中认信通
CHINA CERTIFICATION ICT CO.,LTD (DONGGUAN)

ACCREDITED
TESTING LABORATORY
CERTIFICATE # 6356.01

SAR TEST REPORT

Applicant: **Fujian Newland Payment Technology Co.,Ltd.**

Address: No. B602, Building #1, Haixia Jingmao Plaza, Fuzhou Bonded Area 350015, Fujian, China

FCC ID: **2AM6U-NA950S**

Product Name: **POS Terminal**

Standard(s): **47 CFR Part 2(2.1093)**

The above device has been tested and found compliant with the requirement of the relative standards by China Certification ICT Co., Ltd (Dongguan)

Report Number: **2403U82009E-20**

Date Of Issue: **2024/08/25**

Reviewed By: **Ken Zong** Ken Zong

Title: SAR Engineer

Approved By: **Karl Gong** Karl Gong

Title: SAR Engineer

Test Laboratory: **China Certification ICT Co., Ltd (Dongguan)**

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SAR TEST RESULTS SUMMARY

Operation Frequency Bands	Highest Reported 1g SAR (W/kg)	Limits (W/kg)	Highest Reported 10g SAR (W/kg)	Limits (W/kg)
	Body SAR (Gap 0mm)		Handheld SAR (Gap 0mm)	
WLAN 2.4G	0.02	**1.6**	0.12	**4.0**
WLAN 5.2G	0.46		0.67	
WLAN 5.3G	**0.58**		0.77	
WLAN 5.6G	0.42		**0.77**	
WLAN 5.8G	0.13		0.48	
Maximum Simultaneous Transmission SAR				
Items	**Body SAR (Gap 0mm)**	**Limits (W/kg)**	**Handheld SAR (Gap 0mm)**	**Limits**
Sum SAR(W/kg)	NA	**1.6**	NA	**4.0**
SPLSR	N/A	**0.04**	N/A	**0.1**
EUT Received Date:	2024/06/14			
Tested Date:	2024/08/19			
Tested Result:	Pass			

Test Facility

The Test site used by China Certification ICT Co., Ltd (Dongguan) to collect test data is located on the No. 113, Pingkang Road, Dalang Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 442868, the FCC Designation No. : CN1314.

Declarations

China Certification ICT Co., Ltd (Dongguan) is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "▲". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2403U82009E-20	Original Report	2024/08/25

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	POS Terminal
EUT Model:	N950S
Device Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Body-Worn Accessories:	None
Operation modes:	WLAN and Bluetooth
Frequency Band:	WLAN 2.4G : 2412 MHz-2462 MHz/2422-2452 MHz WLAN 5.2G : 5150 MHz-5250 MHz WLAN 5.3G : 5250 MHz-5350 MHz WLAN 5.6G : 5470 MHz-5725 MHz WLAN 5.8G : 5725 MHz-5850 MHz Bluetooth : 2402 MHz-2480 MHz
Conducted RF Power:	WLAN 2.4G: 13.73 dBm WLAN 5.2G: 9.02 dBm WLAN 5.3G: 10.09 dBm WLAN 5.6G: 13.33 dBm WLAN 5.8G: 15.37 dBm Bluetooth(BDR/EDR): 8.89 dBm BLE: 1.64 dBm
Rated Input Voltage:	DC 7.2 V from Rechargeable Battery
Serial Number:	2NQ1-1
Normal Operation:	Body and Limb

1.2 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528-2013, the following FCC Published RF exposure KDB procedures:

KDB 447498 D01 General RF Exposure Guidance v06
KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
KDB 865664 D02 RF Exposure Reporting v01r02
KDB 616217 D04 SAR for laptop and tablets v01r02
KDB 248227 D01 802 11 Wi-Fi SAR v02r02

TCB Workshop April 2019: RF Exposure Procedures

1.3 SAR Limits

FCC Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	**1.60**	8.0
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	**4.0**	20.0

Population/Uncontrolled Environments are defined as locations where there is the exposure of individual who have no knowledge or control of their exposure.

Occupational/Controlled Environments are defined as locations where there is exposure that may be incurred by people who are aware of the potential for exposure (i.e. as a result of employment or occupation).

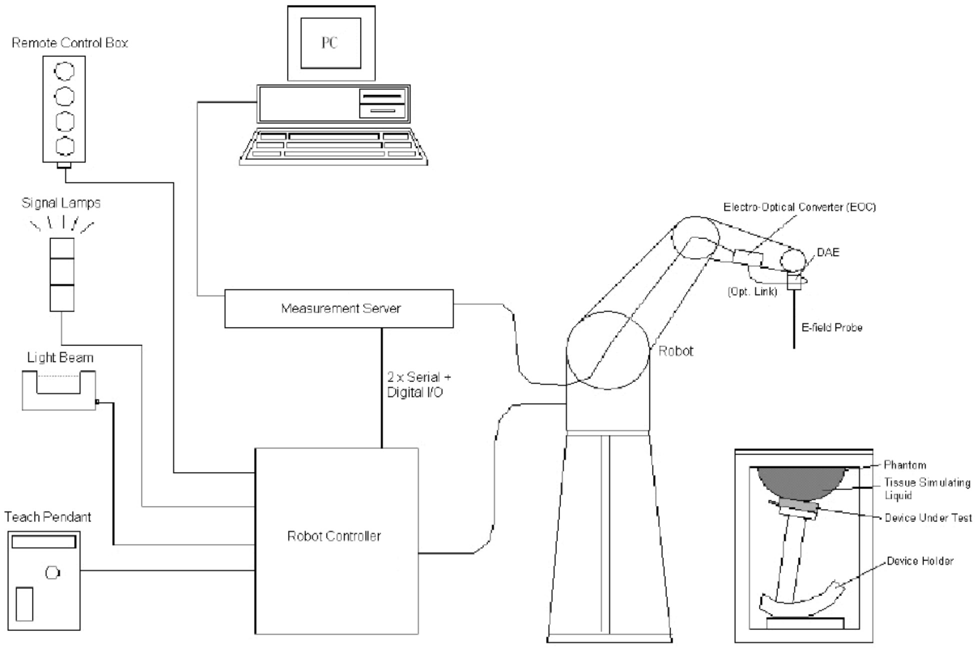
General Population/Uncontrolled environments Spatial Peak limit 1.6W/kg for 1g SAR and Spatial Peak limit 4.0W/kg for 10g Extremity SAR applied to the EUT.

2. SAR MEASUREMENT SYSTEM

These measurements were performed with the automated near-field scanning system DASY5 from Schmid & Partner Engineering AG (SPEAG) which is the Fifth generation of the system shown in the figure hereinafter:

DASY5 System Description

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal application, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running Win7 professional operating system and the DASY52 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

DASY5 Measurement Server

The DASY5 measurement server is based on a PC/104 CPU board with a 400MHz Intel ULV Celeron, 128MB chip-disk and 128MB RAM. The necessary circuits for communication with the DAE4 (or DAE3) electronics box, as well as the 16 bit AD-converter system for optical detection and digital I/O interface are contained on the DASY5 I/O board, which is directly connected to the PC/104 bus of the CPU board.

