

FCC

SAR

TEST REPORT

ISSUED BY  
Shenzhen BALUN Technology Co., Ltd.



FOR  
**Mobile Phone**

ISSUED TO  
Realme Chongqing Mobile Telecommunications Corp., Ltd.  
No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China



Tested by: Zongliyao  
Zong Liyao

Date: Jan. 21, 2020

Approved by: Liao Jianming

Liao Jianming  
(Technical Director)

Date: Jan. 21, 2020

Report No.: BL-SZ19C0366-701

EUT Name: Mobile Phone

Model Name: RMX2063

Brand Name: realme

FCC ID: 2AUYFRMX2063

Test Standard: FCC 47 CFR Part 2.1093

ANSI C95.1: 1999, IEEE 1528: 2013

Maximum SAR: Head (1 g): 1.050 W/kg

Body-worn (1 g): 0.460 W/kg

Hotspot (1 g): 1.073 W/kg

Test Conclusion: Pass

Test Date: Dec. 15, 2019 ~ Jan. 20, 2020

Date of Issue: Jan. 21, 2020

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### Revision History

<u>Version</u>	<u>Issue Date</u>	<u>Revisions Content</u>
<u>Rev. 01</u>	<u>Jan. 21, 2020</u>	<u>Initial Issue</u>

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# 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	<p>The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1.</p> <p>The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.</p> <p>The laboratory is a testing organization accredited by American Association for Laboratory Accreditation (A2LA) according to ISO/IEC 17025. The accreditation certificate is 4344.01.</p> <p>The laboratory is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L6791.</p>
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	20°C to 23°C
Ambient Relative Humidity	34% to 50%
Ambient Pressure	101 KPa to 103 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.



## 2 PRODUCT INFORMATION

### 2.1 Applicant Information

Applicant	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

### 2.2 Manufacturer Information

Manufacturer	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

### 2.3 Factory Information

Factory	Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address	No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing, China

### 2.4 General Description for Equipment under Test (EUT)

EUT Name	Mobile Phone
Model Name Under Test	RMX2063
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	11
Software Version	Color OS 7.0
Dimensions (Approx.)	163.9*75.8*9.4mm
Weight (Approx.)	196g(with battery)

## 2.5 Ancillary Equipment

Ancillary Equipment 1	Li-Polymer Battery 1	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A
	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	Sunwoda Electronic Co., Ltd.
Ancillary Equipment 2	Li-Polymer Battery (alternative)2	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A
	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	Dongguan NVT Technology Co., Ltd.
Ancillary Equipment 3	Li-Polymer Battery (alternative)3	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A
	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	TWS TECHNOLOGY (GUANGZHOU) LIMITED
Ancillary Equipment 4	Li-Polymer Battery (alternative)4	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A
	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	SUNWODA ELECTRONIC INDIA PRIVATE LIMITED
Ancillary Equipment 5	Li-Polymer Battery (alternative)5	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A



	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	Navitasys India Private Limited
Ancillary Equipment 6	Li-Polymer Battery (alternative)6	
	Brand Name	realme
	Model No.	BLP757
	Serial No.	N/A
	Capacitance	Rated: 4210mAh/16.29Wh Typical: 4300mAh/16.64Wh
	Rated Voltage	3.87 V
	Limited Voltage	4.45 V
	Manufacturer	PT.BATTERY TECHNOLOGY INDONESIA
<p>Note: The EUT has six Battery, they are same with electrical parameters, but only differ in Manufacturer and battery cell. By comparing the test data of six Batteries, battery 1 can produce a more conservative SAR values. The battery of the Manufacturer is Sunwoda Electronic Co., Ltd. as the main for test in this report.</p>		

## 2.6 Technical Information

Network and Wireless connectivity	2G Network GSM/GPRS/EDGE 850/900/1800/1900 MHz 3G Network WCDMA/HSDPA/HSUPA/HSPA+ Band 1/2/4/5/8 4G Network LTE FDD Band 1/2/3/4/5/7/8/20/28 LTE TDD Band 38/40/41 Bluetooth 5.0 (BR+EDR+BLE) 2.4G WIFI 802.11b, 802.11g, 802.11n(HT20) 5G WIFI 802.11a, 802.11n(HT20/40) and 802.11ac(VHT20/40/80) Band 1/2/3/4 SRD, GPS, GLONASS, BDS, Galileo, SBAS, NFC
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, FDD-LTE, 2.4G WLAN, 5G 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 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 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 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	802.11b/g /n(HT20)	2400 ~ 2483.5 MHz	
	802.11a/ /n(HT20/HT40) /ac(VHT20/VHT40/ VHT80)	5150 ~ 5250 MHz	5250 ~ 5350 MHz
	Bluetooth	2400 ~ 2483.5 MHz	
Antenna Type	WWAN: PIFA Antenna WLAN: PIFA Antenna Bluetooth: PIFA Antenna		
DTM	Not Support		
Hotspot Function	Support		
Power Reduction	Support		
Exposure Category	General Population/Uncontrolled exposure		
EUT Stage	Portable Device		
Product	Type		
	<input checked="" type="checkbox"/> Production unit	<input type="checkbox"/> Identical prototype	
Note: 1. This device supports both LTE Band 38 and Band 41. Since the supported frequency span			

for LTE Band 38 falls completely within the supports frequency span for LTE Band 41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 41.

2. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz WLAN/5.5GHz WLAN supports WiFi Direct (GC only).
3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
4. This device has two WWAN transmit antennas. WWAN down antenna is located at the bottom edge of the device, and WWAN up antenna is located at the top edge of the device. Up and Down antenna support the same WWAN frequency bands, and they can't transmit simultaneously.

## 2.7 Power Reduction Description

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 conditions and the proximity sensor 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.

### For WWAN Antenna (9 sets of power reduction levels)

Head, Body condition conduction different reduction category, the detail as below:

#### a) Head exposure conditions (3 sets of power reduction levels):

**Reduced power level 1**-GSM850/1900; WCDMA Band2/4/5; LTE Band 2/4/5/7/38/41(WWAN Use Only)

When the device is transmitting at the WWAN Up Antenna, power reduction will be enabled for those bands.

**Reduced power level 2** -GSM850/1900; WCDMA Band2/4/5; LTE Band 2/4/5/7/38/41(WWAN+WLAN 2.4G)

When the device WLAN 2.4GHz is transmitting simultaneously with the WWAN Up Antenna, power reduction will be enabled for those bands.

**Reduced power level 3** -GSM850/1900; WCDMA Band2/4/5; LTE Band 2/4/5/7/38/41(WWAN+WLAN 5G)

When the device WLAN 5GHz is transmitting simultaneously with the WWAN Up Antenna, power reduction will be enabled for those bands.

Power reduced level 2 or level 3 are same as level 1.

#### b) Body or Specific conditions(3 sets of power reduction levels):

Once the device is transmitting at the WWAN Up Antenna, the receiver to indicate user in body or limbs. Power reduction will be enabled for those bands.

**Reduced power level 4**- GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7/38/41 (WWAN Use Only)

When the device is transmitting at the WWAN Up Antenna, power reduction will be enabled for those bands.

**Reduced power level 5**- GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7/38/41 (WWAN+WLAN 2.4G)

When the device WLAN 2.4GHz is transmitting simultaneously with the WWAN Up Antenna, power reduction will be enabled for those bands.

**Reduced power level 6**- GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7/38/41 (WWAN+WLAN 5G)

When the device WLAN 5GHz is transmitting simultaneously with the WWAN Up Antenna, power reduction will be enabled for those bands.

Power reduced level 5 or level 6 are same as level 4.

#### c) Body or Specific conditions(3 sets of power reduction levels):

Once the device is transmitting at the WWAN Down Antenna, the receiver to indicate user in body or limbs. Power reduction will be enabled for those bands.

**Reduced power level 7**- GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7 (WWAN Use Only)

When the device is transmitting at the WWAN Down Antenna, power reduction will be enabled for those bands.

**Reduced power level 8-** GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7 (WWAN+WLAN 2.4G)

When the device WLAN 2.4GHz is transmitting simultaneously with the WWAN Down Antenna, power reduction will be enabled for those bands.

**Reduced power level 9-** GSM850/1900; WCDMA Band2/4; LTE Band 2/4/7 (WWAN+WLAN 5G)

When the device WLAN 5GHz is transmitting simultaneously with the WWAN Down Antenna, power reduction will be enabled for those bands.

Power reduced level 8 or level 9 are same as level 7.

#### **For WLAN Antenna (2 sets of power reduction levels)**

Head, Body condition conduction different reduction category, the detail as below:

##### **a) Head exposure conditions (3 sets of power reduction levels):**

**Reduced power level 1-**WLAN 2.4G, WLAN5.2G/5.3G/5.6G(WLAN Use Only)

When the device is transmitting at the WWAN Up Antenna, power reduction will be enabled for those bands.

**Reduced power level 2 -**WLAN 2.4G, WLAN5.2G/5.3G/5.6G( WWAN+WLAN)

When the device WLAN 2.4GHz is transmitting simultaneously with the WWAN Up Antenna, power reduction will be enabled for those bands.

Power reduced level 2 is same as level 1.

### 3 SUMMARY OF TEST RESULT

#### 3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1999	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/ Controlled Exposure
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 Head and Body SAR (1 g Value)

Band	Maximum Scaled SAR (W/kg)			Maximum Report SAR (W/kg)	
	Head	Body		Head	Body
		Body-worn (15mm)	Hotspot (10mm)		
GSM 850	0.324	0.101	0.166	1.050	1.073
GSM 1900	0.395	0.072	0.332		
WCDMA Band 2	0.771	0.190	0.588		
WCDMA Band 4	<b>1.050</b>	0.420	<b>1.073</b>		
WCDMA Band 5	0.429	0.156	0.268		
LTE Band 2	0.963	0.230	0.531		
LTE Band 4	1.043	<b>0.460</b>	1.000		
LTE Band 5	0.492	0.088	0.163		
LTE Band 7	0.615	0.132	0.311		
LTE Band 41	0.491	0.149	0.339		
2.4G WLAN	0.480	0.134	0.257		
5.2G WLAN	/	/	0.532		
5.3G WLAN	0.596	0.249	/		
5.6G WLAN	0.630	0.225	/		
5.8G WLAN	0.480	0.146	0.320		
Bluetooth	0.107	0.023	0.059		
Limit (W/kg)	1.60				
Verdict	Pass				

Note: This device supports both LTE Band 38 and Band 41. Since the supported frequency span for LTE Band 38 falls completely within the supports frequency span for LTE Band 41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 41.

#### 3.3.2 Highest Product Specific SAR (10 g Value)

Band	Maximum Scaled SAR (W/kg)	Maximum Report SAR (W/kg)
	Specific (0mm)	Specific (0mm)
WCDMA Band 2	0.845	1.913
WCDMA Band 4	1.665	
LTE Band 2	1.213	
LTE Band 4	<b>1.913</b>	
LTE Band 7	1.778	
5.2&5.3G WLAN	0.708	
5.8G WLAN	0.843	
Limit (W/kg)	4.0	
Verdict	Pass	

### 3.3.3 Highest Simultaneous SAR

Position	Simultaneous Configuration	Simultaneous SAR (W/kg)	Limit (W/kg)	Verdict
Head (1g)	WCDMA + 5G WLAN + Bluetooth	1.476	1.6	Pass
Body-worn (1g)	LTE + 5G WLAN + Bluetooth	0.732	1.6	Pass
Hotspot Mode (1g)	LTE + 5G WLAN + Bluetooth	1.458	1.6	Pass
Product Specific (10g)	LTE + 5G WLAN	2.757	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 1.073 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 1.913 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 ( $\rho$ ). The equation description is as below:

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

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

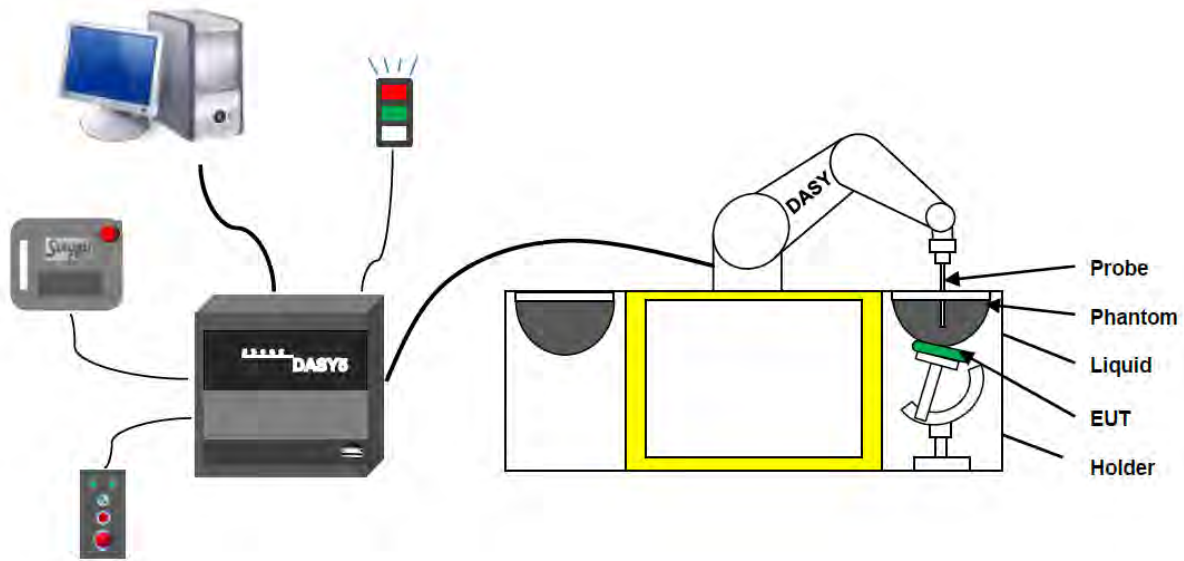
$$\mathbf{SAR} = \frac{\sigma E^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,

$\rho$  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  $\pm 0.02$  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 fields 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:7510 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., glycoether)
- Calibration ISO/IEC 17025 calibration service available
- Frequency 10 MHz to 6 GHz; Linearity:  $\pm 0.2$  dB (30 MHz to 6 GHz)
- Directivity  $\pm 0.2$  dB in HSL (rotation around probe axis) ;  $\pm 0.4$  dB in HSL (rotation normal to probe axis)
- Dynamic range 5  $\mu$ W/g to > 100 mW/g; Linearity:  $\pm 0.2$  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, Antennassa 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

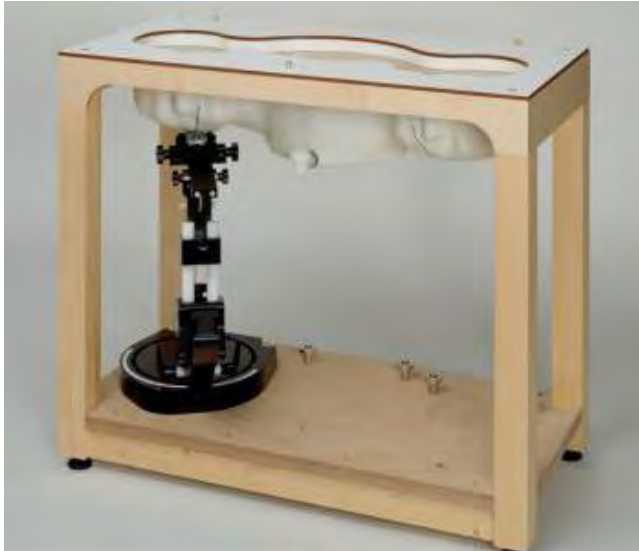
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converte and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an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



- Input Impedance: 200M $\Omega$
- The Inputs: Symmetrical and Floating
- Common 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

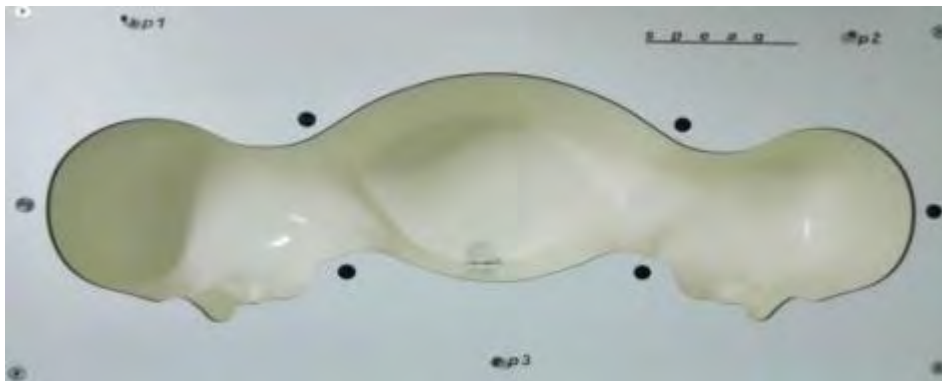
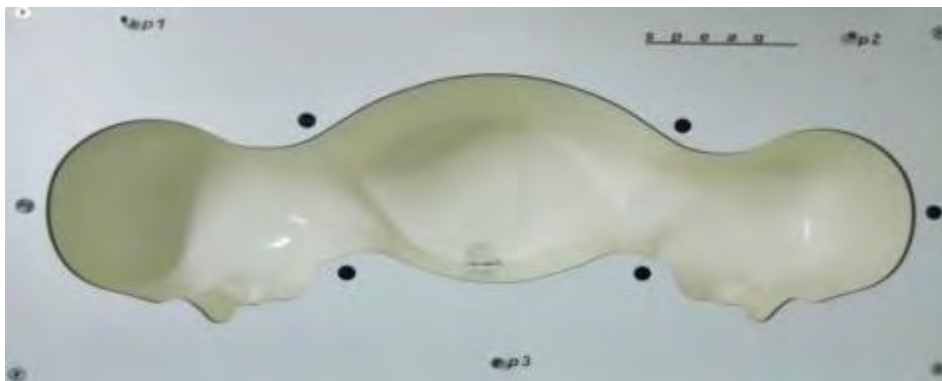


Photo of Phantom SN1859



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

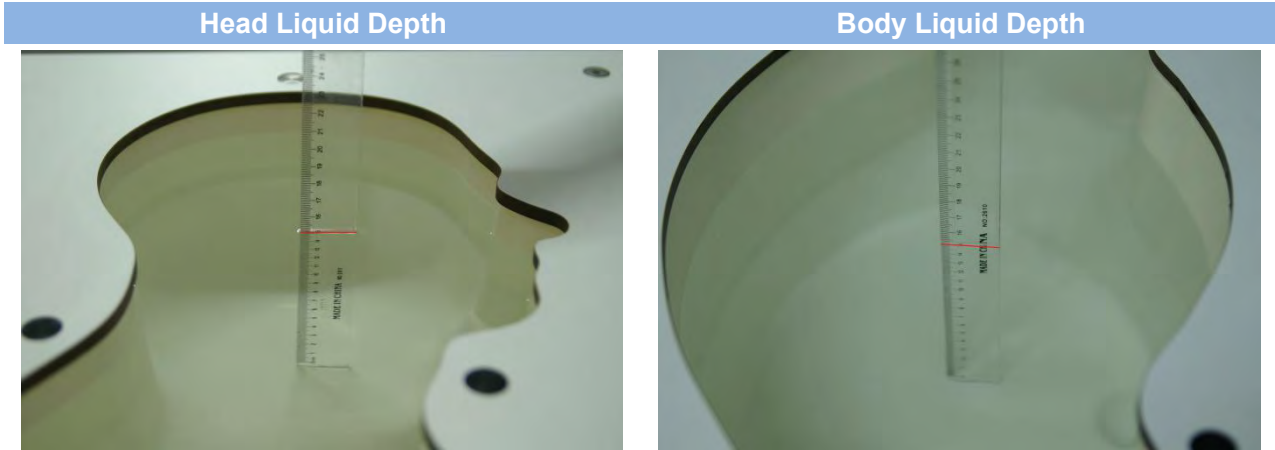
The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of  $65^\circ$ . The bottom plate contains three pair of 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. In compliance with CENELEC, the tilt angle uncertainty is lower than  $1^\circ$ .

#### 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%.



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 $\sigma$ (S/m)	Permittivity $\epsilon$
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 $\sigma$ (S/m)	Permittivity $\epsilon$
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 $\sigma$ (S/m)	Permittivity $\epsilon$
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 $\sigma$ (S/m)	Permittivity $\epsilon$
5200	78.60	21.40			/		5.54	47.86
5800	78.50	21.40			0.1		6.0	48.20

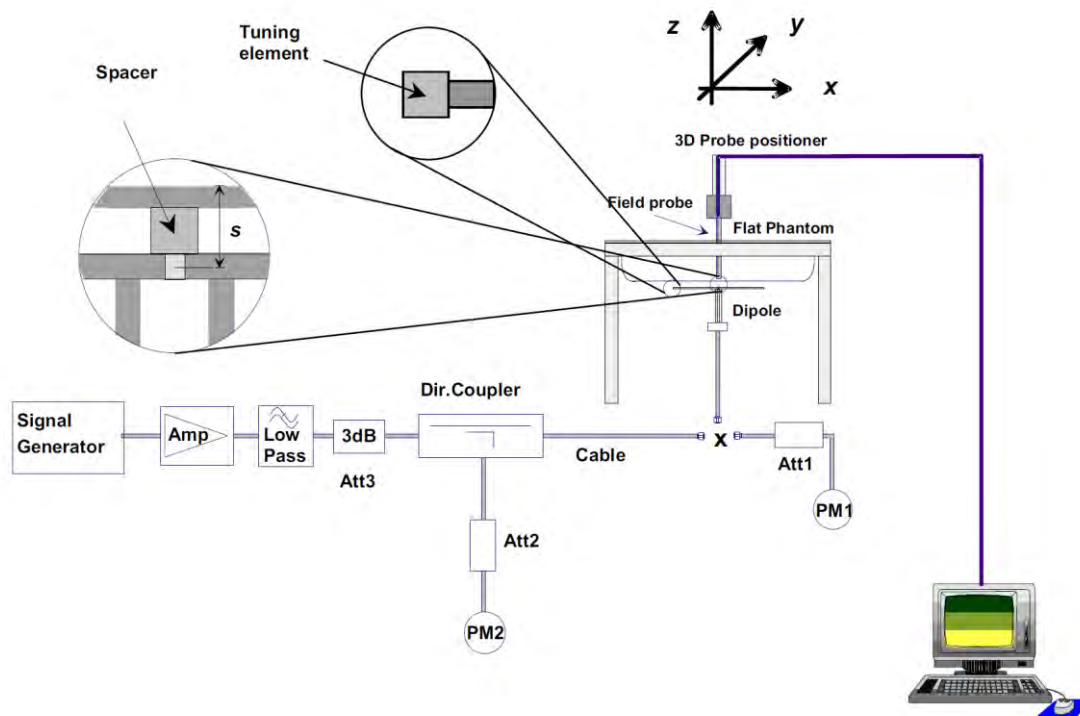
## 5 SYSTEM VERIFICATION

### 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

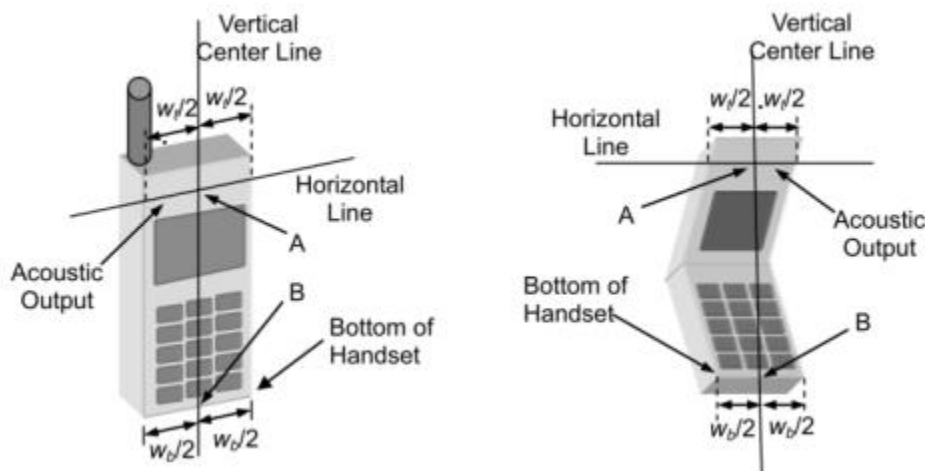
According to KDB 648474 D04 Handset, handsets are tested for SAR compliance in head, body-worn accessory and other use configurations described in the following subsections.

### 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.

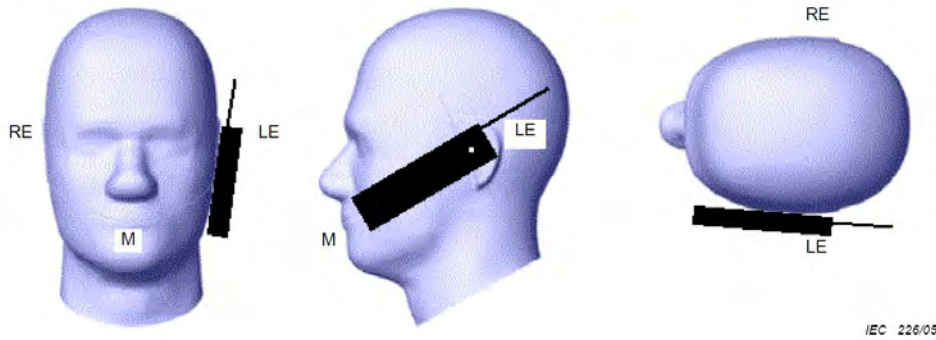
#### 6.1.1 Two Imaginary Lines on the Handset

- The vertical center line passes through two points on the front side of the handset - the midpoint of the width  $w$  of the handset at the level of the acoustic output, and the midpoint of the width  $w_b$  of the bottom of the handset.
- The horizontal line is perpendicular to the vertical 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.
- 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

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



### 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.



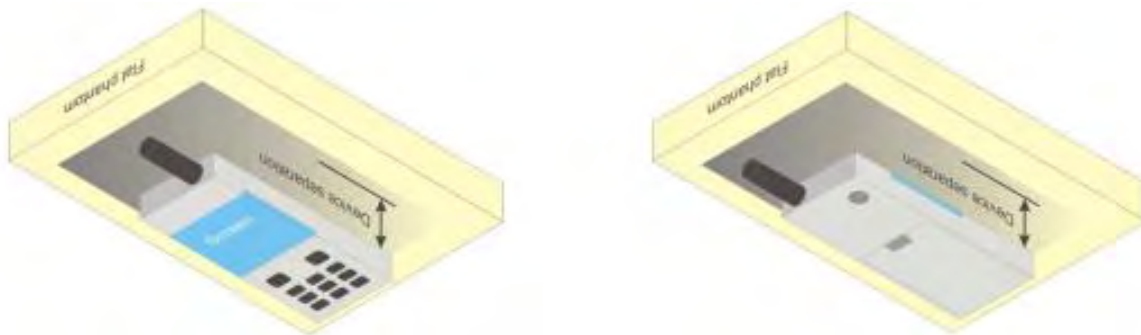


## 6.2 Body-worn Position Conditions

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.

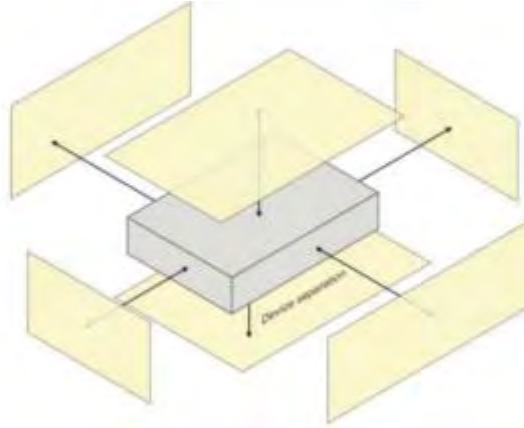
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. 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  $\leq 5$  mm to support compliance.



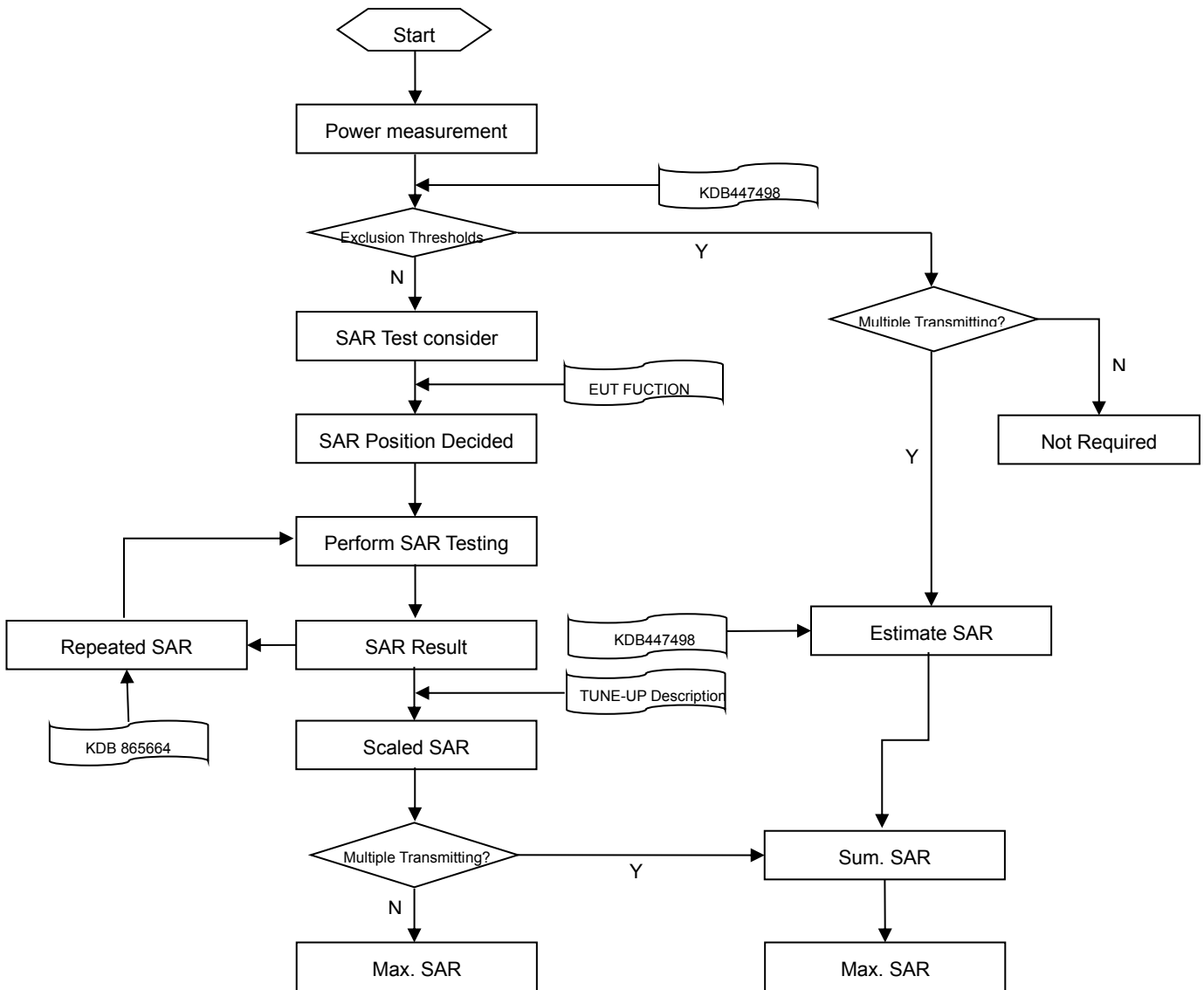
### 6.3 Hotspot Mode Exposure Position Conditions

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).



## 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. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1 g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013.

		≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5±1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30°±1°	20°±1°
Maximum area scan spatial resolution: $\Delta x$ Area , $\Delta y$ Area		≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3–4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: $\Delta x$ Zoom , $\Delta y$ Zoom		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3–4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z$ Zoom (n)	≤ 5 mm	3–4 GHz: ≤ 4 mm
			4–5 GHz: ≤ 3 mm
			5–6 GHz: ≤ 2 mm
	graded grid	$\Delta z$ Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm
$\Delta z$ Zoom (n>1): between subsequent points		4–5 GHz: ≤ 2.5 mm	
			5–6 GHz: ≤ 2 mm
Minimum zoom scan volume	x, y, z	≥30 mm	3–4 GHz: ≥ 28 mm
			4–5 GHz: ≥ 25 mm
			5–6 GHz: ≥ 22 mm
<b>Note:</b> <ol style="list-style-type: none"> <li><math>\delta</math> is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.</li> <li>* 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.</li> </ol>			

### 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 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.
- 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 OUTPUT POWER

### 8.1 GSM

GSM 850								
GSM850 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power (dBm)			Tune-up Limit (dBm)
Channel	128	190	251		128	190	251	
GSM (GMSK, 1-Slot)	33.07	33.03	33.28	33.50	23.88	23.84	<b>24.09</b>	24.31
GPRS (GMSK, 1-Slot)	32.31	32.32	32.25	33.50	23.12	23.13	23.06	24.31
GPRS (GMSK, 2-Slots)	29.40	29.44	30.01	30.50	23.27	23.31	23.88	24.37
GPRS (GMSK, 3-Slots)	27.06	27.75	27.72	28.00	22.64	23.33	23.30	23.58
GPRS (GMSK, 4-Slots)	26.20	26.22	26.17	27.00	23.02	23.04	22.99	23.82
EGPRS (8PSK, 1-Slot)	27.10	27.08	27.12	28.00	17.91	17.89	17.93	18.81
EGPRS (8PSK, 2-Slots)	25.06	25.00	25.28	26.00	18.93	18.87	19.15	19.87
EGPRS (8PSK, 3-Slots)	23.43	23.37	23.54	24.00	19.01	18.95	19.12	19.58
EGPRS (8PSK, 4-Slots)	22.86	22.71	22.96	23.50	19.68	19.53	19.78	20.32
GSM 1900								
GSM1900 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power(dBm)			Tune-up Limit (dBm)
Channel	512	661	810		512	661	810	
GSM (GMSK, 1-Slot)	29.11	29.65	28.80	30.50	19.92	20.46	19.61	21.31
GPRS (GMSK, 1-Slot)	28.96	29.52	29.39	30.50	19.77	20.33	20.20	21.31
GPRS (GMSK, 2-Slots)	26.65	26.53	26.36	27.50	<b>20.52</b>	20.40	20.23	21.37
GPRS (GMSK, 3-Slots)	24.79	24.68	24.53	25.50	20.37	20.26	20.11	21.08
GPRS (GMSK, 4-Slots)	23.69	23.62	23.22	24.50	20.51	20.44	20.04	21.32
EGPRS (8PSK, 1-Slot)	24.53	24.70	24.60	25.00	15.34	15.51	15.41	15.81
EGPRS (8PSK, 2-Slots)	23.00	23.26	22.95	24.00	16.87	17.13	16.82	17.87
EGPRS (8PSK, 3-Slots)	21.36	21.52	21.29	22.00	16.94	17.10	16.87	17.58
EGPRS (8PSK, 4-Slots)	20.32	20.44	20.24	21.00	17.14	17.26	17.06	17.82

Note 1: SAR testing was performed on the maximum frame-averaged power mode.

Note 2: The frame-averaged power is linearly proportion to the slot number configured and it is linearly scaled the maximum burst-averaged power based on time slots. The calculated method is shown as below:

Frame-averaged power = Burst averaged power (1 Tx Slot) – 9.19 dB

Frame-averaged power = Burst averaged power (2 Tx Slots) – 6.13 dB

Frame-averaged power = Burst averaged power (3 Tx Slots) - 4.42dB

Frame-averaged power = Burst averaged power (4 Tx Slots) – 3.18 dB

## 8.2 WCDMA

WCDMA	Band 2				Band 4			
Channel	9262	9400	9538	Tune-up Limit (dBm)	1312	1412	1513	Tune-up Limit (dBm)
RMC 12.2Kbps	22.66	<b>22.71</b>	22.70	24.00	22.68	<b>22.75</b>	22.70	24.00
HSDPA Subtest-1	21.66	21.63	21.74	22.50	21.67	21.73	21.64	22.50
HSDPA Subtest-2	21.76	21.63	21.87	22.50	21.65	21.89	21.74	22.50
HSDPA Subtest-3	21.19	21.19	21.37	22.00	21.20	21.34	21.13	22.00
HSDPA Subtest-4	21.06	21.17	21.33	22.00	21.25	21.24	21.11	22.00
HSUPA Subtest-1	21.67	21.58	21.62	22.50	21.99	21.92	21.98	22.50
HSUPA Subtest-2	19.69	19.52	19.55	21.00	20.02	20.01	20.03	21.00
HSUPA Subtest-3	20.61	20.49	20.60	22.00	20.85	20.95	20.96	22.00
HSUPA Subtest-4	19.72	19.63	19.59	21.00	19.95	19.95	19.89	21.00
HSUPA Subtest-5	21.65	21.59	21.58	22.50	21.87	21.80	21.91	22.50
WCDMA	Band 5				-			
Channel	4132	4182	4233	Tune-up Limit (dBm)	-	-	-	-
RMC 12.2Kbps	23.11	<b>23.15</b>	23.13	24.30	-	-	-	-
HSDPA Subtest-1	22.10	22.02	22.00	23.30	-	-	-	-
HSDPA Subtest-2	22.19	22.06	21.99	23.30	-	-	-	-
HSDPA Subtest-3	21.72	21.59	21.59	22.80	-	-	-	-
HSDPA Subtest-4	21.77	21.59	21.61	22.80	-	-	-	-
HSUPA Subtest-1	22.12	22.18	22.06	23.30	-	-	-	-
HSUPA Subtest-2	20.20	20.23	20.12	21.30	-	-	-	-
HSUPA Subtest-3	21.20	21.19	21.17	21.80	-	-	-	-
HSUPA Subtest-4	20.15	20.28	20.26	21.30	-	-	-	-
HSUPA Subtest-5	22.23	22.19	22.13	23.30	-	-	-	-



### 8.3 LTE

FDD LTE Band 2									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18700	18900	19100		18700	18900	19100	
20 MHz	1 (RB_Pos:0)	22.11	22.18	22.01	24.00	21.64	21.58	21.42	23.00
	1 (RB_Pos:50)	22.10	22.17	21.98	24.00	21.59	21.51	21.38	23.00
	1 (RB_Pos:99)	<b>22.25</b>	22.19	22.05	24.00	21.81	21.57	21.48	23.00
	50 (RB_Pos:0)	21.08	21.16	21.06	23.00	20.21	20.27	20.12	22.00
	50 (RB_Pos:25)	21.26	21.20	21.10	23.00	20.38	20.27	20.12	22.00
	50 (RB_Pos:50)	21.23	21.15	21.09	23.00	20.31	20.26	20.12	22.00
	100 (RB_Pos:0)	21.23	21.15	21.08	23.00	20.30	20.27	20.15	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18675	18900	19125		18675	18900	19125	
15 MHz	1 (RB_Pos:0)	22.13	22.20	22.13	24.00	21.12	21.66	21.55	23.00
	1 (RB_Pos:38)	22.16	22.19	22.07	24.00	21.19	21.66	21.51	23.00
	1 (RB_Pos:74)	22.23	22.21	22.13	24.00	21.19	21.61	21.46	23.00
	36 (RB_Pos:0)	21.16	21.25	21.16	23.00	20.25	20.38	20.20	22.00
	36 (RB_Pos:20)	21.17	21.26	21.16	23.00	20.32	20.44	20.24	22.00
	36 (RB_Pos:39)	21.25	21.27	21.16	23.00	20.37	20.41	20.22	22.00
	75 (RB_Pos:0)	21.22	21.21	21.11	23.00	20.39	20.35	20.21	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18650	18900	19150		18650	18900	19150	
10 MHz	1 (RB_Pos:0)	22.05	22.19	22.19	24.00	21.09	21.61	21.21	23.00
	1 (RB_Pos:25)	22.01	22.20	22.15	24.00	21.08	21.59	21.20	23.00
	1 (RB_Pos:49)	22.15	22.20	22.20	24.00	21.11	21.63	21.17	23.00
	25 (RB_Pos:0)	21.11	21.25	21.16	23.00	20.20	20.35	20.30	22.00
	25 (RB_Pos:12)	21.18	21.26	21.20	23.00	20.25	20.39	20.36	22.00
	25 (RB_Pos:25)	21.11	21.24	21.18	23.00	20.24	20.33	20.30	22.00
	50 (RB_Pos:0)	21.12	21.23	21.15	23.00	20.23	20.32	20.27	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18625	18900	19175		18625	18900	19175	
5 MHz	1 (RB_Pos:0)	22.02	22.22	22.13	24.00	21.34	21.74	21.29	23.00
	1 (RB_Pos:13)	22.10	22.16	22.24	24.00	21.44	21.80	21.37	23.00
	1 (RB_Pos:24)	22.08	22.23	22.14	24.00	21.39	21.79	21.24	23.00
	12 (RB_Pos:0)	21.12	21.21	21.17	23.00	20.28	20.45	20.33	22.00
	12 (RB_Pos:6)	21.16	21.24	21.25	23.00	20.32	20.46	20.33	22.00
	12 (RB_Pos:13)	21.14	21.20	21.21	23.00	20.28	20.44	20.30	22.00

	25 (RB_Pos:0)	21.14	21.17	21.18	23.00	20.23	20.34	20.19	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18615	18900	19185		18615	18900	19185	
3.0 MHz	1 (RB_Pos:0)	22.03	22.20	22.17	24.00	21.06	21.58	21.18	23.00
	1 (RB_Pos:8)	22.00	22.14	22.20	24.00	21.08	21.58	21.18	23.00
	1 (RB_Pos:14)	22.10	22.20	22.17	24.00	21.03	21.59	21.17	23.00
	8 (RB_Pos:0)	21.15	21.22	21.19	23.00	20.35	20.38	20.27	22.00
	8 (RB_Pos:3)	21.17	21.25	21.19	23.00	20.36	20.38	20.30	22.00
	8 (RB_Pos:7)	21.13	21.25	21.18	23.00	20.31	20.37	20.25	22.00
	15 (RB_Pos:0)	21.14	21.19	21.20	23.00	20.24	20.30	20.19	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18607	18900	19193		18607	18900	19193	
1.4 MHz	1 (RB_Pos:0)	21.92	22.14	22.11	24.00	21.17	21.52	21.11	23.00
	1 (RB_Pos:3)	22.11	22.20	22.18	24.00	21.30	21.59	21.18	23.00
	1 (RB_Pos:5)	22.03	22.12	22.13	24.00	21.20	21.53	21.12	23.00
	3 (RB_Pos:0)	22.06	22.09	22.08	24.00	21.19	21.41	21.28	23.00
	3 (RB_Pos:1)	22.06	22.17	22.15	24.00	21.24	21.43	21.34	23.00
	3 (RB_Pos:3)	22.06	22.11	22.08	24.00	21.19	21.37	21.28	23.00
	6 (RB_Pos:0)	21.04	21.16	21.14	23.00	20.26	20.08	20.32	22.00

FDD LTE Band 4									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20050	20175	20300		20050	20175	20300	
20 MHz	1 (RB_Pos:0)	22.15	22.07	22.01	24.00	21.74	21.54	21.45	23.00
	1 (RB_Pos:50)	22.16	22.11	22.12	24.00	21.82	21.55	21.59	23.00
	1 (RB_Pos:99)	<b>22.20</b>	22.10	22.13	24.00	21.89	21.54	21.58	23.00
	50 (RB_Pos:0)	21.19	21.12	21.07	23.00	20.41	20.21	20.15	22.00
	50 (RB_Pos:25)	21.26	21.14	21.15	23.00	20.43	20.23	20.19	22.00
	50 (RB_Pos:50)	21.18	21.10	21.19	23.00	20.43	20.17	20.24	22.00
	100 (RB_Pos:0)	21.19	21.09	21.08	23.00	20.40	20.15	20.16	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20025	20175	20325		20025	20175	20325	
15 MHz	1 (RB_Pos:0)	22.14	22.03	22.05	24.00	21.14	21.47	21.50	23.00
	1 (RB_Pos:38)	22.16	22.07	22.19	24.00	21.18	21.46	21.57	23.00
	1 (RB_Pos:74)	22.15	21.98	22.11	24.00	21.14	21.49	21.52	23.00
	36 (RB_Pos:0)	21.20	21.06	21.06	23.00	20.25	20.25	20.13	22.00

	36 (RB_Pos:20)	21.24	21.11	21.20	23.00	20.29	20.23	20.27	22.00
	36 (RB_Pos:39)	21.20	21.14	21.17	23.00	20.31	20.25	20.23	22.00
	75 (RB_Pos:0)	21.18	21.04	21.08	23.00	20.28	20.16	20.18	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20000	20175	20350		20000	20175	20350	
10 MHz	1 (RB_Pos:0)	22.23	22.05	22.11	24.00	21.20	21.48	21.23	23.00
	1 (RB_Pos:25)	22.23	22.05	22.13	24.00	21.17	21.48	21.30	23.00
	1 (RB_Pos:49)	22.22	22.05	22.14	24.00	21.12	21.41	21.13	23.00
	25 (RB_Pos:0)	21.24	21.06	21.11	23.00	20.32	20.08	20.40	22.00
	25 (RB_Pos:12)	21.21	21.09	21.13	23.00	20.32	20.12	20.41	22.00
	25 (RB_Pos:25)	21.26	21.06	21.07	23.00	20.29	20.15	20.44	22.00
	50 (RB_Pos:0)	21.23	21.06	21.13	23.00	20.26	20.14	20.37	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19975	20175	20375		19975	20175	20375	
5 MHz	1 (RB_Pos:0)	22.28	22.11	22.16	24.00	21.44	21.63	21.34	23.00
	1 (RB_Pos:13)	22.34	22.17	22.27	24.00	21.56	21.77	21.39	23.00
	1 (RB_Pos:24)	22.24	22.08	22.14	24.00	21.44	21.68	21.29	23.00
	12 (RB_Pos:0)	21.27	21.09	21.22	23.00	20.41	20.35	20.30	22.00
	12 (RB_Pos:6)	21.29	21.20	21.25	23.00	20.43	20.39	20.33	22.00
	12 (RB_Pos:13)	21.26	21.12	21.21	23.00	20.41	20.31	20.30	22.00
	25 (RB_Pos:0)	21.24	21.08	21.19	23.00	20.36	20.23	20.22	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19965	20175	20385		19965	20175	20385	
3.0 MHz	1 (RB_Pos:0)	22.26	22.12	22.20	24.00	21.20	21.56	21.27	23.00
	1 (RB_Pos:8)	22.27	22.11	22.23	24.00	21.23	21.56	21.25	23.00
	1 (RB_Pos:14)	22.26	22.15	22.17	24.00	21.17	21.55	21.22	23.00
	8 (RB_Pos:0)	21.31	21.18	21.21	23.00	20.47	20.27	20.31	22.00
	8 (RB_Pos:3)	21.34	21.23	21.23	23.00	20.48	20.34	20.33	22.00
	8 (RB_Pos:7)	21.31	21.18	21.17	23.00	20.46	20.27	20.30	22.00
	15 (RB_Pos:0)	21.32	21.19	21.22	23.00	20.41	20.25	20.22	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19957	20175	20393		19957	20175	20393	
1.4 MHz	1 (RB_Pos:0)	22.23	22.08	22.19	24.00	21.33	21.50	21.19	23.00
	1 (RB_Pos:3)	22.29	22.18	22.26	24.00	21.44	21.56	21.28	23.00
	1 (RB_Pos:5)	22.21	22.08	22.15	24.00	21.36	21.49	21.19	23.00
	3 (RB_Pos:0)	22.22	22.12	22.19	24.00	21.34	21.37	21.41	23.00
	3 (RB_Pos:1)	22.28	22.19	22.27	24.00	21.43	21.41	21.48	23.00

	3 (RB_Pos:3)	22.25	22.10	22.22	24.00	21.37	21.39	21.44	23.00
	6 (RB_Pos:0)	21.24	21.11	21.27	23.00	20.40	20.08	20.38	22.00

FDD LTE Band 5									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20450	20525	20600		20450	20525	20600	
10 MHz	1 (RB_Pos:0)	22.46	22.56	22.62	24.30	21.37	21.96	21.59	23.30
	1 (RB_Pos:25)	22.47	22.58	22.50	24.30	21.46	21.96	21.55	23.30
	1 (RB_Pos:49)	22.67	22.59	22.50	24.30	21.57	21.95	21.53	23.30
	25 (RB_Pos:0)	21.54	21.72	21.58	23.30	20.68	20.81	20.72	22.30
	25 (RB_Pos:12)	21.66	21.70	21.60	23.30	20.77	20.79	20.75	22.30
	25 (RB_Pos:25)	21.66	21.69	21.57	23.30	20.74	20.75	20.68	22.30
	50 (RB_Pos:0)	21.61	21.65	21.58	23.30	20.68	20.72	20.63	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20425	20525	20625		20425	20525	20625	
5MHz	1 (RB_Pos:0)	22.50	22.70	22.56	24.30	21.70	22.18	21.66	23.30
	1 (RB_Pos:13)	22.61	22.69	22.54	24.30	21.85	22.17	21.70	23.30
	1 (RB_Pos:24)	22.45	22.63	22.44	24.30	21.76	22.11	21.60	23.30
	12 (RB_Pos:0)	21.59	21.71	21.56	23.30	20.79	20.86	20.66	22.30
	12 (RB_Pos:6)	21.60	21.70	21.58	23.30	20.80	20.88	20.69	22.30
	12 (RB_Pos:13)	21.59	21.67	21.56	23.30	20.78	20.84	20.65	22.30
	25 (RB_Pos:0)	21.58	21.64	21.56	23.30	20.69	20.81	20.58	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20415	20525	20635		20415	20525	20635	
3.0 MHz	1 (RB_Pos:0)	22.49	22.64	22.50	24.30	21.36	22.01	21.58	23.30
	1 (RB_Pos:8)	22.41	22.60	22.48	24.30	21.39	21.94	21.64	23.30
	1 (RB_Pos:14)	22.50	22.58	22.46	24.30	21.44	21.94	21.66	23.30
	8 (RB_Pos:0)	21.50	21.69	21.49	23.30	20.62	20.76	20.74	22.30
	8 (RB_Pos:3)	21.67	21.70	21.59	23.30	20.78	20.80	20.76	22.30
	8 (RB_Pos:7)	21.57	21.71	21.50	23.30	20.74	20.75	20.74	22.30
	15 (RB_Pos:0)	21.61	21.67	21.57	23.30	20.66	20.72	20.66	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20407	20525	20643		20407	20525	20643	
1.4MHz	1 (RB_Pos:0)	22.43	22.57	22.41	24.30	21.53	21.92	21.54	23.30
	1 (RB_Pos:3)	22.47	22.62	22.46	24.30	21.60	21.93	21.64	23.30
	1 (RB_Pos:5)	22.41	22.55	22.41	24.30	21.54	21.91	21.56	23.30

	3 (RB_Pos:0)	22.37	22.52	22.40	24.30	21.48	21.76	21.73	23.30
	3 (RB_Pos:1)	22.43	22.54	22.50	24.30	21.58	21.79	21.82	23.30
	3 (RB_Pos:3)	22.38	22.53	22.53	24.30	21.50	21.75	21.75	23.30
	6 (RB_Pos:0)	21.44	21.61	21.55	23.30	20.60	20.57	20.78	22.30

FDD LTE Band 7									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20850	21100	21350		20850	21100	21350	
20MHz	1 (RB_Pos:0)	22.12	22.30	22.11	23.50	21.78	21.73	21.53	22.50
	1 (RB_Pos:50)	22.18	22.28	22.11	23.50	21.72	21.65	21.55	22.50
	1 (RB_Pos:99)	<b>22.35</b>	22.32	22.15	23.50	21.91	21.73	21.53	22.50
	50 (RB_Pos:0)	21.28	21.29	21.17	22.50	20.41	20.38	20.24	21.50
	50 (RB_Pos:25)	21.29	21.36	21.22	22.50	20.36	20.46	20.30	21.50
	50 (RB_Pos:50)	21.38	21.30	21.23	22.50	20.47	20.39	20.24	21.50
	100 (RB_Pos:0)	21.38	21.28	21.22	22.50	20.52	20.37	20.29	21.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20825	21100	21375		20825	21100	21375	
15MHz	1 (RB_Pos:0)	22.16	22.25	22.23	23.50	21.17	21.72	21.61	22.50
	1 (RB_Pos:38)	22.13	22.23	22.20	23.50	21.14	21.72	21.60	22.50
	1 (RB_Pos:74)	22.14	22.25	22.22	23.50	21.13	21.68	21.56	22.50
	36 (RB_Pos:0)	21.30	21.30	21.22	22.50	20.33	20.43	20.32	21.50
	36 (RB_Pos:20)	21.27	21.36	21.28	22.50	20.37	20.48	20.31	21.50
	36 (RB_Pos:39)	21.28	21.34	21.25	22.50	20.35	20.48	20.29	21.50
	75 (RB_Pos:0)	21.27	21.28	21.19	22.50	20.37	20.43	20.35	21.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20800	21100	21400		20800	21100	21400	
10MHz	1 (RB_Pos:0)	22.19	22.27	22.20	23.50	21.22	21.67	21.24	22.50
	1 (RB_Pos:25)	22.15	22.24	22.20	23.50	21.16	21.67	21.19	22.50
	1 (RB_Pos:49)	22.19	22.26	22.20	23.50	21.16	21.69	21.22	22.50
	25 (RB_Pos:0)	21.19	21.32	21.22	22.50	20.36	20.41	20.36	21.50
	25 (RB_Pos:12)	21.21	21.33	21.23	22.50	20.41	20.44	20.42	21.50
	25 (RB_Pos:25)	21.18	21.30	21.24	22.50	20.38	20.41	20.35	21.50
	50 (RB_Pos:0)	21.32	21.32	21.24	22.50	20.38	20.38	20.33	21.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20775	21100	21425		20775	21100	21425	
5MHz	1 (RB_Pos:0)	22.18	22.32	22.21	23.50	21.38	21.85	21.33	22.50

	1 (RB_Pos:13)	22.25	22.40	22.26	23.50	21.44	21.94	21.39	22.50
	1 (RB_Pos:24)	22.16	22.31	22.21	23.50	21.38	21.87	21.33	22.50
	12 (RB_Pos:0)	21.21	21.34	21.22	22.50	20.36	20.57	20.35	21.50
	12 (RB_Pos:6)	21.23	21.33	21.25	22.50	20.40	20.57	20.37	21.50
	12 (RB_Pos:13)	21.23	21.31	21.24	22.50	20.35	20.57	20.39	21.50
	25 (RB_Pos:0)	21.22	21.31	21.22	22.50	20.28	20.51	20.27	21.50

