

SAR TEST REPORT

Product Name: Smart Pos Payment Terminal

Model Name: SP60

FCC ID: SS4SP60W1

Issued For : Bluebird Inc. 3F, 115, Irwon ro, Gangnam gu, Seoul, Republic of Korea (06355)

Issued By : Shenzhen LGT Test Service Co., Ltd.

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Report Number:	LGT24L009HA01
Sample Received Date:	Dec. 05, 2024
Date of Test:	Dec. 05, 2024 ~ Dec. 15, 2024
Date of Issue:	Jan. 14, 2025
	Body: 0.852 W/kg(1g)
Max. SAR:	Limbs: 1.018 W/kg(10g)

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Revision History

Rev.	Issue Date	Contents
00	Jan. 14, 2025	Initial Issue



TEST REPORT CERTIFICATION

Applicant	Bluebird Inc.
Address	3F, 115, Irwon ro, Gangnam gu, Seoul, Republic of Korea (06355)
Manufacturer	Bluebird Inc.
Address	3F, 115, Irwon ro, Gangnam gu, Seoul, Republic of Korea (06355)
Factory 1:	Mobiwire Mobiles (NingBo) Co.,Ltd.
Address:	No. 518, Changting East Road, Yuelin Street, Fenghua District, Ningbo City, Zhejiang Province,China
Factory 2:	Bluebird Inc.
Address:	SSang-young IT Twin tower-B 7~8F), 531, Dunchon-daero, Jungwon- gu, Seongnam-si, Gyeonggi-do, Republic of Korea
Factory 3:	DSGLOBAL VINA CO.,LTD
Address:	Lot XN3-1E, Dai An expansion Industrial Zone, Lai Cach town Cam Giang district, HaiDuong province, Vietnam
Product Name	Smart Pos Payment Terminal
Trademark	Bluebird
Model Name	SP60
Sample number	LGT2412016-7

APPLICABLE STANDARDS		
STANDARD TEST RESULTS		
ANSI/IEEE Std. C95.1-1992 FCC 47 CFR Part 2 (2.1093) IEEE 1528: 2013	PASS	

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1. General Information

Environmental evaluation measurements of specific absorption rate (SAR) distributions in emulated human head and body tissues exposed to radio frequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).

1.1 EUT Description

Product Name	Smart Pos Payment Terminal		
Trademark	Bluebird		
Model Name	SP60		
Configuration Variance:	Please see below	w Note 3	
Device Category	Portable		
Product stage	Production unit		
RF Exposure Environment	General Population	on / Uncontrolled	
Hardware Version	V1.0		
Software Version	R1.01		
Frequency Range	WLAN 802.11b/g/n20: 2412 MHz ~ 2462 MHz WLAN 802.11n40: 2422 MHz ~ 2452 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5150 ~ 5250 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5250 ~ 5350 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5470 ~ 5725 MHz WLAN 802.11a/n20/n40/ac20/ac40/ac80: 5725 ~ 5850 MHz Bluetooth: 2402 ~ 2480 MHz NFC: 13.56MHz		
		SP60 With Printer (Configu	ire A)
	Mode	Body Worn and Hotspot (W/kg)(1g)	Limbs(W/kg) (10g)
	2.4G WLAN	0.204	0.301
Max Reported	5.2G WLAN	0.487	0.682
SAR	5.3G WLAN	0.604	0.703
Test distance:	5.6G WLAN	0.456	0.430
Body:10mm	5.8G WLAN	0.383	0.442
(Back side 0mm)		SP60 Without Printer (Config	
Limbs: 0mm	Z.4G WLAN	0.138	0.209
	5.2G WLAN	0.760	0.017
	5.3G WLAN	0.369	0.736
	5.8G WLAN	0.709	1 018
		1.6	4
Battery:	Configuration 1 Rated Voltage:7.7V Capacity: 3420mAh Configuration 2 Rated Voltage:7.7V Capacity: 2000mAh		
Operating Mode:	2.4G WLAN: 802.11b(DSSS): CCK, DQPSK, DBPSK 802.11g(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM 5G WLAN: 802.11a(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11n(OFDM): BPSK, QPSK,16-QAM,64-QAM 802.11ac (OFDM): BPSK, QPSK,16-QAM.64-QAM.256-QAM		



		Bluetooth: GFSK +π/4DQPSK+8DPSK BLE: GFSK			
	NFC: ASK Bluetooth: FPC Ar		SK oth: FPC Antenna		
Antenna Specificatio	n	WLAN:	FPC Antenna		
a		NFC: C	NFC: Coil Antenna		
Operating Mode		Maxim	m continuous output		
Hotspot Mode		Suppo	rt		
DTM Mode		Not Su	pport		
 Note: The Bluetooth and WLAN can't simultaneous transmission at the same time. The 2.4GHz WLAN and 5GHz WLAN can't simultaneous transmission at the same time. 3. 					
Model	Battery ca	pacity	Print head	charging stand	
SP60	3420mAh		Yes	High configuration:	
(Configuration 1)				USB1 Output: 5Vdc, 1.0A	
				USB2 Output: 5Vdc, 0.5A	
	3420mAh		Yes	Low configuration: No	
SP60	2000mAh		No	High configuration:	
(Configuration 2)				USB1 Output: 5Vdc, 1.0A	
				USB2 Output: 5Vdc, 0.5A	
	2000mAh		No	Low configuration: No	
No mean not support, Yes means support					



1.2 Test Environment

Ambient conditions in the SAR laboratory:

Items	Required
Temperature (℃)	18-25
Humidity (%RH)	30-70

1.3 Test Factory

Company Name:	Shenzhen LGT Test Service Co., Ltd.	
Address:	Room 205, Building 13, Zone B, Zhenxiong Industrial Park, No.177, Renmin West Road, Jinsha, Kengzi Street, Pingshan District, Shenzhen, Guangdong, China	
	FCC Registration No.: 746540	
Accreditation Certificate	A2LA Certificate No.: 6727.01	
	IC Registration No.: CN0136	



2. Test Standards and Limits

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	ANSI/IEEE Std. C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	IEEE Std. 1528-2013	Recommended Practice for Determining the Peak Spatial- Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
4	FCC KDB 447498 D01 v06	Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies
5	FCC KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
6	FCC KDB 865664 D02 v01r02	RF Exposure Reporting
7	FCC KDB 941225 D06 v02r01	Hotspot Mode SAR
8	FCC KDB 648474 D04 v01r03	SAR Evaluation Considerations for Wireless Handsets
9	FCC KDB 248227 D01 Wi-Fi SAR v02r02	SAR Considerations for 802.11 Devices

(A). Limits for Occupational/Controlled Exposure (W/kg)

<u>Whole-Body</u>	<u>Partial-Body</u>	Hands, Wrists, Feet and Ankles	
0.4	8.0	20.0	
(B). Limits for	General Popula	tion/Uncontrolled Exposure (W/kg)	
Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles	
0.08	1.6	4.0	

NOTE: Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1 gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

Population/Uncontrolled Environments:

Are defined as locations where there is the exposure of individuals 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).

NOTE GENERAL POPULATION/UNCONTROLLED EXPOSURE PARTIAL BODY LIMIT 1.6 W/kg



3. SAR Measurement System

3.1 Definition of Specific Absorption Rate (SAR)

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

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

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

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

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

Where: σ is the conductivity of the tissue;

 ρ is the mass density of the tissue and E is the RMS electrical field strength.

3.2 SAR System

MVG SAR System Diagram:



COMOSAR is a system that is able to determine the SAR distribution inside a phantom of human being according to different standards. The COMOSAR system consists of the following items: - Main computer to control all the system

- 6 axis robot
- Data acquisition system
- Miniature E-field probe
- Phone holder
- Head simulating tissue



The following figure shows the system.