The measurement server performs all real-time data evaluation of field measurements and surface detection, controls robot movements and handles safety operation. The PC operating system cannot interfere with these time critical processes. All connections are supervised by a watchdog, and disconnection of any of the cables to the measurement server will automatically disarm the robot and disable all program-controlled robot movements. Furthermore, the measurement server is equipped with an expansion port which is reserved for future applications. Please note that this expansion port does not have a standardized point out, and therefore only devices provided by SPEAG can be connected. Devices from any other supplier could seriously damage the measurement server.

Data Acquisition Electronics

The data acquisition electronics (DAE4) consist 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 with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

The mechanical probe mounting device includes two different sensor systems for frontal and sideways probe contacts. They are used for mechanical surface detection and probe collision detection.

The input impedance of both the DAE4 as well as of the DAE3 box is 200MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

EX3DV4 E-Field Probes

Frequency	10 MHz to > 6 GHz Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)
Dynamic Range	10 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm
Application	High precision dosimetric measurements in any exposure scenario (e.g., very strong gradient fields); the only probe that enables compliance testing for frequencies up to 6 GHz with precision of better 30%.
Compatibility	DASY3, DASY4, DASY52 SAR and higher, EASY4/MRI

Calibration Frequency Points for EX3DV4 E-Field Probes SN: 7329 Calibrated: 2024/3/27

Calibration Frequency Point(MHz)	Frequency Range(MHz)		Conversion Factor		
	From	To	X	Y	Z
750 Head	650	810	8.79	10.07	9.05
900 Head	810	1000	8.42	9.50	8.93
1750 Head	1650	1810	7.56	8.56	7.71
1900 Head	1810	2000	7.37	8.32	7.54
2300 Head	2200	2399	7.21	8.13	7.41
2450 Head	2399	2500	7.05	7.92	7.22
2600 Head	2500	2700	6.91	7.77	7.08
5250 Head	5140	5360	4.96	5.61	5.16
5600 Head	5490	5675	4.38	4.98	4.56
5750 Head	5675	5860	4.54	5.16	4.70

SAM Twin Phantom

The SAM twin phantom is a fiberglass shell phantom with 2mm shell thickness (except the ear region, where shell thickness increases to 6 mm). The phantom has three measurement areas:
_ Left Head
_ Right Head
_ Flat phantom

The phantom table for the DASY systems based on the robots have the size of 100 x 50 x 85 cm (L x W x H).
For easy dislocation these tables have fork lift cut outs at the bottom.
The bottom plate contains three pairs of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. Only one device holder is necessary if two phantoms are used (e.g., for different liquids)

A white cover is provided to cover the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. Free space scans of devices on top of this phantom cover are possible. Three reference marks are provided on the phantom counter. These reference marks are used to teach the absolute phantom position relative to the robot.

Robots

The DASY5 system uses the high precision industrial robot. The robot offers the same features important for our application:
- High precision (repeatability 0.02mm)
- High reliability (industrial design)
- Low maintenance costs (virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements (brushless synchrony motors; no stepper motors)
- Low ELF interference (motor control fields shielded via the closed metallic construction shields)

The above mentioned robots are controlled by the Staubli CS8c robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

SAR Scan Procedures

Step 1: 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. The minimum distance of probe sensors to surface is 1.4 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

Step 2: Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm 2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

Where the system identifies multiple SAR peaks (which are within 25% of peak value) the system will provide the user with the option of assessing each peak location individually for zoom scan averaging.

Area Scan Parameters extracted from 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 mm ± 1 mm	½·δ·ln(2) mm ± 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.	

Step 3: Zoom Scan (Cube Scan Averaging)

The averaging zoom scan volume utilized in the DASY5 software is in the shape of a cube and the side dimension of a 1 g or 10 g mass is dependent on the density of the liquid representing the simulated tissue. A density of 1000 kg/m^3 is used to represent the head and body tissue density and not the phantom liquid density, in order to be consistent with the definition of the liquid dielectric properties, i.e. the side length of the 1g cube is 10mm,with the side length of the 10g cube is 21.5mm.

Zoom Scan Parameters extracted from 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	$\le 1.5 \cdot \Delta z_{Zoom}(n-1)$ mm	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see IEEE Std 1528-2013 for details. * When zoom scan is required and the *reported* SAR from the *area scan based 1-g SAR estimation* procedures of KDB Publication 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.				

Step 4: Power Drift Measurement

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

When the cube intersects with the surface of the phantom, it is oriented so that 3 vertices touch the surface of the shell or the center of a face is tangent to the surface. The face of the cube closest to the surface is modified in order to conform to the tangent surface.

The zoom scan integer steps can be user defined so as to reduce uncertainty, but normal practice for typical test applications (including FCC) utilize a physical step of 7 x7 x 7 (5mmx5mmx5mm) providing a volume of 30 mm in the X & Y & Z axis.

Tissue Dielectric Parameters for Head and Body Phantoms

The head tissue dielectric parameters recommended by the IEC 62209-1:2016

Recommended Tissue Dielectric Parameters for Head liquid

Table A.3 – Dielectric properties of the head tissue-equivalent liquid

Frequency MHz	**Relative permittivity** ε_r	**Conductivity (σ)** S/m
300	45,3	0,87
450	43,5	0,87
750	*41,9*	*0,89*
835	41,5	0,90
900	41,5	0,97
1 450	40,5	1,20
1 500	*40,4*	*1,23*
1 640	*40,2*	*1,31*
1 750	*40,1*	*1,37*
1 800	40,0	1,40
1 900	40,0	1,40
2 000	40,0	1,40
2 100	*39,8*	*1,49*
2 300	*39,5*	*1,67*
2 450	39,2	1,80
2 600	*39,0*	*1,96*
3 000	38,5	2,40
3 500	*37,9*	*2,91*
4 000	*37,4*	*3,43*
4 500	*36,8*	*3,94*
5 000	*36,2*	*4,45*
5 200	*36,0*	*4,66*
5 400	*35,8*	*4,86*
5 600	*35,5*	*5,07*
5 800	*35,3*	*5,27*
6 000	*35,1*	*5,48*

NOTE For convenience, permittivity and conductivity values at those frequencies which are not part of the original data provided by Drossos et al. [33] or the extension to 5 800 MHz are provided (i.e. the values shown *in italics*). These values were linearly interpolated between the values in this table that are immediately above and below these values, except the values at 6 000 MHz that were linearly extrapolated from the values at 3 000 MHz and 5 800 MHz.

