Industrial Internet Innovation Center (Shanghai) Co.,Ltd.

SAR TEST REPORT

PRODUCT	Smart POS system
BRAND	SUNMI
MODEL	T6900
APPLICANT	Shanghai Sunmi Technology Co.,Ltd.
ISSUE DATE	January 11, 2023
STANDARD(S)	ANSI/IEEE C95.1-1992, IEEE std 1528-2013, RSS 102:2015 Issue 5, IEC/IEEE 62209-1528:2020

Prepared by: Chen Jintao **Reviewed by: Yan Hang** **Approved by: Zhang Min**

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CONTENTS

1 Summary of Test Report

1.1 Test Standard (s)

No.	Test Standard(s)	Title	Version
1	ANSI C95.1	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.	1992
2	IEEE Std 1528	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Body Due to Wireless Communications Devices: Experimental Techniques.	2013
3	IEC/IEEE 62209-1528	Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices – Part 1528: Human models, instrumentation, and procedures (Frequency range of 4 MHz to 10 GHz)	2020
4	RSS 102	Radio Frequency (RF) Exposure Compliance of Radio communication Apparatus (All Frequency Bands)	2015 Issue 5

1.2 Reference Documents

No.	Reference Document(s)	Title	Version
1	KDB248227	802.11 Wi-Fi SAR	D01 v02r02
2	KDB447498	General RF Exposure Guidance	D01 v06
3	KDB865664	SAR Measurement 100 MHz to 6 GHz	D01 v01r04
4	KDB865664	RF Exposure Reporting	D02 v01r02
5	KDB941225	3G SAR Procedures	D01 v03r01
6	KDB941225	SAR for LTE Devices	D05 v02r05
7	KDB941225	Hotspot SAR	D06 v02r01
8	KDB616217	SAR for laptop and tablets	D04 v01r02

1.3 Summary of Test Results

1.3.1 The maximum results of Specific Absorption Rate (SAR) in standalone mode are as follows.

Band	Reported SAR 1g(W/Kg)	Reported SAR 10g(W/Kg)	Detailed Results
	Body-Worn&Hotspot(5mm)	Limb(0mm)	
GSM850	0.246	0.255	See section 14.1
GSM1900	0.920	0.347	See section 14.1
WCDMA Band II	1.203	0.632	See section 14.1
WCDMA BandIV	1.167	0.630	See section 14.1
WCDMA Band V	0.621	0.706	See section 14.1
LTE Band 2	1.157	0.924	See section 14.1
LTE Band 4	**1.254**	0.670	See section 14.1
LTE Band 5	0.674	0.587	See section 14.1
LTE Band 7	1.142	**1.395**	See section 14.1
LTE Band 17	0.624	0.632	See section 14.1
LTE Band 41	0.866	0.729	See section 14.1
Wi-Fi 2.4G	0.630	0.748	See section 14.1
Wi-Fi 5G	0.513	0.455	See section 14.1
BT	0.068	0.052	See section 14.1

NOTE1:The T6900 manufactured by Shanghai Sunmi Technology Co.,Ltd. is a new product for testing.
NOTE2:This project has seven sets of configured samples S11aa/S12aa (Main supply), among which the s11aa/s12aa samples are the main test and the other configurations(S15aa/S01aa/S04aa/S22aa) tests the worst mode of SAR.
NOTE3:The device implements proximity sensor trigger reduced power for SAR compliance at different exposure conditions, which can refer to chapter 13.1.
NOTE4:The device supports LTE B38 and B41, Since the supported frequency span for LTE B38 falls completely within the supports frequency span for LTE B41, both LTE bands have the same target power, and both LTE bands share the same transmission path, therefore, SAR was only assessed for LTE B41.
NOTE5:Industrial Internet Innovation Center (Shanghai) Co., Ltd. has verified that the compliance of the tested device specified in section 4 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 1 of this test report.

1.3.2 The maximum results of Specific Absorption Rate (SAR) in simultaneous mode are as follows.

Highest Reported SAR 1g(W/kg)			
Mode	**Position**	**Simultaneous Transmission SAR**	**Detailed Results**
LTE B4&Wi-Fi 5G	Body-Worn&Hotspot(5mm)	1.449	See section 14.2
Highest Reported SAR 10g(W/kg)			
LTE B7&Wi-Fi 5G	Limb(0mm)	1.395	See section 14.2

2 General Information of The Laboratory

2.1 Testing Laboratory

Lab Name	Industrial Internet Innovation Center (Shanghai) Co.,Ltd.
Address	Building 4， No. 766， Jingang Road， Pudong， Shanghai， China
Telephone	021-68866880
FCC Registration No.	958356
FCC Designation No.	CN1177
IC Designation No.	10766A
CAB identifier	CN0067

2.2 Laboratory Environmental Requirements

Temperature	18°C~25°C
Relative Humidity	25%RH~75%RH

2.3 Project Information

Project Manager	Gao Hongning
Test Date	October 13, 2022 to December 8, 2022

3 General Information of The Customer

3.1 Applicant

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China
Telephone	+86-17302160204

3.2 Manufacturer

Company	Shanghai Sunmi Technology Co.,Ltd.
Address	Room 505, No.388, Song Hu Road, Yang Pu District, Shanghai, China

3.3 Factory

Company	N/A
Address	N/A

4 General Information of The Product

4.1 Product Description for Equipment under Test (EUT)

Product	Smart POS system
Model	T6900
Date of Receipt	September 30, 2022
EUT ID*	S11aa/S12aa/S15aa/S01aa/S04aa/S22aa
SN/IMEI	S11aa:869325026801564/869325026801572 S12aa:869325026801028/869325026801036 S15aa:869325026800947/869325026800954 S01aa:869325026809989/869325026809997 S04aa:869325026810946/869325026810953 S22aa:862318060013037/862318060013045
Supported Radio Technology and Bands	GSM850/GSM900/GSM1800/GSM1900 WCDMA Band Ⅰ / Ⅱ /Ⅳ / Ⅴ /Ⅷ LTE Band1/2/3/4/5/7/17/28/38/41 Wi-Fi 802.11a/b/g/n BT4.2,BLE
Tx Frequency	824.2-848.8 MHz (GSM850) 1850.2-1909.8 MHz (GSM1900) 1852.4-1907.6 MHz (WCDMA Band Ⅱ) 1712.4-1752.6 MHz (WCDMA BandⅣ) 826.4-846.6 MHz (WCDMA Band V) 1850.7-1909.3 MHz (LTE Band 2) 1710.7-1754.3 MHz (LTE Band 4) 824.7-848.3 MHz (LTE Band 5) 2502.5-2567.5 MHz (LTE Band 7) 706.5-713.5 MHz (LTE Band 17) 2572.5-2617.5 MHz (LTE Band 38) 2535-2655 MHz (LTE Band 41) 2412-2462 MHz (Wi-Fi 2.4G) 5180-5240 MHz (U-NII-1) 5260-5320 MHz (U-NII-2A) 5745-5825 MHz (U-NII-3) 2402-2480 MHz (BT)
Hardware Version	B1691_MAIN_PCB
Software Version	SP6359A-20220922115332
FCC ID	2AH25T6900P2
IC	22621-T6900P2
Dimension	222mm*81.6m*17.6mm
NOTE1: EUT ID is the internal identification code of the laboratory. NOTE2: Hardware Version Id Number (HVIN):	

1)T6900P2-1:Configuration1-fingerprint 2)T6900P2-2:Configuration1-scanner 3)T6900P2-3:Configuration1-standard 4)T6900P2-4:Configuration2-fingerprint 5)T6900P2-5:Configuration2-standard

4.2 Description for Auxiliary Equipment (AE)

AE ID*	Description	Model	SN/Remark
BA01	Battery	P2	N/A
BA10	Battery	P2	N/A
BB01	Battery	P2	N/A
BC01	Battery	P2 Max	N/A
NOTE: AE ID is the internal identification code of the laboratory.			

5 Test Configuration Information

5.1 Test Equipments Utilized

No.	Name	Model	S/N	Manufacturer	Cal. Date	Cal. Interval
1	Network analyzer	N5242A	MY51221755	Agilent	Oct.23, 2021	1 Year
2	Network analyzer	N5242A	MY51221755	Agilent	Oct.17, 2022	1 Year
3	Power meter	NRX	103851	R&S	Aug.22, 2022	1 Year
4	Power sensor	NRP18S-10	101841	R&S	Aug.22, 2022	1 Year
5	Power sensor	NRP18S-10	101842	R&S	Aug.22, 2022	1 Year
6	Signal Generator	E8247C	MY43000157	Agilent	Aug.22, 2022	1 Year
7	Amplifier	NTWAP-07605	22039018	RFLIGHT	Aug.22, 2022	1 Year
8	BTS	CMU200	123102	R&S	Aug.23, 2022	1 Year
9	BTS	MT8820C	6201240338	Anritsu	Oct.23, 2021	1 Year
10	BTS	MT8820C	6201240338	Anritsu	Oct.17, 2022	1 Year
11	E-field Probe	EX3DV4	7633	SPEAG	Mar.31, 2022	1 Year
12	DAE	DAE4	1244	SPEAG	Mar.9, 2022	1 Year
13	Dipole Validation Kit	D750V3	1144	SPEAG	Sept.16, 2022	1 Year
14	Dipole Validation Kit	D835V2	4d112	SPEAG	Sept.21, 2022	1 Year
15	Dipole Validation Kit	D1750V2	1044	SPEAG	Sept.20, 2022	1 Year
16	Dipole Validation Kit	D1900V2	5d232	SPEAG	Dec.3, 2021	1 Year
17	Dipole Validation Kit	D2450V2	858	SPEAG	Sept.19, 2022	1 Year
18	Dipole Validation Kit	D2600V2	1031	SPEAG	Sept.21, 2022	1 Year
19	Dipole Validation Kit	D5GHzV2	1172	SPEAG	Mar.15, 2022	1 Year

5.2 Measurement Uncertainty

Item	Uncertainty
SAR	$U_{SAR(1g)}$=22.08%, $U_{SAR(10g)}$=21.82%
NOTE: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	

5.3 EUT Connection Diagram of Test System

5.3.1 SAR

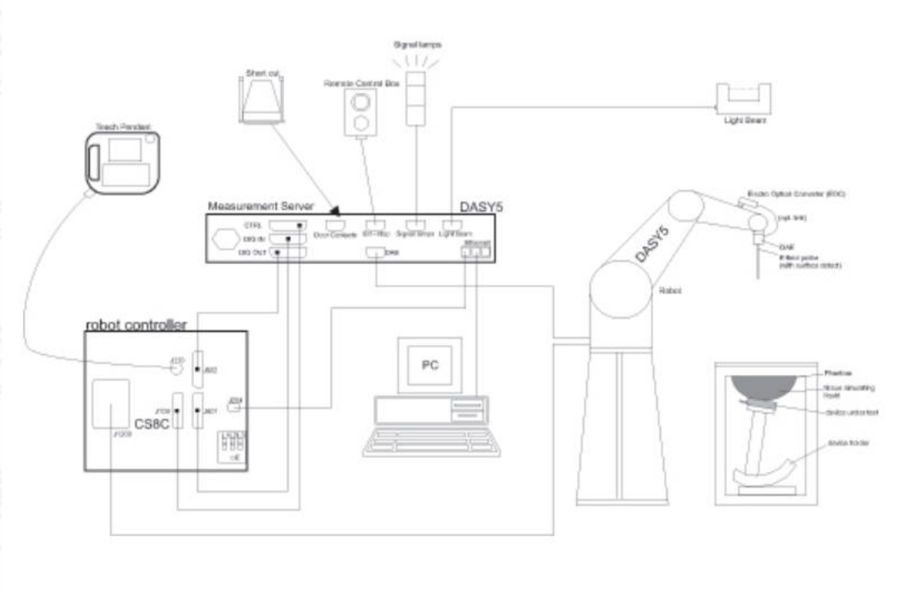


Figure 5.3.1-1 SAR Connection Diagram

6 Specific Absorption Rate(SAR)

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:

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

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by:

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

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

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

Where:

σ is the conductivity of the tissue

ρ is the mass density of tissue, which is normally set to 1g/cm^3

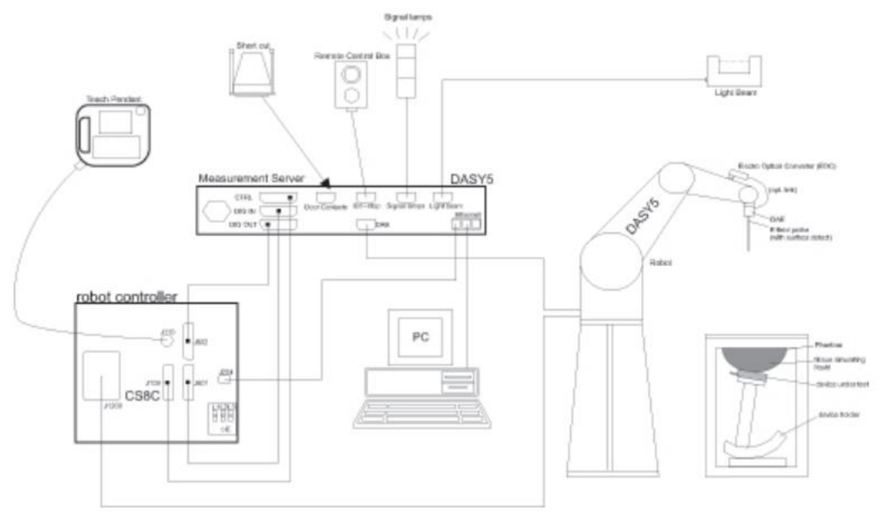
E is the RMS electrical field strength

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

7 SAR Measurement System Introduction

7.1 Measurement Set-up

The DASY5 system for performing compliance tests is illustrated above graphically. This system consists of the following items:



Figures 7.1-1 SAR Measurement Set-up

- A standard high precision 6-axis robot (Stäubli TX=RX family) with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.

The phantom, the device holder and other accessories according to the targeted measurement.

7.2 E-field Probe System

The SAR measurements were conducted with the dosimetric probe designed in the classical triangular configuration and optimized for dosimetric evaluation. The probe is constructed using the thick film technique; with printed resistive lines on ceramic substrates. The probe is equipped with an optical multi-fiber line ending at the front of the probe tip. It is connected to the EOC box on the robot arm and provides an automatic detection of the phantom surface. Half of the fibers are connected to a pulsed infrared transmitter, the other half to a synchronized receiver. As the probe approaches the surface, the reflection from the surface produces a coupling from the transmitting to the receiving fibers. This reflection increases first during the approach, reaches maximum and then decreases. If the probe is flatly touching the surface, the coupling is zero. The distance of the coupling maximum to the surface is independent of the surface reflectivity and largely independent of the surface to probe angle. The DASY software reads the reflection during a software approach and looks for the maximum using 2nd order curve fitting. The approach is stopped at reaching the maximum.

Probe Specifications	
Model	EX3DV4
Frequency Range	4 MHz – 10 GHz
Calibration	In head simulating tissue at frequency from 650MHz to 5900MHz
Linearity	±0.2 dB (30 MHz – 10 GHz)
Dynamic Range	10 µW/g – >100 mW/g
Probe Length	337 mm
Probe Tip Length	20 mm
Body Diameter	12 mm
Tip Diameter	2.5 mm
Tip-Center	1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better than 30%.

Figure 7.2-1 Detail of Probe

Figure 7.2-2 E-field Probe

7.3 E-field Probe Calibration

Each E-Probe/Probe Amplifier combination has unique calibration parameters. A TEM cell calibration procedure is conducted to determine the proper amplifier settings to enter in the probe parameters. The amplifier settings are determined for a given frequency by subjecting the probe to a known E-field density (1 mW/cm2) using an RF Signal generator, TEM cell, and RF Power Meter.

The free space E-field from amplified probe outputs is determined in a test chamber. This calibration can be performed in a TEM cell if the frequency is below 1 GHz and inn a waveguide or other methodologies above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees until the three channels show the maximum reading. The power density readings equates to 1 mW/cm2..

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The E-field in the medium correlates with the temperature rise in the dielectric medium. For temperature correlation calibration a RF transparent thermistor-based temperature probe is used in conjunction with the E-field probe.

$$SAR = C\frac{\Delta T}{\Delta t}$$

Where:

Δt = Exposure time (30 seconds),

C = Heat capacity of tissue (brain or muscle),

ΔT = Temperature increase due to RF exposure.

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

Where:

σ = Simulated tissue conductivity,

ρ = Tissue density (kg/m^3).

7.4 Other Test Equipment

7.4.1 Data Acquisition Electronics (DAE)

The data acquisition electronics consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection. The input impedance of the DAE is 200M Ohm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

Figure 7.4.1-1: DAE

7.4.2 Robot

The SPEAG DASY system uses the high precision robots (DASY5: TX90) type from Stäubli SA (France).
For the 6-axis controller system, the robot controller version from Stäubli is used. The Stäubli robot series have many features that are important for our application

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

Figure 7.4.2-1: DASY5

7.4.3 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with a 400 MHz intel ULV Celeron, 128 MB chipdisk and 128 MB RAM. The necessary circuits for communication with either the DAE4 (or DAE3) electronics box as well as the 16 bit AD converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

Figure 7.4.3-1 Server for DASY5

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized pinout, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

7.4.4 Device Holder for Phantom

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

The DASY device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation centers for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

Figure 7.4.4-1: Device Holder

The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε =3 and loss tangent δ =0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

<table>
<tr><td>The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin-SAM and ELI phantoms.</td><td rowspan="2">
Figure 7.4.4-2: Laptop Extension Kit</td></tr>
<tr><td>The DASY device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity ε =3 and loss tangent δ =0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.</td></tr>
</table>

7.4.5 Phantom

<table>
<tr><td colspan="3">The SAM Twin Phantom V4.0 is constructed of a fiberglass shell integrated in a table. The shape of the shell is based on data from an anatomical study designed to represent the 90th percentile of the population. The phantom enables the dissymmetric evaluation of SAR for both left and right handed handset usage, as well as body-worn usage using the flat phantom region. Reference markings on the Phantom allow the complete setup of all predefined phantom positions and measurement grids by manually teaching three points in the robot. The shell phantom has a 2mm shell thickness (except the ear region where shell thickness increases to 6 mm).</td></tr>
<tr><td>Shell Thickness</td><td>2 ± 0.2 mm</td><td rowspan="4">
Figure 7.4.5-1: SAM Twin Phantom</td></tr>
<tr><td>Available</td><td>Special</td></tr>
<tr><td>Filling Volume</td><td>Approx. 25 liters</td></tr>
<tr><td>Dimensions</td><td>810 mm x l000 mm x 500 mm
(H x L x W)</td></tr>
</table>

8 Test Position in Relation to the Phantom

8.1 General considerations

This standard specifies two handset test positions against the head phantom – the “cheek” position and the “tilt” position.

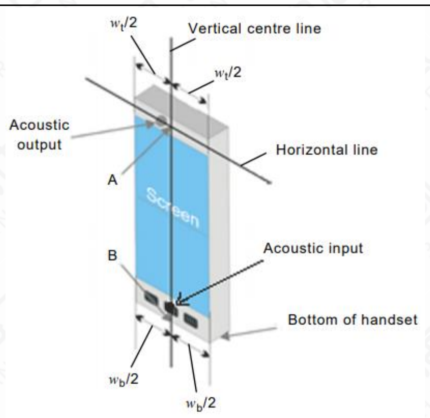


Figure 8.1-1 full touch screen smart phone (top)

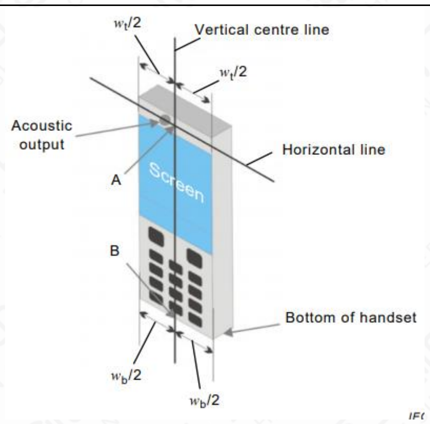


Figure 8.1-2 keyboard handset (bottom)

W_t	Width of the handset at the level of the acoustic output
W_b	Width of the bottom of the handset
A	Midpoint of the width W_t of the DUT at the level of the acoustic output
B	Midpoint of the width W_b of the bottom of the handset

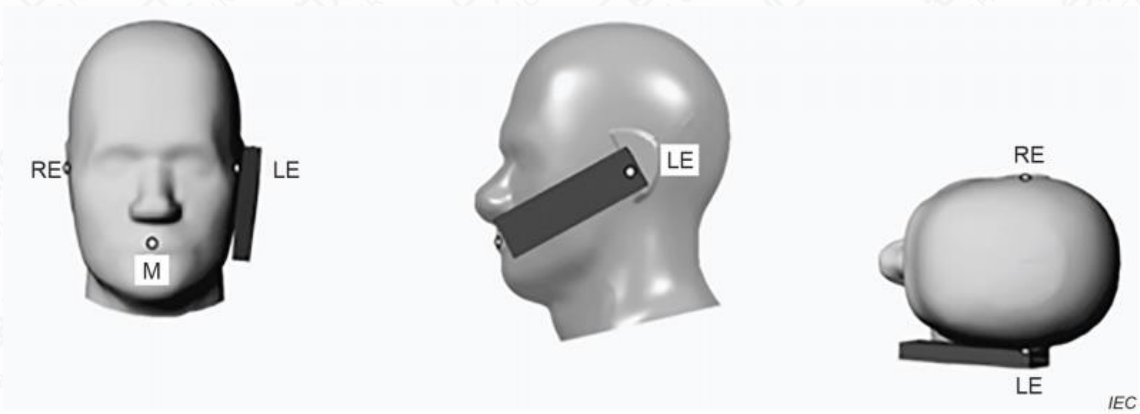


Figure 8.1-3 Cheek position of the wireless device on the left side of SAM

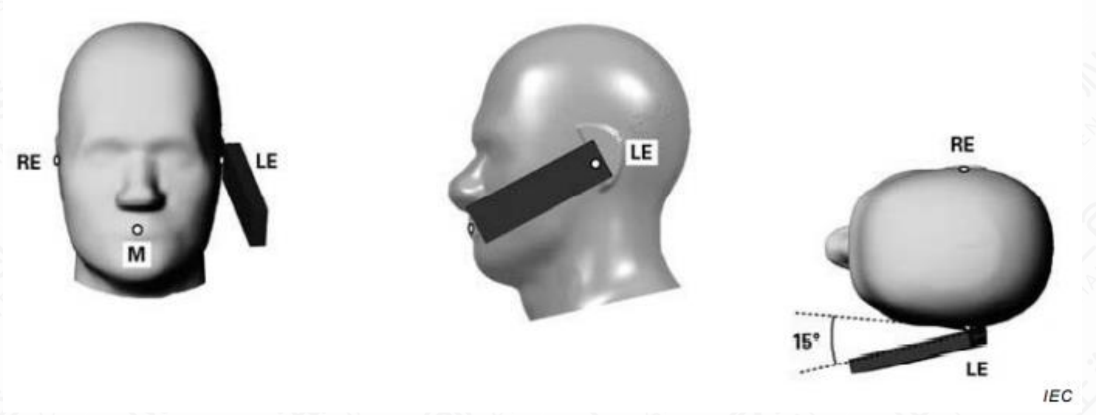


Figure 8.1-4 Tilt position of the wireless device on the left side of SAM

8.2 Body-worn device

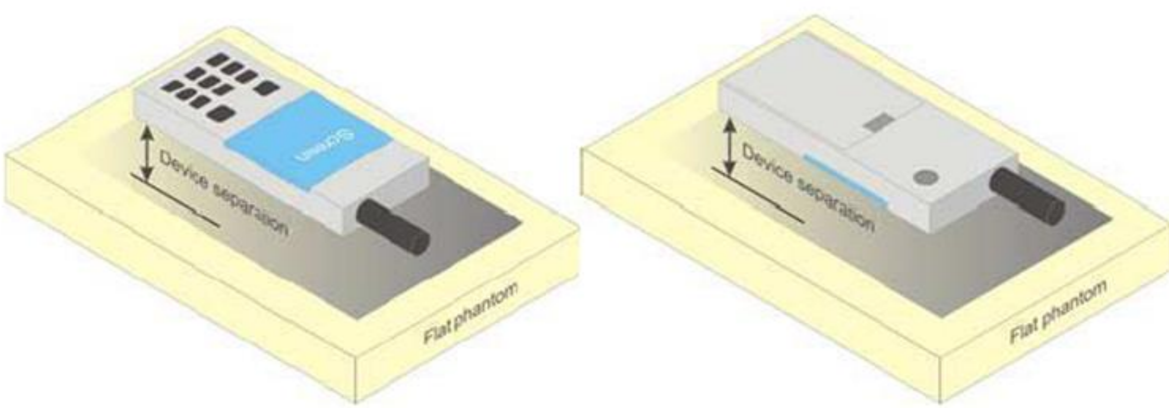


Figure 8.2-1 Test positions for body-worn devices

A typical example of a body-worn device is a mobile phone, wireless enabled PDA (personal digital assistant) or other battery operated wireless device with the ability to transmit while mounted on a person's body using a carry accessory approved by the wireless device manufacturer.

8.3 Desktop device

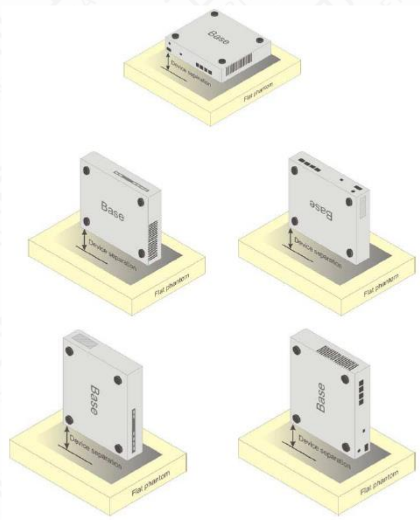
<table>
<tr><td>A typical example of a desktop device is a wireless enabled desktop computer placed on a table or desk when used.</td><td rowspan="4">

Figure 8.3-1 Test positions for desktop devices</td></tr>
<tr><td>The DUT shall be positioned at the distance and in the orientation to the phantom that corresponds to the intended use as specified by the manufacturer in the user instructions. For devices that employ an external antenna with variable positions.</td></tr>
<tr><td>Tests shall be performed for all antenna positions specified.</td></tr>
<tr><td>Picture 8-6 shows positions for desktop device SAR tests. If the intended use is not specified, the device shall be tested directly against the flat</td></tr>
</table>

9 Tissue Simulating Liquids

9.1 Equivalent Tissues Composition

The liquid used for the frequency range of 650-6000 MHz consisted of water, sugar, salt, preventol, glycol monobutyl and Cellulose. The liquid has been previously proven to be suited for worst-case. The Table 9.1 shows the detail solution. It's satisfying the latest tissue dielectric parameters requirements proposed by the IEEE Std 1528.

Table 9.1-1: Composition of the Head Tissue Equivalent Matter

Frequency (MHz)	**835**	**900**	**1800**	**1950**	**2300**	**2450**	**2600**	**5800**
Ingredients (% by weight)								
Water	41.45	40.92	55.242	54.89	56.34	58.79	58.79	65.53
Sugar	56.0	56.5	/	/	/	/	/	
Salt	1.45	1.48	0.306	0.18	0.14	0.06	0.06	
Preventol	0.1	0.1	/	/	/	/	/	
Cellulose	1.0	1.0	/	/	/	/	/	
GlycolMonobutyl	/	/	44.452	44.93	43.52	41.15	41.15	
Diethylenglycol momohexylether	/	/	/	/	/	/	/	17.24
Triton X-100	/	/	/	/	/	/	/	17.23
Dielectric Parameters Target Value	ε=41.5 σ=0.90	ε=41.5 σ=0.97	ε=40.0 σ=1.40	ε=40.0 σ=1.40	ε=39.5 σ=1.67	ε=39.2 σ=1.80	ε=39.0 σ=1.96	ε=35.3 σ=5.27

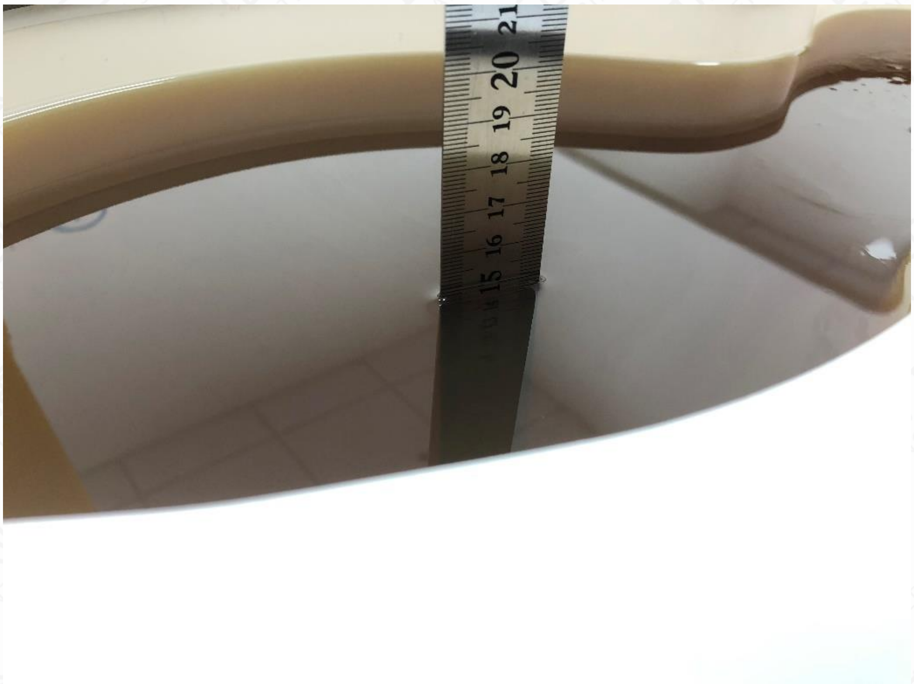
Table 9.1-2: Targets for tissue simulating liquid

Frequency (MHz)	Liquid Type	Conductivity (σ)	±5% Range	Permittivity (ε)	±5% Range
750	Head	0.89	0.846~0.934	41.9	39.805~43.995
835	Head	0.90	0.855~0.945	41.5	39.425~43.575
900	Head	0.97	0.922~1.018	41.5	39.425~43.575
1450	Head	1.20	1.140~1.260	40.5	38.475~42.525
1800	Head	1.40	1.330~1.470	40.0	38.000~42.000
1900	Head	1.40	1.330~1.470	40.0	38.000~42.000
1950	Head	1.40	1.330~1.470	40.0	38.000~42.000
2000	Head	1.40	1.330~1.470	40.0	38.000~42.000
2100	Head	1.49	1.416~1.564	39.8	37.810~41.790
2450	Head	1.80	1.710~1.890	39.2	37.240~41.160
2600	Head	1.96	1.862~2.058	39.0	37.050~40.950
3000	Head	2.40	2.280~2.520	38.5	36.575~40.425
3500	Head	2.91	2.765~3.055	37.9	36.005~39.795
4000	Head	3.43	3.259~3.601	37.4	35.530~39.270
4500	Head	3.94	3.743~4.137	36.8	34.960~38.640
5000	Head	4.45	4.228~4.672	36.2	34.390~38.010
5200	Head	4.66	4.427~4.893	36.0	34.200~37.800
5400	Head	4.86	4.617~5.103	35.8	34.010~37.590
5600	Head	5.07	4.817~5.323	35.5	33.725~37.275
5800	Head	5.27	5.007~5.533	35.3	33.535~37.065
6000	Head	5.48	5.206~5.754	35.1	33.345~36.855

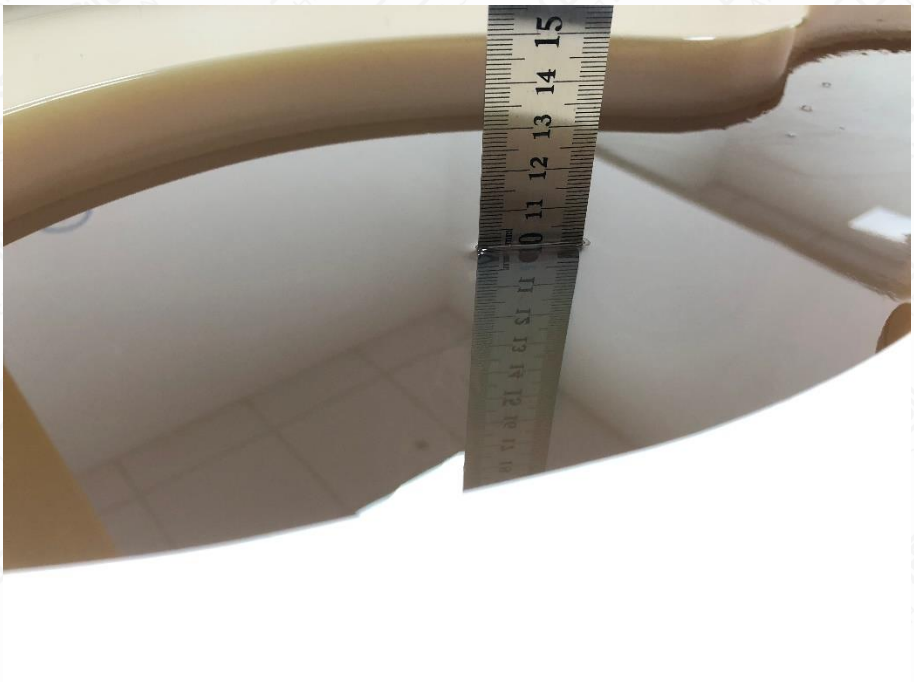
9.2 Liquid depth

The Measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness: 2.0±0.2mm (bottom Plate) filled with Body or Head simulating Liquid.

The depth of tissue-equivalent liquid in a phantom must be ≥ 15.0 cm with ≤ ±0.5 cm variation for SAR measurements ≤ 3 GHz and ≥ 10.0 cm with ≤± 0.5 cm variation for measurements > 3 GHz.



