

FCC SAR TEST REPORT

For

BOXCHIP CO.,LTD

Smart Terminal

Model No.: S900Plus, S900A_Plus, S900B_Plus, S1000, TVX-588d

FCC ID: 2AUUB-S900PLUS

Prepared For : **BOXCHIP CO.,LTD**

Address : Room 302, Building A, Huahan Technology, No. 16 Langshan Road,
Nanshan District, Shenzhen, China

Prepared By : Shenzhen Anbotech Compliance Laboratory Limited

Address : 1/F., Building1, SEC Industrial Park, No.0409 Qianhai Road, Nanshan
District, Shenzhen, Guangdong, China

Tel:(86)755-26066440 Fax:(86)755-26014772

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Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotech.com



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TEST REPORT

Applicant : BOXCHIP CO.,LTD
Manufacturer : BOXCHIP CO.,LTD
Product Name : Smart Terminal
Model No. : S900Plus
Trade Mark : BOXCHIP
Rating(s) : DC 3.8V from battery

Test Standard(s) : IEEE 1528-2013; IEC 62209-2:2010; ANSI/IEEE C95.1:2005; FCC 47 CFR Part 2 (2.1093:2013);

The device described above is tested by Shenzhen Anbotech Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotech Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the IEEE 1528-2013, IEC 62209-2:2010, FCC 47 CFR Part 2 (2.1093:2013), ANSI/IEEE C95.1:2005 requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotech Compliance Laboratory Limited.

Date of Test

Oct.17, 2019 ~ Nov.03, 2019

Prepared By



Bobby Wang

(Engineer/Bobby Wang)

Reviewer

Calvin Liss

(Supervisor / Calvin Liu)

Approved & Authorized Signer

Tom Chen

(Manager/TomChen)

Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotech.com

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Version

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1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing areas follows.

<Highest SAR Summary>

Frequency Band	Highest Reported 1g-SAR(W/Kg)			SAR Test Limit (W/Kg)
	Head	Body	Hotspot	
GSM 850	0.149	0.244	0.223	1.6
PCS 1900	0.061	0.197	0.175	1.6
WCDMA Band 2	0.066	0.298	0.228	1.6
WCDMA Band 5	0.107	0.368	0.340	1.6
LTE Band 2	0.048	0.167	0.152	1.6
LTE Band 4	0.042	0.197	0.190	1.6
LTE Band 5	0.161	0.331	0.320	1.6
LTE Band 7	0.363	0.488	0.463	1.6
LTE Band 12	0.322	0.261	0.247	1.6
LTE Band 13	0.288	0.262	0.235	1.6
LTE Band 17	0.123	0.471	0.452	1.6
LTE Band 26	0.187	0.226	0.213	1.6
WIFI 2.4G	0.479	0.433	0.421	1.6
WIFI 5.2G	0.301	0.236	0.223	1.6
WIFI 5.8G	0.370	0.185	0.173	1.6
PTT	0.538	0.713	N/A	8.0
Simultaneous SAR	Head		0.842	8.0
	Body		1.634	8.0
	Hotspot		0.884	1.6
Test Result	Pass			

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-2005, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013.

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotech.com

2. General Information

2.1 Client Information

Applicant:	BOXCHIP CO.,LTD
Address of Applicant:	Room 302, Building A, Huahan Technology, No. 16 Langshan Road, Nanshan District, Shenzhen, China
Manufacture:	BOXCHIP CO.,LTD
Address of Manufacture:	Room 302, Building A, Huahan Technology, No. 16 Langshan Road, Nanshan District, Shenzhen, China

2.2 Testing Laboratory Information

Test Site:	Shenzhen Anbotek Compliance Laboratory Limited
Address:	1/F., Building 1, SEC Industrial Park, No. 0409 Qianhai Road, Nanshan District, Shenzhen, Guangdong, China

2.3 Description of Equipment Under Test(EUT)

Product Name:	Smart Terminal
Model/Type reference:	S900Plus
Power supply:	DC 3.8V from battery
Hardware version:	TVH30_S900+_MB_V2.0
Software version:	V1.0
GSM	
Operation Band:	GSM850, PCS1900
Supported Type:	GSM/GPRS/EGPRS
Power Class:	GSM850:Power Class 4 PCS1900:Power Class 1
Modulation Type:	GMSK for GPRS, 8-PSK for EGPRS
GSM Release Version	R99
GPRS Multislot Class	12

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Antenna type:	FPC antenna
WCDMA	
Operation Band:	FDD Band II, FDD Band V
Power Class:	Power Class 3
Modulation Type:	QPSK for HSUPA/HSDPA
WCDMA Release Version:	Rel-5
HSDPA Category:	Category 14
HSUPA Category:	Category 6
Antenna type:	FPC antenna
LTE	
Operation Band:	E-UTRA Band 2, Band 4, band5, band7, band12, band13, band17, band26
Support Bandwidth:	Band 2: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 4: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 5: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, Band 7: ☒ 5MHz, ☒ 10MHz, ☒ 15MHz, ☒ 20MHz Band 12: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, Band 13: ☒ 5MHz, ☒ 10MHz Band 17: ☒ 5MHz, ☒ 10MHz Band 26: ☒ 1.4MHz, ☒ 3MHz, ☒ 5MHz, ☒ 10MHz, ☒ 15MHz
TX/RX Frequency Range:	Band 2: 1850MHz-1910MHz/1930MHz-1990MHz Band 4: 1710MHz-1755MHz/2110MHz-2155MHz Band 5: 824MHz-849MHz/869MHz-894MHz Band 7: 2500MHz-2570MHz/2620MHz-2690MHz Band 12: 699MHz-716MHz/729MHz-746MHz Band 13: 777MHz-787MHz/746MHz-756MHz Band 17: 704MHz-716 MHz/734MHz-746MHz Band 26: 814MHz-849MHz/859MHz-894MHz
Modulation Type:	QPSK, 16QAM
Release Version:	Release 9
Category:	Cat 4
Antenna Type:	FPC antenna
WIFI 2.4G	
Supported type:	802.11b/802.11g/802.11n(H20)/802.11n(H40)

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Modulation:	802.11b: DSSS 802.11g/802.11n(H20)/ 802.11n(H40):OFDM			
Operation frequency:	802.11b/802.11g/802.11n(H20): 2412MHz~2462MHz 802.11n(H40): 2422MHz~2452MHz			
Channel number:	802.11b/802.11g/802.11n(H20): 11 802.11n(H40): 7			
Channel separation:	5MHz			
Antenna type:	FPC antenna			
Antenna gain:	0.5 dBi			
WIFI 5G				
Supported type:	20MHz system	40MHz system	80MHz system	160MHz system
	802.11a 802.11n	802.11n	N/A	N/A
Operation frequency:	5180 - 5240MHz 5745 - 5825MHz	5190 - 5230MHz 5755MHz-5795MHz	N/A	N/A
Modulation:	OFDM	OFDM	N/A	N/A
Channel number:	9	4	N/A	N/A
Channel separation:	20MHz	40MHz	N/A	N/A
Antenna type:	FPC antenna			
Antenna gain:	1.0dBi			
Bluetooth				
Supported Type:	Bluetooth BR/EDR			
Modulation:	GFSK, π /4DQPSK, 8DPSK			
Operation frequency:	2402MHz~2480MHz			
Channel number:	79			
Channel separation:	1MHz			
Antenna type:	FPC antenna			
Antenna gain:	0.5dBi			
Bluetooth LE				
Supported type:	Bluetooth low Energy			
Modulation:	GFSK			

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Operation frequency:	2402MHz to 2480MHz
Channel number:	40
Channel separation:	2 MHz
Antenna type:	FPC antenna
Antenna gain:	0.5dBi
NFC	
Operation frequency:	13.56MHz
Modulation :	ASK
No. ofChannel :	1
Antenna type:	Loop Antenna
PMR	
Frequency Range	From 136 MHz to 174 MHz
Rate Power	High power 5W and Low power 1W
Modulation Type	FM/4FSK
Channel Separation	Analog:12.5KHz&25Hz Digital: 12.5KHz
Antenna Type	External antenna

2.4 Device Category and SAR Limits

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. according to 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).

It specifies the maximum exposure limit of 1.6 W/kg as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

2.5 Applied Standard

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- IEEE 1528-2013
- FCC 47 CFR Part 2 (2.1093:2013)
- ANSI/IEEE C95.1:2005
- IEC 62209-2:2010

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- IEC 62209-2:2010
- KDB 248227 D01
- KDB 447498 D01
- KDB 616217 D04
- KDB 648474 D04
- KDB 865664 D01
- KDB 941225 D01
- KDB 941225 D06
- KDB 941225 D07

2.6 Environment of Test Site

Items	Required	Actual
Temperature (°C)	18-25	22~23
Humidity (%RH)	30-70	55~65

2.7 Test Configuration

The device was controlled by using a base station emulator. Communication between the device and the emulator was established by air link. The distance between the EUT and the antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during all tests. For WLAN SAR testing, WLAN engineering testing software installed on the EUT can provide continuous transmitting RF signal.

3. Specific Absorption Rate (SAR)

3.1 Introduction

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

3.2 SAR Definition

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

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

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

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

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

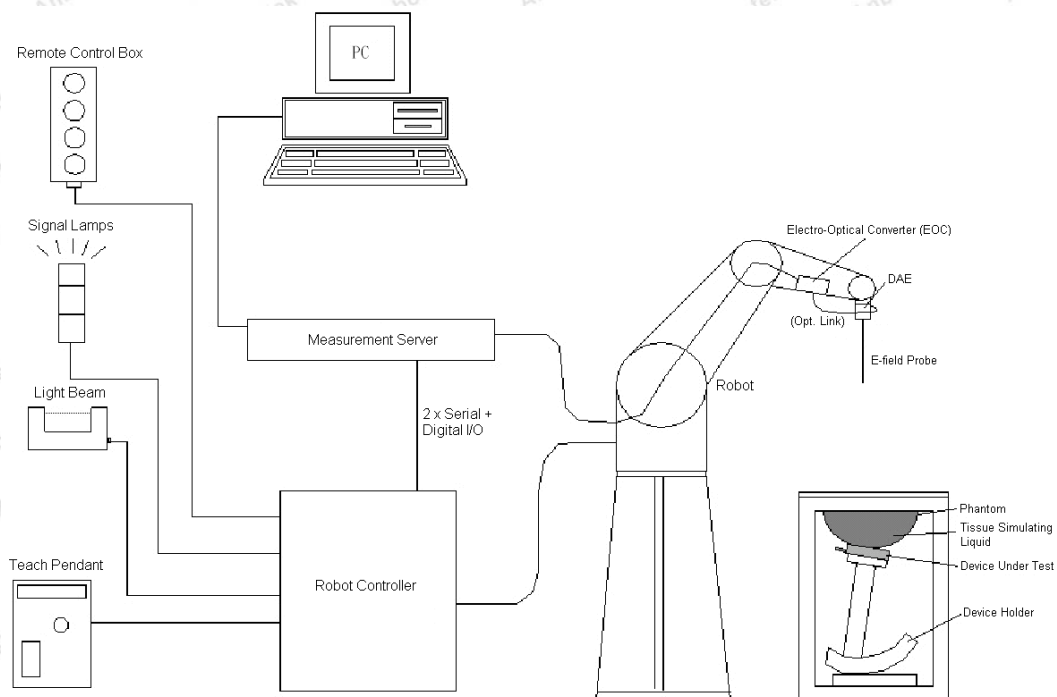
Where: C is the specific heat capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.

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

4. SAR Measurement System



DASY System Configurations

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

- A standard high precision 6-axis robot with controller, a teach pendant and software
- A data acquisition electronic (DAE) attached to the robot arm extension
- A dosimetric probe equipped with an optical surface detector system
- The electro-optical converter (EOC) performs the conversion between optical and electrical signals
- A measurement server performs the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- A probe alignment unit which improves the accuracy of the probe positioning
- A computer operating Windows XP
- DASY software
- Remote control with teach pendant and additional circuitry for robot safety such as warming lamps, etc.
- The SAM twin phantom
- A device holder
- Tissue simulating liquid
- Dipole for evaluating the proper functioning of the system

components are described in details in the following sub-sections.

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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4.1 E-Field Probe

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

➤ E-Field Probe Specification

<EX3DV4 Probe>

Construction	Symmetrical design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	 Photo of EX3DV4
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB	
Directivity	± 0.3 dB in HSL (rotation around probe axis) ± 0.5 dB in tissue material (rotation normal to probe axis)	
Dynamic Range	10 μ W/g to 100 mW/g; Linearity: ± 0.2 dB (noise: typically < 1 μ W/g)	
Dimensions	Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

➤ E-Field Probe Calibration

Each probe needs to be calibrated according to a dosimetric assessment procedure with accuracy better than $\pm 10\%$. The spherical isotropy shall be evaluated and within ± 0.25 dB. The sensitivity parameters (NormX, NormY, and NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested. The calibration data can be referred to appendix C of this report.

4.2 Data Acquisition Electronics (DAE)

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

The input impedance of the DAE is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80dB.

**Photo of DAE**

4.3 Robot

The SPEAG DASY system uses the high precision robots (DASY5: TX60XL) type from Stäubli SA (France). For the 6-axis controller system, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability ± 0.035 mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)

**Photo of DASY5**

4.4 Measurement Server

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

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The measurement server performs all the real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operations.



Photo of Server for DASY5

4.5 Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



Photo of SAM Phantom

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. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI4 Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis:400 mm



Photo of ELI4 Phantom

The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the

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Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com


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frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

4.6 Device Holder

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

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

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



Device Holder

4.7 Data Storage and Evaluation

➤ Data Storage

The DASY software stores the assessed data from the data acquisition electronics as raw data (in microvolt readings from the probe sensors), together with all the necessary software parameters for the data evaluation (probe calibration data, liquid parameters and device frequency and modulation data) in measurement files. The post-processing software evaluates the desired unit and format for output each time the data is visualized or exported. This allows verification of the complete software setup even after the measurement and allows correction of erroneous parameter settings. For example, if a measurement has been performed with an incorrect crest factor parameter in the device setup, the parameter can be corrected afterwards and the data can be reevaluated.

The measured data can be visualized or exported in different units or formats, depending on the selected probe type (e.g., [V/m], [A/m], [mW/g]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-loss media, will always be zero. Raw data can also be exported to perform the evaluation with other software packages.

➤ Data Evaluation

The DASY post-processing software (SEMCAD) automatically executes the following procedures to calculate the field units from the microvolt readings at the probe connector. The parameters used in the evaluation are stored in the configuration modules of the software:

Probe parameters:	- Sensitivity	$\text{Norm}_i, a_{i0}, a_{i1}, a_{i2}$
	- Conversion factor	ConvF_i
	- Diode compression point	dcp_i
Device parameters:	- Frequency	f
	- Crest factor	cf
Media parameters:	- Conductivity	σ
	- Density	ρ

These parameters must be set correctly in the software. They can be found in the component documents or they can be imported into the software from the configuration files issued for the DASY components. In the direct measuring mode of the multi-meter option, the parameters of the actual system setup are used. In the scan visualization and export modes, the parameters stored in the corresponding document files are used.

The first step of the evaluation is a linearization of the filtered input signal to account for the compression characteristics of the detector diode. The compensation depends on the input signal, the diode type and the DC-transmission factor from the diode to the evaluation electronics. If the exciting field is pulsed, the crest factor of the signal must be known to correctly compensate for peak power.

The formula for each channel can be given as:

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$$V_i = U_i + U_i^2 \cdot \frac{cf}{dcp_i}$$

with V_i = compensated signal of channel i, (i = x, y, z)

U_i = input signal of channel i, (i = x, y, z)

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

From the compensated input signals, the primary field data for each channel can be evaluated:

$$\text{E-field Probes: } E_i = \sqrt{\frac{V_i}{\text{Norm}_i \cdot \text{ConvF}}}$$

$$\text{H-field Probes: } H_i = \sqrt{V_i \cdot \frac{a_{i0} + a_{i1}f + a_{i2}f^2}{f}}$$

with V_i = compensated signal of channel i, (i = x, y, z)

Norm_i = sensor sensitivity of channel i, (i = x, y, z), $\mu\text{V}/(\text{V/m})^2$ for E-field Probes

ConvF = sensitivity enhancement in solution

a_{ij} = sensor sensitivity factors for H-field probes

f = carrier frequency [GHz]

E_i = electric field strength of channel i in V/m

H_i = magnetic field strength of channel i in A/m

The RSS value of the field components gives the total field strength (Hermitian magnitude):

$$E_{\text{tot}} = \sqrt{E_x^2 + E_y^2 + E_z^2}$$

The primary field data are used to calculate the derived field units.

$$\text{SAR} = E_{\text{tot}}^2 \cdot \frac{\sigma}{\rho \cdot 1000}$$

with SAR = local specific absorption rate in mW/g

E_{tot} = total field strength in V/m

σ = conductivity in [mho/m] or [Siemens/m]

ρ = equivalent tissue density in g/cm³

Note that the density is set to 1, to account for actual head tissue density rather than the density of the tissue simulating liquid.

5. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	150MHz System Validation Kit	D150V2	4020	Nov. 08, 2016	Nov. 07, 2019
SPEAG	835MHz System Validation Kit	D835V2	4d154	Jun. 16, 2018	Jun. 15, 2021
SPEAG	1750MHz System Validation Kit	D1750V2	1021	Jul. 03, 2019	Jul. 02, 2022
SPEAG	1900MHz System Validation Kit	D1900V2	5d175	Jun. 15, 2019	Jun. 14, 2022
SPEAG	2450MHz System Validation Kit	D2450V2	910	Jun. 15, 2018	Jun. 14, 2021
SPEAG	2600MHz System Validation Kit	D2600V2	1058	Jun. 19, 2018	Jun. 18, 2021
SPEAG	750MHz System Validation Kit	D750V3	1163	Sep. 03, 2019	Sep. 02, 2022
SPEAG	5000MHz System Validation Kit	D5GHzV2	1003	Mar. 13, 2018	Mar. 12, 2021
SPEAG	Data Acquisition Electronics	DAE4	1549	Mar. 19, 2019	Mar. 18, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7396	May. 06, 2019	May. 05, 2020
SPEAG	Dosimetric E-Field Probe	ES3DV3	3337	Jul. 23, 2019	Jul. 22, 2020
Agilent	ENA Series Network Analyzer	E5071C	MY46317418	Jun. 11, 2019	Jun. 10, 2020
SPEAG	DAK	DAK-3.5	1226	NCR	NCR
SPEAG	ELI Phantom	QDOVA004AA	2058	NCR	NCR
AR	Amplifier	ZHL-42W	QA1118004	NCR	NCR
Agilent	Power Meter	N1914A	MY50001102	Dec. 06, 2018	Nov. 06, 2019
Agilent	Power Sensor	N8481H	MY51240001	Dec. 06, 2018	Nov. 06, 2019
R&S	Spectrum Analyzer	N9020A	MY51170037	Dec. 06, 2018	Nov. 06, 2019
Agilent	Signal Generation	N5182A	MY48180656	Dec. 06, 2018	Nov. 06, 2019
Worken	Directional Coupler	0110A05601O-10	COM5BNW1A2	Dec. 06, 2018	Nov. 06, 2019

Note:

1. The calibration certificate of DASY can be referred to appendix C of this report.
2. The dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The Insertion Loss calibration of Dual Directional Coupler and Attenuator were characterized via the network analyzer and compensated during system check.
4. The dielectric probe kit was calibrated via the network analyzer, with the specified procedure (calibrated in pure water) and calibration kit (standard) short circuit, before the dielectric measurement. The specific procedure and calibration kit are provided by Agilent.
5. In system check we need to monitor the level on the power meter, and adjust the power amplifier level to have precise power level to the dipole; the measured SAR will be normalized to 1W input power according to the ratio of 1W to the input power to the dipole. For system check, the calibration of the power amplifier is deemed not critically required for correct measurement; the power meter is critical and we do have calibration for it

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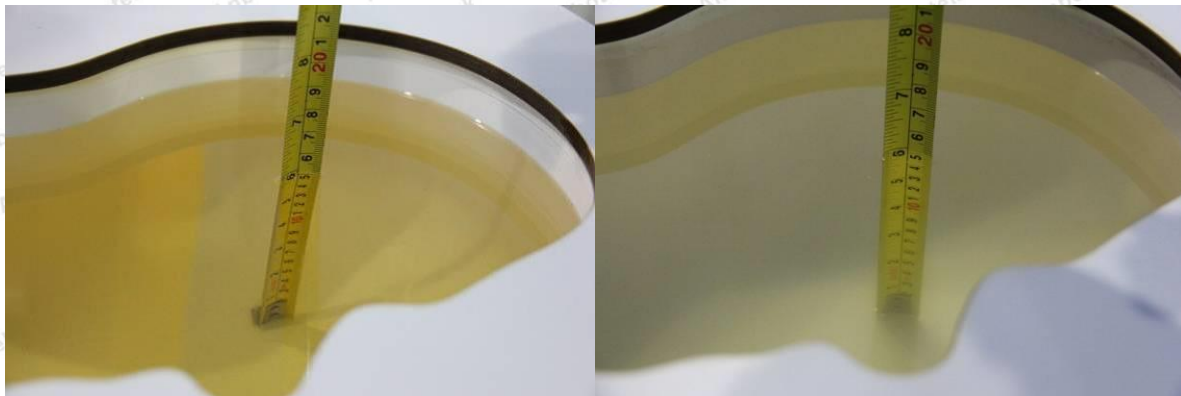
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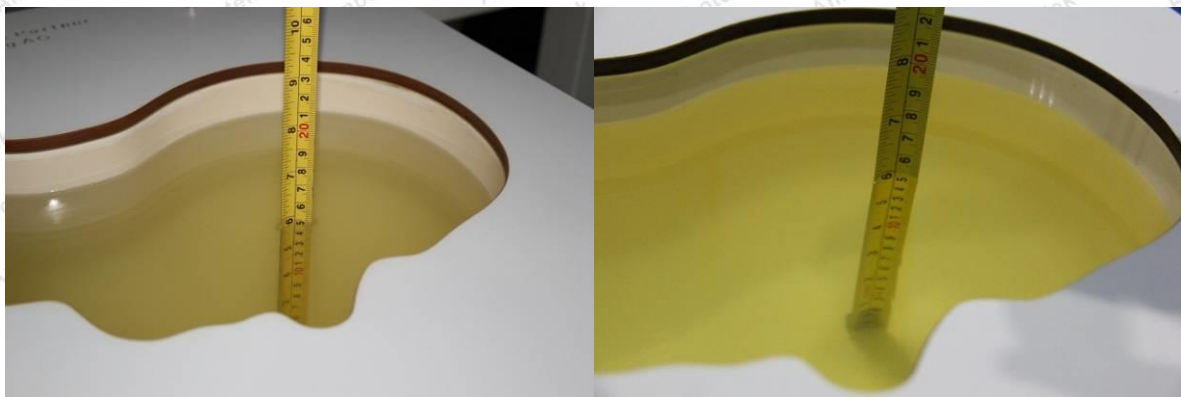
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6. Tissue Simulating Liquids

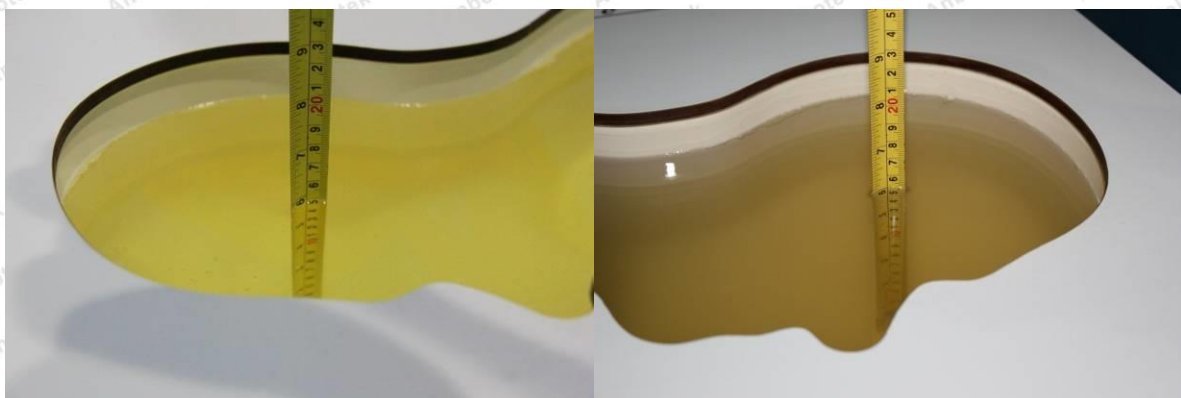
For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 6.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown as followed:



Liquid depth in the Head Phantom (750MHz) Liquid depth in the Head Phantom (835MHz)



Liquid depth in the Head Phantom (1750MHz) Liquid depth in the Head Phantom (1900MHz)



Liquid depth in the Head Phantom (2450MHz) Liquid depth in the Head Phantom (2600MHz)

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Liquid depth in Body Phantom (5000MHz)

Liquid depth in Body Phantom (150MHz)

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ϵ_r)
For Head								
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1750	55.2	0	0	0.3	0	44.5	1.37	40.1
1800,1900,2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
For Body								
900	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1750	70.2	0	0	0.4	0	29.4	1.49	53.4
1800,1900,2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7

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The following table shows the measuring results for simulating liquid.

Dielectric Performance of Tissue Simulating Liquid

Tissue Type	Measured Frequency (MHz)	Target Tissue		Measured Tissue				Liquid Temp.	Test Data
		σ	ϵ_r	σ	Dev. ($\pm 5\%$)	ϵ_r	Dev. ($\pm 5\%$)		
150H	150	0.76	52.3	0.74	-2.63%	51.22	-2.07%	22.2	10/26/2019
750H	750	0.89	41.9	0.87	-2.25%	41.87	-0.07%	22.2	10/21/2019
835H	900	0.90	41.5	0.95	5.56%	42.32	1.98%	22.3	10/22/2019
1750H	1750	1.37	40.1	1.39	1.46%	39.84	-0.65%	22.8	10/23/2019
1900H	1900	1.40	40.0	1.35	-3.57%	40.15	0.37%	22.6	10/23/2019
2450H	2450	1.80	39.2	1.76	-2.22%	38.93	-0.69%	22.4	10/24/2019
2600H	2600	1.96	39.0	1.89	-3.57%	38.55	-1.15%	22.3	10/24/2019
5200H	5200	4.66	36.0	4.52	-3.00%	35.89	-0.31%	22.2	10/25/2019
5800H	5750	5.27	35.3	5.24	-0.57%	35.21	-0.25%	22.2	10/25/2019
150B	150	0.80	61.9	0.76	-5.00%	61.79	-0.18%	22.2	10/26/2019
750B	750	0.96	55.5	0.94	-2.08%	55.18	-0.58%	22.4	10/21/2019
835B	900	0.97	55.2	0.95	-2.06%	54.78	-0.76%	22.6	10/22/2019
1750B	1750	1.49	53.4	1.46	-2.01%	54.19	1.48%	22.4	10/23/2019
1900B	1900	1.52	53.3	1.55	1.97%	53.32	0.04%	22.6	10/23/2019
2450B	2450	1.95	52.7	1.95	0.00%	50.69	-3.81%	22.7	10/24/2019
2600B	2600	2.16	52.5	2.20	1.85%	51.41	-2.08%	22.5	10/24/2019
5200B	5200	5.30	49.0	5.38	1.51%	47.90	-2.24%	22.2	10/25/2019
5800B	5750	6.00	48.2	5.82	-3.00%	49.04	1.74%	22.2	10/25/2019

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7. System Verification Procedures

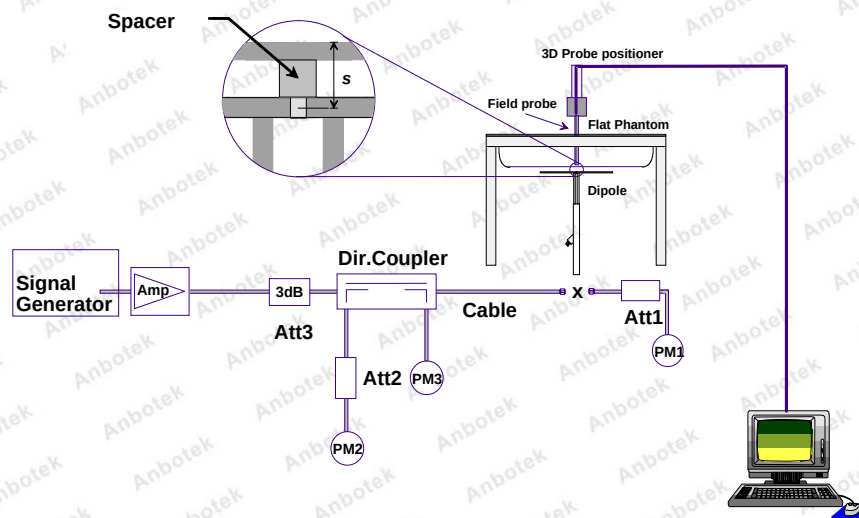
Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix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

➤ Purpose of System Performance check

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

➤ System Setup

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



System Setup for System Evaluation

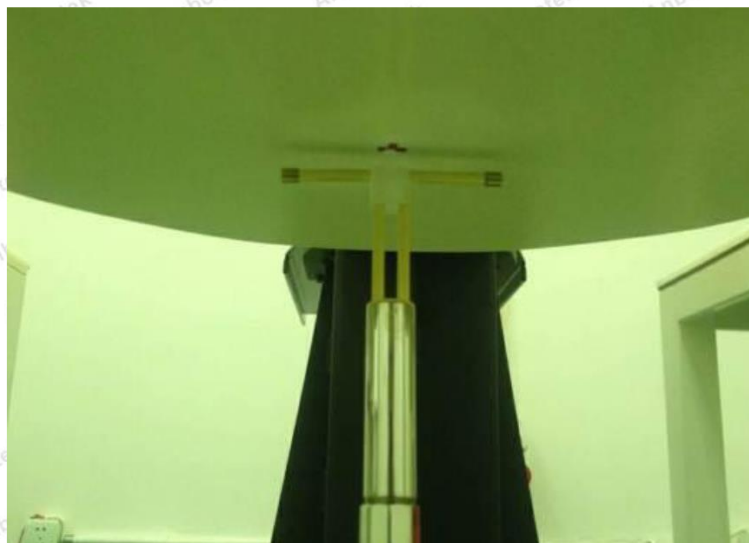


Photo of Dipole Setup

➤ Validation Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. The table below shows the target SAR and measured SAR after normalized to 1W input power. It indicates that the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Frequency (MHz)	Liquid Type	Power fed onto reference dipole (mW)	Targeted SAR (W/kg)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)	Date
150H	Head	100	3.64	0.361	3.61	-0.82%	10/26/2019
750H	Head	250	8.53	2.15	8.60	0.82%	10/21/2019
835H	Head	250	9.24	2.32	9.28	0.43%	10/22/2019
1750H	Head	250	36.9	9.24	36.96	0.16%	10/23/2019
1900H	Head	250	40.4	10.12	40.48	0.20%	10/23/2019
2450H	Head	250	52.4	13.08	52.32	-0.15%	10/24/2019
2600H	Head	250	57.2	14.27	57.08	-0.21%	10/24/2019
5200H	Head	100	80.6	8.04	80.40	-0.25%	10/25/2019
5800H	Head	100	78.4	7.86	78.60	0.26%	10/25/2019
150B	Body	100	3.81	0.377	3.77	-1.05%	10/26/2019
750B	Body	250	8.78	2.22	8.88	1.14%	10/21/2019
835B	Body	250	9.57	2.41	9.64	0.73%	10/22/2019
1750B	Body	250	36.7	9.16	36.64	-0.16%	10/23/2019
1900B	Body	250	40.1	10.04	40.16	0.15%	10/23/2019
2450B	Body	250	51.8	12.93	51.72	-0.15%	10/24/2019
2600B	Body	250	56.8	14.22	56.88	0.14%	10/24/2019

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5200B	Body	100	73.6	7.37	73.70	0.14%	10/25/2019
5800B	Body	100	73.9	7.41	74.10	0.27%	10/25/2019

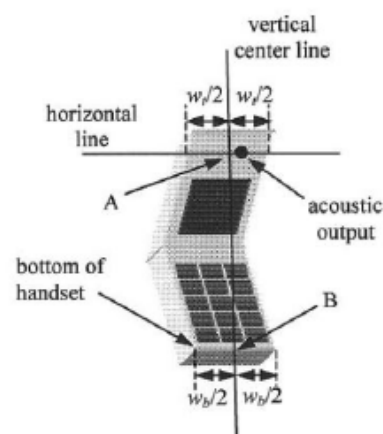
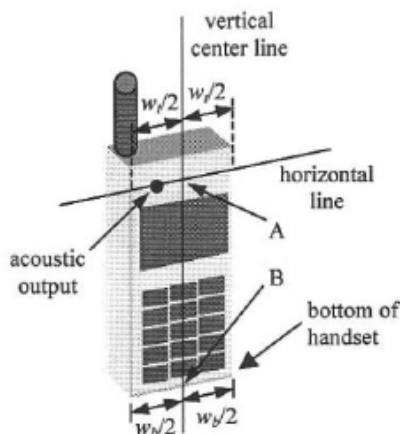
Note:

1. The graph results see system check.
2. Target Values used derive from the calibration certificate.

8. EUT Testing Position

8.1. Define two imaginary lines on the handset

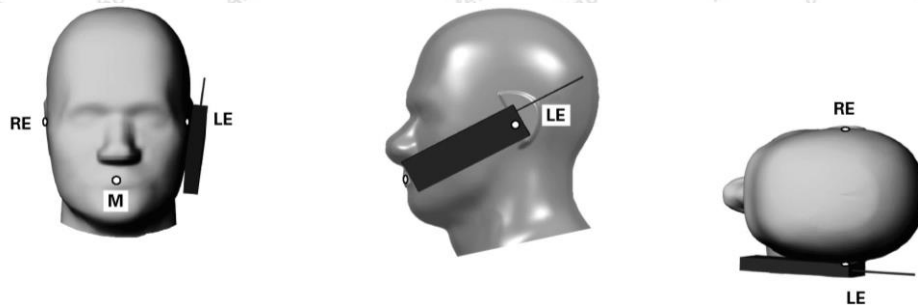
- The vertical centerline passes through two points on the front side of the handset - the midpoint of the width w_t of the handset at the level of the acoustic output, and the midpoint of the width w_b of the bottom of the handset.
- The horizontal line is perpendicular to the vertical centerline and 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 centerline is not necessarily parallel to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



Handset Vertical and Horizontal Reference Lines

8.2. Position for Cheek/Touch

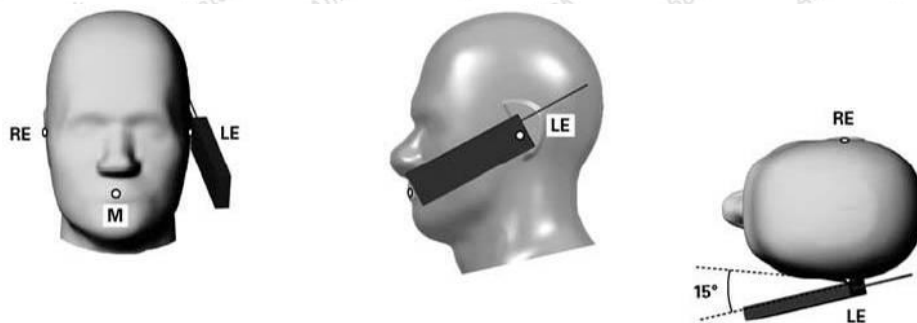
- To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the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



Cheek Position

8.3. Position for Ear / 15° Tilt

- To position the device in the “cheek” position described above.
- While maintaining the device the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until contact with the ear is lost (see Fig. 8.3).

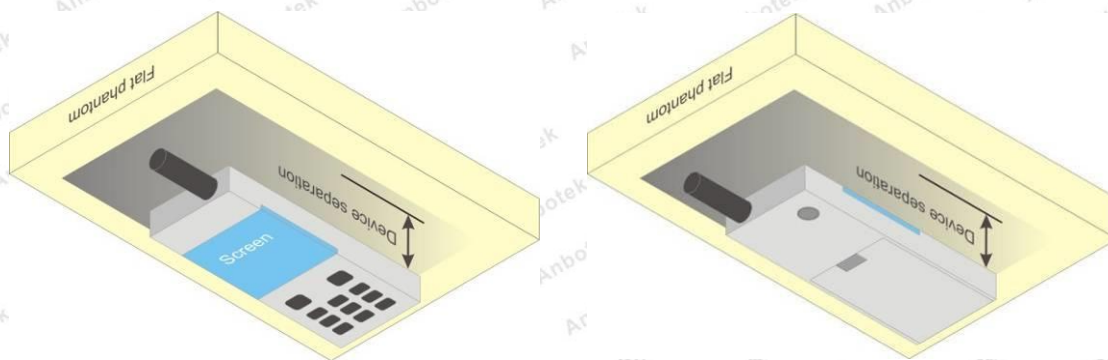


Tilt Position

8.4. Body Worn Position

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per KDB 648474 D04, 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 FCC KDB 447498 D01 should be 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 applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is $< 1.2 \text{ W/kg}$, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.



Body Worn Position

9. Measurement Procedures

The measurement procedures are as follows:

- Use base station simulator (if applicable) or engineering software to transmit RF power continuously (continuous Tx) in the middle channel.
- Keep EUT to radiate maximum output power or 100% duty factor (if applicable)
- Measure output power through RF cable and power meter.
- Place the EUT in the positions as setup photos demonstrates.
- Set scan area, grid size and other setting on the DASY software.
- Measure SAR transmitting at the middle channel for all applicable exposure positions.
- Identify the exposure position and device configuration resulting the highest SAR
- Measure SAR at the lowest and highest channels at the worst exposure position and device configuration if applicable.

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

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

9.1 Spatial Peak SAR Evaluation

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

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

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- Extraction of the measured data (grid and values) from the Zoom Scan
- Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- Generation of a high-resolution mesh within the measured volume
- Interpolation of all measured values from the measurement grid to the high-resolution grid
- Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to

surface

- (f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

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

9.3 Area & Zoom Scan Procedures

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5 \text{ mm}$
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$	≤ 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.	

9.4 Zoom Scan Procedures

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

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Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			$\leq 2 \text{ GHz}: \leq 8 \text{ mm}$ $2 - 3 \text{ GHz}: \leq 5 \text{ mm}^*$	$3 - 4 \text{ GHz}: \leq 5 \text{ mm}^*$ $4 - 6 \text{ GHz}: \leq 4 \text{ mm}^*$
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{\text{Zoom}}(n)$		$\leq 5 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 4 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 3 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
	graded grid	$\Delta z_{\text{Zoom}}(1)$: between 1 st two points closest to phantom surface	$\leq 4 \text{ mm}$	$3 - 4 \text{ GHz}: \leq 3 \text{ mm}$ $4 - 5 \text{ GHz}: \leq 2.5 \text{ mm}$ $5 - 6 \text{ GHz}: \leq 2 \text{ mm}$
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
Minimum zoom scan volume	x, y, z		$\geq 30 \text{ mm}$	$3 - 4 \text{ GHz}: \geq 28 \text{ mm}$ $4 - 5 \text{ GHz}: \geq 25 \text{ mm}$ $5 - 6 \text{ GHz}: \geq 22 \text{ mm}$
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.				
* When zoom scan is required and the <u>reported</u> SAR from the <u>area scan based 1-g SAR estimation</u> procedures of KDB 447498 is $\leq 1.4 \text{ W/kg}$, $\leq 8 \text{ mm}$, $\leq 7 \text{ mm}$ and $\leq 5 \text{ mm}$ zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the same settings. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

10. Conducted Power

<GSM Conducted power>

Conducted power measurement results (GSM850/1900)

Mode	Txslot	Burst Average Power (dBm)			Tune-up Limit (dBm)	Calculation (dB)	Frame-Averaged Power (dBm)		
		128	190	251			128	190	251
GSM		32.44	32.36	32.38	33	-9.03	23.41	23.33	23.35
GPRS 850 (GMSK)	1Txslot	32.47	32.55	32.61	33	-9.03	23.44	23.52	23.58
	2Txslot	29.78	29.83	29.75	30	-6.02	23.76	23.81	23.73
	3Txslot	27.50	27.51	27.54	28	-4.26	23.24	23.25	23.28
	4Txslot	26.32	26.24	26.28	27	-3.01	23.31	23.23	23.27
EGPRS 850 (GMSK)	1 Txslot	26.39	26.47	26.52	27	-9.03	17.36	17.44	17.49
	2Txslot	24.66	24.78	24.69	25	-6.02	18.64	18.76	18.67
	3Txslot	22.24	22.50	22.65	23	-4.26	17.98	18.24	18.39
	4Txslot	21.13	21.22	21.19	22	-3.01	18.12	18.21	18.18
Mode	Txslot	Burst Average Power (dBm)			Tune-up Limit (dBm)	Calculation (dB)	Frame-Averaged Power (dBm)		
		512	661	810			128	190	251
GSM		30.21	30.07	30.38	31	-9.03	21.18	21.04	21.35
GPRS 1900 (GMSK)	1Txslot	30.28	30.66	30.18	31	-9.03	21.25	21.63	21.15
	2Txslot	27.89	27.94	27.88	28	-6.02	21.87	21.92	21.86
	3Txslot	25.20	25.57	25.30	26	-4.26	20.94	21.31	21.04
	4Txslot	24.19	24.36	24.38	25	-3.01	21.18	21.35	21.37
EGPRS 1900 (GMSK)	1 Txslot	24.61	24.65	24.52	25	-9.03	15.58	15.62	15.49
	2Txslot	22.88	22.91	22.90	23	-6.02	16.86	16.89	16.88
	3Txslot	20.22	20.28	20.41	21	-4.26	15.96	16.02	16.15
	4Txslot	19.19	19.42	19.30	20	-3.01	16.18	16.41	16.29

NOTES:

1) Division Factors

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

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

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

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

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

2) According to the conducted power as above, the GPRS/EGPRS measurements are performed with 2Txslots for GPRS/EGPRS 850 and GPRS/EGPRS 1900.

