

TEST REPORT

Applicant: UROVO TECHNOLOGY CO., LTD.
Address: 36F, High-Tech Zone Union Tower, No.63, Xuefu Road, Nanshan District, Shenzhen, Guangdong, China
Equipment Type: Smart POS
Model Name: i5300L (refer to section 2.3)
Brand Name: UROVO
FCC ID: SWSI5300L
Test Standard: FCC 47 CFR Part 2.1093 (refer section 3.1)
Maximum SAR: Body-worn (1 g@10mm): 0.72 W/kg
Hotspot (1 g@10mm): 1.07 W/kg
Extremity (10 g@0mm): 2.18 W/kg
Sample Arrival Date: Jul. 01, 2025
Test Date: Aug. 21, 2025 - Sep. 02, 2025
Date of Issue: Oct. 17, 2025

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

**Tested by:** Xiong Lining**Checked by:** Xu Rui**Approved by:** Tolan Tu
(Testing Director)

Revision History

Version	Issue Date	Revisions Content
<u>Rev. 01</u>	<u>Oct. 17, 2025</u>	<u>Initial Issue</u>

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☐ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☒ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

1.3 Test Environment Condition

Ambient Temperature	18°C to 25°C
Ambient Relative Humidity	30% to 70%

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	UROVO TECHNOLOGY CO., LTD.
Address	36F, High-Tech Zone Union Tower, No.63, Xuefu Road, Nanshan District, Shenzhen, Guangdong, China

2.2 Manufacturer Information

Manufacturer	UROVO TECHNOLOGY CO., LTD.
Address	36F, High-Tech Zone Union Tower, No.63, Xuefu Road, Nanshan District, Shenzhen, Guangdong, China

2.3 General Description for Equipment under Test (EUT)

EUT Name	Smart POS
Model Name Under Test	i5300L
Series Model Name	i5300, i5301, i5302, i5303, i5300B, i5300LA, i5300LB
Description of Model name differentiation	All models are same with electrical parameters and internal circuit structure, but only differ in model name. (this information provided by the applicant)
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	N/A
Weight (Approx.)	N/A

2.4 Ancillary Equipment

Ancillary Equipment 1	Battery 1	
	Brand Name	BAK
	Model No.	NBL9100
	Serial No.	N/A
	Capacity	5000 mAh
	Rated Voltage	3.6 V
	Limit Charge Voltage	4.2 V
	Manufacturer	Zhengzhou BAK Battery Co., Ltd.
Ancillary Equipment 2	Battery 2	
	Brand Name	Hongde
	Model No.	NB50i5300
	Serial No.	N/A
	Capacity	5000 mAh
	Rated Voltage	3.65 V
	Limit Charge Voltage	4.2 V
	Manufacturer	Dongguan Hongde Battery Co., Ltd.
Note: All batteries are tested, only the worst data of NBL9100 (Zhengzhou BAK Battery Co., Ltd.) shown in this report.		

2.5 Technical Information

Network and Wireless connectivity	3G Network GSM/GPRS/EGPRS 850/1900 MHz 3G Network WCDMA/HSDPA/HSUPA Band 2/4/5 4G Network FDD LTE Band 2/4/5/7/12/17/19/25/26/66 TDD LTE Band 38/40/41 Bluetooth (BR+EDR+BLE) WIFI 802.11a, 802.11b, 802.11g, 802.11n and 802.11ac GPS, GLONASS, NFC
Note: The EUT is a Smart POS, which supports dual SIM card under the same transceiver. Each SIM supports GSM, WCDMA and LTE, and both SIM share the same transmitting electro circuit, NV parameters, so only SIM1 was tested in this report.	

The requirement for the following technical information of the EUT was tested in this report:

Operating Mode	GSM, WCDMA, LTE, WIFI, Bluetooth, NFC		
Frequency Range	GSM 850	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	GSM 1900	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	WCDMA Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	WCDMA Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 2	TX: 1850 ~ 1910 MHz	RX: 1930 ~ 1990 MHz
	LTE Band 4	TX: 1710 ~ 1755 MHz	RX: 2110 ~ 2155 MHz
	LTE Band 5	TX: 824 ~ 849 MHz	RX: 869 ~ 894 MHz
	LTE Band 7	TX: 2500 ~ 2570 MHz	RX: 2620 ~ 2690 MHz
	LTE Band 12	TX: 699 ~ 716 MHz	RX: 729 ~ 746 MHz
	LTE Band 17	TX: 704 ~ 716 MHz	RX: 734 ~ 746 MHz
	LTE Band 25	TX: 1850 ~ 1915 MHz	RX: 1930 ~ 1995 MHz
	LTE Band 26	TX: 814 ~ 849 MHz	RX: 859 ~ 894 MHz
	LTE Band 38	TX: 2570 ~ 2620 MHz	RX: 2570 ~ 2620 MHz
	LTE Band 41	TX: 2496 ~ 2690 MHz	RX: 2496 ~ 2690 MHz
	LTE Band 66	TX: 1710 ~ 1780 MHz	RX: 2110 ~ 2200 MHz
	802.11b/g/n(HT20/HT40)	2412 ~ 2462 MHz	
	802.11a/n(HT20/HT40)/ac(VHT20/VHT40/VHT80)	5150 ~ 5250 MHz	
		5250 ~ 5350 MHz	
		5470 ~ 5725 MHz	
		5725 ~ 5850 MHz	
	Bluetooth	2402 ~ 2480 MHz	
	NFC	13.56 MHz	
Antenna Type	WWAN	PIFA Antenna	
	WIFI	PIFA Antenna	
	Bluetooth	PIFA Antenna	
	NFC	Coil Antenna	

Hotspot Function	N/A	
Exposure Category	General Population/Uncontrolled exposure	
Product Type	Portable Device	
EUT Type	☒ Production unit	☐ Identical prototype

3 SUMMARY OF TEST RESULT

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2.1093	Radiofrequency radiation exposure evaluation: portable devices
2	ANSI/IEEE C95.1-1992	IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz
3	KDB 447498 D04 v01	447498 D04 Interim General RF Exposure Guidance v01
4	KDB 941225 D01 v03r01	3G SAR MEAUREMENT PROCEDURES
5	KDB 941225 D05 v02r05	SAR EVALUATION CONSIDERATIONS FOR LTE DEVICES
6	KDB 941225 D06 v02r01	SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES
7	KDB 865664 D01 v01r04	SAR Measurement 100 MHz to 6 GHz
8	KDB 865664 D02 v01r02	RF Exposure Reporting
9	KDB 248227 D01 v02r02	SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters

3.2 Device Category and SAR Limit

This device belongs to portable device category because its radiating structure is allowed to be used within 20 centimeters of the body of the user.

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

Table of Exposure Limits:

Body Position	SAR Value (W/Kg)	
	General Population/ Uncontrolled Exposure	Occupational/ Controlled Exposure
Whole-Body SAR (averaged over the entire body)	0.08	0.4
Partial-Body SAR (averaged over any 1 gram of tissue)	1.60	8.0
SAR for hands, wrists, feet and ankles (averaged over any 10 grams of tissue)	4.0	20.0

NOTE:

General Population/Uncontrolled Exposure: Locations where there is the exposure of individuals who have no knowledge or control of their exposure. General population/uncontrolled exposure limits are applicable to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Members of the general public would come under this category when exposure is not employment-related; for example, in the case of a wireless transmitter that exposes persons in its vicinity.

Occupational/Controlled Exposure: Locations where there is exposure that may be incurred by persons who are aware of the potential for exposure. In general, occupational/controlled exposure limits are applicable to situations in which persons are exposed as a consequence of their employment, who have been made fully aware of the potential for exposure and can exercise control over their exposure. This exposure category is also applicable when the exposure is of a transient nature due to incidental passage through a location where the exposure levels may be higher than the general population/uncontrolled limits, but the exposed person is fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

3.3 Test Result Summary

3.3.1 Highest SAR

Band	Maximum Report SAR (W/kg)			Highest Simultaneous Transmission SAR (W/kg)		
	Body-worn	Hotspot	Extremity	Body-worn	Hotspot	Extremity
	(10mm)	(10mm)	(0mm)	(10mm)	(10mm)	(0mm)
	1g SAR	1g SAR	10g SAR	1g SAR	1g SAR	10g SAR
GSM 850	0.72	1.07	2.18	1.10	1.10	2.18
GSM 1900	0.18	0.26	0.44			
WCDMA Band 2	0.06	0.32	0.57			
WCDMA Band 4	0.04	0.21	0.49			
WCDMA Band 5	0.65	0.77	0.93			
LTE Band 7	0.46	0.98	1.91			
LTE Band 12	0.59	0.59	0.90			
LTE Band 25	0.05	0.26	0.44			
LTE Band 26	0.58	0.60	0.81			
LTE Band 66	0.05	0.15	0.37			
LTE Band 38	0.03	0.27	0.70			
LTE Band 41	0.26	0.27	0.58			
2.4G WIFI	0.05	0.38	1.09			
5.2G WIFI	0.37	0.37	/			
5.3G WIFI	0.22	0.25	0.24			
5.6G WIFI	0.31	0.37	0.54			
5.8G WIFI	0.19	0.20	/			
Bluetooth	0.02	0.04	0.09			
Limit (W/kg)	1.60	1.60	4.00	1.60	1.60	4.00
Verdict	PASS					
Note: This device supports both LTE Band 2/4/5/17 and Band 25/66/26/12. Since the supported frequency span for LTE Band 2/4/5/17 falls completely within the supports frequency span for LTE Band 25/66/26/12, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE Band 25/66/26/12.						