The EUT under test operating at the maximum power level is placed in the phone holder, under the phantom, which is filled with head simulating liquid. The E-Field probe measures the electric field inside the phantom. The OpenSAR software computes the results to give a SAR value in a 1g or 1g mass.

3.2.1 Probe

For the measurements the Specific Dosimetric E-Field Probe SN 04/22 EPGO364 with following specifications is used

- Probe Length: 330 mm
- Length of Individual Dipoles: 2mm
- Maximum external diameter: 8 mm
- Probe Tip External Diameter: 2.5 mm
- Distance between dipole/probe extremity: 1 mm
- Dynamic range: 0.01-100 W/kg
- Probe linearity: 3%
- Axial Isotropy: < 0.10 dB
- Spherical Isotropy: < 0.10 dB
- Calibration range: 600 MHz to 6 GHz for head & body simulating liquid.
- -Angle between probe axis (evaluation axis) and surface normal line: less than 30°



Figure 1-MVG COMOSAR Dosimetric E field Probe



3.2.2 Phantom

For the measurements the Specific Anthropomorphic Mannequin (SAM) defined by the IEEE SCC-34/SC2 group is used. The phantom is a polyurethane shell integrated in a wooden table. The thickness of the phantom amounts to 2mm +/- 0.2mm. It enables the dosimetric evaluation of left and right phone usage and includes an additional flat phantom part for the simplified performance check. The phantom set-up includes a cover, which prevents the evaporation of the liquid.



Figure-SN 06/22 SAM 148



Figure-SN 06/22 ELLI 51



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

3.2.3 Device Holder



4. Tissue Simulating Liquids

4.1 Simulating Liquids Parameter Check

The simulating liquids should be checked at the beginning of a series of SAR measurements to determine of the dielectric parameters are within the tolerances of the specified target values

The uncertainty due to the liquid conductivity and permittivity arises from two different sources. The first source of error is the deviation of the liquid conductivity from its target value (max $_5$ %) and the second source of error arises from the measurement procedures used to assess conductivity. The uncertainty shall be assessed using a rectangular probability For 1 g averaging, the maximum weighting coefficient for SAR is 0,5.

IEEE SCC-34/SC-2 RECOMMENDED TISSUE DIELECTRIC PARAMETERS

The head and body tissue dielectric parameters recommended by the IEEE SCC-34/SC-2 have been incorporated in the following table.

Frequency	εr	σ 10g 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
1450	40.5	1.20
1800 to 2000	40.0	1.40
2100	39.8	1.49
2450	39.2	1.80
2600	39.0	1.96
3000	38.5	2.40
3500	37.9	2.91
4000	37.4	3.43
4500	36.8	3.94
5000	36.2	4.45
5200	36.0	4.66
5400	35.8	4.86
5600	35.5	5.07
5800	35.3	5.27



LIQUID MEASUREMENT RESULTS

Data	Ambient		Simulating Liquid		Doromotoro	Torget	Measured	Deviation	Limited
Date	Temp. [°C]	Humidity %	Frequency (MHz)	Temp. [°C]	Parameters Target		Measured	%	%
2024 12 07	20.4	59	2450	20.2	Permittivity	39.20	39.44	0.61	±5
2024-12-07	20.4	50	2450	20.2	Conductivity	1.80	1.83	1.67	±5
2024 12 06	00 E	60	5200 22.2	<u></u>	Permittivity	36.00	36.48	1.33	±5
2024-12-06	23.5	60	5200	23.2	Conductivity	4.66	4.65	-0.21	±5
2024 42 40	22.0	60	E 400	00 F	Permittivity	35.80	36.58	2.18	±5
2024-12-10	23.9	60	5400	23.5	Conductivity	4.86	4.83	-0.62	±5
2024 42 09	01 E	ΕA	5600	01.0	Permittivity	35.55	36.68	3.18	±5
2024-12-00	21.5	54	5600	21.2	Conductivity	5.07	5.08	0.30	±5
2024 12 00	22.4	50	5800	22.4	Permittivity	35.30	35.97	1.90	±5
2024-12-09	23.4	58	5600	23.1	Conductivity	5.27	5.25	-0.38	±5



5. SAR System Validation

5.1 Validation System

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

The system check verifies that the system operates within its specifications. It's performed daily or before every SAR measurement. The system check uses normal SAR measurement in the flat section of the phantom with a matched dipole at a specified distance. The system validation setup is shown as below.





5.2 Validation Result

Comparing to the original SAR value provided by MVG, the validation data should be within its specification of ± 10 %.

Date	Freq.	Power	Tested Value	Normalized SAR	Target SAR	Tolerance	Limit
	(MHz)	(mW)	(W/Kg)	(W/kg)	1g(W/kg)	(%)	(%)
2024-12-07	2450	100	5.408	54.08	54.28	-0.37	10
2024-12-06	5200	100	8.105	81.05	80.97	0.10	10
2024-12-10	5400	100	8.458	84.58	84.61	-0.04	10
2024-12-08	5600	100	8.065	80.65	80.96	-0.38	10
2024-12-09	5800	100	8.148	81.48	81.67	-0.23	10

Note:

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

2. The dipole input power (forward power) was 100 mW.

3. The results are normalized to 1 W input power.



6. SAR Evaluation Procedures

The procedure for assessing the average SAR value consists of the following steps:

The following steps are used for each test position

- Establish a call with the maximum output power with a base station simulator. The connection between the mobile and the base station simulator is established via air interface

- Measurement of the local E-field value at a fixed location. This value serves as a reference value for calculating a possible power drift.

- Measurement of the SAR distribution with a grid of 8 to 16mm * 8 to 16 mm and a constant distance to the inner surface of the phantom. Since the sensors cannot directly measure at the inner phantom surface, the values between the sensors and the inner phantom surface are extrapolated. With these values the area of the maximum SAR is calculated by an interpolation scheme.

- Around this point, a cube of 30 * 30 * 30 mm or 32 * 32 * 32 mm is assessed by measuring 5 or 8 * 5 or 8*4 or 5 mm. With these data, the peak spatial-average SAR value can be calculated.

Area Scan& Zoom Scan

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. Area scan and zoom scan resolution setting follows KDB 865664 D01 quoted below.

When the 1-g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.



7. EUT Antenna Location Sketch



It is a Smart Pos Payment Terminal, support WLAN/BT mode.

Antenna Separation Distance(mm)							
ANT	ANT Back Side Front Side Left Side Right Side Top Side Bottom Side						
WLAN/BT	5	5	64	5	64	103	

Note 1: The antenna information refer the manufacturer provide report, applicable only to the tested sample identified in the report.



7.1 SAR test exclusion consider table

	Wireless Interface	BT	2.4G WLAN	5.2G WLAN	5.3G WLAN	5.6G WLAN	5.8G WLAN
Exposure	Calculated Frequency	2441	2412	5240	5260	5700	5745
Position	Maximum Turn-up power (dBm)	4.5	15	15.5	15.7	14.5	15.3
Exposure Position Back Side Front Side Left Side Right Side	Maximum rated power(mW)	2.82	31.62	35.48	37.15	28.18	33.88
	Separation distance (mm)	5	5	5	5	5	5
Back Side	exclusion threshold(mW)	9.60	9.66	6.55	6.54	6.28	6.26
	Testing required?	NO	YES	YES	YES	YES	YES
	Separation distance (mm)	5	5	5	5	5	5
Front Side	exclusion threshold(mW)	9.60	9.66	6.55	6.54	6.28	6.26
	Testing required?	NO	YES	YES	YES	YES	YES
	Separation distance (mm)	64	64	64	64	64	64
Left Side	exclusion threshold(mW)	236.01	236.58	205.53	205.40	202.83	202.58
	Testing required?	NO	NO	NO	NO	NO	NO
	Separation distance (mm)	5	5	5	5	5	5
Right Side	exclusion threshold(mW)	9.60	9.66	6.55	6.54	6.28	6.26
	Testing required?	NO	YES	YES	YES	YES	YES
	Separation distance (mm)	64	64	64	64	64	64
Top Side	exclusion threshold(mW)	122.89	123.63	83.88	83.72	80.42	80.10
	Testing required?	NO	NO	NO	NO	NO	NO
	Separation distance (mm)	103	103	103	103	103	103
Bottom Side	exclusion threshold(mW)	626.01	626.58	595.53	595.40	592.83	592.58
	Testing required?	NO	NO	NO	NO	NO	NO

The WLAN/BT SAR evaluation of Maximum power (dBm) summing tolerance.