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com

Hotline
400-003-0500
www.anbotek.com

<WCDMA Conducted power>

Conducted power measurement results (WCDMA Band II/V)

Item	Band	FDD Band II result (dBm)			Tune-up Limit (dBm)
		Test Channel			
	ARFCN	9262	9400	9538	
AMR	12.2kbps AMR	23.21	23.38	23.31	24
RMC	12.2kbps RMC	23.86	23.66	23.68	24
HSDPA	Sub - Test 1	22.25	22.34	22.29	23
	Sub - Test 2	21.40	21.36	21.31	22
	Sub - Test 3	21.24	21.32	21.26	22
	Sub - Test 4	20.45	20.54	20.58	21
HSUPA	Sub - Test 1	22.50	22.48	22.35	23
	Sub - Test 2	21.23	21.31	21.48	22
	Sub - Test 3	21.51	21.47	21.57	22
	Sub - Test 4	20.41	20.39	20.32	21
	Sub - Test 5	20.36	20.42	20.41	21

Item	Band	FDD Band V result (dBm)			Tune-up Limit (dBm)
		Test Channel			
	ARFCN	4132	4183	4233	
AMR	12.2kbps AMR	23.12	23.15	23.05	24
RMC	12.2kbps RMC	23.46	23.49	23.39	24
HSDPA	Sub - Test 1	22.15	22.25	22.35	23
	Sub - Test 2	21.35	21.38	21.15	22
	Sub - Test 3	21.14	21.20	21.13	22
	Sub - Test 4	20.15	20.19	20.15	21
HSUPA	Sub - Test 1	22.76	22.69	22.77	23
	Sub - Test 2	21.72	21.75	21.72	22
	Sub - Test 3	21.13	21.17	21.13	22
	Sub - Test 4	20.34	20.46	20.14	21
	Sub - Test 5	20.39	20.55	20.56	21

Per KDB 941225 D01 v02, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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400-003-0500

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<LTE Conducted Power>

Conducted Power Measurement Results (LTE FDD Band 2)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	1850.7	22.53	21.93	23.5	23.0
		1880.0	23.38	22.73	23.5	23.0
		1909.3	22.50	22.07	23.5	23.0
	1 RB mid	1850.7	21.78	20.99	23.5	23.0
		1880.0	22.64	22.14	23.5	23.0
		1909.3	22.42	21.62	23.5	23.0
	1 RB high	1850.7	23.10	22.47	23.5	23.0
		1880.0	23.47	22.93	23.5	23.0
		1909.3	21.67	21.07	23.5	23.0
	50% RB low	1850.7	23.15	22.46	23.5	23.0
		1880.0	22.56	21.86	23.5	23.0
		1909.3	22.81	22.13	23.5	23.0
	50% RB mid	1850.7	22.79	22.15	23.5	23.0
		1880.0	21.97	21.51	23.5	23.0
		1909.3	23.01	22.29	23.5	23.0
	50% RB High	1850.7	22.39	21.83	23.5	23.0
		1880.0	21.95	21.52	23.5	23.0
		1909.3	23.33	22.93	23.5	23.0
	100% RB	1850.7	23.28	22.91	23.5	23.0
		1880.0	22.53	22.00	23.5	23.0
		1909.3	21.87	21.49	23.5	23.0
3 MHz	1 RB low	1851.5	22.84	22.35	23.5	23.0
		1851.5	21.81	21.36	23.5	23.0
		1908.5	21.50	20.70	23.5	23.0
	1 RB mid	1851.5	21.94	21.13	23.5	23.0
		1851.5	22.66	21.99	23.5	23.0
		1908.5	22.90	22.47	23.5	23.0
	1 RB high	1851.5	23.14	22.50	23.5	23.0
		1851.5	21.89	21.15	23.5	23.0
		1908.5	21.67	21.10	23.5	23.0
	50% RB low	1851.5	21.68	21.12	23.5	23.0
		1851.5	21.88	21.48	23.5	23.0
		1908.5	22.93	22.55	23.5	23.0
	50% RB mid	1851.5	22.45	21.78	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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		1851.5	22.40	21.72	23.5	23.0
		1908.5	23.35	22.79	23.5	23.0
		1851.5	21.80	21.00	23.5	23.0
	50% RB High	1851.5	23.10	22.59	23.5	23.0
		1908.5	22.90	22.27	23.5	23.0
		1851.5	22.28	21.59	23.5	23.0
	100% RB	1851.5	21.68	20.99	23.5	23.0
		1908.5	21.58	20.91	23.5	23.0
		1852.5	22.83	22.30	23.5	23.0
5 MHz	1 RB low	1880.0	21.89	21.05	23.5	23.0
		1907.5	21.67	21.17	23.5	23.0
		1852.5	22.74	22.34	23.5	23.0
	1 RB mid	1880.0	22.41	21.96	23.5	23.0
		1907.5	22.92	22.23	23.5	23.0
		1852.5	21.57	20.86	23.5	23.0
	1 RB high	1880.0	22.01	21.30	23.5	23.0
		1907.5	21.95	21.30	23.5	23.0
		1852.5	22.37	21.65	23.5	23.0
	50% RB low	1880.0	22.04	21.38	23.5	23.0
		1907.5	23.02	22.55	23.5	23.0
		1852.5	21.59	20.80	23.5	23.0
	50% RB mid	1880.0	21.67	21.09	23.5	23.0
		1907.5	23.13	22.67	23.5	23.0
		1852.5	21.87	21.25	23.5	23.0
	50% RB High	1880.0	22.18	21.46	23.5	23.0
		1907.5	22.84	22.36	23.5	23.0
		1852.5	21.84	21.18	23.5	23.0
	100% RB	1880.0	21.89	21.07	23.5	23.0
		1907.5	22.77	21.95	23.5	23.0
		1855.0	22.61	21.99	23.5	23.0
10 MHz	1 RB low	1880.0	22.45	22.05	23.5	23.0
		1905.0	21.61	21.10	23.5	23.0
		1855.0	21.89	21.52	23.5	23.0
	1 RB mid	1880.0	22.31	21.71	23.5	23.0
		1905.0	21.97	21.49	23.5	23.0
		1855.0	22.05	21.61	23.5	23.0
	1 RB high	1880.0	23.27	22.68	23.5	23.0
		1905.0	23.09	22.41	23.5	23.0
		1855.0	22.44	21.90	23.5	23.0
	50% RB low	1880.0	23.32	22.66	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	50% RB mid	1905.0	22.48	21.83	23.5	23.0
		1855.0	22.18	21.61	23.5	23.0
		1880.0	23.05	22.67	23.5	23.0
	50% RB High	1905.0	21.94	21.38	23.5	23.0
		1855.0	22.60	21.87	23.5	23.0
		1880.0	22.20	21.51	23.5	23.0
	100% RB	1905.0	21.75	21.31	23.5	23.0
		1855.0	22.28	21.90	23.5	23.0
		1880.0	21.96	21.15	23.5	23.0
15 MHz	1 RB low	1905.0	22.87	22.37	23.5	23.0
		1855.0	22.28	21.90	23.5	23.0
		1880.0	21.96	21.15	23.5	23.0
	1 RB mid	1857.5	23.20	22.68	23.5	23.0
		1880.0	22.43	21.69	23.5	23.0
		1902.5	23.22	22.48	23.5	23.0
	1 RB high	1857.5	22.03	21.31	23.5	23.0
		1880.0	21.89	21.43	23.5	23.0
		1902.5	22.29	21.57	23.5	23.0
	50% RB low	1857.5	22.37	21.55	23.5	23.0
		1880.0	23.09	22.26	23.5	23.0
		1902.5	21.91	21.56	23.5	23.0
	50% RB mid	1857.5	22.23	21.42	23.5	23.0
		1880.0	22.52	21.95	23.5	23.0
		1902.5	21.98	21.27	23.5	23.0
	50% RB High	1857.5	22.69	22.04	23.5	23.0
		1880.0	23.45	22.93	23.5	23.0
		1902.5	21.63	20.96	23.5	23.0
	100% RB	1857.5	21.75	21.02	23.5	23.0
		1880.0	22.20	21.35	23.5	23.0
		1902.5	21.76	21.09	23.5	23.0
20 MHz	1 RB low	1857.5	21.81	21.06	23.5	23.0
		1880.0	21.81	21.00	23.5	23.0
		1902.5	23.43	22.64	23.5	23.0
	1 RB mid	1860.0	21.86	21.34	23.5	23.0
		1880.0	22.02	21.52	23.5	23.0
		1900.0	21.58	20.90	23.5	23.0
	1 RB high	1860.0	22.16	21.56	23.5	23.0
		1880.0	21.52	20.68	23.5	23.0
		1900.0	23.15	22.31	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotek.com



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	50% RB low	1860.0	23.36	22.68	23.5	23.0
		1880.0	22.44	21.61	23.5	23.0
		1900.0	23.19	22.72	23.5	23.0
	50% RB mid	1860.0	23.01	22.39	23.5	23.0
		1880.0	21.98	21.30	23.5	23.0
		1900.0	22.10	21.42	23.5	23.0
	50% RB High	1860.0	22.05	21.51	23.5	23.0
		1880.0	23.21	22.51	23.5	23.0
		1900.0	23.50	22.54	23.5	23.0
	100% RB	1860.0	21.98	21.44	23.5	23.0
		1880.0	22.85	22.46	23.5	23.0
		1900.0	22.46	21.99	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 4)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	1710.7	22.97	22.21	23.5	23.0
		1732.5	22.15	21.36	23.5	23.0
		1754.3	22.47	22.05	23.5	23.0
	1 RB mid	1710.7	22.47	22.06	23.5	23.0
		1732.5	22.52	21.94	23.5	23.0
		1754.3	22.81	22.04	23.5	23.0
	1 RB high	1710.7	22.65	22.28	23.5	23.0
		1732.5	22.04	21.38	23.5	23.0
		1754.3	21.80	20.95	23.5	23.0
	50% RB low	1710.7	22.23	21.52	23.5	23.0
		1732.5	22.33	21.52	23.5	23.0
		1754.3	21.81	21.18	23.5	23.0
	50% RB mid	1710.7	22.51	21.69	23.5	23.0
		1732.5	23.30	22.72	23.5	23.0
		1754.3	21.53	21.07	23.5	23.0
	50% RB High	1710.7	23.10	22.43	23.5	23.0
		1732.5	22.75	22.29	23.5	23.0
		1754.3	22.84	22.13	23.5	23.0
	100% RB	1710.7	21.52	20.84	23.5	23.0
		1732.5	22.02	21.37	23.5	23.0
		1754.3	22.10	21.29	23.5	23.0
3 MHz	1 RB low	1711.5	23.04	22.42	23.5	23.0
		1732.5	23.11	22.72	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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			1753.5	22.07	21.55	23.5	23.0
		1 RB mid	1711.5	21.63	20.90	23.5	23.0
			1732.5	22.27	21.66	23.5	23.0
			1753.5	21.90	21.18	23.5	23.0
		1 RB high	1711.5	21.91	21.38	23.5	23.0
			1732.5	23.20	22.42	23.5	23.0
			1753.5	21.75	21.07	23.5	23.0
		50% RB low	1711.5	22.34	21.77	23.5	23.0
			1732.5	21.65	21.18	23.5	23.0
			1753.5	21.85	21.07	23.5	23.0
		50% RB mid	1711.5	22.74	22.11	23.5	23.0
			1732.5	23.46	22.78	23.5	23.0
			1753.5	21.80	21.02	23.5	23.0
		50% RB High	1711.5	23.29	22.93	23.5	23.0
			1732.5	22.59	22.24	23.5	23.0
			1753.5	21.50	20.73	23.5	23.0
		100% RB	1711.5	21.55	20.91	23.5	23.0
			1732.5	21.64	21.28	23.5	23.0
			1753.5	22.16	21.66	23.5	23.0
	5 MHz	1 RB low	1712.5	21.89	21.24	23.5	23.0
			1732.5	23.49	22.80	23.5	23.0
			1752.5	22.69	22.22	23.5	23.0
		1 RB mid	1712.5	21.82	21.10	23.5	23.0
			1732.5	23.10	22.66	23.5	23.0
			1752.5	21.58	20.94	23.5	23.0
		1 RB high	1712.5	21.88	21.09	23.5	23.0
			1732.5	22.36	21.60	23.5	23.0
			1752.5	22.95	22.21	23.5	23.0
		50% RB low	1712.5	21.61	21.14	23.5	23.0
			1732.5	22.55	22.02	23.5	23.0
			1752.5	22.05	21.47	23.5	23.0
		50% RB mid	1712.5	23.15	22.76	23.5	23.0
			1732.5	21.65	21.21	23.5	23.0
			1752.5	22.86	22.47	23.5	23.0
		50% RB High	1712.5	23.36	22.69	23.5	23.0
			1732.5	22.36	21.96	23.5	23.0
			1752.5	22.15	21.55	23.5	23.0
		100% RB	1712.5	22.71	22.25	23.5	23.0
			1732.5	21.69	21.10	23.5	23.0
			1752.5	23.46	22.72	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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10 MHz	1 RB low	1715.0	23.41	22.86	23.5	23.0
		1732.5	23.43	22.63	23.5	23.0
		1750.0	22.35	21.68	23.5	23.0
	1 RB mid	1715.0	23.28	22.46	23.5	23.0
		1732.5	21.82	21.00	23.5	23.0
		1750.0	21.78	21.06	23.5	23.0
	1 RB high	1715.0	21.64	20.99	23.5	23.0
		1732.5	22.17	21.59	23.5	23.0
		1750.0	22.61	21.92	23.5	23.0
	50% RB low	1715.0	21.76	21.32	23.5	23.0
		1732.5	23.06	22.45	23.5	23.0
		1750.0	22.17	21.58	23.5	23.0
	50% RB mid	1715.0	21.88	21.49	23.5	23.0
		1732.5	21.76	21.33	23.5	23.0
		1750.0	21.78	21.22	23.5	23.0
	50% RB High	1715.0	23.28	22.86	23.5	23.0
		1732.5	21.53	20.90	23.5	23.0
		1750.0	21.61	21.22	23.5	23.0
	100% RB	1715.0	23.26	22.83	23.5	23.0
		1732.5	23.24	22.78	23.5	23.0
		1750.0	22.09	21.65	23.5	23.0
15 MHz	1 RB low	1717.5	21.56	20.74	23.5	23.0
		1732.5	22.32	21.51	23.5	23.0
		1747.5	21.91	21.29	23.5	23.0
	1 RB mid	1717.5	22.65	22.26	23.5	23.0
		1732.5	23.12	22.56	23.5	23.0
		1747.5	23.17	22.60	23.5	23.0
	1 RB high	1717.5	23.33	22.91	23.5	23.0
		1732.5	21.64	21.15	23.5	23.0
		1747.5	22.89	22.27	23.5	23.0
	50% RB low	1717.5	23.47	22.87	23.5	23.0
		1732.5	22.22	21.45	23.5	23.0
		1747.5	23.33	22.48	23.5	23.0
	50% RB mid	1717.5	22.29	21.89	23.5	23.0
		1732.5	21.59	21.02	23.5	23.0
		1747.5	22.62	22.19	23.5	23.0
	50% RB High	1717.5	23.46	22.74	23.5	23.0
		1732.5	22.99	22.64	23.5	23.0
		1747.5	21.86	21.25	23.5	23.0
	100% RB	1717.5	23.47	22.89	23.5	23.0

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20 MHz	1 RB low	1732.5	22.52	21.81	23.5	23.0
		1747.5	22.67	21.88	23.5	23.0
		1720.0	21.69	21.03	23.5	23.0
	1 RB mid	1732.5	22.71	22.15	23.5	23.0
		1745.0	22.65	21.85	23.5	23.0
		1720.0	22.29	21.59	23.5	23.0
	1 RB high	1732.5	22.92	22.56	23.5	23.0
		1745.0	21.53	20.89	23.5	23.0
		1720.0	22.40	21.89	23.5	23.0
	50% RB low	1732.5	21.82	21.28	23.5	23.0
		1745.0	21.79	20.99	23.5	23.0
		1720.0	21.87	21.44	23.5	23.0
	50% RB mid	1732.5	22.08	21.42	23.5	23.0
		1745.0	22.13	21.68	23.5	23.0
		1720.0	21.97	21.56	23.5	23.0
	50% RB High	1732.5	22.64	21.87	23.5	23.0
		1745.0	23.28	22.83	23.5	23.0
		1720.0	23.50	22.68	23.5	23.0
	100% RB	1732.5	22.53	21.92	23.5	23.0
		1745.0	22.72	22.25	23.5	23.0
		1720.0	22.85	22.50	23.5	23.0
		1732.5	21.69	21.03	23.5	23.0
		1745.0	22.32	21.48	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 5)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	824.7	22.80	22.22	23.5	23.0
		836.5	22.19	21.57	23.5	23.0
		848.3	22.54	21.77	23.5	23.0
	1 RB mid	824.7	21.76	20.91	23.5	23.0
		836.5	22.86	22.25	23.5	23.0
		848.3	23.07	22.32	23.5	23.0
	1 RB high	824.7	22.42	22.06	23.5	23.0
		836.5	22.26	21.87	23.5	23.0
		848.3	23.10	22.60	23.5	23.0
	50% RB low	824.7	23.10	22.35	23.5	23.0
		836.5	22.62	22.25	23.5	23.0
		848.3	23.30	22.65	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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	50% RB mid	824.7	22.00	21.24	23.5	23.0
		836.5	23.50	22.71	23.5	23.0
		848.3	21.92	21.41	23.5	23.0
	50% RB High	824.7	23.50	22.78	23.5	23.0
		836.5	21.95	21.44	23.5	23.0
		848.3	21.63	20.80	23.5	23.0
	100% RB	824.7	22.55	21.83	23.5	23.0
		836.5	21.79	21.17	23.5	23.0
		848.3	21.52	20.79	23.5	23.0
3 MHz	1 RB low	825.5	23.00	22.62	23.5	23.0
		836.5	22.92	22.26	23.5	23.0
		847.5	22.75	22.34	23.5	23.0
	1 RB mid	825.5	22.08	21.69	23.5	23.0
		836.5	21.76	21.31	23.5	23.0
		847.5	22.72	22.14	23.5	23.0
	1 RB high	825.5	21.70	21.18	23.5	23.0
		836.5	23.37	22.90	23.5	23.0
		847.5	23.09	22.51	23.5	23.0
	50% RB low	825.5	23.16	22.59	23.5	23.0
		836.5	22.16	21.62	23.5	23.0
		847.5	22.62	22.01	23.5	23.0
	50% RB mid	825.5	22.44	21.88	23.5	23.0
		836.5	22.20	21.84	23.5	23.0
		847.5	22.10	21.26	23.5	23.0
	50% RB High	825.5	22.46	21.80	23.5	23.0
		836.5	22.75	21.96	23.5	23.0
		847.5	21.68	21.09	23.5	23.0
	100% RB	825.5	22.69	22.23	23.5	23.0
		836.5	22.07	21.35	23.5	23.0
		847.5	22.89	22.19	23.5	23.0
5 MHz	1 RB low	826.5	22.63	22.07	23.5	23.0
		836.5	21.96	21.25	23.5	23.0
		846.5	22.09	21.70	23.5	23.0
	1 RB mid	826.5	22.89	22.43	23.5	23.0
		836.5	23.16	22.42	23.5	23.0
		846.5	21.50	20.69	23.5	23.0
	1 RB high	826.5	21.86	21.43	23.5	23.0
		836.5	22.13	21.72	23.5	23.0
		846.5	21.95	21.42	23.5	23.0
	50% RB low	826.5	21.79	21.16	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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		836.5	21.62	21.15	23.5	23.0
		846.5	22.86	22.24	23.5	23.0
	50% RB mid	826.5	23.18	22.69	23.5	23.0
		836.5	21.99	21.36	23.5	23.0
		846.5	21.57	20.82	23.5	23.0
	50% RB High	826.5	22.03	21.44	23.5	23.0
		836.5	23.31	22.65	23.5	23.0
		846.5	21.65	21.10	23.5	23.0
	100% RB	826.5	22.72	22.09	23.5	23.0
		836.5	22.66	22.25	23.5	23.0
		846.5	23.33	22.75	23.5	23.0
10 MHz	1 RB low	829.0	23.14	22.49	23.5	23.0
		836.5	23.07	22.70	23.5	23.0
		844.0	22.64	22.23	23.5	23.0
	1 RB mid	829.0	22.54	21.80	23.5	23.0
		836.5	22.83	22.08	23.5	23.0
		844.0	21.93	21.23	23.5	23.0
	1 RB high	829.0	23.44	22.62	23.5	23.0
		836.5	23.22	22.47	23.5	23.0
		844.0	21.78	21.42	23.5	23.0
	50% RB low	829.0	23.07	22.55	23.5	23.0
		836.5	21.99	21.23	23.5	23.0
		844.0	23.45	22.65	23.5	23.0
	50% RB mid	829.0	22.28	21.79	23.5	23.0
		836.5	22.12	21.30	23.5	23.0
		844.0	21.67	21.19	23.5	23.0
	50% RB High	829.0	21.92	21.17	23.5	23.0
		836.5	22.32	21.91	23.5	23.0
		844.0	22.31	21.96	23.5	23.0
	100% RB	829.0	22.29	21.58	23.5	23.0
		836.5	21.65	20.88	23.5	23.0
		844.0	21.80	21.20	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 7)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
5 MHz	1 RB low	2502.5	22.54	21.83	23.5	23.0
		2535	22.85	22.02	23.5	23.0
		2567.5	21.50	20.91	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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	1 RB mid	2502.5	23.29	22.80	23.5	23.0
		2535	21.83	21.12	23.5	23.0
		2567.5	23.05	22.63	23.5	23.0
	1 RB high	2502.5	23.45	22.78	23.5	23.0
		2535	22.68	22.26	23.5	23.0
		2567.5	23.39	22.87	23.5	23.0
	50% RB low	2502.5	21.81	21.27	23.5	23.0
		2535	22.62	22.10	23.5	23.0
		2567.5	21.94	21.27	23.5	23.0
	50% RB mid	2502.5	21.67	21.20	23.5	23.0
		2535	22.32	21.49	23.5	23.0
		2567.5	23.40	22.84	23.5	23.0
	50% RB High	2502.5	22.86	22.20	23.5	23.0
		2535	21.89	21.07	23.5	23.0
		2567.5	23.25	22.74	23.5	23.0
	100% RB	2502.5	21.73	21.27	23.5	23.0
		2535	22.03	21.36	23.5	23.0
		2567.5	22.16	21.41	23.5	23.0
10 MHz	1 RB low	2505	21.50	21.13	23.5	23.0
		2535	22.17	21.62	23.5	23.0
		2565	21.71	20.92	23.5	23.0
	1 RB mid	2505	23.05	22.68	23.5	23.0
		2535	22.47	21.94	23.5	23.0
		2565	23.31	22.61	23.5	23.0
	1 RB high	2505	22.55	22.18	23.5	23.0
		2535	22.84	22.32	23.5	23.0
		2565	22.93	22.41	23.5	23.0
	50% RB low	2505	22.72	22.18	23.5	23.0
		2535	22.60	22.10	23.5	23.0
		2565	22.20	21.61	23.5	23.0
	50% RB mid	2505	23.42	22.79	23.5	23.0
		2535	23.11	22.38	23.5	23.0
		2565	22.37	21.91	23.5	23.0
	50% RB High	2505	22.85	22.36	23.5	23.0
		2535	22.58	22.02	23.5	23.0
		2565	22.70	22.15	23.5	23.0
	100% RB	2505	22.23	21.76	23.5	23.0
		2535	21.90	21.44	23.5	23.0
		2565	23.01	22.16	23.5	23.0
15 MHz	1 RB low	2507.5	22.99	22.59	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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		2535	22.07	21.71	23.5	23.0
		2562.5	22.51	22.13	23.5	23.0
	1 RB mid	2507.5	22.00	21.25	23.5	23.0
		2535	22.30	21.92	23.5	23.0
		2562.5	22.38	21.60	23.5	23.0
	1 RB high	2507.5	21.92	21.38	23.5	23.0
		2535	21.74	21.01	23.5	23.0
		2562.5	22.52	21.97	23.5	23.0
	50% RB low	2507.5	23.47	22.68	23.5	23.0
		2535	22.14	21.51	23.5	23.0
		2562.5	22.44	22.07	23.5	23.0
	50% RB mid	2507.5	21.74	21.04	23.5	23.0
		2535	23.31	22.60	23.5	23.0
		2562.5	22.18	21.49	23.5	23.0
	50% RB High	2507.5	23.18	22.43	23.5	23.0
		2535	23.23	22.80	23.5	23.0
		2562.5	23.43	22.92	23.5	23.0
	100% RB	2507.5	23.38	22.89	23.5	23.0
		2535	23.31	22.52	23.5	23.0
		2562.5	22.79	22.16	23.5	23.0
20 MHz	1 RB low	2510	23.16	22.71	23.5	23.0
		2535	21.50	20.73	23.5	23.0
		2560	23.26	22.45	23.5	23.0
	1 RB mid	2510	22.78	22.17	23.5	23.0
		2535	22.23	21.60	23.5	23.0
		2560	22.35	21.91	23.5	23.0
	1 RB high	2510	22.77	22.19	23.5	23.0
		2535	21.89	21.11	23.5	23.0
		2560	23.40	22.94	23.5	23.0
	50% RB low	2510	23.25	22.51	23.5	23.0
		2535	21.57	21.18	23.5	23.0
		2560	23.12	22.70	23.5	23.0
	50% RB mid	2510	22.67	22.30	23.5	23.0
		2535	21.61	21.26	23.5	23.0
		2560	21.83	21.24	23.5	23.0
	50% RB High	2510	22.94	22.19	23.5	23.0
		2535	22.37	21.59	23.5	23.0
		2560	22.67	22.14	23.5	23.0
	100% RB	2510	21.99	21.44	23.5	23.0
		2535	21.84	21.18	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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		2560	22.55	21.98	23.5	23.0
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Conducted Power Measurement Results (LTE FDD Band 12)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	699.7	21.61	21.18	23.5	23.0
		707.5	21.61	21.02	23.5	23.0
		715.3	23.31	22.56	23.5	23.0
	1 RB mid	699.7	22.95	22.48	23.5	23.0
		707.5	23.44	22.76	23.5	23.0
		715.3	21.97	21.43	23.5	23.0
	1 RB high	699.7	21.53	20.69	23.5	23.0
		707.5	23.14	22.76	23.5	23.0
		715.3	23.06	22.52	23.5	23.0
	50% RB low	699.7	23.46	22.81	23.5	23.0
		707.5	21.70	20.88	23.5	23.0
		715.3	23.13	22.77	23.5	23.0
	50% RB mid	699.7	22.88	22.38	23.5	23.0
		707.5	22.33	21.69	23.5	23.0
		715.3	23.14	22.68	23.5	23.0
	50% RB High	699.7	22.68	21.84	23.5	23.0
		707.5	21.96	21.49	23.5	23.0
		715.3	22.30	21.47	23.5	23.0
	100% RB	699.7	22.24	21.79	23.5	23.0
		707.5	22.43	21.72	23.5	23.0
		715.3	23.12	22.50	23.5	23.0
3 MHz	1 RB low	700.5	23.17	22.37	23.5	23.0
		707.5	21.68	21.15	23.5	23.0
		714.5	22.11	21.51	23.5	23.0
	1 RB mid	700.5	22.50	21.81	23.5	23.0
		707.5	21.69	21.02	23.5	23.0
		714.5	22.99	22.42	23.5	23.0
	1 RB high	700.5	21.90	21.41	23.5	23.0
		707.5	23.31	22.78	23.5	23.0
		714.5	23.31	22.59	23.5	23.0
	50% RB low	700.5	21.80	20.96	23.5	23.0
		707.5	22.61	22.26	23.5	23.0
		714.5	21.84	21.46	23.5	23.0
	50% RB mid	700.5	22.88	22.47	23.5	23.0
		707.5	21.80	20.97	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	50% RB High	714.5	21.53	21.05	23.5	23.0
		700.5	23.14	22.79	23.5	23.0
		707.5	21.60	20.83	23.5	23.0
	100% RB	714.5	21.54	21.08	23.5	23.0
		700.5	22.25	21.52	23.5	23.0
		707.5	21.72	20.90	23.5	23.0
5 MHz	1 RB low	714.5	22.35	21.83	23.5	23.0
		701.5	23.29	22.74	23.5	23.0
		707.5	22.11	21.70	23.5	23.0
	1 RB mid	713.5	23.11	22.38	23.5	23.0
		701.5	22.87	22.39	23.5	23.0
		707.5	23.02	22.22	23.5	23.0
	1 RB high	713.5	22.72	22.01	23.5	23.0
		701.5	21.76	20.98	23.5	23.0
		707.5	22.14	21.33	23.5	23.0
	50% RB low	713.5	22.38	21.91	23.5	23.0
		701.5	21.86	21.40	23.5	23.0
		707.5	22.20	21.35	23.5	23.0
	50% RB mid	713.5	21.91	21.36	23.5	23.0
		701.5	22.28	21.45	23.5	23.0
		707.5	23.08	22.38	23.5	23.0
	50% RB High	713.5	23.17	22.67	23.5	23.0
		701.5	23.48	22.97	23.5	23.0
		707.5	21.74	21.03	23.5	23.0
	100% RB	713.5	23.21	22.38	23.5	23.0
		701.5	21.86	21.16	23.5	23.0
		707.5	23.09	22.52	23.5	23.0
10 MHz	1 RB low	713.5	23.37	22.58	23.5	23.0
		704.0	23.31	22.56	23.5	23.0
		707.5	21.79	21.09	23.5	23.0
	1 RB mid	711.0	21.97	21.56	23.5	23.0
		704.0	22.80	22.01	23.5	23.0
		707.5	22.25	21.89	23.5	23.0
	1 RB high	711.0	23.44	22.91	23.5	23.0
		704.0	22.76	22.04	23.5	23.0
		707.5	22.62	21.82	23.5	23.0
	50% RB low	711.0	22.18	21.33	23.5	23.0
		704.0	23.46	22.79	23.5	23.0
		707.5	22.77	22.39	23.5	23.0
		711.0	21.73	21.24	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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	50% RB mid	704.0	22.78	22.33	23.5	23.0
		707.5	21.75	21.07	23.5	23.0
		711.0	23.38	22.63	23.5	23.0
	50% RB High	704.0	23.28	22.65	23.5	23.0
		707.5	22.23	21.41	23.5	23.0
		711.0	22.79	22.34	23.5	23.0
	100% RB	704.0	23.42	22.72	23.5	23.0
		707.5	22.36	21.61	23.5	23.0
		711.0	21.51	21.00	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 13)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
5 MHz	1 RB low	779.5	21.66	21.31	23.5	23.0
		782.0	22.65	21.86	23.5	23.0
		784.5	22.88	22.17	23.5	23.0
	1 RB mid	779.5	23.39	22.81	23.5	23.0
		782.0	22.39	21.54	23.5	23.0
		784.5	23.27	22.45	23.5	23.0
	1 RB high	779.5	23.31	22.91	23.5	23.0
		782.0	23.16	22.59	23.5	23.0
		784.5	21.98	21.45	23.5	23.0
	50% RB low	779.5	23.04	22.53	23.5	23.0
		782.0	21.59	20.88	23.5	23.0
		784.5	23.09	22.38	23.5	23.0
	50% RB mid	779.5	22.57	22.10	23.5	23.0
		782.0	22.45	22.00	23.5	23.0
		784.5	22.00	21.38	23.5	23.0
	50% RB High	779.5	22.17	21.57	23.5	23.0
		782.0	22.53	21.87	23.5	23.0
		784.5	22.15	21.31	23.5	23.0
	100% RB	779.5	23.00	22.49	23.5	23.0
		782.0	23.11	22.40	23.5	23.0
		784.5	21.62	21.27	23.5	23.0
10 MHz	1 RB low	782.0	22.32	21.94	23.5	23.0
	1 RB mid	782.0	23.00	22.52	23.5	23.0
	1 RB high	782.0	21.92	21.55	23.5	23.0
	50% RB low	782.0	21.68	20.88	23.5	23.0
	50% RB mid	782.0	22.29	21.46	23.5	23.0

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	50% RB High	782 .0	22.44	21.86	23.5	23.0
	100% RB	782 .0	23.28	22.88	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 17)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
5 MHz	1 RB low	706.5	23.39	22.77	23.5	23.0
		710	22.64	22.03	23.5	23.0
		713.5	22.70	22.32	23.5	23.0
	1 RB mid	706.5	23.49	22.67	23.5	23.0
		710	22.02	21.67	23.5	23.0
		713.5	22.00	21.60	23.5	23.0
	1 RB high	706.5	22.04	21.32	23.5	23.0
		710	23.29	22.74	23.5	23.0
		713.5	22.47	21.62	23.5	23.0
	50% RB low	706.5	22.62	21.85	23.5	23.0
		710	22.89	22.19	23.5	23.0
		713.5	23.32	22.58	23.5	23.0
	50% RB mid	706.5	23.13	22.56	23.5	23.0
		710	23.49	22.73	23.5	23.0
		713.5	22.90	22.16	23.5	23.0
	50% RB High	706.5	22.91	22.30	23.5	23.0
		710	21.83	20.99	23.5	23.0
		713.5	22.07	21.37	23.5	23.0
	100% RB	706.5	21.78	21.08	23.5	23.0
		710	22.41	21.82	23.5	23.0
		713.5	22.61	22.26	23.5	23.0
10 MHz	1 RB low	709	23.24	22.50	23.5	23.0
		710	22.66	22.08	23.5	23.0
		711	21.78	21.41	23.5	23.0
	1 RB mid	709	23.19	22.46	23.5	23.0
		710	21.55	20.76	23.5	23.0
		711	23.33	22.60	23.5	23.0
	1 RB high	709	23.22	22.85	23.5	23.0
		710	21.57	20.76	23.5	23.0
		711	21.94	21.41	23.5	23.0
	50% RB low	709	22.41	21.56	23.5	23.0
		710	23.19	22.57	23.5	23.0
		711	22.00	21.19	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	50% RB mid	709	22.41	21.79	23.5	23.0
		710	22.81	22.37	23.5	23.0
		711	22.81	21.97	23.5	23.0
	50% RB High	709	23.06	22.50	23.5	23.0
		710	22.52	21.93	23.5	23.0
		711	23.02	22.18	23.5	23.0
	100% RB	709	22.51	21.71	23.5	23.0
		710	21.91	21.55	23.5	23.0
		711	21.55	20.92	23.5	23.0

Conducted Power Measurement Results (LTE FDD Band 26-1)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	824.7	22.82	21.99	23.5	23.0
		836.5	22.75	22.24	23.5	23.0
		848.3	23.01	22.59	23.5	23.0
	1 RB mid	824.7	23.17	22.48	23.5	23.0
		836.5	22.85	22.09	23.5	23.0
		848.3	21.79	21.41	23.5	23.0
	1 RB high	824.7	21.80	21.25	23.5	23.0
		836.5	22.00	21.44	23.5	23.0
		848.3	22.17	21.54	23.5	23.0
	50% RB low	824.7	22.56	22.00	23.5	23.0
		836.5	22.06	21.38	23.5	23.0
		848.3	22.29	21.73	23.5	23.0
	50% RB mid	824.7	22.12	21.44	23.5	23.0
		836.5	21.73	20.97	23.5	23.0
		848.3	22.83	22.21	23.5	23.0
	50% RB High	824.7	22.37	21.65	23.5	23.0
		836.5	22.52	21.91	23.5	23.0
		848.3	22.04	21.36	23.5	23.0
	100% RB	824.7	22.65	22.01	23.5	23.0
		836.5	21.53	21.14	23.5	23.0
		848.3	22.79	22.00	23.5	23.0
3 MHz	1 RB low	825.5	21.61	20.99	23.5	23.0
		836.5	23.38	22.66	23.5	23.0
		847.5	22.32	21.73	23.5	23.0
	1 RB mid	825.5	21.64	21.29	23.5	23.0
		836.5	23.46	22.93	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	1 RB high	847.5	22.46	21.92	23.5	23.0
		825.5	21.57	21.01	23.5	23.0
		836.5	22.40	21.69	23.5	23.0
		847.5	21.84	21.14	23.5	23.0
	50% RB low	825.5	22.42	21.86	23.5	23.0
		836.5	23.34	22.67	23.5	23.0
		847.5	22.61	22.17	23.5	23.0
	50% RB mid	825.5	23.23	22.49	23.5	23.0
		836.5	21.91	21.17	23.5	23.0
		847.5	21.55	20.88	23.5	23.0
	50% RB High	825.5	22.24	21.41	23.5	23.0
		836.5	23.30	22.83	23.5	23.0
		847.5	21.87	21.21	23.5	23.0
5 MHz	1 RB low	825.5	21.60	20.93	23.5	23.0
		836.5	23.23	22.45	23.5	23.0
		847.5	22.83	22.01	23.5	23.0
	1 RB mid	826.5	21.96	21.12	23.5	23.0
		836.5	22.93	22.13	23.5	23.0
		846.5	22.94	22.44	23.5	23.0
	1 RB high	826.5	22.68	22.21	23.5	23.0
		836.5	22.39	21.92	23.5	23.0
		846.5	23.34	22.79	23.5	23.0
	50% RB low	826.5	21.68	20.95	23.5	23.0
		836.5	23.50	22.81	23.5	23.0
		846.5	23.39	22.59	23.5	23.0
	50% RB mid	826.5	22.39	21.66	23.5	23.0
		836.5	22.70	22.27	23.5	23.0
		846.5	22.42	22.04	23.5	23.0
	50% RB High	826.5	21.96	21.44	23.5	23.0
		836.5	23.26	22.87	23.5	23.0
		846.5	21.60	21.14	23.5	23.0
	100% RB	826.5	22.31	21.84	23.5	23.0
		836.5	22.07	21.61	23.5	23.0
		846.5	21.55	21.20	23.5	23.0
10 MHz	1 RB low	826.5	22.05	21.24	23.5	23.0
		836.5	22.96	22.50	23.5	23.0
		846.5	23.20	22.64	23.5	23.0
	1 RB mid	829.0	22.92	22.47	23.5	23.0
		836.5	22.61	21.79	23.5	23.0
		844.0	22.05	21.66	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	1 RB mid	829.0	22.24	21.43	23.5	23.0
		836.5	22.44	21.62	23.5	23.0
		844.0	23.31	22.73	23.5	23.0
	1 RB high	829.0	23.24	22.54	23.5	23.0
		836.5	21.87	21.23	23.5	23.0
		844.0	21.84	21.49	23.5	23.0
	50% RB low	829.0	22.64	22.17	23.5	23.0
		836.5	21.89	21.34	23.5	23.0
		844.0	21.72	21.31	23.5	23.0
	50% RB mid	829.0	21.75	21.15	23.5	23.0
		836.5	22.89	22.45	23.5	23.0
		844.0	22.65	21.90	23.5	23.0
	50% RB High	829.0	22.65	22.20	23.5	23.0
		836.5	21.62	20.80	23.5	23.0
		844.0	21.76	21.02	23.5	23.0
	100% RB	829.0	22.21	21.44	23.5	23.0
		836.5	21.76	21.37	23.5	23.0
		844.0	22.83	21.98	23.5	23.0
15 MHz	1 RB low	831.5	21.86	21.49	23.5	23.0
		836.5	23.22	22.52	23.5	23.0
		841.5	22.97	22.33	23.5	23.0
	1 RB mid	831.5	22.91	22.32	23.5	23.0
		836.5	22.58	22.10	23.5	23.0
		841.5	21.77	21.24	23.5	23.0
	1 RB high	831.5	22.36	21.74	23.5	23.0
		836.5	23.08	22.39	23.5	23.0
		841.5	21.74	20.94	23.5	23.0
	50% RB low	831.5	22.93	22.38	23.5	23.0
		836.5	21.73	21.16	23.5	23.0
		841.5	22.26	21.48	23.5	23.0
	50% RB mid	831.5	22.46	21.73	23.5	23.0
		836.5	21.52	21.15	23.5	23.0
		841.5	22.97	22.29	23.5	23.0
	50% RB High	831.5	22.10	21.63	23.5	23.0
		836.5	21.80	21.08	23.5	23.0
		841.5	22.51	21.97	23.5	23.0
	100% RB	831.5	21.74	21.25	23.5	23.0
		836.5	21.70	21.33	23.5	23.0
		841.5	21.98	21.54	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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Conducted Power Measurement Results (LTE FDD Band 26-2)

TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	Average Power [dBm]		Tune-up Limit (dBm)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	1 RB low	814.7	23.03	22.39	23.5	23.0
		819.0	23.36	22.55	23.5	23.0
		823.3	22.41	21.60	23.5	23.0
	1 RB mid	814.7	23.22	22.48	23.5	23.0
		819.0	23.26	22.74	23.5	23.0
		823.3	21.92	21.28	23.5	23.0
	1 RB high	814.7	22.34	21.59	23.5	23.0
		819.0	22.18	21.37	23.5	23.0
		823.3	21.74	21.04	23.5	23.0
	50% RB low	814.7	22.77	22.12	23.5	23.0
		819.0	21.80	21.43	23.5	23.0
		823.3	22.23	21.69	23.5	23.0
	50% RB mid	814.7	23.47	22.85	23.5	23.0
		819.0	22.39	21.71	23.5	23.0
		823.3	22.75	22.00	23.5	23.0
	50% RB High	814.7	21.80	21.24	23.5	23.0
		819.0	22.02	21.44	23.5	23.0
		823.3	21.64	21.23	23.5	23.0
	100% RB	814.7	22.87	22.47	23.5	23.0
		819.0	22.54	22.05	23.5	23.0
		823.3	22.50	21.77	23.5	23.0
3 MHz	1 RB low	815.5	22.48	22.09	23.5	23.0
		819.0	21.98	21.20	23.5	23.0
		822.5	22.80	22.29	23.5	23.0
	1 RB mid	815.5	22.58	22.15	23.5	23.0
		819.0	22.26	21.73	23.5	23.0
		822.5	22.09	21.70	23.5	23.0
	1 RB high	815.5	22.65	21.92	23.5	23.0
		819.0	21.87	21.33	23.5	23.0
		822.5	22.93	22.37	23.5	23.0
	50% RB low	815.5	23.17	22.80	23.5	23.0
		819.0	21.55	21.06	23.5	23.0
		822.5	21.56	20.84	23.5	23.0
	50% RB mid	815.5	21.89	21.44	23.5	23.0
		819.0	22.09	21.48	23.5	23.0
		822.5	22.44	21.97	23.5	23.0

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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	50% RB High	815.5	21.72	21.37	23.5	23.0
		819.0	22.59	22.04	23.5	23.0
		822.5	21.89	21.19	23.5	23.0
	100% RB	815.5	23.07	22.28	23.5	23.0
		819.0	21.84	21.26	23.5	23.0
		822.5	22.82	22.47	23.5	23.0
5 MHz	1 RB low	816.5	23.48	22.88	23.5	23.0
		819.0	22.95	22.59	23.5	23.0
		821.5	21.55	21.19	23.5	23.0
	1 RB mid	816.5	22.52	22.07	23.5	23.0
		819.0	21.91	21.06	23.5	23.0
		821.5	21.78	21.37	23.5	23.0
	1 RB high	816.5	22.11	21.48	23.5	23.0
		819.0	23.07	22.41	23.5	23.0
		821.5	22.69	22.29	23.5	23.0
	50% RB low	816.5	23.30	22.45	23.5	23.0
		819.0	23.24	22.50	23.5	23.0
		821.5	23.23	22.72	23.5	23.0
	50% RB mid	816.5	23.20	22.66	23.5	23.0
		819.0	22.17	21.79	23.5	23.0
		821.5	22.15	21.38	23.5	23.0
	50% RB High	816.5	22.97	22.28	23.5	23.0
		819.0	22.05	21.25	23.5	23.0
		821.5	22.20	21.44	23.5	23.0
	100% RB	816.5	23.06	22.31	23.5	23.0
		819.0	23.21	22.40	23.5	23.0
		821.5	22.96	22.54	23.5	23.0
10 MHz	1 RB low	819.0	22.81	22.45	23.5	23.0
	1 RB mid	819.0	21.91	21.07	23.5	23.0
	1 RB high	819.0	21.51	20.94	23.5	23.0
	50% RB low	819.0	22.22	21.68	23.5	23.0
	50% RB mid	819.0	21.81	21.30	23.5	23.0
	50% RB high	819.0	23.14	22.56	23.5	23.0
	100% RB	819.0	22.54	21.95	23.5	23.0

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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<WIFI 2.4GHz Conducted Power>

Mode	Channel	Frequency (MHz)	AVG Power(dBm)	Test Rate Data
802.11b	1	2412	17.78	1 Mbps
	6	2437	17.89	1 Mbps
	11	2462	17.47	1 Mbps
802.11g	1	2412	17.11	6 Mbps
	6	2437	17.23	6 Mbps
	11	2462	17.04	6 Mbps
802.11n(20MHz)	1	2412	17.21	MCS0
	6	2437	17.15	MCS0
	11	2462	17.42	MCS0
802.11n(40MHz)	3	2422	16.21	MCS0
	6	2437	16.36	MCS0
	9	2452	16.05	MCS0

<WIFI 5GHz Conducted Power>

U-NII 1

Type	Channel	Output power (dBm)
802.11a	36	17.02
	40	17.51
	48	16.42
802.11n(HT20)	36	16.15
	40	16.92
	48	16.18
802.11n(HT40)	38	16.57
	46	16.82

U-NII 3

Type	Channel	Output power (dBm)
802.11a	149	16.40
	157	15.25
	165	16.98
802.11n(HT20)	149	15.24
	157	16.15
	165	16.85
802.11n(HT40)	151	15.11
	159	16.05

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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<Bluetooth Conducted Power>

Conducted Power Measurement Results (Bluetooth)

Mode	Channel	Frequency(MHz)	Conducted Peak Output Power	
			(dBm)	(mW)
GFSK	00	2402	6.954	4.959
	39	2441	6.624	4.596
	78	2480	6.102	4.076
π/4DQPSK	00	2402	5.463	3.518
	39	2441	5.051	3.200
	78	2480	4.787	2.392
8DPSK	00	2402	5.621	3.648
	39	2441	5.351	3.428
	78	2480	4.614	2.893
BLE GFSK	00	2402	6.324	4.289
	19	2440	6.547	4.515
	39	2480	5.325	3.408

Note:

Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$

- 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

Test Frequency (MHz)	Minimum Separation Distance (mm)	Max. Output Power (dBm)	Output Power with tune up (dBm)	Output Power (mW)	calculated value	exclusion thresholds
2402.00	5	6.954	7	5.012	1.6	3

Note:

Per KDB 447498 D01, when the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion. The test exclusion threshold is 1.6 which is ≤ 3, SAR testing is not required.

