SAR TEST REPORT

ISSUED BY
Shenzhen BALUN Technology Co., Ltd.

FOR

GSM/UMTS/LTE Mobile phone

ISSUED TO
TCL Communication Ltd.

5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

Tested by: Xu Rui
Date Dec. 21,2021

Approved by: Liao Jianming
(Technical Director)
Date Dec. 21,2021

Report No.:	BL-SZ21B0001-702
EUT Name:	GSM/UMTS/LTE Mobile phone
Model Name:	6102D
Brand Name:	TCL
FCC ID:	2ACCJH146
Test Standard:	FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR:	Head (1 g): 0.865 W/kg Body (1 g): 0.326 W/kg Hotspot (1 g): 1.138 W/kg Extremity (10 g): 3.069 W/kg
Test Conclusion:	Pass
Test Date:	Nov. 06, 2021 ~ Nov. 29, 2021
Date of Issue:	Dec. 21, 2021

Block B, 1st FL,Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong, P. R. China 518055
TEL: +86-755-66850100,FAX: +86-755-61824271
Email: qc@baluntek.com
www.baluntek.com

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Dec. 10, 2021	Initial Issue
Rev. 02	Dec. 21, 2021	Corrected the section 10 specific SAR (10 g Value)

TABLE OF CONTENTS

1 GENERAL INFORMATION

1.1 Identification of the Testing Laboratory

Company Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100
Fax Number	+86 755 6182 4271

1.2 Identification of the Responsible Testing Location

Test Location	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1st FL, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.
Description	All measurement facilities used to collect the measurement data are located at Block B, FL 1, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China 518055

1.3 Test Environment Condition

Ambient Temperature	21℃ to 23℃
Ambient Relative Humidity	35% to 19%
Ambient Pressure	100 KPa to 102 KPa

1.4 Announce

(1) The test report reference to the report template version v2.2.

(2) The test report is invalid if not marked with the signatures of the persons responsible for preparing and approving the test report.

(3) The test report is invalid if there is any evidence and/or falsification.

(4) The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein.

(5) This document may not be altered or revised in any way unless done so by BALUN and all revisions are duly noted in the revisions section.

(6) Content of the test report, in part or in full, cannot be used for publicity and/or promotional purposes without prior written approval from the laboratory.

(7) The laboratory is only responsible for the data released by the laboratory, except for the part provided by the applicant.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

2.2 Manufacturer Information

Manufacturer	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

2.3 Factory Information

Factory	TCL Communication Ltd.
Address	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong

2.4 General Description for Equipment under Test (EUT)

EUT Name	GSM/UMTS/LTE Mobile phone
Model Name Under Test	6102D
Series Model Name	N/A
Description of Model Name Differentiation	N/A
Hardware Version	05
Software Version	MW59
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A
IMEI Number	357026950000046/01

2.5 Ancillary Equipment

Ancillary Equipment 1	Battery	
	Brand Name	VEKEN
	Model No.	TLp048A7
	Serial No.	N/A
	Capacitance	5000mAh
	Rated Voltage	3.8 V
	Limited Voltage	4.5 V
	Manufacturer	N/A
Ancillary Equipment 2	Battery	
	Brand Name	BYD
	Model No.	TLp048A1
	Serial No.	N/A
	Capacitance	5000mAh
	Rated Voltage	3.8 V
	Limited Voltage	4.5 V
	Manufacturer	N/A
Ancillary Equipment 3	Headset	
	Model No.	WH15
	Length (Approx.)	1.0 m
Ancillary Equipment 4	Headset	
	Model No.	WH15+
	Length (Approx.)	1.0 m
Ancillary Equipment 5	Headset	
	Model No.	WH35
	Length (Approx.)	1.0 m
Note: The EUT has two Batterys, they are same with electrical parameters, but only differ in Manufacturer and battery cell. By comparing the pretest data of two Batteries, battery 1 can produce a more conservative SAR values.		

2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/900/1800/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 1/2/5/8 4G Network FDD LTE Band 1/3/5/7/8/20/28 TDD LTE Band 38/40/41 Bluetooth (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20), 802.11n(HT40)
Note : The EUT is a mobile phone, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, 2.4G WLAN, Bluetooth		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	802.11b/g /n(HT20)	2412 ~ 2462 MHz	
	802.11n(HT40)	2422 ~ 2452 MHz	
	Bluetooth	2402 ~ 2480 MHz	
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna		
DTM	N/A		
Hotspot Function	Not Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		
Product	Type		
	☒ Production unit	☐ Identical prototype	

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
6	FCC KDB 941225 D05 v02r05	SAR Evaluation Considerations for LTE Devices
7	FCC KDB 941225 D06 v02r01	SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities
8	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
9	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
10	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
11	KDB 248227 D01 v02r02	SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters

3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

Limit for General Population/Uncontrolled exposure should be applied for this device, it is 1.6 W/kg as averaged over any 1 gram of tissue.

Table of Exposure Limits:

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ ControlledExposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

NOTE:

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

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

3.3 Test Result Summary

3.3.1 Highest SAR (1 g Value)

Band	Maximum Scaled SAR (W/kg)			Maximum Report SAR (W/kg)		
	Head	Body-worn Accessory	Hotspot	Head	Body-worn Accessory	Hotspot
GSM 850	0.099	0.073	0.162	**0.865**	**0.326**	**1.138**
GSM 1900	0.069	0.216	0.808			
WCDMA Band 2	0.094	0.240	**1.138**			
WCDMA Band 5	**0.865**	0.160	0.282			
LTE Band 5	0.850	0.161	0.251			
LTE Band 7	0.076	0.252	0.602			
LTE Band 41	0.029	**0.326**	0.670			
2.4G WLAN	0.472	0.072	0.376			
Bluetooth	0.027	0.026	0.040			
Limit (W/kg)	1.6			1.6		
Verdict	PASS					

3.3.2 Highest Specific SAR (10 g Value)

Band	Maximum Scaled SAR (W/kg)	Maximum Report SAR (W/kg)
	Specific 10g	
GSM 850	1.198	**3.069**
GSM 1900	2.681	
WCDMA Band 2	2.901	
WCDMA Band 5	0.870	
LTE Band 5	0.892	
LTE Band 7	2.844	
LTE Band 41	**3.069**	
2.4G WLAN	1.168	
Bluetooth	0.168	
Limit (W/kg)	4.0	4.0
Verdict	Pass	

3.3.3 Highest Simultaneous SAR

Position	Simultaneous Configuration	Simultaneous SAR (W/kg)	Limit (W/kg)	Verdict
Head (1g)	WWAN+2.4G WIFI	1.238	1.6	Pass
	WWAN+ Bluetooth	0.892	1.6	Pass
Body-worn Accessory (1g)	WWAN+2.4G WIFI	0.352	1.6	Pass
	WWAN+ Bluetooth	0.352	1.6	Pass
Hotspot (1g)	WWAN+2.4G WIFI	1.143	1.6	Pass
	WWAN+ Bluetooth	1.142	1.6	Pass
Specific SAR (10 g)	WWAN+2.4G WIFI	3.333	4.0	Pass
	WWAN+ Bluetooth	3.237	4.0	Pass

3.4 Test Uncertainty

According to KDB 865664 D01, When the highest measured 1 g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.138 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.
The maximum 10 g SAR for the EUT in this report is 3.069 W/kg, which is lower than 3.75 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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

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

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

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

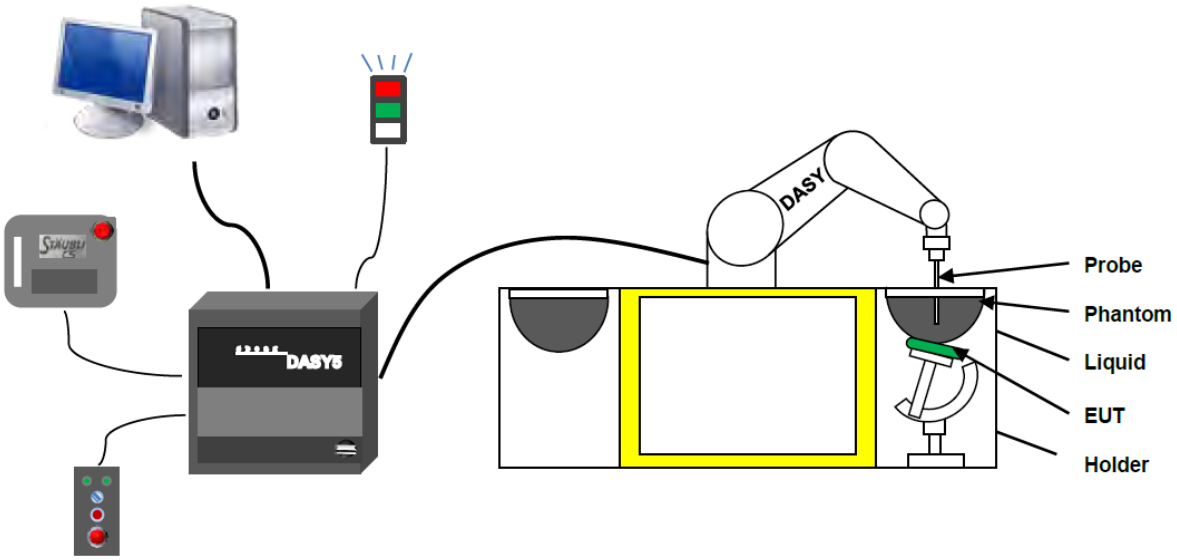
$$\mathbf{SAR} = \frac{\boldsymbol{\sigma}\mathbf{E}^2}{\boldsymbol{\rho}}$$

Where: σ is the conductivity of the tissue,

ρ is the mass density of the tissue and E is the RMS electrical field strength.

4.2 DASY SAR System

4.2.1 DASY SAR System Diagram



The DASY5 system for performing compliance tests consists of the following items:

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:

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

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN: 7607 with following specifications is used.

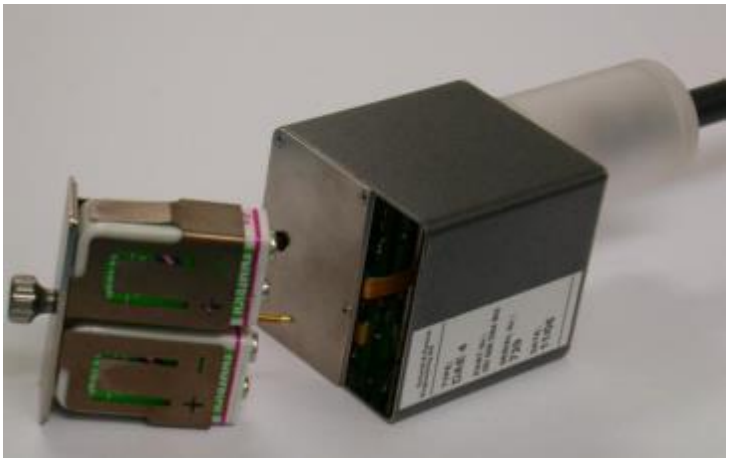
Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 µW/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)

E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.

4.2.4 Data Acquisition Electronics

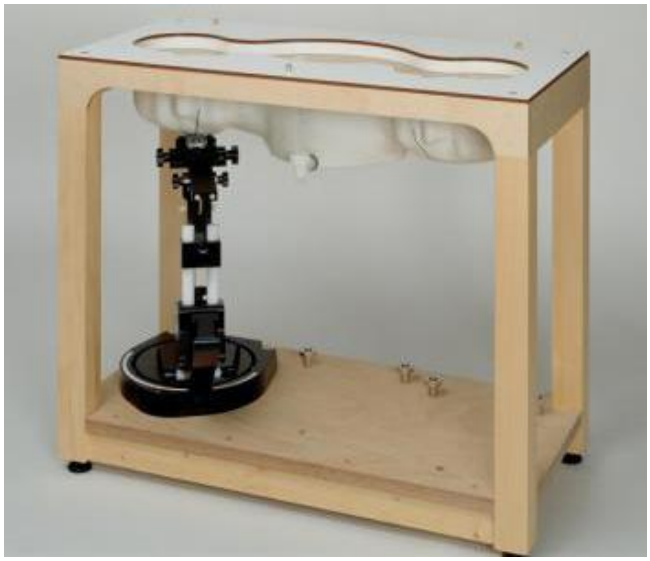
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



- Input Impedance: 200MOhm
- The Inputs: Symmetrical and Floating
- Commom Mode Rejection: Above 80dB

4.2.5 Phantoms

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



- Left hand
- Right hand
- Flat phantom

Photo of Phantom SN1857

Photo of Phantom SN1859

Serial Number	Material	Length	Height
SN 1857 SAM1	Vinylester, glass fiber reinforced	1000	500
SN 1859 SAM2	Vinylester, glass fiber reinforced	1000	500

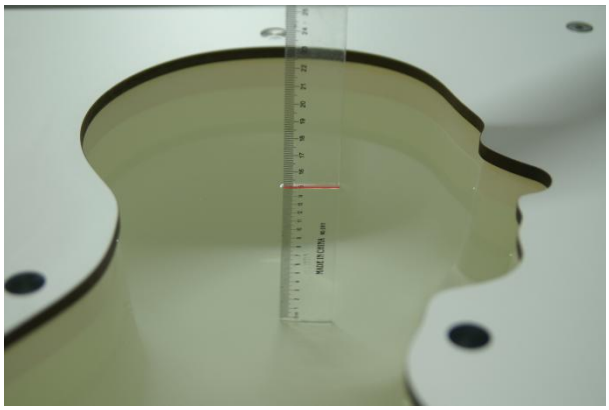
4.2.6 Device Holder

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65°. The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA"s only. If necessary an additional support of polystyrene material is used. Larger DUT"s (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.

The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1°.

4.2.7 Simulating Liquid

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

Head Liquid Depth	Body Liquid Depth
	

The following table gives the recipes for tissue simulating liquid and the theoretical Conductivity/Permittivity.

Head (Reference IEEE1528)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ε
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.4	40.0
2450	55.0	0	0	0.1	0	44.9	1.80	39.2
2600	54.9	0	0	0.1	0	45.0	1.96	39.0
Frequency (MHz)	Water (%)	Hexyl Carbitol (%)			Triton X-100 (%)		Conductivity σ (S/m)	Permittivity ε
5200	62.52	17.24			17.24		4.66	36.0
5800	62.52	17.24			17.24		5.27	35.3
Body (From instrument manufacturer)								
Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity σ (S/m)	Permittivity ε
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0.1	0	31.3	1.95	52.7
2600	68.2	0	0	0.1	0	31.7	2.16	52.5
Frequency(MHz)	Water	DGBE (%)			Salt (%)		Conductivity σ (S/m)	Permittivity ε
5200	78.60	21.40			/		5.54	47.86
5800	78.50	21.40			0.1		6.0	48.20

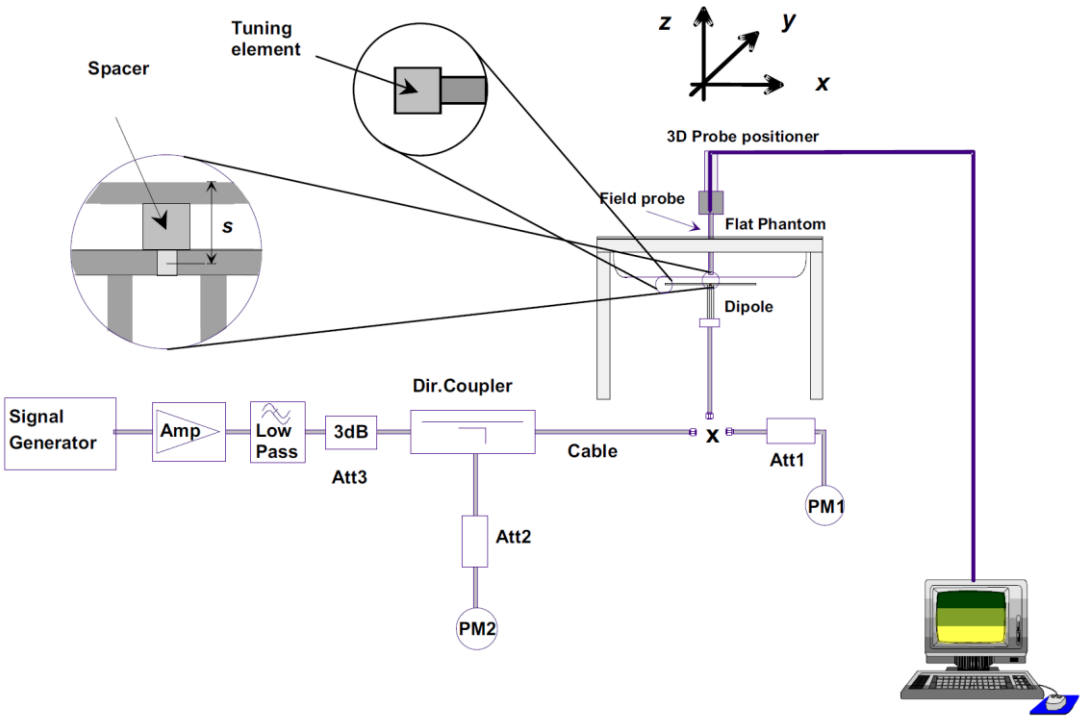
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

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



6 TEST POSITION CONFIGURATIONS

According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

6.1 Head Exposure Conditions

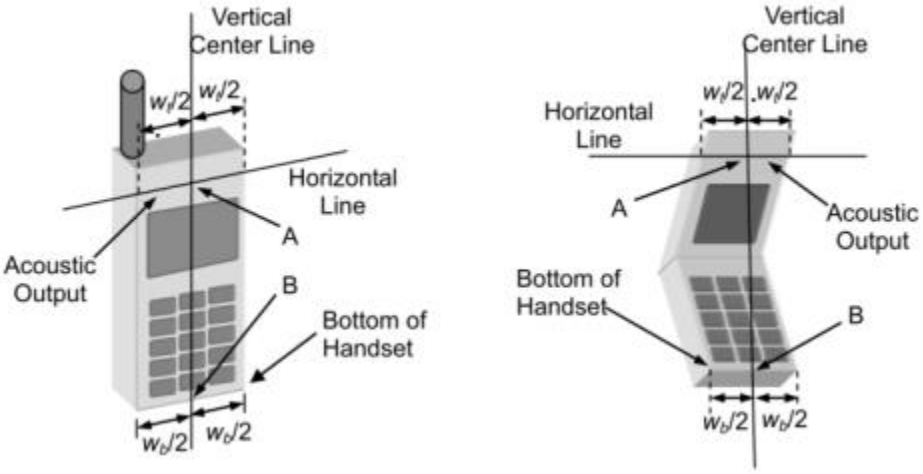
Head exposure is limited to next to the ear voice mode operations. Head SAR compliance is tested according to the test positions defined in IEEE Std 1528-2013 using the SAM phantom illustrated as below.

6.1.1 Two Imaginary Lines on the Handset

(a) The vertical center line passes through two points on the front side of the handset - the midpoint of the width w t of the handset at the level of the acoustic output, and the midpoint of the width w b of the bottom of the handset.

(b) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

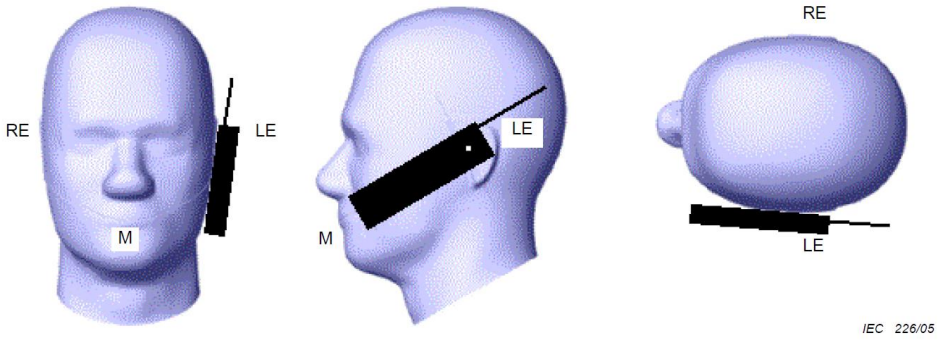
(c) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical center line is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



6.1.2 Cheek Position

(a) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the three ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

(b) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with the ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost.



6.1.3 Tilted Position

(a) To position the device in the “cheek” position described above.

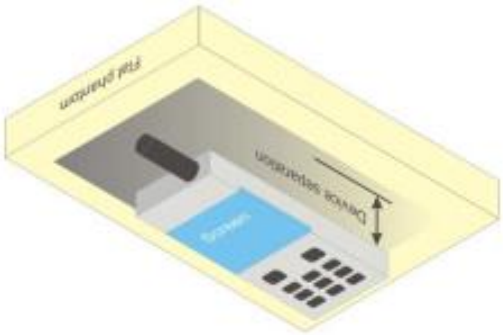
(b) While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost.

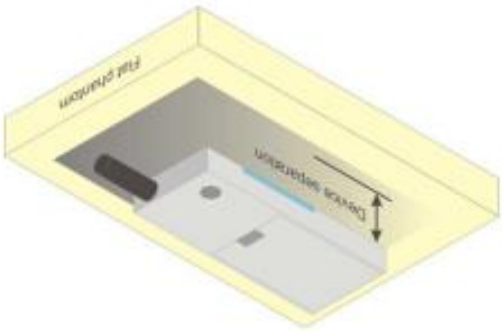
6.2 Body-worn Position Conditions

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB 447498 are used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode. When the reported SAR for a body-worn accessory.

Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

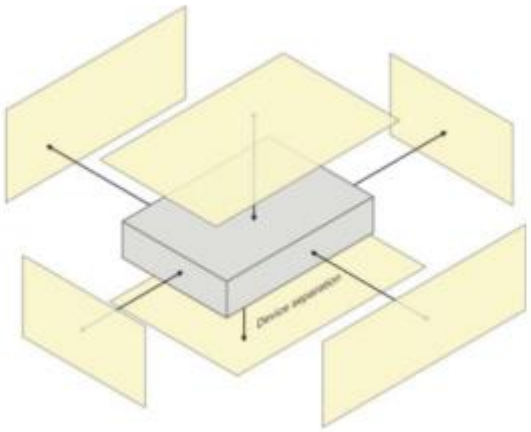
Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required. A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance <= 5 mm to support compliance.





6.3 Hotspot Mode Exposure Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing functions, the relevant hand and body exposure conditions are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge. When the form factor of a handset is smaller than 9 cm x 5 cm, a test separation distance of 5 mm (instead of 10 mm) is required for testing hotspot mode. When the separation distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).



6.4 Product Specific 10g Exposure Consideration

According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance;

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

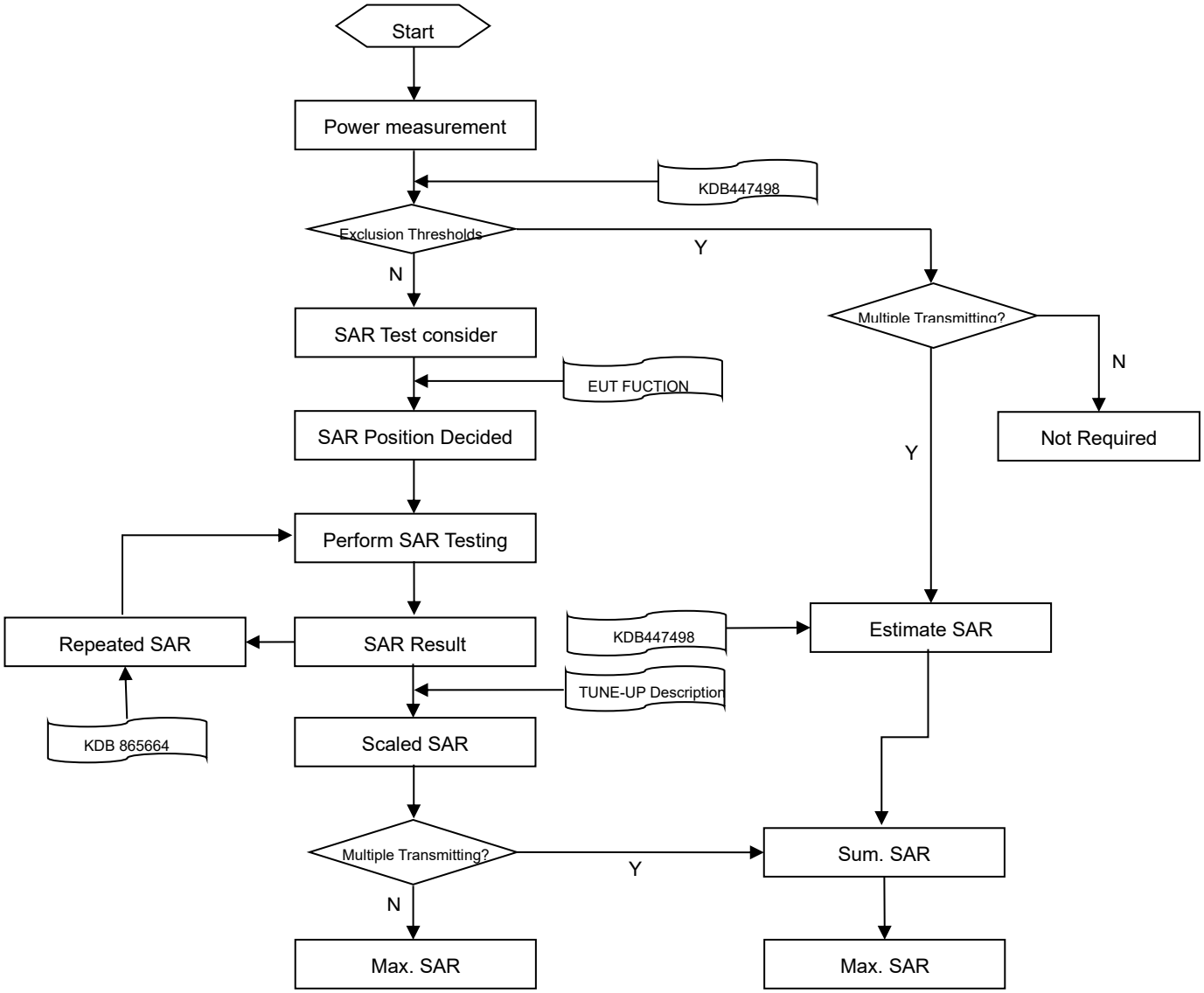
6

6.

.

7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram



7.2 SAR Scan General Requirement

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Boththe 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.

<table>
<tr><th colspan="3"></th><th>≤3GHz</th><th>>3GHz</th></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5±1 mm</td><td>½·δ·ln(2)±0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30°±1°</td><td>20°±1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx Area , Δy Area</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3–4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx Zoom , Δy Zoom</td><td>≤ 2 GHz: ≤ 8 mm
2 –3 GHz: ≤ 5 mm*</td><td>3–4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="6">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2" rowspan="3">uniform grid: Δz Zoom (n)</td><td rowspan="3">≤ 5 mm</td><td>3–4 GHz: ≤ 4 mm</td></tr>
<tr><td>4–5 GHz: ≤ 3 mm</td></tr>
<tr><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="3">graded grid</td><td rowspan="2">Δz Zoom (1): between 1st two points closest to phantom surface</td><td rowspan="3">≤ 4 mm</td><td>3–4 GHz: ≤ 3 mm</td></tr>
<tr><td>4–5 GHz: ≤ 2.5 mm</td></tr>
<tr><td>Δz Zoom (n>1): between subsequent points</td><td>5–6 GHz: ≤ 2 mm</td></tr>
<tr><td colspan="2">≤ 1.5·Δz Zoom (n-1)</td></tr>
<tr><td rowspan="3">Minimum zoom scan volume</td><td colspan="2" rowspan="3">x, y, z</td><td rowspan="3">≥30 mm</td><td>3–4 GHz: ≥ 28 mm</td></tr>
<tr><td>4–5 GHz: ≥ 25 mm</td></tr>
<tr><td>5–6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note:
1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

7.3 Measurement Procedure

The following steps are used for each test position

a. Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface

b. Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.

c. Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.

d. Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 *32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

7.4 Area & Zoom Scan Procedure

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01v01r04 quoted below.

When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

8 CONDUCTED RF OUPUT POWER

8.1 GSM

Please refer the document “Conducted RF Output Power List.pdf”.

8.2 WCDMA

Please refer the document “Conducted RF Output Power List.pdf”.

8.3 LTE

Please refer the document “Conducted RF Output Power List.pdf”.

8.4 WIFI

8.4.1 2.4G WIFI Full power & Receiver on & WLAN only

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	17.68	19.00	Yes
		6	2437	**17.98**	19.00	Yes
		11	2462	17.94	19.00	Yes
	802.11g	1	2412	15.54	17.00	No
		6	2437	15.94	17.00	No
		11	2462	15.73	17.00	No
	802.11n(HT20)	1	2412	15.41	17.00	No
		6	2437	15.88	17.00	No
		11	2462	15.63	17.00	No
	802.11n(HT40)	3	2422	11.46	12.00	No
		6	2437	11.70	12.00	No
		9	2452	11.64	12.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum Tune-Up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected among the multiple configurations in a frequency band with the same maximum Tune-Up output power.

2) If multiple configurations have the same maximum Tune-Up output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.

3) If multiple configurations have the same maximum Tune-Up output power, largest channel bandwidth and lowest order modulation is selected.

4) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

8.4.2 2.4G WIFI Receiver off & WLAN + WWAN

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	11.61	13.00	Yes
		6	2437	**12.11**	13.00	Yes
		11	2462	11.73	13.00	Yes
	802.11g	1	2412	9.24	11.00	No
		6	2437	9.86	11.00	No
		11	2462	9.47	11.00	No
	802.11n(HT20)	1	2412	9.22	11.00	No
		6	2437	10.13	11.00	No
		11	2462	9.34	11.00	No
	802.11n(HT40)	3	2422	8.22	10.00	No
		6	2437	8.66	10.00	No
		9	2452	8.59	10.00	No

Note: When multiple channel bandwidth configurations in a frequency band have the same maximum Tune-Up output power, the test configuration is determined by applying the following steps sequentially.

1) The largest channel bandwidth configuration is selected among the multiple configurations in a frequency band with the same maximum Tune-Up output power.

