Anbotek
Product Safety

FCC SAR Test Report

Report No.	:	1812C50084812501
Applicant	:	Shenzhen Wo Kosun Electronic Technology Co., Ltd.
Address	:	6F.Hua-yu Technology Building.Niu lan qian xin Vallage Industrial area, Minzhi , LonghuaDistrict,shenzhen City,518131 China
Product Name	:	Smart Watch
Report Date	:	2025-05-15

Shenzhen Anbotek Compliance Laboratory Limited

Contents

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TEST REPORT

Applicant	:	Shenzhen Wo Kosun Electronic Technology Co., Ltd.
Manufacturer	:	6F.Hua-yu Technology Building.Niu lan qian xin Vallage Industrial area, Minzhi, LonghuaDistrict shenzhen City, 518131 China
Product Name	:	Smart Watch
Model No.	:	BH11, BH12, BH13, BH15, BH16, BH17, BH18, BH19, BH20, BH2
Trade Mark	:	N/A
Rating(s)	:	Input:DC 5V, 400mA 3.85V by 850mAh Rechargeable Li-ion Battery
Test Standard(s)	:	**IEEE Std 1528™-2013; FCC 47 CFR Part 2.1093; ANSI/IEEE C95.1:2019; Reference FCC KDB 447498 D01 v06; KDB 248227 D01 v02r02; KDB 865664 D01**

The device described above is tested by Shenzhen Anbotek 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 Anbotek 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 Std 1528™-2013, FCC 47 CFR Part 2.1093, IEEE Std C95.1-2019 requirements.

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

Date of Receipt 2025-03-17

Date of Test 2025-03-17 to 2025-03-21

Prepared By Qiangfei Yang

(Qiangfei Yang)

Approved & Authorized Signer Yufan Xie

(Yufan Xie)

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Version

Version No.	Date	Description
R00	2025-05-15	Original

1. Statement of Compliance

<Highest SAR Summary>

Frequency Band	Highest Reported 1g-SAR(W/Kg)	SAR Test Limit (W/Kg)
	Body-worn 0 (0mm)	
GSM850	1.138	1.6
PCS1900	0.776	
WCDMA Band2	0.887	
WCDMA Band5	0.967	
LTE Band2	0.793	
LTE Band5	0.990	
LTE Band7	1.129	
LTE Band12	1.258	
LTE Band17	0.995	
LTE Band38	1.266	
LTE Band40	0.996	
LTE Band41	1.070	
WIFI2.4G	0.215	
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 2.1093 and IEEE Std C95.1-2019, and had been tested in accordance with the measurement methods and procedures specified in IEEE Std 1528™-2013.

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2. General Information

2.1. Client Information

Applicant	:	Shenzhen Wo Kosun Electronic Technology Co., Ltd.
Address	:	6F.Hua-yu Technology Building.Niu lan qian xin Vallage Industrial area, Minzhi, LonghuaDistrict shenzhen City, 518131 China
Manufacturer	:	Shenzhen Wo Kosun Electronic Technology Co., Ltd.
Address	:	6F.Hua-yu Technology Building.Niu lan qian xin Vallage Industrial area, Minzhi, LonghuaDistrict shenzhen City, 518131 China
Factory	:	Shenzhen Wo Kosun Electronic Technology Co., Ltd.
Address	:	6F.Hua-yu Technology Building.Niu lan qian xin Vallage Industrial area, Minzhi, LonghuaDistrict shenzhen City, 518131 China

2.2. Description of Equipment Under Test (EUT)

Product Name	:	Smart Watch
Model No.	:	BH11, BH12, BH13, BH15, BH16, BH17, BH18, BH19, BH20, BH2 (Note: All samples are the same except the model number and color, so we prepare “BH11” for test only)
Trade Mark	:	N/A
Test Power Supply	:	3.85V by 850mAh Rechargeable Li-ion Battery
Test Sample No.	:	1-2-1(Engineering Sample)
Tx Frequency	:	BT:2402MHz-2480MHz BLE:2402MHz-2480MHz 2.4GWIFI:2412MHz-2484MHz GSM 850:824.2MHz-848.8MHz DCS1900:1850.2MHz-1909.8MHz WCDMA Band 2: 1852.4-1907.6MHz WCDMA Band 5:826.4MHz-846.6MHz FDD Band2:1850MHz-1910MHz FDD Band5:824MHz-849MHz FDD Band7: 2500MHz-2570MHz FDD Band12: 699MHz-716MHz FDD:Band17:704MHz-716MHz TDD:Band38:2570MHz-2620MHz TDD:Band40:2305Mhz-2315MHz 2350MHz-2360MHz TDD:Band41:2555MHz-2655MHz

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Type of Modulation	:	BT:GFSK,Π/4-DQPSK,8DPSK BLE:GFSK 2.4GWIFI:DSSS,OFDM GSM900/1800: GMSK WCDMA:QPSK,BPSK LTE:QPSK,16QAM
Category of device	:	Portable device

Remark:
The above DUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

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

2.4. Applied Standard

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

- FCC 47 CFR Part 2.1093
- IEEE Std C95.1-2019
- IEEE Std 1528™-2013
- KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- KDB 865664 D02 RF Exposure Reporting v01r02
- KDB 447498 D01 General RF Exposure Guidance v06
- KDB 248227 D01 802 11 Wi-Fi SAR v02r02

2.5. Environment of Test Site

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

2.6. Test Configuration

For GSM,WCDMA ,LTE connect to CMW500 and set to the highest power, and WIFI SAR testing, engineering testing software installed on the EUT can provide continuous transmitting RF signal.

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2.7. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.:434132

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 434132.

ISED-Registration No.: 8058A

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.
Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China.

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:

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

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

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

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

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

Where:σ is the conductivity of the tissue, ρ is the mass density of the tissue and E is the RMS electrical field strength.
However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

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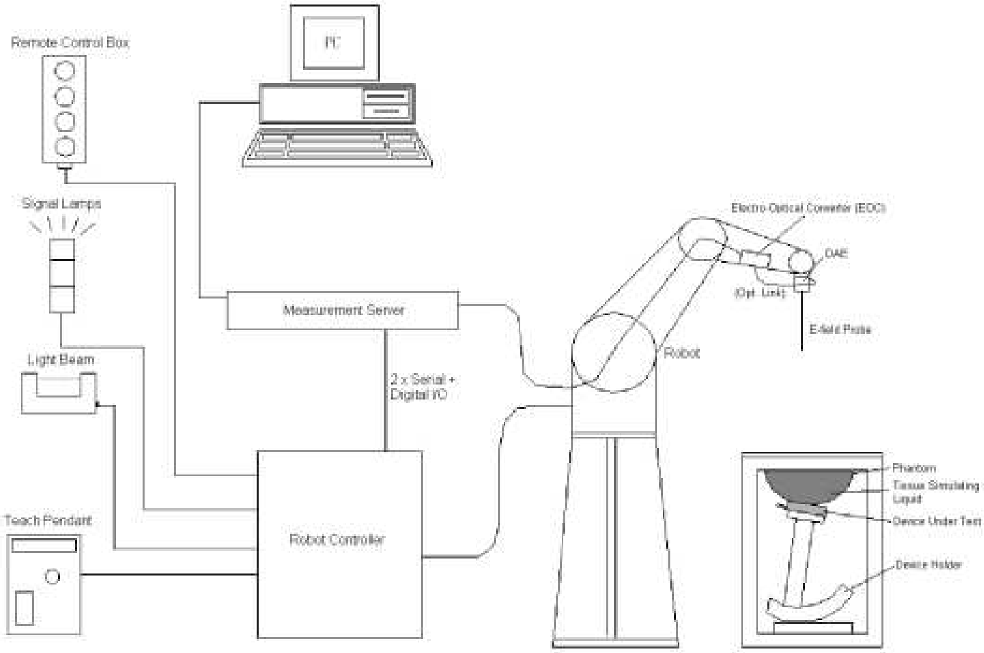
4. SAR Measurement System



DASY System Configurations

The DASYsystem 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
- Remove control with teach pendant and additional circuitry for robot safety such as warming lamps, etc.
- The SAM twin phantom and ELI4 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.

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 μW/g to 100 W/kg; Linearity: ± 0.2 dB (noise: typically< 1 μW/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 ± 10%. The spherical isotropy shall be evaluated and within ± 0.25dB. 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: TX60L) type from Stäubli SA (France). For the 6-axis controllersystem, the robot controller version (DASY5: CS8c) from Stäubli is used. The Stäublirobot 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.

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

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Photo of Server for DASY5

4.5. Phantom

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm	 **Photo of SAM Phantom**
Filling Volume	Approx. 25 liters	
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet	
Measurement Areas	Left Hand, Right Hand, Flat 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%)	 **Photo of ELI4 Phantom**
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis:400 mm	

The ELI4 phantom is intended for compliance testing of handheld and body-mounted wireless devices in the 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 ±0.5mm would produce a SAR uncertainty of ± 20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.

The DASY device holder is designed to cope with 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 ε = 3 and loss tangent δ = 0.02. The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

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], [W/kg]). Some of these units are not available in certain situations or give meaningless results, e.g., a SAR-output in a non-lose 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	$Norm_i$, 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：

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

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：

E-field Probes： $\mathbf{E_i} = \sqrt{\frac{\mathbf{V_i}}{\mathbf{Norm_i \cdot ConvF}}}$

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

with V_i = compensated signal of channel i,(i= x, y, z)
$Norm_i$= sensor sensitivity of channel i, (i= x, y, z), μV/(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 iin V/m
H_i= magnetic field strength of channel iin A/m

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

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

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

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

with SAR = local specific absorption rate in W/kg
E_{tot}= total field strength in V/m
σ = conductivity in [mho/m] or [Siemens/m]
ρ = equivalent tissue density in g/cm^3

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	750MHz System Validation Kit	D750V3	1118	Jun. 04,2024	Jun. 03,2027
SPEAG	835MHz System Validation Kit	D835V2	4d154	Jun. 11,2024	Jun. 10,2027
SPEAG	1750MHz System Validation Kit	D1750V2	1021	Jun. 11,2024	Jun. 10,2027
SPEAG	1900MHz System Validation Kit	D1900V2	5d175	Jun. 15,2024	Jun. 14,2027
SPEAG	2450MHz System Validation Kit	D2450V2	910	Jun. 11,2024	Jun. 10,2027
SPEAG	2600MHz System Validation Kit	D2600V2	1058	Jun. 12,2024	Jun. 11,2027
Rohde & Schwarz	UNIVERSAL RADIO COMMUNICATION TESTER	CMW 500	104209	Oct.26, 2024	Oct.25, 2025
SPEAG	Data Acquisition Electronics	DAE4	387	Sept.02, 2024	Sept.01, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	7396	May 06,2024	May 05,2025
Agilent	ENA Series Network Analyzer	E5071C	MY46317418	Oct.26, 2024	Oct.25, 2025
SPEAG	DAK	DAK-3.5	1226	Oct.26, 2024	Oct.25, 2025
SPEAG	SAM Twin Phantom	QD000P40CD	1802	NCR	NCR
SPEAG	ELI Phantom	QDOVA004AA	2058	NCR	NCR
Mini-Circuits	Amplifier	ZVA-183W-S+	932502132	NCR	NCR
Agilent	Power Meter	N1914A	MY50001102	Oct.26, 2024	Oct.25, 2025
Agilent	Power Sensor	E9323A	US40410647	Jan. 23, 2025	Jan. 22, 2026
Agilent	Power Sensor	E9323A	MY53100007	Jan. 23, 2025	Jan. 22, 2026
CDKMV	Attenuator	6610	6610-1	Oct.20, 2024	Oct.19, 2025
CDKMV	Attenuator	6606	6606-1	Oct.20, 2024	Oct.19, 2025
Agilent	Spectrum Analyzer	N9020A	MY51170037	Oct.26, 2024	Oct.25, 2025
Agilent	Signal Generation	N5182A	MY48180656	Oct.26, 2024	Oct.25, 2025
Worken	Directional Coupler	0110A05601O-10	COM5BNW1A2	Oct.26, 2024	Oct.25, 2025

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.

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:

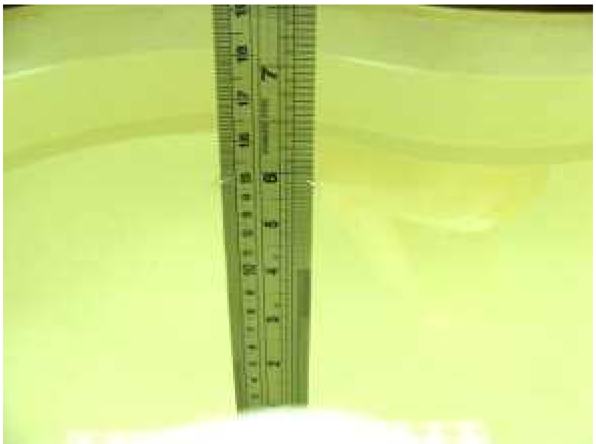

Photo of Liquid Height for Head SAR

The following table shows the measuring results for simulating liquid.

Measured Frequency (MHz)	Measured Tissue		Target Tissue		Dev. (%)		Liquid Temp.	Test Date
	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)		
706.5	0.82	41.86	0.85	41.94	-3.53	-0.19	22.5	Mar.17,2025
711	0.84	41.83	0.86	41.93	-2.33	-0.24	22.5	Mar.17,2025
750	0.86	41.82	0.89	41.90	-3.37	-0.19	22.5	Mar.17,2025
824.2	0.85	41.62	0.88	41.54	-3.41	0.19	22.4	Mar.18,2025
826.4	0.84	41.62	0.88	41.53	-4.55	0.22	22.4	Mar.18,2025
835	0.87	41.66	0.90	41.50	-3.33	0.39	22.4	Mar.18,2025
836.4	0.93	41.53	0.91	41.50	2.20	0.07	22.4	Mar.18,2025
836.6	0.95	41.48	0.91	41.49	4.40	-0.02	22.4	Mar.18,2025

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846.6	0.92	41.42	0.93	41.47	-1.08	-0.12	22.4	Mar.18,2025
848.3	0.96	41.38	0.95	41.42	1.05	-0.10	22.4	Mar.18,2025
848.8	0.98	41.33	0.96	41.42	2.08	-0.22	22.4	Mar.18,2025
1850.2	1.22	40.28	1.19	40.31	2.52	-0.07	22.3	Mar.19,2025
1852.4	1.26	40.11	1.21	40.28	4.13	-0.42	22.3	Mar.19,2025
1860	1.29	40.22	1.28	40.21	0.78	0.02	22.3	Mar.19,2025
1880	1.38	40.23	1.35	40.12	2.22	0.27	22.3	Mar.19,2025
1900	1.41	39.88	1.40	40.00	0.71	-0.30	22.3	Mar.19,2025
1907.6	1.38	39.67	1.41	39.98	-2.13	-0.78	22.3	Mar.19,2025
1909.8	1.45	39.65	1.43	39.95	1.40	-0.75	22.3	Mar.19,2025
2355	1.76	39.38	1.72	39.41	2.33	-0.08	22.4	Mar.20,2025
2450	1.85	39.25	1.80	39.20	2.78	0.13	22.4	Mar.20,2025
2462	1.87	39.22	1.82	39.19	2.75	0.08	22.4	Mar.20,2025
2560	1.88	39.16	1.92	39.18	-2.08	-0.05	22.4	Mar.21,2025
2600	1.91	39.06	1.96	39.00	-2.55	0.15	22.4	Mar.21,2025
2612.5	2.01	38.82	1.98	38.92	1.52	-0.26	22.4	Mar.21,2025
2652.5	2.16	38.76	2.11	38.81	2.37	-0.13	22.4	Mar.21,2025

7. System Verification Procedures

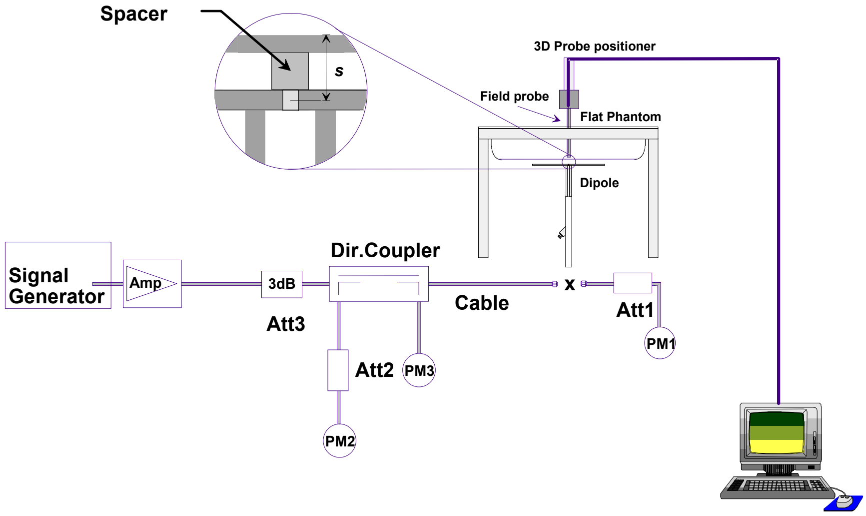
Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix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

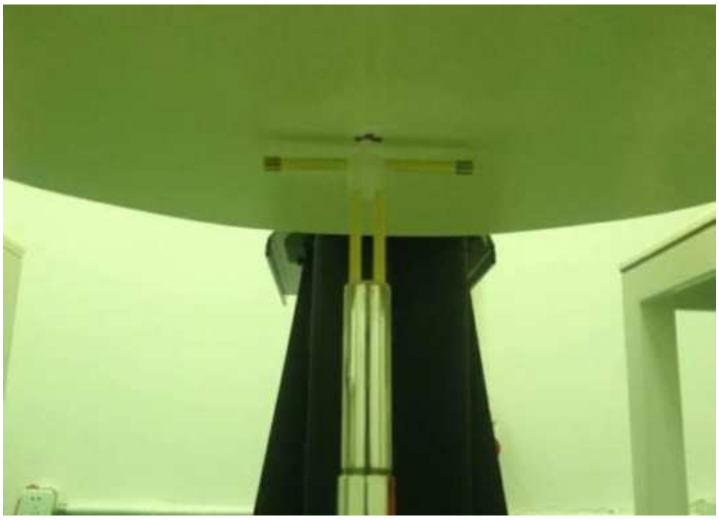


Photo of Dipole Setup

➢ **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.

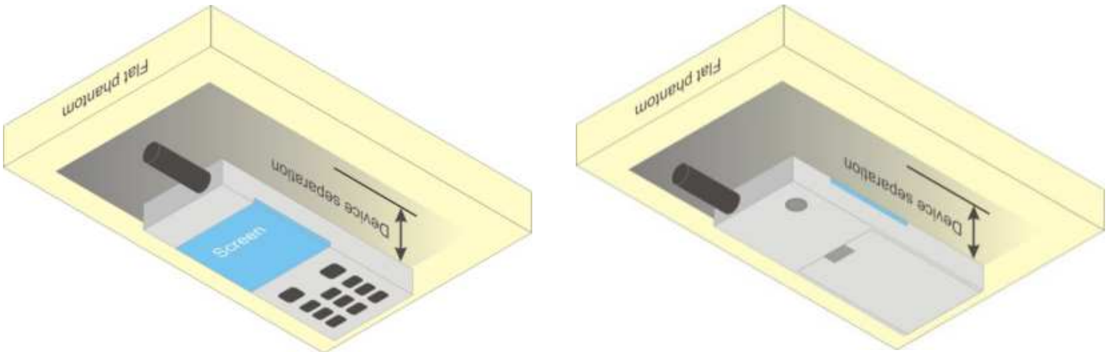
Frequency (MHz)	Power fed onto reference dipole (mW)	Targeted SAR 1g(W/kg)	Measured SAR 1g(W/kg)	Normalized SAR 1g(W/kg)	Deviation (%)	Test Date
750	250	8.31	2.16	8.64	3.97	Mar.17,2025
835	250	9.24	2.41	9.64	4.33	Mar.18,2025
1900	250	40.4	9.88	39.52	-2.18	Mar.19,2025
2450	250	52.4	12.71	50.84	-2.98	Mar.20,2025
2600	250	57.2	13.55	54.2	-5.24	Mar.21,2025

Target and Measurement SAR after Normalized

8. EUT Testing Position

8.1. Body 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 v06, 2015 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 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:

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

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) 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:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) 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 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 dB0 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	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4. Zoom Scan Procedures

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes 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.

<table>
<tr><th colspan="3"></th><th>$\leq$ 3 GHz</th><th>> 3 GHz</th></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>$\leq$ 2 GHz: $\leq$ 8 mm
2 – 3 GHz: $\leq$ 5 mm*</td><td>3 – 4 GHz: $\leq$ 5 mm*
4 – 6 GHz: $\leq$ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>$\leq$ 5 mm</td><td>3 – 4 GHz: $\leq$ 4 mm
4 – 5 GHz: $\leq$ 3 mm
5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>$\leq$ 4 mm</td><td>3 – 4 GHz: $\leq$ 3 mm
4 – 5 GHz: $\leq$ 2.5 mm
5 – 6 GHz: $\leq$ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>$\geq$ 30 mm</td><td>3 – 4 GHz: $\geq$ 28 mm
4 – 5 GHz: $\geq$ 25 mm
5 – 6 GHz: $\geq$ 22 mm</td></tr>
<tr><td colspan="5">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 area scan based 1-g SAR estimation procedures of KDB 447498 is $\leq$ 1.4 W/kg, $\leq$ 8 mm, $\leq$ 7 mm and $\leq$ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

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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 aggregateSAR, 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

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drift more than 5%, the SAR will be retested.

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10. Conducted Power

<GSM>

Band GSM850	Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	128	190	251	128	190	251
Frequency (MHz)	824.2	836.6	848.8	824.2	836.6	848.8
GSM	33.99	34.24	34.23	24.96	25.21	25.2
GPRS (GMSK, 1 Tx slot) – CS1	34.07	34.20	34.18	25.04	25.17	25.15
GPRS (GMSK, 2 Tx slots) – CS1	31.29	31.29	31.55	25.27	25.27	**25.53**
GPRS (GMSK, 3 Tx slots) – CS1	29.25	29.53	29.47	24.99	25.27	25.21
GPRS (GMSK, 4 Tx slots) – CS1	27.26	27.56	27.49	24.25	24.55	24.48
Band PCS1900	Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	512	661	810	512	661	810
Frequency (MHz)	1850.2	1880	1909.8	1850.2	1880	1909.8
PCS	29.78	30.20	30.74	20.75	21.17	21.71
GPRS (GMSK, 1 Tx slot) – CS1	29.86	30.19	30.71	20.83	21.16	21.68
GPRS (GMSK, 2 Tx slots) – CS1	27.42	27.93	28.74	21.40	21.91	22.72
GPRS (GMSK, 3 Tx slots) – CS1	25.82	26.32	27.18	21.56	22.06	**22.92**
GPRS (GMSK, 4 Tx slots) – CS1	23.63	24.12	25.03	20.62	21.11	22.02
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) – 9.03 dB Frame-averaged power = Maximum burst averaged power (2 Tx Slots) – 6.02 dB Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB Frame-averaged power = Maximum burst averaged power (4 Tx Slots) – 3.01 dB						

<GSM Tune up power>

Band GSM850	Tune-up Power (dBm)		
TX Channel	128	190	251
Frequency (MHz)	824.2	836.6	848.8
GSM	25.00	25.50	25.50
GPRS (GMSK, 1 Tx slot) – CS1	25.50	25.50	25.50
GPRS (GMSK, 2 Tx slots) – CS1	25.50	25.50	**26.00**
GPRS (GMSK, 3 Tx slots) – CS1	25.00	25.50	25.50
GPRS (GMSK, 4 Tx slots) – CS1	24.50	25.00	24.50
Band PCS1900	Frame-Average Power (dBm)		
TX Channel	512	661	810
Frequency (MHz)	1850.2	1880	1909.8
PCS	21.00	21.50	22.00
GPRS (GMSK, 1 Tx slot) – CS1	21.00	21.50	22.00

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GPRS (GMSK, 2 Tx slots) – CS1	21.50	22.00	23.00
GPRS (GMSK, 3 Tx slots) – CS1	22.00	22.50	**23.00**
GPRS (GMSK, 4 Tx slots) – CS1	21.00	21.50	22.50

Note:

1. For Body-worn SAR testing, the mode of highest source-based time-average power amongGPRS and EDGE is selected to be tested; therefore GSM850 and PCS1900 bandGPRS 4 Tx slots are selected.
2. Start tests at middle channel and determine the worst configuration for further high/low channel tests.

<WCDMA>

Band	WCDMA Ⅱ			WCDMA Ⅴ		
TX Channel	9262	9400	9538	4132	4182	4233
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
WCDMA	**23.91**	23.49	23.36	**23.89**	23.73	23.80
HSDPA(SubTest1)	23.43	22.92	22.77	22.37	22.49	22.36
HSDPA(SubTest2)	23.04	22.66	22.44	22.18	22.42	22.25
HSDPA(SubTest3)	22.86	22.49	22.23	21.68	21.96	21.88
HSDPA(SubTest4)	22.80	22.52	22.25	21.75	22.01	21.83
HSUPA(SubTest1)	21.15	20.09	20.33	21.08	20.90	20.66
HSUPA(SubTest2)	21.04	20.70	20.75	20.70	21.07	20.81
HSUPA(SubTest3)	21.51	20.70	20.67	21.19	20.93	20.68
HSUPA(SubTest4)	21.54	21.05	20.99	20.67	20.81	20.55
HSUPA(SubTest5)	23.34	22.92	22.69	22.36	22.42	22.30

<WCDMA Tune up Power>

Band	WCDMA Ⅱ			WCDMA Ⅴ		
TX Channel	9262	9400	9538	4132	4182	4233
Frequency (MHz)	1852.4	1880	1907.6	826.4	836.4	846.6
WCDMA	**24.00**	23.50	23.50	**24.00**	24.00	24.00
HSDPA(SubTest1)	23.50	23.00	23.00	22.50	22.50	22.50
HSDPA(SubTest2)	23.50	23.00	22.50	22.50	22.50	22.50
HSDPA(SubTest3)	23.00	22.50	22.50	22.00	22.00	22.00
HSDPA(SubTest4)	23.00	23.00	22.50	22.00	22.50	22.00
HSUPA(SubTest1)	21.50	20.50	20.50	21.50	21.00	21.00
HSUPA(SubTest2)	21.50	21.00	21.00	21.00	21.50	21.00
HSUPA(SubTest3)	22.00	21.00	21.00	21.50	21.00	21.00
HSUPA(SubTest4)	22.00	21.50	21.00	21.00	21.00	21.00
HSUPA(SubTest5)	23.50	23.00	23.00	22.50	22.50	22.50

Note:

Choose the highest output power mode WCDMA for Band I and Band VIII at middle channel to test SAR and determine the worst configuration for further high/low channel test.