3.4 Test Uncertainty

According to KDB 865664 D01, when the highest measured 1 g SAR within a frequency band is < 1.5 W/kg, the extensive SAR measurement uncertainty analysis is not required in SAR reports submitted for equipment approval.

The maximum 1 g SAR for the EUT in this report is 1.07 W/kg, which is lower than 1.5 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

The maximum 10 g SAR for the EUT in this report is 2.18 W/kg, which is lower than 3.75 W/kg, so the extensive SAR measurement uncertainty analysis is not required in this report.

4 MEASUREMENT SYSTEM

4.1 Specific Absorption Rate (SAR) Definition

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

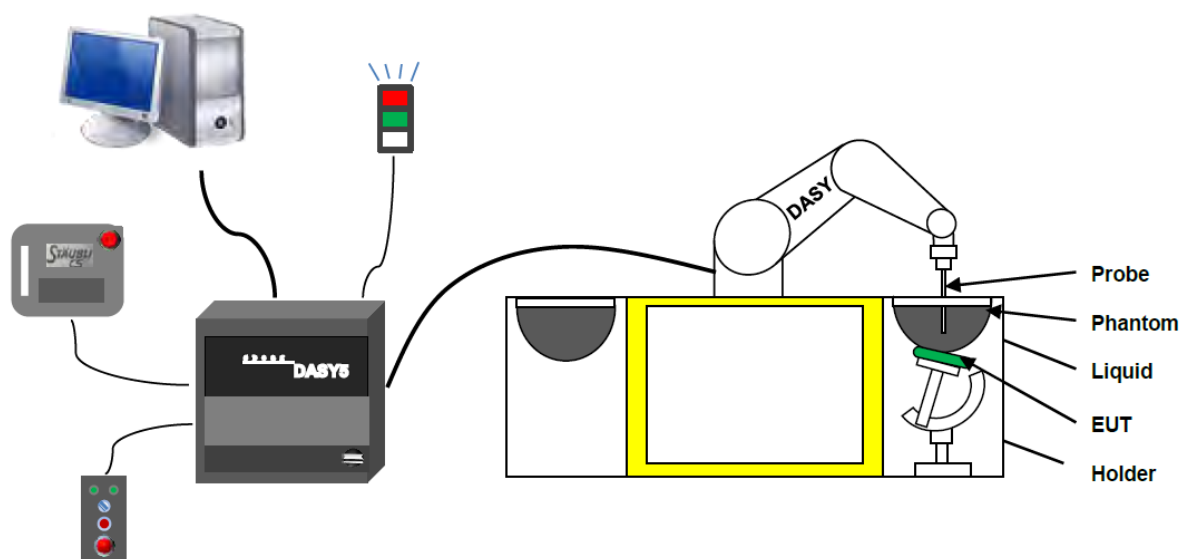
$$SAR = \frac{\sigma E^2}{\rho}$$

Where: σ is the conductivity of the tissue,

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

4.2 DASY SAR System

4.2.1 DASY SAR System Diagram



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

1. A standard high precision 6-axis robot (Stäubli RX family) with controller and software. An arm extension for accommodating the data acquisition electronics (DAE).
2. A dosimetric probe, i.e. an isotropic E-field probe optimized and calibrated for usage in tissue simulating liquid. The probe is equipped with an optical surface detector system.
3. A data acquisition electronic (DAE) which performs the signal amplification, 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.
4. A unit to operate the optical surface detector which is connected to the EOC.
5. The Electro-Optical Coupler (EOC) performs the conversion from the optical into a digital electric signal of the DAE. The EOC is connected to the DASY5 measurement server.
6. The DASY5 measurement server, which performs all real-time data evaluation for field measurements and surface detection, controls robot movements and handles safety operation.
7. DASY5 software and SEMCAD data evaluation software.
8. Remote control with teach panel and additional circuitry for robot safety such as warning lamps, etc.
9. The generic twin phantom enabling the testing of left-hand and right-hand usage.
10. The device holder for handheld mobile phones.
11. Tissue simulating liquid mixed according to the given recipes.
12. System validation dipoles allowing to validate the proper functioning of the system.

4.2.2 Robot

The Dasy SAR system uses the high precision robots. Symmetrical design with triangular core Built-in optical fiber for surface detection system For the 6-axis controller system, Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents). The robot series have many features that are important for our application:



- High precision
(repeatability ± 0.02 mm)
- High reliability
(industrial design)
- Low maintenance costs
(virtually maintenance free due to direct drive gears; no belt drives)
- Jerk-free straight movements
(brush less synchron motors; no stepper motors)
- Low ELF interference
(motor control _elds shielded via the closed metallic construction shields)

4.2.3 E-Field Probe

The probe is specially designed and calibrated for use in liquids with high permittivities for the measurements the Specific Dosimetric E-Field Probe EX3DV4-SN: 7664 with following specifications is used.

Construction	Symmetrical design with triangular core Built-in optical fiber for surface detection system Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., glycolether)
Calibration	ISO/IEC 17025 calibration service available
Frequency	10 MHz to 6 GHz; Linearity: ± 0.2 dB (30 MHz to 6 GHz)
Directivity	± 0.2 dB in HSL (rotation around probe axis) ; ± 0.4 dB in HSL (rotation normal to probe axis)
Dynamic range	5 μ W/g to > 100 mW/g; Linearity: ± 0.2 dB
Dimensions	Overall length: 337 mm (Tip: 9 mm) Tip diameter: 2.5 mm (Body: 10 mm) Distance from probe tip to dipole centers: 1.0 mm
Application	General dosimetry up to 3 GHz Compliance tests of mobile phones Fast automatic scanning in arbitrary phantoms (EX3DV4)



E-Field Probe Calibration Process

Probe calibration is realized, in compliance with CENELEC EN 62209-1/-2 and IEEE 1528 std, with CALISAR, Antennessa proprietary calibration system. The calibration is performed with the EN 62209-1/2 annexe technique using reference guide at the five frequencies.

4.2.4 Data Acquisition Electronics

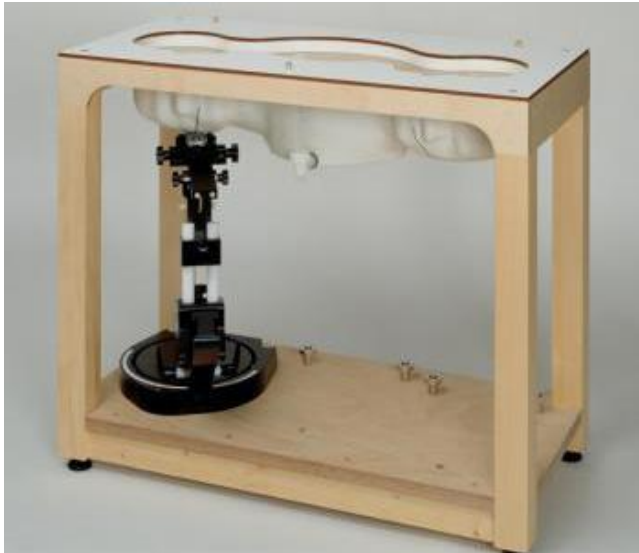
The data acquisition electronics (DAE) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through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



- Input Impedance: 200M Ω m
- The Inputs: Symmetrical and Floating
- Common Mode Rejection: Above 80dB

4.2.5 Phantoms

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.



- Left head
- Right head
- Flat phantom



4.2.6 Device Holder

The DASY5 device holder has two scales for device rotation (with respect to the body axis) and the device inclination (with respect to the line between the ear openings). The plane between the ear openings and the mouth tip has a rotation angle of 65° . The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. This device holder is used for standard mobile phones or PDA's only. If necessary an additional support of polystyrene material is used. Larger DUT's (e.g. notebooks) cannot be tested using this device holder. Instead a support of bigger polystyrene cubes and thin polystyrene plates is used to position the DUT in all relevant positions to find and measure spots with maximum SAR values. Therefore those devices are normally only tested at the flat part of the SAM.



The positioning system allows obtaining cheek and tilting position with a very good accuracy. Incompliance with CENELEC, the tilt angle uncertainty is lower than 1° .

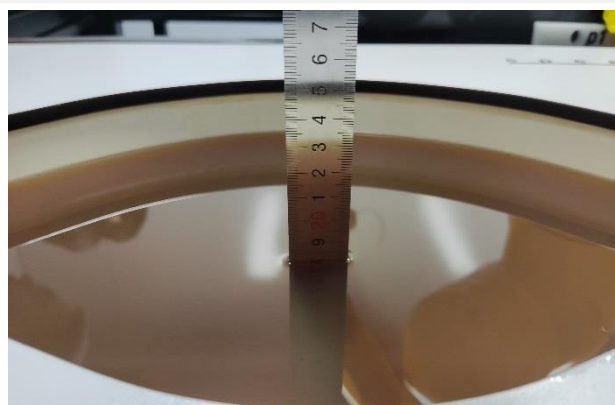
4.2.7 Simulating Liquid

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5%.

Head Liquid Depth



Body Liquid Depth



The following table gives the recipes for tissue simulating liquid.