TDD LTE Band 38									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37850	38000	38150		37850	38000	38150	
20MHz	1 (RB_Pos:0)	22.91	23.00	<b>23.19</b>	24.00	22.23	22.27	22.59	23.00
	1 (RB_Pos:50)	23.08	23.12	23.14	24.00	22.38	22.29	22.54	23.00
	1 (RB_Pos:99)	23.15	23.07	23.07	24.00	22.48	22.25	22.49	23.00
	50 (RB_Pos:0)	22.05	22.11	22.10	23.00	21.12	21.25	21.27	22.00
	50 (RB_Pos:25)	22.06	22.14	22.11	23.00	21.14	21.25	21.25	22.00
	50 (RB_Pos:50)	22.16	22.12	22.08	23.00	21.22	21.20	21.20	22.00
	100 (RB_Pos:0)	22.05	22.11	22.09	23.00	21.11	21.21	21.19	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37825	38000	38175		37825	38000	38175	
15MHz	1 (RB_Pos:0)	22.87	22.98	23.15	24.00	22.23	22.48	22.43	23.00
	1 (RB_Pos:38)	22.99	23.08	23.12	24.00	22.25	22.55	22.40	23.00
	1 (RB_Pos:74)	22.98	23.11	23.07	24.00	22.34	22.51	22.39	23.00
	36 (RB_Pos:0)	22.01	22.13	22.09	23.00	21.10	21.23	21.21	22.00
	36 (RB_Pos:20)	21.99	22.14	22.10	23.00	21.13	21.21	21.23	22.00
	36 (RB_Pos:39)	22.00	22.08	22.06	23.00	21.08	21.16	21.20	22.00
	75 (RB_Pos:0)	22.02	22.10	22.07	23.00	21.11	21.22	21.20	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37800	38000	38200		37800	38000	38200	
10MHz	1 (RB_Pos:0)	22.89	23.07	23.09	24.00	22.21	22.52	22.45	23.00
	1 (RB_Pos:25)	22.87	23.07	23.09	24.00	22.17	22.53	22.47	23.00
	1 (RB_Pos:49)	22.96	23.05	23.07	24.00	22.33	22.51	22.43	23.00
	25 (RB_Pos:0)	21.89	22.09	22.06	23.00	21.02	21.20	21.15	22.00
	25 (RB_Pos:12)	22.02	22.10	22.09	23.00	21.10	21.20	21.19	22.00
	25 (RB_Pos:25)	22.01	22.10	22.03	23.00	21.08	21.19	21.13	22.00
	50 (RB_Pos:0)	22.05	22.09	22.06	23.00	21.10	21.24	21.17	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37775	38000	38225		37775	38000	38225	

					(dBm)				(dBm)
5MHz	1 (RB_Pos:0)	22.86	23.12	23.02	24.00	22.10	22.53	22.34	23.00
	1 (RB_Pos:13)	22.95	23.22	23.09	24.00	22.25	22.64	22.41	23.00
	1 (RB_Pos:24)	22.91	23.15	23.03	24.00	22.17	22.57	22.33	23.00
	12 (RB_Pos:0)	21.89	22.11	22.07	23.00	20.93	21.28	21.18	22.00
	12 (RB_Pos:6)	21.86	22.16	22.08	23.00	20.98	21.33	21.21	22.00
	12 (RB_Pos:13)	21.86	22.10	22.07	23.00	20.99	21.30	21.15	22.00
	25 (RB_Pos:0)	21.86	22.09	22.05	23.00	21.05	21.19	21.15	22.00

TDD LTE Band 41											
Bandwidth (MHz)	RB Set Channel	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
		40140	40473	40807	41140		40140	40473	40807	41140	
20MHz	1 (RB_Pos:0)	22.82	22.95	23.03	22.97	24.00	22.11	22.32	22.39	22.34	23.00
	1 (RB_Pos:50)	22.83	23.13	<b>23.15</b>	22.87	24.00	22.05	22.32	22.42	22.25	23.00
	1 (RB_Pos:99)	22.76	23.14	<b>23.15</b>	22.90	24.00	22.13	22.32	22.35	22.18	23.00
	50 (RB_Pos:0)	21.80	21.84	21.92	21.88	23.00	20.86	21.02	21.07	20.99	22.00
	50 (RB_Pos:25)	21.81	21.84	21.90	21.85	23.00	20.91	20.68	20.75	20.98	22.00
	50 (RB_Pos:50)	21.79	21.87	21.91	21.82	23.00	20.84	20.66	20.70	20.93	22.00
	100 (RB_Pos:0)	21.83	21.89	21.94	21.87	23.00	20.88	20.99	21.07	20.92	22.00
Bandwidth (MHz)	RB Set Channel	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
		40115	40465	40815	41165		40115	40465	40815	41165	
15MHz	1 (RB_Pos:0)	22.73	22.72	22.78	22.77	24.00	22.07	22.03	22.10	22.08	23.00
	1 (RB_Pos:38)	22.73	22.62	22.71	22.73	24.00	22.06	21.96	21.99	21.99	23.00
	1 (RB_Pos:74)	22.73	22.70	22.73	22.72	24.00	22.03	21.95	22.01	21.93	23.00
	36 (RB_Pos:0)	21.77	21.71	21.79	21.76	23.00	20.86	20.96	20.97	20.89	22.00
	36 (RB_Pos:20)	21.85	21.83	21.86	21.75	23.00	20.89	20.93	21.01	20.89	22.00
	36 (RB_Pos:39)	21.80	21.73	21.80	21.72	23.00	20.85	20.84	20.87	20.81	22.00
	75 (RB_Pos:0)	21.83	21.83	21.85	21.74	23.00	20.87	20.88	20.94	20.86	22.00
Bandwidth (MHz)	RB Set Channel	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
		40090	40457	40823	41190		40090	40457	40823	41190	
10MHz	1 (RB_Pos:0)	22.77	22.87	22.89	22.70	24.00	21.94	22.06	22.08	22.06	23.00
	1 (RB_Pos:25)	22.75	22.69	22.77	22.69	24.00	21.98	21.94	21.95	21.97	23.00
	1 (RB_Pos:49)	22.70	22.70	22.75	22.68	24.00	22.02	21.91	21.93	21.97	23.00
	25 (RB_Pos:0)	21.69	21.57	21.59	21.69	23.00	20.79	20.86	20.88	20.76	22.00
	25 (RB_Pos:12)	21.54	21.59	21.65	21.67	23.00	20.83	20.85	20.86	20.76	22.00
	25 (RB_Pos:25)	21.71	21.64	21.73	21.65	23.00	20.80	20.90	20.99	20.72	22.00
	50 (RB_Pos:0)	21.63	21.62	21.65	21.63	23.00	20.81	20.82	20.84	20.73	22.00
Bandwidth	RB Set	Power (dBm)									

(MHz)	Channel	QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
		40065	40448	40832	41215		40065	40448	40832	41215	
5MHz	1 (RB_Pos:0)	22.90	22.88	22.94	22.79	24.00	22.10	22.23	22.33	22.04	23.00
	1 (RB_Pos:13)	22.90	22.82	22.85	22.86	24.00	22.19	21.99	22.02	22.13	23.00
	1 (RB_Pos:24)	22.86	22.80	22.84	22.78	24.00	22.12	21.94	21.99	22.05	23.00
	12 (RB_Pos:0)	21.86	21.87	21.88	21.76	23.00	20.97	21.08	21.11	20.89	22.00
	12 (RB_Pos:6)	21.91	21.90	21.94	21.77	23.00	20.98	20.91	20.96	20.91	22.00
	12 (RB_Pos:13)	21.91	21.90	21.90	21.73	23.00	20.96	20.80	20.86	20.87	22.00
	25 (RB_Pos:0)	21.84	21.83	21.88	21.72	23.00	20.90	20.89	20.92	20.79	22.00



## 8.4 WIFI

### 8.4.1 2.4G WIFI

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	18.30	20.00	No
		6	2437	18.22	20.00	No
		11	2462	<b>18.35</b>	20.00	Yes
	802.11g	1	2412	16.84	18.00	No
		6	2437	16.74	18.00	No
		11	2462	14.91	16.00	No
	802.11n(HT20)	1	2412	16.75	18.00	No
		6	2437	16.64	18.00	No
		11	2462	14.36	15.50	No

### 8.4.2 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	17.27	19.00	No
		44	5220	17.35	19.00	No
		48	5240	17.17	19.00	No
	802.11n(HT20)	36	5180	17.27	19.00	No
		44	5220	17.28	19.00	No
		48	5240	17.05	19.00	No
	802.11n(HT40)	38	5190	<b>17.33</b>	19.00	Yes
		46	5230	17.32	19.00	No
	802.11ac(VHT20)	36	5180	17.25	19.00	No
		44	5220	17.32	19.00	No
		48	5240	17.10	19.00	No
	802.11ac(VHT40)	38	5190	17.43	19.00	No
		46	5230	17.32	19.00	No
	802.11ac(VHT80)	42	5210	16.82	18.00	No
	5.3 (5.25~5.35)	802.11a	52	5260	17.19	19.00
60			5300	17.37	19.00	No
64			5320	17.40	19.00	No
802.11n(HT20)		52	5260	17.08	19.00	No
		60	5300	17.27	19.00	No
		64	5320	17.25	19.00	No
802.11n(HT40)		54	5270	17.35	19.00	No
		62	5310	<b>17.46</b>	19.00	Yes
802.11ac(VHT20)		52	5260	17.13	19.00	No
		60	5300	17.28	19.00	No
		64	5320	17.25	19.00	No
802.11ac(VHT40)		54	5270	17.27	19.00	No

		62	5310	17.49	19.00	No
	802.11ac(VHT80)	58	5290	14.92	16.00	No
5.6 (5.47~5.725)	802.11a	100	5500	17.06	18.00	No
		116	5580	17.53	18.00	No
		140	5700	14.76	15.00	No
	802.11n(HT20)	100	5500	17.02	18.00	No
		116	5580	17.44	18.00	No
		140	5700	17.72	18.00	No
	802.11n(HT40)	102	5510	17.07	19.00	No
		118	5590	17.60	19.00	No
		134	5670	<b>18.03</b>	19.00	Yes
	802.11ac(VHT20)	100	5500	17.03	18.00	No
		116	5580	17.37	18.00	No
		140	5700	16.59	17.00	No
	802.11ac(VHT40)	102	5510	17.08	19.00	No
		118	5590	17.65	19.00	No
		134	5670	18.05	19.00	No
	802.11ac(VHT80)	106	5530	15.52	17.00	No
		122	5610	17.31	18.00	No
		138	5690	17.40	18.00	No
5.8 (5.725~5.850)	802.11a	149	5745	14.38	16.00	No
		157	5785	14.02	16.00	No
		165	5825	14.13	16.00	No
	802.11n(HT20)	149	5745	14.34	16.00	No
		157	5785	14.03	16.00	No
		165	5825	14.08	16.00	No
	802.11n(HT40)	151	5755	14.42	16.00	No
		159	5795	14.15	16.00	No
	802.11ac(VHT20)	149	5745	14.34	16.00	No
		157	5785	14.05	16.00	No
		165	5825	14.09	16.00	No
	802.11ac(VHT40)	151	5755	14.44	16.00	No
		159	5795	14.10	16.00	No
	802.11ac(VHT80)	155	5775	<b>14.05</b>	16.00	Yes

## 8.5 Bluetooth

Mode	GFSK			$\pi/4$ -DQPSK		
Channel	0	39	78	0	39	78
Frequency (MHz)	2402	2441	2480	2402	2441	2480
Conducted Power (dBm)	<b>11.53</b>	10.53	9.97	10.34	9.93	9.95
Tune-Up Limit (dBm)	13.00			12.00		
Mode	8-DPSK			/		
Channel	0	39	78	/	/	/
Frequency (MHz)	2402	2441	2480	/	/	/
Conducted Power (dBm)	10.50	10.19	9.71	/	/	/
Tune-Up Limit (dBm)	12.00			/		
Mode	BLE (1Mbps)			BLE (2Mbps)		
Channel	0	19	39	0	19	39
Frequency (MHz)	2402	2440	2480	2402	2440	2480
Conducted Power (dBm)	5.87	5.19	6.65	5.94	5.30	6.62
Tune-Up Limit (dBm)	7.00			7.00		

## 8.6 Power Reduction List

### 8.6.1 Power Reduced Level 1&2&3 of GSM 850

GSM 850								
GSM850 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power (dBm)			Tune-up Limit (dBm)
Channel	128	190	251		128	190	251	
GSM (GMSK, 1-Slot)	28.93	28.28	28.96	29.50	19.74	19.09	19.77	20.31
GPRS (GMSK, 1-Slot)	28.68	28.02	28.68	29.50	19.49	18.83	19.49	20.31
GPRS (GMSK, 2-Slots)	26.08	26.11	26.05	26.50	19.95	<b>19.98</b>	19.92	20.37
GPRS (GMSK, 3-Slots)	24.22	23.45	24.22	24.00	19.80	19.03	19.80	19.58
GPRS (GMSK, 4-Slots)	22.42	22.49	22.43	23.00	19.24	19.31	19.25	19.82
EGPRS (8PSK, 1-Slot)	27.20	27.01	27.24	24.00	18.01	17.82	18.05	14.81
EGPRS (8PSK, 2-Slots)	25.06	24.86	24.88	22.00	18.93	18.73	18.75	15.87
EGPRS (8PSK, 3-Slots)	23.33	23.31	23.38	20.00	18.91	18.89	18.96	15.58
EGPRS (8PSK, 4-Slots)	22.76	22.54	22.69	19.50	19.58	19.36	19.51	16.32

### 8.6.2 Power Reduced Level 4&5&6 of GSM 850

GSM 850								
GSM850 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power (dBm)			Tune-up Limit (dBm)
Channel	128	190	251		128	190	251	
GSM (GMSK, 1-Slot)	30.13	30.15	30.18	31.50	20.94	20.96	20.99	22.31
GPRS (GMSK, 1-Slot)	30.11	30.15	30.12	31.50	20.92	20.96	20.93	22.31
GPRS (GMSK, 2-Slots)	27.07	27.75	27.72	28.50	20.94	<b>21.62</b>	21.59	22.37
GPRS (GMSK, 3-Slots)	25.23	25.25	25.20	26.00	20.81	20.83	20.78	21.58
GPRS (GMSK, 4-Slots)	24.27	24.30	24.26	25.00	21.09	21.12	21.08	21.82
EGPRS (8PSK, 1-Slot)	24.77	24.97	24.97	26.00	15.58	15.78	15.78	16.81
EGPRS (8PSK, 2-Slots)	23.41	23.20	23.88	24.00	17.28	17.07	17.75	17.87
EGPRS (8PSK, 3-Slots)	20.86	20.48	20.51	22.00	16.44	16.06	16.09	17.58
EGPRS (8PSK, 4-Slots)	20.87	20.30	20.81	21.50	17.69	17.12	17.63	18.32

### 8.6.3 Power Reduced Level 7&8&9 of GSM 850

GSM 850								
GSM850 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power (dBm)			Tune-up Limit (dBm)
Channel	128	190	251		128	190	251	
GSM (GMSK, 1-Slot)	31.72	31.93	32.48	32.50	22.53	22.74	23.29	23.31
GPRS (GMSK, 1-Slot)	31.55	31.74	32.33	32.50	22.36	22.55	23.14	23.31
GPRS (GMSK, 2-Slots)	29.18	29.37	29.47	29.50	23.05	23.24	<b>23.34</b>	23.37
GPRS (GMSK, 3-Slots)	26.82	26.99	26.42	27.00	22.40	22.57	22.00	22.58
GPRS (GMSK, 4-Slots)	25.84	25.77	25.69	26.00	22.66	22.59	22.51	22.82
EGPRS (8PSK, 1-Slot)	25.87	25.90	25.81	27.00	16.68	16.71	16.62	17.81
EGPRS (8PSK, 2-Slots)	24.16	24.65	24.37	25.00	18.03	18.52	18.24	18.87
EGPRS (8PSK, 3-Slots)	21.84	21.90	21.76	23.00	17.42	17.48	17.34	18.58
EGPRS (8PSK, 4-Slots)	21.46	21.72	21.94	22.50	18.28	18.54	18.76	19.32

## 8.6.4 Power Reduced Level 1&amp;2&amp;3 of GSM 1900

GSM 1900								
GSM1900 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power(dBm)			Tune-up Limit (dBm)
Channel	512	661	810		512	661	810	
GSM (GMSK, 1-Slot)	22.58	22.53	22.62	24.50	13.39	13.34	13.43	15.31
GPRS (GMSK, 1-Slot)	22.53	22.51	22.55	24.50	13.34	13.32	13.36	15.31
GPRS (GMSK, 2-Slots)	19.82	19.78	19.76	21.50	<b>13.69</b>	13.65	13.63	15.37
GPRS (GMSK, 3-Slots)	18.09	17.93	17.95	19.50	13.67	13.51	13.53	15.08
GPRS (GMSK, 4-Slots)	16.84	16.64	16.59	18.50	13.66	13.46	13.41	15.32
EGPRS (8PSK, 1-Slot)	22.16	22.12	22.15	24.00	12.97	12.93	12.96	14.81
EGPRS (8PSK, 2-Slots)	19.81	19.75	19.68	21.00	13.68	13.62	13.55	14.87
EGPRS (8PSK, 3-Slots)	17.88	17.68	17.88	19.00	13.46	13.26	13.46	14.58
EGPRS (8PSK, 4-Slots)	16.76	16.58	16.39	18.00	13.58	13.40	13.21	14.82

## 8.6.5 Power Reduced Level 4&amp;5&amp;6 of GSM 1900

GSM 1900								
GSM1900 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power(dBm)			Tune-up Limit (dBm)
Channel	512	661	810		512	661	810	
GSM (GMSK, 1-Slot)	24.92	24.95	24.78	26.00	15.73	15.76	15.59	16.81
GPRS (GMSK, 1-Slot)	24.33	24.27	24.13	26.00	15.14	15.08	14.94	16.81
GPRS (GMSK, 2-Slots)	21.92	21.89	21.71	23.00	<b>15.79</b>	15.76	15.58	16.87
GPRS (GMSK, 3-Slots)	19.23	19.22	19.06	21.00	14.81	14.80	14.64	16.58
GPRS (GMSK, 4-Slots)	18.13	18.06	17.93	20.00	14.95	14.88	14.75	16.82
EGPRS (8PSK, 1-Slot)	20.13	20.00	20.14	20.50	10.94	10.81	10.95	11.31
EGPRS (8PSK, 2-Slots)	18.35	18.74	18.72	19.50	12.22	12.61	12.59	13.37
EGPRS (8PSK, 3-Slots)	16.84	17.15	16.97	17.50	12.42	12.73	12.55	13.08
EGPRS (8PSK, 4-Slots)	15.70	15.94	15.77	16.50	12.52	12.76	12.59	13.32

## 8.6.6 Power Reduced Level 7&amp;8&amp;9 of GSM 1900

GSM 1900								
GSM1900 Band	Burst Average Power(dBm)			Tune-up Limit (dBm)	Frame-Averaged power(dBm)			Tune-up Limit (dBm)
Channel	512	661	810		512	661	810	
GSM (GMSK, 1-Slot)	25.89	25.83	25.63	27.00	16.70	16.64	16.44	17.81
GPRS (GMSK, 1-Slot)	25.85	25.77	25.55	27.00	16.66	16.58	16.36	17.81
GPRS (GMSK, 2-Slots)	23.17	23.08	22.85	24.00	<b>17.04</b>	16.95	16.72	17.87
GPRS (GMSK, 3-Slots)	20.97	20.90	20.72	22.00	16.55	16.48	16.30	17.58
GPRS (GMSK, 4-Slots)	19.89	19.86	19.63	21.00	16.71	16.68	16.45	17.82
EGPRS (8PSK, 1-Slot)	21.28	20.89	21.28	21.50	12.09	11.70	12.09	12.31
EGPRS (8PSK, 2-Slots)	19.30	19.67	19.67	20.50	13.17	13.54	13.54	14.37
EGPRS (8PSK, 3-Slots)	18.00	18.17	17.90	18.50	13.58	13.75	13.48	14.08
EGPRS (8PSK, 4-Slots)	16.83	16.88	16.70	17.50	13.65	13.70	13.52	14.32

## 8.6.7 Power Reduced Level 1&amp;2&amp;3 of WCDMA Band 2

WCDMA	Band 2			
Channel	9262	9400	9538	Tune-up Limit (dBm)
RMC 12.2Kbps	15.52	15.54	<b>15.55</b>	17.00
HSDPA Subtest-1	14.63	14.48	14.70	15.50
HSDPA Subtest-2	14.54	14.53	14.87	15.50
HSDPA Subtest-3	14.14	14.08	14.16	15.00
HSDPA Subtest-4	13.80	14.11	14.16	15.00
HSUPA Subtest-1	14.49	14.55	14.57	15.50
HSUPA Subtest-2	12.51	12.27	12.47	14.00
HSUPA Subtest-3	13.44	13.36	13.55	15.00
HSUPA Subtest-4	12.66	12.38	12.54	14.00
HSUPA Subtest-5	14.60	14.31	14.45	15.50

## 8.6.8 Power Reduced Level 4&amp;5&amp;6 of WCDMA Band 2

WCDMA	Band 2			
Channel	9262	9400	9538	Tune-up Limit (dBm)
RMC 12.2Kbps	16.55	<b>16.59</b>	16.58	18.00
HSDPA Subtest-1	15.61	15.37	15.50	16.50
HSDPA Subtest-2	15.52	15.34	15.80	16.50
HSDPA Subtest-3	15.01	15.01	14.95	16.00
HSDPA Subtest-4	14.61	14.87	14.92	16.00
HSUPA Subtest-1	15.34	15.43	15.29	16.50
HSUPA Subtest-2	13.31	13.21	13.18	15.00
HSUPA Subtest-3	14.22	14.22	14.48	16.00
HSUPA Subtest-4	13.53	13.26	13.47	15.00
HSUPA Subtest-5	15.51	15.01	15.25	16.50

## 8.6.9 Power Reduced Level 7&amp;8&amp;9 of WCDMA Band 2

WCDMA	Band 2			
Channel	9262	9400	9538	Tune-up Limit (dBm)
RMC 12.2Kbps	17.85	<b>17.91</b>	17.84	19.00
HSDPA Subtest-1	16.59	16.26	16.28	17.50
HSDPA Subtest-2	16.45	16.25	16.55	17.50
HSDPA Subtest-3	15.99	15.87	15.86	17.00
HSDPA Subtest-4	15.37	15.80	15.91	17.00
HSUPA Subtest-1	16.26	16.17	16.16	17.50
HSUPA Subtest-2	14.24	13.97	13.95	16.00
HSUPA Subtest-3	15.20	15.03	15.28	17.00
HSUPA Subtest-4	14.33	14.14	14.34	16.00
HSUPA Subtest-5	16.25	15.73	15.97	17.50

## 8.6.10 Power Reduced Level 1&amp;2&amp;3 of WCDMA Band 4

WCDMA	Band 4			
Channel	1312	1412	1513	Tune-up Limit (dBm)
RMC 12.2Kbps	15.54	<b>15.63</b>	15.55	17.00
HSDPA Subtest-1	14.57	14.67	14.59	15.50
HSDPA Subtest-2	14.52	14.74	14.58	15.50
HSDPA Subtest-3	14.06	14.16	14.10	15.00
HSDPA Subtest-4	13.98	14.07	14.03	15.00
HSUPA Subtest-1	14.68	14.77	14.71	15.50
HSUPA Subtest-2	13.04	13.17	13.02	14.00
HSUPA Subtest-3	13.72	13.84	13.81	15.00
HSUPA Subtest-4	13.08	13.12	13.05	14.00
HSUPA Subtest-5	14.61	14.70	14.64	15.50

## 8.6.11 Power Reduced Level 4&amp;5&amp;6 of WCDMA Band 4

WCDMA	Band 4			
Channel	1312	1412	1513	Tune-up Limit (dBm)
RMC 12.2Kbps	19.62	<b>19.65</b>	19.62	21.00
HSDPA Subtest-1	18.24	18.43	18.30	19.50
HSDPA Subtest-2	18.12	18.64	18.39	19.50
HSDPA Subtest-3	17.89	18.22	18.04	19.00
HSDPA Subtest-4	18.01	18.04	17.90	19.00
HSUPA Subtest-1	18.90	18.86	18.86	19.50
HSUPA Subtest-2	16.78	16.54	16.71	18.00
HSUPA Subtest-3	17.46	17.83	17.70	19.00
HSUPA Subtest-4	16.65	16.75	16.80	18.00
HSUPA Subtest-5	18.58	18.52	18.75	19.50

## 8.6.12 Power Reduced Level 7&amp;8&amp;9 of WCDMA Band 4

WCDMA	Band 4			
Channel	1312	1412	1513	Tune-up Limit (dBm)
RMC 12.2Kbps	21.85	<b>21.95</b>	21.89	23.00
HSDPA Subtest-1	20.24	20.32	20.25	21.50
HSDPA Subtest-2	19.84	20.44	20.30	21.50
HSDPA Subtest-3	19.72	20.00	19.86	21.00
HSDPA Subtest-4	19.81	19.92	19.81	21.00
HSUPA Subtest-1	20.77	20.76	20.82	21.50
HSUPA Subtest-2	18.78	18.39	18.48	20.00
HSUPA Subtest-3	19.27	19.59	19.61	21.00
HSUPA Subtest-4	18.37	18.46	18.62	20.00
HSUPA Subtest-5	20.55	20.51	20.55	21.50

## 8.6.13 Power Reduced Level 1&amp;2&amp;3 of WCDMA Band 5

WCDMA	Band 5			
Channel	4132	4182	4233	Tune-up Limit (dBm)
RMC 12.2Kbps	20.66	20.74	<b>20.84</b>	21.80
HSDPA Subtest-1	19.68	19.45	19.59	20.80
HSDPA Subtest-2	19.74	19.51	19.52	20.80
HSDPA Subtest-3	19.21	19.17	19.14	20.30
HSDPA Subtest-4	19.26	19.08	19.15	20.30
HSUPA Subtest-1	19.62	19.67	19.60	20.80
HSUPA Subtest-2	17.77	17.73	17.66	18.80
HSUPA Subtest-3	18.66	18.77	18.60	19.30
HSUPA Subtest-4	17.61	17.87	17.69	18.80
HSUPA Subtest-5	19.78	19.76	19.60	20.80



## 8.6.14 Power Reduced Level 1&amp;2&amp;3 of LTE Band 2

FDD LTE Band 2									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18700	18900	19100		18700	18900	19100	
20 MHz	1 (RB_Pos:0)	15.38	15.37	15.35	17.00	15.51	15.47	15.39	17.00
	1 (RB_Pos:50)	15.30	15.37	15.37	17.00	15.41	15.48	15.47	17.00
	1 (RB_Pos:99)	15.32	<b>15.52</b>	15.36	17.00	15.39	15.49	15.46	17.00
	50 (RB_Pos:0)	15.35	15.31	15.40	17.00	15.40	15.46	15.52	17.00
	50 (RB_Pos:25)	15.42	15.40	15.37	17.00	15.44	15.39	15.41	17.00
	50 (RB_Pos:50)	15.39	15.33	15.31	17.00	15.46	15.43	15.52	17.00
	100 (RB_Pos:0)	15.42	15.36	15.34	17.00	15.46	15.50	15.49	17.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18675	18900	19125		18675	18900	19125	
15 MHz	1 (RB_Pos:0)	15.29	15.40	15.39	17.00	15.39	15.40	15.49	17.00
	1 (RB_Pos:38)	15.38	15.37	15.36	17.00	15.47	15.53	15.46	17.00
	1 (RB_Pos:74)	15.33	15.45	15.33	17.00	15.39	15.37	15.47	17.00
	36 (RB_Pos:0)	15.30	15.40	15.37	17.00	15.40	15.51	15.42	17.00
	36 (RB_Pos:20)	15.29	15.50	15.41	17.00	15.43	15.43	15.46	17.00
	36 (RB_Pos:39)	15.29	15.42	15.36	17.00	15.43	15.44	15.43	17.00
	75 (RB_Pos:0)	15.31	15.38	15.36	17.00	15.52	15.38	15.46	17.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18650	18900	19150		18650	18900	19150	
10 MHz	1 (RB_Pos:0)	15.35	15.46	15.37	17.00	15.47	15.44	15.39	17.00
	1 (RB_Pos:25)	15.33	15.50	15.42	17.00	15.45	15.49	15.40	17.00
	1 (RB_Pos:49)	15.31	15.58	15.34	17.00	15.44	15.51	15.44	17.00
	25 (RB_Pos:0)	15.35	15.48	15.34	17.00	15.41	15.44	15.49	17.00
	25 (RB_Pos:12)	15.35	15.51	15.29	17.00	15.51	15.38	15.40	17.00
	25 (RB_Pos:25)	15.30	15.33	15.41	17.00	15.41	15.44	15.42	17.00
	50 (RB_Pos:0)	15.30	15.56	15.40	17.00	15.52	15.51	15.49	17.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18625	18900	19175		18625	18900	19175	
5 MHz	1 (RB_Pos:0)	15.36	15.56	15.30	17.00	15.52	15.45	15.43	17.00
	1 (RB_Pos:13)	15.34	15.33	15.40	17.00	15.42	15.43	15.46	17.00
	1 (RB_Pos:24)	15.37	15.59	15.30	17.00	15.48	15.40	15.47	17.00
	12 (RB_Pos:0)	15.41	15.49	15.32	17.00	15.39	15.57	15.46	17.00
	12 (RB_Pos:6)	15.36	15.60	15.30	17.00	15.49	15.68	15.37	17.00
	12 (RB_Pos:13)	15.30	15.30	15.41	17.00	15.44	15.59	15.37	17.00

	25 (RB_Pos:0)	15.30	15.35	15.38	17.00	15.44	15.67	15.48	17.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18615	18900	19185		18615	18900	19185	
3.0 MHz	1 (RB_Pos:0)	15.29	15.58	15.36	17.00	15.46	15.43	15.45	17.00
	1 (RB_Pos:8)	15.33	15.51	15.35	17.00	15.50	15.64	15.51	17.00
	1 (RB_Pos:14)	15.39	15.30	15.35	17.00	15.51	15.52	15.37	17.00
	8 (RB_Pos:0)	15.31	15.34	15.31	17.00	15.53	15.63	15.48	17.00
	8 (RB_Pos:3)	15.36	15.40	15.33	17.00	15.43	15.47	15.44	17.00
	8 (RB_Pos:7)	15.31	15.30	15.34	17.00	15.46	15.40	15.42	17.00
	15 (RB_Pos:0)	15.39	15.42	15.45	17.00	15.41	15.44	15.44	17.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18607	18900	19193		18607	18900	19193	
1.4 MHz	1 (RB_Pos:0)	15.12	15.11	15.15	17.00	15.29	15.29	15.32	17.00
	1 (RB_Pos:3)	15.10	15.17	15.20	17.00	15.34	15.36	15.28	17.00
	1 (RB_Pos:5)	15.12	15.19	15.09	17.00	15.34	15.29	15.25	17.00
	3 (RB_Pos:0)	15.10	15.21	15.10	17.00	15.26	15.38	15.28	17.00
	3 (RB_Pos:1)	15.17	15.19	15.09	17.00	15.32	15.30	15.23	17.00
	3 (RB_Pos:3)	15.22	15.17	15.14	17.00	15.27	15.25	15.33	17.00
	6 (RB_Pos:0)	15.12	15.18	15.21	17.00	15.35	15.34	15.27	17.00

### 8.6.15 Power Reduced Level 4&5&6 of LTE Band 2

FDD LTE Band 2									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18700	18900	19100		18700	18900	19100	
20 MHz	1 (RB_Pos:0)	16.53	16.77	16.68	18.50	16.96	17.25	17.11	18.50
	1 (RB_Pos:50)	16.51	16.74	16.59	18.50	16.92	17.14	17.08	18.50
	1 (RB_Pos:99)	16.66	<b>16.78</b>	16.65	18.50	16.98	17.18	17.13	18.50
	50 (RB_Pos:0)	16.54	16.78	16.71	18.50	16.81	16.89	16.74	18.50
	50 (RB_Pos:25)	16.66	16.81	16.66	18.50	16.91	16.92	16.79	18.50
	50 (RB_Pos:50)	16.70	16.76	16.70	18.50	16.89	16.92	16.73	18.50
	100 (RB_Pos:0)	16.60	16.74	16.65	18.50	16.89	16.89	16.71	18.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18675	18900	19125		18675	18900	19125	
15 MHz	1 (RB_Pos:0)	16.56	16.63	16.62	18.50	16.55	17.10	17.10	18.50
	1 (RB_Pos:38)	16.56	16.63	16.63	18.50	16.54	17.07	17.11	18.50
	1 (RB_Pos:74)	16.65	16.60	16.64	18.50	16.61	16.96	16.85	18.50

	36 (RB_Pos:0)	16.57	16.66	16.64	18.50	16.66	16.89	16.74	18.50
	36 (RB_Pos:20)	16.60	16.71	16.59	18.50	16.64	16.81	16.72	18.50
	36 (RB_Pos:39)	16.68	16.68	16.67	18.50	16.74	16.80	16.71	18.50
	75 (RB_Pos:0)	16.63	16.61	16.65	18.50	16.77	16.77	16.74	18.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	18650	18900	19150	18650		18900	19150		
10 MHz	1 (RB_Pos:0)	16.58	16.60	16.68	18.50	16.57	17.08	16.79	18.50
	1 (RB_Pos:25)	16.47	16.57	16.65	18.50	16.55	17.06	16.78	18.50
	1 (RB_Pos:49)	16.55	16.65	16.68	18.50	16.50	17.09	16.77	18.50
	25 (RB_Pos:0)	16.57	16.68	16.73	18.50	16.65	16.78	16.86	18.50
	25 (RB_Pos:12)	16.60	16.73	16.70	18.50	16.69	16.80	16.89	18.50
	25 (RB_Pos:25)	16.55	16.69	16.68	18.50	16.65	16.77	16.86	18.50
	50 (RB_Pos:0)	16.56	16.66	16.72	18.50	16.65	16.73	16.79	18.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	18625	18900	19175	18625		18900	19175		
5 MHz	1 (RB_Pos:0)	16.55	16.58	16.65	18.50	16.78	16.96	16.87	18.50
	1 (RB_Pos:13)	16.57	16.67	16.73	18.50	16.84	16.93	16.95	18.50
	1 (RB_Pos:24)	16.50	16.60	16.62	18.50	16.80	16.92	16.82	18.50
	12 (RB_Pos:0)	16.58	16.60	16.68	18.50	16.75	16.83	16.86	18.50
	12 (RB_Pos:6)	16.62	16.59	16.75	18.50	16.78	16.87	16.89	18.50
	12 (RB_Pos:13)	16.56	16.60	16.69	18.50	16.73	16.85	16.83	18.50
	25 (RB_Pos:0)	16.55	16.61	16.71	18.50	16.66	16.75	16.76	18.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	18615	18900	19185	18615		18900	19185		
3.0 MHz	1 (RB_Pos:0)	16.47	16.55	16.47	18.50	16.48	17.00	16.76	18.50
	1 (RB_Pos:8)	16.44	16.54	16.52	18.50	16.51	16.89	16.78	18.50
	1 (RB_Pos:14)	16.41	16.53	16.60	18.50	16.49	17.01	16.72	18.50
	8 (RB_Pos:0)	16.53	16.57	16.56	18.50	16.73	16.75	16.80	18.50
	8 (RB_Pos:3)	16.55	16.63	16.70	18.50	16.74	16.80	16.81	18.50
	8 (RB_Pos:7)	16.51	16.59	16.64	18.50	16.72	16.74	16.76	18.50
	15 (RB_Pos:0)	16.51	16.54	16.66	18.50	16.64	16.73	16.72	18.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	18607	18900	19193	18607		18900	19193		
1.4 MHz	1 (RB_Pos:0)	16.36	16.49	16.51	18.50	16.65	16.95	16.68	18.50
	1 (RB_Pos:3)	16.47	16.52	16.62	18.50	16.73	16.74	16.74	18.50
	1 (RB_Pos:5)	16.35	16.45	16.57	18.50	16.65	16.95	16.72	18.50
	3 (RB_Pos:0)	16.48	16.53	16.64	18.50	16.64	16.87	16.88	18.50

	3 (RB_Pos:1)	16.55	16.60	16.69	18.50	16.70	16.91	16.94	18.50
	3 (RB_Pos:3)	16.49	16.54	16.66	18.50	16.68	16.84	16.91	18.50
	6 (RB_Pos:0)	16.40	16.50	16.52	18.50	16.66	16.51	16.81	18.50

## 8.6.16 Power Reduced Level 7&amp;8&amp;9 of LTE Band 2

FDD LTE Band 2									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18700	18900	19100		18700	18900	19100	
20 MHz	1 (RB_Pos:0)	17.89	<b>18.01</b>	17.80	19.50	18.36	18.51	18.16	19.50
	1 (RB_Pos:50)	17.88	17.99	17.78	19.50	18.32	18.40	18.10	19.50
	1 (RB_Pos:99)	<b>18.01</b>	17.98	17.80	19.50	18.45	18.47	18.15	19.50
	50 (RB_Pos:0)	17.93	18.02	17.89	19.50	18.12	18.11	17.96	19.50
	50 (RB_Pos:25)	18.04	18.04	17.92	19.50	18.22	18.15	18.00	19.50
	50 (RB_Pos:50)	18.06	17.99	17.88	19.50	18.18	18.08	17.98	19.50
	100 (RB_Pos:0)	17.97	17.96	17.91	19.50	18.17	18.12	18.01	19.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18675	18900	19125		18675	18900	19125	
15 MHz	1 (RB_Pos:0)	17.90	17.98	17.89	19.50	17.94	18.45	18.36	19.50
	1 (RB_Pos:38)	17.86	17.95	17.83	19.50	17.91	18.42	18.25	19.50
	1 (RB_Pos:74)	17.94	17.93	17.86	19.50	17.99	18.43	18.33	19.50
	36 (RB_Pos:0)	17.92	18.01	17.89	19.50	18.06	18.17	17.99	19.50
	36 (RB_Pos:20)	17.96	18.02	17.87	19.50	18.09	18.16	17.99	19.50
	36 (RB_Pos:39)	18.02	17.96	17.88	19.50	18.17	18.13	17.95	19.50
	75 (RB_Pos:0)	17.98	17.97	17.85	19.50	18.14	18.14	17.99	19.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18650	18900	19150		18650	18900	19150	
10 MHz	1 (RB_Pos:0)	17.94	18.00	17.86	19.50	17.93	18.45	18.02	19.50
	1 (RB_Pos:25)	17.85	17.91	17.88	19.50	17.92	18.34	17.98	19.50
	1 (RB_Pos:49)	17.88	17.95	17.88	19.50	17.95	18.36	17.99	19.50
	25 (RB_Pos:0)	17.95	18.03	17.93	19.50	18.09	18.14	18.12	19.50
	25 (RB_Pos:12)	17.98	18.02	17.94	19.50	18.09	18.17	18.12	19.50
	25 (RB_Pos:25)	17.94	18.01	17.89	19.50	18.09	18.12	18.08	19.50
	50 (RB_Pos:0)	17.94	18.00	17.93	19.50	18.07	18.11	18.09	19.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18625	18900	19175		18625	18900	19175	
5 MHz	1 (RB_Pos:0)	17.87	17.97	17.83	19.50	18.20	18.40	18.08	19.50

	1 (RB_Pos:13)	17.95	18.04	17.91	19.50	18.26	18.44	18.14	19.50
	1 (RB_Pos:24)	17.85	17.96	17.82	19.50	18.21	18.38	18.03	19.50
	12 (RB_Pos:0)	17.93	18.01	17.90	19.50	18.13	18.24	18.06	19.50
	12 (RB_Pos:6)	17.96	18.01	17.92	19.50	18.13	18.25	18.07	19.50
	12 (RB_Pos:13)	17.92	18.00	17.89	19.50	18.12	18.22	18.06	19.50
	25 (RB_Pos:0)	17.92	17.99	17.89	19.50	18.05	18.18	17.94	19.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18615	18900	19185		18615	18900	19185	
3.0 MHz	1 (RB_Pos:0)	17.93	17.92	17.83	19.50	17.91	18.42	17.99	19.50
	1 (RB_Pos:8)	17.89	17.92	17.83	19.50	17.94	18.42	18.00	19.50
	1 (RB_Pos:14)	17.85	17.91	17.82	19.50	17.91	18.41	17.94	19.50
	8 (RB_Pos:0)	17.95	17.97	17.90	19.50	18.14	18.12	18.02	19.50
	8 (RB_Pos:3)	17.98	17.99	17.89	19.50	18.17	18.18	18.05	19.50
	8 (RB_Pos:7)	17.95	17.98	17.86	19.50	18.16	18.12	18.03	19.50
	15 (RB_Pos:0)	17.94	17.99	17.90	19.50	18.06	18.12	17.94	19.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	18607	18900	19193		18607	18900	19193	
1.4 MHz	1 (RB_Pos:0)	17.96	17.85	17.76	19.50	18.08	18.35	17.92	19.50
	1 (RB_Pos:3)	18.05	17.98	17.84	19.50	18.18	18.42	17.98	19.50
	1 (RB_Pos:5)	17.94	17.88	17.76	19.50	18.11	18.37	17.93	19.50
	3 (RB_Pos:0)	18.03	17.92	17.88	19.50	18.06	18.26	18.16	19.50
	3 (RB_Pos:1)	18.02	18.01	17.92	19.50	18.13	18.28	18.16	19.50
	3 (RB_Pos:3)	17.90	17.95	17.87	19.50	18.09	18.24	18.10	19.50
	6 (RB_Pos:0)	17.91	17.90	17.74	19.50	18.09	17.89	18.05	19.50

### 8.6.17 Power Reduced Level 1&2&3 of LTE Band 4

FDD LTE Band 4									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20050	20175	20300		20050	20175	20300	
20 MHz	1 (RB_Pos:0)	15.00	14.81	14.89	16.50	15.09	15.07	15.10	16.50
	1 (RB_Pos:50)	14.87	14.78	14.86	16.50	15.10	15.08	15.13	16.50
	1 (RB_Pos:99)	<b>15.02</b>	14.75	14.85	16.50	15.03	15.16	14.96	16.50
	50 (RB_Pos:0)	14.94	14.92	14.87	16.50	14.98	15.21	15.13	16.50
	50 (RB_Pos:25)	14.77	14.89	14.85	16.50	15.18	15.25	15.20	16.50
	50 (RB_Pos:50)	15.02	14.95	14.92	16.50	15.23	15.24	15.04	16.50
	100 (RB_Pos:0)	15.04	15.03	14.93	16.50	15.20	15.19	15.17	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up	16QAM			Tune up

	Channel	20025	20175	20325	limit (dBm)	20025	20175	20325	limit (dBm)
15 MHz	1 (RB_Pos:0)	15.15	15.26	15.17	16.50	15.21	15.24	15.17	16.50
	1 (RB_Pos:38)	15.37	15.15	15.20	16.50	15.09	15.11	15.23	16.50
	1 (RB_Pos:74)	15.32	15.05	15.13	16.50	15.08	15.02	15.07	16.50
	36 (RB_Pos:0)	15.39	15.27	15.07	16.50	15.02	14.99	15.02	16.50
	36 (RB_Pos:20)	15.18	15.24	15.13	16.50	15.16	15.24	15.04	16.50
	36 (RB_Pos:39)	15.27	15.28	15.19	16.50	15.01	15.10	15.06	16.50
	75 (RB_Pos:0)	15.18	15.28	15.33	16.50	14.97	15.19	14.99	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20000	20175	20350	limit (dBm)	20000	20175	20350	limit (dBm)
10 MHz	1 (RB_Pos:0)	15.25	15.32	15.08	16.50	15.23	15.16	14.99	16.50
	1 (RB_Pos:25)	15.33	15.10	15.13	16.50	15.09	14.97	15.09	16.50
	1 (RB_Pos:49)	15.22	15.14	15.30	16.50	15.00	15.21	15.24	16.50
	25 (RB_Pos:0)	15.17	15.06	15.15	16.50	15.10	14.95	15.02	16.50
	25 (RB_Pos:12)	15.21	15.29	15.34	16.50	15.05	15.04	15.21	16.50
	25 (RB_Pos:25)	15.15	15.24	15.13	16.50	14.96	15.06	15.04	16.50
	50 (RB_Pos:0)	15.31	15.20	15.08	16.50	15.15	15.10	15.24	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19975	20175	20375	limit (dBm)	19975	20175	20375	limit (dBm)
5 MHz	1 (RB_Pos:0)	15.17	15.07	15.35	16.50	14.97	15.04	15.21	16.50
	1 (RB_Pos:13)	15.38	15.26	15.14	16.50	14.98	15.21	15.10	16.50
	1 (RB_Pos:24)	15.40	15.31	15.14	16.50	14.96	15.14	15.06	16.50
	12 (RB_Pos:0)	15.30	15.19	15.21	16.50	15.15	15.23	15.15	16.50
	12 (RB_Pos:6)	15.22	15.08	15.19	16.50	15.09	15.15	15.06	16.50
	12 (RB_Pos:13)	15.26	15.13	15.19	16.50	15.23	15.05	15.00	16.50
	25 (RB_Pos:0)	15.42	15.07	15.29	16.50	15.24	15.06	15.22	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19965	20175	20385	limit (dBm)	19965	20175	20385	limit (dBm)
3.0 MHz	1 (RB_Pos:0)	15.24	15.30	15.21	16.50	15.23	15.05	15.04	16.50
	1 (RB_Pos:8)	15.30	15.25	15.27	16.50	15.16	15.00	15.04	16.50
	1 (RB_Pos:14)	15.35	15.32	15.06	16.50	15.12	15.20	15.02	16.50
	8 (RB_Pos:0)	15.16	15.32	15.27	16.50	14.95	15.14	15.25	16.50
	8 (RB_Pos:3)	15.34	15.31	15.30	16.50	15.00	15.02	15.16	16.50
	8 (RB_Pos:7)	15.24	15.09	15.21	16.50	15.02	15.09	15.19	16.50
	15 (RB_Pos:0)	15.19	15.23	15.14	16.50	15.19	15.05	15.20	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19957	20175	20393	limit (dBm)	19957	20175	20393	limit (dBm)

					(dBm)				(dBm)
1.4 MHz	1 (RB_Pos:0)	15.29	15.32	15.16	16.50	14.96	14.97	15.00	16.50
	1 (RB_Pos:3)	15.34	15.10	15.08	16.50	15.04	15.24	15.09	16.50
	1 (RB_Pos:5)	15.15	15.30	15.07	16.50	15.00	15.12	15.05	16.50
	3 (RB_Pos:0)	15.26	15.10	15.21	16.50	15.08	15.14	15.22	16.50
	3 (RB_Pos:1)	15.18	15.18	15.19	16.50	15.18	15.01	15.15	16.50
	3 (RB_Pos:3)	15.22	15.19	15.24	16.50	15.20	15.10	15.13	16.50
	6 (RB_Pos:0)	15.33	15.14	15.12	16.50	15.12	15.17	15.21	16.50

## 8.6.18 Power Reduced Level 4&amp;5&amp;6 of LTE Band 4

FDD LTE Band 4									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20050	20175	20300		20050	20175	20300	
20 MHz	1 (RB_Pos:0)	19.19	19.07	19.01	21.00	19.45	19.54	19.35	21.00
	1 (RB_Pos:50)	<b>19.22</b>	19.11	19.19	21.00	19.38	19.55	19.58	21.00
	1 (RB_Pos:99)	19.21	19.11	19.19	21.00	19.37	19.61	19.65	21.00
	50 (RB_Pos:0)	19.28	19.17	19.17	21.00	19.33	19.24	19.21	21.00
	50 (RB_Pos:25)	19.30	19.18	19.18	21.00	19.36	19.25	19.21	21.00
	50 (RB_Pos:50)	19.28	19.18	19.25	21.00	19.35	19.27	19.28	21.00
	100 (RB_Pos:0)	19.25	19.18	19.12	21.00	19.33	19.24	19.18	21.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20025	20175	20325		20025	20175	20325	
15 MHz	1 (RB_Pos:0)	19.20	19.06	19.10	21.00	19.19	19.55	19.57	21.00
	1 (RB_Pos:38)	19.19	19.08	19.21	21.00	19.19	19.54	19.61	21.00
	1 (RB_Pos:74)	19.17	19.02	19.14	21.00	19.16	19.48	19.64	21.00
	36 (RB_Pos:0)	19.23	19.10	19.11	21.00	19.28	19.24	19.16	21.00
	36 (RB_Pos:20)	19.25	19.15	19.28	21.00	19.35	19.28	19.31	21.00
	36 (RB_Pos:39)	19.27	19.17	19.23	21.00	19.32	19.24	19.27	21.00
	75 (RB_Pos:0)	19.25	19.11	19.11	21.00	19.33	19.21	19.20	21.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20000	20175	20350		20000	20175	20350	
10 MHz	1 (RB_Pos:0)	19.27	19.13	19.23	21.00	19.24	19.54	19.28	21.00
	1 (RB_Pos:25)	19.26	19.12	19.22	21.00	19.17	19.54	19.23	21.00
	1 (RB_Pos:49)	19.23	19.09	19.18	21.00	19.18	19.50	19.18	21.00
	25 (RB_Pos:0)	19.35	19.19	19.24	21.00	19.38	19.27	19.37	21.00
	25 (RB_Pos:12)	19.35	19.18	19.26	21.00	19.38	19.31	19.39	21.00
	25 (RB_Pos:25)	19.32	19.20	19.21	21.00	19.35	19.26	19.33	21.00
	50 (RB_Pos:0)	19.35	19.19	19.23	21.00	19.38	19.25	19.29	21.00

Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19975	20175	20375		19975	20175	20375	
5 MHz	1 (RB_Pos:0)	19.18	19.14	19.21	21.00	19.47	19.42	19.38	21.00
	1 (RB_Pos:13)	19.25	19.21	19.31	21.00	19.56	18.48	19.45	21.00
	1 (RB_Pos:24)	19.16	19.12	19.19	21.00	19.48	18.70	19.34	21.00
	12 (RB_Pos:0)	19.36	19.13	19.25	21.00	19.45	19.38	19.33	21.00
	12 (RB_Pos:6)	19.38	19.22	19.28	21.00	19.47	19.45	19.36	21.00
	12 (RB_Pos:13)	19.33	19.14	19.25	21.00	19.42	19.39	19.32	21.00
	25 (RB_Pos:0)	19.32	19.13	19.23	21.00	19.37	19.29	19.23	21.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19965	20175	20385		19965	20175	20385	
3.0 MHz	1 (RB_Pos:0)	19.32	19.17	19.21	21.00	19.19	19.57	19.28	21.00
	1 (RB_Pos:8)	19.31	19.14	19.24	21.00	19.24	19.55	19.28	21.00
	1 (RB_Pos:14)	19.29	19.15	19.23	21.00	19.21	19.57	19.24	21.00
	8 (RB_Pos:0)	19.34	19.22	19.27	21.00	19.46	19.29	19.32	21.00
	8 (RB_Pos:3)	19.40	19.25	19.28	21.00	19.49	19.37	19.35	21.00
	8 (RB_Pos:7)	19.35	19.20	19.23	21.00	19.45	19.29	19.33	21.00
	15 (RB_Pos:0)	19.32	19.21	19.25	21.00	19.37	19.26	19.25	21.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19957	20175	20393		19957	20175	20393	
1.4 MHz	1 (RB_Pos:0)	19.23	19.07	19.19	21.00	19.37	19.50	19.23	21.00
	1 (RB_Pos:3)	19.30	19.18	19.25	21.00	19.48	19.57	19.29	21.00
	1 (RB_Pos:5)	19.26	19.11	19.18	21.00	19.41	19.48	19.28	21.00
	3 (RB_Pos:0)	19.28	19.13	19.25	21.00	19.38	19.39	19.43	21.00
	3 (RB_Pos:1)	19.31	19.19	19.33	21.00	19.42	19.41	19.48	21.00
	3 (RB_Pos:3)	19.26	19.13	19.28	21.00	19.39	19.35	19.42	21.00
	6 (RB_Pos:0)	19.25	19.14	19.18	21.00	19.47	19.03	19.40	21.00

### 8.6.19 Power Reduced Level 7&8&9 of LTE Band 4

FDD LTE Band 4									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20050	20175	20300		20050	20175	20300	
20 MHz	1 (RB_Pos:0)	<b>21.96</b>	21.87	21.78	23.50	22.01	21.78	21.71	23.00
	1 (RB_Pos:50)	<b>21.96</b>	21.87	21.92	23.50	22.00	21.79	21.88	23.00
	1 (RB_Pos:99)	21.93	21.92	21.93	23.50	22.00	21.80	21.88	23.00
	50 (RB_Pos:0)	21.46	21.37	21.39	23.00	20.57	20.45	20.39	22.00



	50 (RB_Pos:25)	21.52	21.44	21.41	23.00	20.65	20.50	20.49	22.00
	50 (RB_Pos:50)	21.51	21.38	21.48	23.00	20.58	20.45	20.50	22.00
	100 (RB_Pos:0)	21.44	21.35	21.39	23.00	20.61	20.44	20.39	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20025	20175	20325		20025	20175	20325	
15 MHz	1 (RB_Pos:0)	21.98	21.81	21.88	23.50	21.45	21.79	21.83	23.00
	1 (RB_Pos:38)	21.95	21.81	21.96	23.50	21.45	21.76	21.87	23.00
	1 (RB_Pos:74)	21.94	21.81	21.90	23.50	21.42	21.79	21.84	23.00
	36 (RB_Pos:0)	21.50	21.32	21.35	23.00	20.53	20.51	20.43	22.00
	36 (RB_Pos:20)	21.51	21.40	21.51	23.00	20.61	20.53	20.55	22.00
	36 (RB_Pos:39)	21.52	21.41	21.50	23.00	20.62	20.49	20.55	22.00
	75 (RB_Pos:0)	21.45	21.36	21.35	23.00	20.55	20.48	20.46	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20000	20175	20350		20000	20175	20350	
10 MHz	1 (RB_Pos:0)	21.98	21.88	21.98	23.50	21.47	21.75	21.57	23.00
	1 (RB_Pos:25)	21.98	21.89	21.95	23.50	21.43	21.76	21.54	23.00
	1 (RB_Pos:49)	22.01	21.83	21.95	23.50	21.43	21.78	21.50	23.00
	25 (RB_Pos:0)	21.51	21.38	21.46	23.00	20.57	20.45	20.59	22.00
	25 (RB_Pos:12)	21.57	21.40	21.50	23.00	20.60	20.47	20.62	22.00
	25 (RB_Pos:25)	21.48	21.40	21.48	23.00	20.56	20.48	20.62	22.00
	50 (RB_Pos:0)	21.49	21.43	21.47	23.00	20.56	20.47	20.56	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19975	20175	20375		19975	20175	20375	
5 MHz	1 (RB_Pos:0)	21.99	21.88	21.95	23.50	21.67	21.93	21.62	23.00
	1 (RB_Pos:13)	22.04	21.94	22.04	23.50	21.75	22.01	21.71	23.00
	1 (RB_Pos:24)	21.90	21.89	21.92	23.50	21.67	21.90	21.60	23.00
	12 (RB_Pos:0)	21.50	21.38	21.50	23.00	20.58	20.59	20.58	22.00
	12 (RB_Pos:6)	21.55	21.42	21.51	23.00	20.64	20.61	20.58	22.00
	12 (RB_Pos:13)	21.48	21.37	21.47	23.00	20.64	20.57	20.57	22.00
	25 (RB_Pos:0)	21.48	21.36	21.47	23.00	20.58	20.53	20.47	22.00
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	19965	20175	20385		19965	20175	20385	
3.0 MHz	1 (RB_Pos:0)	22.02	21.83	21.97	23.50	21.40	21.75	21.55	23.00
	1 (RB_Pos:8)	21.97	21.83	21.95	23.50	21.42	21.79	21.54	23.00
	1 (RB_Pos:14)	21.98	21.84	21.95	23.50	21.37	21.78	21.50	23.00
	8 (RB_Pos:0)	21.56	21.38	21.49	23.00	20.68	20.48	20.58	22.00
	8 (RB_Pos:3)	21.59	21.45	21.52	23.00	20.70	20.53	20.63	22.00

Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	19957	20175	20393	19957		20175	20393		
	8 (RB_Pos:7)	21.56	21.44	21.48	23.00	20.63	20.48	20.54	22.00
	15 (RB_Pos:0)	21.52	21.37	21.45	23.00	20.55	20.47	20.45	22.00
1.4 MHz	1 (RB_Pos:0)	21.92	21.81	21.89	23.50	21.58	21.73	21.47	23.00
	1 (RB_Pos:3)	21.97	21.82	21.95	23.50	21.61	21.76	21.53	23.00
	1 (RB_Pos:5)	21.90	21.82	21.91	23.50	21.58	21.70	21.49	23.00
	3 (RB_Pos:0)	21.95	21.82	21.90	23.50	21.59	21.55	21.63	23.00
	3 (RB_Pos:1)	22.00	21.85	22.00	23.50	21.61	21.62	21.68	23.00
	3 (RB_Pos:3)	21.93	21.79	21.93	23.50	21.54	21.54	21.62	23.00
	6 (RB_Pos:0)	21.43	21.33	21.39	23.00	20.65	20.22	20.63	22.50