<PMR Conducted Power>

Modulation Type	Channel Separation (kHz)	Power Level	Frequency (MHz)	Output Power (dBm)	Tune-up Limit (dBm)
Analog/FM	12.5KHz	High	136.0125	36.23	36.99
			150.8250	36.23	36.99
			155.0125	36.62	36.99
			162.1000	36.38	36.99
			167.7500	36.35	36.99
			173.9875	36.13	36.99
		Low	136.0125	30.15	30.00
			150.8250	30.22	31.00
			155.0125	30.44	31.00
			162.1000	30.34	31.00
			167.7500	30.41	31.00
			173.9875	30.36	31.00
	25KHz	High	136.0125	36.42	36.99
			150.8250	36.50	36.99
			155.0125	36.58	36.99
			162.1000	36.31	36.99
			167.7500	36.46	36.99
			173.9875	36.35	36.99
		Low	136.0125	30.21	31.00
			150.8250	30.24	31.00
			155.0125	30.32	31.00
			162.1000	30.26	31.00
			167.7500	30.30	31.00
			173.9875	30.24	31.00
Digital/4FSK	12.5KHz	High	136.0125	36.23	36.99
			150.8250	36.31	36.99
			155.0125	36.35	36.99
			162.1000	36.20	36.99
			167.7500	36.16	36.99
			173.9875	36.20	36.99
		Low	136.0125	30.21	31.00
			150.8250	30.33	31.00
			155.0125	30.43	31.00
			162.1000	30.42	31.00
			167.7500	30.25	31.00
			173.9875	30.35	31.00

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com

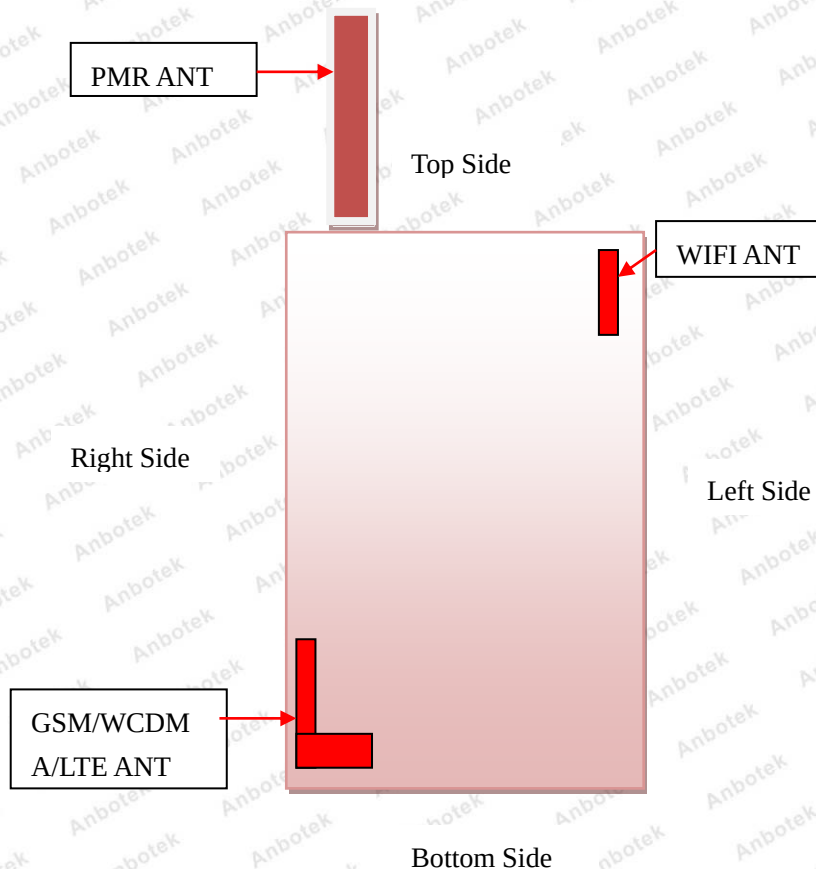


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11. Transmit Antennas



Distance of The Antenna to the EUT surface and edge

Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	<25mm	<25mm	>25mm	<25mm	>25mm	<25mm
BT&WLAN	<25mm	<25mm	<25mm	>25mm	<25mm	>25mm

Positions for SAR tests; Hotspot mode

Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	Yes	Yes	No	Yes	No	Yes
BT&WLAN	Yes	Yes	Yes	No	Yes	No

General Note: Referring to KDB 941225 D06 v02, SAR must be measured for all sides and surfaces with a transmitting antenna located with 25mm from that surface or edge.

12. SAR Test Results Summary

General Note:

1. Per KDB 447498 D01v05r01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
$$\text{Scaling Factor} = \text{tune-up limit power (mW)} / \text{EUT RF power (mW)}, \text{ where tune-up limit is the maximum rated power among all production units.}$$
$$\text{Reported SAR(W/kg)} = \text{Measured SAR(W/kg)} * \text{Scaling Factor}$$
2. Per KDB 447498 D01v05r01, for each exposure position, if the highest output channel reported SAR ≤ 0.8 W/kg, other channels SAR testing are not necessary
3. Per KDB 941225 D05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.
7. Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.
1. Per KDB865664 D01, for each frequency band, **repeated SAR measurement is required** only when the measured SAR is ≥ 0.8 W/Kg; if the deviation among the repeated measurement is $\leq 20\%$, and the measured SAR < 1.45 W/Kg, only one repeated measurement is required.

SAR Values GSM 850

Test Position	Channel/ Frequency(MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	190/836.6	Voice	1:1	33.00	32.36	-0.02	0.125	1.16	0.145	N/A
Left/Tilt	190/836.6	Voice	1:1	33.00	32.36	-0.04	0.014	1.16	0.016	N/A
Right/Cheek	190/836.6	Voice	1:1	33.00	32.36	-0.05	0.129	1.16	0.149	Figure 1
Right/Tilt	190/836.6	Voice	1:1	33.00	32.36	0.03	0.010	1.16	0.012	N/A
Test position of Head Face up(Distance25mm)										
Face up	190/836.6	2Txslots	1:4.15	30.00	29.83	-0.05	0.089	1.04	0.093	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	190/836.6	2Txslots	1:4.15	30.00	29.83	-0.01	0.211	1.04	0.219	N/A
Front Side	190/836.6	2Txslots	1:4.15	30.00	29.83	-0.03	0.235	1.04	0.244	Figure 16
Hotspot Mode (Distance 10mm)										
Rear Side	190/836.6	2Txslots	1:4.15	30.00	29.83	0.03	0.205	1.04	0.213	N/A
Front Side	190/836.6	2Txslots	1:4.15	30.00	29.83	-0.04	0.214	1.04	0.223	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	190/836.6	2Txslots	1:4.15	30.00	29.83	0.06	0.198	1.04	0.206	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	190/836.6	2Txslots	1:4.15	30.00	29.83	-0.02	0.179	1.04	0.186	N/A
Worst Case Position of Body with EGPRS(Distance 0mm)										
Front Side	190/836.6	2Txslots	1:4.15	25.00	24.78	-0.07	0.098	1.05	0.103	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values GSM 1900

Test Position	Channel/ Frequency(M Hz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measure d SAR _{1g} (W/kg)	Scaling Factor	Report ed SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	661/1880	Voice	1:1	31.00	30.42	0.05	0.053	1.14	0.061	Figure 2
Left/Tilt	661/1880	Voice	1:1	31.00	30.42	-0.03	0.025	1.14	0.029	N/A
Right/Cheek	661/1880	Voice	1:1	31.00	30.42	-0.11	0.050	1.14	0.057	
Right/Tilt	661/1880	Voice	1:1	31.00	30.42	0.07	0.022	1.14	0.025	N/A
Test position of Head Face up(Distance25mm)										
Face up	661/1880	2Txslots	1:4.15	28.00	27.94	0.06	0.074	1.01	0.075	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	661/1880	2Txslots	1:4.15	28.00	27.94	0.06	0.187	1.01	0.190	N/A
Front Side	661/1880	2Txslots	1:4.15	28.00	27.94	-0.11	0.194	1.01	0.197	Figure 17
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	661/1880	2Txslots	1:4.15	28.00	27.94	0.06	0.154	1.01	0.156	N/A
Front Side	661/1880	2Txslots	1:4.15	28.00	27.94	-0.11	0.173	1.01	0.175	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	661/1880	2Txslots	1:4.15	28.00	27.94	0.04	0.158	1.01	0.160	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	661/1880	2Txslots	1:4.15	28.00	27.94	-0.02	0.163	1.01	0.165	N/A
Worst Case Position of Body with EGPRS(Distance 0mm)										
Front Side	661/1880	2Txslots	1:4.15	28.00	27.91	-0.05	0.143	1.02	0.146	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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400-003-0500

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SAR Values [WCDMA Band V]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.04	0.089	1.12	0.100	N/A
Left/Tilt	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.03	0.035	1.12	0.039	N/A
Right/Cheek	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.03	0.095	1.12	0.107	Figure 3
Right/Tilt	4183/836.6	RMC 12.2K	1:1	24.00	23.49	0.05	0.041	1.12	0.046	N/A
Test position of Head Face up(Distance25mm)										
Face up	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.04	0.102	1.12	0.115	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.10	0.327	1.12	0.368	Figure 18
Front Side	4183/836.6	RMC 12.2K	1:1	24.00	23.49	0.07	0.318	1.12	0.358	N/A
Test position of Body-worn accessory &Hotspot Mode (Distance 10mm)										
Rear Side	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.10	0.302	1.12	0.340	N/A
Front Side	4183/836.6	RMC 12.2K	1:1	24.00	23.49	0.05	0.285	1.12	0.321	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	4183/836.6	RMC 12.2K	1:1	24.00	23.49	0.05	0.241	1.12	0.271	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	4183/836.6	RMC 12.2K	1:1	24.00	23.49	-0.07	0.255	1.12	0.287	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode.

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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SAR Values [WCDMA Band II]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	9400/1880	RMC 12.2K	1:1	24.00	23.66	-0.11	0.061	1.08	0.066	Figure4
Left/Tilt	9400/1880	RMC 12.2K	1:1	24.00	23.66	-0.05	0.025	1.08	0.027	N/A
Right/Cheek	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.02	0.057	1.08	0.062	N/A
Right/Tilt	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.03	0.021	1.08	0.023	N/A
Test position of Head Face up(Distance25mm)										
Face up	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.06	0.069	1.08	0.075	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.06	0.257	1.08	0.278	N/A
Front Side	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.15	0.276	1.08	0.298	Figure19
Test position of Body-worn accessory &Hotspot Mode (Distance 10mm)										
Rear Side	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.06	0.201	1.08	0.217	N/A
Front Side	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.15	0.211	1.08	0.228	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	9400/1880	RMC 12.2K	1:1	24.00	23.66	0.05	0.187	1.08	0.202	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	9400/1880	RMC 12.2K	1:1	24.00	23.66	-0.08	0.192	1.08	0.208	N/A
Note: 1.The value with green color is the maximum SAR Value of each test band. 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power. 4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required. 5.When the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode										

SAR Values [LTE Band 2]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	1900.0	1RB	1:1	23.50	23.15	-0.12	0.044	1.08	0.048	Figure 5
Left/Tilt	1900.0	1RB	1:1	23.50	23.15	-0.08	0.015	1.08	0.016	N/A
Right/Cheek	1900.0	1RB	1:1	23.50	23.15	0.02	0.042	1.08	0.046	N/A
Right/Tilt	1900.0	1RB	1:1	23.50	23.15	0.05	0.013	1.08	0.014	N/A
Left/Cheek	1900.0	50%RB	1:1	23.50	23.50	-0.07	0.039	1.00	0.039	N/A
Left/Tilt	1900.0	50%RB	1:1	23.50	23.50	0.05	0.011	1.00	0.011	N/A
Right/Cheek	1900.0	50%RB	1:1	23.50	23.50	0.03	0.040	1.00	0.040	N/A
Right/Tilt	1900.0	50%RB	1:1	23.50	23.50	0.11	0.014	1.00	0.014	N/A
Test position of Head Face up(Distance25mm)										
Face up	1900.0	1RB	1:1	23.50	23.15	0.05	0.051	1.08	0.055	N/A
Face up	1900.0	50%RB	1:1	23.50	23.50	-0.03	0.058	1.00	0.058	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	1900.0	1RB	1:1	23.50	23.15	0.08	0.145	1.08	0.157	N/A
Front Side	1900.0	1RB	1:1	23.50	23.15	-0.13	0.154	1.08	0.167	Figure20
Rear Side	1900.0	50%RB	1:1	23.50	23.50	-0.02	0.148	1.00	0.148	N/A
Front Side	1900.0	50%RB	1:1	23.50	23.50	-0.05	0.152	1.00	0.152	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	1900.0	1RB	1:1	23.50	23.15	0.08	0.135	1.08	0.146	N/A
Front Side	1900.0	1RB	1:1	23.50	23.15	-0.13	0.140	1.08	0.152	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	1900.0	1RB	1:1	23.50	23.15	0.11	0.132	1.08	0.143	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	1900.0	1RB	1:1	23.50	23.15	-0.08	0.135	1.08	0.146	N/A
Rear Side	1900.0	50%RB	1:1	23.50	23.50	-0.02	0.128	1.00	0.128	N/A
Front Side	1900.0	50%RB	1:1	23.50	23.50	-0.05	0.130	1.00	0.130	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	1900.0	50%RB	1:1	23.50	23.50	0.08	0.119	1.00	0.119	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	1900.0	50%RB	1:1	23.50	23.50	-0.04	0.120	1.00	0.120	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher

Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotech.com

Hotline
400-003-0500
www.anbotech.com

than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values [LTE Band 4]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	1732.5	1RB	1:1	23.50	22.92	-0.15	0.037	1.14	0.042	Figure 6
Left/Tilt	1732.5	1RB	1:1	23.50	22.92	-0.05	0.012	1.14	0.014	N/A
Right/Cheek	1732.5	1RB	1:1	23.50	22.92	0.03	0.035	1.14	0.040	N/A
Right/Tilt	1732.5	1RB	1:1	23.50	22.92	0.04	0.010	1.14	0.011	N/A
Left/Cheek	1720.0	50%RB	1:1	23.50	23.50	-0.05	0.036	1.00	0.036	N/A
Left/Tilt	1720.0	50%RB	1:1	23.50	23.50	0.06	0.009	1.00	0.009	N/A
Right/Cheek	1720.0	50%RB	1:1	23.50	23.50	0.09	0.032	1.00	0.032	N/A
Right/Tilt	1720.0	50%RB	1:1	23.50	23.50	0.10	0.011	1.00	0.011	N/A
Test position of Head Face up(Distance25mm)										
Face up	1732.5	1RB	1:1	23.50	22.92	0.05	0.069	1.14	0.079	N/A
Face up	1720.0	50%RB	1:1	23.50	23.50	-0.03	0.085	1.00	0.085	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	1732.5	1RB	1:1	23.50	22.92	-0.10	0.172	1.14	0.197	Figure 21
Front Side	1732.5	1RB	1:1	23.50	22.92	0.12	0.168	1.14	0.192	N/A
Rear Side	1720.0	50%RB	1:1	23.50	23.50	-0.03	0.170	1.00	0.170	N/A
Front Side	1720.0	50%RB	1:1	23.50	23.50	0.05	0.167	1.00	0.167	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	1732.5	1RB	1:1	23.50	22.92	-0.10	0.166	1.14	0.190	N/A
Front Side	1732.5	1RB	1:1	23.50	22.92	0.12	0.154	1.14	0.176	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	1732.5	1RB	1:1	23.50	22.92	0.08	0.143	1.14	0.163	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	1732.5	1RB	1:1	23.50	22.92	-0.05	0.150	1.14	0.171	N/A
Rear Side	1720.0	50%RB	1:1	23.50	23.50	-0.03	0.160	1.00	0.160	N/A
Front Side	1720.0	50%RB	1:1	23.50	23.50	0.05	0.157	1.00	0.157	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	1720.0	50%RB	1:1	23.50	23.50	0.04	0.142	1.00	0.142	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	1720.0	50%RB	1:1	23.50	23.50	-0.04	0.148	1.00	0.148	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8 \text{ W/kg}$ then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values [LTE Band 5]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	829.0	1RB	1:1	23.50	23.44	-0.11	0.148	1.01	0.150	N/A
Left/Tilt	829.0	1RB	1:1	23.50	23.44	-0.05	0.049	1.01	0.050	N/A
Right/Cheek	829.0	1RB	1:1	23.50	23.44	0.03	0.142	1.01	0.144	N/A
Right/Tilt	829.0	1RB	1:1	23.50	23.44	0.04	0.054	1.01	0.055	N/A
Left/Cheek	844.0	50%RB	1:1	23.50	23.45	0.03	0.159	1.01	0.161	Figure 7
Left/Tilt	844.0	50%RB	1:1	23.50	23.45	0.02	0.054	1.01	0.055	N/A
Right/Cheek	844.0	50%RB	1:1	23.50	23.45	0.01	0.152	1.01	0.154	N/A
Right/Tilt	844.0	50%RB	1:1	23.50	23.45	0.10	0.051	1.01	0.052	N/A
Test position of Head Face up(Distance25mm)										
Face up	829.0	1RB	1:1	23.50	23.44	-0.03	0.057	1.01	0.058	N/A
Face up	844.0	50%RB	1:1	23.50	23.45	0.06	0.063	1.01	0.064	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	829.0	1RB	1:1	23.50	23.44	0.08	0.325	1.01	0.330	N/A
Front Side	829.0	1RB	1:1	23.50	23.44	0.11	0.298	1.01	0.302	N/A
Rear Side	844.0	50%RB	1:1	23.50	23.45	-0.11	0.327	1.01	0.331	Figure 22
Front Side	844.0	50%RB	1:1	23.50	23.45	-0.05	0.302	1.01	0.305	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	829.0	1RB	1:1	23.50	23.44	0.08	0.314	1.01	0.318	N/A
Front Side	829.0	1RB	1:1	23.50	23.44	0.11	0.284	1.01	0.288	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	829.0	1RB	1:1	23.50	23.44	0.11	0.239	1.01	0.242	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	829.0	1RB	1:1	23.50	23.44	-0.08	0.252	1.01	0.256	N/A
Rear Side	844.0	50%RB	1:1	23.50	23.45	-0.11	0.316	1.01	0.320	N/A
Front Side	844.0	50%RB	1:1	23.50	23.45	-0.05	0.291	1.01	0.294	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	844.0	50%RB	1:1	23.50	23.45	0.08	0.248	1.01	0.251	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	844.0	50%RB	1:1	23.50	23.45	-0.04	0.257	1.01	0.260	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.
 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
 3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
 4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

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Hotline
400-003-0500
www.anbotek.com

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SAR Values [LTE Band 7]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	2560	1RB	1:1	23.50	23.40	-0.10	0.347	1.02	0.355	N/A
Left/Tilt	2560	1RB	1:1	23.50	23.40	-0.08	0.082	1.02	0.084	N/A
Right/Cheek	2560	1RB	1:1	23.50	23.40	0.02	0.355	1.02	0.363	Figure 8
Right/Tilt	2560	1RB	1:1	23.50	23.40	0.05	0.089	1.02	0.091	N/A
Left/Cheek	2510	50%RB	1:1	23.50	23.25	-0.07	0.321	1.06	0.340	N/A
Left/Tilt	2510	50%RB	1:1	23.50	23.25	0.05	0.068	1.06	0.072	N/A
Right/Cheek	2510	50%RB	1:1	23.50	23.25	0.03	0.329	1.06	0.348	N/A
Right/Tilt	2510	50%RB	1:1	23.50	23.25	0.11	0.071	1.06	0.075	N/A
Test position of Head Face up(Distance25mm)										
Face up	2560	1RB	1:1	23.50	23.40	-0.03	0.074	1.02	0.076	N/A
Face up	2510	50%RB	1:1	23.50	23.25	0.05	0.089	1.06	0.094	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	2560	1RB	1:1	23.50	23.40	0.08	0.477	1.02	0.488	Figure 23
Front Side	2560	1RB	1:1	23.50	23.40	0.11	0.205	1.02	0.210	N/A
Rear Side	2510	50%RB	1:1	23.50	23.25	-0.02	0.369	1.06	0.391	N/A
Front Side	2510	50%RB	1:1	23.50	23.25	-0.05	0.182	1.06	0.193	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	2560	1RB	1:1	23.50	23.40	0.08	0.452	1.02	0.463	N/A
Front Side	2560	1RB	1:1	23.50	23.40	0.11	0.189	1.02	0.193	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	2560	1RB	1:1	23.50	23.40	0.11	0.114	1.02	0.117	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	2560	1RB	1:1	23.50	23.40	-0.08	0.124	1.02	0.127	N/A
Rear Side	2510	50%RB	1:1	23.50	23.25	-0.02	0.351	1.06	0.372	N/A
Front Side	2510	50%RB	1:1	23.50	23.25	-0.05	0.173	1.06	0.183	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	2510	50%RB	1:1	23.50	23.25	0.08	0.112	1.06	0.119	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	2510	50%RB	1:1	23.50	23.25	-0.04	0.108	1.06	0.114	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.
2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

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Hotline
400-003-0500
www.anbotek.com

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SAR Values [LTE Band 12]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	711.0	1RB	1:1	23.50	23.44	-0.03	0.315	1.01	0.319	N/A
Left/Tilt	711.0	1RB	1:1	23.50	23.44	-0.05	0.101	1.01	0.102	N/A
Right/Cheek	711.0	1RB	1:1	23.50	23.44	-0.07	0.318	1.01	0.322	Figure 9
Right/Tilt	711.0	1RB	1:1	23.50	23.44	0.04	0.105	1.01	0.106	N/A
Left/Cheek	704.0	50%RB	1:1	23.50	23.46	-0.10	0.305	1.01	0.308	N/A
Left/Tilt	704.0	50%RB	1:1	23.50	23.46	0.07	0.087	1.01	0.088	N/A
Right/Cheek	704.0	50%RB	1:1	23.50	23.46	0.05	0.310	1.01	0.313	N/A
Right/Tilt	704.0	50%RB	1:1	23.50	23.46	0.09	0.098	1.01	0.099	N/A
Test position of Head Face up(Distance25mm)										
Face up	711.0	1RB	1:1	23.50	23.44	0.03	0.047	1.01	0.048	N/A
Face up	704.0	50%RB	1:1	23.50	23.46	0.01	0.089	1.01	0.090	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	711.0	1RB	1:1	23.50	23.44	0.02	0.257	1.01	0.261	Figure 24
Front Side	711.0	1RB	1:1	23.50	23.44	0.05	0.225	1.01	0.228	N/A
Rear Side	704.0	50%RB	1:1	23.50	23.46	0.02	0.249	1.01	0.251	N/A
Front Side	704.0	50%RB	1:1	23.50	23.46	-0.04	0.215	1.01	0.217	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	711.0	1RB	1:1	23.50	23.44	0.02	0.244	1.01	0.247	N/A
Front Side	711.0	1RB	1:1	23.50	23.44	0.05	0.212	1.01	0.215	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	711.0	1RB	1:1	23.50	23.44	-0.03	0.198	1.01	0.201	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	711.0	1RB	1:1	23.50	23.44	-0.05	0.213	1.01	0.216	N/A
Rear Side	704.0	50%RB	1:1	23.50	23.46	0.02	0.235	1.01	0.237	N/A
Front Side	704.0	50%RB	1:1	23.50	23.46	-0.04	0.201	1.01	0.203	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	704.0	50%RB	1:1	23.50	23.46	0.05	0.196	1.01	0.198	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	704.0	50%RB	1:1	23.00	23.46	-0.02	0.210	0.90	0.189	N/A

Shenzhen Anbotech Compliance Laboratory Limited

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Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotech.com

Hotline
400-003-0500
www.anbotech.com

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2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotech.com



Hotline

400-003-0500

www.anbotech.com

SAR Values [LTE Band 13]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	782 .0	1RB	1:1	23.50	23.00	0.01	0.255	1.12	0.286	N/A
Left/Tilt	782 .0	1RB	1:1	23.50	23.00	-0.05	0.096	1.12	0.108	N/A
Right/Cheek	782 .0	1RB	1:1	23.50	23.00	-0.03	0.257	1.12	0.288	Figure 10
Right/Tilt	782 .0	1RB	1:1	23.50	23.00	0.05	0.098	1.12	0.110	N/A
Left/Cheek	782 .0	50%RB	1:1	23.50	22.44	-0.04	0.215	1.28	0.274	N/A
Left/Tilt	782 .0	50%RB	1:1	23.50	22.44	0.10	0.069	1.28	0.088	N/A
Right/Cheek	782 .0	50%RB	1:1	23.50	22.44	0.09	0.226	1.28	0.288	N/A
Right/Tilt	782 .0	50%RB	1:1	23.50	22.44	-0.07	0.075	1.28	0.096	N/A
Test position of Head Face up(Distance25mm)										
Face up	782 .0	1RB	1:1	23.50	23.00	0.01	0.055	1.12	0.062	N/A
Face up	782 .0	50%RB	1:1	23.50	22.44	-0.02	0.043	1.28	0.055	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	782 .0	1RB	1:1	23.50	23.00	0.05	0.211	1.12	0.237	N/A
Front Side	782 .0	1RB	1:1	23.50	23.00	0.02	0.214	1.12	0.240	Figure 25
Rear Side	782 .0	50%RB	1:1	23.50	22.44	-0.03	0.194	1.28	0.248	N/A
Front Side	782 .0	50%RB	1:1	23.50	22.44	-0.02	0.205	1.28	0.262	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	782 .0	1RB	1:1	23.50	23.00	0.05	0.200	1.12	0.224	N/A
Front Side	782 .0	1RB	1:1	23.50	23.00	0.02	0.202	1.12	0.227	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	782 .0	1RB	1:1	23.50	23.00	0.03	0.191	1.12	0.214	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	782 .0	1RB	1:1	23.50	23.00	-0.05	0.198	1.12	0.222	N/A
Rear Side	782 .0	50%RB	1:1	23.50	22.44	-0.03	0.184	1.28	0.235	N/A
Front Side	782 .0	50%RB	1:1	23.50	22.44	-0.02	0.195	1.28	0.249	N/A
Left Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	782 .0	50%RB	1:1	23.50	22.44	0.04	0.173	1.28	0.221	N/A
Top Edge	N/A	N/A	N/A	23.50	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	782 .0	50%RB	1:1	23.50	22.44	-0.03	0.181	1.28	0.231	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8 \text{ W/kg}$ then testing at the other channels is optional for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

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4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq 1/4$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values [LTE Band 17]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	711	1RB	1:1	23.50	23.33	-0.10	0.114	1.04	0.119	N/A
Left/Tilt	711	1RB	1:1	23.50	23.33	-0.03	0.052	1.04	0.054	N/A
Right/Cheek	711	1RB	1:1	23.50	23.33	0.05	0.118	1.04	0.123	Figure 11
Right/Tilt	711	1RB	1:1	23.50	23.33	0.04	0.065	1.04	0.068	N/A
Left/Cheek	710	50%RB	1:1	23.50	23.19	-0.03	0.098	1.07	0.105	N/A
Left/Tilt	710	50%RB	1:1	23.50	23.19	0.05	0.035	1.07	0.038	N/A
Right/Cheek	710	50%RB	1:1	23.50	23.19	0.02	0.105	1.07	0.113	N/A
Right/Tilt	710	50%RB	1:1	23.50	23.19	-0.10	0.041	1.07	0.044	N/A
Test position of Head Face up(Distance25mm)										
Face up	711	1RB	1:1	23.50	23.33	0.02	0.068	1.04	0.071	N/A
Face up	710	50%RB	1:1	23.50	23.19	-0.01	0.052	1.07	0.056	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	711	1RB	1:1	23.50	23.33	0.01	0.453	1.04	0.471	Figure 26
Front Side	711	1RB	1:1	23.50	23.33	0.03	0.341	1.04	0.355	N/A
Rear Side	710	50%RB	1:1	23.50	23.19	-0.04	0.412	1.07	0.442	N/A
Front Side	710	50%RB	1:1	23.50	23.19	0.02	0.321	1.07	0.345	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	711	1RB	1:1	23.50	23.33	0.01	0.435	1.04	0.452	N/A
Front Side	711	1RB	1:1	23.50	23.33	0.03	0.329	1.04	0.342	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	711	1RB	1:1	23.50	23.33	0.05	0.345	1.04	0.359	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	711	1RB	1:1	23.50	23.33	-0.03	0.358	1.04	0.372	N/A
Rear Side	710	50%RB	1:1	23.50	23.19	-0.04	0.404	1.07	0.434	N/A
Front Side	710	50%RB	1:1	23.50	23.19	0.02	0.309	1.07	0.332	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	710	50%RB	1:1	23.50	23.19	0.05	0.300	1.07	0.322	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	710	50%RB	1:1	23.50	23.19	-0.07	0.342	1.07	0.367	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.
 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
 3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
 4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86) 755-26066440 Fax: (86) 755-26014772 Email: service@anbotek.com

Hotline
400-003-0500
www.anbotek.com

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values [LTE Band 26]

Test Position	Channel/ Frequency (MHz)	Test Mode	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	836.5	1RB	1:1	23.50	23.22	-0.01	0.171	1.07	0.182	N/A
Left/Tilt	836.5	1RB	1:1	23.50	23.22	-0.10	0.074	1.07	0.079	N/A
Right/Cheek	836.5	1RB	1:1	23.50	23.22	0.06	0.175	1.07	0.187	Figure 12
Right/Tilt	836.5	1RB	1:1	23.50	23.22	0.05	0.070	1.07	0.075	N/A
Left/Cheek	831.5	50%RB	1:1	23.50	22.93	-0.04	0.140	1.14	0.160	N/A
Left/Tilt	831.5	50%RB	1:1	23.50	22.93	0.03	0.054	1.14	0.062	N/A
Right/Cheek	831.5	50%RB	1:1	23.50	22.93	0.02	0.142	1.14	0.162	N/A
Right/Tilt	831.5	50%RB	1:1	23.50	22.93	0.09	0.057	1.14	0.065	N/A
Test position of Head Face up(Distance25mm)										
Face up	836.5	1RB	1:1	23.50	23.22	0.07	0.072	1.07	0.077	N/A
Face up	831.5	50%RB	1:1	23.50	22.93	0.03	0.059	1.14	0.067	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	836.5	1RB	1:1	23.50	23.22	0.08	0.201	1.07	0.214	N/A
Front Side	836.5	1RB	1:1	23.50	23.22	0.06	0.204	1.07	0.218	Figure 27
Rear Side	831.5	50%RB	1:1	23.50	22.93	0.05	0.187	1.14	0.213	N/A
Front Side	831.5	50%RB	1:1	23.50	22.93	-0.07	0.198	1.14	0.226	N/A
Test position of Body-worn accessory& Hotspot Mode (Distance 10mm)										
Rear Side	836.5	1RB	1:1	23.50	23.22	0.08	0.190	1.07	0.203	N/A
Front Side	836.5	1RB	1:1	23.50	23.22	0.06	0.194	1.07	0.207	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	836.5	1RB	1:1	23.50	23.22	0.04	0.184	1.07	0.196	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	836.5	1RB	1:1	23.50	23.22	-0.04	0.180	1.07	0.192	N/A
Rear Side	831.5	50%RB	1:1	23.50	22.93	0.05	0.176	1.14	0.201	N/A
Front Side	831.5	50%RB	1:1	23.50	22.93	-0.07	0.187	1.14	0.213	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Right Edge	831.5	50%RB	1:1	23.50	22.93	0.10	0.165	1.14	0.188	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bottom Edge	831.5	50%RB	1:1	23.50	22.93	-0.05	0.161	1.14	0.184	N/A

Note: 1. The value with green color is the maximum SAR Value of each test band.
 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).
 3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.
 4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was ≤ 1.2 W/kg, no additional SAR evaluations using a headset cable were required.

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Hotline
400-003-0500
www.anbotek.com

5. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for the secondary mode

SAR Values [WIFI2.4G]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	$\pm 0.21\text{dB}$	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	6/2437	DSSS	1:1	18.00	17.89	0.03	0.458	1.03	0.470	N/A
Left/Tilt	6/2437	DSSS	1:1	18.00	17.89	-0.05	0.305	1.03	0.313	N/A
Right/Cheek	6/2437	DSSS	1:1	18.00	17.89	-0.11	0.467	1.03	0.479	Figure13
Right/Tilt	6/2437	DSSS	1:1	18.00	17.89	0.05	0.311	1.03	0.319	N/A
Test position of Head Face up(Distance25mm)										
Face up	6/2437	DSSS	1:1	18.00	17.89	-0.03	0.091	1.03	0.093	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	6/2437	DSSS	1:1	18.00	17.89	-0.05	0.422	1.03	0.433	Figure28
Front Side	6/2437	DSSS	1:1	18.00	17.89	-0.07	0.258	1.03	0.265	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	6/2437	DSSS	1:1	18.00	17.89	-0.05	0.410	1.03	0.421	N/A
Front Side	6/2437	DSSS	1:1	18.00	17.89	-0.07	0.247	1.03	0.253	N/A
Left Edge	6/2437	DSSS	1:1	18.00	17.89	0.03	0.301	1.03	0.309	N/A
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	6/2437	DSSS	1:1	18.00	17.89	0.09	0.293	1.03	0.301	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note: 1. The value with green color is the maximum SAR Value of each test band. 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration. 4. Per KDB 248227- Channels with measured maximum output power within $\frac{1}{4}$ dB of each other are considered to have the same maximum output, When there are multiple test channels with the same measured maximum output power, the channel closest to mid-band frequency is selected for SAR measurement. And when there are multiple test channels with the same measured maximum output power and equal separation from mid-band frequency; for example, high and low channels or two mid-band channels, the higher frequency (number) channel is selected for SAR measurement. 5. Per KDB 248227- When the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg the ODFM SAR test is not required.										

Remark: The highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power was 0.479 W/Kg($0.479 \times (18/18) = 0.479$) So OFDM SAR test is not required.

SAR Values [WIFI U-NII 1]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum Allowed Power (dBm)	Conducted Power (dBm)	Drift ± 0.21dB	Limit SAR _{1g} 1.6 W/kg			
						Drift (dB)	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	5200	OFDM	1:1	18.00	17.51	0.05	0.254	1.12	0.284	N/A
Left/Tilt	5200	OFDM	1:1	18.00	17.51	-0.04	0.211	1.12	0.236	N/A
Right/Cheek	5200	OFDM	1:1	18.00	17.51	-0.02	0.269	1.12	0.301	Figure14
Right/Tilt	5200	OFDM	1:1	18.00	17.51	0.05	0.224	1.12	0.251	N/A
Test position of Head Face up(Distance25mm)										
Face up	5200	OFDM	1:1	18.00	17.51	-0.05	0.059	1.12	0.066	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	5200	OFDM	1:1	18.00	17.51	-0.02	0.211	1.12	0.236	Figure29
Front Side	5200	OFDM	1:1	18.00	17.51	-0.01	0.125	1.12	0.140	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	5200	OFDM	1:1	18.00	17.51	-0.02	0.199	1.12	0.223	N/A
Front Side	5200	OFDM	1:1	18.00	17.51	-0.01	0.114	1.12	0.128	N/A
Left Edge	5200	OFDM	1:1	18.00	17.51	0.05	0.195	1.12	0.218	N/A
Right Edge	N/A	N/A	N/A	N/A	17.51	N/A	N/A	N/A	N/A	N/A
Top Edge	5200	OFDM	1:1	18.00	17.51	0.04	0.194	1.12	0.217	N/A
Bottom Edge	N/A	N/A	N/A	N/A	17.51	N/A	N/A	N/A	N/A	N/A
Note:1.The value with green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration										

SAR Values [WIFI U-NII 3]

Test Position	Channel/ Frequency (MHz)	Service	Duty Cycle	Maximum	Conducted	Drift	Limit SAR _{1g} 1.6 W/kg			
				Allowed Power (dBm)		± 0.21dB	Measured SAR _{1g} (W/kg)	Scaling Factor	Reported SAR _{1g} (W/kg)	Graph Results
Test Position of Head										
Left/Cheek	5825	OFDM	1:1	17.00	16.98	0.03	0.361	1.00	0.363	N/A
Left/Tilt	5825	OFDM	1:1	17.00	16.98	-0.01	0.311	1.00	0.312	N/A
Right/Cheek	5825	OFDM	1:1	17.00	16.98	0.02	0.368	1.00	0.370	Figure15
Right/Tilt	5825	OFDM	1:1	17.00	16.98	-0.05	0.321	1.00	0.322	N/A
Test position of Head Face up(Distance25mm)										
Face up	5825	OFDM	1:1	17.00	16.98	-0.01	0.064	1.00	0.064	N/A
Test position ofBody-worn accessory(Distance0mm)										
Rear Side	5825	OFDM	1:1	17.00	16.98	-0.02	0.184	1.00	0.185	Figure30
Front Side	5825	OFDM	1:1	17.00	16.98	-0.01	0.166	1.00	0.167	N/A
Test position of Hotspot Mode (Distance 10mm)										
Rear Side	5825	OFDM	1:1	17.00	16.98	-0.02	0.172	1.00	0.173	N/A
Front Side	5825	OFDM	1:1	17.00	16.98	-0.01	0.164	1.00	0.165	N/A
Left Edge	5825	OFDM	1:1	17.00	16.98	0.05	0.167	1.00	0.168	N/A
Right Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Top Edge	5825	OFDM	1:1	17.00	16.98	0.04	0.161	1.00	0.162	N/A
Bottom Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Note:1.The value with green color is the maximum SAR Value of each test band. 2.Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s). 3.Per KDB 248227-SAR is measured using the highest measured maximum output power channel for the initial test configuration										

SAR Values [PMR136-174MHz]

Test Frequency MHz	Maximum Allowed Power Power (dBm)	Measured ERP (dBm)	Measurement SAR _{1-g} (W/Kg)		Power drift	Scaling Factor	Reported SAR _{1-g} (W/kg)		SAR limit 1g (W/kg)	Ref. Plot
			100%	50%			100%	50%		
			Duty Cycle	Duty Cycle			Duty Cycle	Duty Cycle		
Analog/FM12.5KHz Face Held (Test distance 25mm)										
136.0125	36.99	36.23	0.854	0.427	0.02	1.19	1.015	0.507	8.0	
150.8250	36.99	36.23	0.901	0.451	0.05	1.19	1.076	0.538	8.0	
155.0125	36.99	36.62	0.915	0.458	-0.04	1.09	0.996	0.499	8.0	Figure31
162.1000	36.99	36.38	0.886	0.443	0.03	1.15	1.017	0.509	8.0	
167.7500	36.99	36.35	0.842	0.421	0.17	1.16	0.978	0.489	8.0	
173.9875	36.99	36.13	0.836	0.418	0.05	1.22	1.019	0.510	8.0	
Analog/FM 25KHz Face Held (Test distance 25mm)										
136.0125	36.99	36.42	0.761	0.381	0.10	1.14	0.864	0.432	8.0	
150.8250	36.99	36.50	0.754	0.377	-0.03	1.12	0.846	0.423	8.0	
155.0125	36.99	36.58	0.793	0.397	0.07	1.10	0.876	0.438	8.0	
162.1000	36.99	36.31	0.785	0.393	-0.05	1.17	0.920	0.461	8.0	
167.7500	36.99	36.46	0.763	0.382	0.05	1.13	0.864	0.433	8.0	
173.9875	36.99	36.35	0.757	0.379	0.01	1.16	0.877	0.439	8.0	
Digital/4FSK 12.5KHz Face Held (Test distance 25mm)										
136.0125	36.99	36.23	0.751	0.376	-0.05	1.19	0.893	0.447	8.0	
150.8250	36.99	36.31	0.745	0.373	0.03	1.17	0.875	0.438	8.0	
155.0125	36.99	36.35	0.760	0.380	-0.07	1.16	0.881	0.440	8.0	
162.1000	36.99	36.20	0.739	0.370	0.10	1.20	0.884	0.443	8.0	
167.7500	36.99	36.16	0.722	0.361	0.09	1.21	0.870	0.435	8.0	
173.9875	36.99	36.20	0.741	0.371	0.03	1.20	0.889	0.445	8.0	
Analog/FM12.5KHzBody Worn(Test distance 0mm)										
136.0125	36.99	36.23	1.105	0.553	0.05	1.19	1.313	0.657	8.0	
150.8250	36.99	36.23	1.024	0.512	-0.04	1.19	1.223	0.611	8.0	
155.0125	36.99	36.62	1.310	0.655	-0.10	1.09	1.426	0.713	8.0	Figure32
162.1000	36.99	36.38	0.994	0.497	0.05	1.15	1.141	0.571	8.0	
167.7500	36.99	36.35	1.057	0.529	-0.14	1.16	1.228	0.614	8.0	
173.9875	36.99	36.13	0.981	0.491	0.07	1.22	1.196	0.599	8.0	
Analog/FM 25KHzBody Worn(Test distance 0mm)										
136.0125	36.99	36.42	0.987	0.494	-0.03	1.14	1.120	0.561	8.0	
150.8250	36.99	36.50	1.035	0.518	0.03	1.12	1.161	0.581	8.0	
155.0125	36.99	36.58	1.058	0.529	0.04	1.10	1.168	0.584	8.0	
162.1000	36.99	36.31	1.028	0.514	0.01	1.17	1.205	0.603	8.0	

Shenzhen Anbotek Compliance Laboratory Limited

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

167.7500	36.99	36.46	0.952	0.476	0.19	1.13	1.078	0.539	8.0	
173.9875	36.99	36.35	0.917	0.459	0.01	1.16	1.063	0.532	8.0	
Digital/4FSK 12.5KHz Body Worn (Test distance 0mm)										
136.0125	36.99	36.23	0.916	0.458	0.07	1.19	1.089	0.544	8.0	
150.8250	36.99	36.31	0.933	0.467	0.11	1.17	1.096	0.549	8.0	
155.0125	36.99	36.35	0.994	0.497	0.05	1.16	1.152	0.576	8.0	
162.1000	36.99	36.20	0.975	0.488	-0.08	1.20	1.167	0.584	8.0	
167.7500	36.99	36.16	0.910	0.455	-0.07	1.21	1.097	0.548	8.0	
173.9875	36.99	36.20	0.905	0.453	-0.05	1.20	1.086	0.543	8.0	

Note: 1. The value with green color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is ≤ 0.8 W/kg then testing at the other channels is optional for such test configuration(s).