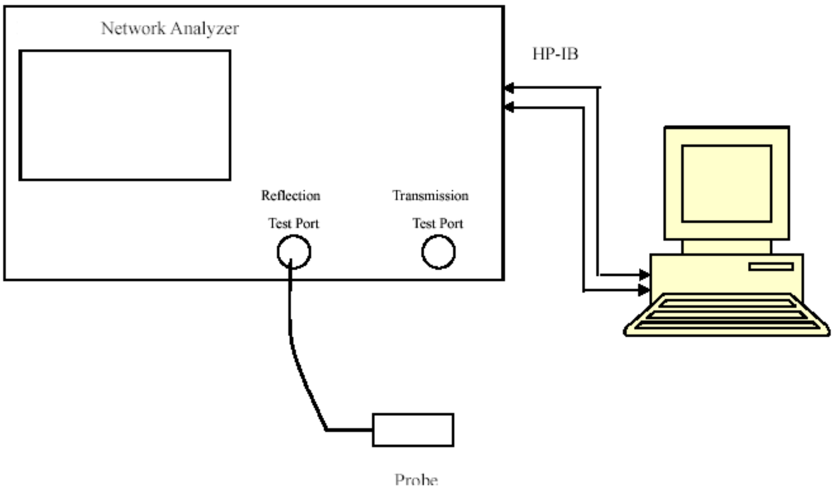
3. EQUIPMENT LIST AND CALIBRATION

3.1 Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52.10	N/A	NCR	NCR
DASY5 Measurement Server	DASY5 4.5.12	1567	NCR	NCR
Data Acquisition Electronics	DAE4	1354	2023/11/17	2024/11/16
E-Field Probe	EX3DV4	7329	2024/3/27	2025/3/26
Mounting Device	MD4HHTV5	BJPCTC0152	NCR	NCR
Twin SAM	Twin SAM V5.0	1412	NCR	NCR
Dipole, 2450 MHz	D2450V2	1102	2023/3/27	2026/3/26
Dipole,5GHz	D5GHzV2	1245	2023/8/23	2026/8/22
Simulated Tissue Liquid Head(500-9500 MHz)	HBBL600-10000V6	220420-2	Each Time	/
Network Analyzer	8753B	2828A00170	2023/10/17	2024/10/16
Dielectric assessment kit	1319	SM DAK 040 CA	NCR	NCR
MXG Vector Signal Generator	N5182B	MY51350144	2024/4/1	2025/3/31
Power Meter	E4419B	MY45103907	2023/10/18	2024/10/17
USB Power Sensor	U2001H	MY50000432	2024/4/1	2025/3/31
Power Amplifier	ZHL-5W-202-S+	416402204	NCR	NCR
Power Amplifier	ZVE-6W-83+	637202210	NCR	NCR
Directional Coupler	441493	520Z	NCR	NCR
Attenuator	20dB, 100W	LN749	NCR	NCR
Attenuator	6dB, 150W	2754	NCR	NCR
Thermometer	DTM3000	3892	2024/4/1	2025/3/31
Thermohygrometer	HTC-1	N/A	2024/4/1	2025/3/31
Spectrum Analyzer	FSU26	100147	2024/4/1	2025/3/31

4. SAR MEASUREMENT SYSTEM VERIFICATION

4.1 Liquid Verification



Liquid Verification Setup Block Diagram

Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
2412	Simulated Tissue Liquid Head	41.221	1.804	39.28	1.77	4.94	1.92	±5
2437	Simulated Tissue Liquid Head	41.059	1.826	39.23	1.79	4.66	2.01	±5
2450	Simulated Tissue Liquid Head	40.933	1.855	39.2	1.8	4.42	3.06	±5
2462	Simulated Tissue Liquid Head	40.857	1.873	39.18	1.81	4.28	3.48	±5

Liquid Verification above was performed on 2024/08/19.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
5190	Simulated Tissue Liquid Head	37.205	4.491	36.01	4.65	3.32	-3.42	±5
5230	Simulated Tissue Liquid Head	37.023	4.523	35.97	4.69	2.93	-3.56	±5
5250	Simulated Tissue Liquid Head	36.942	4.541	35.95	4.71	2.76	-3.59	±5
5270	Simulated Tissue Liquid Head	36.907	4.574	35.93	4.73	2.72	-3.3	±5
5280	Simulated Tissue Liquid Head	36.813	4.586	35.92	4.74	2.49	-3.25	±5
5310	Simulated Tissue Liquid Head	36.775	4.592	35.89	4.77	2.47	-3.73	±5

Liquid Verification above was performed on 2024/08/19.

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
5500	Simulated Tissue Liquid Head	36.422	5.141	35.65	4.97	2.17	3.44	±5
5580	Simulated Tissue Liquid Head	36.469	5.189	35.53	5.05	2.64	2.75	±5
5600	Simulated Tissue Liquid Head	36.495	5.291	35.5	5.07	2.8	4.36	±5
5700	Simulated Tissue Liquid Head	36.507	5.313	35.4	5.17	3.13	2.77	±5

**Liquid Verification above was performed on 2024/08/19.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	Δσ (S/m)	
5745	Simulated Tissue Liquid Head	36.216	5.339	35.36	5.22	2.42	2.28	±5
5750	Simulated Tissue Liquid Head	36.342	5.418	35.35	5.22	2.81	3.79	±5
5785	Simulated Tissue Liquid Head	36.385	5.443	35.32	5.26	3.02	3.48	±5
5825	Simulated Tissue Liquid Head	36.407	5.532	35.28	5.3	3.19	4.38	±5

**Liquid Verification above was performed on 2024/08/19.*

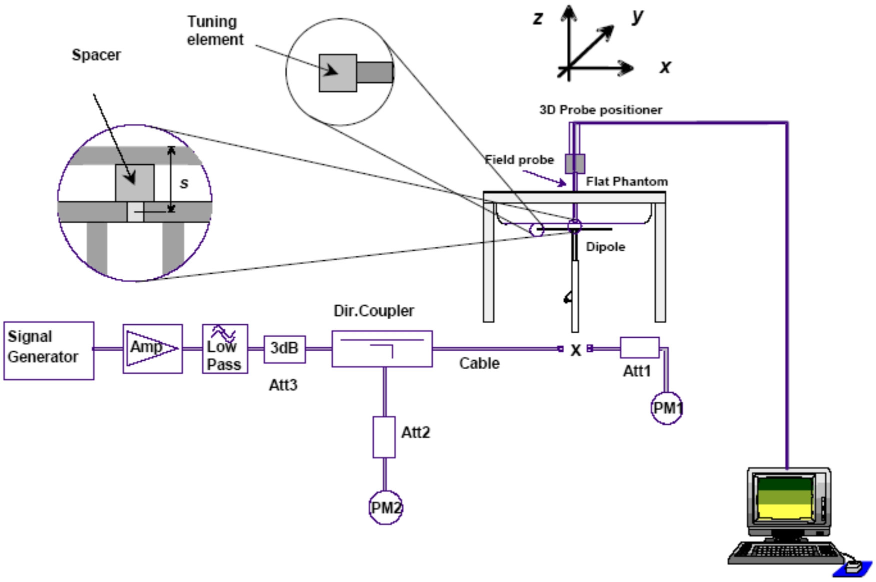
4.2 System Accuracy Verification

Prior to the assessment, the system validation kit was used to test whether the system was operating within its specifications of ±10%. The validation results are tabulated below. And also the corresponding SAR plot is attached as well in the SAR plots files.

The spacing distances in the **System Verification Setup Block Diagram** is given by the following:

a) s = 15 mm ± 0,2 mm for 300 MHz ≤ f ≤ 1 000 MHz;
b) s = 10 mm ± 0,2 mm for 1 000 MHz < f ≤ 3 000 MHz;
c) s = 10 mm ± 0,2 mm for 3 000 MHz < f ≤ 6 000 MHz.