### 8.6.20 Power Reduced Level 1&2&3 of LTE Band 5

FDD LTE Band 5									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	20450	20525	20600	20450		20525	20600		
10 MHz	1 (RB_Pos:0)	20.81	20.85	<b>20.96</b>	22.30	20.77	21.26	21.01	22.30
	1 (RB_Pos:25)	20.82	20.84	20.88	22.30	20.81	21.28	20.96	22.30
	1 (RB_Pos:49)	20.87	20.94	20.95	22.30	20.86	21.35	20.99	22.30
	25 (RB_Pos:0)	20.90	20.94	20.92	22.30	20.98	21.05	21.09	22.30
	25 (RB_Pos:12)	20.88	20.94	20.94	22.30	21.02	21.02	21.05	22.30
	25 (RB_Pos:25)	20.97	20.91	20.91	22.30	21.02	20.97	21.03	22.30
	50 (RB_Pos:0)	20.88	20.91	20.90	22.30	20.92	20.99	20.97	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	20425	20525	20625	20425		20525	20625		
5MHz	1 (RB_Pos:0)	20.82	20.89	20.89	22.30	21.06	21.15	21.05	22.30
	1 (RB_Pos:13)	20.84	20.93	20.98	22.30	21.08	21.21	21.16	22.30
	1 (RB_Pos:24)	20.80	20.95	20.90	22.30	21.12	21.17	21.11	22.30
	12 (RB_Pos:0)	20.84	20.87	20.91	22.30	20.94	21.14	20.99	22.30
	12 (RB_Pos:6)	20.94	20.92	21.01	22.30	21.13	21.13	21.13	22.30
	12 (RB_Pos:13)	20.92	20.90	20.99	22.30	21.06	21.10	21.09	22.30
	25 (RB_Pos:0)	20.90	20.90	20.87	22.30	21.05	21.05	20.87	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
Channel	20415	20525	20635	20415		20525	20635		
3.0 MHz	1 (RB_Pos:0)	20.84	20.90	21.00	22.30	20.77	21.33	21.08	22.30
	1 (RB_Pos:8)	20.78	20.83	20.95	22.30	20.76	21.25	21.02	22.30

	1 (RB_Pos:14)	20.79	20.87	20.92	22.30	20.71	21.26	20.98	22.30
	8 (RB_Pos:0)	20.87	20.89	20.97	22.30	21.01	21.07	21.10	22.30
	8 (RB_Pos:3)	20.85	20.93	21.03	22.30	21.05	21.04	21.11	22.30
	8 (RB_Pos:7)	20.80	20.93	20.93	22.30	20.96	20.99	21.06	22.30
	15 (RB_Pos:0)	20.86	20.90	21.00	22.30	20.95	20.99	20.99	22.30
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20407	20525	20643		20407	20525	20643	
1.4MHz	1 (RB_Pos:0)	20.75	20.80	20.83	22.30	20.93	21.24	20.96	22.30
	1 (RB_Pos:3)	20.76	20.80	20.91	22.30	20.98	21.24	20.96	22.30
	1 (RB_Pos:5)	20.76	20.80	20.82	22.30	20.95	21.18	20.93	22.30
	3 (RB_Pos:0)	20.76	20.80	20.91	22.30	20.88	21.10	21.08	22.30
	3 (RB_Pos:1)	20.83	20.85	20.97	22.30	20.92	21.13	21.17	22.30
	3 (RB_Pos:3)	20.78	20.83	20.92	22.30	20.91	21.05	21.11	22.30
	6 (RB_Pos:0)	20.77	20.82	20.84	22.30	20.96	20.77	21.11	22.30

### 8.6.21 Power Reduced Level 1&2&3&4&5&6 of LTE Band 7

FDD LTE Band 7									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20850	21100	21350		20850	21100	21350	
20MHz	1 (RB_Pos:0)	15.16	15.18	15.14	16.50	15.32	15.29	15.27	16.50
	1 (RB_Pos:50)	15.22	15.15	15.20	16.50	15.29	15.37	15.26	16.50
	1 (RB_Pos:99)	15.18	<b>15.24</b>	15.19	16.50	15.28	15.29	15.36	16.50
	50 (RB_Pos:0)	15.27	15.33	15.22	16.50	15.31	15.46	15.35	16.50
	50 (RB_Pos:25)	15.23	15.23	15.19	16.50	15.29	15.53	15.36	16.50
	50 (RB_Pos:50)	15.22	15.40	15.14	16.50	15.26	15.42	15.24	16.50
	100 (RB_Pos:0)	15.15	15.42	15.15	16.50	15.31	15.43	15.23	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20825	21100	21375		20825	21100	21375	
15MHz	1 (RB_Pos:0)	15.23	15.32	15.22	16.50	15.27	15.34	15.29	16.50
	1 (RB_Pos:38)	15.22	15.17	15.18	16.50	15.37	15.42	15.23	16.50
	1 (RB_Pos:74)	15.23	15.28	15.26	16.50	15.32	15.45	15.30	16.50
	36 (RB_Pos:0)	15.24	15.32	15.23	16.50	15.33	15.48	15.34	16.50
	36 (RB_Pos:20)	15.20	15.17	15.19	16.50	15.25	15.36	15.31	16.50
	36 (RB_Pos:39)	15.27	15.34	15.20	16.50	15.32	15.43	15.24	16.50
	75 (RB_Pos:0)	15.27	15.17	15.18	16.50	15.33	15.29	15.30	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit	16QAM			Tune up limit
	Channel	20800	21100	21400		20800	21100	21400	

					(dBm)				(dBm)
10MHz	1 (RB_Pos:0)	15.22	15.19	15.26	16.50	15.23	15.28	15.35	16.50
	1 (RB_Pos:25)	15.19	15.45	15.19	16.50	15.29	15.45	15.23	16.50
	1 (RB_Pos:49)	15.23	15.30	15.21	16.50	15.37	15.41	15.25	16.50
	25 (RB_Pos:0)	15.16	15.30	15.16	16.50	15.31	15.31	15.24	16.50
	25 (RB_Pos:12)	15.18	15.29	15.13	16.50	15.32	15.28	15.23	16.50
	25 (RB_Pos:25)	15.16	15.43	15.27	16.50	15.30	15.25	15.29	16.50
	50 (RB_Pos:0)	15.20	15.42	15.23	16.50	15.28	15.40	15.36	16.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20775	21100	21425		20775	21100	21425	
5MHz	1 (RB_Pos:0)	15.21	15.36	15.26	16.50	15.47	15.63	15.38	16.50
	1 (RB_Pos:13)	15.13	15.18	15.15	16.50	15.58	15.48	15.43	16.50
	1 (RB_Pos:24)	15.16	15.30	15.20	16.50	15.44	15.60	15.38	16.50
	12 (RB_Pos:0)	15.19	15.39	15.20	16.50	15.62	15.40	15.51	16.50
	12 (RB_Pos:6)	15.26	15.30	15.27	16.50	15.43	15.43	15.50	16.50
	12 (RB_Pos:13)	15.26	15.28	15.24	16.50	15.49	15.61	15.60	16.50
	25 (RB_Pos:0)	15.21	15.31	15.26	16.50	15.52	15.55	15.42	16.50

### 8.6.22 Power Reduced Level 7&8&9 of LTE Band 7

FDD LTE Band 7									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20850	21100	21350		20850	21100	21350	
20MHz	1 (RB_Pos:0)	19.31	<b>19.54</b>	19.28	20.50	19.36	19.67	19.33	20.50
	1 (RB_Pos:50)	19.27	19.21	19.21	20.50	19.49	19.31	19.39	20.50
	1 (RB_Pos:99)	19.36	19.43	19.34	20.50	19.40	19.50	19.40	20.50
	50 (RB_Pos:0)	19.30	19.24	19.23	20.50	19.34	19.57	19.33	20.50
	50 (RB_Pos:25)	19.35	19.52	19.39	20.50	19.32	19.32	19.47	20.50
	50 (RB_Pos:50)	19.29	19.36	19.21	20.50	19.39	19.55	19.38	20.50
	100 (RB_Pos:0)	19.38	19.27	19.36	20.50	19.48	19.37	19.49	20.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20825	21100	21375		20825	21100	21375	
15MHz	1 (RB_Pos:0)	19.28	19.44	19.36	20.50	19.50	19.52	19.31	20.50
	1 (RB_Pos:38)	19.37	19.59	19.33	20.50	19.40	19.59	19.31	20.50
	1 (RB_Pos:74)	19.30	19.28	19.33	20.50	19.37	19.63	19.41	20.50
	36 (RB_Pos:0)	19.23	19.55	19.33	20.50	19.39	19.39	19.36	20.50
	36 (RB_Pos:20)	19.21	19.38	19.27	20.50	19.32	19.33	19.40	20.50
	36 (RB_Pos:39)	19.34	19.45	19.39	20.50	19.32	19.53	19.46	20.50
	75 (RB_Pos:0)	19.38	19.44	19.25	20.50	19.38	19.49	19.49	20.50

Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20800	21100	21400		20800	21100	21400	
10MHz	1 (RB_Pos:0)	19.34	19.41	19.36	20.50	19.45	19.60	19.44	20.50
	1 (RB_Pos:25)	19.22	19.21	19.31	20.50	19.36	19.69	19.33	20.50
	1 (RB_Pos:49)	19.33	19.30	19.21	20.50	19.35	19.35	19.31	20.50
	25 (RB_Pos:0)	19.20	19.45	19.37	20.50	19.34	19.67	19.35	20.50
	25 (RB_Pos:12)	19.38	19.49	19.25	20.50	19.44	19.32	19.45	20.50
	25 (RB_Pos:25)	19.21	19.59	19.37	20.50	19.38	19.62	19.49	20.50
	50 (RB_Pos:0)	19.34	19.25	19.21	20.50	19.33	19.63	19.41	20.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	20775	21100	21425		20775	21100	21425	
5MHz	1 (RB_Pos:0)	19.30	19.57	19.30	20.50	19.39	19.56	19.48	20.50
	1 (RB_Pos:13)	19.21	19.47	19.23	20.50	19.31	19.37	19.40	20.50
	1 (RB_Pos:24)	19.31	19.53	19.38	20.50	19.41	19.51	19.42	20.50
	12 (RB_Pos:0)	19.33	19.39	19.29	20.50	19.35	19.45	19.43	20.50
	12 (RB_Pos:6)	19.35	19.24	19.40	20.50	19.34	19.46	19.32	20.50
	12 (RB_Pos:13)	19.34	19.55	19.22	20.50	19.43	19.62	19.31	20.50
	25 (RB_Pos:0)	19.38	19.21	19.37	20.50	19.39	19.31	19.39	20.50

### 8.6.23 Power Reduced Level 1&2&3 of LTE Band 38

TDD LTE Band 38									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37850	38000	38150		37850	38000	38150	
20MHz	1 (RB_Pos:0)	19.69	19.61	<b>19.73</b>	20.50	20.02	19.95	20.14	20.50
	1 (RB_Pos:50)	19.67	19.55	19.70	20.50	19.99	19.90	20.18	20.50
	1 (RB_Pos:99)	19.67	19.62	19.64	20.50	20.08	19.90	20.10	20.50
	50 (RB_Pos:0)	19.73	19.71	19.68	20.50	19.80	19.83	19.85	20.50
	50 (RB_Pos:25)	19.72	19.74	19.67	20.50	19.85	19.83	19.84	20.50
	50 (RB_Pos:50)	19.70	19.66	19.67	20.50	19.82	19.83	19.83	20.50
	100 (RB_Pos:0)	19.73	19.73	19.66	20.50	19.78	19.84	19.76	20.50
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
	Channel	37825	38000	38175		37825	38000	38175	
15MHz	1 (RB_Pos:0)	19.62	19.68	19.74	20.50	19.51	19.82	19.90	20.50
	1 (RB_Pos:38)	19.61	19.67	19.66	20.50	19.75	19.87	19.95	20.50
	1 (RB_Pos:74)	19.58	19.68	19.62	20.50	19.76	19.85	19.96	20.50
	36 (RB_Pos:0)	19.69	19.70	19.65	20.50	19.80	19.80	19.81	20.50

Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
		Channel	37800	38000		38200	37800	38000	
	36 (RB_Pos:20)	19.70	19.70	19.63	20.50	19.84	19.82	19.83	20.50
	36 (RB_Pos:39)	19.67	19.65	19.61	20.50	19.81	19.77	19.79	20.50
	75 (RB_Pos:0)	19.65	19.70	19.64	20.50	19.87	19.82	19.80	20.50
10MHz	1 (RB_Pos:0)	19.65	19.69	19.69	20.50	19.84	19.91	19.86	20.50
	1 (RB_Pos:25)	19.67	19.67	19.68	20.50	19.85	19.87	19.89	20.50
	1 (RB_Pos:49)	19.62	19.67	19.63	20.50	19.83	19.89	19.95	20.50
	25 (RB_Pos:0)	19.73	19.72	19.69	20.50	19.84	19.83	19.83	20.50
	25 (RB_Pos:12)	19.74	19.73	19.70	20.50	19.86	19.85	19.81	20.50
	25 (RB_Pos:25)	19.71	19.70	19.66	20.50	19.81	19.80	19.78	20.50
	50 (RB_Pos:0)	19.67	19.75	19.65	20.50	19.86	19.85	19.86	20.50
5MHz	1 (RB_Pos:0)	19.82	19.74	19.65	20.50	20.07	20.00	19.98	20.50
	1 (RB_Pos:13)	19.87	19.79	19.67	20.50	20.05	20.07	20.04	20.50
	1 (RB_Pos:24)	19.82	19.75	19.64	20.50	20.00	20.02	20.04	20.50
	12 (RB_Pos:0)	19.84	19.71	19.65	20.50	19.83	19.95	19.81	20.50
	12 (RB_Pos:6)	19.85	19.74	19.68	20.50	19.86	19.96	19.86	20.50
	12 (RB_Pos:13)	19.80	19.71	19.66	20.50	19.80	19.90	19.80	20.50
	25 (RB_Pos:0)	19.80	19.68	19.65	20.50	19.86	19.81	19.78	20.50

### 8.6.24 Power Reduced Level 4&5&6 of LTE Band 38

TDD LTE Band 38									
Bandwidth (MHz)	RB Set	Power (dBm)							
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)
		Channel	37850	38000		38150	37850	38000	
20MHz	1 (RB_Pos:0)	21.93	21.99	<b>22.12</b>	23.00	22.04	22.07	22.36	23.00
	1 (RB_Pos:50)	21.95	22.11	22.10	23.00	22.16	22.12	22.36	23.00
	1 (RB_Pos:99)	22.11	21.99	22.07	23.00	22.30	22.10	22.27	23.00
	50 (RB_Pos:0)	22.04	22.14	22.10	23.00	21.11	21.24	21.25	23.00
	50 (RB_Pos:25)	22.07	22.16	22.11	23.00	21.19	21.27	21.24	23.00
	50 (RB_Pos:50)	22.17	22.12	22.07	23.00	21.21	21.22	21.21	23.00
	100 (RB_Pos:0)	22.05	22.14	22.08	23.00	21.10	21.22	21.19	23.00
15MHz	1 (RB_Pos:0)	21.80	21.98	22.13	23.00	21.94	22.28	22.24	23.00

	1 (RB_Pos:38)	22.00	22.06	22.05	23.00	22.08	22.35	22.21	23.00	
	1 (RB_Pos:74)	21.88	22.10	22.05	23.00	22.13	22.31	22.21	23.00	
	36 (RB_Pos:0)	22.01	22.13	22.09	23.00	21.10	21.22	21.22	23.00	
	36 (RB_Pos:20)	22.00	22.12	22.12	23.00	21.10	21.23	21.21	23.00	
	36 (RB_Pos:39)	22.00	22.09	22.08	23.00	21.08	21.20	21.19	23.00	
	75 (RB_Pos:0)	22.01	22.12	22.08	23.00	21.12	21.23	21.20	23.00	
Bandwidth (MHz)	RB Set	Power (dBm)								
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)	
	Channel	37800	38000	38200		37800	38000	38200		
10MHz	1 (RB_Pos:0)	21.80	22.07	22.08	23.00	22.02	22.32	22.24	23.00	
	1 (RB_Pos:25)	21.78	22.06	22.07	23.00	21.97	22.31	22.22	23.00	
	1 (RB_Pos:49)	21.95	22.07	22.03	23.00	22.09	22.32	22.28	23.00	
	25 (RB_Pos:0)	21.88	22.10	22.08	23.00	20.99	21.16	21.18	23.00	
	25 (RB_Pos:12)	22.03	22.11	22.07	23.00	21.10	21.20	21.17	23.00	
	25 (RB_Pos:25)	21.98	22.09	22.03	23.00	21.07	21.15	21.19	23.00	
	50 (RB_Pos:0)	21.99	22.04	22.04	23.00	21.08	21.21	21.23	23.00	
Bandwidth (MHz)	RB Set	Power (dBm)								
		QPSK			Tune up limit (dBm)	16QAM			Tune up limit (dBm)	
	Channel	37775	38000	38225		37775	38000	38225		
5MHz	1 (RB_Pos:0)	21.82	22.05	22.06	23.00	22.10	22.33	22.40	23.00	
	1 (RB_Pos:13)	21.91	22.13	22.10	23.00	22.22	22.47	22.49	23.00	
	1 (RB_Pos:24)	21.87	22.05	22.03	23.00	22.17	22.36	22.44	23.00	
	12 (RB_Pos:0)	21.90	22.05	21.97	23.00	20.98	21.15	21.21	23.00	
	12 (RB_Pos:6)	21.91	22.09	22.03	23.00	21.04	21.21	21.26	23.00	
	12 (RB_Pos:13)	21.88	22.06	21.99	23.00	21.00	21.12	21.18	23.00	
	25 (RB_Pos:0)	21.85	22.04	21.97	23.00	20.96	21.16	21.09	23.00	

### 8.6.25 Power Reduced Level 1&2&3 of LTE Band 41

TDD LTE Band 41											
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
	Channel	40140	40473	40807	41140		40140	40473	40807	41140	
20MHz	1 (RB_Pos:0)	19.63	19.62	19.60	19.66	20.50	20.00	20.00	19.99	20.04	20.50
	1 (RB_Pos:50)	19.59	19.59	19.58	<b>19.70</b>	20.50	19.94	19.95	19.91	20.03	20.50
	1 (RB_Pos:99)	19.53	19.61	19.61	19.63	20.50	19.88	19.93	19.85	20.09	20.50
	50 (RB_Pos:0)	19.63	19.73	19.71	19.69	20.50	19.71	19.85	19.68	19.81	20.50
	50 (RB_Pos:25)	19.65	19.72	19.72	19.69	20.50	19.71	19.83	19.70	19.83	20.50
	50 (RB_Pos:50)	19.58	19.65	19.64	19.62	20.50	19.66	19.78	19.69	19.77	20.50
	100 (RB_Pos:0)	19.62	19.70	19.69	19.64	20.50	19.69	19.81	19.67	19.75	20.50
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up	16QAM				Tune up

	Channel	40115	40465	40815	41165	limit (dBm)	40115	40465	40815	41165	limit (dBm)
15MHz	1 (RB_Pos:0)	19.57	19.65	19.63	19.50	20.50	19.94	20.01	19.98	19.97	20.50
	1 (RB_Pos:38)	19.53	19.57	19.56	19.52	20.50	19.91	19.97	19.89	19.91	20.50
	1 (RB_Pos:74)	19.45	19.60	19.59	19.42	20.50	19.90	19.92	19.85	19.82	20.50
	36 (RB_Pos:0)	19.57	19.65	19.65	19.50	20.50	19.67	19.76	19.71	19.67	20.50
	36 (RB_Pos:20)	19.60	19.69	19.68	19.51	20.50	19.69	19.76	19.65	19.64	20.50
	36 (RB_Pos:39)	19.56	19.65	19.64	19.48	20.50	19.65	19.75	19.61	19.63	20.50
	75 (RB_Pos:0)	19.55	19.63	19.62	19.46	20.50	19.74	19.80	19.73	19.67	20.50
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up	16QAM				Tune up
	Channel	40090	40457	40823	41190	limit (dBm)	40090	40457	40823	41190	limit (dBm)
10MHz	1 (RB_Pos:0)	19.52	19.65	19.64	19.42	20.50	19.91	19.86	19.94	19.88	20.50
	1 (RB_Pos:25)	19.50	19.68	19.58	19.46	20.50	19.89	19.93	19.92	19.90	20.50
	1 (RB_Pos:49)	19.57	19.63	19.65	19.43	20.50	19.88	19.90	19.93	19.90	20.50
	25 (RB_Pos:0)	19.59	19.64	19.65	19.50	20.50	19.71	19.73	19.78	19.66	20.50
	25 (RB_Pos:12)	19.63	19.66	19.66	19.54	20.50	19.72	19.67	19.80	19.63	20.50
	25 (RB_Pos:25)	19.60	19.65	19.67	19.50	20.50	19.70	19.72	19.75	19.61	20.50
	50 (RB_Pos:0)	19.59	19.63	19.69	19.53	20.50	19.69	19.74	19.80	19.66	20.50
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up	16QAM				Tune up
	Channel	40065	40448	40832	41215	limit (dBm)	40065	40448	40832	41215	limit (dBm)
5MHz	1 (RB_Pos:0)	19.58	19.66	19.64	19.50	20.50	19.93	19.89	20.02	19.94	20.50
	1 (RB_Pos:13)	19.60	19.67	19.69	19.67	20.50	19.97	19.98	20.07	20.00	20.50
	1 (RB_Pos:24)	19.58	19.64	19.62	19.50	20.50	19.94	19.97	20.03	19.96	20.50
	12 (RB_Pos:0)	19.61	19.65	19.64	19.50	20.50	19.76	19.78	19.78	19.70	20.50
	12 (RB_Pos:6)	19.64	19.66	19.65	19.48	20.50	19.79	19.80	19.80	19.70	20.50
	12 (RB_Pos:13)	19.62	19.64	19.64	19.47	20.50	19.73	19.77	19.73	19.72	20.50
	25 (RB_Pos:0)	19.58	19.63	19.62	19.49	20.50	19.72	19.79	19.73	19.60	20.50

### 8.6.26 Power Reduced Level 4&5&6 of LTE Band 41

TDD LTE Band 41											
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up	16QAM				Tune up
	Channel	40140	40473	40807	41140	limit (dBm)	40140	40473	40807	41140	limit (dBm)
20MHz	1 (RB_Pos:0)	21.72	21.90	<b>21.91</b>	21.89	23.00	22.00	22.08	22.04	22.22	23.00
	1 (RB_Pos:50)	21.74	21.81	21.81	21.81	23.00	21.96	22.07	22.09	22.21	23.00
	1 (RB_Pos:99)	21.70	21.81	21.84	21.80	23.00	21.99	22.06	22.07	22.12	23.00
	50 (RB_Pos:0)	21.76	21.86	21.87	21.81	23.00	20.79	21.02	21.04	20.97	23.00
	50 (RB_Pos:25)	21.74	21.86	21.91	21.85	23.00	20.81	20.98	20.98	20.95	23.00
	50 (RB_Pos:50)	21.75	21.85	21.87	21.80	23.00	20.80	20.98	20.95	20.89	23.00



	100 (RB_Pos:0)	21.72	21.84	21.84	21.77	23.00	20.80	20.99	20.98	20.89	23.00
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
	Channel	40115	40465	40815	41165		40115	40465	40815	41165	
15MHz	1 (RB_Pos:0)	21.69	21.84	21.83	21.76	23.00	21.97	22.31	22.30	22.04	23.00
	1 (RB_Pos:38)	21.66	21.81	21.82	21.68	23.00	21.97	22.30	22.26	21.94	23.00
	1 (RB_Pos:74)	21.66	21.80	21.79	21.63	23.00	22.03	22.24	22.24	21.83	23.00
	36 (RB_Pos:0)	21.73	21.85	21.85	21.70	23.00	20.82	20.94	20.92	20.81	23.00
	36 (RB_Pos:20)	21.78	21.86	21.88	21.73	23.00	20.84	20.94	20.95	20.82	23.00
	36 (RB_Pos:39)	21.72	21.87	21.85	21.68	23.00	20.81	20.96	20.95	20.80	23.00
	75 (RB_Pos:0)	21.74	21.89	21.86	21.70	23.00	20.84	20.99	21.01	20.81	23.00
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
	Channel	40090	40457	40823	41190		40090	40457	40823	41190	
10MHz	1 (RB_Pos:0)	21.68	21.82	21.81	21.70	23.00	21.95	22.07	22.07	22.01	23.00
	1 (RB_Pos:25)	21.68	21.77	21.77	21.64	23.00	21.94	22.10	22.09	21.93	23.00
	1 (RB_Pos:49)	21.64	21.78	21.79	21.66	23.00	22.02	22.07	22.08	21.95	23.00
	25 (RB_Pos:0)	21.73	21.87	21.88	21.69	23.00	20.80	20.93	20.94	20.80	23.00
	25 (RB_Pos:12)	21.75	21.82	21.83	21.69	23.00	20.83	20.96	20.96	20.79	23.00
	25 (RB_Pos:25)	21.72	21.82	21.82	21.64	23.00	20.80	20.95	20.95	20.70	23.00
	50 (RB_Pos:0)	21.73	21.87	21.87	21.62	23.00	20.80	20.93	20.97	20.79	23.00
Bandwidth (MHz)	RB Set	Power (dBm)									
		QPSK				Tune up limit (dBm)	16QAM				Tune up limit (dBm)
	Channel	40065	40448	40832	41215		40065	40448	40832	41215	
5MHz	1 (RB_Pos:0)	21.66	21.81	21.82	21.66	23.00	22.00	22.10	22.11	21.97	23.00
	1 (RB_Pos:13)	21.77	21.85	21.89	21.74	23.00	22.04	22.20	22.24	22.06	23.00
	1 (RB_Pos:24)	21.71	21.83	21.78	21.65	23.00	21.99	22.11	22.13	21.94	23.00
	12 (RB_Pos:0)	21.74	21.85	21.84	21.64	23.00	20.85	20.88	20.89	20.79	23.00
	12 (RB_Pos:6)	21.78	21.86	21.88	21.69	23.00	20.87	20.93	20.95	20.86	23.00
	12 (RB_Pos:13)	21.73	21.86	21.83	21.68	23.00	20.87	20.92	20.91	20.79	23.00
	25 (RB_Pos:0)	21.72	21.81	21.83	21.64	23.00	20.80	20.96	20.93	20.72	23.00

## 8.6.27 Power Reduced Level 1&amp;2 of 2.4G WIFI

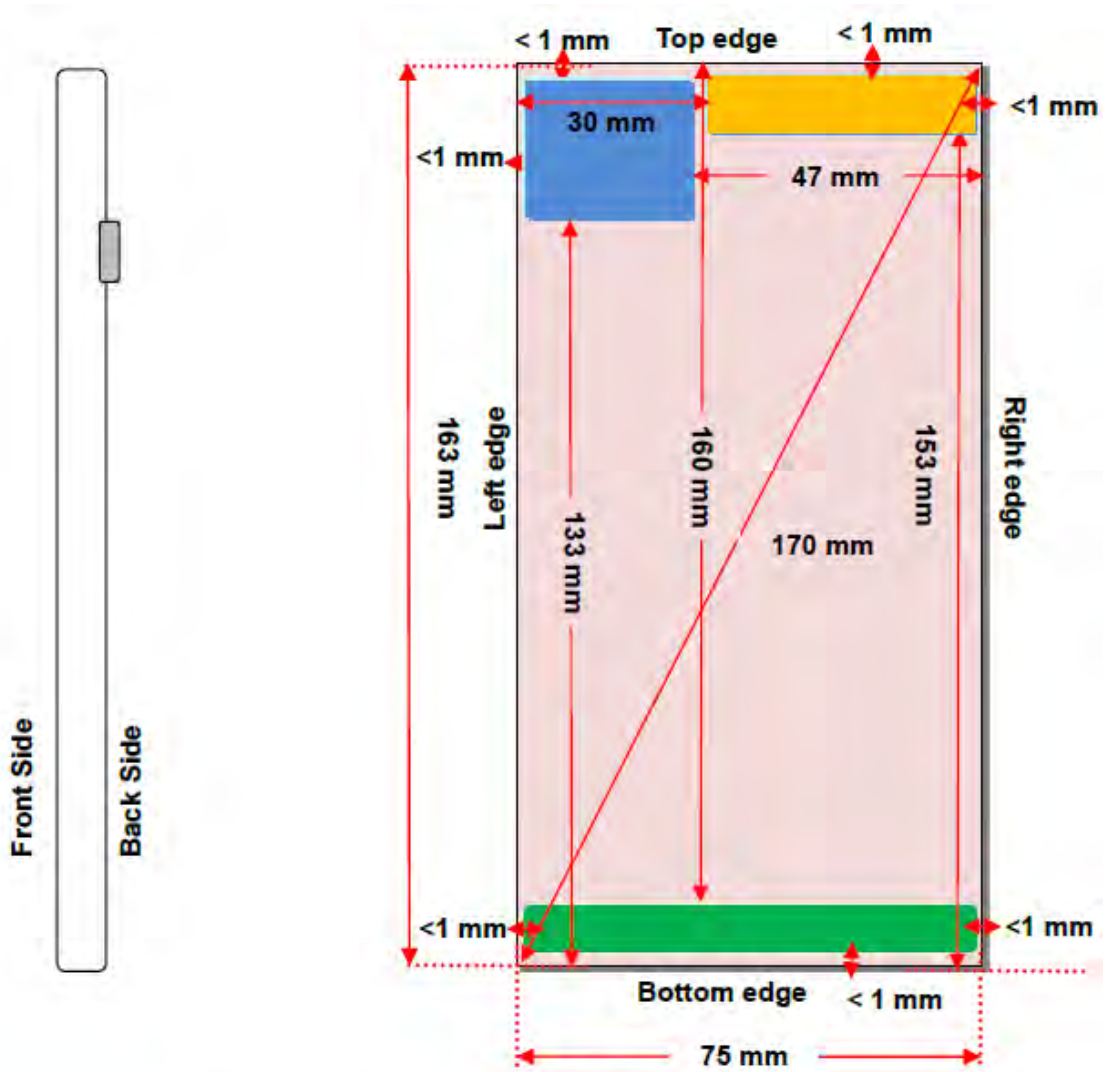
Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
2.4 (2.4~2.4835)	802.11b	1	2412	<b>15.48</b>	17.00	Yes
		6	2437	15.41	17.00	No
		11	2462	15.42	17.00	No
	802.11g	1	2412	14.12	15.00	No
		6	2437	14.08	15.00	No
		11	2462	11.86	13.00	No
	802.11n(HT20)	1	2412	13.70	15.00	No
		6	2437	13.85	15.00	No
		11	2462	11.48	12.50	No

## 8.6.28 Power Reduced Level 1&amp;2 of 5G WIFI

Band (GHz)	Mode	Channel	Freq. (MHz)	Conducted Power (dBm)	Tune-up Limit (dBm)	SAR Test Require.
5.2 (5.15~5.25)	802.11a	36	5180	15.40	17.00	No
		44	5220	15.69	17.00	No
		48	5240	15.03	17.00	No
	802.11n(HT20)	36	5180	15.19	17.00	No
		44	5220	15.14	17.00	No
		48	5240	15.34	17.00	No
	802.11n(HT40)	38	5190	15.42	17.00	No
		46	5230	15.62	17.00	No
	802.11ac(VHT20)	36	5180	15.22	17.00	No
		44	5220	15.48	17.00	No
		48	5240	15.42	17.00	No
	802.11ac(VHT40)	38	5190	15.41	17.00	No
		46	5230	15.15	17.00	No
	802.11ac(VHT80)	42	5210	14.86	16.00	No
	5.3 (5.25~5.35)	802.11a	52	5260	15.31	17.00
60			5300	15.16	17.00	No
64			5320	15.46	17.00	No
802.11n(HT20)		52	5260	15.14	17.00	No
		60	5300	15.30	17.00	No
		64	5320	15.21	17.00	No
802.11n(HT40)		54	5270	<b>15.42</b>	17.00	Yes
		62	5310	15.38	17.00	No
802.11ac(VHT20)		52	5260	15.11	17.00	No
		60	5300	15.25	17.00	No
		64	5320	15.18	17.00	No
802.11ac(VHT40)		54	5270	15.39	17.00	No
	62	5310	15.43	17.00	No	

	802.11ac(VHT80)	58	5290	12.87	14.00	No
5.6 (5.47~5.725)	802.11a	100	5500	15.20	16.00	No
		116	5580	15.53	16.00	No
		140	5700	12.82	13.00	No
	802.11n(HT20)	100	5500	14.92	16.00	No
		116	5580	15.38	16.00	No
		140	5700	15.64	16.00	No
	802.11n(HT40)	102	5510	15.02	17.00	No
		118	5590	15.59	17.00	No
		134	5670	<b>15.91</b>	17.00	Yes
	802.11ac(VHT20)	100	5500	15.01	16.00	No
		116	5580	15.28	16.00	No
		140	5700	14.64	15.00	No
	802.11ac(VHT40)	102	5510	15.02	17.00	No
		118	5590	15.74	17.00	No
		134	5670	16.15	17.00	No
	802.11ac(VHT80)	106	5530	13.44	15.00	No
		122	5610	15.39	16.00	No
		138	5690	15.97	16.00	No

## 9 TEST EXCLUSION CONSIDERATION



-  WLAN/BT Antenna
-  WWAN Down Antenna
-  EUT Back View
-  WWAN Up Antenna

## 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  $\leq 50$  mm> Table, this Device SAR test configurations consider as following :

Up Antenna

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	30mm	<5mm	<5mm	153mm
	Voice	33.50	2238.72	Yes	Yes	No	Yes	Yes	No
	Data	33.50	2238.72	Yes	Yes	No	Yes	Yes	No
GSM 1900	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	Voice	30.50	1122.02	Yes	Yes	No	Yes	Yes	No
	Data	30.50	1122.02	Yes	Yes	No	Yes	Yes	No
WCDMA Band 2	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	RMC	24.00	251.19	Yes	Yes	No	Yes	Yes	No
WCDMA Band 4	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	RMC	24.00	251.19	Yes	Yes	No	Yes	Yes	No
WCDMA Band 5	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	RMC	24.30	269.15	Yes	Yes	No	Yes	Yes	No
LTE Band 2	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	VOIP	24.00	251.19	Yes	Yes	No	Yes	Yes	No
LTE Band 4	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	VOIP	24.00	251.19	Yes	Yes	No	Yes	Yes	No
LTE Band 5	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	VOIP	24.30	269.15	Yes	Yes	No	Yes	Yes	No
LTE Band 7	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	VOIP	23.50	223.87	Yes	Yes	No	Yes	Yes	No
LTE Band 41	Distance to User			<5mm	<5mm	30mm	<5mm	<5mm	153mm
	VOIP	24.00	251.19	Yes	Yes	No	Yes	Yes	No

## Down Antenna

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	<5mm	<5mm	160mm	<5mm
	Voice	33.50	2238.72	Yes	Yes	Yes	Yes	No	Yes
	Data	33.50	2238.72	Yes	Yes	Yes	Yes	No	Yes
GSM 1900	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	Voice	30.50	1122.02	Yes	Yes	Yes	Yes	No	Yes
	Data	30.50	1122.02	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 2	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	RMC	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 4	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	RMC	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
WCDMA Band 5	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	RMC	24.30	269.15	Yes	Yes	Yes	Yes	No	Yes
LTE Band 2	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	VOIP	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 4	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	VOIP	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes
LTE Band 5	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	VOIP	24.30	269.15	Yes	Yes	Yes	Yes	No	Yes
LTE Band 7	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	VOIP	23.50	223.87	Yes	Yes	Yes	Yes	No	Yes
LTE Band 41	Distance to User			<5mm	<5mm	<5mm	<5mm	160mm	<5mm
	VOIP	24.00	251.19	Yes	Yes	Yes	Yes	No	Yes

## WLAN

Band	Mode	Max. Peak Power		Test Position Configurations					
		dBm	mW	Head	Front/ Back	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN 2.4 G	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm
	802.11b	20.00	100.00	Yes	Yes	Yes	No	Yes	No
	802.11g	18.00	63.10	No	No	No	No	No	No
	802.11n(HT20)	18.00	63.10	No	No	No	No	No	No
WLAN 5.2 G	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm
	802.11a	19.00	79.43	No	No	No	No	No	No
	802.11n(HT20)	19.00	79.43	No	No	No	No	No	No
	802.11n(HT40)	19.00	79.43	Yes	Yes	Yes	No	Yes	No
	802.11ac(HT20)	19.00	79.43	No	No	No	No	No	No
	802.11ac(HT40)	19.00	79.43	No	No	No	No	No	No
	802.11ac(HT80)	18.00	63.10	No	No	No	No	No	No
WLAN	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm

5.3 G	802.11a	19.00	79.43	No	No	No	No	No	No
	802.11n(HT20)	19.00	79.43	No	No	No	No	No	No
	802.11n(HT40)	19.00	79.43	Yes	Yes	Yes	No	Yes	No
	802.11ac(HT20)	19.00	79.43	No	No	No	No	No	No
	802.11ac(HT40)	19.00	79.43	No	No	No	No	No	No
	802.11ac(HT80)	16.00	39.81	No	No	No	No	No	No
WLAN 5.6 G	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm
	802.11a	18.00	63.10	No	No	No	No	No	No
	802.11n(HT20)	18.00	63.10	No	No	No	No	No	No
	802.11n(HT40)	19.00	79.43	Yes	Yes	Yes	No	Yes	No
	802.11ac(HT20)	18.00	63.10	No	No	No	No	No	No
	802.11ac(HT40)	19.00	79.43	No	No	No	No	No	No
	802.11ac(HT80)	18.00	63.10	No	No	No	No	No	No
WLAN 5.8 G	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm
	802.11a	16.00	39.81	No	No	No	No	No	No
	802.11n(HT20)	16.00	39.81	No	No	No	No	No	No
	802.11n(HT40)	16.00	39.81	No	No	No	No	No	No
	802.11ac(HT20)	16.00	39.81	No	No	No	No	No	No
	802.11ac(HT40)	16.00	39.81	No	No	No	No	No	No
	802.11ac(HT80)	16.00	39.81	Yes	Yes	Yes	No	Yes	No
Bluetooth	Distance to User			<5mm	<5mm	<5mm	47mm	<5mm	133mm
	BT	13.00	19.95	Yes	Yes	Yes	No	Yes	No

**Note:**

- Maximum power is the source-based time-average power and represents the maximum RF output power including tune-up tolerance among production units
- 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.
- 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
- Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:
 
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR
  - f(GHz) is the RF channel transmit frequency in GHz
  - Power and distance are rounded to the nearest mW and mm before calculation
  - The result is rounded to one decimal place for comparison
  - For < 50 mm distance, we just calculate mW of the exclusion threshold value (3.0) to do compare.  
This formula is  $[3.0] / [\sqrt{f(\text{GHz})}] \cdot [(\text{min. test separation distance, mm})] = \text{exclusion threshold of mW}$ .
- 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
  - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · ( f(MHz)/150)] mW, at 100 MHz to 1500 MHz
  - [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and  $\leq 6$  GHz
- 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  $\leq 1.2\text{W/kg}$ , 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  $\leq 1.2$  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  $\leq 1.2$  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  $\leq 1.2$  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	Power Reduction	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	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Up	Level 1&2&3	GPRS (2slots)	Left Cheek	0	190	836.6	-0.06	0.246	26.11	26.50	1.094	0.269	/
	Level 1&2&3		Left Tilt	0	190	836.6	-0.15	0.202	26.11	26.50	1.094	0.221	/
	Level 1&2&3		Right Cheek	0	190	836.6	-0.04	0.296	26.11	26.50	1.094	<b>0.324</b>	1#
	Level 1&2&3		Right Tilt	0	190	836.6	0.04	0.239	26.11	26.50	1.094	0.261	/
Down	Off	GPRS (2slots)	Left Cheek	0	251	848.80	0.12	0.113	30.01	30.50	1.119	0.126	/
	Off		Left Tilt	0	251	848.80	0.06	0.054	30.01	30.50	1.119	0.060	/
	Off		Right Cheek	0	251	848.80	0.04	0.118	30.01	30.50	1.119	0.132	/
	Off		Right Tilt	0	251	848.80	0.10	0.046	30.01	30.50	1.119	0.052	/
<b>Body-worn Accessory</b>													
Up	Level 4&5&6	Voice	Front Side	15	251	848.80	0.17	0.034	30.18	31.50	1.355	0.046	/
	Level 4&5&6		Back Side	15	251	848.80	0.02	0.056	30.18	31.50	1.355	0.076	/
	Level 4&5&6	GPRS (2slots)	Front Side	15	190	836.6	0.03	0.035	27.75	28.50	1.189	0.042	/
	Level 4&5&6		Back Side	15	190	836.6	-0.01	0.060	27.75	28.50	1.189	0.071	/
Down	Level 7&8&9	Voice	Front Side	15	251	848.80	0.07	0.080	32.48	32.50	1.005	0.080	/
	Level 7&8&9		Back Side	15	251	848.80	-0.18	0.089	32.48	32.50	1.005	0.089	/
	Level 7&8&9	GPRS (2slots)	Front Side	15	251	848.80	-0.03	0.091	29.47	29.50	1.007	0.092	/
	Level 7&8&9		Back Side	15	251	848.80	-0.13	0.100	29.47	29.50	1.007	<b>0.101</b>	2#
<b>Hotspot</b>													
Up	Level 4&5&6	GPRS (2slots)	Front Side	10	190	836.6	-0.07	0.062	27.75	28.50	1.189	0.074	/
	Level 4&5&6		Back Side	10	190	836.6	-0.10	0.077	27.75	28.50	1.189	0.091	/
	Level 4&5&6		Left Edge	10	190	836.6	-0.05	0.006	27.75	28.50	1.189	0.007	/
	Level 4&5&6		Right Edge	10	190	836.6	0.00	0.013	27.75	28.50	1.189	0.015	/
	Level 4&5&6		Top Edge	10	190	836.6	-0.05	0.058	27.75	28.50	1.189	0.069	/
Down	Level 7&8&9	GPRS (2slots)	Front Side	10	251	848.80	-0.18	0.142	29.47	29.50	1.007	0.143	/
	Level 7&8&9		Back Side	10	251	848.80	-0.03	0.165	29.47	29.50	1.007	<b>0.166</b>	3#
	Level 7&8&9		Left Edge	10	251	848.80	0.13	0.032	29.47	29.50	1.007	0.032	/
	Level 7&8&9		Right Edge	10	251	848.80	0.00	0.018	29.47	29.50	1.007	0.018	/
	Level 7&8&9		Bottom Edge	10	251	848.80	-0.09	0.107	29.47	29.50	1.007	0.108	/

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

**10.2 GSM 1900**

Antenna	Power Reduction	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	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Up	Level 1&2&3	GPRS (2slots)	Left Cheek	0	512	1850.20	0.03	0.142	19.82	21.50	1.472	0.209	/
	Level 1&2&3		Left Tilt	0	512	1850.20	-0.16	0.195	19.82	21.50	1.472	0.287	/
	Level 1&2&3		Right Cheek	0	512	1850.20	0.20	0.204	19.82	21.50	1.472	0.300	/
	Level 1&2&3		Right Tilt	0	512	1850.20	-0.03	0.268	19.82	21.50	1.472	<b>0.395</b>	<b>4#</b>
Down	Off	GPRS (2slots)	Left Cheek	0	512	1850.20	0.02	0.146	26.65	27.50	1.216	0.178	/
	Off		Left Tilt	0	512	1850.20	-0.06	0.068	26.65	27.50	1.216	0.083	/
	Off		Right Cheek	0	512	1850.20	0.11	0.103	26.65	27.50	1.216	0.125	/
	Off		Right Tilt	0	512	1850.20	-0.05	0.084	26.65	27.50	1.216	0.102	/
<b>Body-worn Accessory</b>													
Up	Level 4&5&6	Voice	Front Side	15	661	1880.00	0.19	0.022	24.95	26.00	1.274	0.028	/
	Level 4&5&6		Back Side	15	661	1880.00	0.20	0.049	24.95	26.00	1.274	0.062	/
	Level 4&5&6	GPRS (2slots)	Front Side	15	512	1850.20	0.10	0.032	21.92	23.00	1.282	0.041	/
	Level 4&5&6		Back Side	15	512	1850.20	0.05	0.057	21.92	23.00	1.282	<b>0.072</b>	<b>5#</b>
Down	Level 7&8&9	Voice	Front Side	15	512	1850.20	-0.03	0.016	25.89	27.00	1.291	0.021	/
	Level 7&8&9		Back Side	15	512	1850.20	-0.11	0.044	25.89	27.00	1.291	0.057	/
	Level 7&8&9	GPRS (2slots)	Front Side	15	512	1850.20	-0.14	0.024	23.17	24.00	1.211	0.029	/
	Level 7&8&9		Back Side	15	512	1850.20	-0.17	0.048	23.17	24.00	1.211	0.058	/
<b>Hotspot</b>													
Up	Level 4&5&6	GPRS (2slots)	Front Side	10	512	1850.20	-0.01	0.124	21.92	23.00	1.282	0.159	/
	Level 4&5&6		Back Side	10	512	1850.20	-0.11	0.180	21.92	23.00	1.282	0.231	/
	Level 4&5&6		Left Edge	10	512	1850.20	-0.18	0.009	21.92	23.00	1.282	0.012	/
	Level 4&5&6		Right Edge	10	512	1850.20	0.03	0.022	21.92	23.00	1.282	0.028	/
	Level 4&5&6		Top Edge	10	512	1850.20	0.20	0.259	21.92	23.00	1.282	<b>0.332</b>	<b>6#</b>
Down	Level 7&8&9	GPRS (2slots)	Front Side	10	512	1850.20	0.10	0.052	23.17	24.00	1.211	0.063	/
	Level 7&8&9		Back Side	10	512	1850.20	0.20	0.157	23.17	24.00	1.211	0.190	/
	Level 7&8&9		Left Edge	10	512	1850.20	0.19	0.023	23.17	24.00	1.211	0.028	/
	Level 7&8&9		Right Edge	10	512	1850.20	0.05	0.007	23.17	24.00	1.211	0.008	/
	Level 7&8&9		Bottom Edge	10	512	1850.20	0.03	0.125	23.17	24.00	1.211	0.151	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

## 10.3WCDMA Band 2

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Up	Level 1&2&3	RMC	Left Cheek	0	9538	1907.60	0.09	0.339	15.55	17.00	1.396	0.473	/
	Level 1&2&3		Left Tilt	0	9538	1907.60	-0.19	0.466	15.55	17.00	1.396	0.651	/
	Level 1&2&3		Right Cheek	0	9538	1907.60	0.09	0.508	15.55	17.00	1.396	0.709	/
	Level 1&2&3		Right Tilt	0	9538	1907.60	0.04	0.552	15.55	17.00	1.396	<b>0.771</b>	7#
Down	Off	RMC	Left Cheek	0	9400	1880.00	0.15	0.126	22.71	24.00	1.346	0.170	/
	Off		Left Tilt	0	9400	1880.00	0.07	0.064	22.71	24.00	1.346	0.086	/
	Off		Right Cheek	0	9400	1880.00	0.15	0.080	22.71	24.00	1.346	0.108	/
	Off		Right Tilt	0	9400	1880.00	-0.08	0.084	22.71	24.00	1.346	0.113	/
<b>Body-worn Accessory</b>													
Up	Level 4&5&6	RMC	Front Side	15	9400	1880.00	-0.16	0.082	16.59	18.00	1.384	0.113	/
	Level 4&5&6		Back Side	15	9400	1880.00	0.12	0.137	16.59	18.00	1.384	<b>0.190</b>	8#
Down	Level 7&8&9	RMC	Front Side	15	9400	1880.00	-0.04	0.030	17.91	19.00	1.285	0.039	/
	Level 7&8&9		Back Side	15	9400	1880.00	-0.19	0.057	17.91	19.00	1.285	0.073	/
<b>Hotspot</b>													
Up	Level 4&5&6	RMC	Front Side	10	9400	1880.00	-0.11	0.130	16.59	18.00	1.384	0.180	/
	Level 4&5&6		Back Side	10	9400	1880.00	0.09	0.198	16.59	18.00	1.384	0.274	/
	Level 4&5&6		Left Edge	10	9400	1880.00	-0.20	0.005	16.59	18.00	1.384	0.007	/
	Level 4&5&6		Right Edge	10	9400	1880.00	0.10	0.013	16.59	18.00	1.384	0.018	/
	Level 4&5&6		Top Edge	10	9400	1880.00	-0.13	0.425	16.59	18.00	1.384	<b>0.588</b>	9#
Down	Level 7&8&9	RMC	Front Side	10	9400	1880.00	-0.01	0.053	17.91	19.00	1.285	0.068	/
	Level 7&8&9		Back Side	10	9400	1880.00	-0.19	0.168	17.91	19.00	1.285	0.216	/
	Level 7&8&9		Left Edge	10	9400	1880.00	0.00	0.018	17.91	19.00	1.285	0.023	/
	Level 7&8&9		Right Edge	10	9400	1880.00	0.07	0.010	17.91	19.00	1.285	0.013	/
	Level 7&8&9		Bottom Edge	10	9400	1880.00	0.04	0.182	17.91	19.00	1.285	0.234	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>													
Up	Level 4&5&6	RMC	Front Side	0	9400	1880.00	0.14	0.362	16.59	18.00	1.384	0.501	/
	Level 4&5&6		Back Side	0	9400	1880.00	-0.18	0.345	16.59	18.00	1.384	0.478	/
	Level 4&5&6		Left Edge	0	9400	1880.00	0.13	0.023	16.59	18.00	1.384	0.032	/
	Level 4&5&6		Right Edge	0	9400	1880.00	-0.11	0.036	16.59	18.00	1.384	0.050	/
	Level 4&5&6		Top Edge	0	9400	1880.00	-0.04	0.611	16.59	18.00	1.384	<b>0.845</b>	10#
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

**10.4WCDMA Band 4**

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Up	Level 1&2&3	RMC	Left Cheek	0	1412	1732.40	-0.17	0.362	15.63	17.00	1.371	0.496	/
	Level 1&2&3		Left Tilt	0	1412	1732.40	0.10	0.457	15.63	17.00	1.371	0.626	/
	Level 1&2&3		Right Cheek	0	1412	1732.40	-0.11	0.523	15.63	17.00	1.371	0.717	/
	Level 1&2&3		Right Tilt	0	1412	1732.40	0.11	0.738	15.63	17.00	1.371	1.012	/
				0	1312	1712.40	0.11	0.750	15.54	17.00	1.400	<b>1.050</b>	11#
	Level 1&2&3		0	1513	1752.60	0.12	0.710	15.55	17.00	1.396	0.991	/	
Down	Off	RMC	Left Cheek	0	1412	1732.40	0.09	0.101	22.75	24.00	1.334	0.135	/
	Off		Left Tilt	0	1412	1732.40	0.18	0.062	22.75	24.00	1.334	0.082	/
	Off		Right Cheek	0	1412	1732.40	0.09	0.073	22.75	24.00	1.334	0.098	/
	Off		Right Tilt	0	1412	1732.40	-0.02	0.062	22.75	24.00	1.334	0.083	/
<b>Body-worn Accessory</b>													
Up	Level 4&5&6	RMC	Front Side	15	1412	1732.40	-0.01	0.214	19.65	21.00	1.365	0.292	/
	Level 4&5&6		Back Side	15	1412	1732.40	0.10	0.308	19.65	21.00	1.365	<b>0.420</b>	12#
Down	Level 7	RMC	Front Side	15	1412	1732.40	0.10	0.028	21.95	23.00	1.274	0.036	/
	Level 7		Back Side	15	1412	1732.40	0.05	0.132	21.95	23.00	1.274	0.168	/
<b>Hotspot</b>													
Up	Level 4&5&6	RMC	Front Side	10	1412	1732.40	0.15	0.410	19.65	21.00	1.365	0.559	/
	Level 4&5&6		Back Side	10	1412	1732.40	-0.17	0.623	19.65	21.00	1.365	0.850	/
	Level 4&5&6			10	1312	1712.40	0.17	0.608	19.62	21.00	1.374	0.835	/
	Level 4&5&6			10	1513	1752.60	-0.15	0.616	19.62	21.00	1.374	0.846	/
	Level 4&5&6		Left Edge	10	1412	1732.40	-0.08	0.025	19.65	21.00	1.365	0.034	/
	Level 4&5&6		Right Edge	10	1412	1732.40	0.05	0.072	19.65	21.00	1.365	0.098	/
	Level 4&5&6		Top Edge	10	1412	1732.40	0.01	0.786	19.65	21.00	1.365	<b>1.073</b>	13#
				10	1312	1712.40	0.02	0.713	19.62	21.00	1.374	0.980	/
				10	1513	1752.60	0.01	0.750	19.62	21.00	1.374	1.031	/
Down	Level 7&8&9	RMC	Front Side	10	1412	1732.40	-0.08	0.182	21.95	23.00	1.274	0.232	/
	Level 7&8&9		Back Side	10	1412	1732.40	-0.08	0.487	21.95	23.00	1.274	0.620	/
	Level 7&8&9		Left Edge	10	1412	1732.40	0.01	0.047	21.95	23.00	1.274	0.060	/
	Level 7&8&9		Right Edge	10	1412	1732.40	0.02	0.026	21.95	23.00	1.274	0.033	/
	Level 7&8&9		Bottom Edge	10	1412	1732.40	0.01	0.618	21.95	23.00	1.274	0.787	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>													
Up	Level 4&5&6	RMC	Front Side	0	1412	1732.40	0.12	1.210	19.65	21.00	1.365	1.651	/
	Level 4&5&6		Back Side	0	1412	1732.40	-0.03	1.120	19.65	21.00	1.365	1.528	/
	Level 4&5&6		Left Edge	0	1412	1732.40	-0.12	0.089	19.65	21.00	1.365	0.121	/
	Level 4&5&6		Right Edge	0	1412	1732.40	-0.08	0.130	19.65	21.00	1.365	0.177	/
	Level 4&5&6		Top Edge	0	1412	1732.40	0.19	1.220	19.65	21.00	1.365	<b>1.665</b>	<b>14#</b>
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

**10.5WCDMA Band 5**

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>													
Up	Level 1&2&3	RMC	Left Cheek	0	4233	846.60	-0.02	0.274	20.84	21.80	1.247	0.342	/
	Level 1&2&3		Left Tilt	0	4233	846.60	-0.01	0.222	20.84	21.80	1.247	0.277	/
	Level 1&2&3		Right Cheek	0	4233	846.60	-0.10	0.344	20.84	21.80	1.247	<b>0.429</b>	15#
	Level 1&2&3		Right Tilt	0	4233	846.60	0.05	0.279	20.84	21.80	1.247	0.348	/
Down	Off	RMC	Left Cheek	0	4182	836.40	0.12	0.113	23.15	24.30	1.303	0.147	/
	Off		Left Tilt	0	4182	836.40	-0.04	0.064	23.15	24.30	1.303	0.083	/
	Off		Right Cheek	0	4182	836.40	-0.01	0.126	23.15	24.30	1.303	0.164	/
	Off		Right Tilt	0	4182	836.40	0.20	0.065	23.15	24.30	1.303	0.085	/
<b>Body-worn Accessory</b>													
Up	Off	RMC	Front Side	15	4182	836.40	0.16	0.085	23.15	24.30	1.303	0.111	/
	Off		Back Side	15	4182	836.40	-0.19	0.118	23.15	24.30	1.303	0.154	/
Down	Off	RMC	Front Side	15	4182	836.40	-0.08	0.062	23.15	24.30	1.303	0.081	/
	Off		Back Side	15	4182	836.40	0.01	0.120	23.15	24.30	1.303	<b>0.156</b>	16#
<b>Hotspot</b>													
Up	Off	RMC	Front Side	10	4182	836.40	-0.07	0.106	23.15	24.30	1.303	0.138	/
	Off		Back Side	10	4182	836.40	0.02	0.140	23.15	24.30	1.303	0.182	/
	Off		Left Edge	10	4182	836.40	-0.13	0.012	23.15	24.30	1.303	0.016	/
	Off		Right Edge	10	4182	836.40	-0.05	0.036	23.15	24.30	1.303	0.047	/
	Off		Top Edge	10	4182	836.40	0.13	0.095	23.15	24.30	1.303	0.124	/
Down	Off	RMC	Front Side	10	4182	836.40	-0.05	0.098	23.15	24.30	1.303	0.128	/
	Off		Back Side	10	4182	836.40	0.02	0.206	23.15	24.30	1.303	<b>0.268</b>	17#
	Off		Left Edge	10	4182	836.40	-0.19	0.008	23.15	24.30	1.303	0.010	/
	Off		Right Edge	10	4182	836.40	0.01	0.016	23.15	24.30	1.303	0.021	/
	Off		Bottom Edge	10	4182	836.40	0.08	0.132	23.15	24.30	1.303	0.172	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.													