13. SAR Measurement Variability

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

- 1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
- 3) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥ 1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 .

SAR Measurement Variability

Frequency (MHz)	Mode	Test Position	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
136.0125	Analog/FM 12.5KHz	Face Held	25	0.854	0.884	1.035	N/A
150.8250	Analog/FM 12.5KHz	Face Held	25	0.901	0.921	1.022	N/A
155.0125	Analog/FM 12.5KHz	Face Held	25	0.915	0.950	1.038	N/A
162.1000	Analog/FM 12.5KHz	Face Held	25	0.886	0.906	1.023	N/A
167.7500	Analog/FM 12.5KHz	Face Held	25	0.842	0.874	1.038	N/A
173.9875	Analog/FM 12.5KHz	Face Held	25	0.836	0.854	1.021	N/A
136.0125	Analog/FM 12.5KHz	Body Worn	0	1.105	1.133	1.025	N/A
150.8250	Analog/FM 12.5KHz	Body Worn	0	1.024	1.062	1.037	N/A
155.0125	Analog/FM 12.5KHz	Body Worn	0	1.310	1.353	1.033	N/A
162.1000	Analog/FM 12.5KHz	Body Worn	0	0.994	1.017	1.023	N/A
167.7500	Analog/FM 12.5KHz	Body Worn	0	1.057	1.090	1.031	N/A
173.9875	Analog/FM 12.5KHz	Body Worn	0	0.981	1.006	1.025	N/A
136.0125	Analog/FM 25KHz	Body Worn	0	0.987	1.021	1.034	N/A
150.8250	Analog/FM 25KHz	Body Worn	0	1.035	1.073	1.037	N/A
155.0125	Analog/FM 25KHz	Body Worn	0	1.058	1.098	1.038	N/A
162.1000	Analog/FM 25KHz	Body Worn	0	1.028	1.052	1.023	N/A
167.7500	Analog/FM 25KHz	Body Worn	0	0.952	0.984	1.034	N/A
173.9875	Analog/FM 25KHz	Body Worn	0	0.917	0.937	1.022	N/A
136.0125	Digital/4FSK 12.5KHz	Body Worn	0	0.916	0.946	1.033	N/A

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com

Hotline
400-003-0500
www.anbotek.com

150.8250	Digital/4FSK 12.5KHz	Body Worn	0	0.933	0.964	1.033	N/A
155.0125	Digital/4FSK 12.5KHz	Body Worn	0	0.994	1.024	1.030	N/A
162.1000	Digital/4FSK 12.5KHz	Body Worn	0	0.975	0.998	1.024	N/A
167.7500	Digital/4FSK 12.5KHz	Body Worn	0	0.910	0.930	1.022	N/A
173.9875	Digital/4FSK 12.5KHz	Body Worn	0	0.905	0.938	1.037	N/A

14. Simultaneous Transmission Analysis

Application Simultaneous Transmission information:

Mode	Air-Interface	Simultaneous?	Hotspot?
1	WWAN+BT2.4G+PPT	YES	No
2	WWAN+WLAN2.4G+PPT	YES	No
3	WWAN+WLAN5.2G+PPT	YES	No
4	WWAN+WLAN5.8G+PPT	YES	No
5	WWAN+WLAN	YES	YES

NOTE:

- The EUT support WWAN(GSM/WCDMA/LTE), WLAN(WIFI 2.4GHz/5GHz), Bluetooth and PPT technology.
- The PTT mode can't work in Earphone Speaking mode.
- The PPT mode can't transmit Simultaneously with WWAN Voice mode.
- The PPT mode can transmit Simultaneously with WWAN data mode or WLAN/Bluetooth, the data communication keep linked when PTT mode works.
- WLAN and Bluetooth share the same antenna, and cannot transmit simultaneously.
- The Reported SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation < 1.6W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $\sqrt{(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2}$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan
 - If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary
 - Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg
- For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v05r02 based on the formula below.
 - (max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] $\cdot [\sqrt{f(\text{GHz})} / x]$ W/kg for test separation distances ≤ 50 mm; where x = 7.5 for 1-g SAR, and x = 18.75 for 10-g SAR.
 - When the minimum separation distance is < 5mm, the distance is used 5mm to determine SAR test exclusion.
 - 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm.

Estimated stand alone SAR					
Communication system	Frequency (MHz)	Configuration	Maximum Power (including tune-up tolerance) (dBm)	Separation Distance (mm)	Estimated SAR _{1-g} (W/kg)
Bluetooth*	2402	Head	7	5	0.207
Bluetooth*	2402	Face Up	7	25	0.041
Bluetooth*	2402	Body Worn	7	0	0.207

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

Simultaneous and Hotspot SAR test exclusion considerations:

WWAN+BT2.4G+PPT Simultaneous mode:

Mode (WWAN+ BT2.4G +PPT)	Position	Reported SAR(W/Kg)			Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	BT2.4G	PPT		
GSM850+ BT2.4G +PTT	Head Left Check	0.145	0.207	N/A	0.220	0.352
	Head Left Tilt	0.016	0.207	N/A	0.139	0.223
	Head Right Check	0.149	0.207	N/A	0.223	0.356
	Head Right Tilt	0.012	0.207	N/A	0.137	0.219
	Face Up(25mm)	0.093	0.041	0.538	0.151	0.672
	Body Back(0mm)	0.219	0.207	0.713	0.355	1.139
	Body Front(0mm)	0.244	0.207	N/A	0.282	0.451
PCS1900+ BT2.4G +PTT	Head Left Check	0.061	0.207	N/A	0.168	0.268
	Head Left Tilt	0.029	0.207	N/A	0.148	0.236
	Head Right Check	0.057	0.207	N/A	0.165	0.264
	Head Right Tilt	0.025	0.207	N/A	0.145	0.232
	Face Up(25mm)	0.075	0.041	0.538	0.140	0.654
	Body Back(0mm)	0.190	0.207	0.713	0.337	1.110
	Body Front(0mm)	0.197	0.207	N/A	0.253	0.404
WCDMA Band 2+ BT2.4G +PTT	Head Left Check	0.066	0.207	N/A	0.171	0.273
	Head Left Tilt	0.027	0.207	N/A	0.146	0.234
	Head Right Check	0.062	0.207	N/A	0.168	0.269
	Head Right Tilt	0.023	0.207	N/A	0.144	0.230
	Face Up(25mm)	0.075	0.041	0.538	0.140	0.654
	Body Back(0mm)	0.278	0.207	0.713	0.392	1.198
	Body Front(0mm)	0.298	0.207	N/A	0.316	0.505
WCDMA Band 5+ BT2.4G +PTT	Head Left Check	0.100	0.207	N/A	0.192	0.307
	Head Left Tilt	0.039	0.207	N/A	0.154	0.246
	Head Right Check	0.107	0.207	N/A	0.196	0.314
	Head Right Tilt	0.046	0.207	N/A	0.158	0.253
	Face Up(25mm)	0.115	0.041	0.538	0.165	0.694
	Body Back(0mm)	0.368	0.207	0.713	0.449	1.288
	Body Front(0mm)	0.358	0.207	N/A	0.353	0.565

Shenzhen Anbotech Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotech.com



Hotline

400-003-0500

www.anbotech.com

LTE band 2+ BT2.4G +PTT	Head Left Check	0.048	0.207	N/A	0.159	0.255
	Head Left Tilt	0.016	0.207	N/A	0.139	0.223
	Head Right Check	0.046	0.207	N/A	0.158	0.253
	Head Right Tilt	0.014	0.207	N/A	0.138	0.221
	Face Up(25mm)	0.058	0.041	0.538	0.129	0.637
	Body Back(0mm)	0.157	0.207	0.713	0.317	1.077
	Body Front(0mm)	0.167	0.207	N/A	0.234	0.374
LTE band 4+ BT2.4G +PTT	Head Left Check	0.042	0.207	N/A	0.156	0.249
	Head Left Tilt	0.014	0.207	N/A	0.138	0.221
	Head Right Check	0.040	0.207	N/A	0.154	0.247
	Head Right Tilt	0.011	0.207	N/A	0.136	0.218
	Face Up(25mm)	0.085	0.041	0.538	0.146	0.664
	Body Back(0mm)	0.197	0.207	0.713	0.342	1.117
	Body Front(0mm)	0.192	0.207	N/A	0.249	0.399
LTE band 5+ BT2.4G +PTT	Head Left Check	0.161	0.207	N/A	0.230	0.368
	Head Left Tilt	0.055	0.207	N/A	0.164	0.262
	Head Right Check	0.154	0.207	N/A	0.226	0.361
	Head Right Tilt	0.055	0.207	N/A	0.164	0.262
	Face Up(25mm)	0.064	0.041	0.538	0.133	0.643
	Body Back(0mm)	0.331	0.207	0.713	0.425	1.251
	Body Front(0mm)	0.305	0.207	N/A	0.320	0.512
LTE band 7+ BT2.4G +PTT	Head Left Check	0.355	0.207	N/A	0.351	0.562
	Head Left Tilt	0.084	0.207	N/A	0.182	0.291
	Head Right Check	0.363	0.207	N/A	0.356	0.570
	Head Right Tilt	0.091	0.207	N/A	0.186	0.298
	Face Up(25mm)	0.094	0.041	0.538	0.152	0.673
	Body Back(0mm)	0.488	0.207	0.713	0.524	1.408
	Body Front(0mm)	0.210	0.207	N/A	0.261	0.417
LTE band 12+ BT2.4G +PTT	Head Left Check	0.319	0.207	N/A	0.329	0.526
	Head Left Tilt	0.102	0.207	N/A	0.193	0.309
	Head Right Check	0.322	0.207	N/A	0.331	0.529
	Head Right Tilt	0.106	0.207	N/A	0.196	0.313
	Face Up(25mm)	0.090	0.041	0.538	0.149	0.669
	Body Back(0mm)	0.261	0.207	0.713	0.382	1.181
	Body Front(0mm)	0.228	0.207	N/A	0.272	0.435

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

LTE band 13+ BT2.4G +PTT	Head Left Check	0.286	0.207	N/A	0.308	0.493
	Head Left Tilt	0.108	0.207	N/A	0.197	0.315
	Head Right Check	0.288	0.207	N/A	0.309	0.495
	Head Right Tilt	0.110	0.207	N/A	0.198	0.317
	Face Up(25mm)	0.062	0.041	0.538	0.132	0.641
	Body Back(0mm)	0.248	0.207	0.713	0.374	1.168
	Body Front(0mm)	0.262	0.207	N/A	0.293	0.469
LTE band 17+ BT2.4G +PTT	Head Left Check	0.119	0.207	N/A	0.204	0.326
	Head Left Tilt	0.054	0.207	N/A	0.163	0.261
	Head Right Check	0.123	0.207	N/A	0.206	0.330
	Head Right Tilt	0.068	0.207	N/A	0.172	0.275
	Face Up(25mm)	0.071	0.041	0.538	0.137	0.650
	Body Back(0mm)	0.471	0.207	0.713	0.513	1.391
	Body Front(0mm)	0.355	0.207	N/A	0.351	0.562
LTE band 26+ BT2.4G +PTT	Head Left Check	0.182	0.207	N/A	0.243	0.389
	Head Left Tilt	0.079	0.207	N/A	0.179	0.286
	Head Right Check	0.187	0.207	N/A	0.246	0.394
	Head Right Tilt	0.075	0.207	N/A	0.176	0.282
	Face Up(25mm)	0.077	0.041	0.538	0.141	0.656
	Body Back(0mm)	0.214	0.207	0.713	0.352	1.134
	Body Front(0mm)	0.226	0.207	N/A	0.271	0.433

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Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

WWAN+WLAN2.4G+PPT Simultaneous mode:

Mode (WWAN+ WLAN2.4G +PPT)	Position	Reported SAR(W/Kg)			Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	WLAN2.4G	PPT		
GSM850+ WLAN2.4G +PTT	Head Left Check	0.145	0.470	N/A	0.384	0.615
	Head Left Tilt	0.016	0.313	N/A	0.206	0.329
	Head Right Check	0.149	0.479	N/A	0.393	0.628
	Head Right Tilt	0.012	0.319	N/A	0.207	0.331
	Face Up(25mm)	0.093	0.093	0.538	0.184	0.724
	Body Back(0mm)	0.219	0.433	0.713	0.497	1.365
	Body Front(0mm)	0.244	0.265	N/A	0.318	0.509
PCS1900+ WLAN2.4G +PTT	Head Left Check	0.061	0.470	N/A	0.332	0.531
	Head Left Tilt	0.029	0.313	N/A	0.214	0.342
	Head Right Check	0.057	0.479	N/A	0.335	0.536
	Head Right Tilt	0.025	0.319	N/A	0.215	0.344
	Face Up(25mm)	0.075	0.093	0.538	0.172	0.706
	Body Back(0mm)	0.190	0.433	0.713	0.479	1.336
	Body Front(0mm)	0.197	0.265	N/A	0.289	0.462
WCDMA Band 2+ WLAN2.4G +PTT	Head Left Check	0.066	0.470	N/A	0.335	0.536
	Head Left Tilt	0.027	0.313	N/A	0.213	0.340
	Head Right Check	0.062	0.479	N/A	0.338	0.541
	Head Right Tilt	0.023	0.319	N/A	0.214	0.342
	Face Up(25mm)	0.075	0.093	0.538	0.172	0.706
	Body Back(0mm)	0.278	0.433	0.713	0.534	1.424
	Body Front(0mm)	0.298	0.265	N/A	0.352	0.563
WCDMA Band 5+ WLAN2.4G +PTT	Head Left Check	0.100	0.470	N/A	0.356	0.570
	Head Left Tilt	0.039	0.313	N/A	0.220	0.352
	Head Right Check	0.107	0.479	N/A	0.366	0.586
	Head Right Tilt	0.046	0.319	N/A	0.228	0.365
	Face Up(25mm)	0.115	0.093	0.538	0.197	0.746
	Body Back(0mm)	0.368	0.433	0.713	0.590	1.514
	Body Front(0mm)	0.358	0.265	N/A	0.389	0.623

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

LTE band 2+ WLAN2.4G +PTT	Head Left Check	0.048	0.470	N/A	0.324	0.518
	Head Left Tilt	0.016	0.313	N/A	0.206	0.329
	Head Right Check	0.046	0.479	N/A	0.328	0.525
	Head Right Tilt	0.014	0.319	N/A	0.208	0.333
	Face Up(25mm)	0.058	0.093	0.538	0.162	0.689
	Body Back(0mm)	0.157	0.433	0.713	0.458	1.303
	Body Front(0mm)	0.167	0.265	N/A	0.270	0.432
LTE band 4+ WLAN2.4G +PTT	Head Left Check	0.042	0.470	N/A	0.320	0.512
	Head Left Tilt	0.014	0.313	N/A	0.204	0.327
	Head Right Check	0.040	0.479	N/A	0.324	0.519
	Head Right Tilt	0.011	0.319	N/A	0.206	0.330
	Face Up(25mm)	0.085	0.093	0.538	0.179	0.716
	Body Back(0mm)	0.197	0.433	0.713	0.483	1.343
	Body Front(0mm)	0.192	0.265	N/A	0.286	0.457
LTE band 5+ WLAN2.4G +PTT	Head Left Check	0.161	0.470	N/A	0.394	0.631
	Head Left Tilt	0.055	0.313	N/A	0.230	0.368
	Head Right Check	0.154	0.479	N/A	0.396	0.633
	Head Right Tilt	0.055	0.319	N/A	0.234	0.374
	Face Up(25mm)	0.064	0.093	0.538	0.165	0.695
	Body Back(0mm)	0.331	0.433	0.713	0.567	1.477
	Body Front(0mm)	0.305	0.265	N/A	0.356	0.570
LTE band 7+ WLAN2.4G +PTT	Head Left Check	0.355	0.470	N/A	0.516	0.825
	Head Left Tilt	0.084	0.313	N/A	0.248	0.397
	Head Right Check	0.363	0.479	N/A	0.526	0.842
	Head Right Tilt	0.091	0.319	N/A	0.256	0.410
	Face Up(25mm)	0.094	0.093	0.538	0.184	0.725
	Body Back(0mm)	0.488	0.433	0.713	0.665	1.634
	Body Front(0mm)	0.210	0.265	N/A	0.297	0.475
LTE band 12+ WLAN2.4G +PTT	Head Left Check	0.319	0.470	N/A	0.493	0.789
	Head Left Tilt	0.102	0.313	N/A	0.259	0.415
	Head Right Check	0.322	0.479	N/A	0.501	0.801
	Head Right Tilt	0.106	0.319	N/A	0.266	0.425
	Face Up(25mm)	0.090	0.093	0.538	0.182	0.721
	Body Back(0mm)	0.261	0.433	0.713	0.523	1.407
	Body Front(0mm)	0.228	0.265	N/A	0.308	0.493

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

LTE band 13+ WLAN2.4G +PTT	Head Left Check	0.286	0.470	N/A	0.473	0.756
	Head Left Tilt	0.108	0.313	N/A	0.263	0.421
	Head Right Check	0.288	0.479	N/A	0.479	0.767
	Head Right Tilt	0.110	0.319	N/A	0.268	0.429
	Face Up(25mm)	0.062	0.093	0.538	0.164	0.693
	Body Back(0mm)	0.248	0.433	0.713	0.515	1.394
	Body Front(0mm)	0.262	0.265	N/A	0.329	0.527
LTE band 17+ WLAN2.4G +PTT	Head Left Check	0.119	0.470	N/A	0.368	0.589
	Head Left Tilt	0.054	0.313	N/A	0.229	0.367
	Head Right Check	0.123	0.479	N/A	0.376	0.602
	Head Right Tilt	0.068	0.319	N/A	0.242	0.387
	Face Up(25mm)	0.071	0.093	0.538	0.170	0.702
	Body Back(0mm)	0.471	0.433	0.713	0.654	1.617
	Body Front(0mm)	0.355	0.265	N/A	0.388	0.620
LTE band 26+ WLAN2.4G +PTT	Head Left Check	0.182	0.470	N/A	0.408	0.652
	Head Left Tilt	0.079	0.313	N/A	0.245	0.392
	Head Right Check	0.187	0.479	N/A	0.416	0.666
	Head Right Tilt	0.075	0.319	N/A	0.246	0.394
	Face Up(25mm)	0.077	0.093	0.538	0.174	0.708
	Body Back(0mm)	0.214	0.433	0.713	0.494	1.360
	Body Front(0mm)	0.226	0.265	N/A	0.307	0.491

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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Hotline

400-003-0500

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WWAN+WLAN5.2G+PPT Simultaneous mode:

Mode (WWAN+ WLAN5.2G +PPT)	Position	Reported SAR(W/Kg)			Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	WLAN5.2G	PPT		
GSM850+ WLAN5.2G +PTT	Head Left Check	0.145	0.284	N/A	0.268	0.429
	Head Left Tilt	0.016	0.236	N/A	0.158	0.252
	Head Right Check	0.149	0.301	N/A	0.281	0.450
	Head Right Tilt	0.012	0.251	N/A	0.164	0.263
	Face Up(25mm)	0.093	0.066	0.538	0.167	0.697
	Body Back(0mm)	0.219	0.236	0.713	0.374	1.168
	Body Front(0mm)	0.244	0.140	N/A	0.240	0.384
PCS1900+ WLAN5.2G +PTT	Head Left Check	0.061	0.284	N/A	0.216	0.345
	Head Left Tilt	0.029	0.236	N/A	0.166	0.265
	Head Right Check	0.057	0.301	N/A	0.224	0.358
	Head Right Tilt	0.025	0.251	N/A	0.173	0.276
	Face Up(25mm)	0.075	0.066	0.538	0.155	0.679
	Body Back(0mm)	0.190	0.236	0.713	0.355	1.139
	Body Front(0mm)	0.197	0.140	N/A	0.211	0.337
WCDMA Band 2+ WLAN5.2G +PTT	Head Left Check	0.066	0.284	N/A	0.219	0.350
	Head Left Tilt	0.027	0.236	N/A	0.164	0.263
	Head Right Check	0.062	0.301	N/A	0.227	0.363
	Head Right Tilt	0.023	0.251	N/A	0.171	0.274
	Face Up(25mm)	0.075	0.066	0.538	0.155	0.679
	Body Back(0mm)	0.278	0.236	0.713	0.410	1.227
	Body Front(0mm)	0.298	0.140	N/A	0.274	0.438
WCDMA Band 5+ WLAN5.2G +PTT	Head Left Check	0.100	0.284	N/A	0.240	0.384
	Head Left Tilt	0.039	0.236	N/A	0.172	0.275
	Head Right Check	0.107	0.301	N/A	0.255	0.408
	Head Right Tilt	0.046	0.251	N/A	0.186	0.297
	Face Up(25mm)	0.115	0.066	0.538	0.180	0.719
	Body Back(0mm)	0.368	0.236	0.713	0.467	1.317
	Body Front(0mm)	0.358	0.140	N/A	0.311	0.498

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

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LTE band 2+ WLAN5.2G +PTT	Head Left Check	0.048	0.284	N/A	0.208	0.332
	Head Left Tilt	0.016	0.236	N/A	0.158	0.252
	Head Right Check	0.046	0.301	N/A	0.217	0.347
	Head Right Tilt	0.014	0.251	N/A	0.166	0.265
	Face Up(25mm)	0.058	0.066	0.538	0.145	0.662
	Body Back(0mm)	0.157	0.236	0.713	0.335	1.106
	Body Front(0mm)	0.167	0.140	N/A	0.192	0.307
LTE band 4+ WLAN5.2G +PTT	Head Left Check	0.042	0.284	N/A	0.204	0.326
	Head Left Tilt	0.014	0.236	N/A	0.156	0.250
	Head Right Check	0.040	0.301	N/A	0.213	0.341
	Head Right Tilt	0.011	0.251	N/A	0.164	0.262
	Face Up(25mm)	0.085	0.066	0.538	0.162	0.689
	Body Back(0mm)	0.197	0.236	0.713	0.360	1.146
	Body Front(0mm)	0.192	0.140	N/A	0.208	0.332
LTE band 5+ WLAN5.2G +PTT	Head Left Check	0.161	0.284	N/A	0.278	0.445
	Head Left Tilt	0.055	0.236	N/A	0.182	0.291
	Head Right Check	0.154	0.301	N/A	0.284	0.455
	Head Right Tilt	0.055	0.251	N/A	0.191	0.306
	Face Up(25mm)	0.064	0.066	0.538	0.149	0.668
	Body Back(0mm)	0.331	0.236	0.713	0.444	1.280
	Body Front(0mm)	0.305	0.140	N/A	0.278	0.445
LTE band 7+ WLAN5.2G +PTT	Head Left Check	0.355	0.284	N/A	0.399	0.639
	Head Left Tilt	0.084	0.236	N/A	0.200	0.320
	Head Right Check	0.363	0.301	N/A	0.415	0.664
	Head Right Tilt	0.091	0.251	N/A	0.214	0.342
	Face Up(25mm)	0.094	0.066	0.538	0.167	0.698
	Body Back(0mm)	0.488	0.236	0.713	0.542	1.437
	Body Front(0mm)	0.210	0.140	N/A	0.219	0.350
LTE band 12+ WLAN5.2G +PTT	Head Left Check	0.319	0.284	N/A	0.377	0.603
	Head Left Tilt	0.102	0.236	N/A	0.211	0.338
	Head Right Check	0.322	0.301	N/A	0.389	0.623
	Head Right Tilt	0.106	0.251	N/A	0.223	0.357
	Face Up(25mm)	0.090	0.066	0.538	0.165	0.694
	Body Back(0mm)	0.261	0.236	0.713	0.400	1.210
	Body Front(0mm)	0.228	0.140	N/A	0.230	0.368

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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400-003-0500

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LTE band 13+ WLAN5.2G +PTT	Head Left Check	0.286	0.284	N/A	0.356	0.570
	Head Left Tilt	0.108	0.236	N/A	0.215	0.344
	Head Right Check	0.288	0.301	N/A	0.368	0.589
	Head Right Tilt	0.110	0.251	N/A	0.226	0.361
	Face Up(25mm)	0.062	0.066	0.538	0.147	0.666
	Body Back(0mm)	0.248	0.236	0.713	0.392	1.197
	Body Front(0mm)	0.262	0.140	N/A	0.251	0.402
LTE band 17+ WLAN5.2G +PTT	Head Left Check	0.119	0.284	N/A	0.252	0.403
	Head Left Tilt	0.054	0.236	N/A	0.181	0.290
	Head Right Check	0.123	0.301	N/A	0.265	0.424
	Head Right Tilt	0.068	0.251	N/A	0.199	0.319
	Face Up(25mm)	0.071	0.066	0.538	0.153	0.675
	Body Back(0mm)	0.471	0.236	0.713	0.531	1.420
	Body Front(0mm)	0.355	0.140	N/A	0.309	0.495
LTE band 26+ WLAN5.2G +PTT	Head Left Check	0.182	0.284	N/A	0.291	0.466
	Head Left Tilt	0.079	0.236	N/A	0.197	0.315
	Head Right Check	0.187	0.301	N/A	0.305	0.488
	Head Right Tilt	0.075	0.251	N/A	0.204	0.326
	Face Up(25mm)	0.077	0.066	0.538	0.157	0.681
	Body Back(0mm)	0.214	0.236	0.713	0.370	1.163
	Body Front(0mm)	0.226	0.140	N/A	0.229	0.366

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400-003-0500

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WWAN+WLAN5.8G+PPT Simultaneous mode:

Mode (WWAN+ WLAN5.2G +PPT)	Position	Reported SAR(W/Kg)			Σ Mix SAR(SAR-to limit)<1	Σ SAR<8.0W/kg
		WWAN	WLAN5.8G	PPT		
GSM850+ WLAN5.8G +PTT	Head Left Check	0.145	0.363	N/A	0.318	0.508
	Head Left Tilt	0.016	0.312	N/A	0.205	0.328
	Head Right Check	0.149	0.370	N/A	0.324	0.519
	Head Right Tilt	0.012	0.322	N/A	0.209	0.334
	Face Up(25mm)	0.093	0.064	0.538	0.165	0.695
	Body Back(0mm)	0.219	0.185	0.713	0.342	1.117
	Body Front(0mm)	0.244	0.167	N/A	0.257	0.411
PCS1900+ WLAN5.8G +PTT	Head Left Check	0.061	0.363	N/A	0.265	0.424
	Head Left Tilt	0.029	0.312	N/A	0.213	0.341
	Head Right Check	0.057	0.370	N/A	0.267	0.427
	Head Right Tilt	0.025	0.322	N/A	0.217	0.347
	Face Up(25mm)	0.075	0.064	0.538	0.154	0.677
	Body Back(0mm)	0.190	0.185	0.713	0.324	1.088
	Body Front(0mm)	0.197	0.167	N/A	0.228	0.364
WCDMA Band 2+ WLAN5.8G +PTT	Head Left Check	0.066	0.363	N/A	0.268	0.429
	Head Left Tilt	0.027	0.312	N/A	0.212	0.339
	Head Right Check	0.062	0.370	N/A	0.270	0.432
	Head Right Tilt	0.023	0.322	N/A	0.216	0.345
	Face Up(25mm)	0.075	0.064	0.538	0.154	0.677
	Body Back(0mm)	0.278	0.185	0.713	0.379	1.176
	Body Front(0mm)	0.298	0.167	N/A	0.291	0.465
WCDMA Band 5+ WLAN5.8G +PTT	Head Left Check	0.100	0.363	N/A	0.289	0.463
	Head Left Tilt	0.039	0.312	N/A	0.219	0.351
	Head Right Check	0.107	0.370	N/A	0.298	0.477
	Head Right Tilt	0.046	0.322	N/A	0.230	0.368
	Face Up(25mm)	0.115	0.064	0.538	0.179	0.717
	Body Back(0mm)	0.368	0.185	0.713	0.435	1.266
	Body Front(0mm)	0.358	0.167	N/A	0.328	0.525

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Hotline

400-003-0500

www.anbotek.com

LTE band 2+WLAN5.8G +PTT	Head Left Check	0.048	0.363	N/A	0.257	0.411
	Head Left Tilt	0.016	0.312	N/A	0.205	0.328
	Head Right Check	0.046	0.370	N/A	0.260	0.416
	Head Right Tilt	0.014	0.322	N/A	0.210	0.336
	Face Up(25mm)	0.058	0.064	0.538	0.144	0.660
	Body Back(0mm)	0.157	0.185	0.713	0.303	1.055
	Body Front(0mm)	0.167	0.167	N/A	0.209	0.334
LTE band 4+ WLAN5.8G +PTT	Head Left Check	0.042	0.363	N/A	0.253	0.405
	Head Left Tilt	0.014	0.312	N/A	0.204	0.326
	Head Right Check	0.040	0.370	N/A	0.256	0.410
	Head Right Tilt	0.011	0.322	N/A	0.208	0.333
	Face Up(25mm)	0.085	0.064	0.538	0.160	0.687
	Body Back(0mm)	0.197	0.185	0.713	0.328	1.095
	Body Front(0mm)	0.192	0.167	N/A	0.224	0.359
LTE band 5+ WLAN5.8G +PTT	Head Left Check	0.161	0.363	N/A	0.328	0.524
	Head Left Tilt	0.055	0.312	N/A	0.229	0.367
	Head Right Check	0.154	0.370	N/A	0.328	0.524
	Head Right Tilt	0.055	0.322	N/A	0.236	0.377
	Face Up(25mm)	0.064	0.064	0.538	0.147	0.666
	Body Back(0mm)	0.331	0.185	0.713	0.412	1.229
	Body Front(0mm)	0.305	0.167	N/A	0.295	0.472
LTE band 7+ WLAN5.8G +PTT	Head Left Check	0.355	0.363	N/A	0.449	0.718
	Head Left Tilt	0.084	0.312	N/A	0.248	0.396
	Head Right Check	0.363	0.370	N/A	0.458	0.733
	Head Right Tilt	0.091	0.322	N/A	0.258	0.413
	Face Up(25mm)	0.094	0.064	0.538	0.166	0.696
	Body Back(0mm)	0.488	0.185	0.713	0.510	1.386
	Body Front(0mm)	0.210	0.167	N/A	0.236	0.377
LTE band 12+ WLAN5.8G +PTT	Head Left Check	0.319	0.363	N/A	0.426	0.682
	Head Left Tilt	0.102	0.312	N/A	0.259	0.414
	Head Right Check	0.322	0.370	N/A	0.433	0.692
	Head Right Tilt	0.106	0.322	N/A	0.268	0.428
	Face Up(25mm)	0.090	0.064	0.538	0.164	0.692
	Body Back(0mm)	0.261	0.185	0.713	0.368	1.159
	Body Front(0mm)	0.228	0.167	N/A	0.247	0.395

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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LTE band 13+ WLAN5.8G +PTT	Head Left Check	0.286	0.363	N/A	0.406	0.649
	Head Left Tilt	0.108	0.312	N/A	0.263	0.420
	Head Right Check	0.288	0.370	N/A	0.411	0.658
	Head Right Tilt	0.110	0.322	N/A	0.270	0.432
	Face Up(25mm)	0.062	0.064	0.538	0.146	0.664
	Body Back(0mm)	0.248	0.185	0.713	0.360	1.146
	Body Front(0mm)	0.262	0.167	N/A	0.268	0.429
LTE band 17+ WLAN5.8G +PTT	Head Left Check	0.119	0.363	N/A	0.301	0.482
	Head Left Tilt	0.054	0.312	N/A	0.229	0.366
	Head Right Check	0.123	0.370	N/A	0.308	0.493
	Head Right Tilt	0.068	0.322	N/A	0.244	0.390
	Face Up(25mm)	0.071	0.064	0.538	0.152	0.673
	Body Back(0mm)	0.471	0.185	0.713	0.499	1.369
	Body Front(0mm)	0.355	0.167	N/A	0.326	0.522
LTE band 26+ WLAN5.8G +PTT	Head Left Check	0.182	0.363	N/A	0.341	0.545
	Head Left Tilt	0.079	0.312	N/A	0.244	0.391
	Head Right Check	0.187	0.370	N/A	0.348	0.557
	Head Right Tilt	0.075	0.322	N/A	0.248	0.397
	Face Up(25mm)	0.077	0.064	0.538	0.155	0.679
	Body Back(0mm)	0.214	0.185	0.713	0.339	1.112
	Body Front(0mm)	0.226	0.167	N/A	0.246	0.393

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

WWAN+WLAN Hotspot mode:

Hotspot SAR for WIFI 2.4G and GSM/WCDMA/ LTE

	GSM 850	GSM 1900	WCD MA Band V	WCD MA Band II	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 13	LTE Band 17	LTE Band 26	WIFI 2.4G	MAX. ΣSAR _{1g}	Peak location separation ratio
Rear Side	0.213	0.156	0.340	0.217	0.146	0.190	0.320	0.463	0.247	0.235	0.452	0.203	0.421	0.884	N/A
Front Side	0.223	0.175	0.321	0.228	0.152	0.176	0.294	0.193	0.215	0.249	0.342	0.213	0.253	0.595	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.309	0.309	N/A
Right Edge	0.206	0.160	0.271	0.202	0.143	0.163	0.251	0.117	0.201	0.221	0.359	0.196	N/A	0.359	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.301	0.301	N/A
Bottom Edge	0.186	0.165	0.287	0.208	0.146	0.171	0.260	0.127	0.216	0.231	0.372	0.192	N/A	0.372	N/A

MAX. ΣSAR_{1g} = 0.884 W/kg < 1.6 W/kg, so the Simultaneous transmission SAR with volume scan are not required for WIFI 2.4G and GSM/WCDMA/LTE

Hotspot SAR for WIFI 5.2G and GSM/WCDMA/ LTE

	GSM 850	GSM 1900	WCD MA Band V	WCD MA Band II	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 13	LTE Band 17	LTE Band 26	WIFI 5.2G	MAX. ΣSAR _{1g}	Peak location separation ratio
Rear Side	0.213	0.156	0.340	0.217	0.146	0.190	0.320	0.463	0.247	0.235	0.452	0.203	0.223	0.686	N/A
Front Side	0.223	0.175	0.321	0.228	0.152	0.176	0.294	0.193	0.215	0.249	0.342	0.213	0.128	0.470	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.218	0.218	N/A
Right Edge	0.206	0.160	0.271	0.202	0.143	0.163	0.251	0.117	0.201	0.221	0.359	0.196	N/A	0.359	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.217	0.217	N/A
Bottom Edge	0.186	0.165	0.287	0.208	0.146	0.171	0.260	0.127	0.216	0.231	0.372	0.192	N/A	0.372	N/A

MAX. ΣSAR_{1g} = 0.686 W/kg < 1.6 W/kg, so the Simultaneous transmission SAR with volume scan are not required for WIFI 5.2G and GSM/WCDMA/LTE

Hotspot SAR for WIFI 5.8G and GSM/WCDMA/ LTE

	GSM 850	GSM 1900	WCD MA Band V	WCD MA Band II	LTE Band 2	LTE Band 4	LTE Band 5	LTE Band 7	LTE Band 12	LTE Band 13	LTE Band 17	LTE Band 26	WIFI 5.8G	MAX. ΣSAR _{1g}	Peak location separation ratio
Rear Side	0.213	0.156	0.340	0.217	0.146	0.190	0.320	0.463	0.247	0.235	0.452	0.203	0.173	0.636	N/A
Front Side	0.223	0.175	0.321	0.228	0.152	0.176	0.294	0.193	0.215	0.249	0.342	0.213	0.165	0.507	N/A
Left Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.168	0.168	N/A
Right Edge	0.206	0.160	0.271	0.202	0.143	0.163	0.251	0.117	0.201	0.221	0.359	0.196	N/A	0.359	N/A
Top Edge	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	0.162	0.162	N/A
Bottom Edge	0.186	0.165	0.287	0.208	0.146	0.171	0.260	0.127	0.216	0.231	0.372	0.192	N/A	0.372	N/A

MAX. ΣSAR_{1g} = 0.636 W/kg<1.6W/kg, so the Simultaneous transmission SAR with volume scan are not required for WIFI 5.8G and GSM/WCDMA/LTE

15. Measurement Uncertainty

NO	Source	Uncert. ai (%)	Prob. Dist.	Div. k	ci (1g)	ci (10g)	Stand.Un cert. ui (1g)	Stand.Un cert. ui (10g)	Veff
1	Repeat	0.4	N	1	1	1	0.4	0.4	9
Instrument									
2	Probe calibration	7	N	2	1	1	3.5	3.5	∞
3	Axial isotropy	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
4	Hemispherical isotropy	9.4	R	$\sqrt{3}$	0.7	0.7	3.9	3.9	∞
5	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
7	Detection limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
8	Readout electronics	0.3	N	1	1	1	0.3	0.3	∞
9	Response time	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioner mech. restrictions	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞

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 Hotline
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Test sample related									
16	Device positioning	3.8	N	1	1	1	3.8	3.8	99
17	Device holder	5.1	N	1	1	1	5.1	5.1	5
18	Drift of output power	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
Phantom and set-up									
19	Phantom uncertainty	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
20	Liquid conductivity (target)	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞
21	Liquid conductivity (meas)	2.5	N	1	0.64	0.43	1.6	1.2	∞
22	Liquid Permittivity (target)	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.5	∞
23	Liquid Permittivity (meas)	2.5	N	1	0.6	0.49	1.5	1.2	∞
Combined standard			RSS	$U_c = \sqrt{\sum_{i=1}^n C_i^2 U_i^2}$			11.4%	11.3%	236
Expanded uncertainty(P=95%)		$U = k U_c$,k=2					22.8%	22.6%	

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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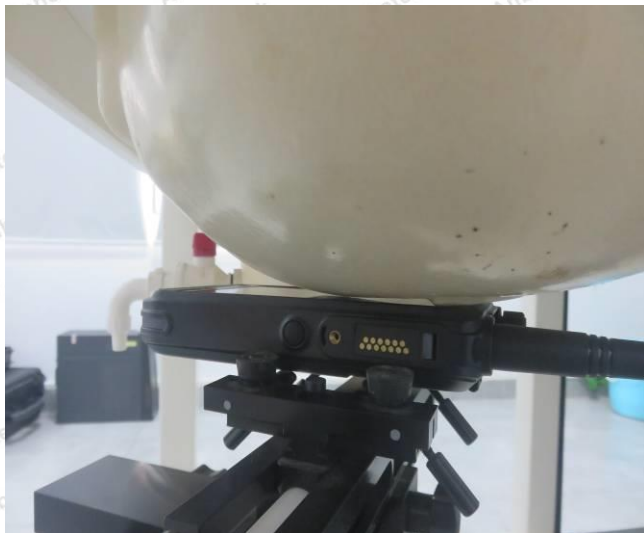


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Appendix A. EUT Photos and Test Setup Photos