Picture 9.2-1 Liquid depth in the Flat Phantom for SAR measurements ≤ 3 GHz



Picture 9.2-2 Liquid depth in the Flat Phantom for SAR measurements > 3 GHz

9.3 Dielectric Performance of TSL

Table 9.3-1: Dielectric Performance of Head Tissue Simulating Liquid

Frequency (MHz)	Head(Standard)		Temperature	Date	Test Result		Deviation (%)	
	Permittivity ε	Conductivity σ			Permittivity ε	Conductivity σ	Permittivity ε	Conductivity σ
709	42.155	0.890	20.5℃	November 18, 2022	42.502	0.868	0.82%	-2.47%
710	42.149	0.890	20.5℃	November 18, 2022	42.498	0.868	0.83%	-2.47%
711	42.144	0.890	20.5℃	November 18, 2022	42.494	0.869	0.83%	-2.36%
826.4	41.586	0.907	20.5℃	October 13, 2022	42.821	0.901	2.97%	-0.66%
836.6	41.549	0.911	20.5℃	October 13, 2022	42.789	0.905	2.98%	-0.66%
846.6	41.513	0.915	20.5℃	October 13, 2022	42.757	0.909	3.00%	-0.66%
829	41.576	0.908	20.5℃	October 18, 2022	42.698	0.903	2.70%	-0.55%
836.5	41.549	0.911	20.5℃	October 18, 2022	42.673	0.906	2.71%	-0.55%
844	41.522	0.914	20.5℃	October 18, 2022	42.649	0.909	2.71%	-0.55%
826.4	41.586	0.907	20.5℃	November 18, 2022	42.154	0.909	1.37%	0.22%
836.6	41.549	0.911	20.5℃	November 18, 2022	42.132	0.914	1.40%	0.33%
846.6	41.513	0.915	20.5℃	November 18, 2022	42.111	0.918	1.44%	0.33%
824.2	41.595	0.906	20.5℃	November 22, 2022	42.527	0.895	2.24%	-1.21%
836.6	41.549	0.911	20.5℃	November 22, 2022	42.517	0.899	2.33%	-1.32%
848.8	41.504	0.916	20.5℃	November 22, 2022	42.522	0.903	2.45%	-1.42%
829	41.576	0.908	20.5℃	November 22, 2022	42.522	0.896	2.28%	-1.32%
836.5	41.549	0.911	20.5℃	November 22, 2022	42.517	0.899	2.33%	-1.32%
844	41.522	0.914	20.5℃	November 22, 2022	42.520	0.901	2.40%	-1.42%

1712.4	40.125	1.349	20.5℃	November 23, 2022	39.230	1.314	-2.23%	-2.59%
1732.6	40.096	1.361	20.5℃	November 23, 2022	39.204	1.327	-2.22%	-2.50%
1752.6	40.068	1.373	20.5℃	November 23, 2022	39.178	1.338	-2.22%	-2.55%
1720	40.114	1.354	20.5℃	November 23, 2022	39.220	1.319	-2.23%	-2.58%
1732.5	40.096	1.361	20.5℃	November 23, 2022	39.204	1.327	-2.22%	-2.50%
1745	40.078	1.369	20.5℃	November 23, 2022	39.187	1.333	-2.22%	-2.63%
1720	40.114	1.354	20.5℃	December 1, 2022	38.915	1.306	-2.99%	-3.55%
1732.5	40.096	1.361	20.5℃	December 1, 2022	38.901	1.314	-2.98%	-3.45%
1745	40.078	1.369	20.5℃	December 1, 2022	38.884	1.321	-2.98%	-3.51%
1712.4	40.125	1.349	20.5℃	December 3, 2022	39.309	1.312	-2.03%	-2.74%
1732.6	40.096	1.361	20.5℃	December 3, 2022	39.284	1.325	-2.03%	-2.65%
1752.6	40.068	1.373	20.5℃	December 3, 2022	39.256	1.336	-2.03%	-2.69%
1850.2	40.000	1.400	20.5℃	November 21, 2022	38.727	1.387	-3.18%	-0.93%
1880	40.000	1.400	20.5℃	November 21, 2022	38.678	1.406	-3.31%	0.43%
1909.8	40.000	1.400	20.5℃	November 21, 2022	38.634	1.424	-3.42%	1.71%
1852.4	40.000	1.400	20.5℃	November 21, 2022	38.723	1.388	-3.19%	-0.86%
1880	40.000	1.400	20.5℃	November 21, 2022	38.678	1.406	-3.31%	0.43%
1907.6	40.000	1.400	20.5℃	November 21, 2022	38.637	1.422	-3.41%	1.57%
1850.2	40.000	1.400	20.5℃	November 23, 2022	39.027	1.398	-2.43%	-0.14%
1880	40.000	1.400	20.5℃	November 23, 2022	38.980	1.417	-2.55%	1.21%
1909.8	40.000	1.400	20.5℃	November 23, 2022	38.932	1.434	-2.67%	2.43%

1852.4	40.000	1.400	20.5℃	November 23, 2022	39.024	1.399	-2.44%	-0.07%
1880	40.000	1.400	20.5℃	November 23, 2022	39.980	1.417	-0.05%	1.21%
1907.6	40.000	1.400	20.5℃	November 23, 2022	38.934	1.433	-2.67%	2.36%
1860	40.000	1.400	20.5℃	November 23, 2022	39.012	1.404	-2.47%	0.29%
1880	40.000	1.400	20.5℃	November 23, 2022	38.980	1.417	-2.55%	1.21%
1900	40.000	1.400	20.5℃	November 23, 2022	38.945	1.429	-2.64%	2.07%
2412	39.268	1.766	20.5℃	October 24, 2022	38.145	1.827	-2.86%	3.45%
2437	39.223	1.788	20.5℃	October 24, 2022	38.091	1.846	-2.89%	3.24%
2462	39.184	1.813	20.5℃	October 24, 2022	38.042	1.864	-2.91%	2.81%
2412	39.268	1.766	20.5℃	November 23, 2022	39.162	1.800	-0.27%	1.93%
2437	39.223	1.788	20.5℃	November 23, 2022	39.119	1.821	-0.27%	1.85%
2462	39.184	1.813	20.5℃	November 23, 2022	39.079	1.843	-0.27%	1.65%
2402	39.285	1.757	20.5℃	November 24, 2022	39.213	1.796	-0.18%	2.22%
2441	39.216	1.792	20.5℃	November 24, 2022	39.148	1.828	-0.17%	2.01%
2480	39.162	1.833	20.5℃	November 24, 2022	39.069	1.861	-0.24%	1.53%
2510	39.124	1.865	20.5℃	November 22, 2022	39.005	1.882	-0.30%	0.91%
2535	39.092	1.893	20.5℃	November 22, 2022	38.972	1.902	-0.31%	0.48%
2560	39.060	1.920	20.5℃	November 22, 2022	38.925	1.924	-0.35%	0.21%
2545	39.079	1.904	20.5℃	November 22, 2022	38.956	1.911	-0.31%	0.37%
2595	39.016	1.958	20.5℃	November 22, 2022	38.847	1.952	-0.43%	-0.31%
2645	38.952	2.012	20.5℃	November 22, 2022	38.774	1.995	-0.46%	-0.84%

2510	39.124	1.865	20.5℃	December 8, 2022	38.880	1.872	-0.62%	0.38%
2535	39.092	1.893	20.5℃	December 8, 2022	38.835	1.891	-0.66%	-0.11%
2560	39.060	1.920	20.5℃	December 8, 2022	38.796	1.912	-0.68%	-0.42%
5180	36.020	4.639	20.5℃	November 28, 2022	35.751	4.654	-0.75%	0.32%
5200	36.000	4.660	20.5℃	November 28, 2022	35.710	4.676	-0.81%	0.34%
5240	35.960	4.700	20.5℃	November 28, 2022	35.633	4.724	-0.91%	0.51%
5745	35.355	5.215	20.5℃	November 16, 2022	35.087	5.325	-0.76%	2.11%
5785	35.315	5.255	20.5℃	November 16, 2022	34.999	5.373	-0.89%	2.25%
5825	35.275	5.296	20.5℃	November 16, 2022	34.922	5.423	-1.00%	2.40%

10 System Check

10.1 System Check

Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY 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.

10.2 System Setup

In the simplified setup for system evaluation, the DUT 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:

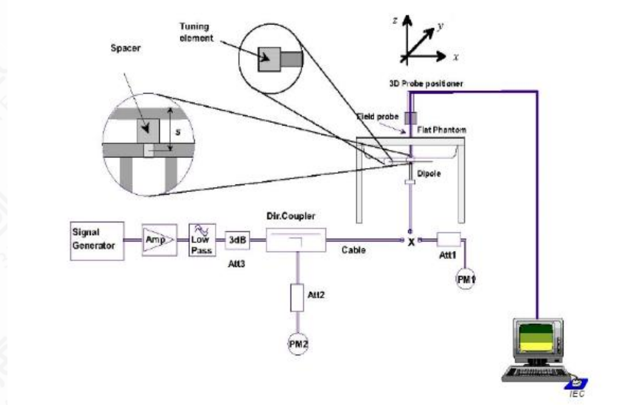


Figure 10.2-1 Set-up for the system check

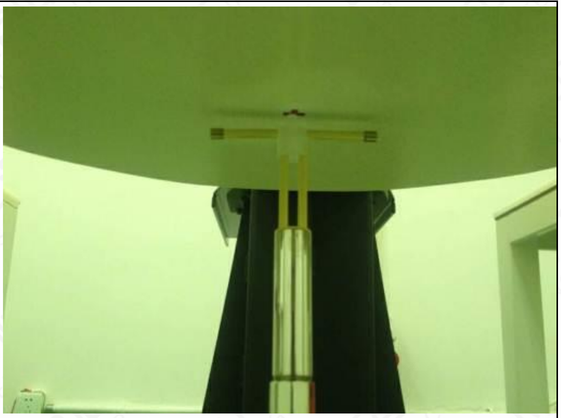


Figure 10.2-2. Setup for Dipole

10.3 System Check Result

Table 10.3-1: System Check Result of SAR

SAR System Check								
Frequency (MHz)	Target Value (w/kg)		Temperature	Date	Test Result (w/kg)		Deviation (%)	
	10g	1g			10g	1g	10g	1g
750	5.52	8.32	21.5℃	November 18, 2022	1.32	1.98	-4.35%	-4.81%
835	6.29	9.66	21.6℃	October 13, 2022	1.58	2.44	0.48%	1.04%
835	6.29	9.66	21.4℃	October 18, 2022	1.55	2.41	-1.43%	-0.21%
835	6.29	9.66	21.5℃	November 18, 2022	1.55	2.4	-1.43%	-0.62%
835	6.29	9.66	21.7℃	November 22, 2022	1.5	2.31	-4.61%	-4.35%
1750	19.70	36.80	21.7℃	November 23, 2022	4.79	9.08	-2.74%	-1.30%
1750	19.70	36.80	21.6℃	December 1, 2022	4.83	9.16	-1.93%	-0.43%
1750	19.70	36.80	21.3℃	December 3, 2022	4.87	9.22	-1.12%	0.22%
1900	20.20	39.70	21.6℃	November 21, 2022	5.1	9.87	0.99%	-0.55%
1900	20.20	39.70	21.7℃	November 23, 2022	5.14	9.95	1.78%	0.25%
2450	24.90	52.80	21.5℃	October 24, 2022	6.23	13.4	0.08%	1.52%
2450	24.90	52.80	21.7℃	November 23, 2022	6.15	13.2	-1.20%	0.00%
2450	24.90	52.80	21.5℃	November 24, 2022	6.16	13.3	-1.04%	0.76%
2600	24.80	55.10	21.7℃	November 22, 2022	6.26	13.9	0.97%	0.91%
2600	24.80	55.10	21.5℃	December 8, 2022	6.23	13.8	0.48%	0.18%
5200	21.80	75.70	21.4℃	November 28, 2022	2.16	7.51	-0.92%	-0.79%
5800	21.50	76.7	21.5℃	November 16, 2022	2.27	8.01	5.58%	4.43%

NOTE: The system verifies that the measured input power level is equivalent to 250mW for 0.6GHz to 3GHz and above 3GHz is equivalent to 100mW, and the measured results are compared with the target value by converting to 1W.

11 Measurement Procedures

11.1 Test Steps

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

(a) Power reference measurement

The reference and drift jobs are useful for monitoring the power drift of the device under test in the batch process. Both jobs measure the electric field strength at a specified reference position, at a selectable distance from the phantom surface. The reference position can be either the selected section's grid reference point or a user point in this section. The reference job projects the selected point onto the phantom surface, orients the probe perpendicularly to the surface, and approaches the surface using the selected detection method.

(b) Area scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a finer measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. The scan area is defined by an editable grid. This grid is anchored at the grid reference point of the selected section in the phantom. When the area scan's property sheet is brought up, grid was at to 15mm * 15mm and can be edited by users.

(c) Zoom scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1g and 10g of simulated tissue. The default zoom scan measures 5 * 5 * 7 points within a cube whose base faces are centered around the maximum found in a preceding area scan job within the same procedure. If the preceding Area Scan job indicates more than one maximum, the number of Zoom Scans has to be enlarged accordingly.

(d) Power drift measurement

The drift job measures the field at the same location as the most recent reference job within the same procedure, and with the same setting. The drift measurement gives the field difference in dB from the reading conducted within the last reference measurement. Several drift measurements are possible for one reference measurement. This allows a user to monitor the power drift of the device under within a batch process. In the properties of the drift job, the user can specify a limit for the drift and have DASY software stop the measurements if this limit is exceeded. This ensures that the power drift during one measurement is within 5%.

The SAR measurement procedures for each of test conditions are as follows:

(a) Make EUT to transmit it maximum output power

(b) Measure conducted output power through RF cable

(c) Place the EUT in the specific position of phantom

(d) Measure SAR results for Middle channel or the highest power channel on each testing position

(e) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

(f) Record the SAR value

11.2 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the IEEE Std 1528 standard. It can be conducted for 1g and 10g.

The DASY system allows evaluations that combine measured data and robot positions, such as:

(a) Maximum Search

During a maximum search, global and local maximum searches are automatically performed in 2D after each Area Scan measurement with at least 6 measurement points. It is based on the evaluation of the local SAR gradient calculated by the Quadratic Shepard's method. The algorithm will find the global maximum and all local maxima within -2dB of the global maxima for all SAR distributions.

(b) Extrapolation

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. Several measurements at different distances are necessary for the extrapolation.

Extrapolation routines require at least 10 measurement points in 3D space. They are used in the Cube Scan to obtain SAR values between the lowest measurement points and the inner phantom surface. The routine uses the modified Quadratic Shepard's method for extrapolation. For a grid using 5*5*5 measurement points with 5mm resolution amounting to 343 measurement points, the uncertainty of the extrapolation routines is less than 1% for 1g and 10 cubes.

(c) Boundary effect

For measurements in the immediate vicinity of a phantom surface, the field coupling effects between the probe and the boundary influence the probe characteristics. Boundary effect errors of different dosi-metric probe types have been analyzed by measurements and using a numerical probe model. As expected, both methods showed an enhanced sensitivity in the immediate vicinity of the boundary. The effect strongly depends on the probe dimensions and disappears with increasing distance from the boundary. The sensitivity can be approximately given as:

$$S \approx So + Sb * \exp\left(-\frac{z}{a}\right) * \cos\left(\pi\frac{z}{\lambda}\right)$$

Since the decay of the boundary effect dominates for small probe (a≪ λ), the cos-term can be omitted. Factors Sb (parameter Alpha in the DASY software) and a (parameter Delta in the DASY software) and assessed during probe calibration and used for numerical compensation of the boundary effect. Several simulations and measurements have confirmed that the compensation is valid for different field and boundary configurations.

This simple compensation procedure can largely reduce the probe uncertainty near boundaries. It works well as long as:

- The boundary curvature is small
- The probe axis is angled less than 30_to the boundary normal
- The distance between probe and boundary is larger than 25% of the probe diameter
- The probe is symmetric (all sensors have the same offset from the probe tip)

Since all of these requirements are fulfilled in a DASY system, the correction of the probe boundary effect in the vicinity of the phantom surface is performed in a fully automated manner via the measurement data extraction during post processing.

11.3 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

Table 11.3-1: Test Resolution Requirement

<table>
<tr><th colspan="3">Items</th><th>≤3GHz</th><th>>3GHz</th></tr>
<tr><td colspan="3">Maximum Distance</td><td>5mm ±1mm</td><td>$\frac{1}{2}*\delta*\ln(2)$ mm ±0.5mm</td></tr>
<tr><td colspan="3">Maximum probe angle</td><td>30±1°</td><td>20±1°</td></tr>
<tr><td colspan="3" rowspan="3">Maximum Area Scan spatial resolution:
Δx_{Area} , Δy_{Area}</td><td>≤2GHz: ≤15mm</td><td>3-4GHz: ≤12mm</td></tr>
<tr><td>2-3GHz: ≤12mm</td><td>4-6GHz: ≤10mm</td></tr>
<tr><td colspan="2">when the x or y dimension of the device , in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the device with at least one measurement point on the device</td></tr>
<tr><td colspan="3" rowspan="2">Maximum Zoom Scan spatial resolution:
Δx_{Zoom} , Δy_{Zoom}</td><td>≤2GHz: ≤8mm</td><td>3-4GHz: ≤5mm</td></tr>
<tr><td>2-3GHz: ≤5mm</td><td>4-6GHz: ≤4mm</td></tr>
<tr><td rowspan="3">maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤5mm</td><td>3-4GHz: ≤4mm
4-5GHz: ≤3mm
5-6GHz: ≤2mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤4mm</td><td>3-4GHz: ≤3mm
4-5GHz: ≤2.5mm
5-6GHz: ≤2mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$ between subsequent points</td><td colspan="2">≤1.5*</td></tr>
<tr><td>minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥30mm</td><td>3-4GHz: ≥28mm
4-5GHz: ≥25mm
5-6GHz: ≥22mm</td></tr>
</table>

Notes:
δ is the penetration depth of a plane-wave at normal incidence to the tissue medium in IEEE Std 1528-2013.
When Zoom Scan is required and reported SAR from the Area Scan based 1-g SAR estimation procedure of KDB publication 447498 is ≤1.4 W/kg, ≤8mm for 2GHz-3GHz, ≤7mm for 3GHz-4GHz, ≤5mm for 4GHz-6GHz Zoom Scan resolution may be applied.

11.4 GSM/GPRS Measurement Procedures

GSM/GPRS/EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Other configurations of GSM/GPRS/EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is s $\leq \frac{1}{4}$dB higher than the primary mode, SAR measurement is not required for the secondary mode.

11.5 WCDMA Measurement Procedures

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

Table 11.5-1: HSDPA setting for Release 5

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	CM (dB)	MPR (dB)
1	2/15	15/15	64	2/15	4/15	1.5	0.5
2	12/15	15/15	64	12/15	24/25	2.0	1
3	15/15	8/15	64	15/8	30/15	2.0	1
4	15/15	4/15	64	15/4	30/15	2.0	1

Table 11.5-2: HSUPA setting for Release 6

Sub-test	β_c	β_d	β_d (SF)	β_c / β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} (SF)	β_{ed} (codes)	CM (dB)	MPR (dB)	AG Index	E-TFCI

1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	2.0	1.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	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	3.0	2.0	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	2.0	1.0	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	2.0	1.0	21	81

11.6 LTE Measurement Procedure

SAR tests for LTE are performed with a base station simulator. Closed loop power control was used so the UE transmits with maximum output power during SAR testing.

(a) KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.

(b) 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.

(c) 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 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.

(d) 16QAM/64QAM output power for each RB allocation configuration is ＞ not $\frac{1}{2}$dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; 16QAM/64QAM SAR testing is not required.

(e) Smaller bandwidth output power for each RB allocation configuration is ＞not $\frac{1}{2}$dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; smaller bandwidth SAR testing is not required.

(f) For LTE Band 12/26 the maximum bandwidth does not support three non-overlapping channels, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

(g) LTE band 17/2/5/38/4 SAR test was covered by Band 12/25/26/41/66; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if

- The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
- The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

11.6.1 LTE Carrier Aggregation Conducted Power (Downlink)

Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

11.6.2 LTE Carrier Aggregation Conducted Power (Uplink)

UL CA shall be tested based on the worst-case SAR configuration determined from non-CA SAR testing result. The channel BW, channel number, RB allocation, etc. would be selected to allow contiguous CA of PCC and SCC. Uplink output power for UL CA is the total power measured across the PCC and SCC.

UL CA power measurements were performed for each antennas at with QPSK modulation based on the worst-case standalone SAR.

The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions (highest maximum power with MPR of 0 dB).

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power). In all cases the UL CA power is less than or equal to the standalone power.

11.6.3 LTE TDD Considerations

Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special sub-frame configuration 7.

Table 11.6.3-1 Calculated Duty Cycle for LTE TDD

Uplink-Downlink Configuration		**Sub-frame Number**										**Calculated**
Config	Periodicity	1	2	3	4	5	6	7	8	9	10	Duty Cycle (%)
0	5 ms	D	S	U	U	U	D	S	U	U	U	63.33
1	5 ms	D	S	U	U	D	D	S	U	U	D	43.33
2	5 ms	D	S	U	D	D	D	S	U	D	D	23.33
3	10 ms	D	S	U	U	U	D	D	D	D	D	31.67
4	10 ms	D	S	U	U	D	D	D	D	D	D	21.67
5	10 ms	D	S	U	D	D	D	D	D	D	D	11.67

6	5 ms	D	S	U	U	U	D	S	U	U	D	53.33

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle = (5120 × Ts × 2 + 6 ms) / 10ms = 63.33%

Where

Ts = 1/(15000 x 2048) seconds

11.7 Bluetooth & Wi-Fi Measurement Procedures

Normal network operating configurations are not suitable for measuring the SAR of IEEE 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

11.8 Area Scan Based 1g SAR

According to the KDB447498 D01, a first class of fast SAR techniques is based on a modified measurement procedure and post processing algorithms. In practice, these methods require a special software, for example DASY52 form SPEAG.

When the implementation is based the specific polynomial fit algorithm as presented at the 29th Bio-electromagnetics Society meeting (2007) and the estimated 1-g SAR is ≤ 1.2 W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1-g and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30MHz-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

12 Simultaneous Transmission SAR Considerations

12.1 Reference Document

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as IEEE 802.11 a/b/g/n/ac/ax and Bluetooth devices which may simultaneously transmit with the licensed transmitter.

12.2 Antenna Separation Distances

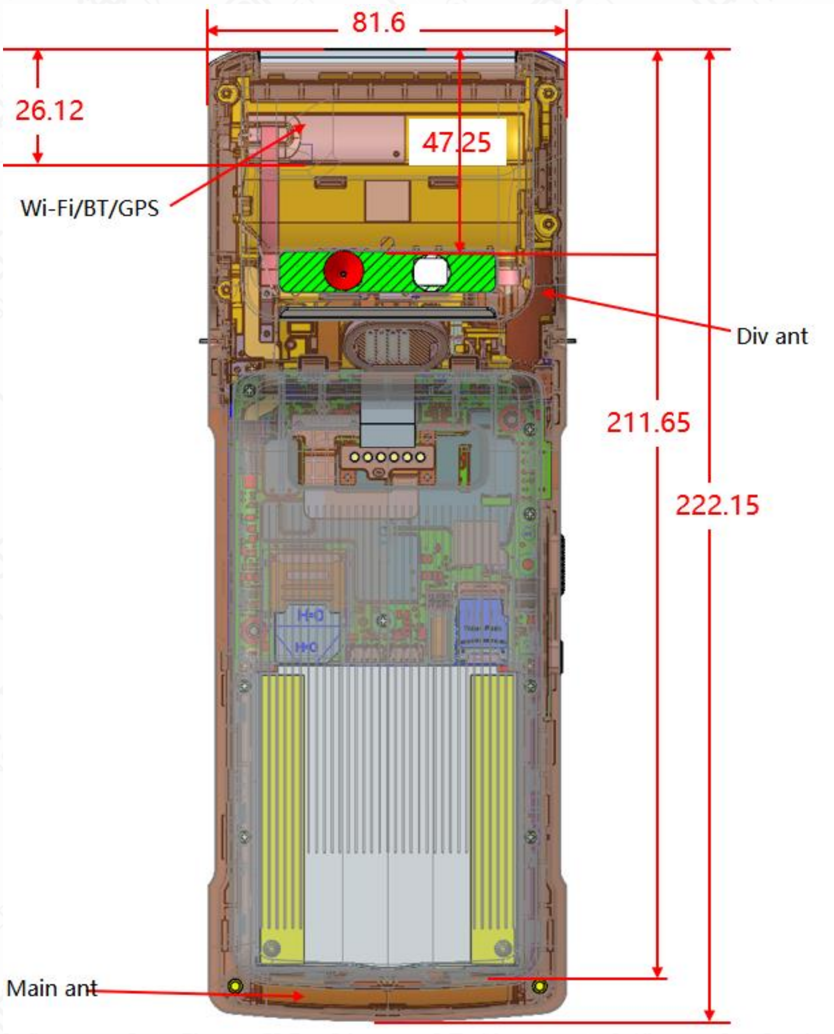


Figure 12.2-1 Antenna Locations

12.3 SAR Measurement Positions

The edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

Table 12.3-1: SAR measurement Positions

Antenna Mode	Front	Back	Left	Right	Top	Bottom
GSM/WCDMA/LTE	Yes	Yes	Yes	Yes	No	Yes
BT/ Wi-Fi	Yes	Yes	Yes	Yes	Yes	No

12.4 Low Power Transmitters SAR Consideration

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation for low power transmitters is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$\frac{(max. power\ of\ channel, including\ tune-up\ tolerance, mW)}{(min. test\ separation\ distance, mm)} \times \sqrt{Frequency(GHz)} \leq 3.0$$

Where:

- Frequency (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

According to the KDB447498 appendix A, the SAR test exclusion threshold for 2450MHz at 5mm test separation distances is 10mW. That means the transmitters with tune-up power below 10mW are excluded for SAR measurement.

According to RSS 102 issue5 section 2.5.1 Exemption Limits for Routine Evaluation – SAR Evaluation, BT standalone SAR are required, because tune up output power is greater than 4mW.

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

12.5 Simultaneous Transmission Analysis

KDB 447498 D01 General RF Exposure Guidance introduces a new formula for calculating the SPLSR (SAR to Peak Location Ratio) between pairs of simultaneously transmitting antennas:

$$\mathrm{SPLSR} = \sqrt{(\mathrm{SAR1} + \mathrm{SAR2})^3}/\mathrm{Ri}$$

Where:

- SAR1 is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition.
- SAR2 is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first.
- Ri is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location , based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of

$$(\mathrm{x1} - \mathrm{x2})^2 + (\mathrm{y1} - \mathrm{y2})^2 + (z1 - z2)^2$$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$\sqrt{(\mathrm{SAR1} + \mathrm{SAR2})^3}/\mathrm{Ri} < 0.04$$

12.6 Simultaneous Transmission Table

Table 12.6-1: Simultaneous Transmission Configurations

Items	Capable Transmit Configurations
1	GPRS + BT
2	GPRS + Wi-Fi 2.4G
3	GPRS + Wi-Fi 5G
4	WCDMA + BT
5	WCDMA+ Wi-Fi 2.4G
6	WCDMA+ Wi-Fi 5G
7	LTE + BT
8	LTE + Wi-Fi 2.4G
9	LTE + Wi-Fi 5G
NOTE: For the DUT, the Wi-Fi and BT modules sharing a single antenna, and so these two modules can't transmit signal simultaneously. GSM/WCDMA/LTE modules sharing a single antenna, so these two modules can't transmit signal simultaneously. So we can get following combination that can transmit signal simultaneously.	

13 Conducted Output Power

13.1 Power Reduction Procedures

The device use the proximity sensor detection for SAR compliance.
The sensors can identify and facilitate triggering different max power levels for different scenarios different exposure test positions (Front side/Back side/Bottom side) when the device is closed to a user's body.

Table 13.1-1:WWAN power reduction table

Main Antenna				
Band	Mode	Full Power (Tune Up)dBm	Power Reduction(dB)	
			Body-worn&hotspot&Limb	
			Sensor off	Sensor on
GSM850	GPRS 1TS	33.50	0.00	0.00
	GPRS 2TS	32.00	0.00	0.00
	GPRS 3TS	30.00	0.00	0.00
	GPRS 4TS	29.00	0.00	0.00
GSM1900	GPRS 1TS	31.50	0.00	6.50
	GPRS 2TS	30.50	0.00	5.50
	GPRS 3TS	28.50	0.00	3.50
	GPRS 4TS	27.50	0.00	2.50
WCDMA Band II	RMC	24.00	0.00	7.50
WCDMA Band IV	RMC	23.00	0.00	6.50
WCDMA Band V	RMC	24.00	0.00	0.00
LTE Band2	QPSK	23.50	0.00	8.00
LTE Band4	QPSK	22.50	0.00	9.50
LTE Band5	QPSK	23.50	0.00	0.00
LTE Band7	QPSK	22.50	0.00	1.00
LTE Band17	QPSK	23.50	0.00	0.00
LTE Band38	QPSK	24.00	0.00	4.00
LTE Band41	QPSK	24.00	0.00	4.00

13.2 GSM Measurement result

Table 13.2-1: The conducted power measurement results for GSM850

GSM			GSM850								
Model	Modulation	Time Slot	Tune up (dBm)	Measure Power(dBm)			Devision Factor (dB)	Tune up Max	Average Power(dBm)		
				128	190	251			128	190	251
GPRS	GMSK	1 Tx	33.50	32.54	32.73	32.83	-9.03	24.47	23.51	23.70	23.80
		2 Tx	32.00	31.44	31.62	31.70	-6.02	25.98	25.42	25.60	25.68
		3 Tx	30.00	29.33	29.49	29.63	-4.26	25.74	25.07	25.23	25.37
		4 Tx	29.00	28.14	28.35	28.49	-3.01	25.99	25.13	25.34	25.48

Table 13.2-2: The conducted power measurement results for GSM1900

Full power&Sensor off											
GSM			GSM1900								
Model	Modulation	Time Slot	Tune up (dBm)	Measure Power(dBm)			Devision Factor (dB)	Tune up Max	Average Power(dBm)		
				512	661	810			512	661	810
GPRS	GMSK	1 Tx	31.50	30.43	31.09	31.13	-9.03	22.47	21.40	22.06	22.10
		2 Tx	30.50	29.46	30.11	30.09	-6.02	24.48	23.44	24.09	24.07
		3 Tx	28.50	27.41	28.02	28.05	-4.26	24.24	23.15	23.76	23.79
		4 Tx	27.50	26.22	26.87	26.84	-3.01	24.49	23.21	23.86	23.83
Sensor on											
GSM			GSM1900								
Model	Modulation	Time Slot	Tune up (dBm)	Measure Power(dBm)			Devision Factor (dB)	Tune up Max	Average Power(dBm)		
				512	661	810			512	661	810
GPRS	GMSK	1 Tx	25.00	24.12	24.26	24.24	-9.03	15.97	15.09	15.23	15.21
		2 Tx	25.00	24.08	24.20	24.20	-6.02	18.98	18.06	18.18	18.18
		3 Tx	25.00	24.03	24.10	24.08	-4.26	20.74	19.77	19.84	19.82
		4 Tx	25.00	24.00	24.07	24.04	-3.01	21.99	20.99	21.06	21.03

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

According to the conducted power as above, the body measurements are performed with 4Txslots for GSM850 and 4Txslots for GSM1900.