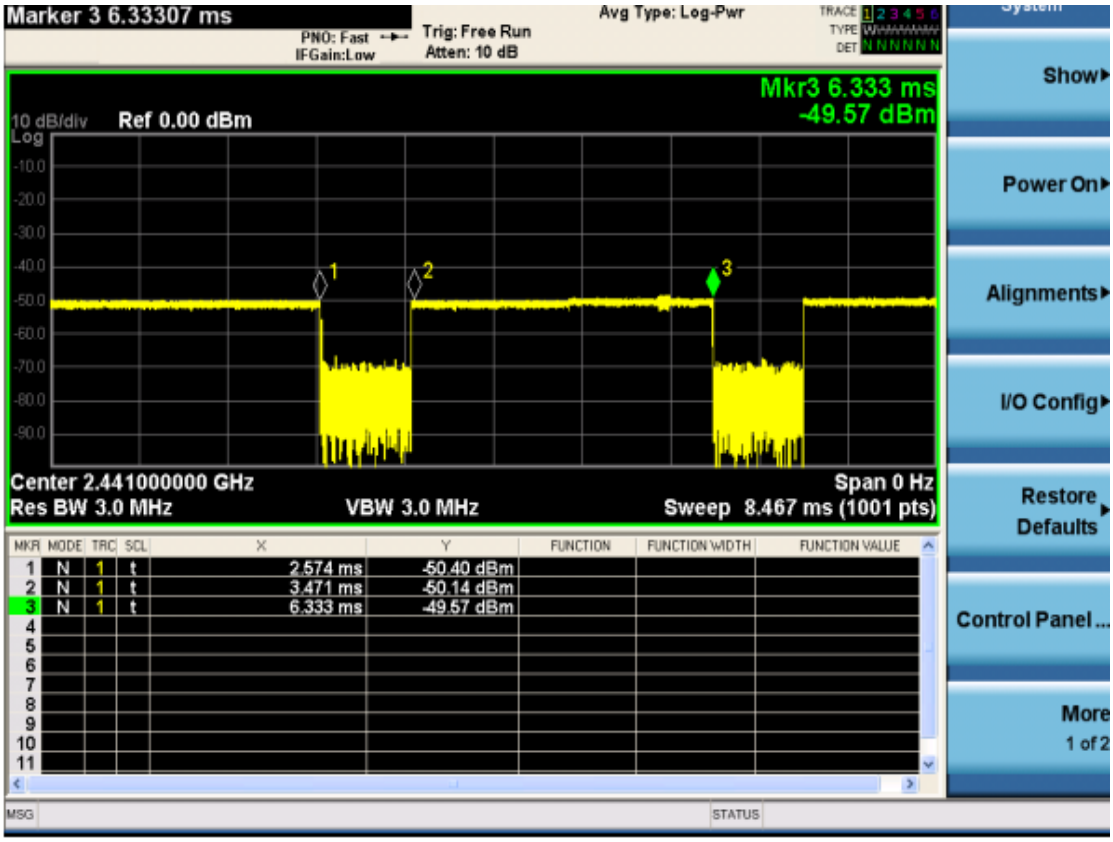
2) If multiple configurations have the same maximum Tune-Up output power and largest channel bandwidth, the lowest order modulation among the largest channel bandwidth configurations is selected.

3) If multiple configurations have the same maximum Tune-Up output power, largest channel bandwidth and lowest order modulation is selected.

4) When multiple transmission modes (802.11b/g/n) have the same maximum tune-up output power, largest channel bandwidth, lowest order modulation and lowest data rate, the lowest order 802.11 mode is selected; i.e., 802.11b is chosen over 802.11g, and 802.11g chosen over 802.11n.

8.5 Bluetooth

Mode	GFSK			π/4-DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Conducted Power (dBm)	7.78	**9.34**	7.55	2.31	4.26	2.11
Tune-Up Limit (dBm)	9.50	9.50	9.50	4.00	6.00	4.00
Mode	8-DPSK			BLE		
Channel	0	39	78	0	19	39
Frequency (MHz)	2402	2441	2480	2402	2440	2480
Conducted Power (dBm)	0.94	2.88	0.79	-4.00	-2.98	-3.61
Tune-Up Limit (dBm)	2.60	4.00	2.60	-3.00	-2.00	-3.00



The Bluetooth duty cycle is 76.14 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the maximum duty cycle is 100%, therefore the actual duty cycle will be scaled up to 100% for Bluetooth reported SAR calculation.

8.6 Power Reduction List

This mobile phone device supports the receiver detection mechanism. This device uses the receiver to indicate whether the user is making a call in head or body.

When there is a voice call (including VOIP) and the audio is actively routed through the earpiece receiver, which indicating the head exposure condition it will trigger the head exposure reduced the power.

When there is a voice call (including VOIP), and the audio is actively routed through the headset or speaker, which indicating the body exposure conditions will trigger the body exposure reduced the power.

When this device used data mode only, and the receiver will not work too, the reduced the power are same as body exposure.

WWAN Reduced power level table

Receiver state	Transmitting conditions	Power reduced bands
On (head scenario)	WWAN Only	WWAN
On (head scenario)	WWAN + WLAN 2.4G/BT	WWAN
Off (Body scenario)	WWAN Only	WWAN
Off (Body scenario)	WWAN + WLAN 2.4G/BT	WWAN

WWAN Antenna.Up Power table

Mode	WWAN Antenna				
	Full Power	Head		Body	
		Receiver on		Receiver off	
		Standalone	Simultaneous transmission + WLAN 2.4G/BT	Standalone	Simultaneous transmission + WLAN 2.4G/BT
WCDMA Band5 RMC	24.00	24.00	24.00	24.00	24.00
AMR	24.00	24.00	24.00	24.00	24.00
HSDPA Subtest-1	23.00	23.00	23.00	23.00	23.00
HSDPA Subtest-2	23.00	23.00	23.00	23.00	23.00
HSDPA Subtest-3	23.00	23.00	23.00	23.00	23.00
HSDPA Subtest-4	23.00	23.00	23.00	23.00	23.00
HSUPA Subtest-1	21.00	21.00	21.00	21.00	21.00
HSUPA Subtest-2	21.00	21.00	21.00	21.00	21.00
HSUPA Subtest-3	22.00	22.00	22.00	22.00	22.00
HSUPA Subtest-4	20.50	20.50	20.50	20.50	20.50
HSUPA Subtest-5	22.00	22.00	22.00	22.00	22.00
DC-HSDPA Subtest-1	23.00	23.00	23.00	23.00	23.00
DC-HSDPA Subtest-2	23.00	23.00	23.00	23.00	23.00
DC-HSDPA Subtest-3	23.00	23.00	23.00	23.00	23.00
DC-HSDPA Subtest-4	23.00	23.00	23.00	23.00	23.00
HSPA+(16QAM)	22.50	22.50	22.50	22.50	22.50
LTE Band5	24.50	24.50	24.50	24.50	24.50

WWAN Antenna.Down Power table

Mode	WWAN Antenna				
	Full Power	Head		Body	
		Receiver on		Receiver off	
		Standalone	Simultaneous transmission + WLAN 2.4G/BT	Standalone	Simultaneous transmission + WLAN 2.4G/BT
GSM 850	34.00	34.00	34.00	34.00	34.00
GPRS850 1 Tx Slot	34.00	34.00	34.00	34.00	34.00
GPRS850 2 Tx Slots	31.50	31.50	31.50	31.50	31.50
GPRS850 3 Tx Slots	29.50	29.50	29.50	29.50	29.50
GPRS850 4 Tx Slots	28.50	28.50	28.50	28.50	28.50
EGPRS850 1 Tx Slot	28.00	28.00	28.00	28.00	28.00
EGPRS850 2 Tx Slots	24.50	24.50	24.50	24.50	24.50
EGPRS850 3 Tx Slots	22.00	22.00	22.00	22.00	22.00
EGPRS850 4 Tx Slots	21.50	21.50	21.50	21.50	21.50
GSM 1900	31.30	31.30	31.30	31.30	31.30
GPRS1900 1 Tx Slot	30.30	30.30	30.30	30.30	30.30
GPRS1900 2 Tx Slots	29.00	29.00	29.00	29.00	29.00
GPRS1900 3 Tx Slots	27.00	27.00	27.00	27.00	27.00
GPRS1900 4 Tx Slots	25.50	25.50	25.50	25.50	25.50
EGPRS1900 1 Tx Slot	27.00	27.00	27.00	27.00	27.00
EGPRS1900 2 Tx Slots	24.00	24.00	24.00	24.00	24.00
EGPRS1900 3 Tx Slots	22.00	22.00	22.00	22.00	22.00
EGPRS1900 4 Tx Slots	21.00	21.00	21.00	21.00	21.00
WCDMA Band2 RMC	24.50	24.50	24.50	21.50	21.50
AMR	24.50	24.50	24.50	21.50	21.50
HSDPA Subtest-1	23.50	23.50	23.50	20.50	20.50
HSDPA Subtest-2	23.50	23.50	23.50	20.50	20.50
HSDPA Subtest-3	22.50	22.50	22.50	20.00	20.00
HSDPA Subtest-4	22.50	22.50	22.50	20.00	20.00
HSUPA Subtest-1	21.50	21.50	21.50	18.50	18.50

HSUPA Subtest-2	21.50	21.50	21.50	18.50	18.50
HSUPA Subtest-3	22.50	22.50	22.50	19.50	19.50
HSUPA Subtest-4	21.00	21.00	21.00	18.00	18.00
HSUPA Subtest-5	22.50	22.50	22.50	19.50	19.50
DC-HSDPA Subtest-1	23.50	23.50	23.50	20.50	20.50
DC-HSDPA Subtest-2	23.50	23.50	23.50	20.50	20.50
DC-HSDPA Subtest-3	22.50	22.50	22.50	20.00	20.00
DC-HSDPA Subtest-4	22.50	22.50	22.50	20.00	20.00
HSPA+(16QAM)	22.00	22.00	22.00	19.00	19.00
LTE Band7	23.00	23.00	23.00	20.00	20.00
LTE Band41	23.00	23.00	23.00	23.00	23.00

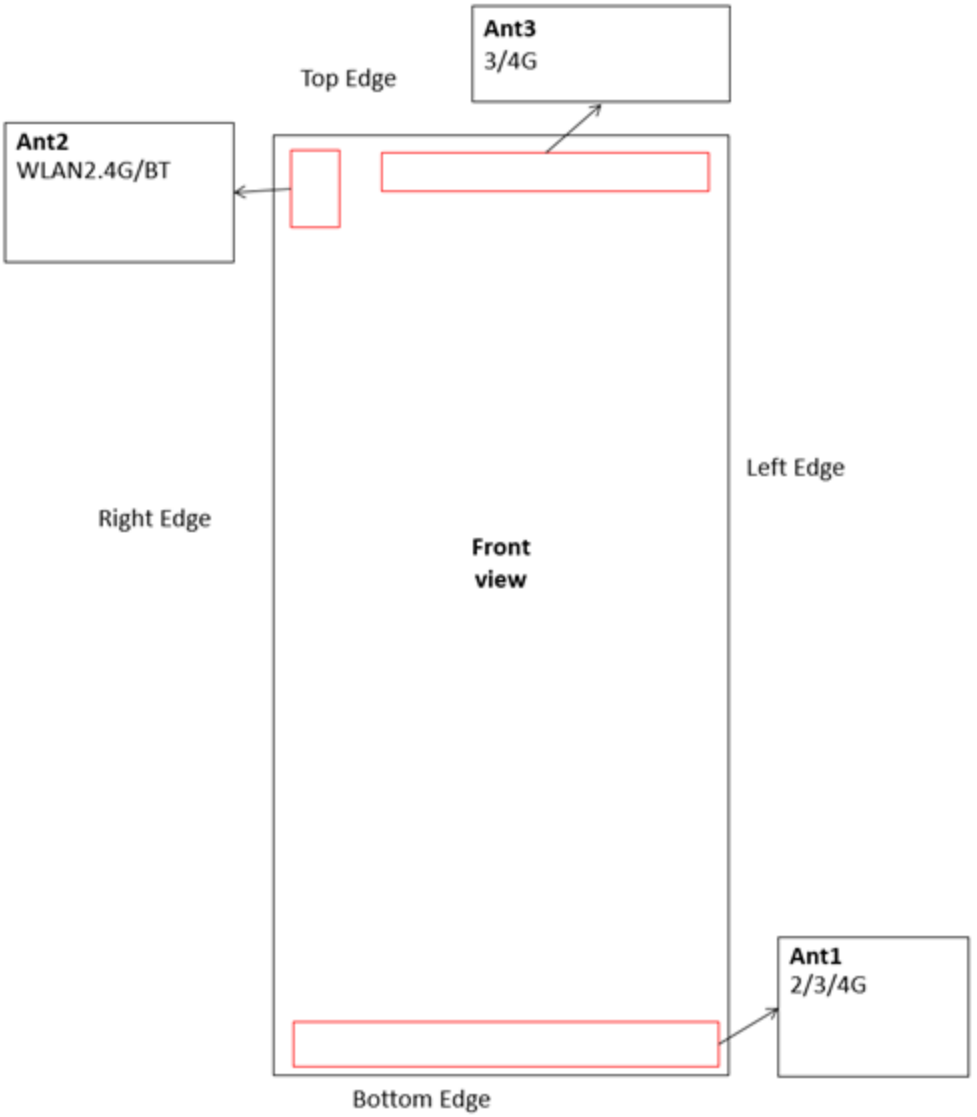
WLAN Reduced power level table

Receiver state	Transmitting conditions	Power reduced bands
On (head scenario)	WLAN Only	WLAN2.4g/BT
On (head scenario)	WWAN + WLAN 2.4G/BT	WLAN2.4g/BT
Off (Body scenario)	WLAN Only	WLAN2.4g/BT
Off (Body scenario)	WWAN + WLAN 2.4G/BT	WLAN2.4g/BT

WLAN Antenna Power table

Mode	WLAN Antenna(Tune-Up Power)				
	Full Power	Head		Body	
		Receiver on		Receiver off	
		Standalone	Simultaneous transmission WWAN + WLAN 2.4G or BT	Standalone	Simultaneous transmission WWAN + WLAN 2.4G or BT
2.4G WLAN 802.11b	19.00	19.00	19.00	13.00	13.00
2.4G WLAN 802.11g	17.00	17.00	17.00	11.00	11.00
2.4G WLAN802.11n20	17.00	17.00	17.00	11.00	11.00
2.4G WLAN 802.11n40	12.00	12.00	12.00	10.00	10.00
Bluetooth	9.50	9.50	9.50	9.50	9.50

9 TEST EXCLUSION CONSIDERATION



<EUT Back View>

Antenna	Support Bands
ANT1	GSM900/1800
	WCDMA B1
	LTE B1/3/7/38/40
ANT2	WLAN2.4G/BT
ANT3	WCDMA B8
	LTE B8/20/28

9.1 SAR Test Exclusion Consideration Table

According with FCC KDB 447498 D01, Appendix A, <SAR Test Exclusion Thresholds for 100 MHz – 6 GHz and ≤ 50 mm> Table, this Device SAR test configurations consider as following :

Full power & Receiver on

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	Voice	25.37	344.35	Yes	Yes	Yes	Yes	No	Yes
	Data	25.37	344.35	No	Yes	Yes	Yes	No	Yes
GSM 1900	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	Voice	22.87	192.31	Yes	Yes	Yes	Yes	No	Yes
	Data	22.87	192.31	No	Yes	Yes	Yes	No	Yes
WCDMA Band 2	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	RMC	24.50	281.84	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 5	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	RMC	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 5	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	24.50	281.84	Yes	Yes	Yes	Yes	No	Yes
LTE Band 7	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	23.00	199.53	Yes	Yes	Yes	Yes	No	Yes
LTE Band 41	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	23.00	199.53	Yes	Yes	Yes	Yes	No	Yes
WLAN 2.4 G	Distance to User			<5mm	<5mm	55mm	<5mm	<5mm	116mm
	802.11b	19.00	79.43	Yes	Yes	No	Yes	Yes	No
	802.11g	17.00	50.12	No	No	No	No	No	No
	802.11n(HT20)	17.00	50.12	No	No	No	No	No	No
	802.11n(HT40)	12.00	15.85	Yes	Yes	Yes	No	Yes	No
Bluetooth	Distance to User			<5mm	<5mm	55mm	<5mm	<5mm	116mm
	BT	9.50	8.91	Yes	Yes	No	Yeses	Yes	No

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
2. Per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D01, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   a. f(GHz) is the RF channel transmit frequency in GHz
   b. Power and distance are rounded to the nearest mW and mm before calculation

c. The result is rounded to one decimal place for comparison

d. For < 50 mm distance, we just calculate mW of the exclusion threshold value (3.0) to do compare.

This formula is [3.0] / [√f(GHz)] ·[(min. test separation distance, mm)] = exclusion threshold of mW.

5. Per KDB 447498 D01, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following

   a. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz

   b. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

6. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA /HSUPA /DC-HSDPA output power is < 0.25dB higher than RMC12.2Kbps, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.

7. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.8. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate

8. Per KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions.

   a. When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.

   b. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

9. Per KDB 248227 D01 SAR is not required for the following U-NII-1 and U-NII-2A bands conditions.

   a. When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

   b. When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

Receiver off

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
GSM 850	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	Voice	25.37	344.35	Yes	Yes	Yes	Yes	No	Yes
	Data	25.37	344.35	No	Yes	Yes	Yes	No	Yes
GSM 1900	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	Voice	22.87	192.31	Yes	Yes	Yes	Yes	No	Yes
	Data	22.87	192.31	No	Yes	Yes	Yes	No	Yes
WCDMA Band 2	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	RMC	21.50	141.25	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 5	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	RMC	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 5	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	24.50	281.84	Yes	Yes	Yes	Yes	No	Yes
LTE Band 7	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	20.00	100.00	Yes	Yes	Yes	Yes	No	Yes
LTE Band 41	Distance to User			<5mm	<5mm	20mm	7mm	116mm	<5mm
	QPSK	23.00	199.53	Yes	Yes	Yes	Yes	No	Yes
WLAN 2.4 G	Distance to User			<5mm	<5mm	55mm	<5mm	<5mm	116mm
	802.11b	13.00	19.95	Yes	Yes	No	Yes	Yes	No
	802.11g	11.00	12.59	No	No	No	No	No	No
	802.11n(HT20)	11.00	12.59	No	No	No	No	No	No
	802.11n(HT40)	10.00	10.00	No	No	No	No	No	No

Note:

1. Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
2. Per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
3. Per KDB 447498 D01, standalone SAR test exclusion threshold is applied; If the distance of the antenna to the user is < 5mm, 5mm is used to determine SAR exclusion threshold
4. Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:
   [(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   e. f(GHz) is the RF channel transmit frequency in GHz
   f. Power and distance are rounded to the nearest mW and mm before calculation
   g. The result is rounded to one decimal place for comparison
   h. For < 50 mm distance, we just calculate mW of the exclusion threshold value (3.0) to do compare.
   This formula is [3.0] / [√f(GHz)] ·[(min. test separation distance, mm)] = exclusion threshold of mW.
5. Per KDB 447498 D01, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following
   c. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500

MHz

d. [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

6. Per KDB 941225 D01, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA /HSUPA /DC-HSDPA output power is < 0.25dB higher than RMC12.2Kbps, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.

7. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.8. For each frequency band, testing at higher data rates and higher order modulations is not required when the maximum average output power for each of these configurations is less than 1/4dB higher than those measured at the lowest data rate

8. Per KDB 248227 D01 SAR is not required for the following 2.4 GHz OFDM conditions.

c. When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.

d. When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

9. Per KDB 248227 D01 SAR is not required for the following U-NII-1 and U-NII-2A bands conditions.

c. When the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

d. When different maximum output power is specified for the bands, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg, SAR is not required for the band with lower maximum output power in that test configuration; otherwise, each band is tested independently for SAR.

10 TEST RESULT

10.1 GSM 850

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head													
Down	on	GPRS (2slots)	Left Cheek	0	190	836.6	0.06	0.078	30.45	31.50	1.274	**0.099**	1#
	on		Left Tilt	0	190	836.6	0.12	0.041	30.45	31.50	1.274	0.052	/
	on		Right Cheek	0	190	836.6	0.12	0.076	30.45	31.50	1.274	0.097	/
	on		Right Tilt	0	190	836.6	0.07	0.047	30.45	31.50	1.274	0.060	/
Body-Worn													
Down	off	GPRS (2slots)	Front Side	15	190	836.6	-0.01	0.041	30.45	31.50	1.274	0.052	/
	off		Back Side	15	190	836.6	0.09	0.057	30.45	31.50	1.274	**0.073**	2#
Hotspot													
Down	off	GPRS (2slots)	Front Side	10	190	836.6	-0.04	0.064	30.45	31.50	1.274	0.082	/
	off		Back Side	10	190	836.6	0.04	0.127	30.45	31.50	1.274	**0.162**	3#
	off		Left Edge	10	190	836.6	-0.15	0.045	30.45	31.50	1.274	0.057	/
	off		Right Edge	10	190	836.6	-0.02	0.052	30.45	31.50	1.274	0.066	/
	off		Bottom Edge	10	190	836.6	-0.12	0.055	30.45	31.50	1.274	0.070	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Specific													
Down	off	GPRS (2slots)	Front Side	0	190	836.6	-0.17	0.276	30.45	31.50	1.274	0.352	/
	off		Back Side	0	190	836.6	0.07	0.941	30.45	31.50	1.274	**1.198**	4#
	off		Left Edge	0	190	836.6	0.18	0.139	30.45	31.50	1.274	0.177	/
	off		Right Edge	0	190	836.6	0.01	0.062	30.45	31.50	1.274	0.079	/
	off		Bottom Edge	0	190	836.6	0.04	0.284	30.45	31.50	1.274	0.361	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.2 GSM 1900

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head													
Down	on	GPRS (2slots)	Left Cheek	0	512	1850.2	-0.07	0.041	27.94	29.00	1.276	0.052	/
	on		Left Tilt	0	512	1850.2	0.09	0.024	27.94	29.00	1.276	0.031	/
	on		Right Cheek	0	512	1850.2	0.17	0.054	27.94	29.00	1.276	**0.069**	5#
	on		Right Tilt	0	512	1850.2	-0.11	0.031	27.94	29.00	1.276	0.040	/
Body-Worn													
Down	off	GPRS (2slots)	Front Side	15	512	1850.2	0.16	0.088	27.94	29.00	1.276	0.112	/
	off		Back Side	15	512	1850.2	-0.08	0.169	27.94	29.00	1.276	**0.216**	6#
Hotspot													
Down	off	GPRS (2slots)	Front Side	10	512	1850.2	0.12	0.154	27.94	29.00	1.276	0.197	/
	off		Back Side	10	512	1850.2	0.04	0.328	27.94	29.00	1.276	0.418	/
	off		Left Edge	10	512	1850.2	0.02	0.012	27.94	29.00	1.276	0.015	/
	off		Right Edge	10	512	1850.2	-0.14	0.024	27.94	29.00	1.276	0.031	/
	off		Bottom Edge	10	512	1850.2	-0.01	0.633	27.94	29.00	1.276	**0.808**	7#
	off			10	661	1880.0	-0.11	0.611	27.81	29.00	1.315	0.804	/
	off			10	810	1909.8	-0.18	0.584	27.63	29.00	1.371	0.801	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific													
Down	off	GPRS (2slots)	Front Side	0	512	1850.2	-0.13	0.527	27.94	29.00	1.276	0.672	/
	off		Back Side	0	512	1850.2	-0.10	1.020	27.94	29.00	1.276	1.302	/
	off		Left Edge	0	512	1850.2	0.13	0.089	27.94	29.00	1.276	0.113	/
	off		Right Edge	0	512	1850.2	-0.04	0.122	27.94	29.00	1.276	0.156	/
	off		Bottom Edge	0	512	1850.2	0.00	2.100	27.94	29.00	1.276	**2.681**	8#
	off			0	661	1880.0	-0.08	2.020	27.81	29.00	1.315	2.657	/
	off			0	810	1909.8	-0.14	1.950	27.63	29.00	1.371	2.673	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.3WCDMA Band 2

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head													
Down	on	RMC	Left Cheek	0	9538	1907.6	-0.01	0.056	23.39	24.50	1.291	0.072	/
	on		Left Tilt	0	9538	1907.6	0.11	0.022	23.39	24.50	1.291	0.028	/
	on		Right Cheek	0	9538	1907.6	-0.02	0.073	23.39	24.50	1.291	**0.094**	9#
	on		Right Tilt	0	9538	1907.6	-0.19	0.028	23.39	24.50	1.291	0.036	/
Body-Worn													
Down	off	RMC	Front Side	15	9400	1880.0	-0.03	0.106	20.62	21.50	1.225	0.130	/
	off		Back Side	15	9400	1880.0	0.19	0.196	20.62	21.50	1.225	**0.240**	10#
Hotspot													
Down	off	RMC	Front Side	10	9400	1880.0	0.10	0.285	20.62	21.50	1.225	0.349	/
	off		Back Side	10	9400	1880.0	-0.18	0.588	20.62	21.50	1.225	0.720	/
	off		Left Edge	10	9400	1880.0	0.19	0.061	20.62	21.50	1.225	0.074	/
	off		Right Edge	10	9400	1880.0	-0.12	0.095	20.62	21.50	1.225	0.116	/
	off		Bottom Edge	10	9400	1880.0	0.18	0.929	20.62	21.50	1.225	**1.138**	11#
	off			10	9262	1852.4	0.08	0.898	20.53	21.50	1.250	1.123	/
	off			10	9538	1907.6	-0.09	0.870	20.45	21.50	1.274	1.107	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific													
Down	off	RMC	Front Side	0	9400	1880.0	-0.16	0.760	20.62	21.50	1.225	0.931	/
	off		Back Side	0	9400	1880.0	-0.11	1.260	20.62	21.50	1.225	1.543	/
	off		Left Edge	0	9400	1880.0	-0.07	0.118	20.62	21.50	1.225	0.144	/
	off		Right Edge	0	9400	1880.0	0.04	0.195	20.62	21.50	1.225	0.239	/
	off		Bottom Edge	0	9400	1880.0	-0.18	2.120	20.62	21.50	1.225	2.596	/
	off			0	9262	1852.4	0.06	2.320	20.53	21.50	1.250	**2.901**	12#
	off			0	9538	1907.6	-0.18	1.860	20.45	21.50	1.274	2.369	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.4WCDMA Band 5

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head													
Down	on	RMC	Left Cheek	0	4182	836.4	-0.10	0.778	23.86	24.00	1.033	0.803	/
	on		Left Tilt	0	4132	826.4	-0.02	0.733	23.83	24.00	1.040	0.762	/
	on		Right Cheek	0	4233	846.6	0.10	0.832	23.83	24.00	1.040	**0.865**	13#
	on		Left Tilt	0	4182	836.4	0.01	0.575	23.86	24.00	1.033	0.594	/
Body-Worn													
Down	off	RMC	Front Side	15	4182	836.4	0.18	0.095	23.86	24.00	1.033	0.098	/
	off		Back Side	15	4182	836.4	0.09	0.155	23.86	24.00	1.033	**0.160**	14#
Hotspot													
Down	off	RMC	Front Side	10	4182	836.4	0.02	0.175	23.86	24.00	1.033	0.181	/
	off		Back Side	10	4182	836.4	0.16	0.273	23.86	24.00	1.033	**0.282**	15#
	off		Left Edge	10	4182	836.4	0.16	0.170	23.86	24.00	1.033	0.175	/
	off		Right Edge	10	4182	836.4	0.09	0.107	23.86	24.00	1.033	0.110	/
	off		Top Edge	10	4182	836.4	0.09	0.117	23.86	24.00	1.033	0.121	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific													
Down	off	RMC	Front Side	0	4182	836.4	0.08	0.649	23.86	24.00	1.033	0.670	/
	off		Back Side	0	4182	836.4	0.12	0.842	23.86	24.00	1.033	**0.870**	16#
	off		Left Edge	0	4182	836.4	-0.19	0.289	23.86	24.00	1.033	0.299	/
	off		Right Edge	0	4182	836.4	-0.18	0.084	23.86	24.00	1.033	0.087	/
	off		Top Edge	0	4182	836.4	-0.14	0.827	23.86	24.00	1.033	0.854	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

10.5LTE Band 5 (10MHz Bandwidth)

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head															
Up	on	QPSK	Left Cheek	0	20525	836.5	1	Mid	0.01	0.697	23.64	24.50	1.219	**0.850**	17#
	on			0	20450	829	1	Mid	0.03	0.684	23.62	24.50	1.225	0.838	/
	on			0	20600	844	1	Low	0.07	0.651	23.46	24.50	1.271	0.827	/
	on			0	20525	836.5	25	Low	0.11	0.585	22.60	23.50	1.230	0.720	/
	on			0	20525	836.5	50	Low	0.08	0.594	22.50	23.50	1.259	0.748	/
	on		Left Tilt	0	20525	836.5	1	Mid	-0.09	0.487	23.64	24.50	1.219	0.594	/
	on			0	20525	836.5	25	Low	0.03	0.409	22.60	23.50	1.230	0.504	/
	on		Right Cheek	0	20525	836.5	1	Mid	-0.17	0.629	23.64	24.50	1.219	0.766	/
	on			0	20525	836.5	25	Low	0.15	0.536	22.60	23.50	1.230	0.660	/
	on		Right Tilt	0	20525	836.5	1	Mid	-0.07	0.495	23.64	24.50	1.219	0.603	/
	on			0	20525	836.5	25	Low	-0.18	0.426	22.60	23.50	1.230	0.524	/
Body-Worn															
Up	off	QPSK	Front Side	15	20525	836.5	1	Mid	-0.04	0.132	23.64	24.50	1.219	**0.161**	18#
	off			15	20525	836.5	25	Low	0.00	0.112	22.60	23.50	1.230	0.138	/
	off		Back Side	15	20525	836.5	1	Mid	0.04	0.111	23.64	24.50	1.219	0.135	/
	off			15	20525	836.5	25	Low	-0.03	0.095	22.60	23.50	1.230	0.117	/
Hotspot															
Up	off	QPSK	Front Side	10	20525	836.5	1	Mid	-0.05	0.139	23.64	24.50	1.219	0.170	/
	off			10	20525	836.5	25	Low	-0.16	0.121	22.60	23.50	1.230	0.149	/
	off		Back Side	10	20525	836.5	1	Mid	-0.08	0.206	23.64	24.50	1.219	**0.251**	19#
	off			10	20525	836.5	25	Low	-0.16	0.176	22.60	23.50	1.230	0.216	/
	off		Left Edge	10	20525	836.5	1	Mid	0.11	0.131	23.64	24.50	1.219	0.160	/
	off			10	20525	836.5	25	Low	-0.01	0.111	22.60	23.50	1.230	0.137	/
	off		Right Edge	10	20525	836.5	1	Mid	-0.16	0.084	23.64	24.50	1.219	0.102	/
	off			10	20525	836.5	25	Low	-0.06	0.070	22.60	23.50	1.230	0.086	/
	off		Top Edge	10	20525	836.5	1	Mid	-0.04	0.103	23.64	24.50	1.219	0.126	/
	off			10	20525	836.5	25	Low	0.15	0.082	22.60	23.50	1.230	0.101	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific															
Up	off	QPSK	Front	0	20525	836.5	1	Mid	-0.07	0.552	23.64	24.50	1.219	0.673	/
	off		Side	0	20525	836.5	25	Low	-0.09	0.466	22.60	23.50	1.230	0.573	/
	off		Back	0	20525	836.5	1	Mid	-0.05	0.732	23.64	24.50	1.219	**0.892**	20#
	off		Side	0	20525	836.5	25	Low	-0.12	0.617	22.60	23.50	1.230	0.759	/
	off		Left	0	20525	836.5	1	Mid	0.01	0.254	23.64	24.50	1.219	0.310	/
	off		Edge	0	20525	836.5	25	Low	0.10	0.217	22.60	23.50	1.230	0.267	/
	off		Right	0	20525	836.5	1	Mid	-0.05	0.072	23.64	24.50	1.219	0.088	/
	off		Edge	0	20525	836.5	25	Low	-0.07	0.060	22.60	23.50	1.230	0.074	/
	off		Top	0	20525	836.5	1	Mid	-0.02	0.729	23.64	24.50	1.219	0.889	/
	off		Edge	0	20525	836.5	25	Low	-0.04	0.614	22.60	23.50	1.230	0.755	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.6 LTE Band 7 (20MHz Bandwidth)