Left Cheek



Left Tilt 15°



Right Left Cheek



Left Tilt 15°



Rear side 10mm



Front side 10mm



Right side 10mm



Left side 10mm





Body worn 0mm



Face held 25mm

Appendix B. Plots of SAR System Check

System Performance Check at 150 MHz Head TSL

Date: 10/26/2019

DUT: Dipole150 MHz; Type: D150V2; Serial: 4020

Communication System: VHF; Frequency: 150 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 150 \text{ MHz}$; $\sigma = 0.74 \text{ S/m}$; $\epsilon_r = 51.22$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.96, 7.96, 7.96); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (101x161x1):Interpolated grid: $dx=1.500 \text{ mm}$, $dy=1.50 \text{ mm}$

Maximum value of SAR (interpolated) = 0.521 mW/g

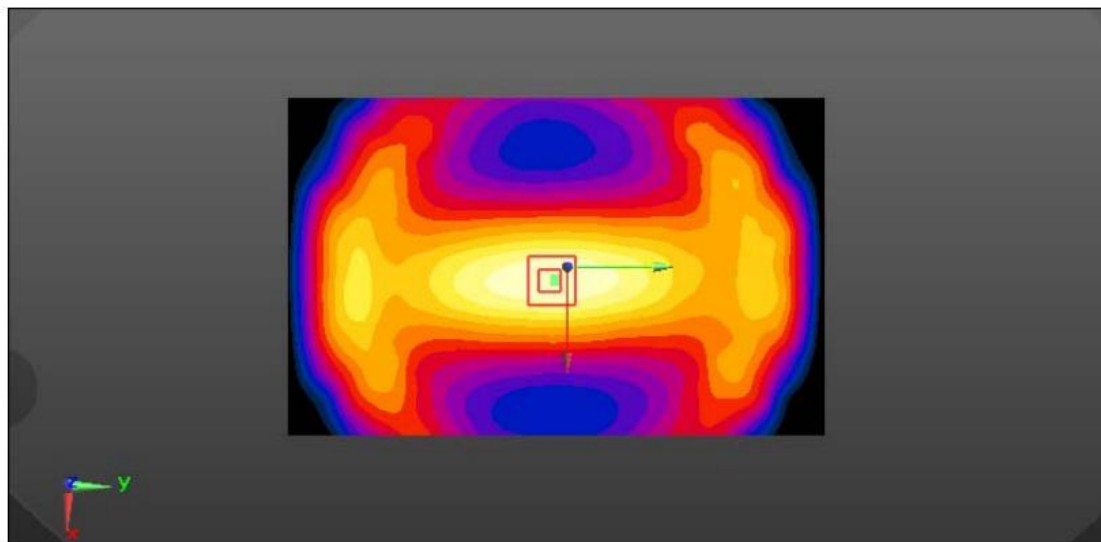
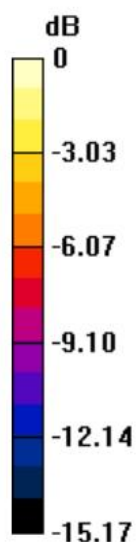
Zoom Scan (7x7x7)/Cube 0: Measurement grid: $dx=5 \text{ mm}$, $dy=5 \text{ mm}$, $dz=5 \text{ mm}$

Reference Value = 24.45 V/m ; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.635 mW/g

SAR(1 g) = 0.361 mW/g ; SAR(10 g) = 0.248 mW/g

Maximum value of SAR (measured) = 0.514 mW/g



System Performance Check 150MHz Body 1W

System Performance Check at 150 MHz Body TSL

Date: 10/26/2019

DUT: Dipole150 MHz; Type: D150V2; Serial: 4020

Communication System: VHF; Frequency: 150 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 150$ MHz; $\sigma = 0.76$ S/m; $\epsilon_r = 61.79$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.42, 7.42, 7.42); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (101x161x1):Interpolated grid: dx=1.500 mm, dy=1.50 mm

Maximum value of SAR (interpolated) = 0.569mW/g

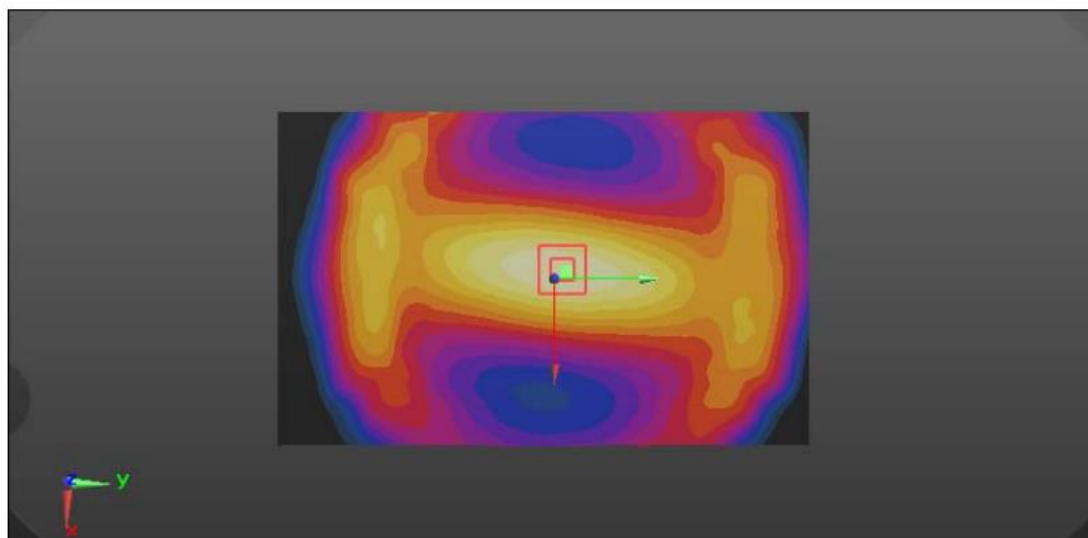
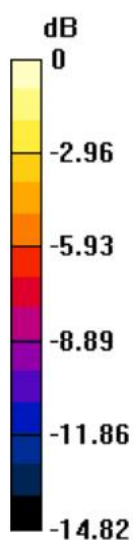
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value =21.74 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) =0.675mW/g

SAR(1 g) = 0.377mW/g; SAR(10 g) = 0.265 mW/g

Maximum value of SAR (measured) =0.547mW/g



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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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System Performance Check at 750 MHz Head

Date: 10/21/2019

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1163

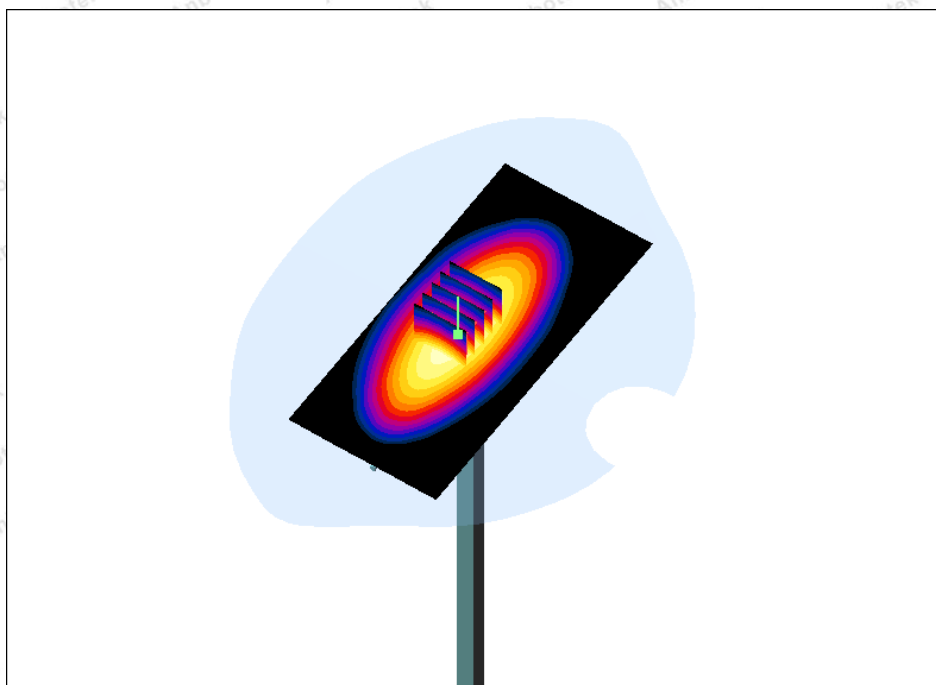
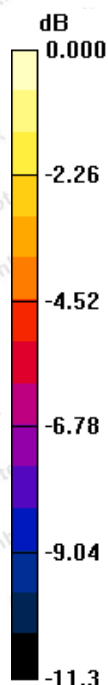
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f=750\text{MHz}$; $\sigma=0.87\text{ mho/m}$; $\epsilon_r=41.87$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x131x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.03 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 47.4 V/m ; Power Drift = -0.091 dB Peak SAR (extrapolated) = 2.96 W/kg **SAR(1 g) = 2.15mW/g ; SAR(10 g) = 1.25 mW/g** Maximum value of SAR (measured) = 2.10 mW/g 

System Performance Check 750MHz Head 250mW

Shenzhen Anbotek Compliance Laboratory LimitedAddress: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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System Performance Check at 750 MHz Body

Date: 10/21/2019

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1163

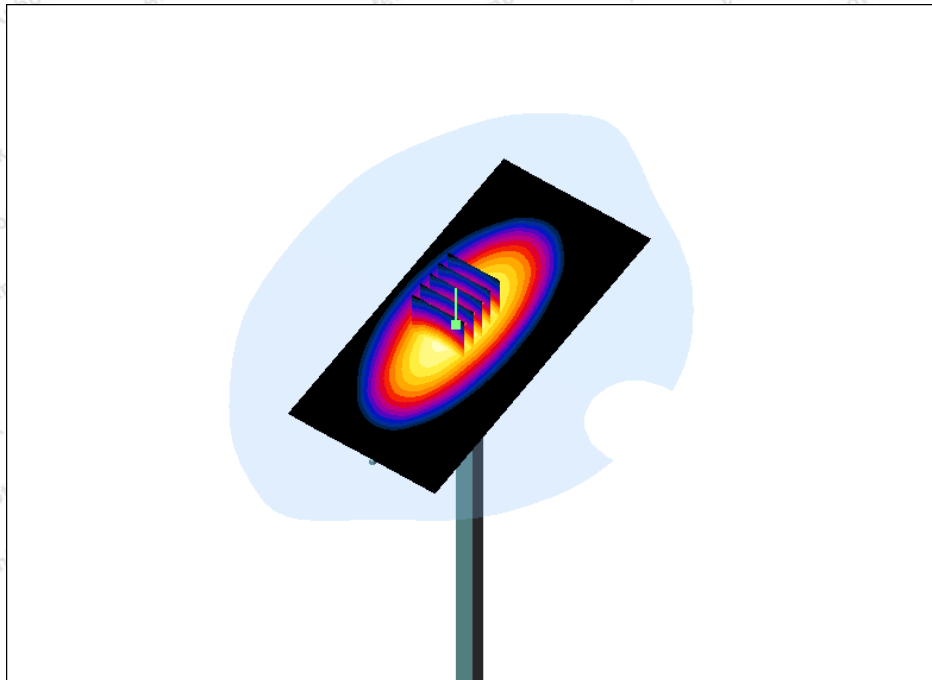
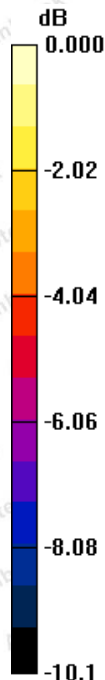
Communication System: CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: $f=750\text{MHz}$; $\sigma=0.94\text{ mho/m}$; $\epsilon_r=55.18$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x131x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.31 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 49.1 V/m ; Power Drift = -0.141 dB Peak SAR (extrapolated) = 3.20 W/kg **SAR(1 g) = 2.22mW/g ; SAR(10 g) = 1.43 mW/g** Maximum value of SAR (measured) = 2.40 mW/g 

System Performance Check 750MHz Body 250mW

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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System Performance Check at 835 MHz Head

Date: 10/22/2019

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d154

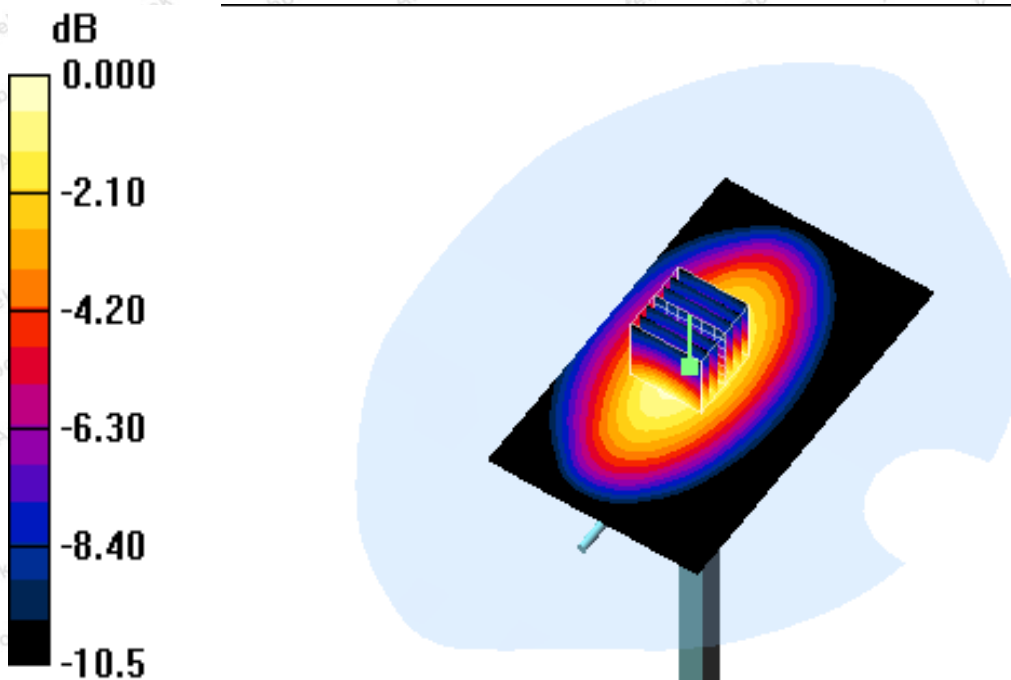
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=0.95\text{ mho/m}$; $\epsilon_r=42.32$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.82 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.523 V/m ; Power Drift = -0.01 dB Peak SAR (extrapolated) = 4.068 W/kg **SAR(1 g) = 2.32 mW/g ; SAR(10 g) = 1.68 mW/g** Maximum value of SAR (measured) = 2.90 mW/g 

System Performance Check 835MHz Head 250mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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System Performance Check at 835 MHz Body

Date: 10/22/2019

DUT: Dipole 835 MHz; Type: D835V2; Serial: 4d154

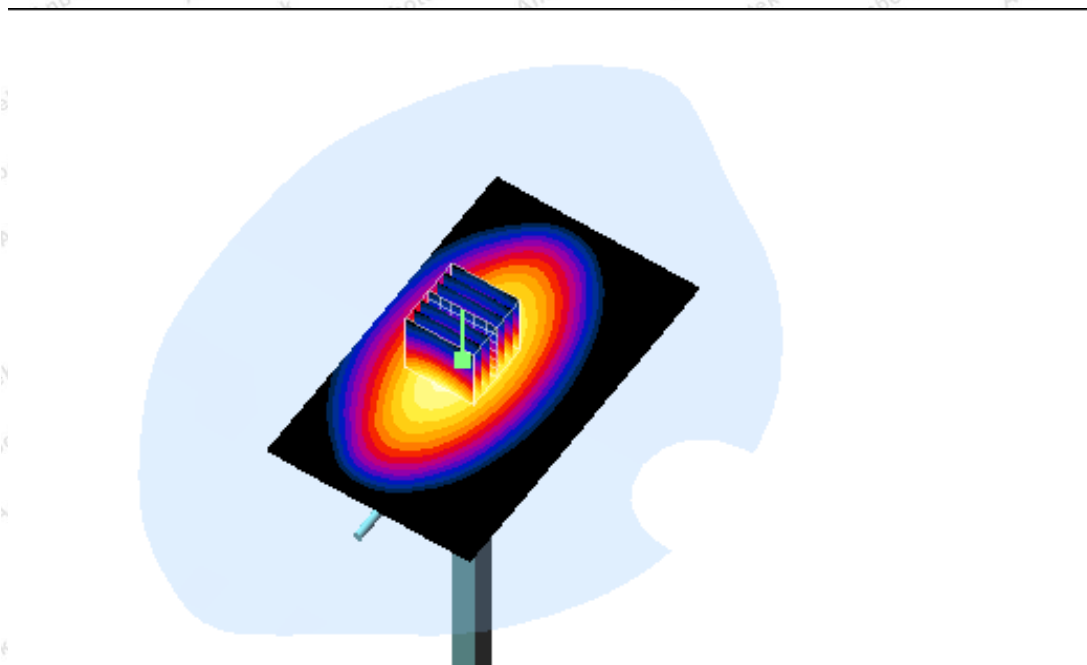
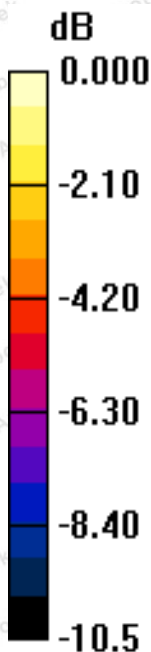
Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: $f=835\text{MHz}$; $\sigma=0.95\text{ mho/m}$; $\epsilon_r=54.78$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 2.72 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 54.523 V/m ; Power Drift = -0.01 dB Peak SAR (extrapolated) = 4.068 W/kg **SAR(1 g) = 2.41mW/g ; SAR(10 g) = 1.55 mW/g** Maximum value of SAR (measured) = 2.81 mW/g 

System Performance Check 835MHz Body 250mW

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Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 1750 MHz Head

Date: 10/23/2019

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1021

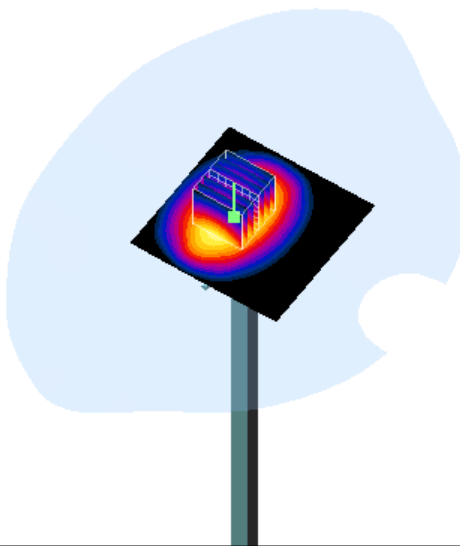
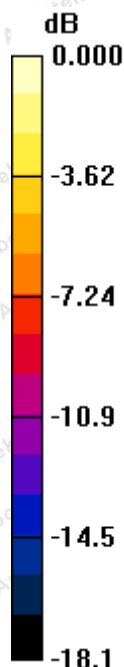
Communication System: CW; Frequency: 1750MHz; Duty Cycle: 1:1

Medium parameters used: $f=1750\text{MHz}$; $\sigma = 1.39 \text{ mho/m}$; $\epsilon_r = 39.84$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.61, 8.61, 8.61); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 8.60 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 83.712 V/m ; Power Drift = 0.03dB Peak SAR (extrapolated) = 16.718 W/kg **SAR(1 g) = 9.24mW/g ; SAR(10 g) = 4.64 mW/g** Maximum value of SAR (measured) = 9.95 mW/g 

System Performance Check 1750MHz Head 250mW

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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System Performance Check at 1750 MHz Body

Date: 10/23/2019

DUT: Dipole 1750 MHz; Type: D1750V2; Serial: 1021

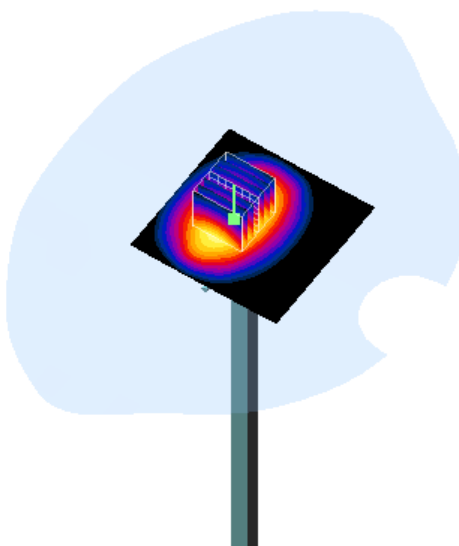
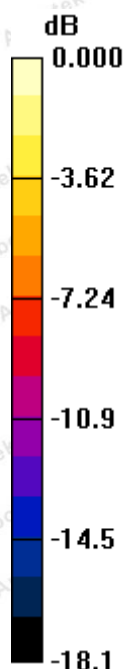
Communication System: CW; Frequency: 1750MHz; Duty Cycle: 1:1

Medium parameters used: $f=1750\text{MHz}$; $\sigma=1.46\text{mho/m}$; $\epsilon_r=54.19$; $\rho=1000\text{kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.24, 8.24, 8.24); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 12.60 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 81.17 V/m ; Power Drift = 0.03dB Peak SAR (extrapolated) = 15.81 W/kg **SAR(1 g) = 9.16mW/g ; SAR(10 g) = 4.74mW/g** Maximum value of SAR (measured) = 12.71 mW/g 0 dB = 12.71mW/g

System Performance Check 1750MHz Body 250mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

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System Performance Check at 1900 MHz Head

Date: 10/23/2019

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d175

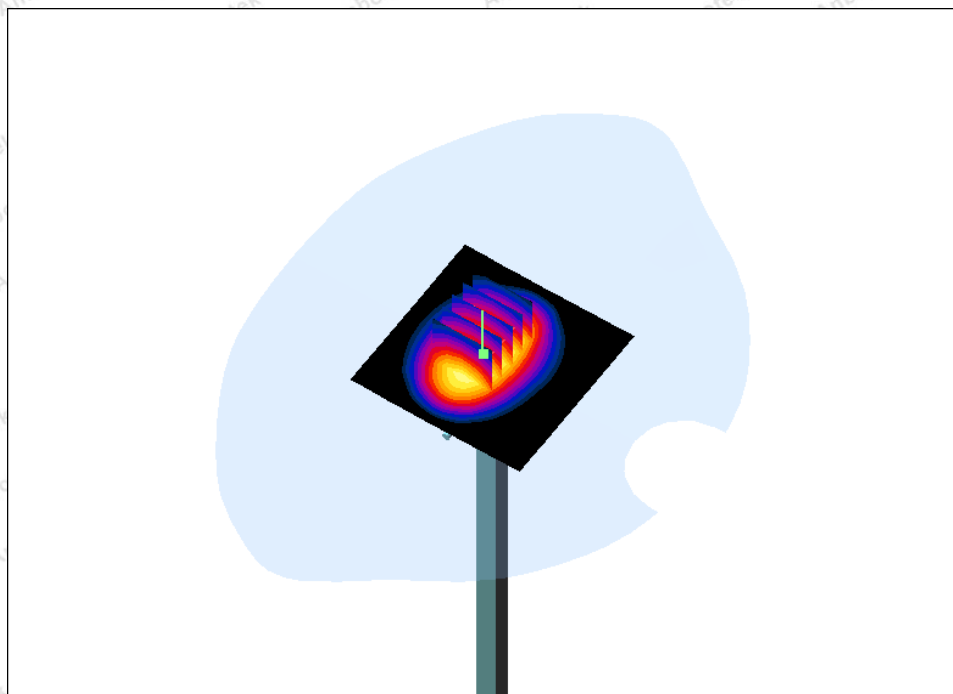
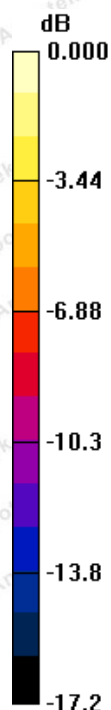
Communication System: CW; Frequency: 1900MHz; Duty Cycle: 1:1

Medium parameters used: $f=1900\text{MHz}$; $\sigma=1.35\text{ mho/m}$; $\epsilon_r=40.15$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 11.3 mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 80.6 V/m ; Power Drift = -0.005 dB Peak SAR (extrapolated) = 17.5 W/kg **SAR(1 g) = 10.12mW/g ; SAR(10 g) = 5.28mW/g** Maximum value of SAR (measured) = 11.24 mW/g 

System Performance Check 1900MHz Head 250mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 1900 MHz Body

Date: 10/23/2019

DUT: Dipole 1900 MHz; Type: D1900V2; Serial: 5d175

Communication System: CW; Frequency: 1900MHz; Duty Cycle: 1:1

Medium parameters used: $f=1900\text{MHz}$; $\sigma = 1.55 \text{ mho/m}$; $\epsilon_r = 53.32$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$

Maximum value of SAR (interpolated) = 12.8 mW/g

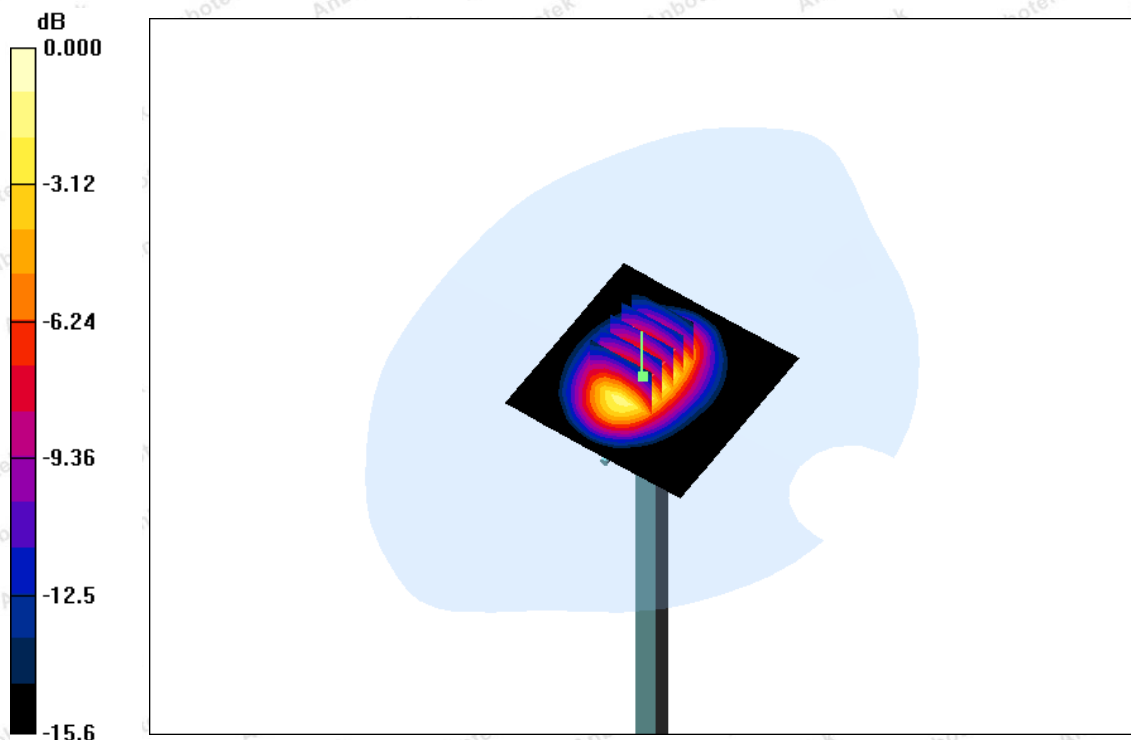
Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 85.9 V/m ; Power Drift = 0.109 dB

Peak SAR (extrapolated) = 19.7 W/kg

SAR(1 g) = 10.04mW/g ; SAR(10 g) = 5.39mW/g

Maximum value of SAR (measured) = 12.47mW/g



0 dB = 12.47mW/g

System Performance Check 1900MHz Body 250mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com

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System Performance Check at 2450 MHz Head

Date: 10/24/2019

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 910

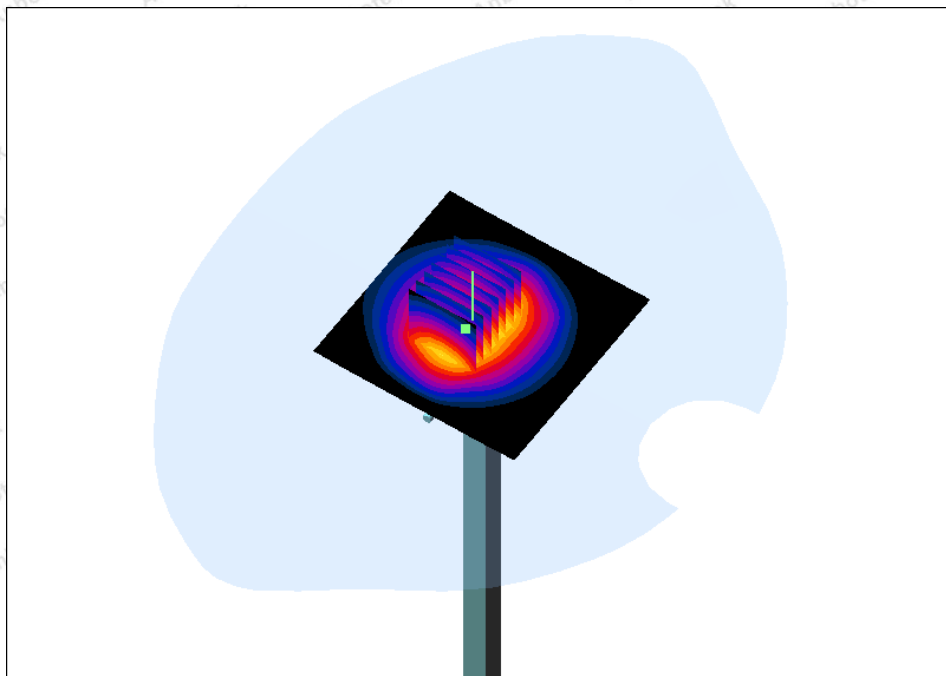
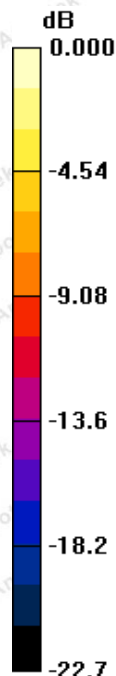
Communication System: CW; Frequency: 2450MHz; Duty Cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma = 1.76 \text{ mho/m}$; $\epsilon_r = 38.93$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.57, 7.57, 7.57); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 16.7 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 87.0 V/m ; Power Drift = 0.019 dB Peak SAR (extrapolated) = 30.7 W/kg **SAR(1 g) = 13.08mW/g ; SAR(10 g) = 6.24mW/g** Maximum value of SAR (measured) = 16.07mW/g 

System Performance Check 2450MHz Head 250mW

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 2450MHz Body

Date: 10/24/2019

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: 910

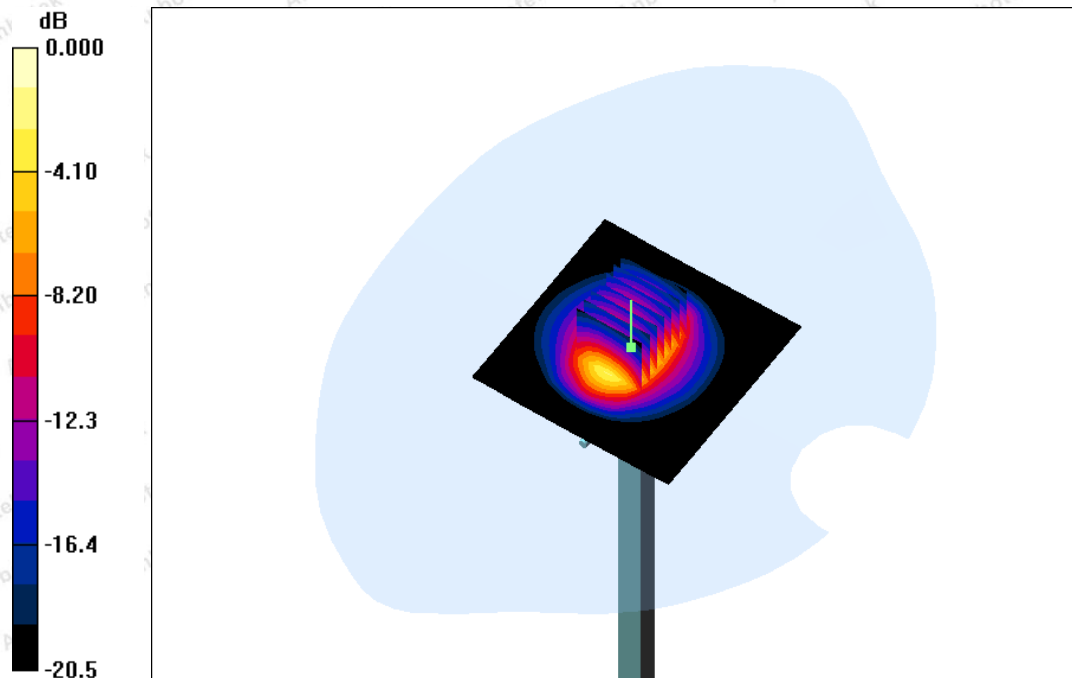
Communication System: CW; Frequency: 2450MHz; Duty Cycle: 1:1

Medium parameters used: $f=2450\text{MHz}$; $\sigma = 1.95 \text{ mho/m}$; $\epsilon_r = 50.69$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.53, 7.53, 7.53); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00 \text{ mm}$, $dy=15.00 \text{ mm}$ Maximum value of SAR (interpolated) = 16.2 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 89.5 V/m ; Power Drift = 0.017 dB Peak SAR (extrapolated) = 27.0 W/kg **SAR(1 g) = 12.93 mW/g ; SAR(10 g) = 6.47 mW/g** Maximum value of SAR (measured) = 15.59 mW/g 0 dB = 15.59 mW/g

System Performance Check 2450MHz Body 250mW

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 2600 MHz Head

Date: 10/24/2019

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1058

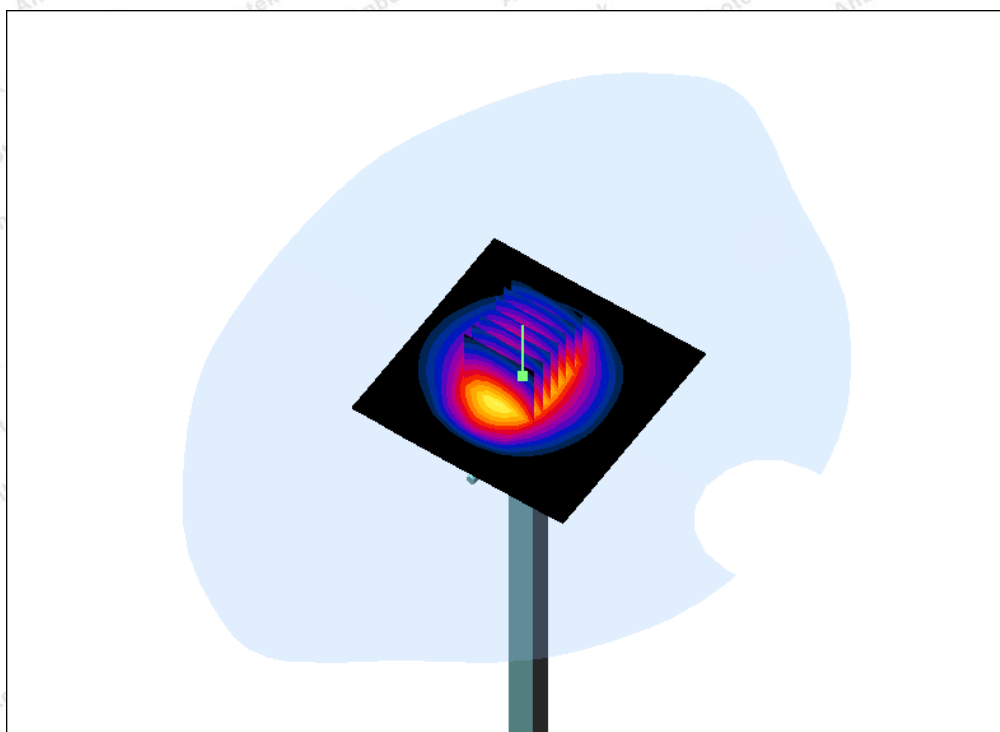
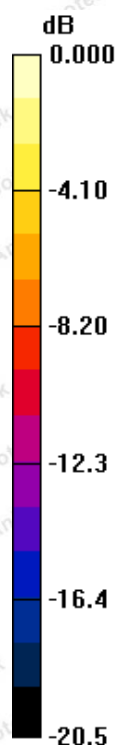
Communication System: CW; Frequency: 2600MHz; Duty Cycle: 1:1

Medium parameters used: $f=2600\text{MHz}$; $\sigma=1.89\text{ mho/m}$; $\epsilon_r=38.55$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 21.1 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 84.1 V/m ; Power Drift = 0.032 dB Peak SAR (extrapolated) = 30.2 W/kg **SAR(1 g) = 14.27mW/g ; SAR(10 g) = 6.50mW/g** Maximum value of SAR (measured) = 19.73mW/g 

System Performance Check 2600MHz Head 250mW

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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System Performance Check at 2600MHz Body

Date: 10/24/2019

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: 1058

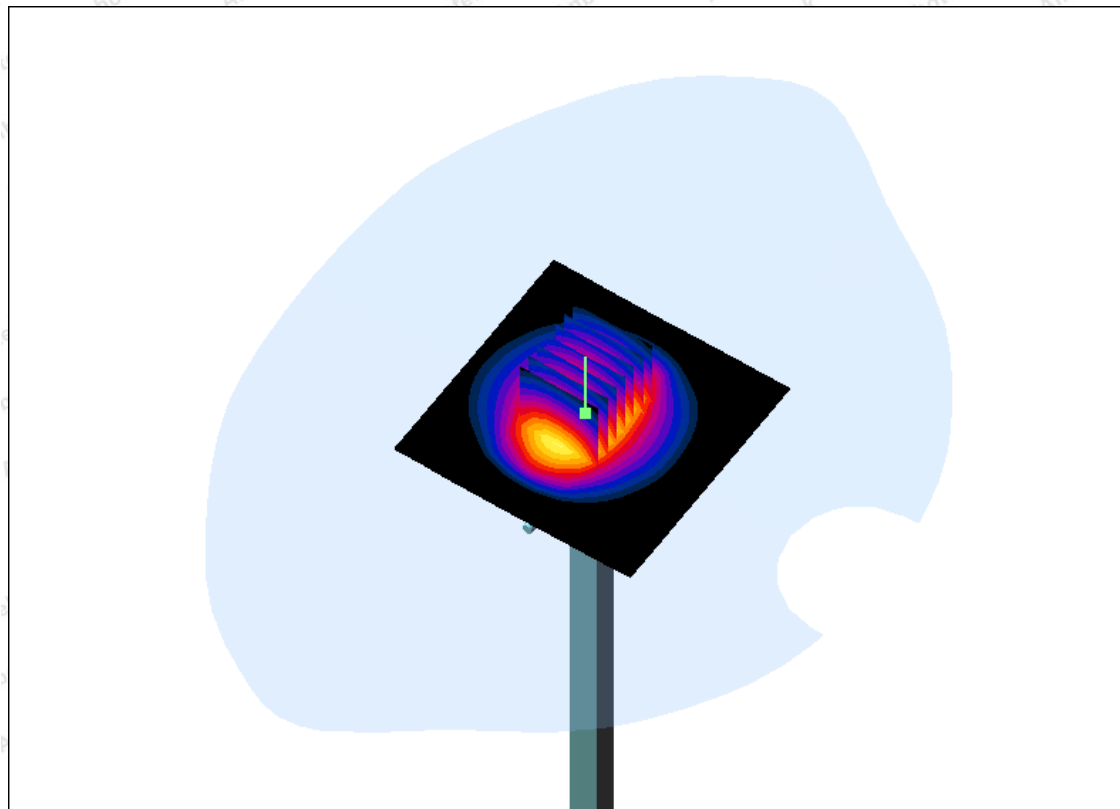
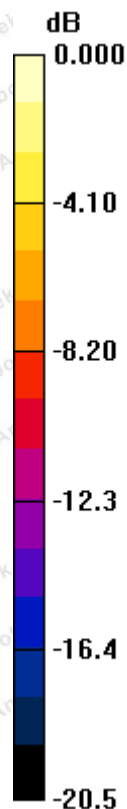
Communication System: CW; Frequency: 2600MHz; Duty Cycle: 1:1

Medium parameters used: $f=2600\text{MHz}$; $\sigma=2.20\text{ mho/m}$; $\epsilon_r=51.41$; $\rho=1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=15.00\text{ mm}$, $dy=15.00\text{ mm}$ Maximum value of SAR (interpolated) = 25.1 mW/g **Zoom Scan (7x7x7)/Cube 0:** Measurement grid: $dx=8\text{ mm}$, $dy=8\text{ mm}$, $dz=5\text{ mm}$ Reference Value = 89.4 V/m ; Power Drift = 0.018 dB Peak SAR (extrapolated) = 34.1 W/kg **SAR(1 g) = 14.22 mW/g ; SAR(10 g) = 6.39 mW/g** Maximum value of SAR (measured) = 22.98 mW/g 0 dB = 22.98 mW/g

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Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 5250 MHz Head