<LTE>

Band 2

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band2	1.4MHz	18607	1RB#0	24.56	25.00
Band2	1.4MHz	18607	1RB#2	24.58	25.00
Band2	1.4MHz	18607	1RB#5	24.56	25.00

Band2	1.4MHz	18607	3RB#0	24.66	25.00
Band2	1.4MHz	18607	3RB#1	24.62	25.00
Band2	1.4MHz	18607	3RB#3	24.64	25.00
Band2	1.4MHz	18607	6RB#0	23.59	24.00
Band2	1.4MHz	18900	1RB#0	23.88	24.00
Band2	1.4MHz	18900	1RB#2	23.85	24.00
Band2	1.4MHz	18900	1RB#5	23.89	24.00
Band2	1.4MHz	18900	3RB#0	23.96	24.00
Band2	1.4MHz	18900	3RB#1	24.08	24.50
Band2	1.4MHz	18900	3RB#3	23.93	24.00
Band2	1.4MHz	18900	6RB#0	22.99	23.00
Band2	1.4MHz	19193	1RB#0	24.09	24.50
Band2	1.4MHz	19193	1RB#2	24.06	24.50
Band2	1.4MHz	19193	1RB#5	24.05	24.50
Band2	1.4MHz	19193	3RB#0	24.09	24.50
Band2	1.4MHz	19193	3RB#1	24.08	24.50
Band2	1.4MHz	19193	3RB#3	24.10	24.50
Band2	1.4MHz	19193	6RB#0	23.04	23.50
Band2	1.4MHz	18607	1RB#0	24.01	24.50
Band2	1.4MHz	18607	1RB#2	24.00	24.00
Band2	1.4MHz	18607	1RB#5	24.01	24.50
Band2	1.4MHz	18607	3RB#0	23.33	23.50
Band2	1.4MHz	18607	3RB#1	23.39	23.50
Band2	1.4MHz	18607	3RB#3	23.40	23.50
Band2	1.4MHz	18607	6RB#0	22.76	23.00
Band2	1.4MHz	18900	1RB#0	23.33	23.50
Band2	1.4MHz	18900	1RB#2	23.26	23.50
Band2	1.4MHz	18900	1RB#5	23.31	23.50
Band2	1.4MHz	18900	3RB#0	22.89	23.00
Band2	1.4MHz	18900	3RB#1	22.88	23.00
Band2	1.4MHz	18900	3RB#3	22.78	23.00
Band2	1.4MHz	18900	6RB#0	22.14	22.50
Band2	1.4MHz	19193	1RB#0	22.98	23.00
Band2	1.4MHz	19193	1RB#2	22.93	23.00
Band2	1.4MHz	19193	1RB#5	22.95	23.00
Band2	1.4MHz	19193	3RB#0	22.96	23.00
Band2	1.4MHz	19193	3RB#1	22.96	23.00
Band2	1.4MHz	19193	3RB#3	22.94	23.00
Band2	1.4MHz	19193	6RB#0	22.25	22.50
Band2	3MHz	18615	1RB#0	24.44	24.50

Band2	3MHz	18615	1RB#8	24.53	25.00
Band2	3MHz	18615	1RB#14	24.56	25.00
Band2	3MHz	18615	8RB#0	23.58	24.00
Band2	3MHz	18615	8RB#4	23.47	23.50
Band2	3MHz	18615	8RB#7	23.55	24.00
Band2	3MHz	18615	15RB#0	23.54	24.00
Band2	3MHz	18900	1RB#0	24.02	24.50
Band2	3MHz	18900	1RB#8	23.91	24.00
Band2	3MHz	18900	1RB#14	23.86	24.00
Band2	3MHz	18900	8RB#0	23.09	23.50
Band2	3MHz	18900	8RB#4	23.10	23.50
Band2	3MHz	18900	8RB#7	22.99	23.00
Band2	3MHz	18900	15RB#0	23.16	23.50
Band2	3MHz	19185	1RB#0	24.00	24.00
Band2	3MHz	19185	1RB#8	23.99	24.00
Band2	3MHz	19185	1RB#14	24.00	24.00
Band2	3MHz	19185	8RB#0	22.87	23.00
Band2	3MHz	19185	8RB#4	22.91	23.00
Band2	3MHz	19185	8RB#7	23.06	23.50
Band2	3MHz	19185	15RB#0	23.02	23.50
Band2	3MHz	18615	1RB#0	23.39	23.50
Band2	3MHz	18615	1RB#8	23.41	23.50
Band2	3MHz	18615	1RB#14	23.44	23.50
Band2	3MHz	18615	8RB#0	22.74	23.00
Band2	3MHz	18615	8RB#4	22.75	23.00
Band2	3MHz	18615	8RB#7	22.68	23.00
Band2	3MHz	18615	15RB#0	22.68	23.00
Band2	3MHz	18900	1RB#0	23.13	23.50
Band2	3MHz	18900	1RB#8	22.96	23.00
Band2	3MHz	18900	1RB#14	23.02	23.50
Band2	3MHz	18900	8RB#0	22.39	22.50
Band2	3MHz	18900	8RB#4	22.41	22.50
Band2	3MHz	18900	8RB#7	22.36	22.50
Band2	3MHz	18900	15RB#0	22.07	22.50
Band2	3MHz	19185	1RB#0	22.93	23.00
Band2	3MHz	19185	1RB#8	22.93	23.00
Band2	3MHz	19185	1RB#14	23.00	23.00
Band2	3MHz	19185	8RB#0	22.05	22.50
Band2	3MHz	19185	8RB#4	22.06	22.50
Band2	3MHz	19185	8RB#7	22.08	22.50

Band2	3MHz	19185	15RB#0	22.03	22.50
Band2	5MHz	18625	1RB#0	24.53	25.00
Band2	5MHz	18625	1RB#12	24.58	25.00
Band2	5MHz	18625	1RB#24	24.55	25.00
Band2	5MHz	18625	12RB#0	23.55	24.00
Band2	5MHz	18625	12RB#6	23.49	23.50
Band2	5MHz	18625	12RB#13	23.57	24.00
Band2	5MHz	18625	25RB#0	23.54	24.00
Band2	5MHz	18900	1RB#0	24.04	24.50
Band2	5MHz	18900	1RB#12	23.96	24.00
Band2	5MHz	18900	1RB#24	23.92	24.00
Band2	5MHz	18900	12RB#0	23.01	23.50
Band2	5MHz	18900	12RB#6	23.02	23.50
Band2	5MHz	18900	12RB#13	23.10	23.50
Band2	5MHz	18900	25RB#0	22.98	23.00
Band2	5MHz	19175	1RB#0	23.89	24.00
Band2	5MHz	19175	1RB#12	23.94	24.00
Band2	5MHz	19175	1RB#24	23.96	24.00
Band2	5MHz	19175	12RB#0	23.04	23.50
Band2	5MHz	19175	12RB#6	23.08	23.50
Band2	5MHz	19175	12RB#13	23.08	23.50
Band2	5MHz	19175	25RB#0	23.00	23.00
Band2	5MHz	18625	1RB#0	23.17	23.50
Band2	5MHz	18625	1RB#12	23.14	23.50
Band2	5MHz	18625	1RB#24	23.08	23.50
Band2	5MHz	18625	12RB#0	22.70	23.00
Band2	5MHz	18625	12RB#6	22.70	23.00
Band2	5MHz	18625	12RB#13	22.68	23.00
Band2	5MHz	18625	25RB#0	22.69	23.00
Band2	5MHz	18900	1RB#0	23.23	23.50
Band2	5MHz	18900	1RB#12	23.17	23.50
Band2	5MHz	18900	1RB#24	23.12	23.50
Band2	5MHz	18900	12RB#0	22.28	22.50
Band2	5MHz	18900	12RB#6	22.29	22.50
Band2	5MHz	18900	12RB#13	22.22	22.50
Band2	5MHz	18900	25RB#0	22.17	22.50
Band2	5MHz	19175	1RB#0	22.64	23.00
Band2	5MHz	19175	1RB#12	22.67	23.00
Band2	5MHz	19175	1RB#24	22.72	23.00
Band2	5MHz	19175	12RB#0	22.02	22.50

Band2	5MHz	19175	12RB#6	22.01	22.50
Band2	5MHz	19175	12RB#13	22.03	22.50
Band2	5MHz	19175	25RB#0	22.12	22.50
Band2	10MHz	18650	1RB#0	24.44	24.50
Band2	10MHz	18650	1RB#24	24.47	24.50
Band2	10MHz	18650	1RB#49	24.50	24.50
Band2	10MHz	18650	25RB#0	23.49	23.50
Band2	10MHz	18650	25RB#12	23.61	24.00
Band2	10MHz	18650	25RB#25	23.52	24.00
Band2	10MHz	18650	50RB#0	23.58	24.00
Band2	10MHz	18900	1RB#0	24.45	24.50
Band2	10MHz	18900	1RB#24	24.34	24.50
Band2	10MHz	18900	1RB#49	24.14	24.50
Band2	10MHz	18900	25RB#0	23.24	23.50
Band2	10MHz	18900	25RB#12	23.24	23.50
Band2	10MHz	18900	25RB#25	22.96	23.00
Band2	10MHz	18900	50RB#0	23.18	23.50
Band2	10MHz	19150	1RB#0	23.93	24.00
Band2	10MHz	19150	1RB#24	23.95	24.00
Band2	10MHz	19150	1RB#49	23.87	24.00
Band2	10MHz	19150	25RB#0	22.95	23.00
Band2	10MHz	19150	25RB#12	23.00	23.00
Band2	10MHz	19150	25RB#25	22.95	23.00
Band2	10MHz	19150	50RB#0	22.98	23.00
Band2	10MHz	18650	1RB#0	23.59	24.00
Band2	10MHz	18650	1RB#24	23.52	24.00
Band2	10MHz	18650	1RB#49	23.59	24.00
Band2	10MHz	18650	25RB#0	22.62	23.00
Band2	10MHz	18650	25RB#12	22.63	23.00
Band2	10MHz	18650	25RB#25	22.63	23.00
Band2	10MHz	18650	50RB#0	22.59	23.00
Band2	10MHz	18900	1RB#0	23.16	23.50
Band2	10MHz	18900	1RB#24	23.04	23.50
Band2	10MHz	18900	1RB#49	22.86	23.00
Band2	10MHz	18900	25RB#0	22.33	22.50
Band2	10MHz	18900	25RB#12	22.33	22.50
Band2	10MHz	18900	25RB#25	22.25	22.50
Band2	10MHz	18900	50RB#0	22.18	22.50
Band2	10MHz	19150	1RB#0	23.62	24.00
Band2	10MHz	19150	1RB#24	23.54	24.00

Band2	10MHz	19150	1RB#49	23.57	24.00
Band2	10MHz	19150	25RB#0	22.10	22.50
Band2	10MHz	19150	25RB#12	22.12	22.50
Band2	10MHz	19150	25RB#25	22.19	22.50
Band2	10MHz	19150	50RB#0	22.21	22.50
Band2	15MHz	18675	1RB#0	24.45	24.50
Band2	15MHz	18675	1RB#38	24.48	24.50
Band2	15MHz	18675	1RB#74	24.47	24.50
Band2	15MHz	18675	38RB#0	23.64	24.00
Band2	15MHz	18675	38RB#18	23.65	24.00
Band2	15MHz	18675	38RB#37	23.65	24.00
Band2	15MHz	18675	75RB#0	23.65	24.00
Band2	15MHz	18900	1RB#0	23.98	24.00
Band2	15MHz	18900	1RB#38	23.71	24.00
Band2	15MHz	18900	1RB#74	23.67	24.00
Band2	15MHz	18900	38RB#0	23.06	23.50
Band2	15MHz	18900	38RB#18	23.05	23.50
Band2	15MHz	18900	38RB#37	23.05	23.50
Band2	15MHz	18900	75RB#0	23.05	23.50
Band2	15MHz	19125	1RB#0	23.92	24.00
Band2	15MHz	19125	1RB#38	23.90	24.00
Band2	15MHz	19125	1RB#74	23.88	24.00
Band2	15MHz	19125	38RB#0	22.93	23.00
Band2	15MHz	19125	38RB#18	22.96	23.00
Band2	15MHz	19125	38RB#37	22.97	23.00
Band2	15MHz	19125	75RB#0	22.98	23.00
Band2	15MHz	18675	1RB#0	23.58	24.00
Band2	15MHz	18675	1RB#38	23.58	24.00
Band2	15MHz	18675	1RB#74	23.60	24.00
Band2	15MHz	18675	38RB#0	23.65	24.00
Band2	15MHz	18675	38RB#18	23.65	24.00
Band2	15MHz	18675	38RB#37	23.65	24.00
Band2	15MHz	18675	75RB#0	22.63	23.00
Band2	15MHz	18900	1RB#0	23.22	23.50
Band2	15MHz	18900	1RB#38	23.03	23.50
Band2	15MHz	18900	1RB#74	22.90	23.00
Band2	15MHz	18900	38RB#0	23.06	23.50
Band2	15MHz	18900	38RB#18	23.05	23.50
Band2	15MHz	18900	38RB#37	23.06	23.50
Band2	15MHz	18900	75RB#0	22.21	22.50

Band2	15MHz	19125	1RB#0	23.59	24.00
Band2	15MHz	19125	1RB#38	23.61	24.00
Band2	15MHz	19125	1RB#74	23.49	23.50
Band2	15MHz	19125	38RB#0	22.95	23.00
Band2	15MHz	19125	38RB#18	22.97	23.00
Band2	15MHz	19125	38RB#37	22.98	23.00
Band2	15MHz	19125	75RB#0	22.10	22.50
Band2	20MHz	18700	1RB#0	24.83	25.00
Band2	20MHz	18700	1RB#49	24.74	25.00
Band2	20MHz	18700	1RB#99	24.68	25.00
Band2	20MHz	18700	50RB#0	23.51	24.00
Band2	20MHz	18700	50RB#25	23.55	24.00
Band2	20MHz	18700	50RB#50	23.43	23.50
Band2	20MHz	18700	100RB#0	23.62	24.00
Band2	20MHz	18900	1RB#0	24.55	25.00
Band2	20MHz	18900	1RB#49	24.18	24.50
Band2	20MHz	18900	1RB#99	24.13	24.50
Band2	20MHz	18900	50RB#0	23.26	23.50
Band2	20MHz	18900	50RB#25	23.14	23.50
Band2	20MHz	18900	50RB#50	22.95	23.00
Band2	20MHz	18900	100RB#0	23.19	23.50
Band2	20MHz	19100	1RB#0	23.81	24.00
Band2	20MHz	19100	1RB#49	23.99	24.00
Band2	20MHz	19100	1RB#99	24.03	24.50
Band2	20MHz	19100	50RB#0	23.07	23.50
Band2	20MHz	19100	50RB#25	22.97	23.00
Band2	20MHz	19100	50RB#50	23.16	23.50
Band2	20MHz	19100	100RB#0	23.06	23.50
Band2	20MHz	18700	1RB#0	23.52	24.00
Band2	20MHz	18700	1RB#49	23.55	24.00
Band2	20MHz	18700	1RB#99	23.45	23.50
Band2	20MHz	18700	50RB#0	22.78	23.00
Band2	20MHz	18700	50RB#25	22.79	23.00
Band2	20MHz	18700	50RB#50	22.74	23.00
Band2	20MHz	18700	100RB#0	22.62	23.00
Band2	20MHz	18900	1RB#0	23.90	24.00
Band2	20MHz	18900	1RB#49	23.55	24.00
Band2	20MHz	18900	1RB#99	23.48	23.50
Band2	20MHz	18900	50RB#0	22.36	22.50
Band2	20MHz	18900	50RB#25	22.37	22.50

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Band2	20MHz	18900	50RB#50	22.17	22.50
Band2	20MHz	18900	100RB#0	22.19	22.50
Band2	20MHz	19100	1RB#0	22.86	23.00
Band2	20MHz	19100	1RB#49	22.84	23.00
Band2	20MHz	19100	1RB#99	23.03	23.50
Band2	20MHz	19100	50RB#0	22.13	22.50
Band2	20MHz	19100	50RB#25	22.16	22.50
Band2	20MHz	19100	50RB#50	22.36	22.50
Band2	20MHz	19100	100RB#0	22.08	22.50

Band 5

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band5	1.4MHz	20407	1RB#0	24.18	24.50
Band5	1.4MHz	20407	1RB#2	24.21	24.50
Band5	1.4MHz	20407	1RB#5	24.13	24.50
Band5	1.4MHz	20407	3RB#0	24.15	24.50
Band5	1.4MHz	20407	3RB#1	24.18	24.50
Band5	1.4MHz	20407	3RB#3	24.13	24.50
Band5	1.4MHz	20407	6RB#0	23.12	23.50
Band5	1.4MHz	20525	1RB#0	24.01	24.50
Band5	1.4MHz	20525	1RB#2	24.13	24.50
Band5	1.4MHz	20525	1RB#5	24.15	24.50
Band5	1.4MHz	20525	3RB#0	23.99	24.00
Band5	1.4MHz	20525	3RB#1	23.99	24.00
Band5	1.4MHz	20525	3RB#3	23.97	24.00
Band5	1.4MHz	20525	6RB#0	23.08	23.50
Band5	1.4MHz	20643	1RB#0	23.94	24.00
Band5	1.4MHz	20643	1RB#2	23.99	24.00
Band5	1.4MHz	20643	1RB#5	24.06	24.50
Band5	1.4MHz	20643	3RB#0	24.22	24.50
Band5	1.4MHz	20643	3RB#1	24.09	24.50
Band5	1.4MHz	20643	3RB#3	24.27	24.50
Band5	1.4MHz	20643	6RB#0	23.27	23.50
Band5	1.4MHz	20407	1RB#0	23.29	23.50
Band5	1.4MHz	20407	1RB#2	23.36	23.50
Band5	1.4MHz	20407	1RB#5	23.26	23.50
Band5	1.4MHz	20407	3RB#0	22.60	23.00
Band5	1.4MHz	20407	3RB#1	22.62	23.00
Band5	1.4MHz	20407	3RB#3	22.67	23.00
Band5	1.4MHz	20407	6RB#0	22.28	22.50

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Band5	1.4MHz	20525	1RB#0	22.50	22.50
Band5	1.4MHz	20525	1RB#2	22.64	23.00
Band5	1.4MHz	20525	1RB#5	22.53	23.00
Band5	1.4MHz	20525	3RB#0	22.79	23.00
Band5	1.4MHz	20525	3RB#1	22.79	23.00
Band5	1.4MHz	20525	3RB#3	22.72	23.00
Band5	1.4MHz	20525	6RB#0	22.03	22.50
Band5	1.4MHz	20643	1RB#0	23.26	23.50
Band5	1.4MHz	20643	1RB#2	23.28	23.50
Band5	1.4MHz	20643	1RB#5	23.38	23.50
Band5	1.4MHz	20643	3RB#0	22.98	23.00
Band5	1.4MHz	20643	3RB#1	22.94	23.00
Band5	1.4MHz	20643	3RB#3	23.01	23.50
Band5	1.4MHz	20643	6RB#0	22.28	22.50
Band5	3MHz	20415	1RB#0	24.15	24.50
Band5	3MHz	20415	1RB#8	24.23	24.50
Band5	3MHz	20415	1RB#14	24.24	24.50
Band5	3MHz	20415	8RB#0	23.07	23.50
Band5	3MHz	20415	8RB#4	23.05	23.50
Band5	3MHz	20415	8RB#7	23.09	23.50
Band5	3MHz	20415	15RB#0	23.02	23.50
Band5	3MHz	20525	1RB#0	24.15	24.50
Band5	3MHz	20525	1RB#8	24.21	24.50
Band5	3MHz	20525	1RB#14	24.09	24.50
Band5	3MHz	20525	8RB#0	22.99	23.00
Band5	3MHz	20525	8RB#4	23.02	23.50
Band5	3MHz	20525	8RB#7	23.09	23.50
Band5	3MHz	20525	15RB#0	23.13	23.50
Band5	3MHz	20635	1RB#0	23.97	24.00
Band5	3MHz	20635	1RB#8	23.90	24.00
Band5	3MHz	20635	1RB#14	24.06	24.50
Band5	3MHz	20635	8RB#0	23.00	23.00
Band5	3MHz	20635	8RB#4	23.04	23.50
Band5	3MHz	20635	8RB#7	23.19	23.50
Band5	3MHz	20635	15RB#0	23.01	23.50
Band5	3MHz	20415	1RB#0	22.96	23.00
Band5	3MHz	20415	1RB#8	22.88	23.00
Band5	3MHz	20415	1RB#14	22.86	23.00
Band5	3MHz	20415	8RB#0	22.42	22.50
Band5	3MHz	20415	8RB#4	22.41	22.50

Band5	3MHz	20415	8RB#7	22.31	22.50
Band5	3MHz	20415	15RB#0	22.32	22.50
Band5	3MHz	20525	1RB#0	22.51	23.00
Band5	3MHz	20525	1RB#8	22.52	23.00
Band5	3MHz	20525	1RB#14	22.45	22.50
Band5	3MHz	20525	8RB#0	22.22	22.50
Band5	3MHz	20525	8RB#4	22.16	22.50
Band5	3MHz	20525	8RB#7	22.25	22.50
Band5	3MHz	20525	15RB#0	22.00	22.00
Band5	3MHz	20635	1RB#0	23.11	23.50
Band5	3MHz	20635	1RB#8	23.20	23.50
Band5	3MHz	20635	1RB#14	23.26	23.50
Band5	3MHz	20635	8RB#0	22.11	22.50
Band5	3MHz	20635	8RB#4	22.13	22.50
Band5	3MHz	20635	8RB#7	22.19	22.50
Band5	3MHz	20635	15RB#0	22.08	22.50
Band5	5MHz	20425	1RB#0	24.15	24.50
Band5	5MHz	20425	1RB#12	24.12	24.50
Band5	5MHz	20425	1RB#24	24.17	24.50
Band5	5MHz	20425	12RB#0	23.13	23.50
Band5	5MHz	20425	12RB#6	23.13	23.50
Band5	5MHz	20425	12RB#13	23.14	23.50
Band5	5MHz	20425	25RB#0	23.20	23.50
Band5	5MHz	20525	1RB#0	23.89	24.00
Band5	5MHz	20525	1RB#12	24.08	24.50
Band5	5MHz	20525	1RB#24	24.22	24.50
Band5	5MHz	20525	12RB#0	23.00	23.00
Band5	5MHz	20525	12RB#6	22.99	23.00
Band5	5MHz	20525	12RB#13	23.11	23.50
Band5	5MHz	20525	25RB#0	23.17	23.50
Band5	5MHz	20625	1RB#0	24.20	24.50
Band5	5MHz	20625	1RB#12	24.10	24.50
Band5	5MHz	20625	1RB#24	24.16	24.50
Band5	5MHz	20625	12RB#0	23.27	23.50
Band5	5MHz	20625	12RB#6	23.20	23.50
Band5	5MHz	20625	12RB#13	23.05	23.50
Band5	5MHz	20625	25RB#0	22.99	23.00
Band5	5MHz	20425	1RB#0	22.55	23.00
Band5	5MHz	20425	1RB#12	22.57	23.00
Band5	5MHz	20425	1RB#24	22.53	23.00

Band5	5MHz	20425	12RB#0	22.17	22.50
Band5	5MHz	20425	12RB#6	22.16	22.50
Band5	5MHz	20425	12RB#13	22.18	22.50
Band5	5MHz	20425	25RB#0	22.24	22.50
Band5	5MHz	20525	1RB#0	23.13	23.50
Band5	5MHz	20525	1RB#12	23.20	23.50
Band5	5MHz	20525	1RB#24	23.12	23.50
Band5	5MHz	20525	12RB#0	22.08	22.50
Band5	5MHz	20525	12RB#6	22.10	22.50
Band5	5MHz	20525	12RB#13	22.23	22.50
Band5	5MHz	20525	25RB#0	22.17	22.50
Band5	5MHz	20625	1RB#0	22.84	23.00
Band5	5MHz	20625	1RB#12	22.77	23.00
Band5	5MHz	20625	1RB#24	22.79	23.00
Band5	5MHz	20625	12RB#0	22.07	22.50
Band5	5MHz	20625	12RB#6	22.09	22.50
Band5	5MHz	20625	12RB#13	21.98	22.00
Band5	5MHz	20625	25RB#0	22.05	22.50
Band5	10MHz	20450	1RB#0	24.09	24.50
Band5	10MHz	20450	1RB#24	24.02	24.50
Band5	10MHz	20450	1RB#49	24.02	24.50
Band5	10MHz	20450	25RB#0	23.05	23.50
Band5	10MHz	20450	25RB#12	23.09	23.50
Band5	10MHz	20450	25RB#25	23.17	23.50
Band5	10MHz	20450	50RB#0	23.14	23.50
Band5	10MHz	20525	1RB#0	23.95	24.00
Band5	10MHz	20525	1RB#24	24.10	24.50
Band5	10MHz	20525	1RB#49	24.03	24.50
Band5	10MHz	20525	25RB#0	22.90	23.00
Band5	10MHz	20525	25RB#12	22.92	23.00
Band5	10MHz	20525	25RB#25	23.08	23.50
Band5	10MHz	20525	50RB#0	23.15	23.50
Band5	10MHz	20600	1RB#0	24.06	24.50
Band5	10MHz	20600	1RB#24	24.03	24.50
Band5	10MHz	20600	1RB#49	24.05	24.50
Band5	10MHz	20600	25RB#0	23.07	23.50
Band5	10MHz	20600	25RB#12	22.93	23.00
Band5	10MHz	20600	25RB#25	23.04	23.50
Band5	10MHz	20600	50RB#0	23.04	23.50
Band5	10MHz	20450	1RB#0	23.29	23.50

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Band5	10MHz	20450	1RB#24	23.20	23.50
Band5	10MHz	20450	1RB#49	23.03	23.50
Band5	10MHz	20450	25RB#0	22.10	22.50
Band5	10MHz	20450	25RB#12	22.15	22.50
Band5	10MHz	20450	25RB#25	22.04	22.50
Band5	10MHz	20450	50RB#0	22.22	22.50
Band5	10MHz	20525	1RB#0	22.75	23.00
Band5	10MHz	20525	1RB#24	22.95	23.00
Band5	10MHz	20525	1RB#49	22.97	23.00
Band5	10MHz	20525	25RB#0	22.19	22.50
Band5	10MHz	20525	25RB#12	22.20	22.50
Band5	10MHz	20525	25RB#25	22.21	22.50
Band5	10MHz	20525	50RB#0	22.12	22.50
Band5	10MHz	20600	1RB#0	23.48	23.50
Band5	10MHz	20600	1RB#24	23.61	24.00
Band5	10MHz	20600	1RB#49	23.54	24.00
Band5	10MHz	20600	25RB#0	22.11	22.50
Band5	10MHz	20600	25RB#12	22.12	22.50
Band5	10MHz	20600	25RB#25	22.11	22.50
Band5	10MHz	20600	50RB#0	22.11	22.50

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Band 7

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band7	5MHz	20775	1RB#0	23.88	24.00
Band7	5MHz	20775	1RB#12	23.80	24.00
Band7	5MHz	20775	1RB#24	23.86	24.00
Band7	5MHz	20775	12RB#0	22.97	23.00
Band7	5MHz	20775	12RB#6	22.82	23.00
Band7	5MHz	20775	12RB#13	22.86	23.00
Band7	5MHz	20775	25RB#0	22.93	23.00
Band7	5MHz	21100	1RB#0	24.25	24.50
Band7	5MHz	21100	1RB#12	24.22	24.50
Band7	5MHz	21100	1RB#24	24.28	24.50
Band7	5MHz	21100	12RB#0	23.28	23.50
Band7	5MHz	21100	12RB#6	23.31	23.50
Band7	5MHz	21100	12RB#13	23.28	23.50
Band7	5MHz	21100	25RB#0	23.31	23.50
Band7	5MHz	21425	1RB#0	24.23	24.50
Band7	5MHz	21425	1RB#12	24.03	24.50
Band7	5MHz	21425	1RB#24	23.11	23.50
Band7	5MHz	21425	12RB#0	23.36	23.50
Band7	5MHz	21425	12RB#6	23.41	23.50
Band7	5MHz	21425	12RB#13	23.43	23.50
Band7	5MHz	21425	25RB#0	23.42	23.50
Band7	5MHz	20775	1RB#0	22.59	23.00
Band7	5MHz	20775	1RB#12	22.61	23.00
Band7	5MHz	20775	1RB#24	22.66	23.00
Band7	5MHz	20775	12RB#0	21.99	22.00
Band7	5MHz	20775	12RB#6	21.99	22.00
Band7	5MHz	20775	12RB#13	21.93	22.00
Band7	5MHz	20775	25RB#0	21.80	22.00
Band7	5MHz	21100	1RB#0	22.87	23.00
Band7	5MHz	21100	1RB#12	22.78	23.00
Band7	5MHz	21100	1RB#24	22.88	23.00
Band7	5MHz	21100	12RB#0	22.19	22.50
Band7	5MHz	21100	12RB#6	22.14	22.50
Band7	5MHz	21100	12RB#13	22.24	22.50
Band7	5MHz	21100	25RB#0	22.34	22.50
Band7	5MHz	21425	1RB#0	22.97	23.00
Band7	5MHz	21425	1RB#12	23.02	23.50
Band7	5MHz	21425	1RB#24	22.91	23.00

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Band7	5MHz	21425	12RB#0	22.53	23.00
Band7	5MHz	21425	12RB#6	22.53	23.00
Band7	5MHz	21425	12RB#13	22.58	23.00
Band7	5MHz	21425	25RB#0	22.64	23.00
Band7	10MHz	20800	1RB#0	23.68	24.00
Band7	10MHz	20800	1RB#24	23.74	24.00
Band7	10MHz	20800	1RB#49	23.71	24.00
Band7	10MHz	20800	25RB#0	22.81	23.00
Band7	10MHz	20800	25RB#12	22.84	23.00
Band7	10MHz	20800	25RB#25	22.92	23.00
Band7	10MHz	20800	50RB#0	22.87	23.00
Band7	10MHz	21100	1RB#0	24.38	24.50
Band7	10MHz	21100	1RB#24	24.01	24.50
Band7	10MHz	21100	1RB#49	24.40	24.50
Band7	10MHz	21100	25RB#0	23.19	23.50
Band7	10MHz	21100	25RB#12	23.18	23.50
Band7	10MHz	21100	25RB#25	23.20	23.50
Band7	10MHz	21100	50RB#0	23.27	23.50
Band7	10MHz	21400	1RB#0	24.14	24.50
Band7	10MHz	21400	1RB#24	23.11	23.50
Band7	10MHz	21400	1RB#49	23.21	23.50
Band7	10MHz	21400	25RB#0	23.25	23.50
Band7	10MHz	21400	25RB#12	23.24	23.50
Band7	10MHz	21400	25RB#25	23.24	23.50
Band7	10MHz	21400	50RB#0	23.31	23.50
Band7	10MHz	20800	1RB#0	22.61	23.00
Band7	10MHz	20800	1RB#24	22.64	23.00
Band7	10MHz	20800	1RB#49	22.65	23.00
Band7	10MHz	20800	25RB#0	21.86	22.00
Band7	10MHz	20800	25RB#12	21.88	22.00
Band7	10MHz	20800	25RB#25	21.93	22.00
Band7	10MHz	20800	50RB#0	21.91	22.00
Band7	10MHz	21100	1RB#0	23.09	23.50
Band7	10MHz	21100	1RB#24	23.11	23.50
Band7	10MHz	21100	1RB#49	23.12	23.50
Band7	10MHz	21100	25RB#0	22.38	22.50
Band7	10MHz	21100	25RB#12	22.38	22.50
Band7	10MHz	21100	25RB#25	22.40	22.50
Band7	10MHz	21100	50RB#0	22.46	22.50
Band7	10MHz	21400	1RB#0	23.81	24.00