TSL	Manufacturer / Model	Freq Range (MHz)	Main Ingredients
Head WideBand	SPEAG HBBL600-10000V6	600-10000	Ethenediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol

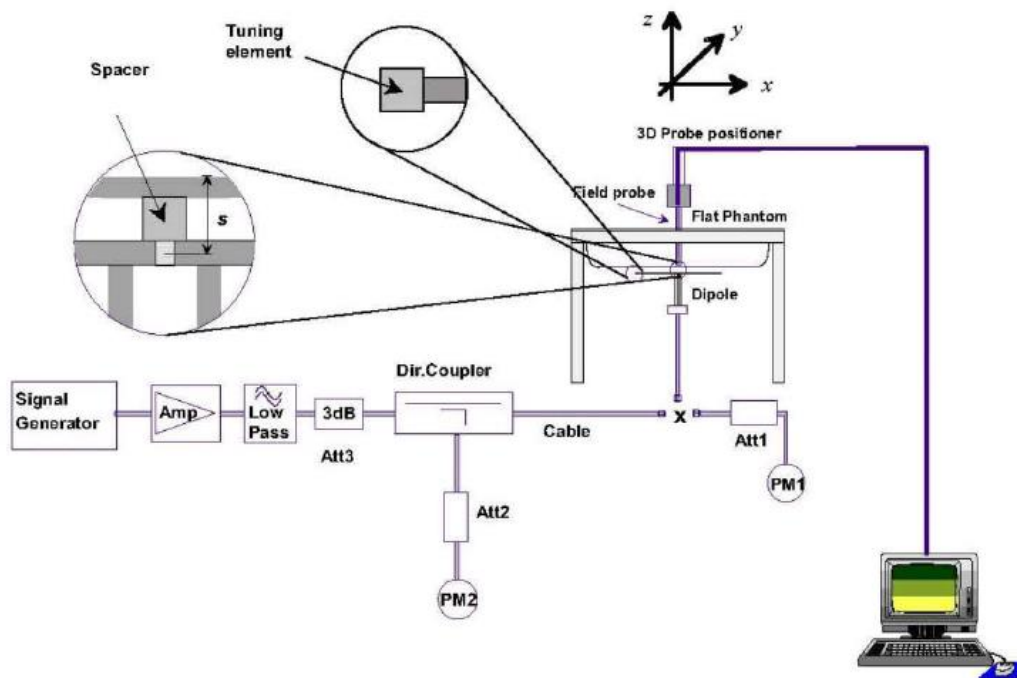
5 SYSTEM VERIFICATION

5.1 Purpose of System Check

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

5.2 System Check Setup

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



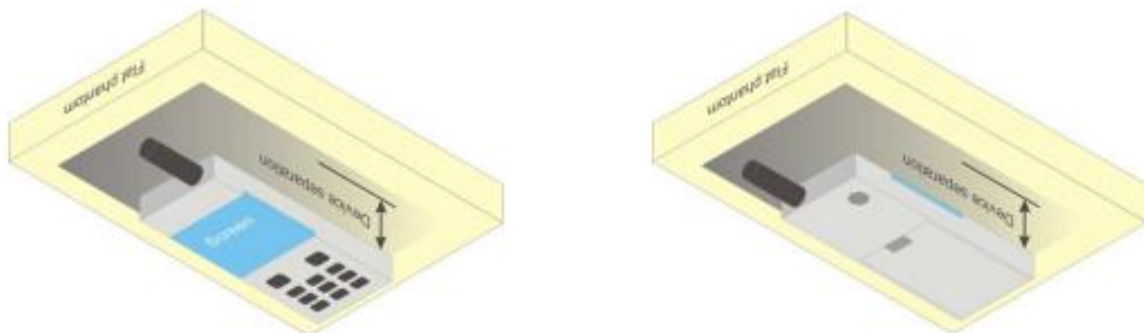
6 TEST POSITION CONFIGURATIONS

6.1 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 447498 are used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode. When the reported SAR for a body-worn accessory.

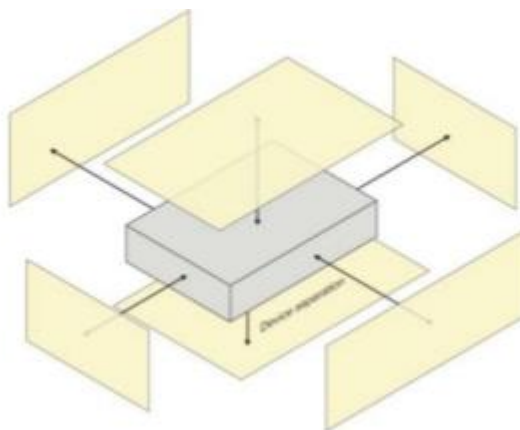
Body-worn accessories that do not contain metallic or conductive components may be tested according to worst-case exposure configurations, typically according to the smallest test separation distance required for the group of body-worn accessories with similar operating and exposure characteristics. All body-worn accessories containing metallic components are tested in conjunction with the host device.

Body-worn accessory SAR compliance is based on a single minimum test separation distance for all wireless and operating modes applicable to each body-worn accessory used by the host, and according to the relevant voice and/or data mode transmissions and operations. If a body-worn accessory supports voice only operations in its normal and expected use conditions, testing of data mode for body-worn compliance is not required. A conservative minimum test separation distance for supporting off-the-shelf body-worn accessories that may be acquired by users of consumer handsets is used to test for body-worn accessory SAR compliance. This distance is determined by the handset manufacturer, according to the requirements of Supplement C 01-01. Devices that are designed to operate on the body of users using lanyards and straps, or without requiring additional body-worn accessories, will be tested using a conservative minimum test separation distance ≤ 5 mm to support compliance.



6.2 Hotspot Mode Exposure Position Conditions

For handsets that support hotspot mode operations, with wireless router capabilities and various web browsing functions, the relevant hand and body exposure conditions 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 surfaces and edges with a transmitting antenna located within 25 mm from that surface or edge. When the form factor of a handset is smaller than 9 cm x 5 cm, a test separation distance of 5 mm (instead of 10 mm) is required for testing hotspot mode. When the separation 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).



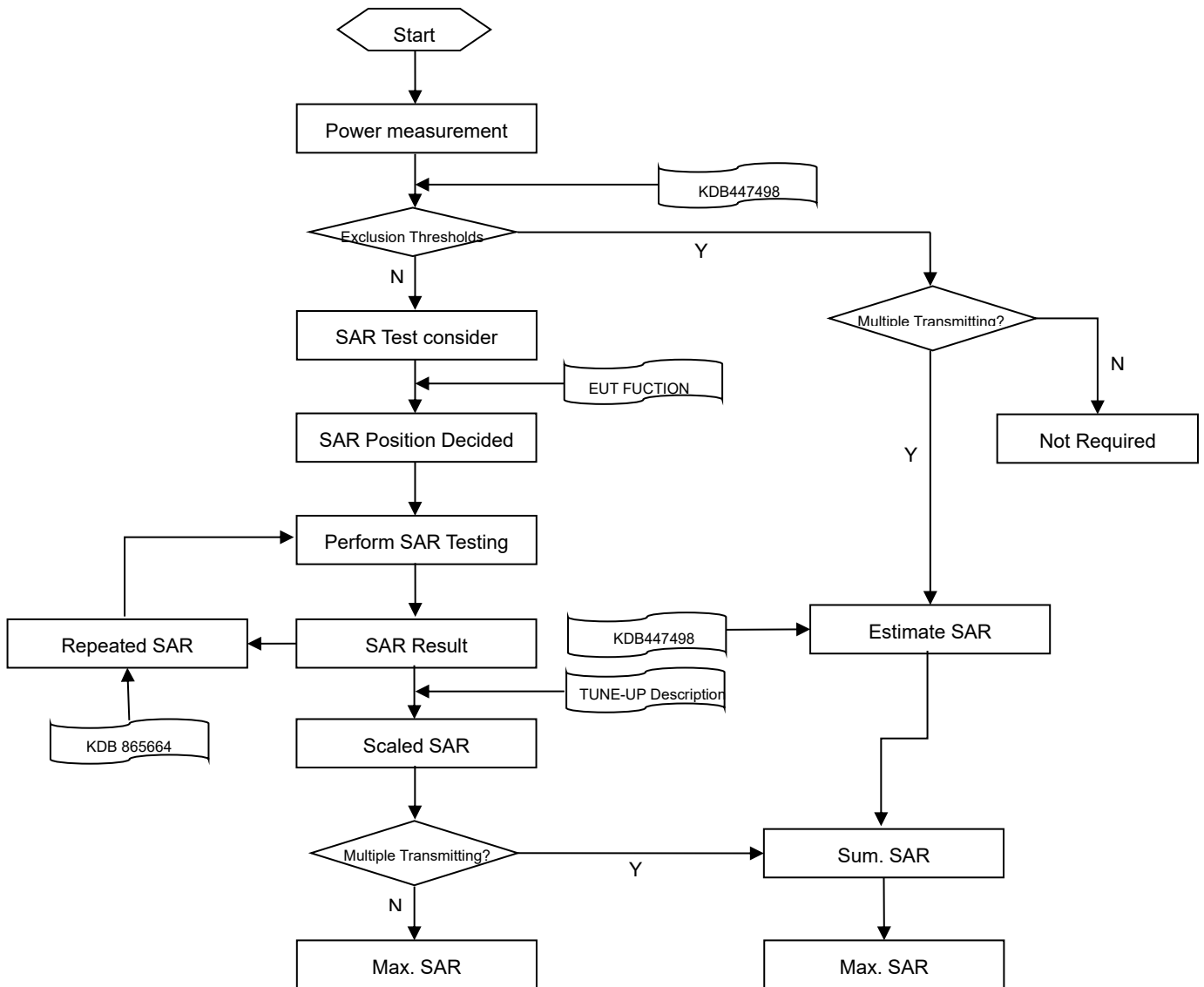
6.3 Product Specific 10g Exposure Consideration

According with FCC KDB 648474 D04, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance;

The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

7 MEASUREMENT PROCEDURE

7.1 Measurement Process Diagram



7.2 SAR Scan General Requirement

Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1 g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2013.