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head															
Down	on	QPSK	Left Cheek	0	21100	2535	1	Mid	0.05	0.064	22.26	23.00	1.186	**0.076**	21#
	on			0	21350	2560	50	Low	-0.05	0.053	21.24	22.00	1.191	0.063	/
	on		Left Tilt	0	21100	2535	1	Mid	-0.07	0.046	22.26	23.00	1.186	0.054	/
	on			0	21350	2560	50	Low	-0.10	0.038	21.24	22.00	1.191	0.046	/
	on		Right Cheek	0	21100	2535	1	Mid	0.11	0.048	22.26	23.00	1.186	0.057	/
	on			0	21350	2560	50	Low	0.06	0.042	21.24	22.00	1.191	0.050	/
	on		Right Tilt	0	21100	2535	1	Mid	0.07	0.040	22.26	23.00	1.186	0.048	/
	on			0	21350	2560	50	Low	0.08	0.021	21.24	22.00	1.191	0.025	/
Body-Worn															
Down	off	QPSK	Front	15	21100	2535	1	Mid	0.07	0.058	18.95	20.00	1.274	0.074	/
	off		Side	15	21350	2560	50	Low	0.11	0.053	17.83	19.00	1.309	0.069	/
	off		Back	15	21100	2535	1	Mid	0.03	0.198	18.95	20.00	1.274	**0.252**	22#
	off		Side	15	21350	2560	50	Low	-0.16	0.163	17.83	19.00	1.309	0.214	/
Hotspot															
Down	off	QPSK	Front	10	21100	2535	1	Mid	-0.04	0.127	18.95	20.00	1.274	0.162	/
	off		Side	10	21350	2560	50	Low	0.11	0.101	17.83	19.00	1.309	0.133	/
	off		Back	10	21100	2535	1	Mid	0.09	0.473	18.95	20.00	1.274	**0.602**	23#
	off		Side	10	21350	2560	50	Low	-0.05	0.410	17.83	19.00	1.309	0.536	/
	off		Left Edge	10	21100	2535	1	Mid	0.05	0.062	18.95	20.00	1.274	0.079	/
	off			10	21350	2560	50	Low	-0.13	0.054	17.83	19.00	1.309	0.071	/
	off		Right Edge	10	21100	2535	1	Mid	0.02	0.093	18.95	20.00	1.274	0.118	/
	off			10	21350	2560	50	Low	0.00	0.070	17.83	19.00	1.309	0.091	/
	off		Bottom Edge	10	21100	2535	1	Mid	-0.17	0.303	18.95	20.00	1.274	0.386	/
	off			10	21350	2560	50	Low	0.10	0.257	17.83	19.00	1.309	0.337	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific															
Down	off	QPSK	Front Side	0	21100	2535	1	Mid	-0.18	0.689	18.95	20.00	1.274	0.877	/
	off			0	21350	2560	50	Low	0.13	0.584	17.83	19.00	1.309	0.765	/
	off		Back Side	0	21100	2535	1	Mid	0.01	1.840	18.95	20.00	1.274	2.343	/
	off			0	20850	2510	1	Mid	-0.07	1.880	18.93	20.00	1.279	2.405	/
	off			0	21350	2560	1	Mid	-0.16	2.060	18.60	20.00	1.380	**2.844**	24#
	off			0	21350	2560	50	Low	-0.09	1.630	17.83	19.00	1.309	2.134	/
	off			0	20850	2510	50	Mid	-0.12	1.490	17.58	19.00	1.387	2.066	/
	off			0	21100	2535	50	High	-0.09	1.570	17.64	19.00	1.368	2.147	/
	off			0	21350	2560	100	Low	-0.12	1.670	17.80	19.00	1.318	2.201	/
	off		Left Edge	0	21100	2535	1	Mid	0.01	0.160	18.95	20.00	1.274	0.203	/
	off			0	21350	2560	50	Low	0.11	0.126	17.83	19.00	1.309	0.165	/
	off		Right Edge	0	21100	2535	1	Mid	-0.09	0.274	18.95	20.00	1.274	0.349	/
	off			0	21350	2560	50	Low	0.07	0.171	17.83	19.00	1.309	0.224	/
	off		Bottom Edge	0	21100	2535	1	Mid	0.08	1.070	18.95	20.00	1.274	1.363	/
	off			0	21350	2560	50	Low	0.16	0.945	17.83	19.00	1.309	1.237	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.7 LTE Band 41 (20MHz Bandwidth)

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head															
Down	on	QPSK	Left Cheek	0	41490	2680	1	High	0.02	0.024	22.04	23.00	1.247	**0.029**	25#
	on			0	41490	2680	50	High	0.07	0.021	21.20	22.00	1.202	0.025	/
	on		Left Tilt	0	41490	2680	1	High	-0.14	0.015	22.04	23.00	1.247	0.019	/
	on			0	41490	2680	50	High	0.01	0.012	21.20	22.00	1.202	0.014	/
	on		Right Cheek	0	41490	2680	1	High	0.06	0.018	22.04	23.00	1.247	0.022	/
	on			0	41490	2680	50	High	-0.13	0.016	21.20	22.00	1.202	0.019	/
	on		Right Tilt	0	41490	2680	1	High	0.10	0.013	22.04	23.00	1.247	0.016	/
	on			0	41490	2680	50	High	0.14	0.011	21.20	22.00	1.202	0.013	/
Body-Worn															
Down	off	QPSK	Front Side	15	41490	2680	1	High	0.08	0.068	22.04	23.00	1.247	0.084	/
	off			15	41490	2680	50	High	0.09	0.059	21.20	22.00	1.202	0.071	/
	off		Back Side	15	41490	2680	1	High	-0.17	0.261	22.04	23.00	1.247	**0.326**	26#
	off			15	41490	2680	50	High	0.07	0.222	21.20	22.00	1.202	0.267	/
Hotspot															
Down	off	QPSK	Front Side	10	41490	2680	1	High	-0.02	0.120	22.04	23.00	1.247	0.149	/
	off			10	41490	2680	50	High	-0.17	0.105	21.20	22.00	1.202	0.126	/
	off		Back Side	10	41490	2680	1	High	-0.19	0.537	22.04	23.00	1.247	**0.670**	27#
	off			10	41490	2680	50	High	0.15	0.468	21.20	22.00	1.202	0.563	/
	off		Left Edge	10	41490	2680	1	High	0.15	0.074	22.04	23.00	1.247	0.092	/
	off			10	41490	2680	50	High	-0.05	0.065	21.20	22.00	1.202	0.078	/
	off		Right Edge	10	41490	2680	1	High	-0.15	0.058	22.04	23.00	1.247	0.072	/
	off			10	41490	2680	50	High	-0.19	0.048	21.20	22.00	1.202	0.058	/
	off		Bottom Edge	10	41490	2680	1	High	0.15	0.331	22.04	23.00	1.247	0.413	/
	off			10	41490	2680	50	High	0.11	0.289	21.20	22.00	1.202	0.348	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Antenna	Receiver State	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific															
Down	off	QPSK	Front Side	0	41490	2680	1	High	0.18	0.672	22.04	23.00	1.247	0.838	/
	off			0	41490	2680	50	High	-0.19	0.586	21.20	22.00	1.202	0.704	/
	off		Back Side	0	41490	2680	1	High	-0.05	2.460	22.04	23.00	1.247	**3.069**	28#
	off			0	40620	2593	1	High	-0.18	2.180	21.62	23.00	1.374	2.995	/
	off			0	39750	2506	1	Mid	-0.11	1.970	21.61	23.00	1.377	2.713	/
	off			0	40185	2549.5	1	Low	0.18	2.140	21.47	23.00	1.422	3.044	/
	off			0	41055	2636.5	1	Mid	0.11	2.230	21.67	23.00	1.358	3.029	/
	off			0	41490	2680	50	High	0.03	2.140	21.20	22.00	1.202	2.573	/
	off			0	40620	2593	50	High	0.11	2.130	20.45	22.00	1.429	3.044	/
	off			0	39750	2506	50	High	0.15	1.730	20.43	22.00	1.435	2.483	/
	off			0	40185	2549.5	50	Low	0.19	1.850	20.32	22.00	1.472	2.724	/
	off			0	41055	2636.5	50	Mid	0.13	2.150	20.82	22.00	1.312	2.821	/
	off			0	41490	2680	100	Low	-0.13	2.120	21.13	22.00	1.222	2.590	/
	off		Left Edge	0	41490	2680	1	High	-0.11	0.176	22.04	23.00	1.247	0.219	/
	off			0	41490	2680	50	High	-0.02	0.156	21.20	22.00	1.202	0.187	/
	off		Right Edge	0	41490	2680	1	High	-0.01	0.159	22.04	23.00	1.247	0.198	/
	off			0	41490	2680	50	High	-0.04	0.128	21.20	22.00	1.202	0.154	/
	off		Bottom Edge	0	41490	2680	1	High	0.01	1.210	22.04	23.00	1.247	1.509	/
	off			0	41490	2680	50	High	0.13	1.090	21.20	22.00	1.202	1.310	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

10.8WIFI 2.4GHz

Mode	Receiver State	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head														
802.11 b	on	Left Cheek	0	6	2437	0.06	0.186	17.98	19.00	1.265	98.04	1.020	0.240	/
	on	Left Tilt	0	6	2437	0.03	0.210	17.98	19.00	1.265	98.04	1.020	0.270	/
	on	Right Cheek	0	6	2437	0.18	0.366	17.98	19.00	1.265	98.04	1.020	**0.472**	29#
	on	Right Tilt	0	6	2437	0.18	0.260	17.98	19.00	1.265	98.04	1.020	0.336	/
Body-worn														
802.11 b	off&WLAN only	Front Side	15	6	2437	0.03	0.025	17.98	19.00	1.265	98.20	1.018	0.032	/
	off&WLAN only	Back Side	15	6	2437	0.05	0.056	17.98	19.00	1.265	98.20	1.018	**0.072**	30#
	off&WLAN+WWAN	Front Side	15	6	2437	-0.15	0.012	12.11	13.00	1.227	98.04	1.020	0.015	/
	off&WLAN+WWAN	Back Side	15	6	2437	0.15	0.020	12.11	13.00	1.227	98.04	1.020	0.025	/
Hotspot														
802.11 b	off&WLAN only	Front Side	10	6	2437	-0.13	0.117	17.98	19.00	1.265	98.20	1.018	0.151	/
	off&WLAN only	Back Side	10	6	2437	0.06	0.292	17.98	19.00	1.265	98.20	1.018	0.376	31#
	off&WLAN only	Left Edge	10	6	2437	0.02	0.010	17.98	19.00	1.265	98.20	1.018	0.013	/
	off&WLAN only	Right Edge	10	6	2437	0.00	0.156	17.98	19.00	1.265	98.20	1.018	0.201	/
	off&WLAN only	Top Edge	10	6	2437	-0.15	0.162	17.98	19.00	1.265	98.20	1.018	0.209	/
	off&WLAN only	Bottom Edge	10	6	2437	0.03	0.005	17.98	19.00	1.265	98.20	1.018	0.006	/
802.11 b	off&WLAN+WWAN	Front Side	10	6	2437	0.01	0.026	12.11	13.00	1.227	98.04	1.020	0.033	/
	off&WLAN+WWAN	Back Side	10	6	2437	-0.10	0.088	12.11	13.00	1.227	98.04	1.020	0.110	/
	off&WLAN+WWAN	Left Edge	10	6	2437	0.08	0.003	12.11	13.00	1.227	98.04	1.020	0.004	/
	off&WLAN+WWAN	Right Edge	10	6	2437	-0.14	0.038	12.11	13.00	1.227	98.04	1.020	0.048	/
	off&WLAN+WWAN	Top Edge	10	6	2437	-0.08	0.029	12.11	13.00	1.227	98.04	1.020	0.036	/
	off&WLAN+WWAN	Bottom Edge	10	6	2437	-0.17	0.004	12.11	13.00	1.227	98.04	1.020	0.005	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Mode	Receiver State	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific														
802.11 b	off&WLAN only	Front Side	0	6	2437	-0.07	0.166	17.98	19.00	1.265	98.20	1.018	0.214	/
	off&WLAN only	Back Side	0	6	2437	0.05	0.907	17.98	19.00	1.265	98.20	1.018	**1.168**	32#
	off&WLAN only	Left Edge	0	6	2437	0.11	0.056	17.98	19.00	1.265	98.20	1.018	0.072	/
	off&WLAN only	Right Edge	0	6	2437	0.05	0.223	17.98	19.00	1.265	98.20	1.018	0.287	/
	off&WLAN only	Top Edge	0	6	2437	-0.14	0.216	17.98	19.00	1.265	98.20	1.018	0.278	/
	off&WLAN only	Bottom Edge	0	6	2437	-0.06	0.023	17.98	19.00	1.265	98.20	1.018	0.030	/
802.11 b	off&WLAN+WWAN	Front Side	0	6	2437	-0.17	0.063	12.11	13.00	1.227	98.04	1.020	0.079	/
	off&WLAN+WWAN	Back Side	0	6	2437	0.05	0.211	12.11	13.00	1.227	98.04	1.020	0.264	/
	off&WLAN+WWAN	Left Edge	0	6	2437	-0.12	0.014	12.11	13.00	1.227	98.04	1.020	0.018	/
	off&WLAN+WWAN	Right Edge	0	6	2437	0.10	0.092	12.11	13.00	1.227	98.04	1.020	0.115	/
	off&WLAN+WWAN	Top Edge	0	6	2437	0.05	0.071	12.11	13.00	1.227	98.04	1.020	0.089	/
	off&WLAN+WWAN	Bottom Edge	0	6	2437	0.08	0.011	12.11	13.00	1.227	98.04	1.020	0.014	/

Note: Refer to ANNEX C for the detailed test data for each test configuration.

10.9 Bluetooth

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	1 g Scaled SAR (W/kg)	Meas. No.
Head													
DH5	Left Cheek	0	39	2441	-0.07	0.020	9.34	9.50	1.038	75.92	1.317	**0.027**	33#
	Left Tilt	0	39	2441	0.07	0.012	9.34	9.50	1.038	75.92	1.317	0.016	/
	Right Cheek	0	39	2441	-0.08	0.013	9.34	9.50	1.038	75.92	1.317	0.018	/
	Right Tilt	0	39	2441	-0.17	0.008	9.34	9.50	1.038	75.92	1.317	0.011	/
Body-Worn													
DH5	Front Side	15	39	2441	-0.10	0.009	9.34	9.50	1.038	75.92	1.317	0.012	/
	Back Side	15	39	2441	-0.07	0.019	9.34	9.50	1.038	75.92	1.317	**0.026**	34#
Hotspot													
DH5	Front Side	10	39	2441	-0.05	0.013	9.34	9.50	1.038	75.92	1.317	0.018	/
	Back Side	10	39	2441	-0.10	0.029	9.34	9.50	1.038	75.92	1.317	**0.040**	35#
	Left Edge	10	39	2441	0.05	0.011	9.34	9.50	1.038	75.92	1.317	0.015	/
	Right Edge	10	39	2441	-0.13	0.020	9.34	9.50	1.038	75.92	1.317	0.027	/
	Top Edge	10	39	2441	0.17	0.017	9.34	9.50	1.038	75.92	1.317	0.023	/
	Bottom Edge	10	39	2441	0.04	0.003	9.34	9.50	1.038	75.92	1.317	0.004	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10 g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune power (dBm)	Scaling Factor	Duty cycle (%)	Duty cycle Factor	10 g Scaled SAR (W/kg)	Meas. No.
Specific													
DH5	Front Side	0	39	2441	-0.06	0.031	9.34	9.50	1.038	75.92	1.317	0.042	/
	Back Side	0	39	2441	0.08	0.123	9.34	9.50	1.038	75.92	1.317	**0.168**	36#
	Left Edge	0	39	2441	0.02	0.034	9.34	9.50	1.038	75.92	1.317	0.046	
	Right Edge	0	39	2441	-0.17	0.053	9.34	9.50	1.038	75.92	1.317	0.073	/
	Top Edge	0	39	2441	-0.07	0.040	9.34	9.50	1.038	75.92	1.317	0.054	/
	Bottom Edge	0	39	2441	-0.07	0.010	9.34	9.50	1.038	75.92	1.317	0.014	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10, the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is >= 0.80 W/kg, repeat that measurement once.
3. If the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20, or when the original or repeated measurement is >= 1.45 W/kg, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20, and the original, first or second repeated measurement is >= 1.5 W/kg, perform a third repeated measurement.

Frequency Band (MHz)	Wireless Band	RF Exposure Conditions	Test Position	Highest Measured SAR (W/kg)	Repeated SAR (Yes/No)	Repeated^{1th} Measured SAR (W/kg)	Largest to Smallest SAR Radio
1900	WCDMA band 2	Head	Right Cheek	0.929	Yes	0.927	1.000
1700	WCDMA band 5	Head	Right Cheek	0.832	Yes	0.830	0.998
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement. is not required.							

12 SIMULTANEOUS TRANSMISSION

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

12.1 Simultaneous Transmission Mode Consider

No.	Simultaneous Tx Combination	Head	Body-worn	Limbs
1	WWAN + WLAN 2.4GHz	Yes	Yes	Yes
2	WWAN + BT	Yes	Yes	Yes

12.2 Estimated SAR Calculation

According to KDB 447498 D01, when standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR was estimated according to following formula to result in substantially conservative SAR values of <= 0.4 W/kg to determine simultaneous transmission SAR test exclusion.

$$\text{Estimated SAR} = \frac{Max.Tune\ Up\ Power(mw)}{Min\ Test\ Separation\ Distance} * \frac{\sqrt{f_{GHz}}}{x}$$ (where x = 7.5 for 1-g SAR and 18.75 for 10-g SAR)

If the minimum test separation distance is < 5 mm, a distance of 5 mm is used for estimated SAR calculation. When the test separation distance is > 50 mm, the 0.4 W/kg is used for SAR-1g and 1.0 W/kg for 10-g SAR.

Estimated for Hotspot SAR

Mode	Position	Antenna To user (mm)	SAR Testing	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Frequency (GHz)	Calculation Distance/Gap (mm)	Estimated 1g SAR (W/kg)
2/3/4GWWAN	Top Edge	116	NO	25.37	344.35	835.0	50	0.400
WLAN	Right Edge	55	NO	19.00	79.43	2437	50	0.400
WLAN	Bottom Edge	116	NO	19.00	79.43	2437	50	0.400
Bluetooth	Right Edge	55	NO	9.50	8.91	2402	50	0.400
Bluetooth	Bottom Edge	116	NO	9.50	8.91	2402	50	0.400

Estimated for Specific SAR

Mode	Position	Antenna To user (mm)	SAR Testing	Max. Tune-up Power (dBm)	Max. Tune-up Power (mW)	Frequency (GHz)	Calculation Distance/Gap (mm)	Estimated 10g SAR (W/kg)
2/3/4GWWAN	Top Edge	116	NO	25.37	344.35	835.0	50	1.00
WLAN	Right Edge	55	NO	19.00	79.43	2437	50	1.00
WLAN	Bottom Edge	116	NO	19.00	79.43	2437	50	1.00
Bluetooth	Right Edge	55	NO	9.50	8.91	2402	50	1.00
Bluetooth	Bottom Edge	116	NO	9.50	8.91	2402	50	1.00

12.3 Sum SAR of Simultaneous Transmission

12.3.1 Head Simultaneous Transmission SAR Evaluation for WWAN with WLAN and Bluetooth

Band	Position	Stand alone SAR			SUM SAR	
		1	2	3		
		WWAN	2.4GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)
GSM850	Left Cheek	0.099	0.240	0.027	0.339	0.126
	Left Tilt	0.052	0.270	0.016	0.322	0.068
	Right Cheek	0.097	0.472	0.018	0.569	0.115
	Right Tilt	0.060	0.336	0.011	0.396	0.071
GSM1900	Left Cheek	0.052	0.240	0.027	0.292	0.079
	Left Tilt	0.031	0.270	0.016	0.301	0.047
	Right Cheek	0.069	0.472	0.018	0.541	0.087
	Right Tilt	0.040	0.336	0.011	0.376	0.051
WCDMA B2	Left Cheek	0.072	0.240	0.027	0.312	0.099
	Left Tilt	0.028	0.270	0.016	0.298	0.044
	Right Cheek	0.094	0.472	0.018	0.566	0.112
	Right Tilt	0.036	0.336	0.011	0.372	0.047
WCDMA B5	Left Cheek	0.865	0.240	0.027	1.105	0.892
	Left Tilt	0.594	0.270	0.016	0.864	0.610
	Right Cheek	0.687	0.472	0.018	1.159	0.705
	Right Tilt	0.525	0.336	0.011	0.861	0.536
LTE B5	Left Cheek	0.850	0.240	0.027	1.090	0.877
	Left Tilt	0.594	0.270	0.016	0.864	0.610
	Right Cheek	0.766	0.472	0.018	**1.238**	0.784
	Right Tilt	0.603	0.336	0.011	0.939	0.614
LTE B7	Left Cheek	0.076	0.240	0.027	0.316	0.103
	Left Tilt	0.054	0.270	0.016	0.324	0.070
	Right Cheek	0.057	0.472	0.018	0.529	0.075
	Right Tilt	0.048	0.336	0.011	0.384	0.059
LTE B41	Left Cheek	0.029	0.240	0.027	0.269	0.056
	Left Tilt	0.019	0.270	0.016	0.289	0.035
	Right Cheek	0.022	0.472	0.018	0.494	0.040
	Right Tilt	0.016	0.336	0.011	0.352	0.027

Note:

1:The highest Summed 1g SAR is 1.238 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.3.2 Body-worn Simultaneous Transmission SAR Evaluation for WWAN with WLAN and Bluetooth

Band	Position	Stand alone SAR			SUM SAR	
		1	2	3		
		WWAN	2.4GWIFI	Bluetooth	Sum SAR（1+2）	Sum SAR（1+3）
GSM850	Front Side 15mm	0.052	0.015	0.012	0.067	0.064
	Back Side 15mm	0.073	0.025	0.026	0.098	0.099
GSM1900	Front Side 15mm	0.112	0.015	0.012	0.127	0.124
	Back Side 15mm	0.216	0.025	0.026	0.241	0.242
WCDMA B2	Front Side 15mm	0.130	0.015	0.012	0.145	0.142
	Back Side 15mm	0.240	0.025	0.026	0.265	0.266
WCDMA B5	Front Side 15mm	0.098	0.015	0.012	0.113	0.110
	Back Side 15mm	0.160	0.025	0.026	0.185	0.186
LTE B5	Front Side 15mm	0.161	0.015	0.012	0.176	0.173
	Back Side 15mm	0.135	0.025	0.026	0.160	0.161
LTE B7	Front Side 15mm	0.074	0.015	0.012	0.089	0.086
	Back Side 15mm	0.252	0.025	0.026	0.277	0.278
LTE B41	Front Side 15mm	0.084	0.015	0.012	0.099	0.096
	Back Side 15mm	0.326	0.025	0.026	0.351	**0.352**

Note:

1:The highest Summed 1g SAR is 0.352 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.3.3 Hotspot Simultaneous Transmission SAR Evaluation for WWAN with WLAN and Bluetooth

Band	Position	Stand alone SAR			SUM SAR	
		1	2	3		
		WWAN	2.4GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)
GSM850	Front Side 10mm	0.082	0.033	0.018	0.115	0.100
	Back Side 10mm	0.162	0.110	0.040	0.272	0.202
	Left Edge 10mm	0.057	0.004	0.015	0.061	0.072
	Right Edge 10mm	0.066	0.048	0.027	0.114	0.093
	Top Edge 10mm	0.400	0.036	0.023	0.436	0.423
	Bottom Edge 10mm	0.070	0.005	0.004	0.075	0.074
GSM1900	Front Side 10mm	0.197	0.033	0.018	0.230	0.215
	Back Side 10mm	0.418	0.110	0.040	0.528	0.458
	Left Edge 10mm	0.015	0.004	0.015	0.019	0.030
	Right Edge 10mm	0.031	0.048	0.027	0.079	0.058
	Top Edge 10mm	0.400	0.036	0.023	0.436	0.423
	Bottom Edge 10mm	0.808	0.005	0.004	0.813	0.812
WCDMA B2	Front Side 10mm	0.349	0.033	0.018	0.382	0.367
	Back Side 10mm	0.720	0.110	0.040	0.830	0.760
	Left Edge 10mm	0.074	0.004	0.015	0.078	0.089
	Right Edge 10mm	0.116	0.048	0.027	0.164	0.143
	Top Edge 10mm	0.400	0.036	0.023	0.436	0.423
	Bottom Edge 10mm	1.138	0.005	0.004	**1.143**	1.142
WCDMA B5	Front Side 10mm	0.181	0.033	0.018	0.214	0.199
	Back Side 10mm	0.282	0.110	0.040	0.392	0.322
	Left Edge 10mm	0.175	0.004	0.015	0.179	0.190
	Right Edge 10mm	0.110	0.048	0.027	0.158	0.137
	Top Edge 10mm	0.121	0.036	0.023	0.157	0.144
	Bottom Edge 10mm	0.400	0.005	0.004	0.405	0.404
LTE B5	Front Side 10mm	0.170	0.033	0.018	0.203	0.188
	Back Side 10mm	0.251	0.110	0.040	0.361	0.291
	Left Edge 10mm	0.160	0.004	0.015	0.164	0.175
	Right Edge 10mm	0.102	0.048	0.027	0.150	0.129
	Top Edge 10mm	0.126	0.036	0.023	0.162	0.149
	Bottom Edge 10mm	0.400	0.005	0.004	0.405	0.404
LTE B7	Front Side 10mm	0.162	0.033	0.018	0.195	0.180
	Back Side 10mm	0.602	0.110	0.040	0.712	0.642
	Left Edge 10mm	0.079	0.004	0.015	0.083	0.094
	Right Edge 10mm	0.118	0.048	0.027	0.166	0.145
	Top Edge 10mm	0.400	0.036	0.023	0.436	0.423
	Bottom Edge 10mm	0.386	0.005	0.004	0.391	0.390
LTE B41	Front Side 10mm	0.149	0.033	0.018	0.182	0.167
	Back Side 10mm	0.670	0.110	0.040	0.780	0.710
	Left Edge 10mm	0.092	0.004	0.015	0.096	0.107

	Right Edge 10mm	0.072	0.048	0.027	0.120	0.099
	Top Edge 10mm	0.400	0.036	0.023	0.436	0.423
	Bottom Edge 10mm	0.413	0.005	0.004	0.418	0.417

Note:

1:The highest Summed 1g SAR is 1.143 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

12.3.4 Specific Simultaneous Transmission SAR Evaluation for WWAN with WLAN and Bluetooth

Band	Position	Stand alone SAR			SUM SAR	
		1	2	3		
		WWAN	2.4GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)
GSM850	Front Side 0mm	0.352	0.079	0.042	0.431	0.394
	Back Side 0mm	1.198	0.264	0.168	1.462	1.366
	Left Edge 0mm	0.177	0.018	0.046	0.195	0.223
	Right Edge 0mm	0.079	0.115	0.073	0.194	0.152
	Top Edge 0mm	1.000	0.089	0.054	1.089	1.054
	Bottom Edge 0mm	0.361	0.014	0.014	0.375	0.375
GSM1900	Front Side 0mm	0.672	0.079	0.042	0.751	0.714
	Back Side 0mm	1.302	0.264	0.168	1.566	1.470
	Left Edge 0mm	0.113	0.018	0.046	0.131	0.159
	Right Edge 0mm	0.156	0.115	0.073	0.271	0.229
	Top Edge 0mm	1.000	0.089	0.054	1.089	1.054
	Bottom Edge 0mm	2.681	0.014	0.014	2.695	2.695
WCDMA B2	Front Side 0mm	0.931	0.079	0.042	1.010	0.973
	Back Side 0mm	1.543	0.264	0.168	1.807	1.711
	Left Edge 0mm	0.144	0.018	0.046	0.162	0.190
	Right Edge 0mm	0.239	0.115	0.073	0.354	0.312
	Top Edge 0mm	1.000	0.089	0.054	1.089	1.054
	Bottom Edge 0mm	2.901	0.014	0.014	2.915	2.915
WCDMA B5	Front Side 0mm	0.670	0.079	0.042	0.749	0.712
	Back Side 0mm	0.870	0.264	0.168	1.134	1.038
	Left Edge 0mm	0.299	0.018	0.046	0.317	0.345
	Right Edge 0mm	0.087	0.115	0.073	0.202	0.160
	Top Edge 0mm	0.854	0.089	0.054	0.943	0.908
	Bottom Edge 0mm	1.000	0.014	0.014	1.014	1.014
LTE B5	Front Side 0mm	0.673	0.079	0.042	0.752	0.715
	Back Side 0mm	0.892	0.264	0.168	1.156	1.060
	Left Edge 0mm	0.310	0.018	0.046	0.328	0.356
	Right Edge 0mm	0.088	0.115	0.073	0.203	0.161
	Top Edge 0mm	0.889	0.089	0.054	0.978	0.943
	Bottom Edge 0mm	1.000	0.014	0.014	1.014	1.014
LTE B7	Front Side 0mm	0.877	0.079	0.042	0.956	0.919
	Back Side 0mm	2.844	0.264	0.168	3.108	3.012
	Left Edge 0mm	0.203	0.018	0.046	0.221	0.249
	Right Edge 0mm	0.349	0.115	0.073	0.464	0.422
	Top Edge 0mm	1.000	0.089	0.054	1.089	1.054
	Bottom Edge 0mm	1.363	0.014	0.014	1.377	1.377
LTE B41	Front Side 0mm	0.838	0.079	0.042	0.917	0.880
	Back Side 0mm	3.069	0.264	0.168	**3.333**	3.237
	Left Edge 0mm	0.219	0.018	0.046	0.237	0.265

	Right Edge 0mm	0.198	0.115	0.073	0.313	0.271
	Top Edge 0mm	1.000	0.089	0.054	1.089	1.054
	Bottom Edge 0mm	1.509	0.014	0.014	1.523	1.523

Note:

1:The highest Summed 10g SAR is 3.333 W/Kg < 4.0 W/kg, so Simultaneous Transmission SAR test is not required.

13 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY5	52.8.8.1222	N/A	N/A
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2021/05.17	2024/05/16
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2021/05/20	2024/05/19
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2021/05/19	2024/05/18
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2021/05/19	2024/05/18
E-Field Probe	Speag	EX3DV4	SN: 7607	2021/08/12	2022/08/11
Data Acquisition Electronics	Speag	DAE4	SN: 1226	2021/05/17	2022/05/16
Signal Generator	R&S	SMB100A	177746	2021/08/24	2022/08/23
Power Meter	R&S	NRVD-B2	7250BJ-0112/2011	2021/09/08	2022/09/07
Power Sensor	R&S	NRV-Z4	100381	2021/09/08	2022/09/07
Power Sensor	R&S	NRV-Z2	100211	2021/09/08	2022/09/07
Wireless Communication Test Set	Anritsu	MT8820C	6201502974	2021/03/16	2022/03/15
Wireless Communication Test Set	Anritsu	MT8820C	6201502991	2021/03/16	2022/03/15
Network Analyzer	Agilent	E5071B	MY42404001	2021/04/01	2022/03/31
Thermometer	Elitech	RC-4HC	EF720B004820	2020/12/24	2021/12/23
Power Amplifier	SATIMO	6552B	22374	N/A	N/A
Dielectric Probe Kit	SATIMO	SCLMP	SN 25/13 OCPG56	N/A	N/A
Phantom1	Speag	SAM	SN: 1859	N/A	N/A
Phantom2	Speag	SAM	SN: 1857	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss in within 20% of calibrated measurement.
4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

The dielectric parameters of the liquids were verified prior to the SAR evaluation using an SCLMP Dielectric Probe Kit.

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (℃)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ε)	Target Conductivity (σ) (S/m)	Target Permittivity (ε)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2021.11.06	Head	835	21.3	0.90	41.80	0.90	41.50	0.00	0.72
2021.11.07	Head	835	21.2	0.90	41.70	0.90	41.50	0.00	0.48
2021.11.16	Head	1900	21.1	1.39	39.97	1.40	40.00	-0.71	-0.08
2021.11.29	Head	2450	21.2	1.80	39.62	1.80	39.20	0.00	1.07
2021.11.29	Head	2600	21.3	1.98	38.53	1.96	39.01	1.02	-1.23
2021.11.10	Head	2600	21.4	1.97	38.45	1.96	39.01	0.51	-1.44
Note: The tolerance limit of Conductivity and Permittivity is± 5%.									

ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within itsspecification of 10 %(for 1 g).

