FCC SAR Test Report

Applicant	:	**Shenzhen DOOGEE Hengtong Technology CO.,LTD**
Address	:	**B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China**
Product Name	:	**Tablet**
Report Date	:	**Dec. 06, 2023**

Shenzhen Anbotek Compliance Laboratory Limited

Contents

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

TEST REPORT

Applicant	:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Manufacturer	:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Product Name	:	Tablet
Model No.	:	R08, R08 Pro, R08S, R08T, R08 Max, R08 Ultra
Trade Mark	:	DOOGEE
Rating(s)	:	DC 3.8V from battery or DC 5V from adapter

Test Standard(s) : **IEC 62209-2:2010; IEEE 1528:2013; FCC 47 CFR Part 2.1093; ANSI/IEEE C95.1:2005; Reference FCC KDB 447498; KDB 248227; KDB 616217; KDB 941225; KDB 865664**

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 1528-2013, FCC 47 CFR Part 2.1093, ANSI/IEEE C95.1:2005requirements.

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 Nov. 09, 2023

Date of Test Nov. 10, 2023 –Nov. 21, 2023

Prepared By Ella Liang

(Ella Liang)

Approved & Authorized Signer Kingkong Jin

(Kingkong Jin)

Version

Version No.	Date	Description
R00	Dec. 06, 2023	Original

1 Statement of Compliance

<Highest SAR Summary>

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

<Highest SAR Summary>

Frequency Band	Highest Reported 1g-SAR(W/Kg)	Simultaneous Reported SAR (W/Kg)
	Body (0mm)	
GSM 850	0.763	1.418
PCS1900	0.669	
WCDMA Band II	0.959	
WCDMA Band IV	1.054	
WCDMA Band V	0.822	
LTE Band 7	0.698	
LTE Band 12&Band 17	0.549	
LTE Band 25&Band 2	0.729	
LTE Band 26&Band 5	0.562	
LTE Band 66&Band 4	0.929	
LTE Band 41&Band 38	0.790	
WLAN2.4G	0.364	
WLAN5.3G	0.212	
WLAN5.8G	0.139	
SAR Test Limit (W/Kg)	1.60	
Test Result	PASS	

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

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

2 General Information

2.1 Client Information

Applicant	:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Address	:	B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China
Manufacturer	:	Shenzhen DOOGEE Hengtong Technology CO.,LTD
Address	:	B, 2/F, Building A4, Silicon Valley Power Digital Industrial Park, No. 22, Longhua New District, Shenzhen, China

2.2 Description of Equipment Under Test (EUT)

Product Name	:	Tablet
Model No.	:	R08, R08 Pro, R08S, R08T, R08 Max, R08 Ultra
Diff	:	There is no difference except the name of the model
Test sample		R08
Trade Mark	:	DOOGEE
Test Power Supply	:	DC 3.8V from battery or DC 5V from adapter
Test Sample No.	:	18220WC302494-2-1(Engineering Sample)
Tx Frequency	:	SRD: BT:2402~2480MHz 2.4G WIFI: 2412~2462MHz 5.2G WIFI:5180~5240MHz 5.3 G WIFI:5260~5320MHz 5.8G WIFI:5745~5825MHz GSM: GSM850 TX: 824.2~848.8MHz PCS1900 TX: 1850.2~1909.8MHz WCDMA: Band 2: TX: 1852.4~1907.6MHz Band 4: TX: 1712.4~1752.6MHz Band 5: TX: 826.40~846.60MHz LTE: FDD Band 2: TX: 1850~1909MHz FDD Band 4: TX: 1710~1755MHz FDD Band 5: TX: 824~849MHz

		FDD Band 7: TX: 2500~2570MHz FDD Band 12: TX: 699~716MHz FDD Band 17: TX: 704~716MHz FDD Band 25: TX: 1850~1915MHz FDD Band 26: TX: 814~849MHz FDD Band 66: TX: 1710~1780MHz FDD Band 38: TX: 2570~2620MHz TDD Band 41: TX: 2555 ~2655MHz
Type of Modulation	:	BT: GFSK, Π/4DQPSK, 8DPSK 2.4G WIFI: BPSK,QPSK,16QAM,64QAM 5G WIFI: BPSK,QPSK,16QAM,64QAM, 256QAM GSM:GMSK WCDMA:QPSK,16QAM 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.

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 (2.1093:2013)
- ANSI/IEEE C95.1:2005
- 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
- KDB 941225 D01 3G SAR Procedures v03r01
- KDB 941225 D05 SAR for LTE Devicesv02r05
- KDB 616217 D04 SAR for laptop and tablets v01r02

2.5 Environment of Test Site

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

2.6 Test Configuration

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

3 Specific Absorption Rate (SAR)

3.1 Introduction

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

3.2 SAR Definition

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

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

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

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

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

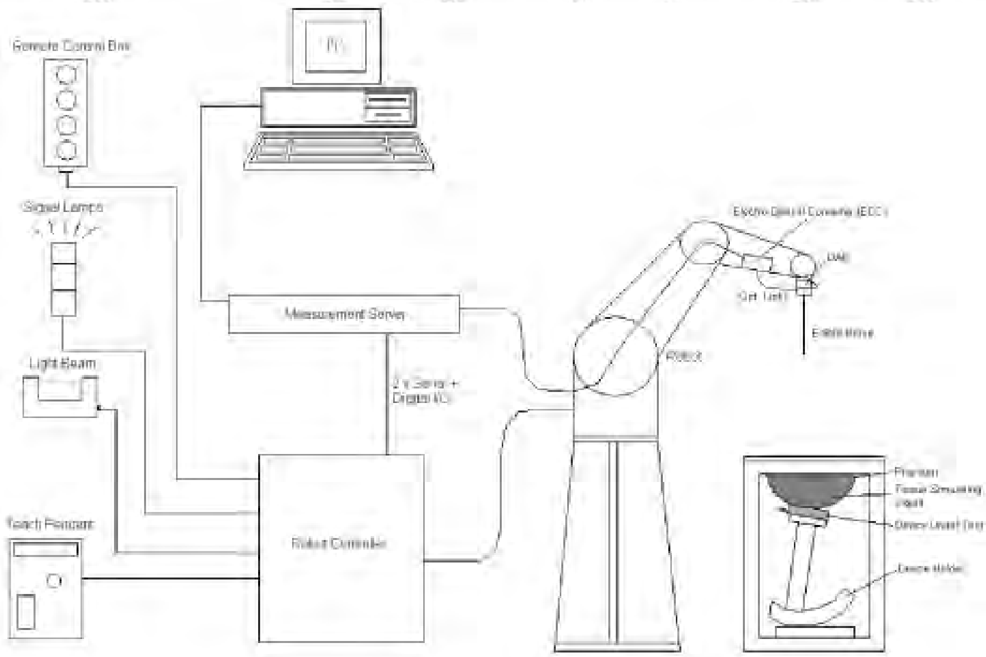
Where: C is the specific head capacity, δT is the temperature rise and δtisthe exposure duration, or related to the electrical field in the tissue by

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

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

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

4 SAR Measurement System



DASY System Configurations

The 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
- 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)
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

Photo of EX3DV4

➢ **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: TX60XL) 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.

Photo of Server for DASY5

4.5 Phantom

<SAM Twin Phantom>

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

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI4 Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)	
Filling Volume	Approx. 30 liters	
Dimensions	Major ellipse axis: 600 mm Minor axis:400 mm	**Photo of ELI4 Phantom**

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

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

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

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

cf = crest factor of exciting field (DASY parameter)

dcp_i = diode compression point (DASY parameter)

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

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. 08,2021	Jun. 07,2024
SPEAG	835MHz System Validation Kit	D835V2	4d154	Jun. 16,2021	Jun. 15,2024
SPEAG	1750MHz System Validation Kit	D1750V2	1021	Jul. 01,2021	Jun. 30,2024
SPEAG	1900MHz System Validation Kit	D1900V2	5d175	Jun. 15,2022	Jun. 14,2025
SPEAG	2300MHz System Validation Kit	D2300V2	1059	Sep.22,2021	Sep.21,2024
SPEAG	2450MHz System Validation Kit	D2450V2	910	Jun. 15,2021	Jun. 14,2024
SPEAG	2600MHz System Validation Kit	D2600V2	1058	Jun. 19,2021	Jun. 18,2024
SPEAG	5GHz System Validation Kit	D5GHzV2	1160	Oct. 02, 2021	Oct. 01, 2024
Rohde & Schwarz	UNIVERSAL RADIO COMMUNICATION TESTER	CMW500	1201.0002K50-104209-JC	Nov.09, 2023	Nov.08, 2024
SPEAG	Data Acquisition Electronics	DAE3	428	Aug.30,2023	Aug.29,2024
SPEAG	Dosimetric E-Field Probe	EX3DV4	7396	May 06,2023	May 05,2024
Agilent	ENA Series Network Analyzer	E5071C	MY46317418	Oct.25, 2023	Oct.24, 2024
SPEAG	DAK	DAK-3.5	1226	NCR	NCR
SPEAG	SAM Twin Phantom	QD000P40CD	1802	NCR	NCR
SPEAG	ELI Phantom	QDOVA004AA	2058	NCR	NCR
AR	Amplifier	ZHL-42W	QA1118004	NCR	NCR
Agilent	Power Meter	N1914A	MY50001102	Oct.25, 2023	Oct.24, 2024
Agilent	Power Sensor	N8481H	MY51240001	Oct.25, 2023	Oct.24, 2024
R&S	Spectrum Analyzer	N9020A	MY51170037	Oct.25, 2023	Oct.24, 2024
Agilent	Signal Generation	N5182A	MY48180656	Oct.25, 2023	Oct.24, 2024
Worken	Directional Coupler	0110A05601O-10	COM5BNW1A2	Oct.25, 2023	Oct.24, 2024

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:

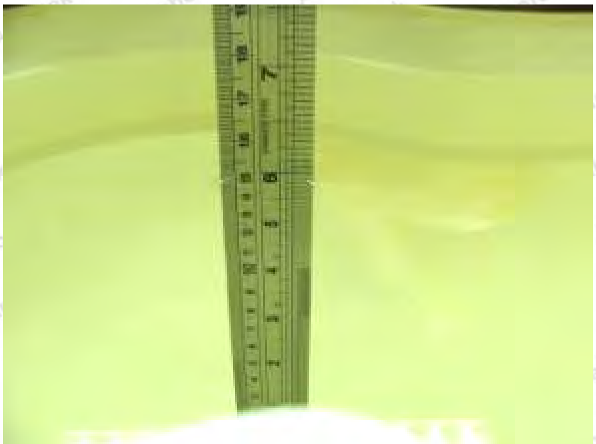


Photo of Liquid Height for Head SAR

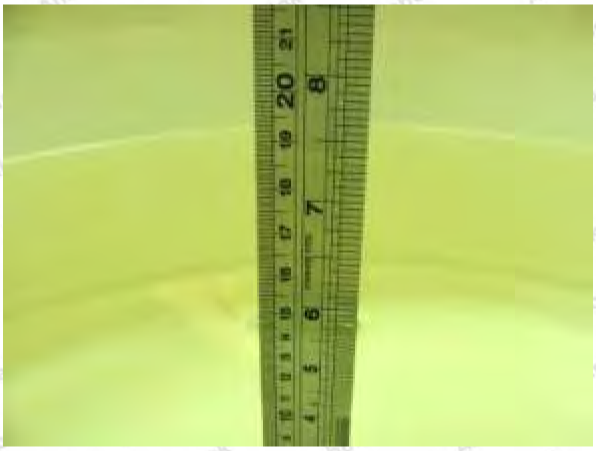


Photo of Liquid Height for Body SAR

The following table gives the recipes for tissue simulating liquid.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
1800,1900,2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0
For Body								
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
1800,1900,2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	65.5	0	0	0	0	31.5	2.16	52.5

The following table shows the measuring results for simulating liquid.

Measured Frequency (MHz)	Target Tissue		Measured Tissue				Liquid Temp.	Test Data
	ε_r	σ	ε_r	Dev. (%)	σ	Dev. (%)		
750	41.9	0.89	41.196	-1.68%	0.892	0.22%	22.7	11/10/2023
835	41.5	0.90	40.587	-2.20%	0.909	0.97%	22.6	11/13/2023
1750	40.1	1.37	40.148	0.12%	1.393	1.67%	22.8	11/14/2023
1900	40.0	1.40	40.156	0.39%	1.408	0.54%	22.4	11/15/2023
2300	39.5	1.67	40.179	1.72%	1.671	0.07%	22.3	11/16/2023
2450	39.2	1.80	39.647	1.14%	1.798	-0.12%	22.2	11/17/2023
2600	39.0	1.96	39.039	0.10%	2.009	2.52%	22.4	11/20/2023
5250	35.9	4.71	35.997	0.27%	4.572	-2.93%	22.7	11/21/2023
5750	35.4	5.22	35.039	-1.02%	5.325	2.02%	22.7	11/21/2023

7 System Verification Procedures

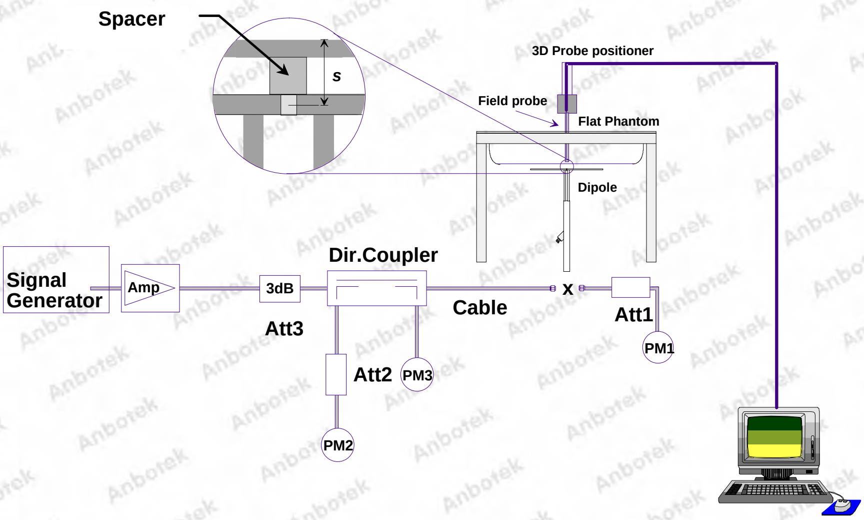
Each DASY system is equipped with one or more system validation kits. These units, together with the predefined measurement procedures within the DASY software, enable the user to conduct the system performance check and system validation. System validation kit includes a dipole, tripod holder to fix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

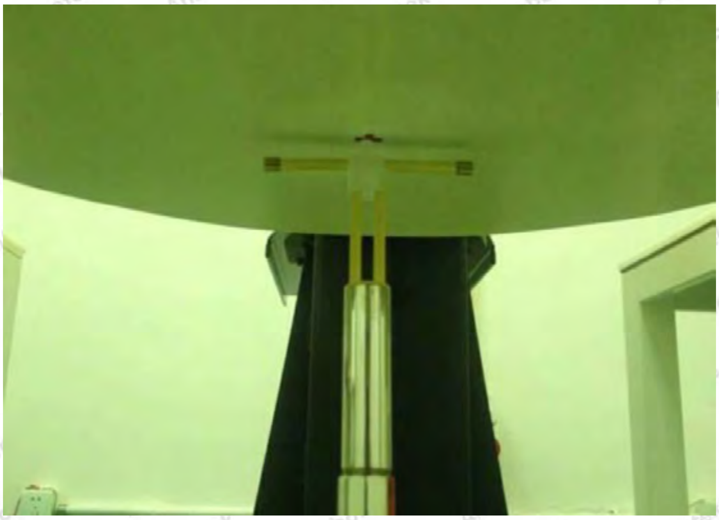


Photo of Dipole Setup

- **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.

Date	Frequency (MHz)	Power fed onto reference dipole (mW)	Targeted SAR (W/kg)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Deviation (%)
11/10/2023	750	250	8.31	2.09	8.35	0.48%
11/13/2023	835	250	9.24	2.37	9.48	2.60%
11/14/2023	1750	250	36.9	9.05	36.18	-1.95%
11/15/2023	1900	250	40.4	10.27	41.08	1.68%
11/16/2023	2300	250	48.3	11.49	45.94	-4.89%
11/17/2023	2450	250	52.4	13.20	52.80	0.76%
11/20/2023	2600	250	57.2	14.79	59.16	3.43%
11/21/2023	5250	100	80.7	8.29	82.90	2.73%
11/21/2023	5750	100	82.0	8.01	80.10	-2.32%

Target and Measurement SAR after Normalized

8 EUT Testing Position

8.1 Body-Supported Device Configurations

According to KDB 616217 section 4.3, SAR should be separately assessed with each surface and separation distance positioned against the flat phantom that correspond to the intended use as specified by the manufacturer. The antennas in tablets are typically located near the back (bottom) surface and/or along the edges of the devices; therefore, SAR evaluation is required for these configurations. Exposures from antennas through the front (top) surface of the display section of a full-size tablet, away from the edges, are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary, except for tablets that are designed to require continuous operations with the hand(s) next to the antenna(s).

- To position the device parallel to the phantom surface with either keypad up or down.
- To adjust the device parallel to the flat phantom.
- To adjust the distance between the device surface and the flat phantom to 0 mm.
- When each surface is measurement, the SAR Test Exclusion Threshold in KDB 447498 should be applied.

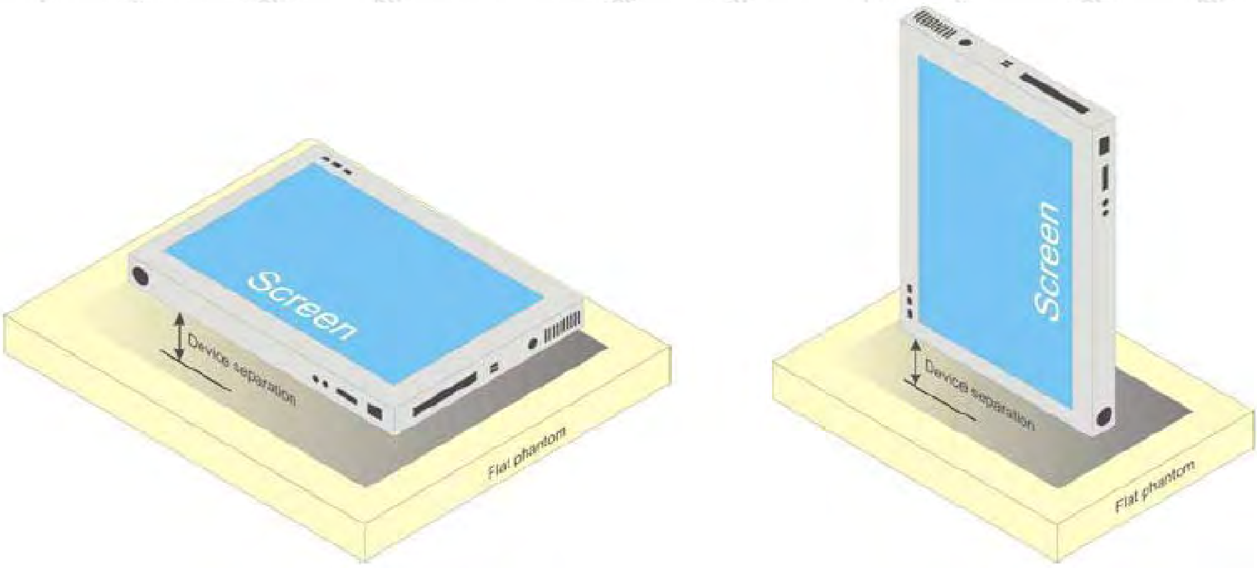


Fig.81 Illustration for Body Position

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 at the worst exposure position and device configuration if applicable.

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

(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.

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

9.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g 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.

10 TEST CONDITIONS AND RESULTS

10.1 Conducted Power

<GSM Conducted power>

Band GSM850		Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	Tune-up	128	190	251	128	190	251
Frequency (MHz)		824.2	836.6	848.8	824.2	836.6	848.6
GSM(GMSK, 1 Tx slot)	33±1	33.01	33.25	**33.54**	23.98	24.22	24.51
GPRS (GMSK, 1 Tx slot)	32±1	32.81	32.85	**32.92**	23.82	23.82	23.89
GPRS (GMSK, 2 Tx slots)	30±1	30.69	30.78	30.75	24.67	24.76	24.73
GPRS (GMSK, 3 Tx slots)	27±1	27.26	27.12	27.23	23.00	22.86	22.97
GPRS (GMSK, 4 Tx slots)	25±1	25.70	25.57	25.76	22.69	22.56	22.75
EGPRS (8PSK, 1 Tx slot)	28±1	**28.50**	28.45	28.39	19.47	19.42	19.36
EGPRS (8PSK, 2 Tx slots)	25±1	25.56	25.72	25.60	19.54	19.70	19.58
EGPRS (8PSK, 3 Tx slots)	24±1	24.56	24.75	24.48	20.30	20.49	20.22
EGPRS (8PSK, 4 Tx slots)	23±1	23.71	23.86	23.65	20.70	20.85	20.64
Band PCS1900		Burst Average Power (dBm)			Frame-Average Power (dBm)		
TX Channel	Tune-up power	512	661	810	512	661	810
Frequency (MHz)		1850.2	1880.0	1909.8	1850.2	1880.0	1909.8
GSM (GMSK, 1 Tx slot)	31±1	**31.36**	30.24	30.14	22.33	21.21	21.11
GPRS (GMSK, 1 Tx slot)	30±1	30.95	30.88	**31.02**	21.92	21.85	21.99
GPRS (GMSK, 2 Tx slots)	28±1	28.39	28.30	28.32	22.37	22.28	22.30
GPRS (GMSK, 3 Tx slots)	27±1	27.75	27.90	27.85	23.49	23.64	23.59
GPRS (GMSK, 4 Tx slots)	25±1	25.46	25.49	25.39	22.45	22.48	22.38
EGPRS (8MSK, 1 Tx slot)	27±1	**27.77**	27.74	27.64	18.74	18.71	18.61
EGPRS (8MSK, 2 Tx slots)	25±1	25.72	25.86	25.84	19.70	19.84	19.82
EGPRS (8MSK, 3 Tx slots)	24±1	24.15	24.26	23.96	19.89	20.00	19.70
EGPRS (8MSK, 4 Tx slots)	22±1	22.08	22.01	22.11	19.07	19.00	19.10

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
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

Note:

1. Per KDB 447498 D01, the maximum output power channel is used for SAR testing and for further SAR test reduction

2. For Data mode SAR testing, GPRS and EDGE should be evaluated, therefore the EUT was set in its highest frame-average power.

<WCDMA Conducted Power>

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification. A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
  i. Set Gain Factors (β_c and β_d) and parameters were set according to each
  ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
  iii. Set RMC 12.2Kbps + HSDPA mode.
  iv. Set Cell Power = -86 dBm
  v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
  vi. Select HSDPA Uplink Parameters
  vii. Set Delta ACK, Delta NACK and Delta CQI = 8
  viii. Set Ack-Nack Repetition Factor to 3
  ix. Set CQI Feedback Cycle (k) to 4 ms
  x. Set CQI Repetition Factor to 2
  xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1, Note 2)	CM (dB) (Note 3)	MPR (dB) (Note 3)
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 (Note 4)	15/15 (Note 4)	64	12/15 (Note 4)	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.

b. The RF path losses were compensated into the measurements.

c. A call was established between EUT and Base Station with following setting * :

  i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK

  ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121

  iii. Set Cell Power = -86 dBm

  iv. Set Channel Type = 12.2k + HSPA

  v. Set UE Target Power

  vi. Power Ctrl Mode= Alternating bits

  vii. Set and observe the E-TFCI

  viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI

d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c .

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.

Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

<WCDMA Conducted Power>

WCDMA	Band II (dBm)				Band IV (dBm)				Band V (dBm)			
TX Channel	Tune-up	9262	9400	9538	Tune-up	1312	1412	1513	Tune-up	4132	4183	4233
Frequency (MHz)		1852.4	1880.0	1907.6		1712.4	1732.6	1752.6		826.4	836.6	846.6
RMC 12.2Kbps	23±1	23.58	23.63	23.50	23±1	23.34	23.44	23.37	23±1	23.37	23.50	23.45
RMC AMR	23±1	23.12	23.22	23.09	23±1	22.85	23.05	22.94	23±1	22.92	23.15	23.07
HSDPA Subtest-1	22±1	22.10	22.08	22.05	22±1	22.55	22.73	22.66	22±1	22.82	22.93	22.75
HSDPA Subtest-2	21±1	21.54	21.51	21.48	21±1	21.64	21.70	21.69	21±1	21.52	21.37	21.65
HSDPA Subtest-3	21±1	21.05	21.07	21.10	21±1	21.51	21.50	21.67	21±1	21.47	21.28	21.42
HSDPA Subtest-4	21±1	21.28	21.34	21.35	21±1	21.56	21.52	21.48	21±1	21.06	21.12	20.93
HSUPA Subtest-1	22±1	22.46	22.62	22.59	22±1	22.61	22.75	22.73	22±1	22.47	22.32	22.63
HSUPA Subtest-2	21±1	21.46	21.56	21.46	21±1	21.37	21.32	21.43	21±1	21.90	21.81	21.97
HSUPA Subtest-3	21±1	21.33	21.30	21.35	21±1	21.12	21.05	21.01	21±1	21.26	21.21	21.26
HSUPA Subtest-4	21±1	21.12	21.13	21.04	21±1	21.28	21.15	21.42	21±1	21.30	21.35	21.22
HSUPA Subtest-5	22±1	22.25	22.22	22.30	22±1	22.42	22.39	22.25	22±1	22.61	22.43	22.66

General Note

1. Per KDB 941225 D01 v02, RMC 12.2kbps setting is used to evaluate SAR. If AMR 12.2kbps power is < 0.25dB higher than RMC 12.2kbps, SAR tests with AMR 12.2kbps can be excluded.
2. By design, AMR and HSDPA/HSUPA RF power will not be larger than RMC 12.2kbps, detailed information is included in Tune-up Procure exhibit.
3. It is expected by the manufacturer that MPR for some HSDPA/HSUPA subtests may differ from the specification of 3GPP, according to the chipset implementation in this model. The implementation and expected deviation are detailed in tune-up procedure exhibit.