## 10.6LTE Band 2 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Up	Level 1&2&3	QPSK	Left Cheek	0	18900	1880	1	High	0.04	0.374	15.52	17.00	1.406	0.526	/
	Level 1&2&3			0	18700	1860	50	Mid	0.04	0.392	15.42	17.00	1.439	0.564	/
	Level 1&2&3		Left Tilt	0	18900	1880	1	High	0.02	0.489	15.52	17.00	1.406	0.688	/
	Level 1&2&3			0	18700	1860	50	Mid	-0.19	0.507	15.42	17.00	1.439	0.729	/
	Level 1&2&3		Right Cheek	0	18900	1880	1	High	-0.08	0.518	15.52	17.00	1.406	0.728	/
	Level 1&2&3			0	18700	1860	50	Mid	0.18	0.522	15.42	17.00	1.439	0.751	/
	Level 1&2&3		Right Tilt	0	18900	1880	1	High	-0.10	0.630	15.52	17.00	1.406	0.886	/
	Level 1&2&3			0	18700	1860	1	Low	0.18	0.663	15.38	17.00	1.452	<b>0.963</b>	18#
	Level 1&2&3			0	19100	1900	1	Mid	0.19	0.592	15.37	17.00	1.455	0.862	/
	Level 1&2&3			0	18700	1860	50	Mid	0.19	0.657	15.42	17.00	1.439	0.945	/
	Level 1&2&3			0	18900	1880	50	Mid	0.01	0.618	15.40	17.00	1.445	0.893	/
	Level 1&2&3			0	19100	1900	50	Low	-0.03	0.612	15.40	17.00	1.445	0.885	/
	Level 1&2&3		0	18700	1860	100	Low	0.17	0.624	15.42	17.00	1.439	0.898	/	
	Down		Off	QPSK	Left Cheek	0	18700	1860	1	High	-0.18	0.072	22.25	24.00	1.496
Off		0	18700			1860	50	Mid	0.18	0.065	21.26	23.00	1.493	0.097	/
Off		Left Tilt	0		18700	1860	1	High	-0.03	0.051	22.25	24.00	1.496	0.076	/
Off			0		18700	1860	50	Mid	0.08	0.043	21.26	23.00	1.493	0.064	/
Off		Right Cheek	0		18700	1860	1	High	0.16	0.063	22.25	24.00	1.496	0.094	/
Off			0		18700	1860	50	Mid	0.14	0.058	21.26	23.00	1.493	0.087	/
Off		Right Tilt	0		18700	1860	1	High	-0.02	0.058	22.25	24.00	1.496	0.087	/
Off			0		18700	1860	50	Mid	-0.12	0.052	21.26	23.00	1.493	0.078	/
<b>Body-worn Accessory</b>															
Up	Level 4&5&6	QPSK	Front Side	15	18900	1880	1	High	-0.11	0.072	16.78	18.50	1.486	0.107	/
	Level 4&5&6			15	18900	1880	50	Mid	-0.08	0.078	16.81	18.50	1.476	0.115	/
	Level 4&5&6		Back Side	15	18900	1880	1	High	-0.18	0.144	16.78	18.50	1.486	0.214	/
	Level 4&5&6			15	18900	1880	50	Mid	-0.01	0.156	16.81	18.50	1.476	<b>0.230</b>	19#
Down	Level 7&8&9	QPSK	Front Side	15	18700	1860	1	High	0.19	0.021	18.01	19.50	1.409	0.030	/
	Level 7&8&9			15	18700	1860	50	High	-0.18	0.020	18.06	19.50	1.393	0.028	/
	Level 7&8&9		Back Side	15	18700	1860	1	High	-0.09	0.055	18.01	19.50	1.409	0.078	/
	Level 7&8&9			15	18700	1860	50	High	-0.06	0.054	18.06	19.50	1.393	0.075	/
<b>Hotspot</b>															
Up	Level 4&5&6	QPSK	Front Side	10	18900	1880	1	High	0.00	0.161	16.78	18.50	1.486	0.239	/
	Level 4&5&6			10	18900	1880	50	Mid	-0.05	0.162	16.81	18.50	1.476	0.239	/
	Level 4&5&6		Back Side	10	18900	1880	1	High	0.07	0.230	16.78	18.50	1.486	0.342	/
	Level 4&5&6			10	18900	1880	50	Mid	0.13	0.227	16.81	18.50	1.476	0.335	/
	Level 4&5&6		Left Edge	10	18900	1880	1	High	-0.01	0.003	16.78	18.50	1.486	0.004	/
	Level 4&5&6			10	18900	1880	50	Mid	-0.16	0.005	16.81	18.50	1.476	0.007	/
	Level 4&5&6		Right Edge	10	18900	1880	1	High	-0.20	0.009	16.78	18.50	1.486	0.013	/
	Level 4&5&6			10	18900	1880	50	Mid	-0.03	0.008	16.81	18.50	1.476	0.012	/

	Level 4&5&6		Top Edge	10	18900	1880	1	High	0.01	0.349	16.78	18.50	1.486	0.519	/
	Level 4&5&6			10	18900	1880	50	Mid	-0.17	0.360	16.81	18.50	1.476	<b>0.531</b>	20#
Down	Level 7&8&9	QPSK	Front Side	10	18700	1860	1	High	0.09	0.044	18.01	19.50	1.409	0.062	/
	Level 7&8&9			10	18700	1860	1	High	0.19	0.047	18.06	19.50	1.393	0.065	/
	Level 7&8&9		Back Side	10	18700	1860	1	High	-0.02	0.175	18.01	19.50	1.409	0.247	/
	Level 7&8&9			10	18700	1860	1	High	-0.17	0.165	18.06	19.50	1.393	0.230	/
	Level 7&8&9		Left Edge	10	18700	1860	1	High	0.16	0.004	18.01	19.50	1.409	0.006	/
	Level 7&8&9			10	18700	1860	1	High	-0.08	0.003	18.06	19.50	1.393	0.004	/
	Level 7&8&9		Right Edge	10	18700	1860	1	High	0.05	0.001	18.01	19.50	1.409	0.001	/
	Level 7&8&9			10	18700	1860	1	High	-0.18	0.001	18.06	19.50	1.393	0.001	/
	Level 7&8&9		Bottom Edge	10	18700	1860	1	High	0.19	0.179	18.01	19.50	1.409	0.252	/
	Level 7&8&9			10	18700	1860	1	High	-0.17	0.168	18.06	19.50	1.393	0.234	/

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

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>															
Up	Level 4&5&6	QPSK	Front Side	0	18900	1880	1	High	-0.09	0.476	16.78	18.50	1.486	0.707	/
	Level 4&5&6			0	18900	1880	50	Mid	0.01	0.438	16.81	18.50	1.476	0.646	/
	Level 4&5&6		Back Side	0	18900	1880	1	High	-0.14	0.457	16.78	18.50	1.486	0.679	/
	Level 4&5&6			0	18900	1880	50	Mid	-0.17	0.432	16.81	18.50	1.476	0.638	/
	Level 4&5&6		Left Edge	0	18900	1880	1	High	0.01	0.018	16.78	18.50	1.486	0.027	/
	Level 4&5&6			0	18900	1880	50	Mid	0.06	0.013	16.81	18.50	1.476	0.019	/
	Level 4&5&6		Right Edge	0	18900	1880	1	High	-0.07	0.030	16.78	18.50	1.486	0.045	/
	Level 4&5&6			0	18900	1880	50	Mid	0.06	0.019	16.81	18.50	1.476	0.028	/
	Level 4&5&6		Top Edge	0	18900	1880	1	High	-0.13	0.816	16.78	18.50	1.486	<b>1.213</b>	21#
	Level 4&5&6			0	18900	1880	50	Mid	0.07	0.745	16.81	18.50	1.476	1.099	/

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



### 10.7LTE Band 4 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Up	Level 1&2&3	QPSK	Left Cheek	0	20050	1720	1	High	0.09	0.376	15.02	16.50	1.406	0.529	/
	Level 1&2&3			0	20050	1720	50	High	0.14	0.369	15.02	16.50	1.406	0.519	/
	Level 1&2&3		Left Tilt	0	20050	1720	1	High	0.16	0.486	15.02	16.50	1.406	0.683	/
	Level 1&2&3			0	20050	1720	50	High	-0.09	0.453	15.02	16.50	1.406	0.637	/
	Level 1&2&3		Right Cheek	0	20050	1720	1	High	-0.18	0.518	15.02	16.50	1.406	0.728	/
	Level 1&2&3			0	20050	1720	50	High	-0.15	0.505	15.02	16.50	1.406	0.710	/
	Level 1&2&3		Right Tilt	0	20050	1720	1	High	0.17	0.711	15.02	16.50	1.406	1.000	/
	Level 1&2&3			0	20175	1732.5	1	Low	-0.04	0.707	14.81	16.50	1.476	<b>1.043</b>	22#
	Level 1&2&3			0	20300	1745	1	Low	0.06	0.713	14.89	16.50	1.449	1.033	/
	Level 1&2&3			0	20050	1720	50	High	0.04	0.707	15.02	16.50	1.406	0.994	/
	Level 1&2&3			0	20175	1732.5	50	High	-0.03	0.682	14.95	16.50	1.429	0.975	/
	Level 1&2&3			0	20300	1745	50	High	0.09	0.710	14.92	16.50	1.439	1.022	/
	Level 1&2&3		0	20050	1720	100	Low	-0.02	0.653	15.04	16.50	1.400	0.914	/	
	Down		Off	QPSK	Left Cheek	0	20050	1720	1	High	0.15	0.114	22.20	24.00	1.514
Off		0	20050			1720	50	Mid	-0.14	0.105	21.26	23.00	1.493	0.157	/
Off		Left Tilt	0		20050	1720	1	High	0.04	0.064	22.20	24.00	1.514	0.097	/
Off			0		20050	1720	50	Mid	0.00	0.062	21.26	23.00	1.493	0.093	/
Off		Right Cheek	0		20050	1720	1	High	0.04	0.076	22.20	24.00	1.514	0.115	/
Off			0		20050	1720	50	Mid	0.13	0.071	21.26	23.00	1.493	0.106	/
Off		Right Tilt	0		20050	1720	1	High	-0.13	0.069	22.20	24.00	1.514	0.104	/
Off			0		20050	1720	50	Mid	0.19	0.067	21.26	23.00	1.493	0.100	/
<b>Body-worn Accessory</b>															
Up	Level 4&5&6	QPSK	Front Side	15	20050	1720	1	Mid	0.01	0.182	19.22	21.00	1.507	0.274	/
	Level 4&5&6			15	20050	1720	50	Mid	-0.09	0.180	19.30	21.00	1.479	0.266	/
	Level 4&5&6		Back Side	15	20050	1720	1	Mid	-0.14	0.304	19.22	21.00	1.507	0.458	/
	Level 4&5&6			15	20050	1720	50	Mid	-0.08	0.311	19.30	21.00	1.479	<b>0.460</b>	23#
Down	Level 7&8&9	QPSK	Front Side	15	20050	1720	1	Mid	0.01	0.016	21.96	23.50	1.426	0.023	/
	Level 7&8&9			15	20050	1720	50	Mid	0.10	0.018	21.52	23.00	1.406	0.025	/
	Level 7&8&9		Back Side	15	20050	1720	1	Mid	0.07	0.062	21.96	23.50	1.426	0.088	/
	Level 7&8&9			15	20050	1720	50	Mid	0.20	0.061	21.52	23.00	1.406	0.086	/
<b>Hotspot</b>															
Up	Level 4&5&6	QPSK	Front Side	10	20050	1720	1	Mid	0.14	0.376	19.22	21.00	1.507	0.566	/
	Level 4&5&6			10	20050	1720	50	Mid	0.16	0.382	19.30	21.00	1.479	0.565	/
	Level 4&5&6		Back Side	10	20050	1720	1	Mid	-0.19	0.445	19.22	21.00	1.507	0.670	/
	Level 4&5&6			10	20050	1720	50	Mid	-0.01	0.458	19.30	21.00	1.479	0.677	/
	Level 4&5&6		Left Edge	10	20050	1720	1	Mid	0.10	0.018	19.22	21.00	1.507	0.027	/
	Level 4&5&6			10	20050	1720	50	Mid	0.16	0.016	19.30	21.00	1.479	0.024	/
	Level 4&5&6		Right Edge	10	20050	1720	1	Mid	-0.05	0.051	19.22	21.00	1.507	0.077	/
	Level 4&5&6			10	20050	1720	50	Mid	0.00	0.048	19.30	21.00	1.479	0.071	/

	Level 4&5&6		Top Edge	10	20050	1720	1	Mid	-0.02	0.664	19.22	21.00	1.507	<b>1.000</b>	24#
	Level 4&5&6			10	20175	1732.5	1	Mid	0.12	0.616	19.11	21.00	1.545	0.952	/
	Level 4&5&6			10	20300	1745	1	Mid	-0.08	0.647	19.19	21.00	1.517	0.982	/
	Level 4&5&6			10	20050	1720	50	Mid	-0.12	0.674	19.30	21.00	1.479	0.997	/
	Level 4&5&6			10	20175	1732.5	50	Mid	-0.10	0.610	19.18	21.00	1.521	0.928	/
	Level 4&5&6			10	20300	1745	50	High	-0.18	0.635	19.25	21.00	1.496	0.950	/
	Level 4&5&6			10	20050	1720	100	Low	-0.16	0.582	19.25	21.00	1.496	0.871	/
Down	Level 7&8&9	QPSK	Front Side	10	20050	1720	1	Mid	0.20	0.044	21.96	23.50	1.426	0.063	/
	Level 7&8&9			10	20050	1720	50	Mid	-0.10	0.038	21.52	23.00	1.406	0.053	/
	Level 7&8&9		Back Side	10	20050	1720	1	Mid	-0.19	0.506	21.96	23.50	1.426	0.721	/
	Level 7&8&9			10	20050	1720	50	Mid	-0.06	0.474	21.52	23.00	1.406	0.666	/
	Level 7&8&9		Left Edge	10	20050	1720	1	Mid	0.11	0.038	21.96	23.50	1.426	0.054	/
	Level 7&8&9			10	20050	1720	50	Mid	-0.15	0.025	21.52	23.00	1.406	0.035	/
	Level 7&8&9		Right Edge	10	20050	1720	1	Mid	-0.15	0.011	21.96	23.50	1.426	0.016	/
	Level 7&8&9			10	20050	1720	50	Mid	0.04	0.008	21.52	23.00	1.406	0.011	/
	Level 7&8&9		Bottom Edge	10	20050	1720	1	Mid	0.13	0.655	21.96	23.50	1.426	0.934	/
	Level 7&8&9			10	20175	1732.5	1	High	-0.14	0.624	21.92	23.50	1.439	0.898	/
	Level 7&8&9			10	20300	1745	1	High	-0.03	0.631	21.93	23.50	1.435	0.906	/
	Level 7&8&9			10	20050	1720	50	Mid	0.15	0.632	21.52	23.00	1.406	0.889	/
	Level 7&8&9			10	20175	1732.5	50	Mid	0.12	0.614	21.44	23.00	1.432	0.879	/
	Level 7&8&9			10	20300	1745	50	High	-0.08	0.627	21.48	23.00	1.419	0.890	/
	Level 7&8&9			10	20050	1720	100	Low	-0.14	0.533	21.44	23.00	1.432	0.763	/

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

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>															
Up	Level 4&5&6	QPSK	Front Side	0	20050	1720	1	Mid	0.10	1.190	19.22	21.00	1.507	1.793	/
	Level 4&5&6			0	20050	1720	50	Mid	0.01	1.160	19.30	21.00	1.479	1.716	/
	Level 4&5&6		Back Side	0	20050	1720	1	Mid	-0.08	0.982	19.22	21.00	1.507	1.479	/
	Level 4&5&6			0	20050	1720	50	Mid	-0.02	0.945	19.30	21.00	1.479	1.398	/
	Level 4&5&6		Left Edge	0	20050	1720	1	Mid	-0.16	0.074	19.22	21.00	1.507	0.111	/
	Level 4&5&6			0	20050	1720	50	Mid	0.03	0.064	19.30	21.00	1.479	0.095	/
	Level 4&5&6		Right Edge	0	20050	1720	1	Mid	-0.10	0.118	19.22	21.00	1.507	0.178	/
	Level 4&5&6			0	20050	1720	50	Mid	-0.19	0.107	19.30	21.00	1.479	0.158	/
	Level 4&5&6		Top Edge	0	20050	1720	1	Mid	0.13	1.270	19.22	21.00	1.507	<b>1.913</b>	25#
	Level 4&5&6			0	20050	1720	50	Mid	0.10	1.230	19.30	21.00	1.479	1.819	/

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

## 10.8LTE Band 5 (10MHz Bandwidth)

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Up	Level 1&2&3	QPSK	Left Cheek	0	20600	844	1	Low	-0.02	0.290	20.96	22.30	1.361	0.395	/
	Level 1&2&3			0	20450	829	25	High	0.02	0.290	20.97	22.30	1.358	0.394	/
	Level 1&2&3		Left Tilt	0	20450	829	1	Low	-0.08	0.228	20.96	22.30	1.361	0.310	/
	Level 1&2&3			0	20525	836.5	25	High	-0.03	0.242	20.97	22.30	1.358	0.329	/
	Level 1&2&3		Right Cheek	0	20450	829	1	Low	-0.20	0.360	20.96	22.30	1.361	0.490	/
	Level 1&2&3			0	20525	836.5	25	High	-0.01	0.362	20.97	22.30	1.358	<b>0.492</b>	26#
	Level 1&2&3		Right Tilt	0	20450	829	1	Low	0.01	0.292	20.96	22.30	1.361	0.398	/
	Level 1&2&3			0	20525	836.5	25	High	0.04	0.296	20.97	22.30	1.358	0.402	/
Down	Off	QPSK	Left Cheek	0	20450	829	1	High	-0.13	0.071	22.67	24.30	1.455	0.103	/
	Off			0	20525	836.5	25	Low	-0.18	0.062	21.72	23.30	1.439	0.089	/
	Off		Left Tilt	0	20450	829	1	High	0.17	0.051	22.67	24.30	1.455	0.074	/
	Off			0	20525	836.5	25	Low	-0.15	0.049	21.72	23.30	1.439	0.071	/
	Off		Right Cheek	0	20450	829	1	High	-0.09	0.065	22.67	24.30	1.455	0.095	/
	Off			0	20525	836.5	25	Low	-0.13	0.060	21.72	23.30	1.439	0.086	/
	Off		Right Tilt	0	20450	829	1	High	0.16	0.051	22.67	24.30	1.455	0.074	/
	Off			0	20525	836.5	25	Low	-0.04	0.048	21.72	23.30	1.439	0.069	/
<b>Body-worn Accessory</b>															
Up	Off	QPSK	Front Side	15	20450	829	1	High	0.16	0.051	22.67	24.30	1.455	0.074	/
	Off			15	20525	836.5	25	Low	-0.09	0.042	21.72	23.30	1.439	0.060	/
	Off		Back Side	15	20450	829	1	High	0.00	0.060	22.67	24.30	1.455	<b>0.088</b>	27#
	Off			15	20525	836.5	25	Low	-0.15	0.052	21.72	23.30	1.439	0.075	/
Down	Off	QPSK	Front Side	15	20450	829	1	High	-0.15	0.048	22.67	24.30	1.455	0.070	/
	Off			15	20525	836.5	25	Low	-0.09	0.044	21.72	23.30	1.439	0.063	/
	Off		Back Side	15	20450	829	1	High	-0.03	0.054	22.67	24.30	1.455	0.079	/
	Off			15	20525	836.5	25	Low	-0.19	0.047	21.72	23.30	1.439	0.068	/
<b>Hotspot</b>															
Up	Off	QPSK	Front Side	10	20450	829	1	High	-0.06	0.097	22.67	24.30	1.455	0.141	/
	Off			10	20525	836.5	25	Low	0.08	0.076	21.72	23.30	1.439	0.109	/
	Off		Back Side	10	20450	829	1	High	-0.04	0.112	22.67	24.30	1.455	<b>0.163</b>	28#
	Off			10	20525	836.5	25	Low	0.06	0.087	21.72	23.30	1.439	0.125	/
	Off		Left Edge	10	20450	829	1	High	-0.18	0.006	22.67	24.30	1.455	0.009	/
	Off			10	20525	836.5	25	Low	-0.02	0.004	21.72	23.30	1.439	0.006	/
	Off		Right Edge	10	20450	829	1	High	-0.13	0.009	22.67	24.30	1.455	0.013	/
	Off			10	20525	836.5	25	Low	0.04	0.007	21.72	23.30	1.439	0.010	/
	Off		Top Edge	10	20450	829	1	High	0.09	0.086	22.67	24.30	1.455	0.125	/
	Off			10	20525	836.5	25	Low	0.09	0.082	21.72	23.30	1.439	0.118	/
Down	Off	QPSK	Front Side	10	20450	829	1	High	0.07	0.056	22.67	24.30	1.455	0.082	/
	Off			10	20525	836.5	25	Low	-0.16	0.045	21.72	23.30	1.439	0.065	/
	Off		Back Side	10	20450	829	1	High	-0.10	0.064	22.67	24.30	1.455	0.093	/

	Off			10	20525	836.5	25	Low	0.03	0.057	21.72	23.30	1.439	0.082	/
	Off	Left Edge		10	20450	829	1	High	-0.19	0.007	22.67	24.30	1.455	0.010	/
	Off			10	20525	836.5	25	Low	-0.07	0.005	21.72	23.30	1.439	0.007	/
	Off	Right Edge		10	20450	829	1	High	0.17	0.003	22.67	24.30	1.455	0.004	/
	Off			10	20525	836.5	25	Low	-0.07	0.002	21.72	23.30	1.439	0.003	/
	Off	Bottom Edge		10	20450	829	1	High	0.04	0.066	22.67	24.30	1.455	0.096	/
	Off			10	20525	836.5	25	Low	-0.17	0.060	21.72	23.30	1.439	0.086	/

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

## 10.9LTE Band 7 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Up	Level 1&2&3	QPSK	Left Cheek	0	21100	2535	1	High	0.05	0.202	15.24	16.50	1.337	0.270	/
	Level 1&2&3			0	21100	2535	50	High	0.18	0.212	15.40	16.50	1.288	0.273	/
	Level 1&2&3		Left Tilt	0	21100	2535	1	High	-0.08	0.254	15.24	16.50	1.337	0.339	/
	Level 1&2&3			0	21100	2535	50	High	0.05	0.266	15.40	16.50	1.288	0.343	/
	Level 1&2&3		Right Cheek	0	21100	2535	1	High	0.07	0.403	15.24	16.50	1.337	0.539	/
	Level 1&2&3			0	21100	2535	50	High	-0.16	0.415	15.40	16.50	1.288	0.535	/
	Level 1&2&3		Right Tilt	0	21100	2535	1	High	-0.04	0.460	15.24	16.50	1.337	<b>0.615</b>	29#
	Level 1&2&3			0	21100	2535	50	High	-0.11	0.474	15.40	16.50	1.288	0.611	/
Down	Off	QPSK	Left Cheek	0	20850	2510	1	High	-0.18	0.144	22.35	23.50	1.303	0.188	/
	Off			0	20850	2510	50	High	0.12	0.132	21.38	22.50	1.294	0.171	/
	Off		Left Tilt	0	20850	2510	1	High	-0.19	0.072	22.35	23.50	1.303	0.094	/
	Off			0	20850	2510	50	High	-0.03	0.063	21.38	22.50	1.294	0.082	/
	Off		Right Cheek	0	20850	2510	1	High	-0.11	0.096	22.35	23.50	1.303	0.125	/
	Off			0	20850	2510	50	High	-0.05	0.090	21.38	22.50	1.294	0.116	/
	Off		Right Tilt	0	20850	2510	1	High	-0.05	0.066	22.35	23.50	1.303	0.086	/
	Off			0	20850	2510	50	High	-0.10	0.057	21.38	22.50	1.294	0.074	/
<b>Body-worn Accessory</b>															
Up	Level 4&5&6	QPSK	Front Side	15	21100	2535	1	High	0.09	0.050	15.24	16.50	1.337	0.067	/
	Level 4&5&6			15	21100	2535	50	High	0.15	0.052	15.40	16.50	1.288	0.067	/
	Level 4&5&6		Back Side	15	21100	2535	1	High	0.18	0.099	15.24	16.50	1.337	<b>0.132</b>	30#
	Level 4&5&6			15	21100	2535	50	High	0.01	0.102	15.40	16.50	1.288	0.131	/
Down	Level 7&8&9	QPSK	Front Side	15	21100	2535	1	Low	-0.01	0.040	19.54	20.50	1.247	0.049	/
	Level 7&8&9			15	21100	2535	50	Mid	-0.18	0.031	19.52	20.50	1.253	0.039	/
	Level 7&8&9		Back Side	15	21100	2535	1	Low	-0.19	0.056	19.54	20.50	1.247	0.069	/
	Level 7&8&9			15	21100	2535	50	Mid	0.07	0.044	19.52	20.50	1.253	0.055	/
<b>Hotspot</b>															
Up	Level 4&5&6	QPSK	Front Side	10	21100	2535	1	High	0.10	0.112	15.24	16.50	1.337	0.150	/
	Level 4&5&6			10	21100	2535	50	High	-0.09	0.108	15.40	16.50	1.288	0.139	/
	Level 4&5&6		Back Side	10	21100	2535	1	High	0.18	0.209	15.24	16.50	1.337	0.279	/
	Level 4&5&6			10	21100	2535	50	High	-0.12	0.211	15.40	16.50	1.288	0.272	/
	Level 4&5&6		Left Edge	10	21100	2535	1	High	0.13	0.013	15.24	16.50	1.337	0.017	/
	Level 4&5&6			10	21100	2535	50	High	-0.07	0.013	15.40	16.50	1.288	0.017	/
	Level 4&5&6		Right Edge	10	21100	2535	1	High	0.12	0.054	15.24	16.50	1.337	0.072	/
	Level 4&5&6			10	21100	2535	50	High	-0.16	0.059	15.40	16.50	1.288	0.076	/
	Level 4&5&6		Top Edge	10	21100	2535	1	High	0.08	0.233	15.24	16.50	1.337	<b>0.311</b>	31#
	Level 4&5&6			10	21100	2535	50	High	-0.16	0.239	15.40	16.50	1.288	0.308	/
Down	Level 7&8&9	QPSK	Front Side	10	21100	2535	1	Low	0.06	0.084	19.54	20.50	1.247	0.105	/
	Level 7&8&9			10	21100	2535	50	Mid	0.11	0.066	19.52	20.50	1.253	0.083	/
	Level 7&8&9		Back Side	10	21100	2535	1	Low	-0.15	0.135	19.54	20.50	1.247	0.168	/

	Level 7&8&9			10	21100	2535	50	Mid	0.02	0.105	19.52	20.50	1.253	0.132	/
	Level 7&8&9			Left Edge	10	21100	2535	1	Low	0.16	0.056	19.54	20.50	1.247	0.070
	Level 7&8&9		Right Edge	10	21100	2535	50	Mid	-0.20	0.054	19.52	20.50	1.253	0.068	/
	Level 7&8&9			10	21100	2535	1	Low	0.15	0.032	19.54	20.50	1.247	0.039	/
	Level 7&8&9			10	21100	2535	50	Mid	0.19	0.029	19.52	20.50	1.253	0.036	/
	Level 7&8&9		Bottom Edge	10	21100	2535	1	Low	0.19	0.182	19.54	20.50	1.247	0.226	/
	Level 7&8&9			10	21100	2535	50	Mid	0.18	0.149	19.52	20.50	1.253	0.186	/

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

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>															
Up	Level 4&5&6	QPSK	Front Side	0	21100	2535	1	High	0.03	0.509	15.24	16.50	1.337	0.680	/
	Level 4&5&6			0	21100	2535	50	High	0.04	0.478	15.40	16.50	1.288	0.616	/
	Level 4&5&6		Back Side	0	21100	2535	1	High	-0.06	0.936	15.24	16.50	1.337	1.251	/
	Level 4&5&6			0	21100	2535	50	High	0.17	0.900	15.40	16.50	1.288	1.159	/
	Level 4&5&6		Left Edge	0	21100	2535	1	High	-0.14	0.054	15.24	16.50	1.337	0.072	/
	Level 4&5&6			0	21100	2535	50	High	0.12	0.043	15.40	16.50	1.288	0.055	/
	Level 4&5&6		Right Edge	0	21100	2535	1	High	0.00	0.289	15.24	16.50	1.337	0.386	/
	Level 4&5&6			0	21100	2535	50	High	-0.11	0.245	15.40	16.50	1.288	0.316	/
	Level 4&5&6		Top Edge	0	21100	2535	1	High	0.03	1.330	15.24	16.50	1.337	<b>1.778</b>	32#
	Level 4&5&6			0	21100	2535	50	High	-0.07	1.310	15.40	16.50	1.288	1.688	/

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

### 10.10 LTE Band 41 (20MHz Bandwidth)

Antenna	Power Reduction	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
Up	Level 1&2&3	QPSK	Left Cheek	0	41140	2645	1	Mid	0.12	0.219	19.70	20.50	1.202	0.263	/
	Level 1&2&3			0	40473	2578.3	50	Low	0.03	0.131	19.73	20.50	1.194	0.156	/
	Level 1&2&3		Left Tilt	0	41140	2645	1	Mid	-0.02	0.266	19.70	20.50	1.202	0.320	/
	Level 1&2&3			0	40473	2578.3	50	Low	0.14	0.172	19.73	20.50	1.194	0.205	/
	Level 1&2&3		Right Cheek	0	41140	2645	1	Mid	0.11	0.337	19.70	20.50	1.202	0.405	/
	Level 1&2&3			0	40473	2578.3	50	Low	-0.02	0.230	19.73	20.50	1.194	0.275	/
	Level 1&2&3		Right Tilt	0	41140	2645	1	Mid	-0.02	0.408	19.70	20.50	1.202	<b>0.491</b>	33#
	Level 1&2&3			0	40473	2578.3	50	Low	-0.03	0.289	19.73	20.50	1.194	0.345	/
Down	Off	QPSK	Left Cheek	0	40807	2611.7	1	High	0.19	0.021	23.15	24.00	1.216	0.026	/
	Off			0	40807	2611.7	50	Low	0.02	0.013	21.92	23.00	1.282	0.017	/
	Off		Left Tilt	0	40807	2611.7	1	High	0.07	0.024	23.15	24.00	1.216	0.029	/
	Off			0	40807	2611.7	50	Low	0.10	0.015	21.92	23.00	1.282	0.019	/
	Off		Right Cheek	0	40807	2611.7	1	High	0.06	0.059	23.15	24.00	1.216	0.072	/
	Off			0	40807	2611.7	50	Low	-0.17	0.023	21.92	23.00	1.282	0.029	/
	Off		Right Tilt	0	40807	2611.7	1	High	-0.07	0.045	23.15	24.00	1.216	0.055	/
	Off			0	40807	2611.7	50	Low	0.12	0.021	21.92	23.00	1.282	0.027	/
<b>Body-worn Accessory</b>															
Up	Level 4&5&6	QPSK	Front Side	15	40807	2611.7	1	Low	-0.16	0.060	21.91	23.00	1.285	0.077	/
	Level 4&5&6			15	40807	2611.7	50	Mid	-0.06	0.052	21.91	23.00	1.285	0.067	/
	Level 4&5&6		Back Side	15	40807	2611.7	1	Low	0.15	0.116	21.91	23.00	1.285	<b>0.149</b>	34#
	Level 4&5&6			15	40807	2611.7	50	Mid	0.18	0.102	21.91	23.00	1.285	0.131	/
Down	Off	QPSK	Front Side	15	40807	2611.7	1	High	0.06	0.063	23.15	24.00	1.216	0.077	/
	Off			15	40807	2611.7	50	Low	0.00	0.058	21.92	23.00	1.282	0.074	/
	Off		Back Side	15	40807	2611.7	1	High	-0.14	0.106	23.15	24.00	1.216	0.129	/
	Off			15	40807	2611.7	50	Low	0.07	0.097	21.92	23.00	1.282	0.124	/
<b>Hotspot</b>															
Up	Level 4&5&6	QPSK	Front Side	10	40807	2611.7	1	Low	-0.06	0.110	21.91	23.00	1.285	0.141	/
	Level 4&5&6			10	40807	2611.7	50	Mid	-0.08	0.098	21.91	23.00	1.285	0.126	/
	Level 4&5&6		Back Side	10	40807	2611.7	1	Low	0.19	0.264	21.91	23.00	1.285	<b>0.339</b>	35#
	Level 4&5&6			10	40807	2611.7	50	Mid	0.19	0.255	21.91	23.00	1.285	0.328	/
	Level 4&5&6		Left Edge	10	40807	2611.7	1	Low	0.02	0.031	21.91	23.00	1.285	0.040	/
	Level 4&5&6			10	40807	2611.7	50	Mid	0.14	0.029	21.91	23.00	1.285	0.037	/
	Level 4&5&6		Right Edge	10	40807	2611.7	1	Low	-0.16	0.097	21.91	23.00	1.285	0.125	/
	Level 4&5&6			10	40807	2611.7	50	Mid	0.15	0.085	21.91	23.00	1.285	0.109	/
	Level 4&5&6		Top Edge	10	40807	2611.7	1	Low	0.19	0.224	21.91	23.00	1.285	0.288	/
	Level 4&5&6			10	40807	2611.7	50	Mid	0.15	0.216	21.91	23.00	1.285	0.278	/
Down	Off	QPSK	Front Side	10	40807	2611.7	1	High	0.19	0.057	23.15	24.00	1.216	0.069	/
	Off			10	40807	2611.7	50	Low	0.15	0.031	21.92	23.00	1.282	0.040	/
	Off		Back Side	10	40807	2611.7	1	High	-0.18	0.119	23.15	24.00	1.216	0.145	/

	Off			10	40807	2611.7	50	Low	-0.06	0.067	21.92	23.00	1.282	0.086	/
	Off	Left Edge		10	40807	2611.7	1	High	0.14	0.072	23.15	24.00	1.216	0.088	/
	Off			10	40807	2611.7	50	Low	0.11	0.042	21.92	23.00	1.282	0.054	/
	Off	Right Edge		10	40807	2611.7	1	High	0.17	0.035	23.15	24.00	1.216	0.043	/
	Off			10	40807	2611.7	50	Low	0.11	0.014	21.92	23.00	1.282	0.018	/
	Off	Bottom Edge		10	40807	2611.7	1	High	0.07	0.188	23.15	24.00	1.216	0.229	/
	Off			10	40807	2611.7	50	Low	0.03	0.103	21.92	23.00	1.282	0.132	/

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



# 10.11 WIFI 2.4GHz

Mode	Power Reduction	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
802.11 b	Level 1&2	Left Cheek	0	1	2412	0.12	0.335	15.48	17.00	1.419	99.00	1.010	<b>0.480</b>	36#
	Level 1&2	Left Tilt	0	1	2412	0.16	0.242	15.48	17.00	1.419	99.00	1.010	0.347	/
	Level 1&2	Right Cheek	0	1	2412	-0.05	0.191	15.48	17.00	1.419	99.00	1.010	0.274	/
	Level 1&2	Right Tilt	0	1	2412	-0.19	0.240	15.48	17.00	1.419	99.00	1.010	0.344	/
<b>Body-worn Accessory</b>														
802.11 b	Off	Front Side	15	11	2462	0.17	0.062	18.35	20.00	1.462	99.00	1.010	0.092	/
	Off	Back Side	15	11	2462	-0.08	0.091	18.35	20.00	1.462	99.00	1.010	<b>0.134</b>	37#
<b>Hotspot</b>														
802.11 b	Off	Front Side	10	11	2462	-0.10	0.138	18.35	20.00	1.462	99.00	1.010	0.204	/
	Off	Back Side	10	11	2462	-0.10	0.174	18.35	20.00	1.462	99.00	1.010	<b>0.257</b>	38#
	Off	Left Edge	10	11	2462	0.00	0.032	18.35	20.00	1.462	99.00	1.010	0.047	/
	Off	Top Edge	10	11	2462	0.05	0.168	18.35	20.00	1.462	99.00	1.010	0.248	/

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

# 10.12 WIFI 5GHz

Fre. Band	Mode	Power Reduction	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>															
5.2& 5.3G	802.11n (HT40)	Level 1&2	Left Cheek	0	54	5270	-0.13	0.398	15.42	17.00	1.439	96.05	1.041	<b>0.596</b>	39#
		Level 1&2	Left Tilt	0	54	5270	-0.03	0.290	15.42	17.00	1.439	96.05	1.041	0.434	/
		Level 1&2	Right Cheek	0	54	5270	0.03	0.191	15.42	17.00	1.439	96.05	1.041	0.286	/
		Level 1&2	Right Tilt	0	54	5270	-0.02	0.204	15.42	17.00	1.439	96.05	1.041	0.306	/
5.6G	802.11n (HT40)	Level 1&2	Left Cheek	0	134	5670	0.14	0.471	15.91	17.00	1.285	96.05	1.041	<b>0.630</b>	40#
		Level 1&2	Left Tilt	0	134	5670	0.10	0.414	15.91	17.00	1.285	96.05	1.041	0.554	/
		Level 1&2	Right Cheek	0	134	5670	0.07	0.246	15.91	17.00	1.285	96.05	1.041	0.329	/
		Level 1&2	Right Tilt	0	134	5670	-0.05	0.279	15.91	17.00	1.285	96.05	1.041	0.373	/
5.8G	802.11ac (VHT80)	Off	Left Cheek	0	155	5775	0.03	0.283	14.05	16.00	1.567	92.43	1.082	<b>0.480</b>	41#
		Off	Left Tilt	0	155	5775	-0.13	0.266	14.05	16.00	1.567	92.43	1.082	0.451	/
		Off	Right Cheek	0	155	5775	-0.15	0.164	14.05	16.00	1.567	92.43	1.082	0.278	/
		Off	Right Tilt	0	155	5775	0.10	0.188	14.05	16.00	1.567	92.43	1.082	0.319	/
<b>Body-worn Accessory</b>															
5.2& 5.3G	802.11n (HT40)	Off	Front Side	15	62	5310	0.11	0.064	17.46	19.00	1.426	96.05	1.041	0.095	/
		Off	Back Side	15	62	5310	-0.06	0.168	17.46	19.00	1.426	96.05	1.041	<b>0.249</b>	42#
5.6G	802.11n (HT40)	Off	Front Side	15	134	5670	-0.01	0.065	18.03	19.00	1.250	96.05	1.041	0.085	/
		Off	Back Side	15	134	5670	0.03	0.173	18.03	19.00	1.250	96.05	1.041	<b>0.225</b>	43#
5.8G	802.11ac (VHT80)	Off	Front Side	15	155	5775	0.00	0.024	14.05	16.00	1.567	92.43	1.082	0.041	/
		Off	Back Side	15	155	5775	0.01	0.086	14.05	16.00	1.567	92.43	1.082	<b>0.146</b>	44#
<b>Hotspot</b>															
5.2& 5.3G	802.11n (HT40)	Off	Front Side	10	38	5190	0.02	0.184	17.33	19.00	1.469	96.05	1.041	0.281	/
		Off	Back Side	10	38	5190	0.14	0.348	17.33	19.00	1.469	96.05	1.041	<b>0.532</b>	45#
		Off	Left Edge	10	38	5190	0.09	0.164	17.33	19.00	1.469	96.05	1.041	0.251	/
		Off	Top Edge	10	38	5190	0.03	0.213	17.33	19.00	1.469	96.05	1.041	0.326	/
5.8G	802.11ac (VHT80)	Off	Front Side	10	155	5775	0.02	0.103	14.05	16.00	1.567	92.43	1.082	0.175	/
		Off	Back Side	10	155	5775	-0.09	0.189	14.05	16.00	1.567	92.43	1.082	<b>0.320</b>	46#
		Off	Left Edge	10	155	5775	-0.14	0.087	14.05	16.00	1.567	92.43	1.082	0.147	/
		Off	Top Edge	10	155	5775	-0.03	0.184	14.05	16.00	1.567	92.43	1.082	0.312	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Fre. Band	Mode	Power Reduction	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	10g Scaled SAR (W/kg)	Meas. No.
<b>Product Specific 10g SAR</b>															
5.2&5.3G	802.11n (HT40)	Off	Front Side	0	62	5310	0.08	0.256	17.46	19.00	1.426	96.05	1.041	0.380	/
		Off	Back Side	0	62	5310	0.09	0.449	17.46	19.00	1.426	96.05	1.041	0.666	/
		Off	Left Edge	0	62	5310	-0.16	0.207	17.46	19.00	1.426	96.05	1.041	0.307	/
		Off	Top Edge	0	62	5310	0.11	0.477	17.46	19.00	1.426	96.05	1.041	<b>0.708</b>	<b>47#</b>
5.8G	802.11ac (VHT80)	Off	Front Side	0	134	5670	-0.18	0.331	18.03	19.00	1.250	96.05	1.041	0.431	/
		Off	Back Side	0	134	5670	-0.10	0.509	18.03	19.00	1.250	96.05	1.041	0.663	/
		Off	Left Edge	0	134	5670	-0.19	0.249	18.03	19.00	1.250	96.05	1.041	0.324	/
		Off	Top Edge	0	134	5670	0.17	0.648	18.03	19.00	1.250	96.05	1.041	<b>0.843</b>	<b>48#</b>
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

### 10.13 Bluetooth

Mode	Power Reduction	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune-up power (dBm)	Scaling Factor	Duty cycle (%)	Duty Factor	1g Scaled SAR (W/kg)	Meas. No.
<b>Head</b>														
DH5	Off	Left Cheek	0	0	2402	0.02	0.043	11.53	13.00	1.403	77.07	1.298	0.078	/
	Off	Left Tilt	0	0	2402	0.08	0.059	11.53	13.00	1.403	77.07	1.298	<b>0.107</b>	49#
	Off	Right Cheek	0	0	2402	-0.04	0.027	11.53	13.00	1.403	77.07	1.298	0.049	/
	Off	Right Tilt	0	0	2402	0.19	0.029	11.53	13.00	1.403	77.07	1.298	0.053	/
<b>Body-worn Accessory</b>														
DH5	Off	Front Side	15	0	2402	-0.02	0.007	11.53	13.00	1.403	77.07	1.298	0.013	/
	Off	Back Side	15	0	2402	-0.10	0.013	11.53	13.00	1.403	77.07	1.298	<b>0.023</b>	50#
<b>Hotspot</b>														
DH5	Off	Front Side	10	0	2402	-0.11	0.019	11.53	13.00	1.403	77.07	1.298	0.035	/
	Off	Back Side	10	0	2402	-0.06	0.028	11.53	13.00	1.403	77.07	1.298	0.051	/
	Off	Left Edge	10	0	2402	0.12	0.005	11.53	13.00	1.403	77.07	1.298	0.009	/
	Off	Top Edge	10	0	2402	-0.14	0.032	11.53	13.00	1.403	77.07	1.298	<b>0.059</b>	51#

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  $\leq 1.45$  W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is  $\leq 1.10$ , 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  $\geq 0.80$  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  $\geq 1.45$  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  $\geq 1.5$  W/kg, perform a third repeated measurement.

Note1: The highest 1g measured SAR is  $0.750 < 0.80$  W/kg, repeated measurement is not required.

Note2: The highest 10g measured SAR is  $1.330 < 2.0$  W/kg, 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	Hotspot	Product Specific
1	GSM + WiFi 2.4G	Yes	Yes	Yes	Yes
2	GSM + WiFi 5G	Yes	Yes	Yes	Yes
3	GSM + Bluetooth	Yes	Yes	Yes	Yes
4	GSM + WiFi 5G + Bluetooth	Yes	Yes	No	Yes
5	UMTS + WiFi 2.4G	Yes	Yes	Yes	Yes
6	UMTS + WiFi 5G	Yes	Yes	Yes	Yes
7	UMTS + Bluetooth	Yes	Yes	Yes	Yes
8	UMTS + WiFi 5G + Bluetooth	Yes	Yes	No	Yes
9	LTE + WiFi 2.4G	Yes	Yes	Yes	Yes
10	LTE + WiFi 5G	Yes	Yes	Yes	Yes
11	LTE + Bluetooth	Yes	Yes	Yes	Yes
12	LTE + WiFi 5G + Bluetooth	Yes	Yes	No	Yes

Note:

1. 2G&3G&4G share the same antenna and can't transmit simultaneously.
2. The Bluetooth and 2.4G WLAN share the same antenna, can't transmitting together.
3. The 2.4G WLAN or 5G WLAN can transmit simultaneously with each WWAN.
4. Two WWAN antennas can switch automatically, but up and down antenna can't transmit simultaneously.
5. The maximum SAR summation is calculated based on the same configuration and test position.

## 12.2 Sum SAR of Simultaneous Transmission

### 12.2.1 Head Simultaneous Transmission SAR Evaluation for WWAN DAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI+Bluetooth
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 2&3	Left Cheek	0.126	0.480	0.630	0.078	0.606	0.756	0.204	0.834
	Level 2&3	Left Tilt	0.060	0.347	0.554	0.107	0.407	0.614	0.167	0.721
	Level 2&3	Right Cheek	0.132	0.274	0.329	0.049	0.406	0.461	0.181	0.510
	Level 2&3	Right Tilt	0.052	0.344	0.373	0.053	0.396	0.425	0.105	0.478
GSM1900	Level 2&3	Left Cheek	0.178	0.480	0.630	0.078	0.658	0.808	0.256	0.886
	Level 2&3	Left Tilt	0.083	0.347	0.554	0.107	0.430	0.637	0.190	0.744
	Level 2&3	Right Cheek	0.125	0.274	0.329	0.049	0.399	0.454	0.174	0.503
	Level 2&3	Right Tilt	0.102	0.344	0.373	0.053	0.446	0.475	0.155	0.528
WCDMA B2	Level 2&3	Left Cheek	0.170	0.480	0.630	0.078	0.650	0.800	0.248	0.878
	Level 2&3	Left Tilt	0.086	0.347	0.554	0.107	0.433	0.640	0.193	0.747
	Level 2&3	Right Cheek	0.108	0.274	0.329	0.049	0.382	0.437	0.157	0.486
	Level 2&3	Right Tilt	0.113	0.344	0.373	0.053	0.457	0.486	0.166	0.539
WCDMA B4	Level 2&3	Left Cheek	0.135	0.480	0.630	0.078	0.615	0.765	0.213	0.843
	Level 2&3	Left Tilt	0.082	0.347	0.554	0.107	0.429	0.636	0.189	0.743
	Level 2&3	Right Cheek	0.098	0.274	0.329	0.049	0.372	0.427	0.147	0.476
	Level 2&3	Right Tilt	0.083	0.344	0.373	0.053	0.427	0.456	0.136	0.509
WCDMA B5	Level 2&3	Left Cheek	0.147	0.480	0.630	0.078	0.627	0.777	0.225	0.855
	Level 2&3	Left Tilt	0.083	0.347	0.554	0.107	0.430	0.637	0.190	0.744
	Level 2&3	Right Cheek	0.164	0.274	0.329	0.049	0.438	0.493	0.213	0.542
	Level 2&3	Right Tilt	0.085	0.344	0.373	0.053	0.429	0.458	0.138	0.511
LTE B2	Level 2&3	Left Cheek	0.108	0.480	0.630	0.078	0.588	0.738	0.186	0.816
	Level 2&3	Left Tilt	0.076	0.347	0.554	0.107	0.423	0.630	0.183	0.737
	Level 2&3	Right Cheek	0.094	0.274	0.329	0.049	0.368	0.423	0.143	0.472
	Level 2&3	Right Tilt	0.087	0.344	0.373	0.053	0.431	0.460	0.140	0.513
LTE B4	Level 2&3	Left Cheek	0.173	0.480	0.630	0.078	0.653	0.803	0.251	0.881
	Level 2&3	Left Tilt	0.097	0.347	0.554	0.107	0.444	0.651	0.204	0.758
	Level 2&3	Right Cheek	0.115	0.274	0.329	0.049	0.389	0.444	0.164	0.493
	Level 2&3	Right Tilt	0.104	0.344	0.373	0.053	0.448	0.477	0.157	0.530
LTE B5	Level 2&3	Left Cheek	0.103	0.480	0.630	0.078	0.583	0.733	0.181	0.811
	Level 2&3	Left Tilt	0.074	0.347	0.554	0.107	0.421	0.628	0.181	0.735
	Level 2&3	Right Cheek	0.095	0.274	0.329	0.049	0.369	0.424	0.144	0.473
	Level 2&3	Right Tilt	0.074	0.344	0.373	0.053	0.418	0.447	0.127	0.500
LTE B7	Level 2&3	Left Cheek	0.188	0.480	0.630	0.078	0.668	0.818	0.266	<b>0.896</b>
	Level 2&3	Left Tilt	0.094	0.347	0.554	0.107	0.441	0.648	0.201	0.755
	Level 2&3	Right Cheek	0.125	0.274	0.329	0.049	0.399	0.454	0.174	0.503

	Level 2&3	Right Tilt	0.086	0.344	0.373	0.053	0.430	0.459	0.139	0.512
LTE B41	Level 2&3	Left Cheek	0.026	0.480	0.630	0.078	0.506	0.656	0.104	0.734
	Level 2&3	Left Tilt	0.029	0.347	0.554	0.107	0.376	0.583	0.136	0.690
	Level 2&3	Right Cheek	0.072	0.274	0.329	0.049	0.346	0.401	0.121	0.450
	Level 2&3	Right Tilt	0.055	0.344	0.373	0.053	0.399	0.428	0.108	0.481

Note:

1: Only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 0.896 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.