Band7	10MHz	21400	1RB#24	22.12	22.50
Band7	10MHz	21400	1RB#49	22.41	22.50
Band7	10MHz	21400	25RB#0	22.33	22.50
Band7	10MHz	21400	25RB#12	22.53	23.00
Band7	10MHz	21400	25RB#25	22.40	22.50
Band7	10MHz	21400	50RB#0	22.57	23.00
Band7	15MHz	20825	1RB#0	23.90	24.00
Band7	15MHz	20825	1RB#38	23.77	24.00
Band7	15MHz	20825	1RB#74	23.85	24.00
Band7	15MHz	20825	38RB#0	22.94	23.00
Band7	15MHz	20825	38RB#18	22.91	23.00
Band7	15MHz	20825	38RB#37	22.91	23.00
Band7	15MHz	20825	75RB#0	22.91	23.00
Band7	15MHz	21100	1RB#0	23.91	24.00
Band7	15MHz	21100	1RB#38	24.02	24.50
Band7	15MHz	21100	1RB#74	23.97	24.00
Band7	15MHz	21100	38RB#0	23.18	23.50
Band7	15MHz	21100	38RB#18	23.20	23.50
Band7	15MHz	21100	38RB#37	23.20	23.50
Band7	15MHz	21100	75RB#0	23.20	23.50
Band7	15MHz	21375	1RB#0	24.11	24.50
Band7	15MHz	21375	1RB#38	24.22	24.50
Band7	15MHz	21375	1RB#74	24.22	24.50
Band7	15MHz	21375	38RB#0	23.36	23.50
Band7	15MHz	21375	38RB#18	23.43	23.50
Band7	15MHz	21375	38RB#37	23.44	23.50
Band7	15MHz	21375	75RB#0	23.45	23.50
Band7	15MHz	20825	1RB#0	22.83	23.00
Band7	15MHz	20825	1RB#38	22.80	23.00
Band7	15MHz	20825	1RB#74	23.05	23.50
Band7	15MHz	20825	38RB#0	22.92	23.00
Band7	15MHz	20825	38RB#18	22.91	23.00
Band7	15MHz	20825	38RB#37	22.91	23.00
Band7	15MHz	20825	75RB#0	21.94	22.00
Band7	15MHz	21100	1RB#0	23.16	23.50
Band7	15MHz	21100	1RB#38	23.24	23.50
Band7	15MHz	21100	1RB#74	23.37	23.50
Band7	15MHz	21100	38RB#0	23.23	23.50
Band7	15MHz	21100	38RB#18	23.20	23.50
Band7	15MHz	21100	38RB#37	23.20	23.50

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Band7	15MHz	21100	75RB#0	22.35	22.50
Band7	15MHz	21375	1RB#0	23.99	24.00
Band7	15MHz	21375	1RB#38	24.01	24.50
Band7	15MHz	21375	1RB#74	23.81	24.00
Band7	15MHz	21375	38RB#0	23.41	23.50
Band7	15MHz	21375	38RB#18	23.44	23.50
Band7	15MHz	21375	38RB#37	23.44	23.50
Band7	15MHz	21375	75RB#0	22.52	23.00
Band7	20MHz	20850	1RB#0	23.94	24.00
Band7	20MHz	20850	1RB#49	23.95	24.00
Band7	20MHz	20850	1RB#99	24.09	24.50
Band7	20MHz	20850	50RB#0	22.77	23.00
Band7	20MHz	20850	50RB#25	22.82	23.00
Band7	20MHz	20850	50RB#50	23.06	23.50
Band7	20MHz	20850	100RB#0	22.89	23.00
Band7	20MHz	21100	1RB#0	24.26	24.50
Band7	20MHz	21100	1RB#49	24.01	24.50
Band7	20MHz	21100	1RB#99	24.40	24.50
Band7	20MHz	21100	50RB#0	23.32	23.50
Band7	20MHz	21100	50RB#25	23.15	23.50
Band7	20MHz	21100	50RB#50	23.21	23.50
Band7	20MHz	21100	100RB#0	23.20	23.50
Band7	20MHz	21350	1RB#0	24.41	24.50
Band7	20MHz	21350	1RB#49	24.22	24.50
Band7	20MHz	21350	1RB#99	24.74	25.00
Band7	20MHz	21350	50RB#0	23.36	23.50
Band7	20MHz	21350	50RB#25	23.37	23.50
Band7	20MHz	21350	50RB#50	23.36	23.50
Band7	20MHz	21350	100RB#0	23.39	23.50
Band7	20MHz	20850	1RB#0	22.32	22.50
Band7	20MHz	20850	1RB#49	22.34	22.50
Band7	20MHz	20850	1RB#99	22.55	23.00
Band7	20MHz	20850	50RB#0	22.13	22.50
Band7	20MHz	20850	50RB#25	22.11	22.50
Band7	20MHz	20850	50RB#50	22.29	22.50
Band7	20MHz	20850	100RB#0	22.20	22.50
Band7	20MHz	21100	1RB#0	23.62	24.00
Band7	20MHz	21100	1RB#49	23.02	23.50
Band7	20MHz	21100	1RB#99	23.68	24.00
Band7	20MHz	21100	50RB#0	22.39	22.50

Band7	20MHz	21100	50RB#25	22.40	22.50
Band7	20MHz	21100	50RB#50	22.36	22.50
Band7	20MHz	21100	100RB#0	22.55	23.00
Band7	20MHz	21350	1RB#0	23.22	23.50
Band7	20MHz	21350	1RB#49	23.14	23.50
Band7	20MHz	21350	1RB#99	23.19	23.50
Band7	20MHz	21350	50RB#0	22.60	23.00
Band7	20MHz	21350	50RB#25	22.58	23.00
Band7	20MHz	21350	50RB#50	22.68	23.00
Band7	20MHz	21350	100RB#0	22.56	23.00

Band 12

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band12	1.4MHz	23017	1RB#0	24.01	24.50
Band12	1.4MHz	23017	1RB#2	23.92	24.00
Band12	1.4MHz	23017	1RB#5	23.89	24.00
Band12	1.4MHz	23017	3RB#0	23.90	24.00
Band12	1.4MHz	23017	3RB#1	23.89	24.00
Band12	1.4MHz	23017	3RB#3	23.90	24.00
Band12	1.4MHz	23017	6RB#0	22.99	23.00
Band12	1.4MHz	23095	1RB#0	23.93	24.00
Band12	1.4MHz	23095	1RB#2	23.88	24.00
Band12	1.4MHz	23095	1RB#5	23.90	24.00
Band12	1.4MHz	23095	3RB#0	23.89	24.00
Band12	1.4MHz	23095	3RB#1	23.84	24.00
Band12	1.4MHz	23095	3RB#3	23.83	24.00
Band12	1.4MHz	23095	6RB#0	22.80	23.00
Band12	1.4MHz	23173	1RB#0	23.83	24.00
Band12	1.4MHz	23173	1RB#2	23.61	24.00
Band12	1.4MHz	23173	1RB#5	23.66	24.00
Band12	1.4MHz	23173	3RB#0	23.75	24.00
Band12	1.4MHz	23173	3RB#1	23.85	24.00
Band12	1.4MHz	23173	3RB#3	23.82	24.00
Band12	1.4MHz	23173	6RB#0	22.78	23.00
Band12	1.4MHz	23017	1RB#0	23.19	23.50
Band12	1.4MHz	23017	1RB#2	23.18	23.50
Band12	1.4MHz	23017	1RB#5	23.17	23.50
Band12	1.4MHz	23017	3RB#0	22.38	22.50
Band12	1.4MHz	23017	3RB#1	22.35	22.50
Band12	1.4MHz	23017	3RB#3	22.41	22.50

Band12	1.4MHz	23017	6RB#0	22.03	22.50
Band12	1.4MHz	23095	1RB#0	22.35	22.50
Band12	1.4MHz	23095	1RB#2	22.25	22.50
Band12	1.4MHz	23095	1RB#5	22.26	22.50
Band12	1.4MHz	23095	3RB#0	22.37	22.50
Band12	1.4MHz	23095	3RB#1	22.37	22.50
Band12	1.4MHz	23095	3RB#3	22.25	22.50
Band12	1.4MHz	23095	6RB#0	21.89	22.00
Band12	1.4MHz	23173	1RB#0	22.90	23.00
Band12	1.4MHz	23173	1RB#2	22.77	23.00
Band12	1.4MHz	23173	1RB#5	22.89	23.00
Band12	1.4MHz	23173	3RB#0	22.68	23.00
Band12	1.4MHz	23173	3RB#1	22.70	23.00
Band12	1.4MHz	23173	3RB#3	22.59	23.00
Band12	1.4MHz	23173	6RB#0	21.94	22.00
Band12	3MHz	23025	1RB#0	23.89	24.00
Band12	3MHz	23025	1RB#8	23.97	24.00
Band12	3MHz	23025	1RB#14	23.95	24.00
Band12	3MHz	23025	8RB#0	22.93	23.00
Band12	3MHz	23025	8RB#4	22.91	23.00
Band12	3MHz	23025	8RB#7	22.79	23.00
Band12	3MHz	23025	15RB#0	23.06	23.50
Band12	3MHz	23095	1RB#0	23.97	24.00
Band12	3MHz	23095	1RB#8	23.91	24.00
Band12	3MHz	23095	1RB#14	23.86	24.00
Band12	3MHz	23095	8RB#0	22.78	23.00
Band12	3MHz	23095	8RB#4	22.81	23.00
Band12	3MHz	23095	8RB#7	22.85	23.00
Band12	3MHz	23095	15RB#0	22.75	23.00
Band12	3MHz	23165	1RB#0	23.75	24.00
Band12	3MHz	23165	1RB#8	23.94	24.00
Band12	3MHz	23165	1RB#14	23.69	24.00
Band12	3MHz	23165	8RB#0	22.79	23.00
Band12	3MHz	23165	8RB#4	22.83	23.00
Band12	3MHz	23165	8RB#7	22.81	23.00
Band12	3MHz	23165	15RB#0	22.81	23.00
Band12	3MHz	23025	1RB#0	22.61	23.00
Band12	3MHz	23025	1RB#8	22.63	23.00
Band12	3MHz	23025	1RB#14	22.40	22.50
Band12	3MHz	23025	8RB#0	22.10	22.50

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Band12	3MHz	23025	8RB#4	22.09	22.50
Band12	3MHz	23025	8RB#7	22.03	22.50
Band12	3MHz	23025	15RB#0	21.99	22.00
Band12	3MHz	23095	1RB#0	22.31	22.50
Band12	3MHz	23095	1RB#8	22.23	22.50
Band12	3MHz	23095	1RB#14	22.24	22.50
Band12	3MHz	23095	8RB#0	21.90	22.00
Band12	3MHz	23095	8RB#4	21.91	22.00
Band12	3MHz	23095	8RB#7	21.96	22.00
Band12	3MHz	23095	15RB#0	21.77	22.00
Band12	3MHz	23165	1RB#0	23.36	23.50
Band12	3MHz	23165	1RB#8	23.27	23.50
Band12	3MHz	23165	1RB#14	23.13	23.50
Band12	3MHz	23165	8RB#0	21.89	22.00
Band12	3MHz	23165	8RB#4	21.86	22.00
Band12	3MHz	23165	8RB#7	22.04	22.50
Band12	3MHz	23165	15RB#0	21.87	22.00
Band12	5MHz	23035	1RB#0	23.86	24.00
Band12	5MHz	23035	1RB#12	23.90	24.00
Band12	5MHz	23035	1RB#24	23.94	24.00
Band12	5MHz	23035	12RB#0	22.96	23.00
Band12	5MHz	23035	12RB#6	22.95	23.00
Band12	5MHz	23035	12RB#13	22.86	23.00
Band12	5MHz	23035	25RB#0	22.57	23.00
Band12	5MHz	23095	1RB#0	23.88	24.00
Band12	5MHz	23095	1RB#12	23.92	24.00
Band12	5MHz	23095	1RB#24	23.82	24.00
Band12	5MHz	23095	12RB#0	22.89	23.00
Band12	5MHz	23095	12RB#6	22.86	23.00
Band12	5MHz	23095	12RB#13	22.77	23.00
Band12	5MHz	23095	25RB#0	22.85	23.00
Band12	5MHz	23155	1RB#0	23.72	24.00
Band12	5MHz	23155	1RB#12	23.85	24.00
Band12	5MHz	23155	1RB#24	23.72	24.00
Band12	5MHz	23155	12RB#0	22.65	23.00
Band12	5MHz	23155	12RB#6	22.85	23.00
Band12	5MHz	23155	12RB#13	22.83	23.00
Band12	5MHz	23155	25RB#0	22.81	23.00
Band12	5MHz	23035	1RB#0	22.32	22.50
Band12	5MHz	23035	1RB#12	22.10	22.50

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Band12	5MHz	23035	1RB#24	22.09	22.50
Band12	5MHz	23035	12RB#0	21.91	22.00
Band12	5MHz	23035	12RB#6	21.93	22.00
Band12	5MHz	23035	12RB#13	22.03	22.50
Band12	5MHz	23035	25RB#0	22.01	22.50
Band12	5MHz	23095	1RB#0	22.90	23.00
Band12	5MHz	23095	1RB#12	22.85	23.00
Band12	5MHz	23095	1RB#24	23.00	23.00
Band12	5MHz	23095	12RB#0	21.90	22.00
Band12	5MHz	23095	12RB#6	21.92	22.00
Band12	5MHz	23095	12RB#13	21.87	22.00
Band12	5MHz	23095	25RB#0	21.89	22.00
Band12	5MHz	23155	1RB#0	22.15	22.50
Band12	5MHz	23155	1RB#12	22.39	22.50
Band12	5MHz	23155	1RB#24	22.27	22.50
Band12	5MHz	23155	12RB#0	21.63	22.00
Band12	5MHz	23155	12RB#6	21.64	22.00
Band12	5MHz	23155	12RB#13	21.72	22.00
Band12	5MHz	23155	25RB#0	21.78	22.00
Band12	10MHz	23060	1RB#0	23.80	24.00
Band12	10MHz	23060	1RB#24	23.70	24.00
Band12	10MHz	23060	1RB#49	23.76	24.00
Band12	10MHz	23060	25RB#0	22.63	23.00
Band12	10MHz	23060	25RB#12	23.07	23.50
Band12	10MHz	23060	25RB#25	22.94	23.00
Band12	10MHz	23060	50RB#0	22.78	23.00
Band12	10MHz	23095	1RB#0	23.75	24.00
Band12	10MHz	23095	1RB#24	23.82	24.00
Band12	10MHz	23095	1RB#49	23.69	24.00
Band12	10MHz	23095	25RB#0	22.84	23.00
Band12	10MHz	23095	25RB#12	22.91	23.00
Band12	10MHz	23095	25RB#25	22.93	23.00
Band12	10MHz	23095	50RB#0	22.74	23.00
Band12	10MHz	23130	1RB#0	24.05	24.50
Band12	10MHz	23130	1RB#24	23.90	24.00
Band12	10MHz	23130	1RB#49	23.89	24.00
Band12	10MHz	23130	25RB#0	22.76	23.00
Band12	10MHz	23130	25RB#12	22.81	23.00
Band12	10MHz	23130	25RB#25	23.03	23.50
Band12	10MHz	23130	50RB#0	22.90	23.00

Band12	10MHz	23060	1RB#0	23.06	23.50
Band12	10MHz	23060	1RB#24	22.83	23.00
Band12	10MHz	23060	1RB#49	22.86	23.00
Band12	10MHz	23060	25RB#0	21.96	22.00
Band12	10MHz	23060	25RB#12	21.96	22.00
Band12	10MHz	23060	25RB#25	21.55	22.00
Band12	10MHz	23060	50RB#0	21.52	22.00
Band12	10MHz	23095	1RB#0	22.82	23.00
Band12	10MHz	23095	1RB#24	22.82	23.00
Band12	10MHz	23095	1RB#49	22.71	23.00
Band12	10MHz	23095	25RB#0	21.61	22.00
Band12	10MHz	23095	25RB#12	21.75	22.00
Band12	10MHz	23095	25RB#25	21.81	22.00
Band12	10MHz	23095	50RB#0	21.83	22.00
Band12	10MHz	23130	1RB#0	22.59	23.00
Band12	10MHz	23130	1RB#24	22.63	23.00
Band12	10MHz	23130	1RB#49	22.45	22.50
Band12	10MHz	23130	25RB#0	21.97	22.00
Band12	10MHz	23130	25RB#12	21.99	22.00
Band12	10MHz	23130	25RB#25	21.85	22.00
Band12	10MHz	23130	50RB#0	21.84	22.00

Band 17

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band17	5MHz	23755	1RB#0	24.14	24.50
Band17	5MHz	23755	1RB#12	24.23	24.50
Band17	5MHz	23755	1RB#24	24.16	24.50
Band17	5MHz	23755	12RB#0	22.86	23.00
Band17	5MHz	23755	12RB#6	22.88	23.00
Band17	5MHz	23755	12RB#13	22.77	23.00
Band17	5MHz	23755	25RB#0	22.82	23.00
Band17	5MHz	23790	1RB#0	23.87	24.00
Band17	5MHz	23790	1RB#12	23.74	24.00
Band17	5MHz	23790	1RB#24	23.84	24.00
Band17	5MHz	23790	12RB#0	22.84	23.00
Band17	5MHz	23790	12RB#6	22.72	23.00
Band17	5MHz	23790	12RB#13	22.91	23.00
Band17	5MHz	23790	25RB#0	22.80	23.00
Band17	5MHz	23825	1RB#0	23.72	24.00

Band17	5MHz	23825	1RB#12	23.84	24.00
Band17	5MHz	23825	1RB#24	23.71	24.00
Band17	5MHz	23825	12RB#0	22.68	23.00
Band17	5MHz	23825	12RB#6	22.61	23.00
Band17	5MHz	23825	12RB#13	22.86	23.00
Band17	5MHz	23825	25RB#0	22.76	23.00
Band17	5MHz	23755	1RB#0	22.11	22.50
Band17	5MHz	23755	1RB#12	22.17	22.50
Band17	5MHz	23755	1RB#24	22.10	22.50
Band17	5MHz	23755	12RB#0	21.78	22.00
Band17	5MHz	23755	12RB#6	21.79	22.00
Band17	5MHz	23755	12RB#13	21.88	22.00
Band17	5MHz	23755	25RB#0	21.91	22.00
Band17	5MHz	23790	1RB#0	22.75	23.00
Band17	5MHz	23790	1RB#12	22.94	23.00
Band17	5MHz	23790	1RB#24	22.69	23.00
Band17	5MHz	23790	12RB#0	21.91	22.00
Band17	5MHz	23790	12RB#6	21.84	22.00
Band17	5MHz	23790	12RB#13	21.78	22.00
Band17	5MHz	23790	25RB#0	21.86	22.00
Band17	5MHz	23825	1RB#0	22.12	22.50
Band17	5MHz	23825	1RB#12	22.30	22.50
Band17	5MHz	23825	1RB#24	22.31	22.50
Band17	5MHz	23825	12RB#0	21.53	22.00
Band17	5MHz	23825	12RB#6	21.51	22.00
Band17	5MHz	23825	12RB#13	21.61	22.00
Band17	5MHz	23825	25RB#0	21.77	22.00
Band17	10MHz	23780	1RB#0	23.67	24.00
Band17	10MHz	23780	1RB#24	23.67	24.00
Band17	10MHz	23780	1RB#49	23.68	24.00
Band17	10MHz	23780	25RB#0	22.81	23.00
Band17	10MHz	23780	25RB#12	22.85	23.00
Band17	10MHz	23780	25RB#25	22.70	23.00
Band17	10MHz	23780	50RB#0	22.76	23.00
Band17	10MHz	23790	1RB#0	24.02	24.50
Band17	10MHz	23790	1RB#24	23.79	24.00
Band17	10MHz	23790	1RB#49	23.92	24.00
Band17	10MHz	23790	25RB#0	22.83	23.00
Band17	10MHz	23790	25RB#12	22.87	23.00
Band17	10MHz	23790	25RB#25	22.58	23.00

Band17	10MHz	23790	50RB#0	22.91	23.00
Band17	10MHz	23800	1RB#0	23.90	24.00
Band17	10MHz	23800	1RB#24	23.77	24.00
Band17	10MHz	23800	1RB#49	23.68	24.00
Band17	10MHz	23800	25RB#0	22.71	23.00
Band17	10MHz	23800	25RB#12	22.77	23.00
Band17	10MHz	23800	25RB#25	23.07	23.50
Band17	10MHz	23800	50RB#0	22.79	23.00
Band17	10MHz	23780	1RB#0	22.33	22.50
Band17	10MHz	23780	1RB#24	22.27	22.50
Band17	10MHz	23780	1RB#49	22.37	22.50
Band17	10MHz	23780	25RB#0	21.57	22.00
Band17	10MHz	23780	25RB#12	21.59	22.00
Band17	10MHz	23780	25RB#25	21.71	22.00
Band17	10MHz	23780	50RB#0	21.99	22.00
Band17	10MHz	23790	1RB#0	22.59	23.00
Band17	10MHz	23790	1RB#24	22.63	23.00
Band17	10MHz	23790	1RB#49	22.61	23.00
Band17	10MHz	23790	25RB#0	22.02	22.50
Band17	10MHz	23790	25RB#12	22.04	22.50
Band17	10MHz	23790	25RB#25	21.80	22.00
Band17	10MHz	23790	50RB#0	21.94	22.00
Band17	10MHz	23800	1RB#0	23.41	23.50
Band17	10MHz	23800	1RB#24	23.32	23.50
Band17	10MHz	23800	1RB#49	23.20	23.50
Band17	10MHz	23800	25RB#0	21.93	22.00
Band17	10MHz	23800	25RB#12	21.99	22.00
Band17	10MHz	23800	25RB#25	21.83	22.00
Band17	10MHz	23800	50RB#0	21.98	22.00

Band 38

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
Band38	5MHz	37775	1RB#0	24.42	24.50
Band38	5MHz	37775	1RB#12	24.43	24.50
Band38	5MHz	37775	1RB#24	24.43	24.50
Band38	5MHz	37775	12RB#0	23.41	23.50
Band38	5MHz	37775	12RB#6	23.39	23.50
Band38	5MHz	37775	12RB#13	23.37	23.50
Band38	5MHz	37775	25RB#0	23.46	23.50
Band38	5MHz	38000	1RB#0	24.49	24.50

Band38	5MHz	38000	1RB#12	24.62	25.00
Band38	5MHz	38000	1RB#24	24.58	25.00
Band38	5MHz	38000	12RB#0	23.50	23.50
Band38	5MHz	38000	12RB#6	23.50	23.50
Band38	5MHz	38000	12RB#13	23.44	23.50
Band38	5MHz	38000	25RB#0	23.51	24.00
Band38	5MHz	38225	1RB#0	24.69	25.00
Band38	5MHz	38225	1RB#12	24.75	25.00
Band38	5MHz	38225	1RB#24	24.72	25.00
Band38	5MHz	38225	12RB#0	23.64	24.00
Band38	5MHz	38225	12RB#6	23.66	24.00
Band38	5MHz	38225	12RB#13	23.65	24.00
Band38	5MHz	38225	25RB#0	23.68	24.00
Band38	5MHz	37775	1RB#0	23.63	24.00
Band38	5MHz	37775	1RB#12	23.60	24.00
Band38	5MHz	37775	1RB#24	23.64	24.00
Band38	5MHz	37775	12RB#0	22.68	23.00
Band38	5MHz	37775	12RB#6	22.71	23.00
Band38	5MHz	37775	12RB#13	22.69	23.00
Band38	5MHz	37775	25RB#0	22.43	22.50
Band38	5MHz	38000	1RB#0	24.10	24.50
Band38	5MHz	38000	1RB#12	23.98	24.00
Band38	5MHz	38000	1RB#24	23.92	24.00
Band38	5MHz	38000	12RB#0	22.73	23.00
Band38	5MHz	38000	12RB#6	22.74	23.00
Band38	5MHz	38000	12RB#13	22.67	23.00
Band38	5MHz	38000	25RB#0	22.76	23.00
Band38	5MHz	38225	1RB#0	24.01	24.50
Band38	5MHz	38225	1RB#12	24.23	24.50
Band38	5MHz	38225	1RB#24	24.12	24.50
Band38	5MHz	38225	12RB#0	22.73	23.00
Band38	5MHz	38225	12RB#6	22.74	23.00
Band38	5MHz	38225	12RB#13	22.71	23.00
Band38	5MHz	38225	25RB#0	22.90	23.00
Band38	10MHz	37800	1RB#0	24.65	25.00
Band38	10MHz	37800	1RB#24	24.64	25.00
Band38	10MHz	37800	1RB#49	24.64	25.00
Band38	10MHz	37800	25RB#0	23.45	23.50
Band38	10MHz	37800	25RB#12	23.45	23.50
Band38	10MHz	37800	25RB#25	23.52	24.00

Band38	10MHz	37800	50RB#0	23.40	23.50
Band38	10MHz	38000	1RB#0	24.60	25.00
Band38	10MHz	38000	1RB#24	24.60	25.00
Band38	10MHz	38000	25RB#0	23.45	23.50
Band38	10MHz	38000	25RB#12	23.55	24.00
Band38	10MHz	38000	25RB#25	23.61	24.00
Band38	10MHz	38000	50RB#0	23.56	24.00
Band38	10MHz	38200	1RB#0	24.57	25.00
Band38	10MHz	38200	1RB#24	0.00	0.00
Band38	10MHz	38200	1RB#49	24.69	25.00
Band38	10MHz	38200	25RB#0	23.55	24.00
Band38	10MHz	38200	25RB#12	23.55	24.00
Band38	10MHz	38200	25RB#25	23.74	24.00
Band38	10MHz	38200	50RB#0	23.65	24.00
Band38	10MHz	37800	1RB#0	23.73	24.00
Band38	10MHz	37800	1RB#24	23.63	24.00
Band38	10MHz	37800	1RB#49	23.75	24.00
Band38	10MHz	37800	25RB#0	22.64	23.00
Band38	10MHz	37800	25RB#12	22.64	23.00
Band38	10MHz	37800	25RB#25	22.75	23.00
Band38	10MHz	37800	50RB#0	22.58	23.00
Band38	10MHz	38000	1RB#0	24.12	24.50
Band38	10MHz	38000	1RB#24	24.10	24.50
Band38	10MHz	38000	25RB#0	22.73	23.00
Band38	10MHz	38000	25RB#12	22.69	23.00
Band38	10MHz	38000	25RB#25	22.68	23.00
Band38	10MHz	38000	50RB#0	22.68	23.00
Band38	10MHz	38200	1RB#0	23.62	24.00
Band38	10MHz	38200	1RB#49	23.80	24.00
Band38	10MHz	38200	25RB#0	22.97	23.00
Band38	10MHz	38200	25RB#12	22.96	23.00
Band38	10MHz	38200	25RB#25	23.01	23.50
Band38	10MHz	38200	50RB#0	22.73	23.00
Band38	15MHz	37825	1RB#0	24.52	25.00
Band38	15MHz	37825	1RB#38	24.54	25.00
Band38	15MHz	37825	1RB#74	24.66	25.00
Band38	15MHz	37825	38RB#0	23.50	23.50
Band38	15MHz	37825	38RB#18	23.49	23.50
Band38	15MHz	37825	38RB#37	23.49	23.50
Band38	15MHz	37825	75RB#0	23.49	23.50

Band38	15MHz	38000	1RB#0	24.65	25.00
Band38	15MHz	38000	1RB#38	24.58	25.00
Band38	15MHz	38000	1RB#74	24.64	25.00
Band38	15MHz	38000	38RB#0	23.62	24.00
Band38	15MHz	38000	38RB#18	23.61	24.00
Band38	15MHz	38000	38RB#37	23.61	24.00
Band38	15MHz	38000	75RB#0	23.61	24.00
Band38	15MHz	38175	1RB#0	24.78	25.00
Band38	15MHz	38175	1RB#38	24.86	25.00
Band38	15MHz	38175	1RB#74	25.10	25.50
Band38	15MHz	38175	38RB#0	23.57	24.00
Band38	15MHz	38175	38RB#18	23.57	24.00
Band38	15MHz	38175	38RB#37	23.57	24.00
Band38	15MHz	38175	75RB#0	23.57	24.00
Band38	15MHz	37825	1RB#0	23.93	24.00
Band38	15MHz	37825	1RB#38	24.01	24.50
Band38	15MHz	37825	1RB#74	23.98	24.00
Band38	15MHz	37825	38RB#0	23.50	23.50
Band38	15MHz	37825	38RB#18	23.50	23.50
Band38	15MHz	37825	38RB#37	23.50	23.50
Band38	15MHz	37825	75RB#0	22.63	23.00
Band38	15MHz	38000	1RB#0	24.15	24.50
Band38	15MHz	38000	1RB#38	24.08	24.50
Band38	15MHz	38000	1RB#74	24.10	24.50
Band38	15MHz	38000	38RB#0	23.62	24.00
Band38	15MHz	38000	38RB#18	23.62	24.00
Band38	15MHz	38000	38RB#37	23.62	24.00
Band38	15MHz	38000	75RB#0	22.72	23.00
Band38	15MHz	38175	1RB#0	23.00	23.00
Band38	15MHz	38175	1RB#38	23.01	23.50
Band38	15MHz	38175	1RB#74	23.39	23.50
Band38	15MHz	38175	38RB#0	23.58	24.00
Band38	15MHz	38175	38RB#18	23.58	24.00
Band38	15MHz	38175	38RB#37	23.58	24.00
Band38	15MHz	38175	75RB#0	22.72	23.00
Band38	20MHz	37850	1RB#0	24.30	24.50
Band38	20MHz	37850	1RB#49	24.33	24.50
Band38	20MHz	37850	1RB#99	24.33	24.50
Band38	20MHz	37850	50RB#0	23.38	23.50
Band38	20MHz	37850	50RB#25	23.39	23.50