			≤3GHz	>3GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5±1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ 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.	
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: Δz Zoom (n)		≤ 5 mm	3–4 GHz: ≤ 4 mm
				4–5 GHz: ≤ 3 mm
				5–6 GHz: ≤ 2 mm
	graded grid	Δz Zoom (1): between 1st two points closest to phantom surface	≤ 4 mm	3–4 GHz: ≤ 3 mm
				4–5 GHz: ≤ 2.5 mm
		Δz Zoom (n>1): between subsequent points	≤ 1.5·Δz Zoom (n-1)	
Minimum zoom scan volume	x, y, z		≥30 mm	3–4 GHz: ≥ 28 mm
				4–5 GHz: ≥ 25 mm
				5–6 GHz: ≥ 22 mm

Note:

1. δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
2. * When zoom scan is required and the reported SAR from the area scan based 1 g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

7.3 Measurement Procedure

The following steps are used for each test position

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

7.4 Area & Zoom Scan Procedure

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 D01v01r04 quoted below.

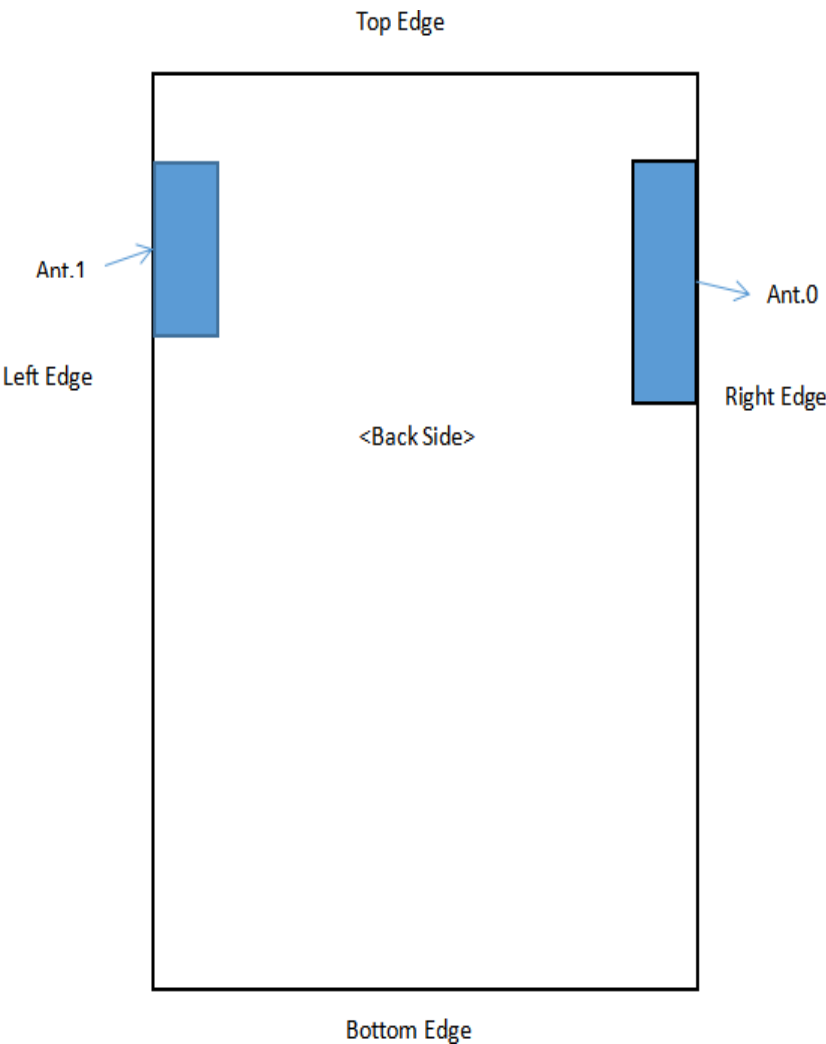
When the 1 g SAR of the highest peak is within 2 dB of the SAR limit, additional zoom scans are required for other peaks within 2 dB of the highest peak that have not been included in any zoom scan to ensure there is no increase in SAR.

8 CONDUCTED RF OUPUT POWER

Please refer the document “BL-SZ2570492-AP.pdf”.

9 TEST EXCLUSION CONSIDERATION

9.1 Antenna Location Sketch



Antenna	Support Bands
Ant.0	GSM 850/1900
	WCDMA Band 2/4/5
	LTE Band 2/4/5/7/12/17/25/26/66/38/41
Ant.1	WIFI 2.4G/5G; BT

Antenna	Front Side (mm)	Back Side (mm)	Left Edge (mm)	Right Edge (mm)	Top Edge (mm)	Bottom Edge (mm)
Ant.0	<25	<25	>25	<25	<25	>25
Ant.1	<25	<25	<25	>25	<25	>25

Note: Per KDB 941225 D06, When the overall length and width of a device is > 9 cm *5 cm, a test separation distance of 10 mm is required for hotspot mode SAR measurements and hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge.

10 TEST RESULT

10.1 GSM 850

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot												
Ant.0	GPRS 4Slots	Front Side	10	128	824.2	0.08	0.606	29.24	30.00	1.191	0.722	/
		Back Side	10	128	824.2	0.16	0.258	29.24	30.00	1.191	0.307	/
		Right Edge	10	128	824.2	0.01	0.896	29.24	30.00	1.191	1.067	1#
		Top Edge	10	128	824.2	-0.17	0.154	29.24	30.00	1.191	0.183	/
		Left Edge	10	190	836.6	-0.08	0.849	29.20	30.00	1.202	1.020	/
		Left Edge	10	251	848.8	-0.18	0.831	29.14	30.00	1.219	1.013	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity												
Ant.0	GPRS 4Slots	Front Side	0	128	824.2	0.16	0.926	29.24	30.00	1.191	1.103	/
		Back Side	0	128	824.2	-0.19	0.339	29.24	30.00	1.191	0.404	/
		Right Edge	0	128	824.2	-0.04	1.680	29.24	30.00	1.191	2.001	/
		Top Edge	0	128	824.2	-0.11	0.407	29.24	30.00	1.191	0.485	/
		Left Edge	0	190	836.6	-0.06	1.730	29.20	30.00	1.202	2.079	/
		Left Edge	0	251	848.8	0.04	1.790	29.14	30.00	1.219	2.182	2#
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.2GSM 1900

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot												
Ant.0	GPRS 2Slots	Front Side	10	512	1850.2	0.14	0.154	29.30	30.00	1.175	0.181	/
		Back Side	10	512	1850.2	0.00	0.040	29.30	30.00	1.175	0.047	/
		Right Edge	10	512	1850.2	0.06	0.221	29.30	30.00	1.175	0.260	3#
		Top Edge	10	512	1850.2	-0.02	0.115	29.30	30.00	1.175	0.135	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity												
Ant.0	GPRS 2Slots	Front Side	0	512	1850.2	0.01	0.243	29.30	30.00	1.175	0.286	/
		Back Side	0	512	1850.2	0.06	0.236	29.30	30.00	1.175	0.277	/
		Right Edge	0	512	1850.2	0.06	0.373	29.30	30.00	1.175	0.438	4#
		Top Edge	0	512	1850.2	-0.06	0.253	29.30	30.00	1.175	0.297	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.3WCDMA Band 2

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot												
Ant.0	RMC	Front Side	10	9262	1852.4	-0.04	0.034	22.23	23.00	1.194	0.041	/
		Back Side	10	9262	1852.4	-0.10	0.051	22.23	23.00	1.194	0.061	/
		Right Edge	10	9262	1852.4	0.05	0.269	22.23	23.00	1.194	0.321	5#
		Top Edge	10	9262	1852.4	0.06	0.023	22.23	23.00	1.194	0.027	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity												
Ant.0	RMC	Front Side	0	9262	1852.4	0.12	0.104	22.23	23.00	1.194	0.124	/
		Back Side	0	9262	1852.4	0.00	0.045	22.23	23.00	1.194	0.054	/
		Right Edge	0	9262	1852.4	0.06	0.481	22.23	23.00	1.194	0.574	6#
		Top Edge	0	9262	1852.4	-0.12	0.043	22.23	23.00	1.194	0.051	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.4WCDMA Band 4

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot												
Ant.0	RMC	Front Side	10	1513	1752.6	-0.09	0.034	22.76	23.00	1.057	0.036	/
		Back Side	10	1513	1752.6	0.09	0.034	22.76	23.00	1.057	0.036	/
		Right Edge	10	1513	1752.6	0.02	0.200	22.76	23.00	1.057	0.211	7#
		Top Edge	10	1513	1752.6	-0.09	0.021	22.76	23.00	1.057	0.022	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity												
Ant.0	RMC	Front Side	0	1513	1752.6	0.00	0.176	22.76	23.00	1.057	0.186	/
		Back Side	0	1513	1752.6	0.18	0.074	22.76	23.00	1.057	0.078	/
		Right Edge	0	1513	1752.6	0.04	0.467	22.76	23.00	1.057	0.494	8#
		Top Edge	0	1513	1752.6	-0.06	0.046	22.76	23.00	1.057	0.049	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.5WCDMA Band 5

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot												
Ant.0	RMC	Front Side	10	4132	826.4	0.11	0.541	23.19	24.00	1.205	0.652	/
		Back Side	10	4132	826.4	0.18	0.209	23.19	24.00	1.205	0.252	/
		Right Edge	10	4132	826.4	0.10	0.636	23.19	24.00	1.205	0.766	9#
		Top Edge	10	4132	826.4	-0.12	0.177	23.19	24.00	1.205	0.213	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity												
Ant.0	RMC	Front Side	0	4132	826.4	0.02	0.769	23.19	24.00	1.205	0.927	10#
		Back Side	0	4132	826.4	-0.12	0.190	23.19	24.00	1.205	0.229	/
		Right Edge	0	4132	826.4	-0.04	0.667	23.19	24.00	1.205	0.804	/
		Top Edge	0	4132	826.4	-0.18	0.364	23.19	24.00	1.205	0.439	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.												