13.3 WCDMA Measurement result

Table 13.3-1: The conducted power for WCDMA Band Ⅱ

Full power&Sensor off					
WCDMA		WCDMA Band II			
Mode	Test Mode	Tune up	Channel		
			9262	9400	9538
WCDMA	RMC	24.00	23.03	23.26	23.79
HSDPA	Subtest1	23.50	22.57	22.84	23.35
	Subtest2	23.50	22.57	22.62	23.29
	Subtest3	23.50	22.07	22.42	22.93
	Subtest4	23.00	22.17	22.12	22.77
HSUPA	Subtest1	23.50	22.49	22.62	23.13
	Subtest2	23.00	21.37	21.78	22.21
	Subtest3	23.50	22.07	22.28	22.75
	Subtest4	22.50	21.61	21.64	22.19
	Subtest5	23.50	22.61	22.90	23.15
Sensor on					
WCDMA		WCDMA Band II			
Mode	Test Mode	Tune up	Channel		
			9262	9400	9538
WCDMA	RMC	16.50	16.05	16.15	16.34
HSDPA	Subtest1	16.50	15.59	15.75	15.94
	Subtest2	16.50	15.41	15.51	15.80
	Subtest3	16.50	14.97	15.09	15.24
	Subtest4	16.50	14.99	15.11	15.40
HSUPA	Subtest1	16.50	15.55	15.69	15.76
	Subtest2	16.50	14.67	14.65	14.94
	Subtest3	16.50	15.17	15.31	15.28
	Subtest4	16.50	14.65	14.59	14.88
	Subtest5	16.50	15.51	15.77	15.76

Table 13.3-2: The conducted power for WCDMA Band Ⅳ

Full power&Sensor off					
WCDMA		WCDMA BandⅣ			
Mode	Test Mode	Tune up	Channel		
			1312	1413	1513
WCDMA	RMC	23.00	22.79	22.67	22.50
HSDPA	Subtest1	22.50	22.31	22.33	22.02
	Subtest2	22.50	22.25	22.07	22.00
	Subtest3	22.50	21.93	21.71	21.54
	Subtest4	22.50	21.81	21.67	21.42
HSUPA	Subtest1	22.50	22.31	22.05	21.88
	Subtest2	22.00	21.31	21.01	21.14
	Subtest3	22.50	21.91	21.79	21.36
	Subtest4	22.00	21.41	21.17	21.06
	Subtest5	22.50	22.23	22.29	22.12
Sensor on					
WCDMA		WCDMA BandⅣ			
Mode	Test Mode	Tune up	Channel		
			1312	1413	1513
WCDMA	RMC	16.50	16.04	16.11	16.12
HSDPA	Subtest1	16.00	15.52	15.59	15.48
	Subtest2	16.00	15.62	15.57	15.76
	Subtest3	15.50	15.18	15.11	14.98
	Subtest4	15.50	15.18	15.23	15.02
HSUPA	Subtest1	16.00	15.40	15.57	15.78
	Subtest2	15.00	14.42	14.45	14.58
	Subtest3	15.50	15.12	15.15	15.04
	Subtest4	15.00	14.62	14.61	14.66
	Subtest5	16.00	15.48	15.55	15.48

Table 13.3-3: The conducted power for WCDMA Band Ⅴ

Full power&Sensor off					
WCDMA		WCDMA Band Ⅴ			
Mode	Test Mode	Tune up	Channel		
			4132	4183	4233
WCDMA	RMC	24.00	23.31	23.41	23.52
HSDPA	Subtest1	23.50	22.81	22.77	22.94
	Subtest2	23.50	22.77	22.99	22.98
	Subtest3	23.00	22.31	22.29	22.54
	Subtest4	23.00	22.33	22.29	22.42
HSUPA	Subtest1	23.50	22.75	22.87	23.06
	Subtest2	22.50	21.69	21.85	22.08
	Subtest3	23.00	22.19	22.37	22.62
	Subtest4	22.50	21.71	21.79	21.98
	Subtest5	23.50	22.89	23.07	23.18

13.4 LTE Measurement result

Table 13.4-1: The conducted power for LTE Band 2

Full power&Sensor off						
LTE				LTE B2		
Modulation	RB	RB Offset	Tune up	1.4MHz		
				18607	18900	19193
QPSK	1	Low	23.50	22.08	22.35	22.54
		Middle		22.54	22.81	22.79
		High		22.30	22.48	22.69
	50%	Low	23.50	22.42	22.67	22.60
		Middle		22.34	22.56	22.64
		High		22.43	22.60	22.66
	100%	/	22.50	21.46	21.64	21.75
16QAM	1	Low	22.50	21.74	21.61	21.56
		Middle		21.72	21.68	21.62
		High		21.75	21.73	21.65
	50%	Low	22.50	21.46	21.49	21.53
		Middle		21.55	21.53	21.48
		High		21.64	21.59	21.55
	100%	/	21.50	20.66	20.60	20.68
Modulation	RB	RB Offset	Tune up	3MHz		
				18615	18900	19185
QPSK	1	Low	23.50	22.10	22.39	22.57
		Middle		22.52	22.84	22.83
		High		22.33	22.53	22.73
	50%	Low	22.50	21.52	21.79	21.73
		Middle		21.46	21.66	21.76
		High		21.53	21.71	21.76
	100%	/	22.50	21.46	21.68	21.78
16QAM	1	Low	22.50	21.77	21.63	21.59
		Middle		21.75	21.68	21.66
		High		21.77	21.77	21.68
	50%	Low	21.50	20.57	20.62	20.65
		Middle		20.66	20.66	20.60
		High		20.74	20.71	20.68
	100%	/	21.50	20.69	20.64	20.71
Modulation	RB	RB Offset	Tune up	5MHz		
				18625	18900	19175
QPSK	1	Low	23.50	22.07	22.37	22.53
		Middle		22.50	22.80	22.80
		High		22.30	22.48	22.69

	50%	Low	22.50	21.49	21.74	21.69
		Middle		21.44	21.62	21.71
		High		21.51	21.69	21.72
	100%	/	22.50	21.46	21.67	21.76
16QAM	1	Low	22.50	21.74	21.59	21.56
		Middle		21.72	21.66	21.63
		High		21.74	21.75	21.64
	50%	Low	21.50	20.55	20.58	20.62
		Middle		20.63	20.61	20.56
		High		20.71	20.66	20.64
	100%	/	21.50	20.67	20.60	20.66
Modulation	RB	RB Offset	Tune up	10MHz		
				18650	18900	19150
QPSK	1	Low	23.50	22.09	22.38	22.56
		Middle		22.53	22.85	22.84
		High		22.32	22.52	22.72
	50%	Low	22.50	21.52	21.79	21.73
		Middle		21.47	21.67	21.75
		High		21.53	21.73	21.77
	100%	/	22.50	21.50	21.69	21.80
16QAM	1	Low	22.50	21.76	21.62	21.58
		Middle		21.75	21.70	21.66
		High		21.77	21.77	21.67
	50%	Low	21.50	20.58	20.63	20.66
		Middle		20.65	20.65	20.59
		High		20.74	20.71	20.68
	100%	/	21.50	20.70	20.65	20.70
Modulation	RB	RB Offset	Tune up	15MHz		
				18675	18900	19125
QPSK	1	Low	23.50	22.08	22.34	22.54
		Middle		22.51	22.84	22.81
		High		22.29	22.47	22.68
	50%	Low	22.50	21.50	21.75	21.70
		Middle		21.44	21.62	21.71
		High		21.50	21.70	21.73
	100%	/	22.50	21.48	21.65	21.75
16QAM	1	Low	22.50	21.71	21.60	21.56
		Middle		21.73	21.67	21.64
		High		21.74	21.73	21.64
	50%	Low	21.50	20.55	20.61	20.63
		Middle		20.62	20.60	20.55
		High		20.72	20.67	20.65

	100%	/	21.50	20.67	20.60	20.66
Modulation	RB	RB Offset	Tune up	20MHz		
				18700	18900	19100
QPSK	1	Low	23.50	22.05	22.30	22.51
		Middle		22.50	22.80	22.79
		High		22.27	22.46	22.65
	50%	Low	22.50	21.47	21.70	21.66
		Middle		21.42	21.58	21.68
		High		21.47	21.65	21.69
	100%	/	22.50	21.45	21.60	21.71
16QAM	1	Low	22.50	21.62	21.56	21.51
		Middle		21.69	21.65	21.60
		High		21.72	21.70	21.62
	50%	Low	21.50	20.52	20.57	20.60
		Middle		20.59	20.58	20.52
		High		20.69	20.62	20.61
	100%	/	21.50	20.65	20.56	20.63

Sensor on

LTE			**LTE B2**			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				18607	18900	19193
QPSK	1	Low	15.50	14.55	14.49	14.52
		Middle		14.69	14.88	14.82
		High		14.30	14.34	14.51
	50%	Low	15.50	14.72	14.86	14.79
		Middle		14.60	14.66	14.81
		High		14.60	14.76	14.72
	100%	/	15.50	14.58	14.70	14.74
16QAM	1	Low	15.50	14.81	14.72	14.71
		Middle		14.83	14.60	14.78
		High		14.72	14.66	14.71
	50%	Low	15.50	14.66	14.79	14.75
		Middle		14.78	14.63	14.68
		High		14.58	14.77	14.61
	100%	/	15.50	14.62	14.68	14.67
Modulation	RB	RB Offset	Tune up	3MHz		
				18615	18900	19185
QPSK	1	Low	15.50	14.63	14.59	14.61
		Middle		14.78	14.93	14.91
		High		14.41	14.48	14.62
	50%	Low	15.50	14.80	14.94	14.87
		Middle		14.69	14.75	14.92

		High		14.69	14.81	14.80
	100%	/	15.50	14.62	14.77	14.82
16QAM	1	Low	15.50	14.92	14.80	14.78
		Middle		14.90	14.68	14.85
		High		14.82	14.76	14.82
	50%	Low	15.50	14.74	14.85	14.83
		Middle		14.88	14.76	14.79
		High		14.66	14.85	14.69
	100%	/	15.50	14.71	14.77	14.78
Modulation	RB	RB Offset	Tune up	5MHz		
				18625	18900	19175
QPSK	1	Low	15.50	14.60	14.57	14.57
		Middle		14.76	14.89	14.88
		High		14.38	14.43	14.58
	50%	Low	15.50	14.77	14.89	14.83
		Middle		14.67	14.71	14.87
		High		14.67	14.79	14.76
	100%	/	15.50	14.62	14.76	14.80
16QAM	1	Low	15.50	14.89	14.76	14.75
		Middle		14.87	14.66	14.82
		High		14.79	14.74	14.78
	50%	Low	15.50	14.72	14.81	14.80
		Middle		14.85	14.71	14.75
		High		14.63	14.80	14.65
	100%	/	15.50	14.69	14.73	14.73
Modulation	RB	RB Offset	Tune up	10MHz		
				18650	18900	19150
QPSK	1	Low	15.50	14.62	14.58	14.60
		Middle		14.79	14.94	14.92
		High		14.40	14.47	14.61
	50%	Low	15.50	14.80	14.94	14.87
		Middle		14.70	14.76	14.91
		High		14.69	14.83	14.81
	100%	/	15.50	14.66	14.78	14.84
16QAM	1	Low	15.50	14.91	14.79	14.77
		Middle		14.90	14.70	14.85
		High		14.82	14.76	14.81
	50%	Low	15.50	14.75	14.86	14.84
		Middle		14.87	14.75	14.78
		High		14.66	14.85	14.69
	100%	/	15.50	14.72	14.78	14.77
Modulation	RB	RB Offset	Tune up	15MHz		

				18675	18900	19125
QPSK	1	Low	15.50	14.61	14.54	14.58
		Middle		14.77	14.93	14.89
		High		14.37	14.42	14.57
	50%	Low	15.50	14.78	14.90	14.84
		Middle		14.67	14.71	14.87
		High		14.66	14.80	14.77
	100%	/	15.50	14.64	14.74	14.79
16QAM	1	Low	15.50	14.86	14.77	14.75
		Middle		14.88	14.67	14.83
		High		14.79	14.72	14.78
	50%	Low	15.50	14.72	14.84	14.81
		Middle		14.84	14.70	14.74
		High		14.64	14.81	14.66
	100%	/	15.50	14.69	14.73	14.73
Modulation	RB	RB Offset	Tune up	20MHz		
				18700	18900	19100
QPSK	1	Low	15.50	14.58	14.50	14.55
		Middle		14.76	14.89	14.87
		High		14.35	14.41	14.54
	50%	Low	15.50	14.75	14.85	14.80
		Middle		14.65	14.67	14.84
		High		14.63	14.75	14.73
	100%	/	15.50	14.61	14.69	14.75
16QAM	1	Low	15.50	14.63	14.73	14.70
		Middle		14.84	14.65	14.79
		High		14.77	14.69	14.76
	50%	Low	15.50	14.69	14.80	14.78
		Middle		14.81	14.68	14.71
		High		14.61	14.76	14.62
	100%	/	15.50	14.67	14.69	14.70

Table 13.4-2: The conducted power for LTE Band 4

Full power&Sensor off						
LTE			**LTE B4**			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				19957	20175	20393
QPSK	1	Low	22.50	22.06	21.96	21.72
		Middle		22.18	22.16	21.73
		High		21.66	21.47	21.32
	50%	Low	22.50	21.99	22.02	21.86

		Middle		21.95	21.97	21.71
		High		21.95	21.70	21.59
	100%	/	21.50	21.07	20.94	20.71
16QAM	1	Low	21.50	21.14	20.98	20.92
		Middle		21.12	21.16	20.78
		High		20.79	20.92	20.77
	50%	Low	21.50	21.05	21.00	20.80
		Middle		20.94	20.90	20.63
		High		20.95	20.79	20.46
	100%	/	20.50	20.00	19.84	19.73
Modulation	RB	RB Offset	Tune up	3MHz		
				19965	20175	20385
QPSK	1	Low	22.50	22.08	22.00	21.75
		Middle		22.16	22.19	21.77
		High		21.69	21.52	21.36
	50%	Low	21.50	21.09	21.14	20.99
		Middle		21.07	21.07	20.83
		High		21.05	20.81	20.69
	100%	/	21.50	21.07	20.98	20.74
16QAM	1	Low	21.50	21.17	21.00	20.95
		Middle		21.15	21.16	20.82
		High		20.81	20.96	20.80
	50%	Low	20.50	20.16	20.13	19.92
		Middle		20.05	20.03	19.75
		High		20.05	19.91	19.59
	100%	/	20.50	20.03	19.88	19.76
Modulation	RB	RB Offset	Tune up	5MHz		
				19975	20175	20375
QPSK	1	Low	22.50	22.05	21.98	21.71
		Middle		22.14	22.15	21.74
		High		21.66	21.47	21.32
	50%	Low	21.50	21.06	21.09	20.95
		Middle		21.05	21.03	20.78
		High		21.03	20.79	20.65
	100%	/	21.50	21.07	20.97	20.72
16QAM	1	Low	21.50	21.14	20.96	20.92
		Middle		21.12	21.14	20.79
		High		20.78	20.94	20.76
	50%	Low	20.50	20.14	20.09	19.89
		Middle		20.02	19.98	19.71
		High		20.02	19.86	19.55
	100%	/	20.50	20.01	19.84	19.71

Modulation	RB	RB Offset	Tune up	10MHz		
				20000	20175	20350
QPSK	1	Low	22.50	22.07	21.99	21.74
		Middle		22.17	22.20	21.78
		High		21.68	21.51	21.35
	50%	Low	21.50	21.09	21.14	20.99
		Middle		21.08	21.08	20.82
		High		21.05	20.83	20.70
	100%	/	21.50	21.11	20.99	20.76
16QAM	1	Low	21.50	21.16	20.99	20.94
		Middle		21.15	21.18	20.82
		High		20.81	20.96	20.79
	50%	Low	20.50	20.17	20.14	19.93
		Middle		20.04	20.02	19.74
		High		20.05	19.91	19.59
	100%	/	20.50	20.04	19.89	19.75
Modulation	RB	RB Offset	Tune up	15MHz		
				20025	20175	20325
QPSK	1	Low	22.50	22.06	21.95	21.72
		Middle		22.15	22.19	21.75
		High		21.65	21.46	21.31
	50%	Low	21.50	21.07	21.10	20.96
		Middle		21.05	21.03	20.78
		High		21.02	20.80	20.66
	100%	/	21.50	21.09	20.95	20.71
16QAM	1	Low	21.50	21.11	20.97	20.92
		Middle		21.13	21.15	20.80
		High		20.78	20.92	20.76
	50%	Low	20.50	20.14	20.12	19.90
		Middle		20.01	19.97	19.70
		High		20.03	19.87	19.56
	100%	/	20.50	20.01	19.84	19.71
Modulation	RB	RB Offset	Tune up	20MHz		
				20050	20175	20300
QPSK	1	Low	22.50	22.03	21.91	21.69
		Middle		22.14	22.15	21.73
		High		21.63	21.45	21.28
	50%	Low	21.50	21.04	21.05	20.92
		Middle		21.03	20.99	20.75
		High		20.99	20.75	20.62
	100%	/	21.50	21.06	20.90	20.67
16QAM	1	Low	21.50	21.13	20.93	20.87

		Middle		21.09	21.13	20.76
		High		20.76	20.89	20.74
	50%	Low	20.50	20.11	20.08	19.87
		Middle		19.98	19.95	19.67
		High		20.00	19.82	19.52
	100%	/	20.50	19.99	19.80	19.68
Sensor on						
LTE			LTE B4			
Modulation	RB	RB Offset	Tune up	1.4MHz		
				19957	20175	20393
QPSK	1	Low	13.00	12.35	12.18	12.19
		Middle		12.53	12.60	12.22
		High		12.03	11.89	11.85
	50%	Low	13.00	12.41	12.47	12.32
		Middle		12.40	12.33	12.22
		High		12.33	12.27	12.08
	100%	/	13.00	12.42	12.35	12.13
16QAM	1	Low	13.00	12.27	12.22	12.14
		Middle		12.29	12.28	12.25
		High		12.22	12.29	12.25
	50%	Low	13.00	12.11	12.23	12.21
		Middle		12.19	12.16	12.19
		High		12.26	12.23	12.19
	100%	/	13.00	12.28	12.25	12.31
Modulation	RB	RB Offset	Tune up	3MHz		
				19965	20175	20385
QPSK	1	Low	13.00	12.42	12.25	12.22
		Middle		12.61	12.64	12.30
		High		12.13	12.02	12.10
	50%	Low	13.00	12.48	12.54	12.39
		Middle		12.48	12.32	12.32
		High		12.41	12.30	12.15
	100%	/	13.00	12.45	12.41	12.20
16QAM	1	Low	13.00	12.37	12.29	12.20
		Middle		12.35	12.35	12.29
		High		12.32	12.37	12.35
	50%	Low	13.00	12.18	12.28	12.28
		Middle		12.28	12.28	12.29
		High		12.33	12.22	12.26
	100%	/	13.00	12.36	12.41	12.38
Modulation	RB	RB Offset	Tune up	5MHz		
				19975	20175	20375

QPSK	1	Low	13.00	12.39	12.23	12.18
		Middle		12.59	12.60	12.27
		High		12.10	11.97	11.91
	50%	Low	13.00	12.45	12.49	12.35
		Middle		12.46	12.37	12.27
		High		12.39	12.28	12.11
	100%	/	13.00	12.45	12.40	12.18
16QAM	1	Low	13.00	12.34	12.25	12.17
		Middle		12.32	12.33	12.26
		High		12.29	12.35	12.31
	50%	Low	13.00	12.16	12.24	12.25
		Middle		12.25	12.23	12.25
		High		12.30	12.25	12.22
	100%	/	13.00	12.34	12.37	12.39
Modulation	RB	RB Offset	Tune up	10MHz		
				20000	20175	20350
QPSK	1	Low	13.00	12.41	12.24	12.21
		Middle		12.62	12.61	12.31
		High		12.12	12.01	11.94
	50%	Low	13.00	12.48	12.54	12.39
		Middle		12.50	12.37	12.31
		High		12.41	12.32	12.16
	100%	/	13.00	12.49	12.42	12.22
16QAM	1	Low	13.00	12.36	12.28	12.21
		Middle		12.35	12.37	12.29
		High		12.32	12.37	12.34
	50%	Low	13.00	12.19	12.32	12.29
		Middle		12.27	12.27	12.28
		High		12.33	12.30	12.26
	100%	/	13.00	12.37	12.42	12.43
Modulation	RB	RB Offset	Tune up	15MHz		
				20025	20175	20325
QPSK	1	Low	13.00	12.32	12.14	12.16
		Middle		12.52	12.56	12.20
		High		12.01	11.88	11.82
	50%	Low	13.00	12.38	12.42	12.28
		Middle		12.38	12.29	12.19
		High		12.30	12.22	12.04
	100%	/	13.00	12.39	12.30	12.09
16QAM	1	Low	13.00	12.19	12.18	12.09
		Middle		12.25	12.26	12.21
		High		12.20	12.26	12.23

	50%	Low	13.00	12.08	12.19	12.18
		Middle		12.16	12.14	12.16
		High		12.23	12.18	12.15
	100%	/	13.00	12.26	12.21	12.28
Modulation	RB	RB Offset	Tune up	20MHz		
				20050	20175	20300
QPSK	1	Low	13.00	12.37	12.16	12.16
		Middle		12.59	12.60	12.26
		High		12.07	11.95	11.87
	50%	Low	13.00	12.43	12.45	12.32
		Middle		12.44	12.33	12.24
		High		12.35	12.24	12.08
	100%	/	13.00	12.44	12.33	12.13
16QAM	1	Low	13.00	12.28	12.22	12.12
		Middle		12.29	12.32	12.23
		High		12.27	12.30	12.29
	50%	Low	13.00	12.13	12.23	12.23
		Middle		12.21	12.20	12.21
		High		12.28	12.21	12.19
	100%	/	13.00	12.32	12.33	12.36

Table 13.4-3: The conducted power for LTE Band 5

Full power&Sensor off						
LTE				**LTE B5**		
Modulation	RB	RB Offset	Tune up	1.4MHz		
				20407	20525	20643
QPSK	1	Low	23.50	22.26	22.45	22.39
		Middle		22.45	22.45	22.41
		High		22.36	22.39	22.39
	50%	Low	23.50	22.35	22.52	22.37
		Middle		22.28	22.47	22.48
		High		22.42	22.38	22.42
	100%	/	22.50	21.47	21.45	21.46
16QAM	1	Low	22.50	21.49	21.37	21.54
		Middle		21.47	21.51	21.42
		High		21.38	21.32	21.40
	50%	Low	22.50	21.38	21.41	21.40
		Middle		21.37	21.46	21.50
		High		21.37	21.43	21.42
	100%	/	21.50	20.50	20.56	20.49
Modulation	RB	RB Offset	Tune up	3MHz		

				20415	20525	20635
QPSK	1	Low	23.50	22.27	22.48	22.41
		Middle		22.44	22.49	22.46
		High		22.38	22.43	22.42
	50%	Low	22.50	21.45	21.64	21.50
		Middle		21.41	21.58	21.59
		High		21.52	21.51	21.53
	100%	/	22.50	21.51	21.50	21.51
16QAM	1	Low	22.50	21.51	21.38	21.56
		Middle		21.50	21.53	21.46
		High		21.40	21.36	21.42
	50%	Low	21.50	20.50	20.55	20.53
		Middle		20.47	20.58	20.61
		High		20.47	20.55	20.55
	100%	/	21.50	20.54	20.61	20.51
Modulation	RB	RB Offset	Tune up	5MHz		
				20425	20525	20625
QPSK	1	Low	23.50	22.26	22.44	22.39
		Middle		22.42	22.48	22.43
		High		22.35	22.38	22.38
	50%	Low	22.50	21.43	21.60	21.47
		Middle		21.38	21.53	21.55
		High		21.49	21.48	21.49
	100%	/	22.50	21.49	21.46	21.46
16QAM	1	Low	22.50	21.46	21.36	21.54
		Middle		21.48	21.50	21.44
		High		21.37	21.32	21.39
	50%	Low	21.50	20.47	20.53	20.50
		Middle		20.44	20.53	20.57
		High		20.45	20.51	20.52
	100%	/	21.50	20.51	20.56	20.47
Modulation	RB	RB Offset	Tune up	10MHz		
				20450	20525	20600
QPSK	1	Low	23.50	22.23	22.40	22.36
		Middle		22.41	22.44	22.41
		High		22.33	22.37	22.35
	50%	Low	22.50	21.40	21.55	21.43
		Middle		21.36	21.49	21.52
		High		21.46	21.43	21.45
	100%	/	22.50	21.46	21.41	21.42
16QAM	1	Low	22.50	21.40	21.32	21.49
		Middle		21.44	21.48	21.40

		High		21.35	21.29	21.37
	50%	Low	21.50	20.44	20.49	20.47
		Middle		20.41	20.51	20.54
		High		20.42	20.46	20.48
	100%	/	21.50	20.49	20.52	20.44

Table 13.4-4: The conducted Power for LTE Band 7

Full power&Sensor off						
LTE			**LTE B7**			
Modulation	RB	RB Offset	Tune up	5MHz		
				20775	21100	21425
QPSK	1	Low	23.00	21.94	21.65	21.69
		Middle		22.04	21.94	22.13
		High		21.85	21.72	22.02
	50%	Low	22.00	21.12	20.86	21.15
		Middle		21.05	20.94	21.05
		High		21.13	20.96	21.06
	100%	/	22.00	21.02	20.90	21.05
16QAM	1	Low	22.00	20.91	20.72	20.75
		Middle		20.89	20.99	20.85
		High		20.92	20.87	20.82
	50%	Low	21.00	19.77	19.73	19.72
		Middle		19.90	19.85	19.78
		High		19.84	19.90	19.74
	100%	/	21.00	19.82	19.93	19.82
Modulation	RB	RB Offset	Tune up	10MHz		
				20800	21100	21400
QPSK	1	Low	23.00	21.96	21.66	21.72
		Middle		22.07	21.99	22.17
		High		21.87	21.76	22.05
	50%	Low	22.00	21.15	20.91	21.19
		Middle		21.08	20.99	21.09
		High		21.15	21.00	21.11
	100%	/	22.00	21.06	20.92	21.09
16QAM	1	Low	22.00	20.93	20.75	20.77
		Middle		20.92	21.03	20.88
		High		20.95	20.89	20.85
	50%	Low	21.00	19.80	19.78	19.76
		Middle		19.92	19.89	19.81
		High		19.87	19.95	19.78
	100%	/	21.00	19.85	19.98	19.86

Modulation	RB	RB Offset	Tune up	15MHz		
				20825	21100	21375
QPSK	1	Low	23.00	21.95	21.62	21.70
		Middle		22.05	21.98	22.14
		High		21.84	21.71	22.01
	50%	Low	22.00	21.13	20.87	21.16
		Middle		21.05	20.94	21.05
		High		21.12	20.97	21.07
	100%	/	22.00	21.04	20.88	21.04
16QAM	1	Low	22.00	20.88	20.73	20.75
		Middle		20.90	21.00	20.86
		High		20.92	20.85	20.82
	50%	Low	21.00	19.77	19.76	19.73
		Middle		19.89	19.84	19.77
		High		19.85	19.91	19.75
	100%	/	21.00	19.82	19.93	19.82
Modulation	RB	RB Offset	Tune up	20MHz		
				20850	21100	21350
QPSK	1	Low	22.50	21.92	21.58	21.67
		Middle		22.04	21.94	22.12
		High		21.82	21.70	21.98
	50%	Low	21.50	21.10	20.82	21.12
		Middle		21.03	20.90	21.02
		High		21.09	20.92	21.03
	100%	/	21.50	21.01	20.83	21.00
16QAM	1	Low	21.50	20.82	20.69	20.70
		Middle		20.86	20.98	20.82
		High		20.90	20.82	20.80
	50%	Low	20.50	19.74	19.72	19.70
		Middle		19.86	19.82	19.74
		High		19.82	19.86	19.71
	100%	/	20.50	19.80	19.89	19.79

Sensor on

LTE				**LTE B7**		
Modulation	RB	RB Offset	Tune up	5MHz		
				20775	21100	21425
QPSK	1	Low	21.50	19.61	19.98	19.56
		Middle		20.43	20.32	20.45
		High		19.88	19.96	19.82
	50%	Low	21.00	20.12	20.16	20.24
		Middle		20.19	20.22	19.90
		High		20.19	20.21	20.01

	100%	/	21.00	20.04	20.18	19.92
16QAM	1	Low	21.00	19.99	19.87	19.97
		Middle		19.97	20.20	20.13
		High		19.99	20.11	19.91
	50%	Low	21.00	19.78	20.15	19.83
		Middle		19.91	20.30	19.92
		High		19.82	20.26	19.88
	100%	/	21.00	19.89	20.13	19.92
Modulation	RB	RB Offset	Tune up	10MHz		
				20800	21100	21400
QPSK	1	Low	21.50	19.60	19.97	19.50
		Middle		20.46	20.37	20.49
		High		19.90	20.00	19.85
	50%	Low	21.00	20.15	20.21	20.28
		Middle		20.22	20.27	19.94
		High		20.21	20.25	20.06
	100%	/	21.00	20.08	20.20	19.96
16QAM	1	Low	21.00	20.01	19.87	19.99
		Middle		20.00	20.24	20.16
		High		20.02	20.13	19.94
	50%	Low	21.00	19.81	20.20	19.87
		Middle		19.93	20.30	19.95
		High		19.85	20.31	19.92
	100%	/	21.00	19.92	20.21	19.94
Modulation	RB	RB Offset	Tune up	15MHz		
				20825	21100	21375
QPSK	1	Low	21.50	19.59	19.93	19.48
		Middle		20.44	20.36	20.46
		High		19.87	19.95	19.81
	50%	Low	21.00	20.13	20.17	20.25
		Middle		20.19	20.22	19.90
		High		20.18	20.22	20.02
	100%	/	21.00	20.06	20.16	19.91
16QAM	1	Low	21.00	19.96	19.92	19.97
		Middle		20.00	20.21	20.11
		High		19.99	20.09	19.91
	50%	Low	21.00	19.78	20.18	19.84
		Middle		19.96	20.25	19.91
		High		19.90	20.31	19.89
	100%	/	21.00	19.89	20.16	19.90
Modulation	RB	RB Offset	Tune up	20MHz		
				20850	21100	21350

QPSK	1	Low	21.50	19.56	19.89	19.45
		Middle		20.43	20.44	20.32
		High		19.85	19.94	19.78
	50%	Low	21.00	20.10	20.21	20.12
		Middle		20.17	20.18	19.87
		High		20.15	20.17	19.98
	100%	/	21.00	20.03	20.11	19.87
16QAM	1	Low	21.00	19.98	19.81	19.92
		Middle		19.94	20.19	20.10
		High		19.97	20.06	19.89
	50%	Low	21.00	19.75	20.14	19.81
		Middle		19.87	20.23	19.88
		High		19.80	20.22	19.85
	100%	/	21.00	19.87	20.12	19.87

Table 13.4-5: The conducted Power for LTE Band 17

Full power&Sensor off						
LTE			**LTE B17**			
Modulation	RB	RB Offset	Tune up	5MHz		
				23755	23790	23825
QPSK	1	Low	23.50	22.44	22.62	22.49
		Middle		22.65	22.69	22.54
		High		22.55	22.56	22.54
	50%	Low	22.50	21.64	21.61	21.66
		Middle		21.57	21.62	21.52
		High		21.60	21.59	21.51
	100%	/	22.50	21.59	21.57	21.62
16QAM	1	Low	22.50	21.89	21.67	21.86
		Middle		21.91	21.99	21.94
		High		21.61	21.67	21.76
	50%	Low	21.50	20.51	20.58	20.48
		Middle		20.46	20.53	20.53
		High		20.43	20.54	20.48
	100%	/	21.50	20.52	20.63	20.55
Modulation	RB	RB Offset	Tune up	10MHz		
				23780	23790	23800
QPSK	1	Low	23.50	22.41	22.58	22.46
		Middle		22.64	22.65	22.52
		High		22.53	22.55	22.51
	50%	Low	22.50	21.61	21.56	21.62
		Middle		21.55	21.58	21.49

		High		21.57	21.54	21.47
	100%	/	22.50	21.56	21.52	21.58
16QAM	1	Low	22.50	21.70	21.63	21.81
		Middle		21.87	21.97	21.90
		High		21.59	21.64	21.74
	50%	Low	21.50	20.48	20.54	20.45
		Middle		20.43	20.51	20.50
		High		20.40	20.49	20.44
	100%	/	21.50	20.50	20.59	20.52

Table 13.4-6: The conducted Power for LTE Band 38

Full power&Sensor off						
LTE			LTE B38			
Modulation	RB	RB Offset	Tune up	5MHz		
				37775	38000	38225
QPSK	1	Low	24.00	21.42	21.94	22.19
		Middle		22.07	22.42	22.71
		High		22.15	22.43	22.60
	50%	Low	23.00	20.80	21.13	21.51
		Middle		21.09	21.37	21.76
		High		21.15	21.42	21.84
	100%	/	23.00	21.01	21.34	21.68
16QAM	1	Low	23.00	21.10	20.87	21.23
		Middle		21.08	21.48	21.92
		High		21.01	21.41	21.69
	50%	Low	22.00	19.82	20.14	20.50
		Middle		19.94	20.37	20.73
		High		20.02	20.47	20.74
	100%	/	22.00	19.98	20.25	20.66
Modulation	RB	RB Offset	Tune up	10MHz		
				37800	38000	38200
QPSK	1	Low	24.00	21.44	21.95	22.22
		Middle		22.10	22.47	22.75
		High		22.17	22.47	22.63
	50%	Low	23.00	20.83	21.18	21.55
		Middle		21.12	21.42	21.80
		High		21.17	21.46	21.89
	100%	/	23.00	21.05	21.36	21.72
16QAM	1	Low	23.00	21.12	20.90	21.25
		Middle		21.11	21.52	21.95
		High		21.04	21.43	21.72

	50%	Low	22.00	19.85	20.19	20.54
		Middle		19.96	20.41	20.76
		High		20.05	20.52	20.78
	100%	/	22.00	20.01	20.30	20.70
Modulation	RB	RB Offset	Tune up	15MHz		
				37825	38000	38175
QPSK	1	Low	24.00	21.43	21.91	22.20
		Middle		22.08	22.46	22.72
		High		22.14	22.42	22.59
	50%	Low	23.00	20.81	21.14	21.52
		Middle		21.09	21.37	21.76
		High		21.14	21.43	21.85
	100%	/	23.00	21.03	21.32	21.67
16QAM	1	Low	23.00	21.07	20.88	21.23
		Middle		21.09	21.49	21.93
		High		21.01	21.39	21.69
	50%	Low	22.00	19.82	20.17	20.51
		Middle		19.93	20.36	20.72
		High		20.03	20.48	20.75
	100%	/	22.00	19.98	20.25	20.66
Modulation	RB	RB Offset	Tune up	20MHz		
				37850	38000	38150
QPSK	1	Low	24.00	21.40	21.87	22.17
		Middle		22.07	22.42	**22.70**
		High		22.12	22.41	22.56
	50%	Low	23.00	21.12	21.09	21.48
		Middle		21.07	21.33	21.73
		High		21.11	21.38	**21.81**
	100%	/	23.00	21.20	21.27	**21.63**
16QAM	1	Low	23.00	20.57	20.84	21.18
		Middle		21.05	21.47	21.89
		High		21.01	21.36	21.67
	50%	Low	22.00	19.79	20.13	20.48
		Middle		19.90	20.34	20.69
		High		20.00	20.43	20.71
	100%	/	22.00	19.96	20.21	20.63

Sensor on

LTE			**LTE B38**			
Modulation	RB	RB Offset	Tune up	5MHz		
				37775	38000	38225
QPSK	1	Low	20.00	18.23	18.39	18.41
		Middle		18.62	18.72	18.79

		High		18.47	18.53	18.71
	50%	Low	19.00	17.41	17.72	17.80
		Middle		17.59	17.75	17.70
		High		17.60	17.96	17.90
	100%	/	19.00	17.70	17.92	17.95
16QAM	1	Low	19.00	17.85	17.40	17.53
		Middle		17.83	17.83	17.75
		High		17.73	17.70	17.65
	50%	Low	18.00	16.56	16.67	16.80
		Middle		16.77	16.81	16.75
		High		16.74	16.83	16.73
	100%	/	18.00	16.83	16.87	16.85
Modulation	RB	RB Offset	Tune up	10MHz		
				37800	38000	38200
QPSK	1	Low	20.00	18.25	18.40	18.44
		Middle		18.65	18.77	18.83
		High		18.49	18.57	18.74
	50%	Low	19.00	17.44	17.77	17.84
		Middle		17.62	17.80	17.74
		High		17.62	18.00	17.95
	100%	/	19.00	17.74	17.94	17.99
16QAM	1	Low	19.00	17.87	17.43	17.55
		Middle		17.86	17.87	17.78
		High		17.76	17.72	17.68
	50%	Low	18.00	16.59	16.72	16.84
		Middle		16.79	16.85	16.78
		High		16.77	16.88	16.77
	100%	/	18.00	16.86	16.92	16.89
Modulation	RB	RB Offset	Tune up	15MHz		
				37825	38000	38175
QPSK	1	Low	20.00	18.24	18.36	18.42
		Middle		18.63	18.76	18.80
		High		18.46	18.52	18.70
	50%	Low	19.00	17.42	17.73	17.81
		Middle		17.59	17.75	17.70
		High		17.59	17.97	17.91
	100%	/	19.00	17.72	17.90	17.94
16QAM	1	Low	19.00	17.82	17.41	17.53
		Middle		17.84	17.84	17.76
		High		17.73	17.68	17.65
	50%	Low	18.00	16.56	16.70	16.81
		Middle		16.76	16.80	16.74

		High		16.75	16.84	16.74
	100%	/	18.00	16.83	16.87	16.85
Modulation	RB	RB Offset	Tune up	20MHz		
				37850	38000	38150
QPSK	1	Low	20.00	18.21	18.32	18.39
		Middle		18.62	18.72	18.78
		High		18.44	18.51	18.67
	50%	Low	19.00	17.39	17.68	17.77
		Middle		17.57	17.71	17.67
		High		17.56	17.92	17.87
	100%	/	19.00	17.69	17.85	17.90
16QAM	1	Low	19.00	17.27	17.37	17.48
		Middle		17.80	17.82	17.72
		High		17.71	17.65	17.63
	50%	Low	18.00	16.53	16.66	16.78
		Middle		16.73	16.78	16.71
		High		16.72	16.79	16.70
	100%	/	18.00	16.81	16.83	16.82

