22.35	22.28
		16QAM	1	0	22.24	22.37	22.13
			1	12	22.40	22.47	22.29
			1	24	22.32	22.35	22.12
			12	0	21.38	21.41	21.24
			12	6	21.40	21.44	21.22
			12	11	21.41	21.43	21.21
			25	0	21.26	21.32	21.29

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	23.43	23.34	23.42
			1	24	23.65	23.61	23.52
			1	49	23.39	23.41	23.39
			25	0	22.34	22.60	22.50
			25	12	22.38	22.58	22.45
			25	24	22.39	22.55	22.53
			50	0	22.27	22.51	22.47
		16QAM	1	0	22.32	22.36	22.33
			1	24	22.38	22.67	22.50
			1	49	22.31	22.43	22.21
			25	0	21.40	21.57	21.50
			25	12	21.37	21.56	21.48
			25	24	21.40	21.55	21.41
			50	0	21.37	21.52	21.45

LTE Band 13 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23205	23230	23255
					779.50MHz	782.00MHz	784.50MHz
Band 13	5	QPSK	1	0	23.27	23.29	23.18
			1	12	23.33	23.35	23.32
			1	24	23.28	23.25	23.18
			12	0	22.35	22.35	22.18
			12	6	22.35	22.29	22.26
			12	11	22.26	22.30	22.22
			25	0	22.28	22.34	22.25
		16QAM	1	0	22.21	22.22	22.27
			1	12	22.28	22.28	22.42
			1	24	22.20	22.19	22.25
			12	0	21.27	21.24	21.28
			12	6	21.30	21.26	21.24
			12	11	21.27	21.29	21.27
			25	0	21.34	21.32	21.26

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					/	23230	/
					/	782.00MHz	/
Band 13	10	QPSK	1	0	/	23.24	/
			1	24	/	23.52	/
			1	49	/	23.24	/
			25	0	/	22.47	/
			25	12	/	22.48	/
			25	24	/	22.44	/
			50	0	/	22.42	/
		16QAM	1	0	/	22.24	/
			1	24	/	22.40	/
			1	49	/	22.27	/
			25	0	/	21.44	/
			25	12	/	21.47	/
			25	24	/	21.43	/
			50	0	/	21.41	/

LTE Band 25 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26047	26365	26683
					1850.70MHz	1882.5MHz	1914.3MHz
Band 25	1.4	QPSK	1	0	23.11	23.16	23.15
			1	2	23.16	23.28	23.36
			1	5	23.14	23.20	23.19
			3	0	22.18	22.15	22.22
			3	1	22.16	22.19	22.20
			3	2	22.24	22.25	22.28
			6	0	22.20	22.23	22.19
		16QAM	1	0	22.09	22.02	22.03
			1	2	22.25	22.00	22.07
			1	5	22.10	21.95	21.93
			3	0	21.10	21.05	21.10
			3	1	21.17	21.08	21.06
			3	2	21.12	21.02	21.12
			6	0	21.16	21.06	21.03

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26055	26365	26675
					1851.50MHz	1882.5MHz	1913.5MHz
Band 25	3	QPSK	1	0	23.16	23.18	23.07
			1	7	23.14	23.17	23.13
			1	14	23.19	23.19	23.19
			8	0	22.20	22.18	22.21
			8	4	22.23	22.17	22.22
			8	7	22.22	22.15	22.16
			15	0	22.19	22.14	22.16
		16QAM	1	0	22.18	22.12	21.95
			1	7	22.17	22.10	22.08
			1	14	22.15	22.04	22.10
			8	0	21.19	21.13	21.15
			8	4	21.17	21.15	21.14
			8	7	21.19	21.11	21.15
			15	0	21.17	21.01	21.04

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26065	26365	26665
					1852.5MHz	1882.5MHz	1912.5MHz
Band 25	5	QPSK	1	0	23.11	23.08	22.99
			1	12	23.21	23.21	23.18
			1	24	23.10	23.03	23.11
			12	0	22.23	22.15	22.18
			12	6	22.18	22.13	22.22
			12	11	22.17	22.12	22.07
			25	0	22.12	22.13	22.11
		16QAM	1	0	22.05	22.12	21.98
			1	12	22.14	22.25	22.06
			1	24	22.00	22.16	22.01
			12	0	21.10	21.13	21.21
			12	6	21.11	21.08	21.14
			12	11	21.15	21.18	20.97
			25	0	21.15	21.12	21.11

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26090	26365	26640
					1855.00MHz	1882.5MHz	1910.0MHz
Band 25	10	QPSK	1	0	23.12	23.18	23.04
			1	24	23.23	23.34	23.22
			1	49	23.04	23.09	23.15
			25	0	22.26	22.21	22.07
			25	12	22.24	22.19	22.07
			25	24	22.21	22.26	22.02
			50	0	22.21	22.22	22.03
		16QAM	1	0	22.16	22.01	21.82
			1	24	22.17	22.21	22.01
			1	49	22.07	21.92	22.00
			25	0	21.20	21.19	21.08
			25	12	21.19	21.20	21.07
			25	24	21.15	21.26	21.03
			50	0	21.21	21.27	21.04

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26115	26365	26615
					1857.50MHz	1882.5MHz	1907.5MHz
Band 25	15	QPSK	1	0	23.08	23.01	22.93
			1	37	23.11	23.13	23.08
			1	74	22.90	22.92	23.13
			36	0	22.04	22.21	21.71
			36	16	22.17	22.30	21.90
			36	35	21.96	22.10	21.96
			75	0	22.17	22.24	22.08
		16QAM	1	0	22.12	22.17	21.73
			1	37	22.13	22.32	21.82
			1	74	21.93	22.12	21.93
			36	0	22.13	22.19	21.72
			36	16	22.13	22.30	21.92
			36	35	21.94	22.12	21.95
			75	0	21.15	21.19	21.07

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26140	26365	26590
					1860.00MHz	1882.50MHz	1905.00MHz
Band 25	20	QPSK	1	0	23.01	23.02	22.89
			1	49	23.16	23.31	23.23
			1	99	23.00	22.89	23.11
			50	0	22.13	22.06	22.08
			50	24	22.15	22.10	22.07
			50	49	22.00	22.14	22.00
			100	0	22.07	22.13	22.04
		16QAM	1	0	21.91	22.17	21.92
			1	49	22.09	22.31	22.17
			1	99	21.91	22.15	22.04
			50	0	21.15	21.09	21.11
			50	24	21.10	21.09	21.08
			50	49	21.01	21.16	21.06
			100	0	21.07	21.15	21.04

LTE Band 26 part:

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26697	26915	27033
					814.7MHz	836.5MHz	848.3MHz
Band 26	1.4	QPSK	1	0	23.49	23.50	23.56
			1	2	23.61	23.65	23.62
			1	5	23.52	23.44	23.55
			3	0	22.54	22.52	22.57
			3	1	22.43	22.55	22.56
			3	2	22.52	22.56	22.60
			6	0	22.50	22.54	22.61
		16QAM	1	0	22.29	22.38	22.40
			1	2	22.52	22.52	22.51
			1	5	22.26	22.38	22.37
			3	0	21.38	21.40	21.41
			3	1	21.37	21.37	21.39
			3	2	21.34	21.44	21.43
			6	0	21.33	21.37	21.41

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26705	26915	27025
					815.5MHz	836.5MHz	847.5MHz
Band 26	3	QPSK	1	0	23.55	23.52	23.51
			1	7	23.53	23.55	23.48
			1	14	23.52	23.51	23.51
			8	0	22.43	22.49	22.59
			8	4	22.48	22.50	22.59
			8	7	22.48	22.47	22.53
			15	0	22.38	22.48	22.52
		16QAM	1	0	22.33	22.42	22.29
			1	7	22.35	22.33	22.34
			1	14	22.30	22.35	22.33
			8	0	21.44	21.42	21.54
			8	4	21.48	21.49	21.55
			8	7	21.50	21.47	21.53
			15	0	21.36	21.43	21.43

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26715	26915	27015
					816.5MHz	836.5MHz	846.5MHz
Band 26	5	QPSK	1	0	23.39	23.42	23.45
			1	12	23.57	23.48	23.61
			1	24	23.39	23.36	23.49
			12	0	22.45	22.50	22.59
			12	6	22.40	22.48	22.61
			12	11	22.50	22.44	22.46
			25	0	22.49	22.50	22.56
		16QAM	1	0	22.43	22.43	22.38
			1	12	22.57	22.59	22.54
			1	24	22.48	22.48	22.41
			12	0	21.46	21.53	21.62
			12	6	21.48	21.49	21.58
			12	11	21.45	21.47	21.47
			25	0	21.44	21.45	21.60

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26740	26915	26990
					819MHz	836.5MHz	844MHz
Band 26	10	QPSK	1	0	23.48	23.53	23.39
			1	24	23.67	23.50	23.67
			1	49	23.47	23.52	23.48
			25	0	22.54	22.55	22.57
			25	12	22.50	22.57	22.58
			25	24	22.52	22.45	22.47
			50	0	22.50	22.51	22.50
		16QAM	1	0	22.36	22.31	22.22
			1	24	22.50	22.38	22.43
			1	49	22.39	22.39	22.31
			25	0	21.54	21.57	21.58
			25	12	21.54	21.54	21.61
			25	24	21.55	21.48	21.48
			50	0	21.54	21.52	21.56

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					26765	26915	26965
					821.5MHz	836.5MHz	841.5MHz
Band 26	15	QPSK	1	0	23.35	23.47	23.35
			1	37	23.48	23.48	23.54
			1	74	23.50	23.51	23.41
			36	0	22.43	22.24	22.36
			36	16	22.48	22.30	22.57
			36	35	22.49	22.28	22.43
			75	0	22.32	22.21	22.42
		16QAM	1	0	22.36	22.22	22.39
			1	37	22.52	22.28	22.56
			1	74	22.51	22.28	22.51
			36	0	21.43	21.36	21.39
			36	16	21.46	21.45	21.57
			36	35	21.39	21.40	21.46
			75	0	21.45	21.44	21.49

LTE Band 41 part:

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					40065	40355	40640	40750	41215
					2537.5MHz	2566.5MHz	2595.0MHz	2624.0MHz	2652.5MHz
Band 41	5	QPSK	1	0	22.19	22.10	22.13	22.04	22.27
			1	12	22.31	22.26	22.24	22.38	22.43
			1	24	22.17	22.13	22.08	22.17	22.28
			12	0	21.21	21.16	21.07	21.05	21.32
			12	6	21.21	21.26	21.05	21.14	21.29
			12	11	21.24	21.30	21.06	21.07	21.29
			25	0	21.26	21.20	21.07	21.15	21.32
		16QAM	1	0	21.24	21.10	21.01	21.03	21.33
			1	12	21.35	21.16	21.12	21.09	21.41
			1	24	21.22	21.04	20.96	21.15	21.29
			12	0	20.32	20.24	20.12	20.19	20.32
			12	6	20.31	20.16	20.06	20.16	20.29
			12	11	20.28	20.24	20.08	20.29	20.35
			25	0	20.22	20.11	20.14	20.13	20.27

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					40090	40365	40640	40915	41190
					2540.0MHz	2567.5MHz	2595.0MHz	2622.5MHz	2650.0MHz
Band 41	10	QPSK	1	0	22.22	22.05	22.09	22.14	22.19
			1	24	22.46	22.22	22.33	22.42	22.51
			1	49	22.13	22.10	22.02	22.19	22.27
			25	0	21.17	21.12	21.13	21.08	21.24
			25	12	21.20	21.15	21.06	21.17	21.21
			25	24	21.19	21.04	21.09	21.14	21.25
			50	0	21.16	21.10	21.04	21.03	21.18
		16QAM	1	0	21.04	21.02	21.08	21.05	21.01
			1	24	21.28	21.23	21.34	21.30	21.32
			1	49	20.99	21.01	21.04	21.00	21.06
			25	0	20.31	20.15	20.19	20.19	20.25
			25	12	20.22	20.10	20.08	20.14	20.26
			25	24	20.36	20.21	20.16	20.20	20.19
			50	0	20.23	20.11	20.15	20.15	20.22

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					40115	40375	40640	40900	41165
					2542.5MHz	2568.5MHz	2595.0MHz	2673.5MHz	2647.5MHz
Band 41	15	QPSK	1	0	22.07	22.01	22.04	22.02	21.99
			1	37	22.09	22.05	22.07	22.14	22.24
			1	74	21.96	21.93	21.91	22.06	22.11
			36	0	21.19	21.13	21.04	21.03	21.23
			36	16	21.18	21.03	21.00	21.14	21.20
			36	35	21.21	21.15	20.99	21.10	21.21
			75	0	21.18	21.10	21.06	21.17	21.25
		16QAM	1	0	21.19	21.15	21.01	21.10	21.17
			1	37	21.23	21.21	21.07	21.03	21.28
			1	74	21.12	21.10	20.91	21.08	21.23
			36	0	20.26	20.11	20.06	20.12	20.20
			36	16	20.25	20.03	20.14	20.08	20.17
			36	35	20.24	20.09	20.11	20.02	20.18
			75	0	20.18	20.05	20.11	20.09	20.19

LTE Band	Band width (MHz)	Modu-lation	RB Size	RB Offset	Average Power (dBm)				
					40140	40390	40640	40890	41140
					2545.0MHz	2570.0MHz	2595.0MHz	2620.0MHz	2645.0MHz
Band 41	20	QPSK	1	0	22.14	22.04	22.02	22.01	22.07
			1	49	22.40	22.23	22.31	22.35	22.41
			1	99	22.08	22.15	21.91	22.13	22.23
			50	0	21.08	21.03	21.05	21.06	21.13
			50	24	21.09	21.08	21.03	20.97	21.10
			50	49	21.14	21.04	21.01	21.01	21.13
			100	0	21.11	21.05	21.01	21.02	21.16
		16QAM	1	0	21.01	21.09	21.04	21.14	21.06
			1	49	21.26	21.10	21.20	21.11	21.22
			1	99	20.98	21.20	21.13	21.05	21.19
			50	0	20.11	20.01	20.05	20.04	20.09
			50	24	20.16	20.05	20.07	20.08	20.13
			50	49	20.11	20.09	20.04	20.01	20.12
			100	0	20.16	20.04	20.04	20.03	20.11

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	22.64	22.70	23.12
			1	2	22.86	22.85	23.21
			1	5	22.65	22.72	23.08
			3	0	21.78	21.75	22.13
			3	1	21.77	21.73	22.12
			3	2	21.81	21.77	22.14
			6	0	21.69	21.71	22.10
		16QAM	1	0	21.52	21.59	21.92
			1	2	21.63	21.67	22.02
			1	5	21.45	21.54	21.84
			3	0	20.62	20.54	20.95
			3	1	20.51	20.56	20.91
			3	2	20.55	20.50	20.94
			6	0	20.49	20.52	20.92

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	22.75	22.70	23.21
			1	7	22.76	22.66	23.19
			1	14	22.73	22.67	23.21
			8	0	21.70	21.69	22.13
			8	4	21.66	21.76	22.13
			8	7	21.70	21.70	22.08
			15	0	21.63	21.67	22.07
		16QAM	1	0	21.57	21.73	22.03
			1	7	21.46	21.67	21.94
			1	14	21.48	21.70	21.95
			8	0	20.66	20.72	21.16
			8	4	20.66	20.70	21.09
			8	7	20.61	20.70	21.07
			15	0	20.61	20.71	20.99

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	22.68	22.64	23.17
			1	12	22.80	22.71	23.19
			1	24	22.73	22.64	23.11
			12	0	21.63	21.72	22.17
			12	6	21.60	21.73	22.14
			12	11	21.69	21.76	22.12
			25	0	21.66	21.71	22.12
		16QAM	1	0	21.66	21.68	22.08
			1	12	21.72	21.78	22.09
			1	24	21.64	21.70	22.01
			12	0	20.67	20.80	21.14
			12	6	20.60	20.76	21.14
			12	11	20.64	20.76	21.12
			25	0	20.67	20.69	21.13

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	22.66	22.78	23.16
			1	24	22.72	22.90	23.26
			1	49	22.67	22.72	23.10
			25	0	21.70	21.79	22.30
			25	12	21.70	21.84	22.30
			25	24	21.70	21.84	22.29
			50	0	21.67	21.78	22.22
		16QAM	1	0	21.64	21.59	21.89
			1	24	21.79	21.69	22.03
			1	49	21.67	21.51	21.85
			25	0	20.69	20.84	21.28
			25	12	20.67	20.85	21.32
			25	24	20.68	20.82	21.33
			50	0	20.69	20.82	21.23

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	22.63	22.68	23.00
			1	37	22.72	22.65	23.26
			1	74	22.67	22.57	23.14
			36	0	21.73	21.89	22.33
			36	16	21.74	21.90	22.30
			36	35	21.70	21.92	22.35
			75	0	21.79	21.91	22.30
		16QAM	1	0	21.66	21.83	21.72
			1	37	21.69	21.85	22.00
			1	74	21.71	21.71	21.89
			36	0	20.69	20.87	21.18
			36	16	20.62	20.83	21.19
			36	35	20.73	20.88	21.23
			75	0	20.69	20.85	21.27

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	22.60	22.77	22.79
			1	49	22.97	22.89	23.28
			1	99	22.85	22.70	23.06
			50	0	21.60	21.79	22.25
			50	24	21.56	21.82	22.20
			50	49	21.59	21.81	22.22
			100	0	21.63	21.75	22.17
		16QAM	1	0	21.46	21.90	21.60
			1	49	21.78	21.98	22.07
			1	99	21.65	21.80	21.91
			50	0	20.64	20.83	21.28
			50	24	20.58	20.80	21.25
			50	49	20.60	20.87	21.24
			100	0	20.70	20.82	21.10

13.4 WLAN 2.4 GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 b	802.11 g	802.11n (HT20)
CH 01	2412	14.69	12.34	12.03
CH 06	2437	15.00	**12.64**	12.46
CH 11	2462	**15.12**	12.50	12.52

Average Power (dBm)		
Channel	Frequency (MHz)	802.11n (HT40)
CH 03	2422	10.78
CH 06	2437	12.16
CH 09	2452	11.81

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
b/CH 11	2.462	15.5	35.48	5	11.14	3.0
g/CH 06	2.437	13.0	19.95	5	6.22	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 is 100%, so the duty cycle factor is 1.00.

13.5 WLAN 5.2GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 36	5180	6.09	6.12	6.37
CH 40	5200	**6.45**	6.11	6.31
CH 48	5240	5.87	5.26	5.70

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 38	5190	5.90	5.89
CH 46	5230	5.48	5.46

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 42	5210	5.80

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

Channel	Frequency (GHz)	Max. Tune-up Power (dBm)	Max. Power (mW)	Test distance (mm)	Result	exclusion thresholds for 1-g SAR
a/CH 40	5.200	7.0	5.01	5	2.28	3.0

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.

13.6 WLAN 5.8GHz Band Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	802.11 a	802.11 ac20	802.11 n20
CH 149	5745	5.12	4.94	4.72
CH 157	5785	6.15	6.05	6.04
CH 165	5825	**6.89**	6.76	6.79

Average Power (dBm)			
Channel	Frequency (MHz)	802.11 ac40	802.11 n40
CH 151	5755	5.30	5.33
CH 159	5795	5.81	5.81

Average Power (dBm)		
Channel	Frequency (MHz)	802.11 ac80
CH 155	5775	5.67

Note:

11. 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
a/CH 165	5.825	7.5	5.62	5.0	2.71	3.0

12. Base on the result of note1, RF exposure evaluation of 802.11 a mode is not required.
13. Per KDB 248227 D01v02r02, choose the highest output power channel to test SAR and determine further SAR exclusion.
14. 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.

13.7 Bluetooth Conducted Power

Average Power (dBm)				
Channel	Frequency (MHz)	GFSK	π/4-DQPSK	8DPSK
CH 00	2402	**10.29**	9.45	9.76
CH 39	2441	7.40	6.73	6.82
CH 78	2480	6.36	6.10	6.16

Average Power (dBm)		
Channel	Frequency (MHz)	BLE
CH 00	2402	-4.34
CH 20	2442	-3.60
CH 39	2480	-5.09

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	10.5	11.22	5	3.48	3.0

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.
5. Per 2016-10-12-4.3 RF Exposure General Issues 101216 - KC, the maximum permissible duty cycle of this device determined by the handset manufacturer is 50%, the actual duty cycle is 31.6%, so the duty cycle factor is 1.58.

