NVLAP LAB CODE 600341-0

FCC SAR TEST REPORT

Applicant:	**Guangzhou Havit Technology Co.,LTD**
Address:	**ROOM 1307, 13F, PHASE 2 B, C BUILDING OF POLY WORLD TRADE CENTER, NO.1000, XINGANG EAST ROAD, HAIZHU GUANGDONG China**
Product Name:	**GPS POSITIONING KIDS SMART WATCH**
FCC ID:	**2AI6I-KW12**
Standard(s):	**47 CFR Part 2(2.1093)**
Report Number:	**2402X51137E-20A**
Report Date:	**2024/11/15**

The above device has been tested and found compliant with the requirement of the relative standards by Bay Area Compliance Laboratories Corp. (Dongguan).

Reviewed By: Mark Dong	**Approved By:** Brave Lu
Title: SAR Engineer	Title: SAR Supervisor

Bay Area Compliance Laboratories Corp. (Dongguan)
No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China

Tel: +86-769-86858888
Fax: +86-769-86858891
www.baclcorp.com.cn

SAR TEST RESULTS SUMMARY

Face Up Mode:

Mode		Max. Reported 1g SAR Level(s) (W/kg)	Limit (W/kg)
GSM 850	1g Head SAR	0.35	1.6
GSM 1900	1g Head SAR	0.44	
WCDMA Band 2	1g Head SAR	0.76	
WCDMA Band 5	1g Head SAR	0.34	
LTE Band 5	1g Head SAR	0.48	
LTE Band 7	1g Head SAR	**0.95**	
WLAN 2.4G	1g Head SAR	0.20	
Simultaneous	1g Head SAR	**1.15**	

Limb Mode:

Mode		Max. Reported 10g SAR Level(s) (W/kg)	Limit (W/kg)
GSM 850	10g Extremity SAR	0.41	4.0
GSM 1900	10g Extremity SAR	0.56	
WCDMA Band 2	10g Extremity SAR	0.88	
WCDMA Band 5	10g Extremity SAR	0.56	
LTE Band 5	10g Extremity SAR	0.42	
LTE Band 7	10g Extremity SAR	**1.34**	
WLAN 2.4G	10g Extremity SAR	0.19	
Simultaneous	10g Extremity SAR	**1.53**	

Applicable Standards	**FCC 47 CFR part 2.1093** Radiofrequency radiation exposure evaluation: portable devices
	IEEE1528:2013 IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques
	IEC 62209-2:2010 +AMD1:2019 Human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices-Human models, instrumentation, and procedures-Part 2: Procedure to determine the specific absorption rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)
	KDB procedures KDB 447498 D01 General RF Exposure Guidance v06 KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04 KDB 865664 D02 RF Exposure Reporting v01r02 KDB 941225 D01 3G SAR Procedures v03r01 KDB 941225 D05 SAR for LTE Devices v02r05 KDB 248227 D01 802.11 Wi-Fi SAR v02r02
Note: This wireless device has been shown to be capable of compliance for localized specific absorption rate (SAR) for General Population/Uncontrolled Exposure limits specified in **FCC 47 CFR part 2.1093** and has been tested in accordance with the measurement procedures specified in IEEE 1528-2013 and RF exposure KDB procedures. **The results and statements contained in this report pertain only to the device(s) evaluated.**	

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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Revision
1.0	2402X51137E-20A	Original Report	2024/11/15

1. GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

EUT Name:	GPS POSITIONING KIDS SMART WATCH
EUT Model:	KW12
Device Type:	Portable
Exposure Category:	Population / Uncontrolled
Antenna Type(s):	Internal Antenna
Proximity Sensor:	None
Carrier Aggregation:	None
Operation Modes:	GSM Voice, GPRS/EDGE Data, WCDMA(R99 (Data), HSUPA/HSDPA/HSPA+/DC-HSDPA), FDD-LTE,WLAN
Frequency Band:	GSM 850: 824-849 MHz(TX); 869-894 MHz(RX) PCS 1900: 1850-1910 MHz(TX); 1930-1990 MHz(RX) WCDMA Band 2: 1850-1910 MHz(TX); 1930-1990 MHz(RX) WCDMA Band 5: 824-849 MHz(TX); 869-894 MHz(RX) LTE Band 5: 824-849 MHz(TX); 869-894 MHz(RX) LTE Band 7: 2500-2570 MHz(TX); 2620-2690 MHz(RX) Wi-Fi 2.4G: 2412-2462 MHz (TX/RX)
Rated Input Voltage:	DC 3.8V from Rechargeable Battery
Serial Number:	2RBY-1
Normal Operation:	Face Up and Limbs
EUT Received Date:	2024/09/09
Test Date:	2024/11/02~2024/11/05
EUT Received Status:	Good

2. REFERENCE, STANDARDS, AND GUIDELINES

FCC:

The Report and Order requires routine SAR evaluation prior to equipment authorization of portable transmitter devices, including portable telephones. For consumer products, the applicable limit is 1.6 mW/g as recommended by the ANSI/IEEE standard C95.1-1992 [6] for an uncontrolled environment (Paragraph 65). According to the Supplement C of OET Bulletin 65 “Evaluating Compliance with FCC Guide-lines for Human Exposure to Radio frequency Electromagnetic Fields", released on Jun 29, 2001 by the FCC, the device should be evaluated at maximum output power (radiated from the antenna) under “worst-case” conditions for normal or intended use, incorporating normal antenna operating positions, device peak performance frequencies and positions for maximum RF energy coupling.

This report describes the methodology and results of experiments performed on wireless data terminal. The objective was to determine if there is RF radiation and if radiation is found, what is the extent of radiation with respect to safety limits. SAR (Specific Absorption Rate) is the measure of RF exposure determined by the amount of RF energy absorbed by human body (or its parts) – to determine how the RF energy couples to the body or head which is a primary health concern for body worn devices. The limit below which the exposure to RF is considered safe by regulatory bodies in North America is 1.6 mW/g average over 1 gram of tissue mass.

2.1 SAR Limits

FCC Limit

EXPOSURE LIMITS	SAR (W/kg)	
	(General Population / Uncontrolled Exposure Environment)	(Occupational / Controlled Exposure Environment)
Spatial Average (averaged over the whole body)	0.08	0.4
Spatial Peak (averaged over any 1 g of tissue)	1.6	8
Spatial Peak (hands/wrists/feet/ankles averaged over 10 g)	4	20

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

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

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

2.2 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1st Road, Tangxia Town, Dongguan, Guangdong, China.

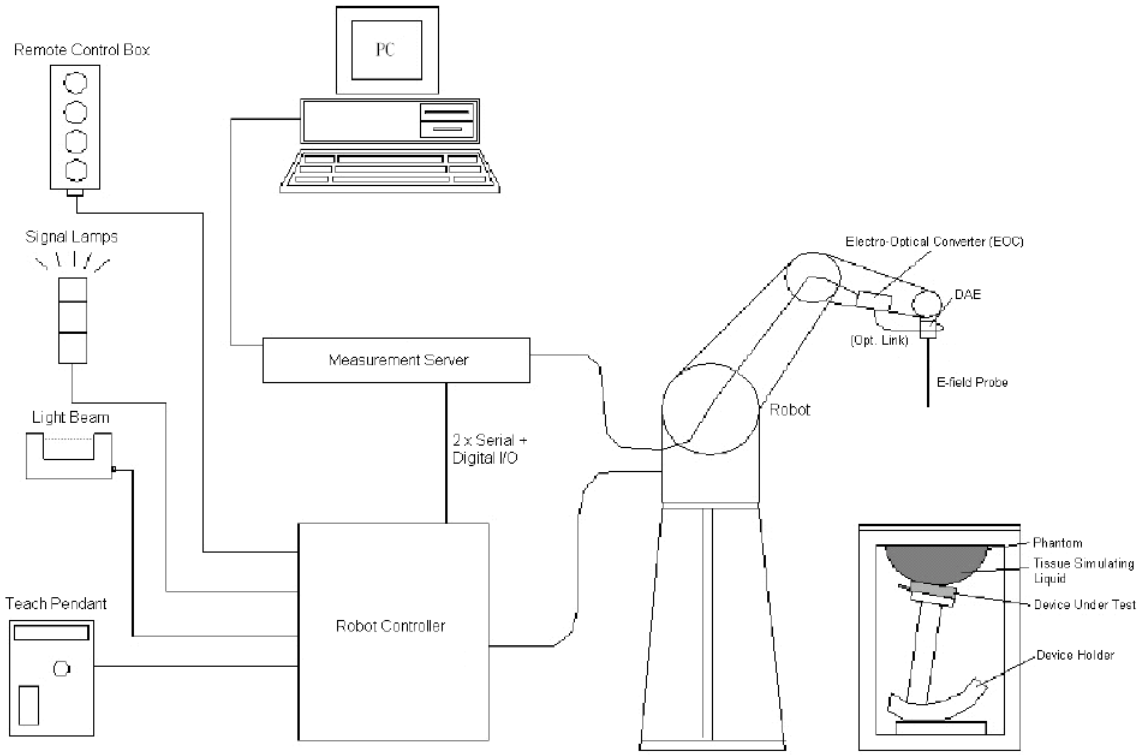
The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. :829273, the FCC Designation No. : CN5044.