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2021.11.06	Head	835	100	0.956	9.56	9.49	0.74
2021.11.07	Head	835	100	0.984	9.84	9.49	3.69
2021.11.16	Head	1900	100	4.070	40.70	39.40	3.30
2021.11.29	Head	2450	100	5.380	53.80	52.60	2.28
2021.11.29	Head	2600	100	5.570	55.70	56.30	-1.07
2021.11.10	Head	2600	100	5.680	56.80	56.30	0.89
Note: The tolerance limit of System validation ±10%.							

Head liquid 10g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2021.11.06	Head	835	100	0.622	6.22	6.33	-1.74
2021.11.07	Head	835	100	0.643	6.43	6.33	1.58
2021.11.16	Head	1900	100	2.090	20.90	20.40	2.45
2021.11.29	Head	2450	100	2.450	24.50	24.40	0.41
2021.11.29	Head	2600	100	2.430	24.30	25.10	-3.19
2021.11.10	Head	2600	100	2.490	24.90	25.10	-0.80
Note: The tolerance limit of System validation ±10%.							

System Performance Check Data (835MHz Head)

Date: 2021.11.06

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.903 S/m; ε_r = 41.803; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835 100mW/Area Scan (61x81x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

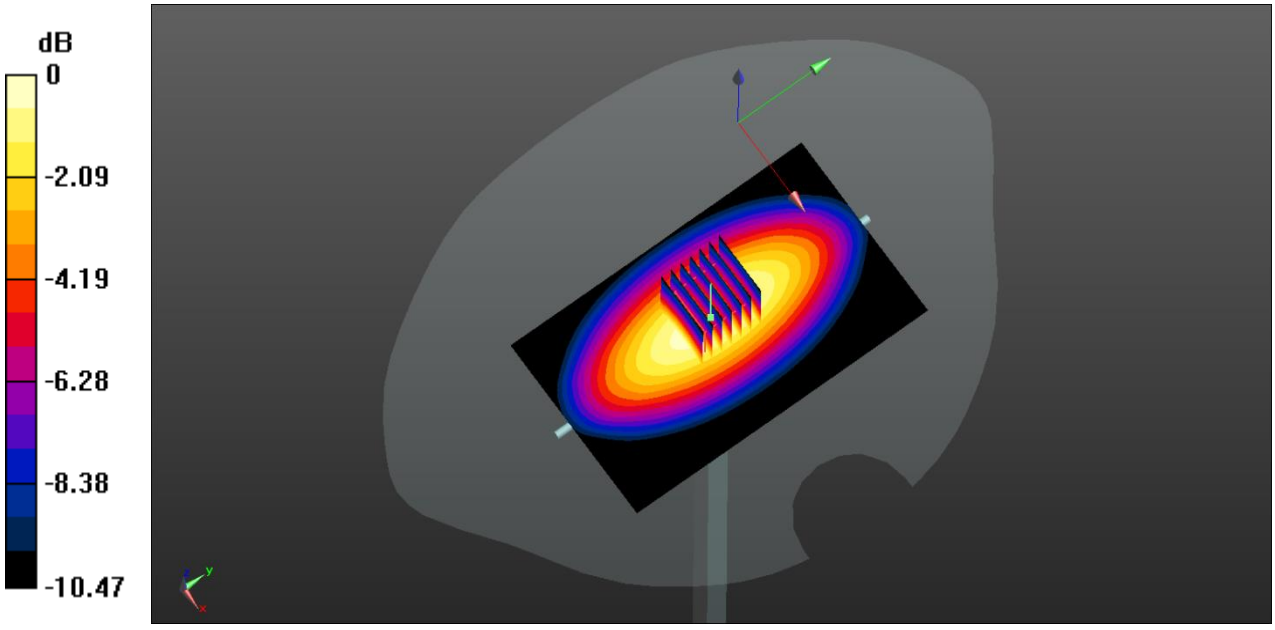
CW 835 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 33.18 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.41 W/kg

SAR(1 g) = 0.956 W/kg; SAR(10 g) = 0.622 W/kg

Maximum value of SAR (measured) = 1.05 W/kg



0 dB = 1.05 W/kg

System Performance Check Data (835MHz Head)

Date: 2021.11.07

Communication System Band: D835 (835.0 MHz); Frequency: 835 MHz;Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.895 S/m; ε_r = 41.697; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 835 100mW/Area Scan (61x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.08 W/kg

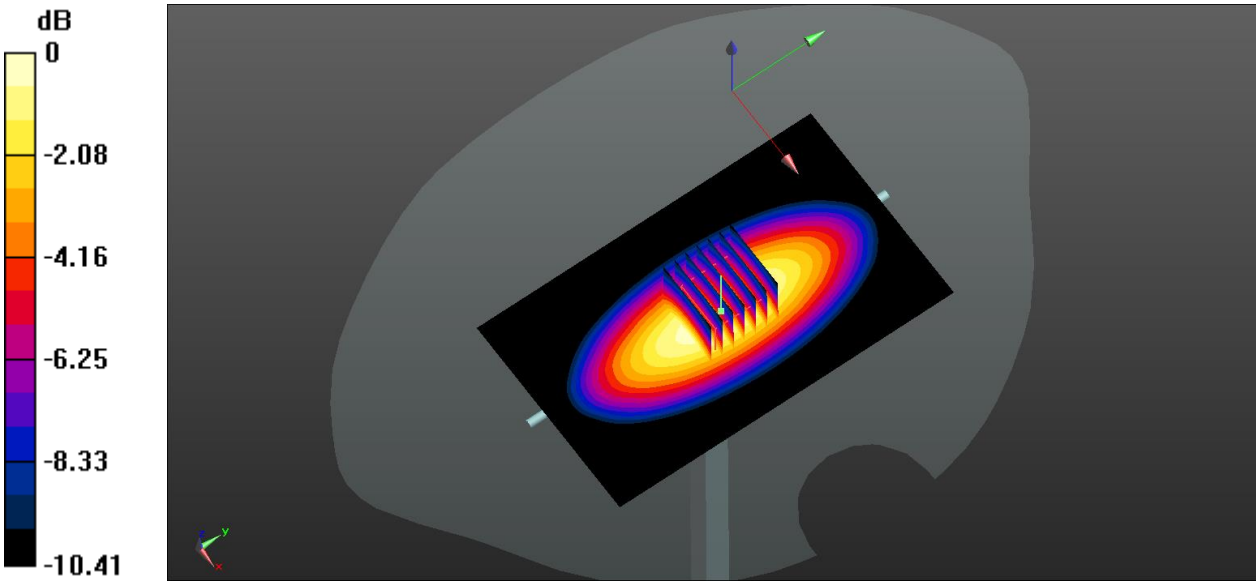
CW 835 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 34.62 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.984 W/kg; SAR(10 g) = 0.643 W/kg

Maximum value of SAR (measured) = 1.12 W/kg



0 dB = 1.12 W/kg

System Performance Check Data (1900MHz Head)

Date: 2021.11.16

Communication System Band: D1900 (1900.0 MHz); Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.393 S/m; ε_r = 39.973; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 1900 100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.65 W/kg

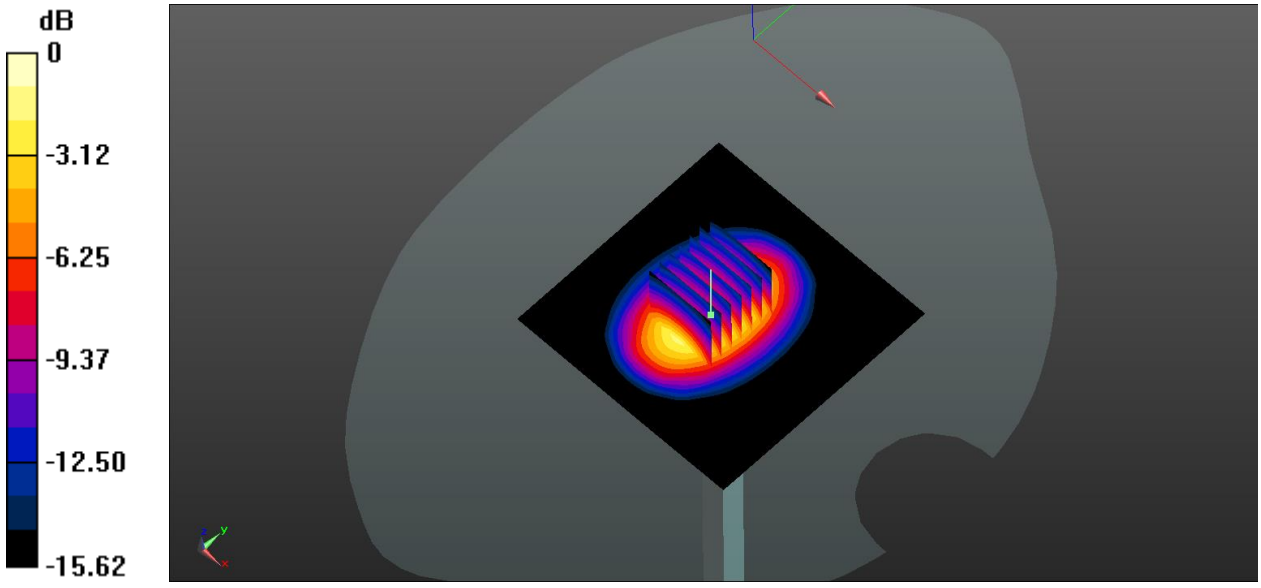
CW 1900 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.52 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 7.36 W/kg

SAR(1 g) = 4.07 W/kg; SAR(10 g) = 2.09 W/kg

Maximum value of SAR (measured) = 4.61 W/kg



0 dB = 4.61 W/kg

System Performance Check Data (2450MHz Head)

Date: 2021.11.29

Communication System Band: D2450 (2450.0 MHz); Frequency: 2450 MHz;Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.802 S/m; ε_r = 39.615; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 2450 100mw/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.32 W/kg

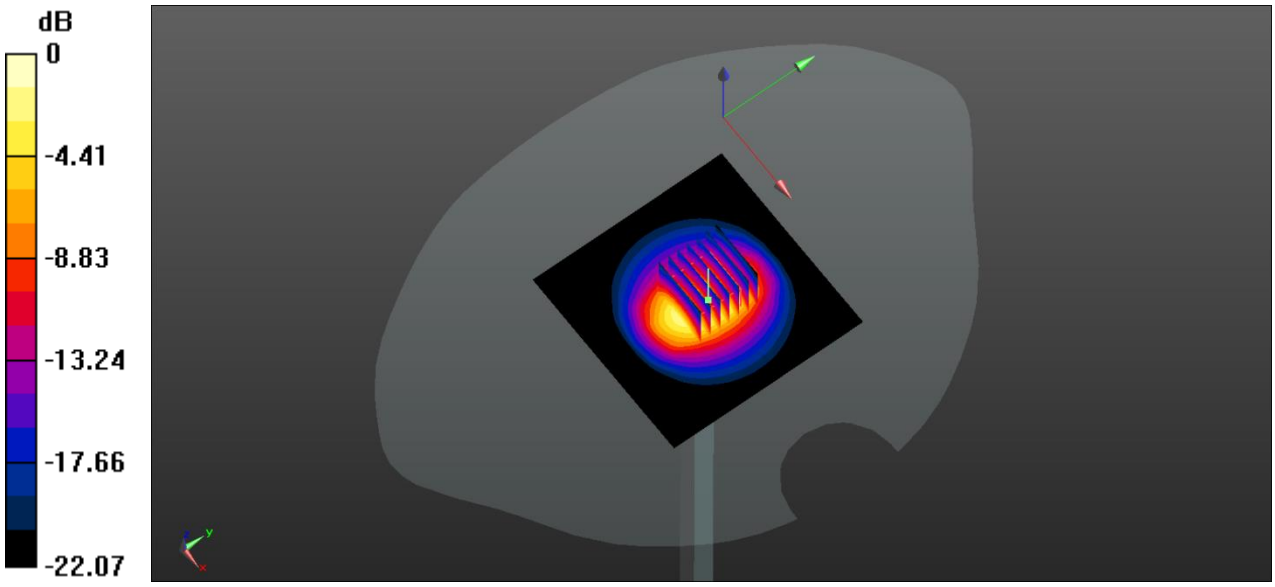
CW 2450 100mw/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.07 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 11.7 W/kg

SAR(1 g) = 5.38 W/kg; SAR(10 g) = 2.45 W/kg

Maximum value of SAR (measured) = 6.22 W/kg



0 dB = 6.22 W/kg

System Performance Check Data (2600MHz Head)

Date: 2021.11.29

Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2600 MHz; σ = 1.982 S/m; ε_r = 38.529; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 2600 100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.60 W/kg

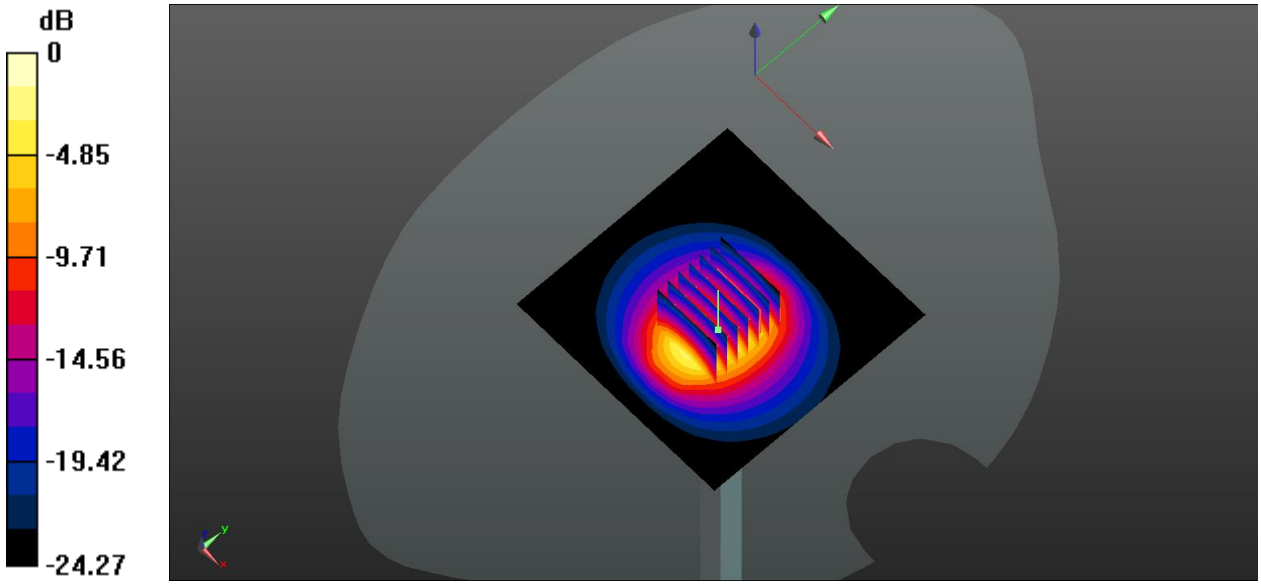
CW 2600 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 45.73 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 12.5 W/kg

SAR(1 g) = 5.57 W/kg; SAR(10 g) = 2.43 W/kg

Maximum value of SAR (measured) = 6.39 W/kg



0 dB = 6.39 W/kg

System Performance Check Data (2600MHz Head)

Date: 2021.11.10

Communication System Band: D2600 (2600.0 MHz); Frequency: 2600 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2600 MHz; σ = 1.972 S/m; ε_r = 38.453; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

CW 2600 100mW/Area Scan (101x101x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.56 W/kg

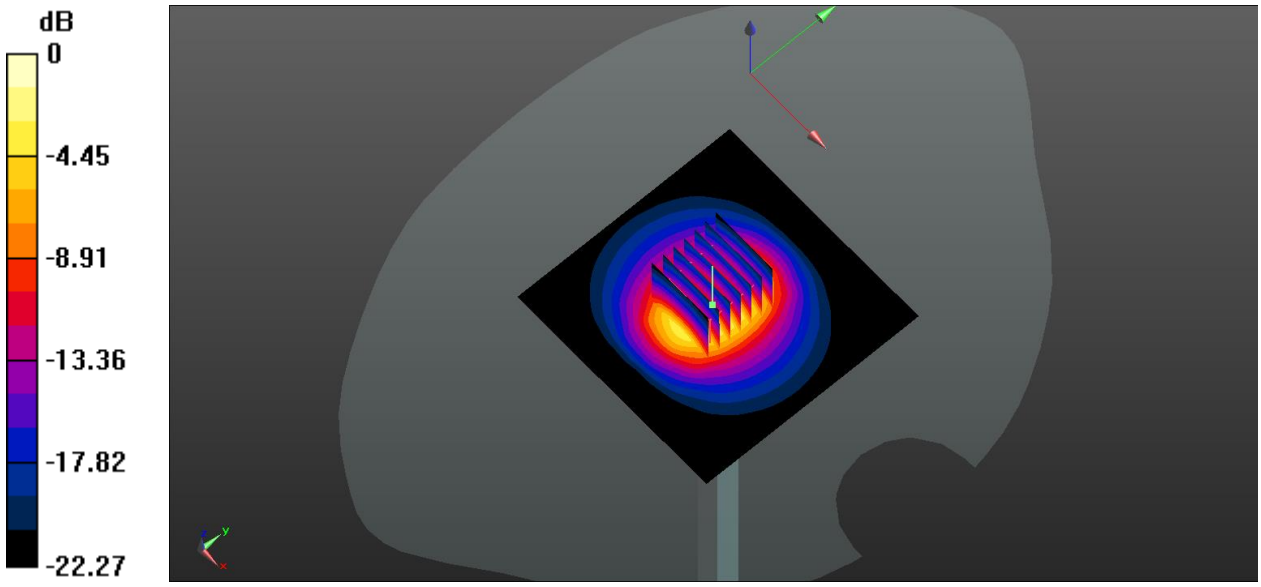
CW 2600 100mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 57.58 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 13.2 W/kg

SAR(1 g) = 5.68 W/kg; SAR(10 g) = 2.49 W/kg

Maximum value of SAR (measured) = 6.48 W/kg



0 dB = 6.48 W/kg

ANNEX C TEST DATA

Meas.1 Left Head with Cheek on Middle Channel in GPRS850 2Slots mode with Antenna Down

Date: 2021.11.06

Communication System Band: GPRS850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 S/m; ε_r = 41.761; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.4 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch190/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0874 W/kg

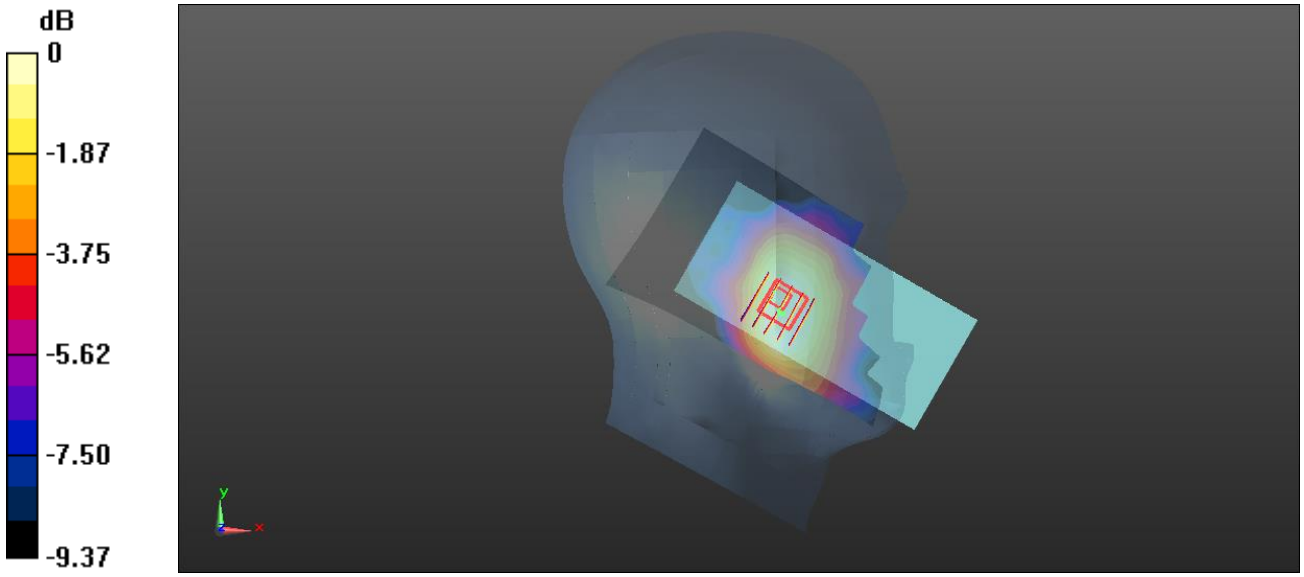
Ch190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.528 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.0980 W/kg

SAR(1 g) = 0.078 W/kg; SAR(10 g) = 0.060 W/kg

Maximum value of SAR (measured) = 0.0813 W/kg



0 dB = 0.0813 W/kg

Meas.2 Body Plan with Back Side 15mm on Middle Channel in GPRS850 2Slots mode with Antenna Down

Date: 2021.11.06

Communication System Band: GPRS850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 S/m; ε_r = 41.761; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch190/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0629 W/kg

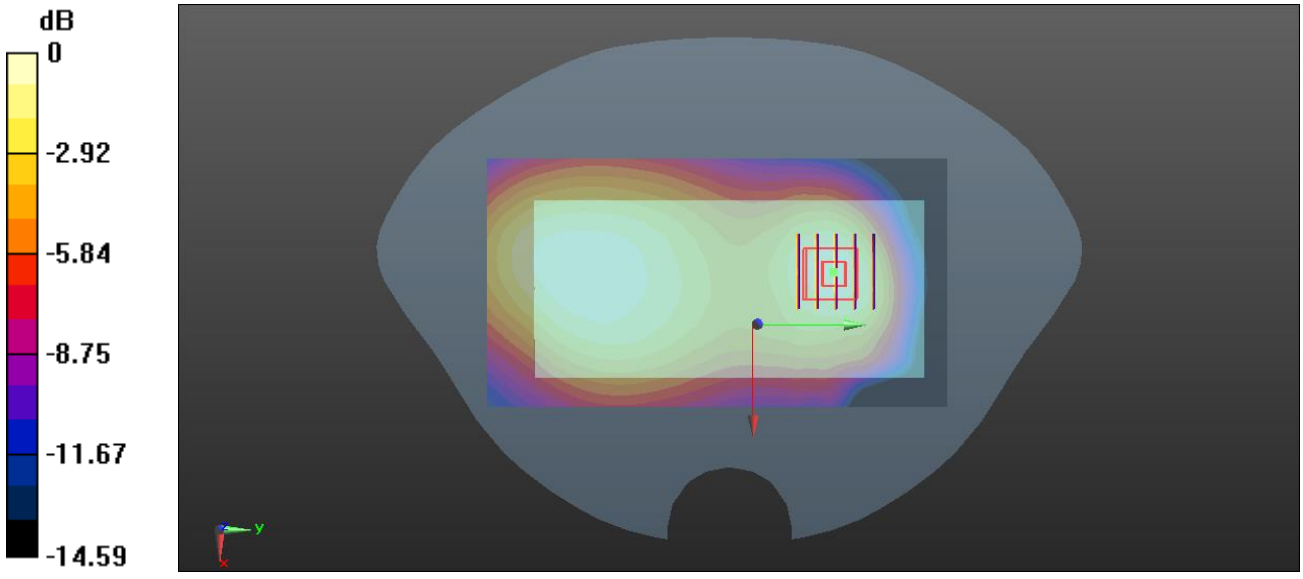
Ch190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.435 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.0890 W/kg

SAR(1 g) = 0.057 W/kg; SAR(10 g) = 0.036 W/kg

Maximum value of SAR (measured) = 0.0620 W/kg



0 dB = 0.0620 W/kg

Meas.3 Body Plan with Back Side 10mm on Middle Channel in GPRS850 2Slots mode with Antenna Down

Date: 2021.11.06

Communication System Band: GPRS850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 S/m; ε_r = 41.761; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch190/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.138 W/kg

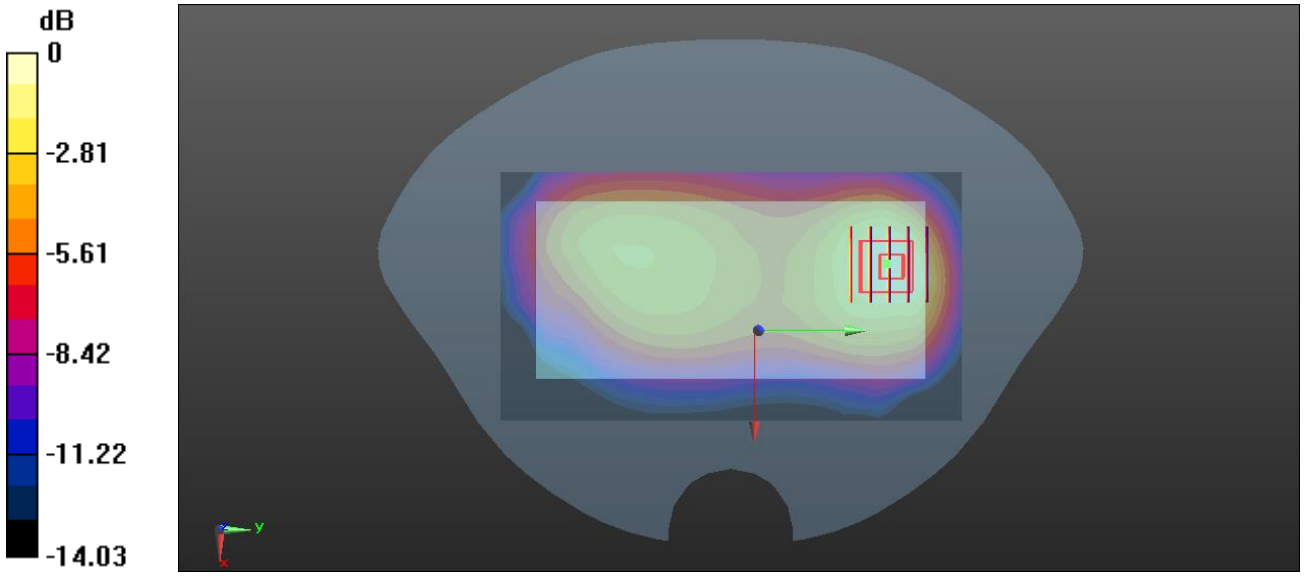
Ch190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.539 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.197 W/kg

SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.079 W/kg

Maximum value of SAR (measured) = 0.138 W/kg



0 dB = 0.138 W/kg

Meas.4 Body Plane with Back Side 0mm on Middle Channel in GPRS850 2Slots mode with Antenna Down

Date: 2021.11.06

Communication System Band: GPRS850; Frequency: 836.6 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.908 S/m; ε_r = 41.761; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.4 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch190/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.96 W/kg

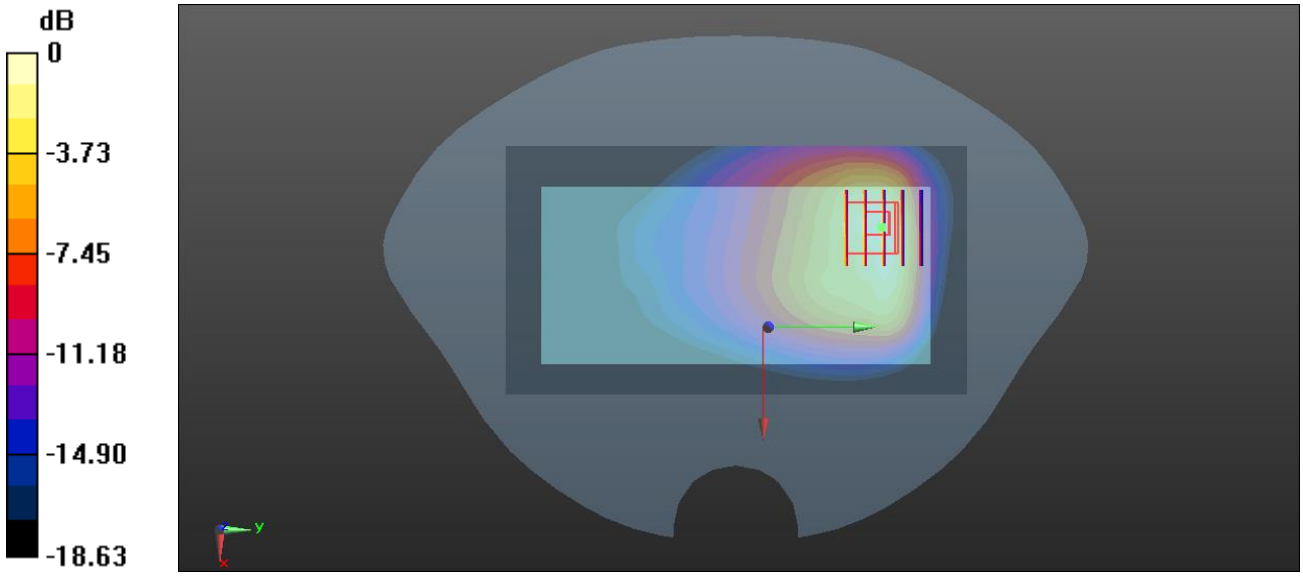
Ch190/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.18 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 4.01 W/kg

SAR(1 g) = 1.79 W/kg; SAR(10 g) = 0.941 W/kg

Maximum value of SAR (measured) = 1.97 W/kg



0 dB = 1.97 W/kg

Meas.5 Right Head with Cheek on Low Channel in GPRS1900 2Slots mode with Antenna Down

Date: 2021.11.07

Communication System Band: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.367 S/m; ε_r = 40.664; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch512/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0699 W/kg

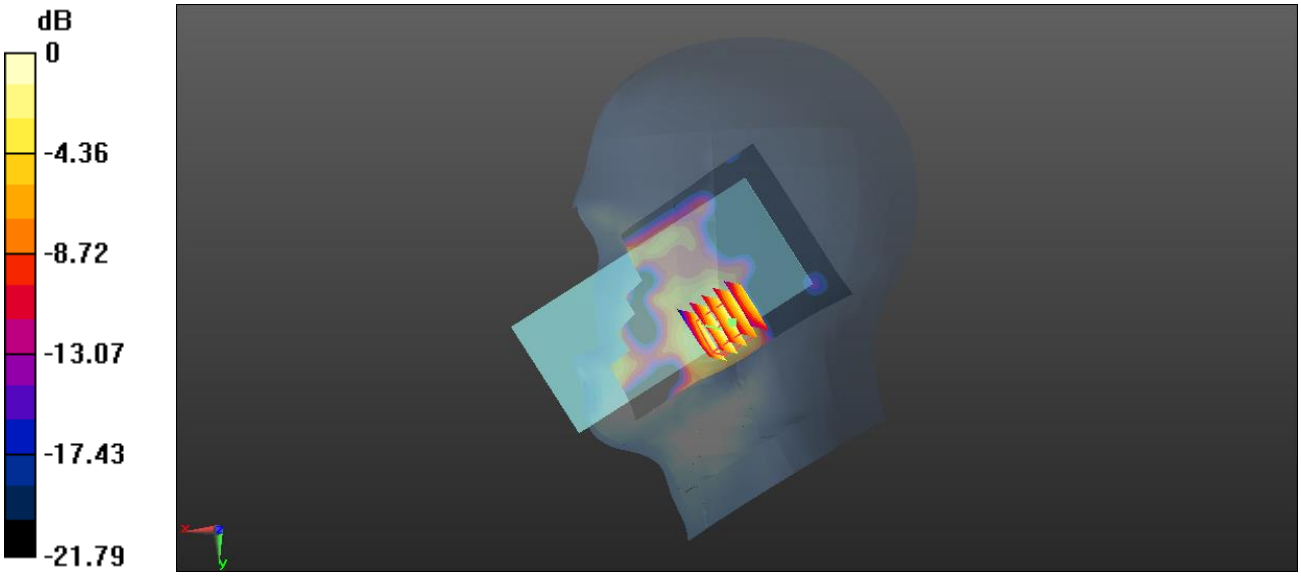
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.834 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 0.0980 W/kg