<LTE Conducted Power>

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band2	1.4MHz	18607	1RB#0	23.54	22.21	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	1RB#2	23.59	22.24	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	1RB#5	23.17	22.16	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	3RB#0	23.45	22.15	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	3RB#1	23.43	22.11	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	3RB#3	22.84	21.63	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18607	6RB#0	23.59	22.50	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	1RB#0	23.61	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	1RB#2	23.71	22.60	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	1RB#5	23.75	**22.71**	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	3RB#0	23.51	22.23	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	3RB#1	23.59	22.59	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	3RB#3	23.67	22.70	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	18900	6RB#0	23.60	22.55	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	1RB#0	23.12	21.93	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	1RB#2	23.27	21.98	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	1RB#5	**23.91**	22.57	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	3RB#0	22.96	21.95	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	3RB#1	23.24	21.93	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	3RB#3	23.74	22.48	23.0±1.0	22.0±1.0
NTNV	Band2	1.4MHz	19193	6RB#0	23.72	22.65	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	1RB#0	23.09	21.76	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	1RB#8	23.01	21.92	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	1RB#14	23.67	22.60	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	8RB#0	22.99	21.96	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	8RB#4	22.82	21.64	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	8RB#7	23.50	22.24	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18615	15RB#0	23.59	22.37	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	1RB#0	23.33	21.98	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	1RB#8	23.32	22.22	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	1RB#14	**23.89**	**22.92**	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	8RB#0	23.21	21.86	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	8RB#4	23.28	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	8RB#7	23.78	22.60	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	18900	15RB#0	23.82	22.61	23.0±1.0	22.0±1.0

NTNV	Band2	3MHz	19185	1RB#0	23.25	21.99	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	1RB#8	23.03	21.93	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	1RB#14	23.12	21.82	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	8RB#0	23.24	22.02	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	8RB#4	22.96	21.88	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	8RB#7	22.97	21.67	23.0±1.0	22.0±1.0
NTNV	Band2	3MHz	19185	15RB#0	23.18	22.19	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	1RB#0	23.50	22.47	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	1RB#12	23.49	22.20	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	1RB#24	23.43	22.19	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	12RB#0	23.32	21.97	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	12RB#6	23.38	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	12RB#13	23.33	22.06	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18625	25RB#0	23.34	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	1RB#0	23.36	22.18	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	1RB#12	23.48	22.40	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	1RB#24	23.41	22.20	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	12RB#0	23.30	22.05	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	12RB#6	23.32	22.01	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	12RB#13	23.30	22.02	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	18900	25RB#0	23.38	22.11	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	1RB#0	23.50	22.22	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	1RB#12	**23.65**	22.46	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	1RB#24	23.52	22.44	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	12RB#0	23.44	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	12RB#6	23.65	22.42	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	12RB#13	23.43	22.29	23.0±1.0	22.0±1.0
NTNV	Band2	5MHz	19175	25RB#0	23.60	**22.57**	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	1RB#0	23.67	22.45	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	1RB#24	23.01	21.99	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	1RB#49	23.17	22.11	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	25RB#0	23.51	22.26	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	25RB#12	22.81	21.52	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	25RB#25	23.12	21.90	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18650	50RB#0	23.50	22.15	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	1RB#0	23.57	22.36	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	1RB#24	23.27	22.03	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	1RB#49	**23.93**	22.91	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	25RB#0	23.48	22.22	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band2	10MHz	18900	25RB#12	23.07	21.73	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	25RB#25	23.74	22.56	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	18900	50RB#0	23.92	**22.94**	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	1RB#0	23.65	22.39	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	1RB#24	23.82	22.59	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	1RB#49	23.13	22.13	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	25RB#0	23.64	22.51	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	25RB#12	23.81	22.63	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	25RB#25	22.97	21.77	23.0±1.0	22.0±1.0
NTNV	Band2	10MHz	19150	50RB#0	23.75	22.70	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	1RB#0	23.21	22.13	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	1RB#38	23.15	22.13	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	1RB#74	23.19	21.88	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	38RB#0	23.18	22.17	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	38RB#18	23.12	21.99	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	38RB#37	23.14	21.97	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18675	75RB#0	23.04	21.92	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	1RB#0	23.10	21.85	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	1RB#38	**23.93**	**22.79**	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	1RB#74	23.32	22.27	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	38RB#0	22.94	21.77	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	38RB#18	23.81	22.58	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	38RB#37	23.24	21.91	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	18900	75RB#0	23.73	22.51	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	1RB#0	23.24	22.18	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	1RB#38	23.18	22.15	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	1RB#74	23.53	22.25	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	38RB#0	23.08	21.90	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	38RB#18	23.13	21.89	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	38RB#37	23.37	22.22	23.0±1.0	22.0±1.0
NTNV	Band2	15MHz	19125	75RB#0	23.40	22.31	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	1RB#0	23.48	22.15	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	1RB#49	23.75	22.55	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	1RB#99	23.11	21.88	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	50RB#0	23.34	22.28	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	50RB#25	23.64	22.67	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	50RB#50	23.00	21.99	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18700	100RB#0	23.58	22.37	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	1RB#0	23.53	22.26	23.0±1.0	22.0±1.0

NTNV	Band2	20MHz	18900	1RB#49	23.33	22.24	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	1RB#99	**23.82**	22.54	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	50RB#0	23.51	22.34	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	50RB#25	23.19	21.84	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	50RB#50	23.72	**22.69**	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	18900	100RB#0	23.70	22.56	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	1RB#0	23.49	22.31	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	1RB#49	23.09	21.81	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	1RB#99	23.53	22.49	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	50RB#0	23.41	22.09	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	50RB#25	22.97	21.91	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	50RB#50	23.40	22.11	23.0±1.0	22.0±1.0
NTNV	Band2	20MHz	19100	100RB#0	23.52	22.40	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band4	1.4MHz	19957	1RB#0	23.60	22.38	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	1RB#2	23.41	22.24	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	1RB#5	23.43	22.11	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	3RB#0	23.52	22.37	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	3RB#1	23.36	22.05	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	3RB#3	23.23	21.99	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	19957	6RB#0	23.50	22.24	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	1RB#0	23.50	22.29	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	1RB#2	**23.88**	22.71	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	1RB#5	23.37	22.22	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	3RB#0	23.38	22.40	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	3RB#1	23.75	**22.77**	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	3RB#3	23.34	22.25	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20175	6RB#0	23.84	22.75	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	1RB#0	23.07	21.94	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	1RB#2	23.03	21.72	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	1RB#5	23.09	21.78	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	3RB#0	23.05	21.71	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	3RB#1	23.00	21.91	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	3RB#3	22.93	21.81	23.0±1.0	22.0±1.0
NTNV	Band4	1.4MHz	20393	6RB#0	22.96	21.84	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	1RB#0	23.46	22.35	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	1RB#8	23.82	22.47	23.0±1.0	22.0±1.0

NTNV	Band4	3MHz	19965	1RB#14	**23.92**	22.78	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	8RB#0	23.33	22.22	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	8RB#4	23.66	22.68	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	8RB#7	23.81	22.80	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	19965	15RB#0	23.73	22.50	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	1RB#0	23.15	21.91	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	1RB#8	23.90	22.73	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	1RB#14	23.64	22.55	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	8RB#0	22.94	21.67	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	8RB#4	23.69	22.39	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	8RB#7	23.52	22.17	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20175	15RB#0	23.84	**22.85**	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	1RB#0	23.67	22.42	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	1RB#8	23.27	22.27	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	1RB#14	23.77	22.74	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	8RB#0	23.56	22.22	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	8RB#4	23.26	22.11	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	8RB#7	23.60	22.25	23.0±1.0	22.0±1.0
NTNV	Band4	3MHz	20385	15RB#0	23.66	22.56	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	1RB#0	23.00	21.96	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	1RB#12	23.43	22.35	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	1RB#24	23.41	22.43	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	12RB#0	22.98	21.75	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	12RB#6	23.35	22.16	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	12RB#13	23.26	21.94	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	19975	25RB#0	23.29	22.30	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	1RB#0	**23.82**	**22.81**	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	1RB#12	23.00	21.67	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	1RB#24	23.29	22.17	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	12RB#0	23.65	22.46	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	12RB#6	22.84	21.74	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	12RB#13	23.27	22.10	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20175	25RB#0	23.80	22.79	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	1RB#0	23.72	22.70	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	1RB#12	23.38	22.14	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	1RB#24	23.16	21.90	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	12RB#0	23.61	22.37	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	12RB#6	23.36	22.02	23.0±1.0	22.0±1.0
NTNV	Band4	5MHz	20375	12RB#13	23.08	21.90	23.0±1.0	22.0±1.0

NTNV	Band4	5MHz	20375	25RB#0	23.67	22.42	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	1RB#0	23.26	22.23	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	1RB#24	23.80	22.60	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	1RB#49	23.63	22.37	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	25RB#0	23.24	22.18	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	25RB#12	23.67	22.41	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	25RB#25	23.42	22.07	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20000	50RB#0	23.62	22.30	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	1RB#0	23.74	22.70	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	1RB#24	23.87	22.54	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	1RB#49	23.26	21.91	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	25RB#0	23.68	**22.71**	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	25RB#12	23.77	22.47	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	25RB#25	23.14	22.14	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20175	50RB#0	23.76	22.57	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	1RB#0	23.82	22.64	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	1RB#24	23.81	22.66	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	1RB#49	**23.92**	22.66	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	25RB#0	23.68	22.67	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	25RB#12	23.68	22.47	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	25RB#25	23.75	22.67	23.0±1.0	22.0±1.0
NTNV	Band4	10MHz	20350	50RB#0	23.74	22.45	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	1RB#0	23.20	22.00	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	1RB#38	23.26	22.02	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	1RB#74	23.03	21.76	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	38RB#0	23.01	21.79	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	38RB#18	23.18	22.09	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	38RB#37	22.96	21.83	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20025	75RB#0	23.26	22.19	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	1RB#0	23.83	22.78	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	1RB#38	23.53	22.54	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	1RB#74	23.07	21.87	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	38RB#0	23.71	22.68	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	38RB#18	23.43	22.13	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	38RB#37	22.98	22.01	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20175	75RB#0	23.74	22.42	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	1RB#0	**23.91**	**22.82**	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	1RB#38	23.06	21.86	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	1RB#74	23.02	21.80	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band4	15MHz	20325	38RB#0	23.76	22.64	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	38RB#18	22.88	21.76	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	38RB#37	22.83	21.75	23.0±1.0	22.0±1.0
NTNV	Band4	15MHz	20325	75RB#0	23.76	22.77	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	1RB#0	23.56	22.22	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	1RB#49	23.39	22.40	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	1RB#99	23.72	22.38	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	50RB#0	23.46	22.30	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	50RB#25	23.33	22.18	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	50RB#50	23.61	22.40	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20050	100RB#0	23.66	22.54	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	1RB#0	23.22	21.88	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	1RB#49	23.75	22.42	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	1RB#99	23.74	22.68	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	50RB#0	23.09	21.88	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	50RB#25	23.57	22.33	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	50RB#50	23.74	**22.75**	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20175	100RB#0	23.65	22.53	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	1RB#0	23.82	22.65	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	1RB#49	23.05	21.99	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	1RB#99	**23.90**	22.72	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	50RB#0	23.72	22.52	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	50RB#25	22.85	21.60	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	50RB#50	23.76	22.70	23.0±1.0	22.0±1.0
NTNV	Band4	20MHz	20300	100RB#0	23.89	22.68	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band5	1.4MHz	20407	1RB#0	23.15	22.08	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	1RB#2	23.02	22.01	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	1RB#5	23.58	22.57	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	3RB#0	23.02	21.76	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	3RB#1	22.89	21.59	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	3RB#3	23.37	22.09	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20407	6RB#0	23.56	22.56	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	1RB#0	23.34	22.09	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	1RB#2	**23.93**	**22.79**	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	1RB#5	23.04	21.86	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	3RB#0	23.34	22.07	23.0±1.0	22.0±1.0

NTNV	Band5	1.4MHz	20525	3RB#1	23.77	22.66	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	3RB#3	22.87	21.89	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20525	6RB#0	23.83	22.65	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	1RB#0	23.21	21.91	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	1RB#2	23.79	22.66	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	1RB#5	23.83	22.73	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	3RB#0	23.12	21.88	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	3RB#1	23.65	22.44	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	3RB#3	23.71	22.46	23.0±1.0	22.0±1.0
NTNV	Band5	1.4MHz	20643	6RB#0	23.79	22.45	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	1RB#0	23.70	22.49	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	1RB#8	**23.89**	**22.83**	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	1RB#14	23.73	22.70	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	8RB#0	23.68	22.36	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	8RB#4	23.73	22.72	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	8RB#7	23.58	22.44	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20415	15RB#0	23.85	22.53	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	1RB#0	23.40	22.07	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	1RB#8	23.62	22.50	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	1RB#14	23.30	22.19	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	8RB#0	23.32	22.16	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	8RB#4	23.60	22.49	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	8RB#7	23.27	22.17	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20525	15RB#0	23.43	22.09	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	1RB#0	23.15	22.01	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	1RB#8	23.18	22.10	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	1RB#14	23.20	22.09	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	8RB#0	22.96	21.71	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	8RB#4	23.01	21.92	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	8RB#7	23.19	21.91	23.0±1.0	22.0±1.0
NTNV	Band5	3MHz	20635	15RB#0	23.19	22.02	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	1RB#0	23.35	22.26	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	1RB#12	23.69	22.56	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	1RB#24	23.01	21.89	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	12RB#0	23.24	22.07	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	12RB#6	23.68	22.46	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	12RB#13	22.98	21.69	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20425	25RB#0	23.59	22.58	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	1RB#0	23.29	22.14	23.0±1.0	22.0±1.0

NTNV	Band5	5MHz	20525	1RB#12	**23.79**	22.73	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	1RB#24	23.66	22.31	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	12RB#0	23.20	21.96	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	12RB#6	23.77	22.74	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	12RB#13	23.49	22.30	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20525	25RB#0	23.77	**22.79**	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	1RB#0	23.59	22.29	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	1RB#12	23.55	22.55	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	1RB#24	23.09	21.93	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	12RB#0	23.59	22.62	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	12RB#6	23.40	22.23	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	12RB#13	22.96	21.97	23.0±1.0	22.0±1.0
NTNV	Band5	5MHz	20625	25RB#0	23.47	22.32	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	1RB#0	23.31	22.31	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	1RB#24	23.41	22.09	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	1RB#49	**23.92**	**22.84**	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	25RB#0	23.20	21.99	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	25RB#12	23.31	22.23	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	25RB#25	23.82	22.62	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20450	50RB#0	23.78	22.69	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	1RB#0	23.85	22.83	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	1RB#24	23.34	22.29	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	1RB#49	23.59	22.37	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	25RB#0	23.69	22.62	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	25RB#12	23.34	22.18	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	25RB#25	23.52	22.51	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20525	50RB#0	23.68	22.55	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	1RB#0	23.16	22.19	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	1RB#24	23.24	22.23	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	1RB#49	23.26	22.18	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	25RB#0	23.16	21.96	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	25RB#12	23.14	21.97	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	25RB#25	23.14	22.01	23.0±1.0	22.0±1.0
NTNV	Band5	10MHz	20600	50RB#0	23.26	21.94	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band7	5MHz	20775	1RB#0	23.79	22.44	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	1RB#12	23.64	**22.66**	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	1RB#24	**23.81**	22.51	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	12RB#0	23.65	22.50	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	12RB#6	23.62	22.41	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	12RB#13	23.71	22.52	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	20775	25RB#0	**23.81**	22.57	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	1RB#0	23.42	22.44	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	1RB#12	23.64	22.48	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	1RB#24	23.50	22.42	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	12RB#0	23.33	22.01	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	12RB#6	23.56	22.30	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	12RB#13	23.41	22.36	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21100	25RB#0	23.62	22.36	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	1RB#0	23.05	21.80	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	1RB#12	23.44	22.34	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	1RB#24	23.27	22.20	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	12RB#0	23.00	21.79	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	12RB#6	23.38	22.29	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	12RB#13	23.12	21.85	23.0±1.0	22.0±1.0
NTNV	Band7	5MHz	21425	25RB#0	23.36	22.06	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	1RB#0	23.27	21.98	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	1RB#24	23.32	22.26	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	1RB#49	23.05	21.93	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	25RB#0	23.09	22.04	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	25RB#12	23.21	22.11	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	25RB#25	23.03	21.90	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	20800	50RB#0	23.25	22.12	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	1RB#0	23.85	22.58	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	1RB#24	23.20	22.13	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	1RB#49	**23.92**	**22.82**	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	25RB#0	23.71	22.45	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	25RB#12	23.09	21.88	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	25RB#25	23.78	22.56	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21100	50RB#0	23.87	22.63	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	1RB#0	23.30	22.27	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	1RB#24	23.02	21.75	23.0±1.0	22.0±1.0

NTNV	Band7	10MHz	21400	1RB#49	23.14	21.96	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	25RB#0	23.25	22.15	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	25RB#12	22.84	21.68	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	25RB#25	22.96	21.94	23.0±1.0	22.0±1.0
NTNV	Band7	10MHz	21400	50RB#0	23.17	22.02	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	1RB#0	23.46	22.16	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	1RB#38	23.41	22.10	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	1RB#74	23.73	22.43	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	38RB#0	23.32	22.31	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	38RB#18	23.34	22.20	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	38RB#37	23.63	22.47	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	20825	75RB#0	23.59	22.56	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	1RB#0	23.08	22.07	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	1RB#38	23.64	22.33	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	1RB#74	**23.74**	**22.64**	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	38RB#0	23.05	21.93	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	38RB#18	23.61	22.33	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	38RB#37	23.69	22.58	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21000	75RB#0	23.62	22.32	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	1RB#0	23.38	22.35	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	1RB#38	23.58	22.24	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	1RB#74	23.51	22.23	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	38RB#0	23.27	21.96	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	38RB#18	23.44	22.30	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	38RB#37	23.48	22.29	23.0±1.0	22.0±1.0
NTNV	Band7	15MHz	21375	75RB#0	23.53	22.24	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	1RB#0	23.32	22.20	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	1RB#49	23.66	22.44	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	1RB#99	23.34	22.33	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	50RB#0	23.29	22.12	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	50RB#25	23.54	22.30	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	50RB#50	23.28	22.27	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	20850	100RB#0	23.56	22.49	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	1RB#0	**23.92**	22.61	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	1RB#49	23.40	22.38	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	1RB#99	23.19	22.22	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	50RB#0	23.82	22.72	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	50RB#25	23.27	22.20	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21100	50RB#50	23.10	22.10	23.0±1.0	22.0±1.0

NTNV	Band7	20MHz	21100	100RB#0	23.80	**22.75**	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	1RB#0	23.10	21.88	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	1RB#49	23.55	22.29	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	1RB#99	23.05	21.85	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	50RB#0	23.08	21.89	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	50RB#25	23.45	22.21	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	50RB#50	22.92	21.92	23.0±1.0	22.0±1.0
NTNV	Band7	20MHz	21350	100RB#0	23.52	22.21	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band12	1.4MHz	23017	1RB#0	23.73	22.47	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	1RB#2	23.87	**22.88**	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	1RB#5	23.61	22.36	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	3RB#0	23.65	22.37	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	3RB#1	23.85	22.51	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	3RB#3	23.29	22.01	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23017	6RB#0	23.81	22.79	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	1RB#0	23.56	22.44	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	1RB#2	23.38	22.40	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	1RB#5	**23.93**	22.74	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	3RB#0	23.43	22.34	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	3RB#1	23.22	21.90	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	3RB#3	23.91	22.64	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23095	6RB#0	23.91	22.61	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	1RB#0	23.25	22.21	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	1RB#2	23.16	21.95	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	1RB#5	23.35	22.25	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	3RB#0	23.22	22.25	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	3RB#1	23.05	21.85	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	3RB#3	23.25	22.13	23.0±1.0	22.0±1.0
NTNV	Band12	1.4MHz	23173	6RB#0	23.18	21.91	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	1RB#0	23.07	21.73	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	1RB#8	23.47	22.32	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	1RB#14	23.10	21.87	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	8RB#0	22.96	21.77	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	8RB#4	23.32	22.26	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	8RB#7	22.92	21.73	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23025	15RB#0	23.46	22.26	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band12	3MHz	23095	1RB#0	23.32	22.09	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	1RB#8	23.38	22.32	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	1RB#14	**23.87**	**22.84**	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	8RB#0	23.17	22.01	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	8RB#4	23.32	22.31	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	8RB#7	23.86	22.68	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23095	15RB#0	23.71	22.36	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	1RB#0	23.46	22.44	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	1RB#8	23.42	22.29	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	1RB#14	23.85	22.80	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	8RB#0	23.41	22.20	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	8RB#4	23.29	22.03	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	8RB#7	23.74	22.50	23.0±1.0	22.0±1.0
NTNV	Band12	3MHz	23165	15RB#0	23.68	22.59	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	1RB#0	23.44	22.34	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	1RB#12	23.62	22.64	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	1RB#24	23.35	22.31	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	12RB#0	23.40	22.43	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	12RB#6	23.51	22.47	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	12RB#13	23.21	21.96	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23035	25RB#0	23.56	22.27	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	1RB#0	23.42	22.31	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	1RB#12	23.01	22.02	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	1RB#24	**23.95**	**22.80**	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	12RB#0	23.40	22.13	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	12RB#6	22.91	21.75	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	12RB#13	23.82	22.53	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23095	25RB#0	23.79	22.66	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	1RB#0	23.33	22.15	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	1RB#12	23.68	22.62	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	1RB#24	23.37	22.28	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	12RB#0	23.22	21.87	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	12RB#6	23.64	22.40	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	12RB#13	23.24	22.26	23.0±1.0	22.0±1.0
NTNV	Band12	5MHz	23155	25RB#0	23.62	22.28	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	1RB#0	23.78	22.64	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	1RB#24	23.78	22.56	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	1RB#49	23.39	22.38	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	25RB#0	23.68	22.59	23.0±1.0	22.0±1.0

NTNV	Band12	10MHz	23060	25RB#12	23.69	22.63	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	25RB#25	23.24	22.13	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23060	50RB#0	23.60	22.47	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	1RB#0	23.40	22.12	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	1RB#24	23.68	22.46	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	1RB#49	23.47	22.15	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	25RB#0	23.25	21.91	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	25RB#12	23.64	22.53	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	25RB#25	23.39	22.35	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23095	50RB#0	23.64	22.34	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	1RB#0	23.31	21.96	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	1RB#24	**23.85**	22.61	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	1RB#49	23.02	21.69	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	25RB#0	23.12	22.04	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	25RB#12	23.67	22.61	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	25RB#25	22.85	21.58	23.0±1.0	22.0±1.0
NTNV	Band12	10MHz	23130	50RB#0	23.66	**22.67**	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band17	5MHz	23755	1RB#0	23.64	22.66	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	1RB#12	23.44	22.32	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	1RB#24	23.07	22.10	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	12RB#0	23.55	22.45	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	12RB#6	23.33	22.17	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	12RB#13	22.96	21.91	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23755	25RB#0	23.51	22.25	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	1RB#0	23.48	22.33	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	1RB#12	**23.90**	22.66	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	1RB#24	23.17	21.94	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	12RB#0	23.35	22.37	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	12RB#6	23.79	22.68	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	12RB#13	22.98	22.00	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23790	25RB#0	23.87	**22.71**	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	1RB#0	23.71	22.57	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	1RB#12	23.81	22.66	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	1RB#24	23.68	22.60	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	12RB#0	23.56	22.49	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	12RB#6	23.64	22.34	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band17	5MHz	23825	12RB#13	23.63	22.36	23.0±1.0	22.0±1.0
NTNV	Band17	5MHz	23825	25RB#0	23.69	22.37	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	1RB#0	23.71	22.63	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	1RB#24	23.86	22.60	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	1RB#49	23.31	22.22	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	25RB#0	23.64	22.29	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	25RB#12	23.80	22.45	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	25RB#25	23.11	21.89	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23780	50RB#0	23.80	22.57	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	1RB#0	**23.88**	22.74	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	1RB#24	23.57	22.32	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	1RB#49	23.36	22.04	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	25RB#0	23.84	**22.75**	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	25RB#12	23.44	22.18	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	25RB#25	23.34	22.01	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23790	50RB#0	23.84	22.53	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	1RB#0	23.30	22.15	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	1RB#24	23.12	21.80	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	1RB#49	23.76	22.57	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	25RB#0	23.24	22.22	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	25RB#12	22.96	21.96	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	25RB#25	23.59	22.24	23.0±1.0	22.0±1.0
NTNV	Band17	10MHz	23800	50RB#0	23.59	22.44	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band25	1.4MHz	26047	1RB#0	23.54	22.23	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	1RB#2	23.58	22.49	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	1RB#5	23.74	22.54	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	3RB#0	23.49	22.30	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	3RB#1	23.54	22.20	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	3RB#3	23.73	22.59	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26047	6RB#0	23.67	22.62	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	1RB#0	23.66	22.69	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	1RB#2	23.79	22.48	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	1RB#5	23.77	22.70	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	3RB#0	23.64	22.64	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	3RB#1	23.62	22.28	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26365	3RB#3	23.62	22.41	23.0±1.0	22.0±1.0