Note:

- 1. maximum power is the source-based time-average power and represents the maximum RF output power among production units.
- 2. per KDB 447498 D01, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user. Reprot No.: LGT24L009HA01



- 3. per KDB 447498 D01, standalone SAR test exclusion threshold is applied; if the distance of the antenna to the user is <25mm,25mm is user to determine SAR exclusion threshold
- 4. per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distance ≤50mm 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 for10-g extremity SAR ,f(GHz) is the RF channel

transmit frequency in GHz. Power and distance are rounded to the nearest mW and mm before calculation.

The result is rounded to one decimal place for comparison

For <50mm distance, we just calculate mW of the exclusion threshold value(3.0)to do compare

per KDB 447498 D01, at 100 MHz to 6GHz and for test separation distances >50mm, the SAR test exclusion threshold is determined according to the following

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

b) [threshold at 50mm in step1]+(test separation distance -50mm) *10]mW at>1500MHz and \leq 6GHz

6. Per KDB 248227 D01, choose the highest output power channel to test SAR and determine further SAR exclusion 8.for each frequency band ,testing at higher data rates and higher order modulations is not required when the maximum average output power for each of each of these configurations is less than 1/4db higher than those measured at the lower data rate than 11b mode ,thus the SAR can be excluded.



8. EUT Test Position

This EUT was tested in Right Cheek, Right Titled, Left Cheek, Left Titled, Front Face and Rear Face.

8.1 Define Two Imaginary Lines on the Handset

(1) The vertical centerline passes through two points on the front side of the handset the midpoint of the width wt of the handset at the level of the acoustic output, and the midpoint of the width wb of the handset.
 (2) The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output. The horizontal line is also tangential to the face of the handset at point A.

(3) The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily to the front face of the handset, especially for clamshell handsets, handsets with flip covers, and other irregularly shaped handsets.



Cheek Position

1) To position the device with the vertical center line of the body of the device and the horizontal line crossing the center piece in a plane parallel to the sagittal plane of the phantom. While maintaining the device in this plane, align the vertical center line with the reference plane containing the ear and mouth reference point (M: Mouth, RE: Right Ear, and LE: Left Ear) and align the center of the ear piece with the line RE-LE.

2) To move the device towards the phantom with the ear piece aligned with the line LE-RE until the phone touched the ear. While maintaining the device in the reference plane and maintaining the phone contact with ear, move the bottom of the phone until any point on the front side is in contact with the cheek of the phantom or until contact with the ear is lost





Title Position

(1) To position the device in the "cheek" position described above.

(2) While maintaining the device in the reference plane described above and pivoting against the ear, moves it outward away from the mouth by an angle of 15 degrees or until with the ear is lost.



Body-worn Position Conditions:

Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. When the same wireless transmission configuration is used for testing body-worn accessory and hotspot mode SAR, respectively, in voice and data mode, SAR results for the most conservative *test separation distance* configuration may be used to support both SAR conditions. When the *reported* SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest *reported* SAR configuration for that wireless mode and frequency band should be repeated for the body-worn accessory with a headset attached to the handset.



8.2 Hotspot mode exposure position condition

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing function, the relevant hand and body exposure condition are tested according to the hotspot SAR procedures in KDB 941225. A test separation distance of 10 mm is required between the phantom and all surface and edges with a transmitting antenna located within 25 mm form that surface or edge. When form factor of a handset is smaller than 9cm x 5cm, a test separation distance of 5mm (instead of 10mm) is required for testing hotspot mode. When the separate distance required for body-worn accessory testing is larger than or equal to that tested for hotspot mode, in the same wireless mode and for the same surface of the phone, the hotspot mode SAR data may be used to support body-worn accessory SAR compliance for that particular configuration (surface).





9. Uncertainty

9.1 Measurement Uncertainty

The following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in IEEE 1528: 2013. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.8	Ν	1	1	1	5.8	5.8	8
Axial Isotropy	3.5	R	$\sqrt{3}$	√0.5	√0.5	1.43	1.43	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	√0.5	√0.5	2.41	2.41	8
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	8
Linearity	4.7	R	$\sqrt{3}$	1	1	2.71	2.71	8
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	8
Modulation response	3	R	$\sqrt{3}$	1	1	1.73	1.73	8
Readout Electronics	0.5	N	1	1	1	0.50	0.50	8
Response Time	0	R	$\sqrt{3}$	1	1	0.00	0.00	8
Integration Time	1.4	R	√3	1	1	1.81	1.81	8
RF ambient conditions-Noise	3	R	$\sqrt{3}$	1	1	1.73	1.73	8
RF ambient conditions-	2	Б	 	1	1	1 70	1 70	~~
reflections	3	ĸ	γ3	1	-	1.73	1.73	8
Probe positioner mechanical	1.4	R	<u>√</u> 3	1	1	0.81	0.81	8
tolerance			40	•	•	0.01	0.01	
Probe positioning with	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation Interpolation			•					
and Integration Algorithms for	23	R	<u>,</u>	1	1	1 33	1 33	~
Max. SAR	2.0		43	•		1.00	1.00	00
Test sample Related	1							
Test sample positioning	2.6	N	1	1	1	2.60	2.60	11
Device holder uncertainty	3	N	1	1	1	3.00	3.00	7
Output Power Variation -	5	Б	5	1	1	2 00	2 00	
SAR Drift Measurement	5	n	73	1	1	2.09	2.09	8
SAR scaling	2	R	$\sqrt{3}$	1	1	1.15	1.15	8
Phantom and tissue paramet	ers							
Phantom uncertainty	4	Б	6	1	1	0.01	0.04	
(shape and thickness	4	R.	73	I	1	2.31	2.31	8
Uncertainty in SAR								
correction for deviations in	2	N	1	1	0.84	2.00	1.68	8
permittivity and conductivity								
Liquid Conductivity -	4	N	1	0.78	0.71	2 1 2	2.84	Б
Measurement Uncertainty)	4	IN	-	0.76	0.71	3.1Z	2.04	5
Liquid Permittivity -	5	N	1	0.23	0.26	1.15	1.30	5
Measurement Uncertainty			•	0.20	0.20			
(Temperature Uncertainty)	2.5	R	$\sqrt{3}$	0.78	0.71	1.13	1.02	8
Liquid Permittivity		_						
(Temperature Uncertainty)	2.5	R	√3	0.23	0.26	0.33	0.38	8
Combined Standard		Dee				10.47	10.24	
Uncertainty		1.00				10.47	10.34	
Expanded Uncertainty		к				20.95	20.69	
(95% Confidence Interval)								