14 Exposure Positions Consideration

14.1 EUT Antenna Locations

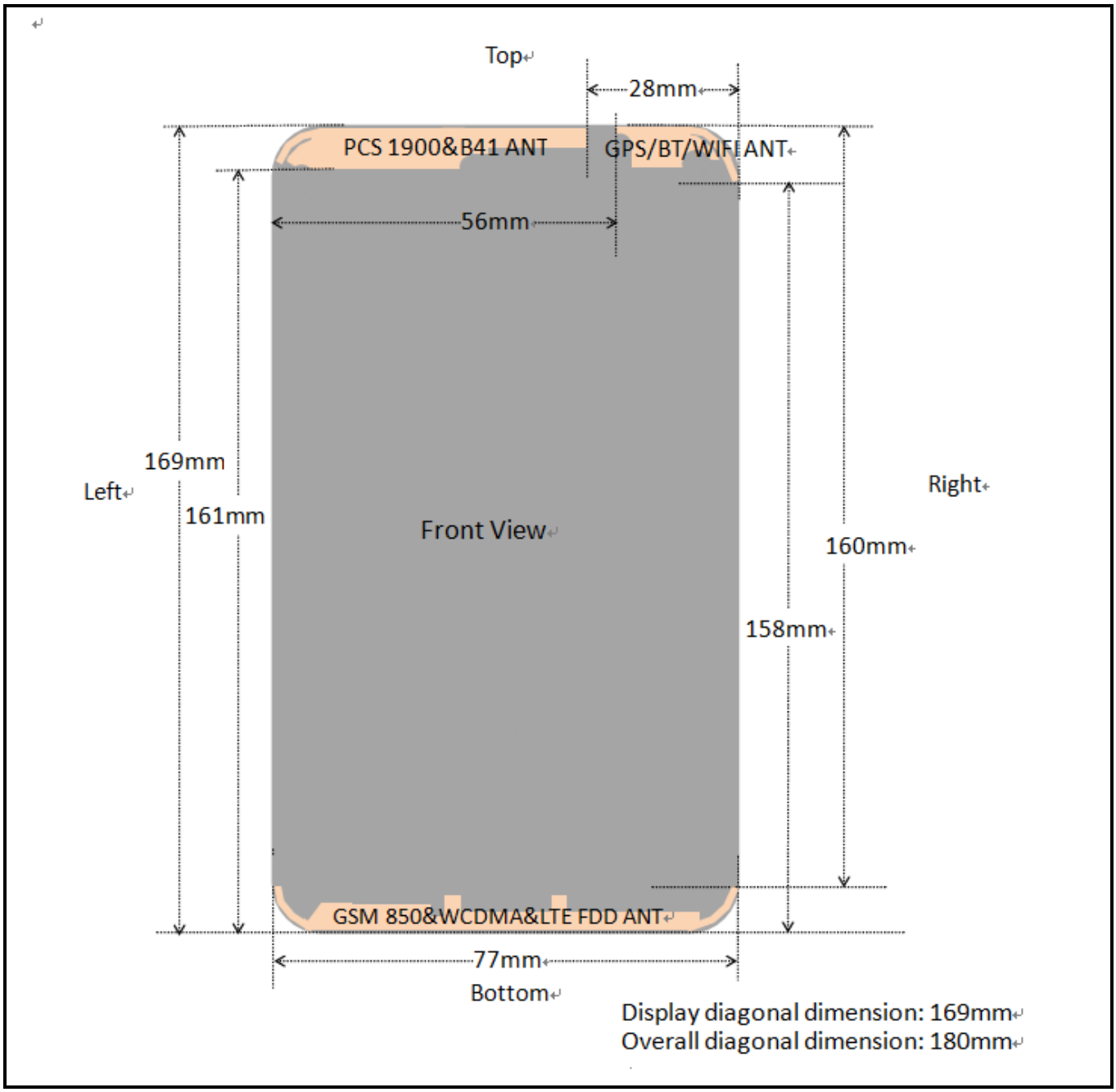


Fig.14.1 EUT Antenna Locations

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**
GSM 1900&LTE Band 41	<25mm	<25mm	<25mm	161mm	28mm	<25mm
GSM 850&WCDMA 850 WCDMA 1700&WCDMA 1900&LTE Band 2&LTE Band 4&LTE Band 5&LTE Band 12&LTE Band 13&LTE Band 25& LTE Band 26& LTE Band 66	<25mm	<25mm	160mm	<25mm	<25mm	<25mm
WLAN & Bluetooth	<25mm	<25mm	<25mm	158mm	<25mm	56mm

Test Positions Test distance: 10mm						
Antennas	**Back**	**Front**	**Top Side**	**Bottom Side**	**Right Side**	**Left Side**
GSM 1900&LTE Band 41	Yes	Yes	Yes	No	No	Yes
GSM 850&WCDMA 850 WCDMA 1700&WCDMA 1900&LTE Band 2&LTE Band 4&LTE Band 5&LTE Band 12&LTE Band 13&LTE Band 25& LTE Band 26& LTE Band 66	Yes	Yes	No	Yes	Yes	Yes
WLAN & Bluetooth	Yes	Yes	Yes	No	Yes	No

Note:

1. Head/Body-worn/Hotspot mode SAR assessments are required.
2. 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.
3. 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)
1	GSM850/Voice	Right Cheek	190	836.6	33.01	0.65	33.5	**0.131**	1.119	0.147
	GSM850/Voice	Right Tilted	190	836.6	33.01	0.77	33.5	0.061	1.119	0.068
	GSM850/Voice	Left Cheek	190	836.6	33.01	-1.82	33.5	0.121	1.119	0.135
	GSM850/Voice	Left Tilted	190	836.6	33.01	2.16	33.5	0.055	1.119	0.062
	GSM1900/Voice	Right Cheek	661	1880.0	29.44	-0.85	30.0	0.374	1.138	0.426
2	GSM1900/Voice	Right Tilted	661	1880.0	29.44	1.43	30.0	**0.455**	1.138	0.518
	GSM1900/Voice	Left Cheek	661	1880.0	29.44	-1.54	30.0	0.256	1.138	0.291
	GSM1900/Voice	Left Tilted	661	1880.0	29.44	-1.15	30.0	0.372	1.138	0.423
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	23.84	-0.54	24.5	**0.146**	1.164	0.170
	Band V/RMC	Right Tilted	4233	846.6	23.84	3.38	24.5	0.068	1.164	0.079
	Band V/RMC	Left Cheek	4233	846.6	23.84	0.79	24.5	0.131	1.164	0.152
	Band V/RMC	Left Tilted	4233	846.6	23.84	-0.94	24.5	0.051	1.164	0.059
	Band IV/RMC	Right Cheek	1413	1732.6	23.21	-1.59	23.5	0.031	1.069	0.033
	Band IV/RMC	Right Tilted	1413	1732.6	23.21	-3.20	23.5	0.035	1.069	0.037
	Band IV/RMC	Left Cheek	1413	1732.6	23.21	2.12	23.5	0.042	1.069	0.045
4	Band IV/RMC	Left Tilted	1413	1732.6	23.21	-1.40	23.5	**0.046**	1.069	0.049
	Band II/RMC	Right Cheek	9262	1852.4	23.49	-2.34	24.0	0.062	1.125	0.070
	Band II/RMC	Right Tilted	9262	1852.4	23.49	-1.74	24.0	0.080	1.125	0.090
	Band II/RMC	Left Cheek	9262	1852.4	23.49	-2.94	24.0	0.087	1.125	0.098
5	Band II/RMC	Left Tilted	9262	1852.4	23.49	-2.30	24.0	**0.106**	1.125	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 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)
6	Band2/1RB#49	Right Cheek	18900	1880.0	23.34	-3.69	24.0	**0.155**	1.164	0.180
	Band2/1RB#49	Right Tilted	18900	1880.0	23.34	0.56	24.0	0.088	1.164	0.102
	Band2/1RB#49	Left Cheek	18900	1880.0	23.34	-0.93	24.0	0.082	1.164	0.095
	Band2/1RB#49	Left Tilted	18900	1880.0	23.34	1.21	24.0	0.051	1.164	0.059
	Band2/50%RB#49	Right Cheek	19100	1900.0	22.25	-1.36	22.5	0.100	1.059	0.106
	Band2/50%RB#49	Right Tilted	19100	1900.0	22.25	2.59	22.5	0.056	1.059	0.059
	Band2/50%RB#49	Left Cheek	19100	1900.0	22.25	1.56	22.5	0.053	1.059	0.056
	Band2/50%RB#49	Left Tilted	19100	1900.0	22.25	0.55	22.5	0.026	1.059	0.028
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(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)
7	Band4/1RB#49	Right Cheek	20175	1732.5	23.06	-2.51	23.5	**0.054**	1.107	0.060
	Band4/1RB#49	Right Tilted	20175	1732.5	23.06	-1.78	23.5	0.023	1.107	0.025

	Band4/1RB#49	Left Cheek	20175	1732.5	23.06	2.27	23.5	0.024	1.107	0.027
	Band4/1RB#49	Left Tilted	20175	1732.5	23.06	-3.05	23.5	0.011	1.107	0.012
	Band4/50%RB#49	Right Cheek	20175	1732.5	21.86	0.25	22.5	0.051	1.159	0.059
	Band4/50%RB#49	Right Tilted	20175	1732.5	21.86	-1.89	22.5	0.018	1.159	0.021
	Band4/50%RB#49	Left Cheek	20175	1732.5	21.86	-3.81	22.5	0.021	1.159	0.024
	Band4/50%RB#49	Left Tilted	20175	1732.5	21.86	0.60	22.5	0.010	1.159	0.012
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)
	Band5/1RB#24	Right Cheek	20600	844.0	23.59	1.44	24.0	0.152	1.099	0.167
	Band5/1RB#24	Right Tilted	20600	844.0	23.59	-2.09	24.0	0.075	1.099	0.082
8	Band5/1RB#24	Left Cheek	20600	844.0	23.59	-3.16	24.0	**0.162**	1.099	0.178
	Band5/1RB#24	Left Tilted	20600	844.0	23.59	0.67	24.0	0.085	1.099	0.093
	Band5/50%RB#24	Right Cheek	20600	844.0	22.48	-1.10	23.0	0.115	1.127	0.130
	Band5/50%RB#24	Right Tilted	20600	844.0	22.48	-0.64	23.0	0.051	1.127	0.057
	Band5/50%RB#24	Left Cheek	20600	844.0	22.48	2.75	23.0	0.121	1.127	0.136
	Band5/50%RB#24	Left Tilted	20600	844.0	22.48	2.30	23.0	0.059	1.127	0.066
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)
	Band12/1RB#24	Right Cheek	23060	704.0	23.65	-3.27	24.0	0.059	1.084	0.064
	Band12/1RB#24	Right Tilted	23060	704.0	23.65	1.78	24.0	0.021	1.084	0.023
	Band12/1RB#24	Left Cheek	23060	704.0	23.65	-1.12	24.0	0.065	1.084	0.070
	Band12/1RB#24	Left Tilted	23060	704.0	23.65	0.54	24.0	0.029	1.084	0.031
	Band12/50%RB#0	Right Cheek	23095	707.5	22.60	1.61	23.0	0.102	1.096	0.112
	Band12/50%RB#0	Right Tilted	23095	707.5	22.60	-2.36	23.0	0.034	1.096	0.037
9	Band12/50%RB#0	Left Cheek	23095	707.5	22.60	-3.12	23.0	**0.112**	1.096	0.123
	Band12/50%RB#0	Left Tilted	23095	707.5	22.60	-1.23	23.0	0.048	1.096	0.053
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(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)
	Band13/1RB#24	Right Cheek	23230	782.0	23.52	-1.33	24.0	0.105	1.117	0.117
	Band13/1RB#24	Right Tilted	23230	782.0	23.52	1.54	24.0	0.043	1.117	0.048
10	Band13/1RB#24	Left Cheek	23230	782.0	23.52	-2.20	24.0	**0.114**	1.117	0.127
	Band13/1RB#24	Left Tilted	23230	782.0	23.52	1.18	24.0	0.056	1.117	0.063
	Band13/50%RB#12	Right Cheek	23230	782.0	22.48	-1.97	23.0	0.092	1.127	0.104
	Band13/50%RB#12	Right Tilted	23230	782.0	22.48	0.98	23.0	0.040	1.127	0.045
	Band13/50%RB#12	Left Cheek	23230	782.0	22.48	2.20	23.0	0.104	1.127	0.117
	Band13/50%RB#12	Left Tilted	23230	782.0	22.48	-3.14	23.0	0.049	1.127	0.055
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 25(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)

11	Band25/1RB#49	Right Cheek	26365	1882.5	23.31	1.03	24.0	**0.181**	1.172	0.212
	Band25/1RB#49	Right Tilted	26365	1882.5	23.31	-2.55	24.0	0.105	1.172	0.123
	Band25/1RB#49	Left Cheek	26365	1882.5	23.31	0.79	24.0	0.111	1.172	0.130
	Band25/1RB#49	Left Tilted	26365	1882.5	23.31	-1.66	24.0	0.089	1.172	0.104
	Band25/50%RB#24	Right Cheek	26140	1860.0	22.15	2.89	22.5	0.111	1.084	0.120
	Band25/50%RB#24	Right Tilted	26140	1860.0	22.15	0.37	22.5	0.081	1.084	0.088
	Band25/50%RB#24	Left Cheek	26140	1860.0	22.15	-0.35	22.5	0.092	1.084	0.100
	Band25/50%RB#24	Left Tilted	26140	1860.0	22.15	-1.31	22.5	0.062	1.084	0.067
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) 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)
	Band26/1RB#37	Right Cheek	26965	841.5	23.54	-0.91	24.0	0.113	1.112	0.126
	Band26/1RB#37	Right Tilted	26965	841.5	23.54	1.43	24.0	0.063	1.112	0.070
	Band26/1RB#37	Left Cheek	26965	841.5	23.54	-3.57	24.0	0.123	1.112	0.137
	Band26/1RB#37	Left Tilted	26965	841.5	23.54	-1.94	24.0	0.076	1.112	0.085
	Band26/50%RB#16	Right Cheek	26965	841.5	22.57	2.80	23.0	0.152	1.104	0.168
	Band26/50%RB#16	Right Tilted	26965	841.5	22.57	0.71	23.0	0.088	1.104	0.097
12	Band26/50%RB#16	Left Cheek	26965	841.5	22.57	2.99	23.0	**0.163**	1.104	0.180
	Band26/50%RB#16	Left Tilted	26965	841.5	22.57	-3.02	23.0	0.093	1.104	0.103
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	2645.0	22.41	1.92	23.0	0.102	1.146	1.008	0.118
13	Band41/1RB#49	Right Tilted	41140	2645.0	22.41	-2.50	23.0	**0.171**	1.146	1.008	0.198
	Band41/1RB#49	Left Cheek	41140	2645.0	22.41	3.64	23.0	0.092	1.146	1.008	0.106
	Band41/1RB#49	Left Tilted	41140	2645.0	22.41	-2.74	23.0	0.152	1.146	1.008	0.176
	Band41/50%RB#49	Right Cheek	40140	2545.0	21.14	0.45	21.5	0.055	1.086	1.008	0.060
	Band41/50%RB#49	Right Tilted	40140	2545.0	21.14	-2.77	21.5	0.090	1.086	1.008	0.099
	Band41/50%RB#49	Left Cheek	40140	2545.0	21.14	0.38	21.5	0.031	1.086	1.008	0.034
	Band41/50%RB#49	Left Tilted	40140	2545.0	21.14	0.76	21.5	0.073	1.086	1.008	0.080
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)
14	Band66/1RB#49	Right Cheek	132572	1770.0	23.28	2.27	23.5	**0.110**	1.052	0.116
	Band66/1RB#49	Right Tilted	132572	1770.0	23.28	0.39	23.5	0.059	1.052	0.062
	Band66/1RB#49	Left Cheek	132572	1770.0	23.28	-1.68	23.5	0.061	1.052	0.064
	Band66/1RB#49	Left Tilted	132572	1770.0	23.28	-2.76	23.5	0.037	1.052	0.039
	Band66/50%RB#0	Right Cheek	132572	1770.0	22.25	-2.27	22.5	0.083	1.059	0.088
	Band66/50%RB#0	Right Tilted	132572	1770.0	22.25	2.06	22.5	0.042	1.059	0.044
	Band66/50%RB#0	Left Cheek	132572	1770.0	22.25	-1.62	22.5	0.051	1.059	0.054
	Band66/50%RB#0	Left Tilted	132572	1770.0	22.25	3.34	22.5	0.031	1.059	0.033
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	Right Cheek	11	2462	15.12	0.22	15.5	0.231	1.091	1.00	0.252
	2.4GHz/802.11b	Right Tilted	11	2462	15.12	0.15	15.5	0.189	1.091	1.00	0.206
15	2.4GHz/802.11b	Left Cheek	11	2462	15.12	-3.33	15.5	**0.526**	1.091	1.00	0.574
	2.4GHz/802.11b	Left Tilted	11	2462	15.12	-1.41	15.5	0.419	1.091	1.00	0.457
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ Bluetooth 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)
	GFSK	Right Cheek	00	2402	10.29	-1.89	10.5	0.009	1.050	1.58	0.015
	GFSK	Right Tilted	00	2402	10.29	1.37	10.5	0.003	1.050	1.58	0.005
16	GFSK	Left Cheek	00	2402	10.29	-2.54	10.5	**0.014**	1.050	1.58	0.023
	GFSK	Left Tilted	00	2402	10.29	-0.21	10.5	0.010	1.050	1.58	0.017
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. Cuz the maximum output power specified for OFDM and DSSS are 19.95mW(13.0dBm) and 35.48mW(15.5dBm), the scaled SAR would be 0.574×(19.95/35.48)=0.323 W/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	29.58	2.15	30.0	0.235	1.102	0.259
17	GPRS850/4 slots	Back	190	836.6	29.58	-1.93	30.0	**0.325**	1.102	0.358
	GPRS1900/4 slots	Front	661	1880.0	25.80	-1.16	26.5	0.151	1.175	0.177
18	GPRS1900/4 slots	Back	661	1880.0	25.80	-2.52	26.5	**0.527**	1.175	0.619
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	23.84	2.95	24.5	0.151	1.164	0.176
19	Band V/RMC	Back	4233	846.6	23.84	-1.50	24.5	**0.189**	1.164	0.220
20	Band IV/RMC	Front	1413	1732.6	23.21	0.67	23.5	**0.378**	1.069	0.404
	Band IV/RMC	Back	1413	1732.6	23.21	-1.93	23.5	0.229	1.069	0.245
21	Band II/RMC	Front	9262	1852.4	23.49	0.48	24.0	**0.426**	1.125	0.479
	Band II/RMC	Back	9262	1852.4	23.49	-4.44	24.0	0.357	1.125	0.402
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	18900	1880.0	23.34	-0.98	24.0	0.460	1.164	0.535
22	Band2/1RB#49	Back	18900	1880.0	23.34	-3.04	24.0	**0.499**	1.164	0.581
	Band2/50%RB#49	Front	19100	1900.0	22.25	2.02	22.5	0.431	1.059	0.456
	Band2/50%RB#49	Back	19100	1900.0	22.25	-1.41	22.5	0.459	1.059	0.486
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(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)
	Band4/1RB#49	Front	20175	1732.5	23.06	-0.63	23.5	0.315	1.107	0.349
23	Band4/1RB#49	Back	20175	1732.5	23.06	1.26	23.5	**0.346**	1.107	0.383
	Band4/50%RB#49	Front	20175	1732.5	21.86	-0.70	22.5	0.278	1.159	0.322
	Band4/50%RB#49	Back	20175	1732.5	21.86	-1.97	22.5	0.312	1.159	0.362
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	844.0	23.59	-3.37	24.0	0.149	1.099	0.164
24	Band5/1RB#24	Back	20600	844.0	23.59	1.92	24.0	**0.169**	1.099	0.186
	Band5/50%RB#24	Front	20600	844.0	22.48	0.95	23.0	0.121	1.127	0.136
	Band5/50%RB#24	Back	20600	844.0	22.48	-0.45	23.0	0.132	1.127	0.149
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak					**1.6 W/kg (mW/g) Averaged over 1g**					

Uncontrolled Exposure/General Population	

➢ 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#24	Front	23060	704.0	23.65	2.18	24.0	0.084	1.084	0.091
	Band12/1RB#24	Back	23060	704.0	23.65	-3.41	24.0	0.115	1.084	0.125
	Band12/50%RB#0	Front	23095	707.5	22.60	-2.58	23.0	0.096	1.096	0.105
25	Band12/50%RB#0	Back	23095	707.5	22.60	2.94	23.0	**0.159**	1.096	0.174
ANSI / IEEE C912.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(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)
	Band13/1RB#24	Front	23230	782.0	23.52	-2.87	24.0	0.086	1.117	0.096
26	Band13/1RB#24	Back	23230	782.0	23.52	3.68	24.0	**0.147**	1.117	0.164
	Band13/50%RB#12	Front	23230	782.0	22.48	-1.03	23.0	0.081	1.127	0.091
	Band13/50%RB#12	Back	23230	782.0	22.48	-0.48	23.0	0.142	1.127	0.160
ANSI / IEEE C913.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 25(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)
27	Band25/1RB#49	Front	26365	1882.5	23.31	2.39	24.0	**0.491**	1.172	0.575
	Band25/1RB#49	Back	26365	1882.5	23.31	-3.84	24.0	0.414	1.172	0.485
	Band25/50%RB#24	Front	26140	1860.0	22.15	2.27	22.5	0.471	1.084	0.511
	Band25/50%RB#24	Back	26140	1860.0	22.15	-0.68	22.5	0.402	1.084	0.436
ANSI / IEEE C913.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) 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)
	Band26/1RB#37	Front	26965	841.5	23.54	0.48	24.0	0.103	1.112	0.115
28	Band26/1RB#37	Back	26965	841.5	23.54	-3.36	24.0	**0.199**	1.112	0.221
	Band26/50%RB#16	Front	26965	841.5	22.57	1.02	23.0	0.089	1.104	0.098
	Band26/50%RB#16	Back	26965	841.5	22.57	1.50	23.0	0.161	1.104	0.178
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

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	2645.0	22.41	0.83	23.0	0.042	1.146	1.008	0.049
29	Band41/1RB#49	Back	41140	2645.0	22.41	-2.35	23.0	**0.079**	1.146	1.008	0.091
	Band41/50%RB#49	Front	40140	2545.0	21.14	-3.65	21.5	0.026	1.086	1.008	0.028
	Band41/50%RB#49	Back	40140	2545.0	21.14	-1.13	21.5	0.047	1.086	1.008	0.051
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#49	Front	132572	1770.0	23.28	2.26	23.5	0.296	1.052	0.311
30	Band66/1RB#49	Back	132572	1770.0	23.28	-1.74	23.5	**0.310**	1.052	0.326
	Band66/50%RB#0	Front	132572	1770.0	22.25	1.63	22.5	0.270	1.059	0.286
	Band66/50%RB#0	Back	132572	1770.0	22.25	-0.02	22.5	0.291	1.059	0.308
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)
31	2.4GHz/802.11b	Front	11	2462	15.12	-3.54	15.5	**0.135**	1.091	1.00	0.147
	2.4GHz/802.11b	Back	11	2462	15.12	0.66	15.5	0.104	1.091	1.00	0.113
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ Bluetooth 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)
	GFSK	Front	00	2402	10.29	-3.29	10.5	0.010	1.050	1.58	0.017
32	GFSK	Back	00	2402	10.29	0.96	10.5	**0.030**	1.050	1.58	0.050
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.