NTNV	Band25	1.4MHz	26365	6RB#0	23.60	22.45	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	1RB#0	23.20	22.02	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	1RB#2	**23.94**	22.65	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	1RB#5	23.42	22.35	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	3RB#0	23.07	21.92	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	3RB#1	23.91	**22.83**	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	3RB#3	23.28	21.98	23.0±1.0	22.0±1.0
NTNV	Band25	1.4MHz	26683	6RB#0	23.83	22.70	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	1RB#0	23.10	22.09	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	1RB#8	23.85	22.87	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	1RB#14	23.75	22.64	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	8RB#0	23.02	22.00	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	8RB#4	23.74	22.68	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	8RB#7	23.70	22.72	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26055	15RB#0	23.83	22.65	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	1RB#0	23.03	21.92	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	1RB#8	**23.95**	22.86	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	1RB#14	23.80	22.65	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	8RB#0	23.02	21.68	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	8RB#4	23.93	**22.93**	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	8RB#7	23.70	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26365	15RB#0	23.90	22.71	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	1RB#0	23.07	21.98	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	1RB#8	23.88	22.62	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	1RB#14	23.17	22.13	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	8RB#0	22.94	21.87	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	8RB#4	23.75	22.72	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	8RB#7	22.98	21.85	23.0±1.0	22.0±1.0
NTNV	Band25	3MHz	26675	15RB#0	23.82	22.72	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	1RB#0	23.89	**22.88**	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	1RB#12	23.27	21.93	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	1RB#24	23.10	21.89	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	12RB#0	23.84	22.78	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	12RB#6	23.24	22.13	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	12RB#13	23.02	21.93	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26065	25RB#0	23.83	22.62	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	1RB#0	23.11	21.95	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	1RB#12	23.31	22.20	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	1RB#24	23.22	21.98	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band25	5MHz	26365	12RB#0	23.10	22.00	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	12RB#6	23.22	21.99	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	12RB#13	23.08	22.00	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26365	25RB#0	23.27	21.93	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	1RB#0	23.66	22.38	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	1RB#12	**23.94**	22.62	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	1RB#24	23.70	22.37	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	12RB#0	23.62	22.61	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	12RB#6	23.82	22.60	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	12RB#13	23.52	22.39	23.0±1.0	22.0±1.0
NTNV	Band25	5MHz	26665	25RB#0	23.77	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	1RB#0	23.81	**22.75**	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	1RB#24	23.51	22.28	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	1RB#49	23.54	22.31	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	25RB#0	23.60	22.54	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	25RB#12	23.49	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	25RB#25	23.50	22.20	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26090	50RB#0	23.81	22.72	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	1RB#0	**23.86**	22.73	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	1RB#24	23.32	22.28	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	1RB#49	23.67	22.41	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	25RB#0	23.75	22.46	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	25RB#12	23.22	22.14	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	25RB#25	23.57	22.55	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26365	50RB#0	23.78	22.75	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	1RB#0	23.24	21.96	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	1RB#24	23.23	22.26	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	1RB#49	23.77	22.62	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	25RB#0	23.19	22.01	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	25RB#12	23.18	21.96	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	25RB#25	23.56	22.34	23.0±1.0	22.0±1.0
NTNV	Band25	10MHz	26640	50RB#0	23.65	22.37	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	1RB#0	23.08	21.80	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	1RB#38	23.72	22.51	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	1RB#74	23.00	21.78	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	38RB#0	22.90	21.86	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	38RB#18	23.64	22.40	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	38RB#37	22.87	21.60	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26115	75RB#0	23.59	22.62	23.0±1.0	22.0±1.0

NTNV	Band25	15MHz	26365	1RB#0	23.44	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	1RB#38	23.87	22.78	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	1RB#74	23.35	22.25	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	38RB#0	23.32	22.07	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	38RB#18	23.77	22.73	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	38RB#37	23.23	21.92	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26365	75RB#0	23.87	**22.88**	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	1RB#0	23.57	22.30	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	1RB#38	23.64	22.33	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	1RB#74	**23.90**	22.86	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	38RB#0	23.46	22.28	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	38RB#18	23.50	22.21	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	38RB#37	23.85	22.64	23.0±1.0	22.0±1.0
NTNV	Band25	15MHz	26615	75RB#0	23.74	22.65	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	1RB#0	23.38	22.39	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	1RB#49	23.75	22.51	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	1RB#99	23.67	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	50RB#0	23.35	22.05	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	50RB#25	23.67	22.64	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	50RB#50	23.60	22.40	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26140	100RB#0	23.57	22.44	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	1RB#0	23.33	22.13	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	1RB#49	**23.83**	22.61	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	1RB#99	23.75	**22.78**	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	50RB#0	23.19	21.88	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	50RB#25	23.80	22.77	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	50RB#50	23.69	22.63	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26365	100RB#0	23.68	22.33	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	1RB#0	23.64	22.36	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	1RB#49	23.07	22.06	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	1RB#99	23.23	22.24	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	50RB#0	23.50	22.40	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	50RB#25	23.00	21.73	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	50RB#50	23.17	21.89	23.0±1.0	22.0±1.0
NTNV	Band25	20MHz	26590	100RB#0	23.63	22.28	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band26	1.4MHz	26697	1RB#0	23.42	22.12	23.0±1.0	22.0±1.0

NTNV	Band26	1.4MHz	26697	1RB#2	23.58	22.56	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26697	1RB#5	23.62	22.46	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26697	3RB#0	23.40	22.30	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26697	3RB#1	23.46	22.22	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26697	3RB#3	23.58	22.57	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26697	6RB#0	23.49	22.24	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	1RB#0	**23.94**	22.88	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	1RB#2	23.16	22.07	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	1RB#5	23.86	22.66	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	3RB#0	23.79	22.47	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	3RB#1	23.06	21.73	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	3RB#3	23.73	22.44	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26740	6RB#0	23.93	**22.90**	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	1RB#0	23.14	22.11	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	1RB#2	23.71	22.65	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	1RB#5	23.48	22.21	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	3RB#0	22.95	21.62	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	3RB#1	23.63	22.29	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	3RB#3	23.41	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26783	6RB#0	23.57	22.22	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	1RB#0	23.62	22.44	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	1RB#2	23.34	22.34	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	1RB#5	23.37	22.06	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	3RB#0	23.58	22.30	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	3RB#1	23.20	22.14	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	3RB#3	23.22	21.95	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26797	6RB#0	23.48	22.30	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	1RB#0	23.35	22.28	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	1RB#2	23.22	22.23	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	1RB#5	23.16	21.97	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	3RB#0	23.30	22.07	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	3RB#1	23.03	21.82	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	3RB#3	23.01	21.79	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	26915	6RB#0	23.26	21.96	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	1RB#0	23.83	**22.77**	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	1RB#2	**23.88**	22.66	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	1RB#5	23.79	22.60	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	3RB#0	23.71	22.68	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	3RB#1	23.84	22.60	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band26	1.4MHz	27033	3RB#3	23.58	22.30	23.0±1.0	22.0±1.0
NTNV	Band26	1.4MHz	27033	6RB#0	23.67	22.45	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	1RB#0	23.28	22.29	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	1RB#8	23.02	21.76	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	1RB#14	**23.92**	**22.95**	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	8RB#0	23.21	22.06	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	8RB#4	22.89	21.59	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	8RB#7	23.89	22.73	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26705	15RB#0	23.90	22.73	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	1RB#0	23.32	21.97	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	1RB#8	23.61	22.27	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	1RB#14	23.01	21.72	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	8RB#0	23.15	21.88	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	8RB#4	23.60	22.40	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	8RB#7	22.88	21.81	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26740	15RB#0	23.51	22.47	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	1RB#0	23.82	22.75	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	1RB#8	23.08	22.08	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	1RB#14	23.67	22.57	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	8RB#0	23.65	22.33	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	8RB#4	22.97	21.81	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	8RB#7	23.64	22.64	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26775	15RB#0	23.75	22.67	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	1RB#0	23.46	22.49	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	1RB#8	23.01	22.01	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	1RB#14	23.18	21.96	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	8RB#0	23.36	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	8RB#4	22.90	21.59	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	8RB#7	23.14	22.16	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26805	15RB#0	23.30	22.16	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	1RB#0	23.38	22.06	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	1RB#8	23.56	22.44	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	1RB#14	**23.88**	**22.83**	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	8RB#0	23.32	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	8RB#4	23.48	22.50	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	8RB#7	23.72	22.38	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	26915	15RB#0	23.81	22.67	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	1RB#0	23.01	21.98	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	1RB#8	23.01	21.87	23.0±1.0	22.0±1.0

NTNV	Band26	3MHz	27025	1RB#14	23.08	21.83	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	8RB#0	22.96	21.62	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	8RB#4	22.93	21.95	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	8RB#7	22.97	21.90	23.0±1.0	22.0±1.0
NTNV	Band26	3MHz	27025	15RB#0	22.92	21.77	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	1RB#0	**23.88**	22.56	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	1RB#12	23.45	22.45	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	1RB#24	23.17	22.13	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	12RB#0	23.84	22.79	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	12RB#6	23.44	22.32	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	12RB#13	23.01	21.90	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26715	25RB#0	23.86	**22.81**	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	1RB#0	23.04	21.80	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	1RB#12	**23.88**	22.61	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	1RB#24	23.50	22.31	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	12RB#0	22.86	21.89	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	12RB#6	23.71	22.58	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	12RB#13	23.33	22.08	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26740	25RB#0	23.86	22.54	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	1RB#0	23.09	21.92	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	1RB#12	23.38	22.17	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	1RB#24	23.19	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	12RB#0	22.96	21.65	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	12RB#6	23.22	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	12RB#13	23.05	21.81	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26765	25RB#0	23.24	22.18	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	1RB#0	23.33	22.12	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	1RB#12	23.65	22.44	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	1RB#24	**23.88**	**22.90**	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	12RB#0	23.20	22.02	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	12RB#6	23.60	22.54	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	12RB#13	23.79	22.52	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26815	25RB#0	23.70	22.36	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	1RB#0	23.73	22.61	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	1RB#12	23.16	22.15	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	1RB#24	23.77	22.71	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	12RB#0	23.65	22.44	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	12RB#6	23.12	21.87	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	26915	12RB#13	23.75	22.45	23.0±1.0	22.0±1.0

NTNV	Band26	5MHz	26915	25RB#0	23.76	22.56	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	1RB#0	23.44	22.20	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	1RB#12	23.68	22.43	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	1RB#24	23.78	22.71	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	12RB#0	23.41	22.06	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	12RB#6	23.64	22.61	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	12RB#13	23.67	22.58	23.0±1.0	22.0±1.0
NTNV	Band26	5MHz	27015	25RB#0	23.68	22.39	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	1RB#0	23.24	22.10	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	1RB#24	**23.89**	22.55	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	1RB#49	23.03	21.69	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	25RB#0	23.23	22.21	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	25RB#12	23.72	22.46	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	25RB#25	22.95	21.75	23.0±1.0	22.0±1.0
NTNV	Band26	10MHz	26740	50RB#0	23.72	22.54	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	1RB#0	23.46	22.35	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	1RB#38	23.85	22.77	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	1RB#74	**23.87**	**22.81**	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	38RB#0	23.44	22.31	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	38RB#18	23.66	22.66	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	38RB#37	23.72	22.49	23.0±1.0	22.0±1.0
NTNV	Band26	15MHz	26765	75RB#0	23.24	22.02	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band66	1.4MHz	131979	1RB#0	23.22	21.87	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	1RB#2	23.32	22.10	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	1RB#5	23.51	22.37	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	3RB#0	23.21	22.18	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	3RB#1	23.18	22.13	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	3RB#3	23.18	22.07	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	131979	6RB#0	23.41	22.22	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	1RB#0	23.66	22.49	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	1RB#2	23.73	22.67	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	1RB#5	23.17	21.91	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	3RB#0	23.61	22.63	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	3RB#1	23.60	22.60	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	3RB#3	23.09	22.12	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132322	6RB#0	23.67	22.57	23.0±1.0	22.0±1.0

NTNV	Band66	1.4MHz	132665	1RB#0	23.43	22.26	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	1RB#2	23.03	21.84	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	1RB#5	**23.91**	**22.87**	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	3RB#0	23.26	22.25	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	3RB#1	22.90	21.60	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	3RB#3	23.87	22.52	23.0±1.0	22.0±1.0
NTNV	Band66	1.4MHz	132665	6RB#0	23.81	22.56	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	1RB#0	23.25	22.26	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	1RB#8	23.26	21.94	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	1RB#14	23.66	22.38	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	8RB#0	23.09	22.09	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	8RB#4	23.09	21.97	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	8RB#7	23.59	22.41	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	131987	15RB#0	23.52	22.23	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	1RB#0	23.55	22.26	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	1RB#8	23.00	21.65	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	1RB#14	23.35	22.09	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	8RB#0	23.52	22.36	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	8RB#4	22.86	21.70	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	8RB#7	23.29	21.97	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132322	15RB#0	23.42	22.22	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	1RB#0	23.88	22.56	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	1RB#8	**23.92**	22.75	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	1RB#14	23.01	21.91	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	8RB#0	23.77	22.64	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	8RB#4	23.80	22.48	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	8RB#7	22.97	21.75	23.0±1.0	22.0±1.0
NTNV	Band66	3MHz	132657	15RB#0	23.89	**22.83**	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	1RB#0	23.16	21.81	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	1RB#12	23.00	21.89	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	1RB#24	23.70	22.65	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	12RB#0	22.95	21.94	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	12RB#6	22.93	21.83	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	12RB#13	23.67	22.34	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	131997	25RB#0	23.69	22.45	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	1RB#0	23.16	22.00	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	1RB#12	23.60	22.61	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	1RB#24	23.61	22.51	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	12RB#0	23.02	21.90	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band66	5MHz	132322	12RB#6	23.49	22.51	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	12RB#13	23.44	22.30	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132322	25RB#0	23.41	22.42	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	1RB#0	**23.81**	22.51	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	1RB#12	23.77	**22.78**	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	1RB#24	23.02	21.77	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	12RB#0	23.73	22.65	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	12RB#6	23.60	22.41	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	12RB#13	22.83	21.61	23.0±1.0	22.0±1.0
NTNV	Band66	5MHz	132647	25RB#0	23.73	22.48	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	1RB#0	23.15	21.85	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	1RB#24	23.00	21.85	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	1RB#49	**23.57**	22.39	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	25RB#0	23.04	21.90	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	25RB#12	22.85	21.53	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	25RB#25	23.56	22.29	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132022	50RB#0	23.51	22.31	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	1RB#0	23.01	21.67	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	1RB#24	23.01	21.98	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	1RB#49	23.49	22.16	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	25RB#0	22.94	21.93	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	25RB#12	22.96	21.92	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	25RB#25	23.43	22.43	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132322	50RB#0	23.32	22.06	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	1RB#0	23.08	22.11	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	1RB#24	23.03	21.92	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	1RB#49	23.46	22.26	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	25RB#0	22.91	21.85	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	25RB#12	22.93	21.96	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	25RB#25	23.37	22.38	23.0±1.0	22.0±1.0
NTNV	Band66	10MHz	132622	50RB#0	23.41	**22.44**	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	1RB#0	**23.72**	22.41	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	1RB#38	23.00	21.88	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	1RB#74	23.63	**22.49**	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	38RB#0	23.70	22.45	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	38RB#18	22.80	21.48	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	38RB#37	23.58	22.30	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132047	75RB#0	23.53	22.21	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	1RB#0	23.15	22.16	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band66	15MHz	132322	1RB#38	23.32	22.04	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	1RB#74	23.57	22.38	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	38RB#0	23.08	22.02	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	38RB#18	23.19	22.02	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	38RB#37	23.51	22.19	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132322	75RB#0	23.57	22.45	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	1RB#0	23.05	21.97	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	1RB#38	23.04	22.05	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	1RB#74	23.17	21.83	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	38RB#0	22.90	21.84	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	38RB#18	22.88	21.73	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	38RB#37	23.04	21.72	23.0±1.0	22.0±1.0
NTNV	Band66	15MHz	132597	75RB#0	22.97	21.81	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	1RB#0	23.82	22.82	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	1RB#49	23.60	22.40	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	1RB#99	23.28	22.15	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	50RB#0	23.75	22.48	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	50RB#25	23.52	22.43	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	50RB#50	23.20	22.18	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132072	100RB#0	23.71	22.61	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	1RB#0	23.92	22.63	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	1RB#49	23.63	22.57	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	1RB#99	23.48	22.30	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	50RB#0	23.91	**22.93**	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	50RB#25	23.47	22.25	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	50RB#50	23.35	22.00	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132322	100RB#0	23.77	22.58	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	1RB#0	23.12	22.09	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	1RB#49	**23.94**	22.83	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	1RB#99	23.67	22.70	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	50RB#0	23.01	21.70	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	50RB#25	23.93	22.62	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	50RB#50	23.67	22.35	23.0±1.0	22.0±1.0
NTNV	Band66	20MHz	132572	100RB#0	23.92	22.69	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band38	5MHz	37775	1RB#0	23.79	22.56	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	1RB#12	23.06	21.87	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	1RB#24	23.17	22.12	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	12RB#0	23.59	22.56	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	12RB#6	22.91	21.56	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	12RB#13	23.05	21.75	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	37775	25RB#0	23.67	22.35	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	1RB#0	23.74	22.66	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	1RB#12	23.27	22.23	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	1RB#24	23.36	22.05	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	12RB#0	23.72	22.64	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	12RB#6	23.25	21.99	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	12RB#13	23.21	21.92	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38000	25RB#0	23.57	22.51	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	1RB#0	23.73	22.63	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	1RB#12	**23.90**	**22.87**	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	1RB#24	23.38	22.04	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	12RB#0	23.65	22.38	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	12RB#6	23.89	22.78	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	12RB#13	23.19	22.09	23.0±1.0	22.0±1.0
NTNV	Band38	5MHz	38225	25RB#0	23.79	22.64	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	1RB#0	23.41	22.19	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	1RB#24	23.00	21.66	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	1RB#49	23.06	21.82	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	25RB#0	23.37	22.31	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	25RB#12	22.85	21.73	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	25RB#25	23.01	21.69	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	37800	50RB#0	23.30	22.30	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	1RB#0	23.73	22.74	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	1RB#24	23.74	22.62	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	1RB#49	**23.87**	**22.86**	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	25RB#0	23.58	22.52	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	25RB#12	23.71	22.62	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	25RB#25	23.70	22.73	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38000	50RB#0	23.82	22.48	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	1RB#0	23.41	22.32	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	1RB#24	23.68	22.55	23.0±1.0	22.0±1.0

NTNV	Band38	10MHz	38200	1RB#49	23.28	22.23	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	25RB#0	23.36	22.05	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	25RB#12	23.59	22.34	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	25RB#25	23.18	22.08	23.0±1.0	22.0±1.0
NTNV	Band38	10MHz	38200	50RB#0	23.64	22.31	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	1RB#0	23.08	22.08	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	1RB#38	23.86	22.60	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	1RB#74	23.67	22.53	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	38RB#0	23.00	21.88	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	38RB#18	23.68	22.52	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	38RB#37	23.53	22.24	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	37825	75RB#0	23.81	22.78	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	1RB#0	23.16	22.06	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	1RB#38	23.28	22.05	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	1RB#74	23.57	22.50	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	38RB#0	23.03	22.03	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	38RB#18	23.22	22.20	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	38RB#37	23.48	22.38	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38000	75RB#0	23.36	22.28	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	1RB#0	23.10	21.88	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	1RB#38	**23.93**	22.66	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	1RB#74	23.65	22.65	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	38RB#0	22.99	21.84	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	38RB#18	23.83	**22.82**	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	38RB#37	23.52	22.31	23.0±1.0	22.0±1.0
NTNV	Band38	15MHz	38175	75RB#0	23.72	22.61	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	1RB#0	23.17	22.08	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	1RB#49	23.75	22.59	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	1RB#99	23.07	22.04	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	50RB#0	23.03	21.85	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	50RB#25	23.54	22.43	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	50RB#50	22.98	21.91	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	37850	100RB#0	23.69	22.35	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	1RB#0	**23.93**	22.68	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	1RB#49	23.67	22.50	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	1RB#99	23.17	22.07	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	50RB#0	23.82	22.60	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	50RB#25	23.65	22.54	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38000	50RB#50	23.07	21.93	23.0±1.0	22.0±1.0

NTNV	Band38	20MHz	38000	100RB#0	23.83	**22.80**	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	1RB#0	23.11	22.06	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	1RB#49	23.27	22.16	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	1RB#99	23.66	22.64	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	50RB#0	22.96	21.86	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	50RB#25	23.22	21.91	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	50RB#50	23.49	22.37	23.0±1.0	22.0±1.0
NTNV	Band38	20MHz	38150	100RB#0	23.51	22.44	23.0±1.0	22.0±1.0

Condition	Band	Channel Bandwidth	Channel	RB Configure	Result (dBm)		Tune-Up	
					QPSK	16QAM	QPSK	16QAM
NTNV	Band41	5MHz	39675	1RB#0	23.09	22.06	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	1RB#12	23.40	22.05	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	1RB#24	23.19	22.02	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	12RB#0	22.98	21.93	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	12RB#6	23.31	22.09	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	12RB#13	23.01	22.03	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	39675	25RB#0	23.27	21.98	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	1RB#0	23.24	22.20	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	1RB#12	23.57	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	1RB#24	23.16	22.07	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	12RB#0	23.11	21.88	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	12RB#6	23.50	22.34	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	12RB#13	23.04	21.70	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40147	25RB#0	23.54	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	1RB#0	23.28	22.04	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	1RB#12	23.22	21.92	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	1RB#24	23.68	22.49	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	12RB#0	23.21	22.04	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	12RB#6	23.13	22.09	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	12RB#13	23.63	22.46	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	40620	25RB#0	23.54	22.19	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	1RB#0	23.75	22.60	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	1RB#12	23.24	22.08	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	1RB#24	23.30	22.24	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	12RB#0	23.56	22.29	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	12RB#6	23.11	21.76	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	12RB#13	23.18	22.17	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	41092	25RB#0	23.68	22.68	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band41	5MHz	51565	1RB#0	23.03	21.72	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	1RB#12	**23.87**	**22.85**	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	1RB#24	23.68	22.66	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	12RB#0	23.00	21.87	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	12RB#6	23.74	22.74	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	12RB#13	23.60	22.57	23.0±1.0	22.0±1.0
NTNV	Band41	5MHz	51565	25RB#0	23.86	22.83	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	1RB#0	23.03	21.86	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	1RB#24	23.33	22.33	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	1RB#49	23.66	22.69	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	25RB#0	22.94	21.92	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	25RB#12	23.21	22.20	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	25RB#25	23.65	22.35	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	39700	50RB#0	23.64	22.44	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	1RB#0	23.14	21.80	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	1RB#24	23.52	22.40	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	1RB#49	23.08	21.98	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	25RB#0	23.03	21.81	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	25RB#12	23.50	22.32	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	25RB#25	23.02	21.91	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40160	50RB#0	23.35	22.21	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	1RB#0	23.40	22.36	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	1RB#24	**23.88**	**22.71**	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	1RB#49	23.00	21.71	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	25RB#0	23.35	22.25	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	25RB#12	23.86	22.61	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	25RB#25	22.94	21.76	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	40620	50RB#0	23.74	22.40	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	1RB#0	23.14	22.05	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	1RB#24	23.66	22.43	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	1RB#49	23.44	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	25RB#0	23.04	21.83	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	25RB#12	23.61	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	25RB#25	23.37	22.04	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41080	50RB#0	23.66	22.58	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	1RB#0	23.53	22.52	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	1RB#24	23.16	21.84	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	1RB#49	23.33	22.08	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	25RB#0	23.33	22.00	23.0±1.0	22.0±1.0

NTNV	Band41	10MHz	41540	25RB#12	22.98	21.70	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	25RB#25	23.22	21.94	23.0±1.0	22.0±1.0
NTNV	Band41	10MHz	41540	50RB#0	23.33	22.25	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	1RB#0	23.85	22.76	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	1RB#38	23.38	22.39	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	1RB#74	**23.90**	22.67	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	38RB#0	23.82	**22.78**	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	38RB#18	23.30	22.16	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	38RB#37	23.70	22.63	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	39725	75RB#0	23.85	22.63	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	1RB#0	23.63	22.65	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	1RB#38	23.75	22.72	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	1RB#74	23.88	22.53	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	38RB#0	23.50	22.37	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	38RB#18	23.73	22.48	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	38RB#37	23.76	22.70	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40173	75RB#0	23.84	22.54	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	1RB#0	23.85	22.65	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	1RB#38	23.63	22.56	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	1RB#74	23.41	22.30	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	38RB#0	23.84	22.55	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	38RB#18	23.57	22.50	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	38RB#37	23.39	22.30	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	40620	75RB#0	23.70	22.64	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	1RB#0	23.42	22.23	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	1RB#38	23.28	21.98	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	1RB#74	23.29	22.04	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	38RB#0	23.33	22.33	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	38RB#18	23.25	22.25	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	38RB#37	23.27	22.14	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41093	75RB#0	23.29	21.94	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	1RB#0	23.52	22.36	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	1RB#38	23.27	21.99	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	1RB#74	23.57	22.32	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	38RB#0	23.52	22.32	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	38RB#18	23.21	22.18	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	38RB#37	23.42	22.17	23.0±1.0	22.0±1.0
NTNV	Band41	15MHz	41515	75RB#0	23.50	22.18	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	1RB#0	23.20	22.01	23.0±1.0	22.0±1.0