9.2 System validation Uncertainty

Uncertainty Component	Tol (+- %)	Prob. Dist.	Div.	Ci (1g)	Ci (10g)	1g Ui (+-%)	10g Ui (+-%)	vi
Measurement System								
Probe calibration	5.8	N	1	1	1	5.8	5.8	∞
Axial Isotropy	3.5	R	$\sqrt{3}$	1	1	2.02	2.02	∞
Hemispherical Isotropy	5.9	R	$\sqrt{3}$	0	0	0.00	0.00	8
Boundary effect	1	R	$\sqrt{3}$	1	1	0.58	0.58	8
Linearity	4.7	R	$\sqrt{3}$	1	1	0.71	0.71	8
System detection limits	1	R	$\sqrt{3}$	1	1	0.58	0.58	8
Modulation response	0	N	$\sqrt{3}$	0	0	0.00	0.00	8
Readout Electronics	0.5	N	1	1	1	0.50	0.50	8
Response Time	0	R	$\sqrt{3}$	0	0	0.00	0.00	8
Integration Time	1.4	R	$\sqrt{3}$	0	0	0.00	0.00	8
RE ambient conditions-Noise	3	R	 √3	1	1	1 73	1 73	00
RE ambient conditions-	Ŭ		V0			1.70	1.70	
reflections	3	R	√3	1	1	1.73	1.73	8
tolerance	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	8
Probe positioning with respect to phantom shell	1.4	R	$\sqrt{3}$	1	1	0.81	0.81	∞
Extrapolation, Interpolation and Integration Algoritms for Max, SAR	2.3	R	$\sqrt{3}$	1	1	1.33	1.33	8
Dipole								
Deviation of Experimental Source from Numerical Source	5	N	1	1	1	5.00	5.00	8
Input Power and SAR Drift Measurement	0.5	R	$\sqrt{3}$	1	1	0.29	0.29	8
Dipole Axis to Liquid	2	R	$\sqrt{3}$	1	1	1.15	1.15	8
Phantom and Tissue Parame	tors							
Phantom uncertainty								
(shape and thickness uncertainty)	4	R	$\sqrt{3}$	1	1	2.31	2.31	8
Uncertainty in SAR correction for deviations in permittivity and conductivity	2	N	1	1	0.84	2.00	1.68	8
Liquid Conductivity - Measurement Uncertainty)	4	Ν	1	0.78	0.71	3.12	2.84	5
Liquid Permittivity - Measurement Uncertainty	5	Ν	1	0.23	0.26	1.15	1.30	5
Liquid Conductivity (Temperature Uncertainty)	2.5	R	√3	0.78	0.71	1.13	1.02	ø
Liquid Permittivity	2.5	R	$\sqrt{3}$	0.23	0.26	0.33	0.38	ø
Combined Standard								
Uncertainty		RSS				10.16	10.03	
Expanded Uncertainty (95% Confidence interval)		К				20.32	20.06	



10. Conducted Power Measurement

10.1 Test Result

2.4G WLAN

2.4GWIFI							
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)			
	1	2412	14.90	30.90			
802.11b	7	2437	14.39	27.48			
	11	2462	14.57	28.64			
	1	2412	13.53	22.54			
802.11g	7	2437	13.47	22.23			
	11	2462	13.35	21.63			
	1	2412	13.32	21.48			
802.11n-HT20	7	2437	13.03	20.09			
	11	2462	13.10	20.42			
	3	2422	13.76	23.77			
802.11n-HT40	6	2437	13.33	21.53			
	9	2452	13.37	21.73			

WLAN (5.2Gband)

	5.2G WLAN							
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)				
	36	5180	14.67	29.31				
802.11a20	40	5200	15.32	34.04				
	48	5240	15.47	35.24				
	36	5180	12.95	19.72				
802.11n-HT20	40	5200	12.89	19.45				
	48	5240	13.13	20.56				
002 11n UT40	38	5190	12.87	19.36				
002.1111-F1140	46	5230	12.90	19.50				
	36	5180	12.90	19.50				
802.11ac-VHT20	40	5200	12.98	19.86				
	48	5240	13.02	20.04				
902 11cc \/UT40	38	5190	12.70	18.62				
002.11aC-VH140	46	5230	12.90	19.50				
802.11ac-VHT80	42	5210	12.95	19.72				



WLAN (5.3G band)

	5.3G WLAN								
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)					
	52	5260	15.54	35.81					
802.11a20	60	5300	15.14	32.66					
	64	5320	15.04	31.92					
	52	5260	13.00	19.95					
802.11n-HT20	60	5300	12.81	19.10					
	64	5320	12.80	19.05					
902 11n UT40	54	5270	13.02	20.04					
002.1111-1140	62	5310	12.66	18.45					
	52	5260	13.16	20.70					
802.11ac-VHT20	60	5300	13.06	20.23					
	64	5320	12.72	18.71					
902 11cc \/UT40	54	5270	13.05	20.18					
002.1140-01140	62	5310	12.69	18.58					
802.11ac-VHT80	58	5290	13.12	20.51					

WLAN (5.6G band)

		5.6G WLAN		
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)
	100	5500	13.50	22.39
802.11a20	116	5580	13.79	23.93
	140	5700	14.14	25.94
	100	5500	11.72	14.86
802.11n-HT20	116	5580	12.00	15.85
	140	5700	12.12	16.29
	102	5510	10.88	12.25
802.11n-HT40	110	5550	11.04	12.71
	134	5670	11.35	13.65
	100	5500	11.77	15.03
802.11ac-VHT20	116	5580	12.10	16.22
	140	5700	12.13	16.33
	102	5510	10.97	12.50
802.11ac-VHT40	110	5550	11.00	12.59
	134	5670	11.78	15.07
902 11 co \/UT90	106	5530	11.36	13.68
002.11ac-VF1100	122	5610	12.03	15.96



WLAN (5.8G band)

	5.8G WLAN								
Mode	Channel Number	Frequency (MHz)	Output Power (dBm)	Output Power (mW)					
	149	5745	15.03	31.84					
802.11a20	157	5785	14.93	31.12					
	165	5825	14.60	28.84					
	149	5745	13.16	20.70					
802.11n-HT20	157	5785	12.93	19.63					
	165	5825	12.70	18.62					
902 11n UT40	151	5755	12.77	18.92					
002.111-11140	159	5795	12.63	18.32					
	149	5745	12.97	19.82					
802.11ac-VHT20	157	5785	12.72	18.71					
	165	5825	12.60	18.20					
902 11cc \/UT40	151	5755	12.97	19.82					
002.11aC-VH140	159	5795	12.71	18.66					
802.11ac-VHT80	155	5775	12.93	19.63					

Bluetooth

BT								
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)				
	0	2402	3.96	2.49				
GFSK(1Mbps)	39	2441	4.23	2.65				
	78	2480	3.82	2.41				
	0	2402	3.23	2.10				
π/4-QPSK(2Mbps)	39	2441	3.59	2.29				
	78	2480	3.07	2.03				
	0	2402	3.23	2.10				
8DPSK(3Mbps)	39	2441	3.54	2.26				
	78	2480	3.05	2.02				

BLE

BLE				
Mode	Channel Number	Frequency (MHz)	Average Power (dBm)	Output Power (mW)
	0	2402	-2.70	0.54
GFSK(1Mbps)	19	2440	-2.34	0.58
	39	2480	-3.02	0.50
	0	2402	-2.73	0.53
GFSK(2Mbps)	19	2440	-2.39	0.58
	39	2480	-3.03	0.50



NFC

Field strength(dBuV/m)	ERP(dBm)	
50.36	-44.84	

Note. The power of this EUT NFC is -44.84dBm (0.0000001mW), this power is less than the defined low

power exclusion level (Pmax: 39 mW), so NFC is exemption.