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	29.58	2.15	30.0	0.235	1.102	0.259
17	GPRS850/4 slots	Back	190	836.6	29.58	-1.93	30.0	**0.325**	1.102	0.358
	GPRS850/4 slots	Left	190	836.6	29.58	-3.21	30.0	0.056	1.102	0.062
	GPRS850/4 slots	Right	190	836.6	29.58	-2.51	30.0	0.071	1.102	0.078
	GPRS850/4 slots	Bottom	190	836.6	29.58	1.73	30.0	0.087	1.102	0.096
	GPRS1900/4 slots	Front	661	1880.0	25.80	-1.16	26.5	0.151	1.175	0.177
18	GPRS1900/4 slots	Back	661	1880.0	25.80	-2.52	26.5	**0.527**	1.175	0.619
	GPRS1900/4 slots	Left	810	1909.8	25.80	-0.92	26.5	0.123	1.175	0.145
	GPRS1900/4 slots	Top	810	1909.8	25.80	3.25	26.5	0.494	1.175	0.580
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	23.84	2.95	24.5	0.151	1.164	0.176
19	Band V/RMC	Back	4233	846.6	23.84	-1.50	24.5	**0.189**	1.164	0.220
	Band V/RMC	Left	4233	846.6	23.84	-0.32	24.5	0.032	1.164	0.037
	Band V/RMC	Right	4233	846.6	23.84	-2.55	24.5	0.094	1.164	0.109
	Band V/RMC	Bottom	4233	846.6	23.84	1.70	24.5	0.076	1.164	0.088
	Band IV/RMC	Front	1413	1732.6	23.21	0.67	23.5	0.378	1.069	0.404
	Band IV/RMC	Back	1413	1732.6	23.21	-1.93	23.5	0.229	1.069	0.245
	Band IV/RMC	Left	1413	1732.6	23.21	0.53	23.5	0.051	1.069	0.055
	Band IV/RMC	Right	1413	1732.6	23.21	-1.74	23.5	0.036	1.069	0.038
37	Band IV/RMC	Bottom	1413	1732.6	23.21	1.40	23.5	**0.700**	1.069	0.748
	Band II/RMC	Front	9262	1852.4	23.49	0.48	24.0	0.426	1.125	0.479
	Band II/RMC	Back	9262	1852.4	23.49	-4.44	24.0	0.357	1.125	0.402
	Band II/RMC	Left	9262	1852.4	23.49	-1.06	24.0	0.069	1.125	0.078
	Band II/RMC	Right	9262	1852.4	23.49	2.61	24.0	0.051	1.125	0.057
38	Band II/RMC	Bottom	9262	1852.4	23.49	0.87	24.0	**0.606**	1.125	0.682
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	18900	1880.0	23.34	-0.98	24.0	0.460	1.164	0.535
	Band2/1RB#49	Back	18900	1880.0	23.34	-3.04	24.0	0.499	1.164	0.581
	Band2/1RB#49	Left	18900	1880.0	23.34	-1.78	24.0	0.072	1.164	0.084
	Band2/1RB#49	Right	18900	1880.0	23.34	-2.04	24.0	0.056	1.164	0.065
39	Band2/1RB#49	Bottom	18900	1880.0	23.34	0.70	24.0	**0.669**	1.164	0.779
	Band2/50%RB#49	Front	19100	1900.0	22.25	2.02	22.5	0.431	1.059	0.456
	Band2/50%RB#49	Back	19100	1900.0	22.25	-1.41	22.5	0.459	1.059	0.486
	Band2/50%RB#49	Left	19100	1900.0	22.25	-2.78	22.5	0.065	1.059	0.069
	Band2/50%RB#49	Right	19100	1900.0	22.25	-0.41	22.5	0.050	1.059	0.053
	Band2/50%RB#49	Bottom	19100	1900.0	22.25	2.07	22.5	0.607	1.059	0.643
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 4(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)
	Band4/1RB#49	Front	20175	1732.5	23.06	-0.63	23.5	0.315	1.107	0.349
	Band4/1RB#49	Back	20175	1732.5	23.06	1.26	23.5	0.346	1.107	0.383
	Band4/1RB#49	Left	20175	1732.5	23.06	-0.76	23.5	0.053	1.107	0.059
	Band4/1RB#49	Right	20175	1732.5	23.06	-0.58	23.5	0.035	1.107	0.039
40	Band4/1RB#49	Bottom	20175	1732.5	23.06	1.54	23.5	**0.545**	1.107	0.603
	Band4/50%RB#49	Front	20175	1732.5	21.86	-0.70	22.5	0.278	1.159	0.322
	Band4/50%RB#49	Back	20175	1732.5	21.86	-1.97	22.5	0.312	1.159	0.362
	Band4/50%RB#49	Left	20175	1732.5	21.86	-2.51	22.5	0.049	1.159	0.057
	Band4/50%RB#49	Right	20175	1732.5	21.86	-0.01	22.5	0.030	1.159	0.035
	Band4/50%RB#49	Bottom	20175	1732.5	21.86	1.77	22.5	0.451	1.159	0.523
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	844.0	23.59	-3.37	24.0	0.149	1.099	0.164
24	Band5/1RB#24	Back	20600	844.0	23.59	1.92	24.0	**0.169**	1.099	0.186
	Band5/1RB#24	Left	20600	844.0	23.59	2.82	24.0	0.052	1.099	0.057
	Band5/1RB#24	Right	20600	844.0	23.59	0.73	24.0	0.089	1.099	0.098
	Band5/1RB#24	Bottom	20600	844.0	23.59	-1.79	24.0	0.036	1.099	0.040
	Band5/50%RB#24	Front	20600	844.0	22.48	0.95	23.0	0.121	1.127	0.136
	Band5/50%RB#24	Back	20600	844.0	22.48	-0.45	23.0	0.132	1.127	0.149
	Band5/50%RB#24	Left	20600	844.0	22.48	-1.66	23.0	0.049	1.127	0.055
	Band5/50%RB#24	Right	20600	844.0	22.48	-2.91	23.0	0.080	1.127	0.090
	Band5/50%RB#24	Bottom	20600	844.0	22.48	2.33	23.0	0.032	1.127	0.036
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#24	Front	23060	704.0	23.65	2.18	24.0	0.084	1.084	0.091
	Band12/1RB#24	Back	23060	704.0	23.65	-3.41	24.0	0.115	1.084	0.125
	Band12/1RB#24	Left	23060	704.0	23.65	0.48	24.0	0.065	1.084	0.070
	Band12/1RB#24	Right	23060	704.0	23.65	-3.05	24.0	0.088	1.084	0.095
	Band12/1RB#24	Bottom	23060	704.0	23.65	2.41	24.0	0.061	1.084	0.066
	Band12/50%RB#0	Front	23095	707.5	22.60	-2.58	23.0	0.096	1.096	0.105
25	Band12/50%RB#0	Back	23095	707.5	22.60	2.94	23.0	**0.159**	1.096	0.174
	Band12/50%RB#0	Left	23095	707.5	22.60	0.40	23.0	0.068	1.096	0.075
	Band12/50%RB#0	Right	23095	707.5	22.60	-0.34	23.0	0.091	1.096	0.100
	Band12/50%RB#0	Bottom	23095	707.5	22.60	0.71	23.0	0.064	1.096	0.070
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 13(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)
	Band13/1RB#24	Front	23230	782.0	23.52	-2.87	24.0	0.086	1.117	0.096
26	Band13/1RB#24	Back	23230	782.0	23.52	3.68	24.0	**0.147**	1.117	0.164
	Band13/1RB#24	Left	23230	782.0	23.52	2.45	24.0	0.051	1.117	0.057
	Band13/1RB#24	Right	23230	782.0	23.52	-1.32	24.0	0.075	1.117	0.084

	Band13/1RB#24	Bottom	23230	782.0	23.52	-3.15	24.0	0.062	1.117	0.069
	Band13/50%RB#12	Front	23230	782.0	22.48	-1.03	23.0	0.081	1.127	0.091
	Band13/50%RB#12	Back	23230	782.0	22.48	-0.48	23.0	0.142	1.127	0.160
	Band13/50%RB#12	Left	23230	782.0	22.48	0.59	23.0	0.045	1.127	0.051
	Band13/50%RB#12	Right	23230	782.0	22.48	-2.57	23.0	0.068	1.127	0.077
	Band13/50%RB#12	Bottom	23230	782.0	22.48	-0.94	23.0	0.060	1.127	0.068
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 25(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)
	Band25/1RB#49	Front	26365	1882.5	23.31	2.39	24.0	0.491	1.172	0.575
	Band25/1RB#49	Back	26365	1882.5	23.31	-3.84	24.0	0.414	1.172	0.485
	Band25/1RB#49	Left	26365	1882.5	23.31	-2.93	24.0	0.081	1.172	0.095
	Band25/1RB#49	Right	26365	1882.5	23.31	-0.74	24.0	0.196	1.172	0.230
41	Band25/1RB#49	Bottom	26365	1882.5	23.31	2.30	24.0	**0.556**	1.172	0.652
	Band25/50%RB#24	Front	26140	1860.0	22.15	2.27	22.5	0.471	1.084	0.511
	Band25/50%RB#24	Back	26140	1860.0	22.15	-0.68	22.5	0.402	1.084	0.436
	Band25/50%RB#24	Left	26140	1860.0	22.15	0.52	22.5	0.074	1.084	0.080
	Band25/50%RB#24	Right	26140	1860.0	22.15	2.67	22.5	0.168	1.084	0.182
	Band25/50%RB#24	Bottom	26140	1860.0	22.15	-0.61	22.5	0.513	1.084	0.556
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**					

➢ FDD-LTE Band 26(15MHz) 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)
	Band26/1RB#37	Front	26965	841.5	23.54	0.48	24.0	0.103	1.112	0.115
28	Band26/1RB#37	Back	26965	841.5	23.54	-3.36	24.0	**0.199**	1.112	0.221
	Band26/1RB#37	Left	26965	841.5	23.54	-2.40	24.0	0.062	1.112	0.069
	Band26/1RB#37	Right	26965	841.5	23.54	1.49	24.0	0.073	1.112	0.081
	Band26/1RB#37	Bottom	26965	841.5	23.54	3.23	24.0	0.088	1.112	0.098
	Band26/50%RB#16	Front	26965	841.5	22.57	1.02	23.0	0.089	1.104	0.098
	Band26/50%RB#16	Back	26965	841.5	22.57	1.50	23.0	0.161	1.104	0.178
	Band26/50%RB#16	Left	26965	841.5	22.57	-1.25	23.0	0.056	1.104	0.062
	Band26/50%RB#16	Right	26965	841.5	22.57	-1.51	23.0	0.065	1.104	0.072
	Band26/50%RB#16	Bottom	26965	841.5	22.57	2.18	23.0	0.078	1.104	0.086
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	2645.0	22.41	0.83	23.0	0.042	1.146	1.008	0.049
	Band41/1RB#49	Back	41140	2645.0	22.41	-2.35	23.0	0.079	1.146	1.008	0.091
	Band41/1RB#49	Left	41140	2645.0	22.41	1.13	23.0	0.020	1.146	1.008	0.023
42	Band41/1RB#49	Top	41140	2645.0	22.41	-2.88	23.0	**0.093**	1.146	1.008	0.107
	Band41/50%RB#49	Front	40140	2545.0	21.14	-3.65	21.5	0.026	1.086	1.008	0.028
	Band41/50%RB#49	Back	40140	2545.0	21.14	-1.13	21.5	0.047	1.086	1.008	0.051
	Band41/50%RB#49	Left	40140	2545.0	21.14	-0.74	21.5	0.012	1.086	1.008	0.013
	Band41/50%RB#49	Top	40140	2545.0	21.14	1.82	21.5	0.061	1.086	1.008	0.067
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 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#49	Front	132572	1770.0	23.28	2.26	23.5	0.296	1.052	0.311
	Band66/1RB#49	Back	132572	1770.0	23.28	-1.74	23.5	0.310	1.052	0.326
	Band66/1RB#49	Left	132572	1770.0	23.28	2.10	23.5	0.078	1.052	0.082
	Band66/1RB#49	Right	132572	1770.0	23.28	-1.14	23.5	0.092	1.052	0.097
43	Band66/1RB#49	Bottom	132572	1770.0	23.28	-3.03	23.5	**0.560**	1.052	0.589
	Band66/50%RB#0	Front	132572	1770.0	22.25	1.63	22.5	0.270	1.059	0.286
	Band66/50%RB#0	Back	132572	1770.0	22.25	-0.02	22.5	0.291	1.059	0.308
	Band66/50%RB#0	Left	132572	1770.0	22.25	-2.69	22.5	0.071	1.059	0.075
	Band66/50%RB#0	Right	132572	1770.0	22.25	1.75	22.5	0.085	1.059	0.090
	Band66/50%RB#0	Bottom	132572	1770.0	22.25	2.32	22.5	0.531	1.059	0.562
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)
31	2.4GHz/802.11b	Front	11	2462	15.12	-3.54	15.5	**0.135**	1.091	1.00	0.147
	2.4GHz/802.11b	Back	11	2462	15.12	0.66	15.5	0.104	1.091	1.00	0.113
	2.4GHz/802.11b	Right	11	2462	15.12	-1.27	15.5	0.036	1.091	1.00	0.039
	2.4GHz/802.11b	Top	11	2462	15.12	-0.19	15.5	0.052	1.091	1.00	0.057
ANSI / IEEE C95.1 – SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					**1.6 W/kg (mW/g) Averaged over 1g**						

➢ Bluetooth 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)
	GFSK	Front	00	2402	10.29	-3.29	10.5	0.010	1.050	1.58	0.017
32	GFSK	Back	00	2402	10.29	0.96	10.5	**0.030**	1.050	1.58	0.050
	GFSK	Right	00	2402	10.29	-2.49	10.5	0.014	1.050	1.58	0.023
	GFSK	Top	00	2402	10.29	-0.48	10.5	0.008	1.050	1.58	0.013
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.

15.4 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 simultaneously. 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
5.2GHz WIFI	7.0	Estimated SAR (W/kg)	0.305	0.152	0.152
5.8GHz WIFI	7.5	Estimated SAR (W/kg)	0.361	0.181	0.181

Note:

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

2. Multi-Band simultaneous Transmission Consideration

	Position	Applicable Combination
Simultaneous Transmission Consideration	Head	WWAN (Voice) + WLAN 2.4 GHz/5.2GHz/5.8GHz
		WWAN (Voice) + Bluetooth
	Body	WWAN (Voice) + WLAN 2.4 GHz/5.2GHz/5.8GHz
		WWAN (Voice) + Bluetooth
	Hotspot	WWAN (Data) + WLAN 2.4 GHz/5.2GHz/5.8GHz
		WWAN (Data) + Bluetooth

Note:

1. WLAN 2.4GHz Band, WLAN 5.2GHz Band, WLAN 5.8GHz 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

15.5 SAR Simultaneous Transmission Analysis

➢ **Head Simultaneous Transmission**

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Right Cheek	0.147	0.252	0.399		GSM 850	Right Cheek	0.147	0.015	0.162
	Right Tilted	0.068	0.206	0.274			Right Tilted	0.068	0.005	0.073
	Left Cheek	0.135	0.574	0.709			Left Cheek	0.135	0.023	0.158
	Left Tilted	0.062	0.457	0.519			Left Tilted	0.062	0.017	0.079

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 1900	Right Cheek	0.426	0.252	0.678		GSM 1900	Right Cheek	0.426	0.015	0.441
	Right Tilted	0.518	0.206	0.724			Right Tilted	0.518	0.005	0.523
	Left Cheek	0.291	0.574	0.865			Left Cheek	0.291	0.023	0.314
	Left Tilted	0.423	0.457	0.880			Left Tilted	0.423	0.017	0.440

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band V	Right Cheek	0.170	0.252	0.422		WCDMA Band V	Right Cheek	0.170	0.015	0.185
	Right Tilted	0.079	0.206	0.285			Right Tilted	0.079	0.005	0.084
	Left Cheek	0.152	0.574	0.726			Left Cheek	0.152	0.023	0.175
	Left Tilted	0.059	0.457	0.516			Left Tilted	0.059	0.017	0.076

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band IV	Right Cheek	0.033	0.252	0.285		WCDMA Band IV	Right Cheek	0.033	0.015	0.048
	Right Tilted	0.037	0.206	0.243			Right Tilted	0.037	0.005	0.042
	Left Cheek	0.045	0.574	0.619			Left Cheek	0.045	0.023	0.068
	Left Tilted	0.049	0.457	0.506			Left Tilted	0.049	0.017	0.066

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band II	Right Cheek	0.070	0.252	0.322		WCDMA Band II	Right Cheek	0.070	0.015	0.085
	Right Tilted	0.090	0.206	0.296			Right Tilted	0.090	0.005	0.095
	Left Cheek	0.098	0.574	0.672			Left Cheek	0.098	0.023	0.121
	Left Tilted	0.119	0.457	0.576			Left Tilted	0.119	0.017	0.136

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 2	Right Cheek	0.180	0.252	0.432		LTE Band 2	Right Cheek	0.180	0.015	0.195
	Right Tilted	0.102	0.206	0.308			Right Tilted	0.102	0.005	0.107
	Left Cheek	0.095	0.574	0.669			Left Cheek	0.095	0.023	0.118
	Left Tilted	0.059	0.457	0.516			Left Tilted	0.059	0.017	0.076

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Right Cheek	0.060	0.252	0.312		LTE Band 4	Right Cheek	0.060	0.015	0.075
	Right Tilted	0.025	0.206	0.231			Right Tilted	0.025	0.005	0.030
	Left Cheek	0.027	0.574	0.601			Left Cheek	0.027	0.023	0.050
	Left Tilted	0.012	0.457	0.469			Left Tilted	0.012	0.017	0.029

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 5	Right Cheek	0.167	0.252	0.419		LTE Band 5	Right Cheek	0.167	0.015	0.182
	Right Tilted	0.082	0.206	0.288			Right Tilted	0.082	0.005	0.087
	Left Cheek	0.178	0.574	0.752			Left Cheek	0.178	0.023	0.201
	Left Tilted	0.093	0.457	0.550			Left Tilted	0.093	0.017	0.110

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 12	Right Cheek	0.112	0.252	0.364		LTE Band 12	Right Cheek	0.112	0.015	0.127
	Right Tilted	0.037	0.206	0.243			Right Tilted	0.037	0.005	0.042
	Left Cheek	0.123	0.574	0.697			Left Cheek	0.123	0.023	0.146
	Left Tilted	0.053	0.457	0.510			Left Tilted	0.053	0.017	0.070

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 13	Right Cheek	0.117	0.252	0.369		LTE Band 13	Right Cheek	0.117	0.015	0.132
	Right Tilted	0.048	0.206	0.254			Right Tilted	0.048	0.005	0.053
	Left Cheek	0.127	0.574	0.701			Left Cheek	0.127	0.023	0.150
	Left Tilted	0.063	0.457	0.520			Left Tilted	0.063	0.017	0.080

WWAN Mode	Position	WWAN SAR1g (W/kg)	WLAN SAR1g (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR1g (W/kg)	Bluetooth Estimated SAR1g (W/kg)	Σ SAR (W/kg)
LTE Band 25	Right Cheek	0.212	0.252	0.464		LTE Band 25	Right Cheek	0.212	0.015	0.227
	Right Tilted	0.123	0.206	0.329			Right Tilted	0.123	0.005	0.128
	Left Cheek	0.130	0.574	0.704			Left Cheek	0.130	0.023	0.153
	Left Tilted	0.104	0.457	0.561			Left Tilted	0.104	0.017	0.121

WWAN Mode	Position	WWAN SAR1g (W/kg)	WLAN SAR1g (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR1g (W/kg)	Bluetooth Estimated SAR1g (W/kg)	Σ SAR (W/kg)
LTE Band 26	Right Cheek	0.168	0.252	0.420		LTE Band 26	Right Cheek	0.168	0.015	0.183
	Right Tilted	0.097	0.206	0.303			Right Tilted	0.097	0.005	0.102
	Left Cheek	0.180	0.574	0.754			Left Cheek	0.180	0.023	0.203
	Left Tilted	0.103	0.457	0.560			Left Tilted	0.103	0.017	0.120

WWAN Mode	Position	WWAN SAR1g (W/kg)	WLAN SAR1g (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR1g (W/kg)	Bluetooth Estimated SAR1g (W/kg)	Σ SAR (W/kg)
LTE Band 41	Right Cheek	0.118	0.252	0.370		LTE Band 41	Right Cheek	0.118	0.015	0.133
	Right Tilted	0.198	0.206	0.404			Right Tilted	0.198	0.005	0.203
	Left Cheek	0.106	0.574	0.680			Left Cheek	0.106	0.023	0.129
	Left Tilted	0.176	0.457	0.633			Left Tilted	0.176	0.017	0.193

WWAN Mode	Position	WWAN SAR1g (W/kg)	WLAN SAR1g (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR1g (W/kg)	Bluetooth Estimated SAR1g (W/kg)	Σ SAR (W/kg)
LTE Band 66	Right Cheek	0.116	0.252	0.368		LTE Band 66	Right Cheek	0.116	0.015	0.131
	Right Tilted	0.062	0.206	0.268			Right Tilted	0.062	0.005	0.067
	Left Cheek	0.064	0.574	0.638			Left Cheek	0.064	0.023	0.087
	Left Tilted	0.039	0.457	0.496			Left Tilted	0.039	0.017	0.056

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Right Cheek	0.147	0.361	0.508		GSM 1900	Right Cheek	0.426	0.361	0.787
	Right Tilted	0.068	0.361	0.429			Right Tilted	0.518	0.361	0.879
	Left Cheek	0.135	0.361	0.496			Left Cheek	0.291	0.361	0.652
	Left Tilted	0.062	0.361	0.423			Left Tilted	0.423	0.361	0.784

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA V	Right Cheek	0.170	0.361	0.531		WCDMA IV	Right Cheek	0.033	0.361	0.394
	Right Tilted	0.079	0.361	0.440			Right Tilted	0.037	0.361	0.398
	Left Cheek	0.152	0.361	0.513			Left Cheek	0.045	0.361	0.406
	Left Tilted	0.059	0.361	0.420			Left Tilted	0.049	0.361	0.410

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA II	Right Cheek	0.070	0.361	0.431		LTE Band 2	Right Cheek	0.180	0.361	0.541
	Right Tilted	0.090	0.361	0.451			Right Tilted	0.102	0.361	0.463
	Left Cheek	0.098	0.361	0.459			Left Cheek	0.095	0.361	0.456
	Left Tilted	0.119	0.361	0.480			Left Tilted	0.059	0.361	0.420

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Right Cheek	0.060	0.361	0.421		LTE Band 5	Right Cheek	0.167	0.361	0.528
	Right Tilted	0.025	0.361	0.386			Right Tilted	0.082	0.361	0.443
	Left Cheek	0.027	0.361	0.388			Left Cheek	0.178	0.361	0.539
	Left Tilted	0.012	0.361	0.373			Left Tilted	0.093	0.361	0.454

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 12	Right Cheek	0.112	0.361	0.473		LTE Band 13	Right Cheek	0.117	0.361	0.478
	Right Tilted	0.037	0.361	0.398			Right Tilted	0.048	0.361	0.409
	Left Cheek	0.123	0.361	0.484			Left Cheek	0.127	0.361	0.488
	Left Tilted	0.053	0.361	0.414			Left Tilted	0.063	0.361	0.424

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 25	Right Cheek	0.212	0.361	0.573		LTE Band 26	Right Cheek	0.168	0.361	0.529
	Right Tilted	0.123	0.361	0.484			Right Tilted	0.097	0.361	0.458
	Left Cheek	0.130	0.361	0.491			Left Cheek	0.180	0.361	0.541
	Left Tilted	0.104	0.361	0.465			Left Tilted	0.103	0.361	0.464

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 41	Right Cheek	0.118	0.361	0.479		LTE Band 66	Right Cheek	0.116	0.361	0.477
	Right Tilted	0.198	0.361	0.559			Right Tilted	0.062	0.361	0.423
	Left Cheek	0.106	0.361	0.467			Left Cheek	0.064	0.361	0.425
	Left Tilted	0.176	0.361	0.537			Left Tilted	0.039	0.361	0.400

➢ **Body worn Simultaneous Transmission**

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Front	0.259	0.147	0.406		GSM 850	Front	0.259	0.017	0.276
	Back	0.358	0.113	0.471			Back	0.358	0.050	0.408

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 1900	Front	0.177	0.147	0.324		GSM 1900	Front	0.177	0.017	0.194
	Back	0.619	0.113	0.732			Back	0.619	0.050	0.669

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band V	Front	0.176	0.147	0.323		WCDMA Band V	Front	0.176	0.017	0.193
	Back	0.220	0.113	0.333			Back	0.220	0.050	0.270