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Band38	20MHz	37850	50RB#50	23.48	23.50
Band38	20MHz	37850	100RB#0	23.51	24.00
Band38	20MHz	38000	1RB#0	24.31	24.50
Band38	20MHz	38000	1RB#49	24.28	24.50
Band38	20MHz	38000	1RB#99	24.34	24.50
Band38	20MHz	38000	50RB#0	23.52	24.00
Band38	20MHz	38000	50RB#25	23.53	24.00
Band38	20MHz	38000	50RB#50	23.53	24.00
Band38	20MHz	38000	100RB#0	23.60	24.00
Band38	20MHz	38150	1RB#0	24.49	24.50
Band38	20MHz	38150	1RB#99	24.65	25.00
Band38	20MHz	38150	50RB#0	23.49	23.50
Band38	20MHz	38150	50RB#25	23.51	24.00
Band38	20MHz	38150	50RB#50	23.63	24.00
Band38	20MHz	38150	100RB#0	23.55	24.00
Band38	20MHz	37850	1RB#0	23.16	23.50
Band38	20MHz	37850	1RB#49	23.23	23.50
Band38	20MHz	37850	1RB#99	23.27	23.50
Band38	20MHz	37850	50RB#0	22.58	23.00
Band38	20MHz	37850	50RB#25	22.57	23.00
Band38	20MHz	37850	50RB#50	22.55	23.00
Band38	20MHz	37850	100RB#0	22.54	23.00
Band38	20MHz	38000	1RB#0	23.65	24.00
Band38	20MHz	38000	1RB#49	23.81	24.00
Band38	20MHz	38000	1RB#99	23.73	24.00
Band38	20MHz	38000	50RB#0	22.71	23.00
Band38	20MHz	38000	50RB#25	22.71	23.00
Band38	20MHz	38000	50RB#50	22.74	23.00
Band38	20MHz	38000	100RB#0	22.61	23.00
Band38	20MHz	38150	1RB#0	23.82	24.00
Band38	20MHz	38150	1RB#49	23.78	24.00
Band38	20MHz	38150	1RB#99	23.96	24.00
Band38	20MHz	38150	50RB#0	22.70	23.00
Band38	20MHz	38150	50RB#25	22.70	23.00
Band38	20MHz	38150	50RB#50	22.82	23.00
Band38	20MHz	38150	100RB#0	22.71	23.00

Band 40

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
40(2305-2315)	5MHz	38725	1RB#0	24.24	24.50
40(2305-2315)	5MHz	38725	1RB#12	24.69	25.00
40(2305-2315)	5MHz	38725	1RB#24	24.16	24.50
40(2305-2315)	5MHz	38725	12RB#0	23.65	24.00
40(2305-2315)	5MHz	38725	12RB#6	23.65	24.00
40(2305-2315)	5MHz	38725	12RB#13	23.69	24.00
40(2305-2315)	5MHz	38725	25RB#0	23.66	24.00
40(2305-2315)	5MHz	38750	1RB#0	24.08	24.50
40(2305-2315)	5MHz	38750	1RB#12	24.57	25.00
40(2305-2315)	5MHz	38750	1RB#24	24.09	24.50
40(2305-2315)	5MHz	38750	12RB#0	23.72	24.00
40(2305-2315)	5MHz	38750	12RB#6	23.72	24.00
40(2305-2315)	5MHz	38750	12RB#13	23.77	24.00
40(2305-2315)	5MHz	38750	25RB#0	23.57	24.00
40(2305-2315)	5MHz	38775	1RB#0	24.06	24.50
40(2305-2315)	5MHz	38775	1RB#12	24.56	25.00
40(2305-2315)	5MHz	38775	1RB#24	24.09	24.50
40(2305-2315)	5MHz	38775	12RB#0	23.62	24.00
40(2305-2315)	5MHz	38775	12RB#6	23.63	24.00
40(2305-2315)	5MHz	38775	12RB#13	23.68	24.00
40(2305-2315)	5MHz	38775	25RB#0	23.67	24.00
40(2305-2315)	5MHz	38725	1RB#0	23.77	24.00
40(2305-2315)	5MHz	38725	1RB#12	23.81	24.00
40(2305-2315)	5MHz	38725	1RB#24	23.85	24.00
40(2305-2315)	5MHz	38725	12RB#0	22.85	23.00
40(2305-2315)	5MHz	38725	12RB#6	22.83	23.00
40(2305-2315)	5MHz	38725	12RB#13	22.85	23.00
40(2305-2315)	5MHz	38725	25RB#0	22.86	23.00
40(2305-2315)	5MHz	38750	1RB#0	23.79	24.00
40(2305-2315)	5MHz	38750	1RB#12	23.83	24.00
40(2305-2315)	5MHz	38750	1RB#24	23.79	24.00
40(2305-2315)	5MHz	38750	12RB#0	22.77	23.00
40(2305-2315)	5MHz	38750	12RB#6	22.77	23.00
40(2305-2315)	5MHz	38750	12RB#13	22.80	23.00
40(2305-2315)	5MHz	38750	25RB#0	22.81	23.00
40(2305-2315)	5MHz	38775	1RB#0	23.55	24.00
40(2305-2315)	5MHz	38775	1RB#12	23.45	23.50
40(2305-2315)	5MHz	38775	1RB#24	23.52	24.00

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40(2305-2315)	5MHz	38775	12RB#0	22.87	23.00
40(2305-2315)	5MHz	38775	12RB#6	22.87	23.00
40(2305-2315)	5MHz	38775	12RB#13	22.77	23.00
40(2305-2315)	5MHz	38775	25RB#0	22.84	23.00
40(2305-2315)	10MHz	38750	1RB#0	23.76	24.00
40(2305-2315)	10MHz	38750	1RB#24	24.10	24.50
40(2305-2315)	10MHz	38750	1RB#49	24.17	24.50
40(2305-2315)	10MHz	38750	25RB#0	24.00	24.00
40(2305-2315)	10MHz	38750	25RB#12	24.00	24.00
40(2305-2315)	10MHz	38750	25RB#25	23.90	24.00
40(2305-2315)	10MHz	38750	50RB#0	23.99	24.00
40(2305-2315)	10MHz	38750	1RB#0	23.84	24.00
40(2305-2315)	10MHz	38750	1RB#24	24.18	24.50
40(2305-2315)	10MHz	38750	1RB#49	24.26	24.50
40(2305-2315)	10MHz	38750	25RB#0	23.18	23.50
40(2305-2315)	10MHz	38750	25RB#12	23.18	23.50
40(2305-2315)	10MHz	38750	25RB#25	23.22	23.50
40(2305-2315)	10MHz	38750	50RB#0	23.04	23.50
40(2350-2360)	5MHz	39175	1RB#0	24.69	25.00
40(2350-2360)	5MHz	39175	1RB#12	24.70	25.00
40(2350-2360)	5MHz	39175	1RB#24	24.64	25.00
40(2350-2360)	5MHz	39175	12RB#0	23.74	24.00
40(2350-2360)	5MHz	39175	12RB#6	23.73	24.00
40(2350-2360)	5MHz	39175	12RB#13	23.76	24.00
40(2350-2360)	5MHz	39175	25RB#0	23.74	24.00
40(2350-2360)	5MHz	39200	1RB#0	24.85	25.00
40(2350-2360)	5MHz	39200	1RB#12	24.78	25.00
40(2350-2360)	5MHz	39200	1RB#24	24.86	25.00
40(2350-2360)	5MHz	39200	12RB#0	23.68	24.00
40(2350-2360)	5MHz	39200	12RB#6	23.84	24.00
40(2350-2360)	5MHz	39200	12RB#13	23.73	24.00
40(2350-2360)	5MHz	39200	25RB#0	23.71	24.00
40(2350-2360)	5MHz	39225	1RB#0	24.68	25.00
40(2350-2360)	5MHz	39225	1RB#12	24.73	25.00
40(2350-2360)	5MHz	39225	1RB#24	24.81	25.00
40(2350-2360)	5MHz	39225	12RB#0	23.70	24.00
40(2350-2360)	5MHz	39225	12RB#6	23.70	24.00
40(2350-2360)	5MHz	39225	12RB#13	23.66	24.00
40(2350-2360)	5MHz	39225	25RB#0	23.69	24.00

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40(2350-2360)	5MHz	39175	1RB#0	23.85	24.00
40(2350-2360)	5MHz	39175	1RB#12	23.89	24.00
40(2350-2360)	5MHz	39175	1RB#24	23.90	24.00
40(2350-2360)	5MHz	39175	12RB#0	22.63	23.00
40(2350-2360)	5MHz	39175	12RB#6	22.62	23.00
40(2350-2360)	5MHz	39175	12RB#13	22.65	23.00
40(2350-2360)	5MHz	39175	25RB#0	22.97	23.00
40(2350-2360)	5MHz	39200	1RB#0	23.87	24.00
40(2350-2360)	5MHz	39200	1RB#12	23.89	24.00
40(2350-2360)	5MHz	39200	1RB#24	23.77	24.00
40(2350-2360)	5MHz	39200	12RB#0	22.79	23.00
40(2350-2360)	5MHz	39200	12RB#6	22.82	23.00
40(2350-2360)	5MHz	39200	12RB#13	22.82	23.00
40(2350-2360)	5MHz	39200	25RB#0	22.83	23.00
40(2350-2360)	5MHz	39225	1RB#0	23.67	24.00
40(2350-2360)	5MHz	39225	1RB#12	23.57	24.00
40(2350-2360)	5MHz	39225	1RB#24	23.48	23.50
40(2350-2360)	5MHz	39225	12RB#0	22.86	23.00
40(2350-2360)	5MHz	39225	12RB#6	22.85	23.00
40(2350-2360)	5MHz	39225	12RB#13	22.75	23.00
40(2350-2360)	5MHz	39225	25RB#0	22.80	23.00
40(2350-2360)	10MHz	39200	1RB#0	24.58	25.00
40(2350-2360)	10MHz	39200	1RB#24	24.51	25.00
40(2350-2360)	10MHz	39200	1RB#49	24.55	25.00
40(2350-2360)	10MHz	39200	25RB#0	23.83	24.00
40(2350-2360)	10MHz	39200	25RB#12	23.82	24.00
40(2350-2360)	10MHz	39200	25RB#25	23.81	24.00
40(2350-2360)	10MHz	39200	50RB#0	23.78	24.00
40(2350-2360)	10MHz	39200	1RB#0	23.77	24.00
40(2350-2360)	10MHz	39200	1RB#24	23.80	24.00
40(2350-2360)	10MHz	39200	1RB#49	23.79	24.00
40(2350-2360)	10MHz	39200	25RB#0	23.13	23.50
40(2350-2360)	10MHz	39200	25RB#12	23.22	23.50
40(2350-2360)	10MHz	39200	25RB#25	23.05	23.50
40(2350-2360)	10MHz	39200	50RB#0	22.88	23.00

Band 41

Band	Bandwidth	Channel	RB Configuration	Result(dBm)	Tune-up
41(2555-2655)	5MHz	40265	1RB#0	24.59	25.00
41(2555-2655)	5MHz	40265	1RB#12	24.56	25.00
41(2555-2655)	5MHz	40265	1RB#24	24.52	25.00
41(2555-2655)	5MHz	40265	12RB#0	23.59	24.00
41(2555-2655)	5MHz	40265	12RB#6	23.57	24.00
41(2555-2655)	5MHz	40265	12RB#13	23.53	24.00
41(2555-2655)	5MHz	40265	25RB#0	23.55	24.00
41(2555-2655)	5MHz	40690	1RB#0	24.72	25.00
41(2555-2655)	5MHz	40690	1RB#12	24.76	25.00
41(2555-2655)	5MHz	40690	1RB#24	24.73	25.00
41(2555-2655)	5MHz	40690	12RB#0	23.63	24.00
41(2555-2655)	5MHz	40690	12RB#6	23.58	24.00
41(2555-2655)	5MHz	40690	12RB#13	23.66	24.00
41(2555-2655)	5MHz	40690	25RB#0	23.55	24.00
41(2555-2655)	5MHz	41215	1RB#0	25.24	25.50
41(2555-2655)	5MHz	41215	1RB#12	25.16	25.50
41(2555-2655)	5MHz	41215	1RB#24	25.17	25.50
41(2555-2655)	5MHz	41215	12RB#0	24.02	24.50
41(2555-2655)	5MHz	41215	12RB#6	24.02	24.50
41(2555-2655)	5MHz	41215	12RB#13	24.11	24.50
41(2555-2655)	5MHz	41215	25RB#0	24.14	24.50
41(2555-2655)	5MHz	40265	1RB#0	23.40	23.50
41(2555-2655)	5MHz	40265	1RB#12	23.32	23.50
41(2555-2655)	5MHz	40265	1RB#24	23.42	23.50
41(2555-2655)	5MHz	40265	12RB#0	22.64	23.00
41(2555-2655)	5MHz	40265	12RB#6	22.62	23.00
41(2555-2655)	5MHz	40265	12RB#13	22.58	23.00
41(2555-2655)	5MHz	40265	25RB#0	22.60	23.00
41(2555-2655)	5MHz	40690	1RB#0	23.69	24.00
41(2555-2655)	5MHz	40690	1RB#12	23.65	24.00
41(2555-2655)	5MHz	40690	1RB#24	23.64	24.00
41(2555-2655)	5MHz	40690	12RB#0	22.79	23.00
41(2555-2655)	5MHz	40690	12RB#6	22.77	23.00
41(2555-2655)	5MHz	40690	12RB#13	22.70	23.00
41(2555-2655)	5MHz	40690	25RB#0	22.77	23.00
41(2555-2655)	5MHz	41215	1RB#0	24.12	24.50
41(2555-2655)	5MHz	41215	1RB#12	24.11	24.50
41(2555-2655)	5MHz	41215	1RB#24	24.22	24.50

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41(2555-2655)	5MHz	41215	12RB#0	23.21	23.50
41(2555-2655)	5MHz	41215	12RB#6	23.20	23.50
41(2555-2655)	5MHz	41215	12RB#13	23.23	23.50
41(2555-2655)	5MHz	41215	25RB#0	23.22	23.50
41(2555-2655)	10MHz	40290	1RB#0	24.47	24.50
41(2555-2655)	10MHz	40290	1RB#24	24.50	24.50
41(2555-2655)	10MHz	40290	1RB#49	24.53	25.00
41(2555-2655)	10MHz	40290	25RB#0	23.42	23.50
41(2555-2655)	10MHz	40290	25RB#12	23.43	23.50
41(2555-2655)	10MHz	40290	25RB#25	23.64	24.00
41(2555-2655)	10MHz	40290	50RB#0	23.58	24.00
41(2555-2655)	10MHz	40690	1RB#0	24.70	25.00
41(2555-2655)	10MHz	40690	1RB#24	24.73	25.00
41(2555-2655)	10MHz	40690	1RB#49	24.13	24.50
41(2555-2655)	10MHz	40690	25RB#0	23.55	24.00
41(2555-2655)	10MHz	40690	25RB#12	23.57	24.00
41(2555-2655)	10MHz	40690	25RB#25	23.61	24.00
41(2555-2655)	10MHz	40690	50RB#0	23.60	24.00
41(2555-2655)	10MHz	41190	1RB#0	24.97	25.00
41(2555-2655)	10MHz	41190	1RB#24	24.11	24.50
41(2555-2655)	10MHz	41190	1RB#49	24.21	24.50
41(2555-2655)	10MHz	41190	25RB#0	23.92	24.00
41(2555-2655)	10MHz	41190	25RB#12	24.01	24.50
41(2555-2655)	10MHz	41190	25RB#25	24.08	24.50
41(2555-2655)	10MHz	41190	50RB#0	24.05	24.50
41(2555-2655)	10MHz	40290	1RB#0	23.27	23.50
41(2555-2655)	10MHz	40290	1RB#24	23.33	23.50
41(2555-2655)	10MHz	40290	1RB#49	23.48	23.50
41(2555-2655)	10MHz	40290	25RB#0	22.78	23.00
41(2555-2655)	10MHz	40290	25RB#12	22.78	23.00
41(2555-2655)	10MHz	40290	25RB#25	22.64	23.00
41(2555-2655)	10MHz	40290	50RB#0	22.66	23.00
41(2555-2655)	10MHz	40690	1RB#0	24.26	24.50
41(2555-2655)	10MHz	40690	1RB#24	24.27	24.50
41(2555-2655)	10MHz	40690	1RB#49	23.21	23.50
41(2555-2655)	10MHz	40690	25RB#0	22.72	23.00
41(2555-2655)	10MHz	40690	25RB#12	22.68	23.00
41(2555-2655)	10MHz	40690	25RB#25	22.71	23.00
41(2555-2655)	10MHz	40690	50RB#0	22.70	23.00
41(2555-2655)	10MHz	41190	1RB#0	24.54	25.00

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41(2555-2655)	10MHz	41190	1RB#24	23.26	23.50
41(2555-2655)	10MHz	41190	1RB#49	23.27	23.50
41(2555-2655)	10MHz	41190	25RB#0	23.24	23.50
41(2555-2655)	10MHz	41190	25RB#12	23.33	23.50
41(2555-2655)	10MHz	41190	25RB#25	23.18	23.50
41(2555-2655)	10MHz	41190	50RB#0	23.24	23.50
41(2555-2655)	15MHz	40315	1RB#0	24.58	25.00
41(2555-2655)	15MHz	40315	1RB#38	24.57	25.00
41(2555-2655)	15MHz	40315	1RB#74	24.57	25.00
41(2555-2655)	15MHz	40315	38RB#0	23.47	23.50
41(2555-2655)	15MHz	40315	38RB#18	23.47	23.50
41(2555-2655)	15MHz	40315	38RB#37	23.47	23.50
41(2555-2655)	15MHz	40315	75RB#0	23.46	23.50
41(2555-2655)	15MHz	40690	1RB#0	24.55	25.00
41(2555-2655)	15MHz	40690	1RB#38	24.68	25.00
41(2555-2655)	15MHz	40690	1RB#74	24.75	25.00
41(2555-2655)	15MHz	40690	38RB#0	23.65	24.00
41(2555-2655)	15MHz	40690	38RB#18	23.65	24.00
41(2555-2655)	15MHz	40690	38RB#37	23.65	24.00
41(2555-2655)	15MHz	40690	75RB#0	23.65	24.00
41(2555-2655)	15MHz	41165	1RB#0	25.02	25.50
41(2555-2655)	15MHz	41165	1RB#38	25.06	25.50
41(2555-2655)	15MHz	41165	1RB#74	25.22	25.50
41(2555-2655)	15MHz	41165	38RB#0	24.02	24.50
41(2555-2655)	15MHz	41165	38RB#18	24.02	24.50
41(2555-2655)	15MHz	41165	38RB#37	24.02	24.50
41(2555-2655)	15MHz	41165	75RB#0	24.02	24.50
41(2555-2655)	15MHz	40315	1RB#0	24.03	24.50
41(2555-2655)	15MHz	40315	1RB#38	24.06	24.50
41(2555-2655)	15MHz	40315	1RB#74	24.10	24.50
41(2555-2655)	15MHz	40315	38RB#0	23.47	23.50
41(2555-2655)	15MHz	40315	38RB#18	23.47	23.50
41(2555-2655)	15MHz	40315	38RB#37	23.46	23.50
41(2555-2655)	15MHz	40315	75RB#0	22.67	23.00
41(2555-2655)	15MHz	40690	1RB#0	24.16	24.50
41(2555-2655)	15MHz	40690	1RB#38	24.20	24.50
41(2555-2655)	15MHz	40690	1RB#74	24.19	24.50
41(2555-2655)	15MHz	40690	38RB#0	23.65	24.00
41(2555-2655)	15MHz	40690	38RB#18	23.65	24.00
41(2555-2655)	15MHz	40690	38RB#37	23.65	24.00

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41(2555-2655)	15MHz	40690	75RB#0	22.68	23.00
41(2555-2655)	15MHz	41165	1RB#0	24.20	24.50
41(2555-2655)	15MHz	41165	1RB#38	24.20	24.50
41(2555-2655)	15MHz	41165	1RB#74	24.34	24.50
41(2555-2655)	15MHz	41165	38RB#0	24.02	24.50
41(2555-2655)	15MHz	41165	38RB#18	24.02	24.50
41(2555-2655)	15MHz	41165	38RB#37	24.02	24.50
41(2555-2655)	15MHz	41165	75RB#0	23.16	23.50
41(2555-2655)	20MHz	40340	1RB#0	24.17	24.50
41(2555-2655)	20MHz	40340	1RB#49	24.24	24.50
41(2555-2655)	20MHz	40340	1RB#99	24.25	24.50
41(2555-2655)	20MHz	40340	50RB#0	23.41	23.50
41(2555-2655)	20MHz	40340	50RB#25	23.42	23.50
41(2555-2655)	20MHz	40340	50RB#50	23.61	24.00
41(2555-2655)	20MHz	40340	100RB#0	23.57	24.00
41(2555-2655)	20MHz	40690	1RB#0	24.37	24.50
41(2555-2655)	20MHz	40690	1RB#49	24.35	24.50
41(2555-2655)	20MHz	40690	1RB#99	24.53	25.00
41(2555-2655)	20MHz	40690	50RB#0	23.59	24.00
41(2555-2655)	20MHz	40690	50RB#25	23.62	24.00
41(2555-2655)	20MHz	40690	50RB#50	23.64	24.00
41(2555-2655)	20MHz	40690	100RB#0	23.68	24.00
41(2555-2655)	20MHz	41140	1RB#0	24.54	25.00
41(2555-2655)	20MHz	41140	1RB#49	24.58	25.00
41(2555-2655)	20MHz	41140	1RB#99	25.06	25.50
41(2555-2655)	20MHz	41140	50RB#0	23.94	24.00
41(2555-2655)	20MHz	41140	50RB#25	23.92	24.00
41(2555-2655)	20MHz	41140	50RB#50	24.16	24.50
41(2555-2655)	20MHz	41140	100RB#0	24.07	24.50
41(2555-2655)	20MHz	40340	1RB#0	23.23	23.50
41(2555-2655)	20MHz	40340	1RB#49	23.53	24.00
41(2555-2655)	20MHz	40340	1RB#99	23.44	23.50
41(2555-2655)	20MHz	40340	50RB#0	22.73	23.00
41(2555-2655)	20MHz	40340	50RB#25	22.73	23.00
41(2555-2655)	20MHz	40340	50RB#50	22.79	23.00
41(2555-2655)	20MHz	40340	100RB#0	22.58	23.00
41(2555-2655)	20MHz	40690	1RB#0	24.21	24.50
41(2555-2655)	20MHz	40690	1RB#49	24.20	24.50
41(2555-2655)	20MHz	40690	1RB#99	24.31	24.50
41(2555-2655)	20MHz	40690	50RB#0	22.82	23.00

41(2555-2655)	20MHz	40690	50RB#25	22.83	23.00
41(2555-2655)	20MHz	40690	50RB#50	22.87	23.00
41(2555-2655)	20MHz	40690	100RB#0	22.73	23.00
41(2555-2655)	20MHz	41140	1RB#0	23.86	24.00
41(2555-2655)	20MHz	41140	1RB#49	23.81	24.00
41(2555-2655)	20MHz	41140	1RB#99	24.07	24.50
41(2555-2655)	20MHz	41140	50RB#0	23.14	23.50
41(2555-2655)	20MHz	41140	50RB#25	23.12	23.50
41(2555-2655)	20MHz	41140	50RB#50	23.35	23.50
41(2555-2655)	20MHz	41140	100RB#0	23.10	23.50

WIFI 2.4G

Mode	Channel	Frequency (MHz)	Conducted Power(dBm)	Tune-up power(dBm)
802.11b	1	2412	12.09	12.50
	6	2437	12.13	12.50
	11	2462	**13.03**	**13.50**
802.11g	1	2412	11.34	11.50
	6	2437	11.29	11.50
	11	2462	10.45	10.50
802.11n20	1	2412	11.00	11.00
	6	2437	10.95	11.00
	11	2462	9.38	9.50

Note:

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

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where

f(GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

2. Base on the result of note1, RF exposure evaluation of 2.4G/5.2G/5.3G/5.4G/5.8G WIFI mode is required.

3. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.

4. Per KDB 248227 D01, In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. SAR is not required for the following 2.4 GHz OFDM conditions:

1) When KDB Publication 447498 SAR test exclusion applies to the OFDM configuration.

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

<Bluetooth Conducted Power>

BT

Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Tune-up Power(dBm)
1-DH1	0	2402	0.04	0.50
1-DH1	39	2441	1.62	2.00
1-DH1	78	2480	-0.94	-0.50
1-DH3	39	2441	1.58	2.00
1-DH5	39	2441	1.58	2.00
2-DH1	00	2402	2.00	2.50
2-DH1	39	2441	2.21	2.50
2-DH1	78	2480	-0.11	0.00
2-DH3	39	2441	3.46	3.50
2-DH5	39	2441	3.62	4.00
3-DH1	0	2402	2.37	2.50
3-DH1	39	2441	3.73	4.00
3-DH1	78	2480	0.99	1.00
3-DH3	39	2441	3.83	4.00
3-DH5	39	2441	**3.86**	**4.00**

BLE

Mode	Channel	Frequency (MHz)	Conducted Power (dBm)	Tune-up Power(dBm)
BLE 1Mbps	0	2402	-0.70	-0.50
BLE 1Mbps	19	2440	0.66	1.00
BLE 1Mbps	39	2480	-2.05	-2.00

Note:

Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR

f(GHz) is the RF channel transmit frequency in GHz

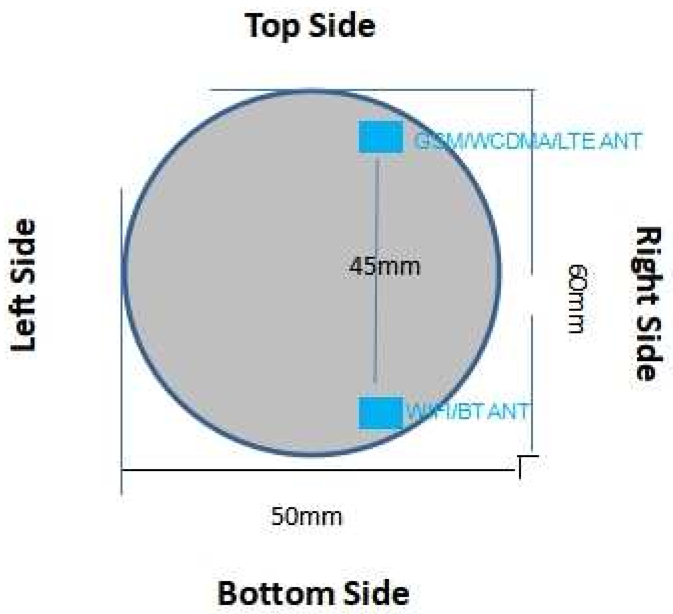
Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

Bluetooth Max. Power (dBm)	Separation Distance (mm)	Frequency (GHz)	exclusion thresholds
4.00	5	2.441	1.25

The test exclusion threshold is 1.25which is<= 3, SAR testing is not required.

11. Antenna Location



12. SAR Test Results Summary

General Note:
1.Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.

Scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.