10.6LTE Band 7 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	21100	2535	1	MID	0.04	0.205	22.78	24.00	1.324	0.271	/
		Back Side	10	21100	2535	1	MID	-0.14	0.349	22.78	24.00	1.324	0.462	/
		Right Edge	10	21100	2535	1	MID	-0.08	0.702	22.78	24.00	1.324	0.929	/
		Top Edge	10	21100	2535	1	MID	-0.13	0.075	22.78	24.00	1.324	0.099	/
		Right Edge	10	20850	2510	1	MID	0.02	0.655	22.77	24.00	1.327	0.869	/
		Right Edge	10	21350	2560	1	MID	-0.02	0.710	22.59	24.00	1.384	0.983	11#
		Front Side	10	21100	2535	50	MID	0.00	0.175	21.84	22.50	1.164	0.204	/
		Back Side	10	21100	2535	50	MID	-0.19	0.298	21.84	22.50	1.164	0.347	/
		Right Edge	10	21100	2535	50	MID	-0.10	0.599	21.84	22.50	1.164	0.697	/
		Top Edge	10	21100	2535	50	MID	0.04	0.064	21.84	22.50	1.164	0.074	/
		Right Edge	10	20850	2510	50	MID	0.02	0.559	21.76	22.50	1.186	0.663	/
		Right Edge	10	21350	2560	50	LOW	0.12	0.606	21.66	22.50	1.213	0.735	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	21100	2535	1	MID	-0.16	0.442	22.78	24.00	1.324	0.585	/
		Back Side	0	21100	2535	1	MID	0.13	0.403	22.78	24.00	1.324	0.534	/
		Right Edge	0	21100	2535	1	MID	0.17	1.240	22.78	24.00	1.324	1.642	/
		Top Edge	0	21100	2535	1	MID	0.12	0.100	22.78	24.00	1.324	0.132	/
		Right Edge	0	20850	2510	1	MID	0.06	1.220	22.77	24.00	1.327	1.619	/
		Right Edge	0	21350	2560	1	MID	0.02	1.380	22.59	24.00	1.384	1.910	12#
		Front Side	0	21100	2535	50	MID	0.15	0.410	21.84	22.50	1.164	0.477	/
		Back Side	0	21100	2535	50	MID	0.15	0.371	21.84	22.50	1.164	0.432	/
		Right Edge	0	21100	2535	50	MID	-0.14	1.140	21.84	22.50	1.164	1.327	/
		Top Edge	0	21100	2535	50	MID	-0.13	0.092	21.84	22.50	1.164	0.107	/
		Right Edge	0	20850	2510	50	MID	0.18	1.120	21.76	22.50	1.186	1.328	/
		Right Edge	0	21350	2560	50	LOW	-0.17	1.270	21.66	22.50	1.213	1.541	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.7LTE Band 12 (10MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	23095	707.5	1	MID	-0.04	0.484	23.12	24.00	1.225	0.593	13#
		Back Side	10	23095	707.5	1	MID	0.02	0.184	23.12	24.00	1.225	0.225	/
		Right Edge	10	23095	707.5	1	MID	-0.08	0.403	23.12	24.00	1.225	0.494	/
		Top Edge	10	23095	707.5	1	MID	0.04	0.139	23.12	24.00	1.225	0.170	/
		Front Side	10	23130	711	25	LOW	-0.15	0.384	22.23	23.00	1.194	0.458	/
		Back Side	10	23130	711	25	LOW	-0.17	0.158	22.23	23.00	1.194	0.189	/
		Right Edge	10	23130	711	25	LOW	-0.04	0.329	22.23	23.00	1.194	0.393	/
		Top Edge	10	23130	711	25	LOW	-0.13	0.111	22.23	23.00	1.194	0.133	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	23095	707.5	1	MID	-0.08	0.731	23.12	24.00	1.225	0.895	14#
		Back Side	0	23095	707.5	1	MID	-0.06	0.195	23.12	24.00	1.225	0.239	/
		Right Edge	0	23095	707.5	1	MID	0.01	0.350	23.12	24.00	1.225	0.429	/
		Top Edge	0	23095	707.5	1	MID	0.18	0.341	23.12	24.00	1.225	0.418	/
		Front Side	0	23130	711	25	LOW	-0.14	0.691	22.23	23.00	1.194	0.825	/
		Back Side	0	23130	711	25	LOW	0.15	0.184	22.23	23.00	1.194	0.220	/
		Right Edge	0	23130	711	25	LOW	0.04	0.283	22.23	23.00	1.194	0.338	/
		Top Edge	0	23130	711	25	LOW	0.03	0.311	22.23	23.00	1.194	0.371	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.8LTE Band 25 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	26140	1860	1	MID	0.12	0.029	22.87	23.50	1.156	0.034	/
		Back Side	10	26140	1860	1	MID	-0.04	0.045	22.87	23.50	1.156	0.052	/
		Right Edge	10	26140	1860	1	MID	0.01	0.227	22.87	23.50	1.156	0.262	15#
		Top Edge	10	26140	1860	1	MID	0.10	0.022	22.87	23.50	1.156	0.025	/
		Front Side	10	26140	1860	50	LOW	0.04	0.025	21.88	22.50	1.153	0.029	/
		Back Side	10	26140	1860	50	LOW	-0.02	0.039	21.88	22.50	1.153	0.045	/
		Right Edge	10	26140	1860	50	LOW	-0.10	0.193	21.88	22.50	1.153	0.223	/
		Top Edge	10	26140	1860	50	LOW	-0.07	0.017	21.88	22.50	1.153	0.020	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	26140	1860	1	MID	-0.05	0.071	22.87	23.50	1.156	0.082	/
		Back Side	0	26140	1860	1	MID	-0.04	0.031	22.87	23.50	1.156	0.036	/
		Right Edge	0	26140	1860	1	MID	0.01	0.380	22.87	23.50	1.156	0.439	16#
		Top Edge	0	26140	1860	1	MID	-0.12	0.028	22.87	23.50	1.156	0.032	/
		Front Side	0	26140	1860	50	LOW	0.05	0.062	21.88	22.50	1.153	0.071	/
		Back Side	0	26140	1860	50	LOW	-0.19	0.028	21.88	22.50	1.153	0.032	/
		Right Edge	0	26140	1860	50	LOW	0.17	0.305	21.88	22.50	1.153	0.352	/
		Top Edge	0	26140	1860	50	LOW	0.16	0.026	21.88	22.50	1.153	0.030	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.9LTE Band 26 (15MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	26865	831.5	1	MID	-0.05	0.521	23.54	24.00	1.112	0.579	/
		Back Side	10	26865	831.5	1	MID	0.03	0.193	23.54	24.00	1.112	0.215	/
		Right Edge	10	26865	831.5	1	MID	0.08	0.541	23.54	24.00	1.112	0.602	17#
		Top Edge	10	26865	831.5	1	MID	-0.09	0.158	23.54	24.00	1.112	0.176	/
		Front Side	10	26865	831.5	36	MID	0.07	0.415	22.62	23.00	1.091	0.453	/
		Back Side	10	26865	831.5	36	MID	-0.02	0.157	22.62	23.00	1.091	0.171	/
		Right Edge	10	26865	831.5	36	MID	-0.17	0.444	22.62	23.00	1.091	0.484	/
		Top Edge	10	26865	831.5	36	MID	-0.14	0.146	22.62	23.00	1.091	0.159	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	26865	831.5	1	MID	0.19	0.710	23.54	24.00	1.112	0.790	/
		Back Side	0	26865	831.5	1	MID	0.00	0.205	23.54	24.00	1.112	0.228	/
		Right Edge	0	26865	831.5	1	MID	0.11	0.729	23.54	24.00	1.112	0.811	18#
		Top Edge	0	26865	831.5	1	MID	0.02	0.363	23.54	24.00	1.112	0.404	/
		Front Side	0	26865	831.5	36	MID	0.18	0.725	22.62	23.00	1.091	0.791	/
		Back Side	0	26865	831.5	36	MID	-0.03	0.170	22.62	23.00	1.091	0.185	/
		Right Edge	0	26865	831.5	36	MID	-0.18	0.592	22.62	23.00	1.091	0.646	/
		Top Edge	0	26865	831.5	36	MID	-0.01	0.332	22.62	23.00	1.091	0.362	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.10 LTE Band 66 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.2	QPSK	Front Side	10	132322	1745	1	MID	0.09	0.039	23.60	24.00	1.096	0.043	/
		Back Side	10	132322	1745	1	MID	0.04	0.043	23.60	24.00	1.096	0.047	/
		Right Edge	10	132322	1745	1	MID	0.01	0.138	23.60	24.00	1.096	0.151	19#
		Top Edge	10	132322	1745	1	MID	0.00	0.023	23.60	24.00	1.096	0.025	/
		Front Side	10	132322	1745	50	LOW	0.15	0.033	22.64	23.00	1.086	0.036	/
		Back Side	10	132322	1745	50	LOW	-0.13	0.039	22.64	23.00	1.086	0.042	/
		Right Edge	10	132322	1745	50	LOW	-0.10	0.104	22.64	23.00	1.086	0.113	/
		Top Edge	10	132322	1745	50	LOW	-0.06	0.019	22.64	23.00	1.086	0.021	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.2	QPSK	Front Side	0	132322	1745	1	MID	-0.08	0.071	23.60	24.00	1.096	0.078	/
		Back Side	0	132322	1745	1	MID	-0.12	0.031	23.60	24.00	1.096	0.034	/
		Right Edge	0	132322	1745	1	MID	0.03	0.338	23.60	24.00	1.096	0.370	20#
		Top Edge	0	132322	1745	1	MID	-0.04	0.018	23.60	24.00	1.096	0.020	/
		Front Side	0	132322	1745	50	LOW	0.12	0.064	22.64	23.00	1.086	0.070	/
		Back Side	0	132322	1745	50	LOW	-0.02	0.027	22.64	23.00	1.086	0.029	/
		Right Edge	0	132322	1745	50	LOW	0.12	0.299	22.64	23.00	1.086	0.325	/
		Top Edge	0	132322	1745	50	LOW	0.15	0.017	22.64	23.00	1.086	0.018	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.11 LTE Band 38 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	38150	2610	1	MID	-0.17	0.014	22.58	23.00	1.102	0.015	/
		Back Side	10	38150	2610	1	MID	0.13	0.028	22.58	23.00	1.102	0.031	/
		Right Edge	10	38150	2610	1	MID	0.01	0.242	22.58	23.00	1.102	0.267	21#
		Top Edge	10	38150	2610	1	MID	-0.04	0.027	22.58	23.00	1.102	0.030	/
		Front Side	10	38150	2610	50	LOW	0.18	0.008	21.55	22.00	1.109	0.009	/
		Back Side	10	38150	2610	50	LOW	0.11	0.023	21.55	22.00	1.109	0.026	/
		Right Edge	10	38150	2610	50	LOW	0.07	0.207	21.55	22.00	1.109	0.230	/
		Top Edge	10	38150	2610	50	LOW	0.02	0.023	21.55	22.00	1.109	0.026	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	38150	2610	1	MID	0.12	0.032	22.58	23.00	1.102	0.035	/
		Back Side	0	38150	2610	1	MID	-0.18	0.031	22.58	23.00	1.102	0.034	/
		Right Edge	0	38150	2610	1	MID	-0.03	0.631	22.58	23.00	1.102	0.695	22#
		Top Edge	0	38150	2610	1	MID	-0.12	0.023	22.58	23.00	1.102	0.025	/
		Front Side	0	38150	2610	50	LOW	0.03	0.022	21.55	22.00	1.109	0.024	/
		Back Side	0	38150	2610	50	LOW	-0.12	0.028	21.55	22.00	1.109	0.031	/
		Right Edge	0	38150	2610	50	LOW	-0.06	0.475	21.55	22.00	1.109	0.527	/
		Top Edge	0	38150	2610	50	LOW	-0.14	0.019	21.55	22.00	1.109	0.021	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.12 LTE Band 41 (20MHz Bandwidth)