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band IV	Front	0.404	0.147	0.551		WCDMA Band IV	Front	0.404	0.017	0.421
	Back	0.245	0.113	0.358			Back	0.245	0.050	0.295

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band II	Front	0.479	0.147	0.626		WCDMA Band II	Front	0.479	0.017	0.496
	Back	0.402	0.113	0.515			Back	0.402	0.050	0.452

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 2	Front	0.535	0.147	0.682		LTE Band 2	Front	0.535	0.017	0.552
	Back	0.581	0.113	0.694			Back	0.581	0.050	0.631

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Front	0.349	0.147	0.496		LTE Band 4	Front	0.349	0.017	0.366
	Back	0.383	0.113	0.496			Back	0.383	0.050	0.433

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 5	Front	0.164	0.147	0.311		LTE Band 5	Front	0.164	0.017	0.181
	Back	0.186	0.113	0.299			Back	0.186	0.050	0.236

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 12	Front	0.105	0.147	0.252		LTE Band 12	Front	0.105	0.017	0.122
	Back	0.174	0.113	0.287			Back	0.174	0.050	0.224

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 13	Front	0.096	0.147	0.243		LTE Band 13	Front	0.096	0.017	0.113
	Back	0.164	0.113	0.277			Back	0.164	0.050	0.214

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 25	Front	0.575	0.147	0.722		LTE Band 25	Front	0.575	0.017	0.592
	Back	0.485	0.113	0.598			Back	0.485	0.050	0.535

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 26	Front	0.115	0.147	0.262		LTE Band 26	Front	0.115	0.017	0.132
	Back	0.221	0.113	0.334			Back	0.221	0.050	0.271

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 41	Front	0.049	0.147	0.196		LTE Band 41	Front	0.049	0.017	0.066
	Back	0.091	0.113	0.204			Back	0.091	0.050	0.141

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 66	Front	0.311	0.147	0.458		LTE Band 66	Front	0.311	0.017	0.328
	Back	0.326	0.113	0.439			Back	0.326	0.050	0.376

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Front	0.259	0.181	0.440		GSM 1900	Front	0.177	0.181	0.358
	Back	0.358	0.181	0.539			Back	0.619	0.181	0.800

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band V	Front	0.176	0.181	0.357		WCDMA Band IV	Front	0.404	0.181	0.585
	Back	0.220	0.181	0.401			Back	0.245	0.181	0.426

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band II	Front	0.479	0.181	0.660		LTE Band 2	Front	0.535	0.181	0.716
	Back	0.402	0.181	0.583			Back	0.581	0.181	0.762

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Front	0.349	0.181	0.530		LTE Band 5	Front	0.164	0.181	0.345
	Back	0.383	0.181	0.564			Back	0.186	0.181	0.367

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 12	Front	0.105	0.181	0.286		LTE Band 13	Front	0.096	0.181	0.277
	Back	0.174	0.181	0.355			Back	0.164	0.181	0.345

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 25	Front	0.575	0.181	0.756		LTE Band 26	Front	0.115	0.181	0.296
	Back	0.485	0.181	0.666			Back	0.221	0.181	0.402

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 41	Front	0.049	0.181	0.230		LTE Band 66	Front	0.311	0.181	0.492
	Back	0.091	0.181	0.272			Back	0.326	0.181	0.507

➢ **Hotspot mode Simultaneous Transmission**

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Front	0.259	0.147	0.406		GSM 850	Front	0.259	0.017	0.276
	Back	0.358	0.113	0.471			Back	0.358	0.050	0.408
	Left	0.062	/	0.062			Left	0.062	/	0.062
	Right	0.078	0.039	0.117			Right	0.078	0.023	0.101
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.096	/	0.096			Bottom	0.096	/	0.096

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 1900	Front	0.177	0.147	0.324		GSM 1900	Front	0.177	0.017	0.194
	Back	0.619	0.113	0.732			Back	0.619	0.050	0.669
	Left	0.145	/	0.145			Left	0.145	/	0.145
	Right	/	0.039	0.039			Right	/	0.023	0.023
	Top	0.580	0.057	0.637			Top	0.580	0.013	0.593
	Bottom	/	/	/			Bottom	/	/	/

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band V	Front	0.176	0.147	0.323		WCDMA Band V	Front	0.176	0.017	0.193
	Back	0.220	0.113	0.333			Back	0.220	0.050	0.270
	Left	0.037	/	0.037			Left	0.037	/	0.037
	Right	0.109	0.039	0.148			Right	0.109	0.023	0.132
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.088	/	0.088			Bottom	0.088	/	0.088

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band IV	Front	0.404	0.147	0.551		WCDMA Band IV	Front	0.404	0.017	0.421
	Back	0.245	0.113	0.358			Back	0.245	0.050	0.295
	Left	0.055	/	0.055			Left	0.055	/	0.055
	Right	0.038	0.039	0.077			Right	0.038	0.023	0.061
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.748	/	0.748			Bottom	0.748	/	0.748

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band II	Front	0.479	0.147	0.626		WCDMA Band II	Front	0.479	0.017	0.496
	Back	0.402	0.113	0.515			Back	0.402	0.050	0.452
	Left	0.078	/	0.078			Left	0.078	/	0.078
	Right	0.057	0.039	0.096			Right	0.057	0.023	0.080
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.682	/	0.682			Bottom	0.682	/	0.682

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 2	Front	0.535	0.147	0.682		LTE Band 2	Front	0.535	0.017	0.552
	Back	0.581	0.113	0.694			Back	0.581	0.050	0.631
	Left	0.084	/	0.084			Left	0.084	/	0.084
	Right	0.065	0.039	0.104			Right	0.065	0.023	0.088
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.779	/	0.779			Bottom	0.779	/	0.779

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Front	0.349	0.147	0.496		LTE Band 4	Front	0.349	0.017	0.366
	Back	0.383	0.113	0.496			Back	0.383	0.050	0.433
	Left	0.059	/	0.059			Left	0.059	/	0.059
	Right	0.039	0.039	0.078			Right	0.039	0.023	0.062
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.603	/	0.603			Bottom	0.603	/	0.603

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 5	Front	0.164	0.147	0.311		LTE Band 5	Front	0.164	0.017	0.181
	Back	0.186	0.113	0.299			Back	0.186	0.050	0.236
	Left	0.057	/	0.057			Left	0.057	/	0.057
	Right	0.098	0.039	0.137			Right	0.098	0.023	0.121
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.040	/	0.040			Bottom	0.040	/	0.040

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band12	Front	0.105	0.147	0.252		LTE Band 12	Front	0.105	0.017	0.122
	Back	0.174	0.113	0.287			Back	0.174	0.050	0.224
	Left	0.075	/	0.075			Left	0.075	/	0.075
	Right	0.100	0.039	0.139			Right	0.100	0.023	0.123
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.070	/	0.070			Bottom	0.070	/	0.070

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 13	Front	0.096	0.147	0.243		LTE Band 17	Front	0.096	0.017	0.113
	Back	0.164	0.113	0.277			Back	0.164	0.050	0.214
	Left	0.057	/	0.057			Left	0.057	/	0.057
	Right	0.084	0.039	0.123			Right	0.084	0.023	0.107
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.069	/	0.069			Bottom	0.069	/	0.069

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 25	Front	0.575	0.147	0.722		LTE Band 25	Front	0.575	0.017	0.592
	Back	0.485	0.113	0.598			Back	0.485	0.050	0.535
	Left	0.095	/	0.095			Left	0.095	/	0.095
	Right	0.230	0.039	0.269			Right	0.230	0.023	0.253
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.652	/	0.652			Bottom	0.652	/	0.652

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 26	Front	0.115	0.147	0.262		LTE Band 26	Front	0.115	0.017	0.132
	Back	0.221	0.113	0.334			Back	0.221	0.050	0.271
	Left	0.069	/	0.069			Left	0.069	/	0.069
	Right	0.081	0.039	0.120			Right	0.081	0.023	0.104
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.098	/	0.098			Bottom	0.098	/	0.098

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 41	Front	0.049	0.147	0.196		LTE Band 41	Front	0.049	0.017	0.066
	Back	0.091	0.113	0.204			Back	0.091	0.050	0.141
	Left	0.023	/	0.023			Left	0.023	/	0.023
	Right	/	0.039	0.039			Right	/	0.023	0.023
	Top	0.107	0.057	0.164			Top	0.107	0.013	0.120
	Bottom	/	/	/			Bottom	/	/	/

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	Bluetooth Estimated SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 66	Front	0.311	0.147	0.458		LTE Band 66	Front	0.311	0.017	0.328
	Back	0.326	0.113	0.439			Back	0.326	0.050	0.376
	Left	0.082	/	0.082			Left	0.082	/	0.082
	Right	0.097	0.039	0.136			Right	0.097	0.023	0.120
	Top	/	0.057	0.057			Top	/	0.013	0.013
	Bottom	0.589	/	0.589			Bottom	0.589	/	0.589

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
GSM 850	Front	0.259	0.181	0.440		GSM 1900	Front	0.177	0.181	0.358
	Back	0.358	0.181	0.539			Back	0.619	0.181	0.800
	Left	0.062	/	0.062			Left	0.145	/	0.145
	Right	0.078	0.181	0.259			Right	/	0.181	0.181
	Top	/	0.181	0.181			Top	0.580	0.181	0.761
	Bottom	0.096	/	0.096			Bottom	/	/	/

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band V	Front	0.176	0.181	0.357		WCDMA Band IV	Front	0.404	0.181	0.585
	Back	0.220	0.181	0.401			Back	0.245	0.181	0.426
	Left	0.037	/	0.037			Left	0.055	/	0.055
	Right	0.109	0.181	0.290			Right	0.038	0.181	0.219
	Top	/	0.181	0.181			Top	/	0.181	0.181
	Bottom	0.088	/	0.088			Bottom	0.748	/	0.748

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)	WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
WCDMA Band II	Front	0.479	0.181	0.660	LTE Band 2	Front	0.535	0.181	0.716
	Back	0.402	0.181	0.583		Back	0.581	0.181	0.762
	Left	0.078	/	0.078		Left	0.084	/	0.084
	Right	0.057	0.181	0.238		Right	0.065	0.181	0.246
	Top	/	0.181	0.181		Top	/	0.181	0.181
	Bottom	0.682	/	0.682		Bottom	0.779	/	0.779

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)	WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 4	Front	0.349	0.181	0.530	LTE Band 5	Front	0.164	0.181	0.345
	Back	0.383	0.181	0.564		Back	0.186	0.181	0.367
	Left	0.059	/	0.059		Left	0.057	/	0.057
	Right	0.039	0.181	0.220		Right	0.098	0.181	0.279
	Top	/	0.181	0.181		Top	/	0.181	0.181
	Bottom	0.603	/	0.603		Bottom	0.040	/	0.040

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)	WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 12	Front	0.105	0.181	0.286	LTE Band 13	Front	0.096	0.181	0.277
	Back	0.174	0.181	0.355		Back	0.164	0.181	0.345
	Left	0.075	/	0.075		Left	0.057	/	0.057
	Right	0.100	0.181	0.281		Right	0.084	0.181	0.265
	Top	/	0.181	0.181		Top	/	0.181	0.181
	Bottom	0.070	/	0.070		Bottom	0.069	/	0.069

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)	WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 25	Front	0.575	0.181	0.756	LTE Band 26	Front	0.115	0.181	0.296
	Back	0.485	0.181	0.666		Back	0.221	0.181	0.402
	Left	0.095	/	0.095		Left	0.069	/	0.069
	Right	0.230	0.181	0.411		Right	0.081	0.181	0.262
	Top	/	0.181	0.181		Top	/	0.181	0.181
	Bottom	0.652	/	0.652		Bottom	0.098	/	0.098

WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)		WWAN Mode	Position	WWAN SAR_{1g} (W/kg)	5GHz WLAN SAR_{1g} (W/kg)	Σ SAR (W/kg)
LTE Band 41	Front	0.049	0.181	0.230		LTE Band 66	Front	0.311	0.181	0.492
	Back	0.091	0.181	0.272			Back	0.326	0.181	0.507
	Left	0.023	/	0.023			Left	0.082	/	0.082
	Right	/	0.181	0.181			Right	0.097	0.181	0.278
	Top	0.107	0.181	0.288			Top	/	0.181	0.181
	Bottom	/	/	/			Bottom	0.589	/	0.589

➢ **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.

15.6 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

[1]. FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2]. ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3]. IEEE Std. 1528-2013, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, September2013

[4]. OpenSAR V5 Software User Manual

[5]. FCC KDB 248227 D01 v02r02, “SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS”, October 2015

[6]. FCC KDB 447498 D01 v06, “RF EXPOSURE PROCEDURES AND EQUIPMENT AUTHORIZATION POLICIES FOR MOBILE AND PORTABLE DEVICES”, October 2015

[7]. FCC KDB 648474 D04 v01r03, “SAR EVALUATION CONSIDERATIONS FOR WIRELESS HANDSETS”, October 2015

[8]. FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, October 2015

[9]. FCC KDB 941225 D05 v02r05, “SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES”, Dec 2015

[10]. FCC KDB 941225 D03 v01, “Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE”, December 2008

[11]. FCC KDB 941225 D06 v02r01, " SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES", October 2015

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

Appendix A: Plots of SAR System Check

System check at 750 MHz

Date of measurement: 13/8/2021

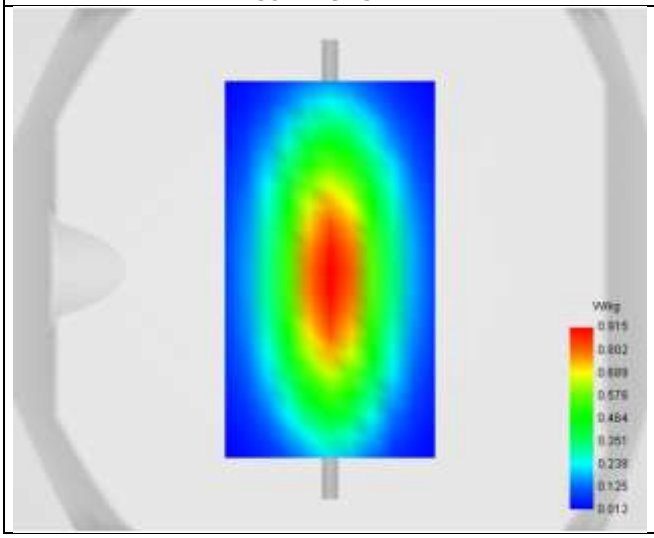
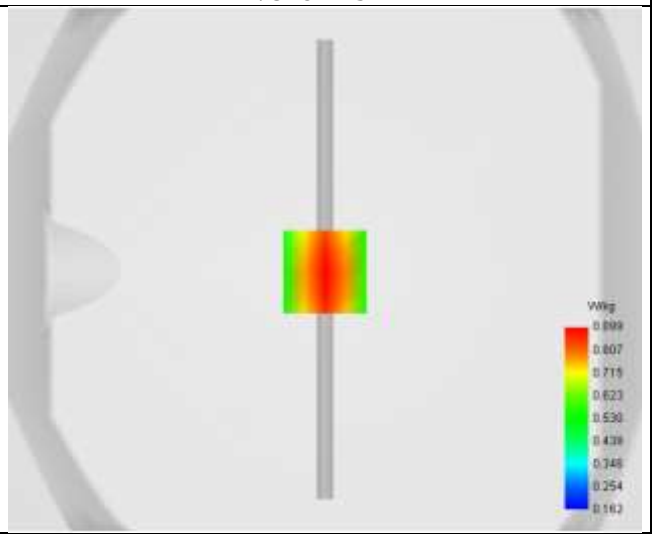
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.73
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW750
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	750.000000
Relative permitivity (real part)	41.537119
Conductivity (S/m)	0.878830

C. SAR Surface and Volume

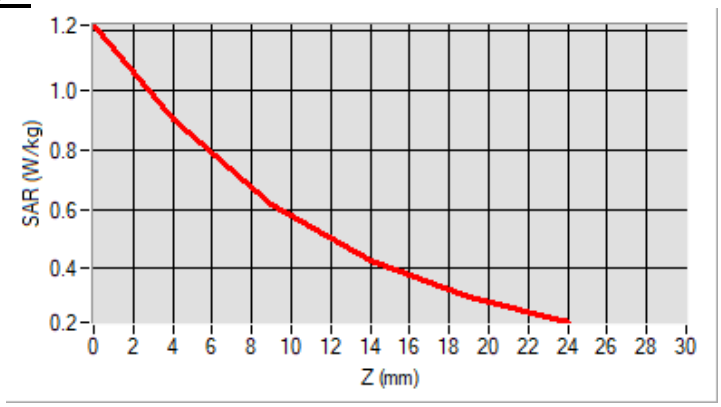
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00; SAR Peak: 1.22 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.572441
SAR 1g (W/Kg)	0.844612
Variation (%)	-0.980001

E. Z Axis Scan



System check at 835 MHz

Date of measurement: 12/8/2021

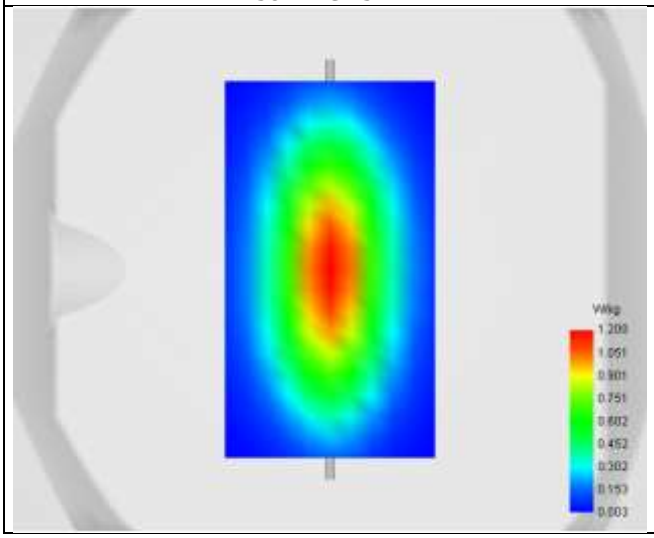
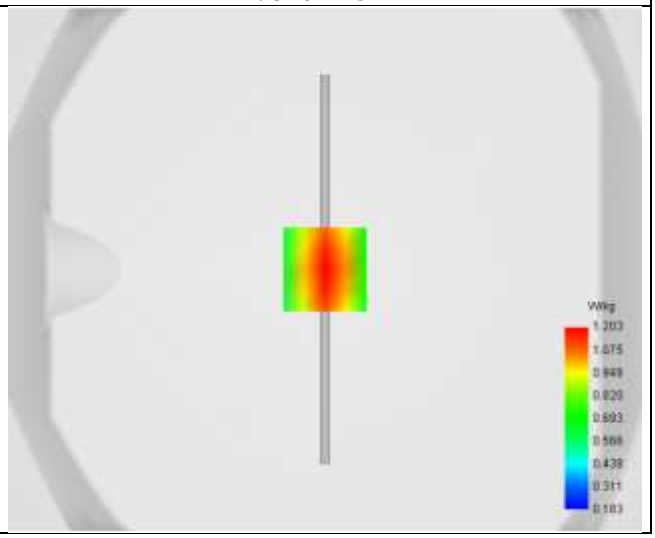
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	835.000000
Relative permitivity (real part)	41.821092
Conductivity (S/m)	0.920115

C. SAR Surface and Volume

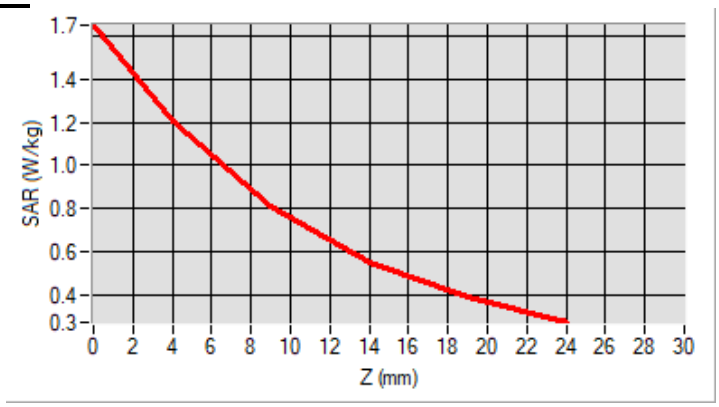
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00; SAR Peak: 1.58 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.638261
SAR 1g (W/Kg)	1.020411
Variation (%)	-2.860000

E. Z Axis Scan



System check at 835 MHz

Date of measurement: 13/8/2021

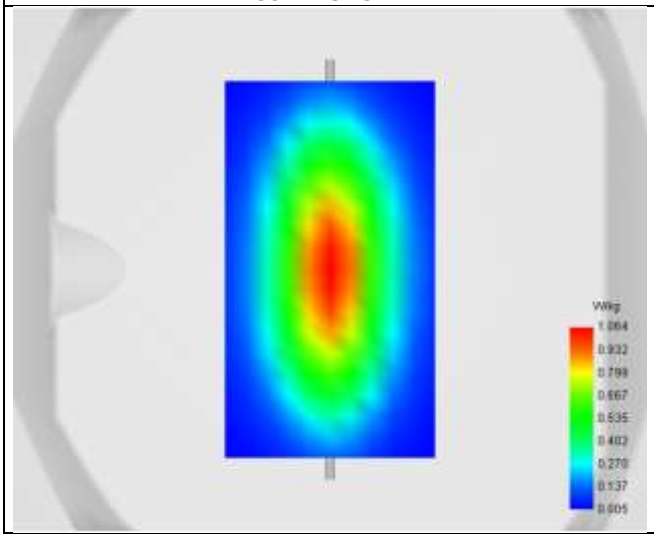
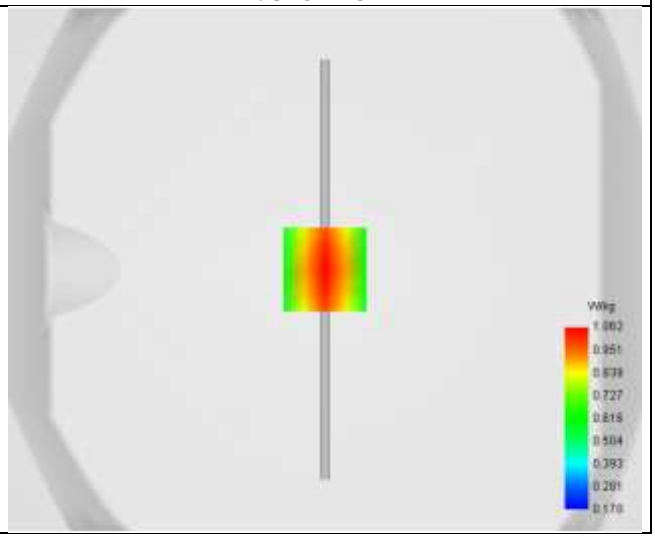
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm, Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW835
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	835.000000
Relative permitivity (real part)	41.196085
Conductivity (S/m)	0.907596