Table 13.4-7: The conducted Power for LTE Band 41

Full power&Sensor off						
LTE			**LTE B41**			
Modulation	RB	RB Offset	Tune up	5MHz		
				40065	40640	41215
QPSK	1	Low	24.00	22.14	22.37	22.65
		Middle		22.52	22.75	22.91
		High		22.19	22.58	22.79
	50%	Low	23.00	21.28	21.63	21.91
		Middle		21.54	21.76	21.93
		High		21.58	21.82	21.95
	100%	/	23.00	21.45	21.77	21.95
16QAM	1	Low	23.00	21.63	21.48	21.77
		Middle		21.61	21.84	22.13
		High		21.36	21.65	21.86
	50%	Low	22.00	20.33	20.63	20.92
		Middle		20.57	20.77	21.02
		High		20.69	20.79	20.97
	100%	/	22.00	20.52	20.76	20.91
Modulation	RB	RB Offset	Tune up	10MHz		
				40090	40640	41190
QPSK	1	Low	24.00	22.16	22.38	22.68

		Middle		22.55	22.80	22.95
		High		22.21	22.62	22.82
	50%	Low	23.00	21.31	21.68	21.95
		Middle		21.57	21.81	21.97
		High		21.60	21.86	22.00
	100%	/	23.00	21.49	21.79	21.99
16QAM	1	Low	23.00	21.65	21.51	21.79
		Middle		21.64	21.88	22.16
		High		21.39	21.67	21.89
	50%	Low	22.00	20.36	20.68	20.96
		Middle		20.59	20.81	21.05
		High		20.72	20.84	21.01
	100%	/	22.00	20.55	20.81	20.95
Modulation	RB	RB Offset	Tune up	15MHz		
				40115	40640	41165
QPSK	1	Low	24.00	22.15	22.34	22.66
		Middle		22.53	22.79	22.92
		High		22.18	22.57	22.78
	50%	Low	23.00	21.29	21.64	21.92
		Middle		21.54	21.76	21.93
		High		21.57	21.83	21.96
	100%	/	23.00	21.47	21.75	21.94
16QAM	1	Low	23.00	21.60	21.49	21.77
		Middle		21.62	21.85	22.14
		High		21.36	21.63	21.86
	50%	Low	22.00	20.33	20.66	20.93
		Middle		20.56	20.76	21.01
		High		20.70	20.80	20.98
	100%	/	22.00	20.52	20.76	20.91
Modulation	RB	RB Offset	Tune up	20MHz		
				40140	40640	41140
QPSK	1	Low	24.00	22.12	22.30	22.63
		Middle		22.52	22.75	22.90
		High		22.16	22.56	22.75
	50%	Low	23.00	21.26	21.59	21.88
		Middle		21.52	21.72	21.90
		High		21.54	21.78	21.92
	100%	/	23.00	21.44	21.70	21.90
16QAM	1	Low	23.00	21.19	21.45	21.72
		Middle		21.58	21.83	22.10
		High		21.34	21.60	21.84
	50%	Low	22.00	20.30	20.62	20.90

		Middle		20.53	20.74	20.98
		High		20.67	20.75	20.94
	100%	/	22.00	20.50	20.72	20.88
Sensor on						
LTE			LTE B41			
Modulation	RB	RB Offset	Tune up	5MHz		
				40065	40640	41215
QPSK	1	Low	20.00	17.94	18.20	18.50
		Middle		18.30	18.82	18.81
		High		17.98	18.40	18.60
	50%	Low	20.00	18.04	18.47	18.84
		Middle		18.21	18.83	18.80
		High		18.33	18.57	18.77
	100%	/	20.00	18.26	18.63	18.77
16QAM	1	Low	20.00	18.46	18.35	18.61
		Middle		18.44	18.57	18.56
		High		18.21	18.52	18.63
	50%	Low	20.00	18.15	18.30	18.67
		Middle		18.33	18.55	18.72
		High		18.40	18.54	18.76
	100%	/	20.00	18.26	18.54	18.70
Modulation	RB	RB Offset	Tune up	10MHz		
				40090	40640	41190
QPSK	1	Low	20.00	17.96	18.25	18.53
		Middle		18.33	18.87	18.85
		High		17.96	18.42	18.63
	50%	Low	20.00	18.12	18.51	18.79
		Middle		18.36	18.88	18.84
		High		18.35	18.61	18.87
	100%	/	20.00	18.30	18.65	18.81
16QAM	1	Low	20.00	18.48	18.32	18.66
		Middle		18.47	18.61	18.59
		High		18.16	18.50	18.66
	50%	Low	20.00	18.18	18.35	18.71
		Middle		18.31	18.59	18.77
		High		18.40	18.59	18.80
	100%	/	20.00	18.29	18.63	18.78
Modulation	RB	RB Offset	Tune up	15MHz		
				40115	40640	41165
QPSK	1	Low	20.00	18.02	18.09	18.45
		Middle		18.31	18.86	18.82
		High		17.98	18.39	18.59

	50%	Low	20.00	18.11	18.47	18.76
		Middle		18.25	18.83	18.80
		High		18.32	18.58	18.81
	100%	/	20.00	18.28	18.61	18.76
16QAM	1	Low	20.00	18.43	18.30	18.64
		Middle		18.45	18.58	18.57
		High		18.13	18.49	18.63
	50%	Low	20.00	18.15	18.33	18.68
		Middle		18.28	18.54	18.73
		High		18.38	18.55	18.77
	100%	/	20.00	18.26	18.58	18.74
Modulation	RB	RB Offset	Tune up	20MHz		
				40140	40640	41140
QPSK	1	Low	20.00	17.92	18.13	18.48
		Middle		18.30	18.82	18.80
		High		17.91	18.38	18.56
	50%	Low	20.00	18.02	18.42	18.72
		Middle		18.19	18.79	18.77
		High		18.29	18.53	18.77
	100%	/	20.00	18.25	18.56	18.72
16QAM	1	Low	20.00	18.04	18.26	18.59
		Middle		18.41	18.56	18.53
		High		18.11	18.46	18.61
	50%	Low	20.00	18.12	18.29	18.65
		Middle		18.25	18.52	18.70
		High		18.35	18.50	18.73
	100%	/	20.00	18.24	18.54	18.71

13.5 BT Measurement result

Table 13.5-1: The conducted power for Bluetooth

Full power&Sensor off						
BlueTooth	**Maximum Output Power (dBm)**					
Channel	0		39		78	
Mode	Tune up	Output Power	Tune up	Output Power	Tune up	Output Power
GFSK	6.50	5.65	7.50	6.89	6.50	5.45
DQPSK	5.50	4.57	6.50	5.74	5.50	4.22
8DPSK	5.50	4.60	6.50	5.84	5.50	4.36
BlueTooth	**Maximum Output Power (dBm)**					
Mode	Tune up		Channel		Output Power	
BLE	7.00		0		5.545	
	7.00		19		6.323	
	7.00		38		5.278	

13.6 Wi-Fi Measurement result

Table 13.6-1: The average conducted power for Wi-Fi 2.4G

Full power&Sensor off				
Wi-Fi			**Wi-Fi 2.4G conducted power(dBm)**	
Mode	BW	Channel	Tune up	Output Power
802.11b	20M	1	15.00	14.84
		6	15.50	15.38
		11	15.00	14.62
802.11g	20M	1	15.00	14.18
		6	15.00	14.66
		11	14.00	13.58
802.11n	20M	1	14.50	13.73
		6	15.00	14.44
		11	14.50	13.48
	40M	3	14.50	13.60
		6	14.50	13.92
		9	14.50	13.91

Table 13.6-2: The average conducted power for Wi-Fi 5G

Full power&Sensor off				
Wi-Fi			**Wi-Fi 5G conducted power(dBm)**	
Mode	BW	Channel	Tune up	Output Power
802.11a	20M	36	13.00	12.37
		40	13.00	12.28
		48	11.50	11.05
		52	11.50	11.04
		56	11.50	10.90
		64	11.50	10.68
		149	10.00	9.61
		157	9.50	9.07
		165	9.00	8.36
802.11n	20M	36	13.00	12.65
		40	12.50	12.26

		48	12.00	11.12
		52	11.50	10.62
		56	11.00	10.27
		64	11.00	10.59
		149	10.50	9.79
		157	10.50	9.09
		165	9.00	8.37
	40M	38	13.00	12.46
		46	12.00	11.61
		54	11.50	10.61
		62	11.50	10.81
		151	10.50	9.36
		159	10.50	9.04

14 Test Results

14.1 Standalone SAR Test Result

14.1.1 Limit/Criterion

At frequencies between 100 kHz and 6 GHz, the MPE (Maximum Permissible Exposure) in population/ uncontrolled environments for electromagnetic field strengths may be exceeded if

(a) The exposure conditions can be shown by appropriate techniques to produce SARs below 0.08W/kg, as averaged over the whole body, and spatial peak SAR values not exceeding 1.6 W/kg, as averaged over any 1g of tissue (defined as a tissue volume in the shape of a cube), except for the hands, wrists, feet, and ankles where the spatial peak SAR shall not exceed 4 W/kg, as averaged over any 10g of tissue (defined as a tissue volume in the shape of a cube); and

(b) The induced currents in the body confirm with the MPE in table 2, Part B in ANSI/IEEE C95.1-1992.

14.1.2 Test Results

Table 14.1.2-1: SAR Values for GSM850

Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
								Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)											
Front Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.03	0.152	1.16	0.177	/
Back Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.04	0.088	1.16	0.102	/
Left Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.02	0.019	1.16	0.022	/
Right Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.07	0.038	1.16	0.044	/
Bottom Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	-0.04	0.180	1.16	0.209	/
Bottom Side	Sensor off	GPRS 4TS	128	824.2	28.14	29.00	-0.06	0.172	1.22	0.210	/
Bottom Side	Sensor off	GPRS 4TS	251	848.8	28.49	29.00	0.02	0.219	1.12	0.246	A.1-1
Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
								Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)											
Front Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.02	0.169	1.16	0.196	/
Back Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.04	0.104	1.16	0.121	/
Left Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.03	0.024	1.16	0.027	/
Right Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.02	0.037	1.16	0.043	/
Bottom Side	Sensor off	GPRS 4TS	190	836.6	28.35	29.00	0.07	0.195	1.16	0.226	/
Bottom Side	Sensor off	GPRS 4TS	128	824.2	28.14	29.00	-0.05	0.209	1.22	0.255	/
Bottom Side	Sensor off	GPRS 4TS	251	848.8	28.49	29.00	-0.04	0.227	1.12	0.255	A.1-2

Table 14.1.2-2: SAR Values for GSM1900

Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
								Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)											
Front Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	0.02	0.133	1.24	0.165	/
Back Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	0.01	0.107	1.24	0.133	/
Left Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	-0.10	0.150	1.16	0.173	/
Right Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	0.02	0.071	1.16	0.082	/
Bottom Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	0.07	0.348	1.24	0.431	/
Bottom Side	Sensor on	GPRS 4TS	512	1850.2	24.00	25.00	0.09	0.283	1.26	0.356	/
Bottom Side	Sensor on	GPRS 4TS	810	1909.8	24.04	25.00	-0.02	0.248	1.25	0.309	/
Body SAR (Define 9mm)											
Front Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	-0.09	0.587	1.16	0.679	/
Front Side	Sensor off	GPRS 4TS	512	1850.2	26.22	27.50	0.18	0.685	1.34	0.920	A.1-3
Front Side	Sensor off	GPRS 4TS	810	1909.8	26.84	27.50	0.18	0.553	1.16	0.644	/
Body SAR (Define 19mm)											
Back Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	0.19	0.231	1.16	0.267	/
Bottom Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	-0.05	0.396	1.16	0.458	/
Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
								Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)											
Front Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	0.07	0.116	1.24	0.144	/
Back Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	0.02	0.114	1.24	0.141	/
Left Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	0.16	0.196	1.16	0.227	/
Right Side	Sensor off	GPRS 4TS	661	1880	26.87	27.50	0.19	0.044	1.16	0.051	/
Bottom Side	Sensor on	GPRS 4TS	661	1880	24.07	25.00	-0.06	0.280	1.24	0.347	A.1-4
Bottom Side	Sensor on	GPRS 4TS	512	1850.2	24.00	25.00	0.03	0.255	1.26	0.321	/
Bottom Side	Sensor on	GPRS 4TS	810	1909.8	24.04	25.00	0.04	0.242	1.25	0.302	/

Table 14.1.2-3: SAR Values for WCDMA Band II

Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
								Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)											
Front Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.08	0.262	1.08	0.284	/
Back Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.02	0.217	1.08	0.235	/
Left Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	0.04	0.143	1.19	0.170	/
Right Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	-0.19	0.084	1.19	0.099	/
Bottom Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.01	0.485	1.08	0.526	/
Bottom Side	Sensor on	RMC12.2k	9262	1852.4	16.05	16.50	0.050	0.768	1.11	0.852	/
Bottom Side	Sensor on	RMC12.2k	9538	1907.6	16.34	16.50	-0.030	0.541	1.04	0.561	/
Body SAR (Define 9mm)											
Front Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	-0.18	0.602	1.19	0.714	/
Front Side	Sensor off	RMC12.2k	9262	1852.4	23.03	24.00	-0.06	0.962	1.25	1.203	A.1-5
Front Side	Sensor off	RMC12.2k	9538	1907.6	23.79	24.00	0.01	0.635	1.05	0.666	/
Repeat											
Front Side	Sensor off	RMC12.2k	9262	1852.4	23.03	24.00	-0.17	0.908	1.25	1.135	/
Body SAR (Define 19mm)											
Back Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	0.19	0.228	1.19	0.270	/
Bottom Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	-0.16	0.446	1.19	0.529	/
Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
								Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)											
Front Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.09	0.236	1.08	0.256	/
Back Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.04	0.200	1.08	0.217	/
Left Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	0.13	0.190	1.19	0.225	/
Right Side	Sensor off	RMC12.2k	9400	1880	23.26	24.00	0.12	0.042	1.19	0.050	/
Bottom Side	Sensor on	RMC12.2k	9400	1880	16.15	16.50	0.01	0.470	1.08	0.509	/
Bottom Side	Sensor on	RMC12.2k	9262	1852.4	16.05	16.50	0.02	0.570	1.11	0.632	A.1-6
Bottom Side	Sensor on	RMC12.2k	9538	1907.6	16.34	16.50	-0.02	0.490	1.04	0.508	/

Table 14.1.2-4: SAR Values for WCDMA Band Ⅳ

Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
								Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)											
Front Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.04	0.578	1.09	0.632	/
Back Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.01	0.426	1.09	0.466	/
Left Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	0.11	0.070	1.08	0.076	/
Right Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	-0.11	0.186	1.08	0.201	/
Bottom Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.02	0.647	1.09	0.708	/
Bottom Side	Sensor on	RMC12.2k	1312	1712.4	16.04	16.50	-0.02	0.706	1.11	0.785	/
Bottom Side	Sensor on	RMC12.2k	1513	1752.6	16.12	16.50	0.07	0.752	1.09	0.821	/
Body SAR (Define 9mm)											
Front Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	0.08	0.954	1.08	1.029	/
Front Side	Sensor off	RMC12.2k	1312	1712.4	22.79	23.00	-0.07	0.890	1.05	0.934	/
Front Side	Sensor off	RMC12.2k	1513	1752.6	22.50	23.00	-0.08	1.030	1.12	1.156	/
Repeat											
Front Side	Sensor off	RMC12.2k	1513	1752.6	22.50	23.00	-0.06	1.040	1.12	1.167	A.1-7
Body SAR (Define 19mm)											
Back Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	0.12	0.317	1.08	0.342	/
Bottom Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	0.10	0.607	1.08	0.655	/
Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
								Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)											
Front Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.04	0.360	1.09	0.394	/
Back Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.05	0.345	1.09	0.377	/
Left Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	0.02	0.052	1.08	0.056	/
Right Side	Sensor off	RMC12.2k	1413	1732.6	22.67	23.00	-0.11	0.237	1.08	0.256	/
Bottom Side	Sensor on	RMC12.2k	1413	1732.6	16.11	16.50	0.06	0.537	1.09	0.587	/
Bottom Side	Sensor on	RMC12.2k	1312	1712.4	16.04	16.50	0.01	0.530	1.11	0.589	/
Bottom Side	Sensor on	RMC12.2k	1513	1752.6	16.12	16.50	0.02	0.577	1.09	0.630	A.1-8

Table 14.1.2-5: SAR Values for WCDMA Band Ⅴ

Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
								Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)											
Front Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	0.03	0.436	1.15	0.499	/
Back Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	0.01	0.528	1.15	0.605	/
Left Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	-0.18	0.235	1.15	0.269	/
Right Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	0.13	0.229	1.15	0.262	/
Bottom Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	-0.05	0.375	1.15	0.430	/
Back Side	Sensor off	RMC12.2k	4132	826.4	23.31	24.00	-0.07	0.530	1.17	0.621	/
Back Side	Sensor off	RMC12.2k	4233	846.6	23.52	24.00	0.09	0.541	1.12	0.604	A.1-9
Test Position	Power Reduction	Mode	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
								Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)											
Front Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	-0.12	0.616	1.15	0.706	A.1-10
Back Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	0.08	0.555	1.15	0.636	/
Left Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	-0.18	0.252	1.15	0.289	/
Right Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	0.13	0.162	1.15	0.186	/
Bottom Side	Sensor off	RMC12.2k	4183	836.6	23.41	24.00	-0.08	0.391	1.15	0.448	/
Front Side	Sensor off	RMC12.2k	4132	826.4	23.31	24.00	-0.17	0.458	1.17	0.537	/
Front Side	Sensor off	RMC12.2k	4233	846.6	23.52	24.00	0.01	0.499	1.12	0.557	/

Table 14.1.2-6: SAR Values for LTE Band 2

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	0.05	0.296	1.15	0.341	/
Back Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	0.06	0.266	1.15	0.306	/
Left Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	-0.11	0.220	1.17	0.258	/
Right Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	-0.11	0.075	1.17	0.088	/
Bottom Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	0.05	0.794	1.15	0.914	/
Front Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.01	0.230	1.16	0.267	/
Back Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.03	0.206	1.16	0.239	/
Left Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	0.13	0.157	1.20	0.189	/
Right Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	0.15	0.058	1.20	0.069	/
Bottom Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.09	0.540	1.16	0.627	/
Bottom Side	Sensor on	QPSK	20	1	mid	18700	1860	14.76	15.50	0.03	0.976	1.19	1.157	A.1-11
Bottom Side	Sensor on	QPSK	20	1	mid	19100	1900	14.87	15.50	-0.05	0.763	1.16	0.882	/
Repeat														
Bottom Side	Sensor on	QPSK	20	1	mid	18700	1860	14.76	15.50	-0.17	0.919	1.19	1.090	/
Body SAR (Define 9mm)														
Front Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	-0.15	0.600	1.17	0.705	/
Front Side	Sensor off	QPSK	20	50%	low	19100	1900	21.70	22.50	-0.03	0.447	1.20	0.537	/
Body SAR (Define 19mm)														
Back Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	0.11	0.209	1.17	0.246	/
Bottom Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	-0.03	0.468	1.17	0.550	/
Back Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	0.00	0.159	1.20	0.191	/
Bottom Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	-0.11	0.351	1.20	0.422	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	-0.03	0.332	1.15	0.382	/
Back Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	0.04	0.280	1.15	0.322	/
Left Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	0.17	0.192	1.17	0.226	/
Right Side	Sensor off	QPSK	20	1	mid	18900	1880	22.80	23.50	-0.13	0.049	1.17	0.058	/
Bottom Side	Sensor on	QPSK	20	1	mid	18900	1880	14.89	15.50	0.08	0.706	1.15	0.812	/
Front Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.02	0.258	1.16	0.300	/
Back Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.04	0.217	1.16	0.252	/
Left Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	0.11	0.146	1.20	0.176	/
Right Side	Sensor off	QPSK	20	50%	low	18900	1880	21.70	22.50	0.11	0.035	1.20	0.042	/
Bottom Side	Sensor on	QPSK	20	50%	low	18900	1880	14.85	15.50	0.01	0.557	1.16	0.647	/
Bottom Side	Sensor on	QPSK	20	1	mid	18700	1860	14.76	15.50	0.08	0.779	1.19	0.924	A.1-12
Bottom Side	Sensor on	QPSK	20	1	mid	19100	1900	14.87	15.50	0.01	0.670	1.16	0.775	/

Table 14.1.2-7: SAR Values for LTE Band 4

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.04	0.413	1.10	0.453	/
Back Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.01	0.379	1.10	0.416	/
Left Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	0.17	0.075	1.08	0.082	/
Right Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	0.06	0.182	1.08	0.197	/
Bottom Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.02	0.629	1.10	0.690	/
Front Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	-0.02	0.318	1.14	0.361	/
Back Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	0.06	0.293	1.14	0.333	/
Left Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	0.06	0.057	1.11	0.063	/
Right Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	0.05	0.142	1.11	0.158	/
Bottom Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	0.06	0.487	1.14	0.553	/
Bottom Side	Sensor on	QPSK	20	1	mid	20050	1720	12.59	13.00	-0.08	0.912	1.10	1.002	/
Bottom Side	Sensor on	QPSK	20	1	mid	20300	1745	12.26	13.00	0.03	0.817	1.19	0.969	/
Body SAR (Define 9mm)														
Front Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	-0.03	0.951	1.08	1.031	/
Front Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	-0.12	0.748	1.11	0.830	/
Front Side	Sensor off	QPSK	20	1	mid	20050	1720	22.14	22.50	0.10	0.919	1.09	0.998	/
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.02	0.987	1.19	1.178	/
Repeat														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.17	1.010	1.19	1.206	/
SIM2														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.03	0.999	1.19	1.193	/
fingerprint Configuration2-S15aa+BB01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.03	0.953	1.19	1.138	/
fingerprint Configuration3-S12aa+BC01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.05	0.880	1.19	1.051	/
standard Configuration1-S01aa+BA01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.01	0.917	1.19	1.095	/
standard Configuration2-S04aa+BB01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.03	1.050	1.19	1.254	A.1-13
Front Side	Sensor off	QPSK	20	1	mid	20050	1720	22.14	22.50	-0.16	0.970	1.09	1.054	/
Front Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	-0.16	0.996	1.08	1.080	/
Repeat														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.02	1.020	1.19	1.218	/
standard Configuration3-S01aa+BC01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	-0.10	0.893	1.19	1.066	/
scanner Configuration1-S22aa+BA01														
Front Side	Sensor off	QPSK	20	1	mid	20300	1745	21.73	22.50	0.13	0.549	1.19	0.655	/
Body SAR (Define 19mm)														
Back Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	0.06	0.308	1.08	0.334	/
Bottom Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	0.10	0.592	1.08	0.642	/
Back Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	-0.15	0.239	1.11	0.265	/
Bottom Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	0.06	0.463	1.11	0.514	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.03	0.375	1.10	0.411	/
Back Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.02	0.341	1.10	0.374	/
Left Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	0.01	0.048	1.08	0.052	/
Right Side	Sensor off	QPSK	20	1	mid	20175	1732.5	22.15	22.50	-0.10	0.161	1.08	0.175	/
Bottom Side	Sensor on	QPSK	20	1	mid	20175	1732.5	12.60	13.00	0.02	0.546	1.10	0.599	/
Front Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	0.02	0.290	1.14	0.329	/
Back Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	0.01	0.263	1.14	0.299	/
Left Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	0.14	0.042	1.11	0.046	/
Right Side	Sensor off	QPSK	20	50%	low	20175	1732.5	21.05	21.50	-0.12	0.123	1.11	0.136	/
Bottom Side	Sensor on	QPSK	20	50%	low	20175	1732.5	12.45	13.00	-0.07	0.418	1.14	0.474	/
Bottom Side	Sensor on	QPSK	20	1	mid	20050	1720	12.59	13.00	-0.04	0.545	1.10	0.599	/
Bottom Side	Sensor on	QPSK	20	1	mid	20300	1745	12.26	13.00	0.01	0.565	1.19	0.670	A.1-14

Table 14.1.2-8: SAR Values for LTE Band 5

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	0.04	0.494	1.28	0.631	/
Back Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	0.03	0.528	1.28	0.674	A.1-15
Left Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.19	0.198	1.28	0.253	/
Right Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.03	0.099	1.28	0.126	/
Bottom Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	0.04	0.470	1.28	0.600	/
Front Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	0.05	0.398	1.24	0.495	/
Back Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.01	0.416	1.24	0.518	/
Left Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.08	0.160	1.24	0.199	/
Right Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	0.00	0.076	1.24	0.094	/
Bottom Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.07	0.379	1.24	0.472	/
Back Side	Sensor off	QPSK	10	1	mid	20450	829	22.41	23.50	0.04	0.422	1.29	0.542	/
Back Side	Sensor off	QPSK	10	1	mid	20600	844	22.41	23.50	0.03	0.426	1.29	0.548	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.08	0.439	1.28	0.560	/
Back Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.12	0.271	1.28	0.346	/
Left Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.15	0.140	1.28	0.179	/
Right Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	0.01	0.093	1.28	0.119	/
Bottom Side	Sensor off	QPSK	10	1	mid	20525	836.5	22.44	23.50	-0.14	0.399	1.28	0.509	/
Front Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	0.03	0.359	1.24	0.447	/
Back Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	0.10	0.207	1.24	0.258	/
Left Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.15	0.111	1.24	0.138	/
Right Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.10	0.076	1.24	0.095	/
Bottom Side	Sensor off	QPSK	10	50%	low	20525	836.5	21.55	22.50	-0.19	0.314	1.24	0.391	/
Front Side	Sensor off	QPSK	10	1	mid	20450	829	22.41	23.50	-0.15	0.443	1.29	0.569	/
Front Side	Sensor off	QPSK	10	1	mid	20600	844	22.41	23.50	-0.12	0.457	1.29	0.587	A.1-16

Table 14.1.2-9: SAR Values for LTE Band 7

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.03	0.325	1.28	0.415	/
Back Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.04	0.306	1.28	0.391	/
Left Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	0.19	0.602	1.09	0.657	/
Right Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	-0.07	0.046	1.09	0.050	/
Bottom Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.05	0.866	1.28	1.105	/
Front Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	-0.07	0.260	1.20	0.312	/
Back Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	0.05	0.304	1.20	0.365	/
Left Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	0.15	0.442	1.09	0.482	/
Right Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	-0.07	0.038	1.09	0.042	/
Bottom Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	0.06	0.621	1.20	0.745	/
Bottom Side	Sensor on	QPSK	20	1	mid	20850	2510	20.43	21.50	0.05	0.757	1.28	0.968	/
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.02	0.870	1.31	1.142	A.1-17
Repeat														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	-0.14	0.824	1.31	1.081	/
Body SAR (Define 9mm)														
Front Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	-0.04	0.227	1.09	0.248	/
Front Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	-0.06	0.166	1.09	0.181	/
Body SAR (Define 19mm)														
Back Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	-0.04	0.113	1.09	0.123	/
Bottom Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	0.10	0.220	1.09	0.240	/
Back Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	-0.04	0.085	1.09	0.093	/
Bottom Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	0.17	0.164	1.09	0.179	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.03	0.294	1.28	0.375	/
Back Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.05	0.383	1.28	0.489	/
Left Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	0.02	0.440	1.09	0.480	/
Right Side	Sensor off	QPSK	20	1	mid	21350	2560	22.12	22.50	0.14	0.088	1.09	0.096	/
Bottom Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.04	0.792	1.28	1.011	/
Front Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	-0.07	0.227	1.20	0.272	/
Back Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	-0.06	0.298	1.20	0.357	/
Left Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	0.19	0.331	1.09	0.361	/
Right Side	Sensor off	QPSK	20	50%	low	21350	2560	21.12	21.50	-0.15	0.062	1.09	0.068	/
Bottom Side	Sensor on	QPSK	20	50%	low	21100	2535	20.21	21.00	-0.01	0.608	1.20	0.729	/
Bottom Side	Sensor on	QPSK	20	1	mid	20850	2510	20.43	21.50	0.05	0.802	1.28	1.026	/
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.07	0.912	1.31	1.197	/
SIM2														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	-0.04	0.849	1.31	1.114	/
fingerprint Configuration2-S15aa+BB01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.05	0.993	1.31	1.303	/
Bottom Side	Sensor on	QPSK	20	1	mid	20850	2510	20.43	21.50	0.04	1.090	1.28	1.395	A.1-18
Bottom Side	Sensor on	QPSK	20	1	mid	21100	2535	20.44	21.50	0.03	1.040	1.28	1.327	/
fingerprint Configuration3-S11aa+BC01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.02	0.893	1.31	1.172	/
standard Configuration1-S01aa+BA01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.14	0.338	1.31	0.444	/
standard Configuration2-S04aa+BB01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	-0.17	0.883	1.31	1.159	/
standard Configuration3-S01aa+BC01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.15	0.347	1.31	0.455	/
scanner Configuration1-S22aa+BA01														
Bottom Side	Sensor on	QPSK	20	1	mid	21350	2560	20.32	21.50	0.06	0.336	1.31	0.441	/

Table 14.1.2-10: SAR Values for LTE Band 17

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	-0.03	0.513	1.22	0.624	A.1-19
Back Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	-0.09	0.274	1.22	0.333	/
Left Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.06	0.065	1.22	0.079	/
Right Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.15	0.135	1.22	0.164	/
Bottom Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.02	0.420	1.22	0.511	/
Front Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.02	0.396	1.22	0.485	/
Back Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	-0.03	0.217	1.22	0.266	/
Left Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	-0.08	0.049	1.22	0.060	/
Right Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.14	0.099	1.22	0.121	/
Bottom Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	-0.06	0.359	1.22	0.440	/
Front Side	Sensor off	QPSK	10	1	mid	23780	709	22.64	23.50	0.05	0.446	1.22	0.544	/
Front Side	Sensor off	QPSK	10	1	mid	23800	711	22.52	23.50	0.01	0.463	1.25	0.580	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.02	0.520	1.22	0.632	A.1-20
Back Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	-0.03	0.282	1.22	0.343	/
Left Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	-0.05	0.067	1.22	0.081	/
Right Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.03	0.102	1.22	0.124	/
Bottom Side	Sensor off	QPSK	10	1	mid	23790	710	22.65	23.50	0.02	0.396	1.22	0.482	/
Front Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.05	0.454	1.22	0.556	/
Back Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.07	0.229	1.22	0.280	/
Left Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.11	0.056	1.22	0.069	/
Right Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.05	0.082	1.22	0.100	/
Bottom Side	Sensor off	QPSK	10	50%	low	23800	711	21.62	22.50	0.08	0.331	1.22	0.405	/
Front Side	Sensor off	QPSK	10	1	mid	23780	709	22.64	23.50	-0.06	0.446	1.22	0.544	/
Front Side	Sensor off	QPSK	10	1	mid	23800	711	22.52	23.50	-0.03	0.443	1.25	0.555	/

Table 14.1.2-11: SAR Values for LTE Band 41

Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)														
Front Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	0.05	0.252	1.31	0.331	/
Back Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	-0.03	0.204	1.31	0.268	/
Left Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	0.04	0.029	1.29	0.038	/
Right Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	-0.14	0.033	1.29	0.043	/
Bottom Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	0.05	0.488	1.31	0.640	/
Front Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	0.07	0.187	1.32	0.247	/
Back Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	-0.05	0.151	1.32	0.200	/
Left Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	-0.06	0.025	1.28	0.031	/
Right Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	-0.05	0.035	1.28	0.045	/
Bottom Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	-0.03	0.369	1.32	0.488	/
Bottom Side	Sensor on	QPSK	20	1	mid	40140	2545	18.30	20.00	0.07	0.347	1.48	0.513	/
Bottom Side	Sensor on	QPSK	20	1	mid	41140	2645	18.80	20.00	0.06	0.657	1.32	0.866	A.1-21
Body SAR (Define 9mm)														
Front Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	0.04	0.168	1.29	0.216	/
Front Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	-0.03	0.137	1.28	0.176	/
Body SAR (Define 19mm)														
Back Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	-0.09	0.078	1.29	0.101	/
Bottom Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	0.06	0.175	1.29	0.225	/
Back Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	-0.04	0.073	1.28	0.093	/
Bottom Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	0.11	0.141	1.28	0.181	/
Test Position	Power Reduction	Mode				Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
		Modulation	BW(MHz)	RB Allocation	RB Offset						Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)														
Front Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	0.06	0.258	1.31	0.339	/
Back Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	-0.05	0.226	1.31	0.297	/
Left Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	0.13	0.326	1.29	0.420	/
Right Side	Sensor off	QPSK	20	1	mid	41140	2645	22.90	24.00	-0.16	0.032	1.29	0.041	/
Bottom Side	Sensor on	QPSK	20	1	mid	40640	2595	18.82	20.00	-0.03	0.501	1.31	0.657	/
Front Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	0.07	0.187	1.32	0.247	/
Back Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	-0.05	0.176	1.32	0.233	/
Left Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	0.10	0.293	1.28	0.376	/
Right Side	Sensor off	QPSK	20	50%	high	41140	2645	21.92	23.00	-0.04	0.038	1.28	0.049	/
Bottom Side	Sensor on	QPSK	20	50%	mid	40640	2595	18.79	20.00	0.05	0.380	1.32	0.502	/
Bottom Side	Sensor on	QPSK	20	1	mid	40140	2545	18.30	20.00	-0.03	0.418	1.48	0.618	/
Bottom Side	Sensor on	QPSK	20	1	mid	41140	2645	18.80	20.00	0.06	0.553	1.32	0.729	A.1-22

Table 14.1.2-12: SAR Values for BT

Test Position	Power Reduction	Mode	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
									Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)												
Front Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.000	1.15	0.000	/
Back Side	Full power	BT	1:1	39	2441	6.89	7.50	0.16	0.059	1.15	0.068	A.1-23
Left Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.000	1.15	0.000	/
Right Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.005	1.15	0.006	/
Top Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.013	1.15	0.015	/
Back Side	Full power	BT	1:1	0	2402	5.65	6.50	0.11	0.022	1.22	0.027	/
Back Side	Full power	BT	1:1	78	2480	5.45	6.50	0.18	0.034	1.27	0.043	/
Test Position	Power Reduction	Mode	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
									Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)												
Front Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.000	1.15	0.000	/
Back Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.046	1.15	0.052	A.1-24
Left Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.000	1.15	0.000	/
Right Side	Full power	BT	1:1	39	2441	6.89	7.50	0.00	0.005	1.15	0.006	/
Top Side	Full power	BT	1:1	39	2441	6.89	7.50	0.12	0.010	1.15	0.012	/
Back Side	Full power	BT	1:1	0	2402	5.65	6.50	0.14	0.027	1.22	0.033	/
Back Side	Full power	BT	1:1	78	2480	5.45	6.50	-0.11	0.032	1.27	0.040	/

Table 14.1.2-13: SAR Values for Wi-Fi 2.4G

Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
										Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)													
Front Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.00	0.029	1.03	0.030	/
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	-0.06	0.613	1.03	0.630	A.1-25
Left Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.00	0.018	1.03	0.019	/
Right Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.19	0.125	1.03	0.129	/
Top Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	-0.01	0.144	1.03	0.148	/
Back Side	Full power	802.11b	20	1:1	1	2412	14.84	15.00	0.08	0.422	1.04	0.438	/
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.11	0.451	1.09	0.492	/
fingerprint Configuration2-S15aa+BB01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.17	0.600	1.03	0.617	/
fingerprint Configuration3-S12aa+BC01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.05	0.553	1.03	0.568	/
standard Configuration1-S01aa+BA01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	-0.10	0.551	1.03	0.566	/
standard Configuration2-S04aa+BB01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.13	0.416	1.03	0.428	/
standard Configuration3-S01aa+BC01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.03	0.536	1.03	0.551	/
scanner Configuration1-S22aa+BA01													
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.09	0.259	1.03	0.266	/
Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
										Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)													
Front Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.14	0.019	1.03	0.019	/
Back Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.15	0.654	1.03	0.672	/
Left Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.17	0.012	1.03	0.013	/
Right Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	0.14	0.085	1.03	0.087	/
Top Side	Full power	802.11b	20	1:1	6	2437	15.38	15.50	-0.11	0.136	1.03	0.140	/
Back Side	Full power	802.11b	20	1:1	1	2412	14.84	15.00	0.11	0.484	1.04	0.502	/
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.13	0.685	1.09	0.748	A.1-26
fingerprint Configuration2-S15aa+BB01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.04	0.520	1.09	0.568	/
fingerprint Configuration3-S12aa+BC01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.02	0.435	1.09	0.475	/
standard Configuration1-S01aa+BA01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	-0.04	0.479	1.09	0.523	/
standard Configuration2-S04aa+BB01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.02	0.451	1.09	0.492	/
standard Configuration3-S01aa+BC01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	-0.05	0.461	1.09	0.503	/
scanner Configuration1-S22aa+BA01													
Back Side	Full power	802.11b	20	1:1	11	2462	14.62	15.00	0.10	0.166	1.09	0.181	/