3. DESCRIPTION OF TEST SYSTEM

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

DASY5 System Description

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



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

DASY5 Measurement Server

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

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

Data Acquisition Electronics

The data acquisition electronics (DAE4) consist of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder with a control logic unit. Transmission to the measurement server is accomplished through an optical downlink for data and status information, as well as an optical uplink for commands and the clock.

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

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

ES3DV3 E-Field Probes

Frequency	10 MHz - 4 GHz Linearity: ± 0.2 dB (30 MHz to 4 GHz)
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)
Dynamic Range	5 µW/g to > 100 mW/g Linearity: ± 0.2 dB (noise: typically < 1 µW/g)
Dimensions	Overall length: 337 mm (Tip: 20 mm) Tip diameter: 3.9 mm (Body: 12 mm) Typical distance from probe tip to dipole centers: 2.0 mm
Application	General dosimetry up to 4 GHz Dosimetry in strong gradient fields Compliance tests of mobile phones
Compatibility	DASY3, DASY4, DASY52, DASY6, DASY8 SAR, EASY6, EASY4/MRI

SAM Twin Phantom

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

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

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

Robots

The DASY5 system uses the high precision industrial robot. The robot offers the same features important for our application:

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

The above mentioned robots are controlled by the Staubli CS7MB robot controllers. All information regarding the use and maintenance of the robot arm and the robot controller is contained on the CDs delivered along with the robot. Paper manuals are available upon request direct from Staubli.

Area Scans

Area scans are defined prior to the measurement process being executed with a user defined variable spacing between each measurement point (integral) allowing low uncertainty measurements to be conducted. Scans defined for FCC applications utilize a 15mm2 step integral, with 1.5mm interpolation used to locate the peak SAR area used for zoom scan assessments.

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

Zoom Scan (Cube Scan Averaging)

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

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

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

Tissue Dielectric Parameters for Head and Body Phantoms

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

Recommended Tissue Dielectric Parameters for Head liquid

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

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

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

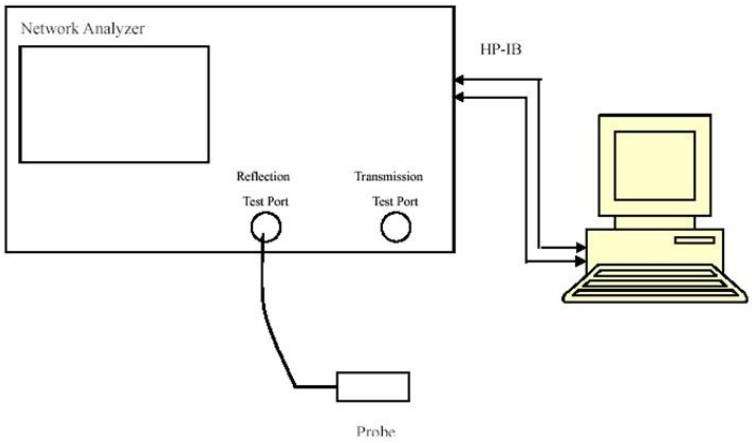
4. EQUIPMENT LIST AND CALIBRATION

4.1 Equipments List & Calibration Information

Equipment	Model	S/N	Calibration Date	Calibration Due Date
DASY5 Test Software	DASY52.10	N/A	NCR	NCR
DASY5 Measurement Server	DASY5 4.5.12	1470	NCR	NCR
Data Acquisition Electronics	DAE4	772	2024/1/23	2025/1/22
E-Field Probe	ES3DV3	3220	2024/10/15	2025/10/14
Mounting Device	MD4HHTV5	SD 000 H01 KA	NCR	NCR
Twin SAM	Twin SAM V5.0	1874	NCR	NCR
Dipole, 750 MHz	D750V3	1167	2022/10/31	2025/10/30
Dipole, 1900 MHz	D1900V2	543	2022/11/2	2025/11/1
Dipole, 2450 MHz	D2450V2	971	2024/6/15	2027/6/14
Dipole, 2600 MHz	D2600V2	1132	2022/11/1	2025/10/31
Simulated Tissue Liquid Head	HBBL600-10000V6	SL AAH U16 BC (Batch:220809-1)	Each Time	/
Network Analyzer	8753C	3033A02857	2023/11/18	2024/11/17
Dielectric assessment kit	1253	SM DAK 040 CA	NCR	NCR
synthesized signal generator	8665B	3438a00584	2024/10/18	2025/10/17
EPM Series Power Meter	E4419B	MY45103907	2024/10/18	2025/10/17
Power Sensor	8482A	US37296108	2024/10/19	2025/10/18
Power Meter	EPM-441A	GB37481494	2024/10/19	2025/10/18
Power Amplifier	ZHL-5W-202-S+	416402204	NCR	NCR
Power Amplifier	ZVE-6W-83+	637202210	NCR	NCR
Directional Coupler	441493	520Z	NCR	NCR
Attenuator	20dB, 100W	LN749	NCR	NCR
Attenuator	6dB, 150W	2754	NCR	NCR
Thermometer	DTM3000	3635	2024/8/12	2025/8/11
Hygrothermograph	HTC-2	EM072	2023/11/6	2025/11/5
Hygrothermograph	HTC-2	EM072	2024/11/4	2025/11/3
Wireless communication tester	8960	MY50266471	2024/9/5	2025/9/4
Wideband Radio Communication Tester	CMW500	147473	2024/9/5	2025/9/4

5. SAR MEASUREMENT SYSTEM VERIFICATION

5.1 Liquid Verification



5.2 Liquid Verification Results

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
750	Simulated Tissue Liquid Head	41.861	0.905	41.9	0.89	-0.09	1.69	±5
824.2	Simulated Tissue Liquid Head	41.606	0.921	41.55	0.90	0.13	2.33	±5
826.4	Simulated Tissue Liquid Head	41.578	0.922	41.54	0.90	0.09	2.44	±5
829	Simulated Tissue Liquid Head	41.546	0.923	41.53	0.90	0.04	2.56	±5
836.5	Simulated Tissue Liquid Head	41.452	0.928	41.50	0.90	-0.12	3.11	±5
836.6	Simulated Tissue Liquid Head	41.451	0.928	41.50	0.90	-0.12	3.11	±5
844	Simulated Tissue Liquid Head	41.352	0.933	41.50	0.91	-0.36	2.53	±5
846.6	Simulated Tissue Liquid Head	41.315	0.934	41.50	0.91	-0.45	2.64	±5
848.8	Simulated Tissue Liquid Head	41.283	0.935	41.50	0.91	-0.52	2.75	±5

**Liquid Verification above was performed on 2024/11/05.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
1850.2	Simulated Tissue Liquid Head	39.621	1.333	40.00	1.40	-0.95	-4.79	±5
1852.4	Simulated Tissue Liquid Head	39.598	1.335	40.00	1.40	-1.01	-4.64	±5
1880	Simulated Tissue Liquid Head	39.493	1.359	40.00	1.40	-1.27	-2.93	±5
1900	Simulated Tissue Liquid Head	39.409	1.377	40.00	1.40	-1.48	-1.64	±5
1907.6	Simulated Tissue Liquid Head	39.367	1.383	40.00	1.40	-1.58	-1.21	±5
1909.8	Simulated Tissue Liquid Head	39.354	1.385	40.00	1.40	-1.62	-1.07	±5

**Liquid Verification above was performed on 2024/11/02.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
2412	Simulated Tissue Liquid Head	40.752	1.801	39.28	1.77	3.75	1.75	±5
2437	Simulated Tissue Liquid Head	40.632	1.832	39.23	1.79	3.57	2.35	±5
2450	Simulated Tissue Liquid Head	40.547	1.851	39.20	1.80	3.44	2.83	±5
2462	Simulated Tissue Liquid Head	40.528	1.861	39.18	1.81	3.44	2.82	±5
2510	Simulated Tissue Liquid Head	40.328	1.921	39.12	1.86	3.09	3.28	±5
2535	Simulated Tissue Liquid Head	40.287	1.959	39.09	1.89	3.06	3.65	±5

**Liquid Verification above was performed on 2024/11/05.*

Frequency (MHz)	Liquid Type	Liquid Parameter		Target Value		Delta (%)		Tolerance (%)
		ε_r	σ (S/m)	ε_r	σ (S/m)	$\Delta\varepsilon_r$	$\Delta\sigma$ (S/m)	
2560	Simulated Tissue Liquid Head	40.153	1.976	39.05	1.92	2.82	2.92	±5
2600	Simulated Tissue Liquid Head	39.972	2.023	39.00	1.96	2.49	3.21	±5