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

NTNV	Band41	20MHz	39750	1RB#49	23.52	22.47	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	1RB#99	**23.91**	22.59	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	50RB#0	23.09	21.75	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	50RB#25	23.44	22.26	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	50RB#50	23.87	**22.86**	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	39750	100RB#0	23.79	22.53	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	1RB#0	23.79	22.60	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	1RB#49	23.81	22.58	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	1RB#99	23.39	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	50RB#0	23.69	22.53	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	50RB#25	23.72	22.43	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	50RB#50	23.27	22.25	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40185	100RB#0	23.79	22.66	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	1RB#0	23.25	21.93	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	1RB#49	23.16	21.95	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	1RB#99	23.72	22.54	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	50RB#0	23.20	22.11	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	50RB#25	22.96	21.70	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	50RB#50	23.59	22.48	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	40620	100RB#0	23.61	22.63	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	1RB#0	23.39	22.22	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	1RB#49	23.07	21.87	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	1RB#99	23.01	21.86	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	50RB#0	23.38	22.10	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	50RB#25	23.01	21.81	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	50RB#50	22.92	21.71	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41055	100RB#0	23.37	22.38	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	1RB#0	23.04	21.84	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	1RB#49	23.79	22.65	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	1RB#99	23.59	22.39	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	50RB#0	23.01	21.91	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	50RB#25	23.72	22.62	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	50RB#50	23.38	22.24	23.0±1.0	22.0±1.0
NTNV	Band41	20MHz	41490	100RB#0	23.77	22.44	23.0±1.0	22.0±1.0

<WLAN 2.4GHz Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Average Output Power(dBm)	Tune-up
802.11b	1	2412	10.90	10±1.0
	6	2437	10.84	10±1.0
	11	2462	9.81	10±1.0
802.11g	1	2412	11.60	12±1.0
	6	2437	12.40	12±1.0
	11	2462	11.66	12±1.0
802.11n(HT20)	1	2412	11.64	12.5±1.0
	6	2437	13.10	12.5±1.0
	11	2462	11.91	12.5±1.0
802.11n(HT40)	3	2422	11.91	12.5±1.0
	6	2437	12.06	12.5±1.0
	9	2452	11.59	12.5±1.0

<WLAN 5.2GHz Conducted Power>

Type	Channel	Frequency (MHz)	Conducted Average Output Power(dBm)	Tune-up
802.11a	36	5180	8.86	8±1.0
	40	5200	8.70	8±1.0
	48	5240	10.76	10±1.0
802.11n(HT20)	36	5180	11.08	11±1.0
	40	5200	10.24	11±1.0
	48	5240	11.49	11±1.0
802.11n(HT40)	38	5190	14.22	14±1.0
	46	5230	11.10	11±1.0
802.11ac(HT20)	36	5180	9.34	10±1.0
	40	5200	10.51	11±1.0
	48	5240	11.05	11±1.0
802.11ac(HT40)	38	5190	9.82	10±1.0
	46	5230	11.16	11±1.0
802.11ac(HT80)	42	5210	13.22	13±1.0

<WLAN 5.3GHz Conducted Power>

Type	Channel	Frequency (MHz)	Conducted Average Output Power(dBm)	Tune-up
802.11a	52	5260	11.69	11±1.0
	60	5300	11.95	11±1.0
	64	5320	11.86	11±1.0
802.11n(HT20)	52	5260	12.09	12±1.0
	60	5300	12.35	12±1.0
	64	5320	12.22	12±1.0
802.11n(HT40)	54	5270	11.76	11±1.0
	62	5310	11.98	11±1.0
802.11ac(HT20)	52	5260	11.83	12±1.0
	60	5300	12.33	12±1.0
	64	5320	12.06	12±1.0
802.11ac(HT40)	54	5270	12.31	12±1.0
	62	5310	12.47	12±1.0
802.11ac(HT80)	58	5290	14.98	14±1.0

<WLAN 5.8GHz Conducted Power>

Type	Channel	Frequency (MHz)	Conducted Average Output Power(dBm)	Tune-up
802.11a	149	5745	15.19	15±1.0
	157	5785	14.81	14±1.0
	165	5825	12.30	12±1.0
802.11n(HT20)	149	5745	14.04	15±1.0
	157	5785	14.87	15±1.0
	165	5825	**15.44**	15±1.0
802.11n(HT40)	151	5755	13.49	13±1.0
	159	5795	13.84	13±1.0
802.11ac(HT20)	149	5745	11.35	12±1.0
	157	5785	15.11	15±1.0
	165	5825	14.48	14±1.0
802.11ac(HT40)	151	5755	11.77	11±1.0
	159	5795	12.24	12±1.0
802.11ac(HT80)	155	5775	15.15	15±1.0

<Bluetooth Conducted Power>

Mode	Channel	Frequency (MHz)	Conducted Average Output Power(dBm)	Tune-up
GFSK	0	2402	-7.12	-8±1.0
	39	2441	-6.23	-6±1.0
	78	2480	-8.08	-8±1.0
π/4DQPSK	0	2402	-8.06	-8±1.0
	39	2441	-6.87	-6±1.0
	78	2480	-8.33	-8±1.0
8DPSK	0	2402	-7.46	-8±1.0
	39	2441	-6.38	-6±1.0
	78	2480	-7.80	-8±1.0
BLE1M(GFSK)	00	2402	-2.71	-3±1.0
	19	2440	-1.93	-2±1.0
	39	2480	-3.89	-3±1.0

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

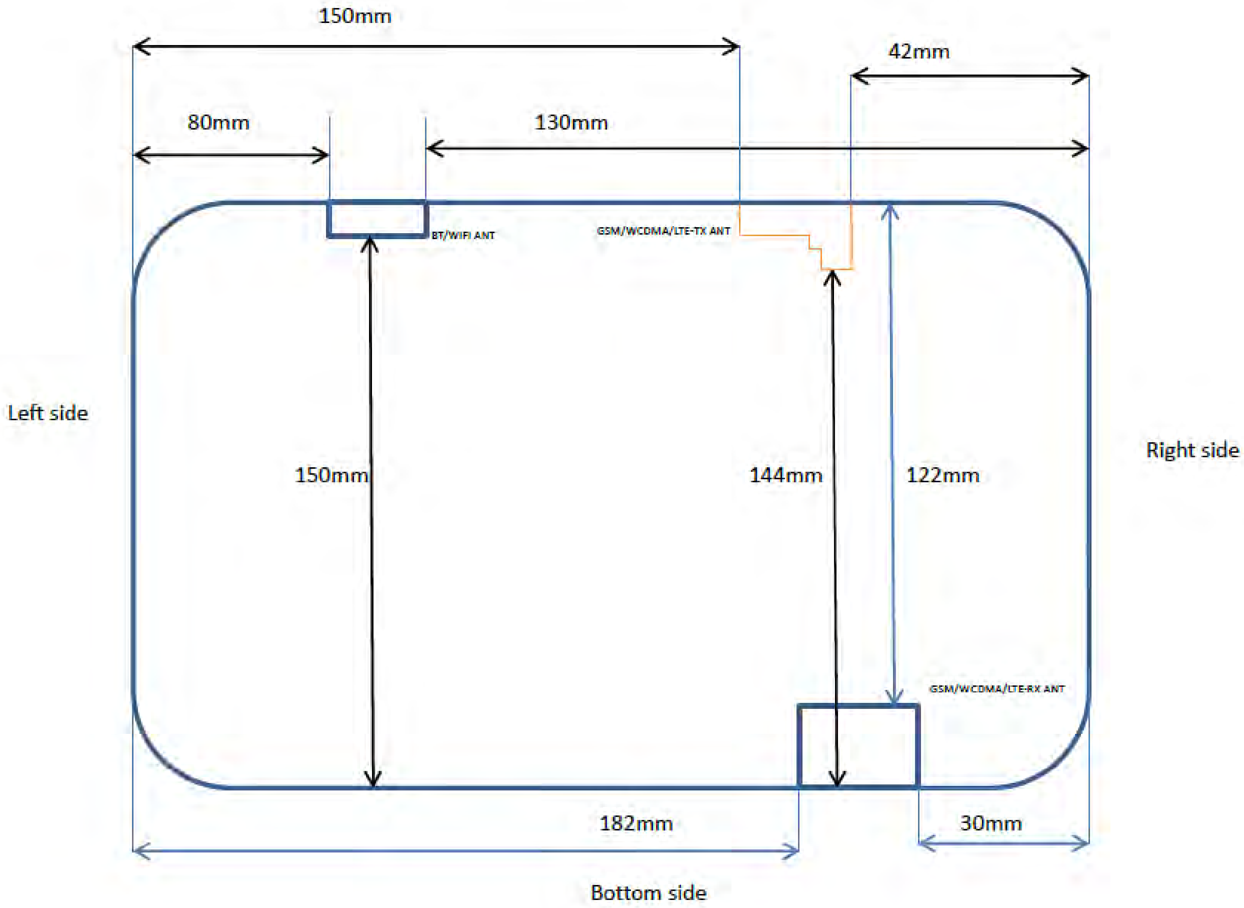
2. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion.

3. 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.

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.

10.2 Transmit Antennas and SAR Measurement Position



Distance of The Antenna to the EUT surface and edge						
Antennas	Front	Back	Top Side	Bottom Side	Left Side	Right Side
WWAN	<5mm	<5mm	<5mm	144mm	150mm	42mm
WLAN	<5mm	<5mm	<5mm	150mm	80mm	130mm

10.3 Standalone SAR Test Exclusion Considerations

General Note:

1 The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"

2 Maximum power is the source-based time-average power and represents the maximum RF output power among production units

3 Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.

4 Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.

5 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.

6 Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for test separation distances > 50 mm, the SAR test exclusion threshold is determined according to the following:

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

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

The below table, exemption limits for routine evaluation based on frequency and separation distance was according to SAR-based Exemption – §1.1307(b)(3)(i)(B).

Standalone SAR test exclusion considerations								
Wireless Interface	Frequency (MHz)	Configuration	Maximum Average Power		Separation Distance (mm)	Calculation Result	SAR Exclusion Thresholds	Standalone SAR Exclusion
			dBm	mW				
GSM850	836.6	Rear Face	33.00	1995.262	5	365	3	no
		Left Edge	33.00	1995.262	150	1995.262	1036.5	no
		Right Edge	33.00	1995.262	42	43.5	3	no
		Top Edge	33.00	1995.262	5	365	3	no
		Bottom Edge	33.00	1995.262	144	1995.262	976.5	no
GSM1900	1880	Rear Face	31.00	1258.925	5	345.2	3	no
		Left Edge	31.00	1258.925	150	1258.925	1034.5	no
		Right Edge	31.00	1258.925	42	41.1	3	no
		Top Edge	31.00	1258.925	5	345.2	3	no
		Bottom Edge	31.00	1258.925	144	1258.925	974.5	no

WCDMA Band II	1880	Rear Face	24.00	251.189	5	68.9	3	no
		Left Edge	24.00	251.189	150	251.189	1006.9	yes
		Right Edge	24.00	251.189	42	8.2	3	no
		Top Edge	24.00	251.189	5	68.9	3	no
		Bottom Edge	24.00	251.189	144	251.189	946.9	yes
WCDMA Band IV	1732.6	Rear Face	24.00	251.189	5	66.1	3	no
		Left Edge	24.00	251.189	150	251.189	1006.6	yes
		Right Edge	24.00	251.189	42	7.9	3	no
		Top Edge	24.00	251.189	5	66.1	3	no
		Bottom Edge	24.00	251.189	144	251.189	946.6	yes
WCDMA Band V	836.6	Rear Face	24.00	251.189	5	46	3	no
		Left Edge	24.00	251.189	150	251.189	1004.6	yes
		Right Edge	24.00	251.189	42	5.5	3	no
		Top Edge	24.00	251.189	5	46	3	no
		Bottom Edge	24.00	251.189	144	251.189	944.6	yes
LTE band 2 &LTE band 25	1880	Rear Face	24.00	251.189	5	68.9	3	no
		Left Edge	24.00	251.189	150	251.189	1006.9	yes
		Right Edge	24.00	251.189	42	8.2	3	no
		Top Edge	24.00	251.189	5	68.9	3	no
		Bottom Edge	24.00	251.189	144	251.189	946.9	yes
LTE band 4 &LTE band 66	1732.5	Rear Face	24.00	251.189	5	66.1	3	no
		Left Edge	24.00	251.189	150	251.189	1006.6	yes
		Right Edge	24.00	251.189	42	7.9	3	no
		Top Edge	24.00	251.189	5	66.1	3	no
		Bottom Edge	24.00	251.189	144	251.189	946.6	yes
LTE band 5 &LTE band 19 & LTE band 26	836.5	Rear Face	24.00	251.189	5	45.9	3	no
		Left Edge	24.00	251.189	150	251.189	1004.6	yes
		Right Edge	24.00	251.189	42	5.5	3	no
		Top Edge	24.00	251.189	5	45.9	3	no
		Bottom Edge	24.00	251.189	144	251.189	944.6	yes
LTE band 7	2535	Rear Face	24.00	251.189	5	80	3	no
		Left Edge	24.00	251.189	150	251.189	1008	yes
		Right Edge	24.00	251.189	42	9.5	3	no
		Top Edge	24.00	251.189	5	80	3	no
		Bottom Edge	24.00	251.189	144	251.189	948	yes
LTE band 12& LTE band 17	710	Rear Face	24.00	251.189	5	42.3	3	no
		Left Edge	24.00	251.189	150	251.189	1004.2	yes
		Right Edge	24.00	251.189	42	5	3	no
		Top Edge	24.00	251.189	5	42.3	3	no

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

		Bottom Edge	24.00	251.189	144	251.189	944.2	yes
LTE band 38& LTE band 41	2595	Rear Face	24.00	251.189	5	80.9	3	no
		Left Edge	24.00	251.189	150	251.189	1008.1	yes
		Right Edge	24.00	251.189	42	9.6	3	no
		Top Edge	24.00	251.189	5	80.9	3	no
		Bottom Edge	24.00	251.189	144	251.189	948.1	yes
LTE band 40	2310	Rear Face	24.00	251.189	5	76.4	3	no
		Left Edge	24.00	251.189	150	251.189	1007.6	yes
		Right Edge	24.00	251.189	42	9.1	3	no
		Top Edge	24.00	251.189	5	76.4	3	no
		Bottom Edge	24.00	251.189	144	251.189	947.6	yes
2.4GHz WLAN	2450	Rear Face	13.50	22.387	5	7	3	no
		Left Edge	13.50	22.387	80	22.387	300.7	yes
		Right Edge	13.50	22.387	130	22.387	800.7	yes
		Top Edge	13.50	22.387	5	7	3	no
		Bottom Edge	13.50	22.387	150	22.387	1000.7	yes
5.2 GHz WLAN	5150	Rear Size	15.00	31.623	5	14.4	3	no
		Left Size	15.00	31.623	80	31.623	301.4	yes
		Right Size	15.00	31.623	130	31.623	801.4	yes
		Top Size	15.00	31.623	5	14.4	3	no
		Bottom Size	15.00	31.623	150	31.623	1001.4	yes
5.3 GHz WLAN	5250	Rear Size	15.00	31.623	5	14.5	3	no
		Left Size	15.00	31.623	80	31.623	301.4	yes
		Right Size	15.00	31.623	130	31.623	801.4	yes
		Top Size	15.00	31.623	5	14.5	3	no
		Bottom Size	15.00	31.623	150	31.623	1001.4	yes
5.8 GHz WLAN	5785	Rear Size	16.00	39.811	5	19.2	3	no
		Left Size	16.00	39.811	80	39.811	301.9	yes
		Right Size	16.00	39.811	130	39.811	801.9	yes
		Top Size	16.00	39.811	5	19.2	3	no
		Bottom Size	16.00	39.811	150	39.811	1001.9	yes
Bluetooth*	2440	Rear Size	-1.00	0.794	5	0.2	3	yes
		Left Size	-1.00	0.794	80	0.794	300	yes
		Right Size	-1.00	0.794	130	0.794	800	yes
		Top Size	-1.00	0.794	5	0.2	3	yes
		Bottom Size	-1.00	0.794	150	0.794	1000	yes

Remark:

1. *Maximum average power including tune-up tolerance;*
2. *Bluetooth including BLE-Lower Energy Bluetooth and Classical Bluetooth;*

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

3. *When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion*
4. *Per KDB 648474, if overall diagonal dimension of the display section of a tablet lager than 20 cm, no need consider Hotspot mode.*

10.4 Estimated SAR

Per KDB447498 requires when the standalone SAR test exclusion of section 4.3.1 is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to the following to determine simultaneous transmission SAR test exclusion;

● (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.

● 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the test separation distances is > 50 mm

Per FCC KD B447498 D01,simultaneous transmission SAR test exclusion may be applied when the sum of the 1-g SAR for all the transmitting antenna in a specific a physical test configuration is ≤1.6 W/Kg.When the sum is greater than the SAR limit,SAR test exclusion is determined by the SAR to peak location separation ratio.

$$\text{Ratio} = \frac{(SAR_1 + SAR_2)^{1.5}}{(\text{peak location separation,mm})} < 0.04$$

Estimated stand alone SAR					
Communication system	Frequency (MHz)	Configuration	Maximum Power (dBm)	Separation Distance (mm)	Estimated SAR_{1-g} (W/kg)
Bluetooth	2450	Body	-1.0	0	0.033
/	/	/	/	/	/

Remark:

1. Maximum average power including tune-up tolerance;
2. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion
3. Body including Hotspot mode as body use distance is 10mm from manufacturer declaration of user manual.

10.5 SAR Test Results Summary

General Note:

1.Per KDB 447498 D01v05r01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.

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 D01v05r01, for each exposure position, if the highest output channel reported SAR≤0.8W/kg, other channels SAR testing are not necessary

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

4.Per KDB 941225 D05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.

5.Per KDB 941225 D05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

6.Per KDB 941225 D05, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05, 16QAM SAR testing is not required.

7.Per KDB 941225 D05, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05, smaller bandwidth SAR testing is not required.

8.Per KDB865664 D01, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/Kg; if the deviation among the repeated measurement is ≤20%,and the measured SAR <1.45W/Kg, only one repeated measurement is required.

9.When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous transmission of both the Wi-Fi transmitting frequency and thus cannot be evaluated for SAR under actual use conditions. The “Portable Hotspot” feature on the handset was
NOT activated, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal.

10.6 SAR Results

Body SAR

SAR Values [GSM 850]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	GPRS 2 Tx slots	Front Face	190	836.6	30.78	31.00	1.052	-0.05	0.564	0.593
#1	GPRS 2 Tx slots	Rear Face	190	836.6	30.78	31.00	1.052	0.04	**0.725**	**0.763**
	GPRS 2 Tx slots	Left Edge	190	836.6	30.78	31.00	1.052	-0.05	0.125	0.131
	GPRS 2 Tx slots	Right Edge	190	836.6	30.78	31.00	1.052	0.06	0.234	0.246
	GPRS 2 Tx slots	Top Edge	190	836.6	30.78	31.00	1.052	0.03	0.715	0.752
	GPRS 2 Tx slots	Bottom Edge	190	836.6	30.78	31.00	1.052	0.03	0.132	0.139
	GPRS 2 Tx slots	Rear Face	190	836.6	23.86	24.00	1.033	0.10	0.573	0.592

SAR Values [PCS 1900]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	GPRS 3 Tx slots	Front Face	661	1880.0	27.90	28.00	1.023	0.05	0.498	0.510
#2	GPRS 3 Tx slots	Rear Face	661	1880.0	27.90	28.00	1.023	-0.03	**0.654**	**0.669**
	GPRS 3 Tx slots	Left Edge	661	1880.0	27.90	28.00	1.023	-0.02	0.048	0.049
	GPRS 3 Tx slots	Right Edge	661	1880.0	27.90	28.00	1.023	0.05	0.105	0.107
	GPRS 3 Tx slots	Top Edge	661	1880.0	27.90	28.00	1.023	-0.05	0.637	0.652
	GPRS 3 Tx slots	Bottom Edge	661	1880.0	27.90	28.00	1.023	0.06	0.109	0.112
	EGPRS 3 Tx slots	Rear Face	661	1880.0	24.26	25.00	1.186	0.07	0.501	0.594

SAR Values [WCDMA II]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	RMC 12.2Kbps	Front Face	9400	1880.0	23.63	24.00	1.089	0.05	0.713	0.776
#3	RMC 12.2Kbps	Rear Face	9400	1880.0	23.63	24.00	1.089	0.07	**0.875**	0.953
	RMC 12.2Kbps	Right Edge	9400	1880.0	23.63	24.00	1.089	-0.05	0.312	0.340
	RMC 12.2Kbps	Top Edge	9400	1880.0	23.63	24.00	1.089	-0.11	0.865	0.942
	RMC 12.2Kbps	Rear Face	9262	1852.4	23.58	24.00	1.102	0.05	0.871	**0.959**
	RMC 12.2Kbps	Top Edge	9262	1852.4	23.58	24.00	1.102	-0.03	0.855	0.942
	RMC 12.2Kbps	Rear Face	9538	1907.6	23.50	24.00	1.122	0.03	0.868	0.974
	RMC 12.2Kbps	Top Edge	9538	1907.6	23.50	24.00	1.122	0.05	0.851	0.955

SAR Values [WCDMA IV]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	RMC 12.2Kbps	Front Face	1412	1732.6	23.44	24.00	1.138	0.10	0.748	0.851
#4	RMC 12.2Kbps	Rear Face	1412	1732.6	23.44	24.00	1.138	0.07	**0.911**	1.036
	RMC 12.2Kbps	Right Edge	1412	1732.6	23.44	24.00	1.138	0.04	0.405	0.461
	RMC 12.2Kbps	Top Edge	1412	1732.6	23.44	24.00	1.138	0.04	0.902	1.026
	RMC 12.2Kbps	Rear Face	1312	1712.4	23.34	24.00	1.164	0.05	0.905	**1.054**
	RMC 12.2Kbps	Top Edge	1312	1712.4	23.34	24.00	1.164	0.03	0.887	1.033
	RMC 12.2Kbps	Rear Face	1513	1752.6	23.37	24.00	1.156	-0.06	0.896	1.036
	RMC 12.2Kbps	Top Edge	1513	1752.6	23.37	24.00	1.156	-0.04	0.876	1.013

Address:1/F.,Building D,Sogood Science and Technology Park, Sanwei Community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.
Tel:(86) 0755-26066440 Fax:(86) 0755-26014772 Email:service@anbotek.com
Hotline 400-003-0500
www.anbotek.com.cn

SAR Values [WCDMA V]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	RMC 12.2Kbps	Front Face	4183	836.6	23.50	24.00	1.122	-0.03	0.566	0.635
	RMC 12.2Kbps	Rear Face	4183	836.6	23.50	24.00	1.122	0.03	**0.719**	0.807
	RMC 12.2Kbps	Right Face	4183	836.6	23.50	24.00	1.122	0.02	0.215	0.241
	RMC 12.2Kbps	Top Edge	4183	836.6	23.50	24.00	1.122	0.05	0.706	0.792
#5	RMC 12.2Kbps	Rear Face	4132	826.4	23.37	24.00	1.156	0.05	0.711	**0.822**
	RMC 12.2Kbps	Rear Face	4233	846.6	23.45	24.00	1.135	-0.07	0.715	0.812

SAR Values [LTE Band 7]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	20MHz/1RB#0	Front Face	21100	2535	23.92	24.00	1.019	0.10	0.521	0.531
#6	20MHz/1RB#0	Rear Face	21100	2535	23.92	24.00	1.019	-0.05	**0.678**	0.691
	20MHz/1RB#0	Right Edge	21100	2535	23.92	24.00	1.019	-0.03	0.211	0.215
	20MHz/1RB#0	Top Edge	21100	2535	23.92	24.00	1.019	0.03	0.670	0.682
	20MHz/50RB#0	Front Face	21100	2535	23.82	24.00	1.042	-0.11	0.516	0.538
	20MHz/50RB#0	Rear Face	21100	2535	23.82	24.00	1.042	0.09	0.670	**0.698**
	20MHz/50RB#0	Right Edge	21100	2535	23.82	24.00	1.042	-0.11	0.205	0.214
	20MHz/50RB#0	Top Edge	21100	2535	23.82	24.00	1.042	0.05	0.661	0.689

SAR Values [LTE Band 12]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	10MHz/1RB#24	Front Face	23130	711	23.85	24.00	1.035	0.10	0.361	0.374
#7	10MHz/1RB#24	Rear Face	23130	711	23.85	24.00	1.035	0.05	**0.518**	0.536
	10MHz/1RB#24	Right Edge	23130	711	23.85	24.00	1.035	0.03	0.105	0.109
	10MHz/1RB#24	Top Edge	23130	711	23.85	24.00	1.035	0.03	0.510	0.528
	10MHz/25RB#12	Front Face	23060	704	23.69	24.00	1.074	-0.11	0.356	0.382
	10MHz/25RB#12	Rear Face	23060	704	23.69	24.00	1.074	0.11	0.511	**0.549**
	10MHz/25RB#12	Right Edge	23060	704	23.69	24.00	1.074	0.07	0.101	0.108
	10MHz/25RB#12	Top Edge	23060	704	23.69	24.00	1.074	0.05	0.503	0.540