Table 14.1.2-14: SAR Values for Wi-Fi 5G U-NII-1&2A

Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
										Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)													
Front Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.169	1.16	0.195	/
Back Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.13	0.444	1.16	0.513	A.1-27
Left Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.068	1.16	0.079	/
Right Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.036	1.16	0.042	/
Top Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.12	0.110	1.16	0.127	/
Back Side	Full power	802.11a	20	1:1	40	5200	12.28	13.00	0.16	0.339	1.18	0.400	/
Back Side	Full power	802.11a	20	1:1	48	5240	11.05	11.50	-0.12	0.376	1.11	0.417	/
Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
										Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)													
Front Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.099	1.16	0.115	/
Back Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.17	0.357	1.16	0.413	/
Left Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.025	1.16	0.029	/
Right Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.030	1.16	0.035	/
Top Side	Full power	802.11a	20	1:1	36	5180	12.37	13.00	0.00	0.042	1.16	0.049	/
Back Side	Full power	802.11a	20	1:1	40	5200	12.28	13.00	0.18	0.367	1.18	0.433	/
Back Side	Full power	802.11a	20	1:1	48	5240	11.05	11.50	0.00	0.410	1.11	0.455	A.1-28

Table 14.1.2-15: SAR Values for Wi-Fi 5G U-NII-3

Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 1gSAR 1.6 W/kg (mW/g)			Figure No.
										Measured SAR1g	Scaling Factor	Report SAR1g	
Body SAR (Worn&HotSpot 5mm)													
Front Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.138	1.09	0.151	/
Back Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.296	1.09	0.324	A.1-29
Left Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.053	1.09	0.057	/
Right Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.11	0.156	1.09	0.171	/
Top Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.11	0.149	1.09	0.163	/
Back Side	Full power	802.11a	20	1:1	157	5785	9.07	9.50	0.00	0.286	1.10	0.316	/
Back Side	Full power	802.11a	20	1:1	165	5825	8.36	9.00	-0.15	0.224	1.16	0.260	/
Test Position	Power Reduction	Mode	BW(MHz)	Duty Cycle	Channel	Frequency (MHz)	Measured power (dBm)	Tune-up (dBm)	Power Drift (dB)	Limit of 10gSAR 4.0 W/kg (mW/g)			Figure No.
										Measured SAR10g	Scaling Factor	Report SAR10g	
Limb SAR (Distance 0mm)													
Front Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.033	1.09	0.036	/
Back Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.198	1.09	0.217	/
Left Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.00	0.039	1.09	0.042	/
Right Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.18	0.073	1.09	0.080	/
Top Side	Full power	802.11a	20	1:1	149	5745	9.61	10.00	0.19	0.066	1.09	0.072	/
Back Side	Full power	802.11a	20	1:1	157	5785	9.07	9.50	-0.17	0.215	1.10	0.237	/
Back Side	Full power	802.11a	20	1:1	165	5825	8.36	9.00	0.13	0.228	1.16	0.264	A.1-30

14.2 Simultaneous SAR Evaluation

Table 14.2-1 Max. Reported SAR for GSM/WCDMA/LTE

Simultaneous Transmission Table	Report SAR_{1g}(W/kg) / Test Position	Cellular											Max.Report SAR_{1g} GSM/WCDMA/LTE
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE B2	LTE B4	LTE B5	LTE B7	LTE B17	LTE B41	
Body SAR (Worn&HotSpot 5mm)	Front Side	0.177	0.165	0.284	0.632	0.499	0.341	0.453	0.631	0.415	0.624	0.331	0.632
	Back Side	0.102	0.133	0.235	0.466	0.621	0.306	0.416	0.674	0.391	0.333	0.268	0.674
	Left Side	0.022	0.173	0.170	0.076	0.269	0.258	0.082	0.253	0.657	0.079	0.038	0.657
	Right Side	0.044	0.082	0.099	0.201	0.262	0.088	0.197	0.126	0.050	0.164	0.045	0.262
	Top Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Side	0.246	0.431	0.852	0.821	0.430	1.157	1.002	0.600	1.142	0.511	0.866	1.157
Body SAR Define	Front Side(9mm)	N/A	0.920	1.203	1.167	N/A	0.705	1.254	N/A	0.248	N/A	0.216	1.254
	Back Side(19mm)	N/A	0.267	0.270	0.342	N/A	0.246	0.334	N/A	0.123	N/A	0.101	0.342
	Bottom Side(19mm)	N/A	0.458	0.529	0.655	N/A	0.550	0.642	N/A	0.240	N/A	0.225	0.655

Simultaneous Transmission Table	Report SAR_{10g}(W/kg) / Test Position	Cellular											Max.Report SAR_{10g} GSM/WCDMA/LTE
		GSM850	GSM1900	WCDMA Band II	WCDMA Band IV	WCDMA Band V	LTE B2	LTE B4	LTE B5	LTE B7	LTE B17	LTE B41	
Limb SAR(0mm)	Front Side	0.196	0.144	0.256	0.394	0.706	0.382	0.411	0.587	0.375	0.632	0.339	0.706
	Back Side	0.121	0.141	0.217	0.377	0.636	0.322	0.374	0.346	0.489	0.343	0.297	0.636
	Left Side	0.027	0.227	0.225	0.056	0.289	0.226	0.052	0.179	0.480	0.081	0.420	0.480
	Right Side	0.043	0.051	0.050	0.256	0.186	0.058	0.175	0.119	0.096	0.124	0.049	0.256
	Top Side	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Bottom Side	0.255	0.347	0.632	0.630	0.448	0.924	0.670	0.509	1.395	0.482	0.729	1.395

Table 14.2-2 Max. Reported SAR for Wi-Fi&BT

Simultaneous Transmission Table	Report SAR_{1g}(W/kg) / Test Position	Non-Cellular				
		Max.Report SAR_{1g} BT	Max.Report SAR_{1g} Wi-Fi 2.4G	Wi-Fi 5G U-NII-1&2A	Wi-Fi 5G U-NII-3	Max.Report SAR_{1g}Wi-Fi 5G
Body SAR (Worn&HotSpot 5mm)	Front Side	0.000	0.030	0.195	0.151	0.195
	Back Side	0.068	0.630	0.513	0.324	0.513
	Left Side	0.000	0.019	0.079	0.057	0.079
	Right Side	0.006	0.129	0.042	0.171	0.171
	Top Side	0.015	0.148	0.127	0.163	0.163
	Bottom Side	0.000	0.000	0.000	0.000	0.000
Body SAR Define	Front Side(9mm)	0.000	0.030	0.195	0.151	0.195
	Back Side(19mm)	0.068	0.630	0.513	0.324	0.513
	Bottom Side(19mm)	0.000	0.000	0.000	0.000	0.000

Simultaneous Transmission Table	Report SAR_{10g}(W/kg) / Test Position	Non-Cellular				
		Max.Report SAR_{10g} BT	Max.Report SAR_{10g} Wi-Fi 2.4G	Wi-Fi 5G U-NII-1&2A	Wi-Fi 5G U-NII-3	Max.Report SAR_{10g}Wi-Fi 5G
Limb SAR(0mm)	Front Side	0.000	0.019	0.115	0.036	0.115
	Back Side	0.052	0.748	0.455	0.264	0.455
	Left Side	0.000	0.013	0.029	0.042	0.042
	Right Side	0.006	0.087	0.035	0.080	0.080
	Top Side	0.012	0.140	0.049	0.072	0.072
	Bottom Side	0.000	0.000	0.000	0.000	0.000

Table 14.2-3 Simultaneous transmission SAR

Simultaneous Transmission Table	Test Position / Report SAR_{1g}(W/kg)	Max.Report SAR_{1g} GSM/WCDMA/LTE	Non-Cellular			WWAN+BT	WWAN+Wi-Fi 2.4G	WWAN+Wi-Fi 5G	MAX.ΣSAR_{1g}
			Max.Report SAR_{1g} BT	Max.Report SAR_{1g} Wi-Fi 2.4G	Max.Report SAR_{1g} Wi-Fi 5G				
Body SAR (Worn&HotSpot 5mm)	Front Side	0.632	0.000	0.030	0.195	0.632	0.662	0.828	0.828
	Back Side	0.674	0.068	0.630	0.513	0.742	1.304	1.187	1.304
	Left Side	0.657	0.000	0.019	0.079	0.657	0.676	0.736	0.736
	Right Side	0.262	0.006	0.129	0.171	0.268	0.391	0.433	0.433
	Top Side	0.000	0.015	0.148	0.163	0.015	0.148	0.163	0.163
	Bottom Side	1.157	0.000	0.000	0.000	1.157	1.157	1.157	1.157
Body SAR Define	Front Side(9mm)	1.254	0.000	0.030	0.195	1.254	1.283	1.449	1.449
	Back Side(19mm)	0.342	0.068	0.630	0.513	0.410	0.972	0.855	0.972
	Bottom Side(19mm)	0.655	0.000	0.000	0.000	0.655	0.655	0.655	0.655
Simultaneous Transmission Table	Test Position / Report SAR_{10g}(W/kg)	Max.Report SAR_{10g} GSM/WCDMA/LTE	Non-Cellular			WWAN+BT	WWAN+Wi-Fi 2.4G	WWAN+Wi-Fi 5G	MAX.ΣSAR_{10g}
			Max.Report SAR_{10g} BT	Max.Report SAR_{10g} Wi-Fi 2.4G	Max.Report SAR_{10g} Wi-Fi 5G				
Limb SAR(0mm)	Front Side	0.706	0.000	0.019	0.115	0.706	0.725	0.820	0.820
	Back Side	0.636	0.052	0.748	0.455	0.688	1.383	1.091	1.383
	Left Side	0.480	0.000	0.013	0.042	0.480	0.493	0.522	0.522
	Right Side	0.256	0.006	0.087	0.080	0.262	0.343	0.335	0.343
	Top Side	0.000	0.012	0.140	0.072	0.012	0.140	0.072	0.140
	Bottom Side	1.395	0.000	0.000	0.000	1.395	1.395	1.395	1.395

According to the conducted power measurement result, we can draw the conclusion that: stand-alone SAR for Wi-Fi and BT should be performed. Then, simultaneous transmission SAR for Wi-Fi/BT is considered with measurement results of GSM/WCDMA/LTE and Wi-Fi/BT.

According to the above table, the sum of reported SAR values for partial-body GSM/WCDMA/LTE and Wi-Fi < 1.6W/kg; the sum of reported SAR values for Limb GSM/WCDMA/LTE and Wi-Fi < 4.0W/kg. So the simultaneous transmission SAR is not required for Wi-Fi/BT transmitter.

14.3 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

(a) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps(b) through (d) do not apply.

(b) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

(c) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45W/kg (~ 10% from the 1-g SAR limit).

(d) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

Table 14.3-1: SAR Measurement Variability (1g)

Frequency		Configuration	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio
Channel	Frequency (MHz)					
9262	1852.4	RMC 12.2k	Front side 9mm	0.962	0.908	1.059
1513	1752.6	RMC 12.2k	Front side 9mm	1.030	1.040	1.009
18700	1860	QPSK 20MHz 1RB 50offset	Bottom side 5mm	0.976	0.919	1.062
20300	1745	QPSK 20MHz 1RB 50offset	Front side 9mm	1.050	1.020	1.029
20300	1745	QPSK 20MHz 1RB 50offset	Front side 9mm	0.987	1.010	1.023
21350	2560	QPSK 20MHz 1RB 50offset	Bottom side 5mm	0.870	0.824	1.056

Note: According to the KDB 865664 D01 repeated measurement is not required when the original highest measured SAR is < 0.8 W/kg.

15 SAR Reduction Function Validation Procedure

15.1 Reference Document (Power Reduction for Proximity Sensor)

A proximity sensor for power reduction is implemented in this device to address RF exposure compliance when the cellular antenna is positioned close to the user's body. The sensor's mechanical structure is designed to fit within the enclosure design used in this device and also extended around the edge and top of the antenna element in order to optimize sensitivity in these orientations.

15.2 Procedures for Determining Proximity Sensor Triggering Distances

The following procedures should be applied to determine proximity sensor triggering distances for the back surface and individual edges of a tablet. Conducted power is monitored qualitatively to identify the general triggering characteristics and recorded quantitatively, versus spacing, as required by the procedures. Unless there is built-in test software that reports the triggering conditions and enables the power levels to be confirmed separately, monitoring of conducted power during the triggering tests typically requires internal access to the antenna ports inside the tablet, which may interfere with the triggering tests.

(a) The relevant transmitter should be set to operate at its normal maximum output power.

(b) The entire back surface or edge of the tablet is positioned below a flat phantom filled with the required tissue-equivalent medium, and positioned at least 20 mm further than the distance that triggers power reduction.

(c) It should be ensured that the cables required for power measurements are not interfering with the proximity sensor. Cable losses should be properly compensated to report the measured power results.

(d) The back surface or edge is moved toward the phantom in 3 mm steps until the sensor triggers.

(e) The back surface or edge is then moved back (further away) from the phantom by at least 5 mm or until maximum output power is returned to the normal maximum level.

(f) If the tablet is not touching the phantom, it is moved in 3 mm steps until it touches the phantom to confirm that the sensor remains triggered and the maximum power stays reduced.

(g) The process is then reversed by moving the tablet away from the phantom according to steps 4) to 7), to determine triggering release, until it is at least 10 mm beyond the point that triggers the return of normal maximum power.

(h) The measured output power within ± 5 mm of the triggering points, or until the tablet is touching the phantom, for movements to and from the phantom should be tabulated in the SAR report.

(i) (9) If the sensor design and implementation allow additional variations for triggering distance tolerances, multiple samples should be tested to determine the most conservative distance required for SAR evaluation.

To ensure all production units are compliant, it is generally necessary to reduce the triggering distance determined from the triggering tests by 1 mm, or more if it is necessary, and use the smallest distance for movements to and from the phantom, minus 1 mm, as the sensor triggering distance for determining the SAR measurement distance.

15.3 Procedures for Determining Antenna and Proximity Sensor Coverage

The sensing regions are usually limited to areas near the sensor element. If a sensor is spatially offset from the antenna(s), it is necessary to verify sensor triggering for conditions where the antenna is next to the user but the sensor is laterally further away to ensure sensor coverage is sufficient for reducing the power to maintain compliance. The following are used to determine if additional SAR measurements may be necessary due to sensor and antenna offset. 25 These procedures do not apply and are not required for configurations where the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

(a) The back surface or edge of the tablet is positioned at a test separation distance less than or equal to the distance required for back surface or edge triggering, with both the antenna and sensor pad located at least 20 mm laterally outside the edge (boundary) of the phantom, along the direction of maximum antenna and sensor offset. For the back surface, if the direction of maximum offset is not aligned with the tablet coordinates (physical edges) the tablet test position would not be aligned with the phantom coordinates (orientations). Each applicable tablet edge should be positioned perpendicularly to the phantom to determine sensor coverage. For antennas and/or sensors located near the corner of a tablet, both adjacent edges must be considered.

(b) The similar sequence of steps applied to determine sensor triggering distance are used to verify back surface and edge sensor coverage by moving the tablet (sensor and antenna) horizontally toward the phantom while maintaining the same vertical separation between the back surface or edge and the phantom.

(c) After the exact location where triggering of power reduction is determined, with respect to the sensor and antenna, the tablet movement should be continued, in 3 mm increments, until both the sensor and antenna(s) are fully under the phantom and at least 20 mm inside the phantom edge.

(d) The process is then repeated from the opposite direction, starting at the other end of the maximum antenna and sensor offset, by rotating the tablet 180° along the vertical axis.

(e) The triggering points should be documented graphically, with the antenna and sensor clearly identified, along with all relevant dimensions.

If the subsequently measured peak SAR location for the antenna is not between the triggering points, established by the sensor coverage tests from opposite ends of the antenna and sensor, additional SAR tests may be required for conditions where only part of the back surface or edge of a tablet corresponding to the antenna is in proximity to the user and the sensor may not be triggering as desired. A KDB inquiry must be submitted by the test lab to determine if additional tests are required and the proper test configurations to use for testing. This may include situations where the sensor coverage region is too small for the antenna, the sensor is located too far away from the antenna, the sensor location is insufficient to cover multiple antennas or the antenna is at the corner of a tablet etc.

15.4 Proximity Sensor Status Table of Trigger Distance

The following tables summarize the key power reduction information for proximity sensor. The test procedures be applied to determine proximity sensor triggering distances, and sensor coverage for normal and tilt positions.

To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tilt positions for all usage conditions and applicable sides, minus 1 mm, must be used as the test separation distance for additional SAR testing of each higher power stage.

Table 15.4-1 Power reduction for proximity sensor

Main Antenna			
Band	Test position	Sensor Trigger Distance range (DUT to Phantom)	Power reduction amount(dB)
GSM1900 GPRS1TS	Front side	0mm≤distance≤10mm	6.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	6.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	6.5
		distance＞20mm	0.0
GSM1900 GPRS2TS	Front side	0mm≤distance≤10mm	5.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	5.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	5.5
		distance＞20mm	0.0
GSM1900 GPRS3TS	Front side	0mm≤distance≤10mm	3.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	3.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	3.5
		distance＞20mm	0.0
GSM1900 GPRS4TS	Front side	0mm≤distance≤10mm	2.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	2.5

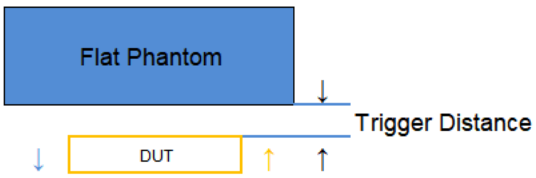
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	2.5
		distance＞20mm	0.0
WCDMA Band Ⅱ RMC	Front side	0mm≤distance≤10mm	7.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	7.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	7.5
		distance＞20mm	0.0
WCDMA Band Ⅳ RMC	Front side	0mm≤distance≤10mm	6.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	6.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	6.5
		distance＞20mm	0.0
LTE B2 QPSK	Front side	0mm≤distance≤10mm	8.0
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	8.0
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	8.0
		distance＞20mm	0.0
LTE B4 QPSK	Front side	0mm≤distance≤10mm	9.5
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	9.5
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	9.5
		distance＞20mm	0.0

LTE B7 QPSK	Front side	0mm≤distance≤10mm	1.0
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	1.0
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	1.0
		distance＞20mm	0.0
LTE B38 QPSK	Front side	0mm≤distance≤10mm	4.0
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	4.0
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	4.0
		distance＞20mm	0.0
LTE B41 QPSK	Front side	0mm≤distance≤10mm	4.0
		distance＞10mm	0.0
	Back side	0mm≤distance≤20mm	4.0
		distance＞20mm	0.0
	Left edge	N/A	0.0
	Right edge	N/A	0.0
	Top edge	N/A	0.0
	Bottom Edge	0mm≤distance≤20mm	4.0
		distance＞20mm	0.0

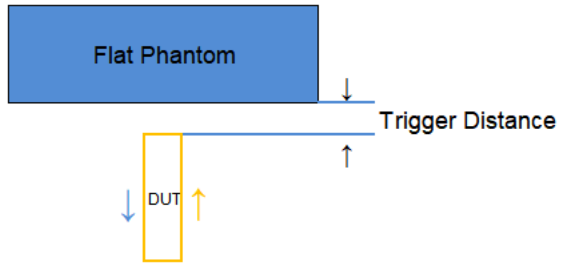
Procedures for determining proximity sensor triggering distances

The device was tested by the test lab to determine the proximity sensor triggering distances for the front side, back side and bottom side of the device. To ensure all production units are compliant, the smallest separation distance determined by the sensor triggering minus 1 mm, must be used as the test separation distance for SAR testing.

The Proximity sensor triggering distance measurement method are as below:



Figuer 15.4-1 Proximity sensor triggering distances assessment(Front/Back side)



Figuer 15.4-2 Proximity sensor triggering distances assessment(Bottom side)

The following table is the summary of the trigger distance.

Table 15.4-2 Summary of trigger distance

Band	Trigger distance-Front Side		Trigger distance-Back Side		Trigger distance-Bottom Edge	
	Moving toward Phantom	Moving away from Phantom	Moving toward Phantom	Moving away from Phantom	Moving toward Phantom	Moving away from Phantom
GSM1900	10mm	10mm	20mm	20mm	20mm	20mm
WCDMA Band Ⅱ	10mm	10mm	20mm	20mm	20mm	20mm
WCDMA Band Ⅳ	10mm	10mm	20mm	20mm	20mm	20mm
LTE B2	10mm	10mm	20mm	20mm	20mm	20mm
LTE B4	10mm	10mm	20mm	20mm	20mm	20mm
LTE B7	10mm	10mm	20mm	20mm	20mm	20mm
LTE B38	10mm	10mm	20mm	20mm	20mm	20mm
LTE B41	10mm	10mm	20mm	20mm	20mm	20mm

15.5 Tilt Angle Influences to Proximity Sensor Triggering

The following procedure is used to determine the tilt angle influences to proximity sensor triggering.

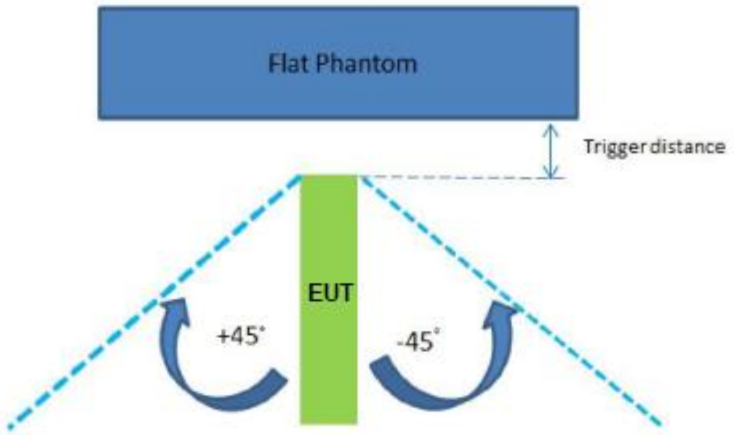


Table 15.5-1 Summary of tilt angle(Front side)

Distance to the DUT(mm)	Power Sensor Status 0° to +45°	Power Sensor Status 0° to -45°
25	OFF	OFF
24	OFF	OFF
23	OFF	OFF
22	OFF	OFF
21	OFF	OFF
20	OFF	OFF
19	OFF	OFF
18	OFF	OFF
17	OFF	OFF
16	OFF	OFF
15	OFF	OFF
14	OFF	OFF
13	OFF	OFF
12	OFF	OFF
11	OFF	OFF
10	ON	ON
9	ON	ON
8	ON	ON
7	ON	ON
6	ON	ON
5	ON	ON
4	ON	ON
3	ON	ON

2	ON	ON
1	ON	ON
0	ON	ON

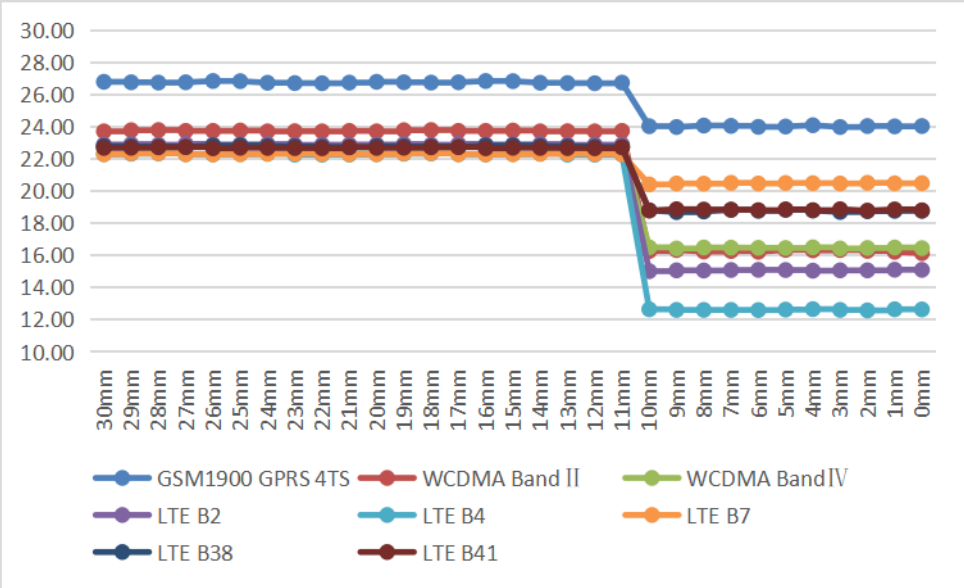
Table 15.5-2 Summary of tilt angle(Back/Bottom side)

Distance to the DUT(mm)	Power Sensor Status 0° to +45°	Power Sensor Status 0° to -45°
30	OFF	OFF
29	OFF	OFF
28	OFF	OFF
27	OFF	OFF
26	OFF	OFF
25	OFF	OFF
24	OFF	OFF
23	OFF	OFF
22	OFF	OFF
21	OFF	OFF
20	ON	ON
19	ON	ON
18	ON	ON
17	ON	ON
16	ON	ON
15	ON	ON
14	ON	ON
13	ON	ON
12	ON	ON
11	ON	ON
10	ON	ON
9	ON	ON
8	ON	ON
7	ON	ON
6	ON	ON
5	ON	ON
4	ON	ON
3	ON	ON
2	ON	ON
1	ON	ON
0	ON	ON

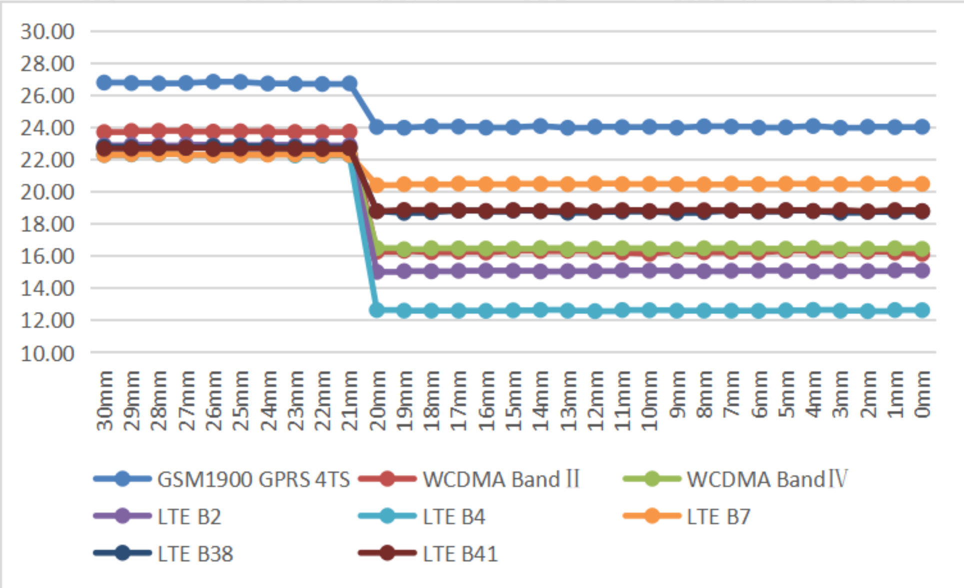
15.6 Power Reduction per Air-interface

The following graphs show the detailed conducted power and the distance from the DUT to the flat phantom for the Front side,Back side and Bottom side.

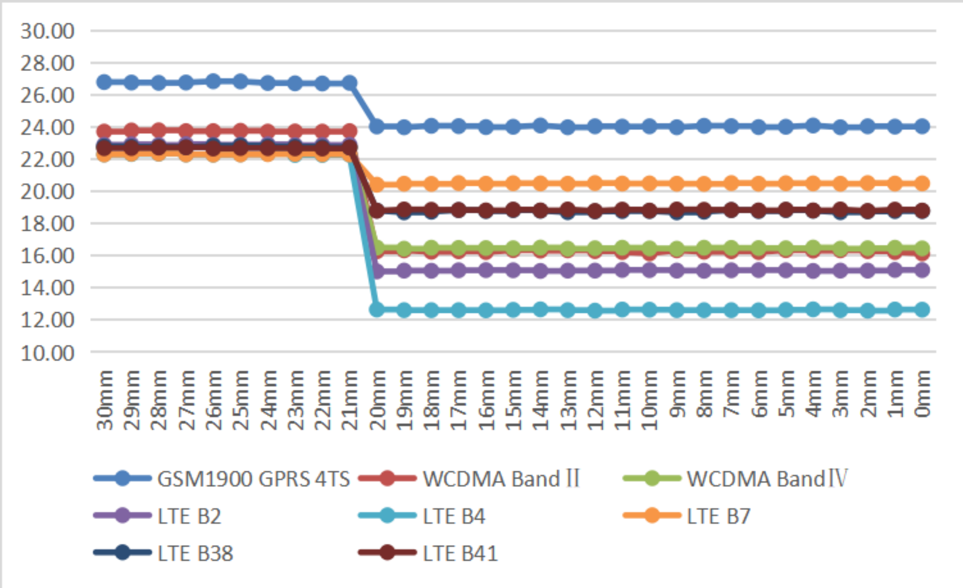
Front Side



Back side



Bottom side



15.7 Proximity Sensor Coverage Area

Proximity Sensor Coverage Area of not request when the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor.