Reported SAR(W/kg)= Measured SAR(W/kg) Scaling Factor*

2. Per KDB 447498 D01v06, for each exposure position, if the highest output channel reported SAR≤0.8W/kg, other channels SAR testing are not necessary

12.1. Body-worn SAR Results

<GSM>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
GSM850	GPRS (2 Tx slots)	Front	0	251	25.53	26.00	1.114	0.11	**1.021**	**1.138**	#1
GSM850	GPRS (2 Tx slots)	Front	0	128	25.27	25.50	1.054	0.02	0.926	0.976	
GSM850	GPRS (3 Tx slots)	Front	0	190	25.27	25.50	1.054	0.08	0.901	0.950	
GSM850	GPRS (2 Tx slots)	Back	0	251	25.53	26.00	1.114	-0.07	**0.824**	**0.918**	
GSM850	GPRS (2 Tx slots)	Back	0	128	25.27	25.50	1.054	0.03	0.833	0.878	
GSM850	GPRS (2 Tx slots)	Back	0	190	25.27	25.50	1.054	0.01	0.868	0.915	
PCS1900	GPRS (3 Tx slots)	Front	0	810	22.92	23.00	1.019	0.07	**0.762**	**0.776**	#2
PCS1900	GPRS (3 Tx slots)	Back	0	810	22.92	23.00	1.019	-0.04	0.643	0.655	

<WCDMA>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
2	RMC	Front	0	9262	23.91	24.00	1.021	-0.07	0.869	**0.887**	#3
2	RMC	Front	0	9400	23.49	23.50	1.002	-0.05	0.759	0.761	
2	RMC	Front	0	9538	23.26	23.50	1.057	0.08	0.812	0.858	
2	RMC	Back	0	9262	23.91	24.00	1.021	-0.09	0.682	0.696	
5	RMC	Front	0	4132	23.89	24.00	1.026	0.05	0.943	**0.967**	#4
5	RMC	Front	0	4182	23.73	24.00	1.064	0.08	0.873	0.929	

5	RMC	Front	0	4233	23.80	24.00	1.047	0.02	0.902	0.945	
5	RMC	Back	0	4132	23.89	24.00	1.026	0.12	0.681	0.698	

<LTE>

<Band 2:20MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
2	1RB#0	Front	0	18700	24.83	25.00	1.040	0.04	**0.763**	**0.793**	#5
2	1RB#0	Back	0	18700	24.83	25.00	1.040	-0.08	0.642	0.668	

<Band 5:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
5	1RB#0	Front	0	20450	24.09	24.50	1.099	0.08	**0.901**	**0.990**	**#6**
5	1RB#0	Front	0	20525	23.95	24.00	1.012	0.02	0.826	0.836	
5	1RB#0	Front	0	20600	24.06	24.50	1.107	0.01	0.833	0.922	
5	25RB#0	Front	0	20450	23.05	23.50	1.109	-0.08	0.823	0.913	
5	50RB#0	Front	0	20450	23.14	23.50	1.086	0.03	0.834	0.906	
5	1RB#0	Back	0	20450	24.09	24.50	1.099	-0.02	0.712	0.782	

<Band 7:20Mhz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
7	1RB#99	Front	0	21350	24.74	25.00	1.062	0.08	**1.063**	**1.129**	#7
7	1RB#99	Front	0	20850	24.09	24.50	1.099	0.02	0.923	1.014	
7	1RB#99	Front	0	21100	24.40	24.50	1.023	0.04	0.869	0.889	
7	50RB#25	Front	0	21350	23.37	23.50	1.030	0.06	0.833	0.858	
7	100RB#0	Front	0	21350	23.39	23.50	1.026	-0.01	0.815	0.836	
7	1RB#99	Back	0	21350	24.74	25.00	1.062	-0.16	**0.922**	**0.979**	
7	1RB#99	Back	0	20850	24.09	24.50	1.099	0.04	0.852	0.936	
7	1RB#99	Back	0	21100	24.40	24.50	1.023	0.02	0.879	0.899	

<Band 12:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
12	1RB#0	Front	0	23130	24.05	24.50	1.109	0.09	**1.134**	**1.258**	#8
12	1RB#0	Front	0	23060	23.80	24.00	1.047	0.02	1.103	1.155	
12	1RB#0	Front	0	23095	23.75	24.00	1.059	-0.03	0.968	1.025	
12	25RB#12	Front	0	23130	22.81	23.00	1.045	0.01	0.923	0.964	
12	50RB#0	Front	0	23130	22.90	23.00	1.023	0.08	0.901	0.922	
12	1RB#0	Back	0	23130	24.05	24.50	1.109	0.13	**1.022**	**1.134**	
12	1RB#0	Back	0	23060	23.80	24.00	1.047	0.05	0.846	0.886	
12	1RB#0	Back	0	23095	23.75	24.00	1.059	0.12	0.833	0.882	

<Band 17:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
17	1RB#0	Front	0	23790	24.02	24.50	1.117	0.05	**0.891**	**0.995**	**#9**
17	1RB#0	Front	0	23780	23.67	24.00	1.079	0.01	0.768	0.829	
17	1RB#0	Front	0	23800	23.90	24.00	1.023	0.08	0.811	0.830	
17	25RB#12	Front	0	23790	22.87	23.00	1.030	-0.11	0.631	0.650	
17	50RB#0	Front	0	23790	22.91	23.00	1.021	0.02	0.658	0.672	
17	1RB#0	Back	0	23790	24.02	24.50	1.117	0.12	**0.842**	**0.940**	
17	1RB#0	Back	0	23780	23.67	24.00	1.079	0.11	0.753	0.812	
17	1RB#0	Back	0	23800	23.90	24.00	1.023	-0.01	0.801	0.819	

<Band38:20MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
38	1RB#99	Front	0	38150	24.65	25.00	1.084	0.05	**1.168**	**1.266**	#10
38	1RB#99	Front	0	37850	24.33	24.50	1.040	0.06	1.026	1.067	
38	1RB#99	Front	0	38000	24.34	24.50	1.038	0.07	1.116	1.158	
38	50RB#50	Front	0	38150	23.63	24.00	1.089	0.05	0.926	1.008	
38	100RB#0	Front	0	38150	23.55	24.00	1.109	0.08	0.913	1.013	
38	1RB#99	Back	0	38150	24.65	25.00	1.084	0.06	**0.981**	**1.063**	
38	1RB#99	Back	0	37850	24.33	24.50	1.040	0.01	0.912	0.948	

38	1RB#99	Back	0	38000	24.34	24.50	1.038	-0.03	0.824	0.855	

<Band40:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
40	1RB#0	Front	0	39200	24.58	25.00	1.102	0.11	**0.971**	**1.070**	#11
40	1RB#0	Back	0	39200	24.58	25.00	1.102	0.13	0.821	0.904	
40	25RB#0	Front	0	39200	23.83	24.00	1.040	0.02	0.726	0.755	
40	50RB#0	Front	0	39200	22.88	23.00	1.028	0.05	0.758	0.779	

<Band41:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)	Plot
41	1RB#99	Front	0	41140	25.06	25.50	1.107	-0.04	**1.103**	**1.221**	#12
41	1RB#99	Front	0	40340	24.25	24.50	1.059	0.02	1.025	1.086	
41	1RB#99	Front	0	40690	24.53	25.00	1.114	0.06	0.933	1.040	
41	50RB#50	Front	0	41140	24.16	24.50	1.081	0.05	0.937	1.013	
41	100RB#0	Front	0	41140	24.07	24.50	1.104	0.09	0.926	1.022	
41	1RB#99	Back	0	41140	25.06	25.50	1.107	0.05	**0.872**	**0.965**	
41	1RB#99	Back	0	40340	24.25	24.50	1.059	-0.05	0.726	0.769	
41	1RB#99	Back	0	40690	24.53	25.00	1.114	0.04	0.751	0.837	

<2.4GWIFI>

Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR_{1g} (W/kg)	Reported SAR_{1g} (W/kg)	Plot No.
WIFI2.4GHz	802.11b	Front	0	11	2462	13.03	13.50	1.114	0.02	0.193	0.215	#13
WIFI2.4GHz	802.11b	Back	0	11	2462	13.03	13.50	1.114	0.11	0.126	0.140	

Repeat SAR

<GSM>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
GSM850	GPRS (2 Tx slots)	Front	0	251	25.53	26.00	1.114	0.02	1.086	1.210
GSM850	GPRS (2 Tx slots)	Back	0	251	25.53	26.00	1.114	-0.05	0.815	0.908

<WCDMA>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
2	RMC	Front	0	9262	23.91	24.00	1.021	0.03	0.858	0.876
5	RMC	Front	0	4132	23.89	24.00	1.026	0.04	0.926	0.950

<Band 5:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
5	1RB#0	Front	0	20450	24.09	24.50	1.099	0.11	0.916	1.007

<Band 7:20Mhz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
7	1RB#99	Front	0	21350	24.74	25.00	1.062	0.05	1.081	1.148
7	1RB#99	Back	0	21350	24.74	25.00	1.062	-0.08	0.932	0.990

<Band 12:10MHz BandWidth-Repeat SAR>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
12	1RB#0	Front	0	23130	24.05	24.50	1.109	0.05	1.102	1.222
12	1RB#0	Back	0	23130	24.05	24.50	1.109	0.06	1.013	1.124

<Band 17:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
17	1RB#0	Front	0	23790	24.02	24.50	1.117	0.04	0.885	0.988
17	1RB#0	Back	0	23790	24.02	24.50	1.117	0.01	0.851	0.950

<Band 38:20MHz BandWidth-Repeat SAR>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
38	1RB#99	Front	0	38150	24.65	25.00	1.084	0.03	1.124	1.218
38	1RB#99	Back	0	38150	24.65	25.00	1.084	0.04	0.983	1.066

<Band40:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
40	1RB#0	Front	0	39200	24.58	25.00	1.102	0.04	0.968	1.066
40	1RB#0	Back	0	39200	24.58	25.00	1.102	-0.02	0.827	0.911

<Band41:10MHz BandWidth>

Band	Mode	Test Position	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Scaling Factor	Power Drift (dB)	Measured SAR1g (W/kg)	Reported SAR1g (W/kg)
41	1RB#99	Front	0	41140	25.06	25.50	1.107	-0.01	1.108	1.226
41	1RB#99	Back	0	41140	25.06	25.50	1.107	0.02	0.874	0.967

Estimate SAR

<BT+BLE>

Band	Mode	Gap (mm)	Channel	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-Up Limit (mW)	Estimate SAR1g (W/kg)
BT	3DH5	5	39	3.86	4.00	2.51	0.104
BLE	1Mbps	5	19	0.66	1.00	1.26	0.052

Note: In accordance with Section 4.3.2 of Standard 447498 D01 V06,the standalone SAR value must be estimated according to the following to determine the simultaneous transmission SAR test exclusion criteria:

1) [(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance,mm)]·[√f(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.

13. Simultaneous Transmission Analysis

13.1. Simultaneous TX SAR Considerations

No.	Applicable Simultaneous Transmission
1.	2.4GWIFI+GSM/WCDMA/LTE+BT

Note: Since GSM, WCDMA, and LTE operate on the same antenna, while the 2.4G Wi-Fi operates on another antenna, when considering simultaneous transmission, we only need to take into account the simultaneous transmission situation between the 2.4G Wi-Fi and the one with the highest SAR value among GSM, WCDMA, and LTE.Among them, the SAR value of LTE is the highest. So, we only need to consider the simultaneous transmission situation of 2.4G Wi-Fi and LTE.

<2.4GWIFI+LTE Band38>

Test Position	WIFI 2.4G SAR_{1g} (W/Kg)	LTE Band38 SAR_{1g} (W/Kg)	MAX. ΣSAR_{1g} (W/Kg)	SAR_{1g} Limit (W/Kg)
Front	0.215	1.266	1.481	1.6
Back	0.140	1.067	1.207	1.6

<BT+LTE Band38>

Test Position	LTE Band38 SAR_{1g} (W/Kg)	BT SAR_{1g} (W/Kg)	MAX. ΣSAR_{1g} (W/Kg)	SAR_{1g} Limit (W/Kg)
Front	1.266	0.104	1.370	1.6
Back	1.067	0.104	1.171	1.6

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Tel:(86)0755-26066440 Email: service@anbotek.com
Hotline 400-003-0500
www.anbotek.com

14. Measurement Uncertainty

Note: Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

Address: Sogood Industrial Zone Laboratory & 1/F. of Building D, Sogood Science and Technology Park, Sanwei Community, Hangcheng Subdistrict, Bao'an District, Shenzhen, Guangdong, China
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Appendix A. Plots of SAR System Check

750MHz System Check Date:Mar/17/2025

DUT: Dipole 750 MHz; Type: D750V3; Serial: 1118

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

Medium parameters used (interpolated): f = 750 MHz; σ = 0.86 S/m; ε_r = 41.82; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN7396; ConvF(9.82, 9.82, 9.82); Calibrated: May 06.2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn387; Calibrated: Sep.02,2024;

Phantom: ELI4; Type: QDOVA004AA; Serial:2058;

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (61x91x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.864 W/kg

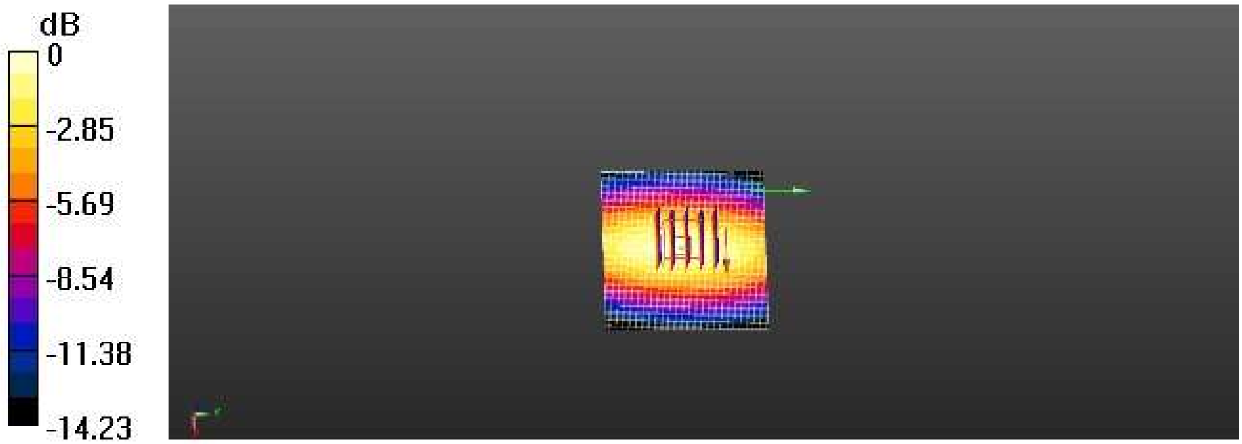
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value =48.261 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 2.835 W/kg

SAR(1 g) =2.16 W/kg; SAR(10 g) = 1.58 W/kg

Maximum value of SAR (measured) = 3.25 W/kg



835MHz System Check Date:Mar/18/2025

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

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

Medium parameters used (interpolated): f = 835 MHz; σ = 0.87 S/m; ε_r = 41.66; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN7396; ConvF(9.71, 9.71, 9.71); Calibrated: May 06.2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn387; Calibrated: Sep.02,2024;

Phantom: ELI4; Type: QDOVA004AA; Serial:2058;

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (61x91x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.654 W/kg

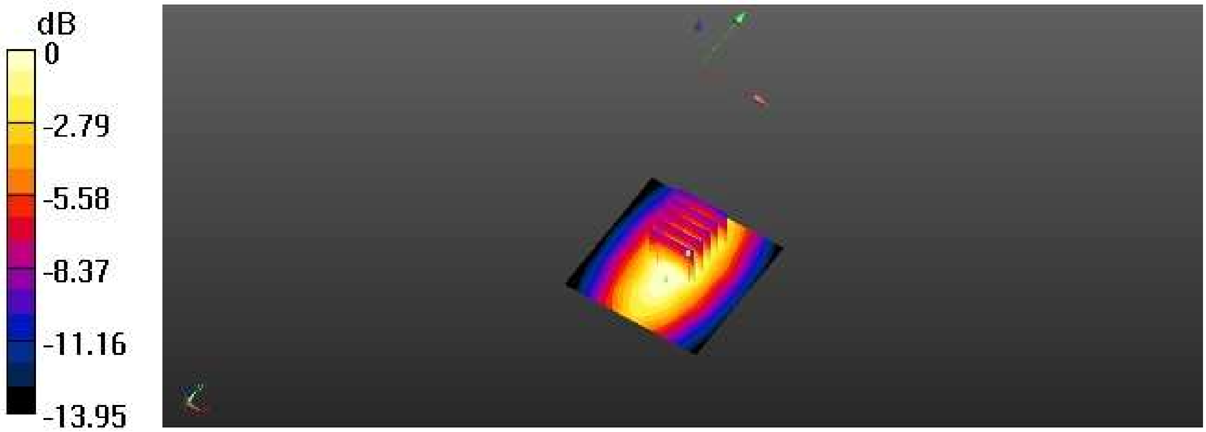
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 50.334 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.264 W/kg

SAR(1 g) =2.41 W/kg; SAR(10 g) = 1.68 W/kg

Maximum value of SAR (measured) = 3.64 W/kg



1900MHz System Check Date: Mar/19/2025

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

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

Medium parameters used (interpolated): f = 1900 MHz; σ = 1.41S/m; εr = 39.88; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: May 06.2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn387; Calibrated: Sep.02,2024;

Phantom: ELI4; Type: QDOVA004AA; Serial:2058;

Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Area Scan (61x91x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 18.25 W/kg

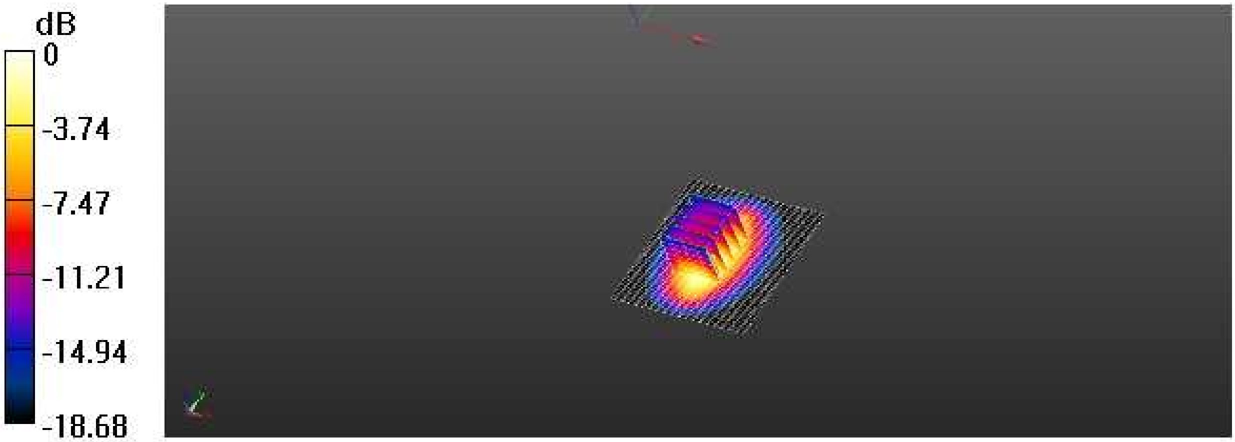
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 86.321V/m; Power Drift = -0.05dB

Peak SAR (extrapolated) = 19.844 W/kg

SAR(1 g) = 9.88 W/kg; SAR(10 g) = 6.95 W/kg

Maximum value of SAR (measured) = 12.58 W/kg



2450MHz System Check Date: Mar/20/2025

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

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

Medium parameters used (interpolated): f = 2450 MHz; σ = 1.85S/m; εr = 39.25; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN7396; ConvF(7.57, 7.57, 7.57); Calibrated: May 06.2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn387; Calibrated: Sep.02.2024

Phantom: ELI4; Type: QDOVA004AA; Serial:2058;

Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Area Scan (61x91x1): Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 19.651 W/kg

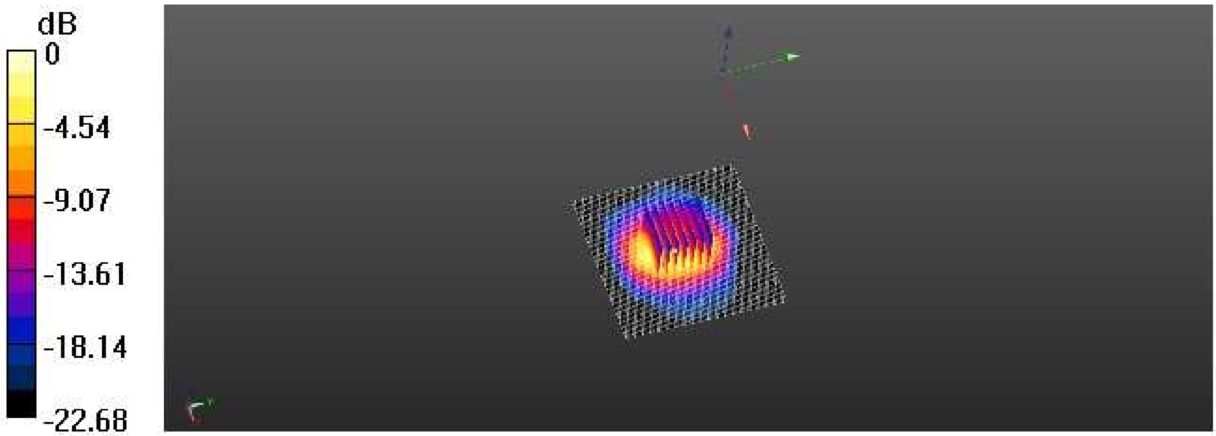
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 84.261V/m; Power Drift = 0.06dB

Peak SAR (extrapolated) = 26.346 W/kg

SAR(1 g) = 12.71 W/kg; SAR(10 g) = 8.85 W/kg

Maximum value of SAR (measured) = 16.31W/kg



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Hotline 400-003-0500
www.anbotek.com

2600MHz System Check Date: Mar/21/2025

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

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

Medium parameters used (interpolated): f = 2600 MHz; σ = 1.91S/m; εr = 39.06; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.38, 7.38, 7.38); Calibrated: May 06.2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Electronics: DAE4 Sn387; Calibrated: Sep.02.2024

Phantom: ELI4; Type: QDOVA004AA; Serial:2058;

Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x81x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 25.6 W/kg

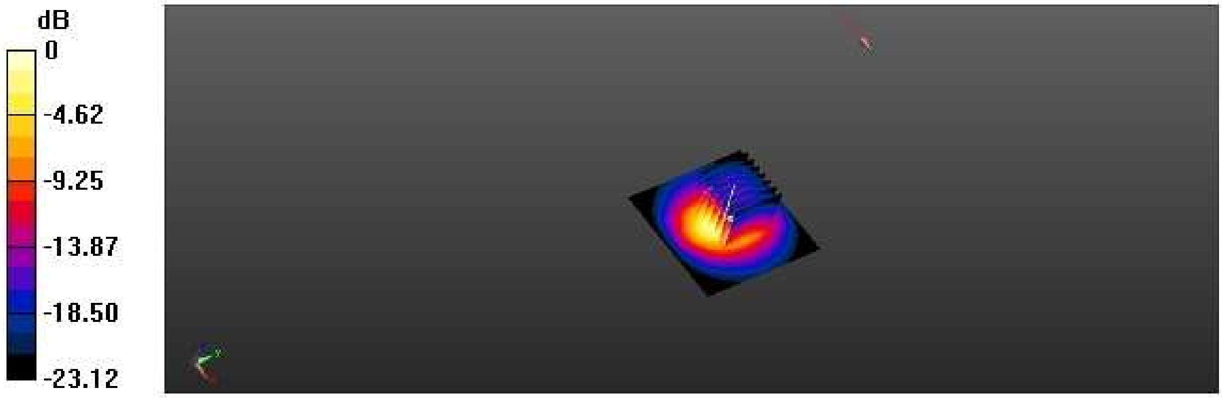
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 112.3 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 32.5 W/kg

SAR(1 g) = 13.55 W/kg; SAR(10 g) = 9.46 W/kg

Maximum value of SAR (measured) = 15.26 W/kg



Appendix B. Plots of SAR Test Data

#1 Date:Mar/19/2025

GSM 850_Body_Ch251

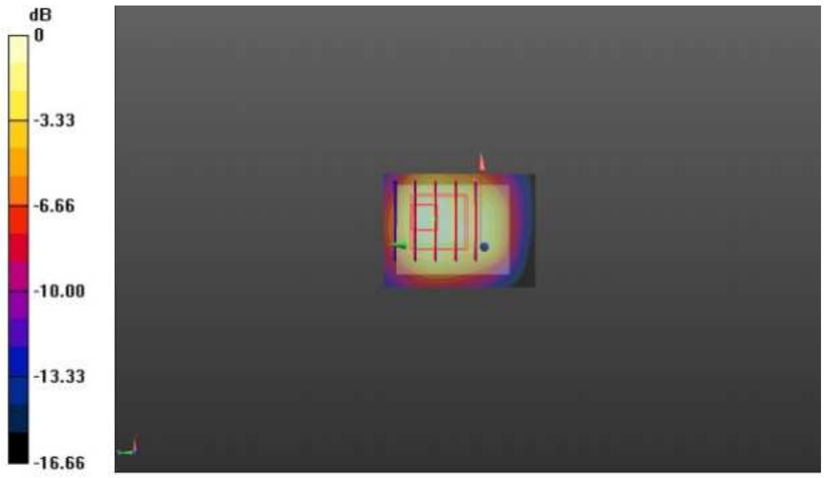
Communication System: UID 0; Frequency:848.8 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 848.8 MHz; σ = 0.98 S/m; εr = 41.33; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(9.71, 9.71, 9.71); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.334W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 20.625 V/m; Power Drift = 0.11 dB
Peak SAR (extrapolated) = 2.624 W/kg
SAR(1 g) = 1.021 W/kg; SAR(10 g) = 0.524 W/kg
Maximum value of SAR (measured) = 1.334 W/kg



#2

Date:Mar/19/2025

PCS 1900_ Body _Ch810

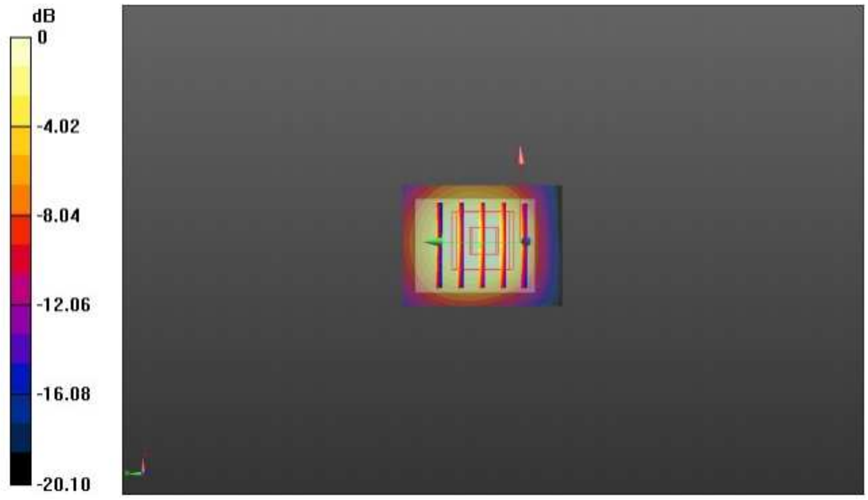
Communication System: UID 0; Frequency:1909.8 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1909.8MHz; σ = 1.45 S/m; εr = 39.65; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.226 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.433 V/m; Power Drift = 0.07dB
Peak SAR (extrapolated) = 2.126W/kg
SAR(1 g) = 0.762W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 1.025 W/kg



#3 Date:Mar/19/2025

WCDMA Body _Band 2_Ch9262

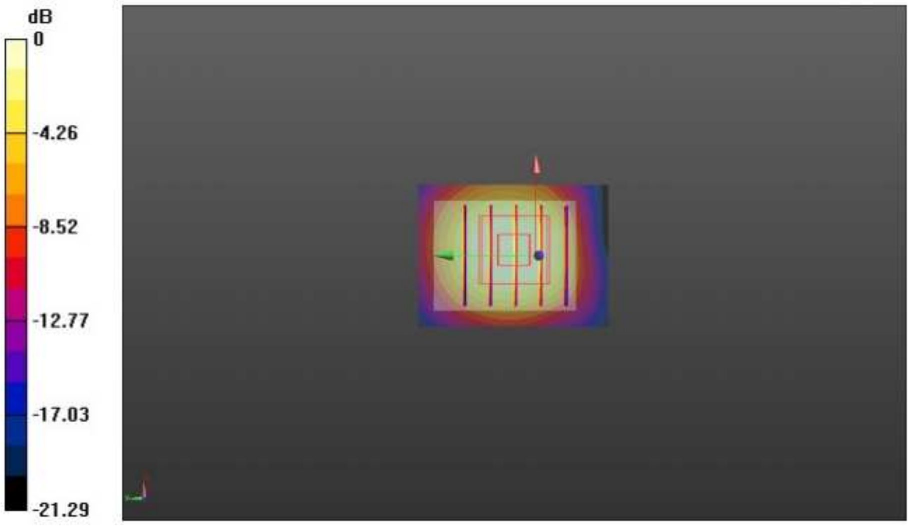
Communication System: UID 0; Frequency: 1852.4MHz;Duty Cycle: 1:1
Medium parameters used: f = 1852.4 MHz; σ = 1.26 S/m; εr = 40.11; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.231 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.34V/m; Power Drift = -0.07 dB
Peak SAR (extrapolated) = 2.312 W/kg
SAR(1 g) = 0.869 W/kg; SAR(10 g) = 0.398 W/kg
Maximum value of SAR (measured) = 1.226 W/kg



#4 Date:Mar/18/2025

WCDMA Body _Band 5_Ch4132

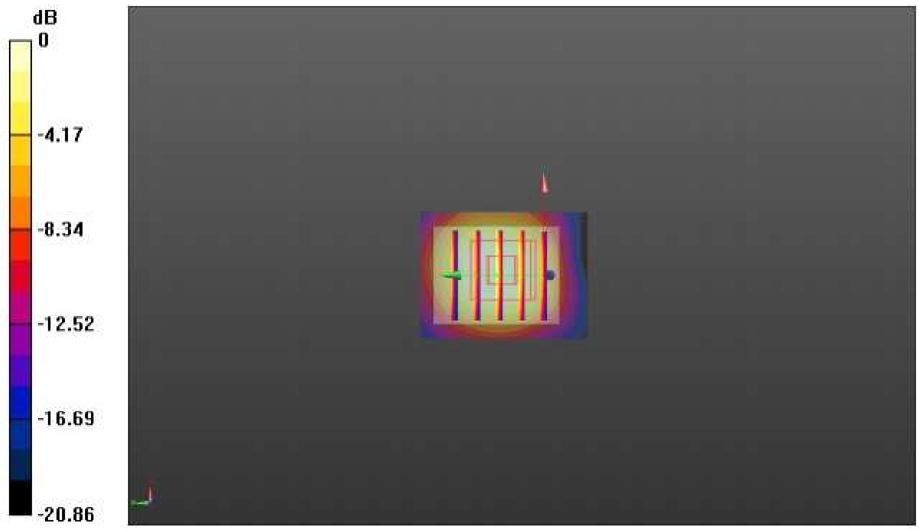
Communication System: UID 0; Frequency: 826.4 MHz;Duty Cycle: 1:1
Medium parameters used: f = 826.4 MHz; σ = 0.84 S/m; εr = 41.62; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(9.71,9.71, 9.71); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.633 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.425 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.332W/kg
SAR(1 g) =0.943 W/kg; SAR(10 g) = 0.453 W/kg
Maximum value of SAR (measured) = 1.428 W/kg



#5 Date: Mar/19/2025

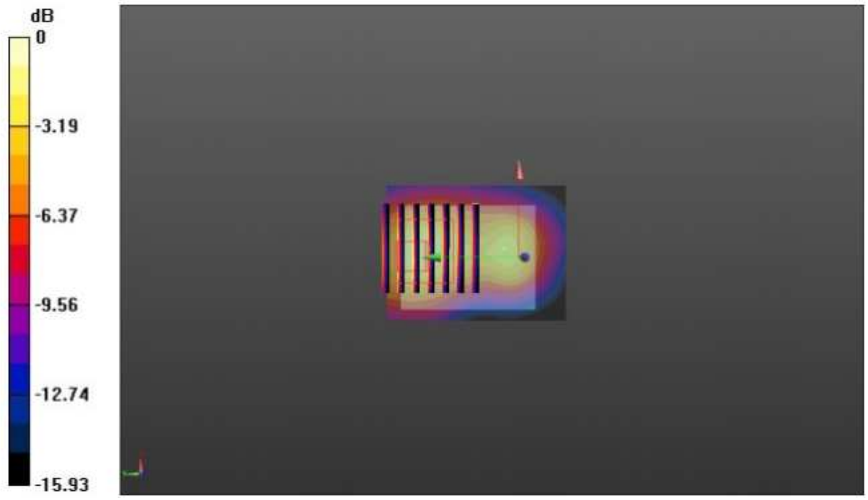
LTE _Body _Band 2_Ch18700

Communication System: UID 0; Frequency: 1860 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1860MHz; σ = 1.29 S/m; εr = 40.22; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.625 W/kg
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 22.612 V/m; Power Drift = 0.04dB
Peak SAR (extrapolated) =2.321W/kg
SAR(1 g) =0.763 W/kg; SAR(10 g) = 0.325 W/kg
Maximum value of SAR (measured) = 1.231 W/kg