SAR Values [LTE Band 25]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	20MHz/1RB#49	Front Face	26365	1882.5	23.83	24.00	1.040	-0.09	0.542	0.564
#8	20MHz/1RB#49	Rear Face	26365	1882.5	23.83	24.00	1.040	0.05	**0.701**	**0.729**
	20MHz/1RB#49	Right Edge	26365	1882.5	23.83	24.00	1.040	0.03	0.232	0.241
	20MHz/1RB#49	Top Edge	26365	1882.5	23.83	24.00	1.040	0.03	0.687	0.714
	20MHz/50RB#25	Front Face	26365	1882.5	23.80	24.00	1.047	0.07	0.542	0.568
	20MHz/50RB#25	Rear Face	26365	1882.5	23.80	24.00	1.047	-0.09	0.696	0.729
	20MHz/50RB#25	Right Edge	26365	1882.5	23.80	24.00	1.047	-0.03	0.205	0.215
	20MHz/50RB#25	Top Edge	26365	1882.5	23.80	24.00	1.047	0.03	0.679	0.711

SAR Values [LTE Band 26]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	15MHz/1RB#74	Front Face	26765	821.5	23.87	24.00	1.030	0.03	0.376	0.387
#9	15MHz/1RB#74	Rear Face	26765	821.5	23.87	24.00	1.030	0.05	**0.531**	0.547
	15MHz/1RB#74	Right Edge	26765	821.5	23.87	24.00	1.030	0.05	0.125	0.129
	15MHz/1RB#74	Top Edge	26765	821.5	23.87	24.00	1.030	0.01	0.520	0.536
	15MHz/38RB#37	Front Face	26765	831.5	23.72	24.00	1.067	-0.11	0.373	0.398
	15MHz/38RB#37	Rear Face	26765	831.5	23.72	24.00	1.067	0.03	0.527	**0.562**
	15MHz/38RB#37	Right Edge	26765	831.5	23.72	24.00	1.067	0.03	0.118	0.126
	15MHz/38RB#37	Top Edge	26765	831.5	23.72	24.00	1.067	0.10	0.511	0.545

SAR Values [LTE Band 66]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	20MHz/1RB#49	Front Face	132572	1770	23.94	24.00	1.014	-0.03	0.745	0.755
#10	20MHz/1RB#49	Rear Face	132572	1770	23.94	24.00	1.014	0.05	**0.902**	0.915
	20MHz/1RB#49	Right Edge	132572	1770	23.94	24.00	1.014	0.05	0.425	0.431
	20MHz/1RB#49	Top Edge	132572	1770	23.94	24.00	1.014	0.01	0.886	0.898
	20MHz/1RB#0	Rear Face	132072	1720	23.82	24.00	1.042	-0.03	0.891	**0.929**
	20MHz/1RB#0	Top Edge	132072	1720	23.82	24.00	1.042	0.05	0.874	0.911
	20MHz/1RB#0	Rear Face	132322	1745	23.92	24.00	1.019	0.05	0.896	0.913
	20MHz/1RB#0	Top Edge	132322	1745	23.92	24.00	1.019	0.04	0.881	0.897
	20MHz/50RB#25	Front Face	132572	1770	23.93	24.00	1.016	0.10	0.734	0.746
	20MHz/50RB#25	Rear Face	132572	1770	23.93	24.00	1.016	0.05	0.888	0.902
	20MHz/50RB#25	Right Edge	132572	1770	23.93	24.00	1.016	0.03	0.378	0.384

	20MHz/50RB#25	Top Edge	132572	1770	23.93	24.00	1.016	0.09	0.875	0.889
	20MHz/50RB#0	Rear Face	132072	1720	23.75	24.00	1.059	0.05	0.825	0.874
	20MHz/50RB#0	Top Edge	132072	1720	23.75	24.00	1.059	-0.06	0.863	0.914
	20MHz/50RB#0	Rear Face	132322	1745	23.91	24.00	1.021	0.07	0.878	0.896
	20MHz/50RB#0	Top Edge	132322	1745	23.91	24.00	1.021	0.03	0.871	0.889
	20MHz/100RB#0	Rear Face	132572	1770	23.92	24.00	1.019	0.11	0.899	0.916
	20MHz/100RB#0	Top Edge	132572	1770	23.92	24.00	1.019	-0.05	0.884	0.900

SAR Values [LTE Band 41]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	20MHz/1RB#99	Front Face	39750	2506	23.91	24.00	1.021	-0.10	0.618	0.631
#12	20MHz/1RB#99	Rear Face	39750	2506	23.91	24.00	1.021	0.05	**0.774**	**0.790**
	20MHz/1RB#99	Right Edge	39750	2506	23.91	24.00	1.021	-0.09	0.235	0.240
	20MHz/1RB#99	Top Edge	39750	2506	23.91	24.00	1.021	-0.09	0.765	0.781
	20MHz/50RB#50	Front Face	39750	2506	23.87	24.00	1.030	0.05	0.612	0.631
	20MHz/50RB#50	Rear Face	39750	2506	23.87	24.00	1.030	-0.11	0.767	0.790
	20MHz/50RB#50	Right Edge	39750	2506	23.87	24.00	1.030	-0.04	0.231	0.238
	20MHz/50RB#50	Top Edge	39750	2506	23.87	24.00	1.030	0.07	0.759	0.782

SAR Values [WIFI 2.4G]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	802.11b	Front Face	01	2412	10.90	11.00	1.023	0.03	0.202	0.207
#13	802.11b	Rear Face	01	2412	10.90	11.00	1.023	-0.01	**0.356**	**0.364**
	802.11b	Top Edge	01	2412	10.90	11.00	1.023	0.05	0.346	0.354

Note: Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required 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.

SAR Values [WIFI 5.3G]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	802.11ac(HT80)	Front Face	58	5290	14.98	15.00	1.005	0.04	0.056	0.056
#14	802.11ac(HT80)	Rear Face	58	5290	14.98	15.00	1.005	0.03	**0.211**	**0.212**
	802.11ac(HT80)	Top Edge	58	5290	14.98	15.00	1.005	-0.07	0.193	0.194

Note: Per KDB 248227 D01v02r02, when different maximum output power is specified for the bands U-NII-I and U-NII-2A, begin SAR measurement in the band with higher specified maximum output power. The highest reported SAR for the tested configuration is adjusted by the ratio of lower to higher specified maximum output power for the two bands. When the adjusted SAR is ≤ 1.2 W/kg. SAR is not required for the band with lower maximum output power in that test configuration, U-NII-2A SAR testing is not required.

SAR Values [WIFI 5.8G]

Plot No.	Mode	Test Position	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)
Measured / Reported SAR numbers-Body distance 0mm										
	802.11n(HT20)	Front Face	165	5825	15.44	16.00	1.138	-0.10	0.078	0.089
#15	802.11n(HT20)	Rear Face	165	5825	15.44	16.00	1.138	0.03	**0.122**	**0.139**
	802.11n(HT20)	Top Edge	165	5825	15.44	16.00	1.138	0.05	0.112	0.127

10.7 SAR Measurement Variability

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

1 Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.

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

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

SAR Measurement Variability

Band	Mode	Test Position	Ch.	Spacing (mm)	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
WCDMA II	RMC 12.2Kbps	Rear Face	9400	0	0.875	0.865	1.012	--
WCDMA II	RMC 12.2Kbps	Top Edge	9400	0	0.861	0.865	1.005	--
WCDMA II	RMC 12.2Kbps	Rear Face	9262	0	0.871	0.851	1.023	
WCDMA II	RMC 12.2Kbps	Top Edge	9262	0	0.853	0.855	1.002	
WCDMA II	RMC 12.2Kbps	Rear Face	9538	0	0.854	0.868	1.016	
WCDMA II	RMC 12.2Kbps	Top Edge	9538	0	0.865	0.851	1.012	
WCDMA IV	RMC 12.2Kbps	Rear Face	1412	0	0.911	0.899	1.014	
WCDMA IV	RMC 12.2Kbps	Top Edge	1412	0	0.902	0.879	1.027	
WCDMA IV	RMC 12.2Kbps	Rear Face	1312	0	0.882	0.905	1.026	
WCDMA IV	RMC 12.2Kbps	Top Edge	1312	0	0.882	0.887	1.005	
WCDMA IV	RMC 12.2Kbps	Rear Face	1513	0	0.896	0.892	1.005	
WCDMA IV	RMC 12.2Kbps	Top Edge	1513	0	0.876	0.848	1.033	
LTE Band 66	20MHz/1RB#49	Rear Face	132572	0	0.902	0.885	1.019	
LTE Band 66	20MHz/1RB#49	Top Edge	132572	0	0.862	0.886	1.028	
LTE Band 66	20MHz/1RB#0	Rear Face	132072	0	0.878	0.891	1.014	
LTE Band 66	20MHz/1RB#0	Top Edge	132072	0	0.857	0.874	1.019	
LTE Band 66	20MHz/1RB#0	Rear Face	132322	0	0.896	0.888	1.009	
LTE Band 66	20MHz/1RB#0	Top Edge	132322	0	0.881	0.860	1.024	
LTE Band 66	20MHz/50RB#25	Rear Face	132572	0	0.887	0.888	1.002	
LTE Band 66	20MHz/50RB#25	Top Edge	132572	0	0.862	0.875	1.015	
LTE Band 66	20MHz/50RB#0	Rear Face	132072	0	0.825	0.809	1.020	
LTE Band 66	20MHz/50RB#0	Top Edge	132072	0	0.863	0.836	1.032	
LTE Band 66	20MHz/50RB#0	Rear Face	132322	0	0.878	0.872	1.007	
LTE Band 66	20MHz/50RB#0	Top Edge	132322	0	0.842	0.871	1.035	
LTE Band 66	20MHz/100RB#0	Rear Face	132572	0	0.875	0.899	1.027	

LTE Band 66	20MHz/100RB#0	Top Edge	132572	0	0.884	0.858	1.030	

10.8 Simultaneous Transmission Analysis

10.8.1 Introduction

Application Simultaneous Transmission information:

No.	Simultaneous Transmission Configurations	Tablet
		Body-worn
1	WWAN (2/3/4G) + WLAN 2.4GHz	Yes
2	WWAN (2/3/4G) + WLAN 5GHz	Yes*
3	WWAN (2/3/4G) + Bluetooth	Yes
4	WWAN (2/3/4G) + WLAN 5GHz + Bluetooth	Yes*

Note: * only support WLAN 5GHz opening on U-NII-I and U-NII-3.

10.8.2 Evaluation of Simultaneous SAR

Body-worn and hotspot Simultaneous transmission SAR for WLAN/BT and GSM/WCDMA/ LTE

Exposure Position	1	2	3	4	1+2 Summed 1g SAR (W/kg)	1+3 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+3+4 Summed 1g SAR (W/kg)	SPLSR
	MAX. WWAN Reported SAR	MAX. WLAN2.4G Reported SAR	MAX. WLAN5G Reported SAR	Bluetooth					
	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)					
Front Face	0.851	0.207	0.089	0.033	1.058	0.940	0.884	0.973	N/A
Rear Face	1.054	0.364	0.212	0.033	**1.418**	1.266	1.087	1.299	N/A
Left Edge	0.131	N/A	N/A	0.033	0.131	0.131	0.164	0.164	N/A
Right Edge	0.461	N/A	N/A	0.033	0.461	0.461	0.494	0.494	N/A
Top Edge	1.033	0.354	0.194	0.033	1.387	1.227	1.066	1.260	N/A
Bottom Edge	0.139	N/A	N/A	0.033	0.139	0.139	0.172	0.172	N/A

MAX. ΣSAR_{1g} =**1.418** W/kg<1.6 W/kg, so the Simultaneous transmission SAR with volume scan are not required.

11 Measurement Uncertainty

NO	Source	Uncert. ai（%）	Prob. Dist.	Div. k	ci (1g)	ci (10g)	Stand.Uncert. ui (1g)	Stand.Uncert. ui (10g)	*Veff*
1	Repeat	0. 4	N	1	1	1	0. 4	0. 4	9
Instrument									
2	Probe calibration	7	N	2	1	1	3.5	3.5	∞
3	Axial isotropy	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
4	Hemispherical isotropy	9.4	R	$\sqrt{3}$	0.7	0.7	3.9	3.9	∞
5	Boundary effect	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Linearity	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
7	Detection limits	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
8	Readout electronics	0.3	N	1	1	1	0.3	0.3	∞
9	Response time	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
10	Integration time	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
11	Ambient noise	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
12	Ambient reflections	3.0	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Probe positioner mech. restrictions	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
14	Probe positioning with respect to phantom shell	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
15	Max.SAR evaluation	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞

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

Appendix A. EUT Photos and Test Setup Photos


Front face(0mm)


Rear Face(0mm)

Left Edge(0mm)

Right Edge(0mm)

	
Top Edge(0mm)	Bottom Edge(0mm)

Appendix B. Plots of SAR System Check

750MHz System Check Date: 11/10/2023

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 = 0.892 S/m; ε_r = 41.196; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.82, 9.82, 9.82); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

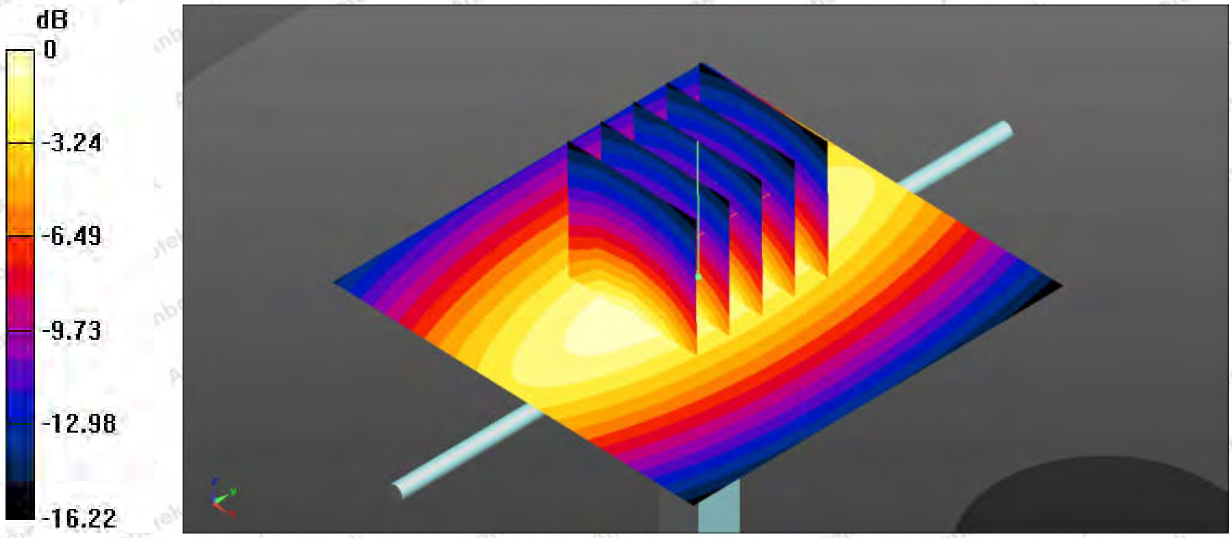
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 61.37 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 3.31 W/kg

SAR(1 g) = 2.09 W/kg; SAR(10 g) = 1.44 W/kg

Maximum value of SAR (measured) = 2.76 W/kg



0 dB = 2.72 W/kg = 4.35 dBW/kg

System Performance Check 750MHz 250mW

835MHz System Check Date: 11/13/2023

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 = 0.909 S/m; ε_r = 40.587; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.71, 9.71, 9.71); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 3.48 W/kg

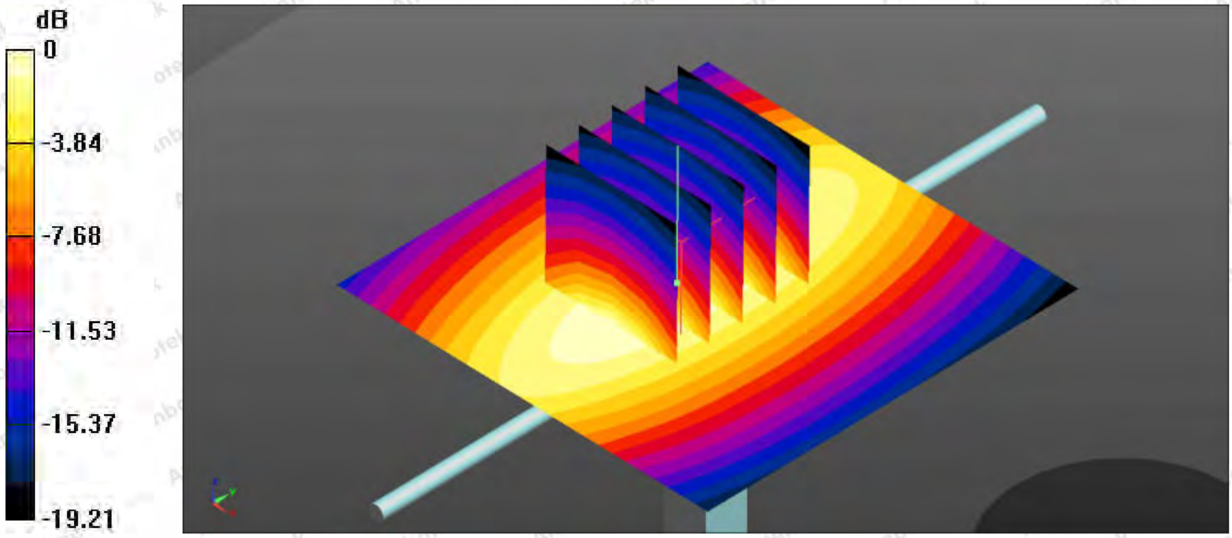
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 62.41 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 4.12 W/kg

SAR(1 g) = 2.37 W/kg; SAR(10 g) = 1.51 W/kg

Maximum value of SAR (measured) =3.51 W/kg



0 dB = 3.51 W/kg = 5.45 dBW/kg

System Performance Check 835MHz 250mW

1750MHz System Check Date: 11/14/2023

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

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

Medium parameters used (interpolated): f = 1750 MHz; σ = 1.393 S/m; ε_r = 40.148; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.61, 8.61, 8.61); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 15.7 W/kg

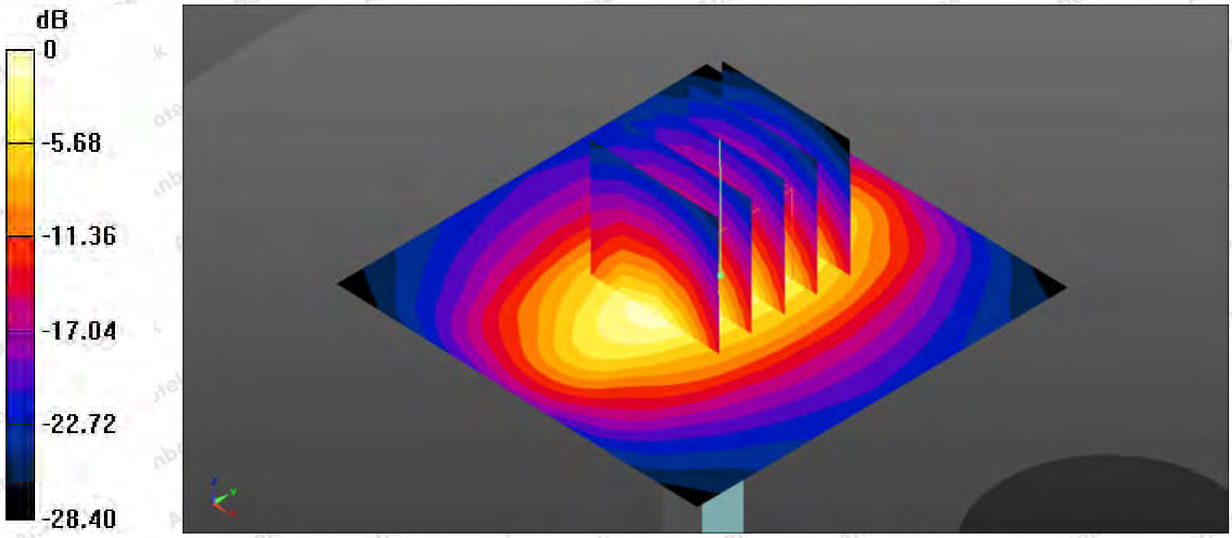
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 90.3 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 19.1 W/kg

SAR(1 g) = 9.05 W/kg; SAR(10 g) = 5.08 W/kg

Maximum value of SAR (measured) = 15.7 W/kg



0 dB = 15.7 W/kg = 11.96 dBW/kg

System Performance Check 1750MHz 250mW

1900MHz System Check Date: 11/15/2023

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 = 1.408 S/m; εr =40.156; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

Probe: EX3DV4 - SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: 05,06.2023;

Sensor-Surface: 3mm (Mechanical Surface Detection)

Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;

Phantom: SAM 1; Type: SAM;

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

Area Scan (61x61x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 13.4 W/kg

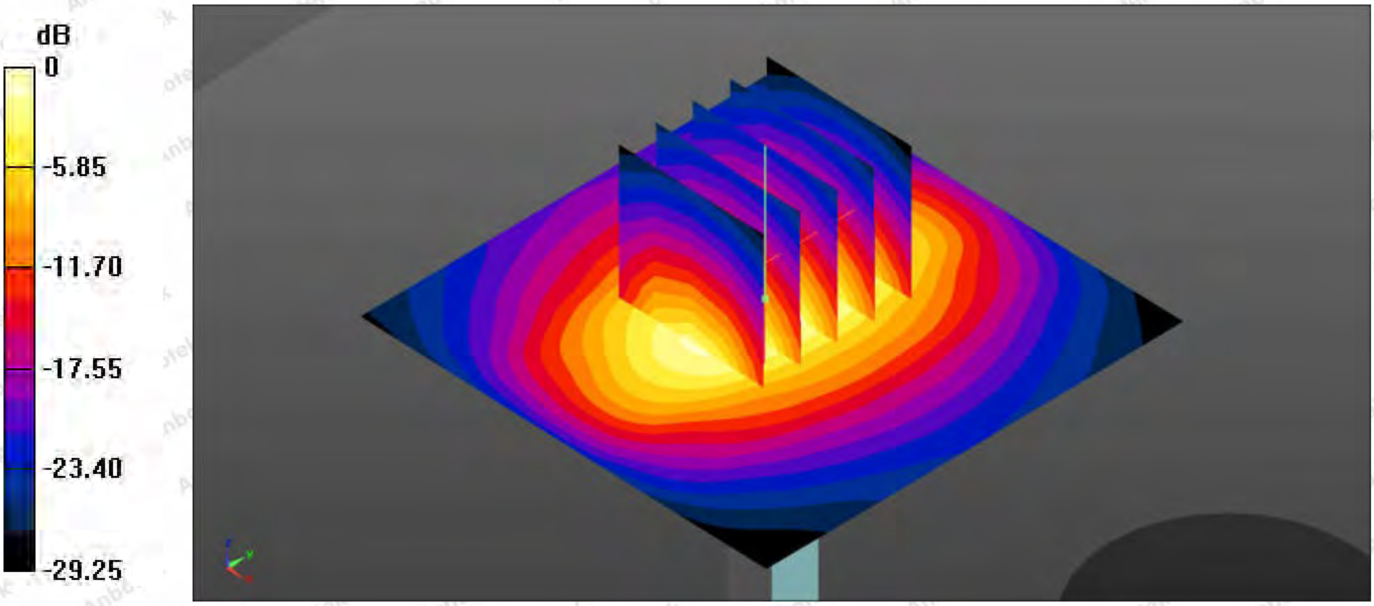
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 82.95 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 16.70 W/kg

SAR(1 g) = 10.27 W/kg; SAR(10 g) = 5.19 W/kg

Maximum value of SAR (measured) = 13.2 W/kg



0 dB = 13.2W/kg = 11.21 dBW/kg

System Performance Check 1900MHz 250mW

2300MHz System Check Date: 11/16/2023

DUT: Dipole 2300 MHz; Type: D2300V2; Serial: 1059

Communication System: CW; Frequency: 2300 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2300 MHz; σ = 1.671 S/m; εr = 40.179; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(7.85, 7.85, 7.85); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