C. SAR Surface and Volume

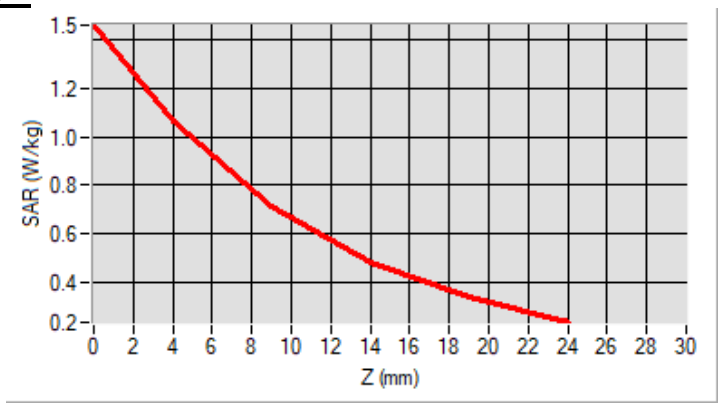
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00; SAR Peak: 1.44 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.626170
SAR 1g (W/Kg)	0.977914
Variation (%)	1.150001

E. Z Axis Scan



System check at 1750 MHz

Date of measurement: 18/8/2021

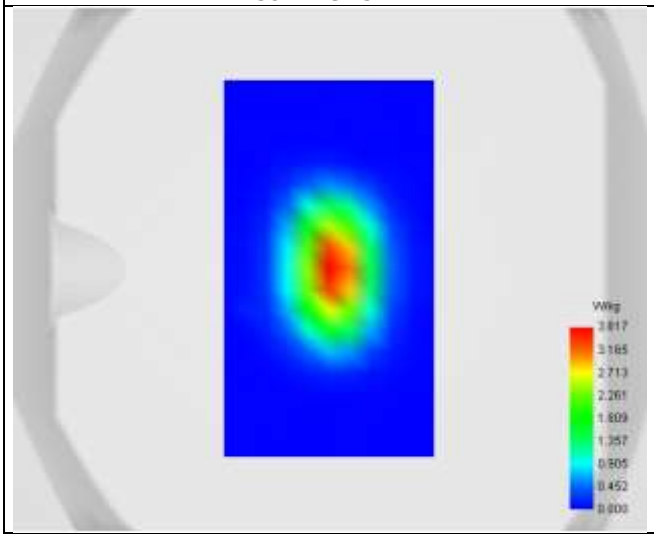
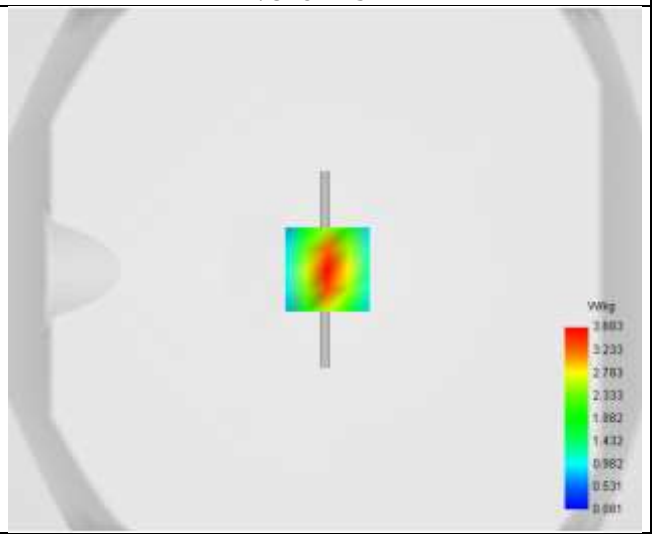
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.07
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1750
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1750.000000
Relative permitivity (real part)	39.779280
Conductivity (S/m)	1.364813

C. SAR Surface and Volume

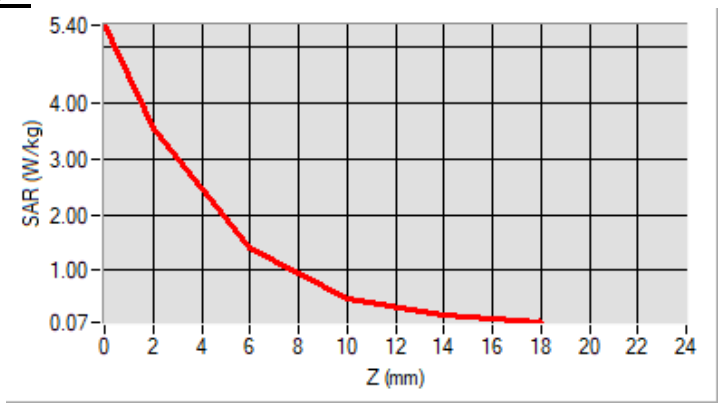
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00; SAR Peak: 5.39 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	1.812074
SAR 1g (W/Kg)	3.507109
Variation (%)	-1.950001

E. Z Axis Scan



System check at 1900 MHz

Date of measurement: 18/8/2021

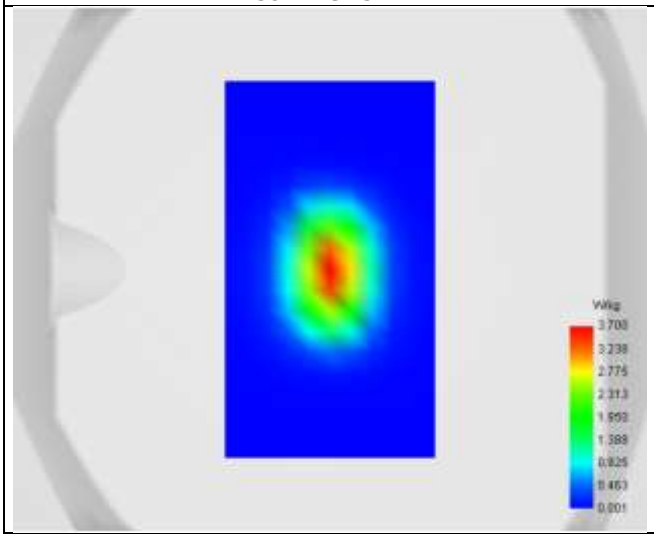
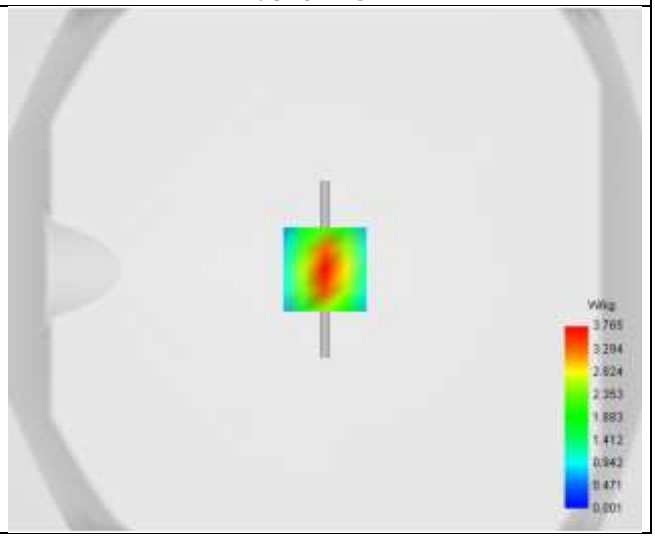
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1900.000000
Relative permitivity (real part)	39.350296
Conductivity (S/m)	1.415181

C. SAR Surface and Volume

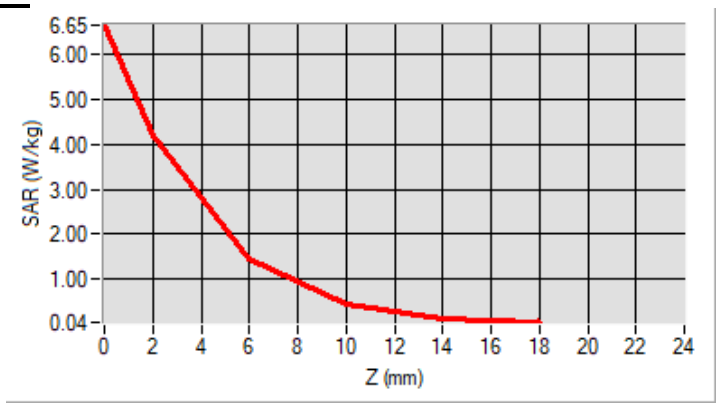
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00; SAR Peak: 6.66 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	1.994844
SAR 1g (W/Kg)	4.014917
Variation (%)	1.210000

E. Z Axis Scan



System check at 1900 MHz

Date of measurement: 19/8/2021

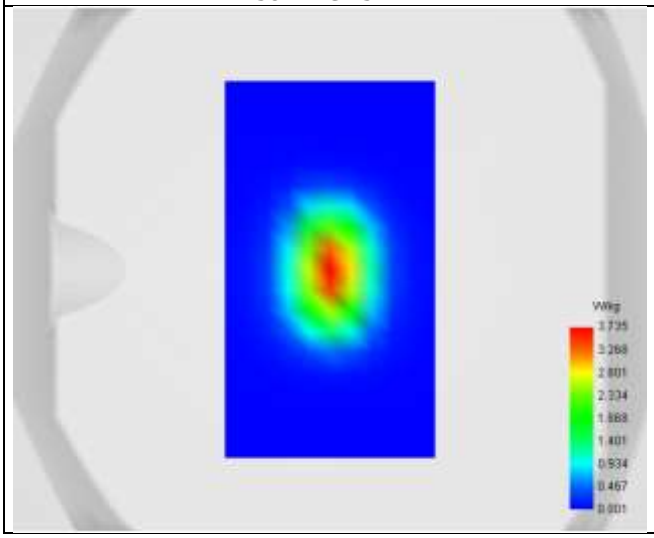
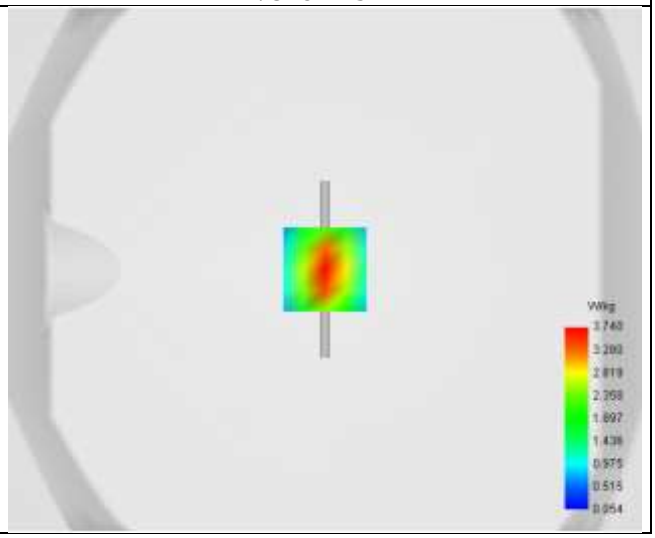
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW1900
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1900.000000
Relative permitivity (real part)	39.701529
Conductivity (S/m)	1.427067

C. SAR Surface and Volume

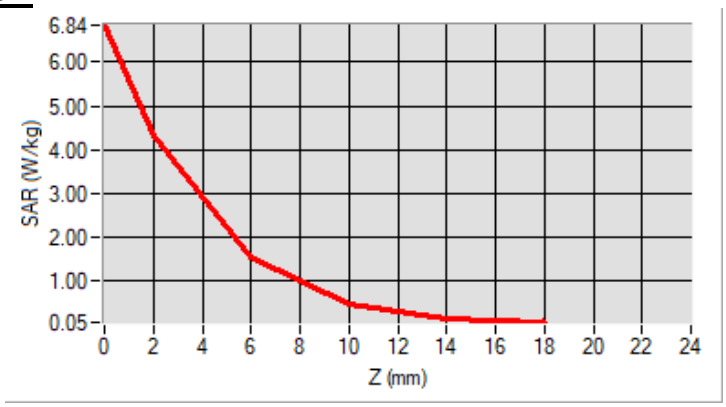
SURFACE SAR	VOLUME SAR
	

Maximum location: X=0.00, Y=0.00; SAR Peak: 6.91 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	2.102568
SAR 1g (W/Kg)	4.179306
Variation (%)	-0.520000

E. Z Axis Scan



System check at 2450 MHz

Date of measurement: 9/8/2021

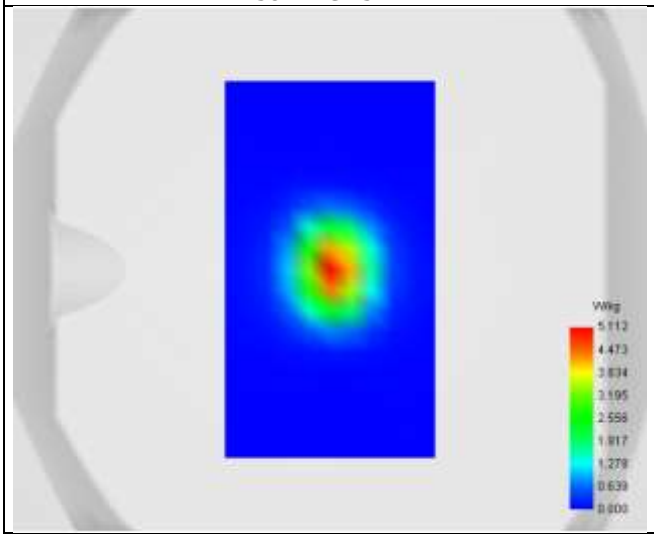
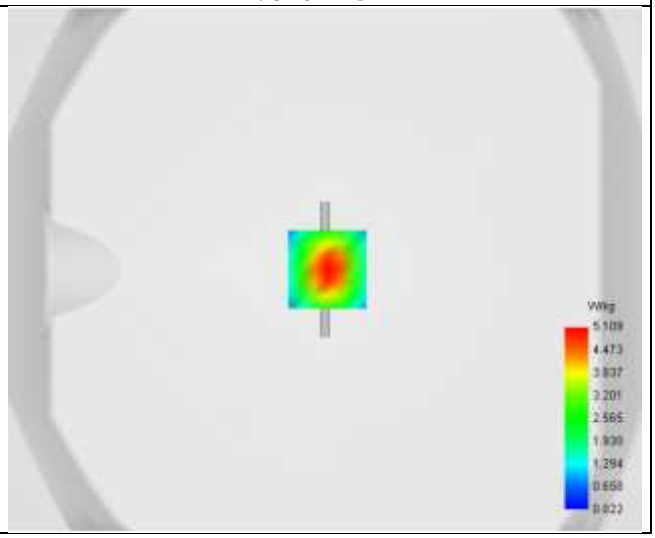
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.23
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2450.000000
Relative permitivity (real part)	39.662078
Conductivity (S/m)	1.783692

C. SAR Surface and Volume

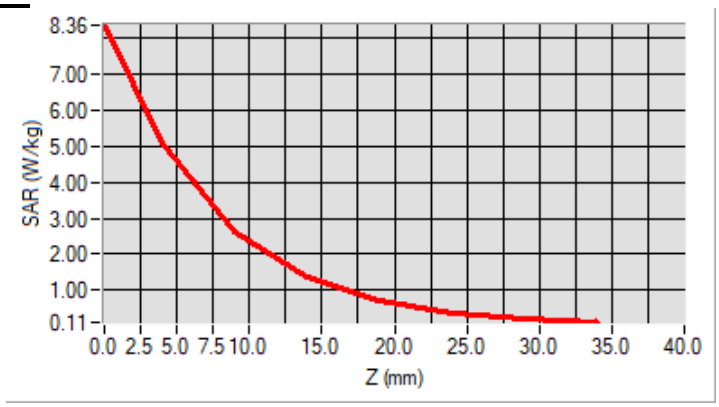
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00; SAR Peak: 9.11 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	2.329865
SAR 1g (W/Kg)	5.062170
Variation (%)	-1.950001

E. Z Axis Scan



System check at 2600 MHz

Date of measurement: 10/8/2021

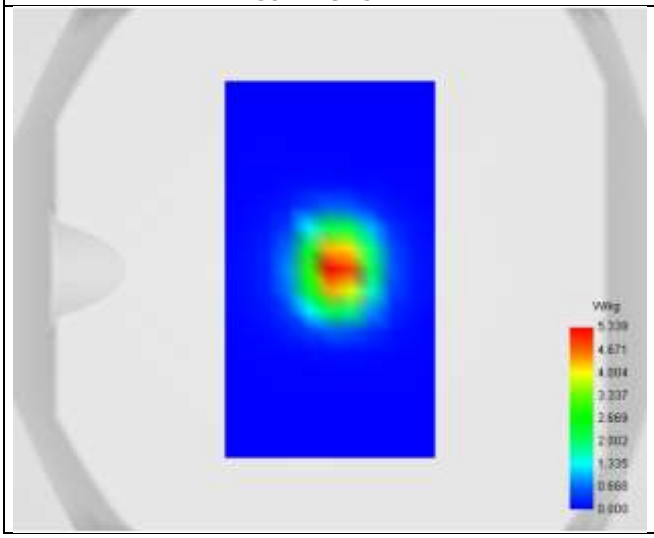
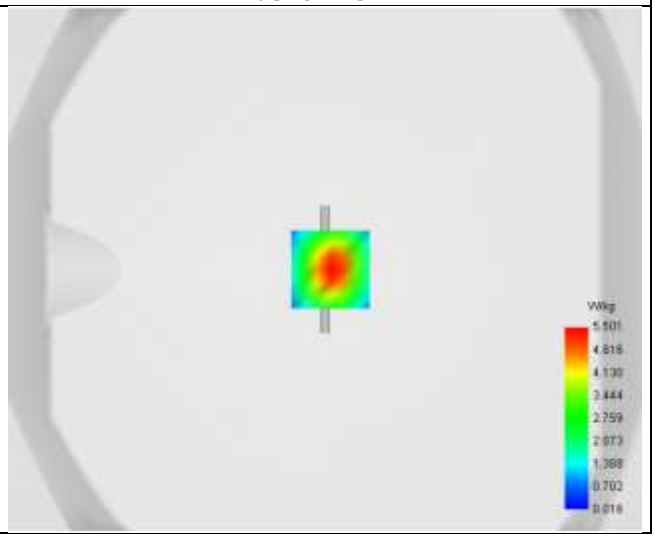
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.15
Area Scan	surf_sam_plan.txt
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Dipole
Band	CW2600
Channels	Middle
Signal	CW (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2600.000000
Relative permitivity (real part)	38.816590
Conductivity (S/m)	1.983417

C. SAR Surface and Volume

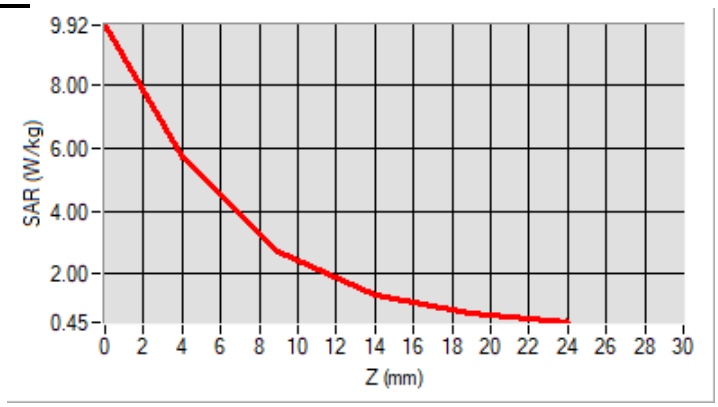
SURFACE SAR	VOLUME SAR
	

Maximum location: X=1.00, Y=0.00; SAR Peak: 10.08 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	2.510762
SAR 1g (W/Kg)	5.592704
Variation (%)	3.500001

E. Z Axis Scan



Appendix B: Plots of SAR Test Data

SAR Measurement at GSM850 (Cheek, Right)

Date of measurement: 13/8/2021

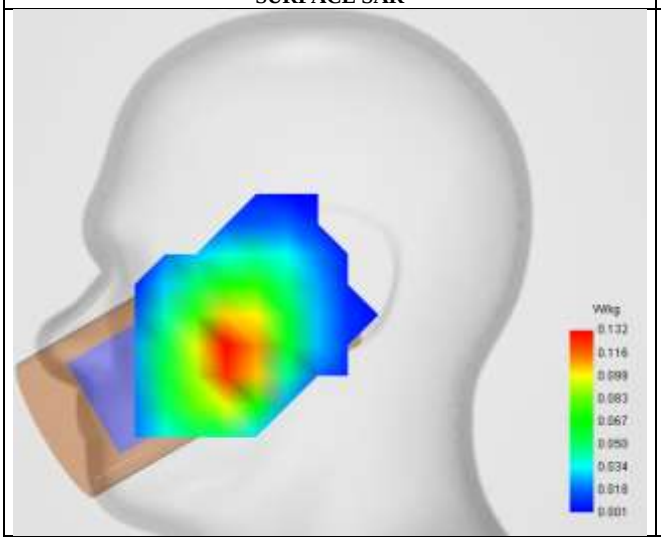
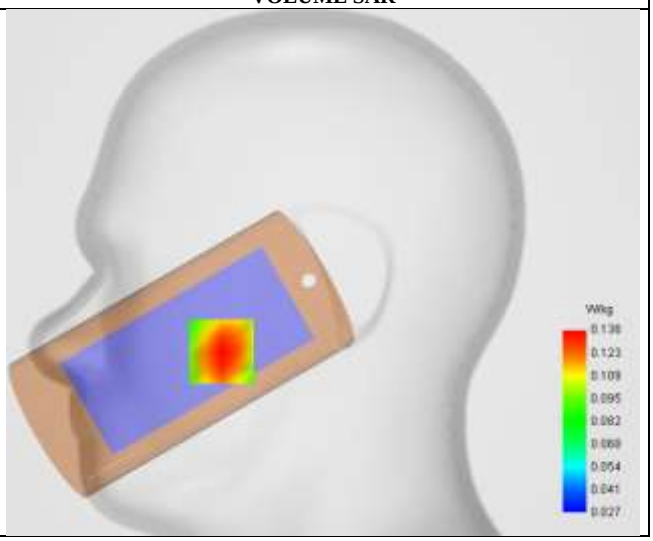
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

B. Permitivity

Frequency (MHz)	836.599976
Relative permitivity (real part)	41.813408
Conductivity (S/m)	0.917201