Annex A: Measurement Data

A.1 SAR Graph Results

GSM850 GPRS 4TS Bottom Mode High 5mm
Date/Time: 2022/11/22
Electronics: DAE4 Sn1244
Medium parameters used: f = 849 MHz; σ = 0.903 S/m; εr = 42.522; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: GSM 900MHz GPRS 4TS (0); Frequency: 848.8 MHz; Duty Cycle: 1:2
Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 848.8 MHz
GSM850 GPRS 4TS Bottom Mode High 5mm/Area Scan (5x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.289 W/kg
GSM850 GPRS 4TS Bottom Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.91 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 0.455 W/kg
SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.116 W/kg
Maximum of SAR (measured) = 0.347 W/kg

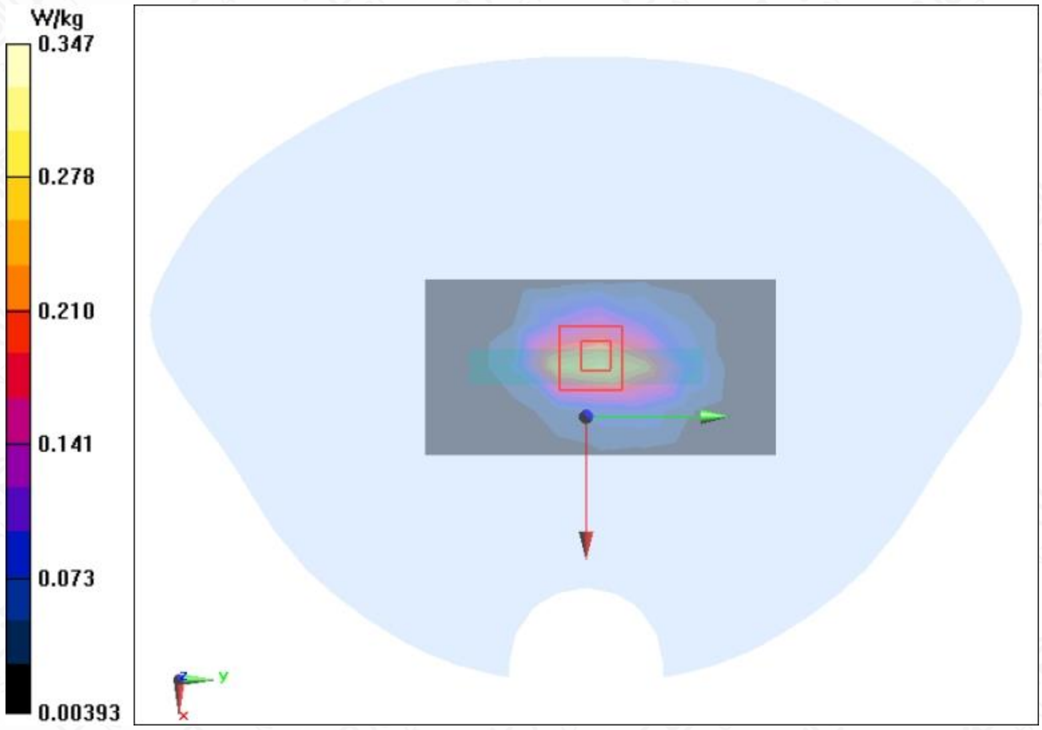


Figure A.1-1 GSM850 GPRS 4TS Bottom Mode High 5mm

GSM850 GPRS 4TS Bottom Mode High 0mm

Date/Time: 2022/11/22

Electronics: DAE4 Sn1244

Medium parameters used: f = 849 MHz; σ = 0.903 S/m; εr = 42.522; ρ = 1000 kg/m3

Ambient Temperature:21.5°C   Liquid Temperature:20.4°C

Communication System: GSM 900MHz GPRS 4TS (0); Frequency: 848.8 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 848.8 MHz

GSM850 GPRS 4TS Bottom Mode High 0mm/Area Scan (5x9x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.669 W/kg

GSM850 GPRS 4TS Bottom Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 28.39 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.06 W/kg

SAR(1 g) = 0.463 W/kg; SAR(10 g) = 0.227 W/kg

Maximum value of SAR (measured) = 0.757 W/kg

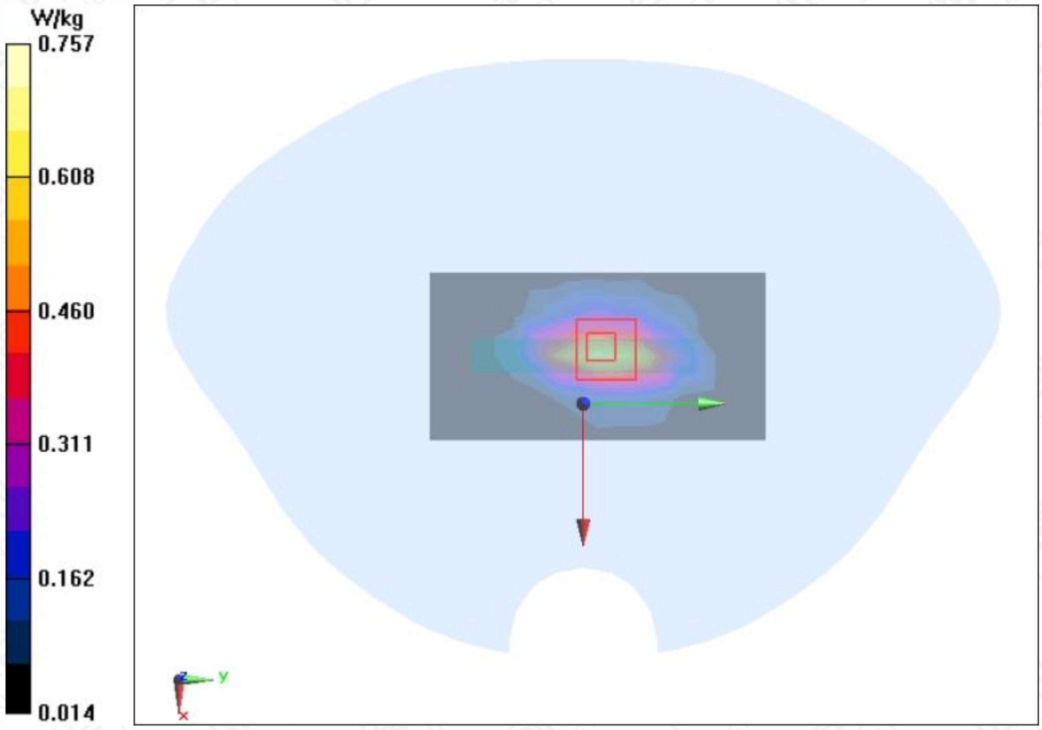


Figure A.1-2 GSM850 GPRS 4TS Bottom Mode High 0mm

GSM1900 GPRS 4TS Front Mode Low 9mm
Date/Time: 2022/11/21
Electronics: DAE4 Sn1244
Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.387 S/m; εr = 38.727; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: GPRS1900 4TS 1900MHz;   Frequency: 1850.2 MHz; Duty Cycle: 1:2
Probe: EX3DV4 - SN7633ConvF(8.37, 8.37, 8.37) @ 1850.2 MHz
GSM1900 GPRS 4TS Front Mode Low 9mm/Area Scan (9x14x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.832 W/kg
GSM1900 GPRS 4TS Front Mode Low 9mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 5.598 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 1.25 W/kg
SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.361 W/kg
Maximum value of SAR (measured) = 0.951 W/kg

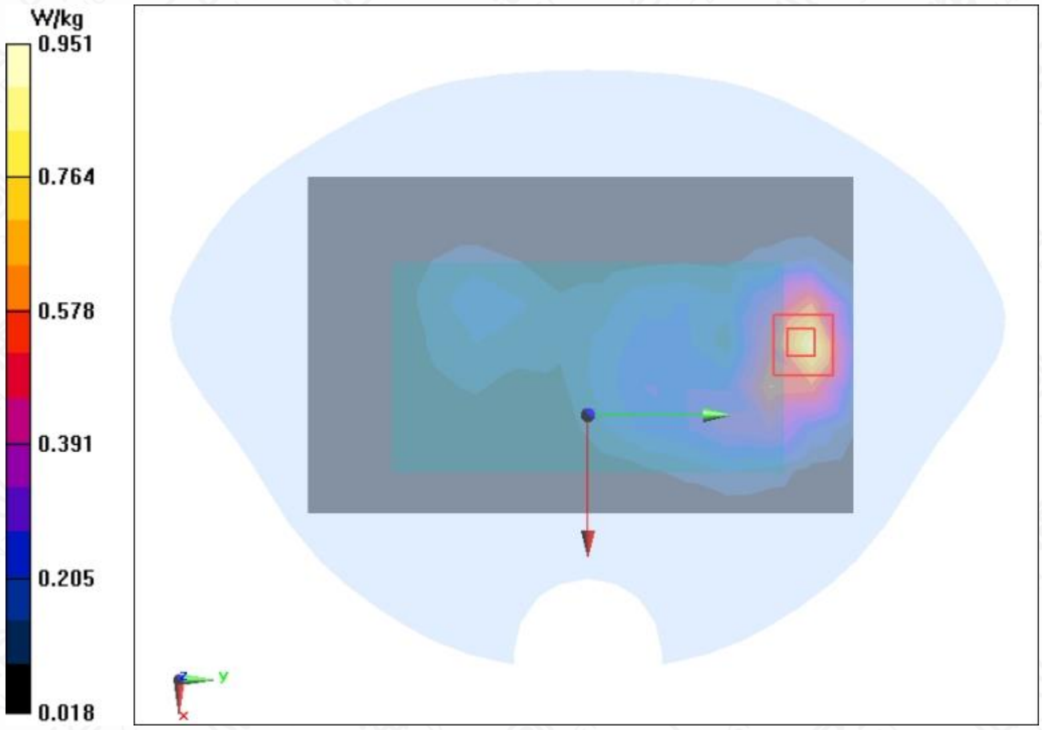


Figure A.1-3 GSM1900 GPRS 4TS Front Mode Low 9mm

GSM1900 GPRS 4TS Bottom Mode Middle 0mm

Date/Time: 2022/11/23

Electronics: DAE4 Sn1244

Medium parameters used: f = 1880 MHz; σ = 1.417 S/m; εr = 38.98; ρ = 1000 kg/m3

Ambient Temperature:21.6°C Liquid Temperature:20.5°C

Communication System: GSM 1900MHz GPRS 4TS (0); Frequency: 1880 MHz; Duty Cycle: 1:2

Probe: EX3DV4 - SN7633ConvF(8.6, 8.6, 8.6) @ 1880 MHz

GSM1900 GPRS 4TS Bottom Mode Middle 0mm/Area Scan (5x9x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.09 W/kg

GSM1900 GPRS 4TS Bottom Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.57 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.649 W/kg; SAR(10 g) = 0.280 W/kg

Maximum of SAR (measured) = 1.16 W/kg

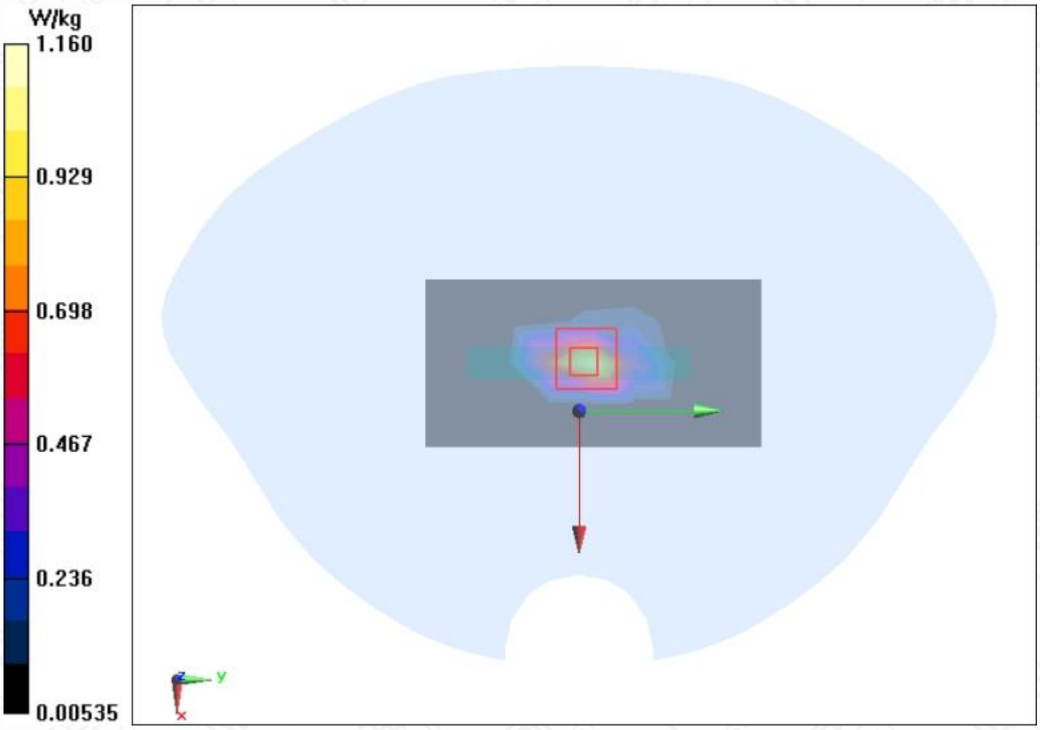


Figure A.1-4 GSM1900 GPRS 4TS Bottom Mode Middle 0mm

WCDMA Band Ⅱ Front Mode Low 9mm

Date/Time: 2022/11/21

Electronics: DAE4 Sn1244

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.388 S/m; εr = 38.723; ρ = 1000 kg/m3

Ambient Temperature:21.6°C Liquid Temperature:20.5°C

Communication System: WCDMA Band Ⅱ; Frequency: 1852.4 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(8.37, 8.37, 8.37) @ 1852.4 MHz

WCDMA Band Ⅱ Front Mode Low 9mm/Area Scan (9x14x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.32 W/kg

WCDMA Band Ⅱ Front Mode Low 9mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.09 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.76 W/kg

SAR(1 g) = 0.962 W/kg; SAR(10 g) = 0.505 W/kg

Maximum value of SAR (measured) = 1.46 W/kg

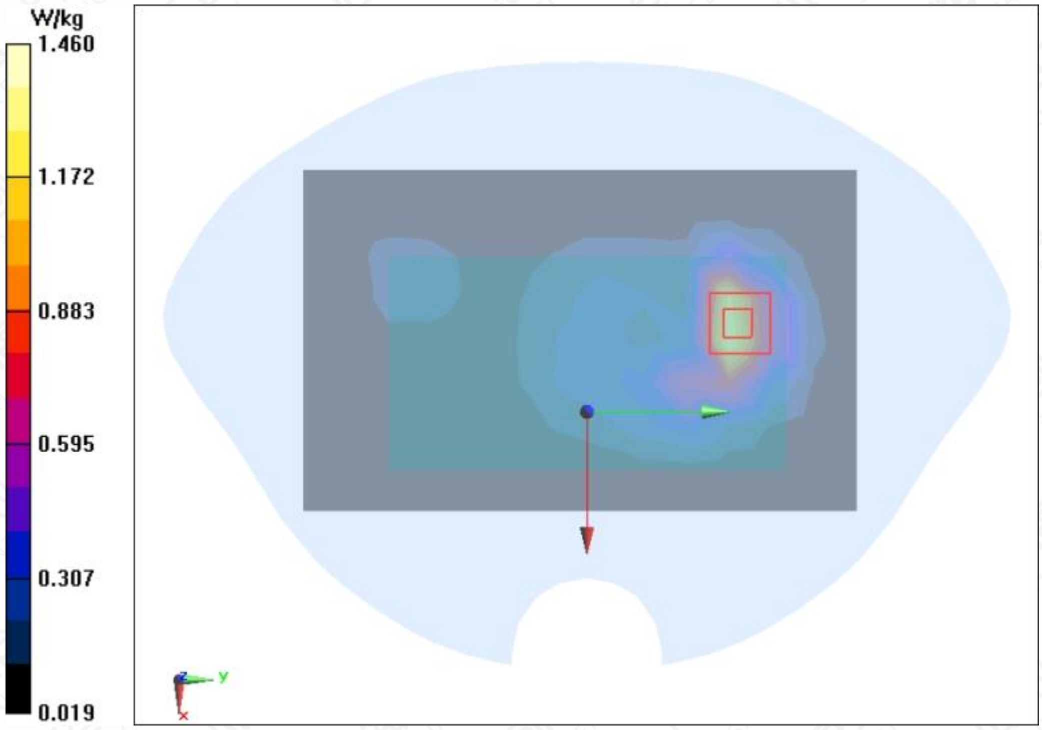


Figure A.1-5 WCDMA Band Ⅱ Front Mode Low 9mm

WCDMA Band Ⅱ Bottom Mode Low 0mm
Date/Time: 2022/11/23
Electronics: DAE4 Sn1244
Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.4 S/m; εr = 39.023; ρ = 1000 kg/m3
Ambient Temperature:21.7°C Liquid Temperature:20.5°C
Communication System: WCDMA Professional Band Ⅱ; Frequency: 1852.4 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(8.6, 8.6, 8.6) @ 1852.4 MHz
WCDMA Band Ⅱ Bottom Mode Low 0mm/Area Scan (5x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.41 W/kg
WCDMA Band Ⅱ Bottom Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 34.21 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.77 W/kg
SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.570 W/kg
Maximum of SAR (measured) = 2.27 W/kg

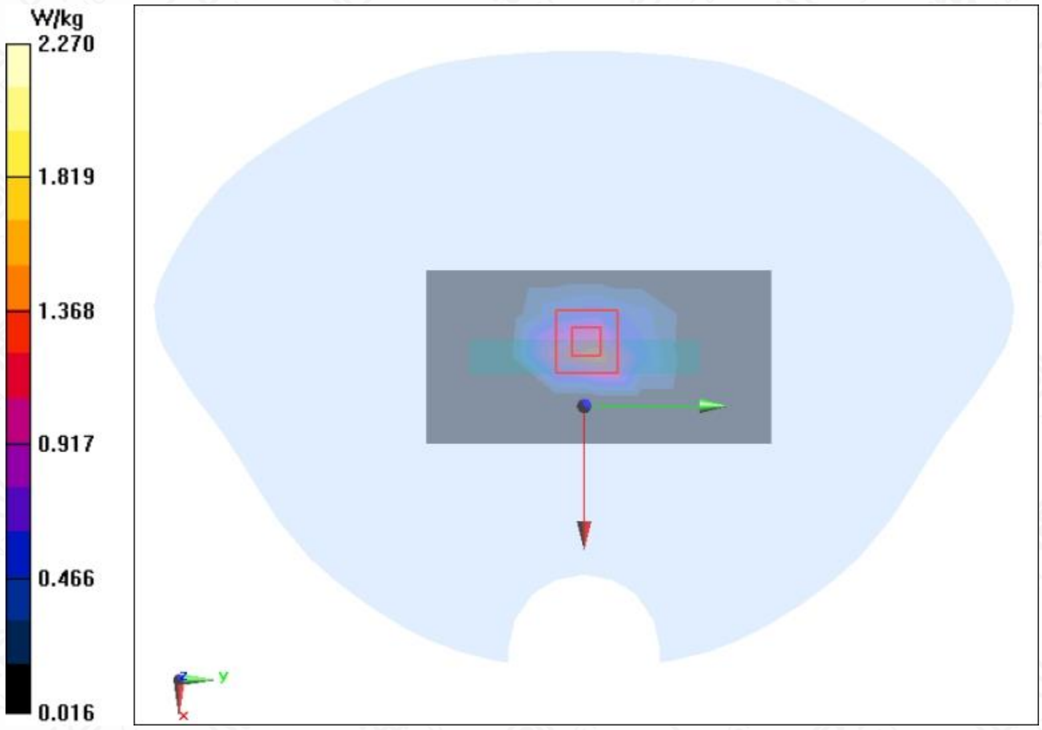


Figure A.1-6 WCDMA Band Ⅱ Bottom Mode Low 0mm

WCDMA Band Ⅳ Front Mode High 9mm

Date/Time: 2022/12/3

Electronics: DAE4 Sn1244

Medium parameters used: f = 1753 MHz; σ = 1.336 S/m; εr = 39.256; ρ = 1000 kg/m3

Ambient Temperature:21.6°C   Liquid Temperature:20.5°C

Communication System: WCDMA Band Ⅱ; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(8.78, 8.78, 8.78) @ 1752.6 MHz

WCDMA Band Ⅳ Front Mode High 9mm/Area Scan (9x14x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.20 W/kg

WCDMA Band Ⅳ Front Mode High 9mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.321 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.87 W/kg

SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.554 W/kg

Maximum value of SAR (measured) = 1.53 W/kg

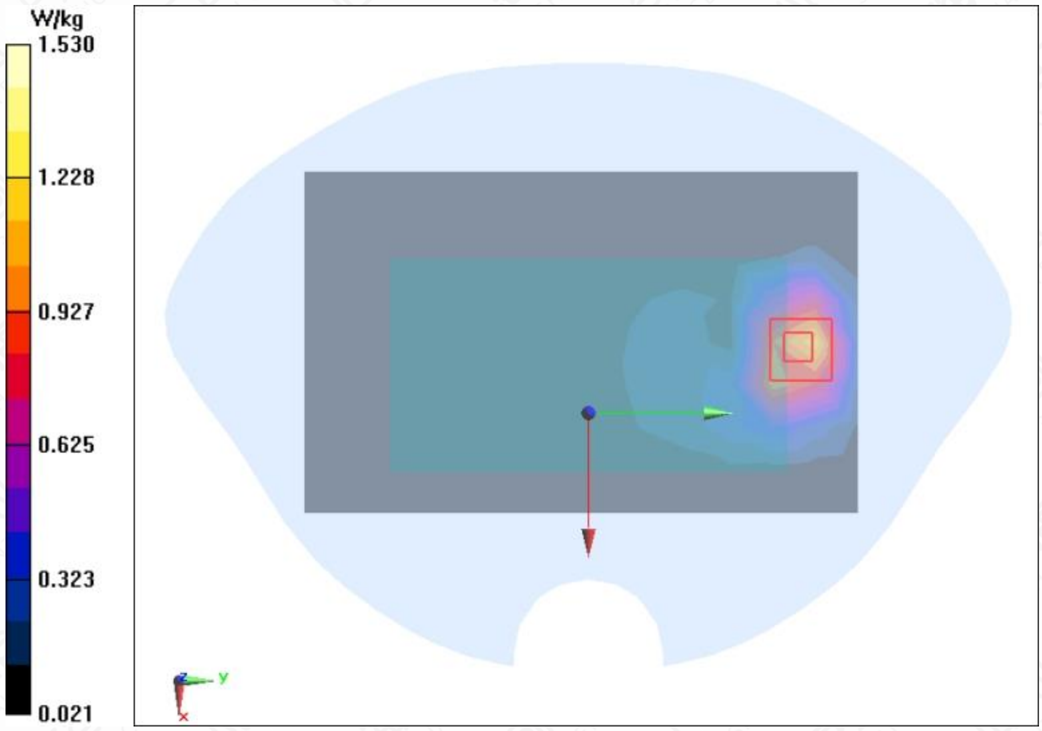


Figure A.1-7 WCDMA Band Ⅳ Front Mode High 9mm

WCDMA Band Ⅳ Bottom Mode High 0mm

Date/Time: 2022/11/23

Electronics: DAE4 Sn1244

Medium parameters used: f = 1753 MHz; σ = 1.338 S/m; εr = 39.178; ρ = 1000 kg/m3

Ambient Temperature:21.6°C Liquid Temperature:20.5°C

Communication System: WCDMA Professional Band Ⅱ; Frequency: 1752.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(8.9, 8.9, 8.9) @ 1752.6 MHz

WCDMA Band Ⅳ Bottom Mode High 0mm/Area Scan (5x9x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.38 W/kg

WCDMA Band Ⅳ Bottom Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.96 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.83 W/kg

SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.577 W/kg

Maximum of SAR (measured) = 2.31 W/kg

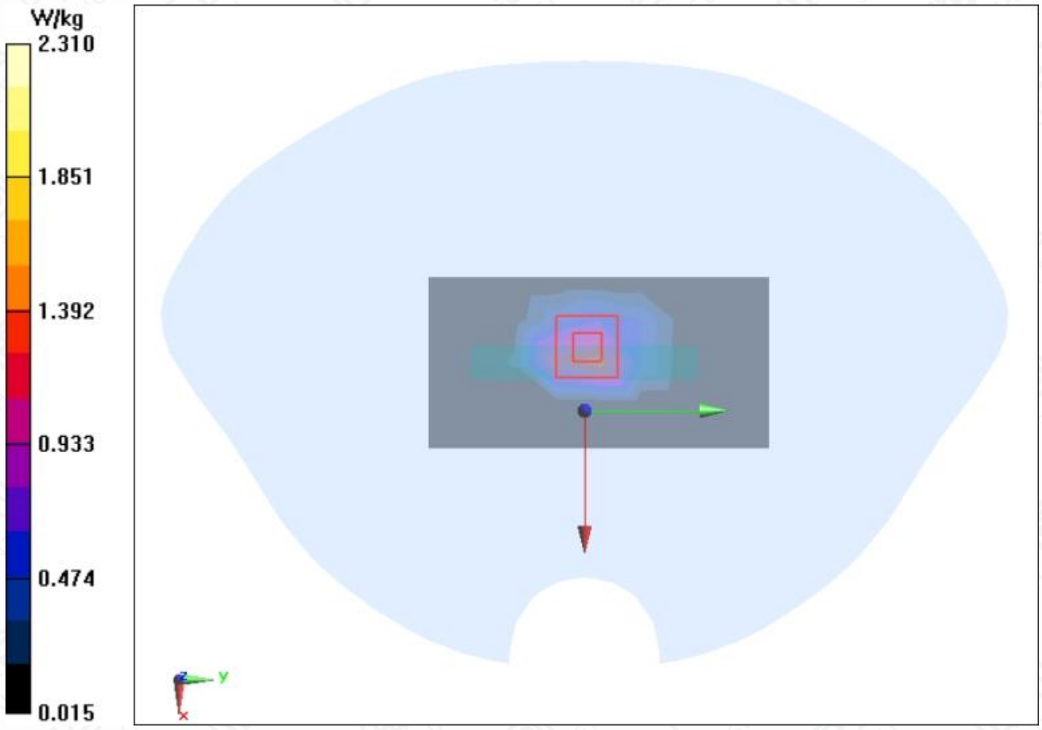


Figure A.1-8 WCDMA Band Ⅳ Bottom Mode High 0mm

WCDMA Band Ⅴ Back Mode High 5mm

Date/Time: 2022/11/18

Electronics: DAE4 Sn1244

Medium parameters used: f = 847 MHz; σ = 0.918 S/m; εr = 42.111; ρ = 1000 kg/m3

Ambient Temperature:21.5°C Liquid Temperature:20.5°C

Communication System: WCDMA Professional Band Ⅴ; Frequency: 846.6 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 846.6 MHz

WCDMA Band Ⅴ Back Mode High 5mm/Area Scan (9x13x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.828 W/kg

WCDMA Band Ⅴ Back Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.230 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.03 W/kg

SAR(1 g) = 0.541 W/kg; SAR(10 g) = 0.342 W/kg

Maximum of SAR (measured) = 0.801 W/kg

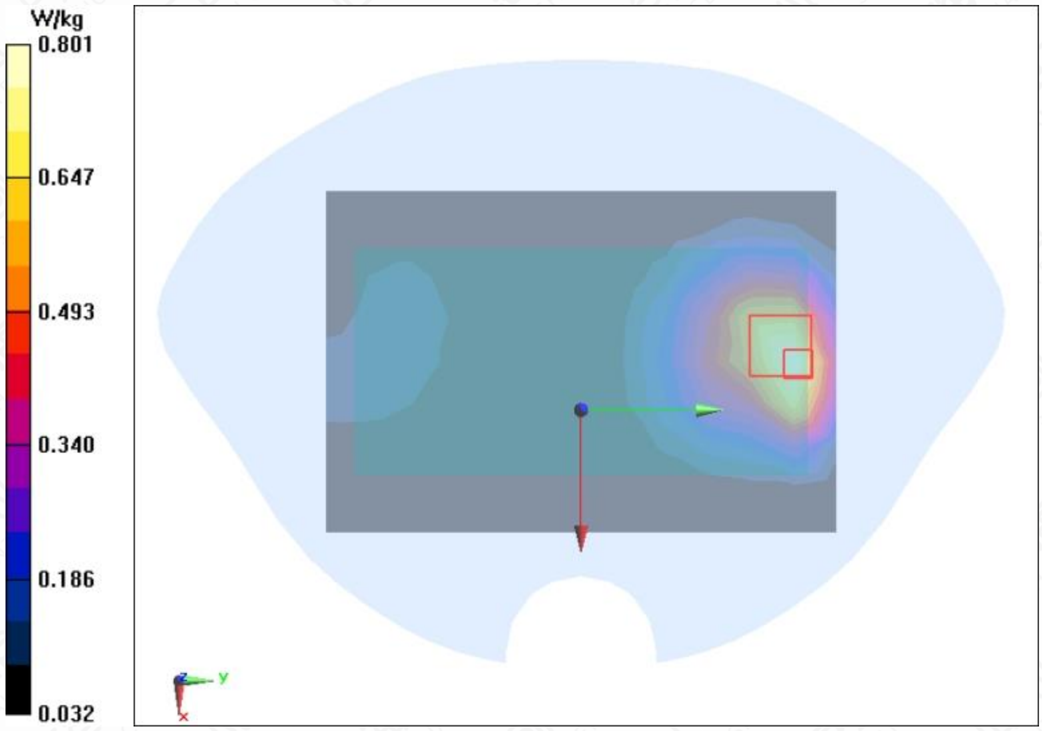


Figure A.1-9 WCDMA Band Ⅴ Back Mode High 5mm

WCDMA Band Ⅴ Front Mode Middle 0mm
Date/Time: 2022/11/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 837 MHz; σ = 0.905 S/m; εr = 42.789; ρ = 1000 kg/m3
Ambient Temperature:21.5°C Liquid Temperature:20.4°C
Communication System: WCDMA Band Ⅴ; Frequency: 836.6 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.13, 10.13, 10.13) @ 836.6 MHz
WCDMA Band Ⅴ Front Mode Middle 0mm/Area Scan (9x14x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.52 W/kg
WCDMA Band Ⅴ Front Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.81 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 3.73 W/kg
SAR(1 g) = 1.23 W/kg; SAR(10 g) = 0.616 W/kg
Maximum of SAR (measured) = 2.56 W/kg

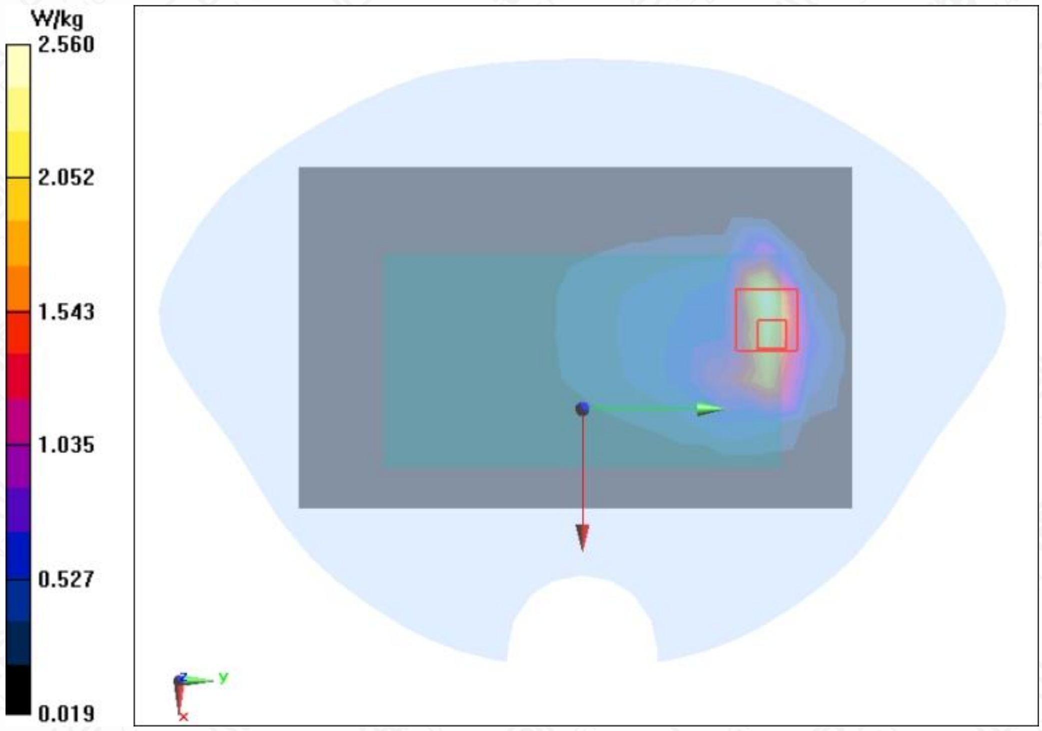


Figure A.1-10 WCDMA Band Ⅴ Front Mode Middle 0mm

LTE B2 20MHz 1RB 50offset Bottom Mode Low 5mm

Date/Time: 2022/11/23

Electronics: DAE4 Sn1244

Medium parameters used: f = 1860 MHz; σ = 1.404 S/m; εr = 39.011; ρ = 1000 kg/m3

Ambient Temperature:21.6°C　　Liquid Temperature:20.4°C

Communication System: LTE Band 2 Professional 1900MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(8.6, 8.6, 8.6) @ 1860 MHz

LTE B2 20MHz 1RB 50offset Bottom Mode Low 5mm/Area Scan (5x9x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.46 W/kg

LTE B2 20MHz 1RB 50offset Bottom Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 29.63 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.92 W/kg

SAR(1 g) = 0.976 W/kg; SAR(10 g) = 0.458 W/kg

Maximum value of SAR (measured) = 1.58 W/kg

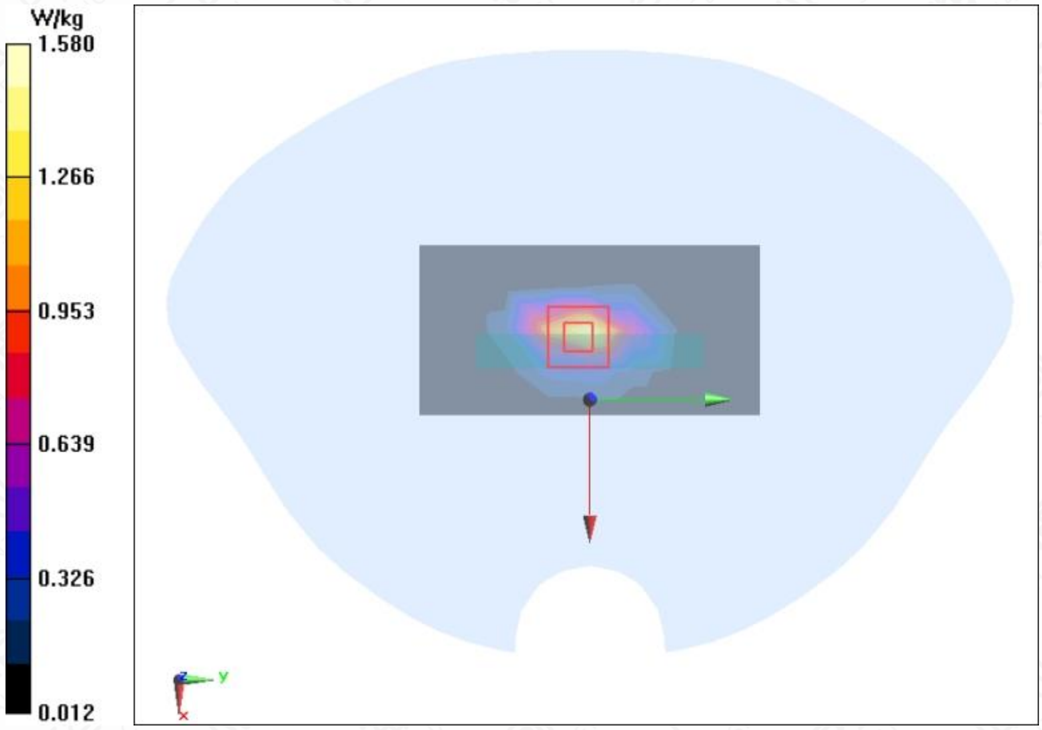


Figure A.1-11 LTE B2 20MHz 1RB 50offset Bottom Mode Low 5mm

LTE B2 20MHz 1RB 50offset Bottom Mode Low 0mm
Date/Time: 2022/11/23
Electronics: DAE4 Sn1244
Medium parameters used: f = 1860 MHz; σ = 1.404 S/m; εr = 39.011; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: LTE Band 2 Professional 1900MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(8.6, 8.6, 8.6) @ 1860 MHz
LTE B2 20MHz 1RB 50offset Bottom Mode Low 0mm/Area Scan (5x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.82 W/kg
LTE B2 20MHz 1RB 50offset Bottom Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 40.80 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 1.79 W/kg; SAR(10 g) = 0.779 W/kg
Maximum of SAR (measured) = 3.10 W/kg

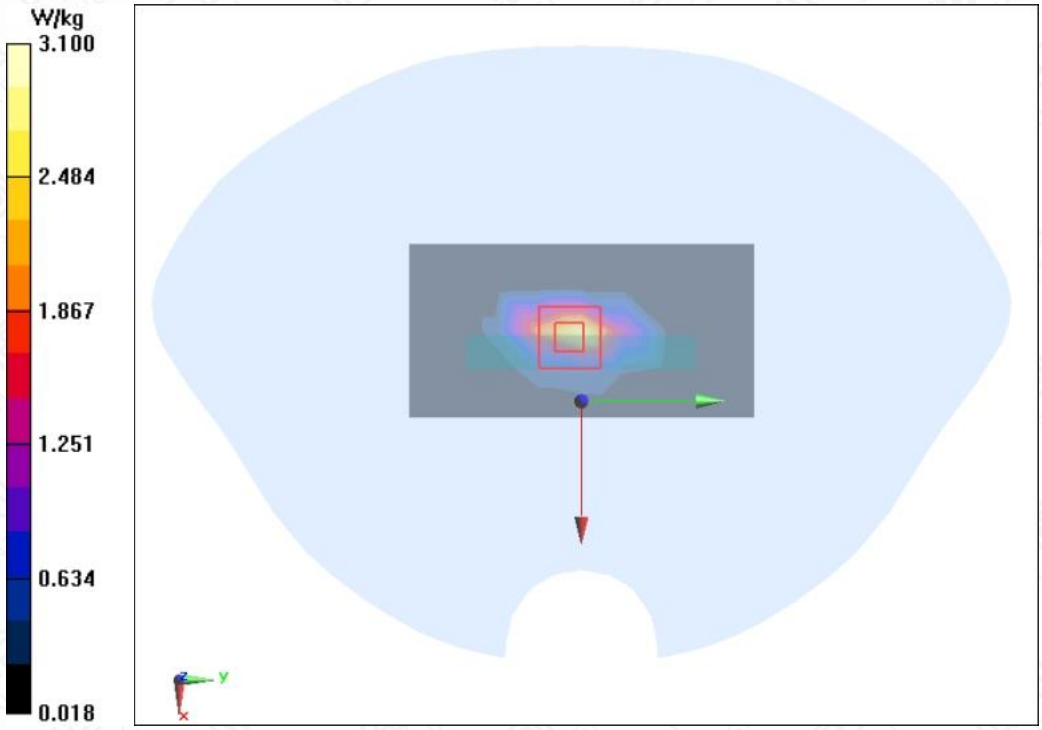


Figure A.1-12 LTE B2 20MHz 1RB 50offset Bottom Mode Low 0mm

LTE B4 20MHz 1RB 50offset Front Mode High 9mm
Date/Time: 2022/12/1
Electronics: DAE4 Sn1244
Medium parameters used: f = 1745 MHz; σ = 1.321 S/m; εr = 38.884; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: LTE Band 4 Professional 1900MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(8.9, 8.9, 8.9) @ 1745 MHz
LTE B4 20MHz 1RB 50offset Front Mode High 9mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.55 W/kg
LTE B4 20MHz 1RB 50offset Front Mode High 9mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 9.701 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 1.82 W/kg
SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.569 W/kg
Maximum value of SAR (measured) = 1.53 W/kg