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

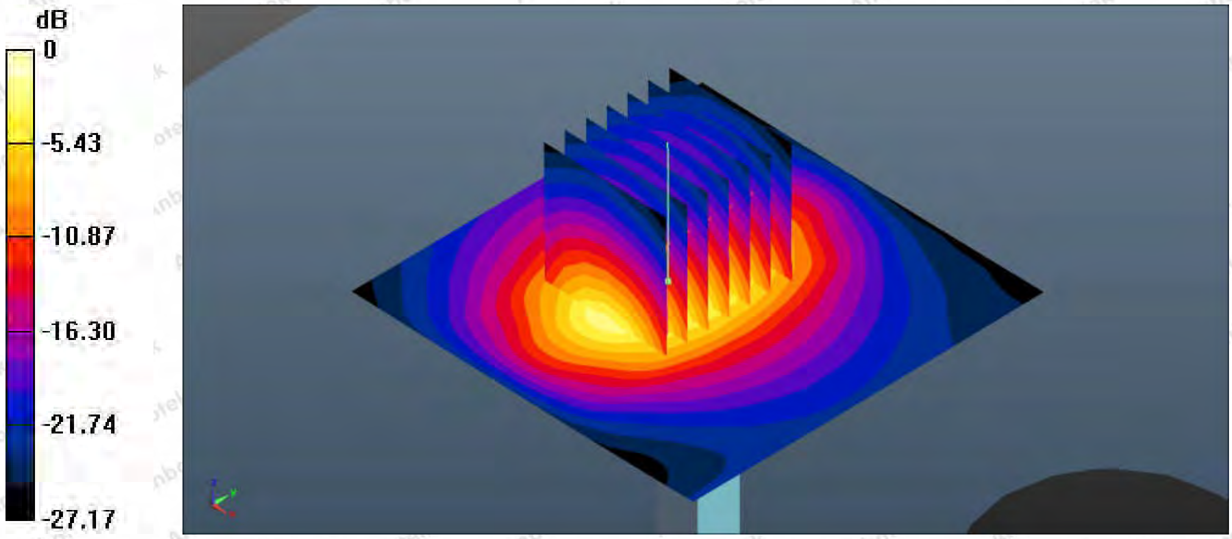
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 100.6 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 26.2 W/kg

SAR(1 g) = 11.49 W/kg; SAR(10 g) = 5.89 W/kg

Maximum value of SAR (measured) = 18.7 W/kg



0 dB = 18.7 W/kg = 12.72 dBW/kg

System Performance Check 2300MHz 250mW

2450MHz System Check Date: 11/17/2023

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

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

Medium parameters used (interpolated): f = 2450 MHz; σ = 1.798 S/m; εr = 39.647; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(7.57, 7.57, 7.57); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 19.1 W/kg

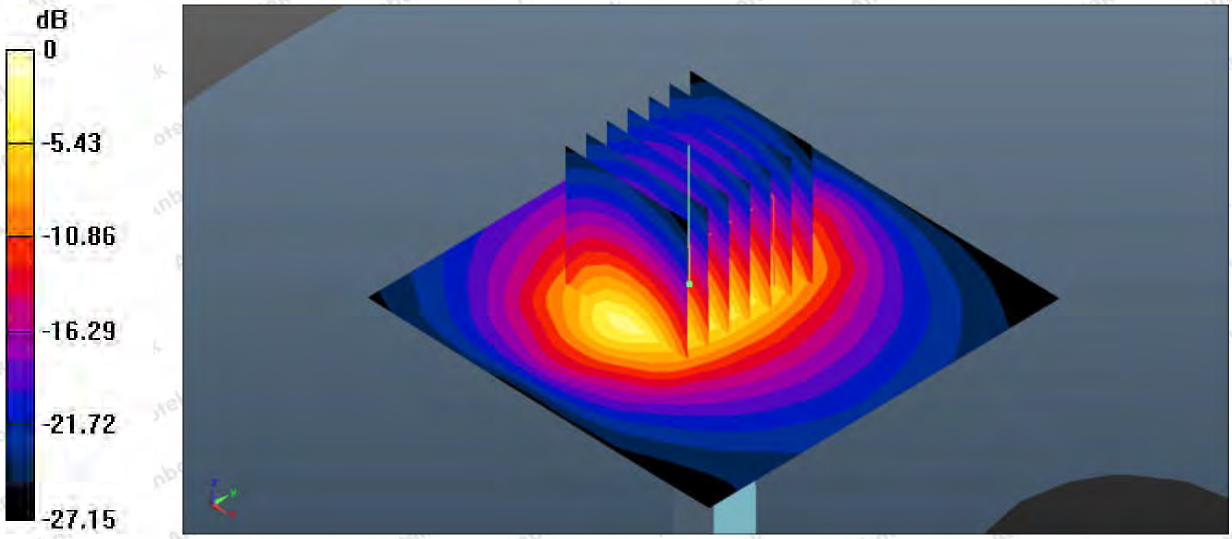
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 106.8 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 25.1 W/kg

SAR(1 g) = 13.20 W/kg; SAR(10 g) = 6.21 W/kg

Maximum value of SAR (measured) = 18.2 W/kg



0 dB = 18.2 W/kg = 12.60 dBW/kg

System Performance Check 2450MHz 250mW

2600MHz System Check Date: 11/20/2023

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

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

Medium parameters used (interpolated): f = 2600 MHz; σ = 2.009 S/m; εr = 39.039; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(7.38, 7.38, 7.38); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (71x71x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 20.5 W/kg

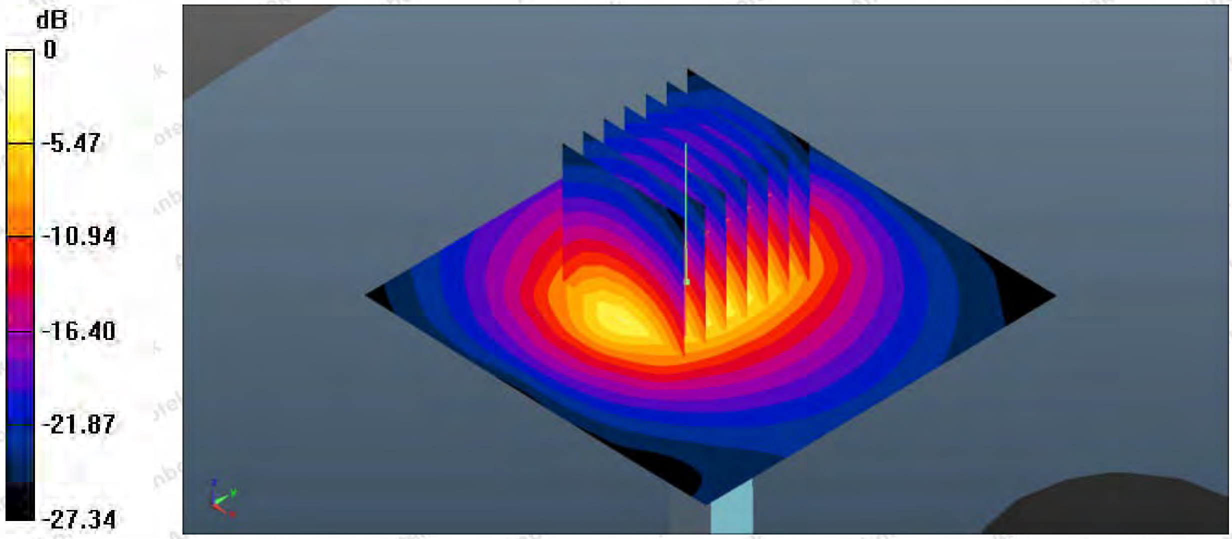
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 107.5 V/m; Power Drift = 0.19 dB

Peak SAR (extrapolated) = 28.0 W/kg

SAR(1 g) = 14.79W/kg; SAR(10 g) = 6.46 W/kg

Maximum value of SAR (measured) = 20.5 W/kg



0 dB = 20.5 W/kg = 13.12 dBW/kg

System Performance Check 2600MHz 250mW

5250MHz System Check Date:11/21/2023

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: 1160

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

Medium parameters used (interpolated): f = 5250 MHz; σ = 4.572 S/m; εr = 35.997; ρ = 1000 kg/m3

Phantom section: Flat Section

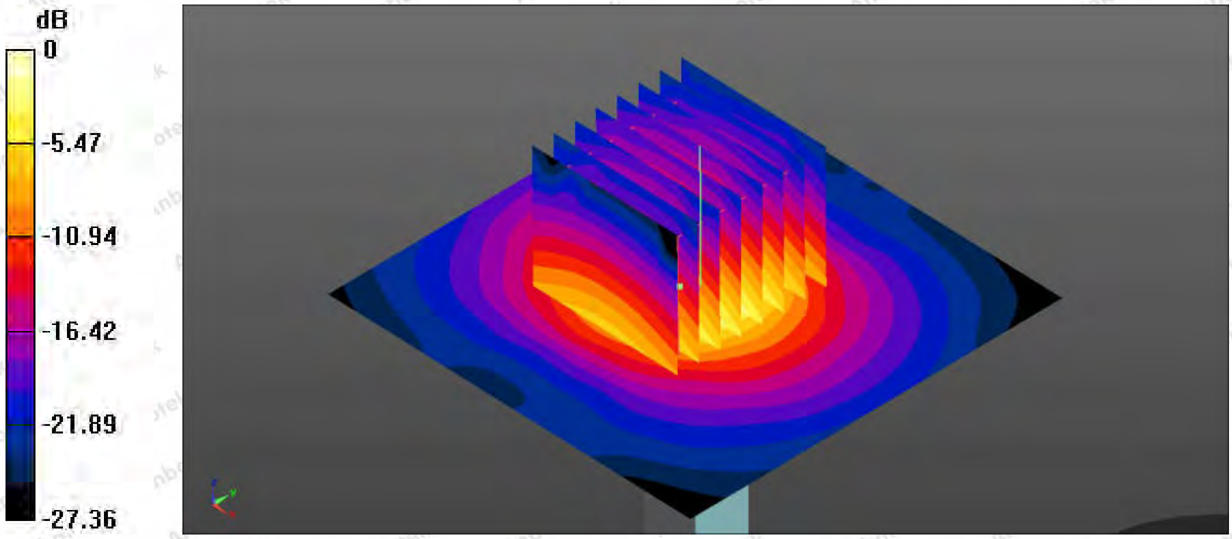
DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(5.33, 5.33, 5.33); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 20.8 W/kg

Zoom Scan (8x8x7))/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 46.53 V/m; Power Drift = 0.14 dB
Peak SAR (extrapolated) = 33.5 W/kg

SAR(1 g) = 8.29 W/kg; SAR(10 g) = 2.45 W/kg
Maximum value of SAR (measured) = 19.6 W/kg



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

System Performance Check 5250MHz 100mW

5750MHz System Check Date: 11/21/2023

DUT: Dipole 5GHz; Type: D5GHzV2; Serial: 1160

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

Medium parameters used (interpolated): f = 5750 MHz; σ = 5.325 S/m; εr = 35.039; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(4.92, 4.92, 4.92); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (71x71x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 19.6 W/kg

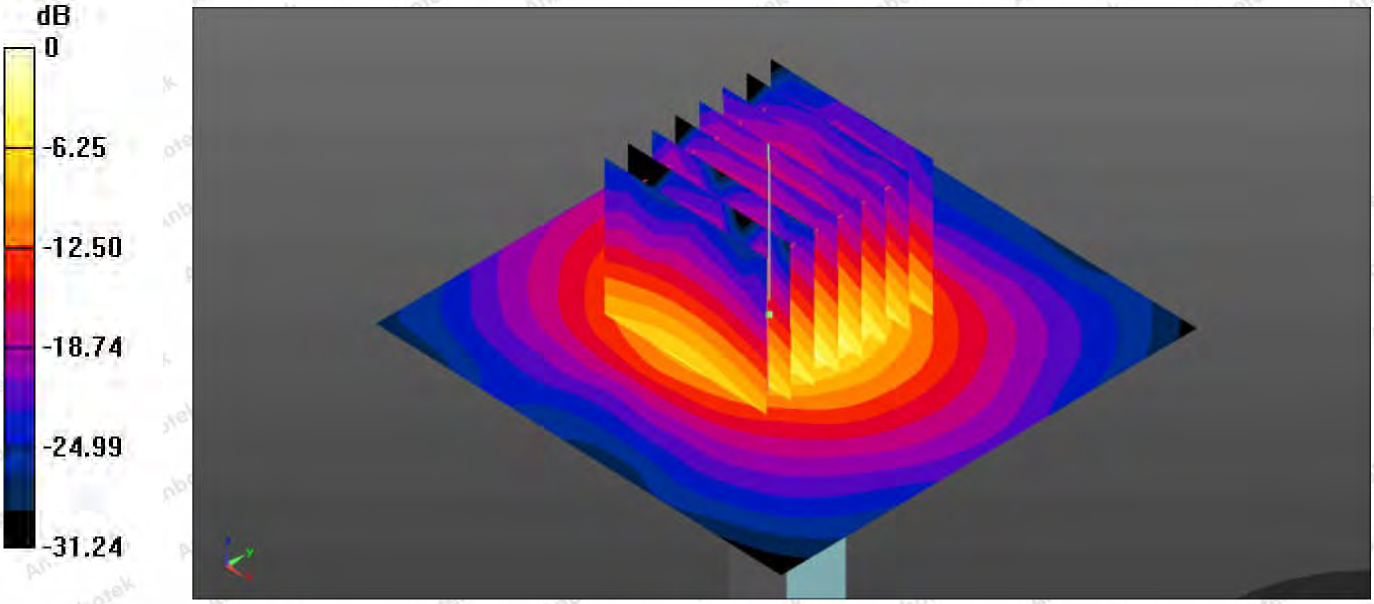
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value =40.41 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 33.3 W/kg

SAR(1 g) = 8.01 W/kg; SAR(10 g) = 2.35 W/kg

Maximum value of SAR (measured) = 19.2 W/kg



0 dB = 19.2 W/kg = 12.83 dBW/kg

System Performance Check 5750MHz 100mW

Appendix C. Plots of SAR Test Data

#1

Date: 11/13/2023

GSM 850 _ GPRS 2 Tx slots _ Rear Face _CH190_0mm

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.6 MHz; σ = 0.977 S/m; ε_r = 42.081; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.71, 9.71, 9.71); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.215 W/Kg

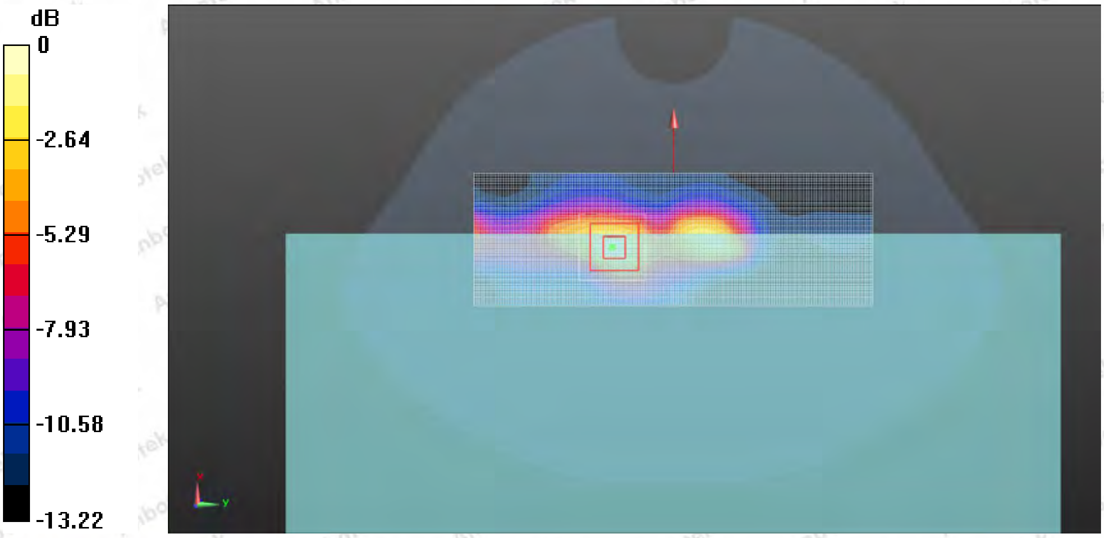
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.68 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.895 W/kg

SAR(1 g) = 0.725 W/Kg; SAR(10 g) = 0.315 W/Kg

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



0dB =1.32 W/kg = 1.21dBW/kg

#2

Date: 11/15/2023

GSM 1900 _ GPRS 3 Tx slots _Rear Face_0mm_CH661

Communication System: UID 0, GSM (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.436 S/m; εr =38.337; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: 05,06.2023;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.124 W/Kg

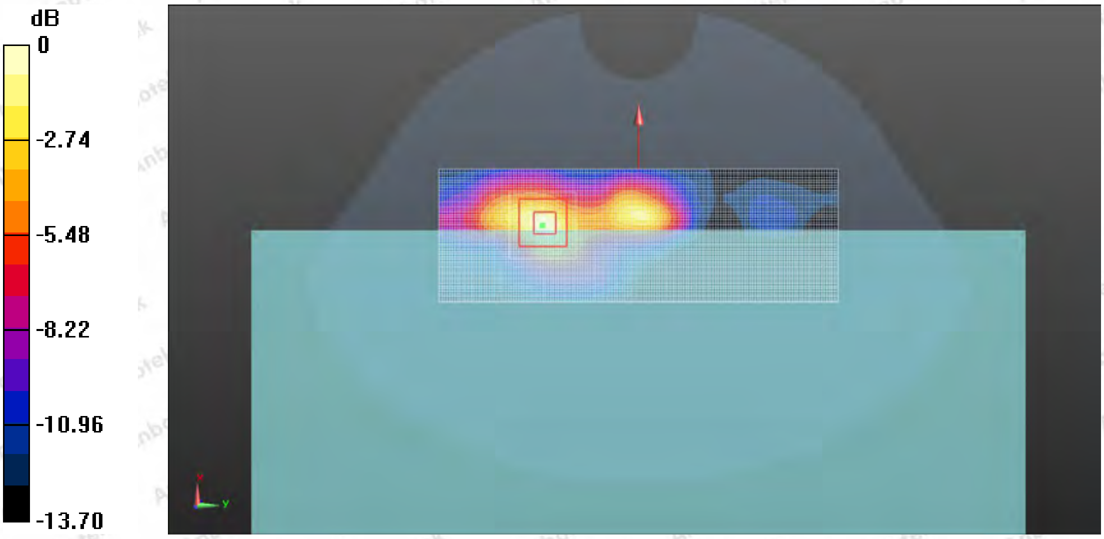
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.69 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.525 W/kg

SAR(1 g) = 0.654 W/Kg; SAR(10 g) = 0.274 W/Kg

Maximum value of SAR (measured) = 1.25 W/Kg



0 dB = 1.25 W/kg = 0.97 dBW/kg

#3

Date: 11/15/2023

WCDMA II_RMC 12.2Kbps_Rear Face_0mm_Ch9400

Communication System: UID 0, Generic WCDMA (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used: f = 1880 MHz; σ = 1.434 S/m; εr =38.343; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: 05,06.2023;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.62 W/kg

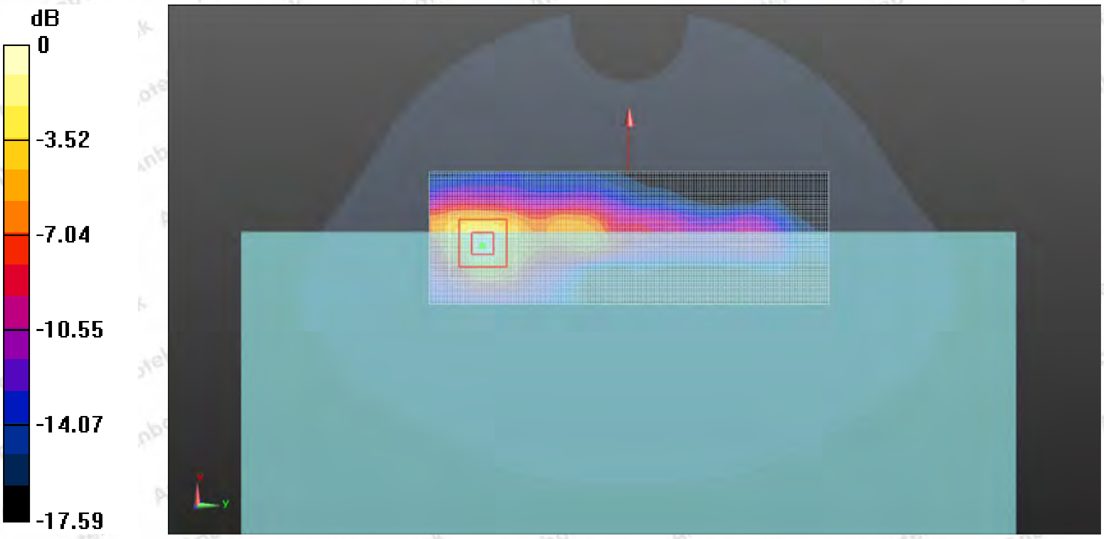
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.24 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.51 W/kg

SAR(1 g) = 0.875 W/Kg; SAR(10 g) = 0.357 W/Kg

Maximum value of SAR (measured) = 1.86 W/Kg



0 dB = 1.86 W/kg = 2.70 dBW/kg

#4

Date: 11/14/2023

WCDMA IV_RMC 12.2Kbps_ Rear Face _0mm_Ch1412

Communication System: UID 0, Generic WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used: f = 1732.6 MHz; σ = 1.385 S/m; εr =39.686; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.61, 8.61, 8.61); Calibrated: 05,06.2023;
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (1); SEMCAD X Version 14.6.5 (6469)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

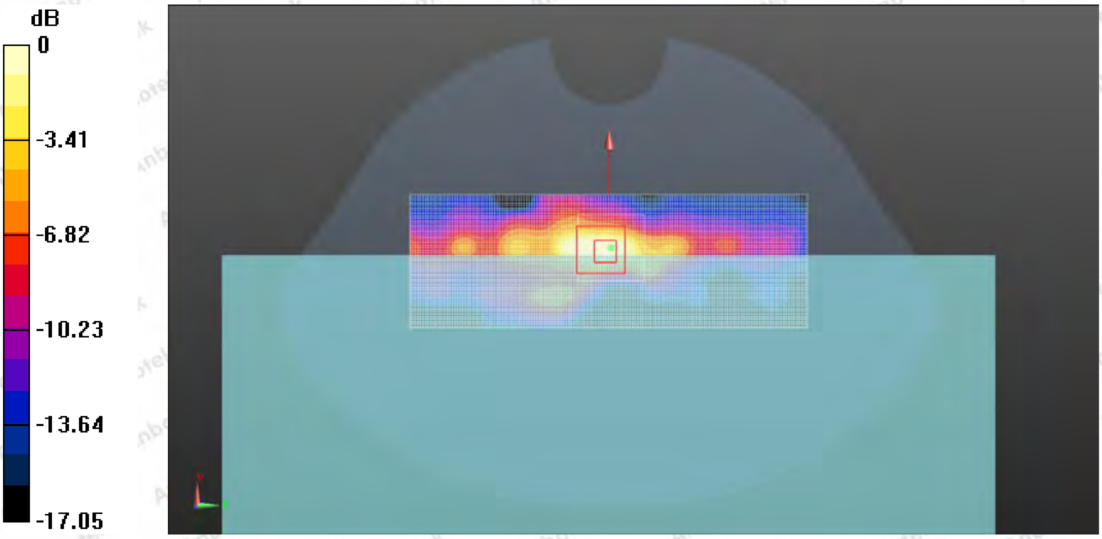
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.54 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 2.71 W/kg

SAR(1 g) = 0.911 W/kg; SAR(10 g) = 0.499 W/kg

Maximum value of SAR (measured) = 1.95 W/Kg



0 dB = 1.95 W/kg = 2.90 dBW/kg

#5

Date: 11/13/2023

WCDMA V_RMC 12.2Kbps_ Rear Face_0mm_Ch4183

Communication System: UID 0, Generic WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): f = 836.6MHz; σ = 0.931 S/m; ε_r = 42.194; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.71, 9.71, 9.71); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

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

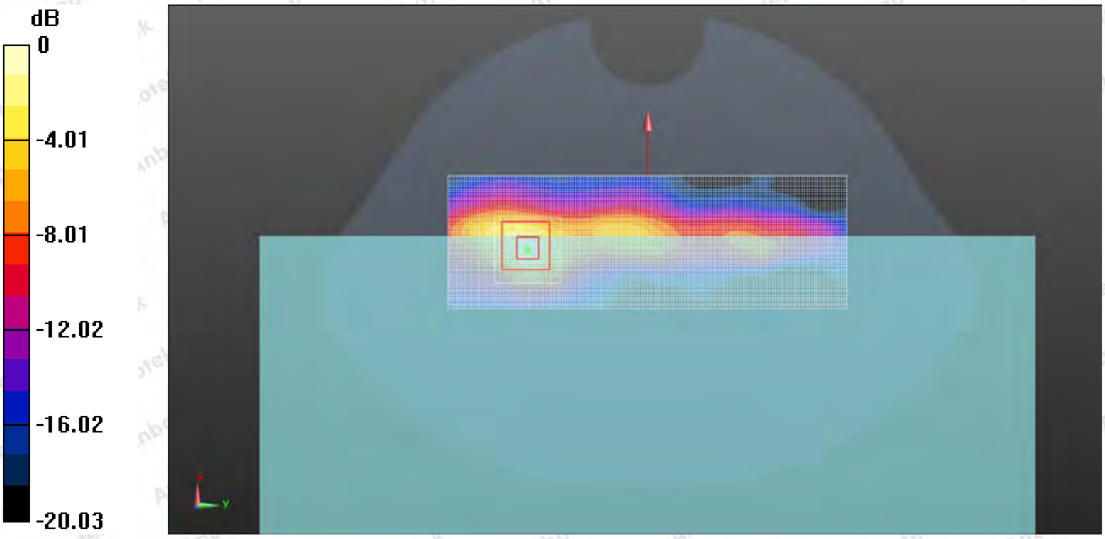
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.25 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 2.15 W/kg

SAR(1 g) = 0.719 W/kg; SAR(10 g) = 0.362 W/kg

Maximum value of SAR (measured) = 1.66 W/Kg



0 dB = 1.66 W/kg = 0.49 dBW/kg

#6

Date: 11/20/2023

LTE Band 7_20M_QPSK_1RB#0_Rear Face_0mm_Ch21100

Communication System: UID 0, Generic LTE (0); Frequency: 2535 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2535 MHz; σ = 1.829 S/m; εr = 39.788; ρ = 1000 kg/m3
Phantom section: Flat Section