System Verification Setup Block Diagram



System Accuracy Check Results

Date	Frequency Band	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/kg)	Delta (%)	Tolerance (%)
2024/08/19	2450 MHz	Simulated Tissue Liquid Head	100	1g	5.29	52.9	50.9	3.93	±10
				10g	2.53	25.3	24.1	4.98	±10
2024/08/19	5250 MHz	Simulated Tissue Liquid Head	100	1g	8.29	82.9	78	6.28	±10
				10g	2.35	23.5	22.1	6.33	±10
2024/08/19	5600 MHz	Simulated Tissue Liquid Head	100	1g	8.35	83.5	81	3.09	±10
				10g	2.36	23.6	22.8	3.51	±10
2024/08/19	5750 MHz	Simulated Tissue Liquid Head	100	1g	7.28	72.8	77.8	-6.43	±10
				10g	2.05	20.5	21.7	-5.53	±10

*The SAR values above are normalized to 1 Watt forward power.

4.3 SAR SYSTEM VALIDATION DATA

System Performance 2450MHz Head was performed on 2024/08/19

DUT: D2450V2; Type: 2450 MHz; Serial: 1102

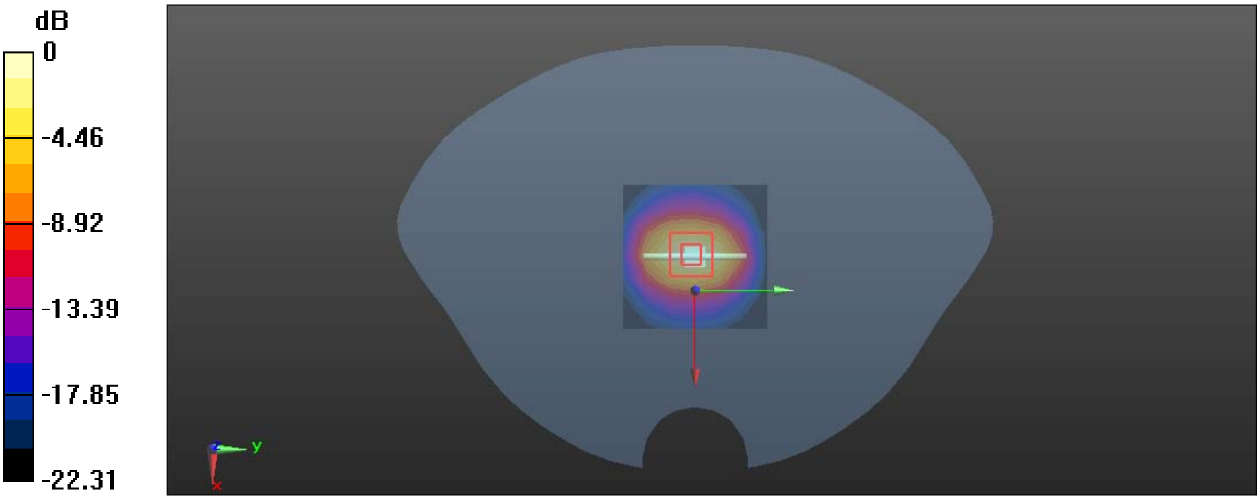
Communication System: CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.855 S/m; ε_r = 40.933; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(7.05, 7.92, 7.22) @ 2450 MHz; Calibrated: 2024/3/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2023/11/17
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x7x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 6.75 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 56.61 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 11.5 W/kg
SAR(1 g) = 5.29 W/kg; SAR(10 g) = 2.53 W/kg
Maximum value of SAR (measured) = 6.92 W/kg



0 dB = 6.92 W/kg = 8.40 dBW/kg

System Performance 5250 MHz Head was performed on 2024/08/19

DUT: D5GHzV2; Type: 5250 MHz; Serial: 1245

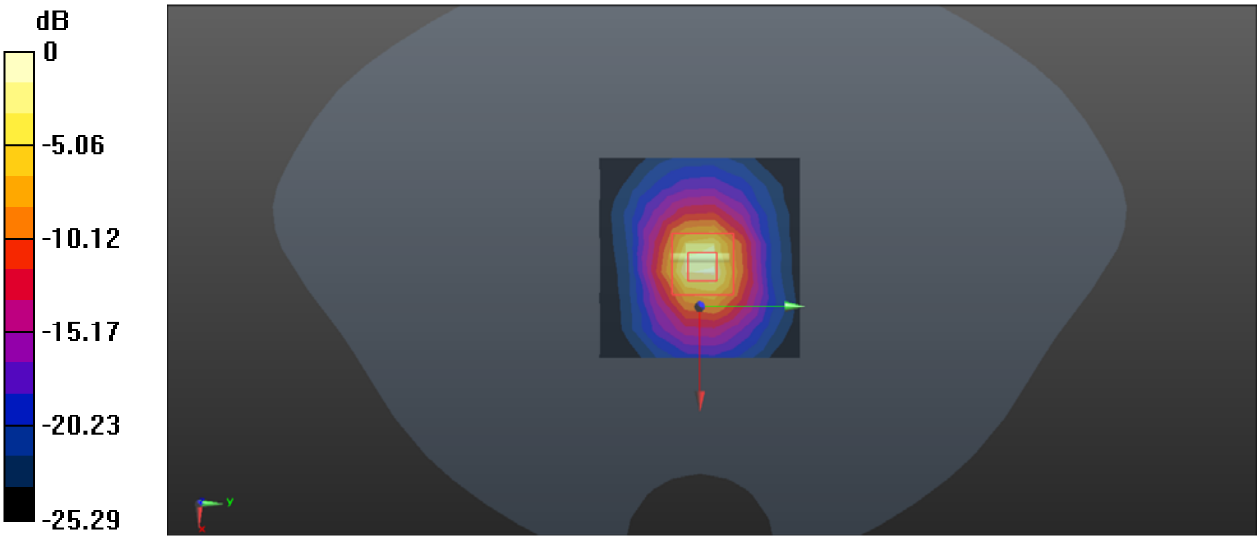
Communication System: CW; Frequency: 5250 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5250 MHz; σ = 4.541 S/m; ε_r = 36.942; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(4.96, 5.61, 5.16) @ 5250 MHz; Calibrated: 2024/3/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2023/11/17
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x8x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (measured) = 18.6 W/kg

Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 43.27 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 32.7 W/kg
SAR(1 g) = 8.29 W/kg; SAR(10 g) = 2.35 W/kg
Maximum value of SAR (measured) = 20.4 W/kg