Date: 10/25/2019

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1003

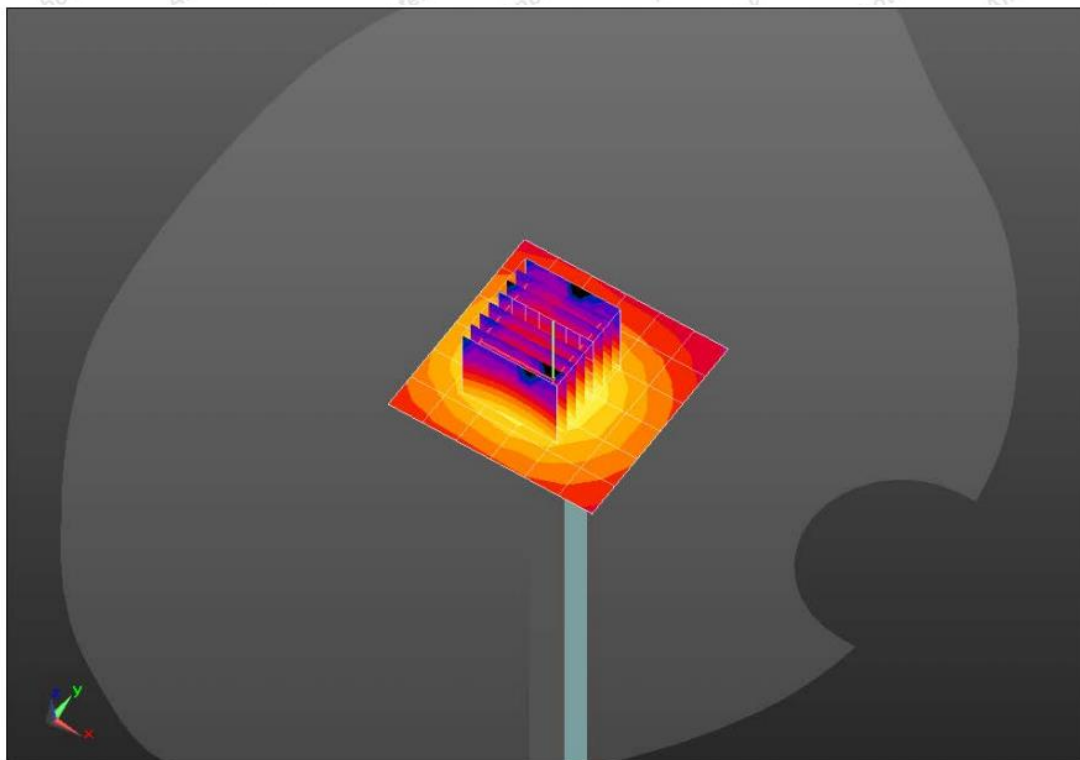
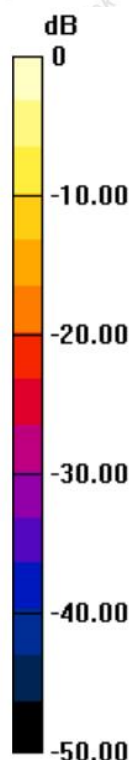
Communication System: CW; Frequency: 5250MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5250\text{MHz}$; $\sigma = 4.52\text{ mho/m}$; $\epsilon_r = 35.89$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(5.33, 5.33, 5.33); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 16.3mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 52.96 V/m ; Power Drift = 0.15 dB Peak SAR (extrapolated) = 33.9 W/kg **SAR(1 g) = 8.04mW/g ; SAR(10 g) = 2.40mW/g** Maximum value of SAR (measured) = 18.9mW/g 

System Performance Check 5250MHz Head 100mW

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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System Performance Check at 5250 MHz Body

Date: 10/25/2019

DUT: Dipole 5200 MHz; Type: D5GHzV2; Serial: 1003

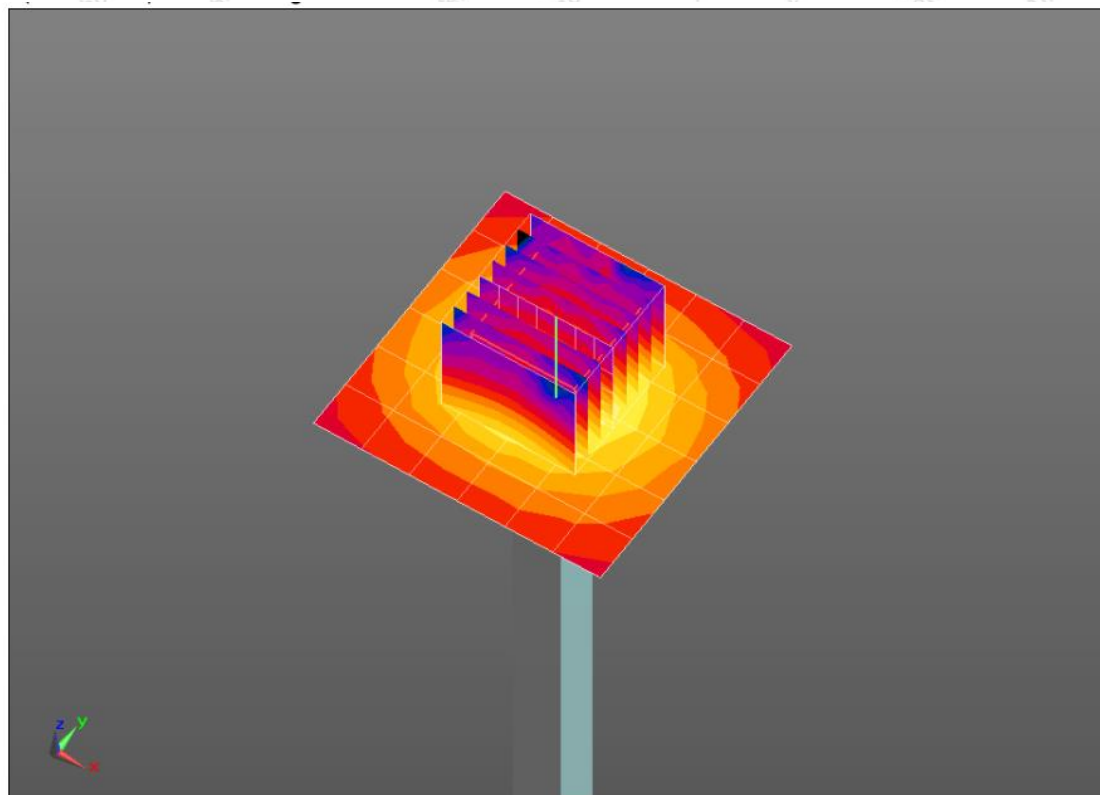
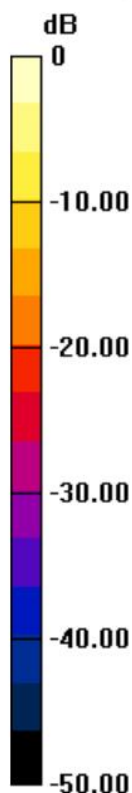
Communication System: CW; Frequency: 5250MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5250\text{MHz}$; $\sigma = 5.38\text{ mho/m}$; $\epsilon_r = 47.90$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.93, 4.93, 4.93); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 18.4mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.33 V/m ; Power Drift = 0.05 dB Peak SAR (extrapolated) = 28.30 W/kg **SAR(1 g) = 7.37mW/g ; SAR(10 g) = 2.09mW/g** Maximum value of SAR (measured) = 17.1mW/g 

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 5750 MHz Head

Date: 10/25/2019

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: 1003

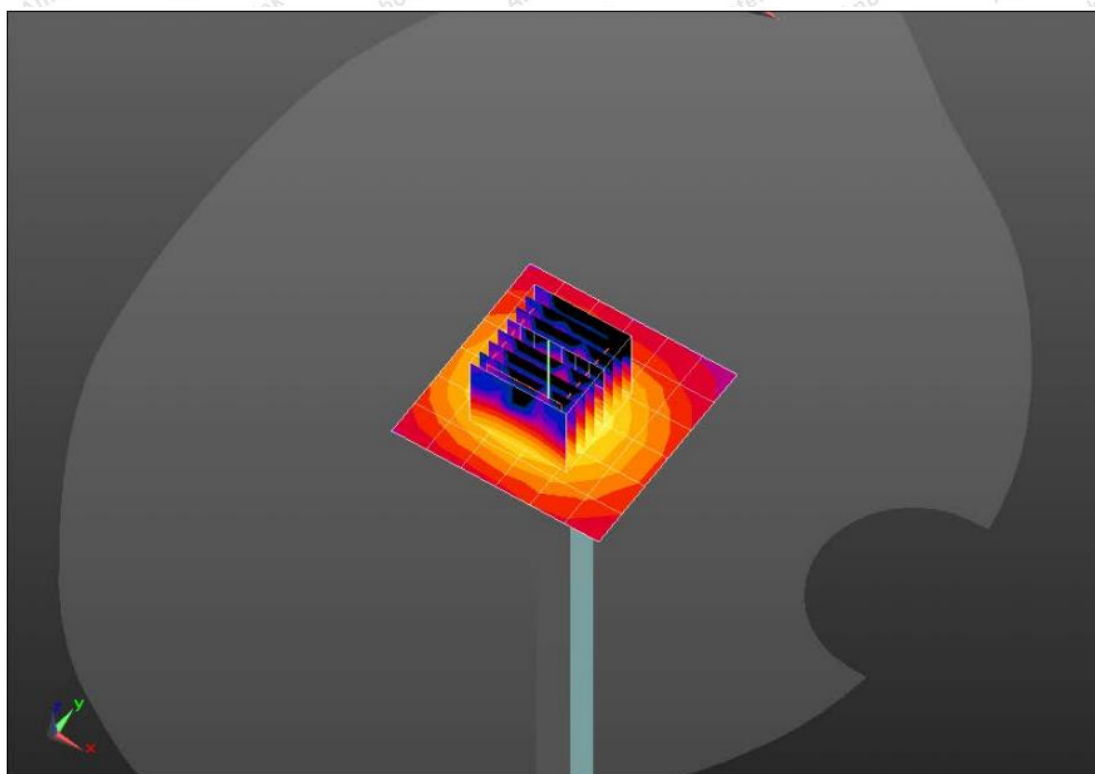
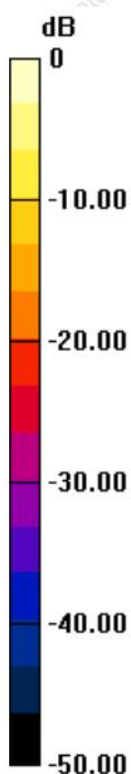
Communication System: CW; Frequency: 5750MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5750\text{MHz}$; $\sigma = 5.24\text{ mho/m}$; $\epsilon_r = 35.21$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.92, 4.92, 4.92); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 18.5mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.69 V/m ; Power Drift = 0.09dB Peak SAR (extrapolated) = 38.3W/kg **SAR(1 g) = 8.42mW/g ; SAR(10 g) = 2.48mW/g** Maximum value of SAR (measured) = 21.7mW/g 

System Performance Check 5750MHz Head 100mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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System Performance Check at 5750 MHz Body

Date: 10/25/2019

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: 1003

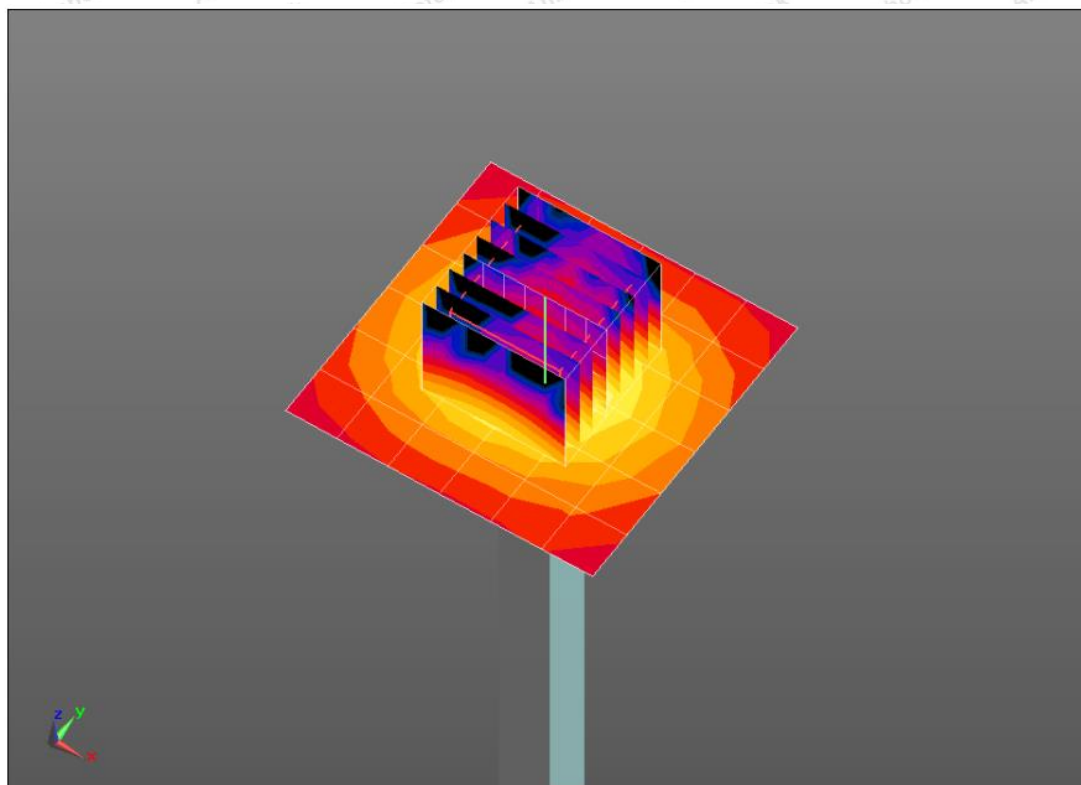
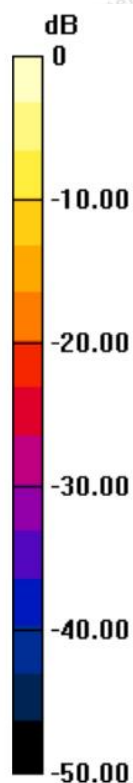
Communication System: CW; Frequency: 5750MHz; Duty Cycle: 1:1

Medium parameters used: $f = 5750\text{MHz}$; $\sigma = 5.82\text{ mho/m}$; $\epsilon_r = 49.04$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.52, 4.52, 4.52); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (61x61x1): Measurement grid: $dx=10.00\text{ mm}$, $dy=10.00\text{ mm}$ Maximum value of SAR (interpolated) = 20.6mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=1.4\text{mm}$ Reference Value = 53.28 V/m ; Power Drift = 0.06dB Peak SAR (extrapolated) = 33.9W/kg **SAR(1 g) = 7.65mW/g ; SAR(10 g) = 2.25mW/g** Maximum value of SAR (measured) = 19.5mW/g 

System Performance Check 5750MHz Head 100mW

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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Appendix C. Plots of SAR Test Data

SAR plots for the highest measured SAR in each exposure configuration, wireless mode and frequency band combination according to FCC KDB 865664 D02

GSM850_GSM Voice_Right Cheek

Date: 10/22/2019

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used(interpolated): $f = 836.6$ MHz; $\sigma = 0.883$ mho/m; $\epsilon_r = 41.25$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.138 mW/g

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

Reference Value = 4.42 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.166 W/kg

SAR(1 g) = 0.129 mW/g; SAR(10 g) = 0.099 mW/g

Maximum value of SAR (measured) = 0.144 mW/g

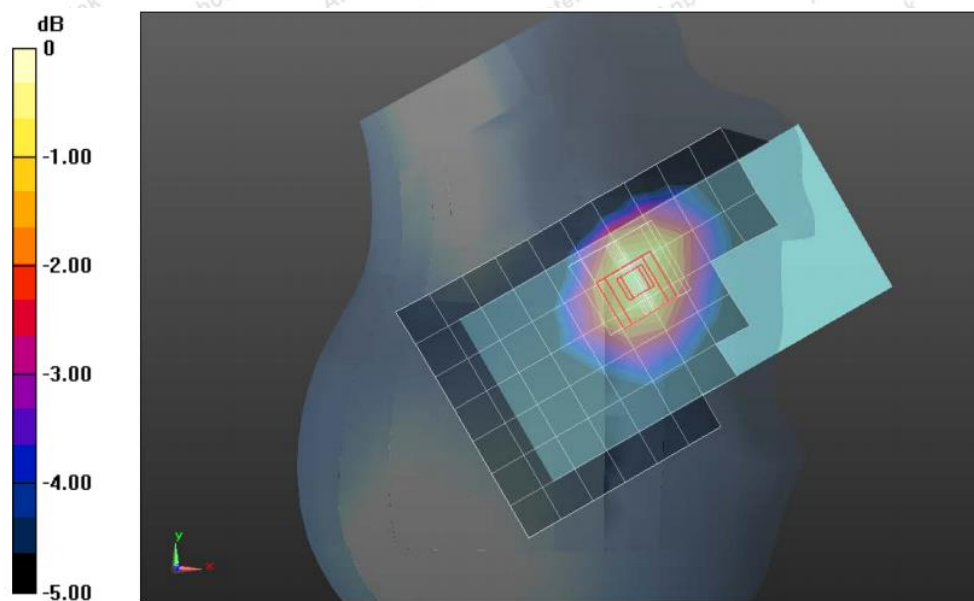


Figure 1: GSM850_GSM Voice_Right Cheek

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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GSM1900_GSM Voice_Left Cheek

Date: 10/23/2019

Communication System: GSM1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.405$ mho/m; $\epsilon_r = 39.62$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.056 mW/g

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

Reference Value = 1.50 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.090 W/kg

SAR(1 g) = 0.053 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.059 mW/g

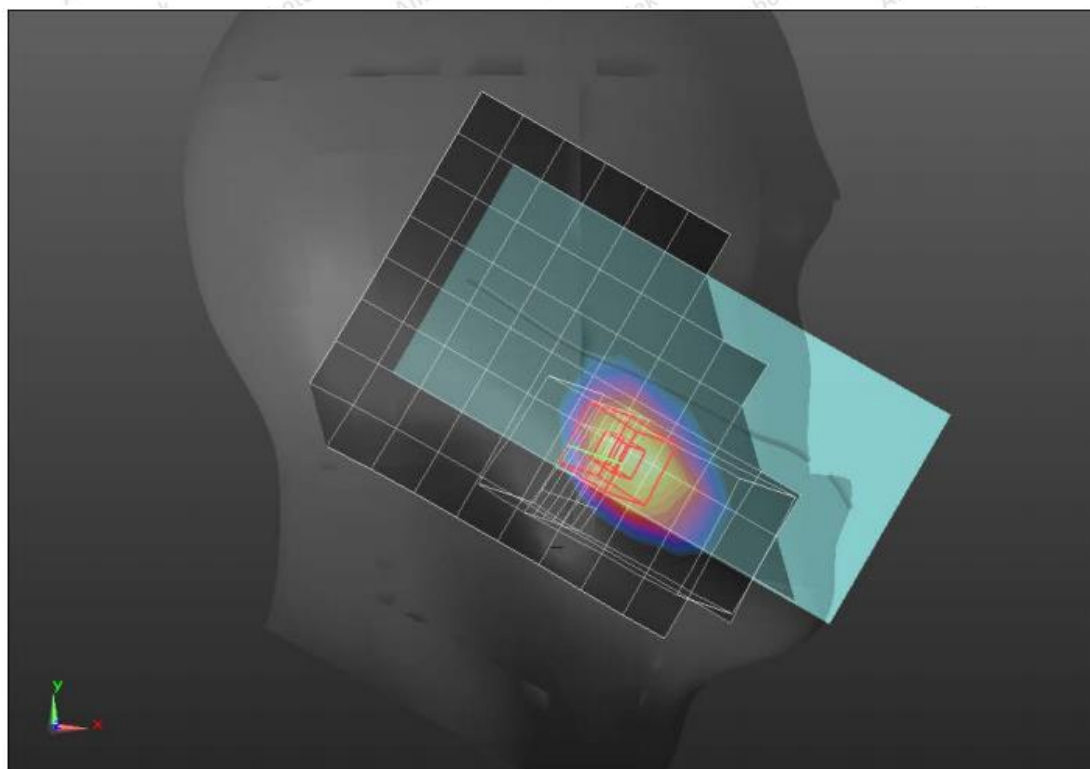
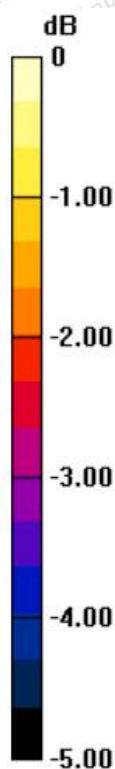


Figure 2: GSM1900_GSM Voice_Left Cheek

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Tel: (86)755-26066440 Fax: (86)755-26014772 Email: service@anbotek.com



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WCDMA Band V_RCM_Right Check

Date: 10/22/2019

Communication System: W850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 837$ MHz; $\sigma = 0.898$ mho/m; $\epsilon_r = 41.4$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.101 mW/g

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

Reference Value = 3.60 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.117 W/kg

SAR(1 g) = 0.095 mW/g; SAR(10 g) = 0.073 mW/g

Maximum value of SAR (measured) = 0.098 mW/g

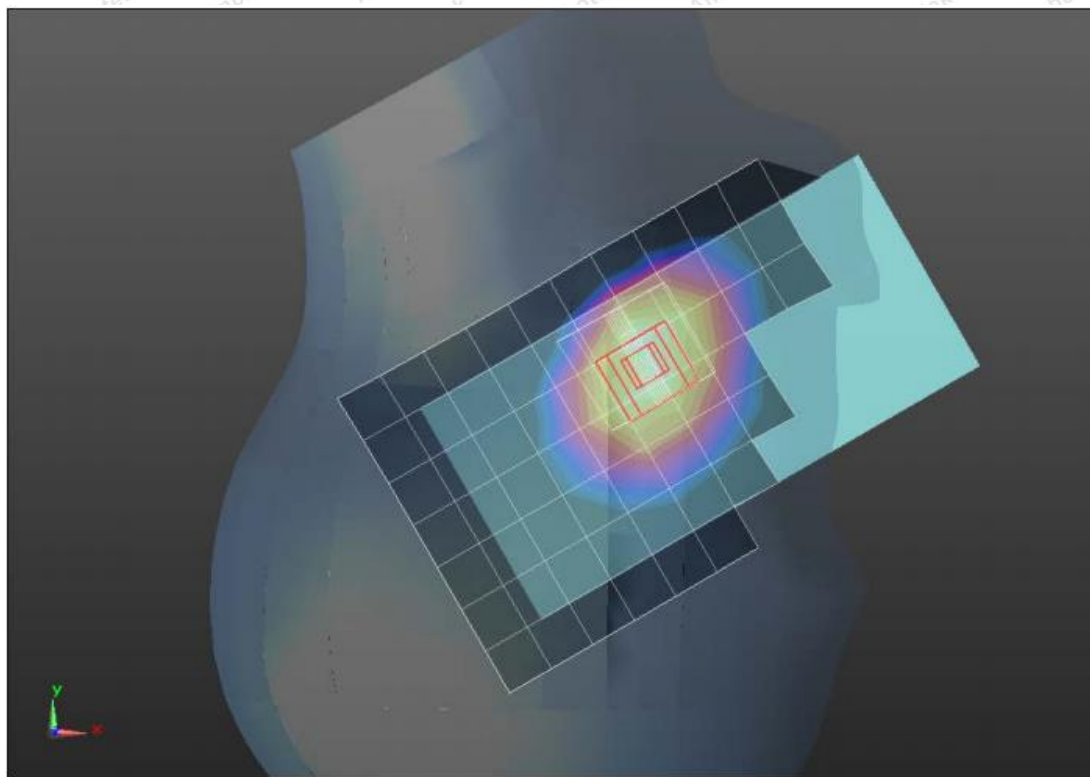
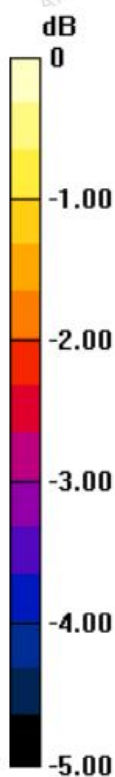


Figure 3: WCDMA Band V_RCM_Right Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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WCDMA Band II_RCM_Left Check

Date: 10/23/2019

Communication System: W1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.36$ mho/m; $\epsilon_r = 39.8$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.074 mW/g

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

Reference Value = 2.04 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.103 W/kg

SAR(1 g) = 0.061 mW/g; SAR(10 g) = 0.034 mW/g

Maximum value of SAR (measured) = 0.067 mW/g

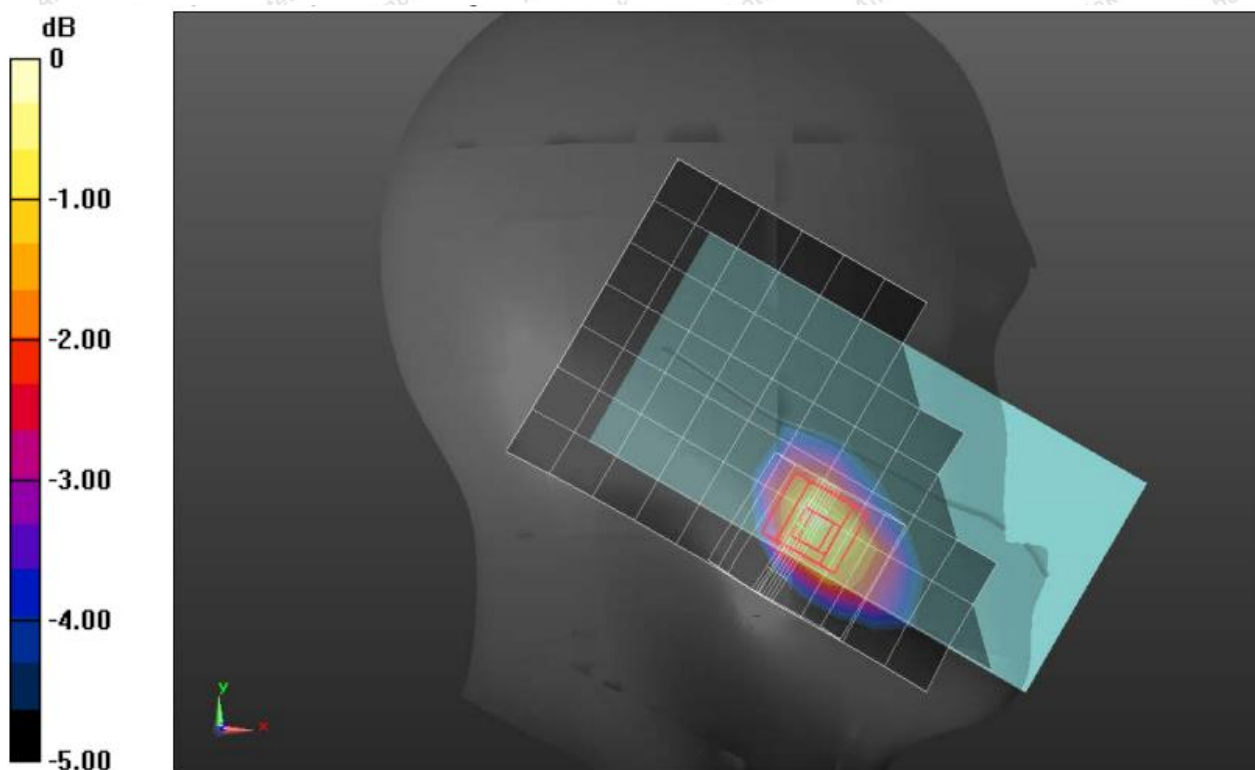


Figure 4: WCDMA Band II_RCM_Left Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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LTE Band 2_QPSK _Left Check

Date: 10/23/2019

Communication System: LTE B2; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.41$ mho/m; $\epsilon_r = 40.29$; $\rho = 1000$ kg/m³

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.13, 8.13, 8.13); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (81x151x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.046 mW/g

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

Reference Value = 2.42 V/m; Power Drift = -0.12 dB

Peak SAR (extrapolated) = 0.065 W/kg

SAR(1 g) = 0.044 mW/g; SAR(10 g) = 0.029 mW/g

Maximum value of SAR (measured) = 0.047 mW/g

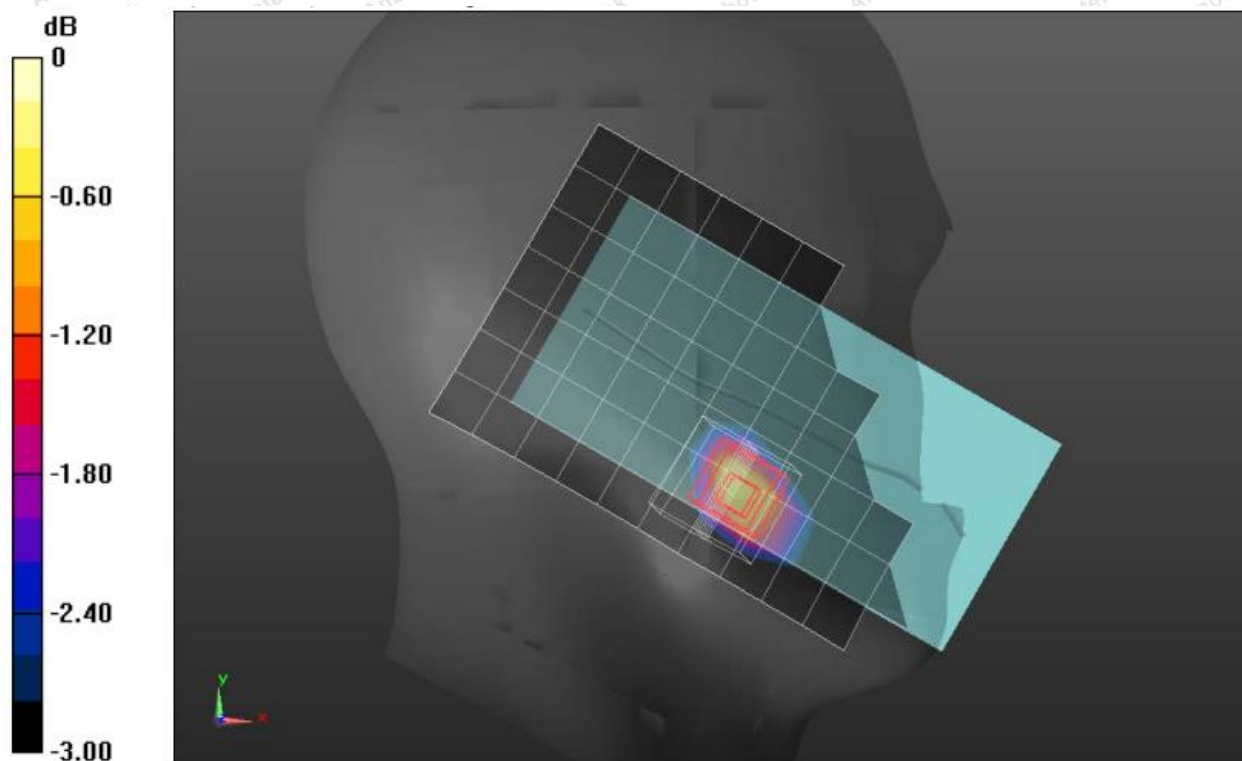


Figure 5: LTE Band 2_QPSK _Left Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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LTE Band 4_QPSK _Left Check

Date: 10/23/2019

Communication System: LTE B4; Frequency: 1732.5 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.34$ mho/m; $\epsilon_r = 41.5$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.61, 8.61, 8.61); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.044 mW/g

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

Reference Value = 7.9 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 0.060 W/kg

SAR(1 g) = 0.037 mW/g; SAR(10 g) = 0.022 mW/g

Maximum value of SAR (measured) = 0.040 mW/g

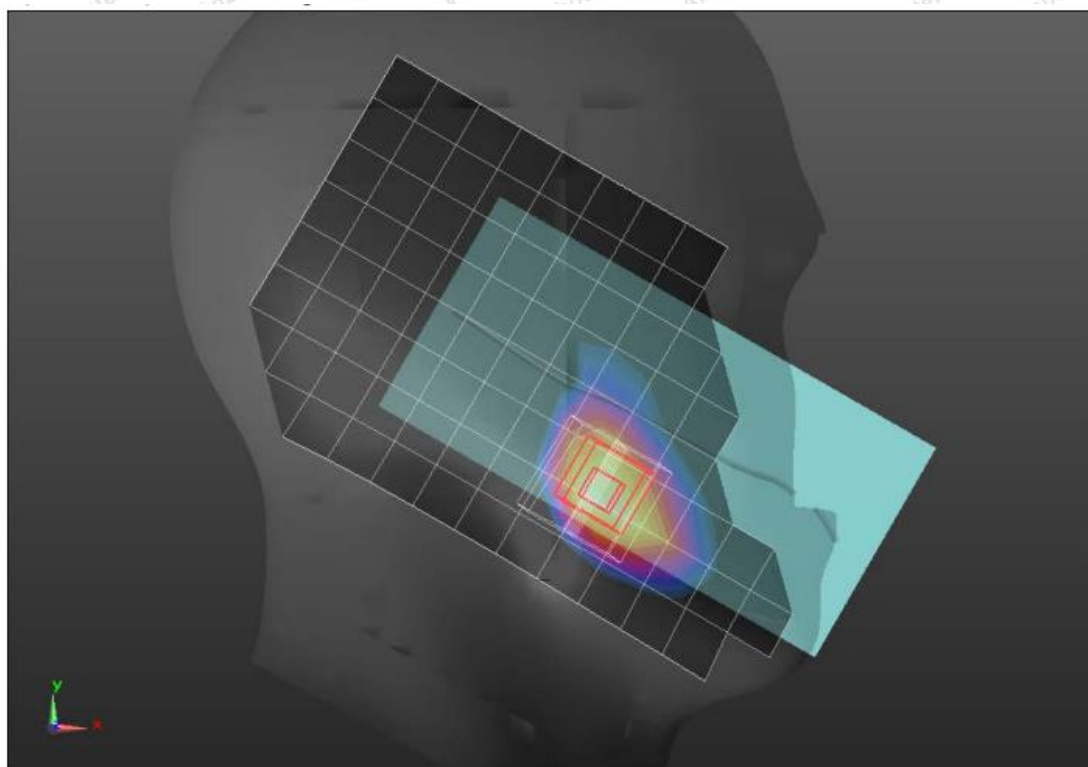
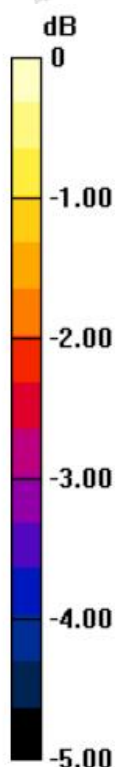


Figure 6: LTE Band 4_QPSK _Left Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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400-003-0500

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LTE Band 5_QPSK _Left Check

Date: 10/22/2019

Communication System: LTE B5; Frequency: 844MHz;Duty Cycle: 1:1

Medium parameters used: $f = 844 \text{ MHz}$; 0.933 S/m ; $\epsilon_r = 41.427$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Left Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.044 mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 13.83 V/m ; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.206 W/kg

SAR(1 g) = 0.159mW/g ; SAR(10 g) = 0.120mW/g

Maximum value of SAR (measured) = 0.190mW/g

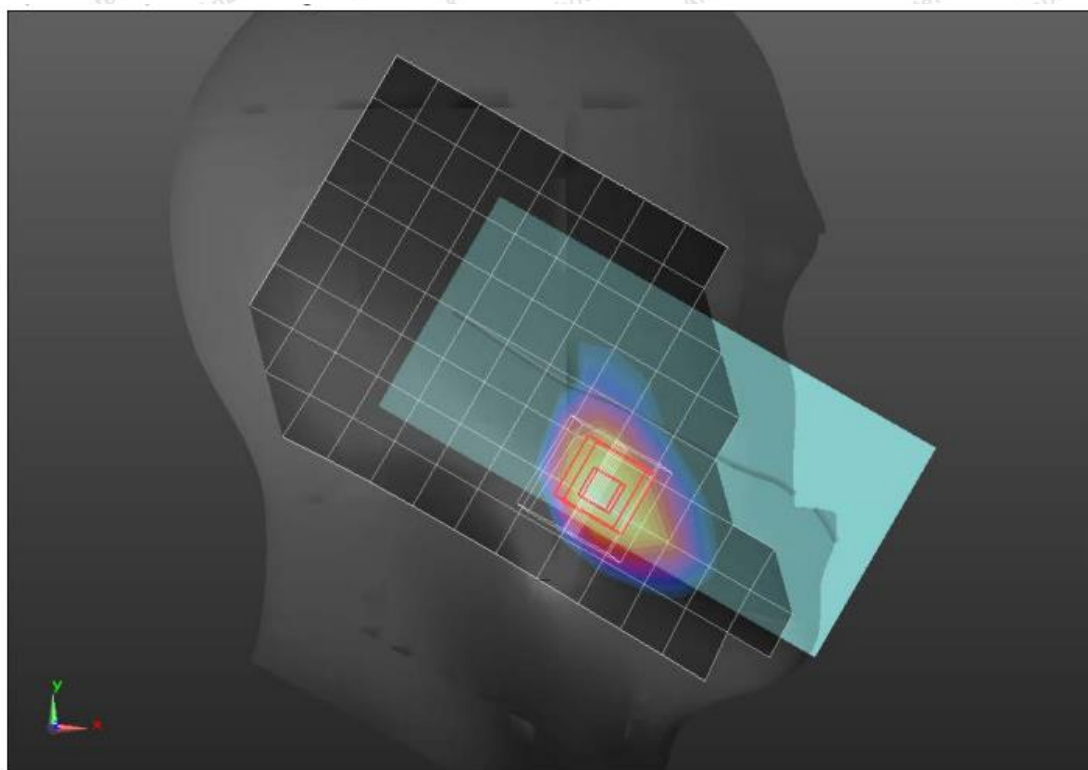
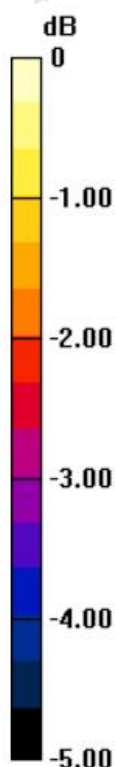


Figure 7: LTE Band 5_QPSK _Left Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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400-003-0500

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LTE Band 7_QPSK _Right Check

Date: 10/24/2019

Communication System: LTE B7; Frequency: 2560MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 2560$ MHz; $\sigma = 1.81$ mho/m; $\epsilon_r = 38.1$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (10x16x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.032 mW/g

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

Reference Value = 1.94 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.055 W/kg

SAR(1 g) = 0.028 mW/g; SAR(10 g) = 0.016 mW/g

Maximum value of SAR (measured) = 0.030 mW/g

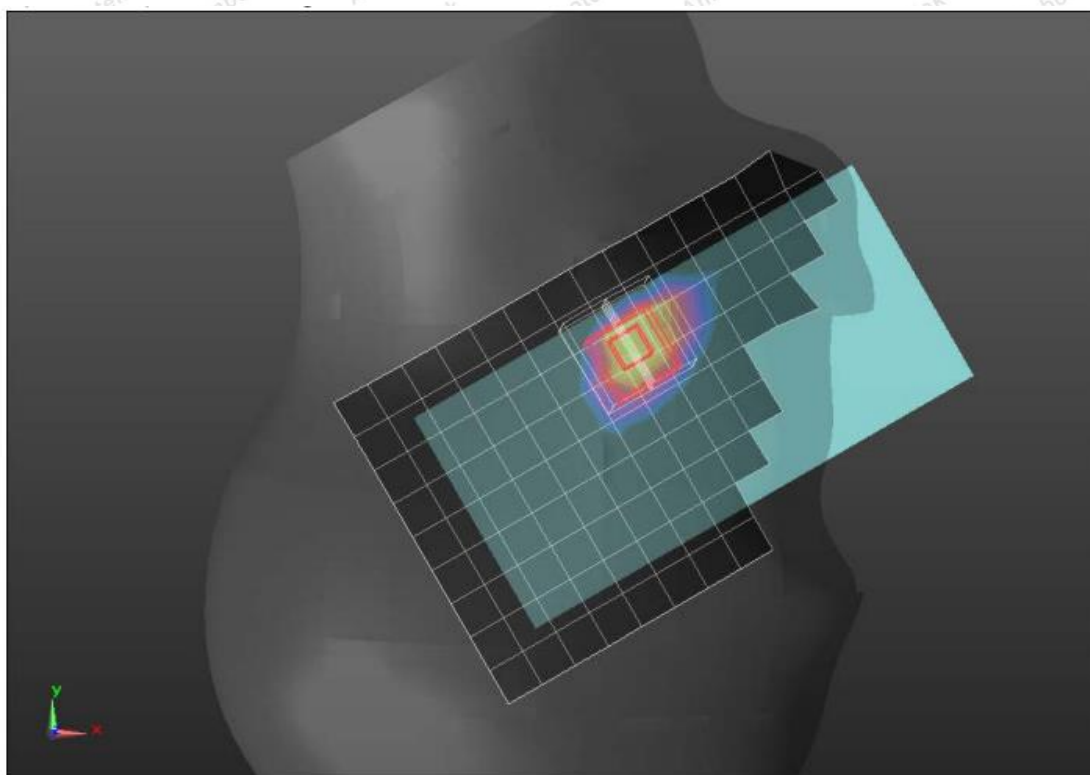
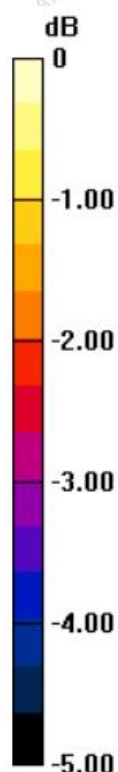


Figure 8: LTE Band 7_QPSK _Right Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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400-003-0500

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LTE Band 12_QPSK_Right Check

Date: 10/21/2019

Communication System: LTE B12; Frequency: 711MHz;Duty Cycle: 1:1

Medium parameters used: $f = 711 \text{ MHz}$; $\sigma = 0.905 \text{ mho/m}$; $\epsilon_r = 41.3$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