C. SAR Surface and Volume

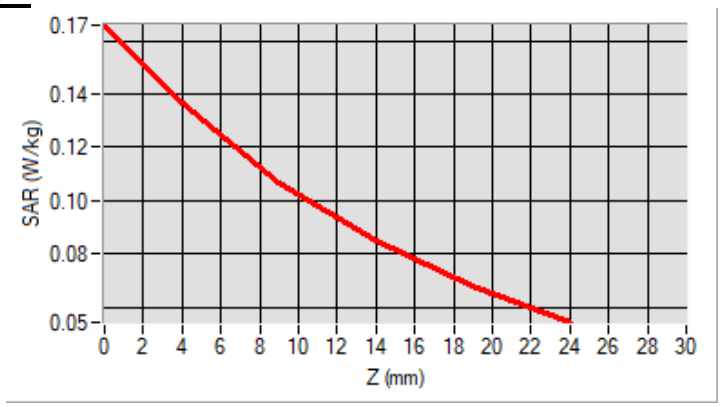
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-50.00, Y=-39.00 ; SAR Peak: 0.17 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.096429
SAR 1g (W/Kg)	0.131069
Variation (%)	0.650000

E. Z Axis Scan



SAR Measurement at GSM1900 (Tilt, Right)

Date of measurement: 19/8/2021

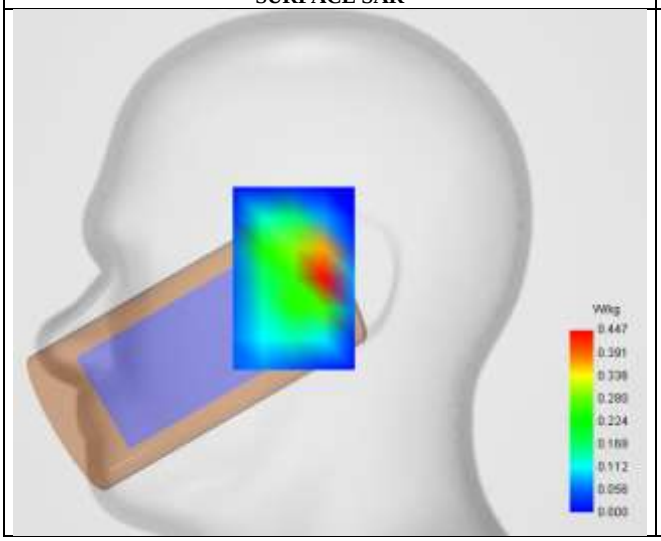
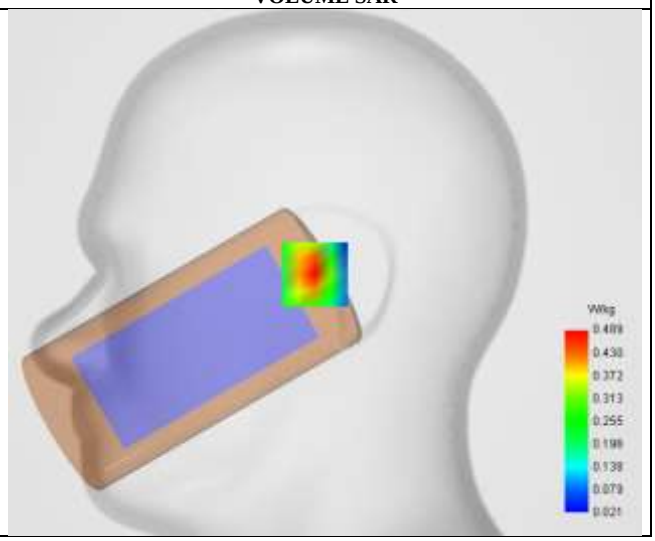
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Tilt
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 8.0)

B. Permitivity

Frequency (MHz)	1880.000000
Relative permitivity (real part)	39.431072
Conductivity (S/m)	1.405951

C. SAR Surface and Volume

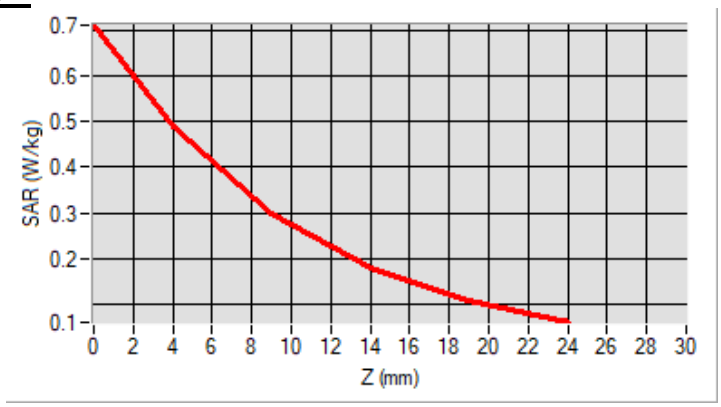
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-5.00, Y=-1.00 ; SAR Peak: 0.73 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.248038
SAR 1g (W/Kg)	0.455127
Variation (%)	1.430000

E. Z Axis Scan



SAR Measurement at Band5_WCDMA850 (Cheek, Right)

Date of measurement: 13/8/2021

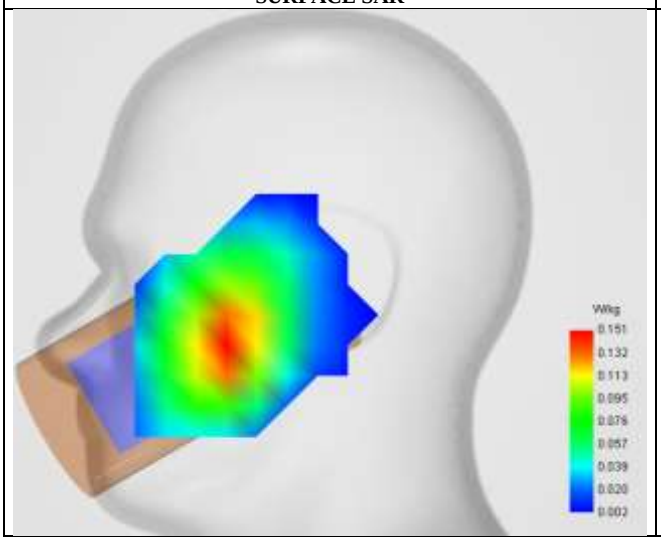
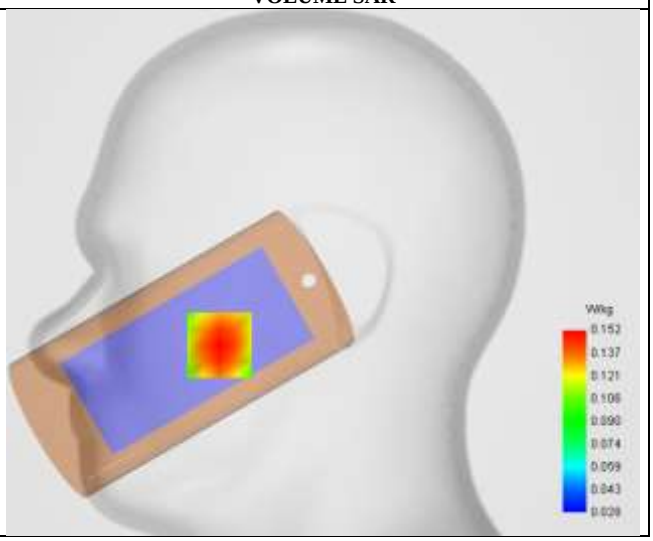
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	Band5_WCDMA850
Channels	High
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	846.599976
Relative permitivity (real part)	41.772807
onductivity (S/m)	0.937158

C. SAR Surface and Volume

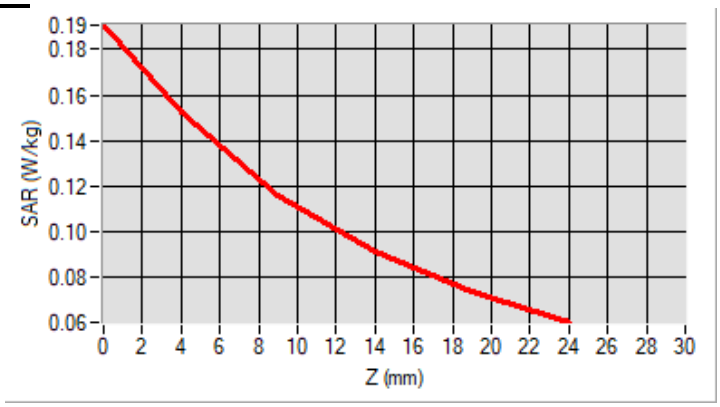
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-36.00 ; SAR Peak: 0.19 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.107002
SAR 1g (W/Kg)	0.146495
Variation (%)	-0.540000

E. Z Axis Scan



SAR Measurement at Band4_WCDMA1700 (Tilt, Left)

Date of measurement: 18/8/2021

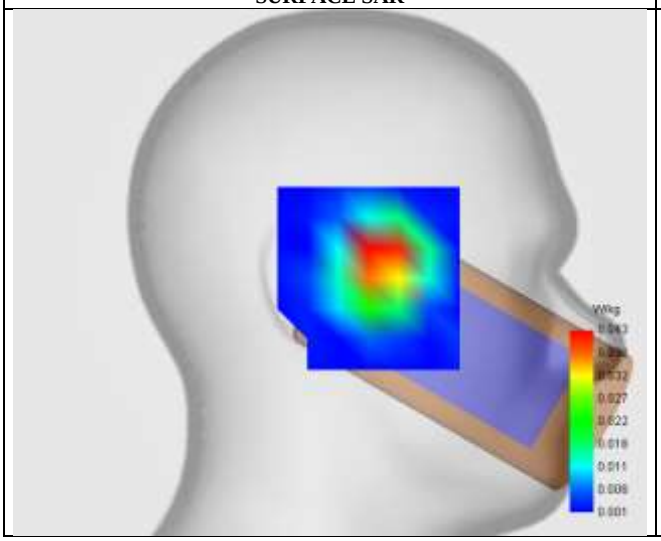
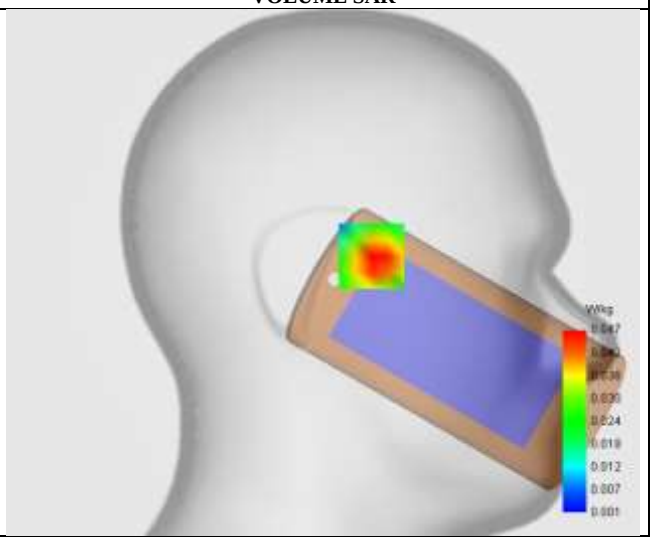
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.07
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Tilt
Band	Band4_WCDMA1700
Channels	Middle
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1732.599976
Relative permitivity (real part)	39.856951
Conductivity (S/m)	1.358307

C. SAR Surface and Volume

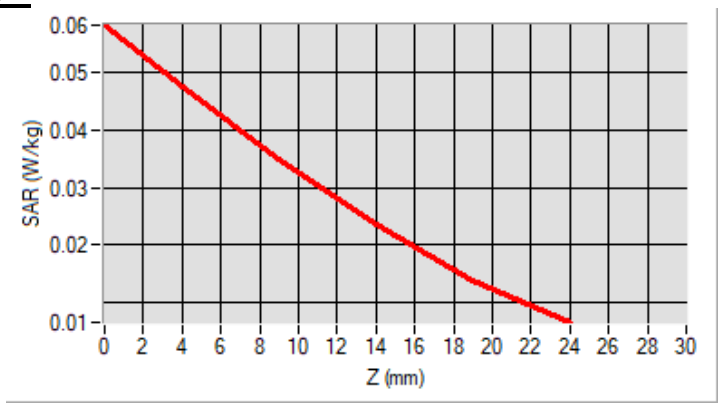
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-24.00, Y=8.00 ; SAR Peak: 0.06 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.028022
SAR 1g (W/Kg)	0.045516
Variation (%)	-1.400000

E. Z Axis Scan



SAR Measurement at Band2_WCDMA1900 (Tilt, Left)

Date of measurement: 19/8/2021

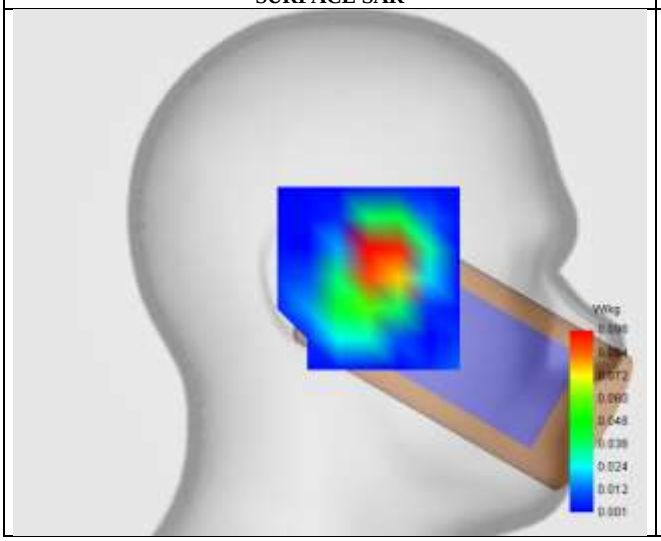
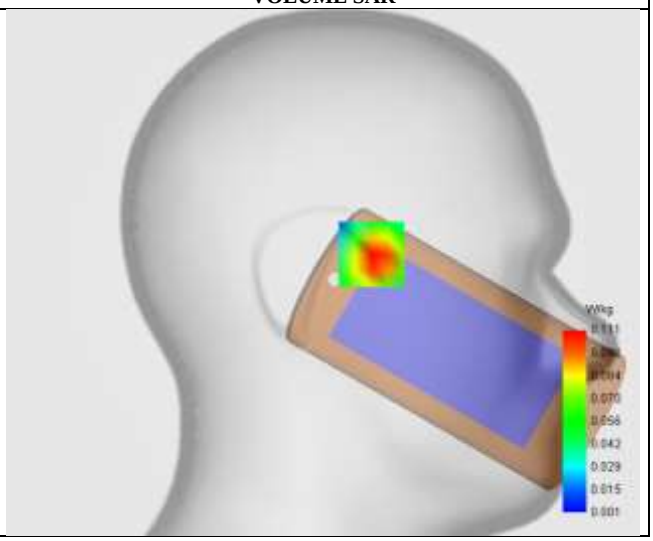
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Tilt
Band	Band2_WCDMA1900
Channels	Low
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1852.400024
Relative permitivity (real part)	39.498061
Conductivity (S/m)	1.397940

C. SAR Surface and Volume

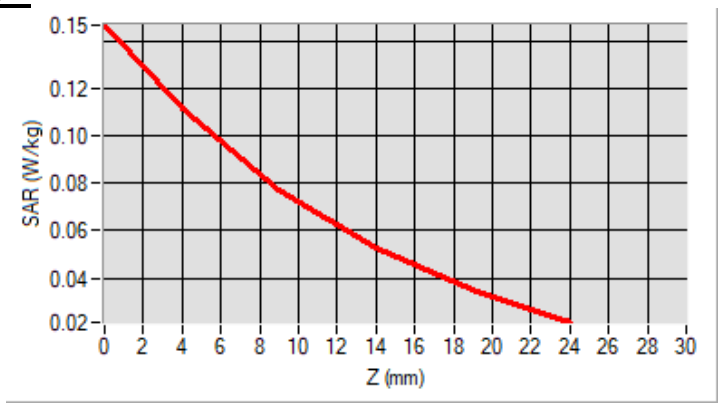
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-24.00, Y=9.00 ; SAR Peak: 0.15 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.063289
SAR 1g (W/Kg)	0.105914
Variation (%)	-2.300000

E. Z Axis Scan



SAR Measurement at LTE band 2 (Cheek, Right)

Date of measurement: 19/8/2021

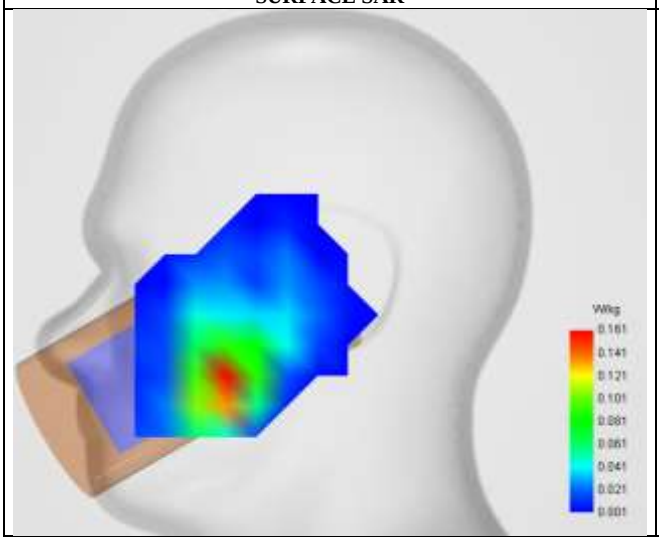
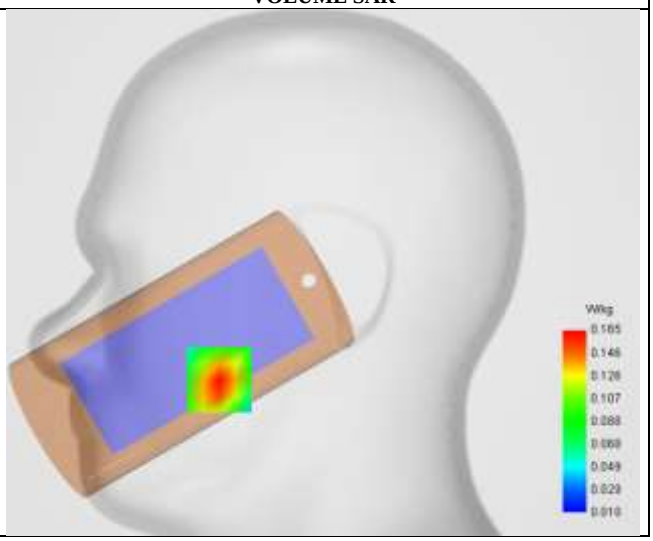
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 2
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1880.000000
Relative permitivity (real part)	39.764095
Conductivity (S/m)	1.411806

C. SAR Surface and Volume

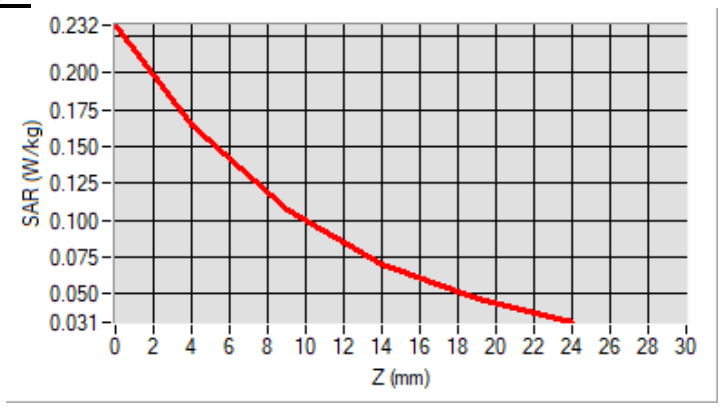
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-53.00 ; SAR Peak: 0.23 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.091429
SAR 1g (W/Kg)	0.154756
Variation (%)	-3.690000

E. Z Axis Scan



SAR Measurement at LTE band 4 (Cheek, Right)

Date of measurement: 18/8/2021

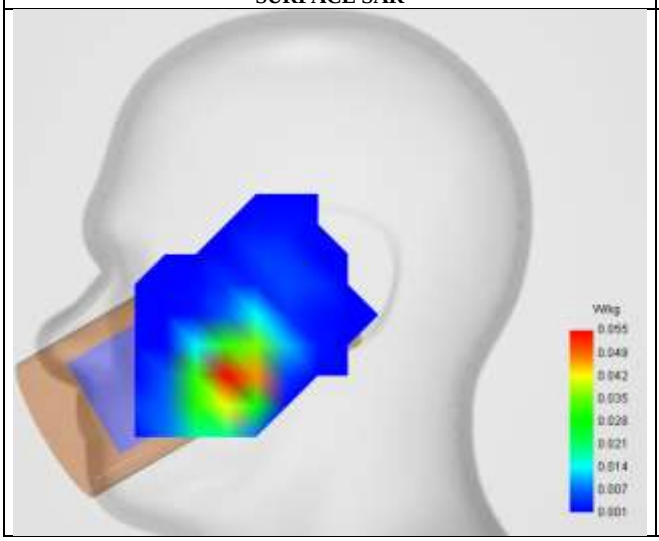
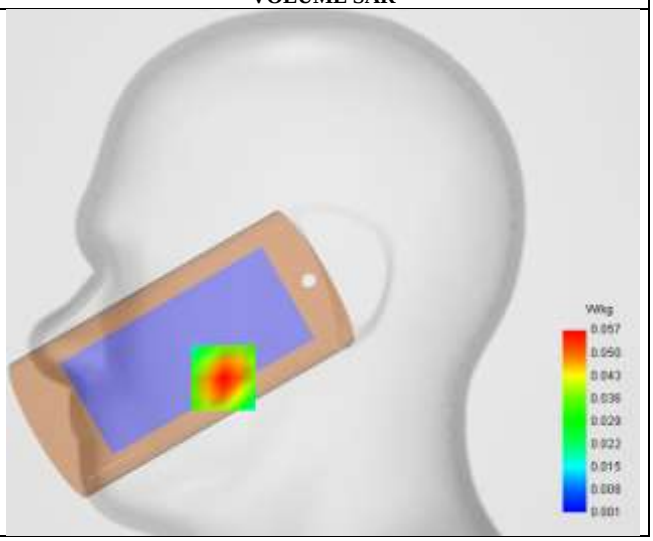
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.07
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 4
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1732.500000
Relative permitivity (real part)	39.857265
Conductivity (S/m)	1.358307

C. SAR Surface and Volume

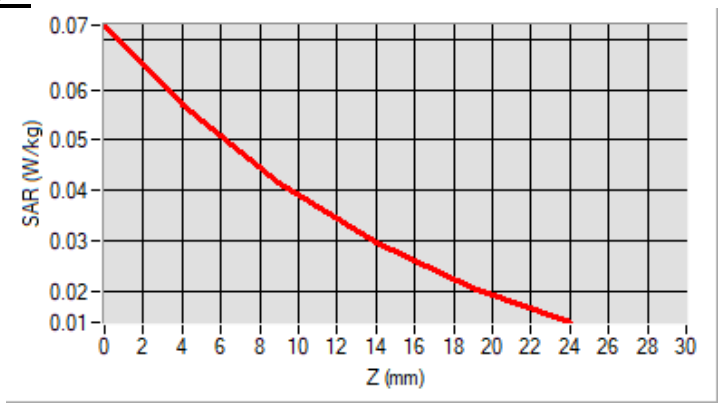
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-49.00, Y=-52.00 ; SAR Peak: 0.07 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.033569
SAR 1g (W/Kg)	0.053765
Variation (%)	-2.510000