#6 Date:Mar/18/2025

LTE _Body_Band 5_Ch20643

Communication System: UID 0; Frequency:848.3 MHz;Duty Cycle: 1:1
Medium parameters used: f = 848.3 MHz; σ = 0.96S/m; εr = 41.38; ρ = 1000 kg/m3
Phantom section: Flat Section

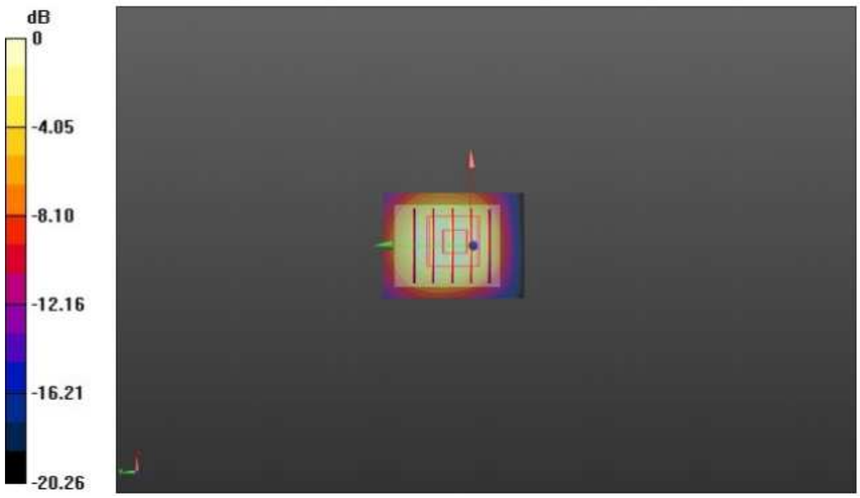
DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(9.71. 9.71, 9.71); Calibrated: May 06, 2024;

Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.659W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.334V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 2.421 W/kg
SAR(1 g) = 0.901W/kg; SAR(10 g) = 0.633W/kg
Maximum value of SAR (measured) = 1.228 W/kg



#7 Date:Mar/21/2025

LTE _Body_Band 7_Ch21350

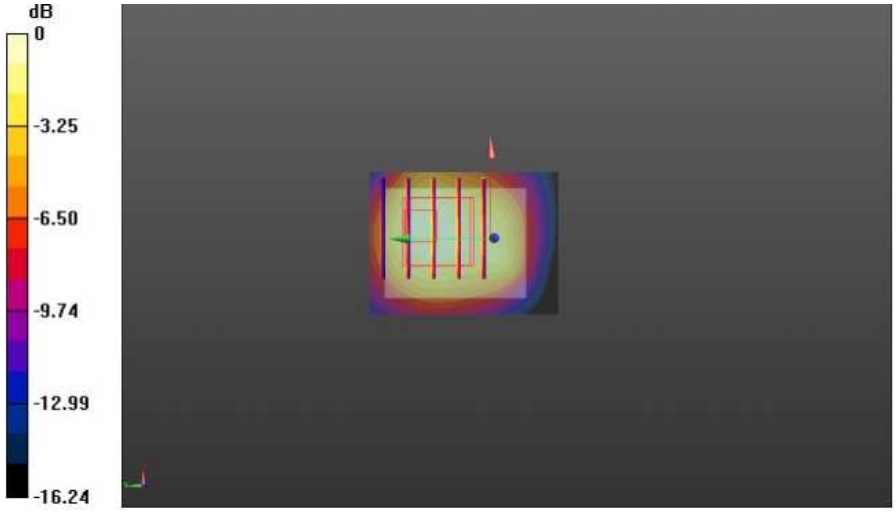
Communication System: UID 0; Frequency: 2560 MHz;Duty Cycle: 1:1
Medium parameters used: f =2560 MHz; σ = 1.88 S/m; εr = 39.16; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.38, 7.38, 7.38); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.125 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.456V/m; Power Drift = 0.08dB
Peak SAR (extrapolated) = 2.126 W/kg
SAR(1 g) =1.063 W/kg; SAR(10 g) = 0.467 W/kg
Maximum value of SAR (measured) = 1.254 W/kg



#8 Date:Mar/17/2025

LTE _Body _Band 12_Ch23130

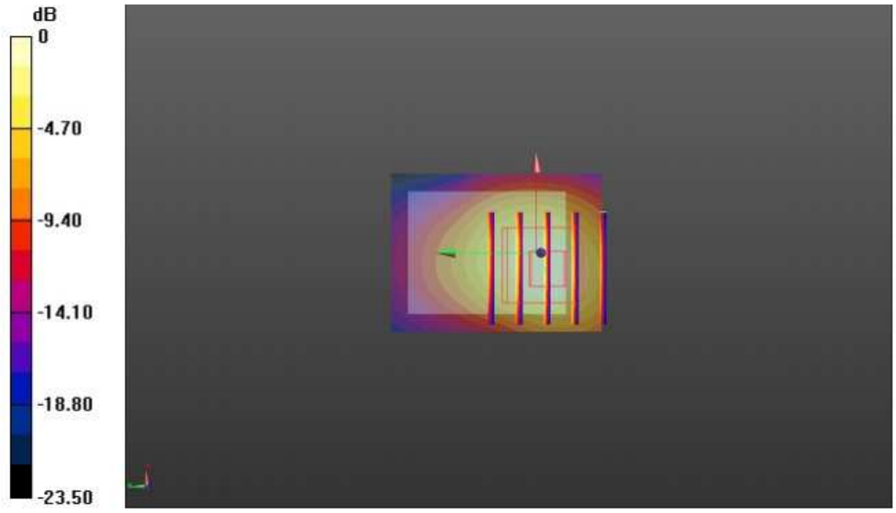
Communication System: UID 0; Frequency:711 MHz;Duty Cycle: 1:1
Medium parameters used: f = 711 MHz; σ =0.84 S/m; εr =41.83; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(9.82, 9.82, 9.82); Calibrated: May 06, 2024;
Sensor-Surface: 1.4mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.158 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.846 V/m; Power Drift = 0.09 dB
Peak SAR (extrapolated) = 2.137W/kg
SAR(1 g) = 1.233 W/kg; SAR(10 g) = 0.624 W/kg
Maximum value of SAR (measured) = 1.726 W/kg



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www.anbotek.com

#9 Date:Mar/17/2025

LTE _Body_Band 17_Ch23755

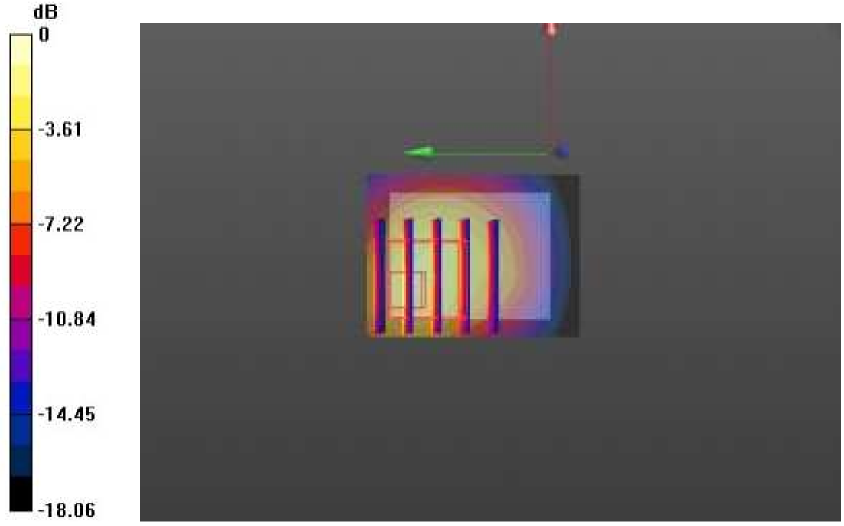
Communication System: UID 0; Frequency: 706.5 MHz;Duty Cycle: 1:1
Medium parameters used: f =706.5 MHz; σ =0.82S/m; εr =41.86; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(9.82,9.82, 9.82); Calibrated: May 06, 2024;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.561 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.234 V/m; Power Drift =0.05dB
Peak SAR (extrapolated) = 1.825 W/kg
SAR(1 g) = 0.891 W/kg; SAR(10 g) = 0.623 W/kg
Maximum value of SAR (measured) =1.528 W/kg



#10 Date:Mar/21/2025

LTE _Body_Band 38_Ch38175

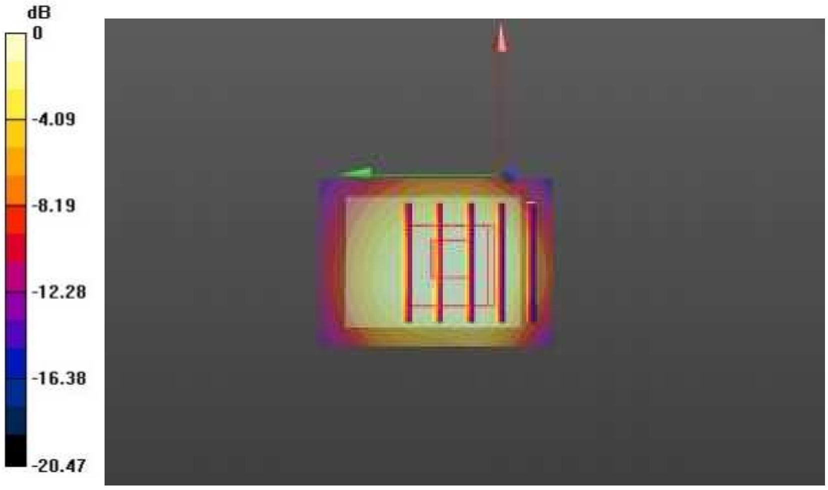
Communication System: UID 0; Frequency: 2612.5 MHz;Duty Cycle: 1:1
Medium parameters used: f =2612.5 MHz; σ =2.01S/m; εr =38.82; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.38,7.38, 7.38); Calibrated: May 06, 2024;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.424 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.833 V/m; Power Drift =0.05dB
Peak SAR (extrapolated) = 1.254 W/kg
SAR(1 g) = 1.168 W/kg; SAR(10 g) = 0.818 W/kg
Maximum value of SAR (measured) =1.416 W/kg



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#11 Date:Mar/20/2025

LTE _Body_Band 40_Ch39200

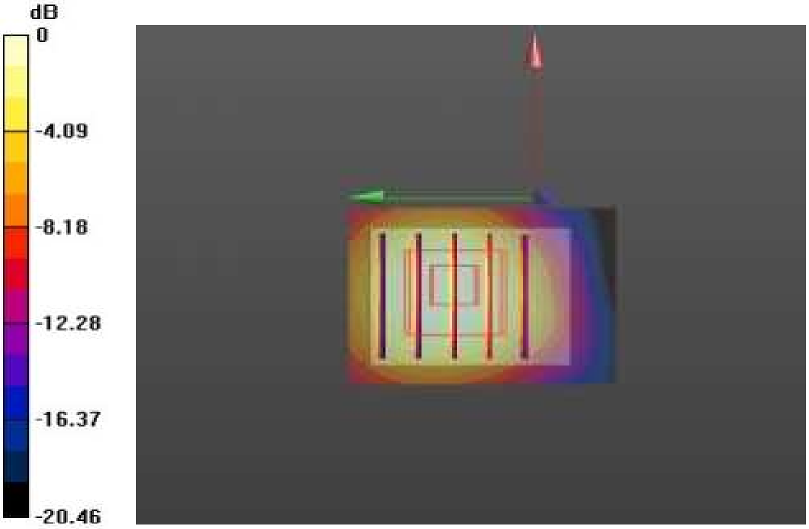
Communication System: UID 0; Frequency: 2355 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2355 MHz; σ =1.76S/m; εr =39.38; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.85,7.85, 7.85); Calibrated: May 06, 2024;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.521 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.416 V/m; Power Drift =0.11dB
Peak SAR (extrapolated) = 1.826 W/kg
SAR(1 g) = 0.971 W/kg; SAR(10 g) = 0.513 W/kg
Maximum value of SAR (measured) =1.364 W/kg



#12 Date:Mar/21/2025

LTE _Body_Band 41_Ch41425

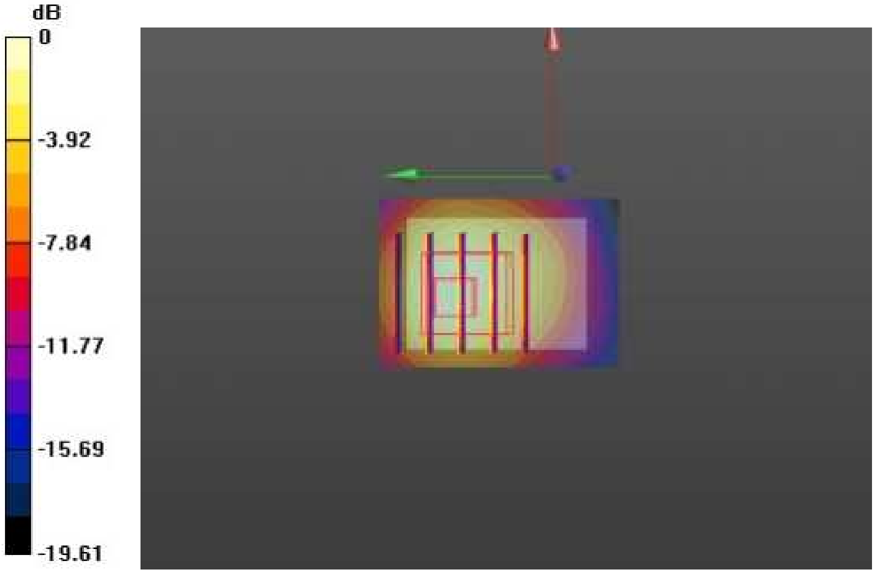
Communication System: UID 0; Frequency:2652.5 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2652.5 MHz; σ =2.16S/m; εr =38.76; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.38,7.38, 7.38); Calibrated: May 06, 2024;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.413 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 18.625 V/m; Power Drift =- -0.04dB
Peak SAR (extrapolated) = 1.916 W/kg
SAR(1 g) = 1.103 W/kg; SAR(10 g) = 0.715 W/kg
Maximum value of SAR (measured) =1.388 W/kg



#13 Date:Mar/20/2025

WIFI2.4G _Body_802.11b_Ch11

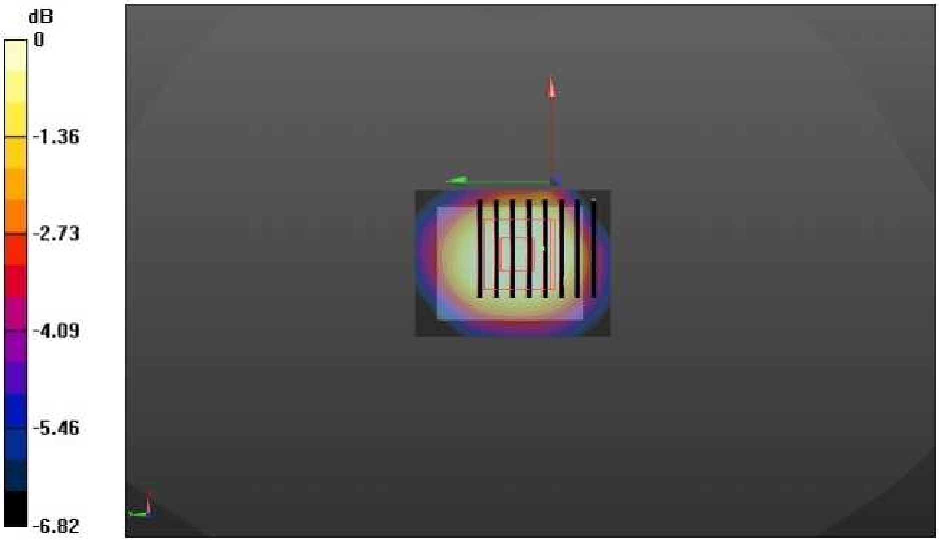
Communication System: UID 0; Frequency:2462 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2462 MHz; σ =1.87S/m; εr =39.22; ρ = 1000 kg/m3
Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 – SN7396; ConvF(7.57,7.57, 7.57); Calibrated: May 06, 2024;
Sensor-Surface: 2mm (Mechanical Surface Detection)
Electronics: DAE4 Sn387; Calibrated: Sep. 02, 2024;
Phantom: ELI4; Type: QDOVA004AA; Serial:2058;
Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (81x131x1): Measurement grid: dx=1.200mm, dy=1.200mm
Maximum value of SAR (measured) = 2.433 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 19.529 V/m; Power Drift = 0.02dB
Peak SAR (extrapolated) = 1.935 W/kg
SAR(1 g) =0.193 W/kg; SAR(10 g) = 0.135 W/kg
Maximum value of SAR (measured) =0.335 W/kg



Appendix A. DASY System Calibration Certificate

Schmid & Partner Engineering AG **s p e a g**

Zeughausstrasse 43, 8004 Zurich, Switzerland
Phone +41 44 245 9700, Fax +41 44 245 9779
info@speag.com, http://www.speag.com

IMPORTANT NOTICE

USAGE OF THE DAE 4

The DAE unit is a delicate, high precision instrument and requires careful treatment by the user. There are no serviceable parts inside the DAE. Special attention shall be given to the following points:

Battery Exchange: The battery cover of the DAE4 unit is closed using a screw, over tightening the screw may cause the threads inside the DAE to wear out.

Shipping of the DAE: Before shipping the DAE to SPEAG for calibration, remove the batteries and pack the DAE in an antistatic bag. This antistatic bag shall then be packed into a larger box or container which protects the DAE from impacts during transportation. The package shall be marked to indicate that a fragile instrument is inside.

E-Stop Failures: Touch detection may be malfunctioning due to broken magnets in the E-stop. Rough handling of the E-stop may lead to damage of these magnets. Touch and collision errors are often caused by dust and dirt accumulated in the E-stop. To prevent E-stop failure, the customer shall always mount the probe to the DAE carefully and keep the DAE unit in a non-dusty environment if not used for measurements.

Repair: Minor repairs are performed at no extra cost during the annual calibration. However, SPEAG reserves the right to charge for any repair especially if rough unprofessional handling caused the defect.

DASY Configuration Files: Since the exact values of the DAE input resistances, as measured during the calibration procedure of a DAE unit, are not used by the DASY software, a nominal value of 200 MOhm is given in the corresponding configuration file.

Important Note:
Warranty and calibration is void if the DAE unit is disassembled partly or fully by the Customer.

Important Note:
Never attempt to grease or oil the E-stop assembly. Cleaning and readjusting of the E-stop assembly is allowed by certified SPEAG personnel only and is part of the annual calibration procedure.

Important Note:
To prevent damage of the DAE probe connector pins, use great care when installing the probe to the DAE. Carefully connect the probe with the connector notch oriented in the mating position. Avoid any rotational movement of the probe body versus the DAE while turning the locking nut of the connector. The same care shall be used when disconnecting the probe from the DAE.

Schmid & Partner Engineering

TN_BR040315AD DAE4.doc 11.12.2009

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
S Servizio svizzero di taratura
Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: SCS 0108

Client: Anbotek (Auden)

Certificate No: DAE4-387_Sep02

CALIBRATION CERTIFICATE

Object	DAE4 - SD 000 D04 BM - SN: 387
Calibration procedure(s)	QA CAL-06.v29 Calibration procedure for the data acquisition electronics (DAE)
Calibration date:	September 02, 2024

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Keithley Multimeter Type 2001	SN: 0810278	15-Aug-24 (No:22092)	Aug-25
Secondary Standards	**ID #**	**Check Date (in house)**	**Scheduled Check**
Auto DAE Calibration Unit	SE UWS 053 AA 1001	05-Jan-24 (in house check)	In house check: Jan-25
Calibrator Box V2.1	SE UMS 006 AA 1002	05-Jan-24 (in house check)	In house check: Jan-25

	Name	Function	Signature
Calibrated by:	Dominique Steffen	Laboratory Technician	
Approved by:	Sven Kühn	Deputy Manager	i.V.

Issued: September 02, 2024

Calibration Laboratory of
Schmid & Partner
Engineering AG
Zeughausstrasse 43, 8004 Zurich, Switzerland

S Schweizerischer Kalibrierdienst
C Service suisse d'étalonnage
 Servizio svizzero di taratura
S Swiss Calibration Service

Accredited by the Swiss Accreditation Service (SAS)
The Swiss Accreditation Service is one of the signatories to the EA
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Glossary

DAE	data acquisition electronics
Connector angle	information used in DASY system to align probe sensor X to the robot coordinate system.

Methods Applied and Interpretation of Parameters

- *DC Voltage Measurement:* Calibration Factor assessed for use in DASY system by comparison with a calibrated instrument traceable to national standards. The figure given corresponds to the full scale range of the voltmeter in the respective range.
- *Connector angle*: The angle of the connector is assessed measuring the angle mechanically by a tool inserted. Uncertainty is not required.
- The following parameters as documented in the Appendix contain technical information as a result from the performance test and require no uncertainty.
  - *DC Voltage Measurement Linearity:* Verification of the Linearity at +10% and -10% of the nominal calibration voltage. Influence of offset voltage is included in this measurement.
  - *Common mode sensitivity:* Influence of a positive or negative common mode voltage on the differential measurement.
  - *Channel separation:* Influence of a voltage on the neighbor channels not subject to an input voltage.
  - *AD Converter Values with inputs shorted:* Values on the internal AD converter corresponding to zero input voltage
  - *Input Offset Measurement*: Output voltage and statistical results over a large number of zero voltage measurements.
  - *Input Offset Current:* Typical value for information; Maximum channel input offset current, not considering the input resistance.
  - *Input resistance:* Typical value for information: DAE input resistance at the connector, during internal auto-zeroing and during measurement.
  - *Low Battery Alarm Voltage:* Typical value for information. Below this voltage, a battery alarm signal is generated.
  - *Power consumption:* Typical value for information. Supply currents in various operating modes.

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Hotline 400-003-0500
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DC Voltage Measurement

A/D - Converter Resolution nominal

High Range: 1LSB = 6.1μV , full range = -100...+300 mV

Low Range: 1LSB = 61nV , full range = -1.......+3mV

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

Calibration Factors	X	Y	Z
High Range	404.489 ± 0.02% (k=2)	404.852 ± 0.02% (k=2)	404.862 ± 0.02% (k=2)
Low Range	3.97827 ± 1.50% (k=2)	3.95875 ± 1.50% (k=2)	3.97982 ± 1.50% (k=2)

Connector Angle

Connector Angle to be used in DASY system	53.0 ° ± 1 °

Certificate No: DAE4-387_Sep02 Page 3 of 5

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Appendix (Additional assessments outside the scope of SCS0108)

1. **DC Voltage Linearity**

High Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	200032.85	-3.31	-0.00
Channel X	+ Input	20007.64	1.88	0.01
Channel X	- Input	-20003.48	1.18	-0.01
Channel Y	+ Input	200034.23	-1.43	-0.00
Channel Y	+ Input	20006.60	0.91	0.00
Channel Y	- Input	-20004.04	0.72	-0.00
Channel Z	+ Input	200035.38	-0.83	-0.00
Channel Z	+ Input	20003.69	-2.11	-0.01
Channel Z	- Input	-20006.38	-1.59	0.01

Low Range		Reading (μV)	Difference (μV)	Error (%)
Channel X	+ Input	2001.63	0.08	0.00
Channel X	+ Input	202.29	0.70	0.35
Channel X	- Input	-197.90	0.60	-0.30
Channel Y	+ Input	2001.33	-0.07	-0.00
Channel Y	+ Input	200.86	-0.60	-0.30
Channel Y	- Input	-199.87	-1.23	0.62
Channel Z	+ Input	2001.61	0.27	0.01
Channel Z	+ Input	200.60	-0.70	-0.35
Channel Z	- Input	-199.51	-0.85	0.43

2. **Common mode sensitivity**

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Common mode Input Voltage (mV)	High Range Average Reading (μV)	Low Range Average Reading (μV)
Channel X	200	13.50	11.56
	- 200	-8.64	-11.18
Channel Y	200	-0.81	-1.28
	- 200	1.05	0.09
Channel Z	200	7.17	6.91
	- 200	-9.46	-9.01

3. **Channel separation**

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	Input Voltage (mV)	Channel X (μV)	Channel Y (μV)	Channel Z (μV)
Channel X	200	-	-1.70	0.33
Channel Y	200	10.70	-	-0.38
Channel Z	200	7.11	7.89	-

Certificate No: DAE4-387_Sep02 Page 4 of 5

4. AD-Converter Values with inputs shorted

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec

	High Range (LSB)	Low Range (LSB)
Channel X	15969	17466
Channel Y	15661	16162
Channel Z	15990	16190

5. Input Offset Measurement

DASY measurement parameters: Auto Zero Time: 3 sec; Measuring time: 3 sec
Input 10MΩ

	Average (μV)	min. Offset (μV)	max. Offset (μV)	Std. Deviation (μV)
Channel X	0.73	-2.58	3.29	0.62
Channel Y	0.41	-0.49	1.23	0.40
Channel Z	-0.80	-1.88	0.30	0.42

6. Input Offset Current

Nominal Input circuitry offset current on all channels: <25fA

7. Input Resistance (Typical values for information)

	Zeroing (kOhm)	Measuring (MOhm)
Channel X	200	200
Channel Y	200	200
Channel Z	200	200

8. Low Battery Alarm Voltage (Typical values for information)

Typical values	Alarm Level (VDC)
Supply (+ Vcc)	+7.9
Supply (- Vcc)	-7.6

9. Power Consumption (Typical values for information)

Typical values	Switched off (mA)	Stand by (mA)	Transmitting (mA)
Supply (+ Vcc)	+0.01	+6	+14
Supply (- Vcc)	-0.01	-8	-9

Shenzhen Anbotek Compliance Laboratory Limited Code:AB-RF-05-b

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CALIBRATION CERTIFICATE

Object EX3DV4 - SN:7396

Calibration Procedure(s) FF-Z12-006-08
Calibration Procedures for Dosimetric E-field Probes

Calibration date: May 06, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	20-Jun-23 (CTTL, No.J23X07447)	Jun-24
Power sensor NRP-Z91	101547	20-Jun-23 (CTTL, No.J23X07447)	Jun-24
Power sensor NRP-Z91	101548	20-Jun-23 (CTTL, No.J23X07447)	Jun-24
Reference10dBAttenuator	18N50W-10dB	13-Mar-24(CTTL,No.J24X01547)	Mar-25
Reference20dBAttenuator	18N50W-20dB	13-Mar-24(CTTL, No.J24X01548)	Mar-25
Reference Probe EX3DV4	SN 7433	26-Sep-23(SPEAG,No.EX3-7433_Sep22)	Sep-24
DAE4	SN 549	13-Dec-23(SPEAG, No.DAE4-549_Dec22)	Dec -24
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	27-Jun-23 (CTTL, No.J23X04776)	Jun-24
Network Analyzer E5071C	MY46110673	13-Jan-24 (CTTL, No.J24X00285)	Jan -25

	Name	Function	Signature
Calibrated by:	Yu Zongying	SAR Test Engineer	
Reviewed by:	Lin Hao	SAR Test Engineer	
Approved by:	Qi Dianyuan	SAR Project Leader	

Issued: May06, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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Glossary:

TSL	tissue simulating liquid
NORMx,y,z	sensitivity in free space
ConvF	sensitivity in TSL / NORMx,y,z
DCP	diode compression point
CF	crest factor (1/duty_cycle) of the RF signal
A,B,C,D	modulation dependent linearization parameters
Polarization Φ	Φ rotation around probe axis
Polarization θ	θ rotation around an axis that is in the plane normal to probe axis (at measurement center), i θ=0 is normal to probe axis
Connector Angle	information used in DASY system to align probe sensor X to the robot coordinate system

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005

c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010

d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Methods Applied and Interpretation of Parameters:

- *NORMx,y,z:* Assessed for E-field polarization θ=0 (f≤900MHz in TEM-cell; f> 1800MHz: waveguide). NORMx,y,z are only intermediate values, i.e., the uncertainties of NORMx,y,z does not effect the E^2-field uncertainty inside TSL (see below ConvF).
- *NORM(f)x,y,z = NORMx,y,z* frequency_response* (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- *DCPx,y,z:* DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- *Ax,y,z; Bx,y,z; Cx,y,z; VRx,y,z:*A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- *ConvF and Boundary Effect Parameters:* Assessed in flat phantom using E-field (or Temperature Transfer Standard for f≤800MHz) and inside waveguide using analytical field distributions based on power measurements for f >800MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORMx,y,z* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from±50MHz to±100MHz.
- *Spherical isotropy (3D deviation from isotropy):* in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- *Sensor Offset:* The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- *Connector Angle:* The angle is assessed using the information gained by determining the *NORMx* (no uncertainty required).