### 12.2.2 Body-worn Simultaneous Transmission SAR Evaluation for WWAN DAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI+Bluetooth
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 5&6	Front Side 15mm	0.092	0.092	0.095	0.013	0.184	0.187	0.105	0.200
	Level 5&6	Back Side 15mm	0.101	0.134	0.249	0.023	0.235	0.350	0.124	0.373
GSM1900	Level 5&6	Front Side 15mm	0.029	0.092	0.095	0.013	0.121	0.124	0.042	0.137
	Level 5&6	Back Side 15mm	0.058	0.134	0.249	0.023	0.192	0.307	0.081	0.330
WCDMA B2	Level 5&6	Front Side 15mm	0.039	0.092	0.095	0.013	0.131	0.134	0.052	0.147
	Level 5&6	Back Side 15mm	0.073	0.134	0.249	0.023	0.207	0.322	0.096	0.345
WCDMA B4	Level 5&6	Front Side 15mm	0.036	0.092	0.095	0.013	0.128	0.131	0.049	0.144
	Level 5&6	Back Side 15mm	0.168	0.134	0.249	0.023	0.302	0.417	0.191	<b>0.440</b>
WCDMA B5	Off	Front Side 15mm	0.081	0.092	0.095	0.013	0.173	0.176	0.094	0.189
	Off	Back Side 15mm	0.156	0.134	0.249	0.023	0.290	0.405	0.179	0.428
LTE B2	Level 5&6	Front Side 15mm	0.030	0.092	0.095	0.013	0.122	0.125	0.043	0.138
	Level 5&6	Back Side 15mm	0.078	0.134	0.249	0.023	0.212	0.327	0.101	0.350
LTE B4	Level 5&6	Front Side 15mm	0.025	0.092	0.095	0.013	0.117	0.120	0.038	0.133
	Level 5&6	Back Side 15mm	0.088	0.134	0.249	0.023	0.222	0.337	0.111	0.360
LTE B5	Off	Front Side 15mm	0.070	0.092	0.095	0.013	0.162	0.165	0.083	0.178
	Off	Back Side 15mm	0.079	0.134	0.249	0.023	0.213	0.328	0.102	0.351
LTE B7	Level 5&6	Front Side 15mm	0.049	0.092	0.095	0.013	0.141	0.144	0.062	0.157
	Level 5&6	Back Side 15mm	0.069	0.134	0.249	0.023	0.203	0.318	0.092	0.341
LTE B41	Level 5&6	Front Side 15mm	0.077	0.092	0.095	0.013	0.169	0.172	0.090	0.185
	Level 5&6	Back Side 15mm	0.129	0.134	0.249	0.023	0.263	0.378	0.152	0.401

Note:

1: Only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 0.440 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.3 Limbs Simultaneous Transmission SAR Evaluation for WWAN DAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI+Bluetooth
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 5&6	Front Side 10mm	0.143	0.204	0.281	0.035	0.347	0.424	0.178	0.459
	Level 5&6	Back Side 10mm	0.166	0.257	0.532	0.051	0.423	0.698	0.217	0.749
	Level 5&6	Left Edge 10mm	0.032	0.047	0.251	0.009	0.079	0.283	0.041	0.292
	Level 5&6	Right Edge 10mm	0.018	0.000	0.000	0.000	0.018	0.018	0.018	0.018
	Level 5&6	Bottom Edge 10mm	0.108	0.000	0.000	0.059	0.108	0.108	0.167	0.167
GSM1900	Level 5&6	Front Side 10mm	0.063	0.204	0.281	0.035	0.267	0.344	0.098	0.379
	Level 5&6	Back Side 10mm	0.190	0.257	0.532	0.051	0.447	0.722	0.241	0.773
	Level 5&6	Left Edge 10mm	0.028	0.047	0.251	0.009	0.075	0.279	0.037	0.288
	Level 5&6	Right Edge 10mm	0.008	0.000	0.000	0.000	0.008	0.008	0.008	0.008
	Level 5&6	Bottom Edge 10mm	0.151	0.000	0.000	0.059	0.151	0.151	0.210	0.210
WCDMA B2	Level 5&6	Front Side 10mm	0.068	0.204	0.281	0.035	0.272	0.349	0.103	0.384
	Level 5&6	Back Side 10mm	0.216	0.257	0.532	0.051	0.473	0.748	0.267	0.799
	Level 5&6	Left Edge 10mm	0.023	0.047	0.251	0.009	0.070	0.274	0.032	0.283
	Level 5&6	Right Edge 10mm	0.013	0.000	0.000	0.000	0.013	0.013	0.013	0.013
	Level 5&6	Bottom Edge 10mm	0.234	0.000	0.000	0.059	0.234	0.234	0.293	0.293
WCDMA B4	Level 5&6	Front Side 10mm	0.232	0.204	0.281	0.035	0.436	0.513	0.267	0.548
	Level 5&6	Back Side 10mm	0.620	0.257	0.532	0.051	0.877	1.152	0.671	1.203
	Level 5&6	Left Edge 10mm	0.060	0.047	0.251	0.009	0.107	0.311	0.069	0.320
	Level 5&6	Right Edge 10mm	0.033	0.000	0.000	0.000	0.033	0.033	0.033	0.033
	Level 5&6	Bottom Edge 10mm	0.787	0.000	0.000	0.059	0.787	0.787	0.846	0.846
WCDMA B5	Off	Front Side 10mm	0.128	0.204	0.281	0.035	0.332	0.409	0.163	0.444
	Off	Back Side 10mm	0.268	0.257	0.532	0.051	0.525	0.800	0.319	0.851
	Off	Left Edge 10mm	0.010	0.047	0.251	0.009	0.057	0.261	0.019	0.270
	Off	Right Edge 10mm	0.021	0.000	0.000	0.000	0.021	0.021	0.021	0.021
	Off	Bottom Edge 10mm	0.172	0.000	0.000	0.059	0.172	0.172	0.231	0.231
LTE B2	Level 5&6	Front Side 10mm	0.065	0.204	0.281	0.035	0.269	0.346	0.100	0.381
	Level 5&6	Back Side 10mm	0.247	0.257	0.532	0.051	0.504	0.779	0.298	0.830
	Level 5&6	Left Edge 10mm	0.006	0.047	0.251	0.009	0.053	0.257	0.015	0.266
	Level 5&6	Right Edge 10mm	0.001	0.000	0.000	0.000	0.001	0.001	0.001	0.001
	Level 5&6	Bottom Edge 10mm	0.252	0.000	0.000	0.059	0.252	0.252	0.311	0.311
LTE B4	Level 5&6	Front Side 10mm	0.063	0.204	0.281	0.035	0.267	0.344	0.098	0.379
	Level 5&6	Back Side 10mm	0.721	0.257	0.532	0.051	0.978	1.253	0.772	<b>1.304</b>
	Level 5&6	Left Edge 10mm	0.054	0.047	0.251	0.009	0.101	0.305	0.063	0.314
	Level 5&6	Right Edge 10mm	0.016	0.000	0.000	0.000	0.016	0.016	0.016	0.016
	Level 5&6	Bottom Edge 10mm	0.934	0.000	0.000	0.059	0.934	0.934	0.993	0.993
LTE B5	Off	Front Side 10mm	0.082	0.204	0.281	0.035	0.286	0.363	0.117	0.398

	Off	Back Side 10mm	0.093	0.257	0.532	0.051	0.350	0.625	0.144	0.676
	Off	Left Edge 10mm	0.010	0.047	0.251	0.009	0.057	0.261	0.019	0.270
	Off	Right Edge 10mm	0.004	0.000	0.000	0.000	0.004	0.004	0.004	0.004
	Off	Bottom Edge 10mm	0.096	0.000	0.000	0.059	0.096	0.096	0.155	0.155
LTE B7	Level 5&6	Front Side 10mm	0.105	0.204	0.281	0.035	0.309	0.386	0.140	0.421
	Level 5&6	Back Side 10mm	0.168	0.257	0.532	0.051	0.425	0.700	0.219	0.751
	Level 5&6	Left Edge 10mm	0.070	0.047	0.251	0.009	0.117	0.321	0.079	0.330
	Level 5&6	Right Edge 10mm	0.039	0.000	0.000	0.000	0.039	0.039	0.039	0.039
	Level 5&6	Bottom Edge 10mm	0.226	0.000	0.000	0.059	0.226	0.226	0.285	0.285
LTE B41	Level 5&6	Front Side 10mm	0.069	0.204	0.281	0.035	0.273	0.350	0.104	0.385
	Level 5&6	Back Side 10mm	0.145	0.257	0.532	0.051	0.402	0.677	0.196	0.728
	Level 5&6	Left Edge 10mm	0.088	0.047	0.251	0.009	0.135	0.339	0.097	0.348
	Level 5&6	Right Edge 10mm	0.043	0.000	0.000	0.000	0.043	0.043	0.043	0.043
	Level 5&6	Bottom Edge 10mm	0.229	0.000	0.000	0.059	0.229	0.229	0.288	0.288

Note:

- 1: Only the worst simultaneous transmission combinations was shown in this table.
- 2: The highest Summed 1g SAR is 1.304 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.4 Head Simultaneous Transmission SAR Evaluation for WWAN UAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 2&3	Left Cheek	0.269	0.480	0.630	0.078	0.749	0.899	0.347	0.977
	Level 2&3	Left Tilt	0.221	0.347	0.554	0.107	0.568	0.775	0.328	0.882
	Level 2&3	Right Cheek	0.324	0.274	0.329	0.049	0.598	0.653	0.373	0.702
	Level 2&3	Right Tilt	0.261	0.344	0.373	0.053	0.605	0.634	0.314	0.687
GSM1900	Level 2&3	Left Cheek	0.209	0.480	0.630	0.078	0.689	0.839	0.287	0.917
	Level 2&3	Left Tilt	0.287	0.347	0.554	0.107	0.634	0.841	0.394	0.948
	Level 2&3	Right Cheek	0.300	0.274	0.329	0.049	0.574	0.629	0.349	0.678
	Level 2&3	Right Tilt	0.395	0.344	0.373	0.053	0.739	0.768	0.448	0.821
WCDMA B2	Level 2&3	Left Cheek	0.473	0.480	0.630	0.078	0.953	1.103	0.551	1.181
	Level 2&3	Left Tilt	0.651	0.347	0.554	0.107	0.998	1.205	0.758	1.312
	Level 2&3	Right Cheek	0.709	0.274	0.329	0.049	0.983	1.038	0.758	1.087
	Level 2&3	Right Tilt	0.771	0.344	0.373	0.053	1.115	1.144	0.824	1.197
WCDMA B4	Level 2&3	Left Cheek	0.496	0.480	0.630	0.078	0.976	1.126	0.574	1.204
	Level 2&3	Left Tilt	0.626	0.347	0.554	0.107	0.973	1.180	0.733	1.287
	Level 2&3	Right Cheek	0.717	0.274	0.329	0.049	0.991	1.046	0.766	1.095
	Level 2&3	Right Tilt	1.050	0.344	0.373	0.053	1.394	1.423	1.103	<b>1.476</b>
WCDMA B5	Level 2&3	Left Cheek	0.342	0.480	0.630	0.078	0.822	0.972	0.420	1.050
	Level 2&3	Left Tilt	0.277	0.347	0.554	0.107	0.624	0.831	0.384	0.938
	Level 2&3	Right Cheek	0.429	0.274	0.329	0.049	0.703	0.758	0.478	0.807
	Level 2&3	Right Tilt	0.348	0.344	0.373	0.053	0.692	0.721	0.401	0.774
LTE B2	Level 2&3	Left Cheek	0.564	0.480	0.630	0.078	1.044	1.194	0.642	1.272
	Level 2&3	Left Tilt	0.729	0.347	0.554	0.107	1.076	1.283	0.836	1.390
	Level 2&3	Right Cheek	0.751	0.274	0.329	0.049	1.025	1.080	0.800	1.129
	Level 2&3	Right Tilt	0.963	0.344	0.373	0.053	1.307	1.336	1.016	1.389
LTE B4	Level 2&3	Left Cheek	0.529	0.480	0.630	0.078	1.009	1.159	0.607	1.237
	Level 2&3	Left Tilt	0.683	0.347	0.554	0.107	1.030	1.237	0.790	1.344
	Level 2&3	Right Cheek	0.728	0.274	0.329	0.049	1.002	1.057	0.777	1.106
	Level 2&3	Right Tilt	1.043	0.344	0.373	0.053	1.387	1.416	1.096	1.469
LTE B5	Level 2&3	Left Cheek	0.395	0.480	0.630	0.078	0.875	1.025	0.473	1.103
	Level 2&3	Left Tilt	0.329	0.347	0.554	0.107	0.676	0.883	0.436	0.990
	Level 2&3	Right Cheek	0.492	0.274	0.329	0.049	0.766	0.821	0.541	0.870
	Level 2&3	Right Tilt	0.402	0.344	0.373	0.053	0.746	0.775	0.455	0.828
LTE B7	Level 2&3	Left Cheek	0.273	0.480	0.630	0.078	0.753	0.903	0.351	0.981
	Level 2&3	Left Tilt	0.343	0.347	0.554	0.107	0.690	0.897	0.450	1.004
	Level 2&3	Right Cheek	0.539	0.274	0.329	0.049	0.813	0.868	0.588	0.917
	Level 2&3	Right Tilt	0.615	0.344	0.373	0.053	0.959	0.988	0.668	1.041

LTE B41	Level 2&3	Left Cheek	0.263	0.480	0.630	0.078	0.743	0.893	0.341	0.971
	Level 2&3	Left Tilt	0.320	0.347	0.554	0.107	0.667	0.874	0.427	0.981
	Level 2&3	Right Cheek	0.405	0.274	0.329	0.049	0.679	0.734	0.454	0.783
	Level 2&3	Right Tilt	0.491	0.344	0.373	0.053	0.835	0.864	0.544	0.917

## Note:

1: Only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 1.476 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.5 Body-worn Simultaneous Transmission SAR Evaluation for WWAN UAT With WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI+Bluetooth
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 5&6	Front Side 15mm	0.046	0.092	0.095	0.013	0.138	0.141	0.059	0.154
	Level 5&6	Back Side 15mm	0.076	0.134	0.249	0.023	0.210	0.325	0.099	0.348
GSM1900	Level 5&6	Front Side 15mm	0.041	0.092	0.095	0.013	0.133	0.136	0.054	0.149
	Level 5&6	Back Side 15mm	0.072	0.134	0.249	0.023	0.206	0.321	0.095	0.344
WCDMA B2	Level 5&6	Front Side 15mm	0.113	0.092	0.095	0.013	0.205	0.208	0.126	0.221
	Level 5&6	Back Side 15mm	0.190	0.134	0.249	0.023	0.324	0.439	0.213	0.462
WCDMA B4	Level 5&6	Front Side 15mm	0.292	0.092	0.095	0.013	0.384	0.387	0.305	0.400
	Level 5&6	Back Side 15mm	0.420	0.134	0.249	0.023	0.554	0.669	0.443	0.692
WCDMA B5	Off	Front Side 15mm	0.111	0.092	0.095	0.013	0.203	0.206	0.124	0.219
	Off	Back Side 15mm	0.154	0.134	0.249	0.023	0.288	0.403	0.177	0.426
LTE B2	Level 5&6	Front Side 15mm	0.115	0.092	0.095	0.013	0.207	0.210	0.128	0.223
	Level 5&6	Back Side 15mm	0.230	0.134	0.249	0.023	0.364	0.479	0.253	0.502
LTE B4	Level 5&6	Front Side 15mm	0.274	0.092	0.095	0.013	0.366	0.369	0.287	0.382
	Level 5&6	Back Side 15mm	0.460	0.134	0.249	0.023	0.594	0.709	0.483	<b>0.732</b>
LTE B5	Off	Front Side 15mm	0.074	0.092	0.095	0.013	0.166	0.169	0.087	0.182
	Off	Back Side 15mm	0.088	0.134	0.249	0.023	0.222	0.337	0.111	0.360
LTE B7	Level 5&6	Front Side 15mm	0.067	0.092	0.095	0.013	0.159	0.162	0.080	0.175
	Level 5&6	Back Side 15mm	0.132	0.134	0.249	0.023	0.266	0.381	0.155	0.404
LTE B41	Level 5&6	Front Side 15mm	0.077	0.092	0.095	0.013	0.169	0.172	0.090	0.185
	Level 5&6	Back Side 15mm	0.149	0.134	0.249	0.023	0.283	0.398	0.172	0.421

**Note:**

1: Only the worst simultaneous transmission combinations was shown in this table.

2: The highest Summed 1g SAR is 0.732 W/Kg &lt; 1.6 W/kg, so Simultaneous Transmission SAR test is not required.

### 12.2.6 Limbs Simultaneous Transmission SAR Evaluation for WWAN UAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
GSM 850	Level 5&6	Front Side 10mm	0.074	0.204	0.281	0.035	0.278	0.355	0.109	0.390
	Level 5&6	Back Side 10mm	0.091	0.257	0.532	0.051	0.348	0.623	0.142	0.674
	Level 5&6	Left Edge 10mm	0.007	0.047	0.251	0.009	0.054	0.258	0.016	0.267
	Level 5&6	Right Edge 10mm	0.015	0.000	0.000	0.000	0.015	0.015	0.015	0.015
	Level 5&6	Top Edge 10mm	0.069	0.251	0.326	0.059	0.320	0.395	0.128	0.454
GSM1900	Level 5&6	Front Side 10mm	0.159	0.204	0.281	0.035	0.363	0.440	0.194	0.475
	Level 5&6	Back Side 10mm	0.231	0.257	0.532	0.051	0.488	0.763	0.282	0.814
	Level 5&6	Left Edge 10mm	0.012	0.047	0.251	0.009	0.059	0.263	0.021	0.272
	Level 5&6	Right Edge 10mm	0.028	0.000	0.000	0.000	0.028	0.028	0.028	0.028
	Level 5&6	Top Edge 10mm	0.332	0.251	0.326	0.059	0.583	0.658	0.391	0.717
WCDMA B2	Level 5&6	Front Side 10mm	0.180	0.204	0.281	0.035	0.384	0.461	0.215	0.496
	Level 5&6	Back Side 10mm	0.274	0.257	0.532	0.051	0.531	0.806	0.325	0.857
	Level 5&6	Left Edge 10mm	0.007	0.047	0.251	0.009	0.054	0.258	0.016	0.267
	Level 5&6	Right Edge 10mm	0.018	0.000	0.000	0.000	0.018	0.018	0.018	0.018
	Level 5&6	Top Edge 10mm	0.588	0.251	0.326	0.059	0.839	0.914	0.647	0.973
WCDMA B4	Level 5&6	Front Side 10mm	0.559	0.204	0.281	0.035	0.763	0.840	0.594	0.875
	Level 5&6	Back Side 10mm	0.850	0.257	0.532	0.051	1.107	1.382	0.901	1.433
	Level 5&6	Left Edge 10mm	0.034	0.047	0.251	0.009	0.081	0.285	0.043	0.294
	Level 5&6	Right Edge 10mm	0.098	0.000	0.000	0.000	0.098	0.098	0.098	0.098
	Level 5&6	Top Edge 10mm	1.073	0.251	0.326	0.059	1.324	1.399	1.132	<b>1.458</b>
WCDMA B5	Off	Front Side 10mm	0.138	0.204	0.281	0.035	0.342	0.419	0.173	0.454
	Off	Back Side 10mm	0.182	0.257	0.532	0.051	0.439	0.714	0.233	0.765
	Off	Left Edge 10mm	0.016	0.047	0.251	0.009	0.063	0.267	0.025	0.276
	Off	Right Edge 10mm	0.047	0.000	0.000	0.000	0.047	0.047	0.047	0.047
	Off	Top Edge 10mm	0.124	0.251	0.326	0.059	0.375	0.450	0.183	0.509
LTE B2	Level 5&6	Front Side 10mm	0.239	0.204	0.281	0.035	0.443	0.520	0.274	0.555
	Level 5&6	Back Side 10mm	0.342	0.257	0.532	0.051	0.599	0.874	0.393	0.925
	Level 5&6	Left Edge 10mm	0.007	0.047	0.251	0.009	0.054	0.258	0.016	0.267
	Level 5&6	Right Edge 10mm	0.013	0.000	0.000	0.000	0.013	0.013	0.013	0.013
	Level 5&6	Top Edge 10mm	0.531	0.251	0.326	0.059	0.782	0.857	0.590	0.916
LTE B4	Level 5&6	Front Side 10mm	0.566	0.204	0.281	0.035	0.770	0.847	0.601	0.882
	Level 5&6	Back Side 10mm	0.677	0.257	0.532	0.051	0.934	1.209	0.728	1.260
	Level 5&6	Left Edge 10mm	0.027	0.047	0.251	0.009	0.074	0.278	0.036	0.287
	Level 5&6	Right Edge 10mm	0.077	0.000	0.000	0.000	0.077	0.077	0.077	0.077
	Level 5&6	Top Edge 10mm	1.000	0.251	0.326	0.059	1.251	1.326	1.059	1.385
LTE B5	Off	Front Side 10mm	0.141	0.204	0.281	0.035	0.345	0.422	0.176	0.457

	Off	Back Side 10mm	0.163	0.257	0.532	0.051	0.420	0.695	0.214	0.746
	Off	Left Edge 10mm	0.009	0.047	0.251	0.009	0.056	0.260	0.018	0.269
	Off	Right Edge 10mm	0.013	0.000	0.000	0.000	0.013	0.013	0.013	0.013
	Off	Top Edge 10mm	0.125	0.251	0.326	0.059	0.376	0.451	0.184	0.510
LTE B7	Level 5&6	Front Side 10mm	0.150	0.204	0.281	0.035	0.354	0.431	0.185	0.466
	Level 5&6	Back Side 10mm	0.279	0.257	0.532	0.051	0.536	0.811	0.330	0.862
	Level 5&6	Left Edge 10mm	0.017	0.047	0.251	0.009	0.064	0.268	0.026	0.277
	Level 5&6	Right Edge 10mm	0.072	0.000	0.000	0.000	0.072	0.072	0.072	0.072
	Level 5&6	Top Edge 10mm	0.311	0.251	0.326	0.059	0.562	0.637	0.370	0.696
LTE B41	Level 5&6	Front Side 10mm	0.141	0.204	0.281	0.035	0.345	0.422	0.176	0.457
	Level 5&6	Back Side 10mm	0.339	0.257	0.532	0.051	0.596	0.871	0.390	0.922
	Level 5&6	Left Edge 10mm	0.040	0.047	0.251	0.009	0.087	0.291	0.049	0.300
	Level 5&6	Right Edge 10mm	0.125	0.000	0.000	0.000	0.125	0.125	0.125	0.125
	Level 5&6	Top Edge 10mm	0.288	0.251	0.326	0.059	0.539	0.614	0.347	0.673

Note:

- 1: Only the worst simultaneous transmission combinations was shown in this table.
- 2: The highest Summed 1g SAR is 1.458 W/Kg < 1.6 W/kg, so Simultaneous Transmission SAR test is not required.



### 12.2.7 Specific Simultaneous Transmission SAR Evaluation for WWAN UAT with WLAN and Bluetooth

Band	Power Reduction	Position	Stand alone SAR				SUM SAR	SUM SAR	SUM SAR	SUM SAR
			1	2	3	4	WWAN+2.4GWIFI	WWAN+5G WIFI	WWAN+Bluetooth	WWAN+5GWIFI
			WWAN	2.4GWIFI	5GWIFI	Bluetooth	Sum SAR (1+2)	Sum SAR (1+3)	Sum SAR (1+4)	Sum SAR (1+3+4)
WCDMA B2	Level 5&6	Front Side 10mm	0.501	0.380	0.431	0.431	0.501	0.932	0.501	0.932
	Level 5&6	Back Side 10mm	0.478	0.666	0.663	0.666	0.478	1.144	0.478	1.144
	Level 5&6	Left Edge 10mm	0.032	0.307	0.324	0.324	0.032	0.356	0.032	0.356
	Level 5&6	Right Edge 10mm	0.050	0.000	0.000	0.000	0.050	0.050	0.050	0.050
	Level 5&6	Top Edge 10mm	0.845	0.708	0.843	0.843	0.845	1.688	0.845	1.688
WCDMA B4	Level 5&6	Front Side 10mm	1.651	0.380	0.431	0.431	1.651	2.082	1.651	2.082
	Level 5&6	Back Side 10mm	1.528	0.666	0.663	0.666	1.528	2.194	1.528	2.194
	Level 5&6	Left Edge 10mm	0.121	0.307	0.324	0.324	0.121	0.445	0.121	0.445
	Level 5&6	Right Edge 10mm	0.177	0.000	0.000	0.000	0.177	0.177	0.177	0.177
	Level 5&6	Top Edge 10mm	1.665	0.708	0.843	0.843	1.665	2.508	1.665	2.508
LTE B2	Level 5&6	Front Side 10mm	0.707	0.380	0.431	0.431	0.707	1.138	0.707	1.138
	Level 5&6	Back Side 10mm	0.679	0.666	0.663	0.666	0.679	1.345	0.679	1.345
	Level 5&6	Left Edge 10mm	0.027	0.307	0.324	0.324	0.027	0.351	0.027	0.351
	Level 5&6	Right Edge 10mm	0.045	0.000	0.000	0.000	0.045	0.045	0.045	0.045
	Level 5&6	Top Edge 10mm	1.213	0.708	0.843	0.843	1.213	2.056	1.213	2.056
LTE B4	Level 5&6	Front Side 10mm	1.793	0.380	0.431	0.431	1.793	2.224	1.793	2.224
	Level 5&6	Back Side 10mm	1.479	0.666	0.663	0.666	1.479	2.146	1.479	2.146
	Level 5&6	Left Edge 10mm	0.111	0.307	0.324	0.324	0.111	0.436	0.111	0.436
	Level 5&6	Right Edge 10mm	0.178	0.000	0.000	0.000	0.178	0.178	0.178	0.178
	Level 5&6	Top Edge 10mm	1.913	0.708	0.843	0.843	1.913	<b>2.757</b>	1.913	<b>2.757</b>
LTE B7	Level 5&6	Front Side 10mm	0.680	0.380	0.431	0.431	0.680	1.111	0.680	1.111
	Level 5&6	Back Side 10mm	1.251	0.666	0.663	0.666	1.251	1.917	1.251	1.917
	Level 5&6	Left Edge 10mm	0.072	0.307	0.324	0.324	0.072	0.396	0.072	0.396
	Level 5&6	Right Edge 10mm	0.386	0.000	0.000	0.000	0.386	0.386	0.386	0.386
	Level 5&6	Top Edge 10mm	1.778	0.708	0.843	0.843	1.778	2.621	1.778	2.621

Note:

- 1: Only the worst simultaneous transmission combinations was shown in this table.
- 2: The highest Summed 10g SAR is 2.757 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	2017/06/26	2020/06/25
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2017/07/01	2020/06/30
1900MHz Validation Dipole	Speag	D1900V2	SN: 5d193	2017/06/30	2020/06/29
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2017/03/21	2020/03/20
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2017/07/10	2020/07/09
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2017/06/29	2020/06/28
E-Field Probe	Speag	EX3DV4	SN: 7510	2019/08/02	2020/08/01
Data Acquisition Electronics	Speag	DAE4	SN: 1454	2019/08/02	2020/08/01
Signal Generator	R&S	SMBV100A	260592	2019/06/13	2020/06/12
Power Meter	R&S	NRVD-B2	7250BJ-0112/2011	2019/10/30	2020/10/29
Power Sensor	R&S	NRV-Z4	100381	2019/10/30	2020/10/29
Power Sensor	R&S	NRV-Z2	100211	2019/10/30	2020/10/29
Wireless Communication Test Set	Agilent	8960-E5515C	MY50260493	2019/06/13	2020/06/12
Wireless Communication Test Set	R&S	CMW 500	104946	2019/10/30	2020/10/29
Network Analyzer	R&S	ZVL-6	101380	2019/06/20	2020/06/19
Thermometer	Elitech	RC-4HC	N/A	2019/11/02	2020/11/01
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.

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity ( $\sigma$ ) (S/m)	Meas. Permittivity ( $\epsilon$ )	Target Conductivity ( $\sigma$ ) (S/m)	Target Permittivity ( $\epsilon$ )	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2019.12.18	Head	835	21.6	0.91	41.04	0.90	41.50	1.11	-1.11
2019.12.20	Head	835	21.5	0.88	42.14	0.90	41.50	-2.22	1.54
2019.12.22	Head	835	21.2	0.88	41.46	0.90	41.50	-2.22	-0.10
2020.01.12	Head	1750	21.1	1.40	39.85	1.37	40.08	2.19	-0.57
2019.12.29	Head	1750	21.4	1.39	40.03	1.37	40.08	1.46	-0.12
2020.01.18	Head	1750	21.4	1.39	40.32	1.37	40.08	1.46	0.60
2020.01.03	Head	1900	21.2	1.44	38.79	1.40	40.00	2.86	-3.03
2020.01.19	Head	1900	21.5	1.43	39.52	1.40	40.00	2.14	-1.20
2020.01.20	Head	1900	21.8	1.43	39.61	1.40	40.00	2.14	-0.98
2020.01.16	Head	1900	21.9	1.42	39.42	1.40	40.00	1.43	-1.45
2020.01.17	Head	1900	21.4	1.42	40.17	1.40	40.00	1.43	0.43
2019.12.28	Head	2450	21.5	1.83	39.27	1.80	39.20	1.67	0.18
2019.12.15	Head	2600	21.4	2.00	39.13	1.96	39.01	2.04	0.31
2020.01.07	Head	2600	21.2	1.94	38.70	1.96	39.01	-1.02	-0.79
2019.12.31	Head	5250	21.3	4.68	35.47	4.71	35.93	-0.64	-1.28
2020.01.04	Head	5250	21.2	4.73	35.37	4.71	35.93	0.42	-1.56
2019.12.30	Head	5600	20.8	5.18	34.69	5.07	35.53	2.17	-2.36
2019.12.31	Head	5750	20.9	5.34	35.93	5.22	35.36	2.30	1.61

Note: The tolerance limit of Conductivity and Permittivity is  $\pm 5\%$ .

## ANNEX B SYSTEM CHECK RESULT

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

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)	Targeted SAR (W/kg)	Tolerance (%)
2019.12.18	Head	835	100	0.938	9.38	9.75	-3.79	9.56	-1.88
2019.12.20	Head	835	100	0.911	9.11	9.75	-6.56	9.56	-4.71
2019.12.22	Head	835	100	0.945	9.45	9.75	-3.08	9.56	-1.15
2020.01.12	Head	1750	100	3.580	35.80	36.90	-2.98	36.40	-1.65
2019.12.29	Head	1750	100	3.840	38.40	36.90	4.07	36.40	5.49
2020.01.21	Head	1750	100	3.490	34.90	36.90	-5.42	36.40	-4.12
2020.01.03	Head	1900	100	4.010	40.10	39.90	0.50	39.70	1.01
2020.01.19	Head	1900	100	4.230	42.30	39.90	6.02	39.70	6.55
2020.01.20	Head	1900	100	3.980	39.80	39.90	-0.25	39.70	0.25
2020.01.16	Head	1900	100	4.040	40.40	39.90	1.25	39.70	1.76
2020.01.17	Head	1900	100	4.050	40.50	39.90	1.50	39.70	2.02
2019.12.28	Head	2450	100	5.310	53.10	52.40	1.34	52.40	1.34
2019.12.15	Head	2600	100	5.450	54.50	56.40	-3.37	55.30	-1.45
2020.01.07	Head	2600	100	5.410	54.10	56.40	-4.08	55.30	-2.17
2019.12.31	Head	5250	100	7.570	75.70	76.20	-0.66	76.50	-1.05
2020.01.04	Head	5250	100	7.840	78.40	76.20	2.89	76.50	2.48
2019.12.30	Head	5600	100	8.480	84.80	82.60	2.66	83.30	1.80
2019.12.31	Head	5750	100	8.160	81.60	80.80	0.99	78.00	4.62

Note: The tolerance limit of System validation  $\pm 10\%$ .

# System Performance Check Data (835MHz Head)

Date: 2019.12.18

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.913 \text{ S/m}$ ;  $\epsilon_r = 41.035$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW835MHz Head 100mW /Area Scan (61x101x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.998 W/kg

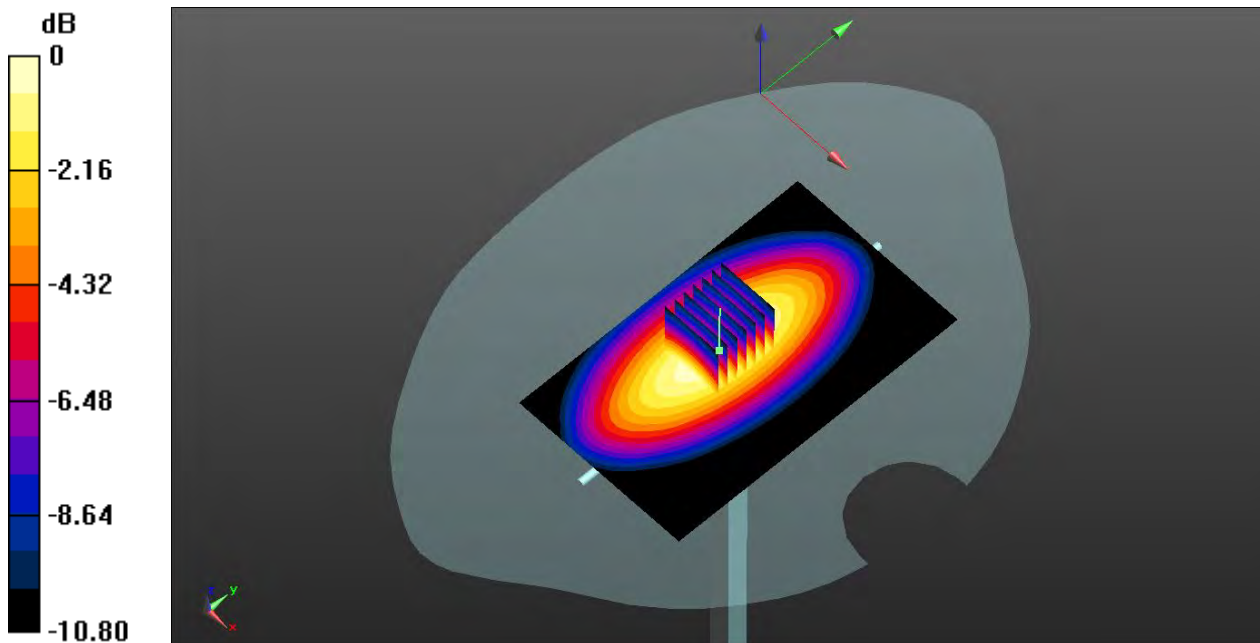
**CW835MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 32.95 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.938 W/kg; SAR(10 g) = 0.609 W/kg**

Maximum value of SAR (measured) = 1.03 W/kg



0 dB = 1.03 W/kg

# System Performance Check Data (835MHz Head)

Date: 2019.12.20

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.879 \text{ S/m}$ ;  $\epsilon_r = 42.14$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: 22.2 Liquid Temperature: 21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.01); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW835MHz Head 100mW /Area Scan (61x101x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.975 W/kg

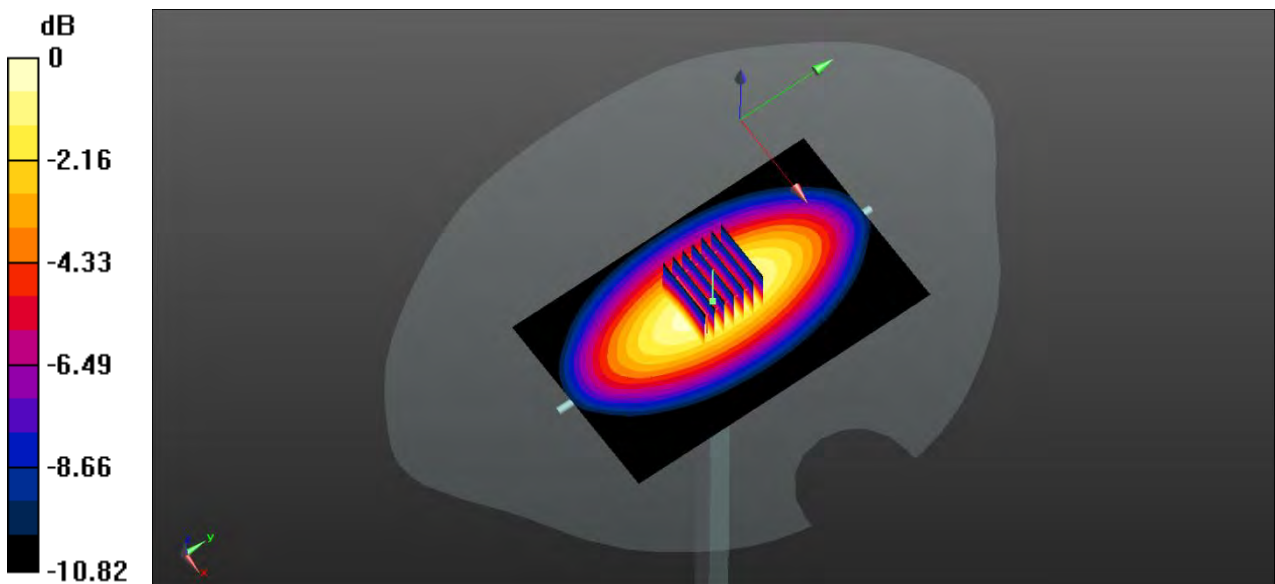
**CW835MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 33.85 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.36 W/kg

**SAR(1 g) = 0.911 W/kg; SAR(10 g) = 0.586 W/kg**

Maximum value of SAR (measured) = 0.987 W/kg



0 dB = 0.987 W/kg

# System Performance Check Data (835MHz Head)

Date: 2019.12.22

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

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.881 \text{ S/m}$ ;  $\epsilon_r = 41.455$ ;  $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW835MHz Head 100mW /Area Scan (61x81x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

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

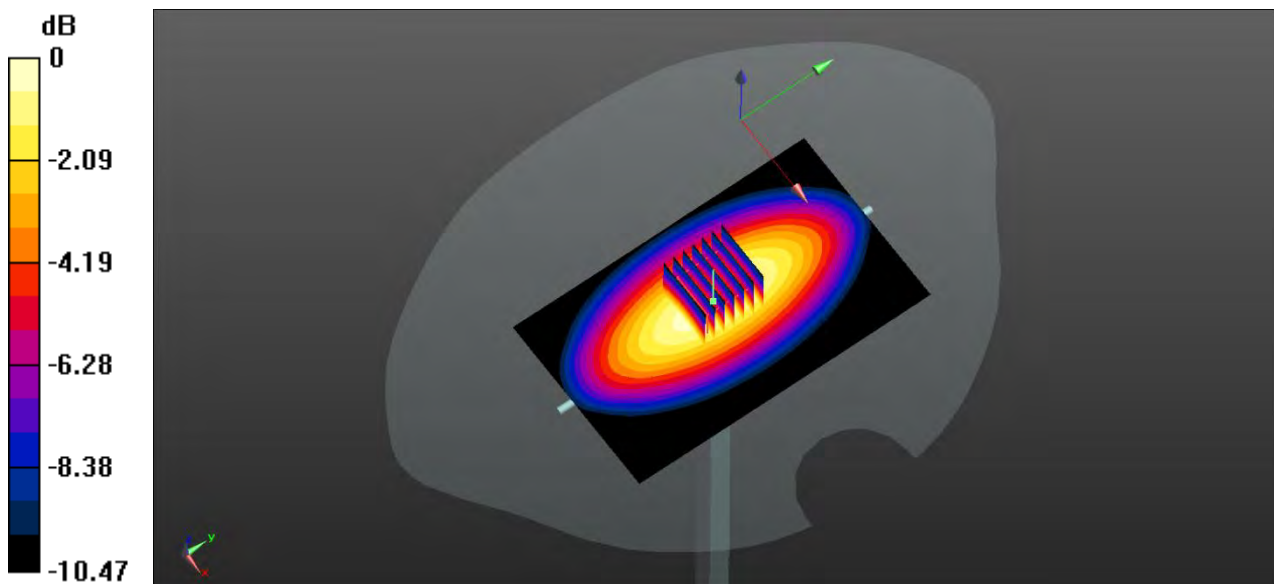
**CW835MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

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

Peak SAR (extrapolated) = 1.41 W/kg

**SAR(1 g) = 0.945 W/kg; SAR(10 g) = 0.617 W/kg**

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



0 dB = 1.02 W/kg

# System Performance Check Data (1750MHz Head)

Date: 2020.01.12

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.401$  S/m;  $\epsilon_r = 39.852$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.1 Liquid Temperature: 21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1750MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.04 W/kg

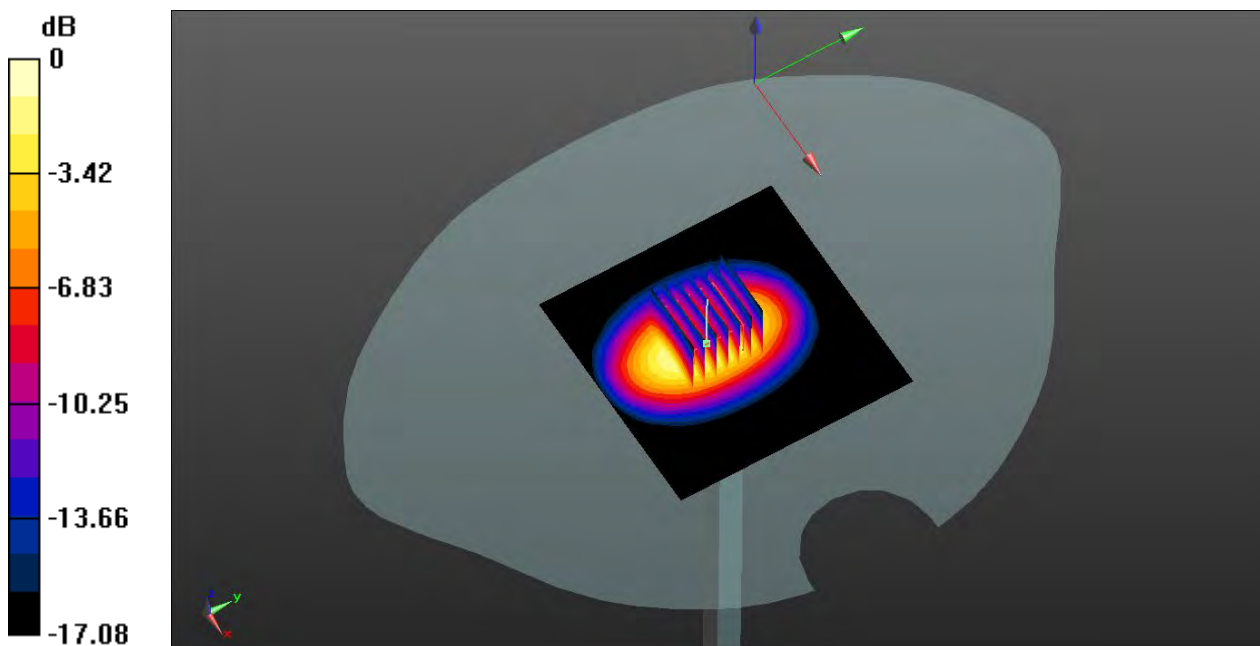
**CW1750MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 49.79 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 6.65 W/kg

**SAR(1 g) = 3.58 W/kg; SAR(10 g) = 1.87 W/kg**

Maximum value of SAR (measured) = 4.01 W/kg



0 dB = 4.01 W/kg



# System Performance Check Data (1750MHz Head)

Date: 2019.12.29

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1750$  MHz;  $\sigma = 1.392$  S/m;  $\epsilon_r = 40.032$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1750MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.37 W/kg

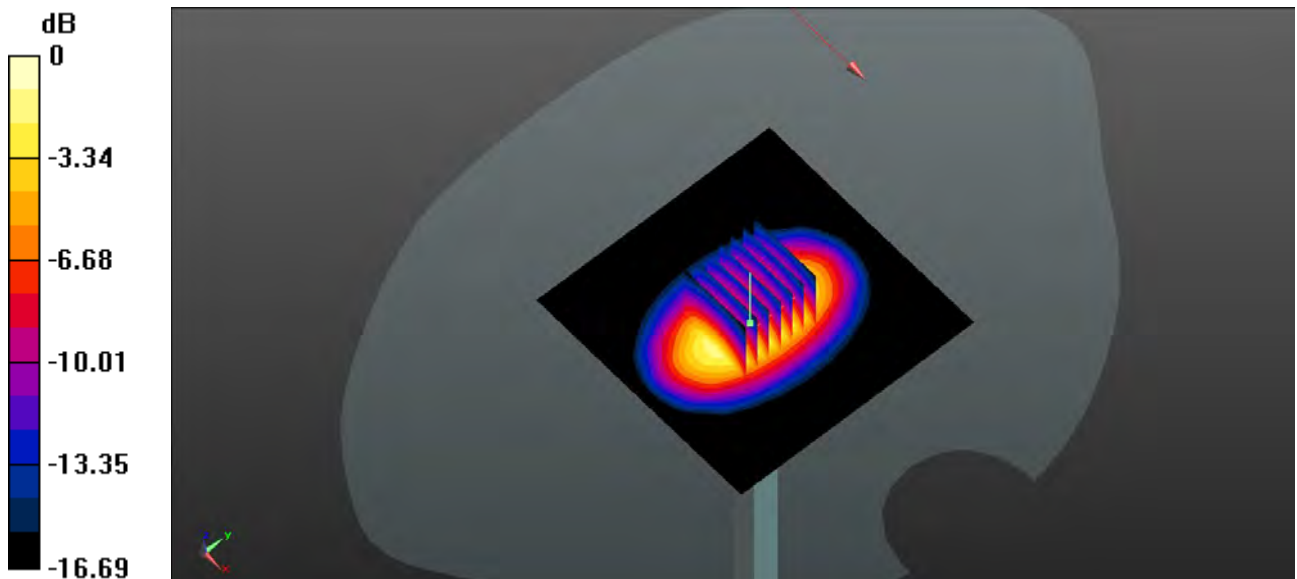
**CW1750MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.81 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 7.04 W/kg

**SAR(1 g) = 3.84 W/kg; SAR(10 g) = 2.03 W/kg**

Maximum value of SAR (measured) = 4.37 W/kg



0 dB = 4.37 W/kg

# System Performance Check Data (1750MHz Head)

Date: 2020.01.18

Communication System Band: D1750 (1750.0 MHz); Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.391$  S/m;  $\epsilon_r = 40.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.6 Liquid Temperature: 21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
  
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
  
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1750MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.88 W/kg

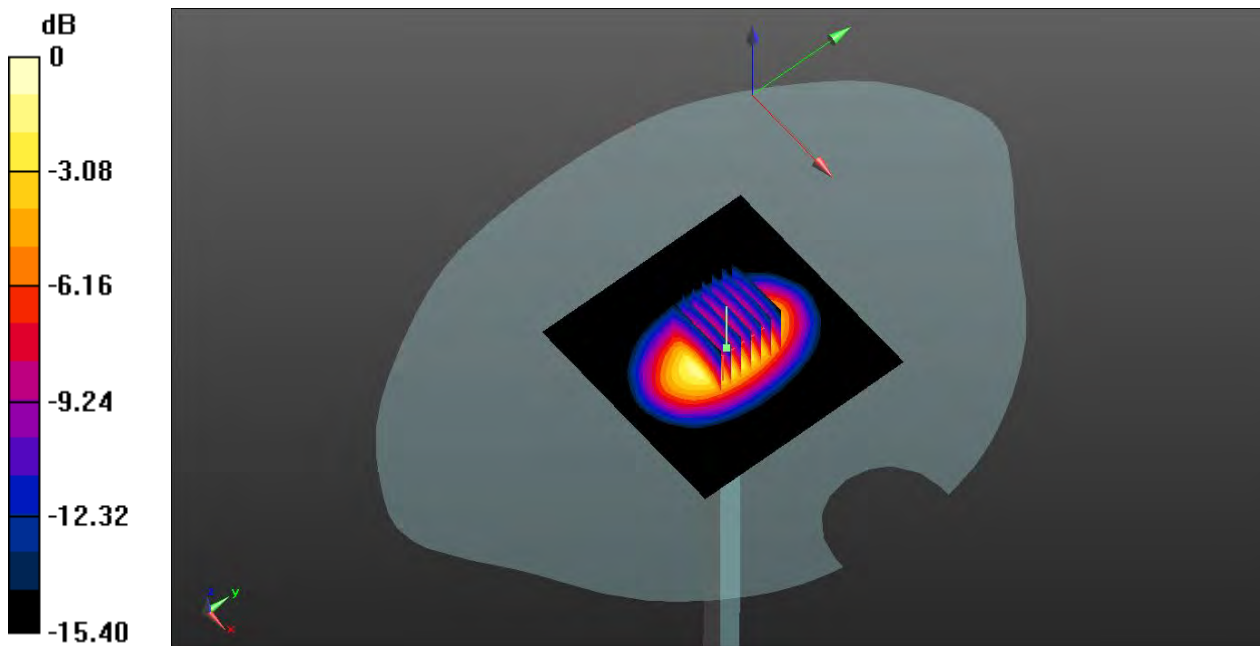
**CW1750MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.93 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 6.13 W/kg

**SAR(1 g) = 3.49 W/kg; SAR(10 g) = 1.86 W/kg**

Maximum value of SAR (measured) = 3.92 W/kg



0 dB = 3.92 W/kg

# System Performance Check Data (1900MHz Head)

Date: 2020.01.03

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

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.437$  S/m;  $\epsilon_r = 38.79$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.8 Liquid Temperature: 21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1900MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.54 W/kg

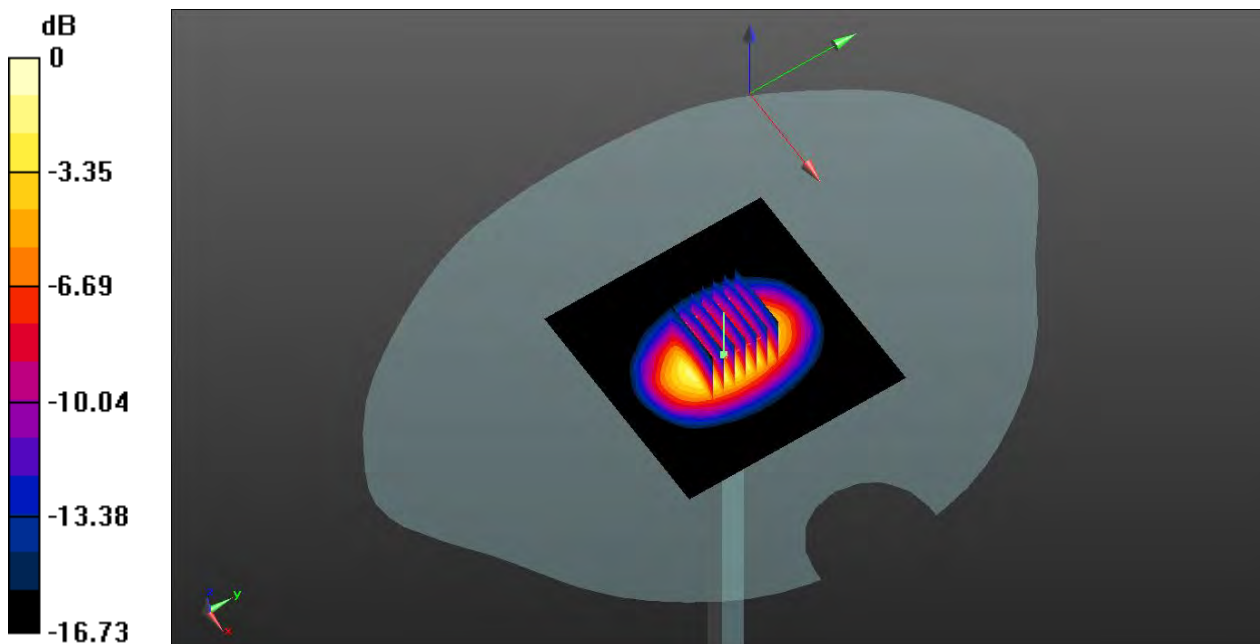
**CW1900MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.61 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 7.28 W/kg

**SAR(1 g) = 4.01 W/kg; SAR(10 g) = 2.12 W/kg**

Maximum value of SAR (measured) = 4.51 W/kg



0 dB = 4.51 W/kg

# System Performance Check Data (1900MHz Head)

Date: 2020.01.19

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

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.428$  S/m;  $\epsilon_r = 39.516$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1900MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.80 W/kg

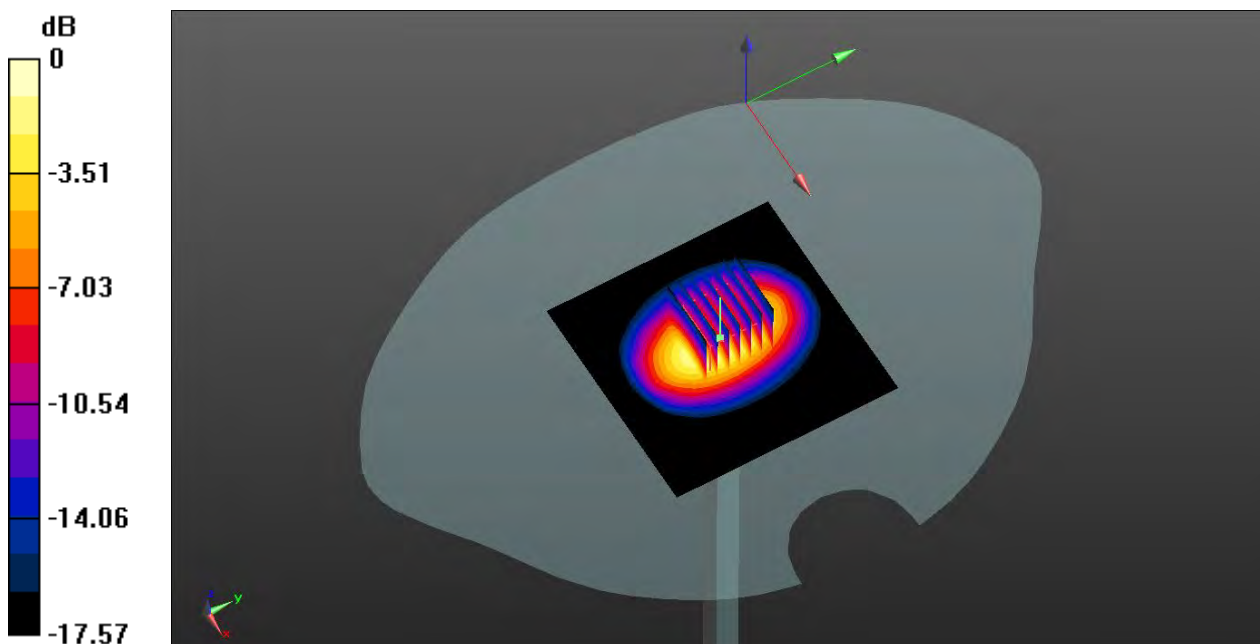
**CW1900MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.71 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 8.15 W/kg

**SAR(1 g) = 4.23 W/kg; SAR(10 g) = 2.17 W/kg**

Maximum value of SAR (measured) = 4.81 W/kg



0 dB = 4.81 W/kg

# System Performance Check Data (1900MHz Head)

Date: 2020.01.20

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

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.426$  S/m;  $\epsilon_r = 39.608$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4 Liquid Temperature: 21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1900MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.39 W/kg

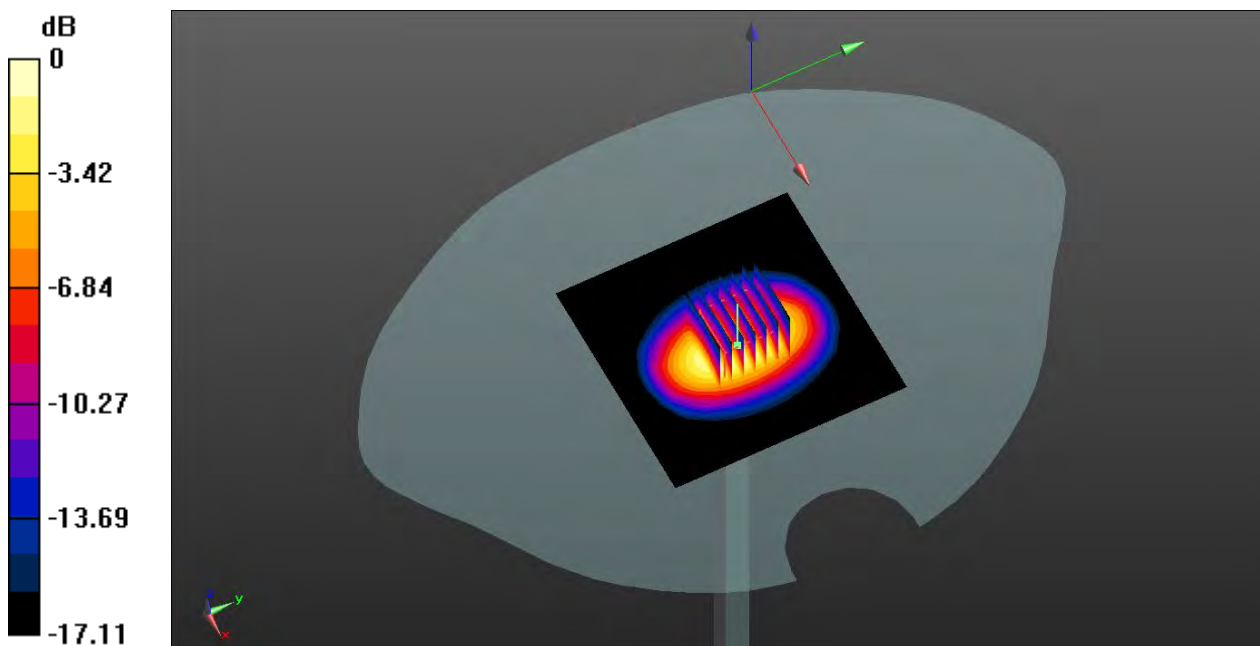
**CW1900MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.72 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 7.25 W/kg

**SAR(1 g) = 3.98 W/kg; SAR(10 g) = 2.06 W/kg**

Maximum value of SAR (measured) = 4.43 W/kg



0 dB = 4.43 W/kg

# System Performance Check Data (1900MHz Head)

Date: 2020.01.16

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

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 39.42$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.6 Liquid Temperature: 21.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1900MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.55 W/kg

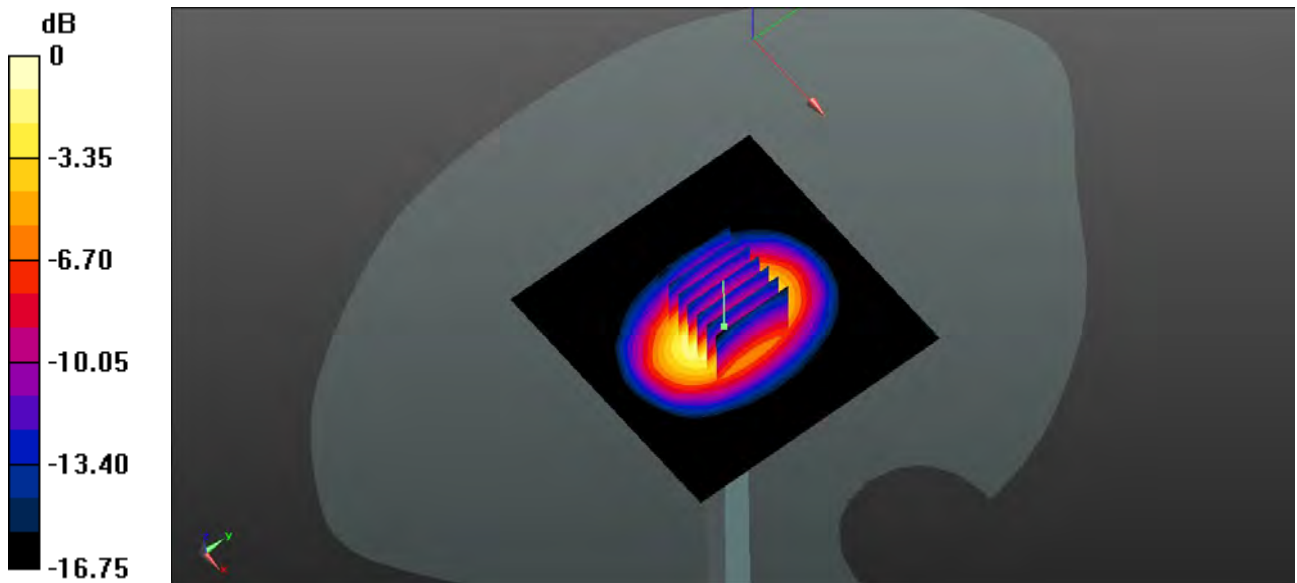
**CW1900MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 55.76 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 7.32 W/kg