0 dB = 20.4 W/kg = 13.10 dBW/kg

System Performance 5600 MHz Head was performed on 2024/08/19

DUT: D5GHzV2; Type: 5600 MHz; Serial: 1245

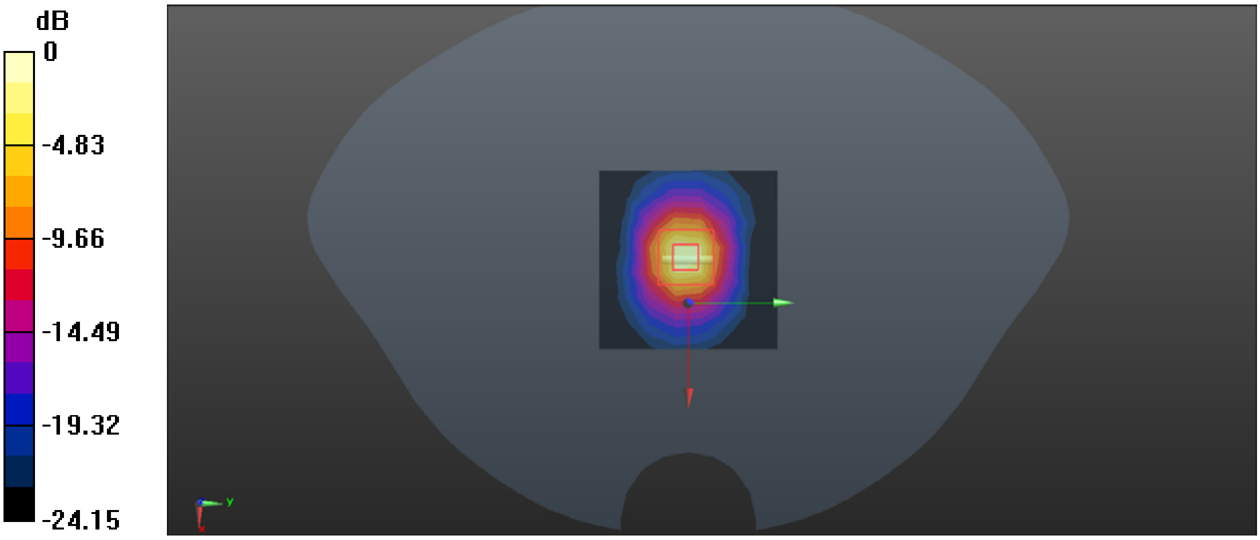
Communication System: CW; Frequency: 5600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5600 MHz; σ = 5.291 S/m; ε_r = 36.495; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(4.38, 4.98, 4.56) @ 5600 MHz; Calibrated: 2024/3/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2023/11/17
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x8x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (measured) = 15.7 W/kg

Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 41.95 V/m; Power Drift = 0.12 dB
Peak SAR (extrapolated) = 38.4 W/kg
SAR(1 g) = 8.35 W/kg; SAR(10 g) = 2.36 W/kg
Maximum value of SAR (measured) = 21.8 W/kg



0 dB = 21.8 W/kg = 13.38 dBW/kg

System Performance 5750 MHz Head was performed on 2024/08/19

DUT: D5GHzV2; Type: 5750 MHz; Serial: 1245

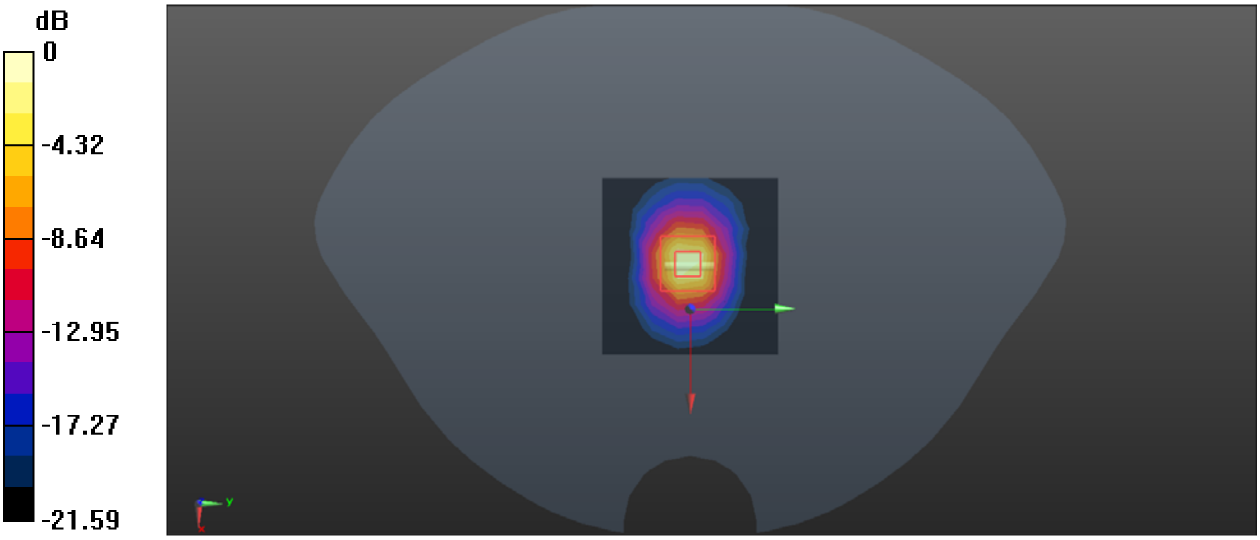
Communication System: CW; Frequency: 5750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 5750 MHz; σ = 5.418 S/m; ε_r = 36.342; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe: EX3DV4 - SN7329; ConvF(4.54, 5.16, 4.7) @ 5750 MHz; Calibrated: 2024/3/27
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1354; Calibrated: 2023/11/17
- Phantom: Twin SAM; Type: Twin SAM V5.0; Serial: TP:1412
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (8x8x1): Measurement grid: dx=10 mm, dy=10 mm
Maximum value of SAR (measured) = 13.5 W/kg

Zoom Scan (8x8x12)/Cube 0: Measurement grid: dx=4mm, dy=4mm, dz=2mm
Reference Value = 38.19 V/m; Power Drift = -0.19 dB
Peak SAR (extrapolated) = 33.9 W/kg
SAR(1 g) = 7.28 W/kg; SAR(10 g) = 2.05 W/kg
Maximum value of SAR (measured) = 18.9 W/kg



0 dB = 18.9 W/kg = 12.76 dBW/kg

5. EUT TEST STRATEGY AND METHODOLOGY

5.1 Test positions for body-worn and other configurations

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations. Devices with a headset output should be tested with a headset connected to the device. When multiple accessories that do not contain metallic components are supplied with the device, the device may be tested with only the accessory that dictates the closest spacing to the body. When multiple accessories that contain metallic components are supplied with the device, the device must be tested with each accessory that contains a unique metallic component. If multiple accessories share an identical metallic component (e.g., the same metallic belt-clip used with different holsters with no other metallic components), only the accessory that dictates the closest spacing to the body must be tested.

Body-worn accessories may not always be supplied or available as options for some devices that are intended to be authorized for body-worn use. A separation distance of 1.5 cm between the back of the device and a flat phantom is recommended for testing body-worn SAR compliance under such circumstances. Other separation distances may be used, but they should not exceed 2.5 cm. In these cases, the device may use body-worn accessories that provide a separation distance greater than that tested for the device provided however that the accessory contains no metallic components.