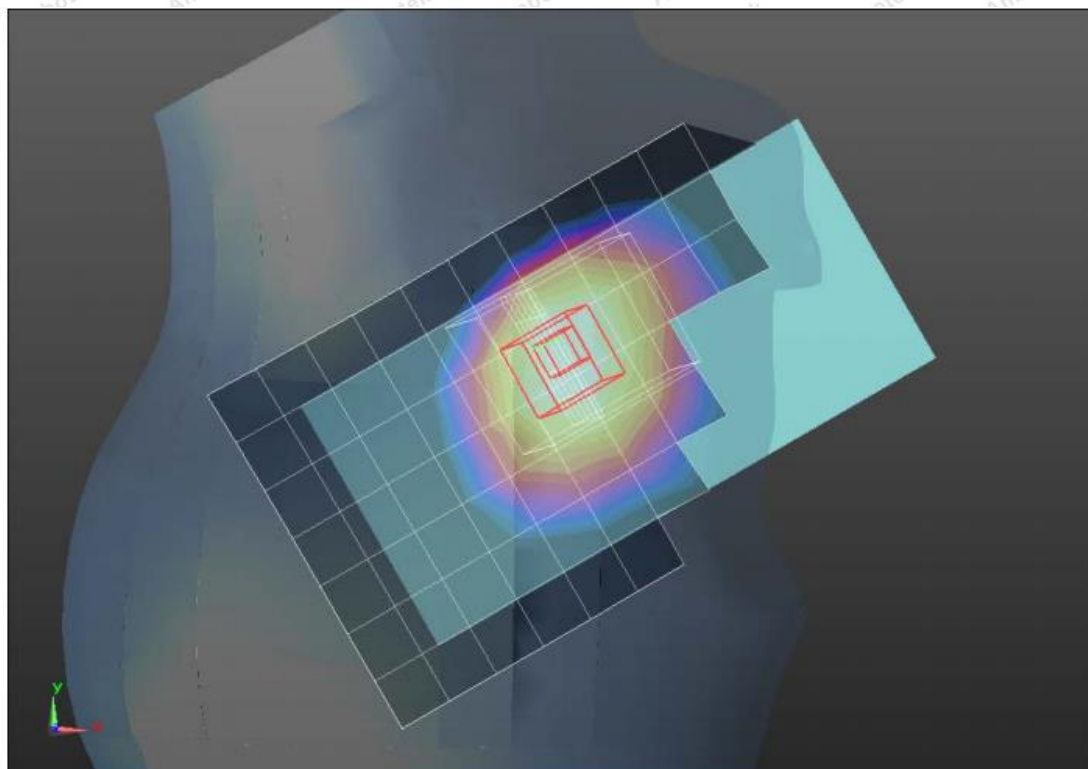
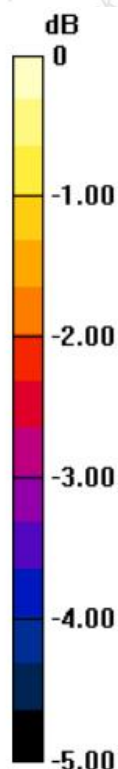
Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 0.658 mW/g **Zoom Scan (6x7x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 5.17 V/m ; Power Drift = -0.07 dB Peak SAR (extrapolated) = 0.686 W/kg **SAR(1 g) = 0.318 mW/g ; SAR(10 g) = 0.117 mW/g** Maximum value of SAR (measured) = 0.558 mW/g 

Figure 9: LTE Band 12_QPSK_Right Check

LTE Band 13_QPSK_Right Check

Date: 10/21/2019

Communication System: LTE B13; Frequency: 782.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 782.0 \text{ MHz}$; $\sigma = 0.921 \text{ S/m}$; $\epsilon_r = 41.605$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.231mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 15.22 V/m ; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.334 W/kg

SAR(1 g) = 0.257mW/g ; SAR(10 g) = 0.201mW/g

Maximum value of SAR (measured) = 0.307mW/g

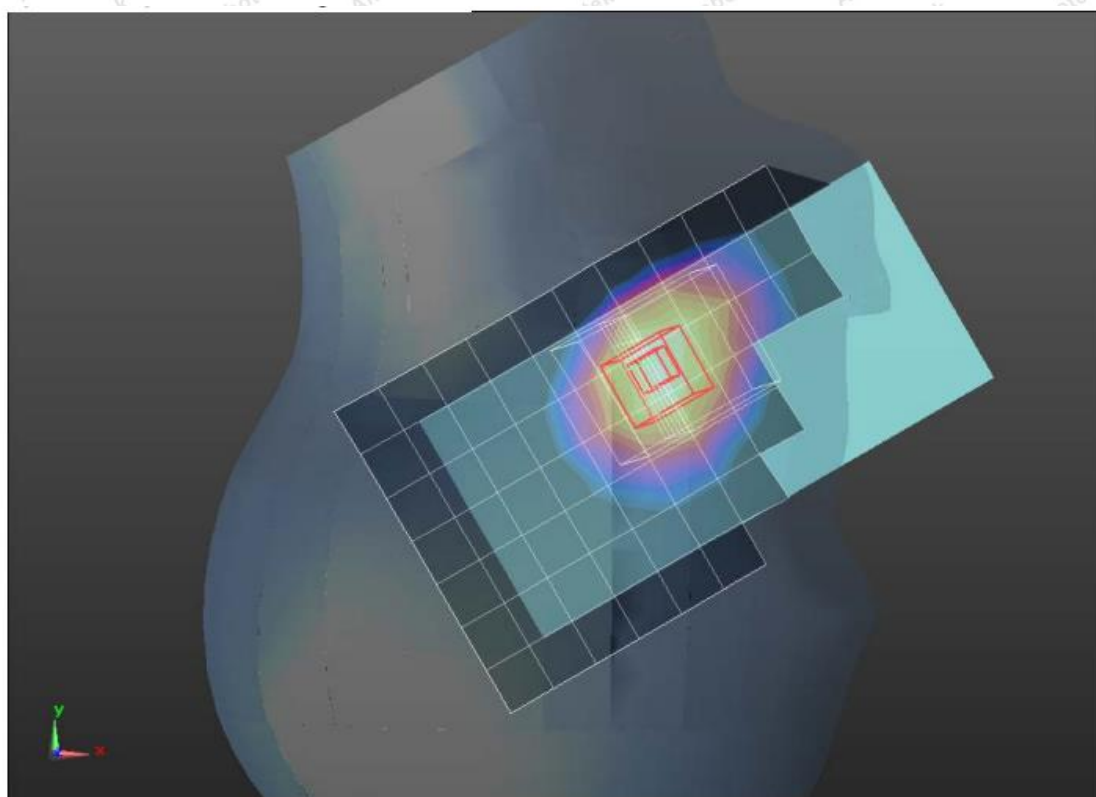
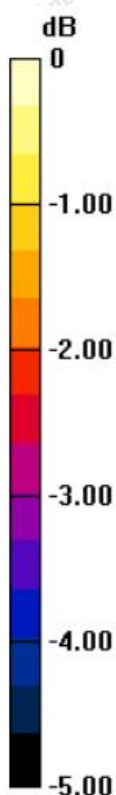


Figure 10: LTE Band 13_QPSK_Right Check

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

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LTE Band 17_QPSK_Right Check

Date: 10/21/2019

Communication System: LTE B17; Frequency: 711.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 711.0 \text{ MHz}$; $\sigma = 0.925 \text{ S/m}$; $\epsilon_r = 41.534$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.82, 9.82, 9.82); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.138mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 12.37 V/m ; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.146 W/kg

SAR(1 g) = 0.118mW/g ; SAR(10 g) = 0.094mW/g

Maximum value of SAR (measured) = 0.137mW/g

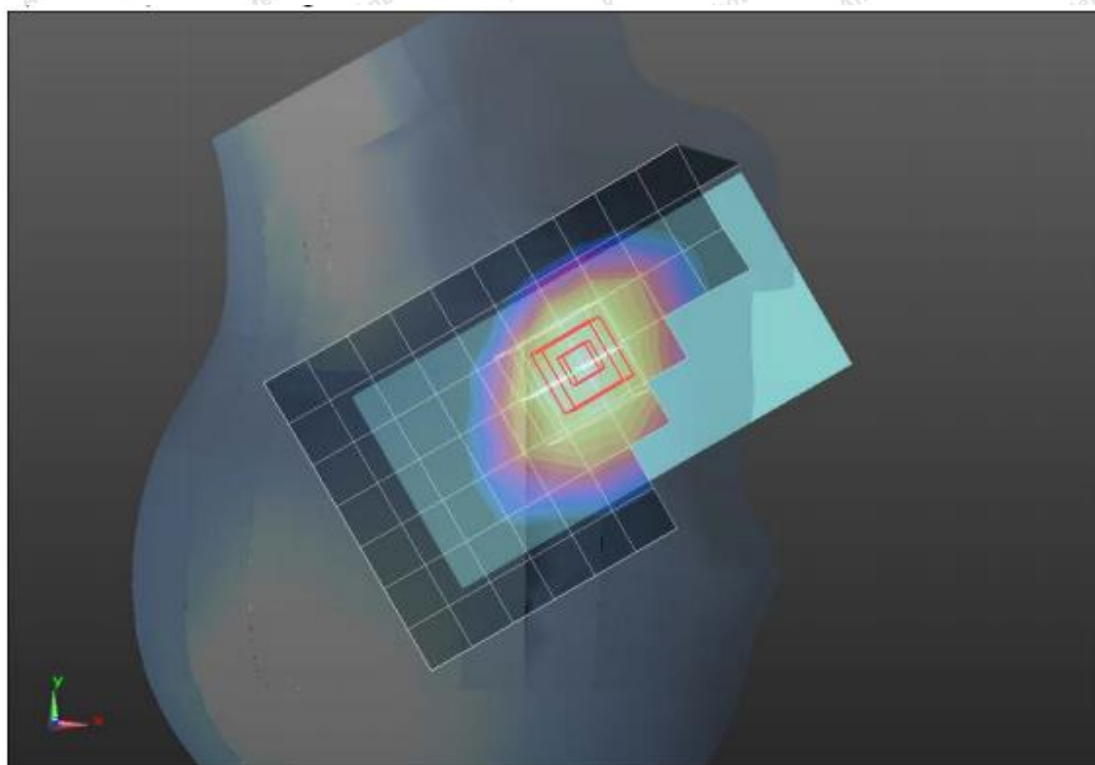
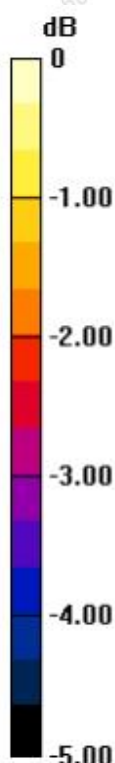


Figure 11: LTE Band 17_QPSK_Right Check

LTE Band 26_QPSK_Right Check

Date: 10/22/2019

Communication System: LTE B26; Frequency: 836.5MHz;Duty Cycle: 1:1

Medium parameters used: $f = 836.5 \text{ MHz}$; $\sigma = 0.928 \text{ S/m}$; $\epsilon_r = 41.973$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.71, 9.71, 9.71); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x13x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 0.203mW/g

Zoom Scan (5x5x7)/Cube 0: Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$

Reference Value = 14.30 V/m ; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.220 W/kg

SAR(1 g) = 0.175mW/g ; SAR(10 g) = 0.136mW/g

Maximum value of SAR (measured) = 0.203mW/g

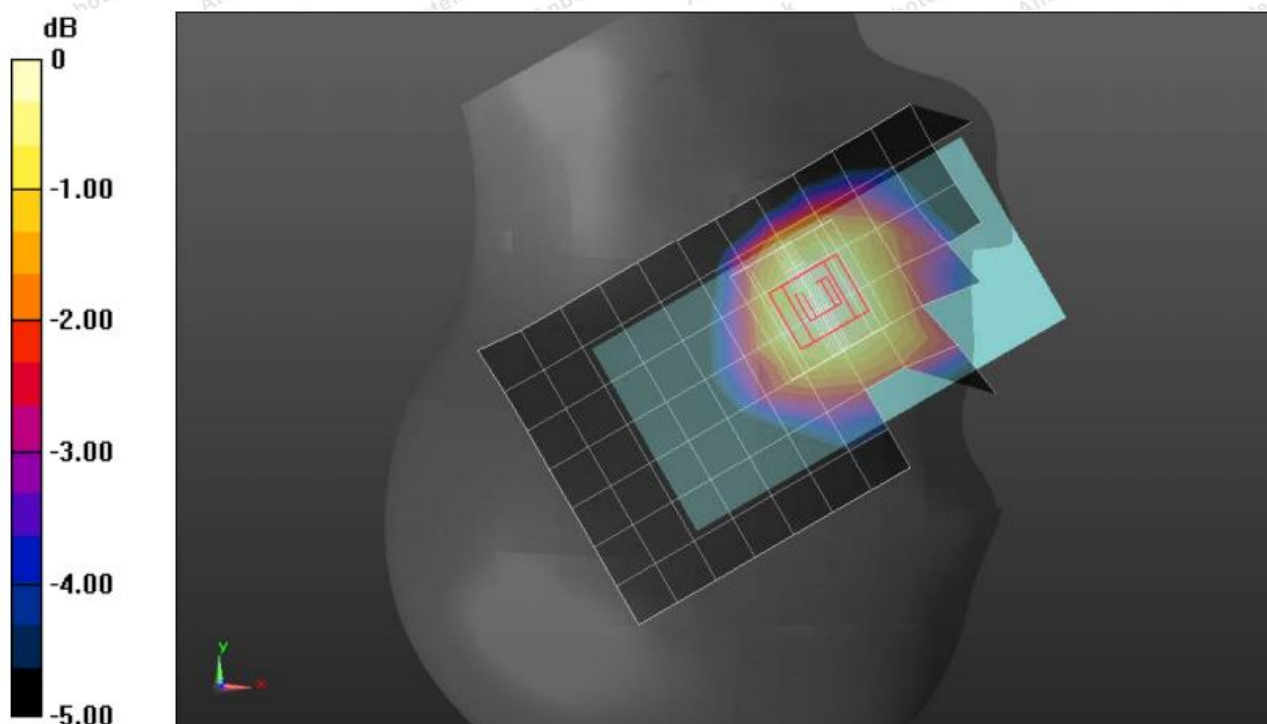


Figure 12: LTE Band 26_QPSK_Right Check

WLAN2.4G_Right Check

Date: 10/24/2019

Communication System: 802.11b; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.84$ mho/m; $\epsilon_r = 38.7$; $\rho = 1000$ kg/m³

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.57, 7.57, 7.57); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (11x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.588 mW/g

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

Reference Value = 7.47 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.716 W/kg

SAR(1 g) = 0.467 mW/g; SAR(10 g) = 0.277 mW/g

Maximum value of SAR (measured) = 0.563 mW/g

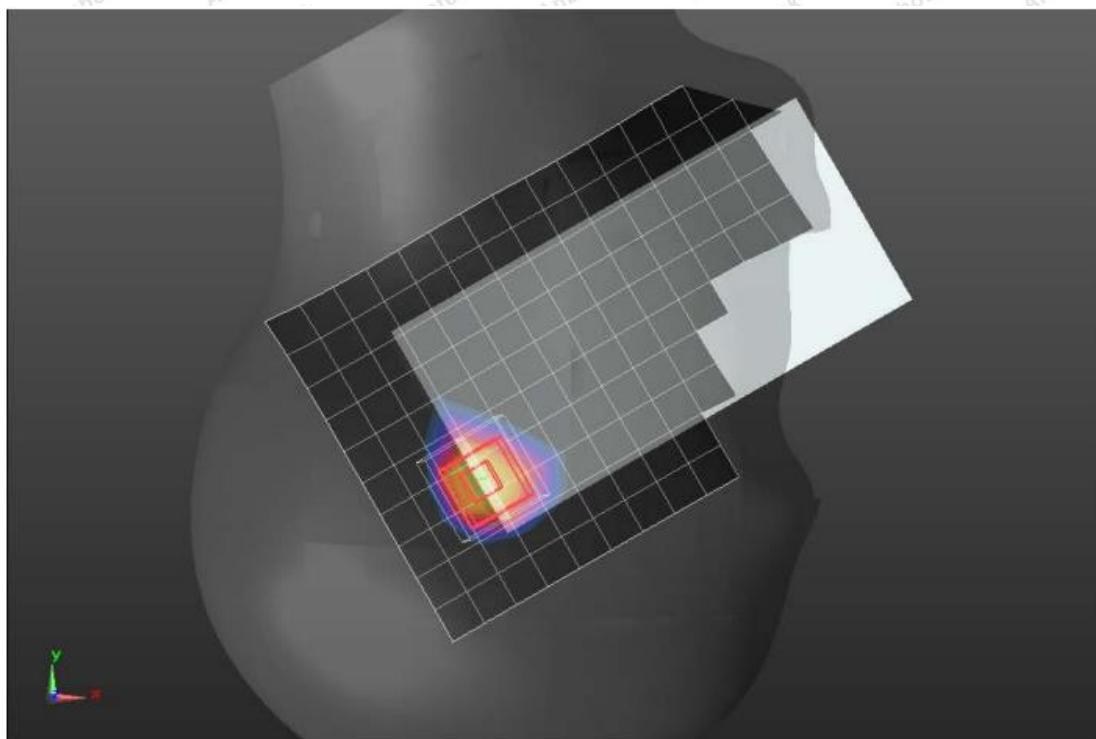
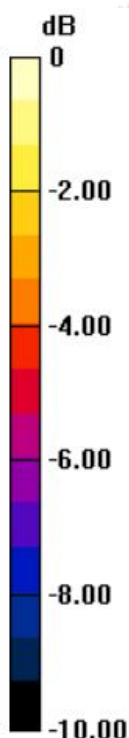


Figure 13: WLAN _ Right Check

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Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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400-003-0500

www.anbotek.com

WLAN5.2G_Right Check

Date: 10/25/2019

Communication System: 802.11an; Frequency: 5200MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5200 \text{ MHz}$; 5.344 S/m ; $\epsilon_r = 47.074$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(5.33, 5.33, 5.33); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

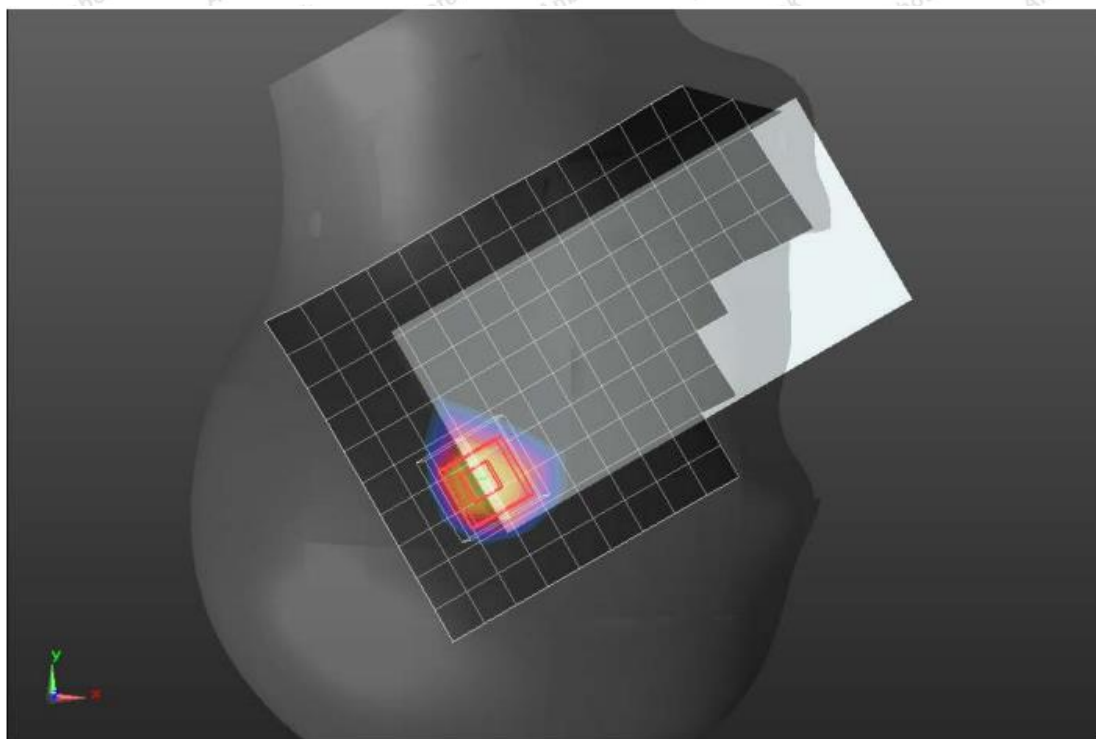
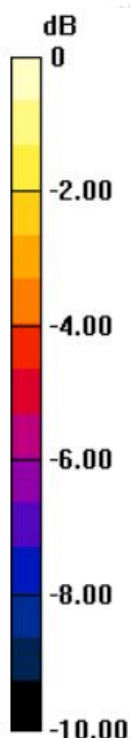
Area Scan (11x20x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 0.588 mW/g **Zoom Scan (7x7x12)/Cube 0:** Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$ Reference Value = 9.76 V/m ; Power Drift = -0.02 dB Peak SAR (extrapolated) = 1.23 W/kg **SAR(1 g) = 0.269 mW/g ; SAR(10 g) = 0.072 mW/g** Maximum value of SAR (measured) = 0.706 mW/g 

Figure 14: WLAN 5.2G _ Right Check

WLAN5.8G_Right Check

Date: 10/25/2019

Communication System: 802.11an; Frequency: 5825MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 5.135 \text{ S/m}$; $\epsilon_r = 36.451$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Right Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.92, 4.92, 4.92); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (11x20x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$

Maximum value of SAR (interpolated) = 1.14mW/g

Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 12.0V/m ; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 2.25 W/kg

SAR(1 g) = 0.368mW/g ; SAR(10 g) = 0.117mW/g

Maximum value of SAR (measured) = 1.24 mW/g

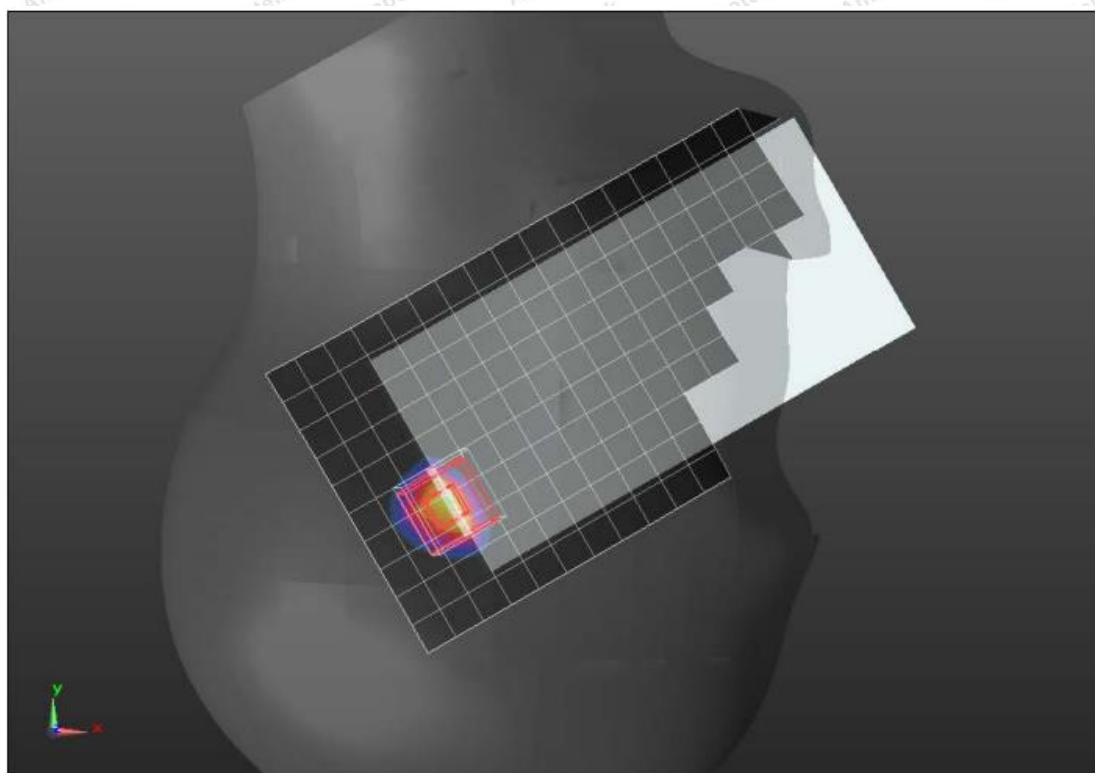
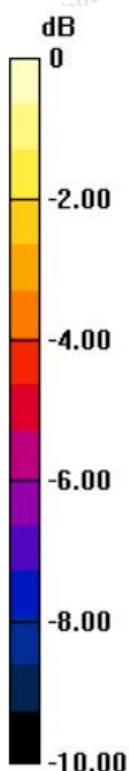


Figure 15: WLAN 5.8G _ Right Check

GSM850_Front side_0mm

Date: 10/22/2019

Communication System: GSM 850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 836.6$ MHz; $\sigma = 0.965$ mho/m; $\epsilon_r = 55.94$; $\rho = 1000$ kg/m³;

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.611 mW/g

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

Reference Value = 18.5 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.722 W/kg

SAR(1 g) = 0.235 mW/g; SAR(10 g) = 0.088 mW/g

Maximum value of SAR (measured) = 0.797 mW/g

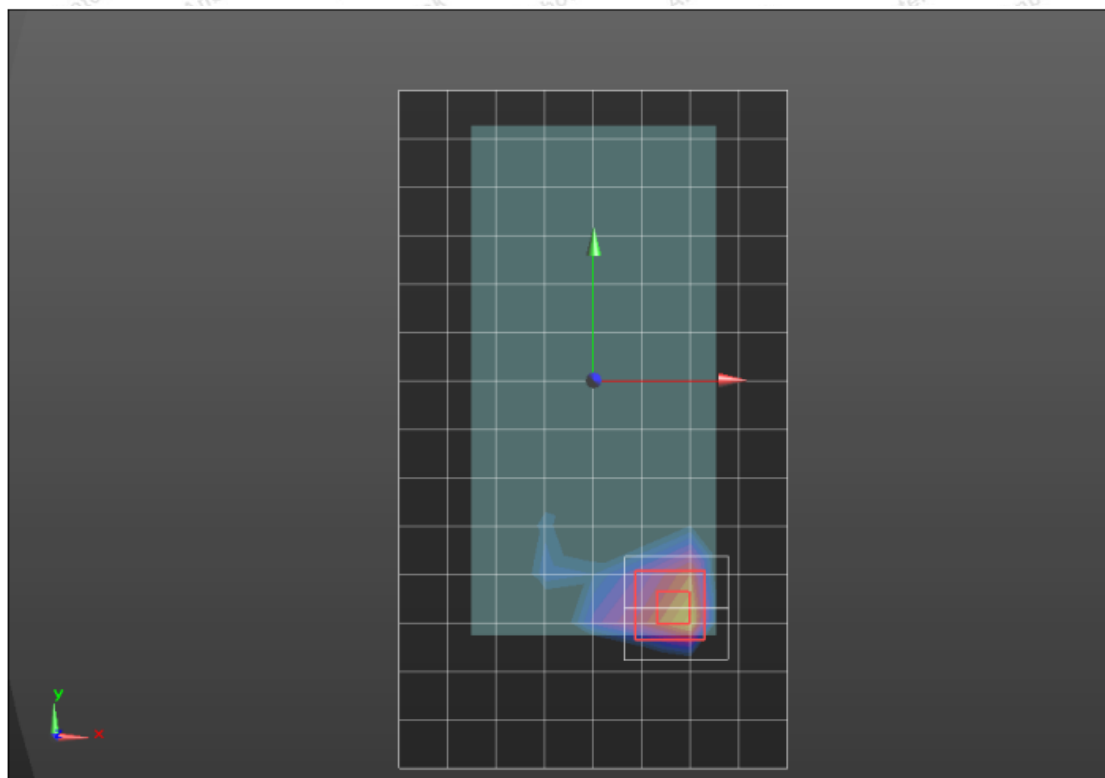
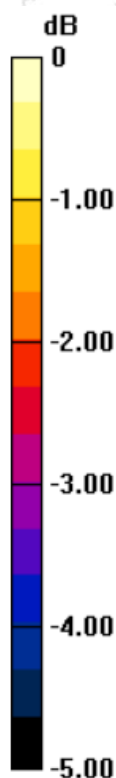


Figure 16: GSM850_Front side_0mm

GSM1900_Front side_0mm

Date: 10/23/2019

Communication System: GSM 1900; Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.558$ mho/m; $\epsilon_r = 52.99$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.244mW/g

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

Reference Value = 11.14 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.430 W/kg

SAR(1 g) = 0.194mW/g; SAR(10 g) = 0.091mW/g

Maximum value of SAR (measured) = 0.329mW/g

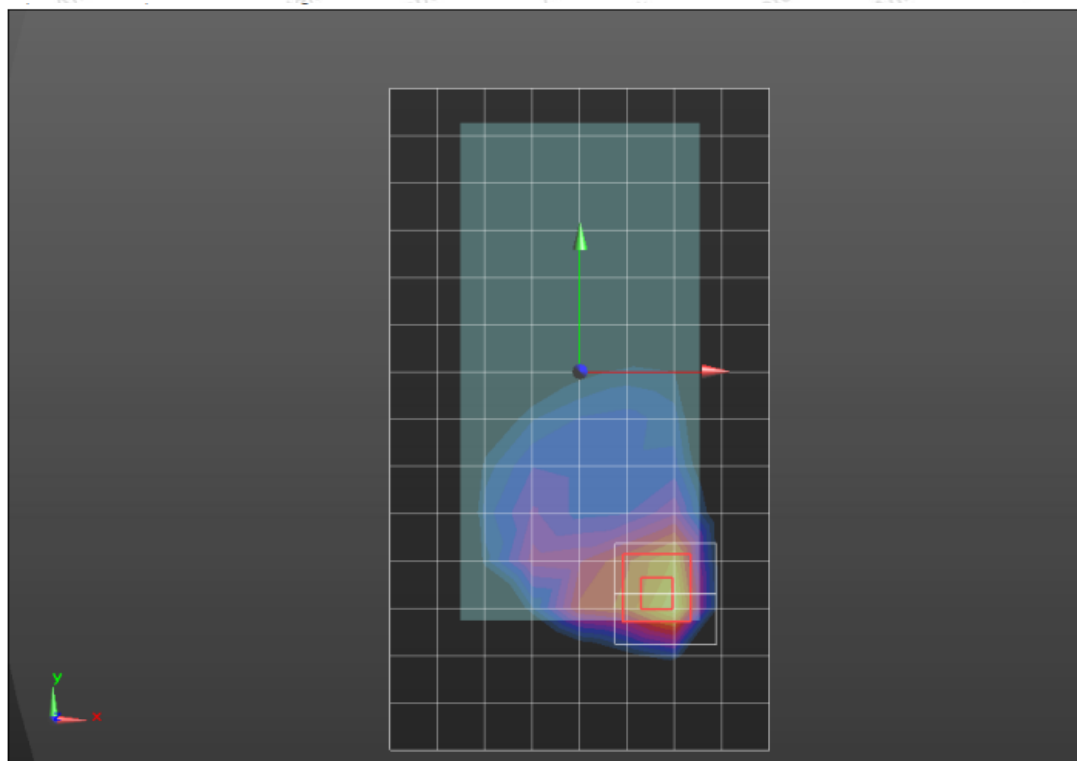
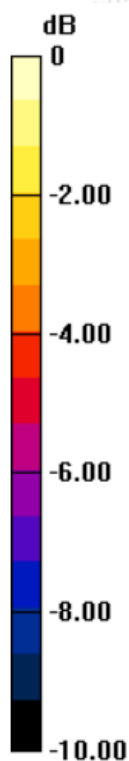


Figure 17: GSM1900_Front side_0mm

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



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WCDMA Band V_RCM_Rear side_0mm

Date: 10/22/2019

Communication System: W850; Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 837$ MHz; $\sigma = 1.01$ mho/m; $\epsilon_r = 55.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.502mW/g

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

Reference Value = 18.73 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.659 W/kg

SAR(1 g) = 0.327mW/g; SAR(10 g) = 0.185mW/g

Maximum value of SAR (measured) = 0.535mW/g

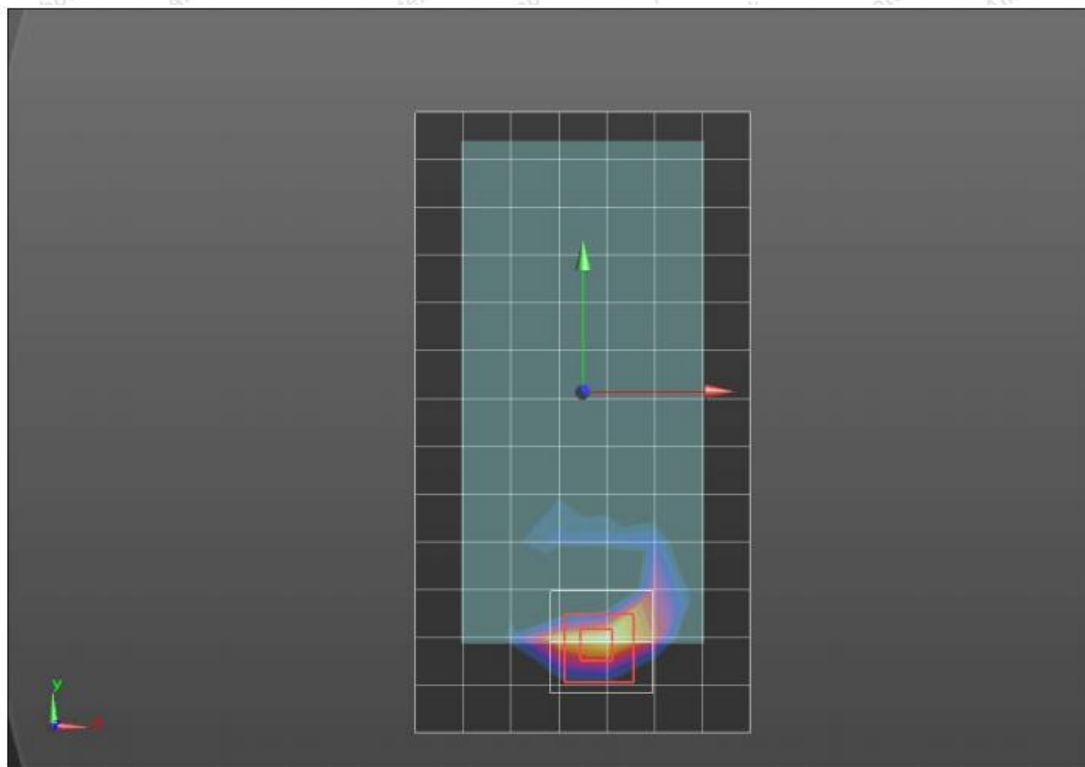
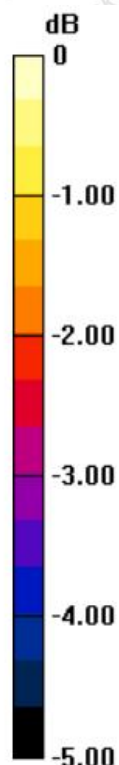


Figure 18: WCDMA Band V_RCM_Rear side_0mm

WCDMA Band II_RCM_Front side_0mm

Date: 10/23/2019

Communication System: W1900; Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): $f = 1880$ MHz; $\sigma = 1.48$ mho/m; $\epsilon_r = 52.9$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.361mW/g

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

Reference Value = 13.57 V/m; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.600W/kg

SAR(1 g) = 0.276mW/g; SAR(10 g) = 0.133mW/g

Maximum value of SAR (measured) = 0.461mW/g

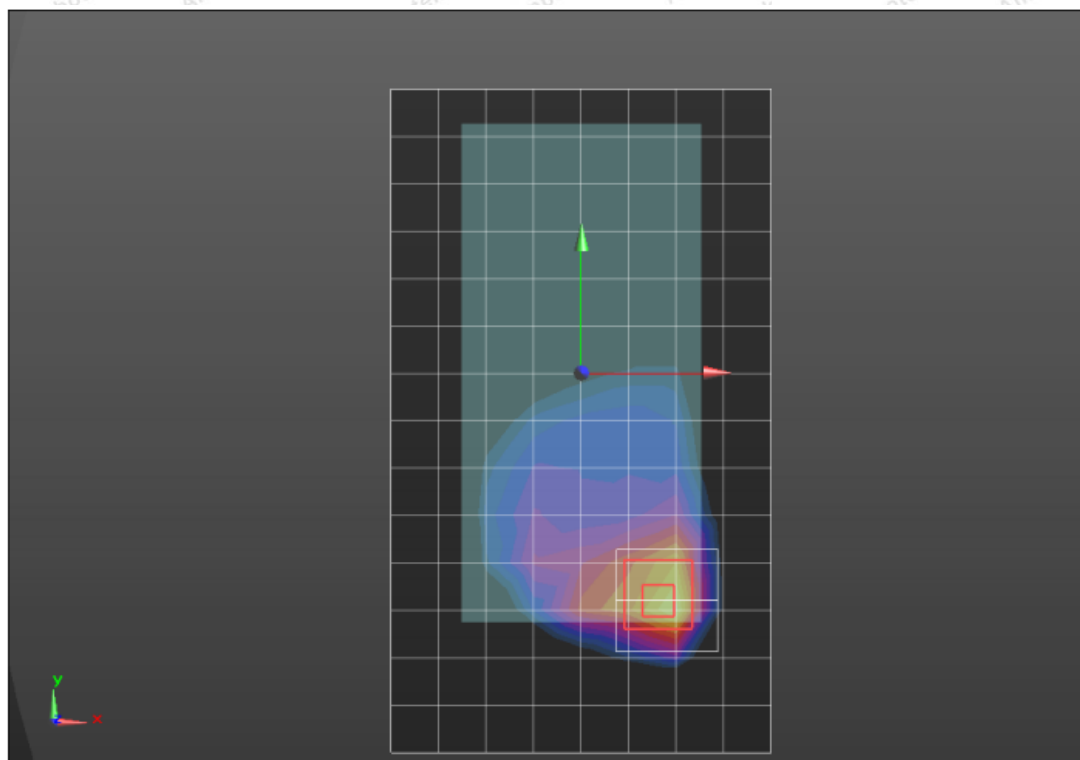
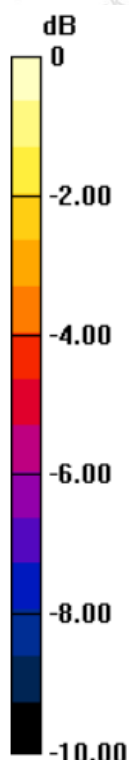


Figure 19: WCDMA Band II_RCM_Front side_0mm

LTE Band 2_QPSK_Front side_0mm

Date: 10/23/2019

Communication System: LTE B2; Frequency: 1900 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1900$ MHz; $\sigma = 1.54$ mho/m; $\epsilon_r = 53.69$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.97, 7.97, 7.97); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.205mW/g

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

Reference Value = 10.40 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.306 W/kg

SAR(1 g) = 0.154mW/g; SAR(10 g) = 0.078mW/g

Maximum value of SAR (measured) = 0.238mW/g

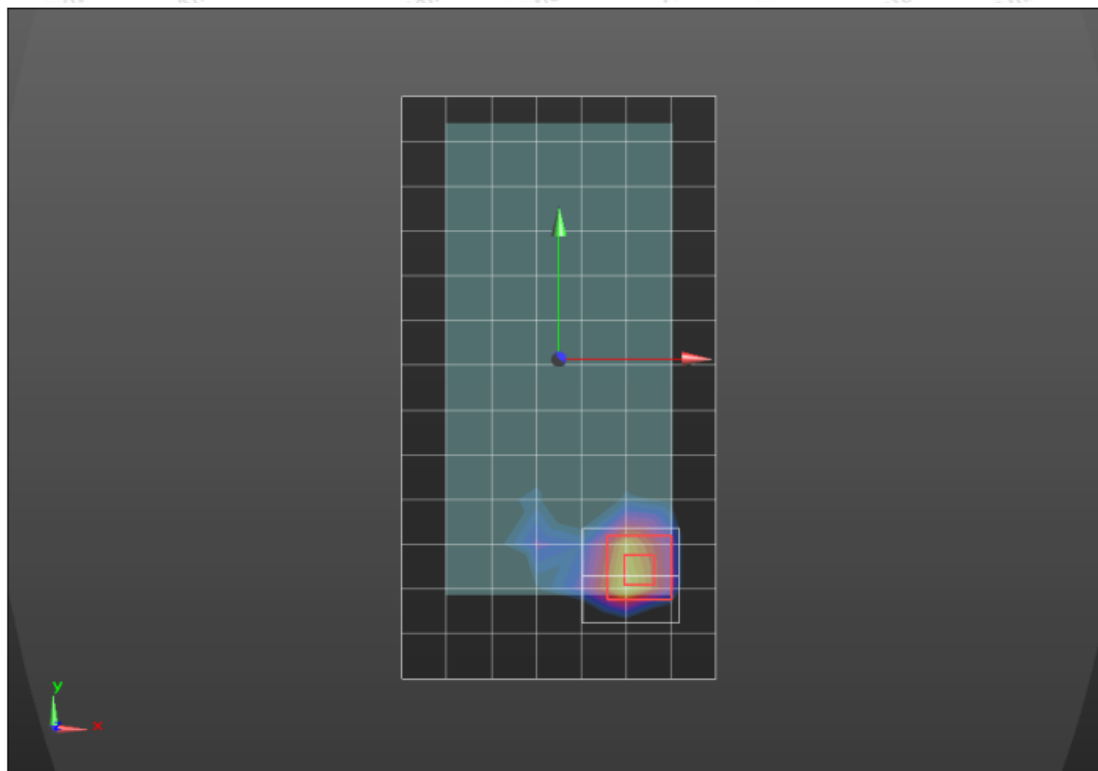
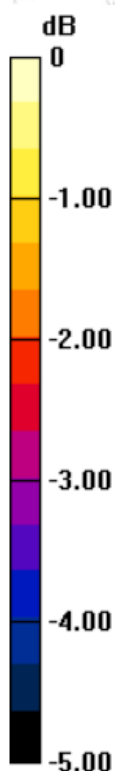


Figure 20: LTE Band 2_QPSK_Front side_0mm

LTE Band 4_QPSK _Rear side_0mm

Date: 10/23/2019

Communication System: LTE B4; Frequency: 1732.5 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 1732.5$ MHz; $\sigma = 1.49$ mho/m; $\epsilon_r = 52.2$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(8.24, 8.24, 8.24); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (9x15x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.188 mW/g

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

Reference Value = 4.09 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.382 W/kg