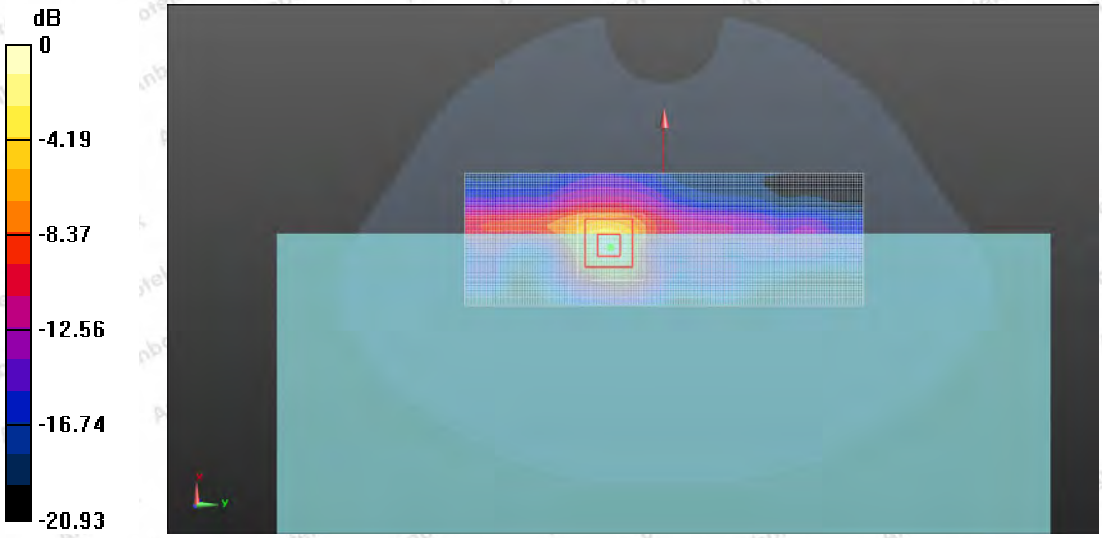
DASY5 Configuration:

- Probe: EX3DV4 – SN7396; ConvF(7.38, 7.38, 7.38); Calibrated: 05,06.2023;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023
- Phantom: SAM; Type: QD000P40CD; Serial: TP:1670
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 1.062 W/Kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 8.451 V/m; Power Drift = -0.05 dB
Peak SAR (extrapolated) = 1.31 W/kg

SAR(1 g) = 0.678 W/kg; SAR(10 g) = 0.211 W/kg
Maximum value of SAR (measured) = 1.20 W/Kg



0 dB = 1.20 W/kg = 0.79 dBW/kg

#7

Date: 11/10/2023

LTE Band 12_10M_QPSK_1RB#24_ Rear Face_0mm_Ch23130

Communication System: UID 0, Generic LTE (0); Frequency: 711 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 711 MHz; σ = 0.853 S/m; ε_r = 42.316; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.82, 9.82, 9.82); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) =0.869 W/Kg

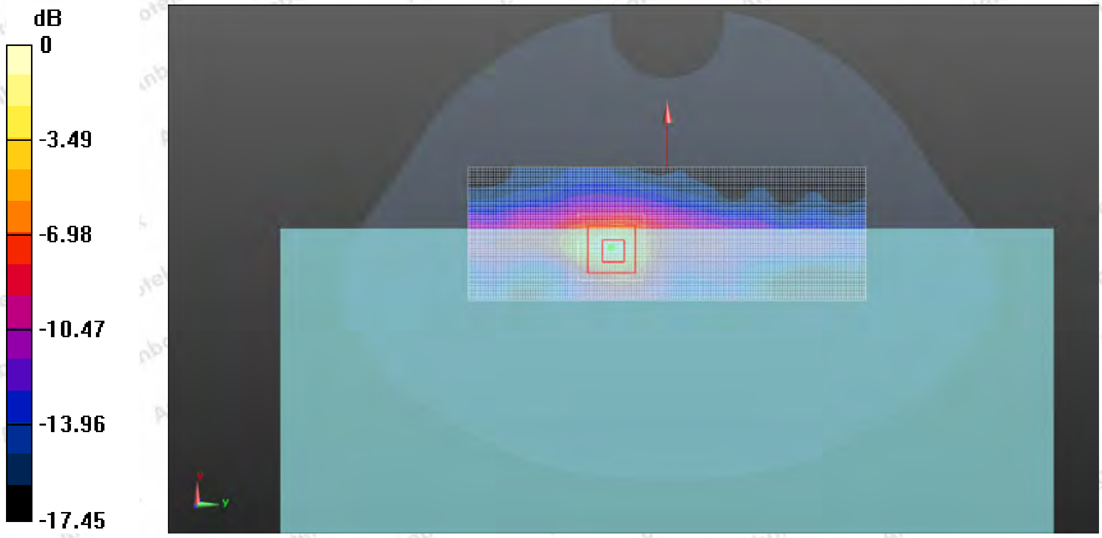
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 10.87 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.10 W/kg

SAR(1 g) = 0.518 W/Kg; SAR(10 g) = 0.198 W/Kg

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



0 dB = 1.05 W/kg = 0.21 dBW/kg

#8

Date: 11/15/2023

LTE Band 25_20M_QPSK_1RB#49_ Rear Face _0mm_Ch26365

Communication System: UID 0, Generic LTE (0); Frequency: 1882.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 1882.5 MHz; σ = 1.383 S/m; ε_r = 38.547; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.13, 8.13, 8.13); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.13 W/Kg

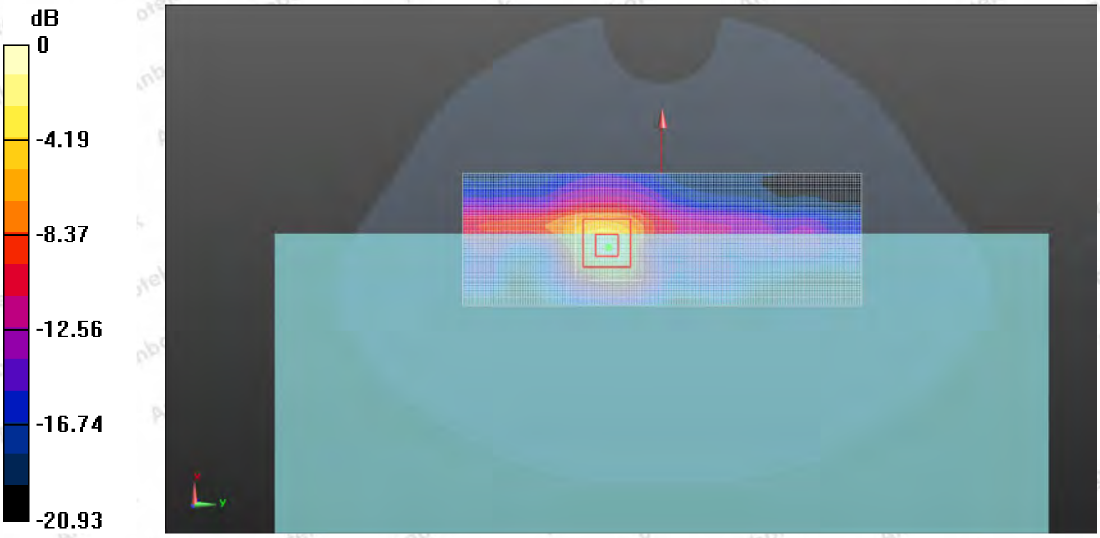
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.236 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.54 W/kg

SAR(1 g) = 0.701 W/Kg; SAR(10 g) = 0.267 W/Kg

Maximum value of SAR (measured) = 1.35 W/Kg



0 dB = 1.35 W/kg = 1.30 dBW/kg

#9

Date: 11/13/2023

LTE Band 26_15M_QPSK_1RB#74_Rear Face_0mm_Ch26765

Communication System: UID 0, Generic LTE (0); Frequency: 821.5 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 821.5 MHz; σ = 0.924 S/m; ε_r = 42.267; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(9.82, 9.82, 9.82); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.955 W/Kg

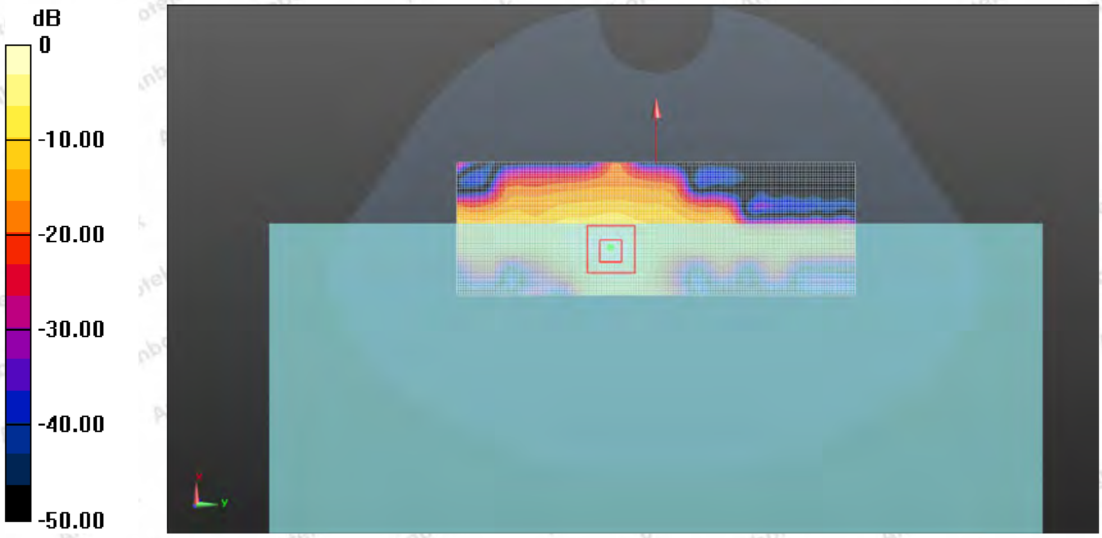
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.26 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.22 W/kg

SAR(1 g) = 0.531 W/Kg; SAR(10 g) = 0.197 W/Kg

Maximum value of SAR (measured) = 1.15 W/Kg



0 dB = 1.15 W/kg = 0.61 dBW/kg

#10

Date: 11/14/2023

LTE Band 66_20M_QPSK_1RB#49_ Rear Face _0mm_Ch132572

Communication System: UID 0, Generic LTE (0); Frequency: 1770 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 1770 MHz; σ = 1.405 S/m; ε_r = 39.627; ρ = 1000 kg/m^3
Phantom section: Flat Section

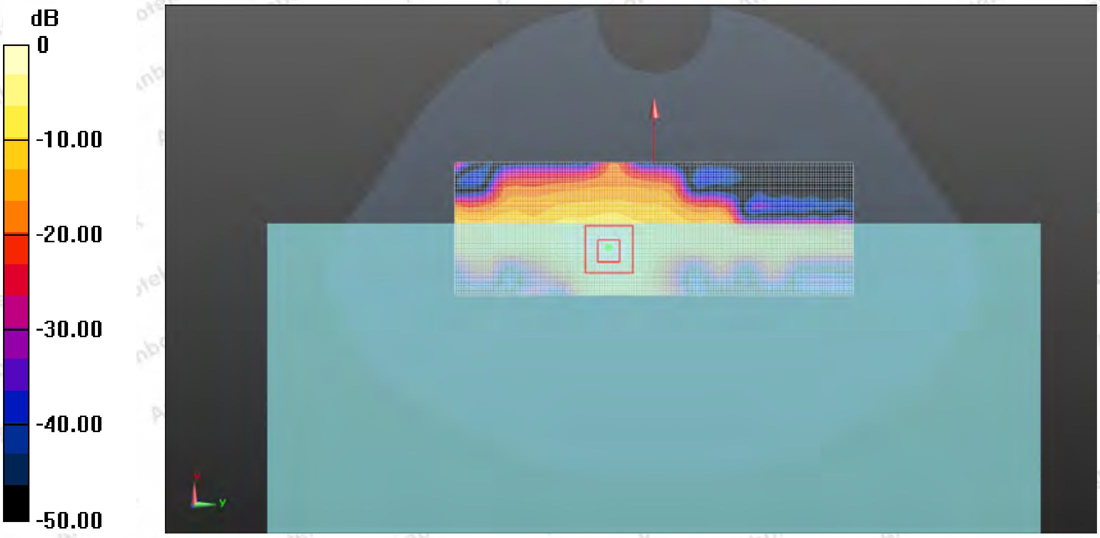
DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(8.61, 8.61, 8.61); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm
Maximum value of SAR (interpolated) = 1.41 W/Kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value =20.85 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 2.31 W/kg

SAR(1 g) = 0.902 W/Kg; SAR(10 g) = 0.465 W/Kg
Maximum value of SAR (measured) = 1.93 W/Kg



0 dB = 1.93 W/kg = 2.86 dBW/kg

#11

Date: 11/16/2023

LTE Band 40A_20M_QPSK_1RB#49_ Rear Face _0mm_Ch38750

Communication System: UID 0, Generic LTE (0); Frequency: 2310 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2310 MHz; σ = 1.405 S/m; ε_r = 39.627; ρ = 1000 kg/m^3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(7.85, 7.85, 7.85); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.11 W/Kg

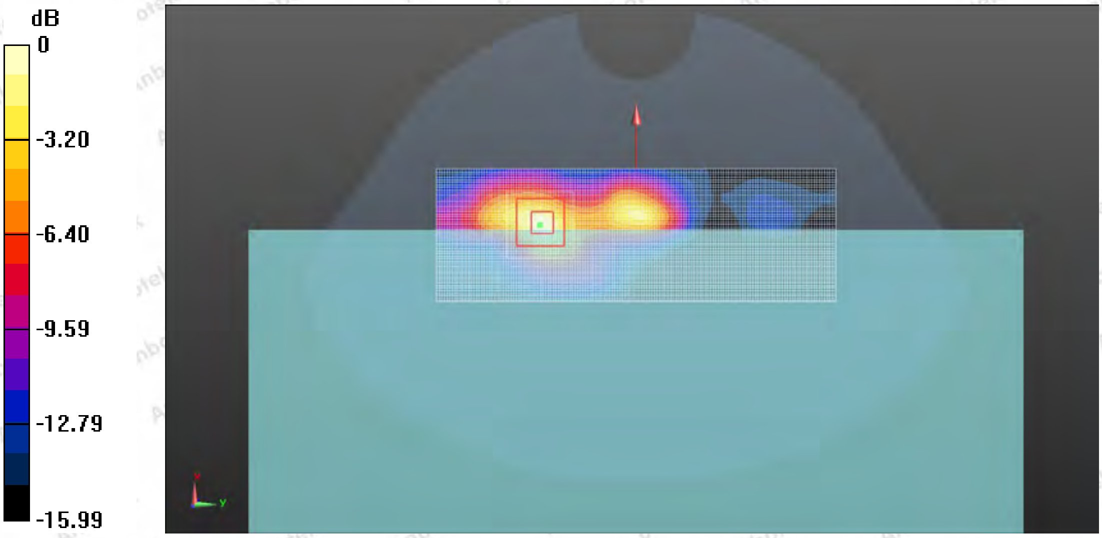
Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value =10.08 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.55 W/kg

SAR(1 g) = 0.737 W/Kg; SAR(10 g) = 0.263 W/Kg

Maximum value of SAR (measured) = 1.21 W/Kg



0 dB = 1.21W/kg = 0.83 dBW/kg

#12

Date: 11/20/2023

LTE Band 41_20M_QPSK_1RB#99_Rear Face_0mm_Ch39750

Communication System: UID 0, Generic LTE (0); Frequency: 2506 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 2506 MHz; σ = 1.96 S/m; εr = 39.369; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(7.38, 7.38, 7.38); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.19 W/Kg

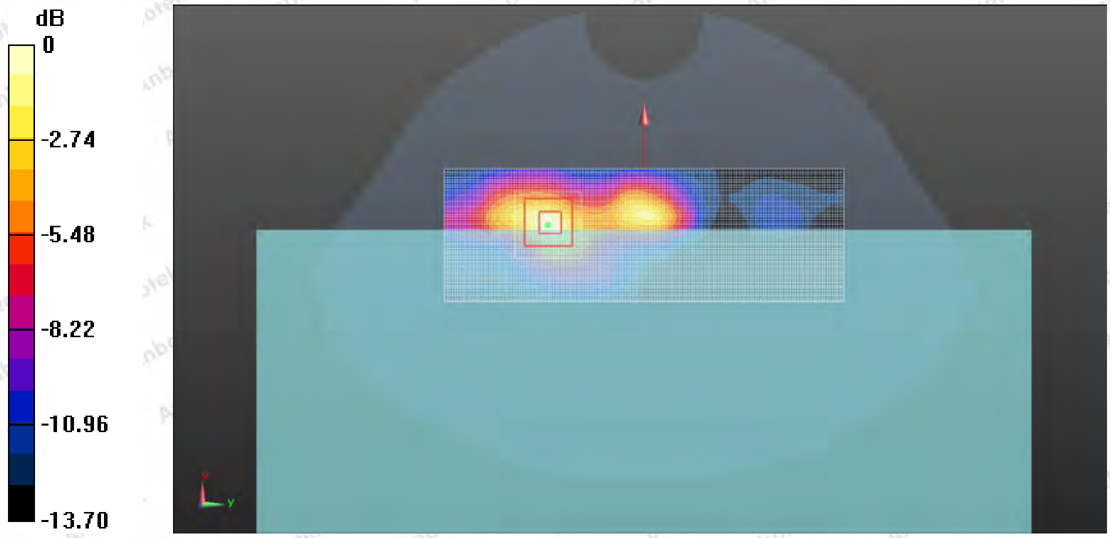
Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 11.624 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.554 W/kg

SAR(1 g) = 0.774 W/Kg; SAR(10 g) = 0.387 W/Kg

Maximum value of SAR (measured) = 1.34 W/Kg



0 dB = 1.34 W/kg = 1.27 dBW/kg

#13

Date: 11/17/2023

WLAN2.4GHz_802.11b 1Mbps_Rear Face_0mm_Ch01

Communication System: UID 0, Generic LTE (0); Frequency: 2412 MHz;Duty Cycle: 1:1
Medium parameters used (interpolated): f = 2412 MHz; σ = 1.715 S/m; εr = 40.207; ρ = 1000 kg/m3
Phantom section: Flat Section

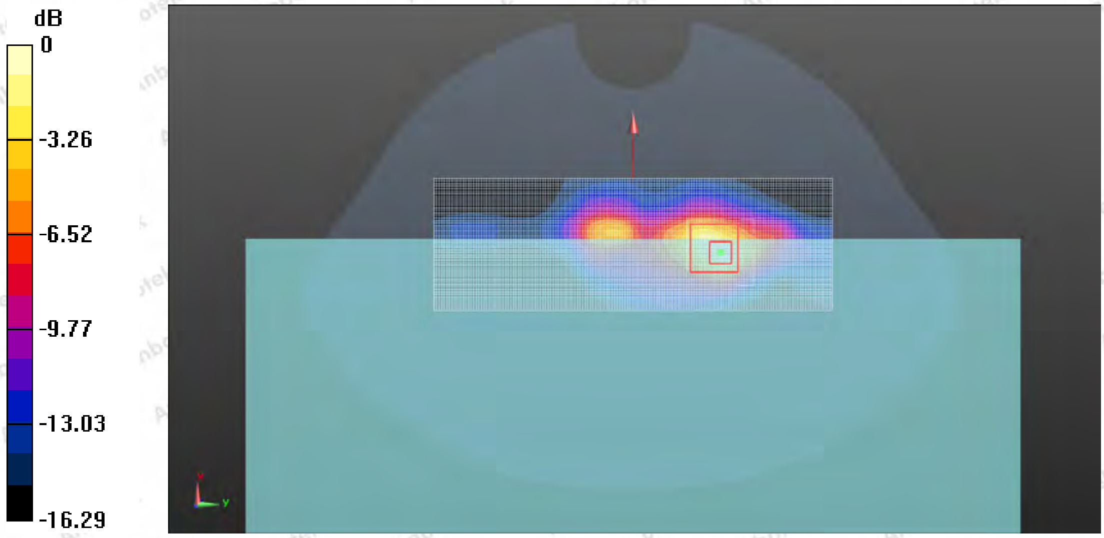
DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(7.57, 7.57, 7.57); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.200 mm, dy=1.200 mm
Maximum value of SAR (interpolated) = 0.65 W/Kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 3.461 V/m; Power Drift = -0.01 dB
Peak SAR (extrapolated) = 0.846 W/kg

SAR(1 g) = 0.356 W/Kg; SAR(10 g) = 0.147 W/Kg
Maximum value of SAR (measured) = 0.715 W/Kg



0 dB = 0.715 W/kg = -1.45 dBW/kg

#14

Date: 11/21/2023

WLAN5.3GHz_802.11ac(HT80)MCS0_Rear Face_0mm_Ch58

Communication System: UID 0, Generic LTE (0); Frequency: 5290 MHz; Duty Cycle: 1:1
Medium parameters used (interpolated): f = 5290 MHz; σ = 4.569 S/m; εr = 36.45; ρ = 1000 kg/m3
Phantom section: Flat Section

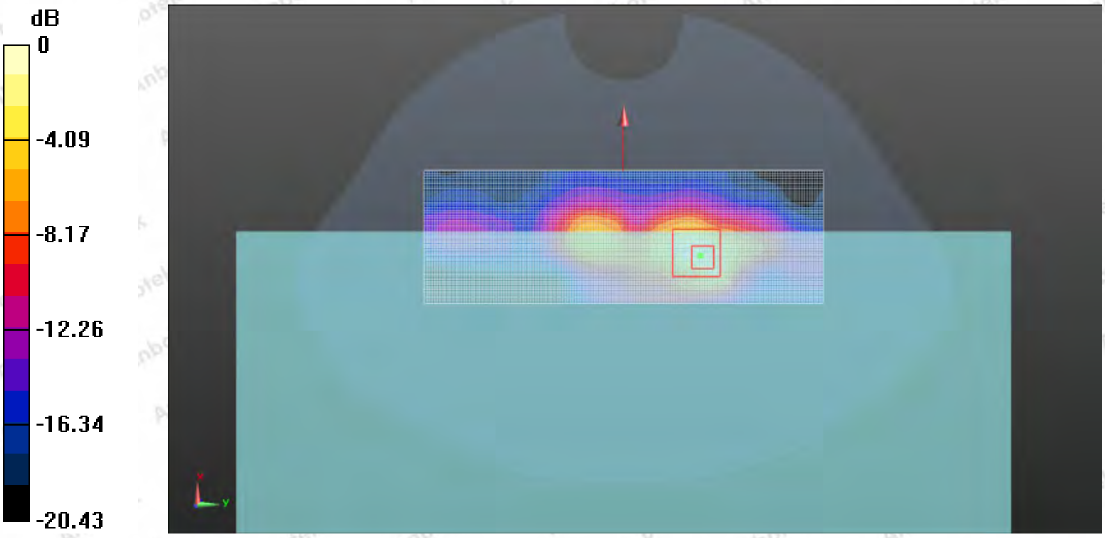
DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(5.33, 5.33, 5.33); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm
Maximum value of SAR (interpolated) = 0.440 W/Kg

Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm
Reference Value = 1.520 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 0.621 W/kg

SAR(1 g) = 0.211 W/Kg; SAR(10 g) = 0.101 W/Kg
Maximum value of SAR (measured) = 0.59 W/Kg



0 dB = 0.59 W/kg = -2.29 dBW/kg

#15

Date: 11/21/2023

WLAN5.8GHz_802.11n(HT20) MCS0_Rear Face_0mm_Ch165

Communication System: UID 0, Generic LTE (0); Frequency: 5825 MHz;Duty Cycle: 1:1

Medium parameters used (interpolated): f = 5825 MHz; σ = 5.985 S/m; εr = 48.710; ρ = 1000 kg/m3

Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7396; ConvF(4.92, 4.92, 4.92); Calibrated: 05,06.2023;
- Sensor-Surface: 4mm (Mechanical Surface Detection)
- Electronics: DAE3 Sn428; Calibrated: Aug.30,2023;
- Phantom: SAM 1; Type: SAM;
- Measurement SW: DASY52, Version 52.8 (2); SEMCAD X Version 14.6.10 (7164)

Area Scan (51x151x1): Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.312 W/Kg

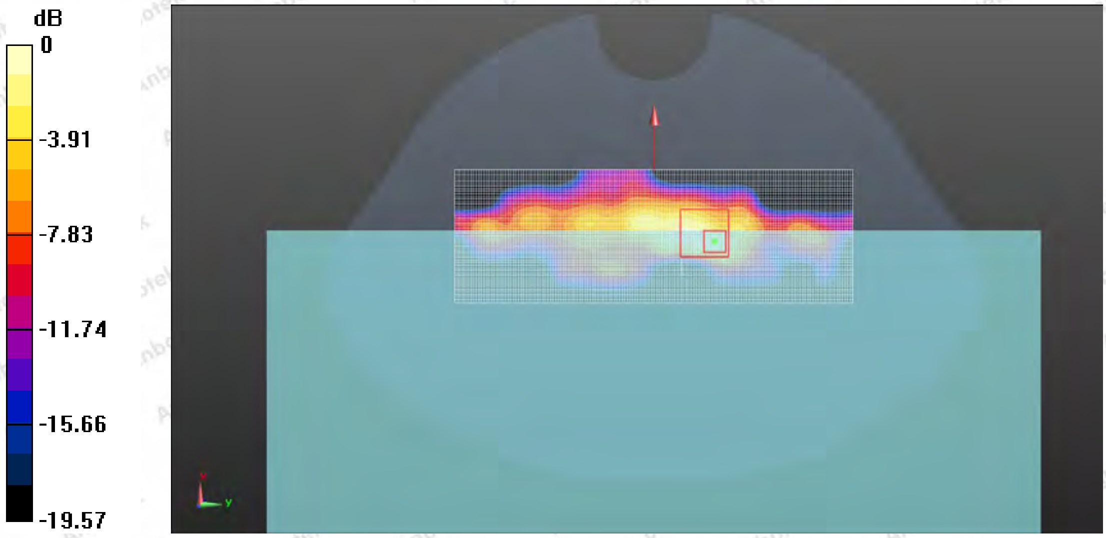
Zoom Scan (8x8x7)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=1.4mm

Reference Value = 4.525 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.547 W/kg

SAR(1 g) = 0.122 W/Kg; SAR(10 g) = 0.084 W/Kg

Maximum value of SAR (measured) = 0.44 W/Kg



0 dB = 0.44 W/kg = -3.56 dBW/kg

Appendix D. DASY System Calibration Certificate

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

ilac-MRA CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L0570

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

Client Anbotek (Auden) Certificate No: Z23-98671

CALIBRATION CERTIFICATE

Object	EX3DV4 - SN:7396
Calibration Procedure(s)	FF-Z12-006-08 Calibration Procedures for Dosimetric E-field Probes
Calibration date:	May 06 , 2023

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-22 (CTTL, No.J22X07447)	Jun-21
Power sensor NRP-Z91	101547	20-Jun-22 (CTTL, No.J22X07447)	Jun-21
Power sensor NRP-Z91	101548	20-Jun-22 (CTTL, No.J22X07447)	Jun-21
Reference10dBAttenuator	18N50W-10dB	13-Mar-23(CTTL,No.J23X01547)	Mar-22
Reference20dBAttenuator	18N50W-20dB	13-Mar-23(CTTL, No.J23X01548)	Mar-22
Reference Probe EX3DV4	SN 7433	26-Sep-22(SPEAG,No.EX3-7433_Sep22)	Sep-21
DAE4	SN 549	13-Dec-22(SPEAG, No.DAE4-549_Dec22)	Dec -21
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
SignalGeneratorMG3700A	6201052605	27-Jun-22 (CTTL, No.J22X04776)	Jun-21
Network Analyzer E5071C	MY46110673	13-Jan-23 (CTTL, No.J23X00285)	Jan -22

	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: May 06 , 2023

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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).