E. Z Axis Scan



SAR Measurement at LTE band 5 (Cheek, Left)

Date of measurement: 13/8/2021

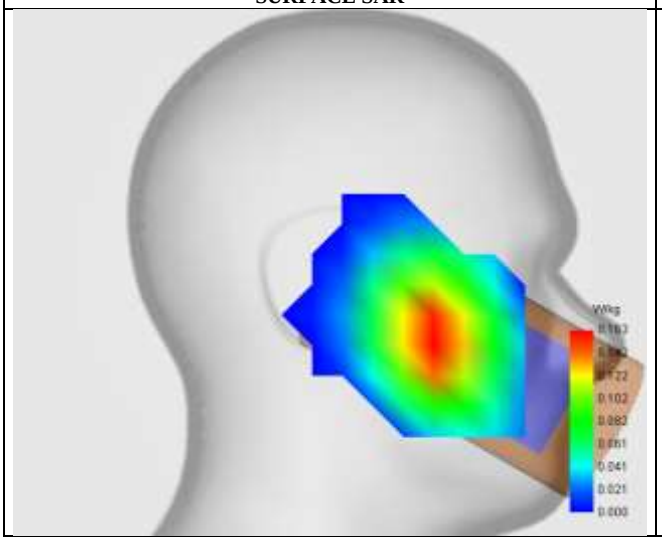
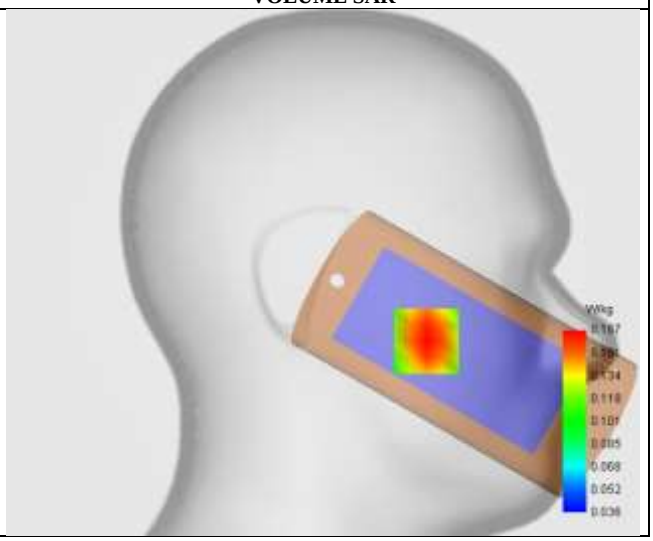
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 5
Channels	High
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	844.000000
Relative permitivity (real part)	41.178195
Conductivity (S/m)	0.915384

C. SAR Surface and Volume

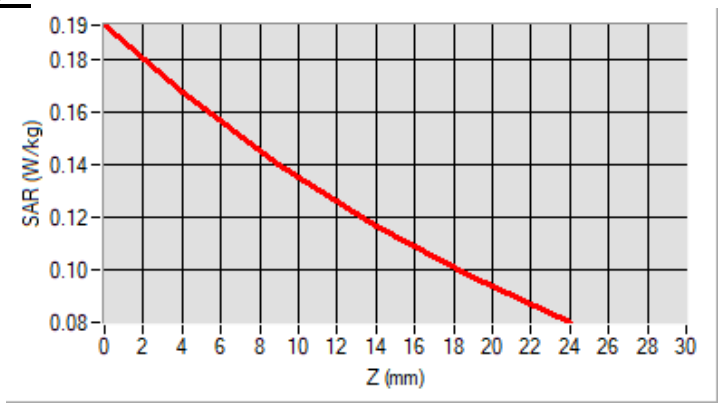
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-34.00 ; SAR Peak: 0.19 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.125716
SAR 1g (W/Kg)	0.161584
Variation (%)	-3.160000

E. Z Axis Scan



SAR Measurement at LTE band 12 (Cheek, Left)

Date of measurement: 13/8/2021

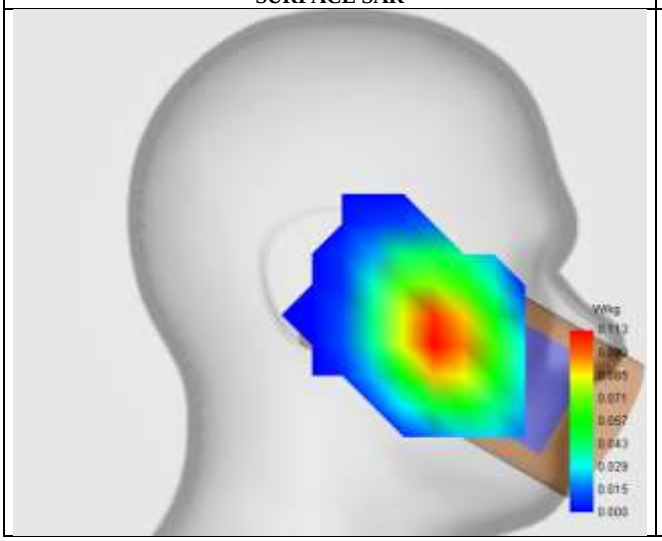
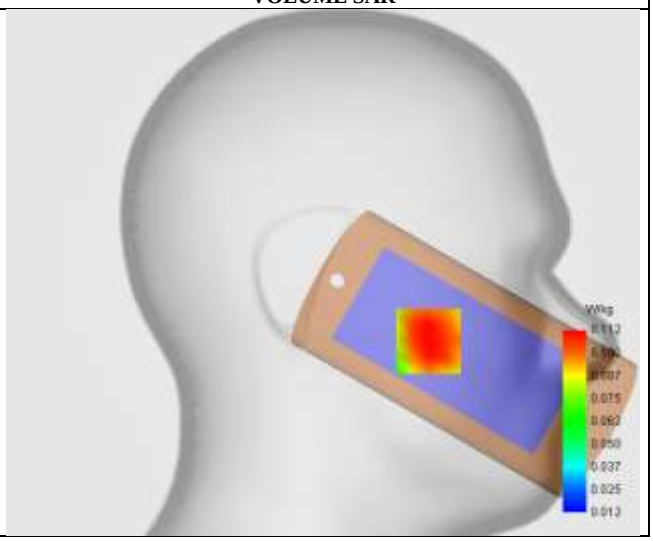
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.73
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 12
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	707.500000
Relative permitivity (real part)	41.708916
Conductivity (S/m)	0.858156

C. SAR Surface and Volume

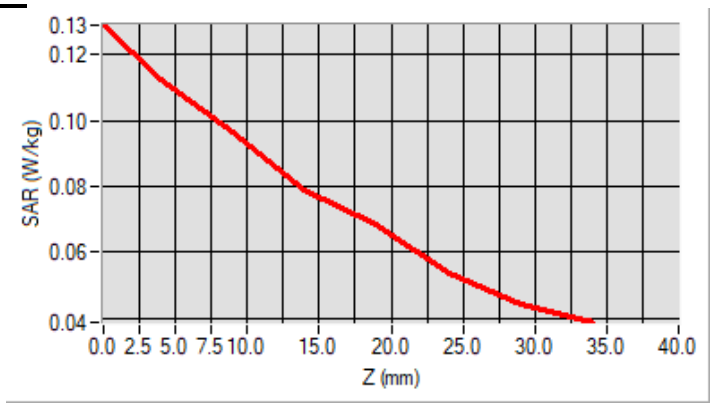
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-52.00, Y=-34.00 ; SAR Peak: 0.13 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.088450
SAR 1g (W/Kg)	0.112445
Variation (%)	-3.120000

E. Z Axis Scan



SAR Measurement at LTE band 13 (Cheek, Left)

Date of measurement: 14/8/2021

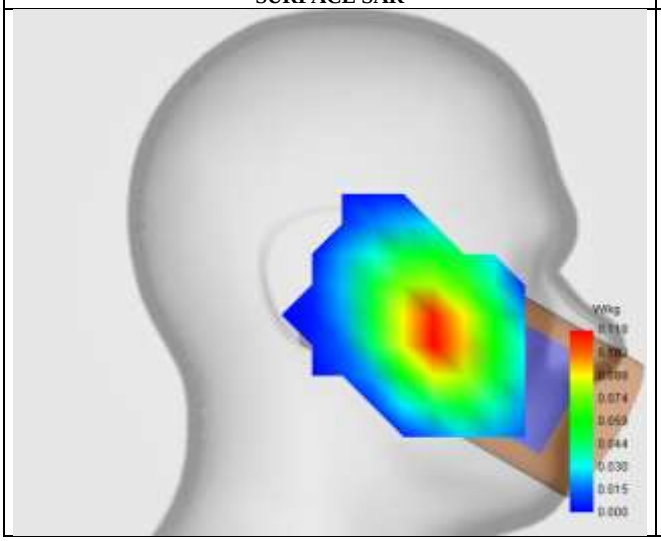
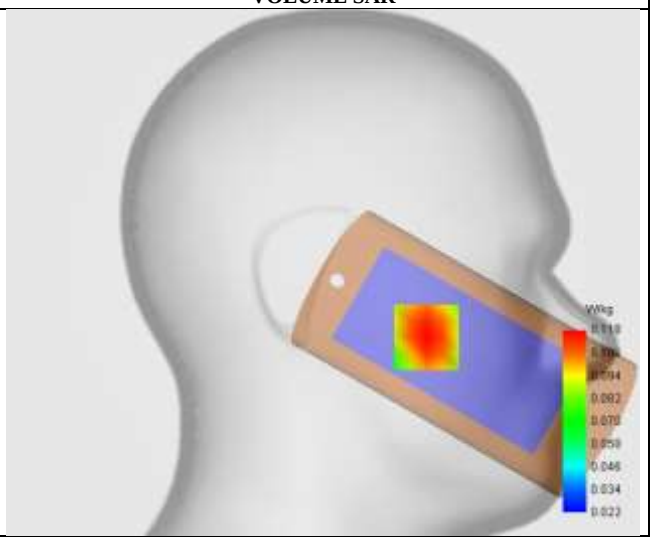
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.73
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 13
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	782.000000
Relative permitivity (real part)	41.371954
Conductivity (S/m)	0.891362

C. SAR Surface and Volume

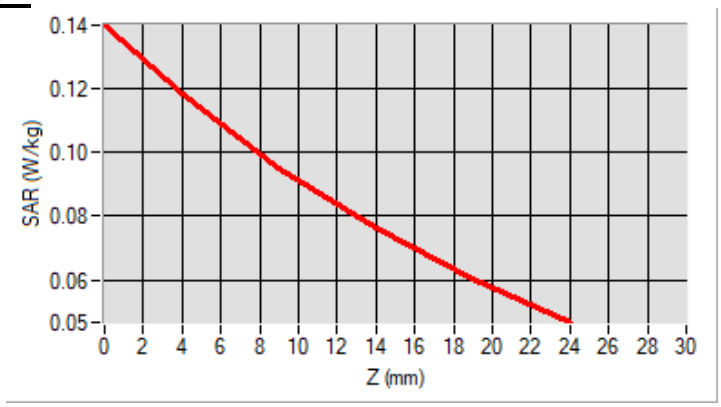
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-32.00 ; SAR Peak: 0.14 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.085640
SAR 1g (W/Kg)	0.114044
Variation (%)	-2.200000

E. Z Axis Scan



SAR Measurement at LTE band 25 (Cheek, Right)

Date of measurement: 19/8/2021

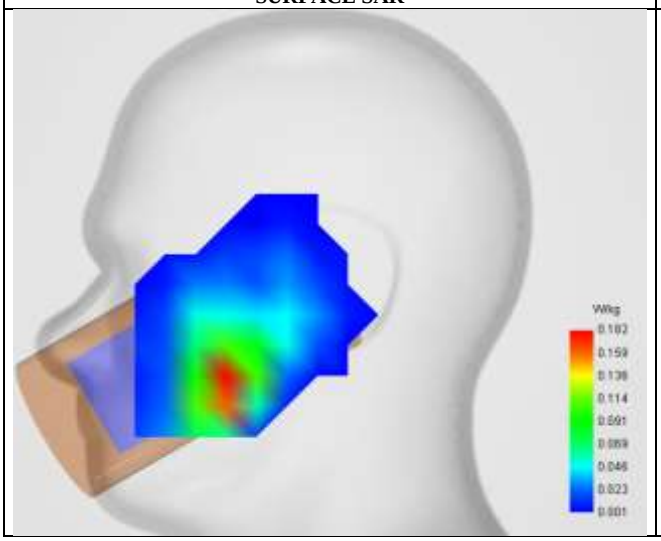
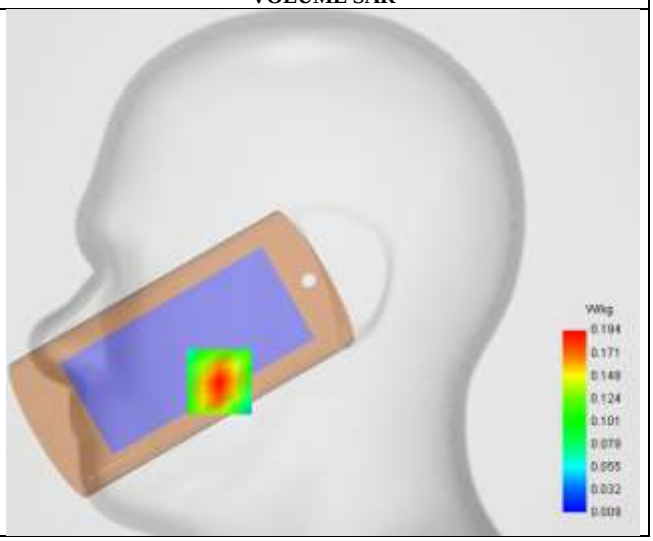
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 25
Channels	Middle
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1882.500000
Relative permitivity (real part)	39.755281
Conductivity (S/m)	1.415257

C. SAR Surface and Volume

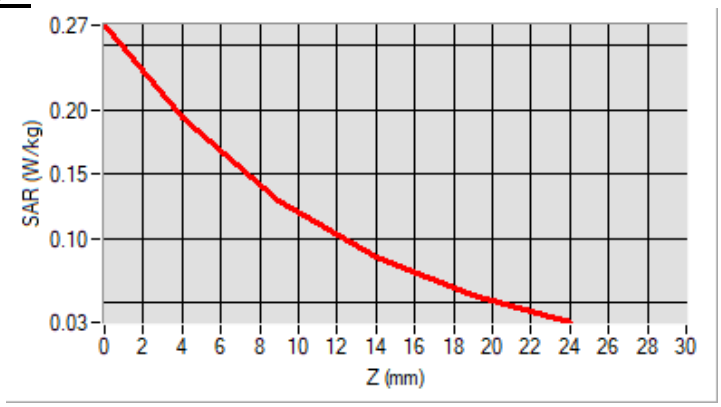
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-51.00, Y=-54.00 ; SAR Peak: 0.27 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.106843
SAR 1g (W/Kg)	0.180873
Variation (%)	1.030000

E. Z Axis Scan



SAR Measurement at CUSTOM (LTE_Band_26) (Cheek, Left)

Date of measurement: 13/8/2021

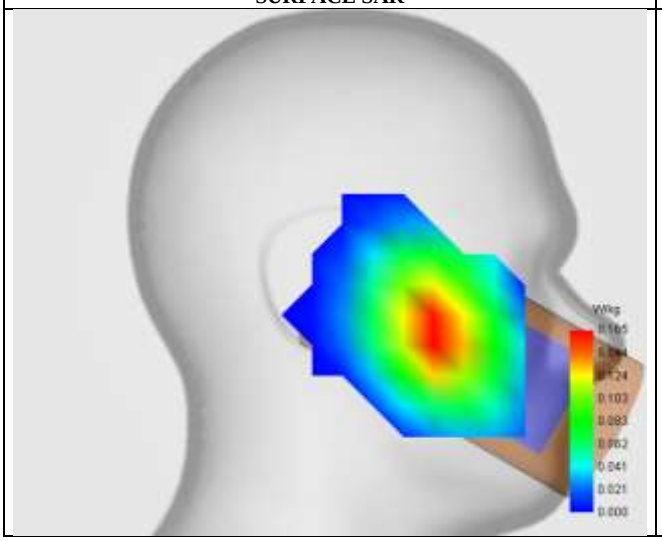
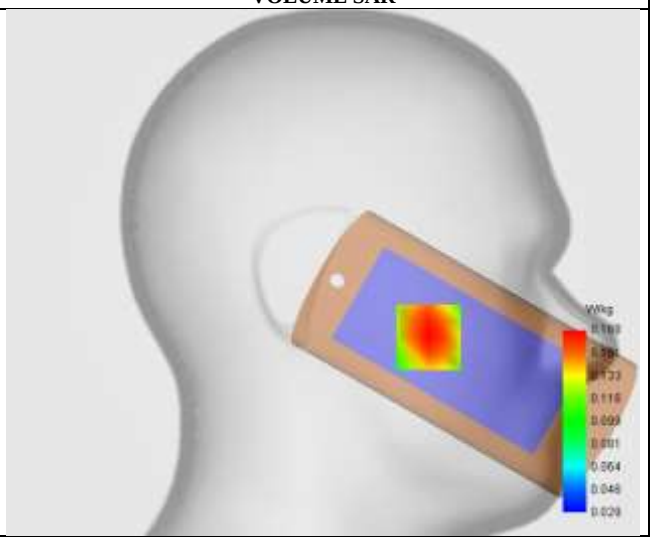
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.73
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	LTE band 26
Channels	High
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	841.500000
Relative permitivity (real part)	41.193252
Conductivity (S/m)	0.913927

C. SAR Surface and Volume

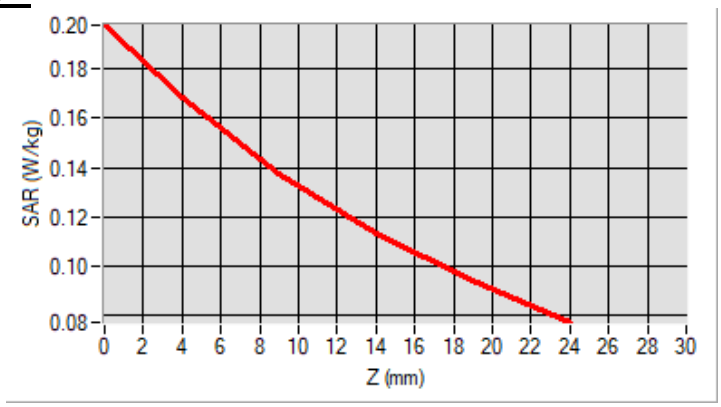
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-52.00, Y=-32.00 ; SAR Peak: 0.20 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.125075
SAR 1g (W/Kg)	0.162632
Variation (%)	2.990000

E. Z Axis Scan



SAR Measurement at LTE band 41 (Tilt, Right)

Date of measurement: 11/8/2021

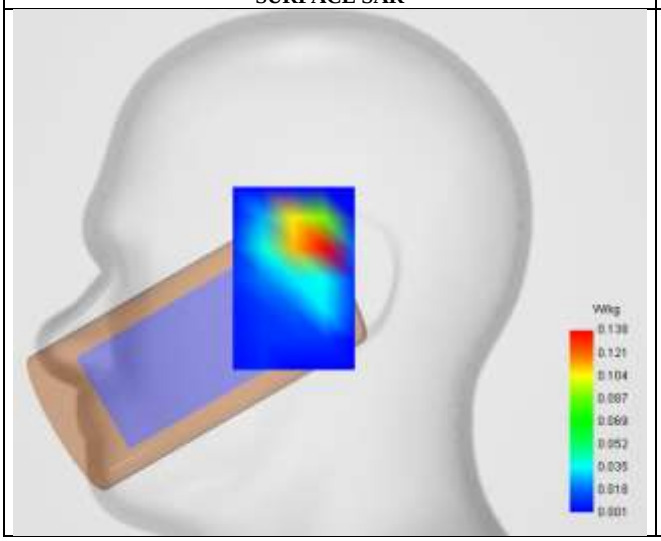
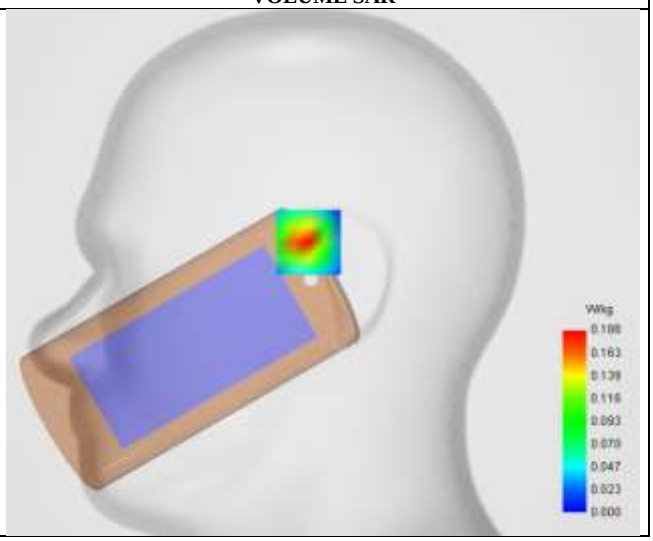
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.15
Area Scan	dx=12mm dy=12mm
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Right head
Device Position	Tilt
Band	LTE band 41
Channels	High
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2645.000000
Relative permitivity (real part)	39.739148
Conductivity (S/m)	2.002085

C. SAR Surface and Volume

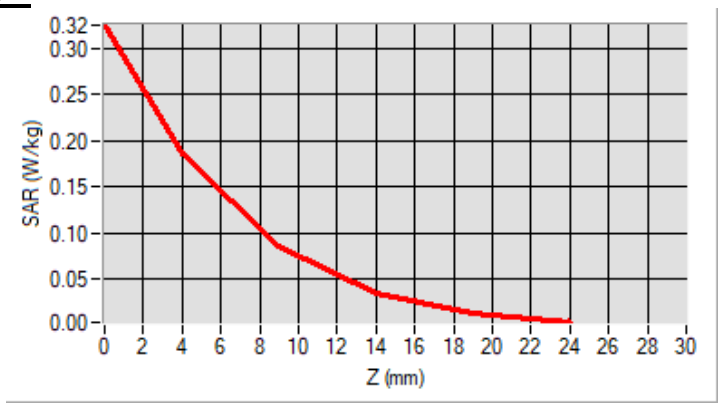
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-7.00, Y=15.00 ; SAR Peak: 0.33 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.073770
SAR 1g (W/Kg)	0.170857
Variation (%)	-2.500000