SAR(1 g) = 0.172 mW/g; SAR(10 g) = 0.077 mW/g

Maximum value of SAR (measured) = 0.195 mW/g

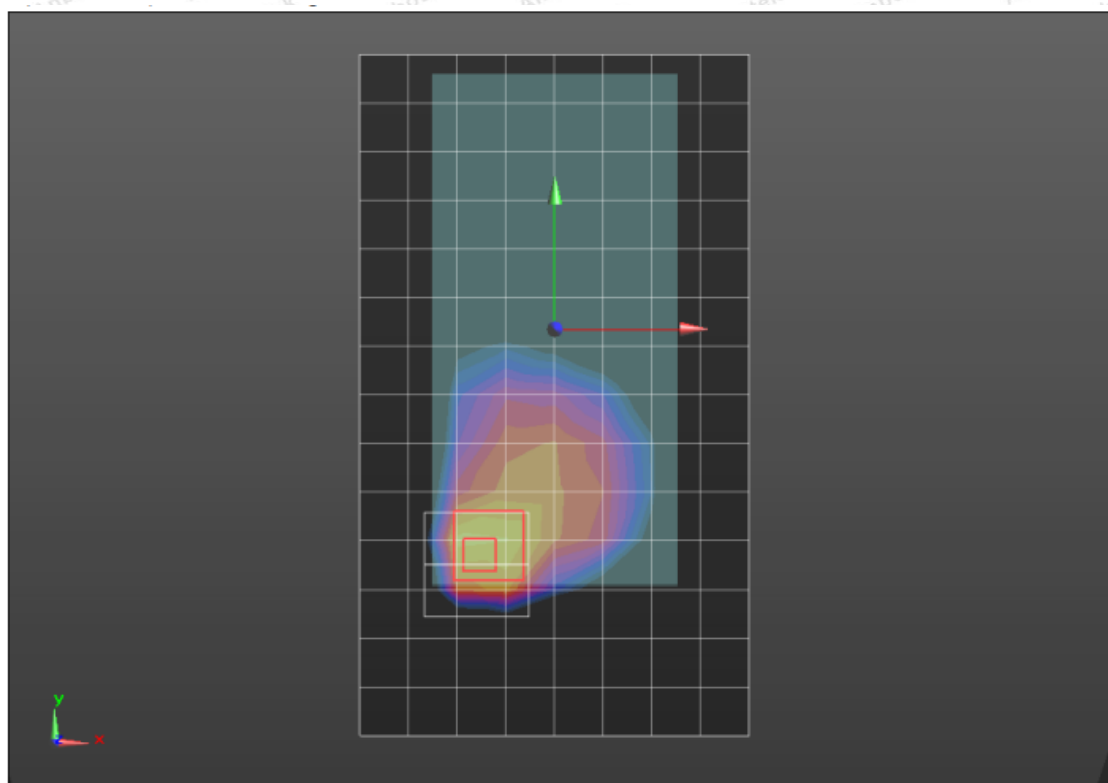
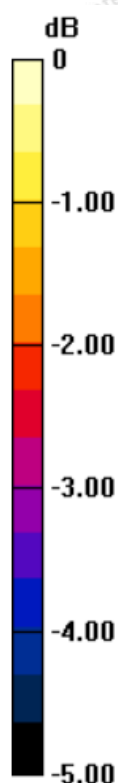


Figure 21: LTE Band 4_QPSK _Rear side_0mm

LTE Band 5_QPSK _Rear side_0mm

Date: 10/22/2019

Communication System: LTE B5; Frequency: 844.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 844.0$ MHz; $\sigma = 0.979$ S/m; $\epsilon_r = 55.306$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x14x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.502mW/g

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

Reference Value = 19.73 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 0.659 W/kg

SAR(1 g) = 0.327mW/g; SAR(10 g) = 0.185mW/g

Maximum value of SAR (measured) = 0.506mW/g

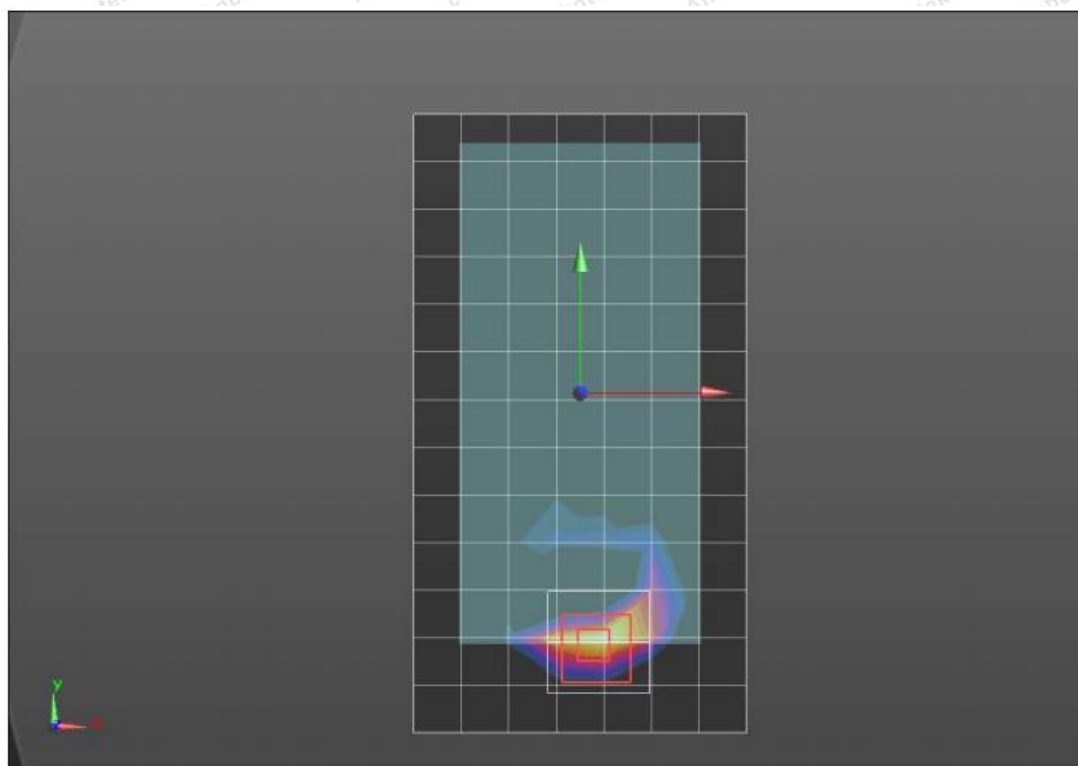
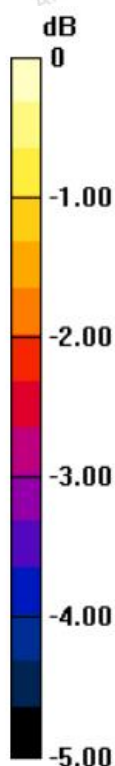


Figure 22: LTE Band 5_QPSK _Rear side_0mm

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

LTE Band 7_QPSK _Rear side_0mm

Date: 10/24/2019

Communication System: LTE B7; Frequency: 2560MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2560$ MHz; $\sigma = 1.88$ mho/m; $\epsilon_r = 50.5$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (10x17x1): Measurement grid: dx=15mm, dy=15mm

Maximum value of SAR (interpolated) = 0.370mW/g

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

Reference Value = 11.52 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.492 W/kg

SAR(1 g) = 0.236mW/g; SAR(10 g) = 0.122mW/g

Maximum value of SAR (measured) = 0.382mW/g

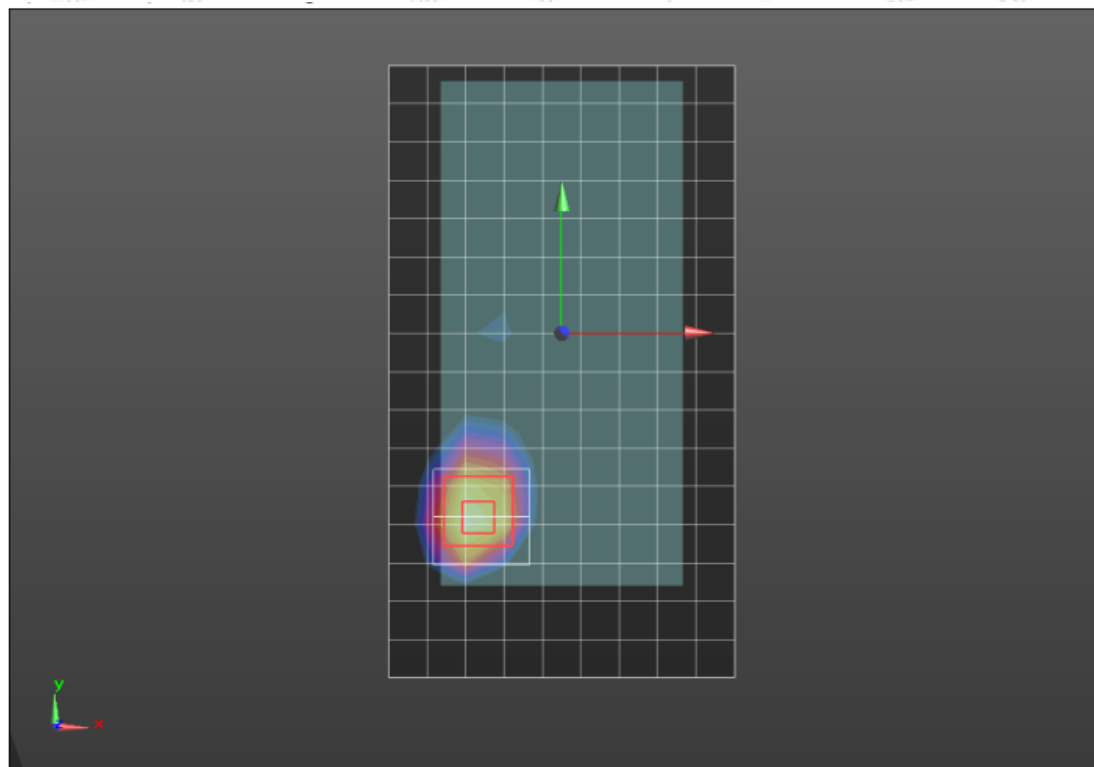
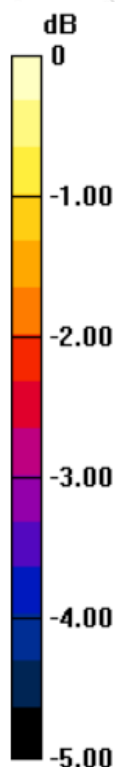


Figure 23: LTE Band 7 _QPSK _ Rear side_0mm

LTE Band 12_QPSK _Rear side_0mm

Date: 10/21/2019

Communication System: LTE B12; Frequency: 711.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 711.0\text{MHz}$; $\sigma = 0.952\text{ mho/m}$; $\epsilon_r = 55.5$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

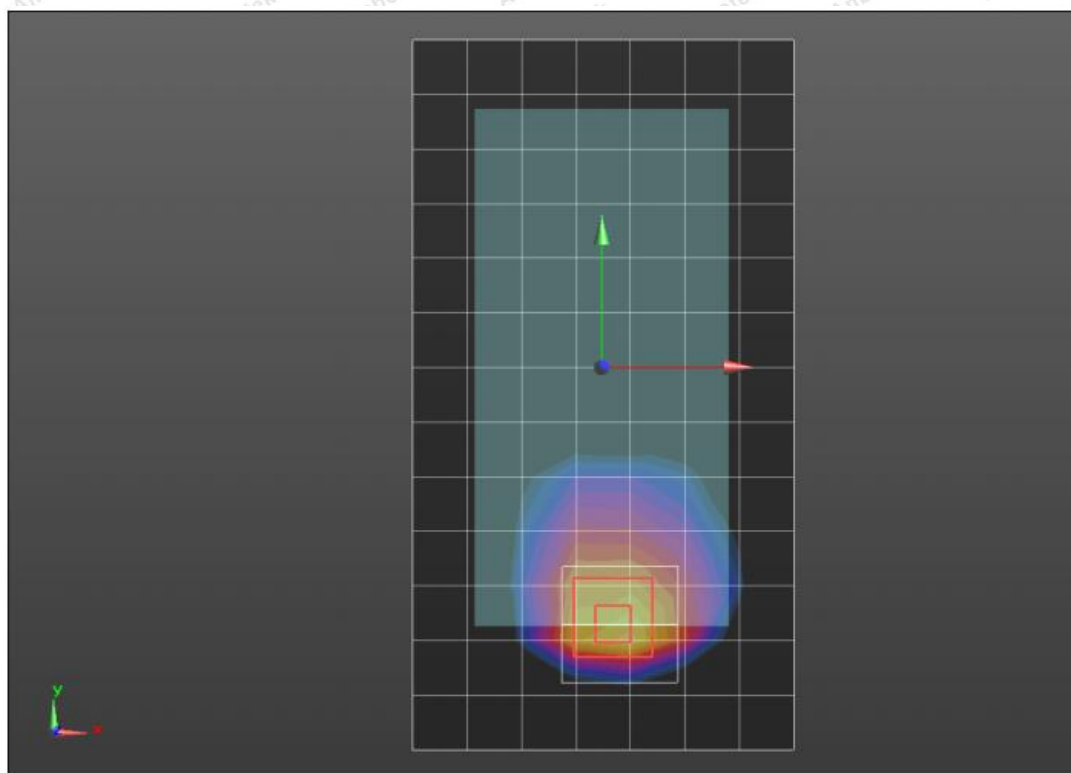
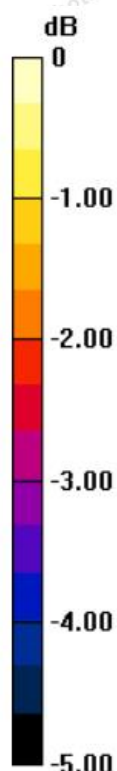
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 0.231mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 15.22 V/m ; Power Drift = 0.02 dB Peak SAR (extrapolated) = 0.334 W/kg **SAR(1 g) = 0.257mW/g ; SAR(10 g) = 0.200mW/g** Maximum value of SAR (measured) = 0.307mW/g 

Figure 24: LTE Band 12_QPSK _Rear side_0mm

LTE Band 13_QPSK_Front side_0mm

Date: 10/21/2019

Communication System: LTE B12; Frequency:782.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 782.0\text{MHz}$; $\sigma = 0.961\text{ S/m}$; $\epsilon_r = 55.679$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(10.09, 10.09, 10.09); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

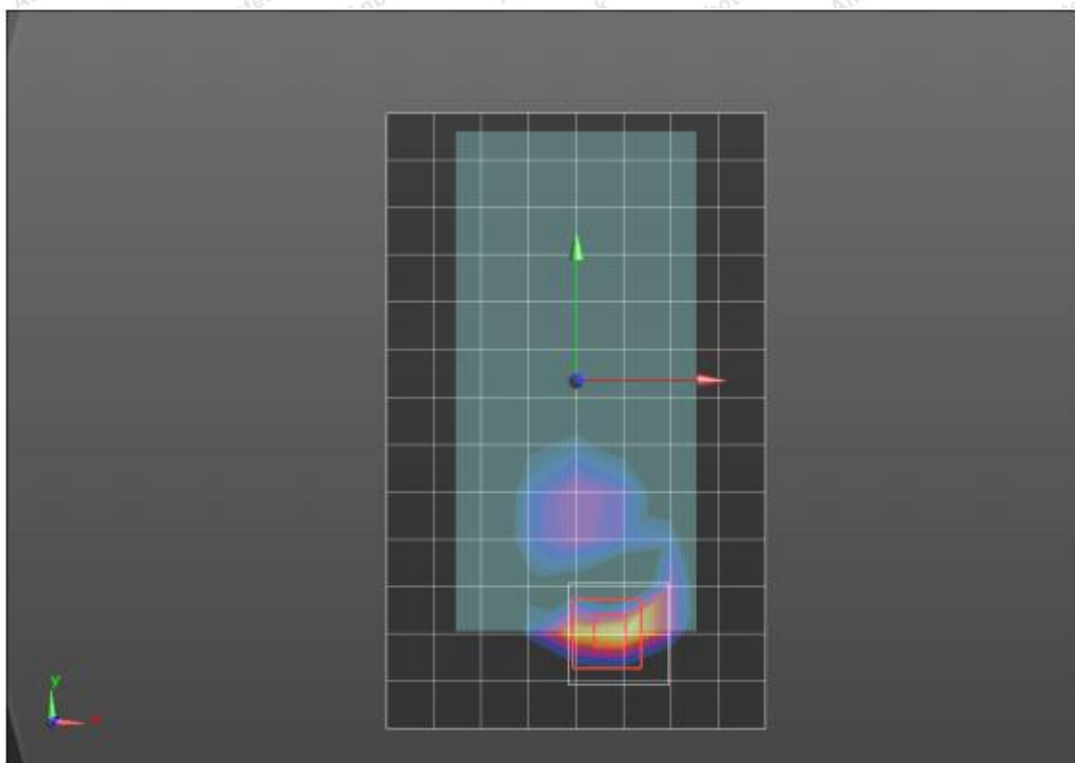
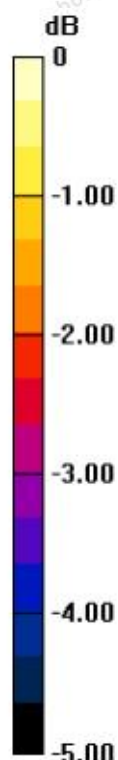
Area Scan (9x14x1): Measurement grid: $dx=15\text{mm}$, $dy=15\text{mm}$ Maximum value of SAR (interpolated) = 0.310mW/g **Zoom Scan (8x8x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 16.87 V/m ; Power Drift = 0.02 dB Peak SAR (extrapolated) = 0.401 W/kg **SAR(1 g) = 0.214mW/g ; SAR(10 g) = 0.115mW/g** Maximum value of SAR (measured) = 0.318mW/g 

Figure 25: LTE Band 13_QPSK_Front side_0mm

LTE Band 17_QPSK _Rear side_0mm

Date: 10/24/2019

Communication System: LTE B17; Frequency:711.0MHz;Duty Cycle: 1:1

Medium parameters used: $f = 711.0 \text{ MHz}$; $\sigma = 0.961 \text{ S/m}$; $\epsilon_r = 55.679$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.38, 7.38, 7.38); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (10x17x1): Measurement griddx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.687mW/g

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

Reference Value = 15.59V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.939 W/kg

SAR(1 g) = 0.453mW/g; SAR(10 g) = 0.234mW/g

Maximum value of SAR (measured) = 0.735mW/g

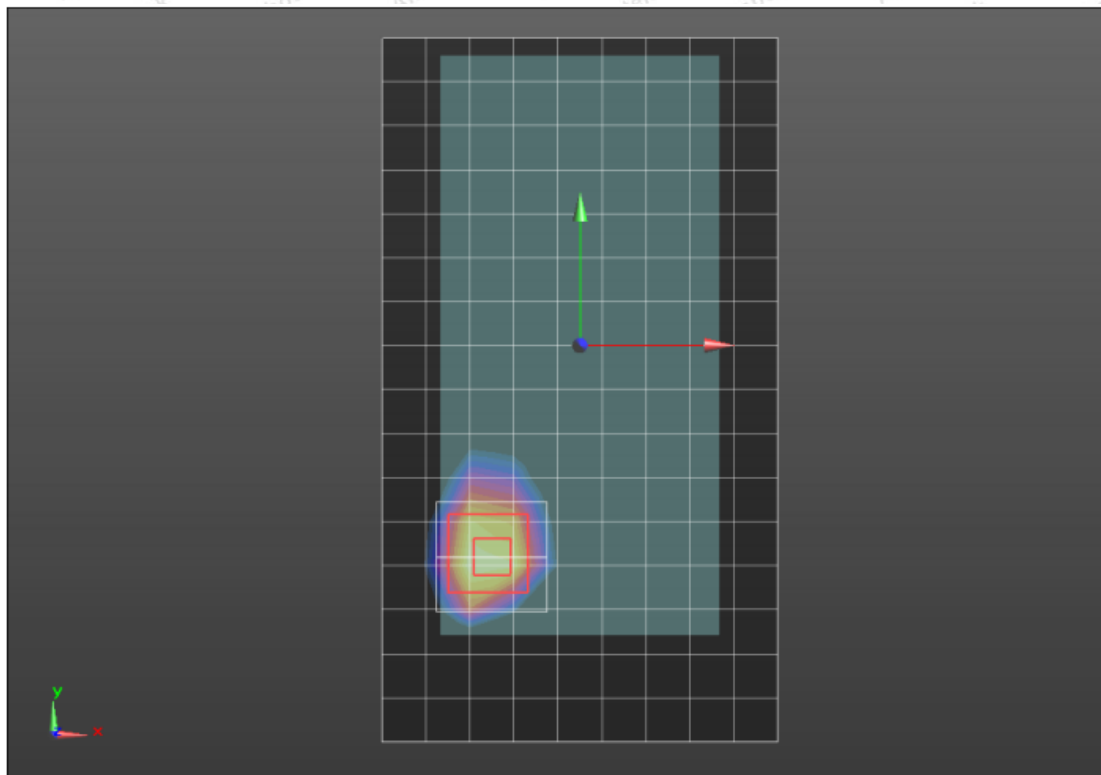
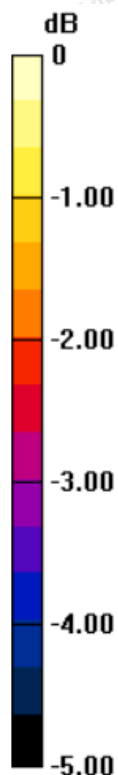


Figure 26: LTE Band 17_QPSK _Rear side_0mm

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

LTE Band 26_QPSK_Front side_0mm

Date: 10/22/2019

Communication System: LTE B26; Frequency:836.5MHz;Duty Cycle: 1:1

Medium parameters used: $f = 836.5\text{MHz}$; $\sigma = 0.961\text{ S/m}$; $\epsilon_r = 55.679$; $\rho = 1000\text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(9.88, 9.88, 9.88); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (8x14x1): Measurement griddx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.232mW/g

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

Reference Value = 15.38V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.256 W/kg

SAR(1 g) = 0.204 mW/g; SAR(10 g) =0.159mW/g

Maximum value of SAR (measured) =0.239mW/g

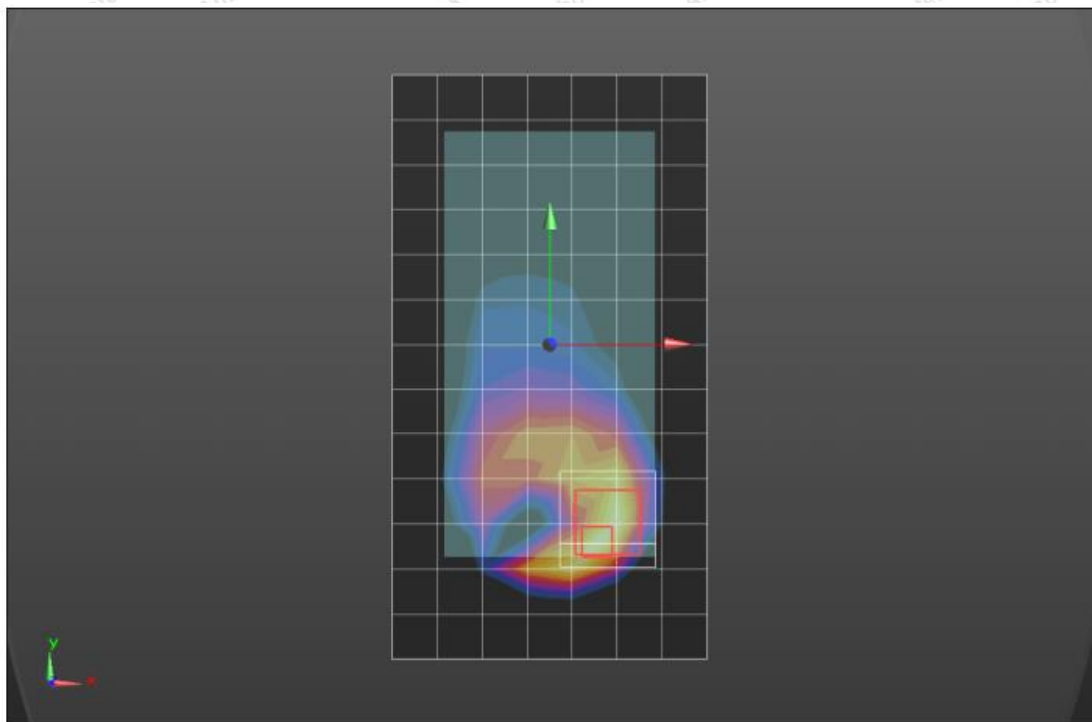
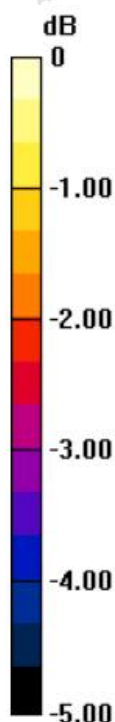


Figure 27: LTE Band 26_QPSK_Front side_0mm

WLAN2.4G_Rear side_0mm

Date: 10/24/2019

Communication System: 802.11; Frequency: 2437 MHz;Duty Cycle: 1:1

Medium parameters used: $f = 2437$ MHz; $\sigma = 1.97$ mho/m; $\epsilon_r = 52.4$; $\rho = 1000$ kg/m³

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(7.53, 7.53, 7.53); Calibrated: 5/6/2019;
 - Sensor-Surface: 2mm (Mechanical Surface Detection)
 - Electronics: DAE4 1549; Calibrated: 3/19/2019
 - Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (11x17x1): Measurement grid: dx=12mm, dy=12mm

Maximum value of SAR (interpolated) = 0.656mW/g

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

Reference Value = 16.55 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.966 W/kg

SAR(1 g) = 0.422 mW/g; SAR(10 g) = 0.218 mW/g

Maximum value of SAR (measured) = 0.765 mW/g

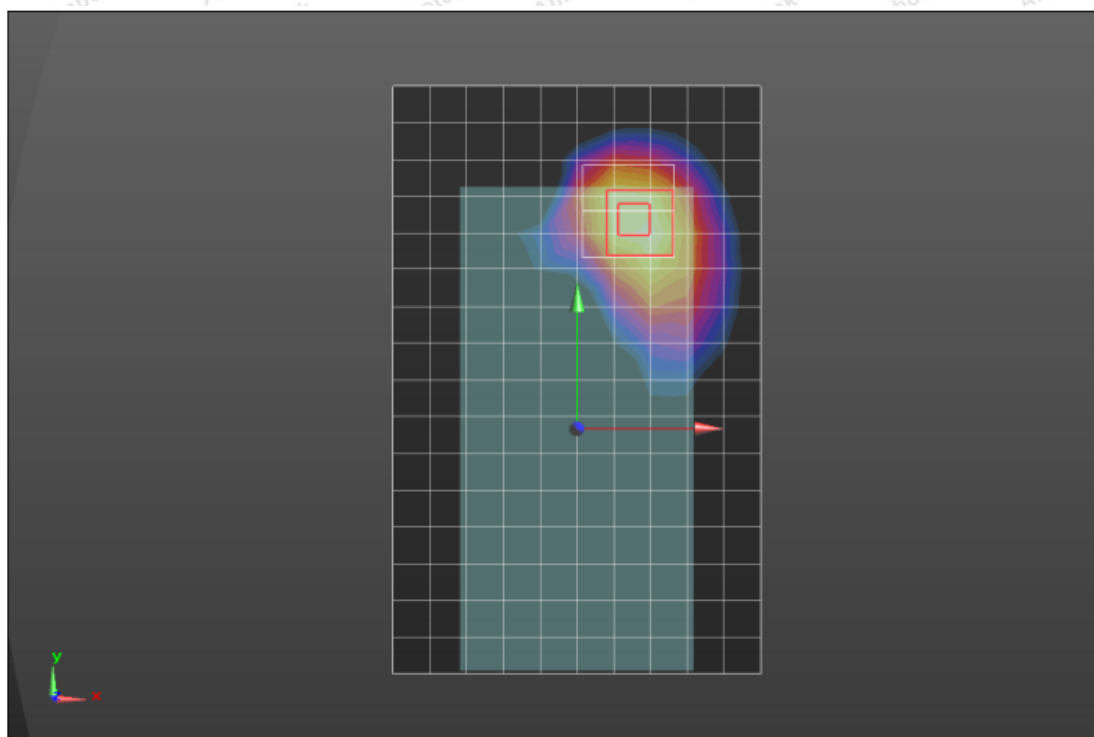
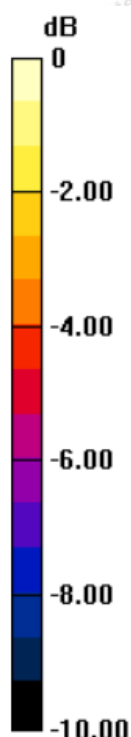


Figure 28: WLAN 2.4G_Rear side_0mm

WLAN5.2G_Rear side_0mm

Date: 10/25/2019

Communication System: 802.11an; Frequency: 5200MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5200 \text{ MHz}$; $\sigma = 5.38 \text{ mho/m}$; $\epsilon_r = 47.90$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.93, 4.93, 4.93); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (12x19x1): Measurement grid: dx=10mm, dy=10mm

Maximum value of SAR (interpolated) = 0.431mW/g

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

Reference Value = 8.105 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.638 W/kg

SAR(1 g) = 0.211 mW/g; SAR(10 g) = 0.084 mW/g

Maximum value of SAR (measured) = 0.498 mW/g

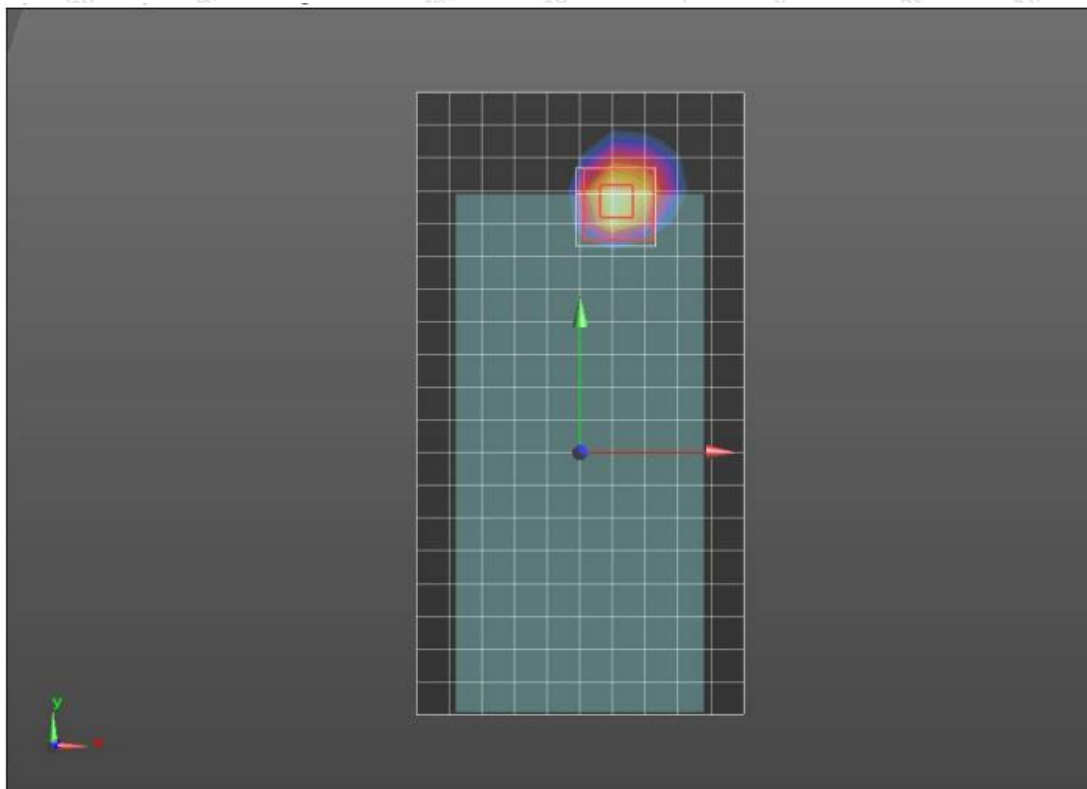
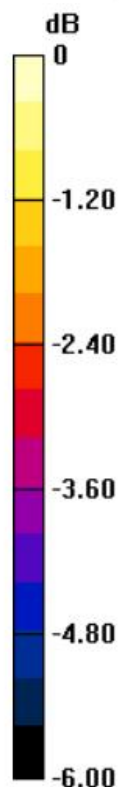


Figure 29: WLAN 5.2G_Rear side_0mm

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

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WLAN5.8G_Rear side_0mm

Date: 10/25/2019

Communication System: 802.11an; Frequency: 5825MHz;Duty Cycle: 1:1

Medium parameters used: $f = 5825 \text{ MHz}$; $\sigma = 6.221 \text{ S/m}$; $\epsilon_r = 45.95$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 -7396; ConvF(4.52, 4.52, 4.52); Calibrated: 5/6/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

Area Scan (11x20x1): Measurement grid: $dx=10\text{mm}$, $dy=10\text{mm}$

Maximum value of SAR (interpolated) = 0.403mW/g

Zoom Scan (7x7x12)/Cube 0: Measurement grid: $dx=4\text{mm}$, $dy=4\text{mm}$, $dz=2\text{mm}$

Reference Value = 7.156 V/m ; Power Drift = 0.15 dB

Peak SAR (extrapolated) = 0.789 W/kg

SAR(1 g) = 0.184 mW/g ; SAR(10 g) = 0.075 mW/g

Maximum value of SAR (measured) = 0.445 mW/g

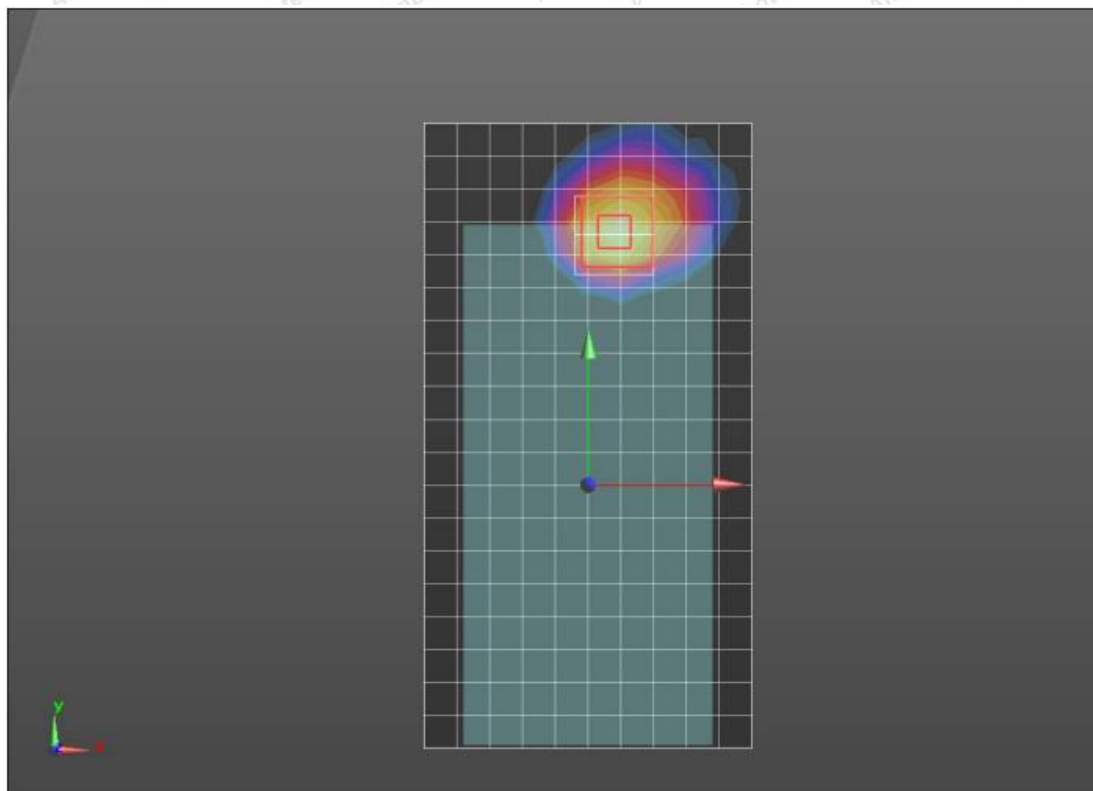
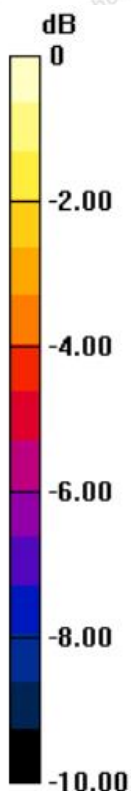


Figure 30: WLAN 5.8G_Rear side_0mm

Shenzhen Anbotek Compliance Laboratory Limited

Address: 1/F, Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.

Tel:(86)755-26066440 Fax:(86)755-26014772 Email:service@anbotek.com



Hotline

400-003-0500

www.anbotek.com

PMR_FM12.5KHz_Face held_25mm

Date: 10/26/2019

Communication System: FM; Frequency: 150 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 150 \text{ MHz}$; $\sigma = 0.772 \text{ S/m}$; $\epsilon_r = 51.987$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.96, 7.96, 7.96); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

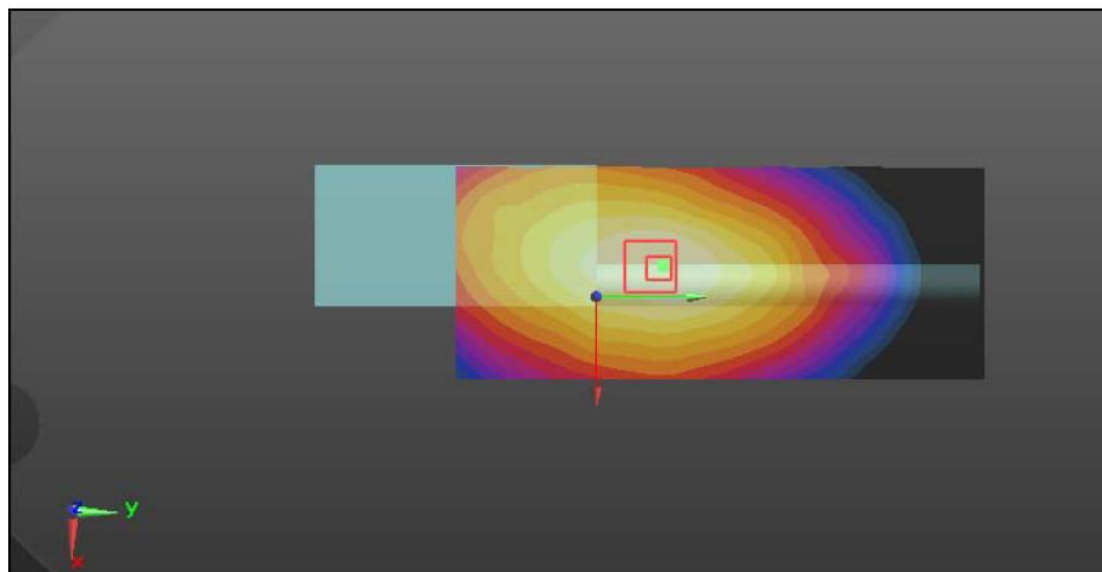
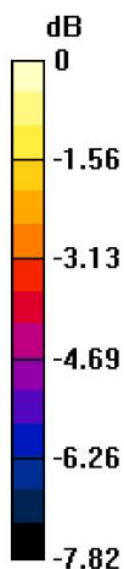
Area Scan (61x151x1): Measurement grid: $dx=1.5\text{mm}$, $dy=1.5\text{mm}$ Maximum value of SAR (interpolated) = 1.25mW/g **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 33.68 V/m ; Power Drift = -0.04 dB Peak SAR (extrapolated) = 1.60mW/g **SAR(1 g) = 0.915 W/kg ; SAR(10 g) = 0.691 W/kg** Maximum value of SAR (measured) = 1.31 W/kg 

Figure 31: PMR_FM12.5KHz_Face held_25mm

PMR_FM12.5KHz_Body Worn_0mm

Date: 10/26/2019

Communication System: FM; Frequency: 150 MHz; Duty Cycle: 1:1

Medium parameters used: $f = 150 \text{ MHz}$; $\sigma = 0.772 \text{ S/m}$; $\epsilon_r = 51.987$; $\rho = 1000 \text{ kg/m}^3$

Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 -3337; ConvF(7.42, 7.42, 7.42); Calibrated: 7/23/2019;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 1549; Calibrated: 3/19/2019
- Phantom: ELI 4.0; Type: QDOVA001BA;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.6 (6824)

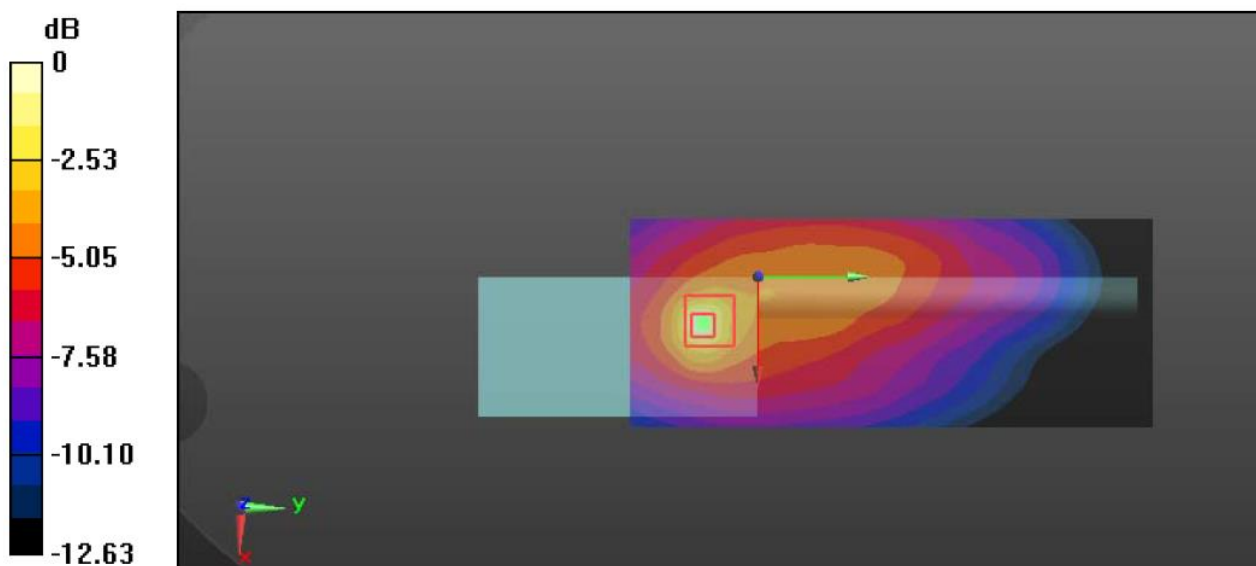
Area Scan (61x151x1): Measurement grid: $dx=1.5\text{mm}$, $dy=1.5\text{mm}$ Maximum value of SAR (interpolated) = 1.42 W/kg **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: $dx=8\text{mm}$, $dy=8\text{mm}$, $dz=5\text{mm}$ Reference Value = 41.40 V/m ; Power Drift = -0.10 dB Peak SAR (extrapolated) = 1.85 W/kg **SAR(1 g) = 1.31 W/kg ; SAR(10 g) = 0.86 W/kg** Maximum value of SAR (measured) = 1.78 W/kg 

Figure 32: PMR_FM12.5KHz_Body Worn_0mm