10.2 Tune Up Power

Mode	BT
GFSK	3.5±1dBm
π/4-DQPSK	3±1dBm
8DPSK	3±1dBm

Mode	BLE
GFSK(1Mbps)	-2.5±1dBm
GFSK(2Mbps)	-2.5±1dBm

Mode	2.4G WLAN
802.11b	14±1dBm
802.11g	13±1dBm
802.11n(HT20)	12.5±1dBm
802.11n(HT40)	13±1dBm

Mode	5.2G WLAN
802.11a	14.5±1dBm
802.11 n-HT20	12.5±1dBm
802.11 n-HT40	12±1dBm
802.11 ac-VHT20	12.5±1dBm
802.11 ac-VHT40	12±1dBm
802.11 ac-VHT80	12±1dBm

Mode	5.3G WLAN
802.11a	14.7±1dBm
802.11 n-HT20	12.5±1dBm
802.11 n-HT40	12.5±1dBm
802.11 ac-VHT20	12.5±1dBm
802.11 ac-VHT40	12.5±1dBm
802.11 ac-VHT80	12.5±1dBm

Mode	5.6G WLAN
802.11a	13.5±1dBm
802.11 n-HT20	11.5±1dBm
802.11 n-HT40	10.5±1dBm
802.11 ac-VHT20	11.5±1dBm
802.11 ac-VHT40	11±1dBm
802.11 ac-VHT80	11.5±1dBm



Mode	5.8G WLAN
802.11a	14.3±1dBm
802.11 n-HT20	12.5±1dBm
802.11 n-HT40	12±1dBm
802.11 ac-VHT20	12±1dBm
802.11 ac-VHT40	12±1dBm
802.11 ac-VHT80	12±1dBm

Mode	NFC
NFC	-45±1dBm



11. EUT and Test Setup Photo

11.1 EUT Photos



Back side





Right Edge



Left Edge





Top Edge



Bottom Edge





Configure B Front side



Back side





Right Edge



Left Edge





Top Edge



Bottom Edge





11.2 Setup Photos

Configure A Body and hotspot Front side (separation distance is 10mm)



Body and hotspot Back side (separation distance is 0mm)






Body and hotspot Right side (separation distance is 10mm)

Limbs Front side (separation distance is 0mm)







Limbs Back side (separation distance is 0mm)

Limbs Right side (separation distance is 0mm)





Configure B Body and hotspot Front side (separation distance is 10mm)



Body and hotspot Back side (separation distance is 10mm)



Body and hotspot Right side (separation distance is 10mm)

Limbs Front side (separation distance is 0mm)

Limbs Back side (separation distance is 0mm)

Limbs Right side (separation distance is 0mm)

Liquid depth (15 cm)

12. SAR Result Summary 12.1 Body-worn and Hotspot SAR

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
		Front Side	2412	0.115	1.78	15.00	14.90	0.118	/
2.4GHz WLAN	802.11b	Back Side	2412	0.098	-0.42	15.00	14.90	0.100	/
		Right Side	2412	0.199	-2.89	15.00	14.90	0.204	1
		Front Side	5240	0.348	-1.99	15.50	15.47	0.350	/
5.2GHz WLAN	802.11a	Back Side	5240	0.293	-2.89	15.50	15.47	0.295	/
		Right Side	5240	0.484	3.61	15.50	15.47	0.487	2
		Front Side	5260	0.411	3.44	15.70	15.54	0.426	/
5 0011		Back Side	5260	0.351	-2.76	15.70	15.54	0.364	/
5.3GHZ WLAN	802.11a	Right Side	5260	0.471	0.18	15.70	14.67	0.597	/
		Right Side	5300	0.534	0.18	15.70	15.32	0.583	/
		Right Side	5320	0.582	0.18	15.70	15.54	0.604	3
		Front Side	5700	0.306	1.92	14.50	14.14	0.332	/
5.6GHZ WLAN	802.11a	Back Side	5700	0.255	2.73	14.50	14.14	0.277	/
		Right Side	5700	0.420	0.44	14.50	14.14	0.456	4
		Front Side	5745	0.254	2.98	15.30	15.03	0.270	/
5.8GHZ WI AN	802.11a	Back Side	5745	0.223	-1.58	15.30	15.03	0.237	/
		Right Side	5745	0.360	0.70	15.30	15.03	0.383	5

Configure E

Band	Model	Test Position	Freq.	SAR (1g) (W/kg)	Power Drift (%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
		Front Side	2412	0.100	-1.86	15.00	14.90	0.102	/
2.4GHz WLAN	802.11b	Back Side	2412	0.090	0.82	15.00	14.90	0.092	/
VV L/ (14		Right Side	2412	0.135	1.67	15.00	14.90	0.138	11
		Front Side	5240	0.561	-3.50	15.50	15.47	0.565	/
5.2GHz WLAN	802.11a	Back Side	5240	0.475	-0.94	15.50	15.47	0.478	/
VV L/ (14		Right Side	5240	0.775	-0.42	15.50	15.47	0.780	12
		Front Side	5260	0.401	2.80	15.70	15.54	0.416	/
5.3GHz WLAN	802.11a	Back Side	5260	0.354	3.12	15.70	15.54	0.367	/
VV L/ (14		Right Side	5260	0.568	-1.33	15.70	15.54	0.589	13
		Front Side	5700	0.509	-1.82	14.50	14.14	0.553	/
5.6GHZ WLAN	802.11a	Back Side	5700	0.434	3.30	14.50	14.14	0.472	/
VV _/ (V		Right Side	5700	0.708	3.25	14.50	14.14	0.769	14
		Front Side	5745	0.564	-1.29	15.30	15.03	0.600	/
	Back Side	5745	0.489	0.84	15.30	15.03	0.520	/	
5.8GHZ WLAN	802.11a	Right Side	5745	0.801	-2.79	15.30	15.03	0.852	15
		Right Side	5785	0.768	-2.79	15.30	14.93	0.836	/
		Right Side	5825	0.722	-2.79	15.30	14.60	0.848	/

Note:

 The test separation of all above table Configure A back side is 0mm, other all side is 10mm.
Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.

 a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum

 rated power among all production units.

b. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor

When the user enables the personal Wireless router functions for the handsets, actual operations include simultaneous 3. 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.