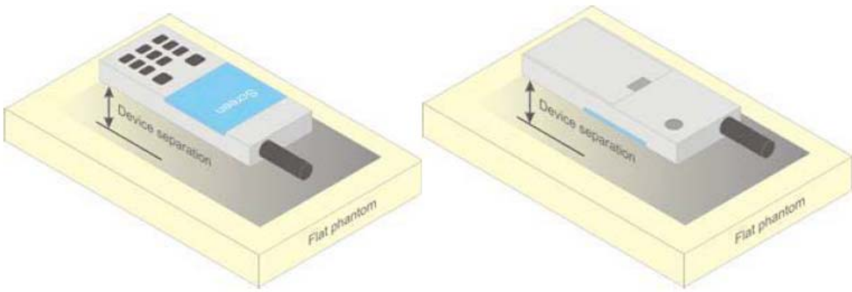


Figure 5 – Test positions for body-worn devices

5.2 Test Distance for SAR Evaluation

For Body Supported mode(10g Body SAR) the EUT is set 0mm away from the phantom, the test distance is 0mm; For Handheld mode(10g Extremity SAR) the EUT(Equipment Under Test) is set directly against the phantom, the test distance is 0mm.

5.3 SAR Evaluation Procedure

The evaluation was performed with the following procedure:

Step 1: Measurement of the SAR value at a fixed location above the ear point or central position was used as a reference value for assessing the power drop. The SAR at this point is measured at the start of the test and then again at the end of the testing.

Step 2: The SAR distribution at the exposed side of the head was measured at a distance of 4 mm from the inner surface of the shell. The area covered the entire dimension of the head or radiating structures of the EUT, the horizontal grid spacing was 15 mm x 15 mm, and the SAR distribution was determined by integrated grid of 1.5mm x 1.5mm. Based on these data, the area of the maximum absorption was determined by spline interpolation. The first Area Scan covers the entire dimension of the EUT to ensure that the hotspot was correctly identified.

Step 3: Around this point, a volume of 30 mm x 30 mm x 30 mm was assessed by measuring 7x 7 x 7 points. On the basis of this data set, the spatial peak SAR value was evaluated under the following procedure:

1) The data at the surface were extrapolated, since the center of the dipoles is 1.2 mm away from the tip of the probe and the distance between the surface and the lowest measuring point is 1.3 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.

2) The maximum interpolated value was searched with a straightforward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed by the 3D-Spline interpolation algorithm. The 3D-Spline is composed of three one dimensional splines with the “Not a knot"-condition (in x, y and z-directions). The volume was integrated with the trapezoidal-algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the averages.

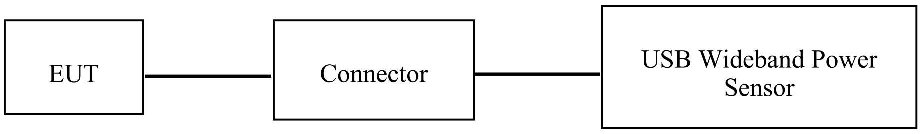
All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.

Step 4: Re-measurement of the SAR value at the same location as in Step 1. If the value changed by more than 5%, the evaluation was repeated.

6. CONDUCTED OUTPUT POWER MEASUREMENT

6.1 Test Procedure

The RF output of the transmitter was connected to the input port of the USB Wideband Power Sensor through Connector.



BT/WLAN

6.2 Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
WLAN 2.4G(802.11b)	13.5	13.5	13.5
WLAN 2.4G(802.11g)	14	14	12
WLAN 2.4G(802.11n ht20)	12.5	12.5	12.5
WLAN 2.4G(802.11n ht40)	12	12	12
WLAN 5.2G(802.11a)	9	9	9
WLAN 5.2G(802.11n20)	9	9	9
WLAN 5.2G(802.11n40)	9.2	/	9.2
WLAN 5.2G(802.11ac80)	/	9	/
WLAN 5.3G(802.11a)	10	10	10
WLAN 5.3G(802.11n20)	10	10	10
WLAN 5.3G(802.11n40)	10.2	/	10.2
WLAN 5.3G(802.11ac80)	/	10	/
WLAN 5.6G(802.11a)	13.5	12.5	12
WLAN 5.6G(802.11n20)	13.4	12.5	12
WLAN 5.6G(802.11n40)	13	12	12
WLAN 5.6G(802.11ac80)	13	12	12
WLAN 5.8G(802.11a)	13.5	15	15.5
WLAN 5.8G(802.11n20)	13.5	15	15.4
WLAN 5.8G(802.11n40)	14.5	/	15.2
WLAN 5.8G(802.11ac80)	/	15.4	/
Bluetooth BDR/EDR	9.5	9.5	9.5
BLE	2	2	2

6.3 Test Results:

WLAN 2.4G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11b	2412	1Mbps	98.70	13.10
	2437			13.24
	2462			13.42
802.11g	2412	6Mbps	93.24	13.60
	2437			**13.73**
	2462			11.75
802.11n ht20	2412	MCS0	92.83	11.74
	2437			12.09
	2462			11.75
802.11n ht40	2422	MCS0	86.61	11.67
	2437			11.92
	2452			11.69

Note:WLAN 2.4G Duty Cycle please refer to RF Report Number: 2403U82009E-RF-00C

Wi-Fi 5.2G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11a	5180	6Mbps	93.47	8.74
	5200			8.44
	5240			8.63
802.11n20	5180	MCS0	93.08	8.73
	5200			8.45
	5240			8.75
802.11n40	5190	MCS0	86.88	**9.02**
	5230			9.00
802.11ac80	5210	MCS0	76.78	8.81

Wi-Fi 5.3G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11a	5260	6Mbps	93.47	9.83
	5280			9.51
	5320			9.04
802.11n20	5260	MCS0	93.08	9.70
	5280			9.62
	5320			9.10
802.11n40	5270	MCS0	86.88	**10.09**
	5310			9.80
802.11ac80	5290	MCS0	76.78	9.92

Wi-Fi 5.6G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11a	5500	6Mbps	93.47	**13.33**
	5580			12.22
	5700			11.19
	5720			10.90
802.11n20	5500	MCS0	93.08	13.32
	5580			12.05
	5700			11.22
	5720			10.87
802.11n40	5510	MCS0	86.88	12.67
	5590			11.71
	5670			11.15
	5710			10.44
802.11ac80	5530	MCS0	76.78	12.51
	5610			11.48
	5690			11.85

Wi-Fi 5.8G:

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11a	5745	6Mbps	93.47	13.03
	5785			14.63
	5825			**15.37**
802.11n20	5745	MCS0	93.08	13.00
	5785			14.50
	5825			15.20
802.11n40	5755	MCS0	86.88	14.34
	5795			15.02
802.11ac80	5775	MCS0	76.78	15.31