SAR(1 g) = 0.054 W/kg; SAR(10 g) = 0.030 W/kg

Maximum value of SAR (measured) = 0.0576 W/kg



0 dB = 0.0576 W/kg

Meas.6 Body Plan with Back Side 15mm on Low Channel in GPRS1900 2Slots mode with Antenna Down

Date: 2021.11.07

Communication System Band: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.367 S/m; ε_r = 40.664; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch512/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.179 W/kg

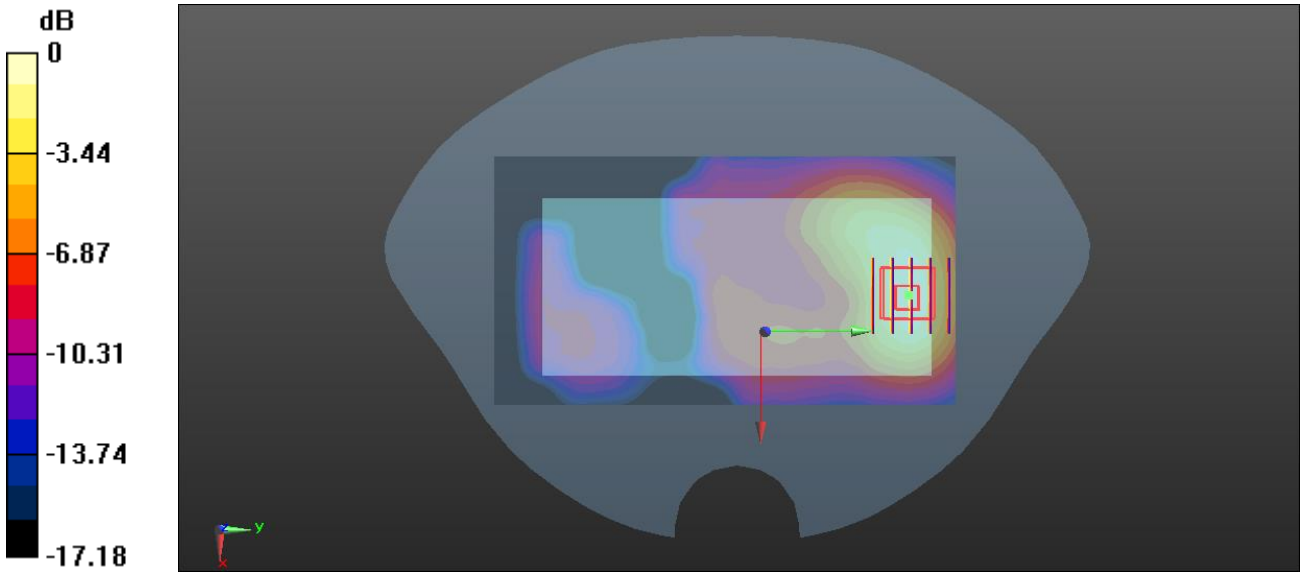
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.398 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.271 W/kg

SAR(1 g) = 0.169 W/kg; SAR(10 g) = 0.099 W/kg

Maximum value of SAR (measured) = 0.185 W/kg



0 dB = 0.185 W/kg

Meas.7 Body Plane with Bottom Edge 10mm on Low Channel in GPRS1900 2Slots mode with Antenna Down

Date: 2021.11.07

Communication System Band: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.367 S/m; ε_r = 40.664; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch512/Area Scan (51x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.736 W/kg

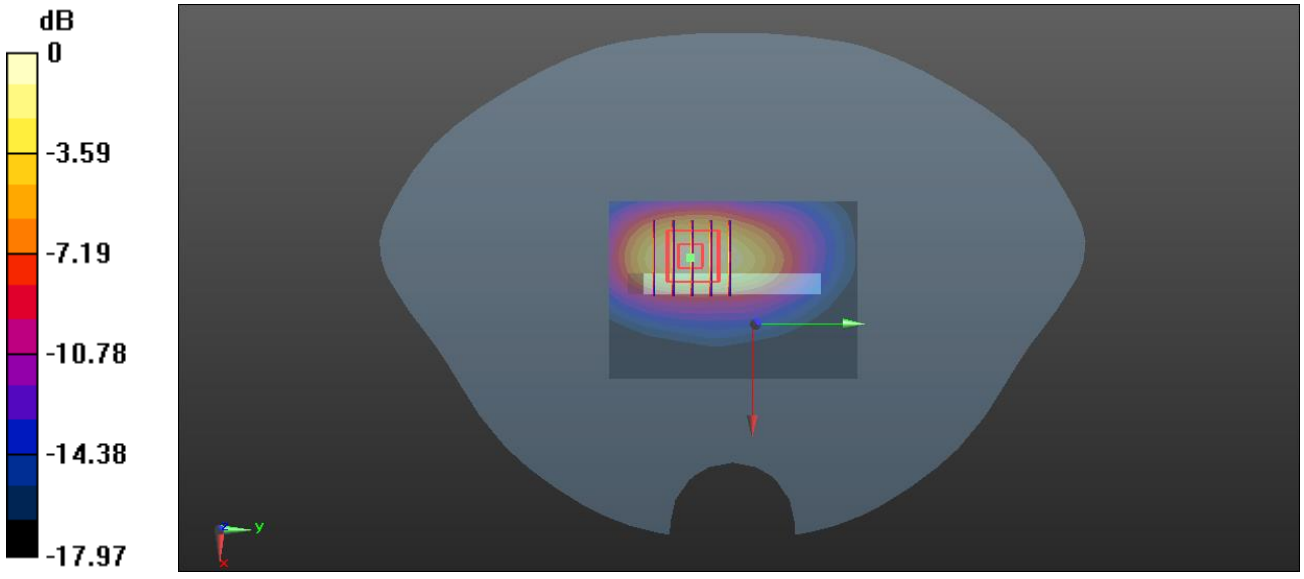
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.49 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.633 W/kg; SAR(10 g) = 0.332 W/kg

Maximum value of SAR (measured) = 0.714 W/kg



0 dB = 0.714 W/kg

Meas.8 Body Plane with Bottom Edge 0mm on Low Channel in GPRS1900 2Slots mode with Antenna Down

Date: 2021.11.07

Communication System Band: GPRS1900; Frequency: 1850.2 MHz;Duty Cycle: 1:4.1

Medium parameters used (interpolated): f = 1850.2 MHz; σ = 1.367 S/m; ε_r = 40.664; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch512/Area Scan (51x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of Total (interpolated) = 68.10 V/m

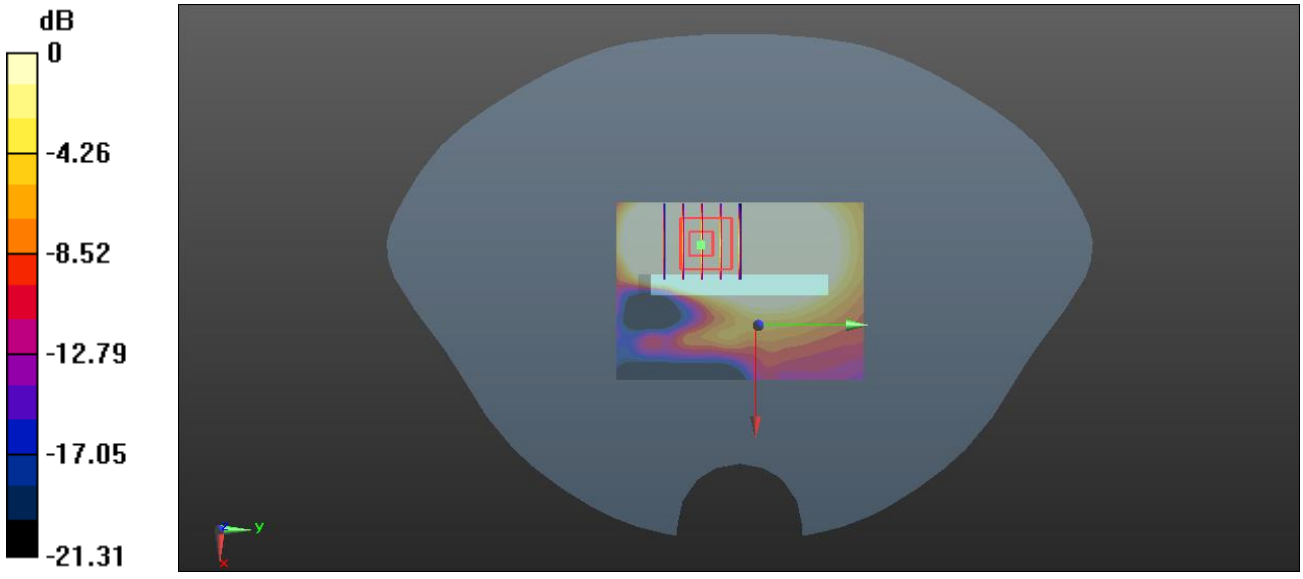
Ch512/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.45 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 10.6 W/kg

SAR(1 g) = 4.89 W/kg; SAR(10 g) = 2.1 W/kg

Maximum value of SAR (measured) = 5.89 W/kg



0 dB = 5.890 W/kg

Meas.9 Right Head with Cheek on High Channel in WCDMA B2 mode with Antenna Down

Date: 2021.11.16

Communication System Band: II; Frequency: 1907.6 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1907.6 MHz; σ = 1.396 S/m; ε_r = 39.853; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9538/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0820 W/kg

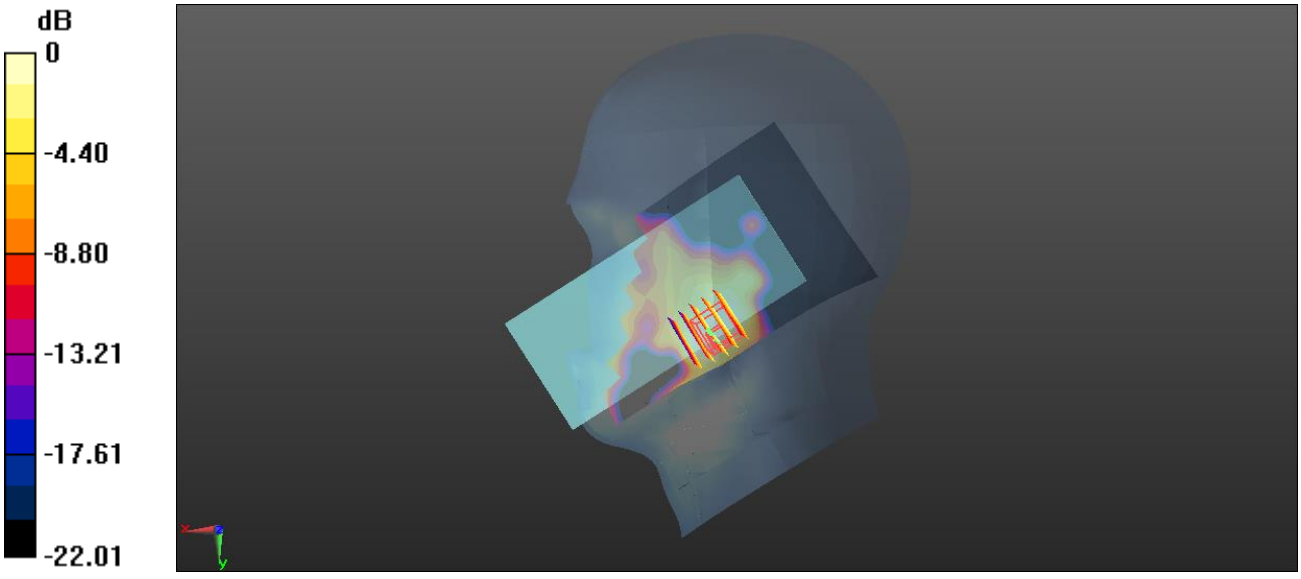
Ch9538/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.535 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.119 W/kg

SAR(1 g) = 0.073 W/kg; SAR(10 g) = 0.044 W/kg

Maximum value of SAR (measured) = 0.0768 W/kg



0 dB = 0.0768 W/kg

Meas.10 Body Plane with Back Side 15mm on Middle Channel in WCDMA B2 mode with Antenna Down

Date: 2021.11.16

Communication System Band: II; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.383 S/m; ε_r = 40.235; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9400/Area Scan (71x141x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.213 W/kg

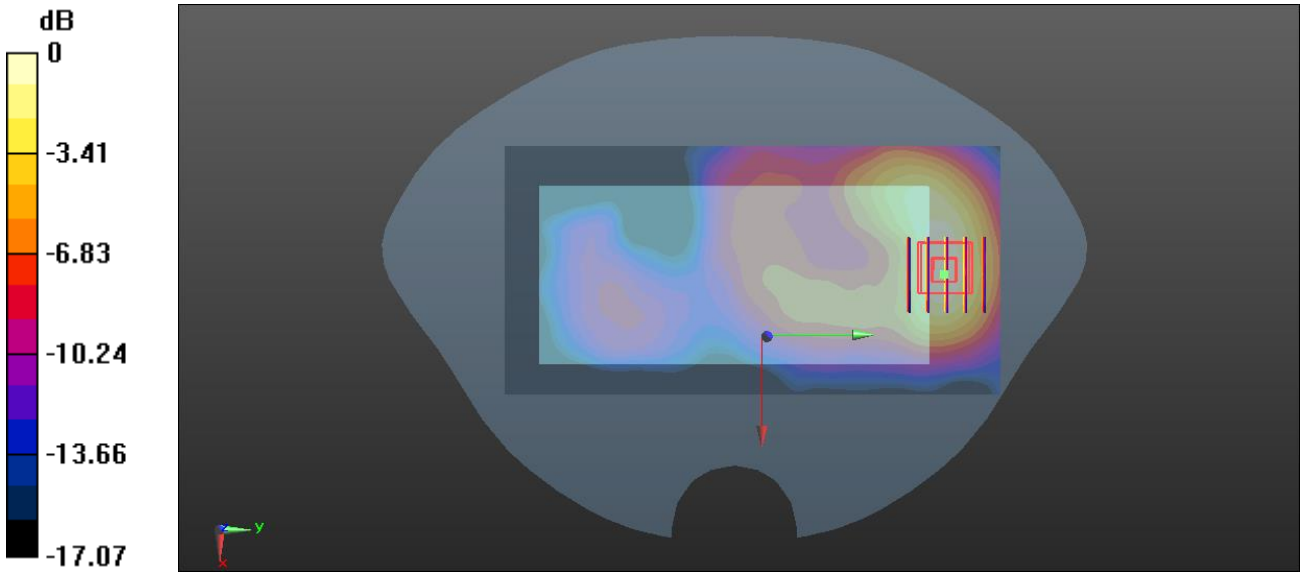
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.736 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.314 W/kg

SAR(1 g) = 0.196 W/kg; SAR(10 g) = 0.114 W/kg

Maximum value of SAR (measured) = 0.217 W/kg



0 dB = 0.217 W/kg

Meas.11 Body Plane with Bottom Edge 10mm on Middle Channel in WCDMA B2 mode with Antenna Down

Date: 2021.11.16

Communication System Band: II; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1880 MHz; σ = 1.383 S/m; ε_r = 40.235; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9400/Area Scan (51x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.08 W/kg

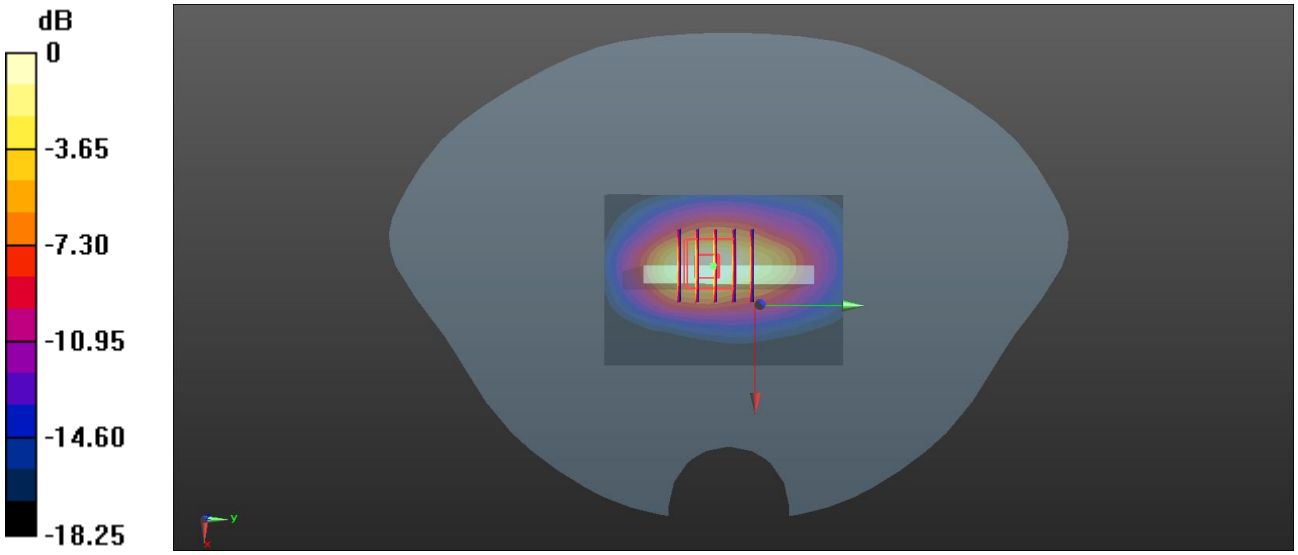
Ch9400/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.99 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.64 W/kg

SAR(1 g) = 0.929 W/kg; SAR(10 g) = 0.485 W/kg

Maximum value of SAR (measured) = 1.05 W/kg



0 dB = 1.05 W/kg

Meas.12 Body Plane with Bottom Edge 0mm on Low Channel in WCDMA B2 mode with Antenna Down

Date: 2021.11.16

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

Medium parameters used (interpolated): f = 1852.4 MHz; σ = 1.368 S/m; ε_r = 40.607; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(8.31, 8.31, 8.31); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch9262/Area Scan (51x71x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 6.33 W/kg

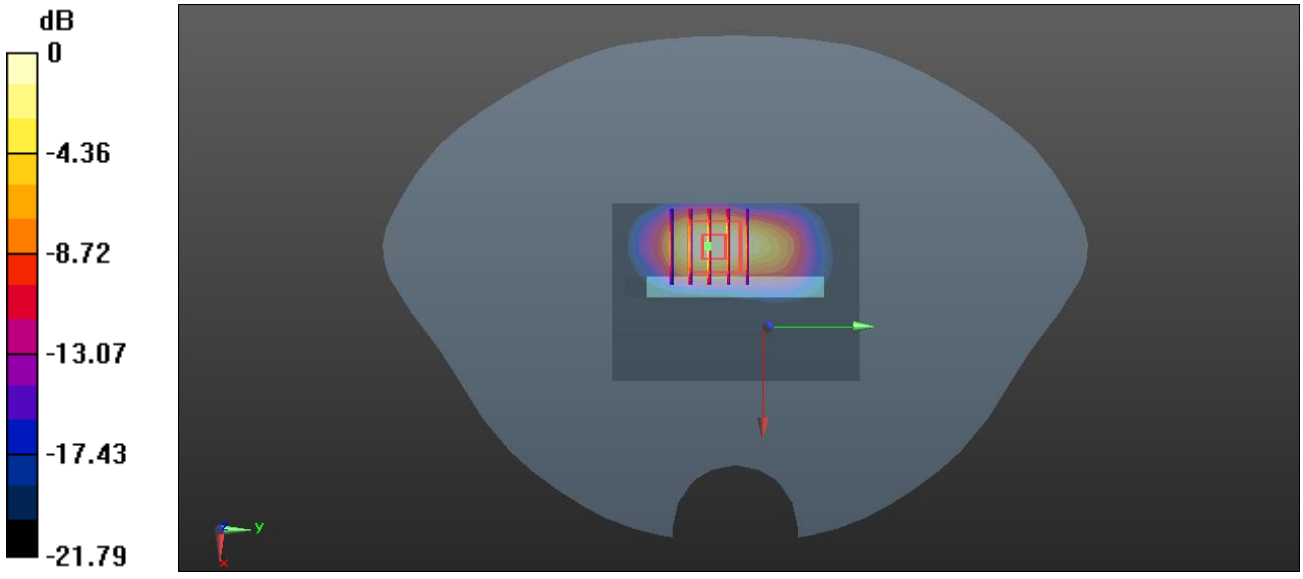
Ch9262/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.30 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 11.8 W/kg

SAR(1 g) = 5.39 W/kg; SAR(10 g) = 2.32 W/kg

Maximum value of SAR (measured) = 6.40 W/kg



0 dB = 6.40 W/kg

Meas.13 Left Head with Cheek on High Channel in WCDMA B5 mode with Antenna Up

Date: 2021.11.07

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

Medium parameters used (interpolated): f = 846.6 MHz; σ = 0.913 S/m; ε_r = 41.424; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4233/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.986 W/kg

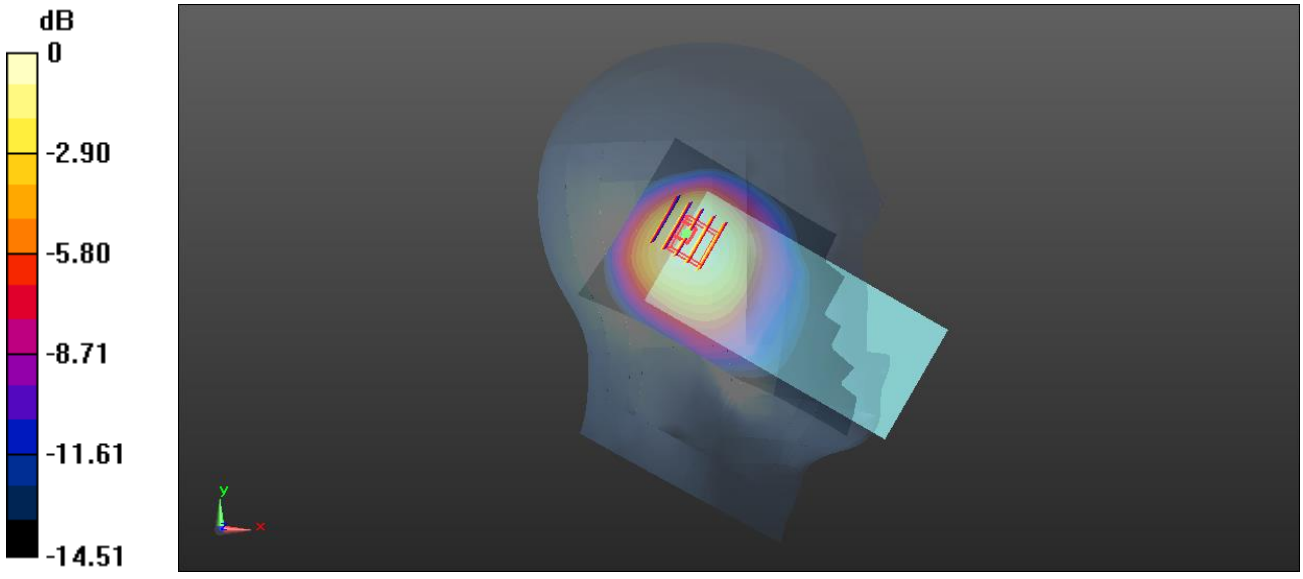
Ch4233/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.92 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 1.42 W/kg

SAR(1 g) = 0.832 W/kg; SAR(10 g) = 0.571 W/kg

Maximum value of SAR (measured) = 0.888 W/kg



0 dB = 0.888 W/kg

Meas.14 Body Plane with Back Side 15mm on Middle Channel in WCDMA B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: V; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 S/m; ε_r = 41.646; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.163 W/kg

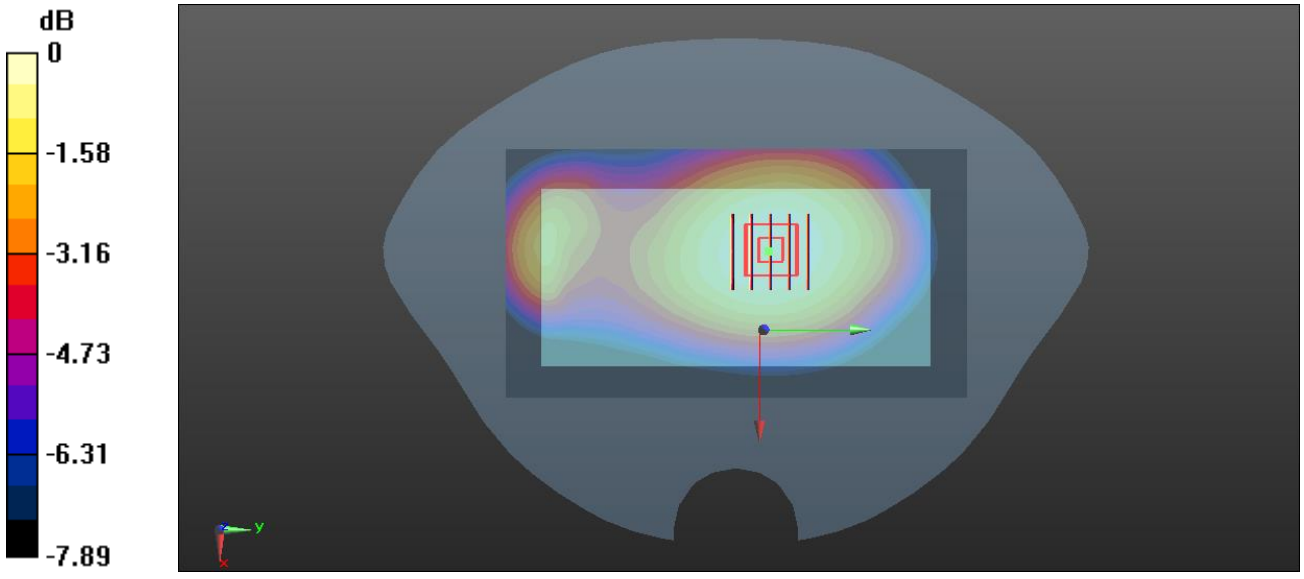
Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.17 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.195 W/kg

SAR(1 g) = 0.155 W/kg; SAR(10 g) = 0.118 W/kg

Maximum value of SAR (measured) = 0.162 W/kg



0 dB = 0.162 W/kg

Meas.15 Body Plane with Back Side 10mm on Middle Channel in WCDMA B5 mode with Antenna Down

Date: 2021.11.07

Communication System Band: V; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 S/m; ε_r = 41.646; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.305 W/kg

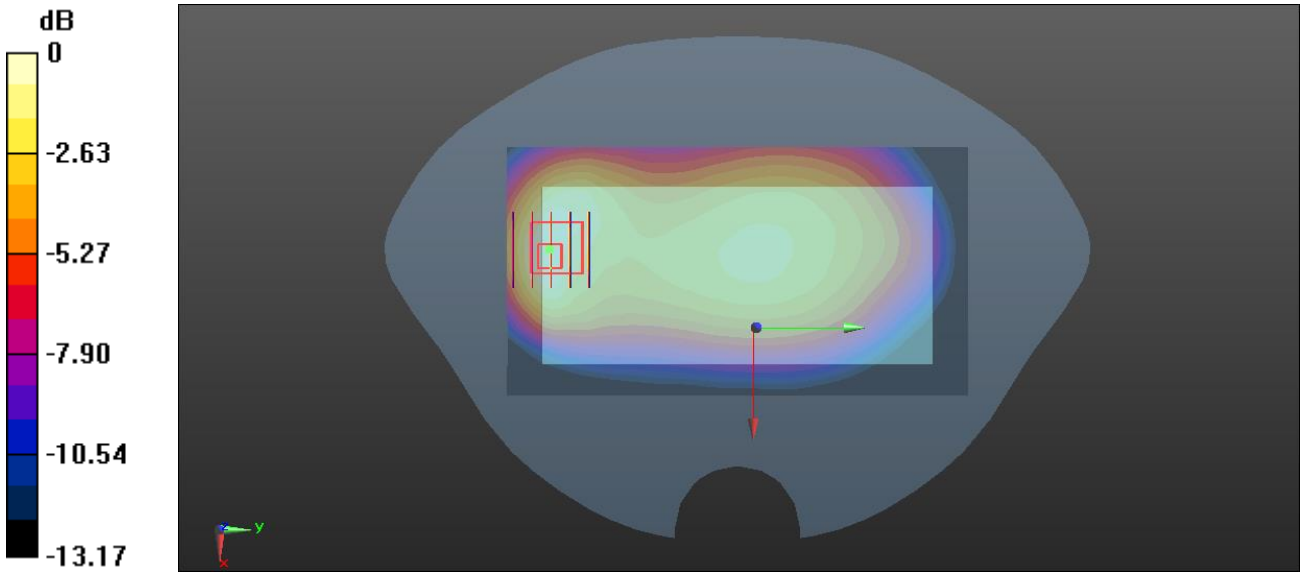
Ch4182/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.16 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.445 W/kg

SAR(1 g) = 0.273 W/kg; SAR(10 g) = 0.169 W/kg

Maximum value of SAR (measured) = 0.298 W/kg



0 dB = 0.298 W/kg

Meas.16 Body Plane with Back Side 0mm on Middle Channel in WCDMA B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: V; Frequency: 836.4 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.4 MHz; σ = 0.897 S/m; ε_r = 41.646; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch4182/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.48 W/kg

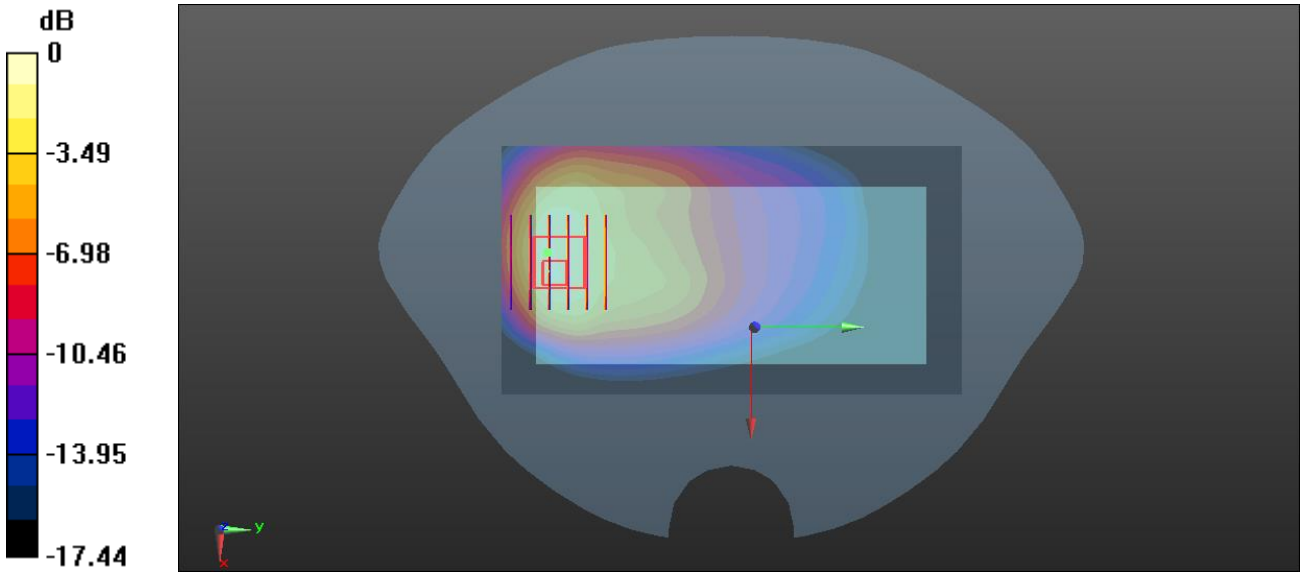
Ch4182/Zoom Scan (6x6x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.01 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 3.46 W/kg