**Liquid Verification above was performed on 2024/11/05.*

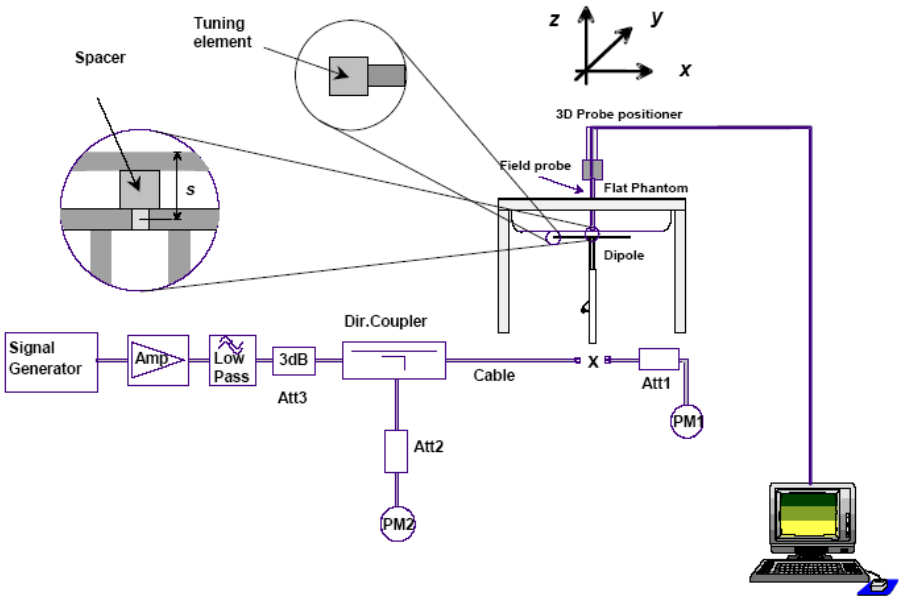
5.3 System Accuracy Verification

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

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

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

System Verification Setup Block Diagram



5.4 System Accuracy Check Results

Date	Frequency Band (MHz)	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/Kg)	Delta (%)	Tolerance (%)
2024/11/05	750	Head	100	1g	0.791	7.91	8.48	-6.72	±10
2024/11/02	1900	Head	100	1g	3.89	38.9	40.2	-3.23	±10
2024/11/05	2450	Head	100	1g	5.16	51.6	52.7	-2.09	±10
2024/11/05	2600	Head	100	1g	5.84	58.4	55.8	4.66	±10

Date	Frequency Band (MHz)	Liquid Type	Input Power (mW)	Measured SAR (W/kg)		Normalized to 1W (W/kg)	Target Value (W/Kg)	Delta (%)	Tolerance (%)
2024/11/05	750	Head	100	10g	0.602	6.02	5.63	6.93	±10
2024/11/02	1900	Head	100	10g	2.15	21.5	20.9	2.87	±10
2024/11/05	2450	Head	100	10g	2.55	25.5	24.8	2.82	±10
2024/11/05	2600	Head	100	10g	2.79	27.9	25.4	9.84	±10

Note:
All the SAR values are normalized to 1Watt forward power.

5.5 SAR SYSTEM VALIDATION DATA

System Performance 750 MHz Head

DUT: D750V3; Type: 750 MHz; Serial: 1167

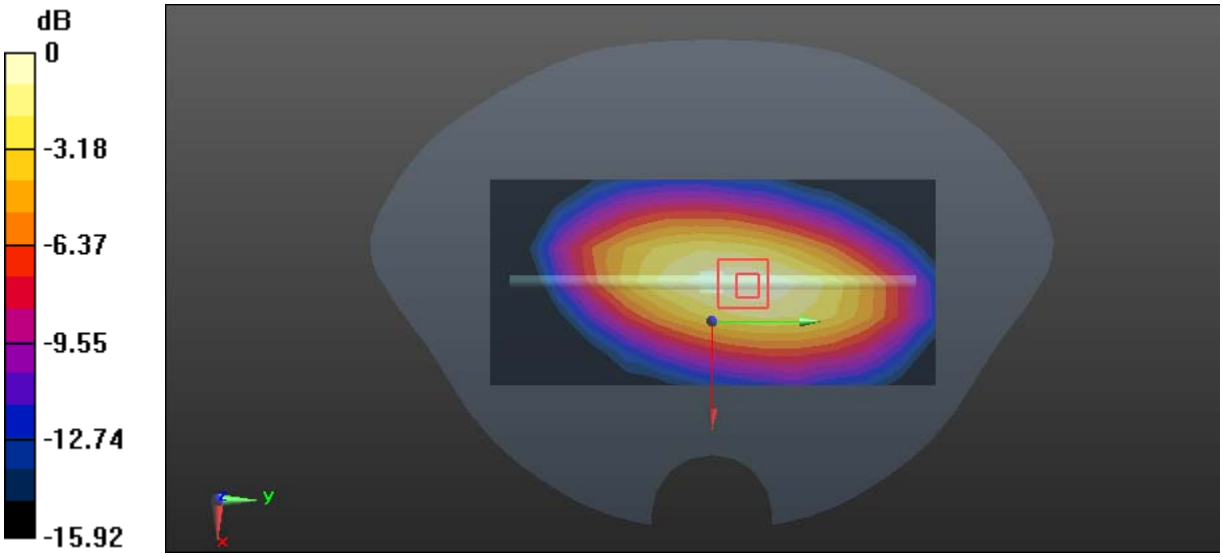
Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium parameters used: f = 750 MHz; σ = 0.905 S/m; ε_r = 41.861; ρ = 1000 kg/m^3
Phantom section: Flat Section

DASY5 Configuration:

- Probe:ES3DV3 - SN3220; ConvF(6.68, 6.68, 6.68) @ 750 MHz; Calibrated: 2024/10/15
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan (7x14x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 0.817 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 33.29 V/m; Power Drift = 0.05 dB
Peak SAR (extrapolated) = 1.09 W/kg
SAR(1 g) = 0.791 W/kg; SAR(10 g) = 0.602 W/kg
Maximum value of SAR (measured) = 0.909 W/kg



0 dB = 0.909 W/kg = -0.41 dBW/kg

System Performance 1900 MHz Head

DUT: D1900V2; Type: 1900 MHz; Serial: 543

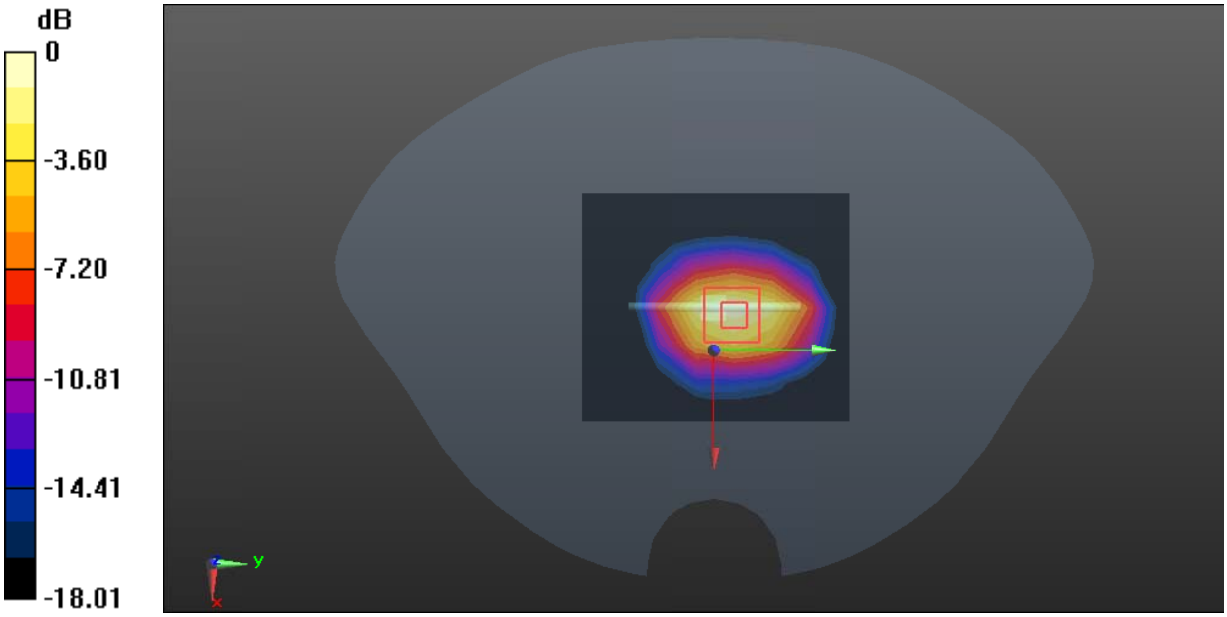
Communication System: CW (0); Frequency: 1900 MHz;Duty Cycle: 1:1
Medium parameters used: f = 1900 MHz; σ = 1.377 S/m; ε_r =39.409; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3220; ConvF(5.24, 5.24, 5.24) @ 1900 MHz; Calibrated: 2024/10/15
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan(7x8x1): Measurement grid: dx=15mm, dy=15mm
Maximum value of SAR (measured) = 4.68 W/kg

Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value =54.78 V/m; Power Drift = 0.18 dB
Peak SAR (extrapolated) = 7.18 W/kg
SAR(1 g) = 3.89 W/kg; SAR(10 g) = 2.15 W/kg
Maximum value of SAR (measured) = 4.98 W/kg



0 dB = 4.98 W/kg = 6.97 dBW/kg

System Performance 2450 MHz Head

DUT: D2450V2; Type: 2450 MHz; Serial: 971

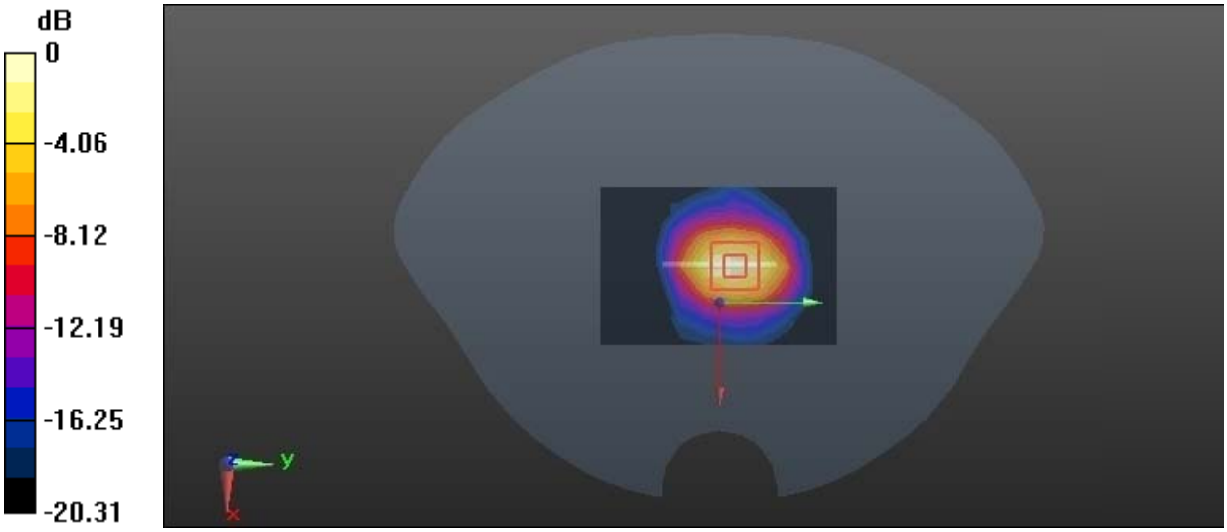
Communication System: CW (0); Frequency: 2450 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2450 MHz; σ = 1.851 S/m; ε_r =40.547; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3220; ConvF(4.83, 4.83, 4.83) @ 2450 MHz; Calibrated: 2024/10/15
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan(7x10x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 6.64 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =54.55 V/m; Power Drift = -0.17 dB
Peak SAR (extrapolated) = 9.86 W/kg
SAR(1 g) = 5.16 W/kg; SAR(10 g) = 2.55 W/kg
Maximum value of SAR (measured) = 6.69 W/kg



0 dB = 6.69 W/kg = 8.25 dBW/kg

System Performance 2600 MHz Head

DUT: D2600V2; Type: 2600 MHz; Serial: 1132

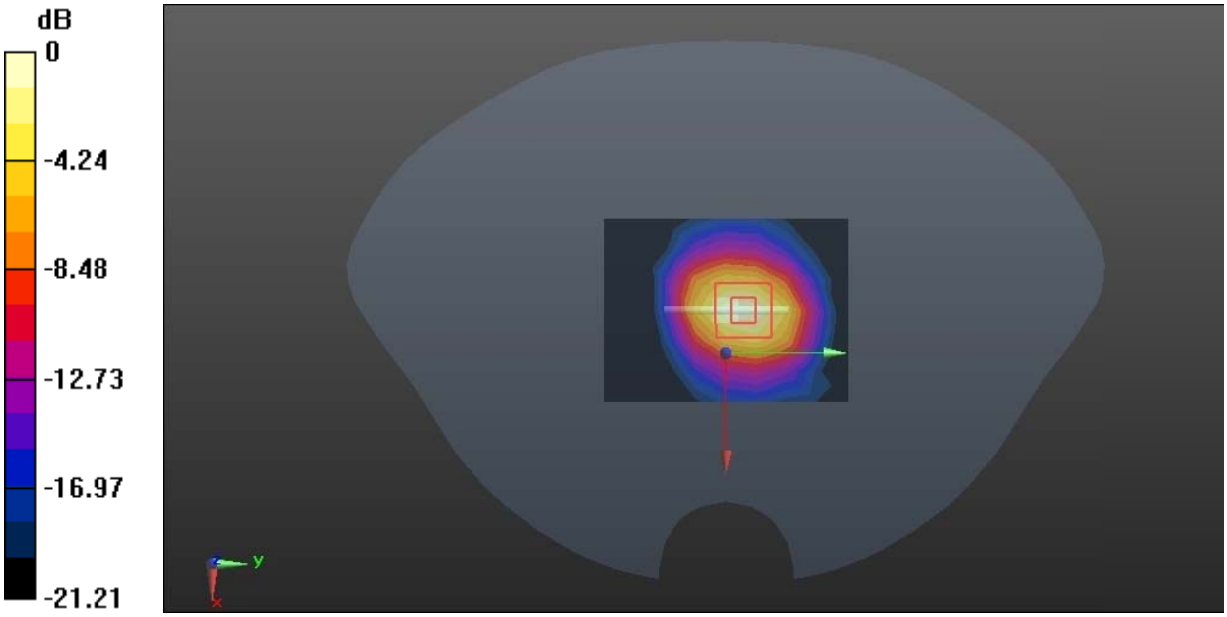
Communication System: CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium parameters used: f = 2600 MHz; σ = 2.023 S/m; ε_r =39.972; ρ = 1000 kg/m^3;
Phantom section: Flat Section

DASY5 Configuration:

- Probe: ES3DV3 - SN3220; ConvF(4.66, 4.66, 4.66) @ 2600 MHz; Calibrated: 2024/10/15
- Sensor-Surface: 3mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn772; Calibrated: 2024/1/23
- Phantom: SAM (30deg probe tilt) with CRP v5.0_20150321; Type: QD000P40CD; Serial: TP:1874
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7470)

Area Scan(7x9x1): Measurement grid: dx=12mm, dy=12mm
Maximum value of SAR (measured) = 6.87 W/kg

Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value =55.84 V/m; Power Drift = 0.03 dB
Peak SAR (extrapolated) = 11.1 W/kg
SAR(1 g) = 5.84 W/kg; SAR(10 g) = 2.79 W/kg
Maximum value of SAR (measured) = 7.46 W/kg



0 dB = 7.46 W/kg = 8.73 dBW/kg

6. EUT TEST STRATEGY AND METHODOLOGY

6.1 Test Positions for front-of-face device

A typical example of a front-of-face device is a two-way radio that is held at a distance from the face of the user when transmitting. In these cases the device under test shall be positioned at the distance to the phantom surface that corresponds to the intended use as specified by the manufacturer in the user instructions (Figure 9a). If the intended use is not specified, a separation distance of 25 mm5 between the phantom surface and the device shall be used.

Other devices that fall into this category include wireless-enabled still cameras and video cameras that can send data to a network or other device (Figure 9b). In the case of a device whose intended use requires a separation distance from the user (e.g., device with a viewing screen), this shall be positioned at the distance to the phantom surface that corresponds to the intended use as specified by the manufacturer in the user instructions (Figure 9b, left side). If the intended use is not specified, a separation distance of 25 mm between the phantom surface and the device shall be used.
For a device whose intended use requires the user's face to be in contact with the device (e.g., device with an optical viewfinder), this shall be placed directly against the phantom (Figure 9b, right side).

6.2 Test positions for Limb-worn device

A limb-worn device is a unit whose intended use includes being strapped to the arm or leg of the user while transmitting (except in idle mode). It is similar to a body-worn device.
Therefore, the test positions of 6.1.4.4 also apply. The strap shall be opened so that it is divided into two parts as shown in Figure 10. The device shall be positioned directly against the phantom surface with the strap straightened as much as possible and the back of the device towards the phantom.
If the strap cannot normally be opened to allow placing in direct contact with the phantom surface, it may be necessary to break the strap of the device but ensuring to not damage the antenna.