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Probe EX3DV4

SN: 7396

Calibrated: May 06, 2024

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7396

Basic Calibration Parameters

	Sensor X	Sensor Y	Sensor Z	Unc (k=2)
Norm(μV/(V/m)^2)[A]	0.54	0.53	0.50	±10.0%
DCP(mV)[B]	97.8	104.5	102.5	

Modulation Calibration Parameters

UID	Communication System Name		A dB	B dB√μV	C	D dB	VR mV	Unc[E] (k=2)
0	CW	X	0.0	0.0	1.0	0.00	199.9	±2.4%
		Y	0.0	0.0	1.0		203.3	
		Z	0.0	0.0	1.0		195.0	

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

[A] The uncertainties of Norm X, Y, Z do not affect the E^2-field uncertainty inside TSL (see Page 5 and Page 6).
[B] Numerical linearization parameter: uncertainty not required.
[E] Uncertainly is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7396

Calibration Parameter Determined in Head Tissue Simulating Media

f [MHz][C]	Relative Permittivity[F]	Conductivity (S/m)[F]	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unct. (k=2)
750	41.9	0.89	9.82	9.82	9.82	0.30	0.85	±12.1%
835	41.5	0.90	9.71	9.71	9.71	0.15	1.36	±12.1%
900	41.5	0.97	9.87	9.87	9.87	0.16	1.37	±12.1%
1750	40.1	1.37	8.61	8.61	8.61	0.25	1.04	±12.1%
1900	40.0	1.40	8.13	8.13	8.13	0.24	1.01	±12.1%
2100	39.8	1.49	8.14	8.14	8.14	0.24	1.04	±12.1%
2300	39.5	1.67	7.85	7.85	7.85	0.40	0.75	±12.1%
2450	39.2	1.80	7.57	7.57	7.57	0.50	0.75	±12.1%
2600	39.0	1.96	7.38	7.38	7.38	0.64	0.68	±12.1%
5250	35.9	4.71	5.33	5.33	5.33	0.45	1.30	±13.3%
5600	35.5	5.07	4.89	4.89	4.89	0.45	1.35	±13.3%
5750	35.4	5.22	4.92	4.92	4.92	0.45	1.45	±13.3%

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7396

Calibration Parameter Determined in Body Tissue Simulating Media

f [MHz][C]	Relative Permittivity[F]	Conductivity (S/m)[F]	ConvF X	ConvF Y	ConvF Z	Alpha[G]	Depth[G] (mm)	Unct. (k=2)
750	55.5	0.96	10.09	10.09	10.09	0.30	0.90	±12.1%
835	55.2	0.97	9.88	9.88	9.88	0.19	1.32	±12.1%
900	55.0	1.05	9.82	9.82	9.82	0.23	1.15	±12.1%
1750	53.4	1.49	8.24	8.24	8.24	0.24	1.06	±12.1%
1900	53.3	1.52	7.97	7.97	7.97	0.19	1.24	±12.1%
2100	53.2	1.62	8.18	8.18	8.18	0.19	1.39	±12.1%
2300	52.9	1.81	7.88	7.88	7.88	0.55	0.80	±12.1%
2450	52.7	1.95	7.53	7.53	7.53	0.46	0.89	±12.1%
2600	52.5	2.16	7.38	7.38	7.38	0.52	0.80	±12.1%
5250	48.9	5.36	4.93	4.93	4.93	0.45	1.80	±13.3%
5600	48.5	5.77	4.19	4.19	4.19	0.48	1.90	±13.3%
5750	48.3	5.94	4.52	4.52	4.52	0.48	1.95	±13.3%

[C] Frequency validity above 300 MHz of ±100MHz only applies for DASY v4.4 and higher (Page 2), else it is restricted to ±50MHz. The uncertainty is the RSS of ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Above 5 GHz frequency validity can be extended to ± 110 MHz.

[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

[G] Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for the frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

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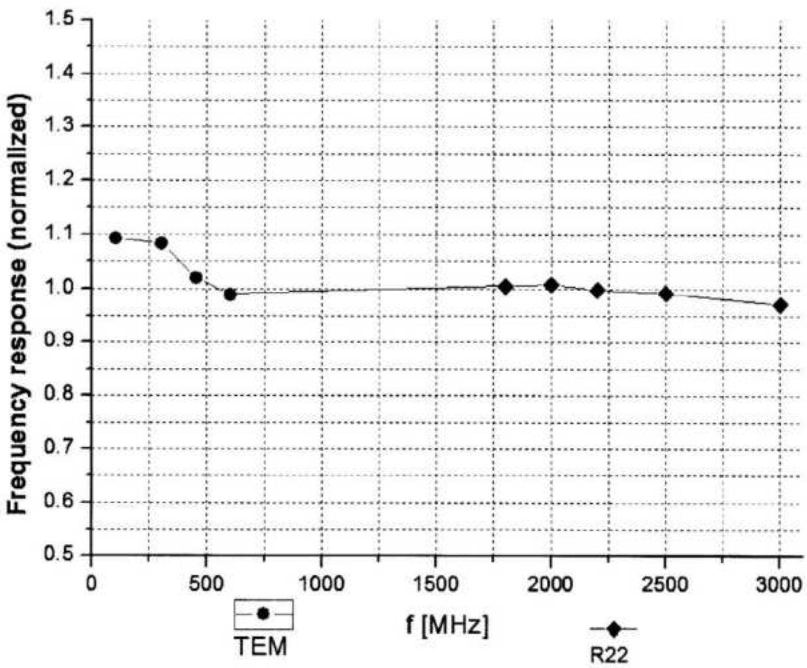
Frequency Response of E-Field
(TEM-Cell: ifi110 EXX, Waveguide: R22)



Uncertainty of Frequency Response of E-field: ±7.4% (k=2)

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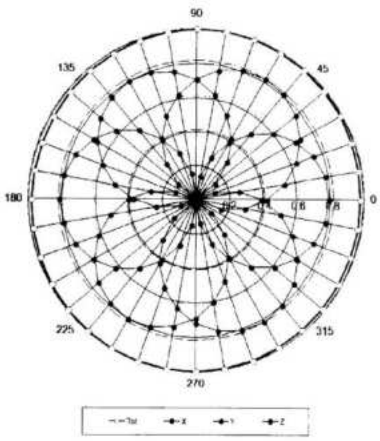
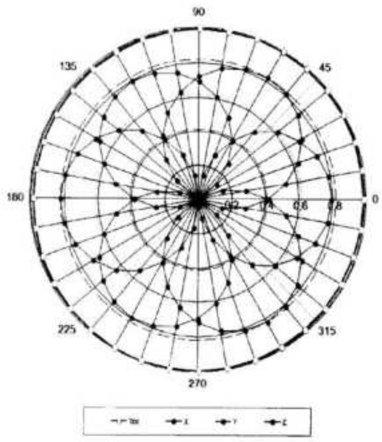
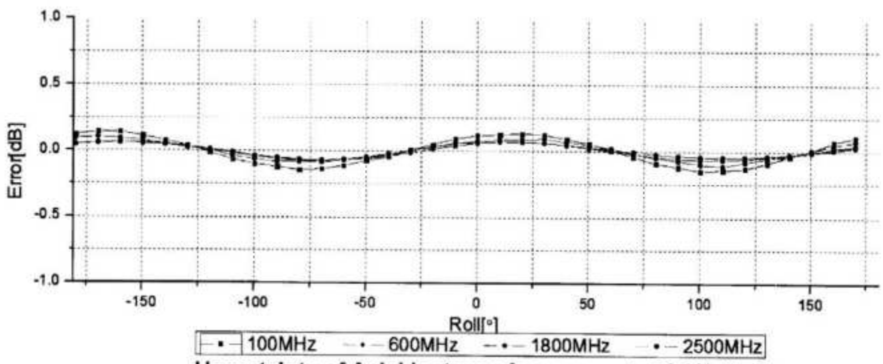
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22





Uncertainty of Axial Isotropy Assessment: ±1.2% (k=2)

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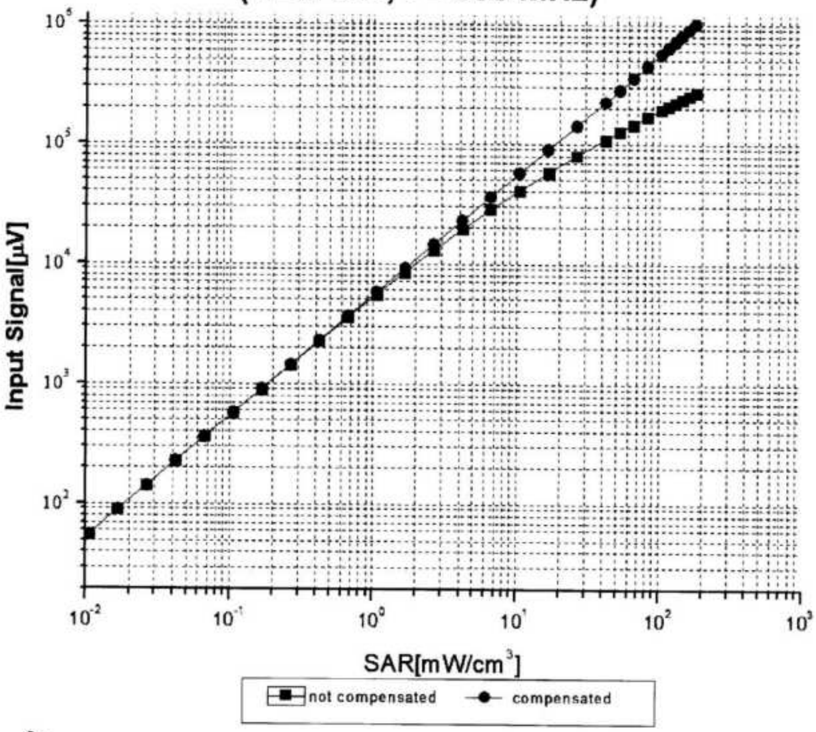
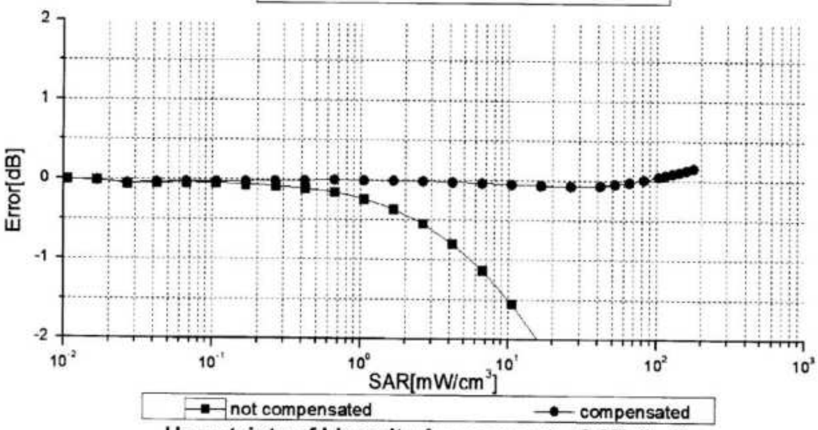
Dynamic Range f(SAR_{head})
(TEM cell, f = 900 MHz)





Uncertainty of Linearity Assessment: ±0.9% (k=2)

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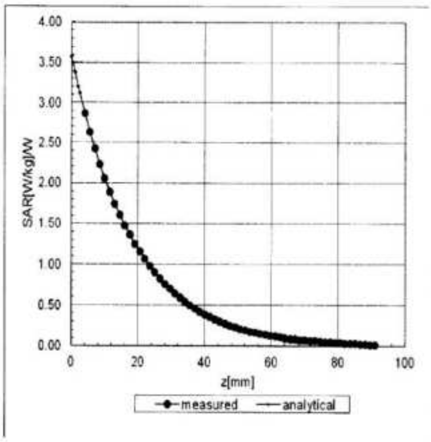
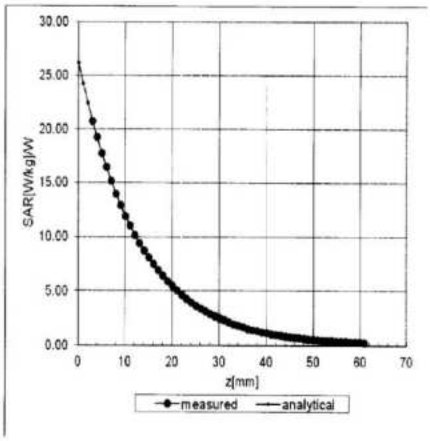
Conversion Factor Assessment

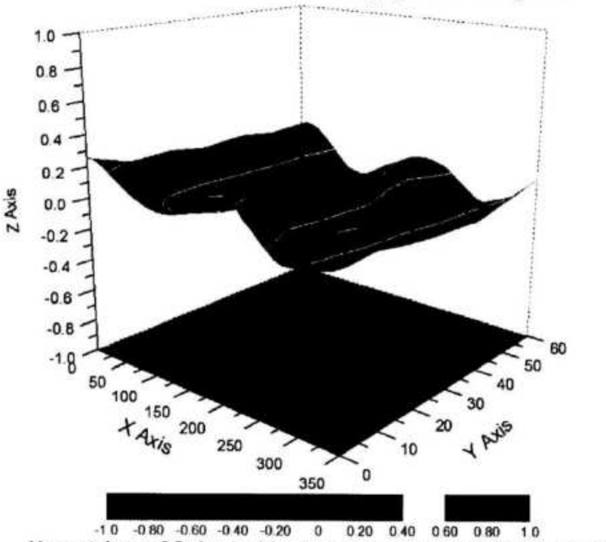
f=900 MHz, WGLS R9(H_convF)



f=1750 MHz, WGLS R22(H_convF)



Deviation from Isotropy in Liquid



Uncertainty of Spherical Isotropy Assessment: ±3.2% (K=2)

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DASY/EASY – Parameters of Probe: EX3DV4 – SN: 7396

Other Probe Parameters

Sensor Arrangement	Triangular
Connector Angle (°)	156.9
Mechanical Surface Detection Mode	enabled
Optical Surface Detection Mode	disable
Probe Overall Length	337mm
Probe Body Diameter	10mm
Tip Length	9mm
Tip Diameter	2.5mm
Probe Tip to Sensor X Calibration Point	1mm
Probe Tip to Sensor Y Calibration Point	1mm
Probe Tip to Sensor Z Calibration Point	1mm
Recommended Measurement Distance from Surface	1.4mm

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Client Anbotek (Auden) Certificate No: Z24-97076

CALIBRATION CERTIFICATE

Object: D750V3 - SN: 1118

Calibration Procedure(s): FD-Z11-003-01
Calibration Procedures for dipole validation kits

Calibration date: June 04, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-23 (CTTL, No.J27X04256)	Jul-24
Power sensor NRP-Z91	101547	01-Jul-23 (CTTL, No.J27X04256)	Jul-24
Reference Probe EX3DV4	SN 7307	19-Feb-24(SPEAG,No.EX3-7307_Feb18)	Feb-25
DAE4	SN 771	02-Feb-24(CTTL-SPEAG,No.Z24-97011)	Feb-25
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	01-Feb-24 (CTTL, No.J18X00893)	Feb-25
Network Analyzer E5071C	MY46110673	26-Jan-24 (CTTL, No.J18X00894)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	赵静
Reviewed by:	Lin Hao	SAR Test Engineer	林浩
Approved by:	Qi Dianyuan	SAR Project Leader	[signature]

Issued: June 07, 2024

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Measurement procedure for assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1: Device used next to the ear (Frequency range of 300MHz to 6GHz)", July 2016
c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

Certificate No: Z24-97076 Page 2 of 8

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.10.0.1442
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	750 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.9	0.89 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	42.1 ± 6 %	0.88 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.06 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**8.31 mW /g ± 18.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.37 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**5.52 mW /g ± 18.7 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.5	0.96 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.7 ± 6 %	0.97 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.21 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**8.76 mW /g ± 18.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.48 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**5.88 mW /g ±18.7 % (k=2)**

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Appendix (Additional assessments outside the scope of CNAS L0570)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.3Ω- 4.83jΩ
Return Loss	- 24.9dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.5Ω- 6.11jΩ
Return Loss	- 23.9dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.135 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

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DASY5 Validation Report for Head TSL Date: 06.04.2024

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1118

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.882 S/m; ε_r = 42.14; ρ = 1000 kg/m^3

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(10.05, 10.05, 10.05); Calibrated: 2/19/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7372)

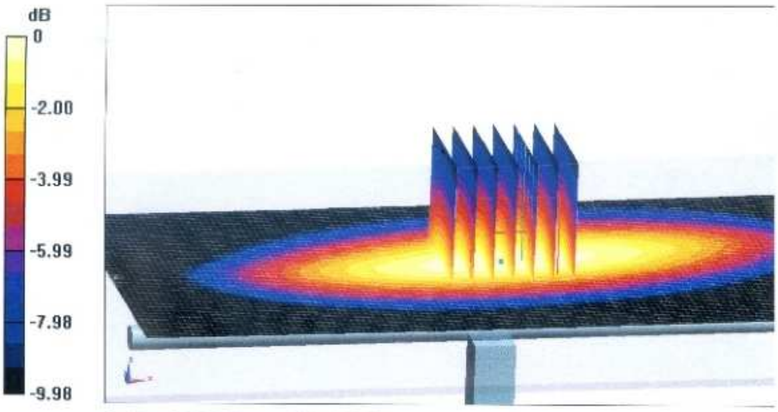
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.45 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.14 W/kg

SAR(1 g) = 2.06 W/kg; SAR(10 g) = 1.37 W/kg

Maximum value of SAR (measured) = 2.75 W/kg



0 dB = 2.75 W/kg = 4.39 dBW/kg

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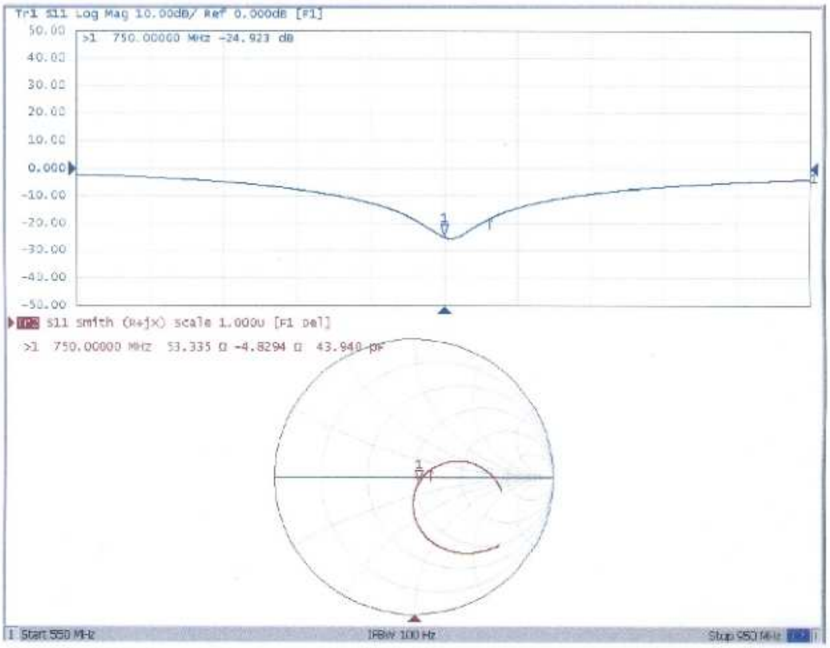
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL Date: 06.04.2024

Test Laboratory: CTTL, Beijing, China

DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1118

Communication System: UID 0, CW; Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used: f = 750 MHz; σ = 0.972 S/m; ε_r = 55.73; ρ = 1000 kg/m^3

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(9.8, 9.8, 9.8); Calibrated: 2/19/2024;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.10 (0); SEMCAD X Version 14.6.10 (7372)

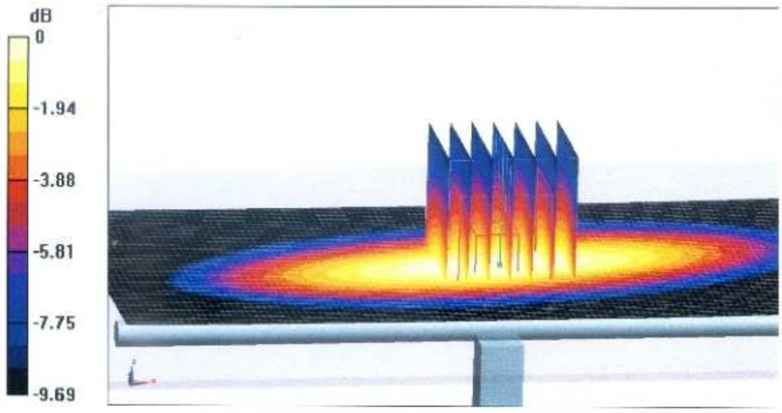
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.05 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 3.37 W/kg

SAR(1 g) = 2.21 W/kg; SAR(10 g) = 1.48 W/kg

Maximum value of SAR (measured) = 2.95 W/kg



0 dB = 2.95 W/kg = 4.70 dBW/kg

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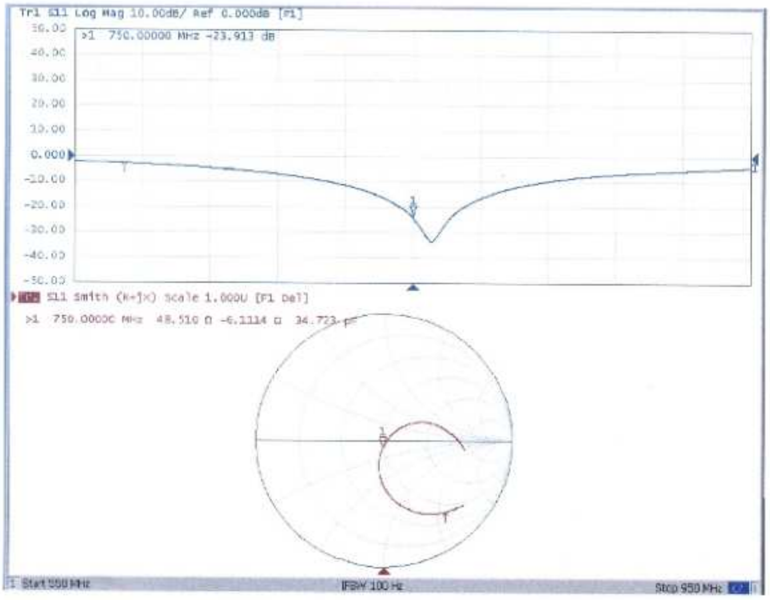
Impedance Measurement Plot for Body TSL



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CNAS L0570

Client Anbotek (Auden) Certificate No: Z24 -97089

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d154
Calibration Procedure(s)	FD-Z11-2-003-01 Calibration Procedures for dipole validation kits
Calibration date:	Jun 11, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	1-Jul-23 (CTTL, No.J23X04256)	Jul-24
Power sensor NRP-Z91	101547	1-Jul-23 (CTTL, No.J23X04256)	Jul-24
Reference Probe EX3DV4	SN 7307	19-Feb-24(SPEAG,No.EX3-7307_Feb24)	Feb-25
DAE4	SN 771	02-Feb-24(CTTL-SPEAG,No.Z24-97011)	Feb-25
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	01-Feb-24 (CTTL, No.J24X00893)	Feb-25
Network Analyzer E5071C	MY46110673	26-Jan-24 (CTTL, No.J24X00894)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: Jun 12, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) For hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.8.8.1258
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	15 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	835 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	41.5	0.90 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	41.0 ± 6 %	0.89 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	2.30 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**9.24 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	1.50 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**6.02 mW /g ± 20.4 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	55.2	0.97 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	55.4 ± 6 %	0.99 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	2.43 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**9.57 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	1.61 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**6.36 mW /g ± 20.4 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	49.2Ω- 3.11jΩ
Return Loss	- 29.8dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.6Ω- 2.33jΩ
Return Loss	- 27.4dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.508 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG

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DASY5 Validation Report for Head TSL Date: 06.11.2024

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.891 S/m; ε_r = 40.97; ρ = 1000 kg/m^3

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(10.01, 10.01,10.01); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

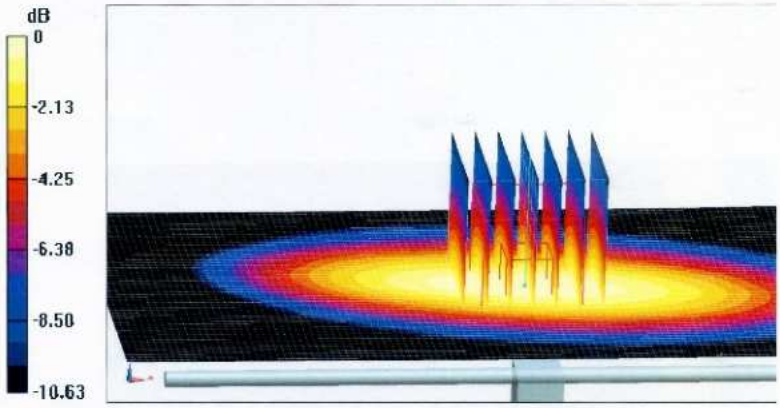
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 58.14V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 3.41 W/kg

SAR(1 g) = 2.3 W/kg; SAR(10 g) = 1.5 W/kg

Maximum value of SAR (measured) = 2.91 W/kg



0 dB = 2.91 W/kg = 4.64 dBW/kg

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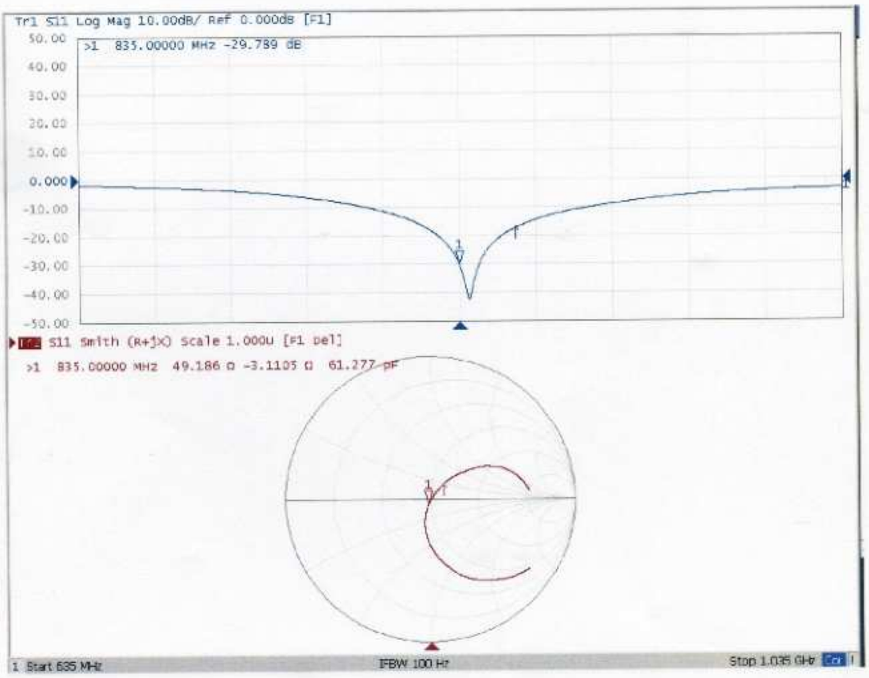
Impedance Measurement Plot for Head TSL



Certificate No: Z24-97089 Page 6 of 8

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DASY5 Validation Report for Body TSL Date: 06.11.2024

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used: f = 835 MHz; σ = 0.991 S/m; ϵ_r = 55.41; ρ = 1000 kg/m^3

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(9.83,9.83, 9.83); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

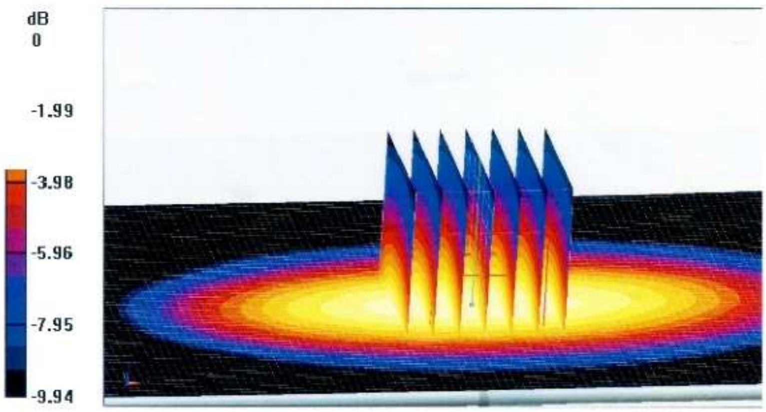
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 54.01 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 3.53 W/kg

SAR(1 g) = 2.43 W/kg; SAR(10 g) = 1.61 W/kg

Maximum value of SAR (measured) = 3.04 W/kg



0 dB = 3.04 W/kg = 4.83 dBW/kg

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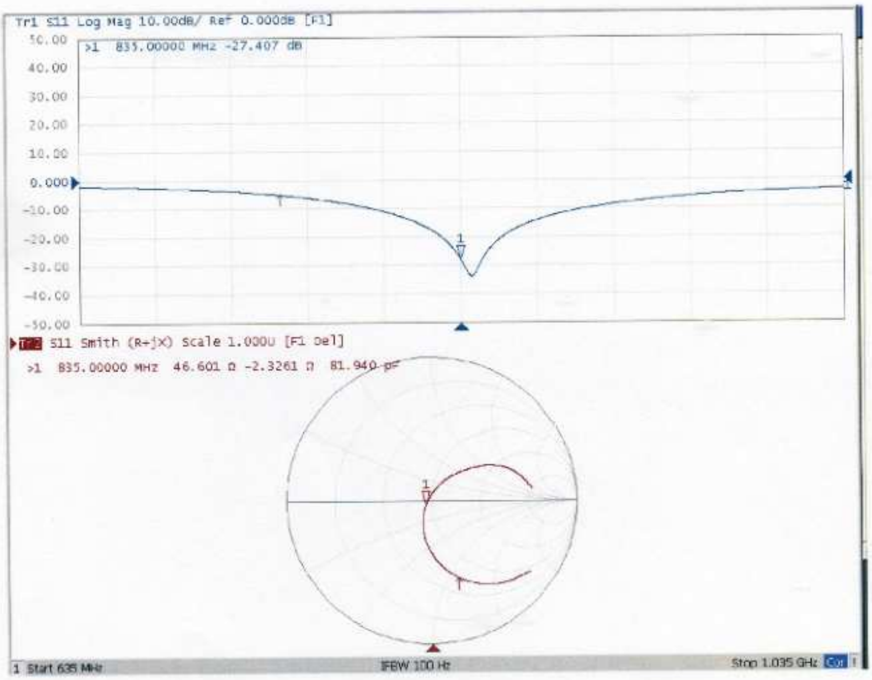
Impedance Measurement Plot for Body TSL