**SAR(1 g) = 4.04 W/kg; SAR(10 g) = 2.14 W/kg**

Maximum value of SAR (measured) = 4.55 W/kg



0 dB = 4.55 W/kg

# System Performance Check Data (1900MHz Head)

Date: 2020.01.17

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

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.422$  S/m;  $\epsilon_r = 40.168$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.7 Liquid Temperature: 21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW1900MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 4.35 W/kg

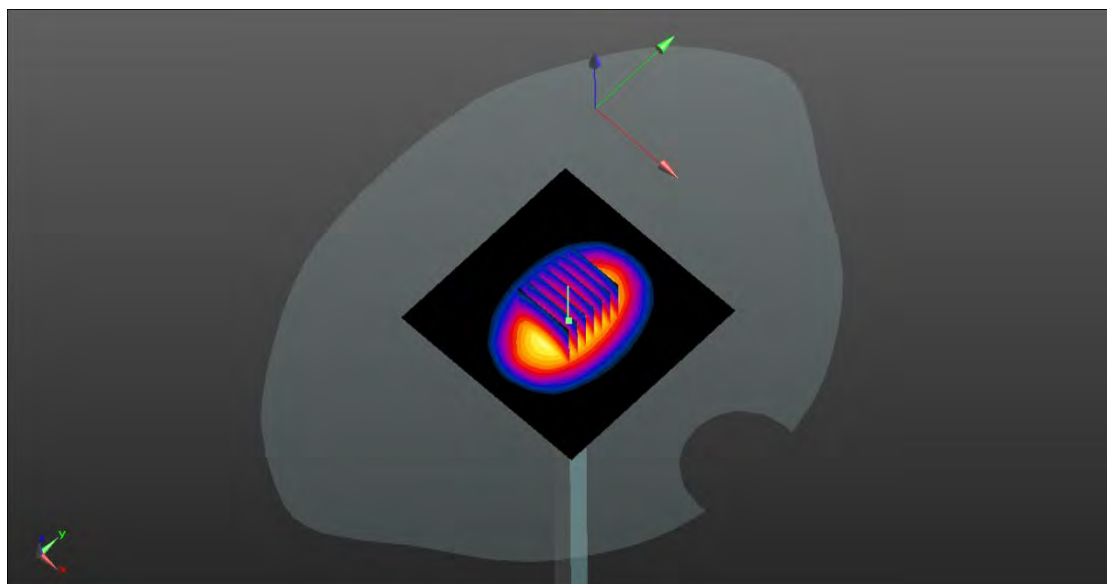
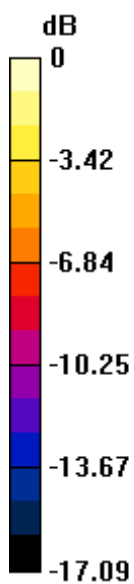
**CW1900MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.71 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 7.43 W/kg

**SAR(1 g) = 4.05 W/kg; SAR(10 g) = 2.15 W/kg**

Maximum value of SAR (measured) = 4.42 W/kg



0 dB = 4.42 W/kg



# System Performance Check Data (2450MHz Head)

Date: 2019.12.28

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

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.827$  S/m;  $\epsilon_r = 39.274$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.2 Liquid Temperature: 21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW2450MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.28 W/kg

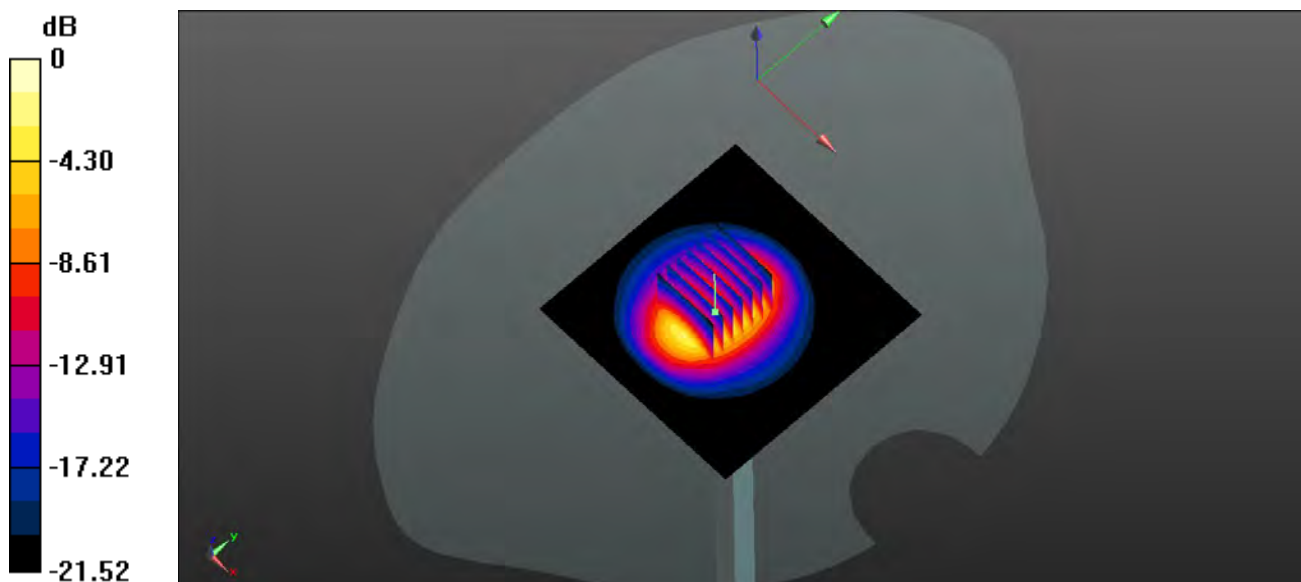
**CW2450MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 51.26 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 10.82 W/kg

**SAR(1 g) = 5.31 W/kg; SAR(10 g) = 2.42 W/kg**

Maximum value of SAR (measured) = 6.31 W/kg



0 dB = 6.31 W/kg



# System Performance Check Data (2600MHz Head)

Date: 2019.12.15

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

Medium parameters used (extrapolated):  $f = 2600$  MHz;  $\sigma = 1.995$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.6 Liquid Temperature: 21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.61, 7.61, 7.61); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW2600MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.25 W/kg

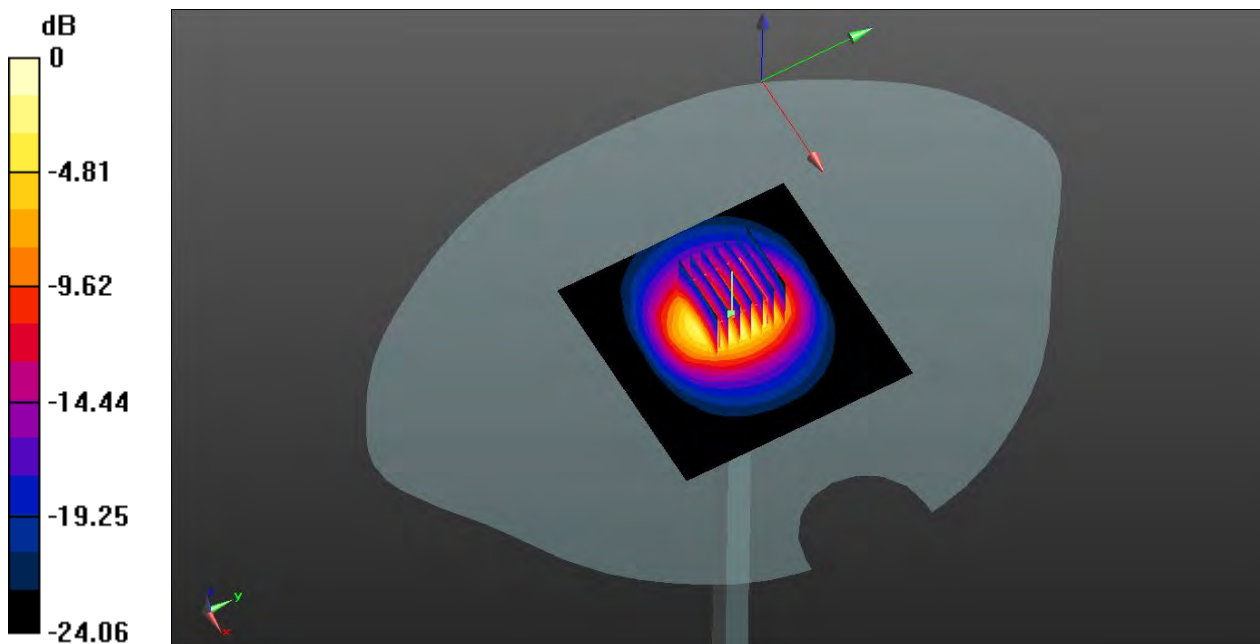
**CW2600MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 44.18 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 11.9 W/kg

**SAR(1 g) = 5.45 W/kg; SAR(10 g) = 2.41 W/kg**

Maximum value of SAR (measured) = 6.15 W/kg



0 dB = 6.15 W/kg

## System Performance Check Data (2600MHz Head)

Date: 2020.01.07

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

Medium parameters used (extrapolated):  $f = 2600$  MHz;  $\sigma = 1.937$  S/m;  $\epsilon_r = 38.703$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.2 Liquid Temperature: 21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.61, 7.61, 7.61); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW2600MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.16 W/kg

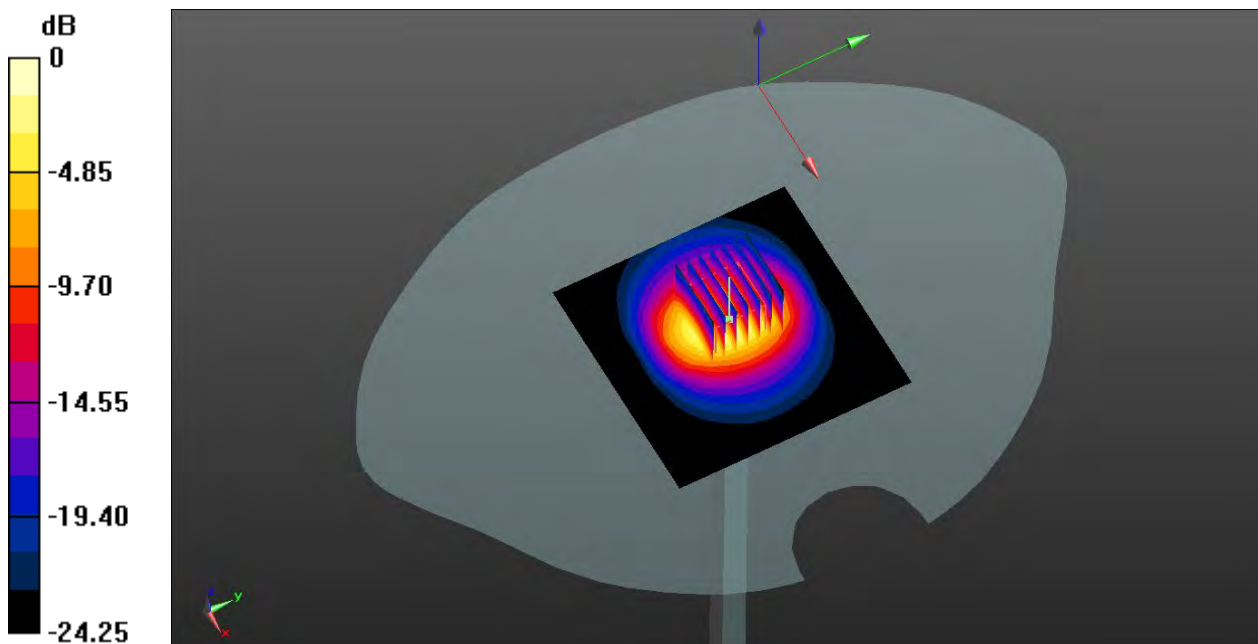
**CW2600MHz Head 100mW /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 43.68 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 11.8 W/kg

**SAR(1 g) = 5.41 W/kg; SAR(10 g) = 2.39 W/kg**

Maximum value of SAR (measured) = 6.13 W/kg



0 dB = 6.13 W/kg

# System Performance Check Data (5250MHz Head)

Date: 2019.12.31

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.68$  S/m;  $\epsilon_r = 35.472$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.3 Liquid Temperature: 21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW5250MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 14.3 W/kg

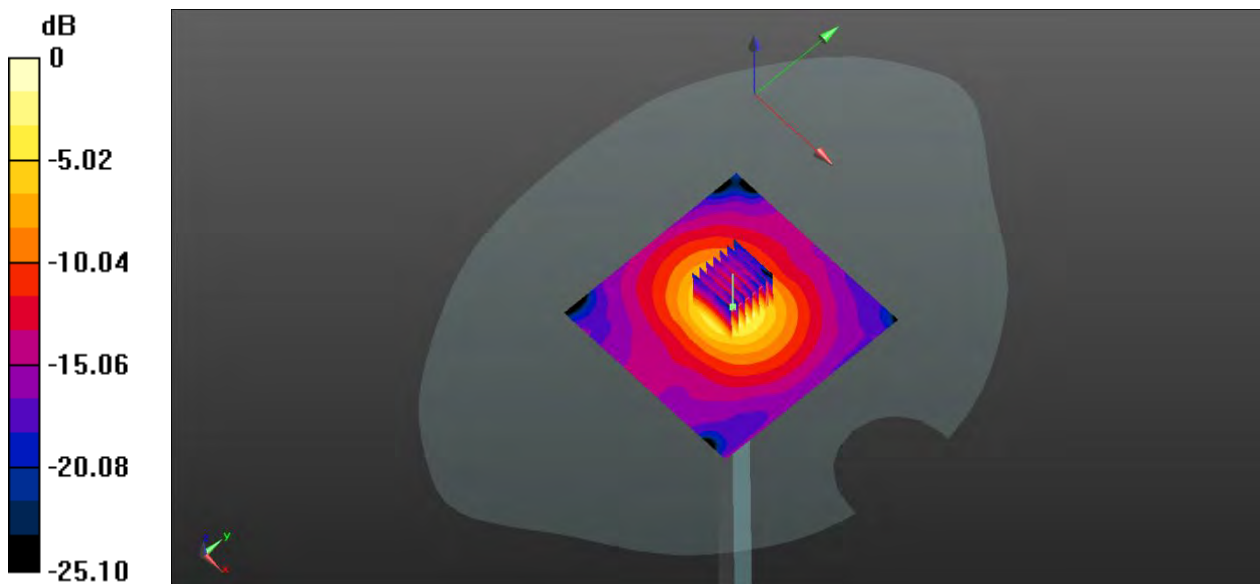
**CW5250MHz Head 100mW /Zoom Scan (7x7x15)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 33.92 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 37.3 W/kg

**SAR(1 g) = 7.57 W/kg; SAR(10 g) = 2.17 W/kg**

Maximum value of SAR (measured) = 19.0 W/kg



0 dB = 19.0 W/kg

# System Performance Check Data (5250MHz Head)

Date: 2020.01.04

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.732$  S/m;  $\epsilon_r = 35.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW5250MHz Head 100mW /Area Scan (101x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 8.48 W/kg

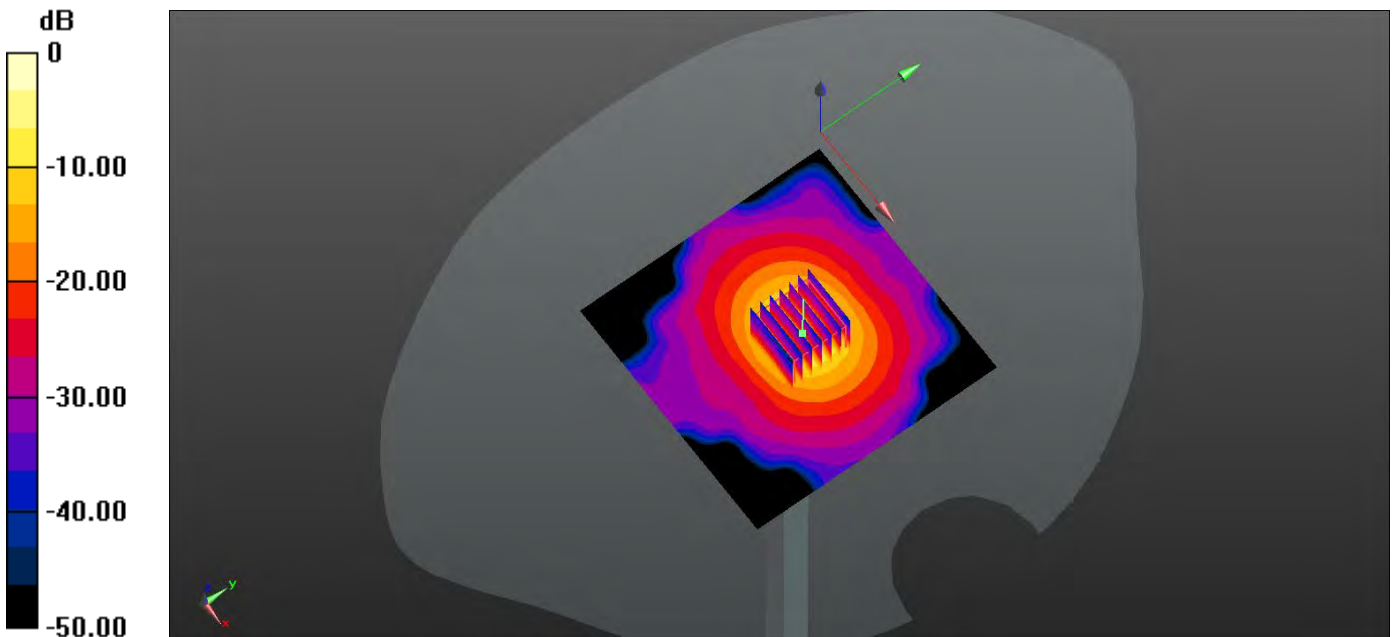
**CW5250MHz Head 100mW /Zoom Scan (7x7x21)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 36.28 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 33.9 W/kg

**SAR(1 g) = 7.84 W/kg; SAR(10 g) = 2.15 W/kg**

Maximum value of SAR (measured) = 19.9 W/kg



0 dB = 19.9 W/kg

## System Performance Check Data (5600MHz Head)

Date: 2019.12.30

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.176$  S/m;  $\epsilon_r = 34.688$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.5 Liquid Temperature: 20.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.8, 4.8, 4.8); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW5600MHz Head 100mW /Area Scan (81x81x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 9.13 W/kg

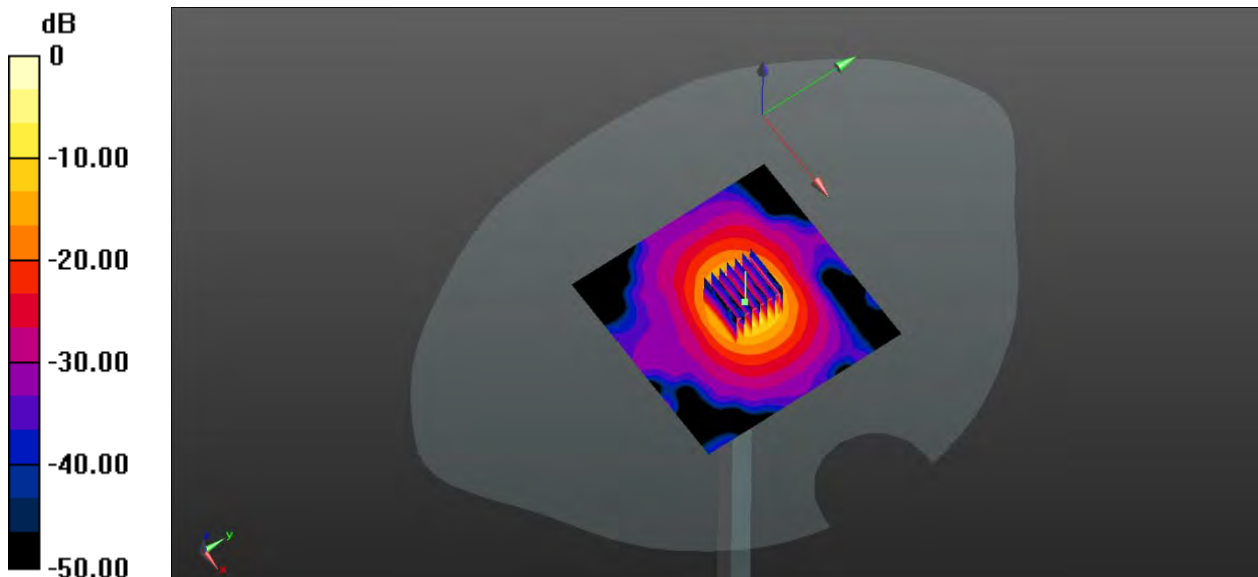
**CW5600MHz Head 100mW /Zoom Scan (7x7x21)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 37.43 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 39.1 W/kg

**SAR(1 g) = 8.48 W/kg; SAR(10 g) = 2.41 W/kg**

Maximum value of SAR (measured) = 21.4 W/kg



# System Performance Check Data (5750MHz Head)

Date: 2019.12.31

Communication System Band: D5GHz (5000.0 - 6000.0 MHz); Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.343$  S/m;  $\epsilon_r = 35.93$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.0 Liquid Temperature: 20.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.06, 5.06, 5.06); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**CW5750MHz Head 100mW /Area Scan (81x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 9.12 W/kg

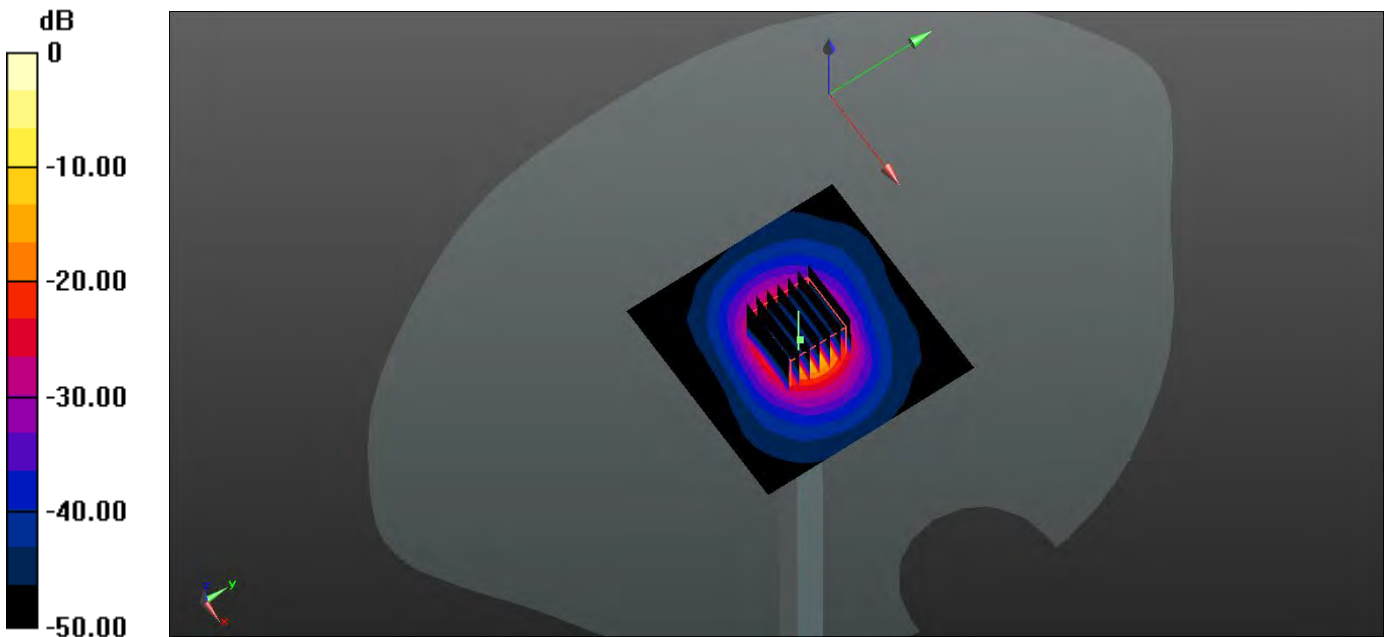
**CW5750MHz Head 100mW /Zoom Scan (7x7x21)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 33.76 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 40.6 W/kg

**SAR(1 g) = 8.16 W/kg; SAR(10 g) = 2.28 W/kg**

Maximum value of SAR (measured) = 17.4 W/kg



0 dB = 17.4 W/kg

## ANNEX C TEST DATA

### MEAS.1 Right Head with Cheek on Middle Channel in GPRS850 2Slots mode with Antenna Up

Date: 2019.12.18

Communication System Band: GPRS 850; Frequency: 836.6 MHz; Duty Cycle: 1:4.15

Medium parameters used (interpolated):  $f = 836.6$  MHz;  $\sigma = 0.915$  S/m;  $\epsilon_r = 40.785$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature: 22.5 Liquid Temperature: 21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch190/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.326 W/kg

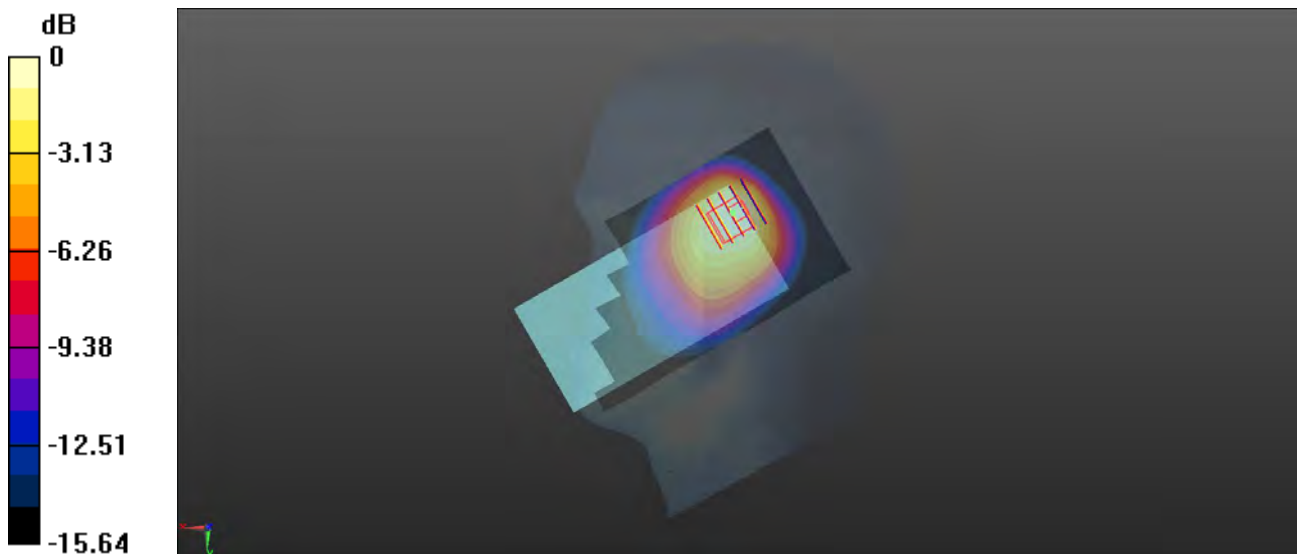
**Ch190/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.29 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.548 W/kg

**SAR(1 g) = 0.296 W/kg; SAR(10 g) = 0.184 W/kg**

Maximum value of SAR (measured) = 0.308 W/kg



0 dB = 0.308 W/kg



**MEAS.2 Body Plane with Back Side 15mm on High Channel in GPRS850 2Slots mode with Antenna Up**

Date: 2019.12.18

Communication System Band: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium parameters used (interpolated):  $f = 848.8$  MHz;  $\sigma = 0.921$  S/m;  $\epsilon_r = 40.433$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch251/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.107 W/kg

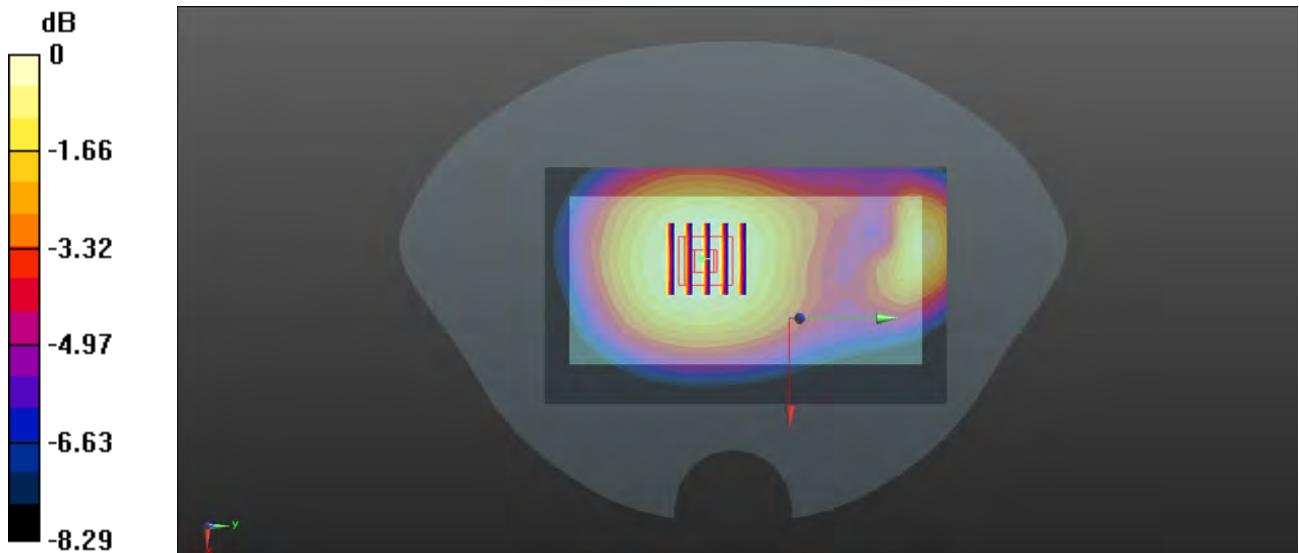
**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.71 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.127 W/kg

**SAR(1 g) = 0.100 W/kg; SAR(10 g) = 0.075 W/kg**

Maximum value of SAR (measured) = 0.106 W/kg



0 dB = 0.106 W/kg



**MEAS.3 Body Plane with Back Side 10mm on High Channel in GPRS850 2Slots mode with Antenna Up**

Date: 2019.12.18

Communication System Band: GPRS 850; Frequency: 848.8 MHz; Duty Cycle: 1:4.15

Medium parameters used (interpolated):  $f = 848.8$  MHz;  $\sigma = 0.921$  S/m;  $\epsilon_r = 40.433$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.6

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch251/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.184 W/kg

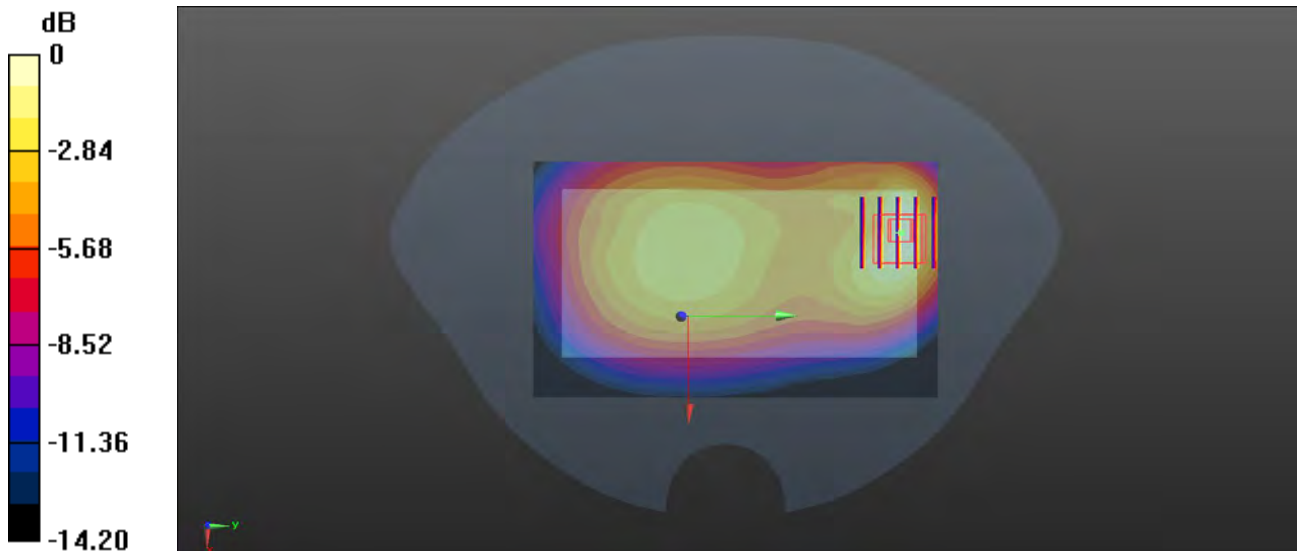
**Ch251/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.08 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.298 W/kg

**SAR(1 g) = 0.165 W/kg; SAR(10 g) = 0.095 W/kg**

Maximum value of SAR (measured) = 0.183 W/kg



0 dB = 0.183 W/kg

**MEAS.4 Right Head with Cheek on Low Channel in GPRS1900 2Slots mode with Antenna Up**

Date: 2020.01.03

Communication System Band: GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.688$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.8 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 512/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.335 W/kg

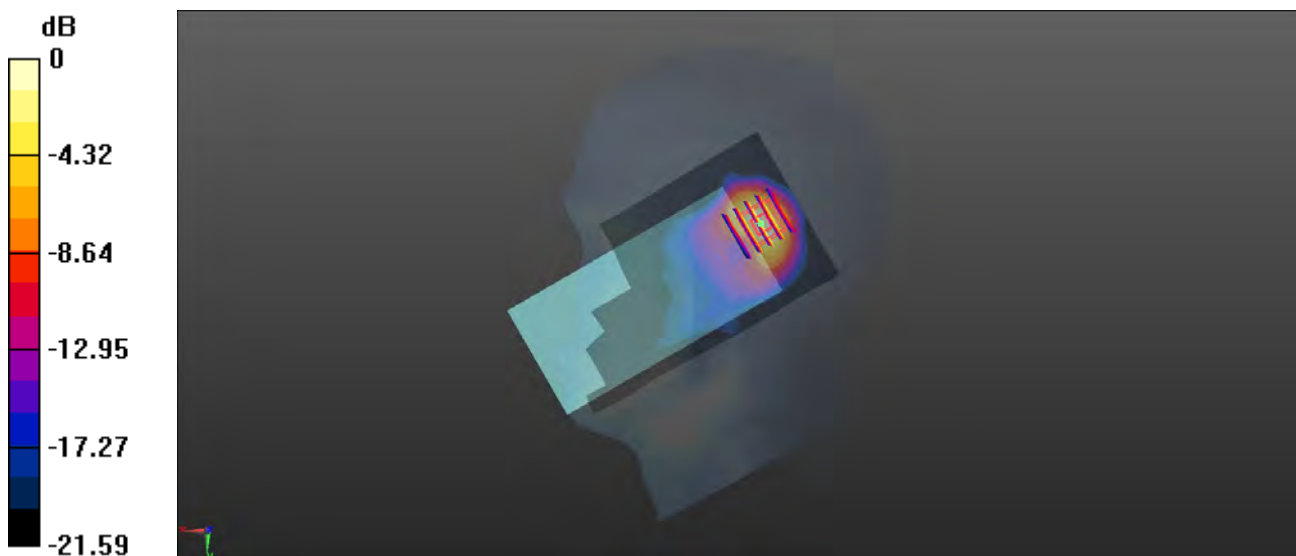
**Ch 512/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.797 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.547 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.314 W/kg



0 dB = 0.314 W/kg

**MEAS.5 Body Plane with Back Side 15mm on High Channel in GPRS1900 2Slots mode with Antenna Up**

Date: 2020.01.03

Communication System Band: GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.688$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.8 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 512/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0612 W/kg

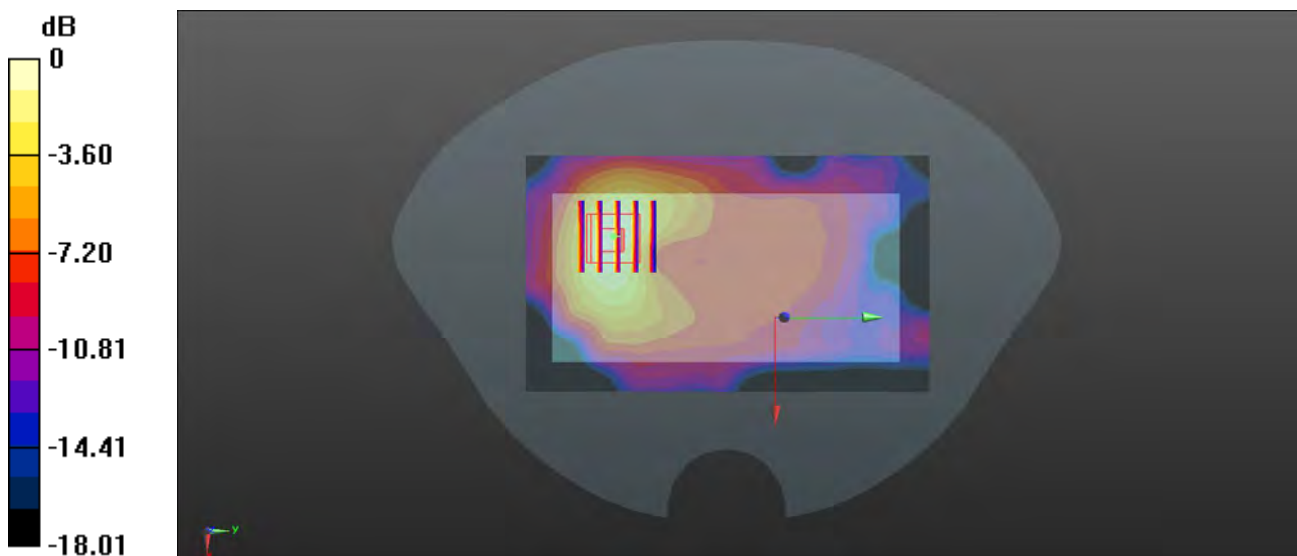
**Ch 512/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.464 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.0980 W/kg

**SAR(1 g) = 0.057 W/kg; SAR(10 g) = 0.031 W/kg**

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



0 dB = 0.0620 W/kg

**MEAS.6 Body Plane with Top Edge 10mm on High Channel in GPRS1900 2Slots mode with Antenna Up**

Date: 2020.01.03

Communication System Band: GPRS 1900; Frequency: 1850.2 MHz; Duty Cycle: 1:4.15

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.407$  S/m;  $\epsilon_r = 39.688$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.8 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 512/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.296 W/kg

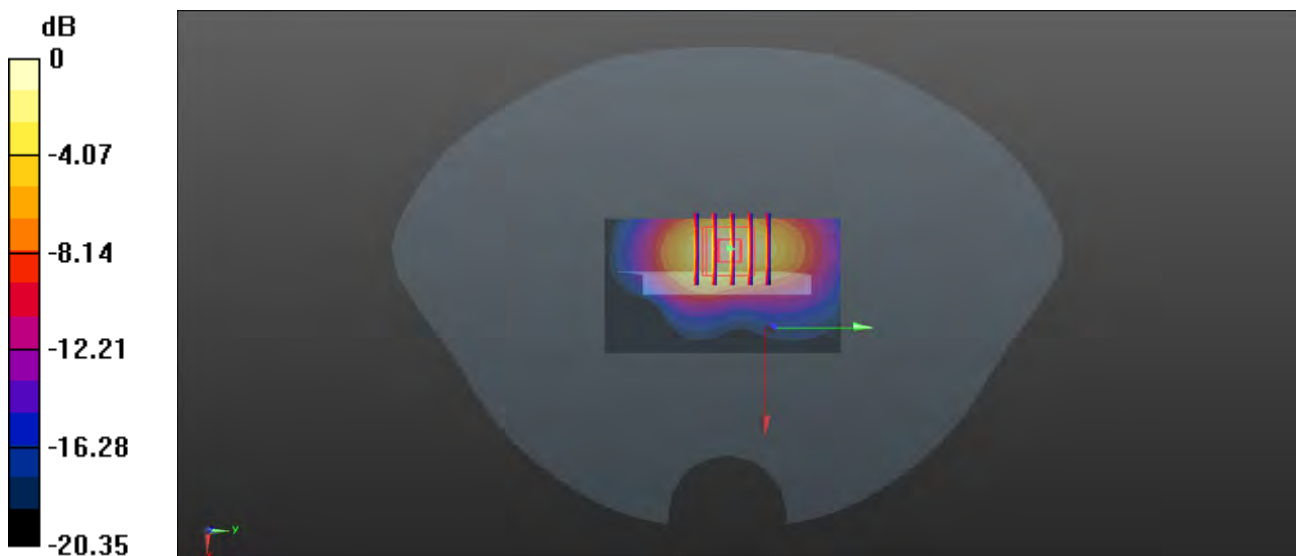
**Ch 512/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.260 V/m; Power Drift = 0.20 dB

Peak SAR (extrapolated) = 0.471 W/kg

**SAR(1 g) = 0.259 W/kg; SAR(10 g) = 0.130 W/kg**

Maximum value of SAR (measured) = 0.295 W/kg



0 dB = 0.295 W/kg

**MEAS.7 Right Head with Tilt on High Channel in WCDMA Band 2 mode with Antenna Up**

Date: 2020.01.20

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

Medium parameters used (interpolated):  $f = 1907.6$  MHz;  $\sigma = 1.431$  S/m;  $\epsilon_r = 39.312$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.4 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 9538/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.666 W/kg

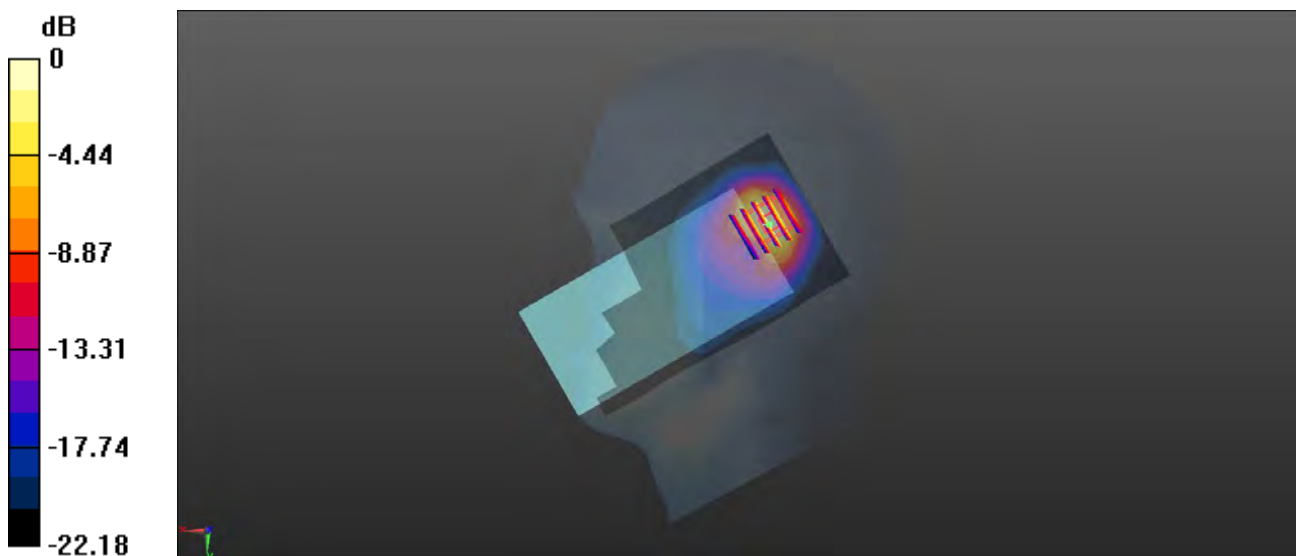
**Ch 9538/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.410 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.12 W/kg

**SAR(1 g) = 0.552 W/kg; SAR(10 g) = 0.251 W/kg**

Maximum value of SAR (measured) = 0.650 W/kg



0 dB = 0.650 W/kg

**MEAS.8 Body Plane with Back Side 15mm on Middle Channel in WCDMA Band 2 mode with Antenna Up**

Date: 2020.01.20

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

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.413$  S/m;  $\epsilon_r = 40.18$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.4 Liquid Temperature:21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 9400/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.153 W/kg

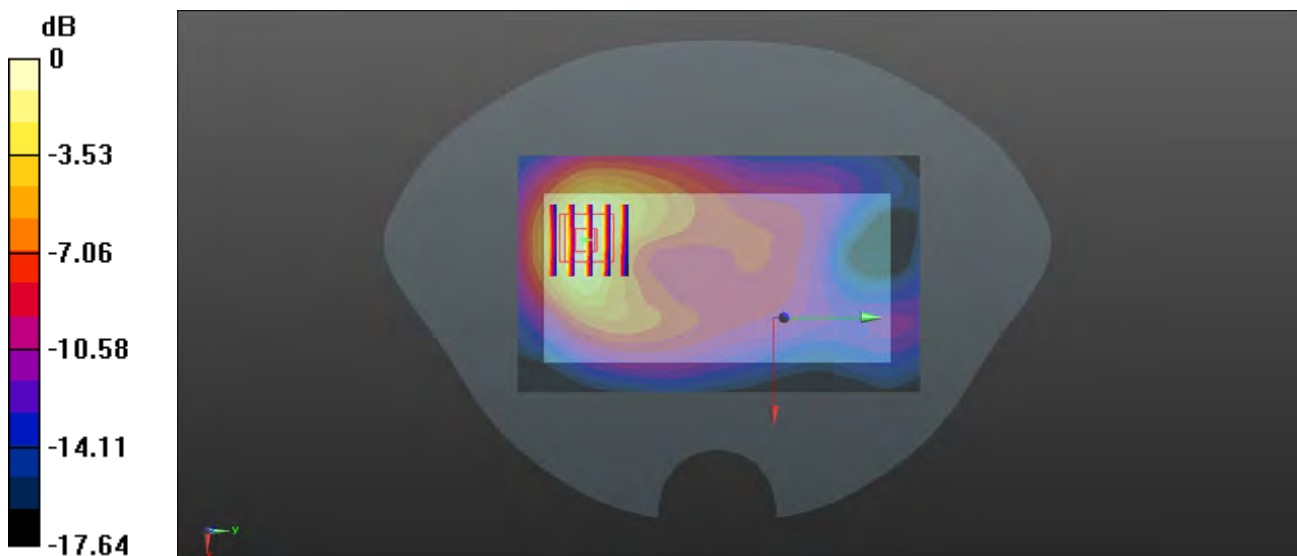
**Ch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.261 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.238 W/kg

**SAR(1 g) = 0.137 W/kg; SAR(10 g) = 0.076 W/kg**

Maximum value of SAR (measured) = 0.153 W/kg



0 dB = 0.153 W/kg

**MEAS.9 Body Plane with Top Edge 10mm on Middle Channel in WCDMA Band 2 mode with Antenna Up**

Date: 2020.01.20

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

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.413$  S/m;  $\epsilon_r = 40.18$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4 Liquid Temperature: 21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 9400/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.517 W/kg

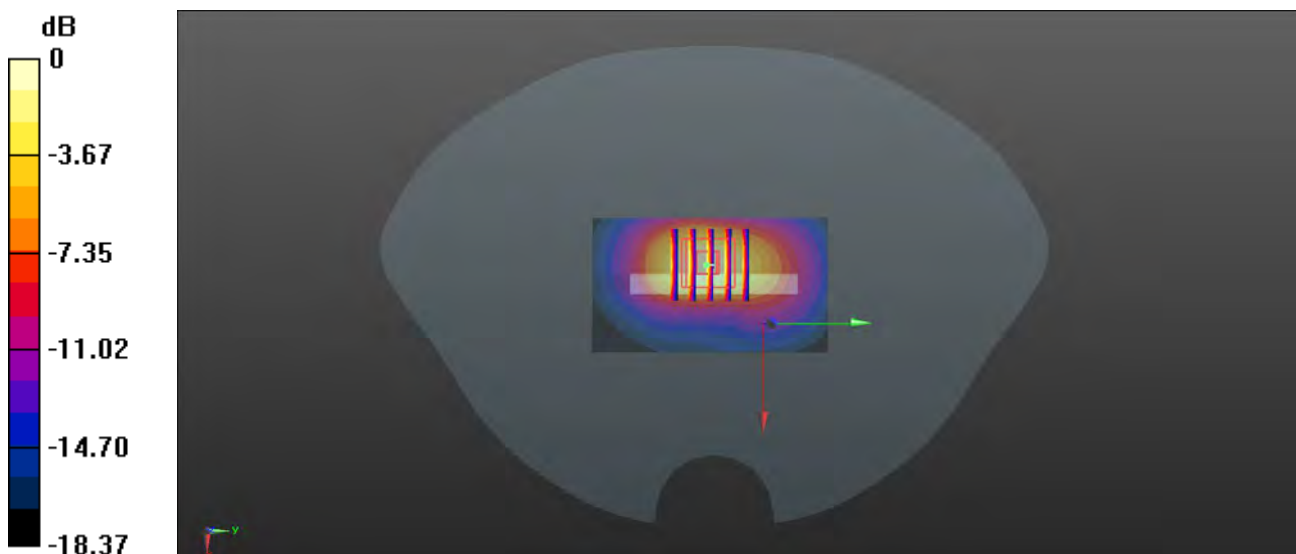
**Ch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.38 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.780 W/kg

**SAR(1 g) = 0.425 W/kg; SAR(10 g) = 0.214 W/kg**

Maximum value of SAR (measured) = 0.481 W/kg



0 dB = 0.481 W/kg

**MEAS.10 Body Plane with Top Edge 0mm on Middle Channel in WCDMA Band 2 mode with Antenna Up**

Date: 2020.01.19

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

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.413$  S/m;  $\epsilon_r = 40.18$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature: 22.4 Liquid Temperature: 21.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 9400/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.69 W/kg

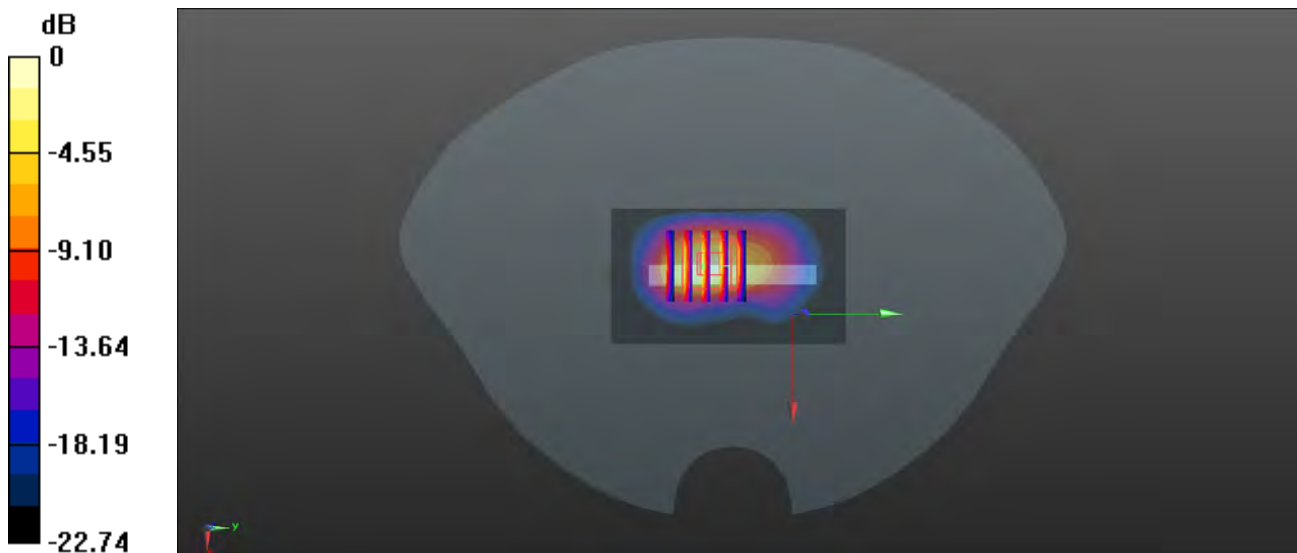
**Ch 9400/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.57 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 3.56 W/kg

**SAR(1 g) = 1.51 W/kg; SAR(10 g) = 0.611 W/kg**

Maximum value of SAR (measured) = 1.79 W/kg



0 dB = 1.79 W/kg



**MEAS.11 Right Head with Tilt on Low Channel in WCDMA Band 4 mode with Antenna Up**

Date: 2019.12.29

Communication System Band: IV; Frequency: 1712.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1712.4$  MHz;  $\sigma = 1.342$  S/m;  $\epsilon_r = 40.568$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.5 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 1312/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.884 W/kg

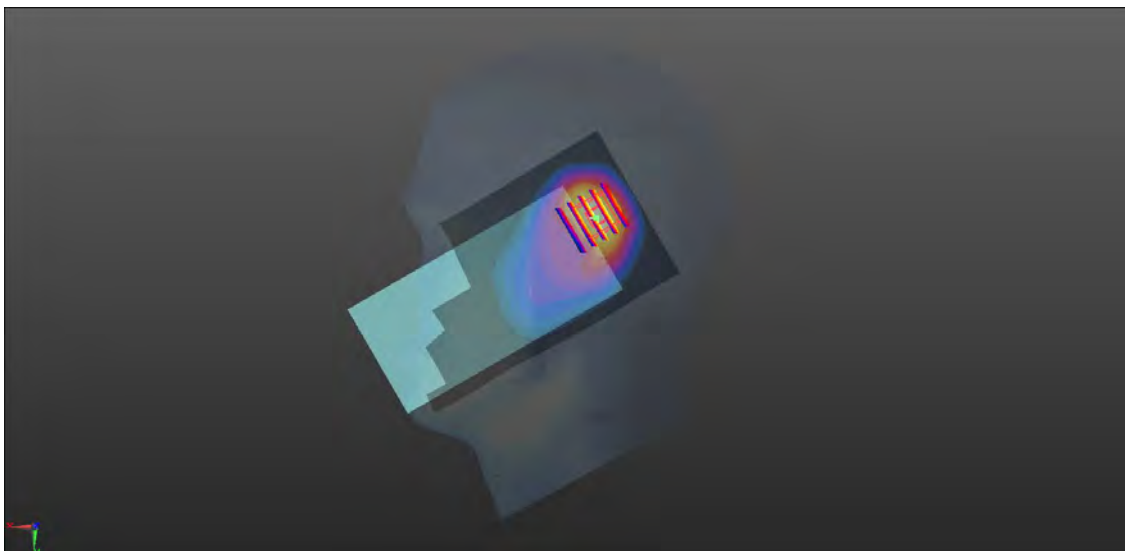
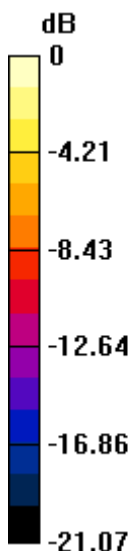
**Ch 1312/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.044 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.750 W/kg; SAR(10 g) = 0.345 W/kg**

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



0 dB = 0.888 W/kg

**MEAS.12 Body Plane with Back Side 15mm on Middle Channel in WCDMA Band 4 mode with Antenna Up**

Date: 2019.12.29

Communication System Band: IV; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.372$  S/m;  $\epsilon_r = 40.47$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 1412/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.339 W/kg