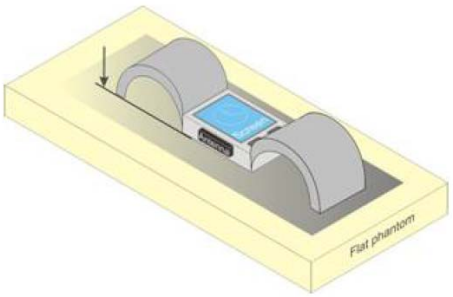


Figure 10 – Test position for limb-worn devices

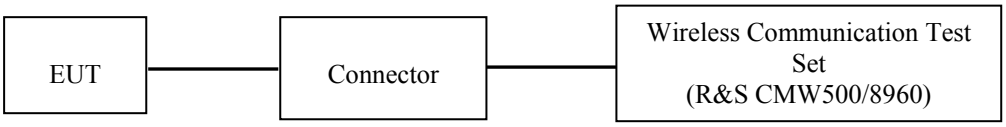
6.3 Test Distance for SAR Evaluation

For Face Up mode(1g Head SAR) the EUT is set 10mm away from the phantom, the test distance is 10mm;
For Limb mode(10g Extremity SAR) the EUT(Equipment Under Test) is set directly against the phantom, the test distance is 0mm**.**

7. CONDUCTED OUTPUT POWER MEASUREMENT

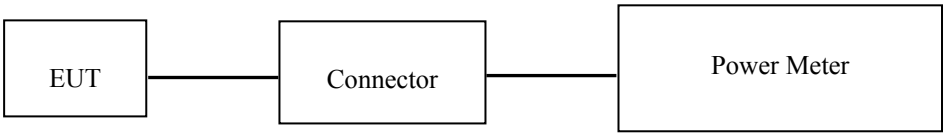
7.1 Test Procedure

The RF output of the transmitter was connected to the input of the Wireless Communication Test Set through Connector.



GSM/WCDMA/LTE

The RF output of the transmitter was connected to the input port of the Power Meter through Connector.



WLAN

7.2 Radio Configuration

The power measurement was configured by the Wireless Communication Test Set.

GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900
Press Connection control to choose the different menus
Press RESET > choose all the reset all settings
Connection Press Signal Off to turn off the signal and change settings
Network Support > GSM + GPRS or GSM + EGSM
Main Service > Packet Data
Service selection > Test Mode A – Auto Slot Config. off
MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting
> Slot configuration > Uplink/Gamma
> 33 dBm for GPRS 850
> 30 dBm for GPRS 1900
> 27 dBm for EGPRS 850
> 26 dBm for EGPRS 1900
BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel
Frequency Offset > + 0 Hz
Mode > BCCH and TCH
BCCH Level > -85 dBm (May need to adjust if link is not stabe)
BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off
P0 > 4 dB
Slot Config >Unchanged (if already set under MS signal)
TCH > choose desired test channel
Hopping > Off

Main Timeslot > 3
Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)
Bit Stream >2E9-1 PSR Bit Stream
AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input
Connection Press Signal on to turn on the signal and change settings

WCDMA Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP
TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

WCDMA General Settings	Loopback Mode	Test Mode 1
	Rel99 RMC	12.2kbps RMC
	Power Control Algorithm	Algorithm2
	β_c/β_d	8/15

HSDPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP
TS34.121-1 specification.

	Mode	HSDPA	HSDPA	HSDPA	HSDPA
	Subset	1	2	3	4
WCDMA General Settings	Loopback Mode	Test Mode 1			
	Rel99 RMC	12.2kbps RMC			
	HSDPA FRC	H-Set1			
	Power Control Algorithm	Algorithm2			
	β_c	2/15	12/15	15/15	15/15
	β_d	15/15	15/15	8/15	4/15
	β_d(SF)	64			
	β_c/β_d	2/15	12/15	15/8	15/4
	β_{hs}	4/15	24/15	30/15	30/15
	MPR(dB)	0	0	0.5	0.5
HSDPA Specific Settings	DACK	8			
	DNAK	8			
	DCQI	8			
	Ack-Nack repetition factor	3			
	CQI Feedback	4ms			
	CQI Repetition Factor	2			
	Ahs=βhs/ βc	30/15			

HSUPA

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP
TS34.121-1 specification.

	Mode	HSUPA	HSUPA	HSUPA	HSUPA	HSUPA
	Subset	**1**	**2**	**3**	**4**	**5**
WCDMA General Settings	Loopback Mode	Test Mode 1				
	Rel99 RMC	12.2kbps RMC				
	HSDPA FRC	H-Set1				
	HSUPA Test	HSUPA Loopback				
	Power Control Algorithm	Algorithm2				
	β_c	11/15	6/15	15/15	2/15	15/15
	β_d	15/15	15/15	9/15	15/15	0
	β_{ec}	209/225	12/15	30/15	2/15	5/15
	β_c/β_d	11/15	6/15	15/9	2/15	-
	β_{hs}	22/15	12/15	30/15	4/15	5/15
	CM(dB)	1.0	3.0	2.0	3.0	1.0
	MPR(dB)	0	2	1	2	0
HSDPA Specific Settings	DACK	8				
	DNAK	8				
	DCQI	8				
	Ack-Nack repetition factor	3				
	CQI Feedback	4ms				
	CQI Repetition Factor	2				
	Ahs=β_{hs}/β_c	30/15				
HSUPA Specific Settings	DE-DPCCH	6	8	8	5	7
	DHARQ	0	0	0	0	0
	AG Index	20	12	15	17	21
	ETFCI	75	67	92	71	81
	Associated Max UL Data Rate kbps	242.1	174.9	482.8	205.8	308.9
	Reference E_FCIs	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27		E-TFCI 11 E-TFCI PO4 E-TFCI 92 E-TFCI PO 18	E-TFCI 11 E E-TFCI PO 4 E-TFCI 67 E-TFCI PO 18 E-TFCI 71 E-TFCI PO23 E-TFCI 75 E-TFCI PO26 E-TFCI 81 E-TFCI PO 27	

DC-HSDPA

The following tests were conducted according to the test requirements in Table C.8.1.12 of 3GPP TS 34.121-1

Table C.8.1.12: Fixed Reference Channel H-Set 12

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	Proces ses	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

HSPA+

Sub-test	β_c (Note3)	β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (2xSF2) (Note 4)	β_{ed} (2xSF4) (Note 4)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 4)	E-TFCI (Note 5)	E-TFCI (boost)
1	1	0	30/15	30/15	β_{ed}1: 30/15 β_{ed}2: 30/15	β_{ec}3: 24/15 β_{ec}1: 24/15	3.5	2.5	14	105	105

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).
Note 3: DPDCH is not configured, therefore the β_c is set to 1 and β_d = 0 by default.
Note 4: β_{ed} can not be set directly; it is set by Absolute Grant Value.
Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

FDD-LTE

For UE Power Class 1 and 3, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2-1due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1 and 3

Modulation	Channel bandwidth / Transmission bandwidth (N_{RB})						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

For UE Power Class 1 and 3 the specific requirements and identified sub clauses are specified in Table 6.2.4-1 along with the allowed A-MPR values that may be used to meet these requirements. The allowed A-MPR values specified below in Table 6.2.4.-1 to 6.2.4-15 are in addition to the allowed MPR requirements specified in sub clause 6.2.3.

7.3 Maximum Target Output Power

Max Target Power(dBm)			
Mode/Band	Channel		
	Low	Middle	High
GSM 850	33.5	33.5	33.5
GPRS 1 TX Slot	33.5	33.5	33.5
GPRS 2 TX Slot	33.5	33.5	33.5
GPRS 3 TX Slot	32.5	32.5	32.5
GPRS 4 TX Slot	31.5	31.5	31.5
EDGE 1 TX Slot	27.5	27	27
EDGE 2 TX Slot	27	27	27
EDGE 3 TX Slot	25.5	25.5	25.5
EDGE 4 TX Slot	25	25	25
GSM 1900	30	30	30
GPRS 1 TX Slot	30	30	30
GPRS 2 TX Slot	30	30	30
GPRS 3 TX Slot	26.5	26.5	26.5
GPRS 4 TX Slot	24.5	24.5	24.5
EDGE 1 TX Slot	26	26	26
EDGE 2 TX Slot	25	25	25
EDGE 3 TX Slot	23.5	23.5	23.5
EDGE 4 TX Slot	22	22	22
WCDMA Band 2	23.5	23.5	23.5
HSDPA	23.5	23.5	23.5
HSUPA	23	23	23
DC-HSDPA	23.5	23.5	23.5
HSPA+	23	23	23
WCDMA Band 5	23.5	23.5	23.5
HSDPA	23.5	23.5	23.5
HSUPA	23.5	23.5	23.5
DC-HSDPA	23.5	23.5	23.5
HSPA+	23.5	23.5	23.5
LTE Band 5	23.5	23.5	23.5
LTE Band 7	23	23	23
WLAN 2.4G(802.11b)	8.8	8.8	8.8
WLAN 2.4G(802.11g)	14.5	14.5	14.5
WLAN 2.4G(802.11n ht20)	14.5	14.5	14.5

Note: The Maximum Target Power for LTE bands corresponds to their maximum power in QPSK modes with maximum bandwidth.