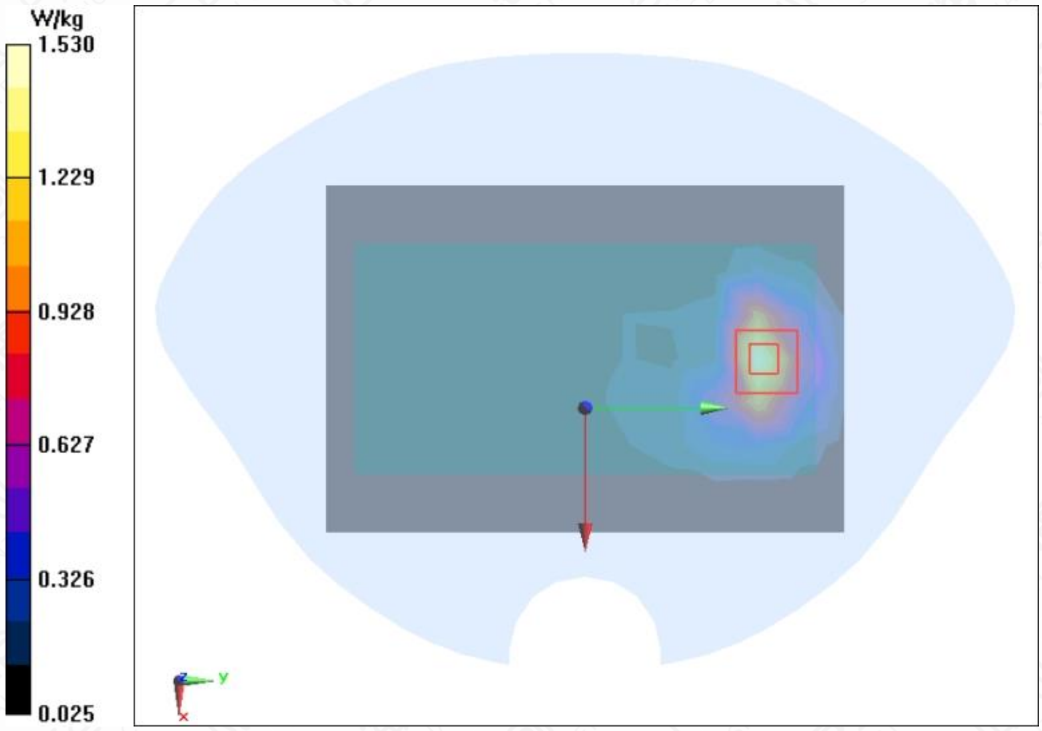


Figure A.1-13 LTE B4 20MHz 1RB 50offset Front Mode High 9mm

LTE B4 20MHz 1RB 50offset Bottom Mode High 0mm

Date/Time: 2022/11/23

Electronics: DAE4 Sn1244

Medium parameters used: f = 1745 MHz; σ = 1.334 S/m; εr = 39.187; ρ = 1000 kg/m3

Ambient Temperature:21.5°C   Liquid Temperature:20.4°C

Communication System: LTE Band 4 Professional 1900MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(8.9, 8.9, 8.9) @ 1745 MHz

LTE B4 20MHz 1RB 50offset Bottom Mode High 0mm/Area Scan (5x9x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 1.02 W/kg

LTE B4 20MHz 1RB 50offset Bottom Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 27.41 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.83 W/kg

SAR(1 g) = 1.28 W/kg; SAR(10 g) = 0.565 W/kg

Maximum of SAR (measured) = 2.30 W/kg

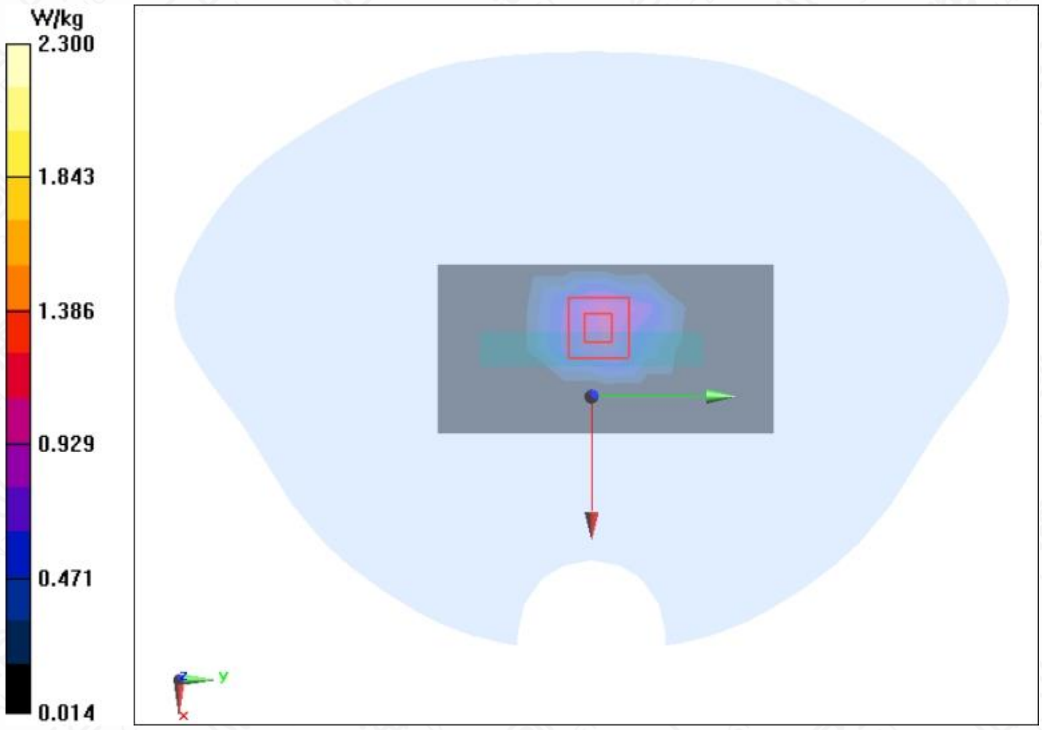


Figure A.1-14 LTE B4 20MHz 1RB 50offset Bottom Mode High 0mm

LTE B5 10MHz 1RB 25offset Back Mode Middle 5mm
Date/Time: 2022/11/22
Electronics: DAE4 Sn1244
Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.898 S/m; εr = 42.517; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: LTE Band 5 Professional 900MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 836.5 MHz
LTE B5 10MHz 1RB 25offset Back Mode Middle 5mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.700 W/kg
LTE B5 10MHz 1RB 25offset Back Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 7.552 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 1.03 W/kg
SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.329 W/kg
Maximum of SAR (measured) = 0.839 W/kg

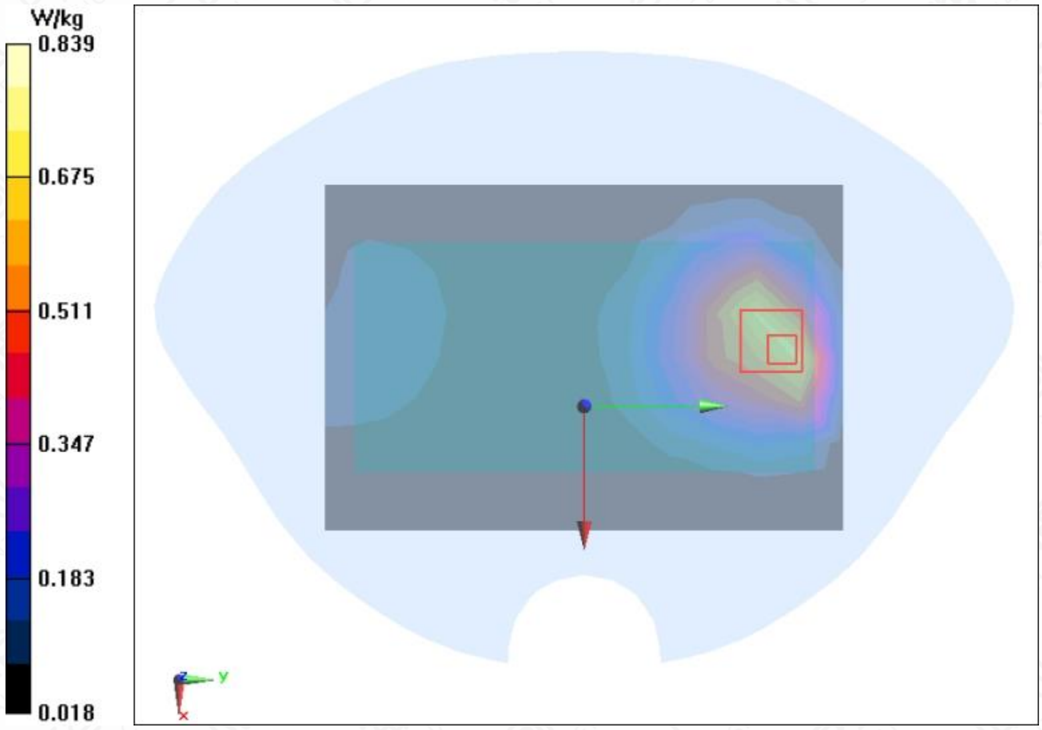


Figure A.1-15 LTE B5 10MHz 1RB 25offset Back Mode Middle 5mm

LTE B5 10MHz 1RB 25offset Front Mode High 0mm
Date/Time: 2022/10/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 844 MHz; σ = 0.909 S/m; εr = 42.65; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: LTE Band 5 Professional 900MHz; Frequency: 844 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 844 MHz
LTE B5 10MHz 1RB 25offset Front Mode High 0mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.29 W/kg
LTE B5 10MHz 1RB 25offset Front Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 12.65 V/m; Power Drift = -0.12 dB
Peak SAR (extrapolated) = 2.24 W/kg
SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.457 W/kg
Maximum of SAR (measured) = 1.66 W/kg

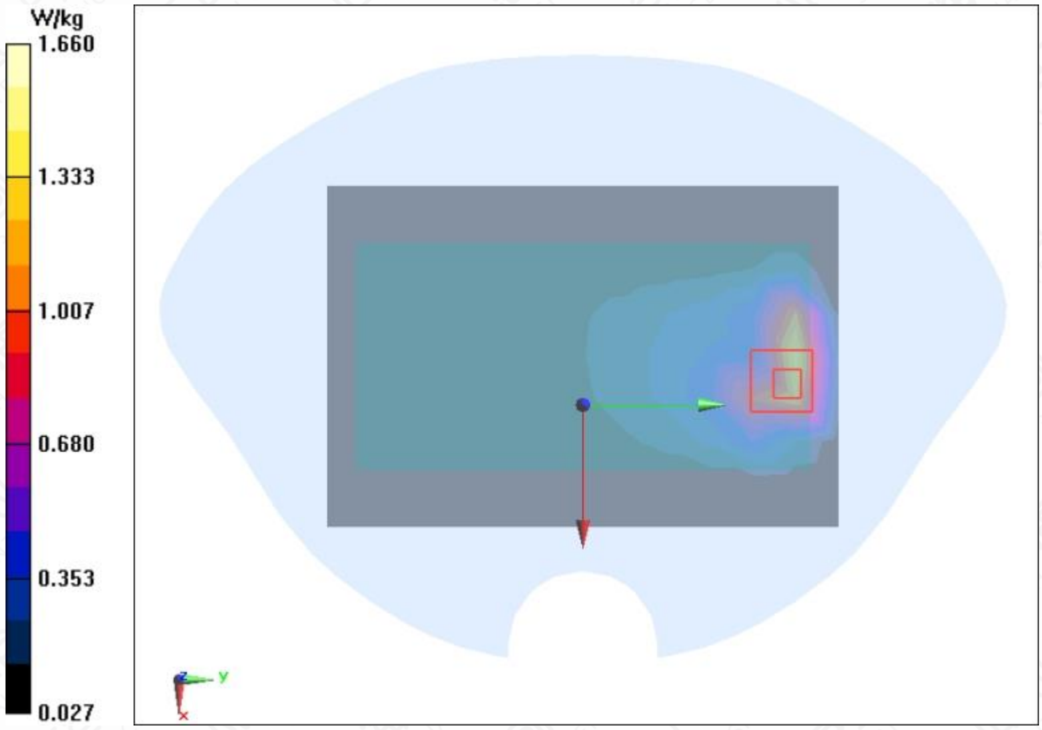


Figure A.1-16 LTE B5 10MHz 1RB 25offset Front Mode High 0mm

LTE B7 20MHz 1RB 50offset Bottom Mode High 5mm
Date/Time: 2022/11/22
Electronics: DAE4 Sn1244
Medium parameters used: f = 2560 MHz; σ = 1.924 S/m; εr = 38.925; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: LTE Band 7 Professional 2500MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(7.73, 7.73, 7.73) @ 2560 MHz
LTE B7 20MHz 1RB 50offset Bottom Mode High 5mm/Area Scan (8x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.46 W/kg
LTE B7 20MHz 1RB 50offset Bottom Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 17.03 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 1.80 W/kg
SAR(1 g) = 0.870 W/kg; SAR(10 g) = 0.383 W/kg
Maximum value of SAR (measured) = 1.47 W/kg

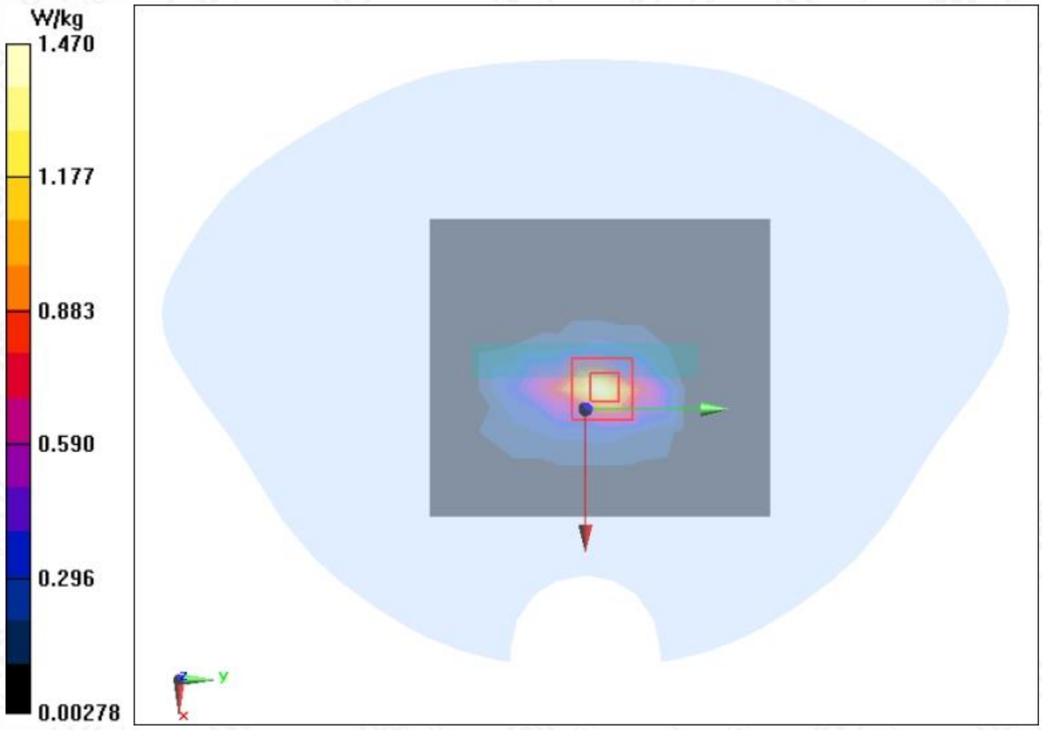


Figure A.1-17 LTE B7 20MHz 1RB 50offset Bottom Mode High 5mm

LTE B7 20MHz 1RB 50offset Bottom Mode Low 0mm
Date/Time: 2022/12/8
Electronics: DAE4 Sn1244
Medium parameters used: f = 2510 MHz; σ = 1.872 S/m; εr = 38.88; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: LTE B7 2450MHz; Frequency: 2510 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(7.85, 7.85, 7.85) @ 2510 MHz
LTE B7 20MHz 1RB 50offset Bottom Mode Low 0mm/Area Scan (7x11x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 3.98 W/kg
LTE B7 20MHz 1RB 50offset Bottom Mode Low 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 36.58 V/m; Power Drift = 0.04 dB
Peak SAR (extrapolated) = 6.64 W/kg
SAR(1 g) = 2.79 W/kg; SAR(10 g) = 1.09 W/kg
Maximum of SAR (measured) = 5.40 W/kg

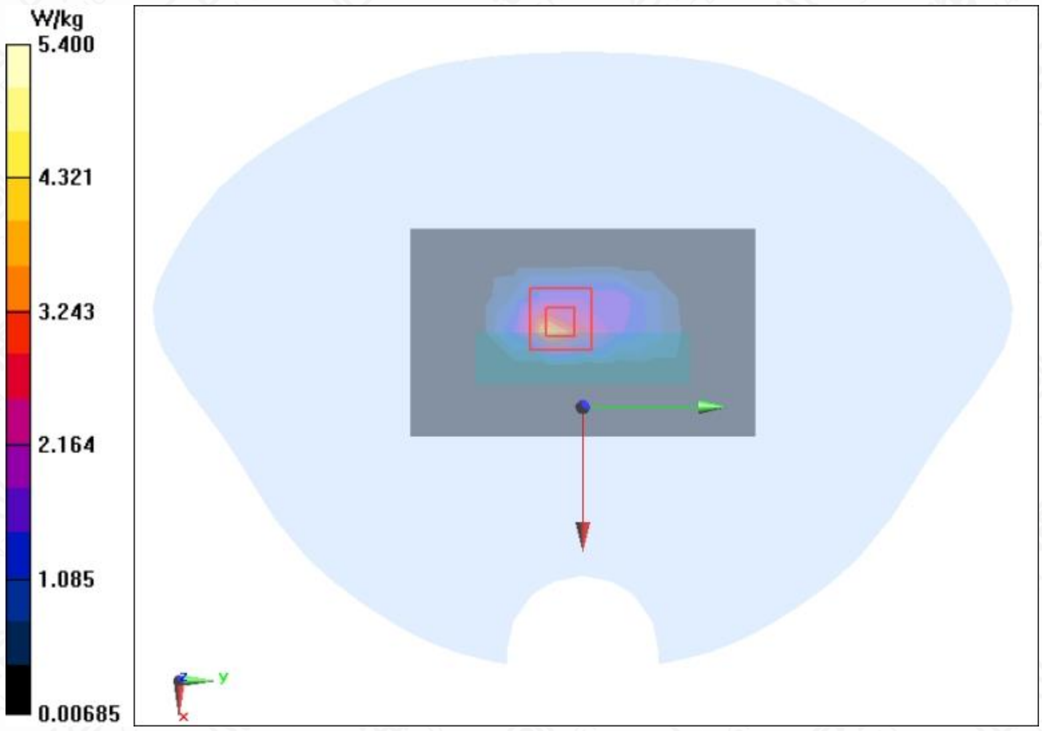


Figure A.1-18 LTE B7 20MHz 1RB 50offset Bottom Mode Low 0mm

LTE B17 10MHz 1RB 25offset Front Mode Middle 5mm
Date/Time: 2022/11/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 710 MHz; σ = 0.868 S/m; εr = 42.498; ρ = 1000 kg/m3
Ambient Temperature:21.5°C Liquid Temperature:20.3°C
Communication System: LTE Band 17 Professional 900MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.9, 10.9, 10.9) @ 710 MHz
LTE B17 10MHz 1RB 25offset Front Mode Middle 5mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.700 W/kg
LTE B17 10MHz 1RB 25offset Front Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.845 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 0.974 W/kg
SAR(1 g) = 0.513 W/kg; SAR(10 g) = 0.307 W/kg
Maximum of SAR (measured) = 0.790 W/kg

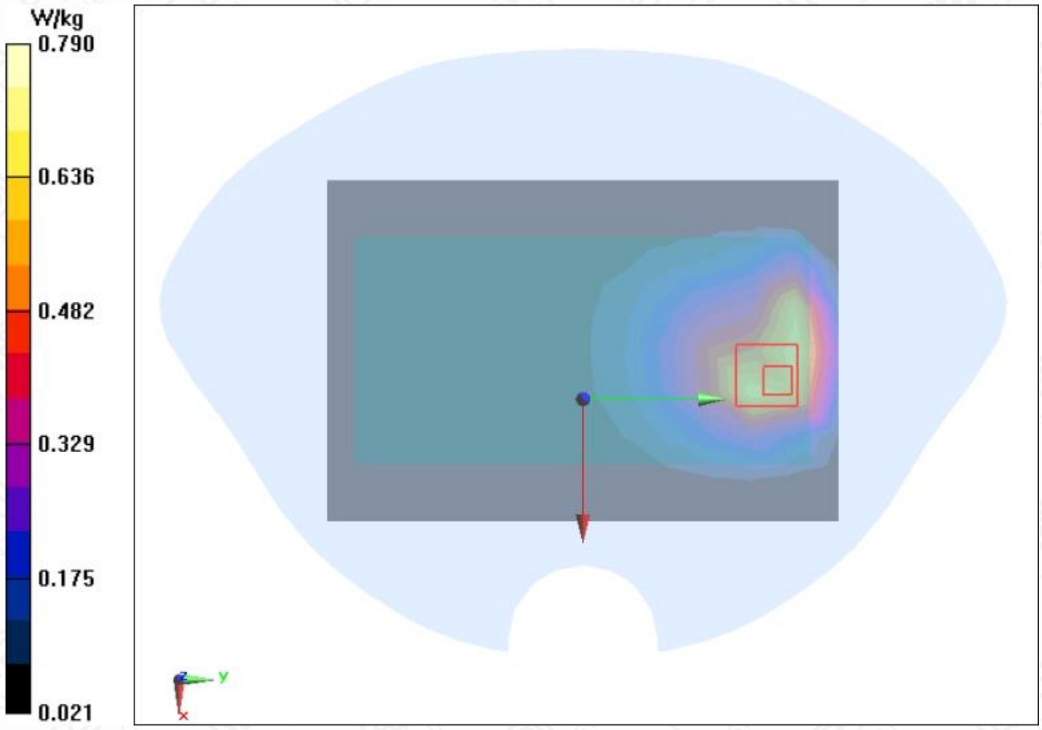


Figure A.1-19 LTE B17 10MHz 1RB 25offset Front Mode Middle 5mm

LTE B17 10MHz 1RB 25offset Front Mode Middle 0mm
Date/Time: 2022/11/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 710 MHz; σ = 0.868 S/m; εr = 42.498; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: LTE Band 17 Professional 900MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.9, 10.9, 10.9) @ 710 MHz
LTE B17 10MHz 1RB 25offset Front Mode Middle 0mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.09 W/kg
LTE B17 10MHz 1RB 25offset Front Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 11.10 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 3.11 W/kg
SAR(1 g) = 1.04 W/kg; SAR(10 g) = 0.520 W/kg
Maximum of SAR (measured) = 2.13 W/kg

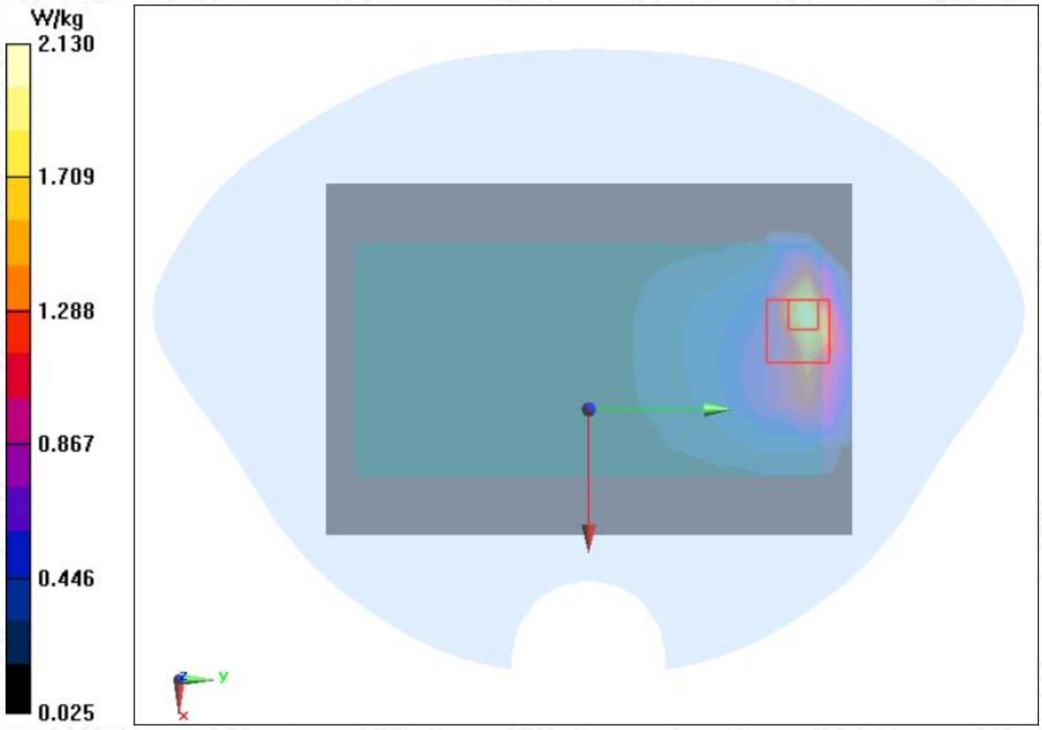


Figure A.1-20 LTE B17 10MHz 1RB 25offset Front Mode Middle 0mm

LTE B41 20MHz 1RB 50offset Bottom Mode High 5mm
Date/Time: 2022/11/22
Electronics: DAE4 Sn1244
Medium parameters used: f = 2645 MHz; σ = 1.995 S/m; εr = 38.774; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: LTE Band 41 Professional 2500MHz; Duty Cycle: 1:2
Probe: EX3DV4 - SN7633ConvF(7.73, 7.73, 7.73) @ 2645 MHz
LTE B41 20MHz 1RB 50offset Bottom Mode High 5mm/Area Scan (5x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.938 W/kg
LTE B41 20MHz 1RB 50offset Bottom Mode High 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.59 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 1.33 W/kg
SAR(1 g) = 0.657 W/kg; SAR(10 g) = 0.300 W/kg
Maximum value of SAR (measured) = 1.09 W/kg

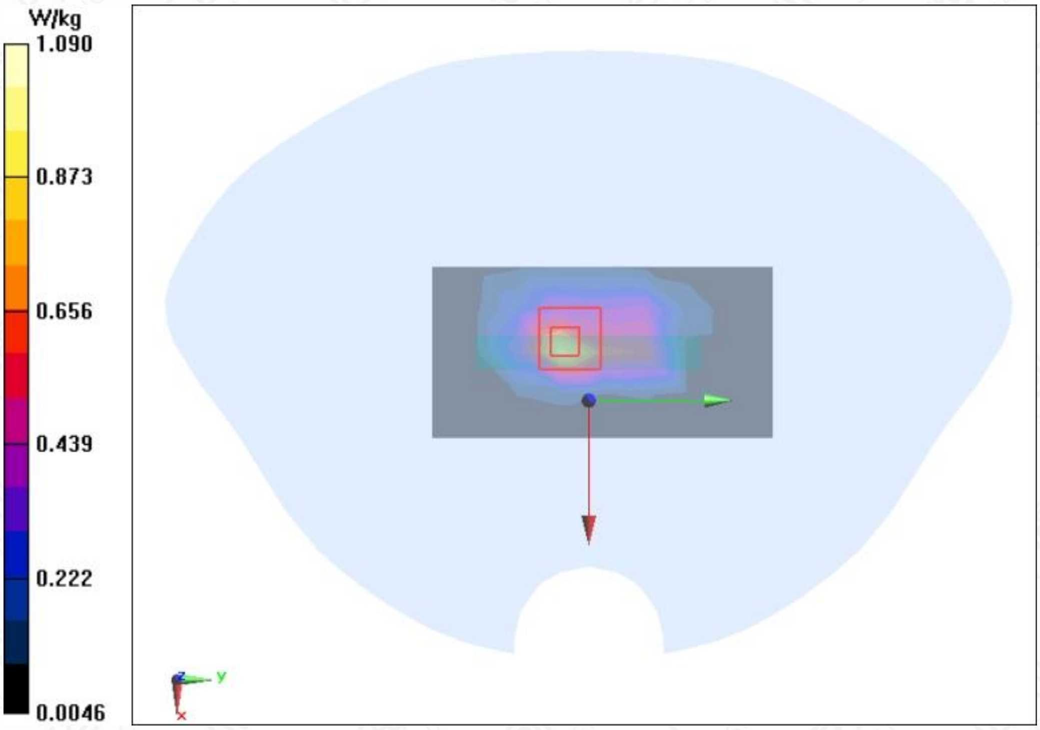


Figure A.1-21 LTE B41 20MHz 1RB 50offset Bottom Mode High 5mm

LTE B41 20MHz 1RB 50offset Bottom Mode High 0mm
Date/Time: 2022/11/22
Electronics: DAE4 Sn1244
Medium parameters used: f = 2645 MHz; σ = 1.995 S/m; εr = 38.774; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: LTE Band 41 Professional 2500MHz; Duty Cycle: 1:2
Probe: EX3DV4 - SN7633ConvF(7.73, 7.73, 7.73) @ 2645 MHz
LTE B41 20MHz 1RB 50offset Bottom Mode High 0mm/Area Scan (5x9x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.47 W/kg
LTE B41 20MHz 1RB 50offset Bottom Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 25.43 V/m; Power Drift = 0.06 dB
Peak SAR (extrapolated) = 3.60 W/kg
SAR(1 g) = 1.4 W/kg; SAR(10 g) = 0.553 W/kg
Maximum of SAR (measured) = 2.78 W/kg

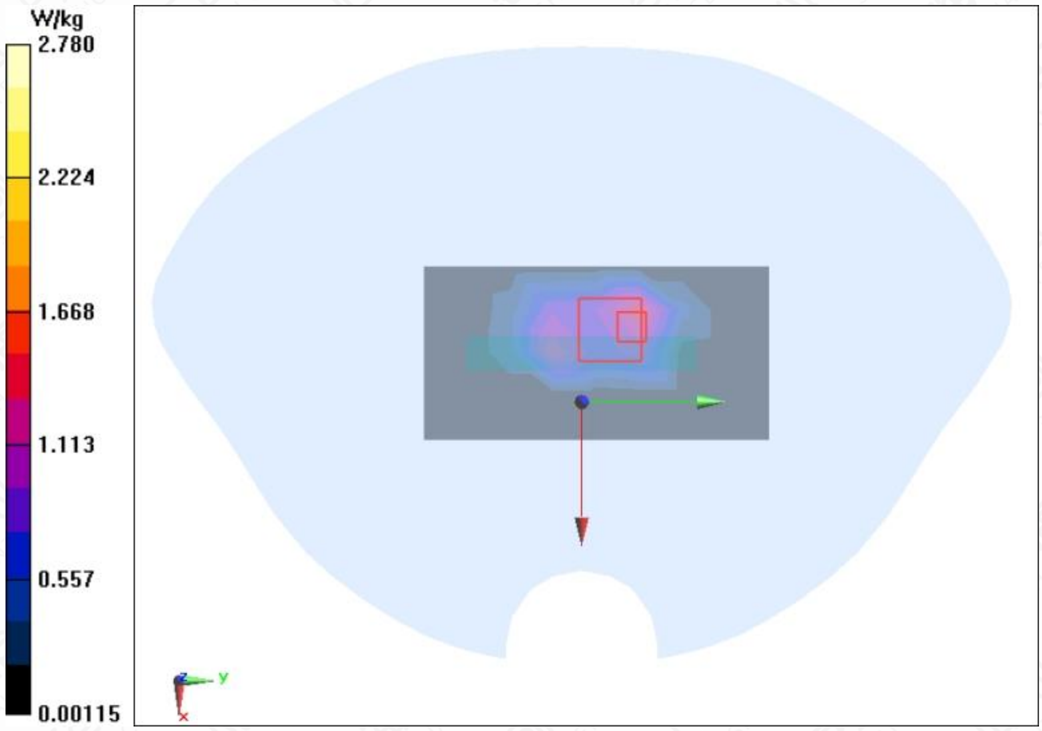


Figure A.1-22 LTE B41 20MHz 1RB 50offset Bottom Mode High 0mm

BT DH5 Back Mode Middle 5mm
Date/Time: 2022/11/24
Electronics: DAE4 Sn1244
Medium parameters used: f = 2441 MHz; σ = 1.828 S/m; εr = 39.148; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: BT 2500MHz;   Frequency: 2441 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(7.96, 7.96, 7.96) @ 2441 MHz
BT DH5 Back Mode Middle 5mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.0765 W/kg
BT DH5 Back Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0.3410 V/m; Power Drift = 0.16 dB
Peak SAR (extrapolated) = 0.120 W/kg
SAR(1 g) = 0.059 W/kg; SAR(10 g) = 0.029 W/kg
Maximum value of SAR (measured) = 0.096 W/kg