Certificate No: Z24-97089 Page 8 of 8

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Client Anbotek (Auden) **Certificate No:** Z24-97090

CALIBRATION CERTIFICATE

Object	D1900V2 - SN: 5d175
Calibration Procedure(s)	FD-Z11-2-003-01 Calibration Procedures for dipole validation kits
Calibration date:	Jun 15, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-24(CTTL, No.J22X04256)	Jun-25
Power sensor NRP-Z91	101547	01-Jul-24(CTTL, No.J22X04256)	Jun-25
Reference Probe EX3DV4	SN 7307	19-Feb-24(SPEAG,No.EX3-7307_Feb19)	Feb-25
DAE4	SN 771	02-Feb-24(CTTL-SPEAG,No.Z22-97011)	Feb-25
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	01-Feb-24(CTTL, No.J19X00893)	Feb-25
Network Analyzer E5071C	MY46110673	26-Feb-24(CTTL, No.J19X00894)	Feb-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	赵静
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: Jun 17, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z24-97090 Page 1 of 8

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) For hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010
d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.8.8.1258
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	1900 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	40.0	1.40 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	40.3 ± 6 %	1.38 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	9.99 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**40.4 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	5.28 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**21.3 mW /g ± 20.4 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	53.3	1.52 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	53.3 ± 6 %	1.54 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	10.1 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**40.1 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	5.39 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**21.5 mW /g ± 20.4 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	53.2Ω+ 5.44jΩ
Return Loss	- 24.3dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	48.9Ω+ 5.75jΩ
Return Loss	- 24.6dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.304 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

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DASY5 Validation Report for Head TSL Date: 06.15.2024

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.381 S/m; εr = 40.33; ρ = 1000 kg/m3

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(8.1, 8.1, 8.1); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2/2/2024
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

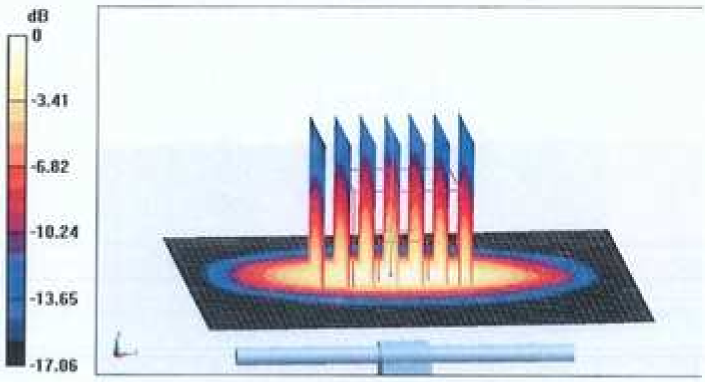
System Performance Check/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.5V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 18.0W/kg

SAR(1 g) = 9.99 W/kg; SAR(10 g) = 5.28 W/kg

Maximum value of SAR (measured) = 14.1 W/kg



0 dB = 14.1 W/kg = 11.49 dBW/kg

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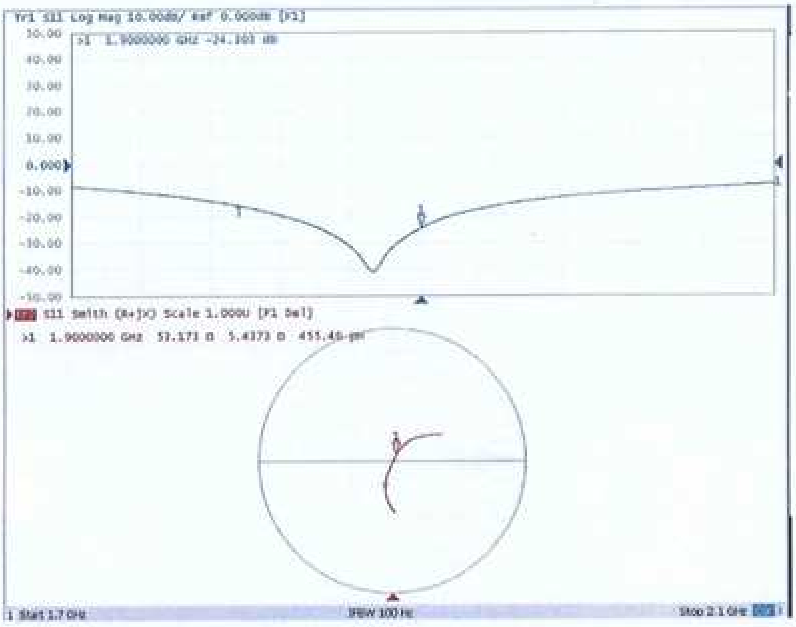
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL Date: 06.15.2024

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used: f = 1900 MHz; σ = 1.537 S/m; ε_r = 53.34; ρ = 1000 kg/m^3

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(7.67, 7.67, 7.67); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2/2/2024
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

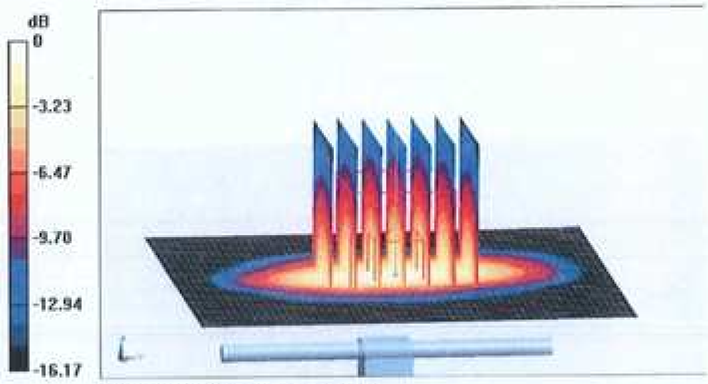
System Performance Check/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 96.11 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 17.8 W/kg

SAR(1 g) = 10.1 W/kg; SAR(10 g) = 5.39 W/kg

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



0 dB = 14.3 W/kg = 11.55 dBW/kg

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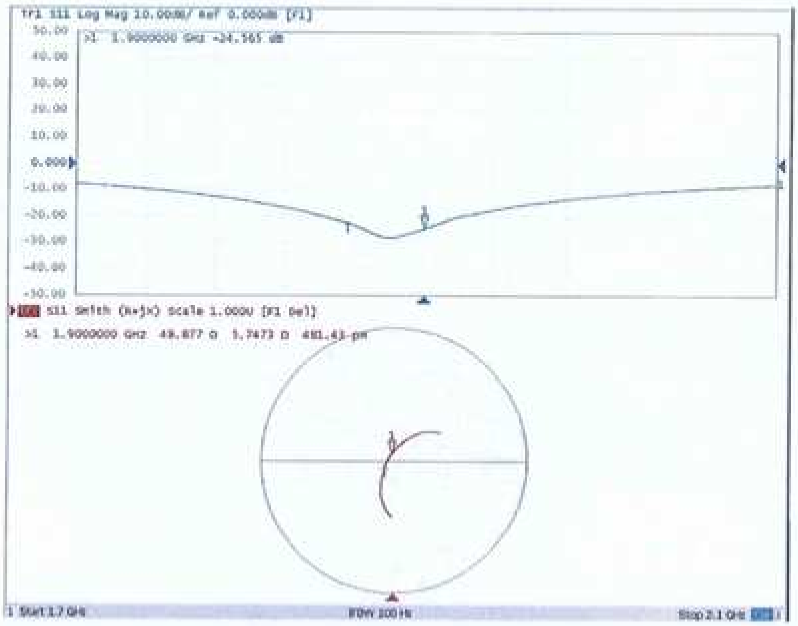
Impedance Measurement Plot for Body TSL



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Client Anbotek (Auden) **Certificate No: Z24-97091**

CALIBRATION CERTIFICATE

Object	D2450V2 - SN: 910
Calibration Procedure(s)	FD-Z24-2-003-01 Calibration Procedures for dipole validation kits
Calibration date:	Jun 11, 2024

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)℃ and humidity<70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Power Meter NRP2	101919	01-Jul-23 (CTTL, No.J23X04256)	Jul-24
Power sensor NRP-Z91	101547	01-Jul-23 (CTTL, No.J23X04256)	Jul-24
Reference Probe EX3DV4	SN 7307	19-Feb-24(SPEAG,No.EX3-7307_Feb24)	Feb-25
DAE4	SN 771	02-Feb-24(CTTL-SPEAG,No.Z24-97011)	Feb-25
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	01-Feb-24 (CTTL, No.J24X00893)	Feb-25
Network Analyzer E5071C	MY46110673	26-Jan-24 (CTTL, No.J24X00894)	Jan-25

	Name	Function	Signature
Calibrated by:	Zhao Jing	SAR Test Engineer	
Reviewed by:	Qi Dianyuan	SAR Project Leader	
Approved by:	Lu Bingsong	Deputy Director of the laboratory	

Issued: Jun 12, 2024

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Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORMx,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013

b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) For hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005

c) IEC 62209-2, "Procedure to measure the Specific Absorption Rate (SAR) For wireless communication devices used in close proximity to the human body (frequency range of 30MHz to 6GHz)", March 2010

d) KDB865664, SAR Measurement Requirements for 100 MHz to 6 GHz

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of Measurement multiplied by the coverage factor k=2, which for a normal distribution Corresponds to a coverage probability of approximately 95%.

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY52	52.8.8.1258
Extrapolation	Advanced Extrapolation	
Phantom	Triple Flat Phantom 5.1C	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2450 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Head TSL parameters	22.0 °C	39.2	1.80 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	39.0 ± 6 %	1.77 mho/m ± 6 %
Head TSL temperature change during test	<1.0 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	13.0 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**52.4 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Head TSL	Condition	
SAR measured	250 mW input power	6.06 mW / g
SAR for nominal Head TSL parameters	normalized to 1W	**24.3 mW /g ± 20.4 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	Permittivity	Conductivity
Nominal Body TSL parameters	22.0 °C	52.7	1.95 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	52.9 ± 6 %	1.97 mho/m ± 6 %
Body TSL temperature change during test	<1.0 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	13.0 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**51.8 mW /g ± 20.8 % (k=2)**
SAR averaged over 10 cm^3 (10 g) of Body TSL	Condition	
SAR measured	250 mW input power	6.18 mW / g
SAR for nominal Body TSL parameters	normalized to 1W	**24.7 mW /g ± 20.4 % (k=2)**

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Appendix

Antenna Parameters with Head TSL

Impedance, transformed to feed point	54.6Ω+ 2.77jΩ
Return Loss	- 25.8dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	50.7Ω+ 4.28jΩ
Return Loss	- 27.3dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.263 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG

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Date: 06.11.2024

DASY5 Validation Report for Head TSL

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.767 S/m; εr = 39.01; ρ = 1000 kg/m3

Phantom section: Right Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(7.36, 7.36, 7.36); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

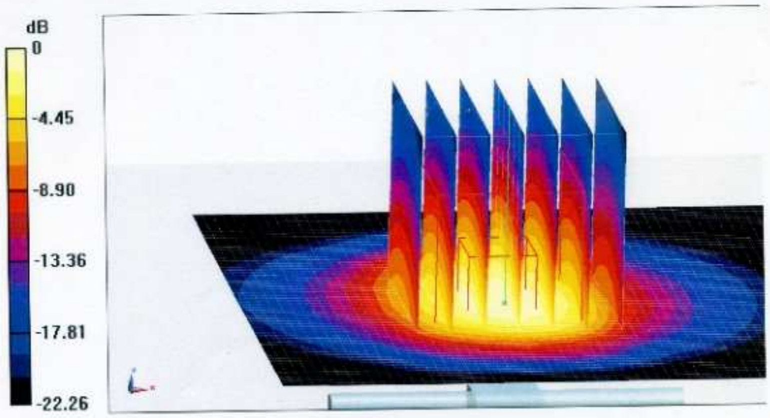
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 106.5 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 26.7 W/kg

SAR(1 g) = 13 W/kg; SAR(10 g) = 6.06 W/kg

Maximum value of SAR (measured) = 19.7 W/kg



0 dB = 19.7 W/kg = 12.94 dBW/kg

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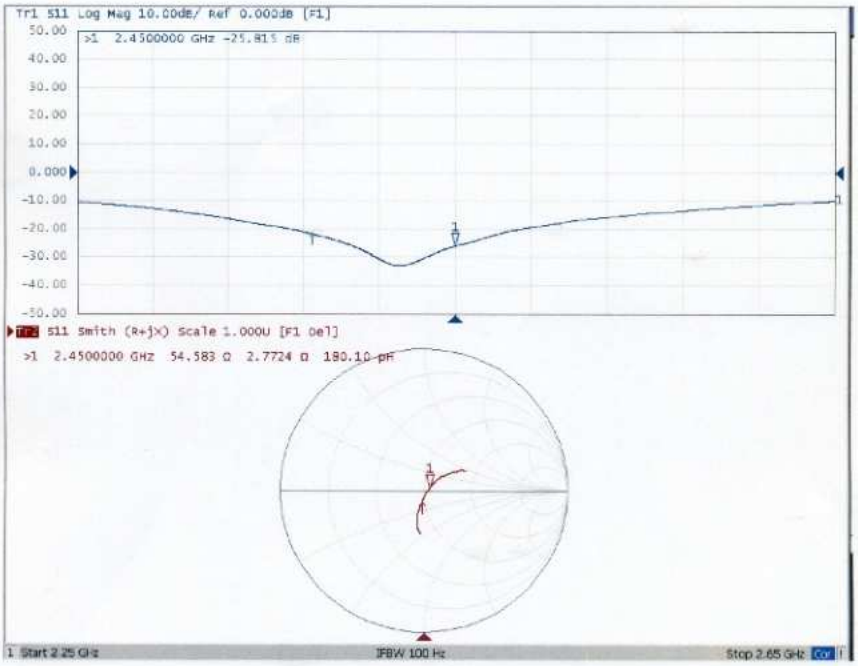
Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL Date: 06.11.2024

Test Laboratory: CTTL, Beijing, China

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

Communication System: UID 0, CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used: f = 2450 MHz; σ = 1.972 S/m; ε_r = 52.92; ρ = 1000 kg/m^3

Phantom section: Center Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2007)

DASY5 Configuration:

- Probe: EX3DV4 - SN7307; ConvF(7.22, 7.22, 7.22); Calibrated: 2/19/2024;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2024-02-02
- Phantom: Triple Flat Phantom 5.1C; Type: QD 000 P51 CA; Serial: 1161/1
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7372)

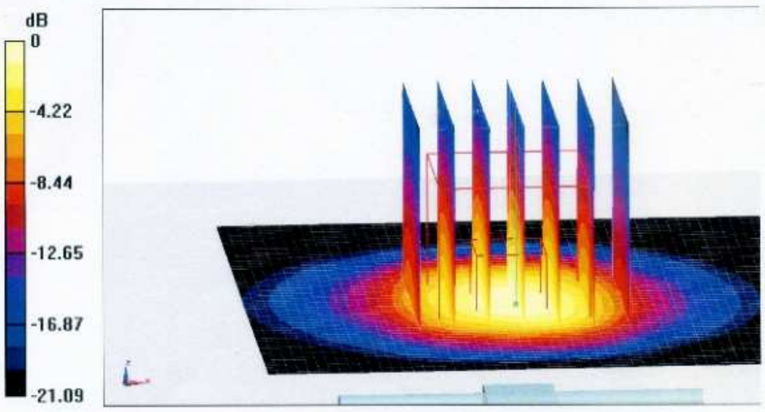
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 98.89 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 25.6 W/kg

SAR(1 g) = 13 W/kg; SAR(10 g) = 6.18 W/kg

Maximum value of SAR (measured) = 19.3 W/kg



0 dB = 19.3 W/kg = 12.86 dBW/kg

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speag
CALIBRATION LABORATORY

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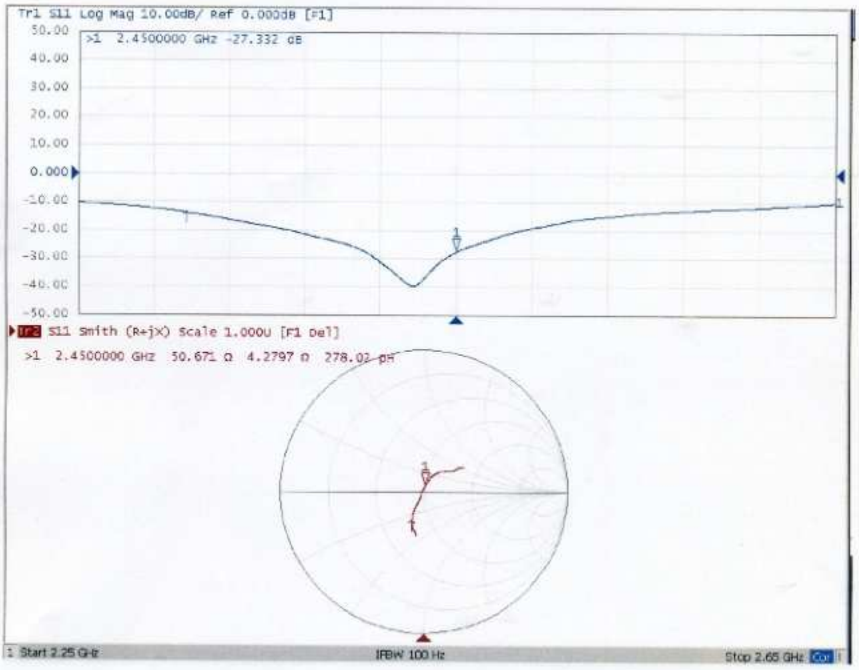
Impedance Measurement Plot for Body TSL



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Calibration Laboratory of
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Accreditation No.: **SCS 0108**

Client **Anbotek (Auden)**

Certificate No: **D2600V2-1058_Jun11**

CALIBRATION CERTIFICATE

Object	D2600V2 - SN: 1058
Calibration procedure(s)	QA CAL-05.v9 Calibration procedure for dipole validation kits above 700 MHz
Calibration date:	June 12, 2024

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

Primary Standards	ID #	Cal Date (Certificate No.)	Scheduled Calibration
Power meter EPM-442A	GB37480704	07-Oct-23 (No. 217-02020)	Oct-24
Power sensor HP 8481A	US37292783	07-Oct-23 (No. 217-02020)	Oct-24
Power sensor HP 8481A	MY41092317	07-Oct-23 (No. 217-02021)	Oct-24
Reference 20 dB Attenuator	SN: 5058 (20k)	01-Apr-24 (No. 217-02131)	Apr-25
Type-N mismatch combination	SN: 5047.2 / 06327	01-Apr-24 (No. 217-02134)	Apr-25
Reference Probe ES3DV3	SN: 3205	30-Dec-23 (No. ES3-3205_Dec14)	Dec-24
DAE4	SN: 601	18-Aug-23 (No. DAE4-601_Aug14)	Aug-24

Secondary Standards	ID #	Check Date (in house)	Scheduled Check
RF generator R&S SMT-06	100005	04-Oct-23 (in house check Oct-13)	In house check: Oct-26
Network Analyzer HP 8753E	US37390585 S4206	18-Oct-23 (in house check Oct-14)	In house check: Oct-24

	Name	Function	Signature
Calibrated by:	Leif Klysner	Laboratory Technician	Leif Klysner
Approved by:	Katja Pokovic	Technical Manager	

Issued: June 12, 2024

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: D2600V2-1058_Jun11 Page 1 of 8

Calibration Laboratory of
Schmid & Partner
Engineering AG
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Accreditation No.: **SCS 0108**

Glossary:

TSL	tissue simulating liquid
ConvF	sensitivity in TSL / NORM x,y,z
N/A	not applicable or not measured

Calibration is Performed According to the Following Standards:

a) IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
b) IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 MHz to 3 GHz)", February 2005
c) IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
d) KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

Additional Documentation:

e) DASY4/5 System Handbook

Methods Applied and Interpretation of Parameters:

- *Measurement Conditions:* Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- *Antenna Parameters with TSL:* The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- *Feed Point Impedance and Return Loss:* These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- *Electrical Delay:* One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- *SAR measured:* SAR measured at the stated antenna input power.
- *SAR normalized:* SAR as measured, normalized to an input power of 1 W at the antenna connector.
- *SAR for nominal TSL parameters:* The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

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Measurement Conditions

DASY system configuration, as far as not given on page 1.

DASY Version	DASY5	V52.8.8
Extrapolation	Advanced Extrapolation	
Phantom	Modular Flat Phantom	
Distance Dipole Center - TSL	10 mm	with Spacer
Zoom Scan Resolution	dx, dy, dz = 5 mm	
Frequency	2600 MHz ± 1 MHz	

Head TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Head TSL parameters	22.0 °C	39.0	1.96 mho/m
Measured Head TSL parameters	(22.0 ± 0.2) °C	37.6 ± 6 %	2.05 mho/m ± 6 %
Head TSL temperature change during test	< 0.5 °C	----	----

SAR result with Head TSL

SAR averaged over 1 cm^3 (1 g) of Head TSL	Condition	
SAR measured	250 mW input power	14.7 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**57.2 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Head TSL	condition	
SAR measured	250 mW input power	6.57 W/kg
SAR for nominal Head TSL parameters	normalized to 1W	**25.9 W/kg ± 16.5 % (k=2)**

Body TSL parameters

The following parameters and calculations were applied.

	Temperature	**Permittivity**	**Conductivity**
Nominal Body TSL parameters	22.0 °C	52.5	2.16 mho/m
Measured Body TSL parameters	(22.0 ± 0.2) °C	50.4 ± 6 %	2.22 mho/m ± 6 %
Body TSL temperature change during test	< 0.5 °C	----	----

SAR result with Body TSL

SAR averaged over 1 cm^3 (1 g) of Body TSL	Condition	
SAR measured	250 mW input power	14.5 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**56.8 W/kg ± 17.0 % (k=2)**

SAR averaged over 10 cm^3 (10 g) of Body TSL	condition	
SAR measured	250 mW input power	6.45 W/kg
SAR for nominal Body TSL parameters	normalized to 1W	**25.5 W/kg ± 16.5 % (k=2)**

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Appendix (Additional assessments outside the scope of SCS 0108)

Antenna Parameters with Head TSL

Impedance, transformed to feed point	50.5 Ω - 6.3 jΩ
Return Loss	- 24.0 dB

Antenna Parameters with Body TSL

Impedance, transformed to feed point	46.7 Ω - 5.2 jΩ
Return Loss	- 24.0 dB

General Antenna Parameters and Design

Electrical Delay (one direction)	1.151 ns

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.
No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

Additional EUT Data

Manufactured by	SPEAG
Manufactured on	August 14, 2012

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DASY5 Validation Report for Head TSL

Date: 12.06.2024

Test Laboratory: SPEAG, Zurich, Switzerland

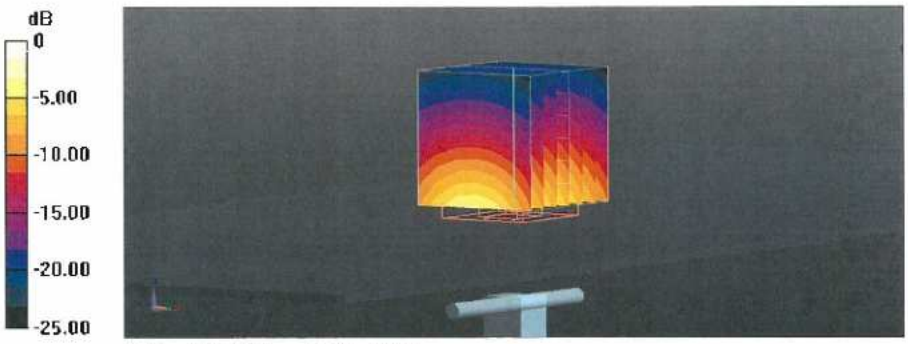
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1058

Communication System: UID 0 CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.05 S/m; ε_r = 37.6; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: ES3DV3 - SN3205; ConvF(4.49, 4.49, 4.49); Calibrated: 30.12.2023;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2023
- Phantom: Flat Phantom 5.0 (front); Type: QD000P50AA; Serial: 1001
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

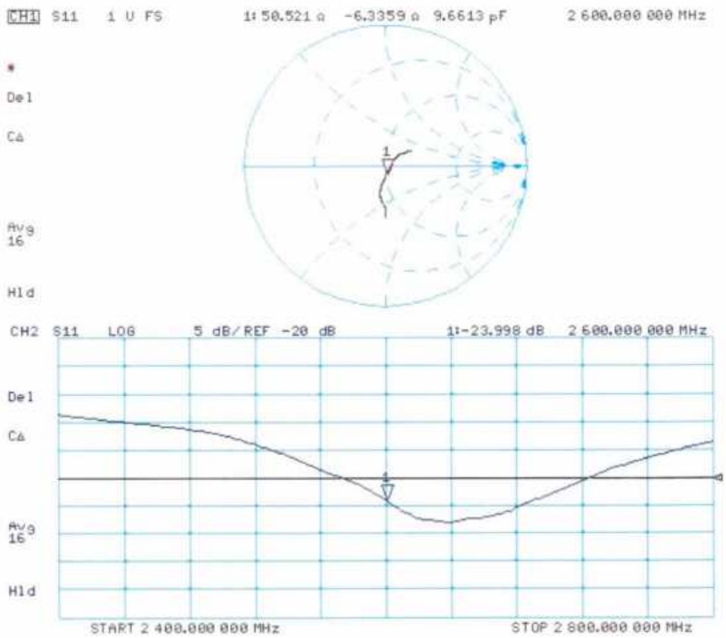
Dipole Calibration for Head/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 102.6 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 30.9 W/kg
SAR(1 g) = 14.7 W/kg; SAR(10 g) = 6.57 W/kg
Maximum value of SAR (measured) = 19.6 W/kg



0 dB = 19.6 W/kg = 12.92 dBW/kg

Certificate No: D2600V2-1058_Jun11 Page 5 of 8

Impedance Measurement Plot for Head TSL



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DASY5 Validation Report for Body TSL

Date: 12.06.2024

Test Laboratory: SPEAG, Zurich, Switzerland

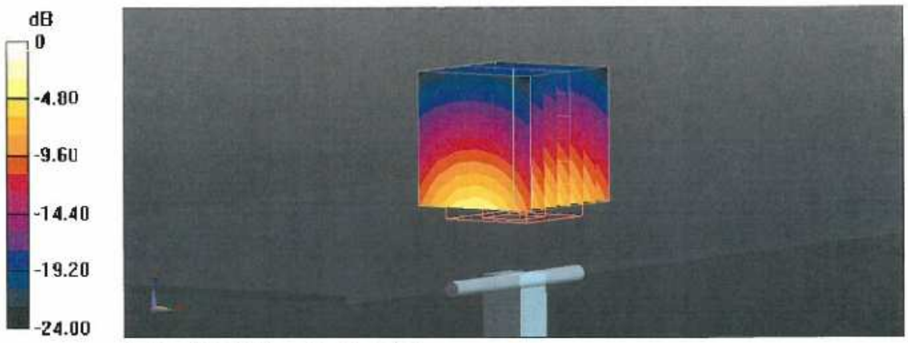
DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1058

Communication System: UID 0 - CW; Frequency: 2600 MHz
Medium parameters used: f = 2600 MHz; σ = 2.22 S/m; ε_r = 50.4; ρ = 1000 kg/m^3
Phantom section: Flat Section
Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

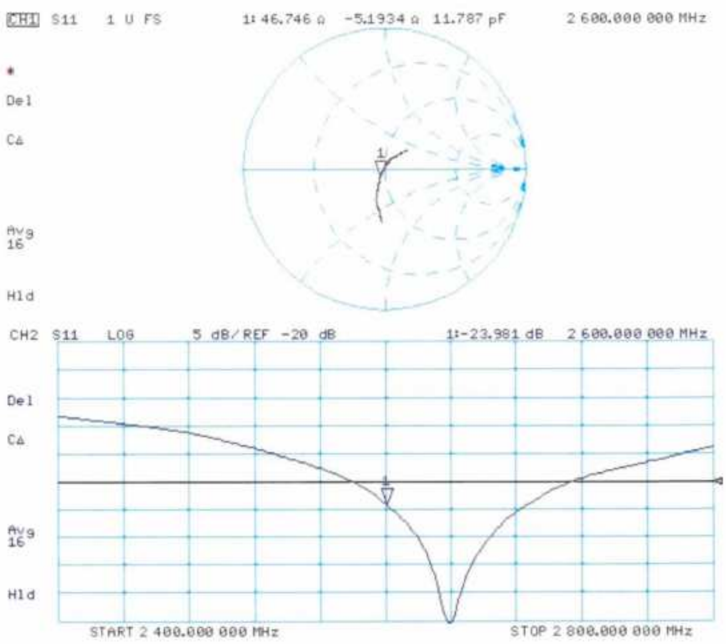
- Probe: ES3DV3 - SN3205; ConvF(4.13, 4.13, 4.13); Calibrated: 30.12.2023;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 18.08.2023;
- Phantom: Flat Phantom 5.0 (back); Type: QD000P50AA; Serial: 1002
- DASY52 52.8.8(1222); SEMCAD X 14.6.10(7331)

Dipole Calibration for Body/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:
Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 97.96 V/m; Power Drift = 0.00 dB
Peak SAR (extrapolated) = 30.1 W/kg
SAR(1 g) = 14.5 W/kg; SAR(10 g) = 6.45 W/kg
Maximum value of SAR (measured) = 19.5 W/kg



0 dB = 19.5 W/kg = 12.90 dBW/kg

Impedance Measurement Plot for Body TSL



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*****END OF REPORT*****