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant.0	QPSK	Front Side	10	39750	2506	1	MID	-0.03	0.141	22.46	23.00	1.132	0.160	/
		Back Side	10	39750	2506	1	MID	-0.08	0.227	22.46	23.00	1.132	0.257	/
		Right Edge	10	39750	2506	1	MID	-0.05	0.242	22.46	23.00	1.132	0.274	23#
		Top Edge	10	39750	2506	1	MID	0.11	0.070	22.46	23.00	1.132	0.079	/
		Front Side	10	39750	2506	50	LOW	-0.19	0.116	21.53	22.00	1.114	0.129	/
		Back Side	10	39750	2506	50	LOW	0.01	0.185	21.53	22.00	1.114	0.206	/
		Right Edge	10	39750	2506	50	LOW	0.18	0.196	21.53	22.00	1.114	0.218	/
		Top Edge	10	39750	2506	50	LOW	0.17	0.062	21.53	22.00	1.114	0.069	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	RB Num.	RB Start	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant.0	QPSK	Front Side	0	39750	2506	1	MID	0.07	0.310	22.46	23.00	1.132	0.351	/
		Back Side	0	39750	2506	1	MID	-0.16	0.246	22.46	23.00	1.132	0.278	/
		Right Edge	0	39750	2506	1	MID	-0.06	0.515	22.46	23.00	1.132	0.583	24#
		Top Edge	0	39750	2506	1	MID	-0.10	0.055	22.46	23.00	1.132	0.062	/
		Front Side	0	39750	2506	50	LOW	0.07	0.212	21.53	22.00	1.114	0.236	/
		Back Side	0	39750	2506	50	LOW	-0.19	0.196	21.53	22.00	1.114	0.218	/
		Right Edge	0	39750	2506	50	LOW	0.00	0.455	21.53	22.00	1.114	0.507	/
		Top Edge	0	39750	2506	50	LOW	0.07	0.046	21.53	22.00	1.114	0.051	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.13 WIFI 2.4GHz

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant. 1	802.11b	Front Side	10	1	2412	-0.07	0.019	16.71	18.00	1.346	100.00	1.000	0.026	/
		Back Side	10	1	2412	-0.19	0.034	16.71	18.00	1.346	100.00	1.000	0.046	/
		Left Edge	10	1	2412	0.02	0.285	16.71	18.00	1.346	100.00	1.000	0.384	25#
		Top Edge	10	1	2412	-0.15	0.031	16.71	18.00	1.346	100.00	1.000	0.042	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant. 1	802.11b	Front Side	0	1	2412	0.18	0.053	16.71	18.00	1.346	100.00	1.000	0.071	/
		Back Side	0	1	2412	0.15	0.045	16.71	18.00	1.346	100.00	1.000	0.061	/
		Left Edge	0	1	2412	0.01	0.806	16.71	18.00	1.346	100.00	1.000	1.085	26#
		Top Edge	0	1	2412	0.01	0.056	16.71	18.00	1.346	100.00	1.000	0.075	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.14 WIFI 5GHz

Antenna	Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn															
Ant. 1	5.3G	802.11 a	Front Side	10	60	5300	-0.03	0.194	19.49	20.00	1.125	96.79	1.033	0.218	/
			Back Side	10	60	5300	-0.12	0.083	19.49	20.00	1.125	96.79	1.033	0.093	/
			Left Edge	10	60	5300	0.02	0.219	19.49	20.00	1.125	96.79	1.033	0.246	27#
			Top Edge	10	60	5300	-0.12	0.072	19.49	20.00	1.125	96.79	1.033	0.081	/
Ant. 1	5.6G	802.11 ac80	Front Side	10	122	5610	0.03	0.255	19.09	20.00	1.233	88.27	1.133	0.314	/
			Back Side	10	122	5610	0.18	0.075	19.09	20.00	1.233	88.27	1.133	0.092	/
			Left Edge	10	122	5610	0.07	0.298	19.09	20.00	1.233	88.27	1.133	0.367	28#
			Top Edge	10	122	5610	-0.07	0.060	19.09	20.00	1.233	88.27	1.133	0.074	/
Hotspot															
Ant. 1	5.2G	802.11 a	Front Side	10	48	5240	0.09	0.308	19.20	20.00	1.202	96.79	1.033	0.370	/
			Back Side	10	48	5240	-0.10	0.132	19.20	20.00	1.202	96.79	1.033	0.159	/
			Left Edge	10	48	5240	0.01	0.309	19.20	20.00	1.202	96.79	1.033	0.371	29#
			Top Edge	10	48	5240	-0.11	0.114	19.20	20.00	1.202	96.79	1.033	0.137	/
Ant. 1	5.8G	802.11 ac80	Front Side	10	155	5775	0.09	0.143	18.74	20.00	1.337	88.27	1.133	0.191	/
			Back Side	10	155	5775	0.09	0.032	18.74	20.00	1.337	88.27	1.133	0.043	/
			Left Edge	10	155	5775	0.19	0.175	18.74	20.00	1.337	88.27	1.133	0.234	30#
			Top Edge	10	155	5775	0.16	0.047	18.74	20.00	1.337	88.27	1.133	0.063	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

Antenna	Band	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity															
Ant.1	5.3G	802.11 a	Front Side	0	60	5300	-0.11	0.213	19.49	20.00	1.125	96.79	1.033	0.240	/
			Back Side	0	60	5300	0.06	0.063	19.49	20.00	1.125	96.79	1.033	0.071	/
			Left Edge	0	60	5300	-0.12	0.217	19.49	20.00	1.125	96.79	1.033	0.244	31#
			Top Edge	0	60	5300	0.01	0.057	19.49	20.00	1.125	96.79	1.033	0.064	/
Ant.1	5.6G	802.11 ac80	Front Side	0	122	5610	0.11	0.439	19.09	20.00	1.233	88.27	1.133	0.541	32#
			Back Side	0	122	5610	0.03	0.050	19.09	20.00	1.233	88.27	1.133	0.062	/
			Left Edge	0	122	5610	-0.05	0.273	19.09	20.00	1.233	88.27	1.133	0.337	/
			Top Edge	0	122	5610	0.17	0.083	19.09	20.00	1.233	88.27	1.133	0.102	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.															