12.2 Limbs SAR

	Configure A								
Band	Model	Test Position	Freq.	SAR (10g) (W/kg)	Power Drift (%)	Max. Turn-up Power(dBm)	Meas. Output Power(dBm)	Scaled SAR (W/Kg)	Meas. No.
		Front Side	2412	0.224	-0.04	15.00	14.90	0.229	/
2.4GHZ WIAN	802.11b	Back Side	2412	0.183	-1.35	15.00	14.90	0.187	/
		Right Side	2412	0.294	2.29	15.00	14.90	0.301	6
=		Front Side	5240	0.490	1.07	15.50	15.47	0.493	/
5.2GHz WLAN	802.11a	Back Side	5240	0.416	3.44	15.50	15.47	0.419	/
		Right Side	5240	0.677	3.22	15.50	15.47	0.682	7
		Front Side	5260	0.491	-3.18	15.70	15.54	0.509	/
		Back Side	5260	0.424	-3.45	15.70	15.54	0.440	/
5.3GHz WLAN	802.11a	Right Side	5260	0.678	-3.25	15.70	15.54	0.703	8
		Right Side	5300	0.603	-3.25	15.70	15.14	0.686	/
		Right Side	5320	0.580	-3.25	15.70	15.04	0.675	/
		Front Side	5700	0.292	-0.71	14.50	14.14	0.317	/
5.6GHz	802.11a	Back Side	5700	0.245	0.57	14.50	14.14	0.266	/
		Right Side	5700	0.396	-2.31	14.50	14.14	0.430	9
		Front Side	5745	0.309	1.33	15.30	15.03	0.329	/
5.8GHz	5.8GHz WLAN 802.11a	Back Side	5745	0.263	0.19	15.30	15.03	0.280	/
VVLAN		Right Side	5745	0.415	-3.68	15.30	15.03	0.442	10
				Configu	ire B				
Band	Model	Test Position	Frea.	SAR (10g)	Power Drift	Max.	Meas.	Scaled	Meas
				(W/ka)	(%)	Power(dBm)	Output Power(dBm)	SAR (W/Ka)	No.
		Eront Side	2412	(W/kg)	(%)	Power(dBm)	Output Power(dBm)	SAR (W/Kg) 0.152	No.
2.4GHz	802 11b	Front Side	2412	(W/kg) 0.149 0.129	(%) -2.95 -1.32	Power(dBm) 15.00	Output Power(dBm) 14.90	SAR (W/Kg) 0.152 0.132	No.
2.4GHz WLAN	802.11b	Front Side Back Side	2412 2412 2412 2412	(W/kg) 0.149 0.129 0.204	(%) -2.95 -1.32 1.61	Power(dBm) 15.00 15.00	Output Power(dBm) 14.90 14.90 14.90	SAR (W/Kg) 0.152 0.132 0.209	No. / / 16
2.4GHz WLAN	802.11b	Front Side Back Side Right Side Front Side	2412 2412 2412 2412 5240	(W/kg) 0.149 0.129 0.204 0.442	(%) -2.95 -1.32 1.61 0.37	Power(dBm) 15.00 15.00 15.00 15.00	Output Power(dBm) 14.90 14.90 14.90 14.90 15.47	SAR (W/Kg) 0.152 0.132 0.209 0.445	No. / / 16 /
2.4GHz WLAN 5.2GHz	802.11b	Front Side Back Side Right Side Front Side Back Side	2412 2412 2412 5240 5240	(W/kg) 0.149 0.129 0.204 0.442 0.382	(%) -2.95 -1.32 1.61 0.37 0.71	Power(dBm) 15.00 15.00 15.00 15.50 15.50	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47	SAR (W/Kg) 0.152 0.132 0.209 0.445 0.385	No. / / 16 /
2.4GHz WLAN 5.2GHz WLAN	802.11b 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side	2412 2412 2412 5240 5240 5240	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42	Power(dBm) 15.00 15.00 15.00 15.00 15.50 15.50 15.50 15.50	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47 15.47 15.47	SAR (W/Kg) 0.152 0.132 0.209 0.445 0.385 0.617	No. / / / 16 / / / 17
2.4GHz WLAN 5.2GHz WLAN	802.11b 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Front Side	2412 2412 2412 5240 5240 5240 5240 5260	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47 15.47 15.47 15.47 15.47	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523	No. / / / 16 / / / 17 /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz	802.11b 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Front Side Back Side	2412 2412 2412 5240 5240 5240 5240 5260	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47 15.47 15.47 15.54 15.54	SAR (W/Kg) 0.152 0.132 0.209 0.445 0.385 0.617 0.523 0.448	No. / / / 16 / / / 17 / /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN	802.11b 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Front Side Back Side Right Side	2412 2412 2412 5240 5240 5240 5260 5260 5260	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432 0.711	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 15.70	Output Power(dBm) 14.90 14.90 15.47 15.47 15.47 15.54 15.54 15.54	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.738	No. / / / 16 / / / / / / / / / / / / / / /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN	802.11b 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Front Side Back Side Right Side Right Side Front Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432 0.711 0.550	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 15.70 15.70 15.70 15.70 15.70 15.70 15.70	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47 15.47 15.47 15.47 15.54 15.54 15.54 15.54 15.54 15.54	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.738 0.598	No. / / / 16 / / 17 / / 17 / 18 /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz	802.11b 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Front Side Back Side Right Side Front Side Back Side Back Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260 5260 5700	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432 0.711 0.550 0.474	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 15.70 14.50 14.50	Output Power(dBm) 14.90 14.90 15.47 15.47 15.47 15.54 15.54 15.54 15.54 14.14	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.738 0.598 0.515	No. / / 16 / / 17 / 17 / 18 / / /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz WLAN	802.11b 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Back Side Right Side Front Side Back Side Right Side Right Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260 5260 5700 5700	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432 0.711 0.550 0.474 0.763	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19 -3.16	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 15.70 14.50 14.50 14.50	Output Power(dBm) 14.90 14.90 15.47 15.47 15.47 15.54 15.54 15.54 14.14 14.14	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.523 0.448 0.598 0.515 0.829	No. / / 16 / / 17 / 17 / 17 / 18 / 18 / 19
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz WLAN	802.11b 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Front Side Back Side Right Side Front Side Back Side Right Side Right Side Front Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260 5700 5700 5700 5700	(W/kg) 0.149 0.129 0.204 0.382 0.613 0.504 0.432 0.711 0.550 0.474 0.763 0.677	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19 -3.16 2.04	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 14.50 14.50 14.50 14.50 15.30	Output Power(dBm) 14.90 14.90 15.47 15.47 15.47 15.54 15.54 15.54 14.14 14.14 14.14 15.03	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.738 0.598 0.515 0.829 0.720	No. / / / 16 / / 17 / 17 / 17 / 18 / 18 / 19 /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz WLAN	802.11b 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Back Side Right Side Front Side Back Side Right Side Right Side Front Side Back Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260 5260 5700 5700 5700 5700 5745	(W/kg) 0.149 0.129 0.204 0.442 0.382 0.613 0.504 0.432 0.711 0.550 0.474 0.763 0.677 0.589	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19 -3.16 2.04 -0.07	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 14.50 14.50 14.50 14.50 15.30	Output Power(dBm) 14.90 14.90 15.47 15.47 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.53 14.14 14.14 15.03 15.03	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.598 0.598 0.515 0.829 0.720 0.627	No. / / 16 / / 17 / 17 / 18 / 18 / 19 / / /
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz WLAN	802.11b 802.11a 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Right Side Front Side Back Side Right Side Right Side Right Side Front Side Back Side Right Side Right Side Right Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5260 5700 5700 5700 5700 5745 5745	(W/kg) 0.149 0.129 0.204 0.382 0.613 0.504 0.432 0.711 0.550 0.474 0.763 0.677 0.589 0.957	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19 -3.16 2.04 -0.07 -2.24	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 14.50 14.50 14.50 14.50 15.30 15.30 15.30	Output Power(dBm) 14.90 14.90 14.90 15.47 15.47 15.54 15.54 15.54 15.54 14.14 14.14 15.03 15.03	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.523 0.448 0.598 0.515 0.829 0.720 0.627 1.018	No. / / 16 / / 17 / 17 / 17 / 17 / 17 / 19 / 20
2.4GHz WLAN 5.2GHz WLAN 5.3GHz WLAN 5.6GHz WLAN 5.8GHz WLAN	802.11b 802.11a 802.11a 802.11a 802.11a	Front Side Back Side Right Side Front Side Back Side Front Side Back Side Right Side Front Side Back Side Right Side Front Side Right Side Right Side Right Side	2412 2412 2412 5240 5240 5240 5260 5260 5260 5260 5700 5700 5700 5700 5745 5745 5745	(W/kg) 0.149 0.129 0.204 0.382 0.613 0.504 0.432 0.711 0.550 0.474 0.763 0.677 0.589 0.957 0.893	(%) -2.95 -1.32 1.61 0.37 0.71 -2.42 2.31 3.87 3.82 0.34 -2.19 -3.16 2.04 -0.07 -2.24 -2.24	Power(dBm) 15.00 15.00 15.00 15.50 15.50 15.50 15.70 15.70 15.70 14.50 14.50 14.50 14.50 15.30 15.30 15.30	Output Power(dBm) 14.90 14.90 15.47 15.47 15.47 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.54 15.53 15.54 15.54 15.03 15.03 15.03 14.93	SAR (W/Kg) 0.152 0.209 0.445 0.385 0.617 0.523 0.448 0.738 0.598 0.515 0.829 0.720 0.627 1.018 0.972	No. / / / 16 / 17 / 17 / 17 / 17 / 17 / 17 / 19 / 19 / 20 /

Note:

1. The test separation of all above table is 0mm.

Per KDB 447498 D01, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
b. Scaled SAB(W/(g))

b. Scaled SAR(W/kg) = Measured SAR(W/kg) *Tune-up Scaling Factor

3. 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.