TTL In Collaboration with s p e a g CALIBRATION LABORATORY
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

Probe EX3DV4

SN: 7396

Calibrated: May 06, 2023

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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.

TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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.

In Collaboration with
s p e a g
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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.

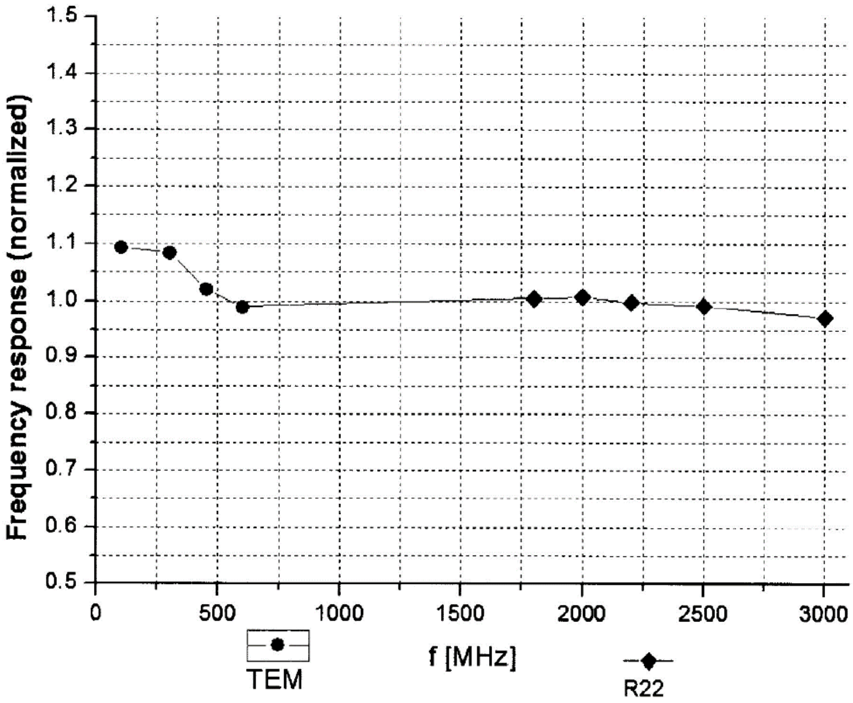
[F] At frequency below 3 GHz, the validity of tissue parameters (ε and σ) can be relaxed to ±10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters (ε and σ) is restricted to ±5%. The uncertainty is the RSS of the ConvF uncertainty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

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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

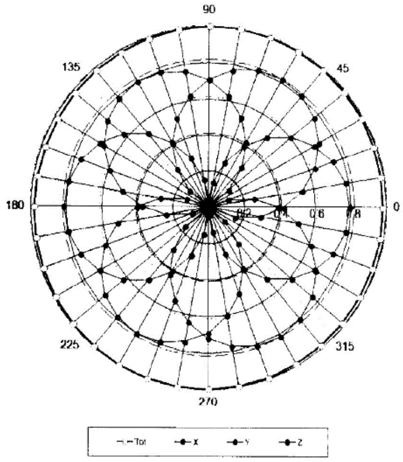


Uncertainty of Frequency Response of E-field: ±7.4% (k=2)

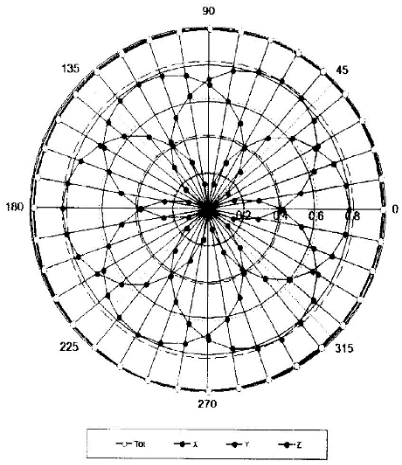
TTL In Collaboration with speag CALIBRATION LABORATORY
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

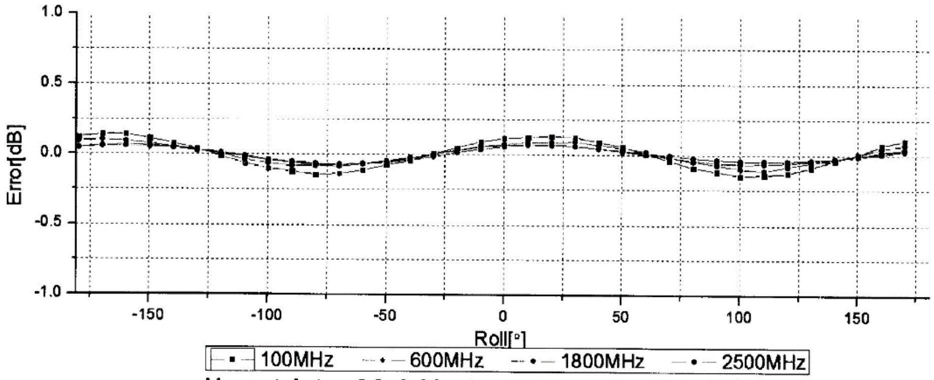
Receiving Pattern (Φ), θ=0°

f=600 MHz, TEM



f=1800 MHz, R22



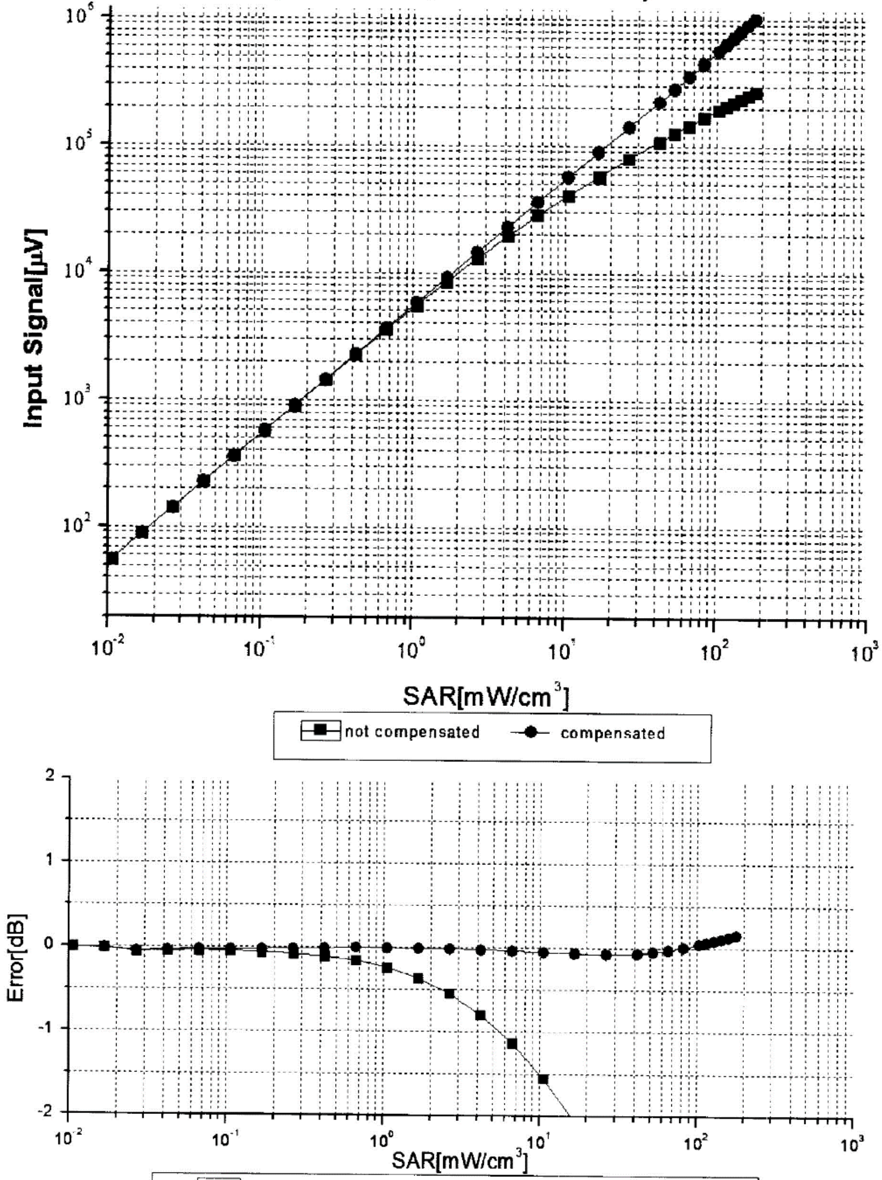


Uncertainty of Axial Isotropy Assessment: ±1.2% (k=2)

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

Dynamic Range f(SAR$_{head}$)
(TEM cell, f = 900 MHz)



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

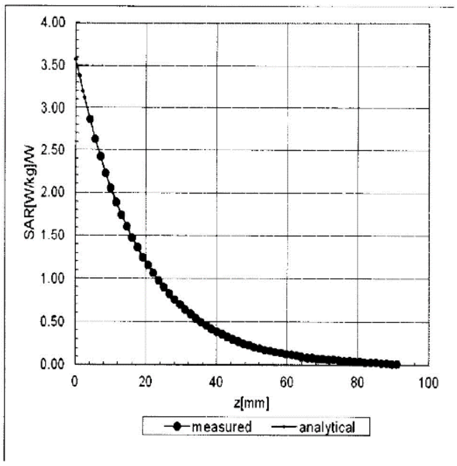
Certificate No: Z23-98671

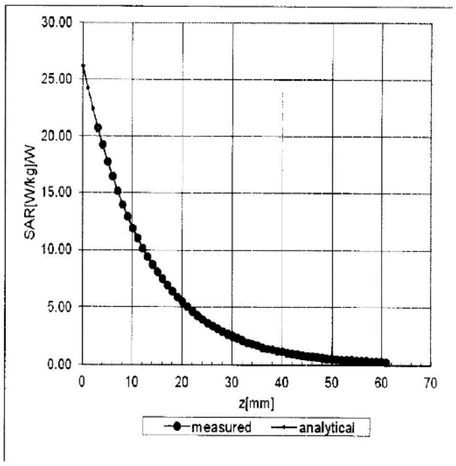
TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

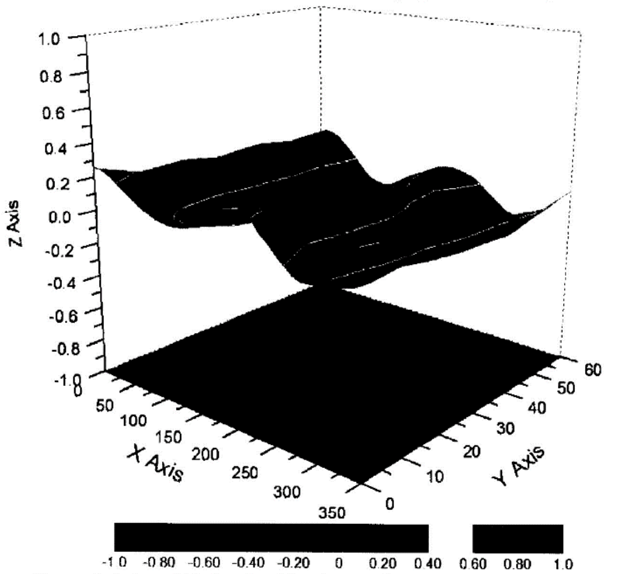
Conversion Factor Assessment

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)

In Collaboration with
speag
CALIBRATION LABORATORY
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2218 Fax: +86-10-62304633-2209
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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

In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L0570 CAICT

Client : CTA Certificate No: J23Z60391

CALIBRATION CERTIFICATE

Object	DAE3 - SN: 428
Calibration Procedure(s)	FF-Z11-002-01 Calibration Procedure for the Data Acquisition Electronics (DAEx)
Calibration date:	August 30, 2023

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
Process Calibrator 753	1971018	12-Jun-23 (CTTL, No.J23X05436)	Jun-24

	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: September 06, 2023

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

In Collaboration with s p e a g CALIBRATION LABORATORY

CAICT

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

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 report provide only calibration results for DAE, it does not contain other performance test results.

TTL In Collaboration with speag CALIBRATION LABORATORY

CAICT

Add: No.52 HuaYuanBei Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2117
E-mail: emf@caict.ac.cn http://www.caict.ac.cn

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	404.468 ± 0.15% (k=2)	404.804 ± 0.15% (k=2)	404.579 ± 0.15% (k=2)
Low Range	3.95934 ± 0.7% (k=2)	3.95437 ± 0.7% (k=2)	3.91875 ± 0.7% (k=2)

Connector Angle

Connector Angle to be used in DASY system	258.5° ± 1 °

TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

ilac-MRA CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L0570

Client Anbotek (Auden) Certificate No: Z18-98076

CALIBRATION CERTIFICATE

Object	D750V3 - SN: 1118
Calibration Procedure(s)	FD-Z11-003-01 Calibration Procedures for dipole validation kits
Calibration date:	June 08, 2021

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-20 (CTTL, No.J27X04256)	Jun-21
Power sensor NRP-Z91	101547	01-Jul-20 (CTTL, No.J27X04256)	Jun-21
Reference Probe EX3DV4	SN 7307	19-Feb-21(SPEAG,No.EX3-7307_Feb18)	Feb-22
DAE4	SN 771	02-Feb-21(CTTL-SPEAG,No.Z18-97011)	Feb-22
Secondary Standards	**ID #**	**Cal Date(Calibrated by, Certificate No.)**	**Scheduled Calibration**
Signal Generator E4438C	MY49071430	01-Feb-21 (CTTL, No.J18X00893)	Jan-22
Network Analyzer E5071C	MY46110673	26-Jan-21 (CTTL, No.J18X00894)	Jan-22

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

Issued: June 10, 2021

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

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%.

TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

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)**

TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

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

Manufactured by	SPEAG

TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

DASY5 Validation Report for Head TSL Date: 06.08.2021

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: 2/19/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2021-02-02
- 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)

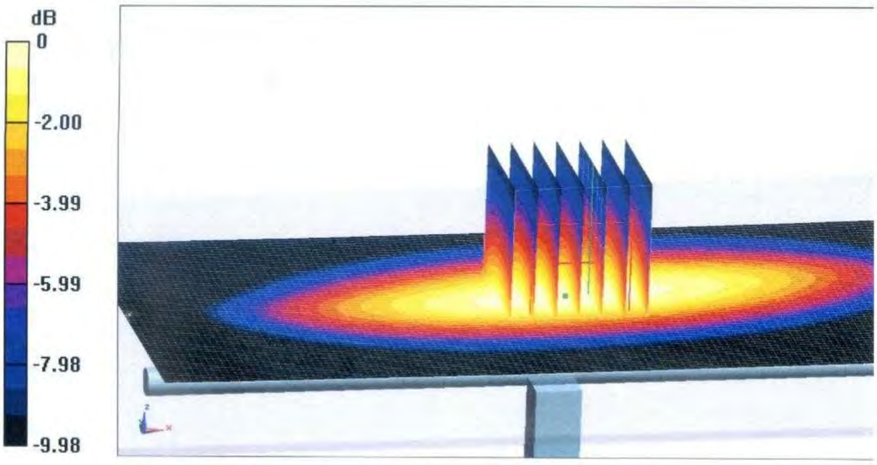
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

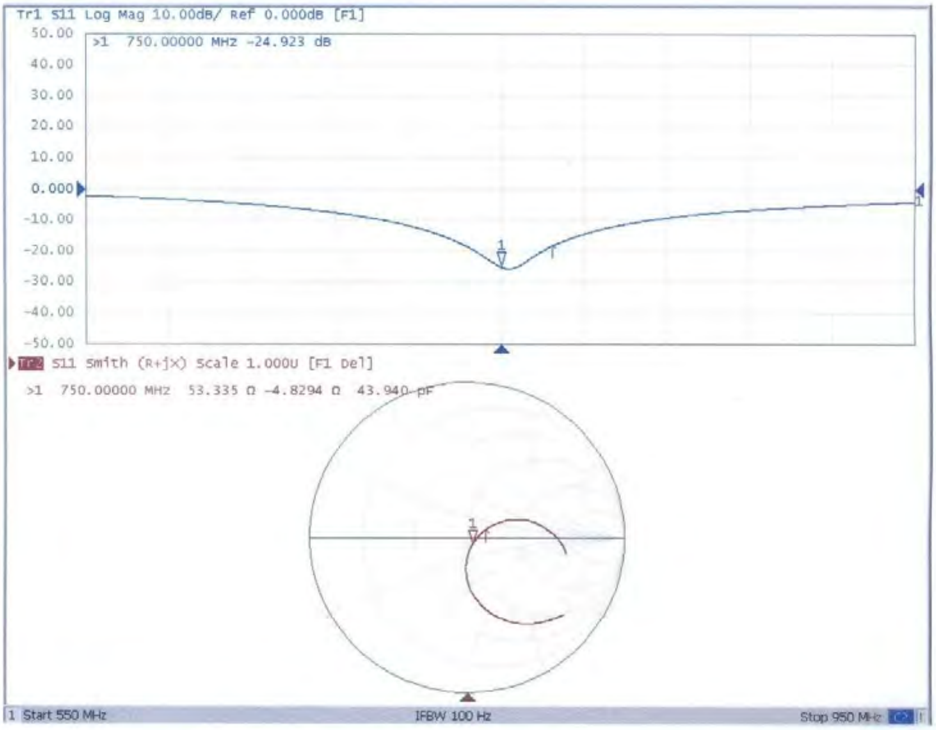


0 dB = 2.75 W/kg = 4.39 dBW/kg

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

Impedance Measurement Plot for Head TSL



In Collaboration with
s p e a g
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

DASY5 Validation Report for Body TSL Date: 06.08.2021

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: 2/19/2021;
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn771; Calibrated: 2021-02-02
- 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)

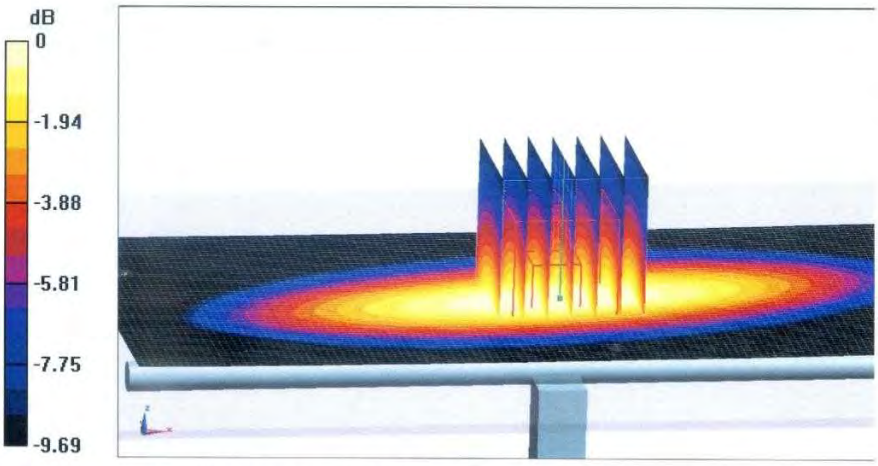
Dipole Calibration/Zoom Scan (7x7x7) (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm

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

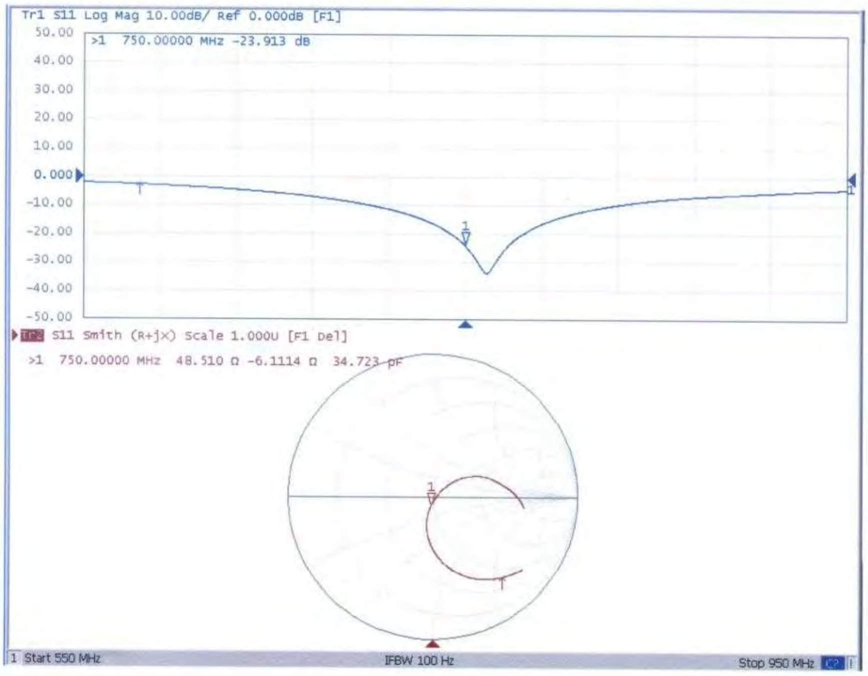
Maximum value of SAR (measured) = 2.95 W/kg



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

TTL In Collaboration with speag CALIBRATION LABORATORY
Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com http://www.chinattl.cn

Impedance Measurement Plot for Body TSL



TTL In Collaboration with speag CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com Http://www.chinattl.cn

ilac-MRA CNAS 中国认可 国际互认 校准 CALIBRATION CNAS L0570

Client Anbotek (Auden) Certificate No: Z18-97089

CALIBRATION CERTIFICATE

Object	D835V2 - SN: 4d154
Calibration Procedure(s)	FD-Z11-2-003-01 Calibration Procedures for dipole validation kits
Calibration date:	Jun 16, 2021

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-20 (CTTL, No.J17X04256)	Jun-21
Power sensor NRP-Z91	101547	1-Jul-20 (CTTL, No.J17X04256)	Jun-21
Reference Probe EX3DV4	SN 7307	19-Feb-21(SPEAG,No.EX3-7307_Feb18)	Feb-22
DAE4	SN 771	02-Feb-21(CTTL-SPEAG,No.Z18-97011)	Feb-22
Secondary Standards	ID #	Cal Date(Calibrated by, Certificate No.)	Scheduled Calibration
Signal Generator E4438C	MY49071430	01-Feb-21 (CTTL, No.J18X00893)	Jan-22
Network Analyzer E5071C	MY46110673	26-Jan-21 (CTTL, No.J18X00894)	Jan-22

	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 17, 2021

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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%.

In Collaboration with
speag
CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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)**

TTL In Collaboration with s p e a g CALIBRATION LABORATORY

Add: No.51 Xueyuan Road, Haidian District, Beijing, 100191, China
Tel: +86-10-62304633-2079 Fax: +86-10-62304633-2504
E-mail: cttl@chinattl.com Http://www.chinattl.cn

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