SAR(1 g) = 1.58 W/kg; SAR(10 g) = 0.842 W/kg

Maximum value of SAR (measured) = 1.77 W/kg



0 dB = 1.77 W/kg

Meas.17 Left Head with Cheek on Middle Channel in LTE B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 836.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.899 S/m; ε_r = 41.596; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.807 W/kg

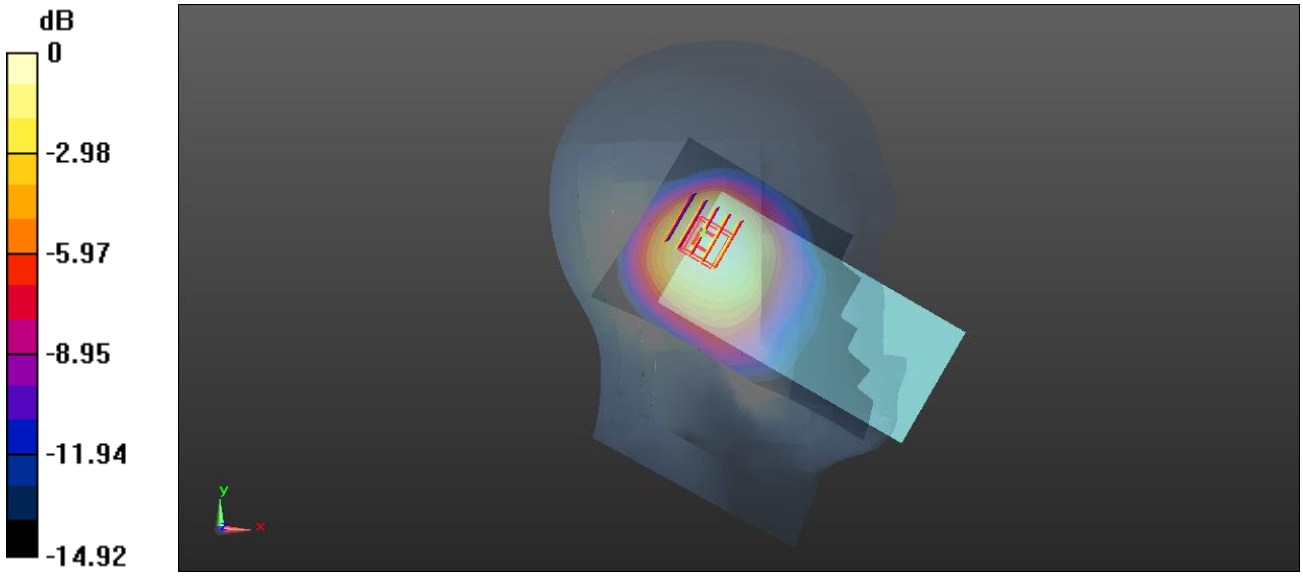
Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 27.90 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.13 W/kg

SAR(1 g) = 0.697 W/kg; SAR(10 g) = 0.485 W/kg

Maximum value of SAR (measured) = 0.740 W/kg



0 dB = 0.740 W/kg

Meas.18 Body Plane with Front Side 15mm on Middle Channel in LTE B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 836.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.899 S/m; ε_r = 41.596; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.139 W/kg

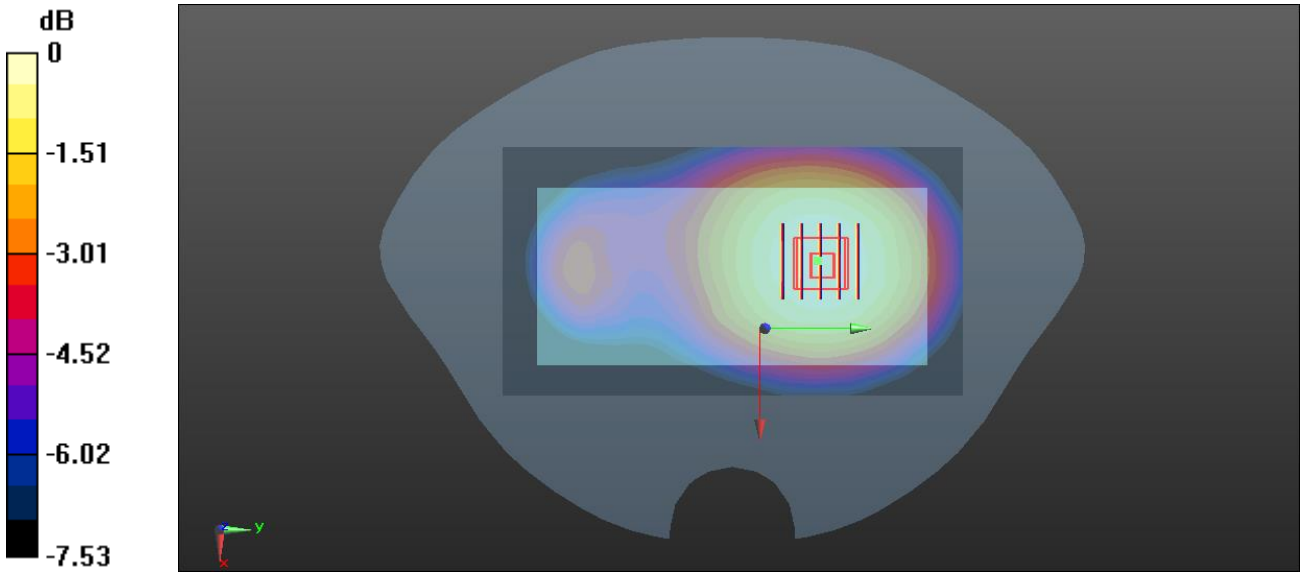
Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.873 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.166 W/kg

SAR(1 g) = 0.132 W/kg; SAR(10 g) = 0.102 W/kg

Maximum value of SAR (measured) = 0.138 W/kg



0 dB = 0.138 W/kg

Meas.19 Body Plane with Back Side 10mm on Middle Channel in LTE B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 836.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.899 S/m; ε_r = 41.596; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.226 W/kg

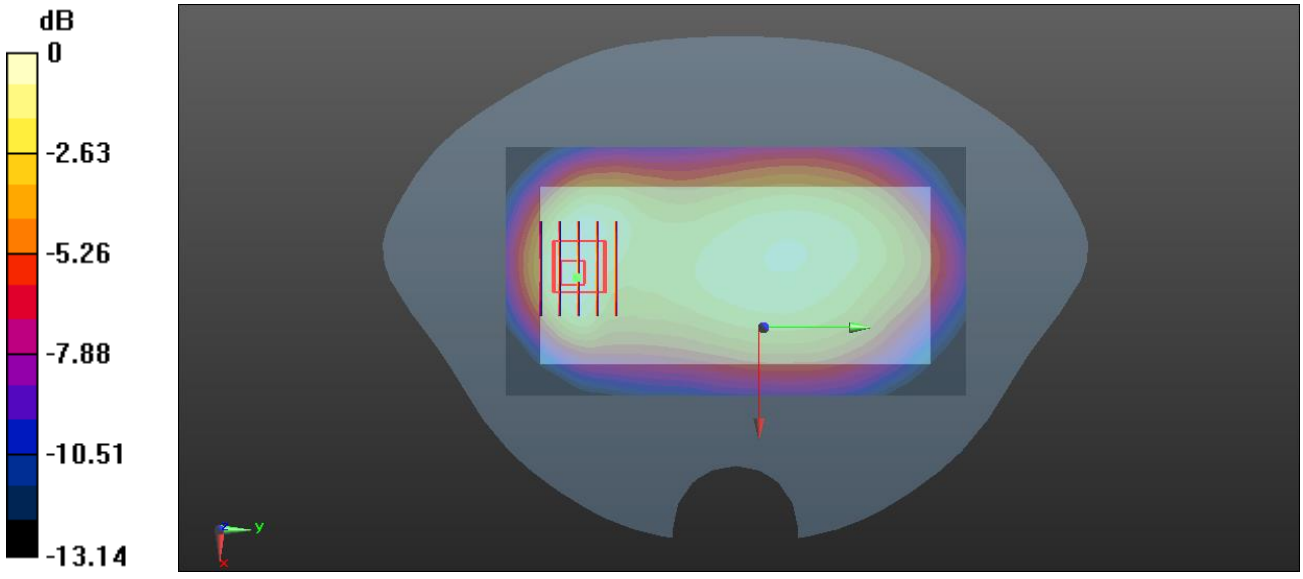
Ch20525/Zoom Scan (6x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.55 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.336 W/kg

SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.128 W/kg

Maximum value of SAR (measured) = 0.223 W/kg



0 dB = 0.223 W/kg

Meas.20 Body Plane with Back Side 0mm on Middle Channel in LTE B5 mode with Antenna Up

Date: 2021.11.07

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 836.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.5 MHz; σ = 0.899 S/m; ε_r = 41.596; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(10.3, 10.3, 10.3); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch20525/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.42 W/kg

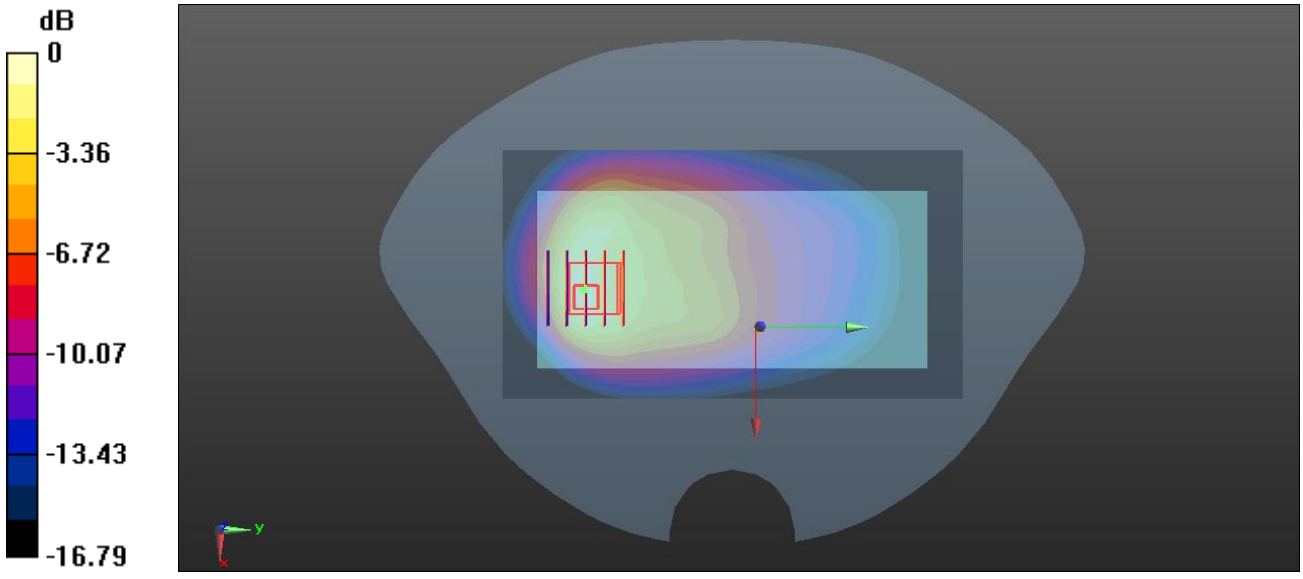
Ch20525/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.57 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 3.02 W/kg

SAR(1 g) = 1.37 W/kg; SAR(10 g) = 0.732 W/kg

Maximum value of SAR (measured) = 1.60 W/kg



0 dB = 1.60 W/kg

Meas.21 Left Head with Cheek on Middle Channel in LTE B7 mode with Antenna Down

Date: 2021.11.29

Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2535 MHz; σ = 1.899 S/m; ε_r = 38.999; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21100/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0743 W/kg

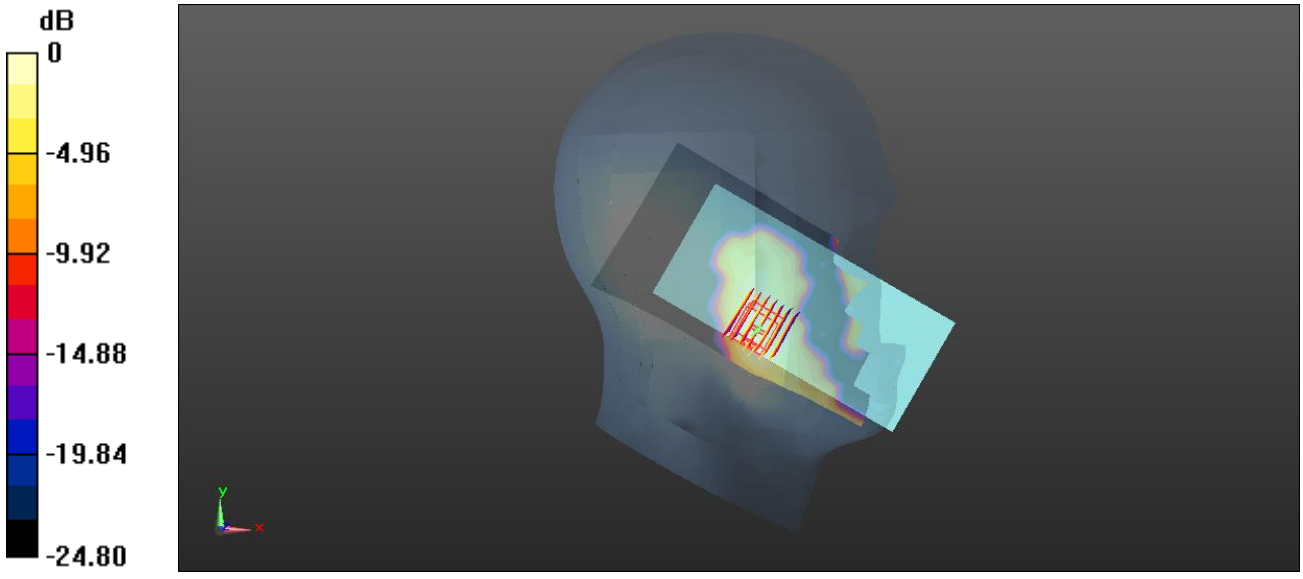
Ch21100/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.5160 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.120 W/kg

SAR(1 g) = 0.064 W/kg; SAR(10 g) = 0.034 W/kg

Maximum value of SAR (measured) = 0.0725 W/kg



0 dB = 0.0725 W/kg

Meas.22 Body Plane with Back Side 15mm on Middle Channel in LTE B7 mode with Antenna Down

Date: 2021.11.29

Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2535 MHz; σ = 1.899 S/m; ε_r = 38.999; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21100/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.226 W/kg

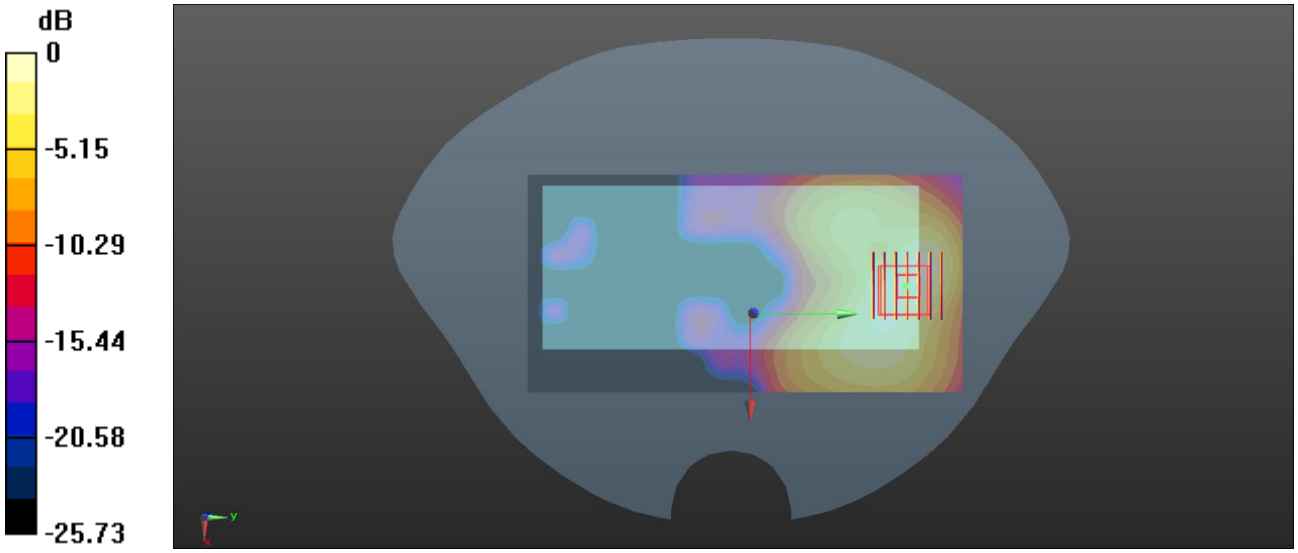
Ch21100/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.377 W/kg

SAR(1 g) = 0.198 W/kg; SAR(10 g) = 0.101 W/kg

Maximum value of SAR (measured) = 0.220 W/kg



0 dB = 0.220 W/kg

Meas.23 Body Plane with Back Side 10mm on Middle Channel in LTE B7 mode with Antenna Down

Date: 2021.11.29

Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2535 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2535 MHz; σ = 1.899 S/m; ε_r = 38.999; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21100/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.543 W/kg

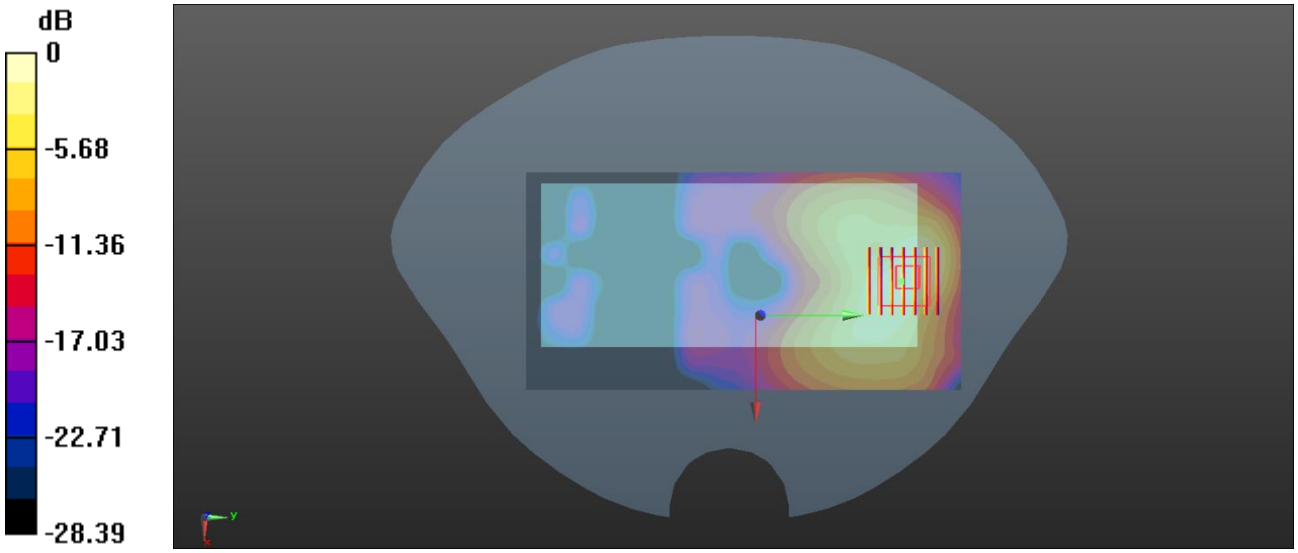
Ch21100/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.952 W/kg

SAR(1 g) = 0.473 W/kg; SAR(10 g) = 0.229 W/kg

Maximum value of SAR (measured) = 0.536 W/kg



0 dB = 0.536 W/kg

Meas.24 Body Plane with Back Side 0mm on High Channel in LTE B7 mode with Antenna Down

Date: 2021.11.29

Communication System Band: Band 7, E-UTRA/FDD (2500.0 - 2570.0 MHz); Frequency: 2560 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2560 MHz; σ = 1.932 S/m; ε_r = 38.819; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch21350/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 7.87 W/kg

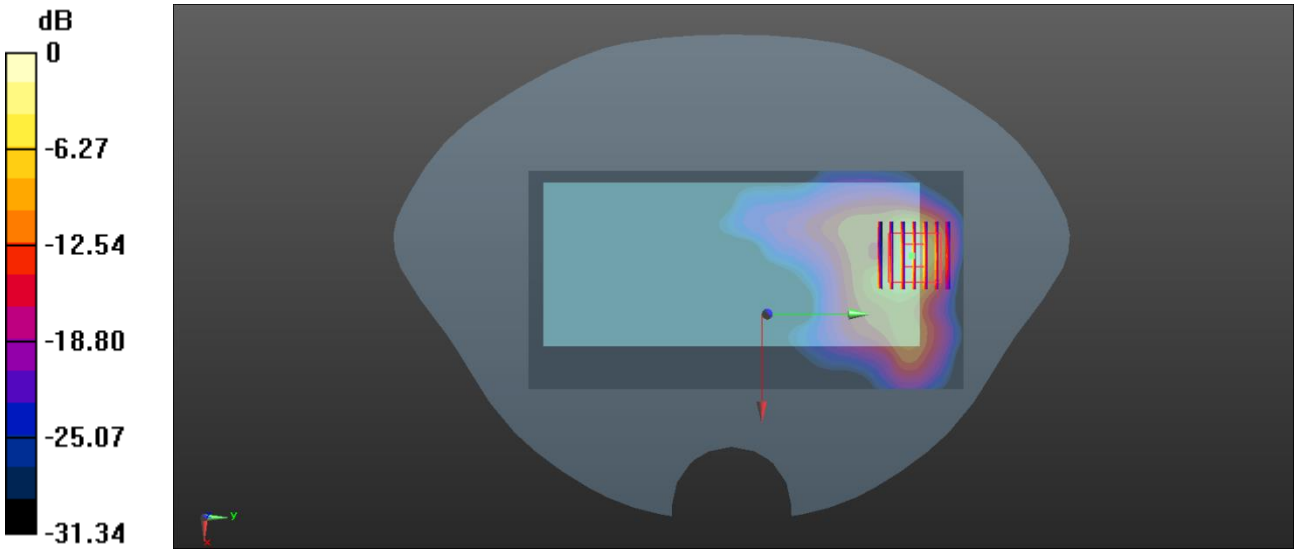
Ch21350/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = -0.16 dB

Peak SAR (extrapolated) = 18.4 W/kg

SAR(1 g) = 6.32 W/kg; SAR(10 g) = 2.06 W/kg

Maximum value of SAR (measured) = 8.13 W/kg



0 dB = 8.13 W/kg

Meas.25 Left Head with Cheek on High Channel in LTE B41 mode with Antenna Down

Date: 2021.11.10

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2680 MHz; σ = 2.068 S/m; ε_r = 37.952; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41490/Area Scan (71x131x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0821 W/kg

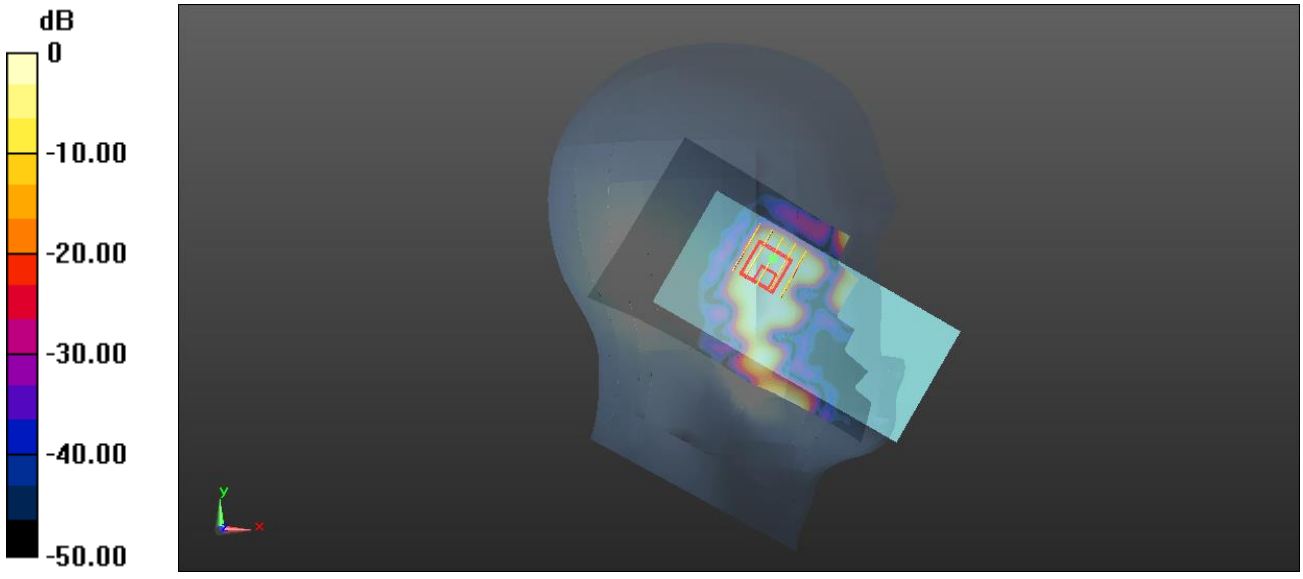
Ch41490/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.0410 W/kg

SAR(1 g) = 0.024 W/kg; SAR(10 g) = 0.012 W/kg

Maximum value of SAR (measured) = 0.0258 W/kg



0 dB = 0.0258 W/kg

Meas.26 Body Plane with Back Side 15mm on High Channel in LTE B41 mode with Antenna Down

Date: 2021.11.10

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2680 MHz; σ = 2.068 S/m; ε_r = 37.952; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41490/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.294 W/kg

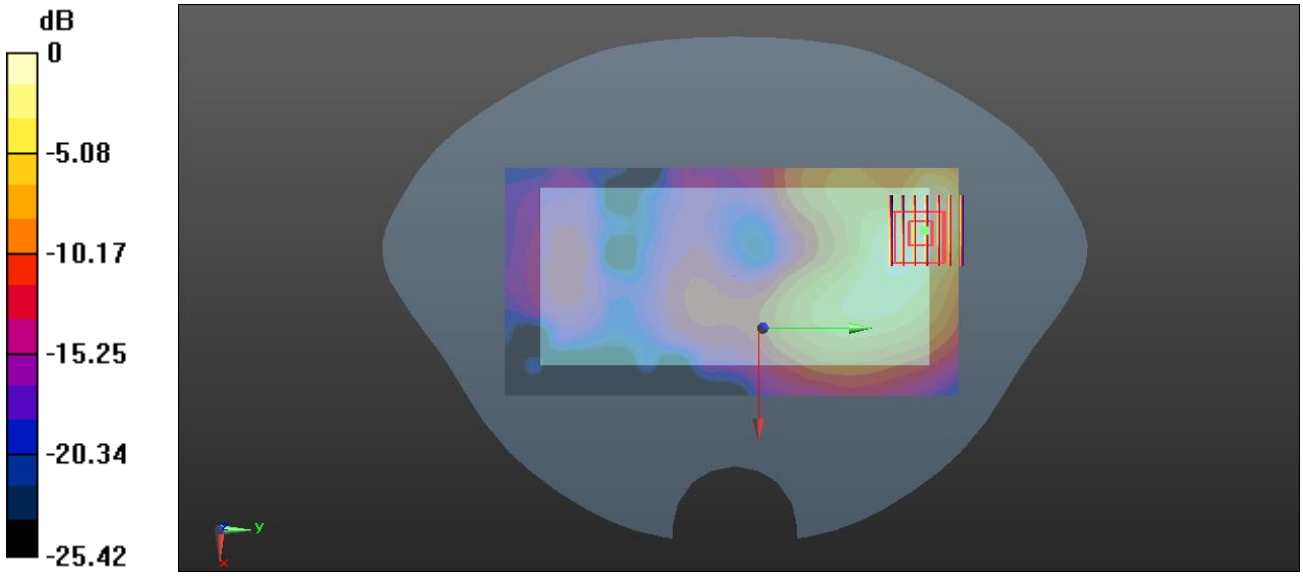
Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.698 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.498 W/kg

SAR(1 g) = 0.261 W/kg; SAR(10 g) = 0.133 W/kg

Maximum value of SAR (measured) = 0.289 W/kg



0 dB = 0.289 W/kg

Meas.27 Body Plane with Back Side 10mm on High Channel in LTE B41 mode with Antenna Down

Date: 2021.11.10

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2680 MHz; σ = 2.068 S/m; ε_r = 37.952; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41490/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.627 W/kg

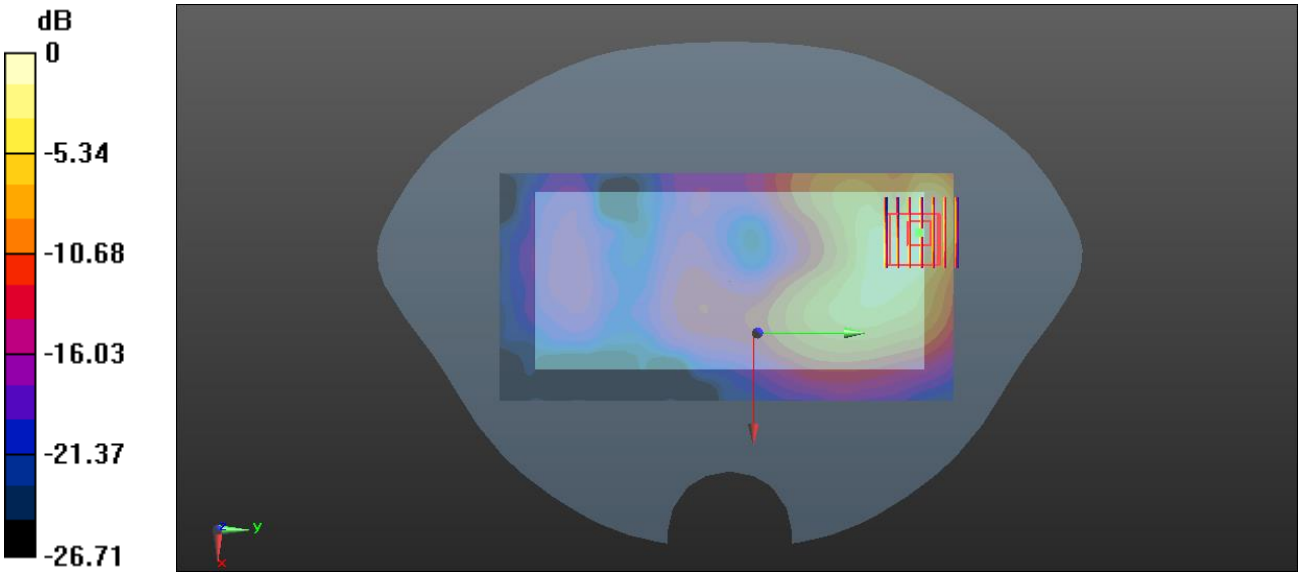
Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.490 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.07 W/kg

SAR(1 g) = 0.537 W/kg; SAR(10 g) = 0.261 W/kg

Maximum value of SAR (measured) = 0.610 W/kg



0 dB = 0.610 W/kg

Meas.28 Body Plane with Back Side 0mm on High Channel in LTE B41 mode with Antenna Down