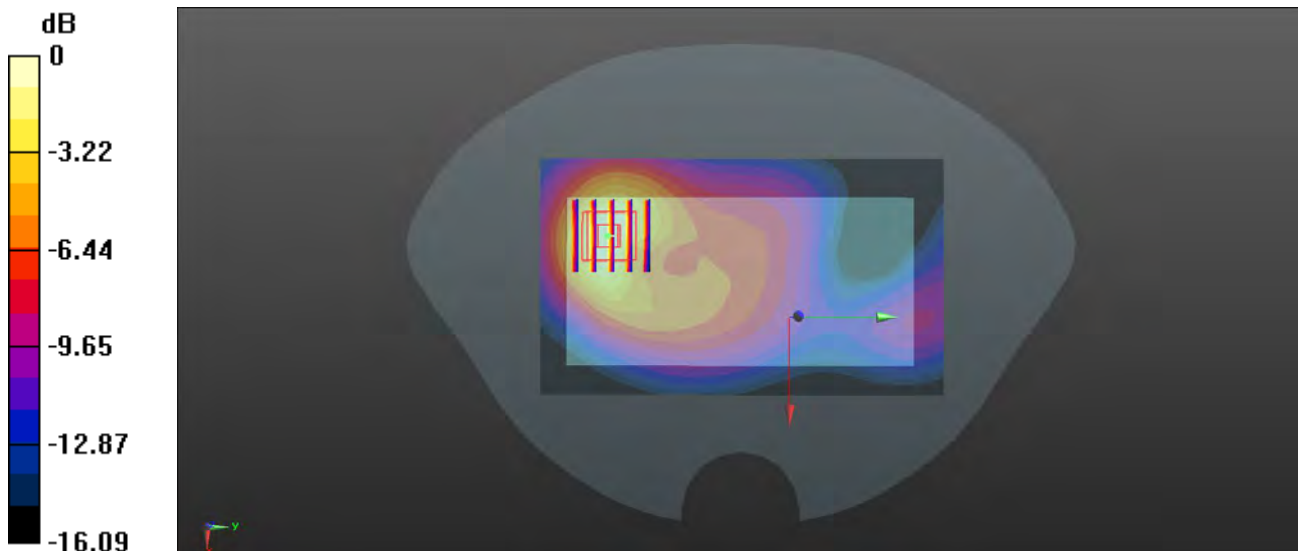
**Ch 1412/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.313 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.501 W/kg

**SAR(1 g) = 0.308 W/kg; SAR(10 g) = 0.179 W/kg**

Maximum value of SAR (measured) = 0.341 W/kg



0 dB = 0.341 W/kg

**MEAS.13 Body Plane with Top Edge 10mm on Middle Channel in WCDMA Band 4 mode with Antenna Up**

Date: 2019.12.29

Communication System Band: IV; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.372$  S/m;  $\epsilon_r = 40.47$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 1412/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.966 W/kg

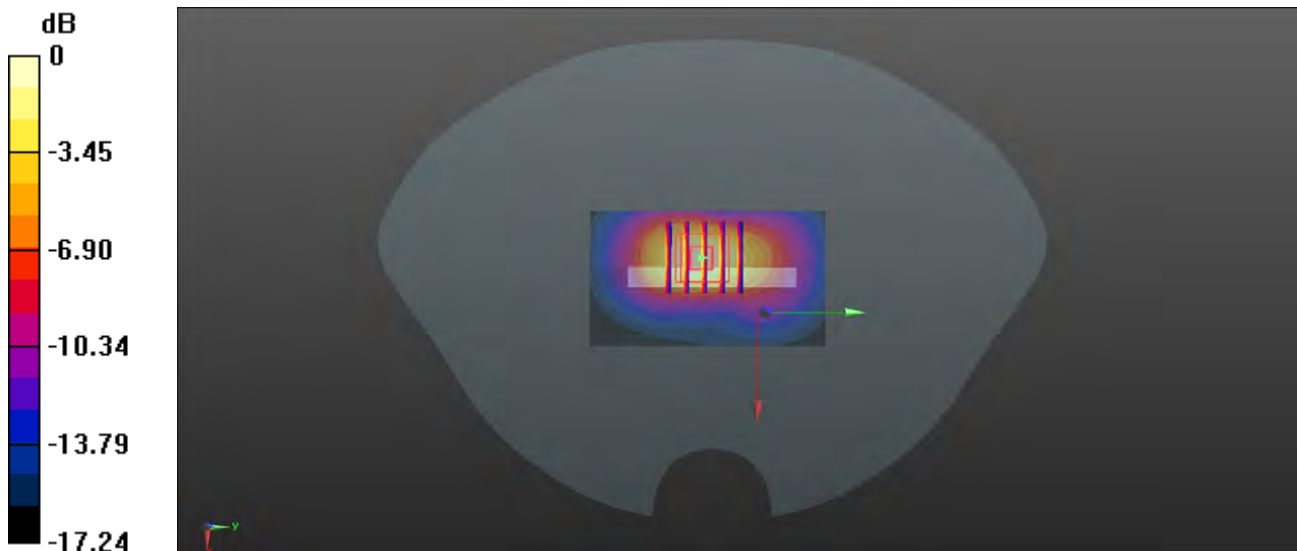
**Ch 1412/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.12 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 1.39 W/kg

**SAR(1 g) = 0.786 W/kg; SAR(10 g) = 0.408 W/kg**

Maximum value of SAR (measured) = 0.891 W/kg



0 dB = 0.891 W/kg

**MEAS.14 Body Plane with Top Edge 0mm on Middle Channel in WCDMA Band 4 mode with Antenna Up**

Date: 2020.01.12

Communication System Band: IV; Frequency: 1732.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1732.4$  MHz;  $\sigma = 1.382$  S/m;  $\epsilon_r = 40.47$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.1 Liquid Temperature:21.1

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 1412/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.22 W/kg

**Ch 1412/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 34.74 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 6.57 W/kg

**SAR(1 g) = 2.89 W/kg; SAR(10 g) = 1.22 W/kg**

Maximum value of SAR (measured) = 3.59 W/kg



0 dB = 3.59 W/kg

**MEAS.15 Right Head with Cheek on High Channel in WCDMA Band 5 mode with Antenna Up**

Date: 2019.12.20

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

Medium parameters used (interpolated):  $f = 846.6$  MHz;  $\sigma = 0.898$  S/m;  $\epsilon_r = 41.89$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch4233/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.393 W/kg

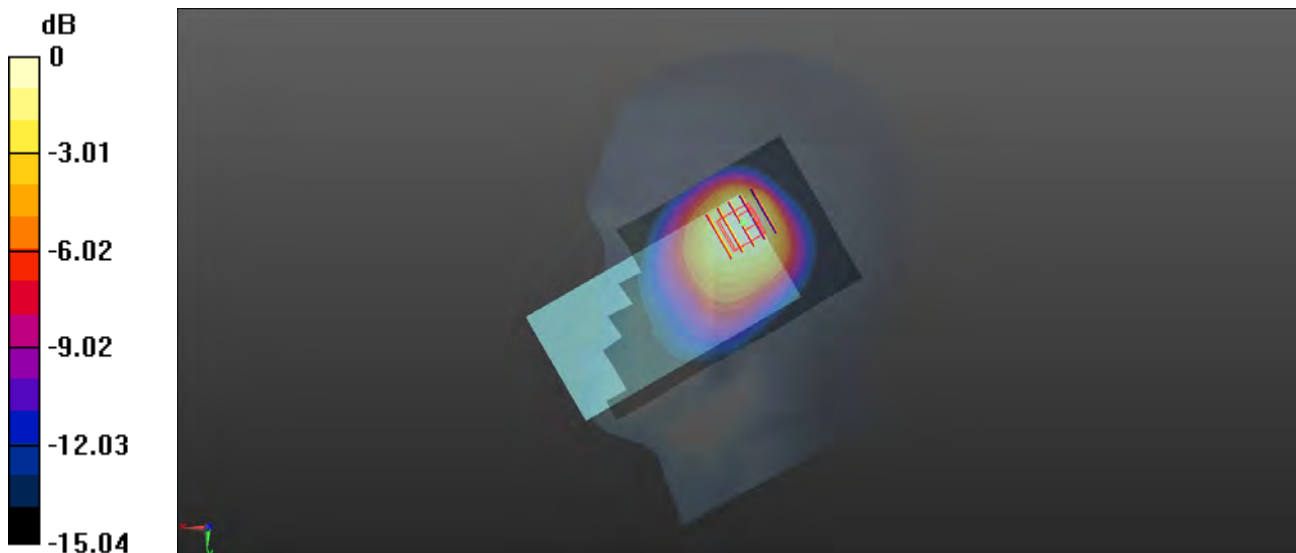
**Ch4233/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.33 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.606 W/kg

**SAR(1 g) = 0.344 W/kg; SAR(10 g) = 0.219 W/kg**

Maximum value of SAR (measured) = 0.364 W/kg



0 dB = 0.364 W/kg

**MEAS.16 Body Plane with Back Side 15mm on Middle Channel in WCDMA Band 5 mode with Antenna Down**

Date: 2019.12.20

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

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.882$  S/m;  $\epsilon_r = 42.107$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch4182/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.128 W/kg

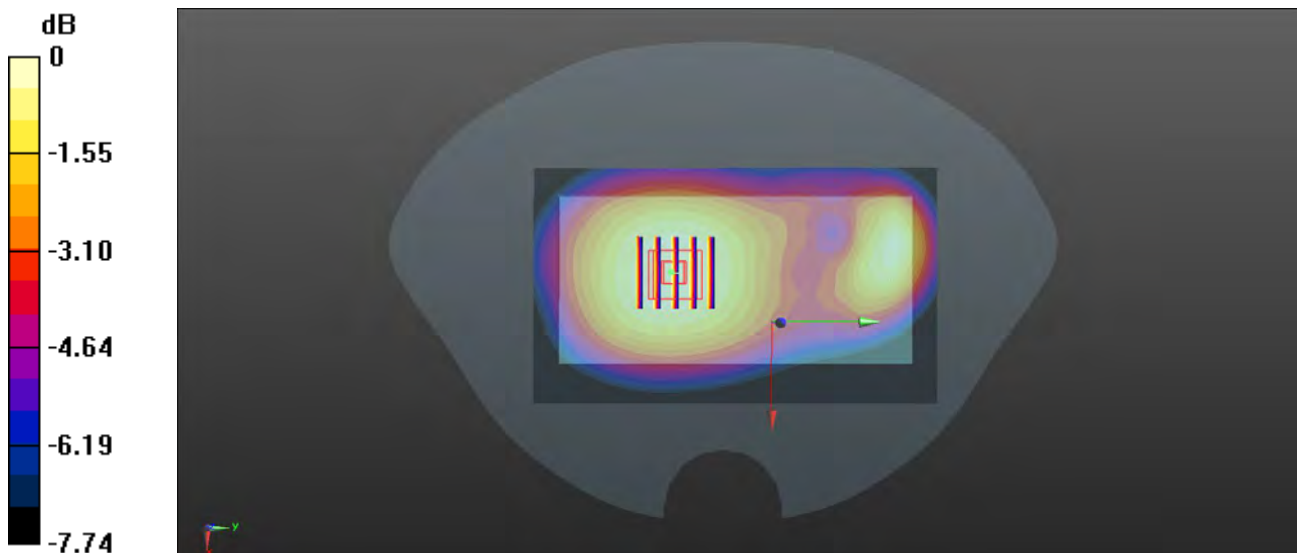
**Ch4182/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.01 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.150 W/kg

**SAR(1 g) = 0.120 W/kg; SAR(10 g) = 0.092 W/kg**

Maximum value of SAR (measured) = 0.126 W/kg



0 dB = 0.126 W/kg

**MEAS.17 Body Plane with Back Side 10mm on Middle Channel in WCDMA Band 5 mode with Antenna Down**

Date: 2019.12.20

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

Medium parameters used (interpolated):  $f = 836.4$  MHz;  $\sigma = 0.882$  S/m;  $\epsilon_r = 42.107$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch4182/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.216 W/kg

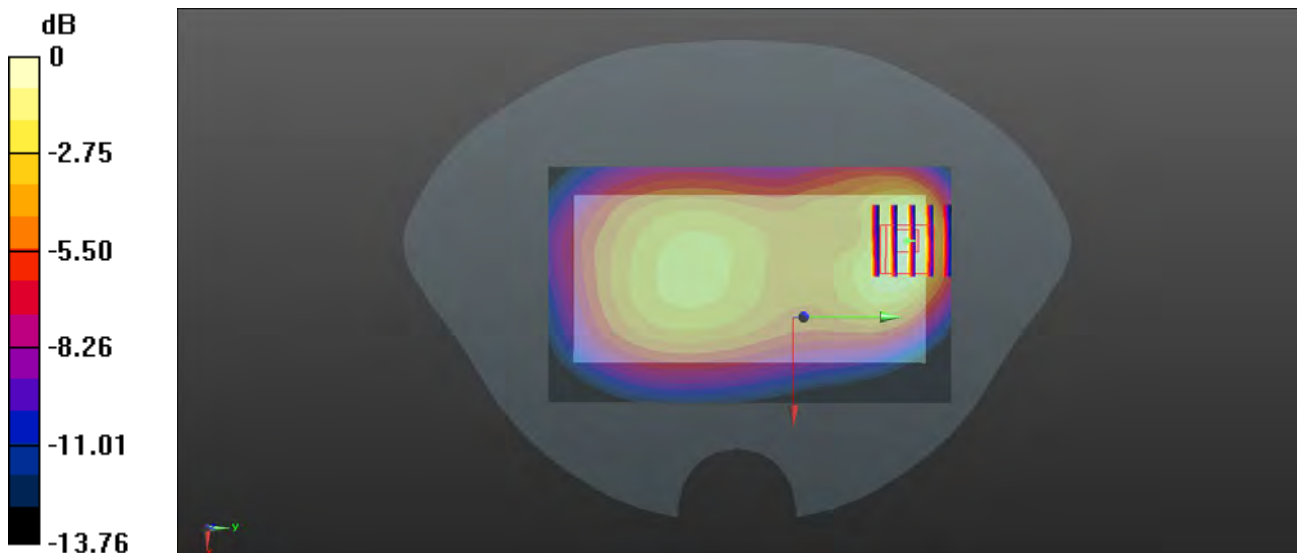
**Ch4182/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.59 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.206 W/kg; SAR(10 g) = 0.121 W/kg**

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



0 dB = 0.226 W/kg



**MEAS.18 Right Head with Tilt on Low Channel in LTE Band 2 mode with Antenna Up**

Date: 2020.01.17

Communication System Band: Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz); Frequency: 1860 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1860$  MHz;  $\sigma = 1.402$  S/m;  $\epsilon_r = 40.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 18700/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.778 W/kg

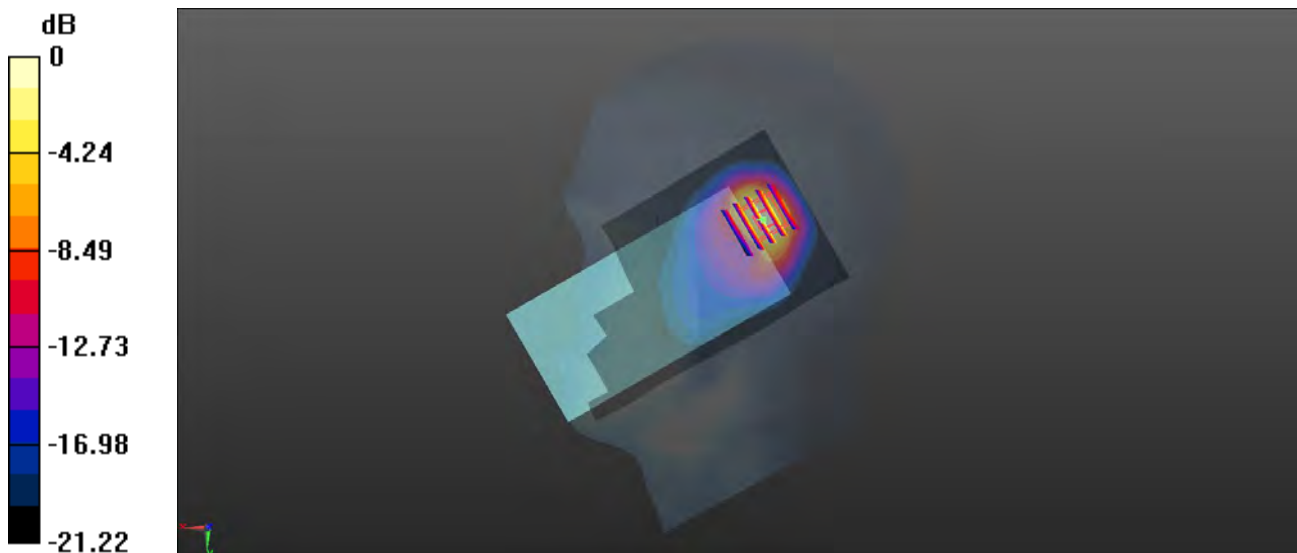
**Ch 18700/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.197 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.663 W/kg; SAR(10 g) = 0.300 W/kg**

Maximum value of SAR (measured) = 0.786 W/kg



0 dB = 0.786 W/kg



**MEAS.19 Body Plane with Back Side 15mm on Middle Channel in LTE Band 2 mode with Antenna Up**

Date: 2020.01.17

Communication System Band: Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 40.444$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 18900/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.175 W/kg

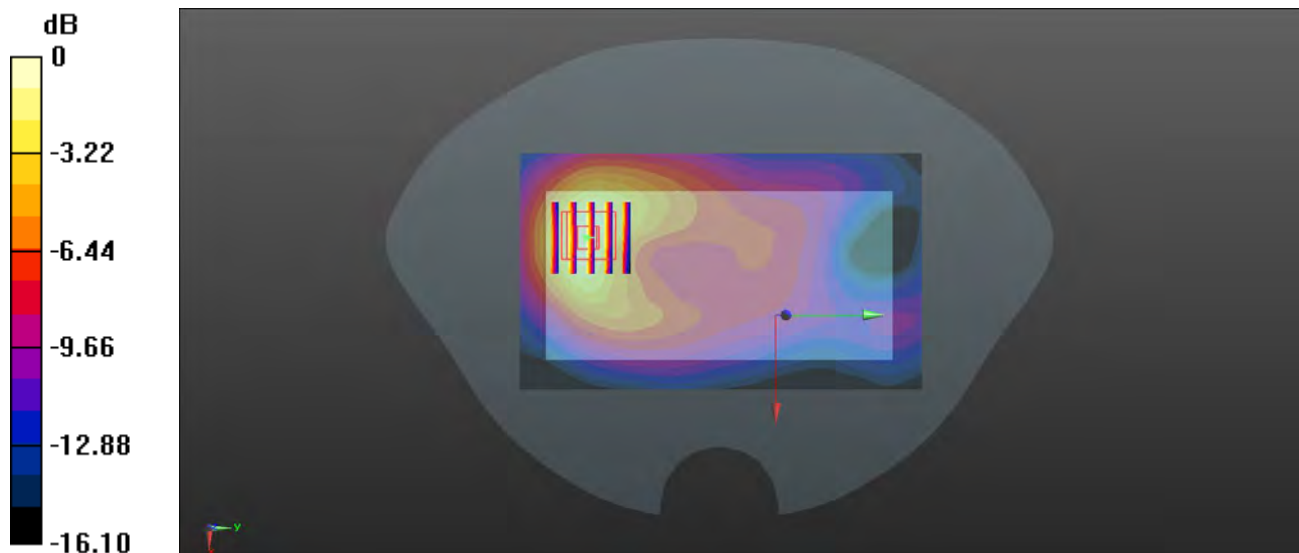
**Ch 18900/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.42 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.261 W/kg

**SAR(1 g) = 0.156 W/kg; SAR(10 g) = 0.087 W/kg**

Maximum value of SAR (measured) = 0.174 W/kg



0 dB = 0.174 W/kg

**MEAS.20 Body Plane with Top Edge 10mm on Middle Channel in LTE Band 2 mode with Antenna Up**

Date: 2020.01.17

Communication System Band: Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.415$  S/m;  $\epsilon_r = 40.444$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.7 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 18900/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.410 W/kg

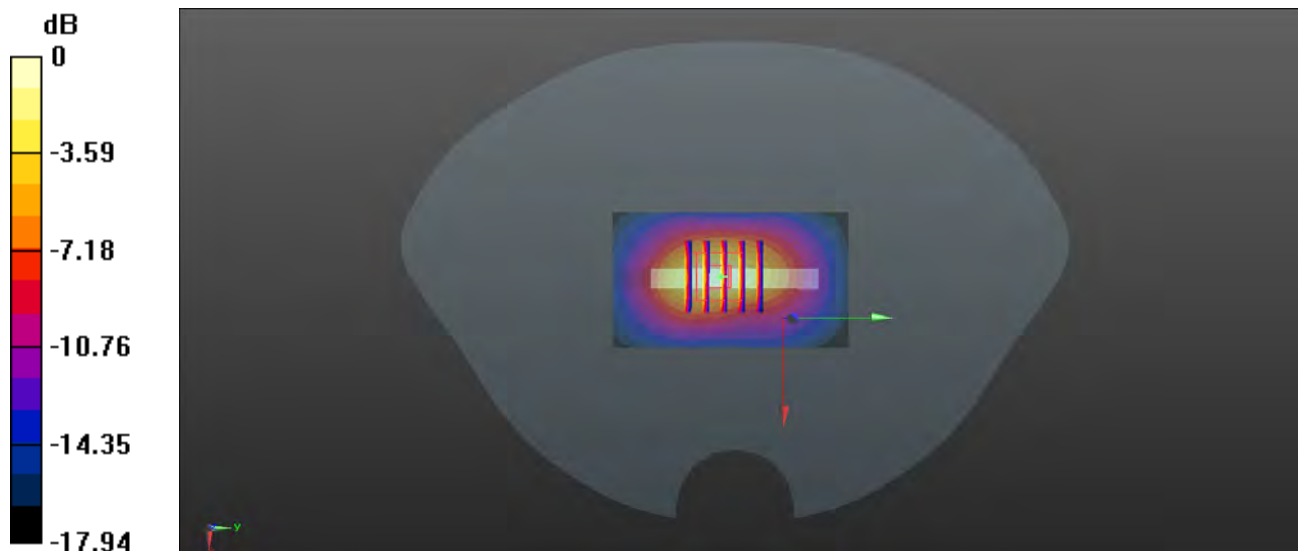
**Ch 18900/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.98 V/m; Power Drift = -0.17 dB

Peak SAR (extrapolated) = 0.650 W/kg

**SAR(1 g) = 0.360 W/kg; SAR(10 g) = 0.182 W/kg**

Maximum value of SAR (measured) = 0.414 W/kg



0 dB = 0.414 W/kg

**MEAS.21 Body Plane with Top Edge 0mm on Middle Channel in LTE Band 2 mode with Antenna Up**

Date: 2020.01.16

Communication System Band: Band 2, E-UTRA/FDD (1850.0 - 1910.0 MHz); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1880$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 39.952$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.38, 8.38, 8.38); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 18900/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.32 W/kg

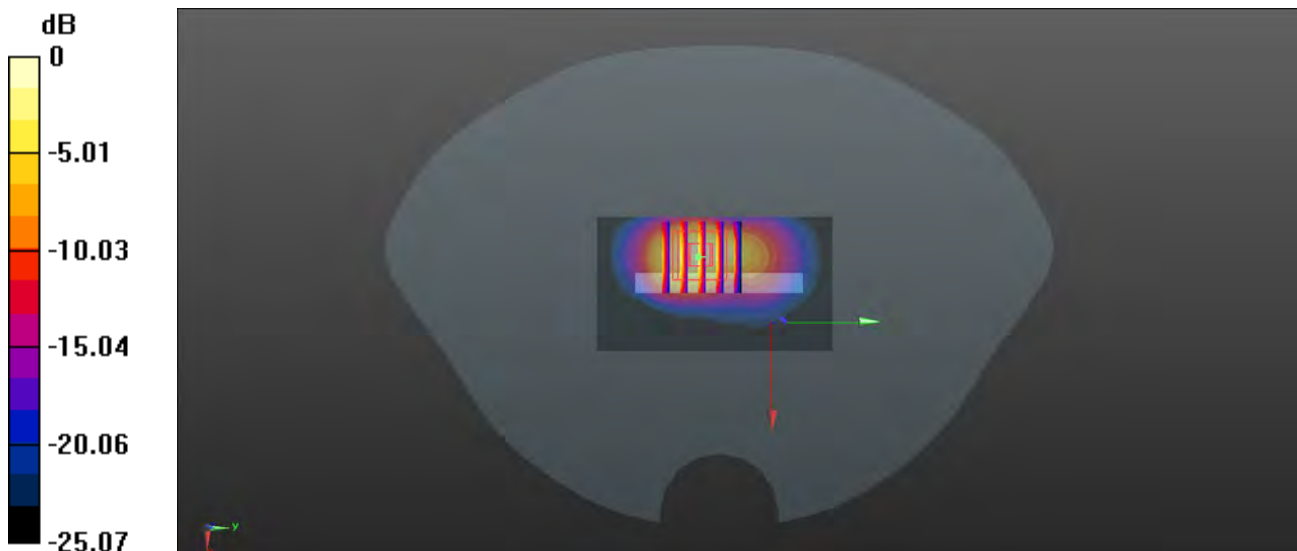
**Ch 18900/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.59 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 4.59 W/kg

**SAR(1 g) = 1.99 W/kg; SAR(10 g) = 0.816 W/kg**

Maximum value of SAR (measured) = 2.47 W/kg



0 dB = 2.47 W/kg

**MEAS.22 Right Head with Tilt on Middle Channel in LTE Band 4 mode with Antenna Up**

Date: 2020.01.18

Communication System Band: Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz); Frequency: 1732.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1732.5$  MHz;  $\sigma = 1.342$  S/m;  $\epsilon_r = 41.07$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 20175/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.835 W/kg

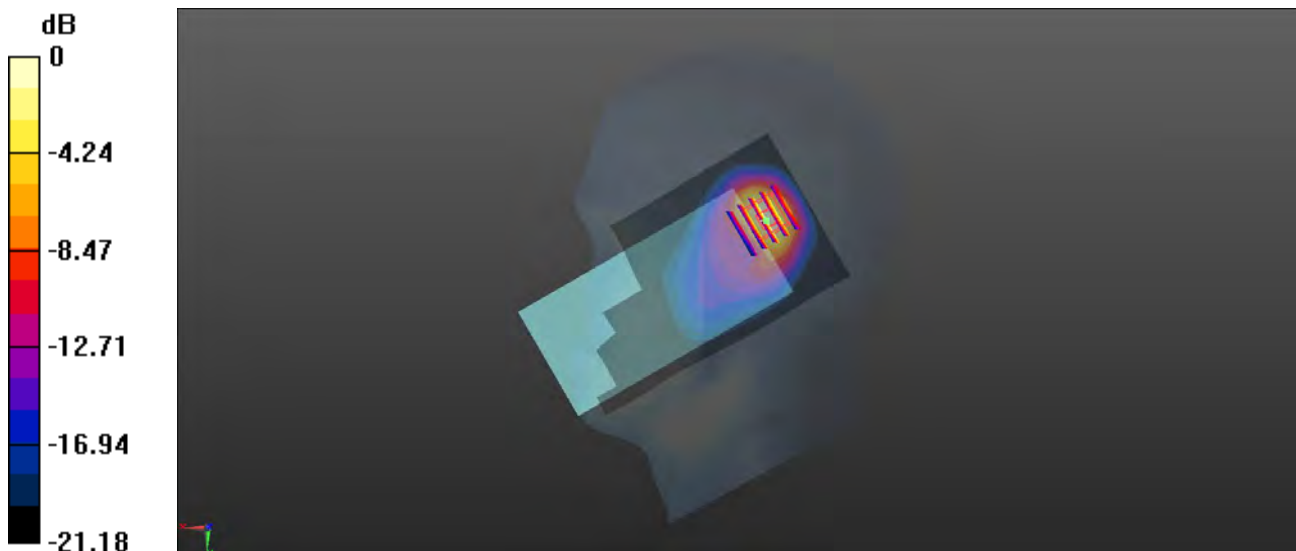
**Ch 20175/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.000 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.40 W/kg

**SAR(1 g) = 0.707 W/kg; SAR(10 g) = 0.325 W/kg**

Maximum value of SAR (measured) = 0.839 W/kg



0 dB = 0.839 W/kg

**MEAS.23 Body Plane with Back Side 15mm on Low Channel in LTE Band 4 mode with Antenna Up**

Date: 2020.01.18

Communication System Band: Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz); Frequency: 1720 MHz; Duty Medium parameters used (interpolated):  $f = 1720$  MHz;  $\sigma = 1.315$  S/m;  $\epsilon_r = 41.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 20050/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.347 W/kg

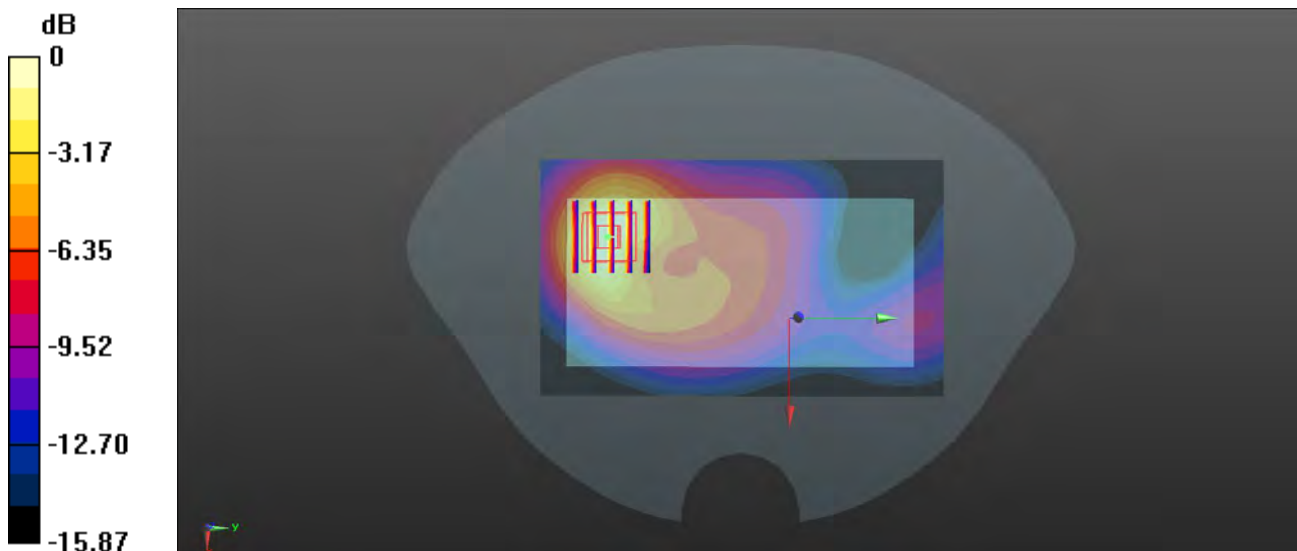
**Ch 20050/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.13 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.507 W/kg

**SAR(1 g) = 0.311 W/kg; SAR(10 g) = 0.177 W/kg**

Maximum value of SAR (measured) = 0.346 W/kg



0 dB = 0.346 W/kg

**MEAS.24 Body Plane with Top Edge 10mm on Low Channel in LTE Band 4 mode with Antenna Up**

Date: 2020.01.18

Communication System Band: Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz); Frequency: 1720 MHz; Duty Medium parameters used (interpolated):  $f = 1720$  MHz;  $\sigma = 1.315$  S/m;  $\epsilon_r = 41.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 20050/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.767 W/kg

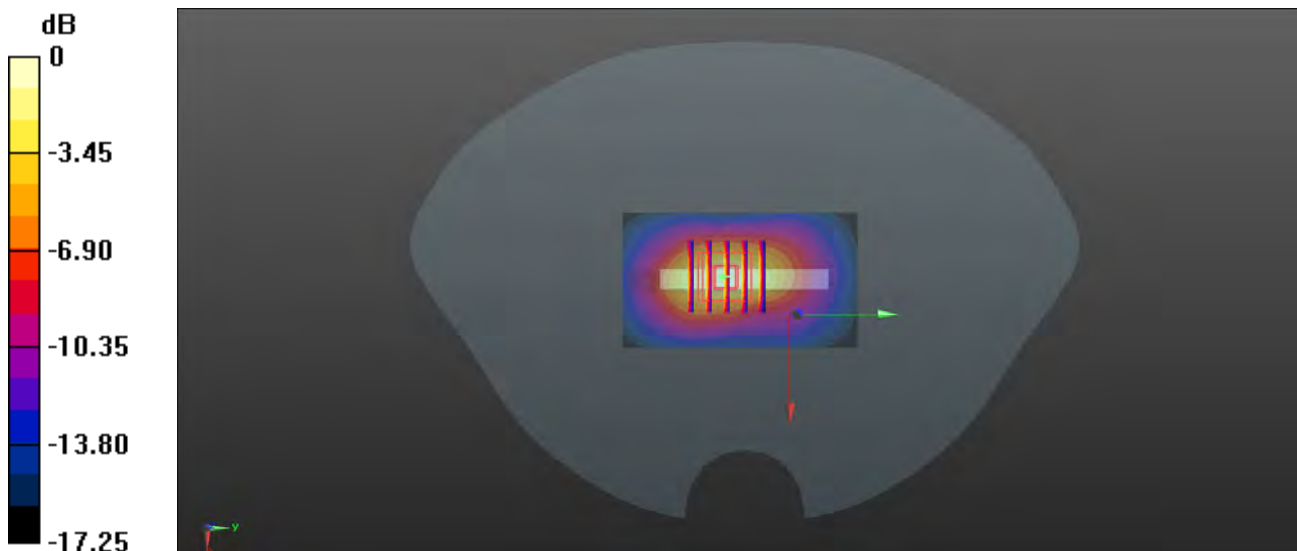
**Ch 20050/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 22.13 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.17 W/kg

**SAR(1 g) = 0.664 W/kg; SAR(10 g) = 0.346 W/kg**

Maximum value of SAR (measured) = 0.754 W/kg



0 dB = 0.754 W/kg

**MEAS.25 Body Plane with Top Edge 0mm on Low Channel in LTE Band 4 mode with Antenna Up**

Date: 2020.01.18

Communication System Band: Band 4, E-UTRA/FDD (1710.0 - 1755.0 MHz); Frequency: 1720 MHz; Duty Medium parameters used (interpolated):  $f = 1720$  MHz;  $\sigma = 1.315$  S/m;  $\epsilon_r = 41.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(8.67, 8.67, 8.67); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch 20050/Area Scan (41x71x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.27 W/kg

**Ch 20050/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.054V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 5.67 W/kg

**SAR(1 g) = 2.84 W/kg; SAR(10 g) = 1.27 W/kg**

Maximum value of SAR (measured) = 3.53 W/kg



0 dB = 3.53 W/kg

**MEAS.26 Right Head with Cheek on Middle Channel in LTE Band 5 mode with Antenna Up**

Date: 2019.12.22

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;  $\sigma = 0.886$  S/m;  $\epsilon_r = 41.32$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20525/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.406 W/kg

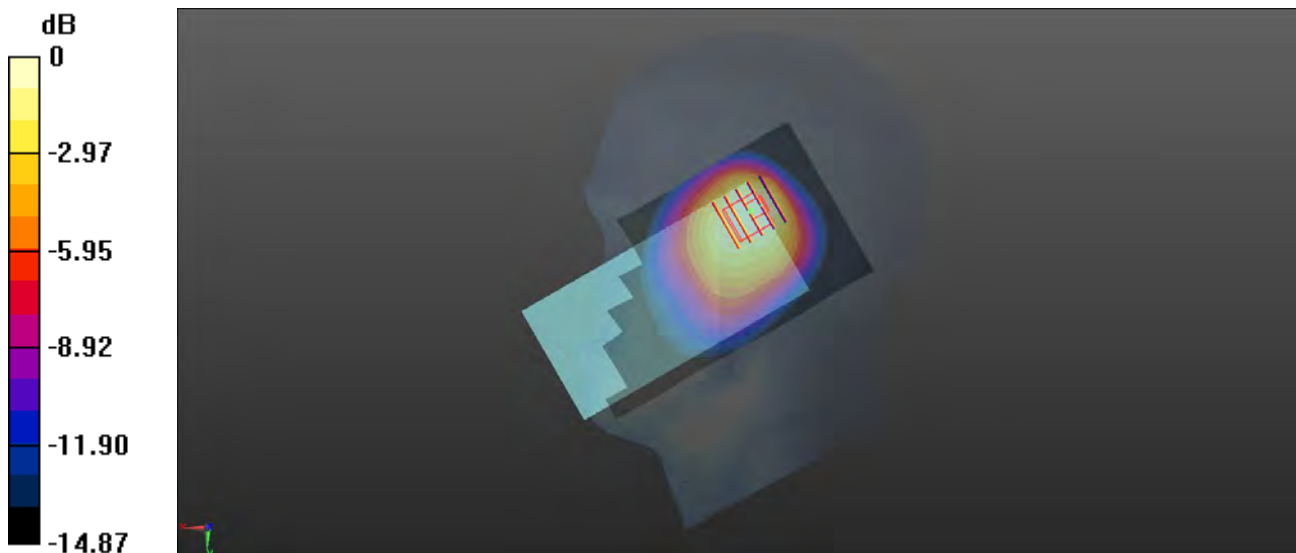
**Ch20525/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.79 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.647 W/kg

**SAR(1 g) = 0.362 W/kg; SAR(10 g) = 0.230 W/kg**

Maximum value of SAR (measured) = 0.380 W/kg



0 dB = 0.380 W/kg



**MEAS.27 Body Plane with Back Side 15mm on Low Channel in LTE Band 5 mode with Antenna Up**

Date: 2019.12.22

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 829$  MHz;  $\sigma = 0.874$  S/m;  $\epsilon_r = 41.946$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20450/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0630 W/kg

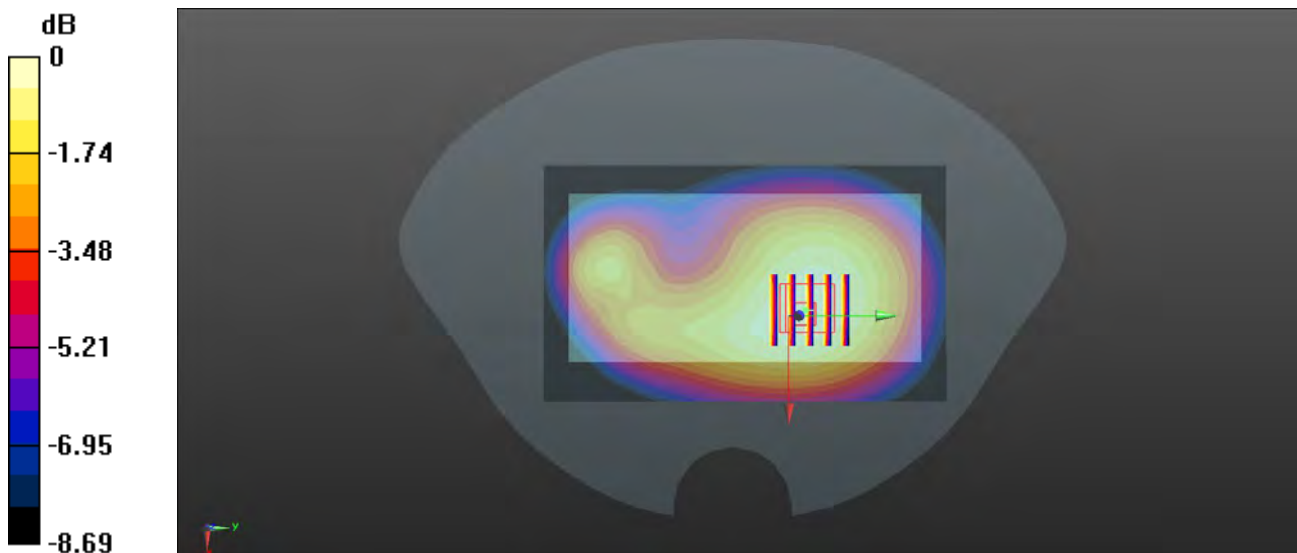
**Ch20450/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.621 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.0770 W/kg

**SAR(1 g) = 0.060 W/kg; SAR(10 g) = 0.045 W/kg**

Maximum value of SAR (measured) = 0.0636 W/kg



0 dB = 0.0636 W/kg

**MEAS.28 Body Plane with Back Side 15mm on Low Channel in LTE Band 5 mode with Antenna Up**

Date: 2019.12.22

Communication System Band: Band 5, E-UTRA/FDD (824.0 - 849.0 MHz); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 829$  MHz;  $\sigma = 0.874$  S/m;  $\epsilon_r = 41.946$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(10.02, 10.02, 10.02); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch20450/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.124 W/kg

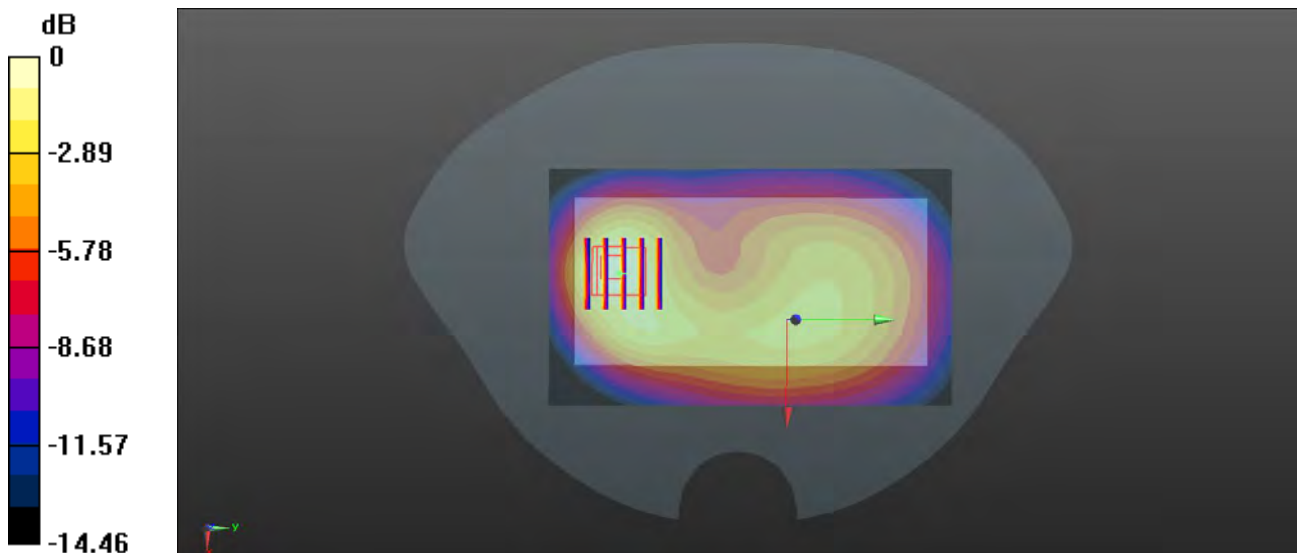
**Ch20450/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.538 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.198 W/kg

**SAR(1 g) = 0.112 W/kg; SAR(10 g) = 0.064 W/kg**

Maximum value of SAR (measured) = 0.118 W/kg



0 dB = 0.118 W/kg

**MEAS.29 Right Head with Tilt on Middle Channel in LTE Band 7 mode with Antenna Up**

Date: 2019.12.15

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;  $\sigma = 1.933$  S/m;  $\epsilon_r = 39.699$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch21100/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.490 W/kg

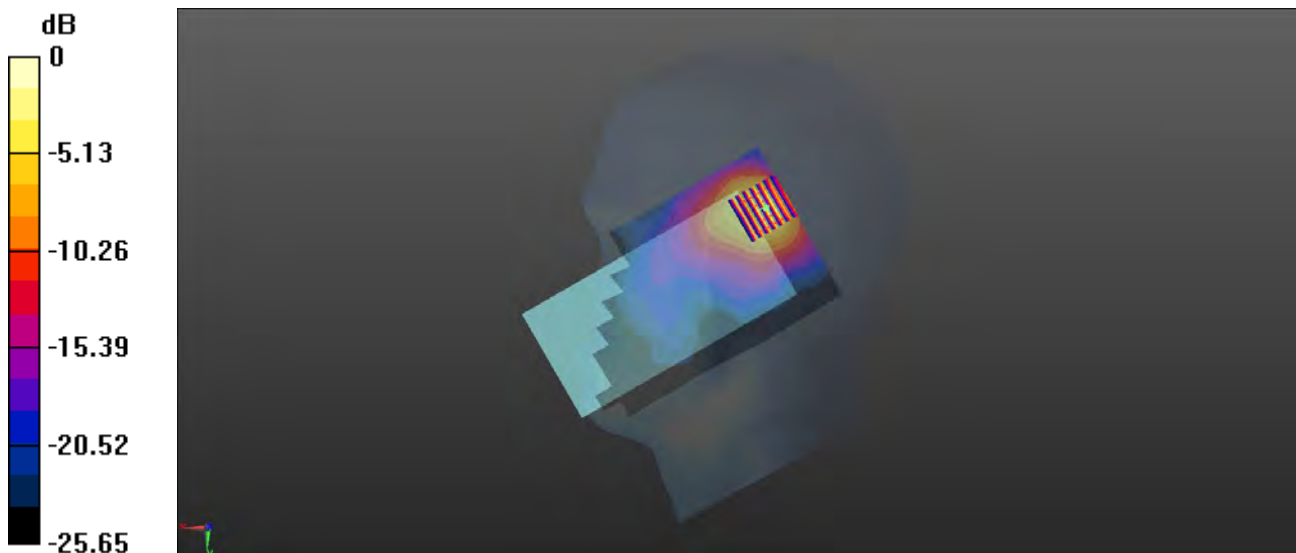
**Ch21100/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.027 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.460 W/kg; SAR(10 g) = 0.174 W/kg**

Maximum value of SAR (measured) = 0.534 W/kg



0 dB = 0.534 W/kg

**MEAS.30 Body Plane with Back Side 15mm on Middle Channel in LTE Band 7 mode with Antenna Up**

Date: 2019.12.15

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;  $\sigma = 1.933$  S/m;  $\epsilon_r = 39.699$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch21100/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.106 W/kg

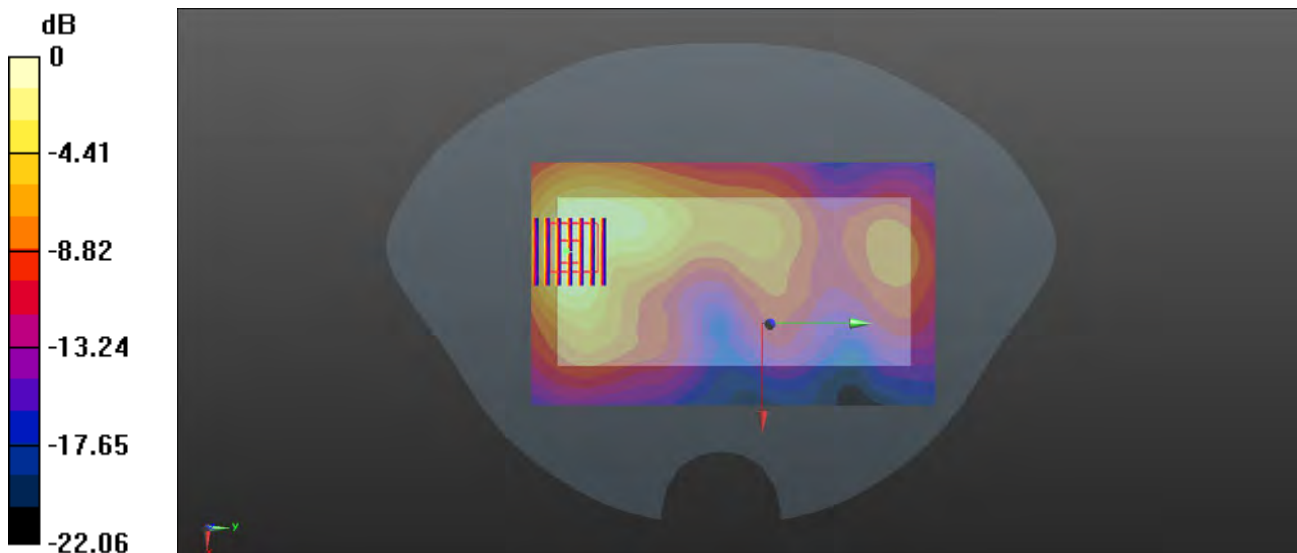
**Ch21100/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.770 V/m; Power Drift = 0.18 dB

Peak SAR (extrapolated) = 0.218 W/kg

**SAR(1 g) = 0.099 W/kg; SAR(10 g) = 0.048 W/kg**

Maximum value of SAR (measured) = 0.109 W/kg



0 dB = 0.109 W/kg

**MEAS.31 Body Plane with Top Edge 10mm on Middle Channel in LTE Band 7 mode with Antenna Up**

Date: 2019.12.15

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;  $\sigma = 1.933$  S/m;  $\epsilon_r = 39.699$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch21100/Area Scan (51x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.268 W/kg

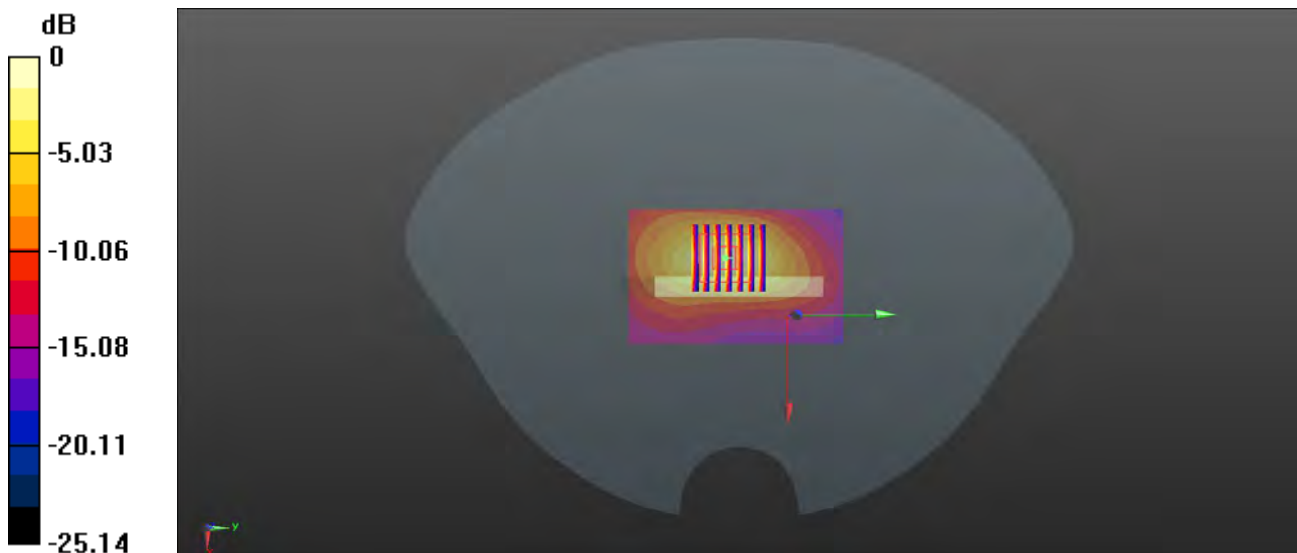
**Ch21100/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.590 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.556 W/kg

**SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.097 W/kg**

Maximum value of SAR (measured) = 0.268 W/kg



0 dB = 0.268 W/kg

**MEAS.32 Body Plane with Top Edge 0mm on Middle Channel in LTE Band 7 mode with Antenna Up**

Date: 2019.12.15

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;  $\sigma = 1.933$  S/m;  $\epsilon_r = 39.699$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.6 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch21100/Area Scan (51x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 4.45 W/kg

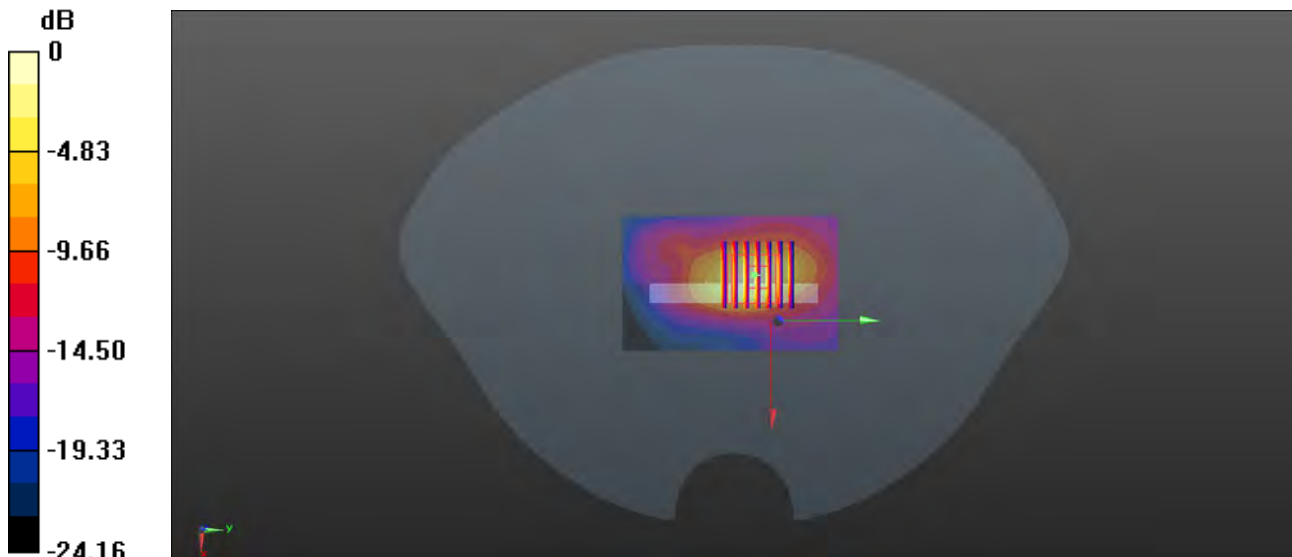
**Ch21100/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 50.18 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 13.1 W/kg

**SAR(1 g) = 3.48 W/kg; SAR(10 g) = 1.33 W/kg**

Maximum value of SAR (measured) = 4.24 W/kg



0 dB = 4.24 W/kg

**MEAS.33 Right Head with Tilt on Channel 41140 in LTE Band 41 mode with Antenna Up**

Date: 2020.01.07

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2645 MHz; Duty Cycle: 1:1

Medium parameters used (extrapolated):  $f = 2645$  MHz;  $\sigma = 2.072$  S/m;  $\epsilon_r = 37.773$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Right Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.61, 7.61, 7.61); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch41140/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.659 W/kg