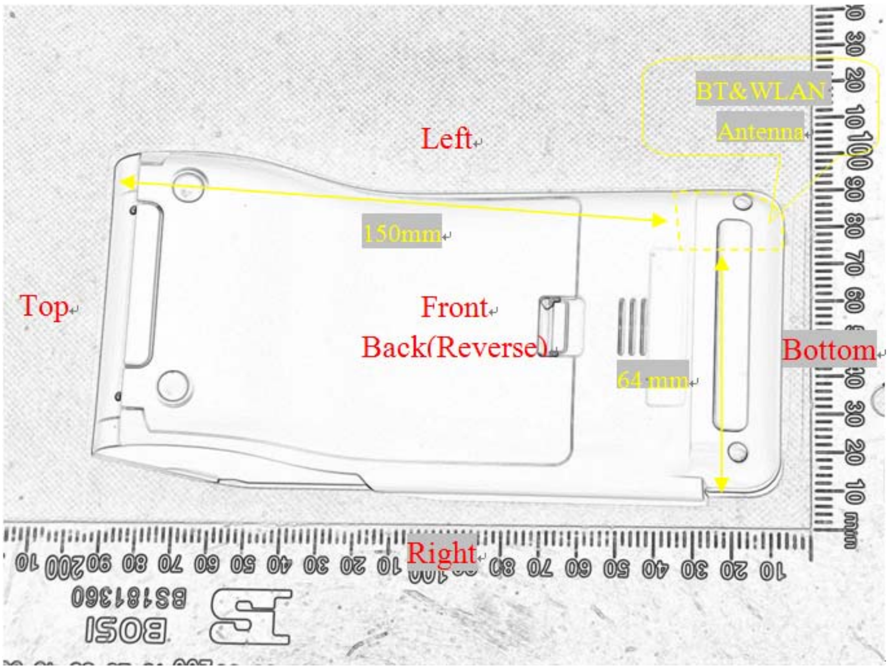
Note:
1.WLAN 5G Duty Cycle please refer to RF Report Number: 2403U82009E-RF-00D
2.The system support 802.11a/n ht20/n ht40/ac vht20/ac vht40, the ac ht20/ac ht40 were reduced since the identical parameters with n vht20 and n vht40.

Bluetooth:

Mode	Channel frequency (MHz)	RF Output Power (dBm)
BDR(GFSK)	2402	7.82
	2441	8.00
	2480	7.83
EDR(π/4-DQPSK)	2402	8.56
	2441	8.76
	2480	7.75
EDR(8DPSK)	2402	8.85
	2441	**8.89**
	2480	7.96
BLE_1M	2402	1.60
	2440	1.64
	2480	1.63

7. Standalone SAR test exclusion considerations

Antennas Location:



7.1 Antenna Distance To Edge

Antenna Distance To Edge(mm)						
Antenna	**Front**	**Back**	**Left**	**Right**	**Top**	**Bottom**
WLAN &BT Antenna	< 5	< 5	< 5	64	150	< 5

7.2 Standalone SAR test exclusion considerations

Mode	Frequency (MHz)	Output Power (dBm)	Output Power (mW)	Distance (mm)	Calculated value	Threshold (1-g)	SAR Test Exclusion
WLAN 2.4G	2462	14	25.1	0	7.9	3	No
WLAN 5.2G	5240	9.2	8.3	0	3.8	3	No
WLAN 5.3G	5320	10.2	10.5	0	4.8	3	No
WLAN 5.6G	5720	13.5	22.4	0	10.7	3	No
WLAN 5.8G	5825	15.5	35.5	0	17.1	3	No
Bluetooth	2480	9.5	8.91	0	2.8	3	YES

Note: *The bluetooth based peak power for calculation, and Wi-Fi based average power for calculation.*

NOTE:
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, where

1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.

7.3 Standalone SAR test exclusion considerations:

Mode	Frequency (MHz)	Target Power (dBm)	Target Power (mW)	Test exclusion Threshold (mm)
WLAN 2.4G	2462	14	25.1	13.1
WLAN 5.2G	5240	9.2	8.3	6.3
WLAN 5.3G	5320	10.2	10.5	8.0
WLAN 5.6G	5720	13.5	22.4	17.8
WLAN 5.8G	5825	15.5	35.5	28.5

7.4 SAR test exclusion for the EUT edge considerations Result

Mode	Front Edge	Back Edge	Left Edge	Right Edge	Top Edge	Bottom Edge
WLAN 2.4G	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WLAN 5.2G	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WLAN 5.3G	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WLAN 5.6G	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
WLAN 5.8G	**Required**	**Required**	**Required**	Exclusion	Exclusion	**Required**
Bluetooth	Exclusion*	Exclusion*	Exclusion*	Exclusion*	Exclusion*	Exclusion*

Note:
Required: The distance is less than **Test Exclusion Distance**, the SAR test is required.
Exclusion: The distance is large than **Test Exclusion Distance**, SAR test is not required.
Exclusion**: Per KDB 616217 D04 SAR for laptop and tablets , SAR evaluation for the front surface of tablet display screens are generally not necessary.

SAR test exclusion for the EUT edge considerations detail:

Distance< 50mm(To Edges)
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, where
1. f(GHz) is the RF channel transmit frequency in GHz.
2. Power and distance are rounded to the nearest mW and mm before calculation.
3. The result is rounded to one decimal place for comparison.
4. When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test Exclusion.
5. The Time based average Power is used for calculation

Distance> 50mm(To Edges)
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) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
b) [Power allowed at numeric threshold for 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

8. SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

8.1 SAR Test Data

Environmental Conditions

Temperature:	22.2-22.9 ℃
Relative Humidity:	36 %
ATM Pressure:	100.3 kPa
Test Date:	2024/08/19

Testing was performed by Wen Chen, Aixlee Li, Ken Zong.

WLAN 2.4G:

Body Supported Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g Body SAR (W/kg) , Limit=1.6W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	13.24	13.5	1.062	1.01	0.017	**0.02**	1#
	2462	802.11b	/	/	/	/	/	/	/

Handheld Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g Extremity SAR (W/kg), Limit=4.0W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Handheld Back (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	13.24	13.5	1.062	1.01	0.00672	0.01	1#
	2462	802.11b	/	/	/	/	/	/	/
Handheld Front (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	13.24	13.5	1.062	1.01	0.034	0.04	2#
	2462	802.11b	/	/	/	/	/	/	/
Handheld Left (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	13.24	13.5	1.062	1.01	0.110	**0.12**	3#
	2462	802.11b	/	/	/	/	/	/	/
Handheld Bottom (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	13.24	13.5	1.062	1.01	0.020	0.02	4#
	2462	802.11b	/	/	/	/	/	/	/

Note:

1. When the 1-g SAR is≤ 0.8W/kg, testing for other channels are optional.
2.When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. According KDB 248227 D01, for SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

Mode	Target Output Power (dBm)	Target Output Power (mW)	Reported SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	13.5	22.39	0.12	/	/	/
802.11g(OFDM)	14	25.12	/	0.13	1.2	Yes

Per KDB 248227 D01, When SAR measurement is required for 2.4 GHz 802.11g/n OFDM configurations, the measurement and test reduction procedures for OFDM are applied (see 5.3, including subclauses). SAR is not required for the following 2.4 GHz OFDM conditions.
a) When KDB Publication 447498 D01 SAR test exclusion applies to the OFDM configuration.
b) When the highest *reported* SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.