7.4 Test Results:

GSM:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)
GSM 850	128	824.2	33.00
	190	836.6	**33.17**
	251	848.8	33.01
GSM 1900	512	1850.2	29.42
	661	1880	29.85
	810	1909.8	**29.95**

GPRS:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	**33.49**	33.17	32.39	31.16
	190	836.6	33.29	33.03	31.99	30.68
	251	848.8	33.28	32.52	31.87	30.41
GSM 1900	512	1850.2	**29.87**	29.83	26.23	24.41
	661	1880	29.36	29.31	26.09	24.19
	810	1909.8	29.85	29.74	26.17	24.16

EDGE:

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	26.72	26.66	25.32	24.51
	190	836.6	26.69	26.46	25.26	24.42
	251	848.8	26.51	26.39	25.12	24.13
GSM 1900	512	1850.2	25.86	24.94	23.06	21.94
	661	1880	25.82	24.85	22.88	21.91
	810	1909.8	25.89	24.91	22.99	21.98

For SAR, the time based average power is relevant, the difference in between depends on the duty cycle of the TDMA signal.

Number of Time slot	1	2	3	4
Duty Cycle	1:8	1:4	1:2.66	1:2
Time based Ave. power compared to slotted Ave. power	-9 dB	-6 dB	-4.25 dB	-3 dB
Crest Factor	8	4	2.66	2

The time based average power for GPRS

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	24.49	27.17	28.14	**28.16**
	190	836.6	24.29	27.03	27.74	27.68
	251	848.8	24.28	26.52	27.62	27.41
GSM 1900	512	1850.2	20.87	**23.83**	21.98	21.41
	661	1880	20.36	23.31	21.84	21.19
	810	1909.8	20.85	23.74	21.92	21.16

The time based average power for EDGE

Band	Channel No.	Frequency (MHz)	RF Output Power (dBm)			
			1 slot	2 slots	3 slots	4 slots
GSM 850	128	824.2	17.72	20.66	21.07	21.51
	190	836.6	17.69	20.46	21.01	21.42
	251	848.8	17.51	20.39	20.87	21.13
GSM 1900	512	1850.2	16.86	18.94	18.81	18.94
	661	1880	16.82	18.85	18.63	18.91
	810	1909.8	16.89	18.91	18.74	18.98

Note:
1. Agilent Technologies Communication Tester (8960) was used for the measurement of GSM peak and average output power for active timeslots.
2 .For GSM voice, 1 timeslot has been activated with power level 5 (850 MHz band) and 0 (1900 MHz band).
3 .For GPRS, 1, 2, 3 and 4 timeslots has been activated separately with power level 3(850 MHz band) and 3(1900 MHz band).
4. According to KDB941225D01-SAR for EGPRS mode are not required when the source-based time-averaged output power for data mode is lower than that in the normal GPRS mode.

WCDMA:

WCDMA Band 2:

Test Mode	Conducted Average Output Power(dBm)		
	Lowest Channel	Middle Channel	Highest Channel
WCDMA	23.12	**23.16**	23.11
HSDPA Subset 1	23.10	23.03	22.80
HSDPA Subset 2	22.72	22.59	22.49
HSDPA Subset 3	22.63	22.51	22.25
HSDPA Subset 4	22.36	22.12	21.97
HSUPA Subset 1	22.71	22.55	22.42
HSUPA Subset 2	22.84	22.71	22.48
HSUPA Subset 3	22.66	22.45	22.39
HSUPA Subset 4	22.81	22.47	22.37
HSUPA Subset 5	22.67	22.54	22.38
DC-HSDPA Subset 1	22.56	22.62	22.47
DC-HSDPA Subset 2	22.67	22.73	22.51
DC-HSDPA Subset 3	22.68	22.49	22.45
DC-HSDPA Subset 4	22.54	22.59	22.47
HSPA+	22.67	22.61	22.52

WCDMA Band 5:

Test Mode	Conducted Average Output Power(dBm)		
	Lowest Channel	Middle Channel	Highest Channel
WCDMA	23.43	**23.48**	23.45
HSDPA Subset 1	22.87	23.43	23.40
HSDPA Subset 2	23.15	22.72	23.19
HSDPA Subset 3	22.29	22.02	22.37
HSDPA Subset 4	21.51	21.66	21.86
HSUPA Subset 1	23.19	23.23	23.11
HSUPA Subset 2	23.27	23.09	23.28
HSUPA Subset 3	23.27	23.21	23.40
HSUPA Subset 4	23.18	23.24	23.30
HSUPA Subset 5	23.26	23.12	23.42
DC-HSDPA Subset 1	22.68	22.43	22.64
DC-HSDPA Subset 2	22.62	22.55	22.61
DC-HSDPA Subset 3	22.46	22.40	22.60
DC-HSDPA Subset 4	22.44	22.48	22.51
HSPA+	22.77	23.02	22.76

Note:
1. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC (reference measurement Channel) Configured in Test Loop Model 1.
2. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.

LTE Band 5:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
1.4M	16-QAM	1@0	22.14	22.69	22.76
		1@3	22.09	22.86	23.15
		1@5	22.10	22.86	22.88
		3@0	21.98	22.21	22.23
		3@1	21.89	22.17	22.60
		3@3	21.93	22.14	22.65
		6@0	21.26	20.73	21.58
	QPSK	1@0	23.14	23.14	22.99
		1@3	23.06	23.15	22.93
		1@5	23.13	23.20	23.06
		3@0	23.09	23.09	22.97
		3@1	23.06	23.03	22.97
		3@3	22.99	23.15	22.97
		6@0	22.00	22.14	22.35
3M	16-QAM	1@0	22.22	22.39	22.58
		1@8	22.19	22.54	23.01
		1@14	22.20	22.47	22.56
		8@0	21.28	20.88	20.97
		8@4	21.48	20.99	21.18
		8@7	21.36	20.98	21.18
		15@0	21.41	20.98	21.67
	QPSK	1@0	23.23	23.39	23.10
		1@8	23.09	23.23	23.02
		1@14	23.15	23.12	23.04
		8@0	22.02	22.13	22.04
		8@4	22.06	22.10	22.07
		8@7	22.05	22.06	21.98
		15@0	22.14	22.06	22.42
5M	16-QAM	1@0	22.39	21.66	21.57
		1@12	22.33	21.88	21.52
		1@24	22.41	21.69	21.89
		12@0	21.32	21.02	21.46
		12@7	21.34	21.02	20.99
		12@13	21.46	20.99	20.92
		25@0	21.51	21.01	21.15
	QPSK	1@0	23.21	22.88	22.95
		1@12	23.12	22.78	22.88
		1@24	23.10	22.87	22.88
		12@0	22.10	22.13	22.14
		12@7	22.05	22.01	22.07
		12@13	22.00	22.12	22.07
		25@0	22.16	22.13	22.09

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
10M	16-QAM	1@0	22.83	21.84	22.51
		1@25	22.8	21.92	22.48
		1@49	22.79	21.9	22.88
		25@0	21.54	21.61	21.56
		25@12	21.53	21.54	21.5
		25@25	21.52	21.5	21.51
		50@0	21.56	21.54	21.55
	QPSK	1@0	23.27	23.05	23.21
		1@25	23.21	22.95	23.21
		1@49	23.25	23.04	**23.29**
		25@0	22.03	22.03	21.99
		25@12	22.03	22.16	22.11
		25@25	22.12	21.98	22.17
		50@0	22.1	22.22	22.06

LTE Band 7:

Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
5M	16-QAM	1@0	21.06	21.16	21.30
		1@12	21.14	21.30	21.27
		1@24	21.29	21.22	20.98
		12@0	20.23	20.29	20.34
		12@7	20.28	20.34	20.42
		12@13	20.19	20.27	20.40
		25@0	20.38	20.45	20.74
	QPSK	1@0	22.38	22.51	22.45
		1@12	22.32	22.55	22.49
		1@24	22.38	22.50	22.27
		12@0	21.25	21.31	21.47
		12@7	21.21	21.42	21.49
		12@13	21.23	21.40	21.44
		25@0	21.28	21.58	21.40
10M	16-QAM	1@0	22.06	22.06	22.14
		1@25	22.11	21.89	22.00
		1@49	22.06	21.83	21.98
		25@0	20.41	20.48	20.35
		25@12	20.49	20.55	20.35
		25@25	20.47	20.51	20.47
		50@0	20.43	20.53	20.47
	QPSK	1@0	22.49	22.52	22.59
		1@25	22.47	22.61	22.53
		1@49	22.53	22.44	22.53
		25@0	21.27	21.38	21.44
		25@12	21.32	21.61	21.42
		25@25	21.40	21.44	21.47
		50@0	21.49	21.49	21.54
15M	16-QAM	1@0	22.02	22.22	22.18
		1@37	21.88	22.23	22.22
		1@74	22.13	22.24	22.14
		36@0	20.46	20.41	20.57
		36@20	20.35	20.61	20.56
		36@39	20.41	20.52	20.54
		75@0	20.27	20.47	20.46
	QPSK	1@0	22.53	22.45	22.77
		1@37	22.43	22.66	22.67
		1@74	22.50	22.44	22.62
		36@0	21.42	21.43	21.67
		36@20	21.44	21.48	21.52
		36@39	21.38	21.52	21.40
		75@0	21.31	21.53	21.47