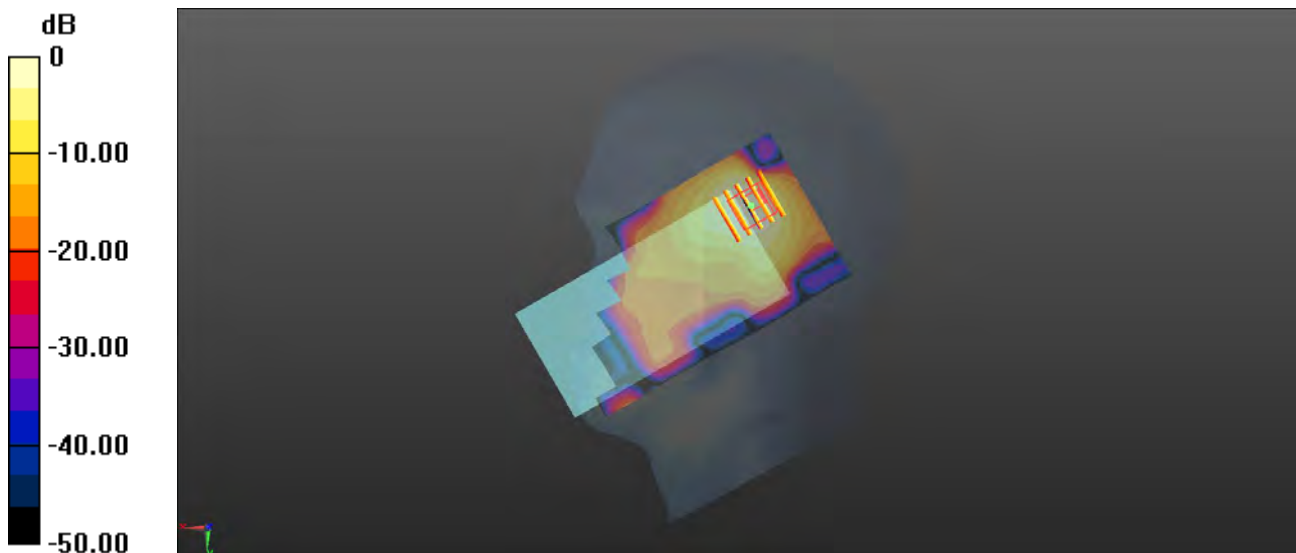
**Ch41140/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.678 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.08 W/kg

**SAR(1 g) = 0.408 W/kg; SAR(10 g) = 0.164 W/kg**

Maximum value of SAR (measured) = 0.397 W/kg



0 dB = 0.397 W/kg



**MEAS.34 Body Plane with Back Side 15mm on Channel 40807 in LTE Band 41 mode with Antenna Up**

Date: 2020.01.07

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2611.7 MHz; Duty Cycle: 1:1

Medium parameters used (extrapolated):  $f = 2611.7$  MHz;  $\sigma = 1.984$  S/m;  $\epsilon_r = 38.048$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.61, 7.61, 7.61); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch40807/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.121 W/kg

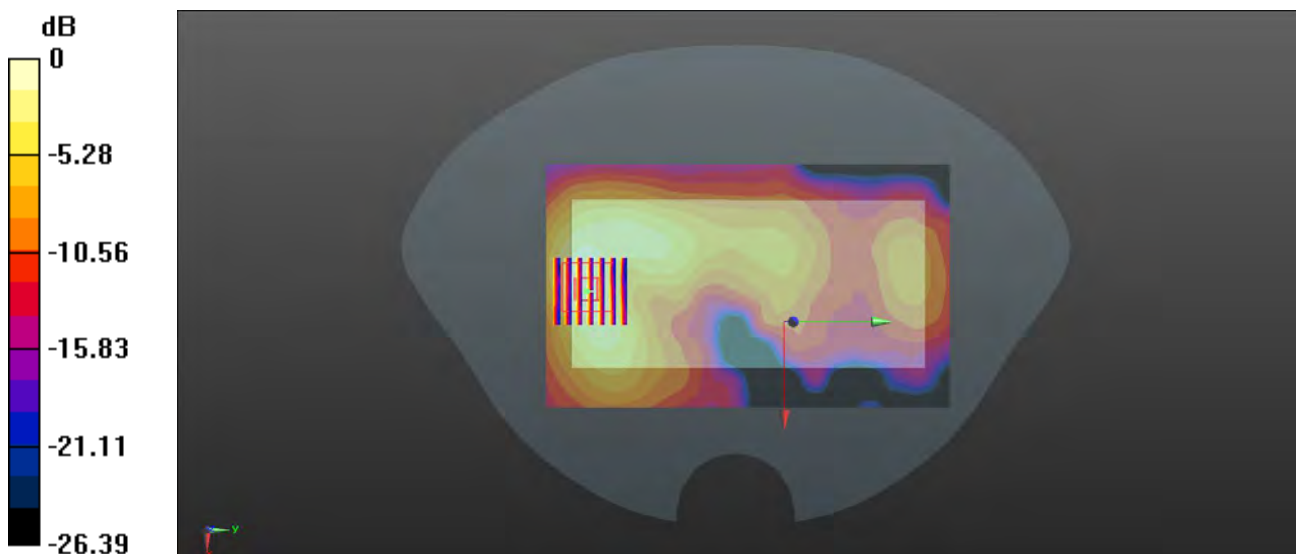
**Ch40807/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.721 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.270 W/kg

**SAR(1 g) = 0.116 W/kg; SAR(10 g) = 0.052 W/kg**

Maximum value of SAR (measured) = 0.131 W/kg



0 dB = 0.131 W/kg



**MEAS.35 Body Plane with Back Side 10mm on Channel 40807 in LTE Band 41 mode with Antenna Up**

Date: 2020.01.07

Communication System Band: Band 41, E-UTRA/TDD (2496.0 - 2690.0 MHz); Frequency: 2611.7 MHz; Duty Cycle: 1:1

Medium parameters used (extrapolated):  $f = 2611.7$  MHz;  $\sigma = 1.984$  S/m;  $\epsilon_r = 38.048$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.3 Liquid Temperature:21.4

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.61, 7.61, 7.61); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch40807/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.277 W/kg

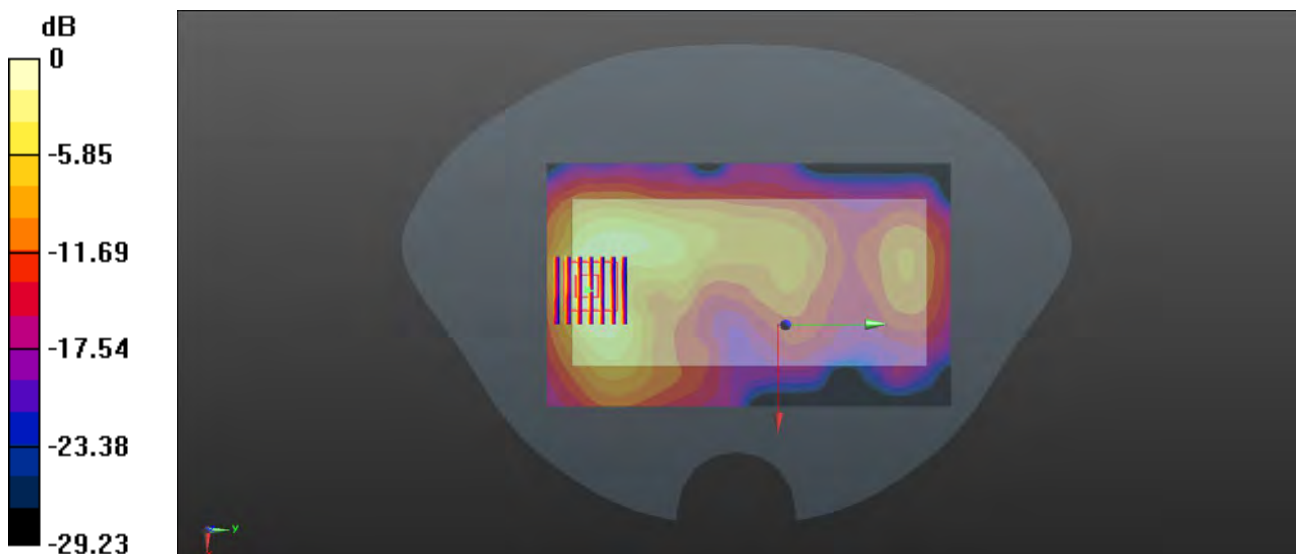
**Ch40807/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.318 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 0.665 W/kg

**SAR(1 g) = 0.264 W/kg; SAR(10 g) = 0.109 W/kg**

Maximum value of SAR (measured) = 0.300 W/kg



0 dB = 0.300 W/kg

**MEAS.36 Left Head with Cheek on Low Channel in IEEE802.11b mode**

Date: 2019.12.28

Communication System Band: WLAN(b); Frequency: 2412 MHz; Duty Cycle: 1:1.01

Medium parameters used (interpolated):  $f = 2412$  MHz;  $\sigma = 1.74$  S/m;  $\epsilon_r = 40.364$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch1/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.416 W/kg

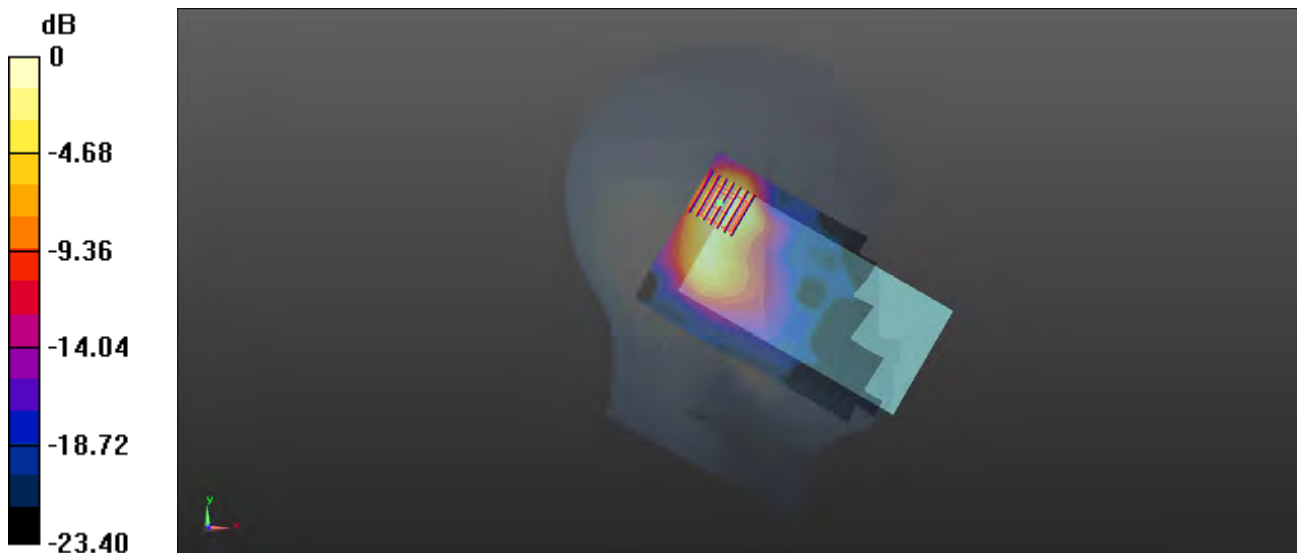
**Ch1/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.14 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 0.831 W/kg

**SAR(1 g) = 0.335 W/kg; SAR(10 g) = 0.154 W/kg**

Maximum value of SAR (measured) = 0.381 W/kg



0 dB = 0.381 W/kg

**MEAS.37 Body Plane with Back Side 15 mm on High Channel in IEEE802.11b mode**

Date: 2019.12.28

Communication System Band: WLAN(b); Frequency: 2462 MHz; Duty Cycle: 1:1.01

Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.838$  S/m;  $\epsilon_r = 39.076$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch11/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0973 W/kg

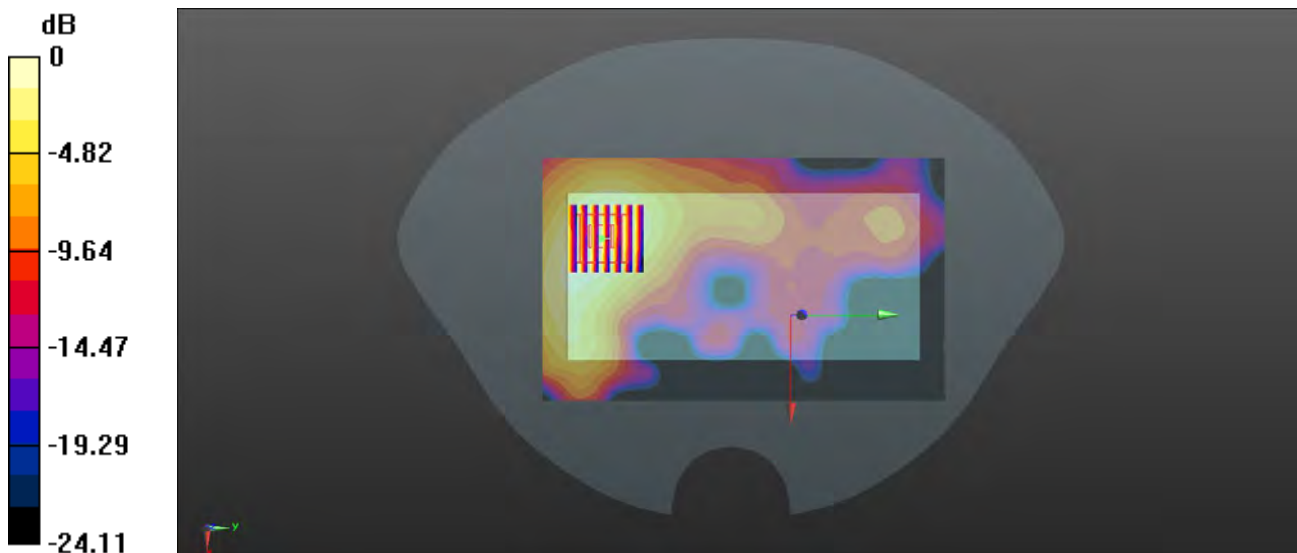
**Ch11/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8020 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 0.174 W/kg

**SAR(1 g) = 0.091 W/kg; SAR(10 g) = 0.048 W/kg**

Maximum value of SAR (measured) = 0.0988 W/kg



0 dB = 0.0988 W/kg

**MEAS.38 Body Plane with Back Side 10 mm on High Channel in IEEE802.11b mode**

Date: 2019.12.28

Communication System Band: WLAN(b); Frequency: 2462 MHz; Duty Cycle: 1:1.01

Medium parameters used (interpolated):  $f = 2462$  MHz;  $\sigma = 1.838$  S/m;  $\epsilon_r = 39.076$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch11/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.195 W/kg

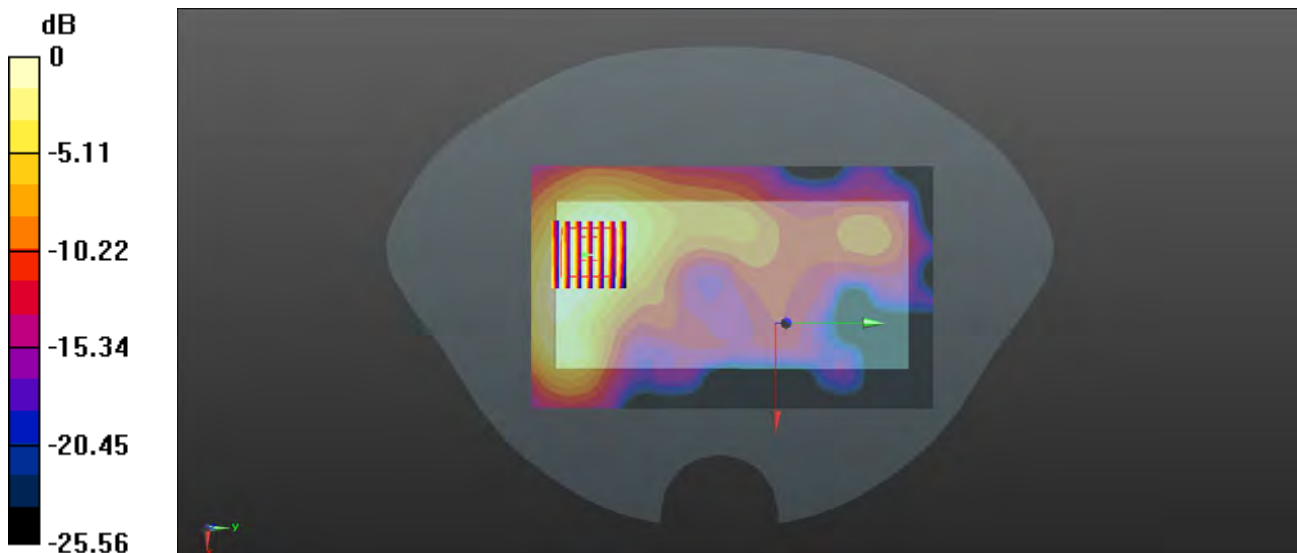
**Ch11/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.937 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.332 W/kg

**SAR(1 g) = 0.174 W/kg; SAR(10 g) = 0.093 W/kg**

Maximum value of SAR (measured) = 0.191 W/kg



0 dB = 0.191 W/kg

**MEAS.39 Left Head with Cheek on Channel 54 in IEEE802.11n(HT40) mode**

Date: 2019.12.31

Communication System Band: WLAN(n)40Mhz; Frequency: 5270 MHz;Duty Cycle: 1:1.041

Medium parameters used:  $f = 5270$  MHz;  $\sigma = 4.772$  S/m;  $\epsilon_r = 35.188$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.3 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch54/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.454 W/kg

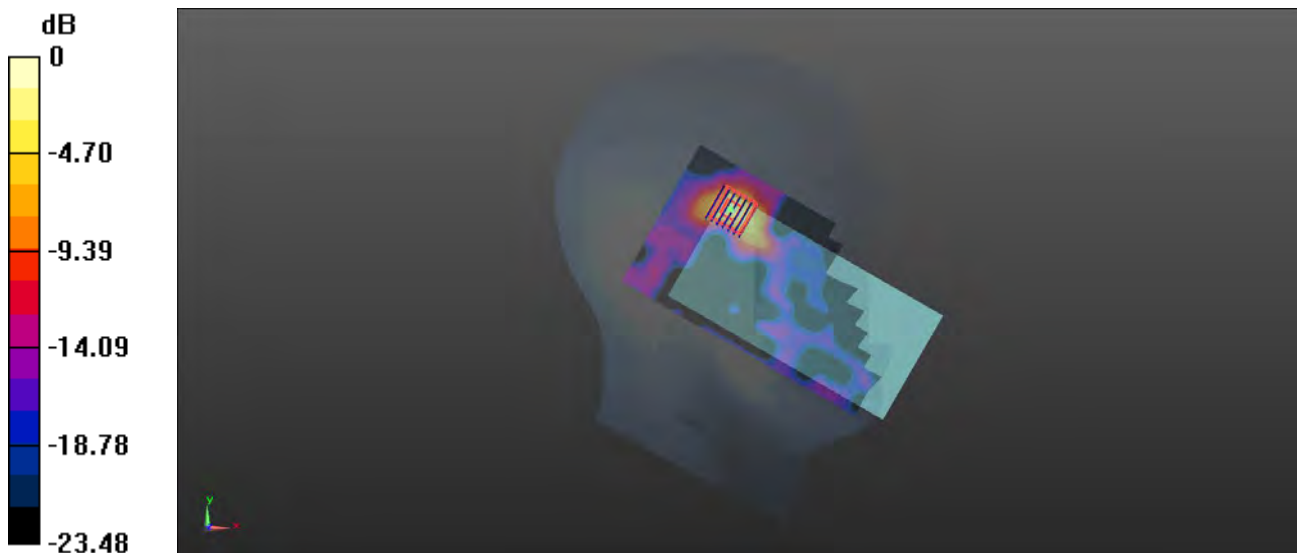
**Ch54/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.945 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 1.47 W/kg

**SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.136 W/kg**

Maximum value of SAR (measured) = 0.774 W/kg



0 dB = 0.774 W/kg

**MEAS.40 Left Head with Cheek on Channel 134 in IEEE802.11n(HT40) mode**

Date: 2019.12.30

Communication System Band: WLAN(n)40Mhz; Frequency: 5670 MHz;Duty Cycle: 1:1.041

Medium parameters used (interpolated):  $f = 5670$  MHz;  $\sigma = 5.283$  S/m;  $\epsilon_r = 34.357$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.5 Liquid Temperature:20.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.8, 4.8, 4.8); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch134/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.562 W/kg

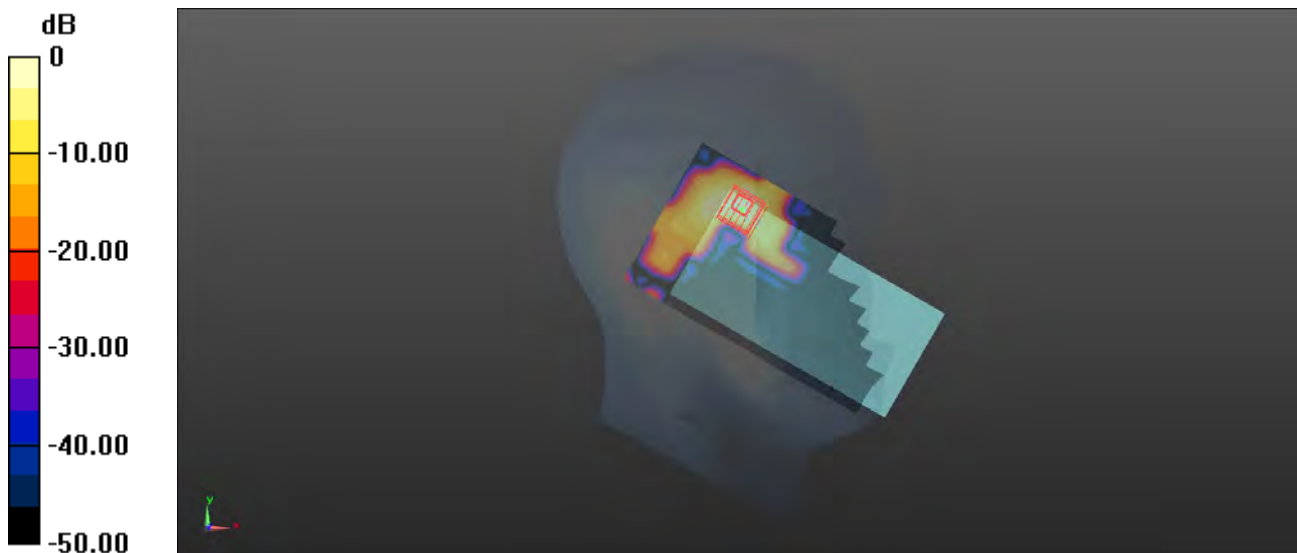
**Ch134/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.230 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 1.89 W/kg

**SAR(1 g) = 0.471 W/kg; SAR(10 g) = 0.161 W/kg**

Maximum value of SAR (measured) = 0.924 W/kg



0 dB = 0.924 W/kg

**MEAS.41 Left Head with Cheek on Channel 155 in IEEE802.11ac(VHT80) mode**

Date: 2019.12.31

Communication System Band: WLAN(ac) 80Mhz; Frequency: 5775 MHz;Duty Cycle: 1:1.082

Medium parameters used (interpolated):  $f = 5775$  MHz;  $\sigma = 5.374$  S/m;  $\epsilon_r = 35.514$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.0 Liquid Temperature:20.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.06, 5.06, 5.06); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.334 W/kg

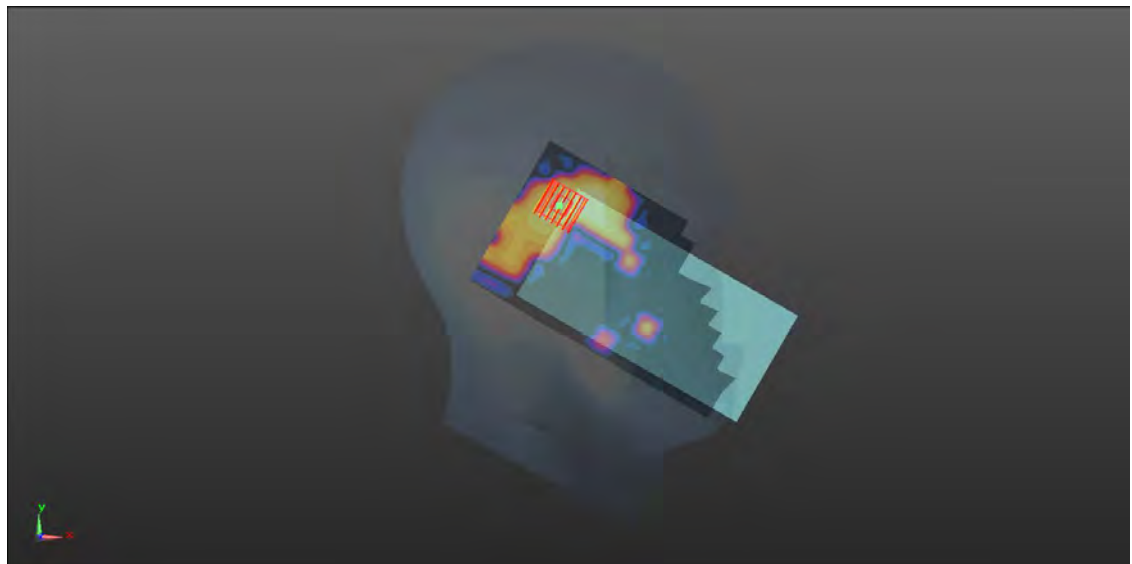
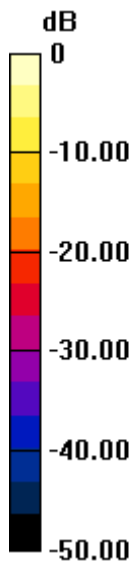
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.419 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.283 W/kg; SAR(10 g) = 0.090 W/kg**

Maximum value of SAR (measured) = 0.631 W/kg



0 dB = 0.631 W/kg

**MEAS.42 Body Plane with Back Side 15mm on Channel 62 in IEEE802.11n(HT40) mode**

Date: 2019.12.31

Communication System Band: WLAN(n)40Mhz; Frequency: 5310 MHz;Duty Cycle: 1:1.041

Medium parameters used:  $f = 5310$  MHz;  $\sigma = 4.822$  S/m;  $\epsilon_r = 34.876$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flatt Section

Ambient Temperature:22.3 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch62/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.165 W/kg

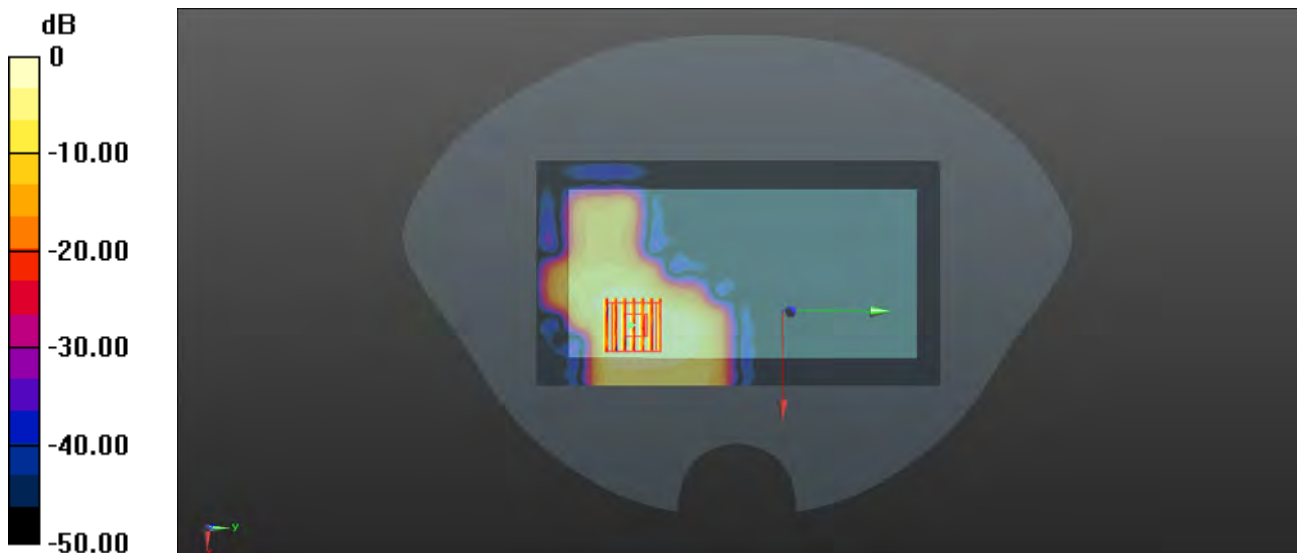
**Ch62/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.035 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.582 W/kg

**SAR(1 g) = 0.168 W/kg; SAR(10 g) = 0.061 W/kg**

Maximum value of SAR (measured) = 0.318 W/kg



0 dB = 0.318 W/kg



**MEAS.43 Body Plane with Back Side 15mm on Channel 134 in IEEE802.11n(HT40) mode**

Date: 2019.12.30

Communication System Band: WLAN(n)40Mhz; Frequency: 5670 MHz;Duty Cycle: 1:1.041

Medium parameters used (interpolated):  $f = 5670$  MHz;  $\sigma = 5.283$  S/m;  $\epsilon_r = 34.357$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:20.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.8, 4.8, 4.8); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch134/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.180 W/kg

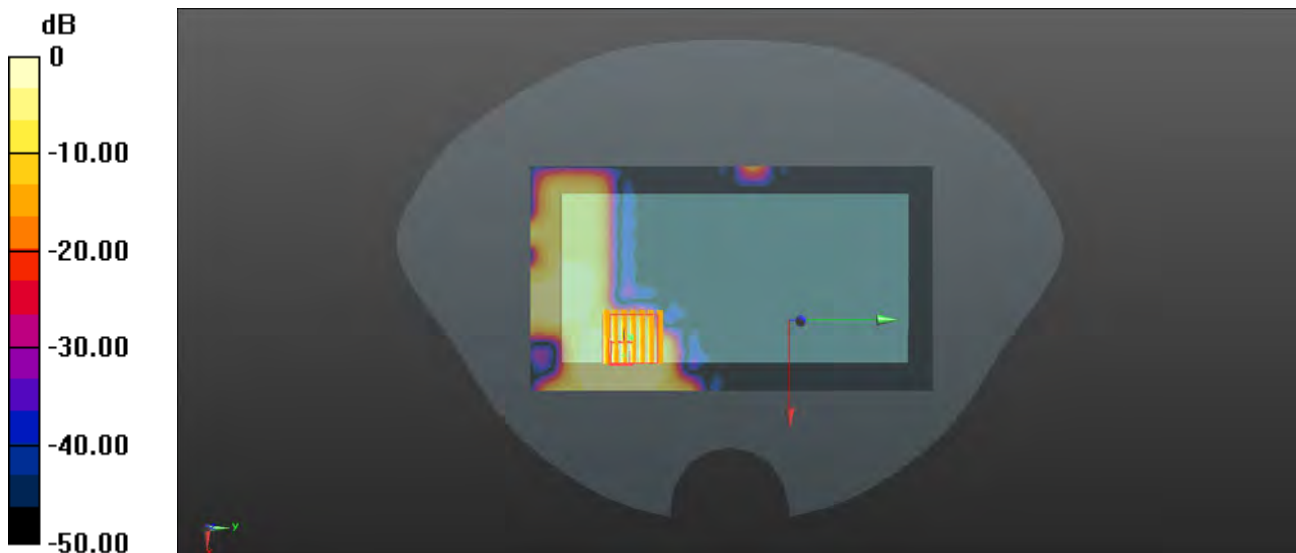
**Ch134/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.522 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.647 W/kg

**SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.053 W/kg**

Maximum value of SAR (measured) = 0.329 W/kg



0 dB = 0.329 W/kg

**MEAS.44 Body Plane with Back Side 15mm on Channel 155 in IEEE802.11ac(VHT80) mode**

Date: 2019.12.31

Communication System Band: WLAN(ac) 80Mhz; Frequency: 5775 MHz;Duty Cycle: 1:1.082

Medium parameters used (interpolated):  $f = 5775$  MHz;  $\sigma = 5.374$  S/m;  $\epsilon_r = 35.514$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.0 Liquid Temperature:20.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.06, 5.06, 5.06); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.124 W/kg

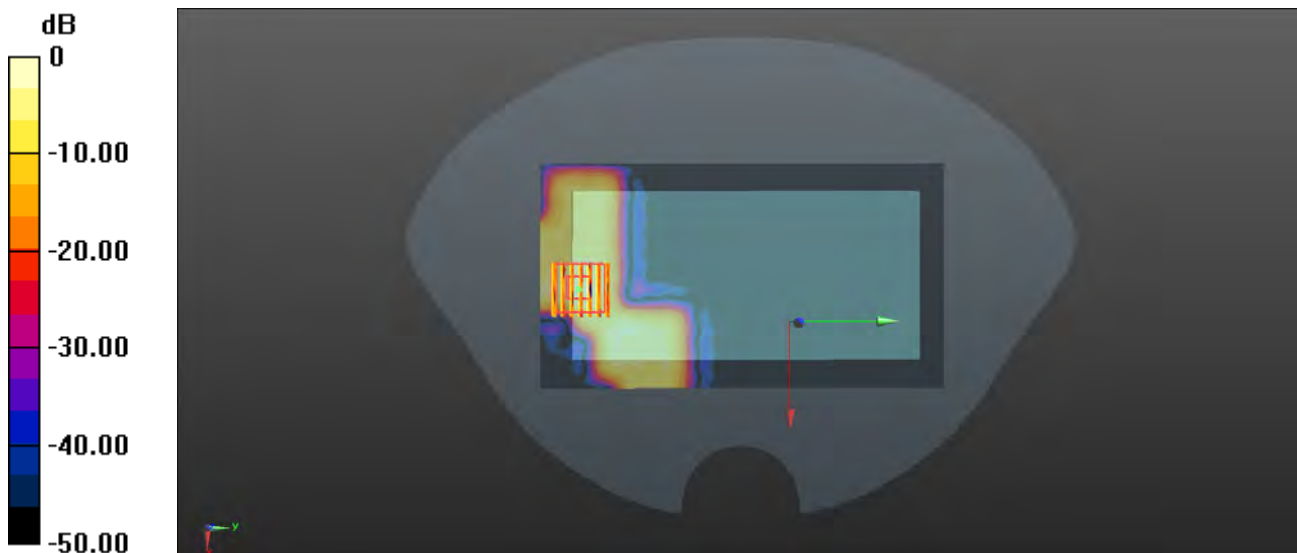
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.7930 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.409 W/kg

**SAR(1 g) = 0.086 W/kg; SAR(10 g) = 0.028 W/kg**

Maximum value of SAR (measured) = 0.187 W/kg



0 dB = 0.187 W/kg

**MEAS.45 Body Plane with Back Side 10mm on Channel 38 in IEEE802.11n(HT40) mode**

Date: 2019.12.31

Communication System Band: WLAN(n)40Mhz; Frequency: 5190 MHz;Duty Cycle: 1:1.041

Medium parameters used:  $f = 5190$  MHz;  $\sigma = 4.561$  S/m;  $\epsilon_r = 35.697$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flatt Section

Ambient Temperature:22.3 Liquid Temperature:21.3

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch38/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.350 W/kg

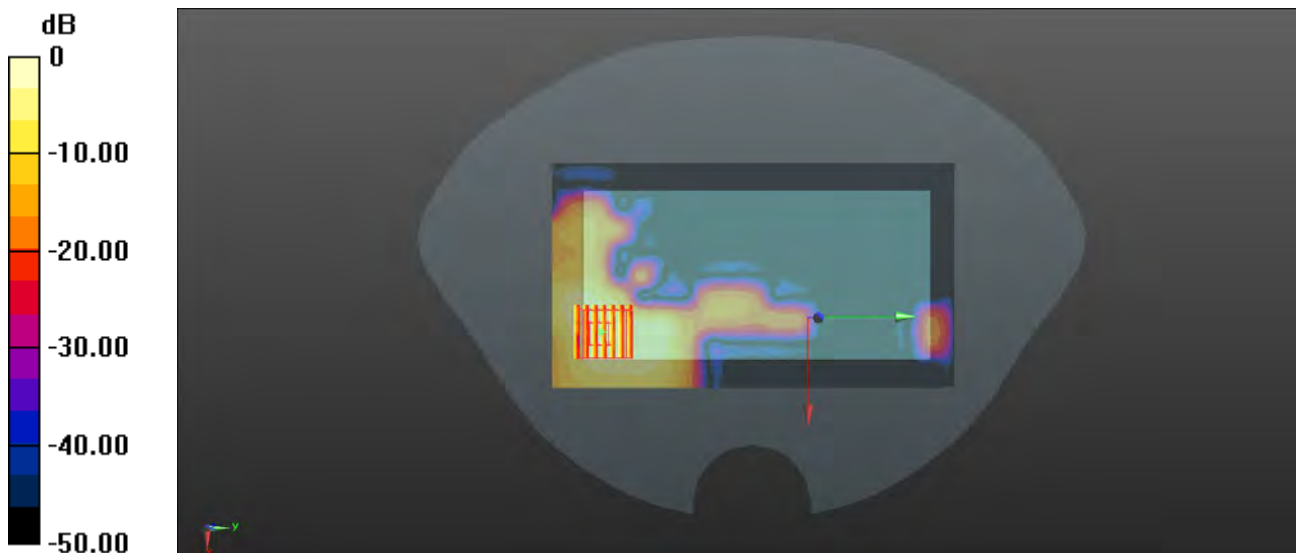
**Ch38/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.230 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.348 W/kg; SAR(10 g) = 0.130 W/kg**

Maximum value of SAR (measured) = 0.644 W/kg



0 dB = 0.644 W/kg

**MEAS.46 Body Plane with Back Side 15mm on Channel 155 in IEEE802.11ac(VHT80) mode**

Date: 2019.12.31

Communication System Band: WLAN(ac) 80MHz; Frequency: 5775 MHz;Duty Cycle: 1:1.082

Medium parameters used (interpolated):  $f = 5775$  MHz;  $\sigma = 5.374$  S/m;  $\epsilon_r = 35.514$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.0 Liquid Temperature:20.9

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.06, 5.06, 5.06); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch155/Area Scan (101x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.190 W/kg

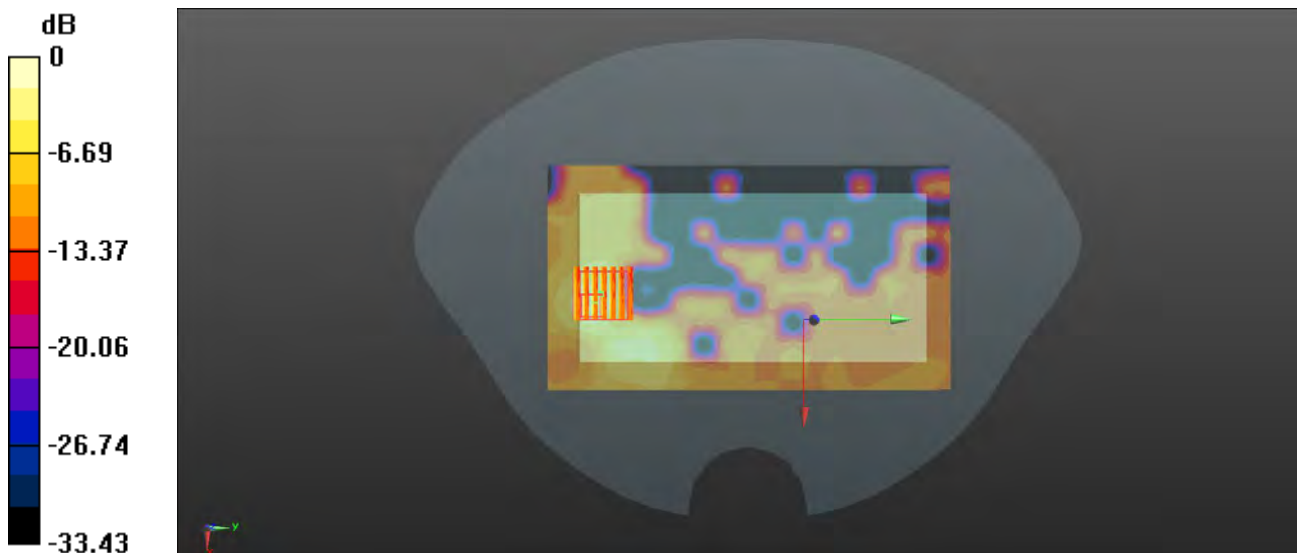
**Ch155/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 2.668 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.824 W/kg

**SAR(1 g) = 0.189 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.348 W/kg



0 dB = 0.348 W/kg

**MEAS.47 Body Plane with Top Edge 0mm on Channel 62 in IEEE802.11n(HT40) mode**

Date: 2020.01.04

Communication System Band: WLAN(n)40Mhz; Frequency: 5310 MHz;Duty Cycle: 1:1.041

Medium parameters used:  $f = 5310$  MHz;  $\sigma = 4.874$  S/m;  $\epsilon_r = 34.533$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:21.2

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(5.51, 5.51, 5.51); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch62/Area Scan (61x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.17 W/kg

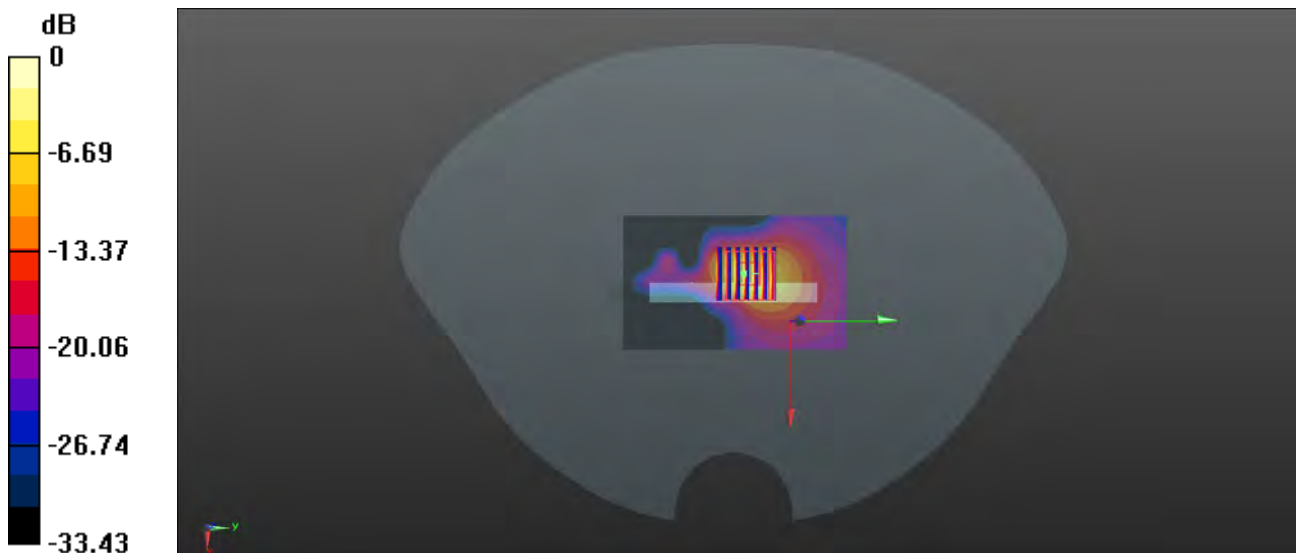
**Ch62/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 15.54 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 9.40 W/kg

**SAR(1 g) = 1.78 W/kg; SAR(10 g) = 0.477 W/kg**

Maximum value of SAR (measured) = 4.08 W/kg



0 dB = 4.08 W/kg

**MEAS.48 Body Plane with Top Edge 0mm on Channel 134 in IEEE802.11n(HT40) mode**

Date: 2019.12.30

Communication System Band: WLAN(n)40Mhz; Frequency: 5670 MHz;Duty Cycle: 1:1.041

Medium parameters used (interpolated):  $f = 5670$  MHz;  $\sigma = 5.283$  S/m;  $\epsilon_r = 34.357$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Ambient Temperature:22.5 Liquid Temperature:20.8

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(4.8, 4.8, 4.8); Calibrated: 2019.08.02;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 on left 1859; Type: QD000P40CD; Serial: TP:1859
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch134/Area Scan (61x101x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.45 W/kg

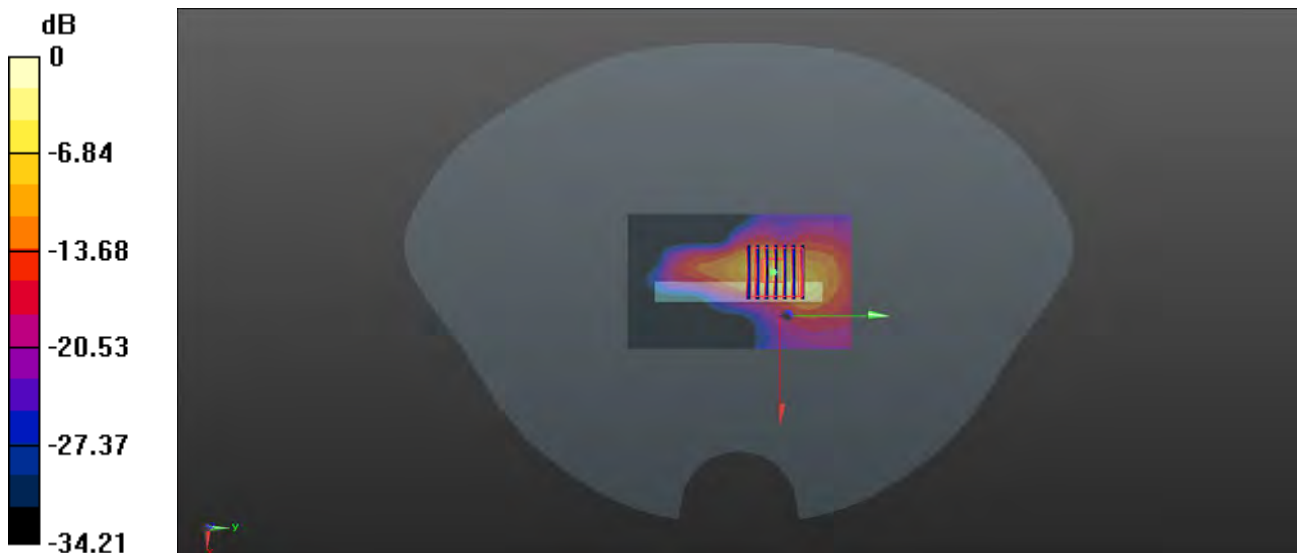
**Ch134/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 10.04 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 14.7 W/kg

**SAR(1 g) = 2.64 W/kg; SAR(10 g) = 0.648 W/kg**

Maximum value of SAR (measured) = 6.17 W/kg



0 dB = 6.17 W/kg

**MEAS.49 Left Head with Tilt on Low Channel in Bluetooth DH 5mode**

Date: 2019.12.28

Communication System Band: BT; Frequency: 2402 MHz; Duty Cycle: 1:1.298

Medium parameters used:  $f = 2402$  MHz;  $\sigma = 1.724$  S/m;  $\epsilon_r = 40.434$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch0/Area Scan (71x121x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.110 W/kg

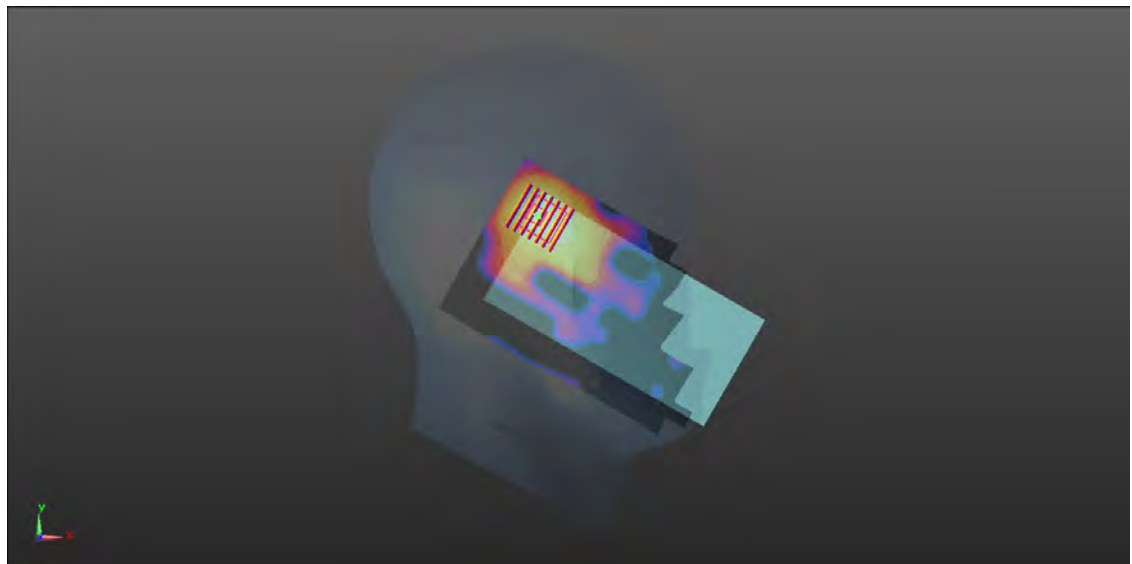
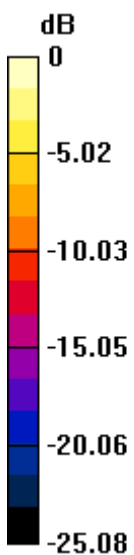
**Ch0/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.452 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.115 W/kg

**SAR(1 g) = 0.059 W/kg; SAR(10 g) = 0.023 W/kg**

Maximum value of SAR (measured) = 0.0648 W/kg



0 dB = 0.0648 W/kg

**MEAS.50 Body Plane with Back Side 15mm on Low Channel in Bluetooth DH5 mode**

Date: 2019.12.28

Communication System Band: BT; Frequency: 2402 MHz; Duty Cycle: 1:1.298

Medium parameters used:  $f = 2402$  MHz;  $\sigma = 1.724$  S/m;  $\epsilon_r = 40.434$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.5

## DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch0/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.0249 W/kg

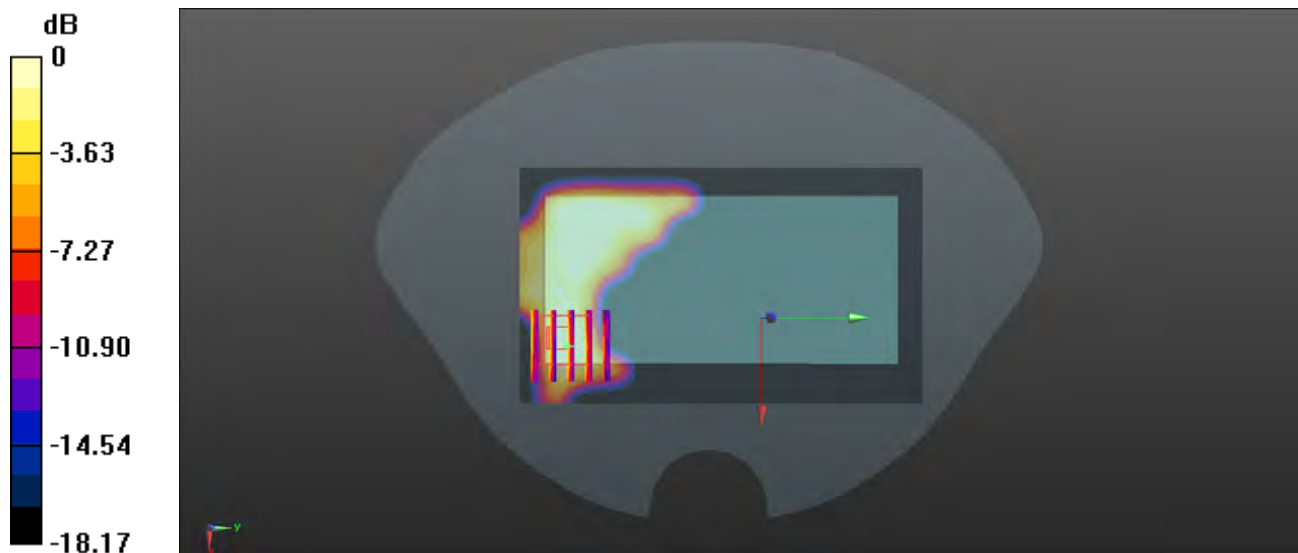
**Ch0/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.7310 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.0270 W/kg

**SAR(1 g) = 0.013 W/kg; SAR(10 g) = 0.00567 W/kg**

Maximum value of SAR (measured) = 0.0153 W/kg



0 dB = 0.0153 W/kg



**MEAS.51 Body Plane with Top Edge 10mm on Low Channel in Bluetooth DH5 mode**

Date: 2019.12.28

Communication System Band: BT; Frequency: 2402 MHz; Duty Cycle: 1:1.298

Medium parameters used:  $f = 2402$  MHz;  $\sigma = 1.724$  S/m;  $\epsilon_r = 40.434$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Left Section

Ambient Temperature:22.2 Liquid Temperature:21.5

DASY5 Configuration:

- Probe: EX3DV4 - SN7510; ConvF(7.81, 7.81, 7.81); Calibrated: 2019.08.02;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1454; Calibrated: 2019.08.02
- Phantom: SAM (30deg probe tilt) with CRP v5.0 Right 1857; Type: QD000P40CD; Serial: TP1857
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Ch0/Area Scan (51x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0302 W/kg

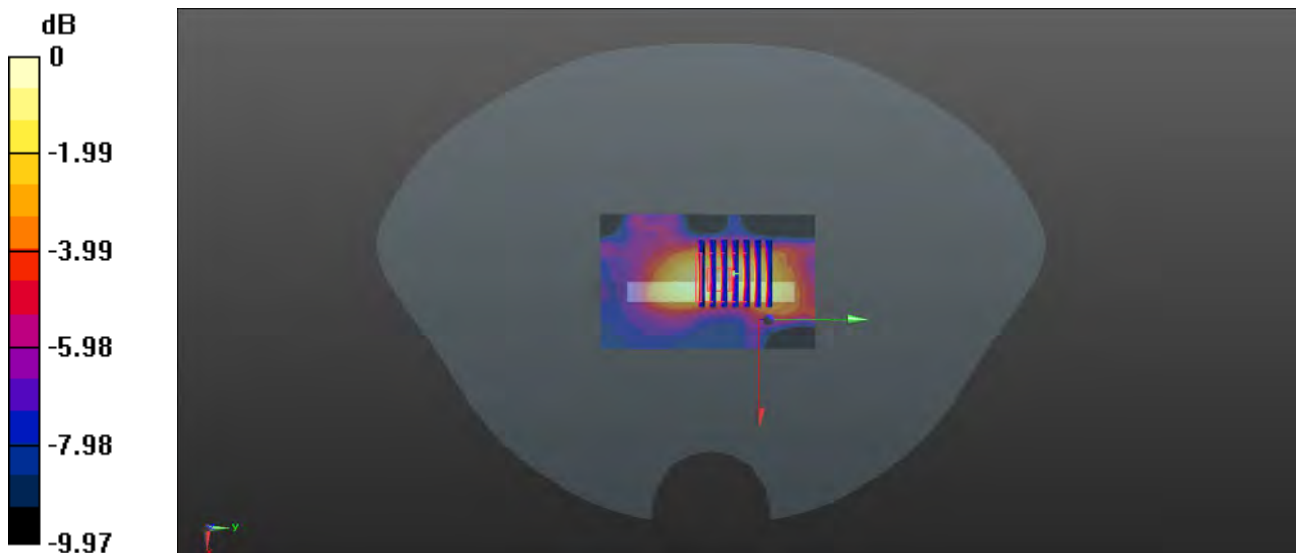
**Ch0/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.114 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.117 W/kg

**SAR(1 g) = 0.032 W/kg; SAR(10 g) = 0.015 W/kg**

Maximum value of SAR (measured) = 0.0331 W/kg



0 dB = 0.0331 W/kg

## **ANNEX D EUT EXTERNAL PHOTOS**

Please refer the document "BL-SZ19C0366-AW.pdf".

## **ANNEX E SAR TEST SETUP PHOTOS**

Please refer the document "BL-SZ19C0366-AS.pdf".

## **ANNEX F CALIBRATION REPORT**

Please refer the document "CALIBRATION REPORT.pdf".

--END OF REPORT--