E. Z Axis Scan



SAR Measurement at CUSTOM (LTEBand66) (Cheek, Right)

Date of measurement: 18/8/2021

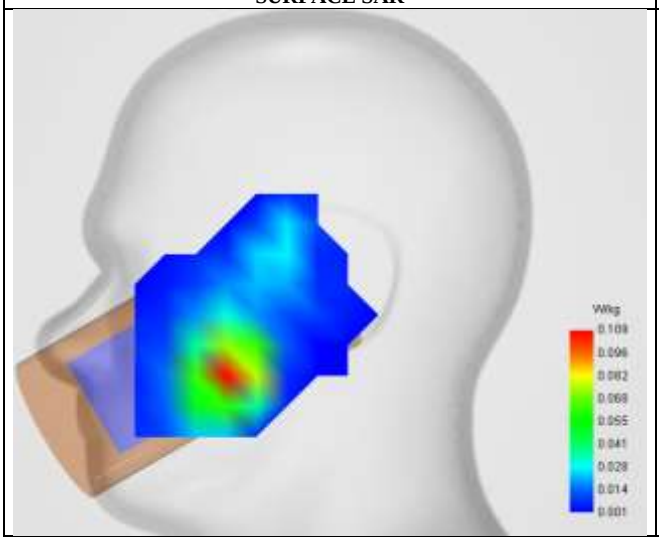
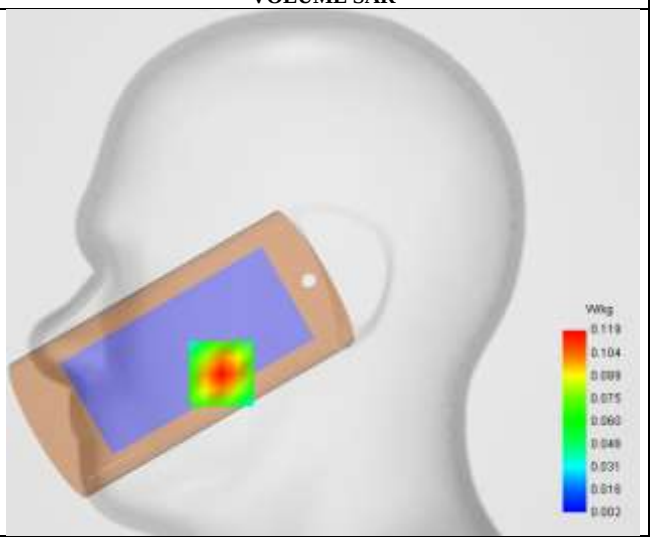
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.07
Area Scan	dx=15mm dy=15mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Right head
Device Position	Cheek
Band	LTE band 66
Channels	High
Signal	LTE (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	1770.000000
Relative permitivity (real part)	39.714031
Conductivity (S/m)	1.373817

C. SAR Surface and Volume

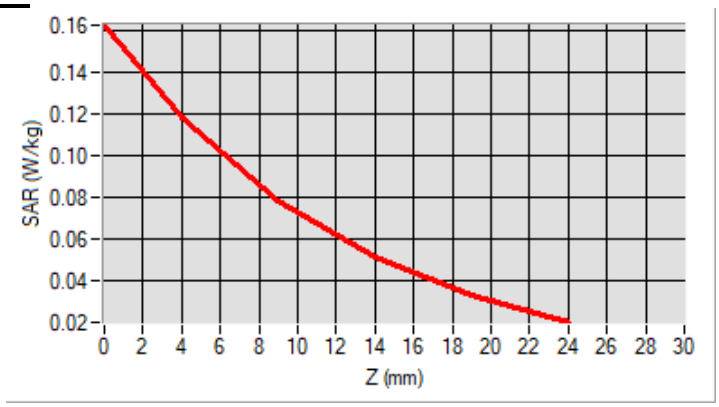
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-50.00, Y=-50.00 ; SAR Peak: 0.16 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.064741
SAR 1g (W/Kg)	0.110451
Variation (%)	2.270000

E. Z Axis Scan



SAR Measurement at IEEE 802.11b ISM (Cheek, Left)

Date of measurement: 9/8/2021

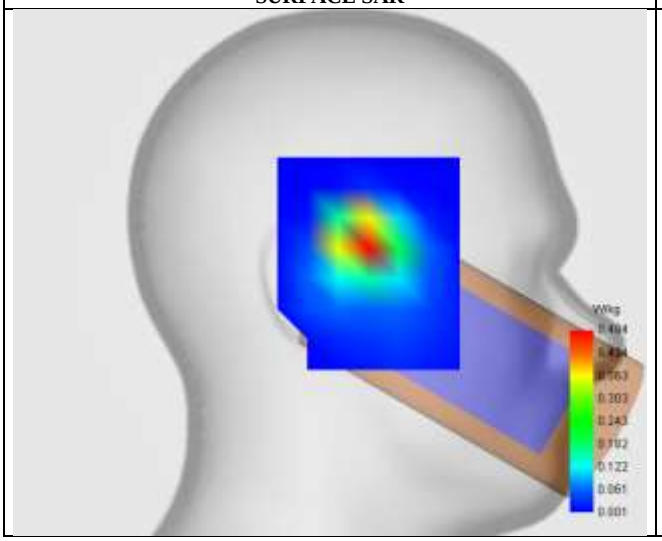
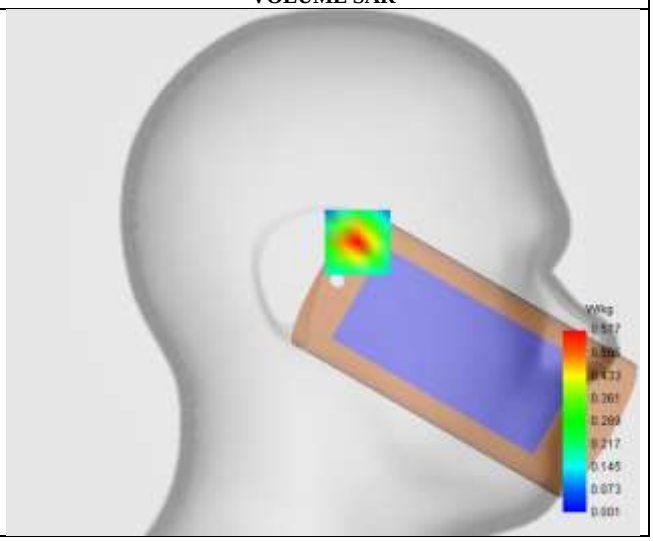
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.23
Area Scan	dx=12mm dy=12mm
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	IEEE 802.11b ISM
Channels	High
Signal	IEEE802.b (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2462.000000
Relative permitivity (real part)	39.607149
Conductivity (S/m)	1.800926

C. SAR Surface and Volume

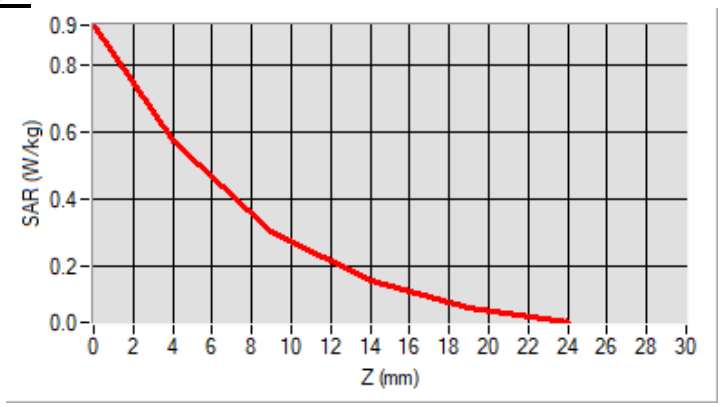
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-17.00, Y=15.00 ; SAR Peak: 0.93 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.252664
SAR 1g (W/Kg)	0.525825
Variation (%)	-3.330000

E. Z Axis Scan



SAR Measurement at Bluetooth (Cheek, Left)

Date of measurement: 10/8/2021

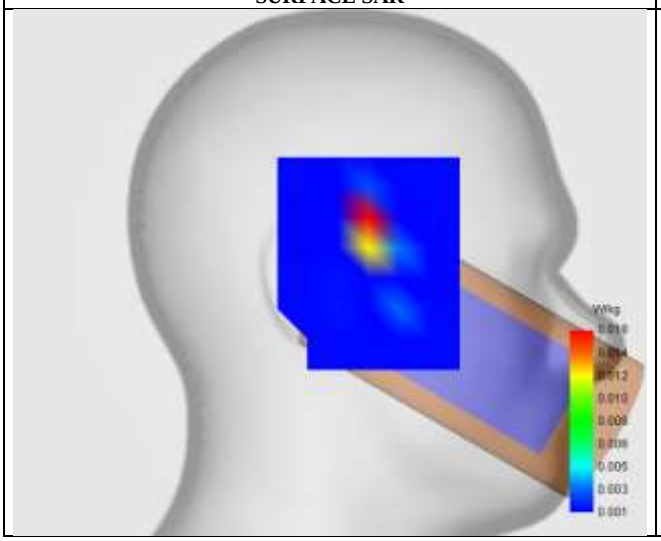
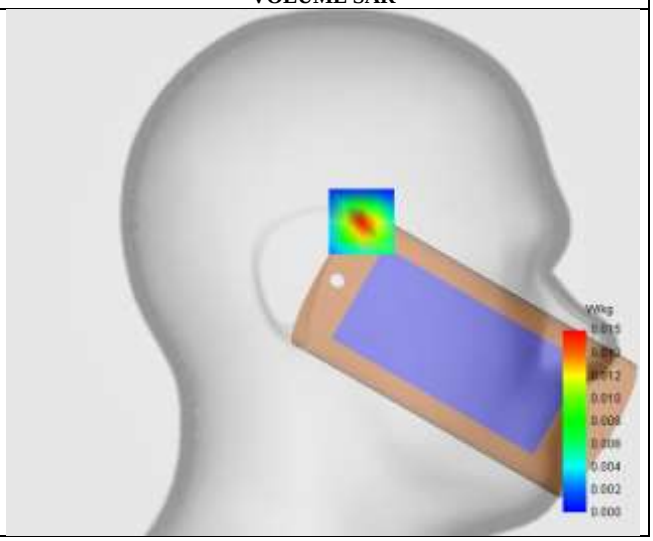
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.23
Area Scan	dx=12mm dy=12mm
Zoom Scan	7x7x7,dx=5mm dy=5mm dz=5mm,Complete
Phantom	Left head
Device Position	Cheek
Band	Bluetooth
Channels	Low
Signal	Bluetooth (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	2402.000000
Relative permitivity (real part)	39.779041
Conductivity (S/m)	1.758090

C. SAR Surface and Volume

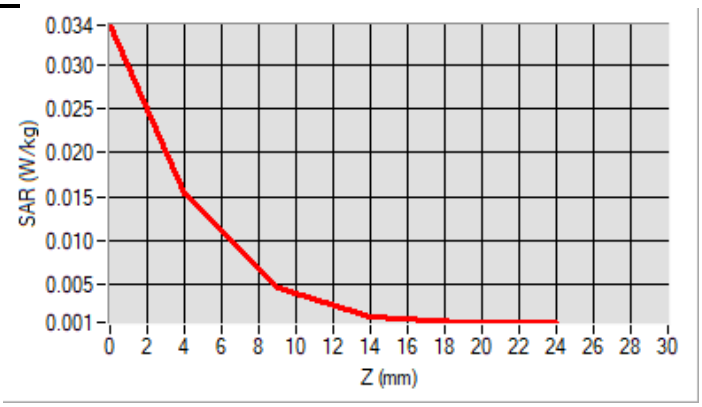
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-19.00, Y=25.00 ; SAR Peak: 0.03 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.005513
SAR 1g (W/Kg)	0.014367
Variation (%)	-2.540000

E. Z Axis Scan



SAR Measurement at CUSTOM (GPRS8504Txslot) (Body, Validation Plane)

Date of measurement: 12/8/2021

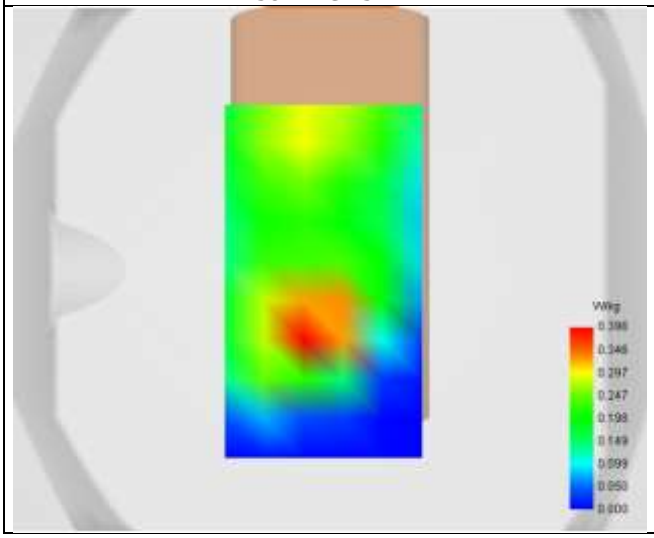
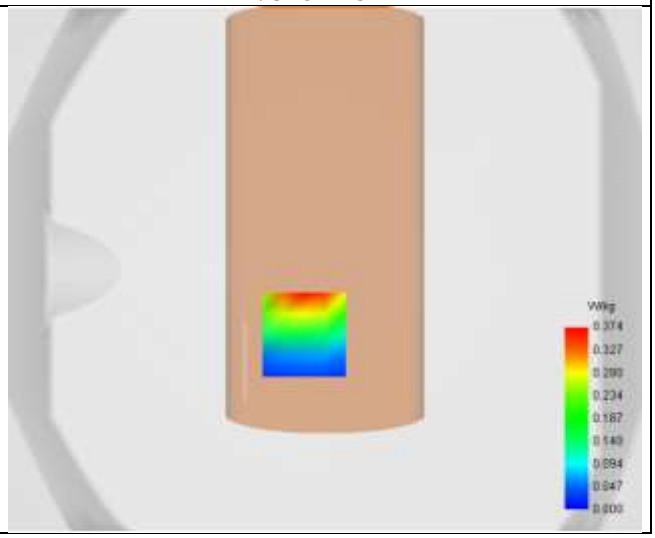
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GSM850
Channels	Middle
Signal	TDMA (Crest factor: 2.0)

B. Permitivity

Frequency (MHz)	836.599976
Relative permitivity (real part)	41.813408
Conductivity (S/m)	0.917201

C. SAR Surface and Volume

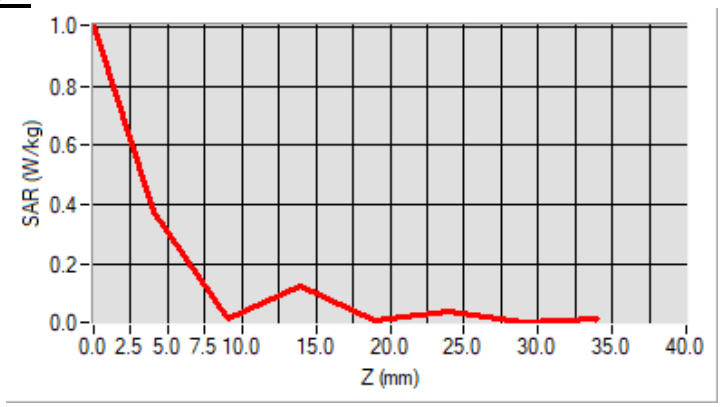
SURFACE SAR	VOLUME SAR
	

Maximum location: X=-8.00, Y=-25.00 ; SAR Peak: 0.57 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.143723
SAR 1g (W/Kg)	0.324578
Variation (%)	-1.930000

E. Z Axis Scan



SAR Measurement at CUSTOM (GPRS19004Txslot) (Body, Validation Plane)

Date of measurement: 19/8/2021

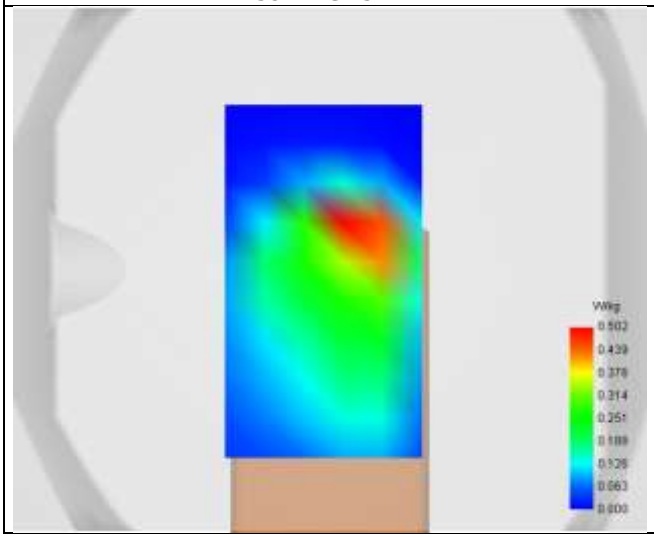
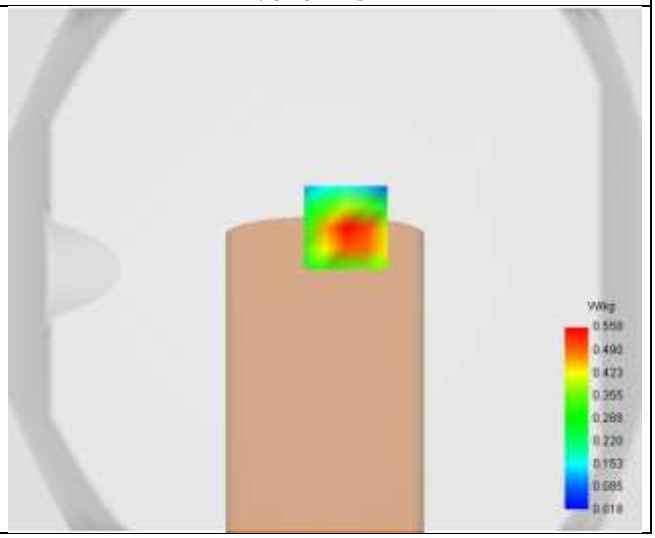
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	2.14
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	GSM1900
Channels	Middle
Signal	TDMA (Crest factor: 2.0)

B. Permitivity

Frequency (MHz)	1880.000000
Relative permitivity (real part)	39.431072
Conductivity (S/m)	1.405951

C. SAR Surface and Volume

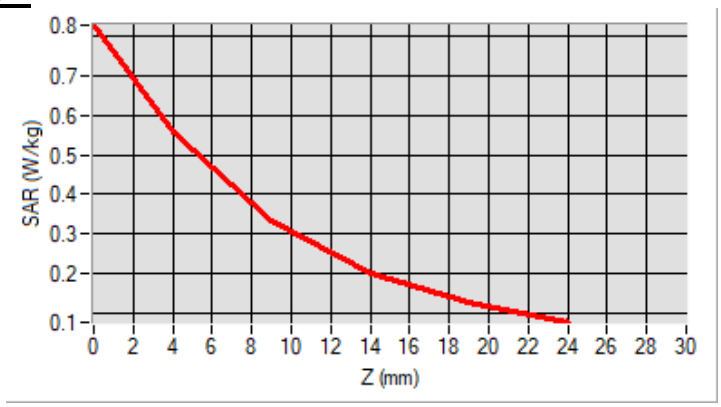
SURFACE SAR	VOLUME SAR
	

Maximum location: X=8.00, Y=16.00 ; SAR Peak: 0.85 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.294417
SAR 1g (W/Kg)	0.526733
Variation (%)	-2.520000

E. Z Axis Scan



SAR Measurement at Band5_WCDMA850 (Body, Validation Plane)

Date of measurement: 13/8/2021

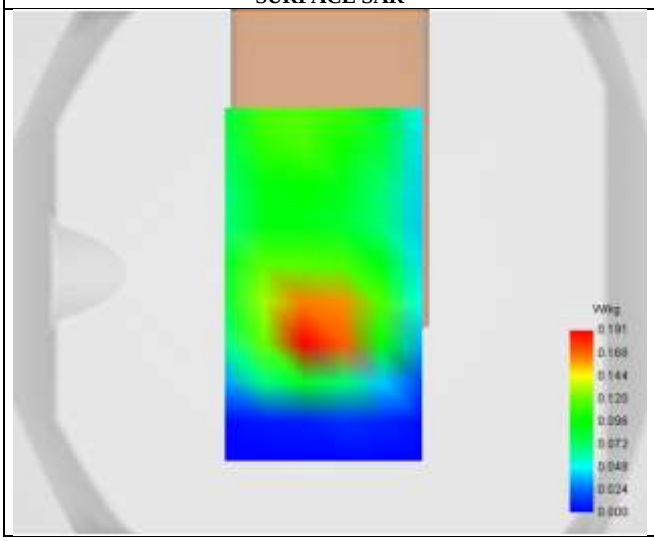
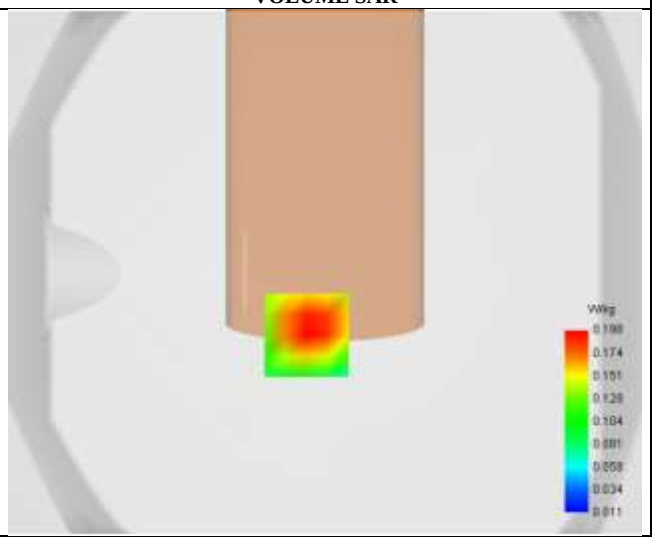
A. Experimental conditions.

Probe	SN 18/21 EPGO354
ConvF	1.68
Area Scan	surf_sam_plan.txt
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm,Complete
Phantom	Validation plane
Device Position	Body
Band	Band5_WCDMA850
Channels	High
Signal	WCDMA (Crest factor: 1.0)

B. Permitivity

Frequency (MHz)	846.599976
Relative permitivity (real part)	41.772807
Conductivity (S/m)	0.937158

C. SAR Surface and Volume

SURFACE SAR	VOLUME SAR
	

Maximum location: X=-7.00, Y=-24.00 ; SAR Peak: 0.30 W/kg

D. SAR 1g & 10g

SAR 10g (W/Kg)	0.113076
SAR 1g (W/Kg)	0.189124
Variation (%)	-1.500000

E. Z Axis Scan