10.15 Bluetooth

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	1g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	1g Scaled SAR (W/kg)	Meas. No.
Body-worn&Hotspot														
Ant. 1	DH5	Front Side	10	78	2480	0.02	0.005	11.42	12.00	1.143	76.88	1.301	0.006	/
		Back Side	10	78	2480	0.07	0.013	11.42	12.00	1.143	76.88	1.301	0.015	/
		Left Edge	10	78	2480	0.17	0.032	11.42	12.00	1.143	76.88	1.301	0.037	33#
		Top Edge	10	78	2480	0.12	0.005	11.42	12.00	1.143	76.88	1.301	0.006	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

Antenna	Mode	Position	Dist. (mm)	Ch.	Freq. (MHz)	Power Drift (dB)	10g Meas SAR (W/kg)	Meas. Power (dBm)	Max. tune- power (dBm)	Scaling Factor	Duty Cycle (%)	Scaling Factor	10g Scaled SAR (W/kg)	Meas. No.
Extremity														
Ant. 1	DH5	Front Side	0	78	2480	0.08	0.026	11.42	12.00	1.143	76.88	1.301	0.030	/
		Back Side	0	78	2480	-0.05	0.047	11.42	12.00	1.143	76.88	1.301	0.054	/
		Left Edge	0	78	2480	0.02	0.079	11.42	12.00	1.143	76.88	1.301	0.090	34#
		Top Edge	0	78	2480	-0.13	0.013	11.42	12.00	1.143	76.88	1.301	0.015	/
Note: Refer to ANNEX C for the detailed test data for each test configuration.														

10.16 NFC SAR

1. According to the 2022.04 TCBC Workshop meeting, the power threshold is $\leq 100\text{MHz}$, refer to P6s.

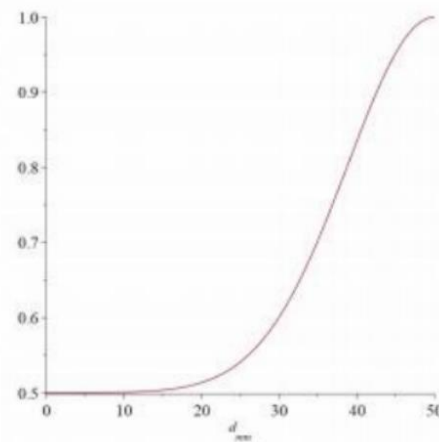
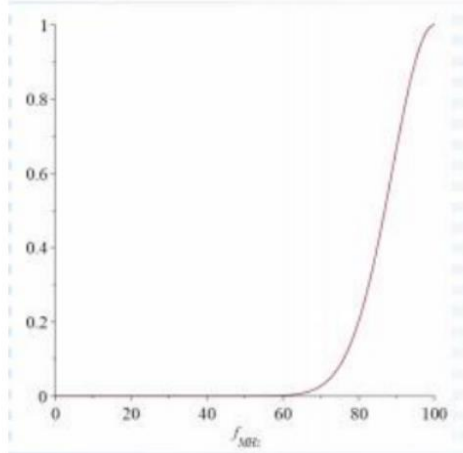
$$P_{7X}(d_{mm}, f_{MHz}) := \begin{cases} P_{6S}(d_{mm}, f_{MHz}) & f_{MHz} \leq 100 \\ P_{6to7}(d_{mm}, f_{MHz}) & 100 < f_{MHz} \leq 300 \\ P_7(d_{mm}, f_{MHz}) & 300 < f_{MHz} \end{cases}$$

2. For portable products, when using a distance of $\leq 50\text{mm}$, such as mobile phone NFC, P6s is calculated with the following formula calculate.

$$S_f(f_{MHz}) \cdot P_{431a}(d_{mm}, f_{MHz}) + (1 - S_f(f_{MHz})) \cdot S_d(d_{mm}) \cdot P_{431b1}(50., 100.) \cdot \left(1 + \log_{10}\left(\frac{100.}{f_{MHz}}\right)\right) \quad d_{mm} \leq 50 \text{ and } f_{MHz} \leq 100$$

3. The smoothing functions Sf and Sd in P6s calculate the limits based on KDB 447498 V06 and are calculated as follows.

$$S_f(f_{MHz}) := \exp\left(-10 \frac{(f_{MHz} - f_{max})^2}{\Delta f^2}\right) \quad S_d(d_{mm}) := 0.5 + 0.5 \cdot \exp\left(-10 \frac{(d_{mm} - d_{max})^2}{\Delta d^2}\right)$$



d≤50mm			
f Max(MHz)	100	d Max(mm)	50
f MHz	13.56	d(mm)	5
△f(MHz)	100	△d	50
S _f (f _{MHz})	0.000568861	S _d (d _{mm})	0.50015177
P6s(mW)	443.1257378		
Note: SAR testing is required when the distance is 5mm and the power is greater than 443.13mW.			

4. According to the ANSI C63.10 clause 11.12.2.2:

The value of maximum peak output power is according to the method described in ANSI C63.10 clause 11.12.2.2 General procedure for conducted measurements in restricted bands:

- a) Measure the conducted output power (in dBm) using the detector specified (see guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
- b) Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the ERP level (see guidance on determining the applicable antenna gain)
- c) Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
- d) For devices with multiple antenna-ports, measure the power of each individual chain and sum the ERP of all chains in linear terms (e.g., Watts, mW).
- e) Convert the resultant ERP level to an equivalent electric field strength using the following relationship:

$$E = \text{ERP} - 20\log D + 104.8$$

where:

E = electric field strength in dB μ V/m,

ERP = equivalent isotropic radiated power in dBm

D = specified measurement distance in meters.

Mode	f (MHz)	Max. E-Field strength (dB μ V/m)	D (m)	Ground reflection factor (dB)	ERP (dBm)
NFC (13.56MHz)	13.56	62.33	3	6	-26.93
Note: 1. Add the appropriate maximum ground reflection factor to the ERP level (6 dB for frequencies ≤ 30 MHz). 2. ERP = $62.33 + 20 \cdot \log(3) - 104.8 + 6 = -26.93$ (dBm)					

According to the FCC KDB 447498 D04

Estimated SAR: SAR test = $1.6 \cdot P_{\text{ant}} / P_{\text{th}}$ [W/kg]

Estimated SAR	$1.6 \cdot P_{\text{ant}} / P_{\text{th}}$ [W/kg]		
Pmeas.(dBm)	-26.93	Pmeas.(mW)	0.00203
Pth.(mW)	443.13		
NFC Estimated 1g SAR [W/kg]	<0.001		

11 SAR Measurement Variability

According to KDB 865664 D01, SAR measurement variability was assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. Alternatively, if the highest measured SAR for both head and body tissue-equivalent media are ≤ 1.45 W/kg and the ratio of these highest SAR values, i.e., largest divided by smallest value, is ≤ 1.10 , the highest SAR configuration for either head or body tissue-equivalent medium may be used to perform the repeated measurement. 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.

SAR repeated measurement procedure:

1. When the highest measured SAR is < 0.80 W/kg, repeated measurement is not required.
2. When the highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3. 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, perform a second repeated measurement.
4. If the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20 , and the original, first or second repeated measurement is ≥ 1.5 W/kg, perform a third repeated measurement.

Frequency Band (MHz)	Wireless Band	Antenna	RF Exposure Conditions	Test Position	Highest Measured SAR (W/kg)	Repeated SAR (Yes/No)	Highest Measured SAR (W/kg)	Largest to Smallest SAR Ratio
824.2	GSM850	Ant.0	Body-worn&Hotspot	Right Edge	0.896	Yes	0.881	1.02
836.6	GSM850	Ant.0	Body-worn&Hotspot	Left Edge	0.849	Yes	0.823	1.03
848.8	GSM850	Ant.0	Body-worn&Hotspot	Left Edge	0.831	Yes	0.807	1.03
824.2	GSM850	Ant.0	Extremity	Right Edge	1.680	Yes	1.610	1.04
836.6	GSM850	Ant.0	Extremity	Left Edge	1.730	Yes	1.690	1.02
848.8	GSM850	Ant.0	Extremity	Left Edge	1.790	Yes	1.730	1.03
Note: The ratio of largest to smallest SAR for the original and first repeated measurements is < 1.20, the second repeated measurement is not required.								

12 SIMULTANEOUS TRANSMISSION

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneous transmitting antenna. When the sum of SAR 1g of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit (SAR 1g 1.6 W/kg), the simultaneous transmission SAR is not required. When the sum of SAR 1g is greater than the SAR limit (SAR 1g 1.6 W/kg), SAR test exclusion is determined by the SAR to Peak Location Ratio (SPLSR).