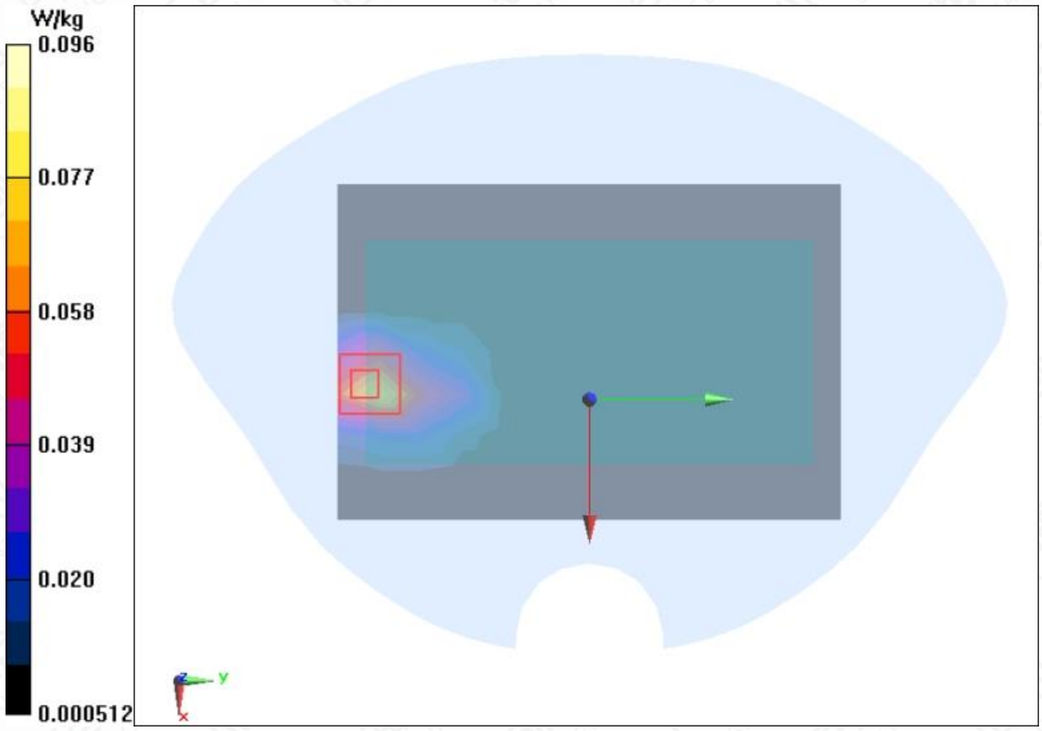


Figure A.1-23 BT DH5 Back Mode Middle 5mm

BT DH5 Back Mode Middle 0mm
Date/Time: 2022/11/24
Electronics: DAE4 Sn1244
Medium parameters used: f = 2441 MHz; σ = 1.828 S/m; εr = 39.148; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: BT 2500MHz; Frequency: 2441 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(7.96, 7.96, 7.96) @ 2441 MHz
BT DH5 Back Mode Middle 0mm/Area Scan (9x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.138 W/kg
BT DH5 Back Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 0 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 0.229 W/kg
SAR(1 g) = 0.104 W/kg; SAR(10 g) = 0.046 W/kg
Maximum value of SAR (measured) = 0.176 W/kg

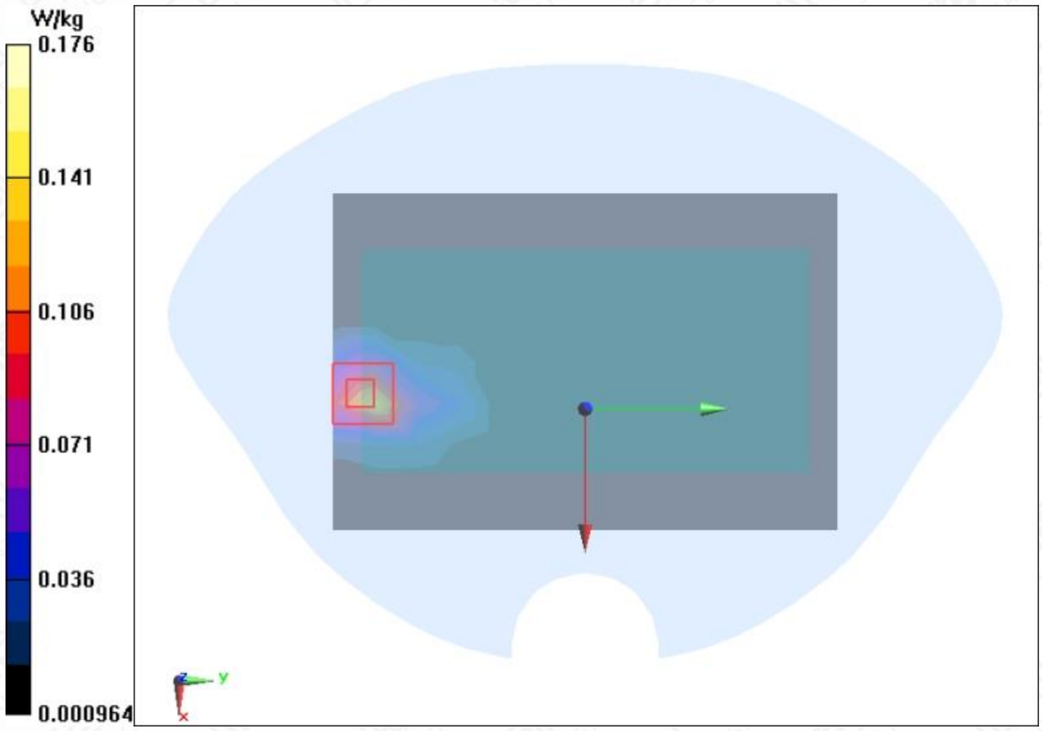


Figure A.1-24 BT DH5 Back Mode Middle 0mm

Wi-Fi 2.4G 11b Back Mode Middle 5mm
Date/Time: 2022/11/23
Electronics: DAE4 Sn1244
Medium parameters used: f = 2437 MHz; σ = 1.821 S/m; εr = 39.12; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: WLan 2450 2450MHz; Frequency: 2437 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(7.85, 7.85, 7.85) @ 2437 MHz
Wi-Fi 2.4G 11b Back Mode Middle 5mm/Area Scan (11x17x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.875 W/kg
Wi-Fi 2.4G 11b Back Mode Middle 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 2.916 V/m; Power Drift = -0.06 dB
Peak SAR (extrapolated) = 1.22 W/kg
SAR(1 g) = 0.613 W/kg; SAR(10 g) = 0.308 W/kg
Maximum value of SAR (measured) = 0.993 W/kg

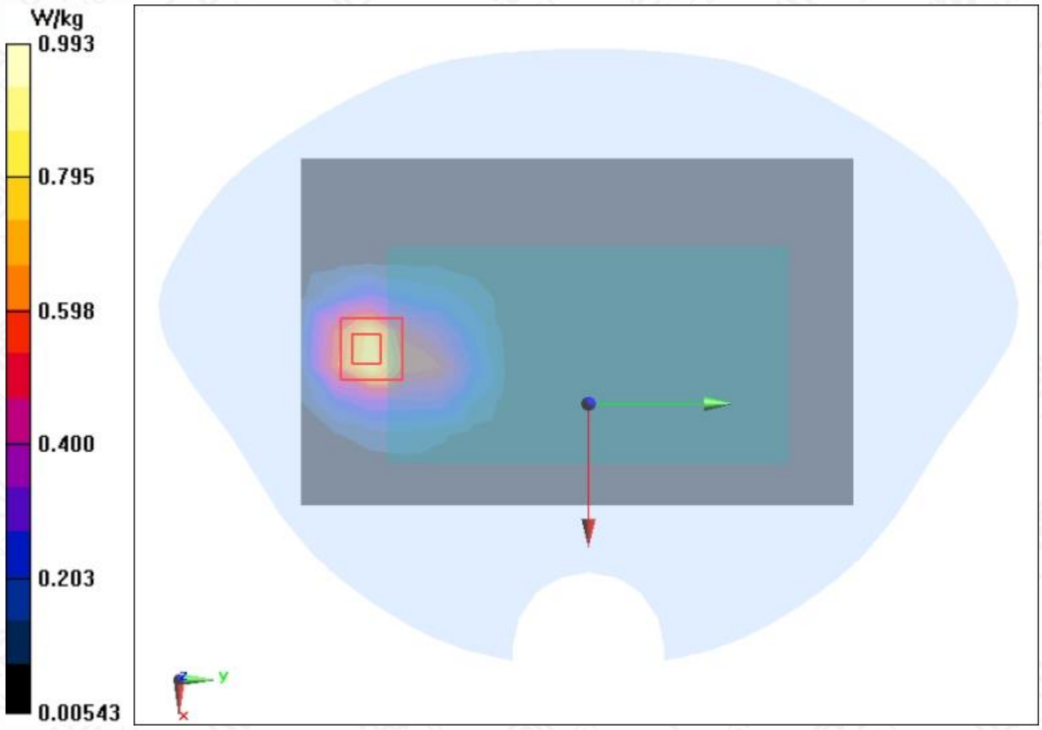


Figure A.1-25 Wi-Fi 2.4G 11b Back Mode Middle 5mm

Wi-Fi 2.4G 11b Back Mode Middle 0mm

Date/Time: 2022/10/24

Electronics: DAE4 Sn1244

Medium parameters used: f = 2437 MHz; σ = 1.846 S/m; εr = 38.091; ρ = 1000 kg/m3

Ambient Temperature:21.6°C Liquid Temperature:20.5°C

Communication System: WLan 2450 2450MHz; Frequency: 2437 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(7.85, 7.85, 7.85) @ 2437 MHz

Wi-Fi 2.4G 11b Back Mode Middle 0mm/Area Scan (9x14x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.72 W/kg

Wi-Fi 2.4G 11b Back Mode Middle 0mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.045 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 3.58 W/kg

SAR(1 g) = 1.58 W/kg; SAR(10 g) = 0.685 W/kg

Maximum value of SAR (measured) = 2.74 W/kg

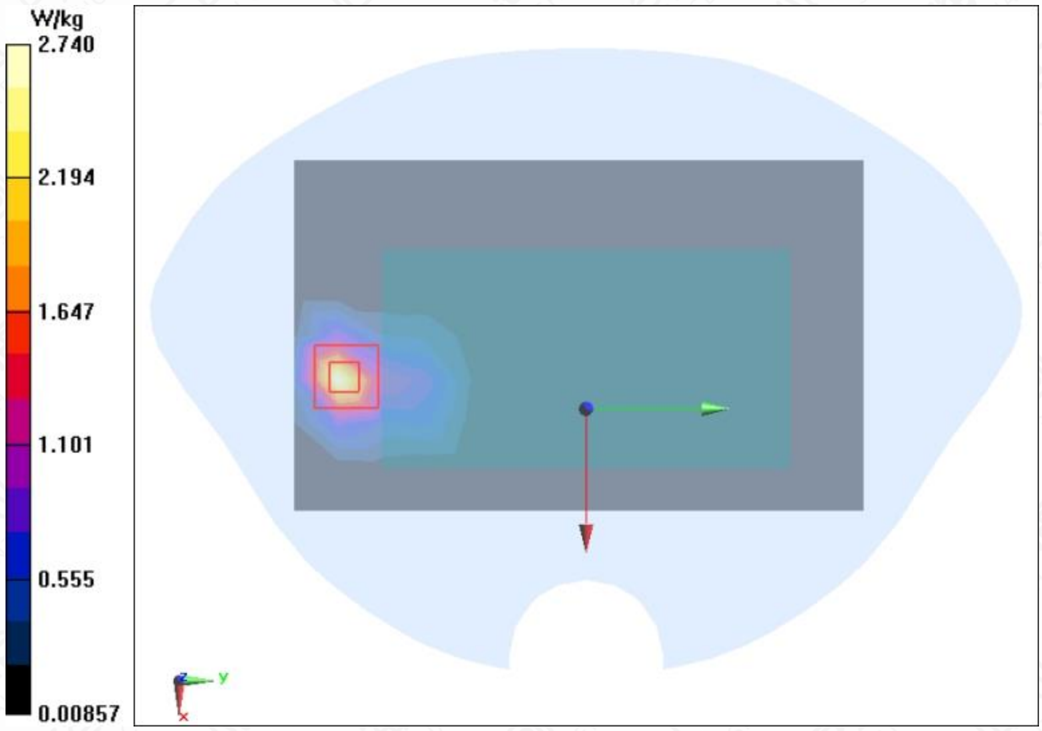


Figure A.1-26 Wi-Fi 2.4G 11b Back Mode Middle 0mm

Wi-Fi 5G U-NII-1&2A 11a Back Mode Low 5mm
Date/Time: 2022/11/28
Electronics: DAE4 Sn1244
Medium parameters used: f = 5180 MHz; σ = 4.654 S/m; εr = 35.751; ρ = 1000 kg/m3
Ambient Temperature:21.6°C Liquid Temperature:20.5°C
Communication System: 5G-U-NII-1 5GHz; Frequency: 5180 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(5.65, 5.65, 5.65) @ 5180 MHz
Wi-Fi 5G U-NII-1&2A 11a Back Mode Low 5mm/Area Scan (11x17x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 0.856 W/kg
Wi-Fi 5G U-NII-1&2A 11a Back Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 4.918 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 1.81 W/kg
SAR(1 g) = 0.444 W/kg; SAR(10 g) = 0.160 W/kg
Maximum of SAR (measured) = 0.980 W/kg

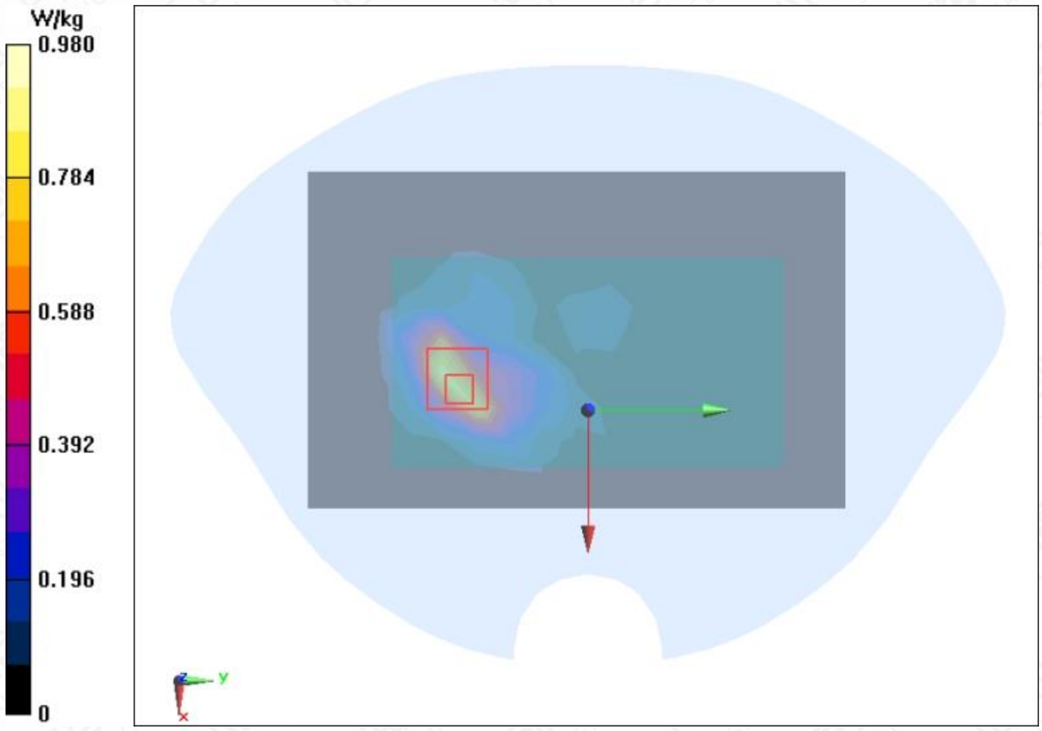


Figure A.1-27 Wi-Fi 5G U-NII-1&2A 11a Back Mode Low 5mm

Wi-Fi 5G U-NII-1 11a Back Mode High 0mm
Date/Time: 2022/11/28
Electronics: DAE4 Sn1244
Medium parameters used: f = 5240 MHz; σ = 4.724 S/m; εr = 35.633; ρ = 1000 kg/m3
Ambient Temperature:21.6°C   Liquid Temperature:20.5°C
Communication System: 5G-U-NII-1 5GHz; Frequency: 5240 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(5.65, 5.65, 5.65) @ 5240 MHz
Wi-Fi 5G U-NII-1 11a Back Mode High 0mm/Area Scan (9x14x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.66 W/kg
Wi-Fi 5G U-NII-1 11a Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 2.071 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 6.03 W/kg
SAR(1 g) = 1.31 W/kg; SAR(10 g) = 0.410 W/kg
Maximum of SAR (measured) = 2.66 W/kg

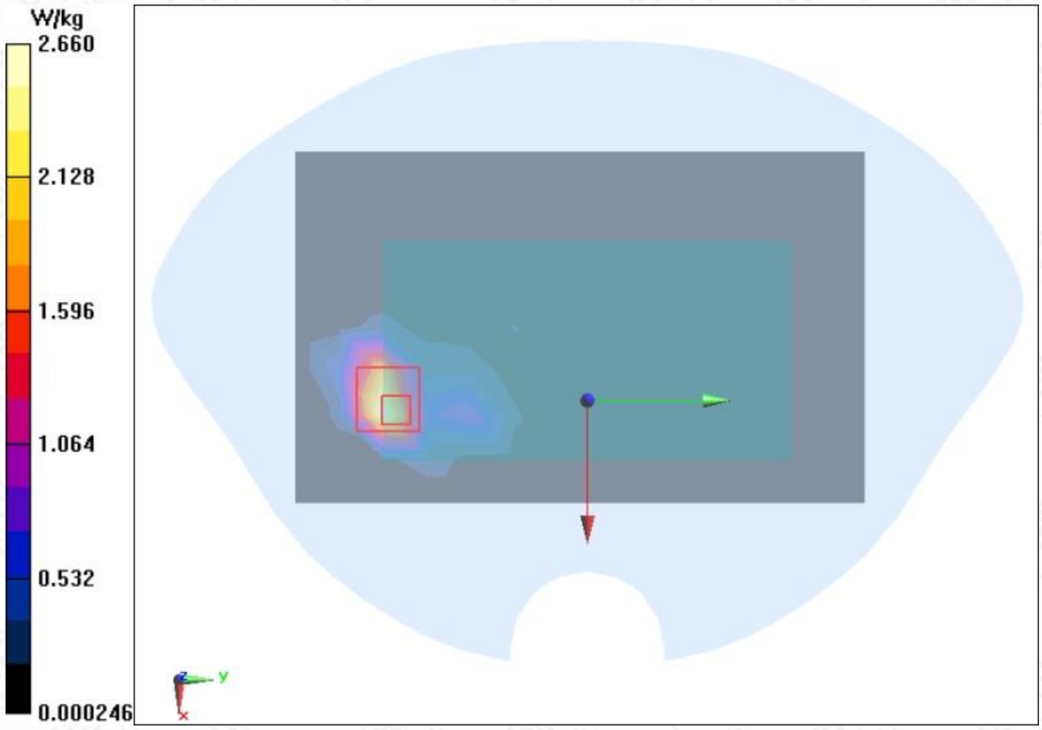


Figure A.1-28 Wi-Fi 5G U-NII-1 11a Back Mode High 0mm

Wi-Fi 5G U-NII-3 11a Back Mode Low 5mm

Date/Time: 2022/11/16

Electronics: DAE4 Sn1244

Medium parameters used: f = 5745 MHz; σ = 5.325 S/m; εr = 35.087; ρ = 1000 kg/m3

Ambient Temperature:21.7°C   Liquid Temperature:20.6°C

Communication System: 5G-U-NII-3 5GHz; Frequency: 5745 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(5.11, 5.11, 5.11) @ 5745 MHz

Wi-Fi 5G U-NII-3 11a Back Mode Low 5mm/Area Scan (11x17x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 0.629 W/kg

Wi-Fi 5G U-NII-3 11a Back Mode Low 5mm/Zoom Scan (7x7x7)/Cube 0:

Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.27 W/kg

SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.098 W/kg

Maximum of SAR (measured) = 0.733 W/kg

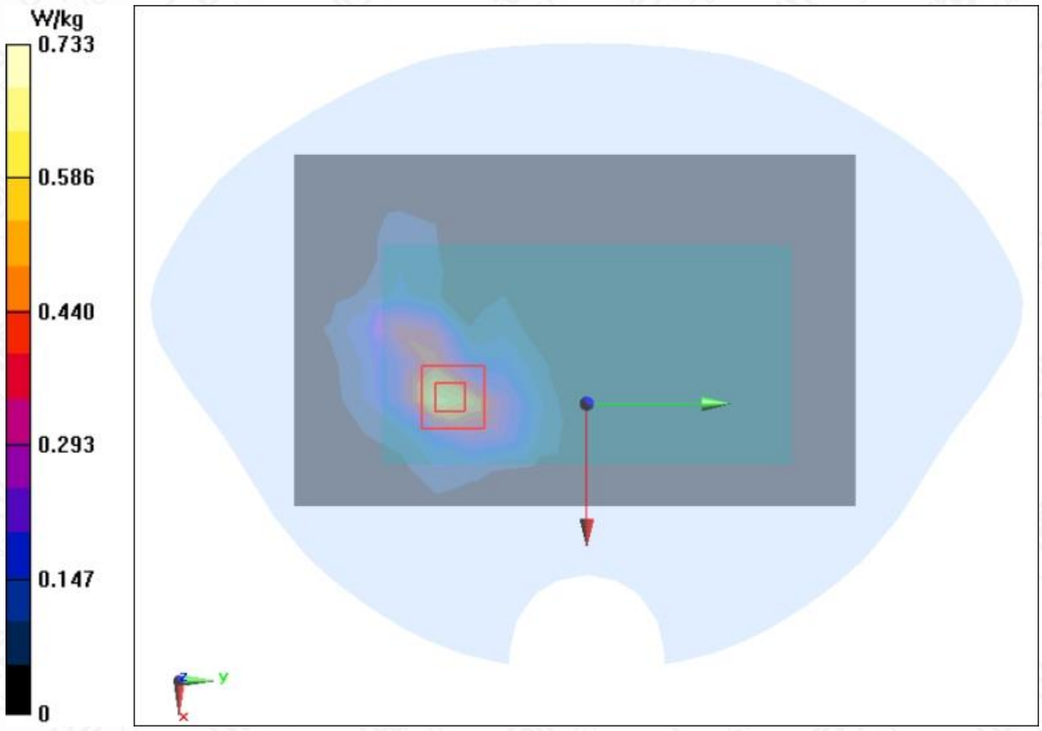


Figure A.1-29 Wi-Fi 5G U-NII-3 11a Back Mode Low 5mm

Wi-Fi 5G U-NII-3 11a Back Mode High 0mm
Date/Time: 2022/11/16
Electronics: DAE4 Sn1244
Medium parameters used: f = 5825 MHz; σ = 5.479 S/m; εr = 33.746; ρ = 1000 kg/m3
Ambient Temperature:21.5°C Liquid Temperature:20.5°C
Communication System: 5G-U-NII-3 5GHz; Frequency: 5825 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(5.11, 5.11, 5.11) @ 5825 MHz
Wi-Fi 5G U-NII-3 11a Back Mode High 0mm/Area Scan (9x14x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 1.43 W/kg
Wi-Fi 5G U-NII-3 11a Back Mode High 0mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 1.141 V/m; Power Drift = 0.13 dB
Peak SAR (extrapolated) = 3.87 W/kg
SAR(1 g) = 0.752 W/kg; SAR(10 g) = 0.228 W/kg
Maximum of SAR (measured) = 1.83 W/kg

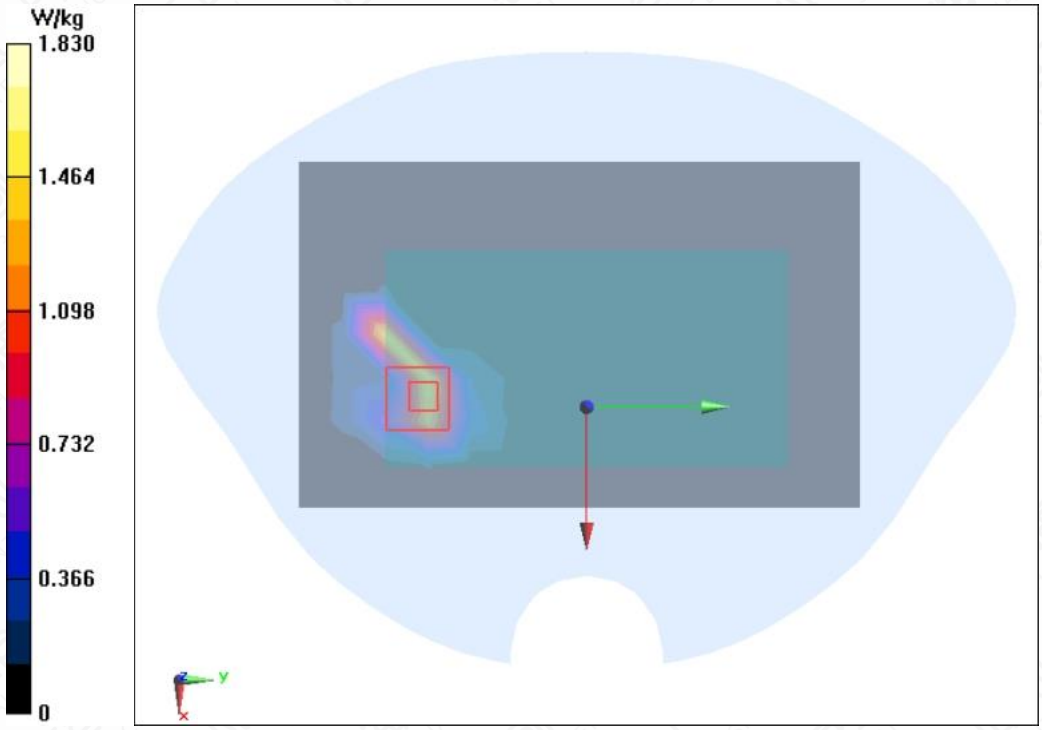


Figure A.1-30 Wi-Fi 5G U-NII-3 11a Back Mode High 0mm

A.2 System Check Graph Results

Head 750MHz
Date/Time: 2022/11/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 750 MHz; σ = 0.882 S/m; εr = 42.34; ρ = 1000 kg/m3
Ambient Temperature:21.5°C Liquid Temperature:20.5°C
Communication System: CW 900MHz; Frequency: 750 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.9, 10.9, 10.9) @ 750 MHz
System Check Head 750MHz/Area Scan (7x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.35 W/kg
System Check Head 750MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.83 V/m; Power Drift = -0.09 dB
Peak SAR (extrapolated) = 3.06 W/kg
SAR(1 g) = 1.98 W/kg; SAR(10 g) = 1.32 W/kg
Maximum value of SAR (measured) = 2.67 W/kg

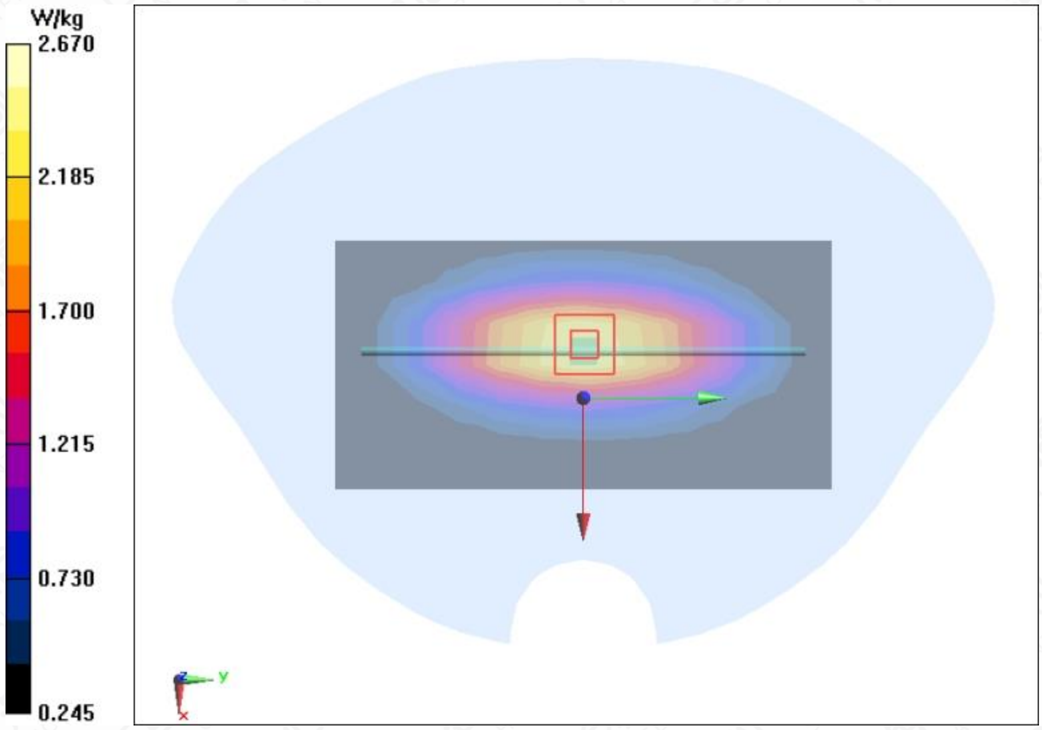


Figure A.2-1 Head 750MHz

Head 835MHz

Date/Time: 2022/10/13

Electronics: DAE4 Sn1244

Medium parameters used: f = 835 MHz; σ = 0.904 S/m; εr = 42.795; ρ = 1000 kg/m3

Ambient Temperature:21.6°C Liquid Temperature:20.4°C

Communication System: CW 900MHz; Frequency: 835 MHz; Duty Cycle: 1:1

Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 835 MHz

System Check Head 835MHz/Area Scan (7x13x1):

Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (measured) = 2.87 W/kg

System Check Head 835MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:

Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 63.76 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.86 W/kg

SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR (measured) = 3.36 W/kg

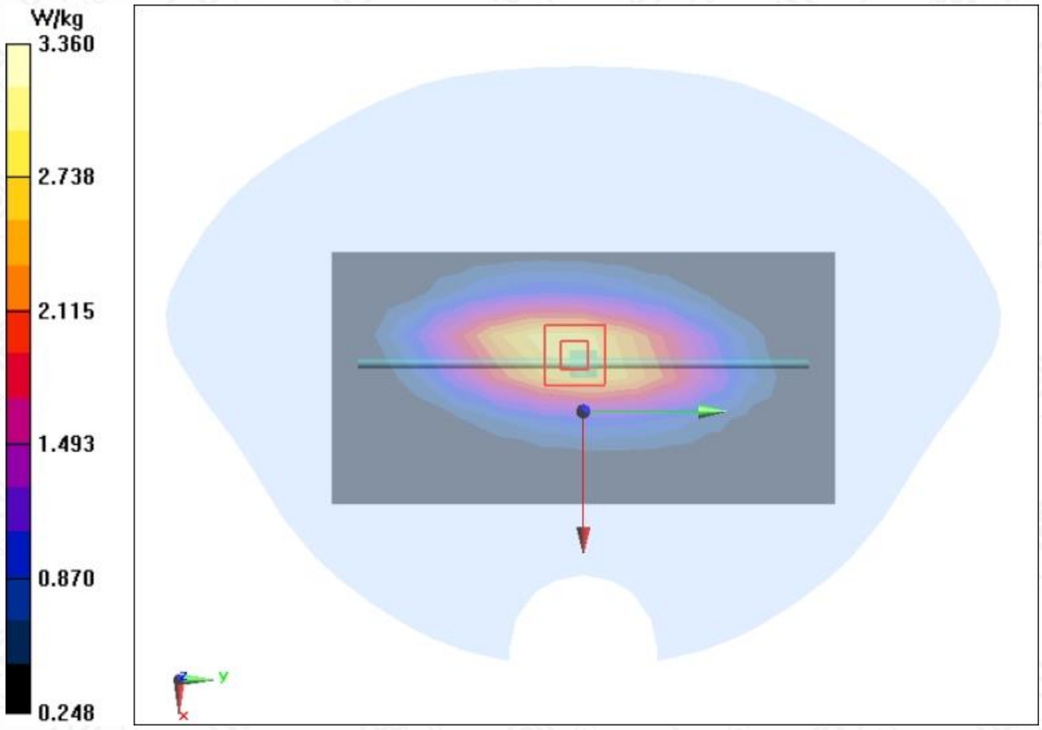


Figure A.2-2 Head 835MHz

Head 835MHz
Date/Time: 2022/10/18
Electronics: DAE4 Sn1244
Medium parameters used: f = 835 MHz; σ = 0.905 S/m; εr = 42.68; ρ = 1000 kg/m3
Ambient Temperature:21.4°C Liquid Temperature:20.2°C
Communication System: CW 900MHz; Frequency: 835 MHz; Duty Cycle: 1:1
Probe: EX3DV4 - SN7633ConvF(10.55, 10.55, 10.55) @ 835 MHz
System Check Head 835MHz/Area Scan (7x13x1):
Measurement grid: dx=10mm, dy=10mm
Maximum value of SAR (measured) = 2.96 W/kg
System Check Head 835MHz/Zoom Scan (7x7x7) (5x5x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 64.06 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 3.86 W/kg
SAR(1 g) = 2.41 W/kg; SAR(10 g) = 1.55 W/kg
Maximum value of SAR (measured) = 3.34 W/kg

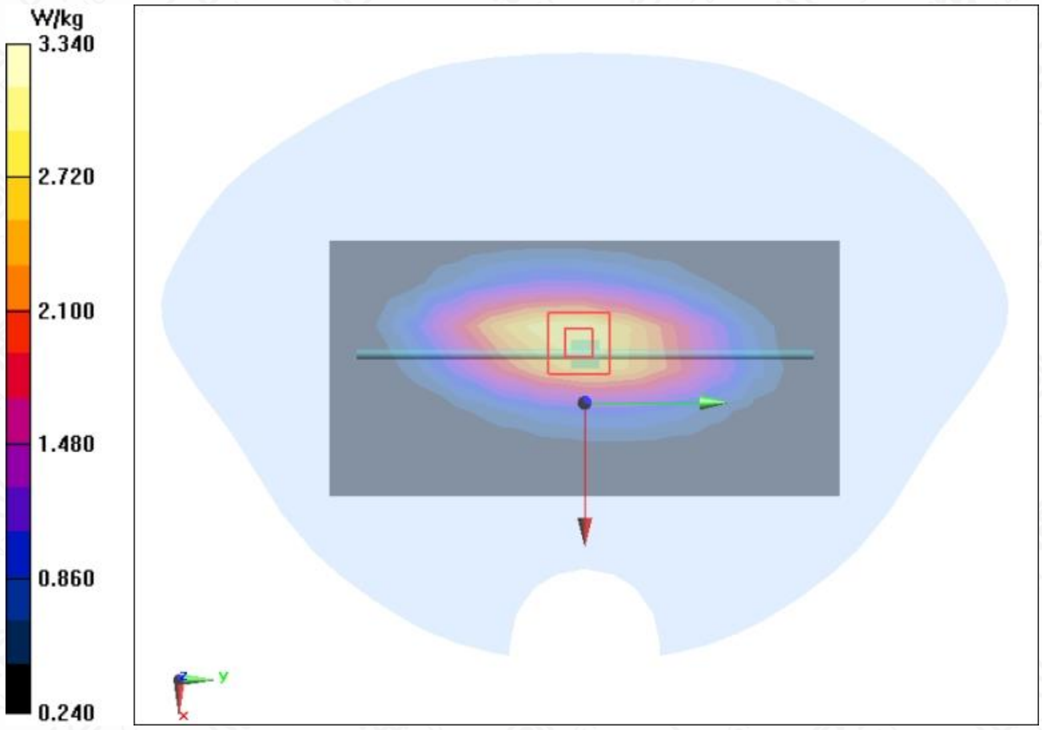


Figure A.2-3 Head 835MHz