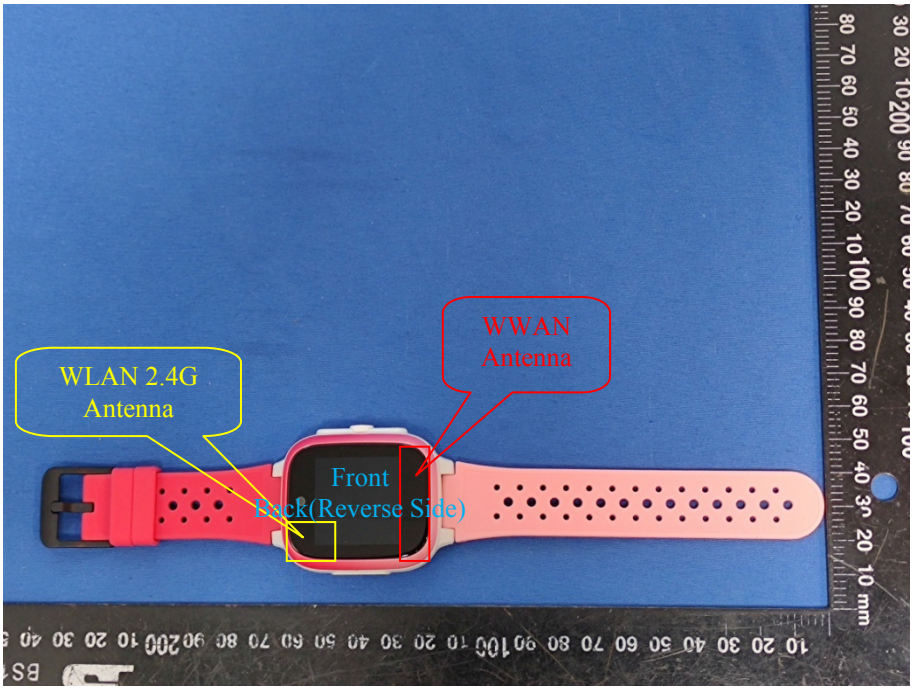
Test Bandwidth	Test Modulation	Resource Block & RB offset	Low Channel (dBm)	Middle Channel (dBm)	High Channel (dBm)
20M	16-QAM	1@0	21.14	21.57	21.31
		1@49	21.15	21.32	21.36
		1@99	21.24	22.37	21.26
		50@0	21.13	21.02	21.05
		50@24	21.05	21.05	21.07
		50@50	21.02	21.08	21.06
		100@0	21.05	21.07	21.09
	QPSK	1@0	22.43	22.38	22.56
		1@49	22.39	**22.56**	22.53
		1@99	22.49	22.48	22.32
		50@0	21.22	21.56	21.51
		50@24	21.33	21.48	21.46
		50@50	21.41	21.46	21.49
		100@0	21.37	21.46	21.38

WLAN: 2.4G

Mode	Channel frequency (MHz)	Data Rate	Duty cycle (%)	RF Output Power (dBm)
802.11b	2412	1Mbps	99.44	7.72
	2437			8.13
	2462			7.88
802.11g	2412	6Mbps	96.93	14.11
	2437			**14.38**
	2462			14.32
802.11n ht20	2412	MCS0	96.65	13.97
	2437			14.21
	2462			14.16

8. STANDALONE SAR TEST EXCLUSION CONSIDERATIONS

8.1 Antennas Location:



9. SAR MEASUREMENT RESULTS

This page summarizes the results of the performed dosimetric evaluation.

9.1 SAR Test Data

Environmental Conditions

Temperature:	22.9-23.7 ℃	22.2-22.9℃
Relative Humidity:	48%	49%
ATM Pressure:	101.7 kPa	101.9 kPa
Test Date:	2024/11/02	2024/11/05

Testing was performed by Lily Yang, Petre Ma, Mark Dong.

GSM 850:

Face Up Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	824.2	GSM	/	/	/	/	/	/
	836.6	GSM	33.17	33.5	1.079	0.320	**0.35**	1#
	848.8	GSM	/	/	/	/	/	/

Limb Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	824.2	GSM	/	/	/	/	/	/
	836.6	GSM	33.17	33.5	1.079	0.380	**0.41**	2#
	848.8	GSM	/	/	/	/	/	/
	824.2	GPRS	/	/	/	/	/	/
	836.6	GPRS	30.68	31.5	1.208	0.282	0.34	/
	848.8	GPRS	/	/	/	/	/	/

Note:
1. When the SAR value is less than half of the limit, testing for low and high channel is optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is > 0.5 dB, instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 1DL+4UL is the worst case.

GSM 1900:

Face Up Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	29.85	30	1.035	0.424	**0.44**	3#
	1909.8	GSM	/	/	/	/	/	/

Limb Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	1850.2	GSM	/	/	/	/	/	/
	1880	GSM	29.85	30	1.035	0.500	0.52	/
	1909.8	GSM	/	/	/	/	/	/
	1850.2	GPRS	/	/	/	/	/	/
	1880	GPRS	29.31	30	1.172	0.482	**0.56**	4#
	1909.8	GPRS	/	/	/	/	/	/

Note:
1. When the SAR value is less than half of the limit, testing for low and high channel is optional.
2. The EUT transmit and receive through the same GSM antenna while testing SAR.
3. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
4. When the maximum output power variation across the required test channels is > 0.5 dB, instead of the middle channel, the highest output power channel must be used.
5. The Multi-slot Classes of EUT is Class 12 which has maximum 4 Downlink slots and 4 Uplink slots, the maximum active slots is 5, when perform the multiple slots scan, 3DL+2UL is the worst case.

WCDMA Band 2:

Face Up Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	23.16	23.5	1.081	0.703	**0.76**	5#
	1907.6	RMC	/	/	/	/	/	/

Limb Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	1852.4	RMC	/	/	/	/	/	/
	1880	RMC	23.16	23.5	1.081	0.814	**0.88**	6#
	1907.6	RMC	/	/	/	/	/	/

WCDMA Band 5:

Face Up Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	23.48	23.5	1.005	0.336	**0.34**	7#
	846.6	RMC	/	/	/	/	/	/

Limb Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
					Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	826.4	RMC	/	/	/	/	/	/
	836.6	RMC	23.48	23.5	1.005	0.554	**0.56**	8#
	846.6	RMC	/	/	/	/	/	/

Note:
1. When the SAR value is less than half of the limit, testing for low and high channel is optional.
2. The EUT transmit and receive through the same antenna while testing SAR.
3. The default test configuration is to measure SAR with an established radio link between the EUT and a communication test set using a 12.2 kbps RMC(reference measurement Channel) Configured in Test Loop Model.
4. KDB 941225 D01-Body SAR is not required for HSDPA/HSUPA/DC-HSDPA/HSPA+ when the maximum average output of each RF channel is less than ¼ dB higher than measured 12.2kbps RMC or the maximum SAR for 12.2kbps RMC is < 75% of SAR limit.
5. When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.

LTE Band 5:

Face Up Mode:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	829	10	1RB	/	/	/	/	/	/
	836.5	10	1RB	23.05	23.5	1.109	0.437	**0.48**	9#
	844	10	1RB	/	/	/	/	/	/
	836.5	10	50%RB	22.16	23.5	1.361	0.344	0.47	/

Limb Mode:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	829	10	1RB	/	/	/	/	/	/
	836.5	10	1RB	23.05	23.5	1.109	0.382	**0.42**	10#
	844	10	1RB	/	/	/	/	/	/
	836.5	10	50%RB	22.16	23.5	1.361	0.271	0.37	/

LTE Band 7:

Face Up Mode:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	2510	20	1RB	22.49	23	1.125	0.671	0.75	/
	2535	20	1RB	22.56	23	1.107	0.860	**0.95**	11#
	2560	20	1RB	22.56	23	1.107	0.708	0.78	/
	2535	20	50%RB	21.56	23	1.393	0.540	0.75	/
	2535	20	100%RB	21.46	23	1.426	0.512	0.73	/

Limb Mode:

EUT Position	Frequency (MHz)	Bandwidth (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)			
						Scaled Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	2510	20	1RB	/	/	/	/	/	/
	2535	20	1RB	22.56	23	1.107	1.21	**1.34**	12#
	2560	20	1RB	/	/	/	/	/	/
	2535	20	50%RB	21.56	23	1.393	0.758	1.06	/

Note:

1. When the SAR value is less than half of the limit, testing for low and high channel is optional.
2. SAR for LTE band exposure configurations is measured according to the procedures of KDB 941225 D05 SAR for LTE Devices v02.
3. KDB941225D05-SAR for higher order modulation is required only when the highest maximum output power for the configuration in the higher order modulation is > 0.5 dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is > 1.45 W/kg
4. KDB941225D05-For QPSK with 100% RB allocation, when the reported SAR measured for the Highest output power channel is <1.45 W/kg, tests for the remaining required test channels are optional.
5.KDB941225D05- For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg.
6. KDB941225D05- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offset the upper edge, middle and lower edge of each required test channel.
7. KDB941225D05- other channel bandwidths SAR test is required when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is > 0.5 dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is > 1.45 W/kg.