12.3 Repeated SAR

Configure B								
Band	Mode	Test Position	Ch.	Result 1g (W/Kg)	Power Drift (%)	Max. Turn-up Power (dBm)	Meas. Output Power (dBm)	Scaled SAR (W/Kg)
		Right Side	5745	0.920	4.00	15.30	15.03	0.979
	802.11a	Right Side	5785	0.891	1.52	15.30	14.93	0.970
VVLAIN		Right Side	5825	0.796	0.31	15.30	14.60	0.935

12.4 Repeated SAR measurement

	Configure B						
Band	Mode	Test Position	Ch.	Original Measured SAR 1g(W/kg)	1 st Repeated SAR 1g	Ratio	
		Right Side	5745	0.801	0.769	1.041	
	802.11a	Right Side	5785	0.768	0.760	1.010	
VVLAIN		Right Side	5825	0.722	0.709	1.018	

Note:

1. Per KDB 865664 D01,for each frequency band ,repeated SAR measurement is required only when the measured SAR is≥0.8W/Kg.

2. Per KDB 865664 D01, if the ratio of largest to smallest SAR for the original and first repeated measurement is ≤1.2 and the measured SAR<1.45W/Kg, only one repeated measurement is required.

3. Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is \geq 1.20 or when the original or repeated measurement is \geq 1.45W/Kg.

4. The ratio is the difference in percentage between original and repeated measured SAR.

13. Equipment List

Kind of Equipment	Manufacturer	Type No.	Serial No.	Last Calibration	Calibrated Until
2450MHz Dipole	MVG	DIP2G450	SN 06/22 DIP2G450-645	2022.02.11	2025.02.10
5000MHz Dipole	MVG	DIP5G000	SN 06/22 DIP5G000-653	2022.02.11	2025.02.10
E-Field Probe	MVG	EPGO364	SN 04/22 EPGO364	2024.02.07	2025.02.06
Liquid Calibration Kit	MVG	OCPG 87	SN 06/22 OCPG87	2024.02.07	2025.02.06
Antenna	MVG	ANTA 73	SN 06/22 ANTA 73	N/A	N/A
Ellipsoid Phantom	MVG	ELLI 51	SN 06/22 ELLI 51	N/A	N/A
Phantom	MVG	SAM 148	SN 06/22 SAM148	N/A	N/A
Phone holder	MVG	MSH 117	SN 06/22 MSH 117	N/A	N/A
Laptop positioner	MVG	LSH 36	SN 06/22 LSH 38	N/A	N/A
Directional coupler	SHW	SHWDCP	202203280013	N/A	N/A
Network Analyzer	ZVL	R&S	116184-HC	2024.03.25	2025.03.24
Multi Meter	DMM6500	Keithley	4527252	2024.03.15	2025.03.14
Signal Generator	Keysight	N5182B	MY59100717	2024.03.09	2025.03.08
Wireless Communication Test Set	R&S	CMW500	137737	2024.03.09	2025.03.08
Power Sensor	R&S	Z11	116184	2024.02.23	2025.02.22
Electronic Temperature hygrometer	N/A	ST-W2318	N/A	2024.03.11	2025.03.10
Temperature hygrometer	N/A	TP101	N/A	2024.03.11	2025.03.10

Appendix A. System Validation Plots

System Performance Check Data (2450MHz)

Type: Phone measurement (Complete) Area scan resolution: dx=8mm, dy=8mm Zoom scan resolution: dx=8mm, dy=8mm, dz=5mm Date of measurement:2024-12-07

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW2450
Channels	Middle
Signal	CW
Frequency (MHz)	2450.000
Relative permittivity	39.44
Conductivity (S/m)	1.83
Probe	SN 04/22 EPGO364
ConvF	2.30
Crest factor:	1:1

Maximum location: X=0.00, Y=0.00 ; SAR Peak: 8.61 W/kg

SAR 10g (W/Kg)	2.404
SAR 1g (W/Kg)	5.408

System Performance Check Data (5200MHz)

Type: Phone measurement (Complete) Area scan resolution: dx=8mm, dy=8mm Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm Date of measurement:2024-12-06

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5200
Channels	Middle
Signal	CW
Frequency (MHz)	5200.000
Relative permittivity	36.48
Conductivity (S/m)	4.65
Probe	SN 04/22 EPGO364
ConvF	1.98
Crest factor:	1:1

Maximum location: X=0.00, Y=0.00 ; SAR Peak: 28.79 W/kg

SAR 10g (W/Kg)	2.312
SAR 1g (W/Kg)	8.105

System Performance Check Data (5400MHz)

Type: Phone measurement (Complete) Area scan resolution: dx=8mm, dy=8mm Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm Date of measurement:2024-12-10

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5400
Channels	Middle
Signal	CW
Frequency (MHz)	5400.000
Relative permittivity	36.58
Conductivity (S/m)	4.83
Probe	SN 04/22 EPGO364
ConvF	1.83
Crest factor:	1:1

Maximum location: X=0.00, Y=0.00 ; SAR Peak: 46.43 W/kg

SAR 10g (W/Kg)	2.384
SAR 1g (W/Kg)	8.458

System Performance Check Data (5600MHz)

Type: Phone measurement (Complete) Area scan resolution: dx=8mm, dy=8mm Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm Date of measurement:2024-12-08

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5600
Channels	Middle
Signal	CW
Frequency (MHz)	5600.000
Relative permittivity	36.68
Conductivity (S/m)	5.08
Probe	SN 04/22 EPGO364
ConvF	1.86
Crest factor:	1:1

Maximum location: X=-0.00, Y=0.00 ; SAR Peak: 27.99 W/kg

SAR 10g (W/Kg)	2.374
SAR 1g (W/Kg)	8.065

System Performance Check Data (5800MHz)

Type: Phone measurement (Complete) Area scan resolution: dx=8mm, dy=8mm Zoom scan resolution: dx=4mm, dy=4mm, dz=2mm Date of measurement:2024-12-09

Experimental conditions.

Phantom	Validation plane
Device Position	Dipole
Band	CW5800
Channels	Middle
Signal	CW
Frequency (MHz)	5800.000
Relative permittivity	35.97
Conductivity (S/m)	5.25
Probe	SN 04/22 EPGO364
ConvF	1.71
Crest factor:	1:1

Maximum location: X=1.00, Y=0.00 ; SAR Peak: 24.09 W/kg

SAR 10g (W/Kg)	2.367
SAR 1g (W/Kg)	8.148

Appendix B. SAR Test Plots

Plot 1: SP60 with printer

Test Date	2024-12-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11b
Frequency	2412
SAR 10g (W/Kg)	0.119
SAR 1g (W/Kg)	0.199
ConvF	2.24
Relative permittivity	39.44
Conductivity (S/m)	1.83
Maximum location: X=8.00, Y	′=7.00 ; SAR Peak: 0.36 W/kg
SURFACE SAR	VOLUME SAR
Wig 0.27 0.243 0.208 0.139 0.105 0.070 0.036	Vitig 0.224 0.166 0.140 0.112 0.084 0.057 0.029 0.001
3D screen shot	Hot spot position
With a second se	Whg 0.277 0.24 0.28 0.174 0.139 0.105 0.070 0.005 0.001
0.17- 0.14- (3.0.12- (3.0.10- (3.0.10- (3.0.06- (0.06- (0.05-)))))))))))))))))))))))))))))))))))	

Plot 2:

Test Date	2024-12-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5240
SAR 10g (W/Kg)	0.208
SAR 1g (W/Kg)	0.484
ConvF	1.91
Relative permittivity	36.48
Conductivity (S/m)	4.65
Maximum La action X 7.00 X 0.00 CAD De also 0.44 M/	

Maximum location: X=7.00, Y=-3.00 ; SAR Peak: 2.11 W/kg

Plot 3:

Test Date	2024-12-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.231
SAR 1g (W/Kg)	0.582
ConvF	1.91
Relative permittivity	36.58
Conductivity (S/m)	4.83

Maximum location: X=7.00, Y=-23.00 ; SAR Peak: 2.26 W/kg

Plot 4:

Test Date	2024-12-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2c
Signal	IEEE 802.11a
Frequency	5700
SAR 10g (W/Kg)	0.196
SAR 1g (W/Kg)	0.420
ConvF	1.76
Relative permittivity	36.68
Conductivity (S/m)	5.08

Maximum location: X=8.00, Y=-23.00 ; SAR Peak: 1.90 W/kg

Plot 5:

Test Date	2024-12-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.397
SAR 1g (W/Kg)	0.937
ConvF	1.70
Relative permittivity	35.97
Conductivity (S/m)	5.25
Maximum location: X=8.00, X= 25.00 · SAP Poak: 4.08 W/kg	

Plot 6:

Test Date	2024-12-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11b
Frequency	2412
SAR 10g (W/Kg)	0.294
SAR 1g (W/Kg)	0.639
ConvF	2.24
Relative permittivity	39.44
Conductivity (S/m)	1.83
Maximum lagetian, $V = 0.00$, $V = 0.00$, CAD Depty 4.00 M//	

Maximum location: X=6.00, Y=-8.00 ; SAR Peak: 1.23 W/kg SURFACE SAR **VOLUME SAR** 0.603 0.517 0.431 0.345 0.259 0.173 0.081 Hot spot position 3D screen shot 0.614 0.526 0.439 0.351 0.264 0.176 0.089 0.001 0.517 0.431 0.345 0.259 0.173 0.087 1.3 1.0 (≌ 0.8 (≌¥/)#) 0.6 ¥YS 0.4 0.4 0.2 0.1-0.02.55.07.5 12.5 17.5 22.5 27.5 32.5 Z (mm) 40.0

Plot 7:

Test Date	2024-12-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5240
SAR 10g (W/Kg)	0.677
SAR 1g (W/Kg)	2.205
ConvF	1.91
Relative permittivity	36.48
Conductivity (S/m)	4.65

Maximum location: X=-7.00, Y=-9.00 ; SAR Peak: 6.93 W/kg

Plot 8:

Test Date	2024-12-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.678
SAR 1g (W/Kg)	2.333
ConvF	1.91
Relative permittivity	36.58
Conductivity (S/m)	4.83
	40.00 040 0 1 7.00 14/4

Maximum location: X=2.00, Y=-18.00 ; SAR Peak: 7.32 W/kg

Plot 9:

Test Date	2024-12-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2c
Signal	IEEE 802.11a
Frequency	5700
SAR 10g (W/Kg)	0.396
SAR 1g (W/Kg)	1.050
ConvF	1.76
Relative permittivity	36.68
Conductivity (S/m)	5.08
	40.00 0455 1 0.0434//

Maximum location: X=1.00, Y=-16.00 ; SAR Peak: 3.64 W/kg

Plot 10:

Test Date	2024-12-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.415
SAR 1g (W/Kg)	1.223
ConvF	1.70
Relative permittivity	35.97
Conductivity (S/m)	5.25
Maximum location: X=7.00, Y=-24.00 ; SAR Peak: 3.94 W/kg	

Plot 11:

Test Date	2024-12-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11b
Frequency	2412
SAR 10g (W/Kg)	0.068
SAR 1g (W/Kg)	0.135
ConvF	2.24
Relative permittivity	39.44
Conductivity (S/m)	1.83
Maximum la actions X=0.00, X=05.00, CAD Deals 0.00 M///cm	

Plot 12:

Test Date	2024-12-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5240
SAR 10g (W/Kg)	0.307
SAR 1g (W/Kg)	0.775
ConvF	1.91
Relative permittivity	36.48
Conductivity (S/m)	4.65

Maximum location: X=7.00, Y=24.00 ; SAR Peak: 2.76 W/kg

Plot 13:

Test Date	2024-12-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.224
SAR 1g (W/Kg)	0.568
ConvF	1.91
Relative permittivity	36.58
Conductivity (S/m)	4.83

Maximum location: X=14.00, Y=21.00 ; SAR Peak: 2.06 W/kg

Plot 14:

Test Date	2024-12-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2c
Signal	IEEE 802.11a
Frequency	5700
SAR 10g (W/Kg)	0.313
SAR 1g (W/Kg)	0.708
ConvF	1.76
Relative permittivity	36.68
Conductivity (S/m)	5.08

Maximum location: X=7.00, Y=17.00 ; SAR Peak: 2.49 W/kg

Plot 15:

Test Date	2024-12-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.321
SAR 1g (W/Kg)	0.801
ConvF	1.70
Relative permittivity	35.97
Conductivity (S/m)	5.25
Maximum location: X=9.00, Y=9.00 ; SAR Peak: 3.22 W/kg	
SURFACE SAR	VOLUME SAR

Plot 16:

Test Date	2024-12-07
Area Scan	dx=8mm dy=8mm
Zoom Scan	5x5x7,dx=8mm dy=8mm dz=5mm
Phantom	Validation plane
Device Position	Right Side
Band	ISM
Signal	IEEE 802.11b
Frequency	2412
SAR 10g (W/Kg)	0.204
SAR 1g (W/Kg)	0.446
ConvF	2.24
Relative permittivity	39.44
Conductivity (S/m)	1.83
Maximum location: X=1.00, Y=-9.00 ; SAR Peak: 0.83 W/kg	

SURFACE SAR **VOLUME SAR** 0.278 0.223 0.167 0.112 Hot spot position 3D screen shot 0.395 0.338 0.222 0.226 0.170 0.113 0.057 0.001 0.390 0.334 0.278 0.223 0.167 0.112 0.8 0.7 0.6 (³³ 0.5 V∭ 0.4 ₩. 0.3 0.2 12.5 17.5 22.5 27.5 32.5 Z (mm) 0.0-0.02.55.07.5 40.0


Plot 17:

Test Date	2024-12-06
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-1
Signal	IEEE 802.11a
Frequency	5240
SAR 10g (W/Kg)	0.613
SAR 1g (W/Kg)	2.160
ConvF	1.91
Relative permittivity	36.48
Conductivity (S/m)	4.65

Maximum location: X=8.00, Y=-17.00 ; SAR Peak: 6.31 W/kg





Plot 18:

Test Date	2024-12-10
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2a
Signal	IEEE 802.11a
Frequency	5260
SAR 10g (W/Kg)	0.711
SAR 1g (W/Kg)	2.519
ConvF	1.91
Relative permittivity	36.58
Conductivity (S/m)	4.83

Maximum location: X=9.00, Y=-31.00 ; SAR Peak: 7.46 W/kg





Plot 19:

Test Date	2024-12-08
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-2c
Signal	IEEE 802.11a
Frequency	5700
SAR 10g (W/Kg)	0.763
SAR 1g (W/Kg)	2.772
ConvF	1.76
Relative permittivity	36.68
Conductivity (S/m)	5.08

Maximum location: X=0.00, Y=-22.00 ; SAR Peak: 8.50 W/kg





Plot 20:

Test Date	2024-12-09
Area Scan	dx=8mm dy=8mm
Zoom Scan	7x7x12,dx=4mm dy=4mm dz=2mm
Phantom	Validation plane
Device Position	Right Side
Band	U-NII-3
Signal	IEEE 802.11a
Frequency	5745
SAR 10g (W/Kg)	0.957
SAR 1g (W/Kg)	3.443
ConvF	1.70
Relative permittivity	35.97
Conductivity (S/m)	5.25
Maximum location: X=0.00, Y=-22.00 · SAR Peak: 10.52 W/kg	





Appendix C. Probe Calibration and Dipole Calibration Report

Refer the appendix Calibration Report.