WLAN 5.2G:

Body Supported Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g Body SAR (W/kg) , Limit=1.6W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5190	802.11n40	9.02	9.2	1.042	1.15	0.388	**0.46**	5#
	5230	802.11n40	/	/	/	/	/	/	/

Handheld Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g Extremity SAR (W/kg), Limit=4.0W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Handheld Back (0mm)	5190	802.11n40	9.02	9.2	1.042	1.15	0.151	0.18	5#
	5230	802.11n40	/	/	/	/	/	/	/
Handheld Front (0mm)	5190	802.11n40	9.02	9.2	1.042	1.15	0.048	0.06	6#
	5230	802.11n40	/	/	/	/	/	/	/
Handheld Left (0mm)	5190	802.11n40	9.02	9.2	1.042	1.15	0.556	**0.67**	7#
	5230	802.11n40	/	/	/	/	/	/	/
Handheld Bottom (0mm)	5190	802.11n40	9.02	9.2	1.042	1.15	0.069	0.08	8#
	5230	802.11n40	/	/	/	/	/	/	/

Note:

1. When the 1-g SAR is≤ 0.8W/kg, testing for other channels are optional.
2.When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3.For 802.11n40 mode power is the largest among 802.11a/n/ac, 802.11 n40 mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

WLAN 5.3G:

Body Supported Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g Body SAR (W/kg) , Limit=1.6W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5270	802.11n40	10.09	10.2	1.026	1.15	0.488	**0.58**	9#
	5310	802.11n40	/	/	/	/	/	/	/

Handheld Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g Extremity SAR (W/kg), Limit=4.0W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Handheld Back (0mm)	5270	802.11n40	10.09	10.2	1.026	1.15	0.191	0.23	9#
	5310	802.11n40	/	/	/	/	/	/	/
Handheld Front (0mm)	5270	802.11n40	10.09	10.2	1.026	1.15	0.052	0.06	10#
	5310	802.11n40	/	/	/	/	/	/	/
Handheld Left (0mm)	5270	802.11n40	10.09	10.2	1.026	1.15	0.650	**0.77**	11#
	5310	802.11n40	/	/	/	/	/	/	/
Handheld Bottom (0mm)	5270	802.11n40	10.09	10.2	1.026	1.15	0.086	0.10	12#
	5310	802.11n40	/	/	/	/	/	/	/

Note:

1. When the 1-g SAR is≤ 0.8W/kg, testing for other channels are optional.
2.When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3.For 802.11n40 mode power is the largest among 802.11a/n/ac, 802.11 n40 mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

WLAN 5.6G:

Body Supported Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g Body SAR (W/kg) , Limit=1.6W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5500	802.11a	13.33	13.5	1.04	1.07	0.378	0.42	13#
	5580	802.11a	/	/	/	/	/	/	/
	5700	802.11a	/	/	/	/	/	/	/
	5720	802.11a	/	/	/	/	/	/	/

Handheld Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g Extremity SAR (W/kg), Limit=4.0W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Handheld Back (0mm)	5500	802.11a	13.33	13.5	1.04	1.07	0.13	0.14	13#
	5580	802.11a	/	/	/	/	/	/	/
	5700	802.11a	/	/	/	/	/	/	/
	5720	802.11a	/	/	/	/	/	/	
Handheld Front (0mm)	5500	802.11a	13.33	13.5	1.04	1.07	0.034	0.04	14#
	5580	802.11a	/	/	/	/	/	/	/
	5700	802.11a	/	/	/	/	/	/	/
	5720	802.11a	/	/	/	/	/	/	
Handheld Left (0mm)	5500	802.11a	13.33	13.5	1.04	1.07	0.688	0.77	15#
	5580	802.11a	/	/	/	/	/	/	/
	5700	802.11a	/	/	/	/	/	/	/
	5720	802.11a	/	/	/	/	/	/	
Handheld Bottom (0mm)	5500	802.11a	13.33	13.5	1.04	1.07	0.088	0.10	16#
	5580	802.11a	/	/	/	/	/	/	/
	5700	802.11a	/	/	/	/	/	/	/
	5720	802.11a	/	/	/	/	/	/	/

Note:

1. When the 1-g SAR is≤ 0.8W/kg, testing for other channels are optional.
2.When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3.For 802.11a mode power is the largest among 802.11a/n/ac, 802.11 a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

WLAN 5.8G:

Body Supported Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g Body SAR (W/kg) , Limit=1.6W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Body Back (0mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	/	/	/	/	/	/	/
	5825	802.11a	15.37	15.5	1.03	1.07	0.116	0.13	17#

Handheld Mode

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g Extremity SAR (W/kg), Limit=4.0W/kg				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Handheld Back (0mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	/	/	/	/	/	/	/
	5825	802.11a	15.37	15.5	1.03	1.07	0.044	0.05	17#
Handheld Front (0mm)	5745	802.11a	/	/	/	/	/	/	
	5785	802.11a	/	/	/	/	/	/	/
	5825	802.11a	15.37	15.5	1.03	1.07	0.042	0.05	18#
Handheld Left (0mm)	5745	802.11a	/	/	/	/	/	/	
	5785	802.11a	/	/	/	/	/	/	/
	5825	802.11a	15.37	15.5	1.03	1.07	0.434	0.48	19#
Handheld Bottom (0mm)	5745	802.11a	/	/	/	/	/	/	/
	5785	802.11a	/	/	/	/	/	/	/
	5825	802.11a	15.37	15.5	1.03	1.07	0.105	0.12	20#

Note:

1. When the 1-g SAR is≤ 0.8W/kg, testing for other channels are optional.
2. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. For 802.11a mode power is the largest among 802.11a/n/ac, 802.11 a mode as initial test configuration is selected to test.
4. According KDB 248227 D01, for SAR testing of WIFI signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to “1/(duty cycle)”.

9. Measurement Variability

In accordance with published RF Exposure KDB procedure 865664 D01 SAR measurement 100 MHz to 6 GHz v01. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results

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 second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) 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.

Note: The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

The Highest Measured SAR Configuration in Each Frequency Band

Body

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
/	/	/	/	/	/	/

Note:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.
2. The measured SAR results **do not** have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
3. 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.

10. SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

Simultaneous Transmission:

Note: There is no multiple transmitters for the product, so simultaneous transmission need not to evaluate.

11. SAR Plots

Please Refer to the Attachment.

APPENDIX A MEASUREMENT UNCERTAINTY

The uncertainty budget has been determined for the measurement system and is given in the following Table.

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.3	6.3
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambient conditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions– reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.1	23.7

Measurement uncertainty evaluation for IEC62209-1 SAR test

Source of uncertainty	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.3	6.3
Axial Isotropy	4.7	R	√3	1	1	2.7	2.7
Hemispherical Isotropy	9.6	R	√3	0	0	0.0	0.0
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
Detection limits	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambient conditions – noise	1.0	R	√3	1	1	0.6	0.6
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Probe positioner mech. Restrictions	0.8	R	√3	1	1	0.5	0.5
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	2.8	N	1	1	1	2.8	2.8
Device holder uncertainty	6.3	N	1	1	1	6.3	6.3
Drift of output power	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Liquid conductivity target)	5.0	R	√3	0.64	0.43	1.8	1.2
Liquid conductivity meas.)	2.5	N	1	0.64	0.43	1.6	1.1
Liquid permittivity target)	5.0	R	√3	0.6	0.49	1.7	1.4
Liquid permittivity meas.)	2.5	N	1	0.6	0.49	1.5	1.2
Combined standard uncertainty		RSS				12.2	12.0
Expanded uncertainty 95 % confidence interval)						24.0	23.6

APPENDIX B EUT TEST POSITION PHOTOS

Please Refer to the Attachment.

APPENDIX C CALIBRATION CERTIFICATES

Please Refer to the Attachment.

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