WLAN 2.4G:

Face Up Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	1g SAR (W/kg)				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Face Up (10mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	8.13	8.8	1.167	1.01	0.170	**0.20**	13#
	2462	802.11b	/	/	/	/	/	/	/

Limb Mode:

EUT Position	Frequency (MHz)	Test Mode	Max. Meas. Power (dBm)	Max. Rated Power (dBm)	10g SAR (W/kg)				
					Scaled Factor	Duty cycle Factor	Meas. SAR	Scaled SAR	Plot
Limb Back (0mm)	2412	802.11b	/	/	/	/	/	/	/
	2437	802.11b	8.13	8.8	1.167	1.01	0.157	**0.19**	14#
	2462	802.11b	/	/	/	/	/	/	/

Note:

1. When the 1-g SAR and the 10-g SAR are less than half of the limit, testing for low and high channel is optional.
2.When SAR or MPE is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance.
3. According KDB 248227 D01, for SAR testing of WLAN with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)".

2.4 GHz 802.11g/n OFDM SAR Test Exclusion Requirements

Face Up Mode:

Mode	Target Output Power (dBm)	Target Output Power (mW)	Reported SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	8.8	7.59	0.20	/	/	/
802.11g(OFDM)	14.5	28.18	/	0.74	1.2	Yes
802.11n ht20(OFDM)	14.5	28.18	/	0.74	1.2	Yes

Limb Mode:

Mode	Target Output Power (dBm)	Target Output Power (mW)	Reported SAR(W/kg)	Adjusted SAR(W/kg)	Limit(W/kg)	SAR Test Exclusion
802.11b(DSSS)	8.8	7.59	0.19	/	/	/
802.11g(OFDM)	14.5	28.18	/	0.71	1.2	Yes
802.11n ht20(OFDM)	14.5	28.18	/	0.71	1.2	Yes

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

10. MEASUREMENT VARIABILITY

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

1) Repeated measurement is not required when the original highest measured SAR is < 0.80 W/kg; steps 2) through 4) do not apply.
2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.
3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45 W/kg (~ 10% from the 1-g SAR limit).
4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20.

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

The Highest Measured SAR Configuration in Each Frequency Band

Head

SAR probe calibration point	Frequency Band	Freq.(MHz)	EUT Position	Meas. SAR (W/kg)		Largest to Smallest SAR Ratio
				Original	Repeated	
2450MHz	LTE Band 7	2535	Face Up	0.860	0.854	1.01

Note:

1. Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not > 1.20.
2. The measured SAR results **do not** have to be scaled to the maximum tune-up tolerance to determine if repeated measurements are required.
3. SAR measurement variability must be assessed for each frequency band, which is determined by the **SAR probe calibration point and tissue-equivalent medium** used for the device measurements.

11. SAR SIMULTANEOUS TRANSMISSION DESCRIPTION

11.1 Simultaneous Transmission:

Description of Simultaneous Transmit Capabilities		
Transmitter Combination	**Simultaneous?**	**Hotspot?**
WWAN(GSM/WCDMA/LTE) + WLAN 2.4G	√	×

11.2 Simultaneous SAR test exclusion considerations:

Face Up Mode:

Mode(SAR1+SAR2)	Position	Reported SAR(W/kg)		ΣSAR < 1.6W/kg
		SAR1	SAR2	
WWAN(GSM/WCDMA/LTE) + WLAN 2.4G	Face Up	0.95	0.20	1.15

Conclusion:
Sum of SAR:**ΣSAR ≤1.6 W/kg** therefore simultaneous transmission SAR with Volume Scans is **not required**.

Limb Mode:

Mode(SAR1+SAR2)	Position	Reported SAR(W/kg)		ΣSAR < 4.0W/kg
		SAR1	SAR2	
WWAN(GSM/WCDMA/LTE) + WLAN 2.4G	Limb Back	1.34	0.19	**1.53**

Conclusion:
Sum of SAR:**ΣSAR ≤4.0 W/kg** therefore simultaneous transmission SAR with Volume Scans is **not required**.

APPENDIX A - MEASUREMENT UNCERTAINTY

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

Measurement uncertainty evaluation for IEEE1528-2013 SAR test

Uncertainty component	Tolerance/ uncertainty ± %	Probability distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration(k=1)	6.55	N	1	1	1	6.6	6.6
Axial isotropy	4.7	R	√3	√0.5	√0.5	1.9	1.9
Hemispherical isotropy	9.6	R	√3	√0.5	√0.5	3.9	3.9
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Linearity	4.7	R	√3	1	1	2.7	2.7
System detection limits	1.0	R	√3	1	1	0.6	0.6
Modulation response	0.0	R	√3	1	1	0.0	0.0
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambientconditions-noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions-reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech.tolerance	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Extrapolation, interpolation, and integrationsalgorithms for max. SAR evaluation	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Test sample positioning	3.3	N	1	1	1	3.3	3.3
Device holder uncertainty	4.7	N	1	1	1	4.7	4.7
Output power variation –SAR draft measurement	5.0	R	√3	1	1	2.9	2.9
SAR scaling	2.8	R	√3	1	1	1.6	1.6
Phantom and tissue parameters							
Phantom shell uncertainty– shape, thicknessand permittivity	4.0	R	√3	1	1	2.3	2.3
Uncertainty in SARcorrection for deviationsin permittivity and conductivity	1.9	N	1	1	0.84	1.9	1.6
Liquid conductivity meas.	2.5	N	1	0.78	0.71	2.0	1.8
Liquid permittivity meas.	2.5	N	1	0.23	0.26	0.6	0.7
Liquid conductivity – temperatureuncertainty	1.7	R	√3	0.78	0.71	0.8	0.7
Liquid permittivity – temperatureuncertainty	0.3	R	√3	0.23	0.26	0.0	0.0
Combined standard uncertainty		RSS				12.1	12.0
Expanded uncertainty (95 % confidence interval)		k=2				24.2	24.0

Measurement uncertainty evaluation for IEC62209-2 SAR test

Source of uncertainty	Tolerance/ Uncertainty value ± %	Probability Distribution	Divisor	ci (1 g)	ci (10 g)	Standard uncertainty ± %, (1 g)	Standard uncertainty ± %, (10 g)
Measurement system							
Probe calibration	6.55	N	1	1	1	6.6	6.6
Isotropy	4.7	R	√3	1	1	2.7	2.7
Linearity	4.7	R	√3	1	1	2.7	2.7
Probe modulation response	0.0	R	√3	1	1	0.0	0.0
Detection limits	1.0	R	√3	1	1	0.6	0.6
Boundary effect	1.0	R	√3	1	1	0.6	0.6
Readout electronics	0.3	N	1	1	1	0.3	0.3
Response time	0.0	R	√3	1	1	0.0	0.0
Integration time	0.0	R	√3	1	1	0.0	0.0
RF ambientconditions – noise	1.0	R	√3	1	1	0.6	0.6
RF ambient conditions–reflections	1.0	R	√3	1	1	0.6	0.6
Probe positioner mech. restrictions	0.8	R	√3	1	1	0.5	0.5
Probe positioning with respect to phantom shell	6.7	R	√3	1	1	3.9	3.9
Post-processing	2.0	R	√3	1	1	1.2	1.2
Test sample related							
Device holder uncertainty	4.7	N	1	1	1	4.7	4.7
Test sample positioning	3.3	N	1	1	1	3.3	3.3
Power scaling	4.5	R	√3	1	1	2.6	2.6
Drift of output power (measured SAR drift)	5.0	R	√3	1	1	2.9	2.9
Phantom and set-up							
Phantom uncertainty (shape and thickness tolerances)	4.0	R	√3	1	1	2.3	2.3
Algorithm for correcting SAR for deviations in permittivity and conductivity	1.9	N	1	1	0.84	1.9	1.6
Liquid conductivity (meas.)	2.5	N	1	0.78	0.71	2.0	1.8
Liquid permittivity (meas.)	2.5	N	1	0.23	0.26	0.6	0.7
Liquid conductivity – temperatureuncertainty	1.7	R	√3	0.78	0.71	0.8	0.7
Liquid permittivity – temperatureuncertainty	0.3	R	√3	0.23	0.26	0.0	0.0
Combined standard uncertainty		RSS				11.8	11.7
Expanded uncertainty (95 % confidence interval)						23.6	23.4

APPENDIX B - SAR PLOTS

Please refer to the attachment.

APPENDIX C - EUT TEST POSITION PHOTOS

Please refer to the attachment.

APPENDIX D - PROBE CALIBRATION CERTIFICATES

Please refer to the attachment.

APPENDIX E - DIPOLE CALIBRATION CERTIFICATES

Please refer to the attachment.

===== END OF REPORT ====