Date: 2021.11.10

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2680 MHz;Duty Cycle: 1:1.58

Medium parameters used (interpolated): f = 2680 MHz; σ = 2.068 S/m; ε_r = 37.952; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.49, 7.49, 7.49); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch41490/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 8.26 W/kg

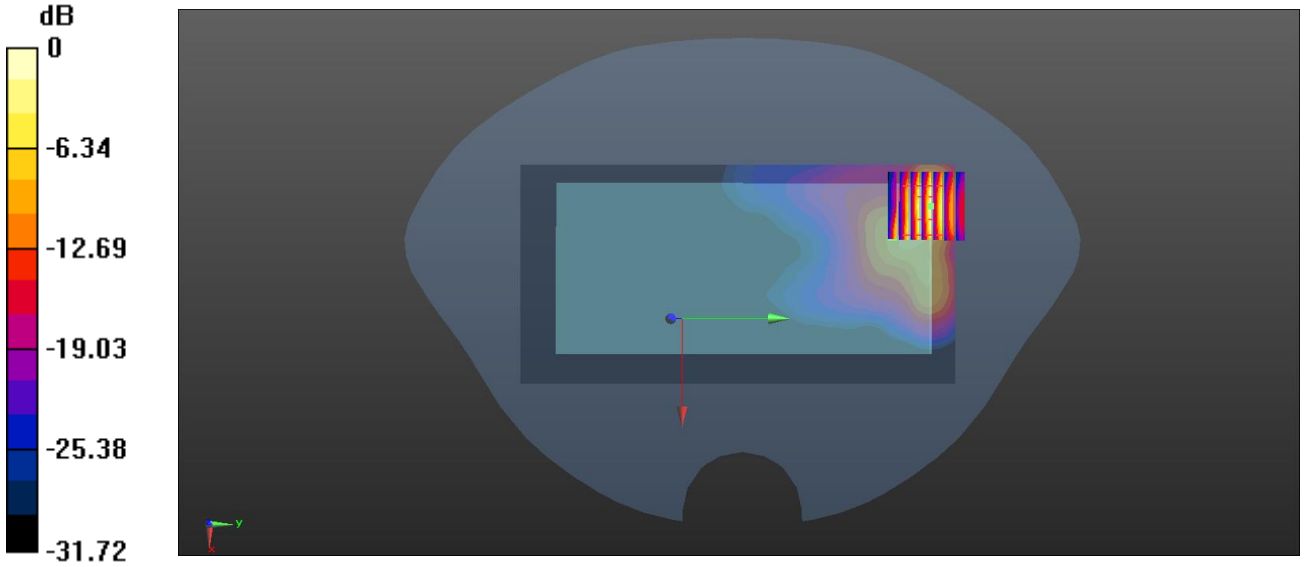
Ch41490/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.510 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 21.0 W/kg

SAR(1 g) = 7.44 W/kg; SAR(10 g) = 2.46 W/kg

Maximum value of SAR (measured) = 9.10 W/kg



0 dB = 9.10 W/kg

Meas.29 Right Head with Cheek on Middle Channel in IEEE802.11b mode

Date: 2021.11.29

Communication System Band: WLAN(b); Frequency: 2437 MHz;Duty Cycle: 1:1.02

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.783 S/m; ε_r = 39.791; ρ = 1000 kg/m^3

Phantom section: Right Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.424 W/kg

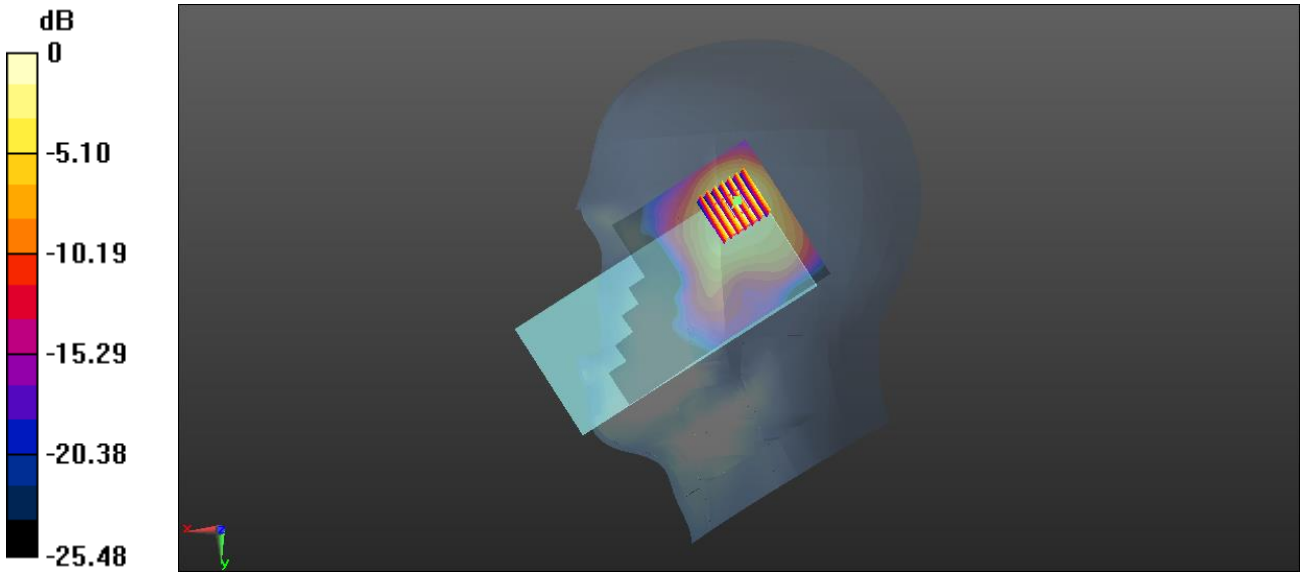
Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.794 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.713 W/kg

SAR(1 g) = 0.366 W/kg; SAR(10 g) = 0.186 W/kg

Maximum value of SAR (measured) = 0.412 W/kg



0 dB = 0.412 W/kg

Meas.30 Body Plane with Back Side 15mm on Middle Channel in IEEE802.11b mode

Date: 2021.11.29

Communication System Band: WLAN(b); Frequency: 2437 MHz;Duty Cycle: 1:1.02

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.783 S/m; ε_r = 39.791; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0437 W/kg

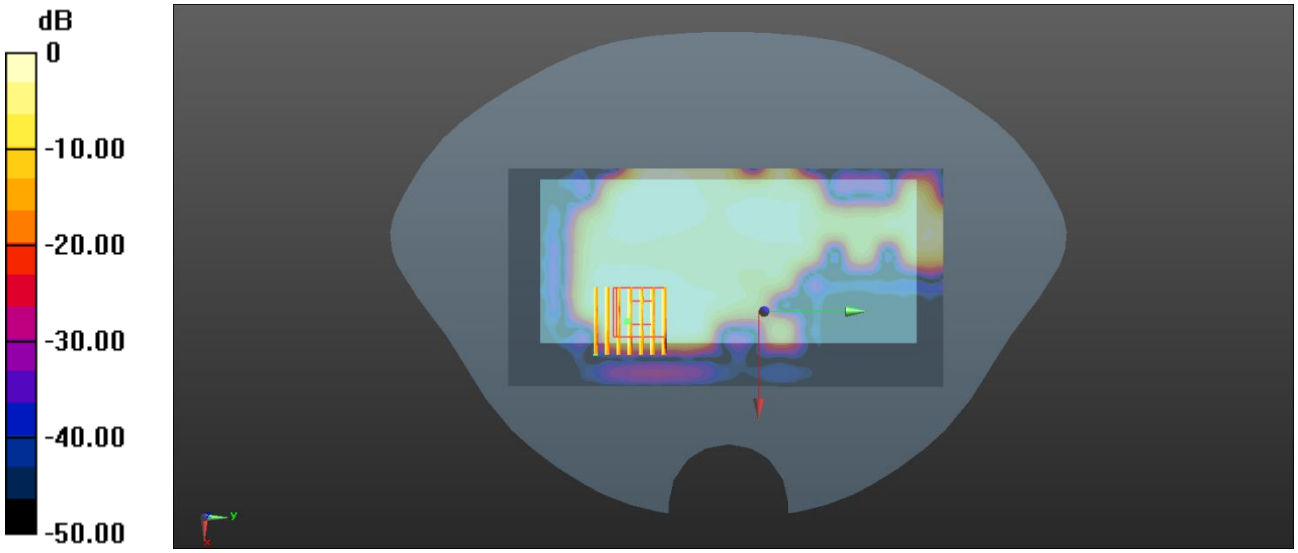
Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.807 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.0360 W/kg

SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0220 W/kg



0 dB = 0.0220 W/kg

Meas.31 Body Plane with Back Side 10mm on Middle Channel in IEEE802.11b mode

Date: 2021.11.29

Communication System Band: WLAN(b); Frequency: 2437 MHz;Duty Cycle: 1:1.02

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.783 S/m; ε_r = 39.791; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.102 W/kg

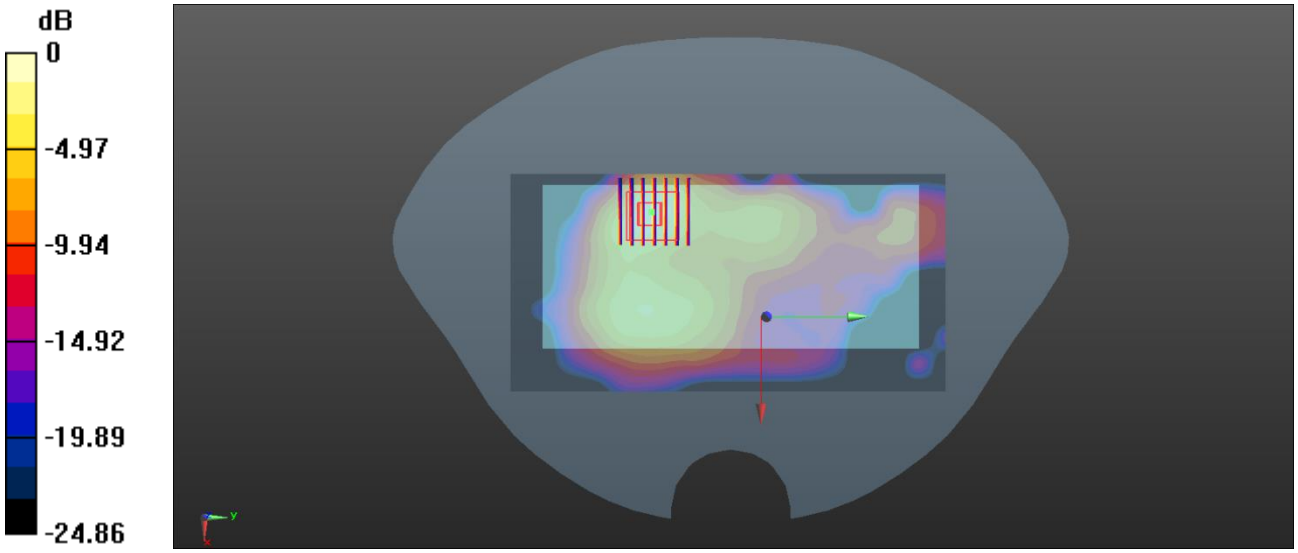
Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.993 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.194 W/kg

SAR(1 g) = 0.088 W/kg; SAR(10 g) = 0.038 W/kg

Maximum value of SAR (measured) = 0.101 W/kg



0 dB = 0.101 W/kg

Meas.32 Body Plane with Back Side 0mm on Middle Channel in IEEE802.11b mode

Date: 2021.11.29

Communication System Band: WLAN(b); Frequency: 2437 MHz;Duty Cycle: 1:1.02

Medium parameters used (interpolated): f = 2437 MHz; σ = 1.783 S/m; ε_r = 39.791; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch6/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.632 W/kg

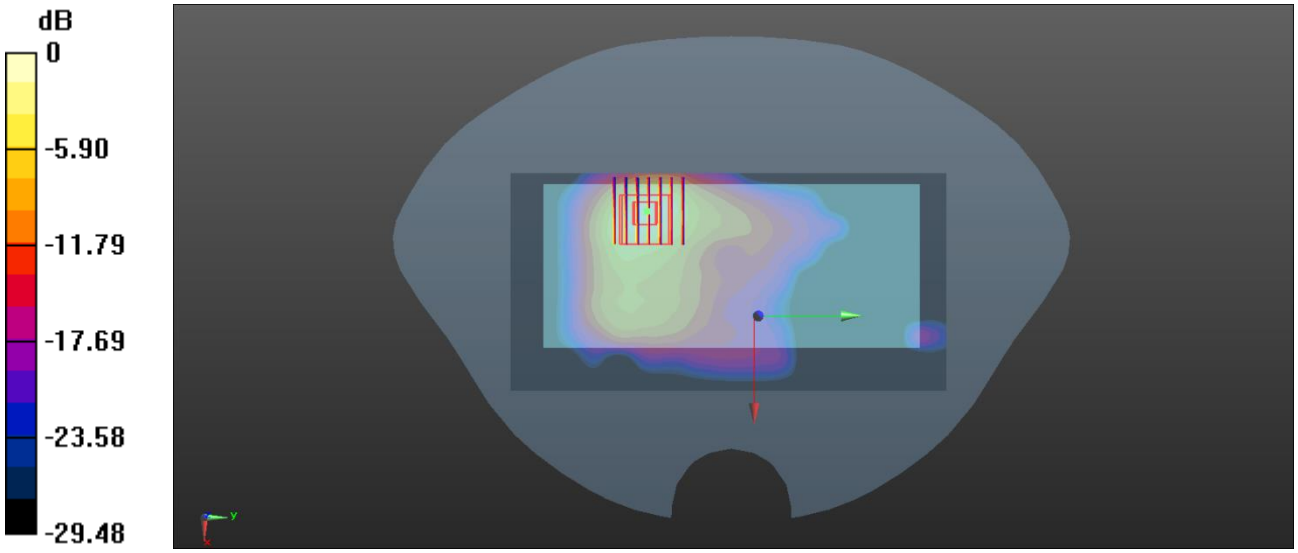
Ch6/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.992 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.49 W/kg

SAR(1 g) = 0.532 W/kg; SAR(10 g) = 0.211 W/kg

Maximum value of SAR (measured) = 0.627 W/kg



0 dB = 0.627 W/kg

Meas.33 Left Head with Cheek on Middle Channel in Bluetooth mode

Date: 2021.11.29

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.317

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.791 S/m; ε_r = 39.724; ρ = 1000 kg/m^3

Phantom section: Left Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0309 W/kg

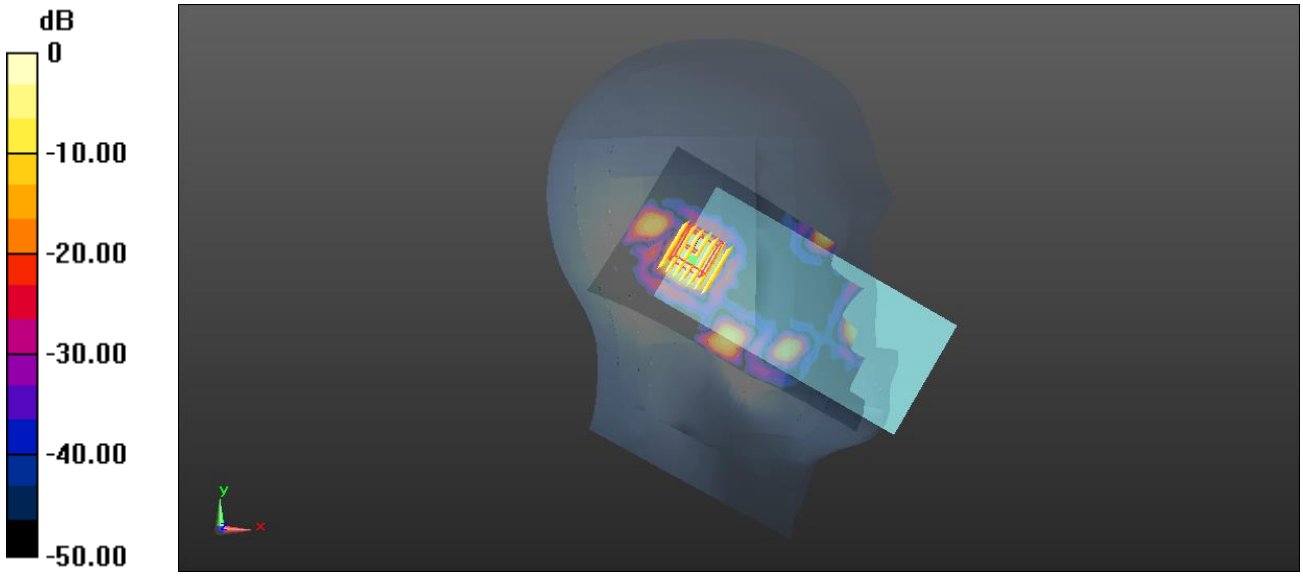
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.474 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.0370 W/kg

SAR(1 g) = 0.020 W/kg; SAR(10 g) = 0.011 W/kg

Maximum value of SAR (measured) = 0.0233 W/kg



0 dB = 0.0233 W/kg

Meas.34 Body Plane with Back Side 15mm on Middle Channel in Bluetooth mode

Date: 2021.11.29

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.317

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.791 S/m; ε_r = 39.724; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0305 W/kg

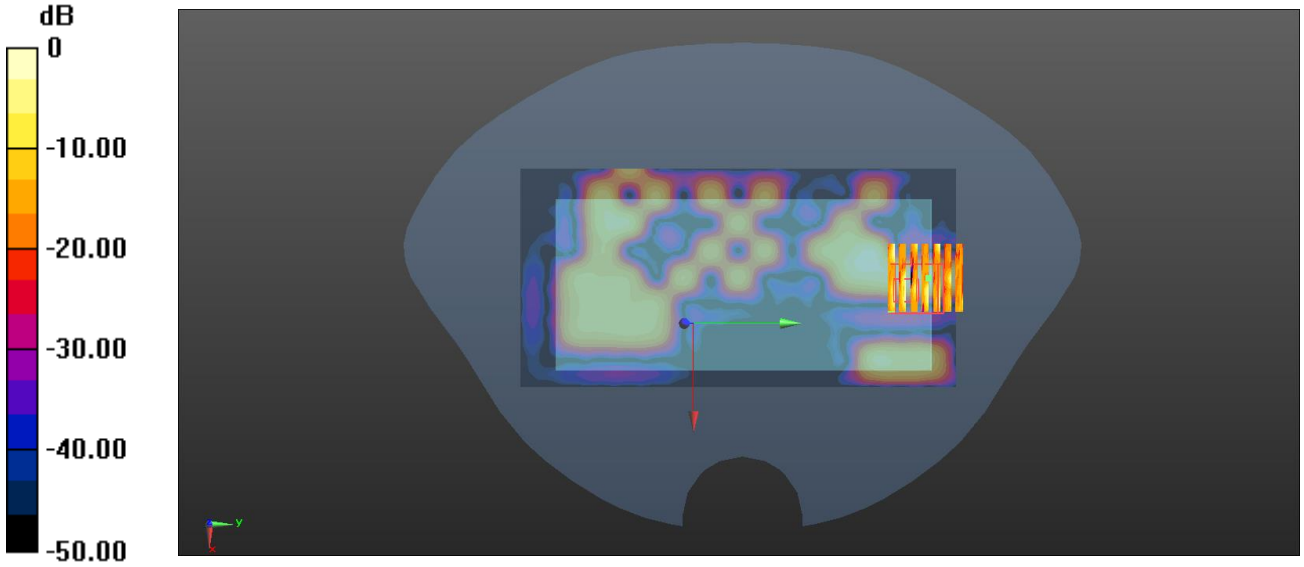
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.4810 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.0690 W/kg

SAR(1 g) = 0.019 W/kg; SAR(10 g) = 0.00532 W/kg

Maximum value of SAR (measured) = 0.0355 W/kg



0 dB = 0.0355 W/kg

Meas.35 Body Plane with Back Side 10mm on Middle Channel in Bluetooth mode

Date: 2021.11.29

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.317

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.791 S/m; ε_r = 39.724; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x171x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0969 W/kg

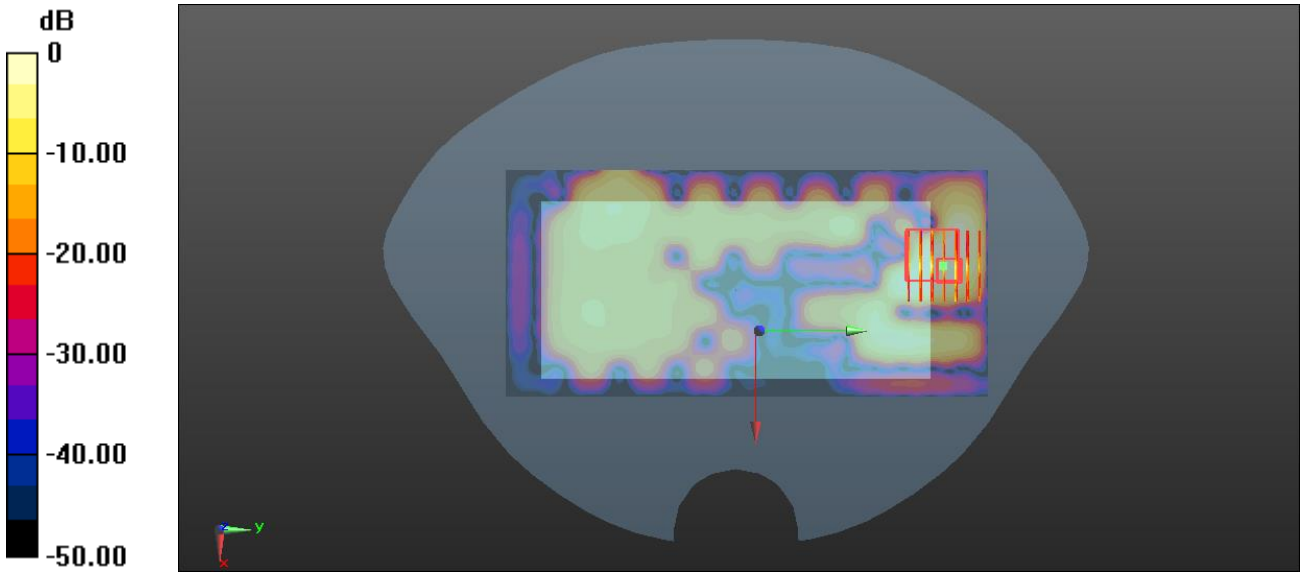
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.3540 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.153 W/kg

SAR(1 g) = 0.029 W/kg; SAR(10 g) = 0.00725 W/kg

Maximum value of SAR (measured) = 0.0991 W/kg



0 dB = 0.0991 W/kg

Meas.36 Body Plane with Back Side 0mm on Middle Channel in Bluetooth mode

Date: 2021.11.29

Communication System Band: BT; Frequency: 2441 MHz;Duty Cycle: 1:1.317

Medium parameters used (interpolated): f = 2441 MHz; σ = 1.791 S/m; ε_r = 39.724; ρ = 1000 kg/m^3

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7607; ConvF(7.68, 7.68, 7.68); Calibrated: 2021.08.12;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1226; Calibrated: 2021.05.17
- Phantom: SAM (20deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CC; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Ch39/Area Scan (81x161x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.415 W/kg

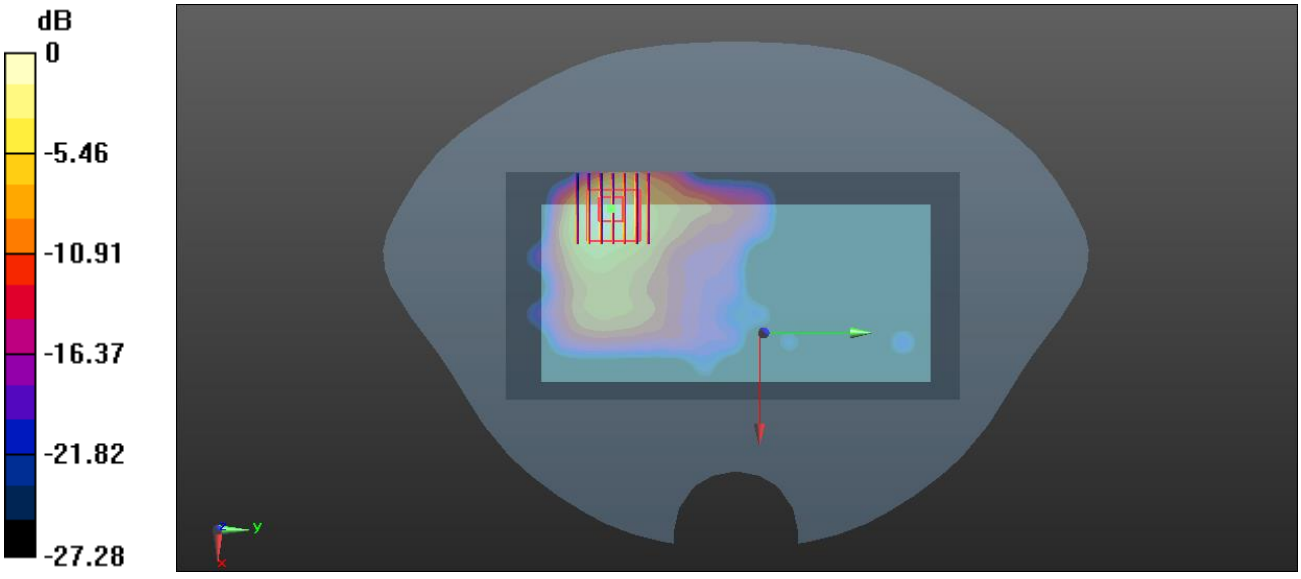
Ch39/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.501 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.956 W/kg

SAR(1 g) = 0.330 W/kg; SAR(10 g) = 0.123 W/kg

Maximum value of SAR (measured) = 0.387 W/kg



0 dB = 0.387 W/kg

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ21B0001-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ21B0001-AS-2.pdf”.

ANNEX F CALIBRATION REPORT

ANNEX G Please refer the document “CALIBRATION REPORT.pdf”.

--END OF REPORT--

8 CONDUCTED RF OUPUT POWER

8.1	GSM Output Power
8.2	WCDMA Output Power
8.3	LTE Output Power
8.3.1	LTE Band5 Output Power
8.3.2	LTE Band7 Output Power
8.3.3	LTE Band41 Output Power

8.1 GSM Output Power

GSM-Full Power&Receiver on								
GSM850 Band	Burst Average Power(dBm)			Tune-up	Frame-Averaged power			Tune-up
Channel	128	190	251	Power(dBm)	128	190	251	Power(dBm)
GSM (GMSK, 1-Slot)	33.11	33.02	33.04	34.00	23.92	23.83	23.85	24.81
GPRS (GMSK, 1-Slot)	33.06	33.04	33.00	34.00	23.87	23.85	23.81	24.81
GPRS (GMSK, 2-Slots)	30.36	30.45	30.42	31.50	24.23	24.32	24.29	**25.37**
GPRS (GMSK, 3-Slots)	28.17	28.33	28.29	29.50	23.75	23.91	23.87	25.08
GPRS (GMSK, 4-Slots)	27.16	27.33	27.25	28.50	23.98	24.15	24.07	25.32
EGPRS (8PSK, 1-Slot)	26.69	26.79	26.68	28.00	17.50	17.60	17.49	18.81
EGPRS (8PSK, 2-Slots)	23.60	23.69	23.64	24.50	17.47	17.56	17.51	18.37
EGPRS (8PSK, 3-Slots)	21.30	21.33	21.24	22.00	16.88	16.91	16.82	17.58
EGPRS (8PSK, 4-Slots)	20.58	20.52	20.54	21.50	17.40	17.34	17.36	18.32
GSM1900 Band	Burst Average Power(dBm)			Tune-up	Frame-Averaged			Tune-up
Channel	512	661	810	Power(dBm)	512	661	810	Power(dBm)
GSM (GMSK, 1-Slot)	30.24	30.21	30.25	31.30	21.05	21.02	21.06	22.11
GPRS (GMSK, 1-Slot)	30.20	30.26	30.21	30.30	21.01	21.07	21.02	21.11
GPRS (GMSK, 2-Slots)	27.94	27.81	27.63	29.00	21.81	21.68	21.50	**22.87**
GPRS (GMSK, 3-Slots)	25.92	25.71	25.54	27.00	21.50	21.29	21.12	22.58
GPRS (GMSK, 4-Slots)	24.80	24.59	24.45	25.50	21.62	21.41	21.27	22.32
EGPRS (8PSK, 1-Slot)	25.91	25.86	25.93	27.00	16.72	16.67	16.74	17.81
EGPRS (8PSK, 2-Slots)	23.29	23.08	22.94	24.00	17.16	16.95	16.81	17.87
EGPRS (8PSK, 3-Slots)	21.21	21.09	21.18	22.00	16.79	16.67	16.76	17.58
EGPRS (8PSK, 4-Slots)	20.19	19.99	19.80	21.00	17.01	16.81	16.62	17.82

GSM-Receiver off								
GSM850 Band	Burst Average Power(dBm)			Tune-up	Frame-Averaged power			Tune-up
Channel	128	190	251	Power(dBm)	128	190	251	Power(dBm)
GSM (GMSK, 1-Slot)	33.11	33.02	33.04	34.00	23.92	23.83	23.85	24.81
GPRS (GMSK, 1-Slot)	33.06	33.04	33.00	34.00	23.87	23.85	23.81	24.81
GPRS (GMSK, 2-Slots)	30.36	30.45	30.42	31.50	24.23	24.32	24.29	**25.37**
GPRS (GMSK, 3-Slots)	28.17	28.33	28.29	29.50	23.75	23.91	23.87	25.08
GPRS (GMSK, 4-Slots)	27.16	27.33	27.25	28.50	23.98	24.15	24.07	25.32
EGPRS (8PSK, 1-Slot)	26.69	26.79	26.68	28.00	17.50	17.60	17.49	18.81
EGPRS (8PSK, 2-Slots)	23.60	23.69	23.64	24.50	17.47	17.56	17.51	18.37
EGPRS (8PSK, 3-Slots)	21.30	21.33	21.24	22.00	16.88	16.91	16.82	17.58
EGPRS (8PSK, 4-Slots)	20.58	20.52	20.54	21.50	17.40	17.34	17.36	18.32
GSM1900 Band	Burst Average Power(dBm)			Tune-up	Frame-Averaged			Tune-up
Channel	512	661	810	Power(dBm)	512	661	810	Power(dBm)
GSM (GMSK, 1-Slot)	30.24	30.21	30.25	31.30	21.05	21.02	21.06	22.11
GPRS (GMSK, 1-Slot)	30.20	30.26	30.21	30.30	21.01	21.07	21.02	21.11
GPRS (GMSK, 2-Slots)	27.94	27.81	27.63	29.00	21.81	21.68	21.50	**22.87**
GPRS (GMSK, 3-Slots)	25.92	25.71	25.54	27.00	21.50	21.29	21.12	22.58
GPRS (GMSK, 4-Slots)	24.80	24.59	24.45	25.50	21.62	21.41	21.27	22.32
EGPRS (8PSK, 1-Slot)	25.91	25.86	25.93	27.00	16.72	16.67	16.74	17.81
EGPRS (8PSK, 2-Slots)	23.29	23.08	22.94	24.00	17.16	16.95	16.81	17.87
EGPRS (8PSK, 3-Slots)	21.21	21.09	21.18	22.00	16.79	16.67	16.76	17.58
EGPRS (8PSK, 4-Slots)	20.19	19.99	19.80	21.00	17.01	16.81	16.62	17.82