According KDB 447498 D04, simultaneous transmission:

- a) $SPLSR = (SAR1 + SAR2)^{1.5} / R_i$ (min. separation distance, mm), and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
SAR1 is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition.
SAR2 is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition as the first.
- b) If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
- c) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

12.1 Simultaneous Transmission Mode Considerations

No.	Simultaneous Tx Combination	Body	Limbs
1	WWAN+WIFI2.4G	Yes	Yes
2	WWAN+WIFI5G+BT	Yes	Yes

Note:

- WiFi 2.4G and Bluetooth share the same antenna, and can't transmit simultaneously.
- The maximum SAR summation is calculated based on the same configuration and test position.
- The simultaneous transmission combinations of multiple antennas contain combinations of two antennas, so only the worst simultaneous transmission combinations is shown in this report.

12.2 Sum SAR of Simultaneous Transmission

Please refer the document "BL-SZ2570492-AST.pdf".

12.2.1 Highest Total Exposure Ratio of Simultaneous Transmission

NFC multi-transmit requires the use of the TER formula:

$$TER = \sum_{k=1}^{N_s} \left(\frac{SAR_k}{SAR_{lim}} \right) + \sum_{k=1}^{N_f} \left(\frac{MPE_{field, k}}{MPE_{field, lim}} \right)^2 + \sum_{k=1}^{N_{PD}} \left(\frac{MPE_{PD, k}}{MPE_{PD, lim}} \right) \quad \text{The}$$

maximum SAR value for Simultaneous Transmission is 1.098 [W/kg], SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds. Therefore, the worst TER = (1.098+0.001)/1.6 = 0.687 < 1, the NFC SAR transmit simultaneously Pass.

13 TEST EQUIPMENTS LIST

Description	Manufacturer	Model	Serial No./Version	Cal. Date	Cal. Due
PC	Dell	N/A	N/A	N/A	N/A
Test Software	Speag	DASY5	52.8.8.1222	N/A	N/A
750MHz Validation Dipole	Speag	D750V3	SN: 1208	2024/08/19	2027/08/18
835MHz Validation Dipole	Speag	D835V2	SN: 4d187	2024/05/08	2027/05/07
1750MHz Validation Dipole	Speag	D1750V2	SN: 1130	2024/05/08	2027/05/07
1950MHz Validation Dipole	Speag	D1950V3	SN: 1240	2024/08/22	2027/08/21
2450MHz Validation Dipole	Speag	D2450V2	SN: 952	2024/05/07	2027/05/06
2600MHz Validation Dipole	Speag	D2600V2	SN: 1095	2024/05/08	2027/05/07
5GHz Validation Dipole	Speag	D5GHzV2	SN: 1200	2024/05/09	2027/05/08
Data Acquisition Electronics	Speag	DAE4	SN: 878	2025/03/05	2026/03/04
E-Field Probe	Speag	EX3DV4	SN: 7664	2025/06/30	2026/06/29
Signal Generator	Keysight	N5173B	MY62150163	2025/07/15	2026/07/14
Power Meter	R&S	NRVD-B2	835843/014	2025/07/15	2026/07/14
Power Sensor	R&S	NRV-Z4	100381	2025/07/15	2026/07/14
Power Sensor	R&S	NRV-Z2	100211	2025/07/15	2026/07/14
Wireless Communication Test Set	Anritsu	MT8820C	6201144551	2025/04/30	2026/04/29
Wireless Communication Test Set	R&S	CMW500	104946	2025/05/21	2026/05/20
Network Analyzer	Agilent	E5071C	MY46103472	2025/08/13	2026/08/12
Thermometer	Elitech	RC-4HC	EF7216002985	2024/10/31	2025/10/30
Thermometer	Elitech	RC-4HC	EF720B004811	2024/10/31	2025/10/30
Power Amplifier	Mini-Circuits	ZVA-183W-S+	932502132	N/A	N/A
Dielectric Probe Kit	Speag	DAK3.5	SN: 1312	N/A	N/A
Phantom	Speag	SAM	SN: 1576	N/A	N/A
Attenuator	COM-MW	ZA-S1-31	1305003187	N/A	N/A
Directional coupler	AA-MCS	AAMCS-UDC	000272	N/A	N/A

Note: For dipole antennas, BALUN has adopted 3 years as calibration intervals, and on annual basis, every measurement dipole has been evaluated and is in compliance with the following criteria:

1. There is no physical damage on the dipole;
2. System validation with specific dipole is within 10% of calibrated value;
3. Return-loss in within 20% of calibrated measurement.
4. Impedance (real or imaginary parts) in within 5 Ohms of calibrated measurement.

ANNEX A SIMULATING LIQUID VERIFICATION RESULT

The dielectric parameters of the liquids were verified prior to the SAR evaluation using a DAK3.5 Dielectric Probe Kit.

Head Liquid

Date	Liquid Type	Fre. (MHz)	Temp. (°C)	Meas. Conductivity (σ) (S/m)	Meas. Permittivity (ϵ)	Target Conductivity (σ) (S/m)	Target Permittivity (ϵ)	Conductivity Tolerance (%)	Permittivity Tolerance (%)
2025.08.21	Head	750	21.6	0.90	41.77	0.89	41.94	1.12	-0.41
2025.08.22	Head	835	21.8	0.90	41.82	0.90	41.50	0.00	0.77
2025.08.23	Head	835	21.7	0.90	41.85	0.90	41.50	0.00	0.84
2025.08.24	Head	1750	21.9	1.42	39.56	1.37	40.08	3.65	-1.30
2025.08.25	Head	1950	21.5	1.39	39.32	1.40	40.00	-0.71	-1.70
2025.08.26	Head	1950	21.6	1.42	39.19	1.40	40.00	1.43	-2.03
2025.08.27	Head	2450	21.8	1.80	39.49	1.80	39.20	0.00	0.74
2025.08.28	Head	2450	21.7	1.80	39.59	1.80	39.20	0.00	0.99
2025.08.29	Head	2600	21.6	1.98	38.46	1.96	39.01	1.02	-1.41
2025.09.01	Head	5250	21.6	4.71	35.93	4.71	35.93	0.00	0.00
2025.09.01	Head	5600	21.6	5.06	35.34	5.07	35.53	-0.20	-0.53
2025.09.02	Head	5750	21.6	5.17	35.47	5.22	35.36	-0.96	0.31
Note: The tolerance limit of Conductivity and Permittivity is $\pm 5\%$.									

ANNEX B SYSTEM CHECK RESULT

Comparing to the original SAR value provided by SPEAG, the validation data should be within its specification of 10 % (for 1 g).

Head liquid 1g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.08.21	Head	750	100	0.810	8.10	8.46	-4.26
2025.08.22	Head	835	100	0.960	9.60	9.74	-1.44
2025.08.23	Head	835	100	0.960	9.60	9.74	-1.44
2025.08.24	Head	1750	100	3.960	39.60	37.00	7.03
2025.08.25	Head	1950	100	4.230	42.30	41.70	1.44
2025.08.26	Head	1950	100	4.120	41.20	41.70	-1.20
2025.08.27	Head	2450	100	5.220	52.20	52.60	-0.76
2025.08.28	Head	2450	100	5.230	52.30	52.60	-0.57
2025.08.29	Head	2600	100	5.560	55.60	55.90	-0.54
2025.09.01	Head	5250	100	7.750	77.50	77.70	-0.26
2025.09.01	Head	5600	100	8.110	81.10	81.30	-0.25
2025.09.02	Head	5750	100	7.710	77.10	77.60	-0.64

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

Note 2: Please refer the document "BL-SZ2570492-ASC.pdf".

Head liquid 10g

Date	Liquid Type	Freq. (MHz)	Power (mW)	Measured SAR (W/kg)	Normalized SAR (W/kg)	Dipole SAR (W/kg)	Tolerance (%)
2025.08.21	Head	750	100	0.520	5.20	5.70	-8.77
2025.08.22	Head	835	100	0.620	6.20	6.43	-3.58
2025.08.23	Head	835	100	0.630	6.30	6.43	-2.02
2025.08.24	Head	1750	100	1.920	19.20	19.70	-2.54
2025.08.25	Head	1950	100	2.160	21.60	21.70	-0.46
2025.08.26	Head	1950	100	2.150	21.50	21.70	-0.92
2025.08.27	Head	2450	100	2.460	24.60	24.70	-0.40
2025.08.28	Head	2450	100	2.440	24.40	24.70	-1.21
2025.08.29	Head	2600	100	2.510	25.10	25.40	-1.18
2025.09.01	Head	5250	100	2.110	21.10	22.00	-4.09
2025.09.01	Head	5600	100	2.260	22.60	23.10	-2.16
2025.09.02	Head	5750	100	2.110	21.10	21.90	-3.65

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

Note 2: Please refer the document "BL-SZ2570492-ASC.pdf".

ANNEX C TEST DATA

Please refer the document “BL-SZ2570492-ATD.pdf”.

ANNEX D EUT EXTERNAL PHOTOS

Please refer the document “BL-SZ2570492-AW.pdf”.

ANNEX E SAR TEST SETUP PHOTOS

Please refer the document “BL-SZ2570492-AS.pdf”.

ANNEX F CALIBRATION REPORT

Please refer the document “BL-SZ2570492-AC.pdf”.

ANNEX G TUNE-UP PROCEDURE

Please refer the document “BL-SZ2570492-AT.pdf”.

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