8.2 WCDMA Output Power

WCDMA-Full Power&Receiver on				
Band	Band 2			Tune-up Limit Power(dBm)
Channel	9262	9400	9538	
Frequency	1852.40	1880.00	1907.60	
RMC 12.2Kbps	23.38	23.34	23.39	24.50
AMR	23.33	23.29	23.38	24.50
HSDPA Subtest-1	22.33	22.35	22.41	23.50
HSDPA Subtest-2	22.35	22.39	22.39	23.50
HSDPA Subtest-3	21.81	21.84	21.70	22.50
HSDPA Subtest-4	21.81	21.83	21.69	22.50
HSUPA Subtest-1	20.38	20.50	20.45	21.50
HSUPA Subtest-2	20.42	20.37	20.53	21.50
HSUPA Subtest-3	21.38	21.52	21.29	22.50
HSUPA Subtest-4	19.94	20.03	20.01	21.00
HSUPA Subtest-5	21.32	21.42	21.36	22.50
DC-HSDPA Subtest-1	22.32	22.20	22.36	23.50
DC-HSDPA Subtest-2	22.24	22.20	22.23	23.50
DC-HSDPA Subtest-3	21.68	21.73	21.65	22.50
DC-HSDPA Subtest-4	21.63	21.57	21.68	22.50
HSPA+(16QAM)	20.77	20.85	20.79	22.00
Band	Band 5			Tune-up Limit Power(dBm)
Channel	4132	4182	4233	
Frequency	826.40	836.40	846.60	
RMC 12.2Kbps	23.83	**23.86**	23.83	24.00
AMR	23.75	23.67	23.77	24.00
HSDPA Subtest-1	22.75	22.89	23.00	23.00
HSDPA Subtest-2	22.80	22.87	22.74	23.00
HSDPA Subtest-3	22.48	22.39	22.52	23.00
HSDPA Subtest-4	22.17	22.31	22.46	23.00
HSUPA Subtest-1	20.47	20.61	20.48	21.00
HSUPA Subtest-2	20.75	20.87	20.83	21.00
HSUPA Subtest-3	21.78	21.88	21.80	22.00
HSUPA Subtest-4	20.31	20.39	20.50	20.50
HSUPA Subtest-5	21.90	21.83	21.90	22.00
DC-HSDPA Subtest-1	22.81	22.91	22.97	23.00
DC-HSDPA Subtest-2	22.83	22.89	22.87	23.00
DC-HSDPA Subtest-3	22.37	22.43	22.51	23.00
DC-HSDPA Subtest-4	22.31	22.47	22.41	23.00
HSPA+(16QAM)	21.72	21.78	21.69	22.50

WCDMA-Receiver off				
Band	Band 2			Tune-up Limit Power(dBm)
Channel	9612	9400	9538	
Frequency	1922.40	1880.00	1907.60	
RMC 12.2Kbps	20.53	**20.62**	20.45	21.50
AMR	20.48	20.56	20.53	21.50
HSDPA Subtest-1	19.49	19.52	19.48	20.50
HSDPA Subtest-2	19.36	19.46	19.47	20.50
HSDPA Subtest-3	19.01	18.93	19.05	20.00
HSDPA Subtest-4	19.00	18.89	18.93	20.00
HSUPA Subtest-1	17.29	17.30	17.39	18.50
HSUPA Subtest-2	17.57	17.67	17.64	18.50
HSUPA Subtest-3	18.55	18.68	18.42	19.50
HSUPA Subtest-4	17.08	17.20	17.16	18.00
HSUPA Subtest-5	18.46	18.61	18.36	19.50
DC-HSDPA Subtest-1	19.43	19.43	19.41	20.50
DC-HSDPA Subtest-2	19.42	19.38	19.43	20.50
DC-HSDPA Subtest-3	19.04	19.02	19.01	20.00
DC-HSDPA Subtest-4	19.01	18.98	18.99	20.00
HSPA+(16QAM)	17.79	17.81	17.73	19.00
Band	Band 5			Tune-up Limit Power(dBm)
Channel	4132	4182	4233	
Frequency	826.40	836.40	846.60	
RMC 12.2Kbps	23.83	**23.86**	23.83	24.00
AMR	23.75	23.67	23.77	24.00
HSDPA Subtest-1	22.75	22.89	23.00	23.00
HSDPA Subtest-2	22.80	22.87	22.74	23.00
HSDPA Subtest-3	22.48	22.39	22.52	23.00
HSDPA Subtest-4	22.17	22.31	22.46	23.00
HSUPA Subtest-1	20.47	20.61	20.48	21.00
HSUPA Subtest-2	20.75	20.87	20.83	21.00
HSUPA Subtest-3	21.78	21.88	21.80	22.00
HSUPA Subtest-4	20.31	20.39	20.50	20.50
HSUPA Subtest-5	21.90	21.83	21.90	22.00
DC-HSDPA Subtest-1	22.81	22.91	22.97	23.00
DC-HSDPA Subtest-2	22.83	22.89	22.87	23.00
DC-HSDPA Subtest-3	22.37	22.43	22.51	23.00
DC-HSDPA Subtest-4	22.31	22.47	22.41	23.00
HSPA+(16QAM)	21.72	21.78	21.69	22.50

8.3.1 LTE Band5 Output Power

LTE B5-Full Power&Receiver on							
Bandwidth (	RB Size	RB offest	Modulation	20407	20525	20643	Tune-up power(dBm)
1.4	1	LOW	QPSK	23.57	23.61	23.42	24.50
		MID	QPSK	23.68	23.74	23.26	24.50
		HIGH	QPSK	23.37	23.33	23.12	24.50
	3	LOW	QPSK	23.33	23.65	23.31	24.50
		MID	QPSK	23.41	23.74	23.32	24.50
		HIGH	QPSK	23.53	23.36	23.40	24.50
	6	LOW	QPSK	22.43	22.45	22.08	23.50
1.4	1	LOW	Q16	22.46	22.83	22.06	23.50
		MID	Q16	22.45	23.01	21.97	23.50
		HIGH	Q16	22.39	22.57	22.02	23.50
	3	LOW	Q16	22.31	22.44	22.28	23.50
		MID	Q16	22.51	22.42	22.11	23.50
		HIGH	Q16	22.43	22.14	22.07	23.50
	6	LOW	Q16	21.58	21.56	21.05	22.50
Bandwidth (	RB Size	RB offest	Modulation	20415	20525	20635	Tune-up power(dBm)
3	1	LOW	QPSK	23.51	23.37	23.61	24.50
		MID	QPSK	23.53	23.78	23.51	24.50
		HIGH	QPSK	23.44	23.34	23.03	24.50
	8	LOW	QPSK	22.56	22.49	22.21	23.50
		MID	QPSK	22.52	22.63	22.19	23.50
		HIGH	QPSK	22.43	22.50	22.22	23.50
	15	LOW	QPSK	22.45	22.42	22.14	23.50
3	1	LOW	Q16	22.51	22.81	21.98	23.50
		MID	Q16	22.45	23.00	22.23	23.50
		HIGH	Q16	22.58	22.30	22.10	23.50
	8	LOW	Q16	21.40	21.52	21.13	22.50
		MID	Q16	21.68	21.43	21.16	22.50
		HIGH	Q16	21.66	21.17	21.07	22.50
	15	LOW	Q16	21.36	21.36	21.27	22.50
Bandwidth (	RB Size	RB offest	Modulation	20425	20525	20625	Tune-up power(dBm)
5	1	LOW	QPSK	23.32	23.41	23.60	24.50
		MID	QPSK	23.49	23.70	23.36	24.50
		HIGH	QPSK	23.46	23.38	22.95	24.50
	12	LOW	QPSK	22.54	22.60	22.21	23.50
		MID	QPSK	22.36	22.46	22.06	23.50
		HIGH	QPSK	22.59	22.57	22.02	23.50
	25	LOW	QPSK	22.46	22.45	22.11	23.50
5	1	LOW	Q16	22.50	22.76	21.98	23.50
		MID	Q16	22.52	22.92	22.02	23.50
		HIGH	Q16	22.55	22.42	21.94	23.50
	12	LOW	Q16	21.53	21.37	21.16	22.50
		MID	Q16	21.52	21.46	21.29	22.50
		HIGH	Q16	21.46	21.27	21.16	22.50
	25	LOW	Q16	21.56	21.56	21.31	22.50
Bandwidth (	RB Size	RB offest	Modulation	20450	20525	20600	Tune-up power(dBm)
10	1	LOW	QPSK	23.43	23.47	23.46	24.50
		MID	QPSK	23.62	**23.64**	23.41	24.50
		HIGH	QPSK	23.48	23.44	23.00	24.50
	25	LOW	QPSK	22.46	22.60	22.09	23.50
		MID	QPSK	22.51	22.54	22.04	23.50
		HIGH	QPSK	22.56	22.42	22.10	23.50
	50	LOW	QPSK	22.49	22.50	22.09	23.50
10	1	LOW	Q16	22.46	22.83	21.99	23.50
		MID	Q16	22.53	**22.95**	22.08	23.50
		HIGH	Q16	22.44	22.43	21.97	23.50
	25	LOW	Q16	21.49	21.49	21.23	22.50
		MID	Q16	21.56	21.55	21.15	22.50
		HIGH	Q16	21.58	21.31	21.20	22.50
	50	LOW	Q16	21.47	21.44	21.18	22.50

LTE B5-Receiver off							
Bandwidth (	RB Size	RB offest	Modulation	20407	20525	20643	Tune-up power(dBm)
1.4	1	LOW	QPSK	23.57	23.61	23.42	24.50
		MID	QPSK	23.68	23.74	23.26	24.50
		HIGH	QPSK	23.37	23.33	23.12	24.50
	3	LOW	QPSK	23.33	23.65	23.31	24.50
		MID	QPSK	23.41	23.74	23.32	24.50
		HIGH	QPSK	23.53	23.36	23.40	24.50
	6	LOW	QPSK	22.43	22.45	22.08	23.50
1.4	1	LOW	Q16	22.46	22.83	22.06	23.50
		MID	Q16	22.45	23.01	21.97	23.50
		HIGH	Q16	22.39	22.57	22.02	23.50
	3	LOW	Q16	22.31	22.44	22.28	23.50
		MID	Q16	22.51	22.42	22.11	23.50
		HIGH	Q16	22.43	22.14	22.07	23.50
	6	LOW	Q16	21.58	21.56	21.05	22.50
Bandwidth (	RB Size	RB offest	Modulation	20415	20525	20635	Tune-up power(dBm)
3	1	LOW	QPSK	23.51	23.37	23.61	24.50
		MID	QPSK	23.53	23.78	23.51	24.50
		HIGH	QPSK	23.44	23.34	23.03	24.50
	8	LOW	QPSK	22.56	22.49	22.21	23.50
		MID	QPSK	22.52	22.63	22.19	23.50
		HIGH	QPSK	22.43	22.50	22.22	23.50
	15	LOW	QPSK	22.45	22.42	22.14	23.50
3	1	LOW	Q16	22.51	22.81	21.98	23.50
		MID	Q16	22.45	23.00	22.23	23.50
		HIGH	Q16	22.58	22.30	22.10	23.50
	8	LOW	Q16	21.40	21.52	21.13	22.50
		MID	Q16	21.68	21.43	21.16	22.50
		HIGH	Q16	21.66	21.17	21.07	22.50
	15	LOW	Q16	21.36	21.36	21.27	22.50
Bandwidth (	RB Size	RB offest	Modulation	20425	20525	20625	Tune-up power(dBm)
5	1	LOW	QPSK	23.32	23.41	23.60	24.50
		MID	QPSK	23.49	23.70	23.36	24.50
		HIGH	QPSK	23.46	23.38	22.95	24.50
	12	LOW	QPSK	22.54	22.60	22.21	23.50
		MID	QPSK	22.36	22.46	22.06	23.50
		HIGH	QPSK	22.59	22.57	22.02	23.50
	25	LOW	QPSK	22.46	22.45	22.11	23.50
5	1	LOW	Q16	22.50	22.76	21.98	23.50
		MID	Q16	22.52	22.92	22.02	23.50
		HIGH	Q16	22.55	22.42	21.94	23.50
	12	LOW	Q16	21.53	21.37	21.16	22.50
		MID	Q16	21.52	21.46	21.29	22.50
		HIGH	Q16	21.46	21.27	21.16	22.50
	25	LOW	Q16	21.56	21.56	21.31	22.50
Bandwidth (	RB Size	RB offest	Modulation	20450	20525	20600	Tune-up power(dBm)
10	1	LOW	QPSK	23.43	23.47	23.46	24.50
		MID	QPSK	23.62	**23.64**	23.41	24.50
		HIGH	QPSK	23.48	23.44	23.00	24.50
	25	LOW	QPSK	22.46	22.60	22.09	23.50
		MID	QPSK	22.51	22.54	22.04	23.50
		HIGH	QPSK	22.56	22.42	22.10	23.50
	50	LOW	QPSK	22.49	22.50	22.09	23.50
10	1	LOW	Q16	22.46	22.83	21.99	23.50
		MID	Q16	22.53	**22.95**	22.08	23.50
		HIGH	Q16	22.44	22.43	21.97	23.50
	25	LOW	Q16	21.49	21.49	21.23	22.50
		MID	Q16	21.56	21.55	21.15	22.50
		HIGH	Q16	21.58	21.31	21.20	22.50
	50	LOW	Q16	21.47	21.44	21.18	22.50

8.3.2 LTE Band7 Output Power

LTE B7-Full Power&Receiver on							
Bandwidth (	RB Size	RB offest	Modulation	20775	21100	21425	Tune-up power(dBm)
5	1	LOW	QPSK	21.64	21.76	21.88	23.00
		MID	QPSK	22.12	22.21	22.21	23.00
		HIGH	QPSK	21.65	21.99	21.65	23.00
	12	LOW	QPSK	21.00	21.21	21.22	22.00
		MID	QPSK	21.16	21.23	21.25	22.00
		HIGH	QPSK	21.00	21.17	21.28	22.00
	25	LOW	QPSK	20.99	21.02	21.29	22.00
5	1	LOW	Q16	21.39	21.45	21.30	22.00
		MID	Q16	21.73	21.92	21.76	22.00
		HIGH	Q16	21.54	21.51	21.28	22.00
	12	LOW	Q16	19.88	19.98	20.33	21.00
		MID	Q16	20.15	20.36	20.11	21.00
		HIGH	Q16	19.93	20.21	20.31	21.00
	25	LOW	Q16	20.15	20.26	20.36	21.00
Bandwidth (	RB Size	RB offest	Modulation	20800	21100	21400	Tune-up power(dBm)
10	1	LOW	QPSK	21.78	21.90	21.83	23.00
		MID	QPSK	22.00	22.16	22.12	23.00
		HIGH	QPSK	21.66	22.00	21.59	23.00
	25	LOW	QPSK	21.11	21.26	21.34	22.00
		MID	QPSK	21.17	21.26	21.35	22.00
		HIGH	QPSK	20.98	21.25	21.38	22.00
	50	LOW	QPSK	20.93	20.94	21.30	22.00
10	1	LOW	Q16	21.31	21.34	21.40	22.00
		MID	Q16	21.70	22.03	21.67	22.00
		HIGH	Q16	21.67	21.46	21.32	22.00
	25	LOW	Q16	20.02	19.99	20.21	21.00
		MID	Q16	20.00	20.24	20.04	21.00
		HIGH	Q16	19.79	20.31	20.46	21.00
	50	LOW	Q16	20.16	20.14	20.28	21.00
Bandwidth (	RB Size	RB offest	Modulation	20825	21100	21375	Tune-up power(dBm)
15	1	LOW	QPSK	21.64	21.75	21.89	23.00
		MID	QPSK	22.16	22.22	22.11	23.00
		HIGH	QPSK	21.54	22.05	21.57	23.00
	36	LOW	QPSK	21.08	21.15	21.21	22.00
		MID	QPSK	21.07	21.32	21.35	22.00
		HIGH	QPSK	21.05	21.12	21.30	22.00
	75	LOW	QPSK	21.10	20.99	21.31	22.00
15	1	LOW	Q16	21.40	21.58	21.45	22.00
		MID	Q16	21.67	21.90	21.82	22.00
		HIGH	Q16	21.62	21.51	21.19	22.00
	36	LOW	Q16	20.00	19.91	20.31	21.00
		MID	Q16	20.18	20.32	20.14	21.00
		HIGH	Q16	20.04	20.07	20.28	21.00
	75	LOW	Q16	20.05	20.16	20.44	21.00
Bandwidth (	RB Size	RB offest	Modulation	20850	21100	21350	Tune-up power(dBm)
20	1	LOW	QPSK	21.76	21.86	21.78	23.00
		MID	QPSK	22.19	**22.26**	22.15	23.00
		HIGH	QPSK	21.77	21.88	21.78	23.00
	50	LOW	QPSK	20.97	21.06	21.24	22.00
		MID	QPSK	21.12	21.13	21.21	22.00
		HIGH	QPSK	20.99	21.18	21.23	22.00
	100	LOW	QPSK	20.97	21.15	21.23	22.00
20	1	LOW	Q16	21.36	21.46	21.36	22.00
		MID	Q16	21.76	21.83	21.75	22.00
		HIGH	Q16	21.42	21.42	21.35	22.00
	50	LOW	Q16	20.02	20.12	20.26	21.00
		MID	Q16	20.17	20.21	20.22	21.00
		HIGH	Q16	20.02	20.25	20.21	21.00
	100	LOW	Q16	20.00	20.18	20.24	21.00

LTE B7-Receiver off							
Bandwidth (	RB Size	RB offest	Modulation	20775	21100	21425	Tune-up power(dBm)
5	1	LOW	QPSK	18.30	18.46	18.47	20.00
		MID	QPSK	19.08	18.91	18.74	20.00
		HIGH	QPSK	18.14	18.15	18.43	20.00
	12	LOW	QPSK	17.35	17.68	17.96	19.00
		MID	QPSK	17.61	17.58	17.73	19.00
		HIGH	QPSK	17.25	17.59	17.71	19.00
	25	LOW	QPSK	17.51	17.59	17.73	19.00
5	1	LOW	Q16	17.60	17.76	17.28	19.00
		MID	Q16	18.03	18.14	17.86	19.00
		HIGH	Q16	17.43	17.54	17.73	19.00
	12	LOW	Q16	16.13	16.20	16.19	18.00
		MID	Q16	16.31	16.29	16.40	18.00
		HIGH	Q16	16.22	16.24	16.44	18.00
	25	LOW	Q16	16.15	16.32	16.44	18.00
Bandwidth (	RB Size	RB offest	Modulation	20800	21100	21400	Tune-up power(dBm)
10	1	LOW	QPSK	18.05	18.58	18.26	20.00
		MID	QPSK	18.99	18.79	18.64	20.00
		HIGH	QPSK	18.09	18.38	18.39	20.00
	25	LOW	QPSK	17.44	17.53	17.97	19.00
		MID	QPSK	17.73	17.40	17.56	19.00
		HIGH	QPSK	17.24	17.51	17.61	19.00
	50	LOW	QPSK	17.62	17.67	17.72	19.00
10	1	LOW	Q16	17.36	17.87	17.43	19.00
		MID	Q16	18.21	18.06	17.69	19.00
		HIGH	Q16	17.38	17.49	17.66	19.00
	25	LOW	Q16	16.29	16.32	16.42	18.00
		MID	Q16	16.16	16.42	16.41	18.00
		HIGH	Q16	16.46	16.14	16.61	18.00
	50	LOW	Q16	16.30	16.55	16.40	18.00
Bandwidth (	RB Size	RB offest	Modulation	20825	21100	21375	Tune-up power(dBm)
15	1	LOW	QPSK	18.13	18.49	18.19	20.00
		MID	QPSK	18.88	18.87	18.54	20.00
		HIGH	QPSK	18.10	18.16	18.55	20.00
	36	LOW	QPSK	17.50	17.42	17.72	19.00
		MID	QPSK	17.54	17.53	17.73	19.00
		HIGH	QPSK	17.34	17.57	17.68	19.00
	75	LOW	QPSK	17.39	17.67	17.69	19.00
15	1	LOW	Q16	17.60	17.59	17.39	19.00
		MID	Q16	18.13	18.11	17.76	19.00
		HIGH	Q16	17.32	17.65	17.59	19.00
	36	LOW	Q16	16.08	16.15	16.42	18.00
		MID	Q16	16.28	16.16	16.19	18.00
		HIGH	Q16	16.27	16.35	16.48	18.00
	75	LOW	Q16	16.27	16.43	16.41	18.00
Bandwidth (	RB Size	RB offest	Modulation	20850	21100	21350	Tune-up power(dBm)
20	1	LOW	QPSK	18.15	18.45	18.34	20.00
		MID	QPSK	18.93	18.95	18.60	20.00
		HIGH	QPSK	18.16	18.29	18.44	20.00
	50	LOW	QPSK	17.46	17.55	17.83	19.00
		MID	QPSK	17.58	17.54	17.70	19.00
		HIGH	QPSK	17.24	17.64	17.76	19.00
	100	LOW	QPSK	17.50	17.61	17.80	19.00
20	1	LOW	Q16	17.46	17.73	17.39	19.00
		MID	Q16	18.08	18.03	17.83	19.00
		HIGH	Q16	17.40	17.64	17.60	19.00
	50	LOW	Q16	16.14	16.27	16.30	18.00
		MID	Q16	16.22	16.27	16.26	18.00
		HIGH	Q16	16.33	16.25	16.48	18.00
	100	LOW	Q16	16.23	16.42	16.45	18.00

8.3.3 LTE Band41 Output Power

LTE B41-Full Power&Receiver on									
Bandwidth (	RB Size	RB offest	Modulation	39675	40110	40620	41130	41565	Tune-up power(dBm)
5	1	LOW	QPSK	21.40	21.42	21.33	21.34	21.89	23.00
		MID	QPSK	21.70	21.32	21.47	21.71	21.92	23.00
		HIGH	QPSK	21.23	21.13	21.64	21.75	22.00	23.00
	12	LOW	QPSK	20.07	20.17	20.29	20.66	21.05	22.00
		MID	QPSK	20.28	20.19	20.08	20.96	21.11	22.00
		HIGH	QPSK	20.46	20.35	20.51	20.69	21.08	22.00
	25	LOW	QPSK	20.44	20.05	20.33	20.62	21.26	22.00
5	1	LOW	Q16	20.15	20.02	20.12	20.97	21.33	22.00
		MID	Q16	20.94	20.58	20.68	21.58	21.82	22.00
		HIGH	Q16	20.79	20.14	20.98	20.97	21.43	22.00
	12	LOW	Q16	19.18	19.46	19.06	19.63	19.93	21.00
		MID	Q16	19.36	19.03	19.30	19.88	20.11	21.00
		HIGH	Q16	19.31	19.01	19.45	19.93	20.24	21.00
	25	LOW	Q16	19.27	19.03	19.19	19.59	20.09	21.00
Bandwidth (	RB Size	RB offest	Modulation	39700	40135	40620	41105	41540	Tune-up power(dBm)
10	1	LOW	QPSK	21.35	21.51	21.37	21.45	22.09	23.00
		MID	QPSK	21.76	21.45	21.53	21.81	22.12	23.00
		HIGH	QPSK	21.16	21.05	21.49	21.51	22.15	23.00
	25	LOW	QPSK	20.25	20.31	20.06	20.75	20.95	22.00
		MID	QPSK	20.23	20.21	20.32	20.69	21.17	22.00
		HIGH	QPSK	20.46	20.08	20.31	20.71	21.08	22.00
	50	LOW	QPSK	20.42	20.10	20.33	20.62	21.28	22.00
10	1	LOW	Q16	20.03	20.07	20.02	21.02	21.32	22.00
		MID	Q16	20.87	20.77	20.66	21.51	21.76	22.00
		HIGH	Q16	20.67	20.24	20.79	21.20	21.32	22.00
	25	LOW	Q16	19.18	19.36	19.11	19.75	20.13	21.00
		MID	Q16	19.18	19.00	19.14	19.87	20.37	21.00
		HIGH	Q16	19.45	19.41	19.50	19.89	20.34	21.00
	50	LOW	Q16	19.22	19.33	19.40	19.78	20.27	21.00
Bandwidth (	RB Size	RB offest	Modulation	39725	40160	40620	41080	41515	Tune-up power(dBm)
15	1	LOW	QPSK	21.29	21.48	21.35	21.43	22.07	23.00
		MID	QPSK	21.66	21.33	21.50	21.53	22.00	23.00
		HIGH	QPSK	21.30	21.31	21.52	21.67	22.14	23.00
	36	LOW	QPSK	20.23	20.41	20.00	20.56	20.96	22.00
		MID	QPSK	20.45	20.16	20.06	20.93	21.13	22.00
		HIGH	QPSK	20.29	20.19	20.51	20.84	21.11	22.00
	75	LOW	QPSK	20.42	20.17	20.43	20.58	21.15	22.00
15	1	LOW	Q16	20.19	20.18	20.06	20.88	21.14	22.00
		MID	Q16	20.91	20.49	20.61	21.32	21.93	22.00
		HIGH	Q16	20.74	20.10	20.88	21.14	21.27	22.00
	36	LOW	Q16	19.01	19.27	19.23	19.84	20.11	21.00
		MID	Q16	19.45	19.09	19.32	19.80	20.20	21.00
		HIGH	Q16	19.40	19.07	19.57	19.96	20.22	21.00
	75	LOW	Q16	19.19	19.13	19.14	19.70	20.17	21.00
Bandwidth (	RB Size	RB offest	Modulation	39750	40185	40620	41055	41490	Tune-up power(dBm)
20	1	LOW	QPSK	21.37	21.47	21.38	21.48	21.98	23.00
		MID	QPSK	21.61	21.35	21.40	21.67	22.02	23.00
		HIGH	QPSK	21.31	21.18	21.62	21.66	**22.04**	23.00
	50	LOW	QPSK	20.22	20.32	20.15	20.70	21.03	22.00
		MID	QPSK	20.33	20.10	20.20	20.82	21.18	22.00
		HIGH	QPSK	20.43	20.05	20.45	20.77	21.20	22.00
	100	LOW	QPSK	20.33	20.03	20.30	20.72	21.13	22.00
20	1	LOW	Q16	20.11	20.06	20.05	20.88	21.26	22.00
		MID	Q16	20.93	20.63	20.64	21.46	21.85	22.00
		HIGH	Q16	20.67	20.13	20.88	21.05	21.33	22.00
	50	LOW	Q16	19.15	19.33	19.12	19.75	20.06	21.00
		MID	Q16	19.32	19.06	19.20	19.83	20.26	21.00
		HIGH	Q16	19.37	19.07	19.44	19.84	20.28	21.00
	100	LOW	Q16	19.31	19.00	19.29	19.72	20.18	21.00

LTE B41-Receiver off									
Bandwidth (	RB Size	RB offest	Modulation	39675	40110	40620	41130	41565	Tune-up power(dBm)
5	1	LOW	QPSK	21.40	21.42	21.33	21.34	21.89	23.00
		MID	QPSK	21.70	21.32	21.47	21.71	21.92	23.00
		HIGH	QPSK	21.23	21.13	21.64	21.75	22.00	23.00
	12	LOW	QPSK	20.07	20.17	20.29	20.66	21.05	22.00
		MID	QPSK	20.28	20.19	20.08	20.96	21.11	22.00
		HIGH	QPSK	20.46	20.35	20.51	20.69	21.08	22.00
	25	LOW	QPSK	20.44	20.05	20.33	20.62	21.26	22.00
5	1	LOW	Q16	20.15	20.02	20.12	20.97	21.33	22.00
		MID	Q16	20.94	20.58	20.68	21.58	21.82	22.00
		HIGH	Q16	20.79	20.14	20.98	20.97	21.43	22.00
	12	LOW	Q16	19.18	19.46	19.06	19.63	19.93	21.00
		MID	Q16	19.36	19.03	19.30	19.88	20.11	21.00
		HIGH	Q16	19.31	19.01	19.45	19.93	20.24	21.00
	25	LOW	Q16	19.27	19.03	19.19	19.59	20.09	21.00
Bandwidth (	RB Size	RB offest	Modulation	39700	40135	40620	41105	41540	Tune-up power(dBm)
10	1	LOW	QPSK	21.35	21.51	21.37	21.45	22.09	23.00
		MID	QPSK	21.76	21.45	21.53	21.81	22.12	23.00
		HIGH	QPSK	21.16	21.05	21.49	21.51	22.15	23.00
	25	LOW	QPSK	20.25	20.31	20.06	20.75	20.95	22.00
		MID	QPSK	20.23	20.21	20.32	20.69	21.17	22.00
		HIGH	QPSK	20.46	20.08	20.31	20.71	21.08	22.00
	50	LOW	QPSK	20.42	20.10	20.33	20.62	21.28	22.00
10	1	LOW	Q16	20.03	20.07	20.02	21.02	21.32	22.00
		MID	Q16	20.87	20.77	20.66	21.51	21.76	22.00
		HIGH	Q16	20.67	20.24	20.79	21.20	21.32	22.00
	25	LOW	Q16	19.18	19.36	19.11	19.75	20.13	21.00
		MID	Q16	19.18	19.00	19.14	19.87	20.37	21.00
		HIGH	Q16	19.45	19.41	19.50	19.89	20.34	21.00
	50	LOW	Q16	19.22	19.33	19.40	19.78	20.27	21.00
Bandwidth (	RB Size	RB offest	Modulation	39725	40160	40620	41080	41515	Tune-up power(dBm)
15	1	LOW	QPSK	21.29	21.48	21.35	21.43	22.07	23.00
		MID	QPSK	21.66	21.33	21.50	21.53	22.00	23.00
		HIGH	QPSK	21.30	21.31	21.52	21.67	22.14	23.00
	36	LOW	QPSK	20.23	20.41	20.00	20.56	20.96	22.00
		MID	QPSK	20.45	20.16	20.06	20.93	21.13	22.00
		HIGH	QPSK	20.29	20.19	20.51	20.84	21.11	22.00
	75	LOW	QPSK	20.42	20.17	20.43	20.58	21.15	22.00
15	1	LOW	Q16	20.19	20.18	20.06	20.88	21.14	22.00
		MID	Q16	20.91	20.49	20.61	21.32	21.93	22.00
		HIGH	Q16	20.74	20.10	20.88	21.14	21.27	22.00
	36	LOW	Q16	19.01	19.27	19.23	19.84	20.11	21.00
		MID	Q16	19.45	19.09	19.32	19.80	20.20	21.00
		HIGH	Q16	19.40	19.07	19.57	19.96	20.22	21.00
	75	LOW	Q16	19.19	19.13	19.14	19.70	20.17	21.00
Bandwidth (	RB Size	RB offest	Modulation	39750	40185	40620	41055	41490	Tune-up power(dBm)
20	1	LOW	QPSK	21.37	21.47	21.38	21.48	21.98	23.00
		MID	QPSK	21.61	21.35	21.40	21.67	22.02	23.00
		HIGH	QPSK	21.31	21.18	21.62	21.66	**22.04**	23.00
	50	LOW	QPSK	20.22	20.32	20.15	20.70	21.03	22.00
		MID	QPSK	20.33	20.10	20.20	20.82	21.18	22.00
		HIGH	QPSK	20.43	20.05	20.45	20.77	21.20	22.00
	100	LOW	QPSK	20.33	20.03	20.30	20.72	21.13	22.00
20	1	LOW	Q16	20.11	20.06	20.05	20.88	21.26	22.00
		MID	Q16	20.93	20.63	20.64	21.46	21.85	22.00
		HIGH	Q16	20.67	20.13	20.88	21.05	21.33	22.00
	50	LOW	Q16	19.15	19.33	19.12	19.75	20.06	21.00
		MID	Q16	19.32	19.06	19.20	19.83	20.26	21.00
		HIGH	Q16	19.37	19.07	19.44	19.84	20.28	21.00
	100	LOW	Q16	19.31	19.00	19.29	19.72	20.18	21.00