TEST REPORT

No.B18N00005-SAR

For

Huawei Technologies Co., Ltd.

Smart Phone

Model Name: LDN-L01

With

Hardware Version: HL1LDNM

Software Version: LDN-L01 5.0.1.37(C900)

FCC ID: QISLDN-L01

Issued Date: 2018-02-12

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of SAICT.

Test Laboratory:

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
B18N00005-SAR	Rev.0	2018-02-12	Initial creation of test report

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	Shenzhen Academy of Information and Communications Technology
Address:	Building G, Shenzhen International Innovation Center, No.1006 Shennan Road, Futian District, Shenzhen, Guangdong, P. R. China
Postal Code:	518026
Telephone:	+86-755-33322000
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1.2 Testing Environment

Temperature:	18°C~25 °C
Relative humidity:	30%~ 70%
Ground system resistance:	< 4Ω
Ambient noise & Reflection:	< 0.012 W/kg

1.3 Project Data

Testing Start Date:	January 10, 2018
Testing End Date:	February 06, 2018

1.4 Signature

Li Yongfu
(Prepared this test report)

Zhang Yunzhuan
(Reviewed this test report)

Cao Junfei
Deputy Director of the laboratory
(Approved this test report)

2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Huawei Technologies Co., Ltd. Smart Phone LDN-L01 are as follows:

Table 2.1: Highest Reported SAR (1g)

Exposure Configuration	Technology Band	Highest Reported SAR 1g(W/Kg)	Equipment Class
Head (Separation Distance 0mm)	GSM850	0.19	PCE
	PCS1900	0.14	
	UMTS FDD 5	0.26	
	UMTS FDD 2	0.12	
	LTE Band 5	0.13	
	LTE Band 7	0.23	
	WLAN 2.4GHz	**0.52**	DTS
Hotspot (Separation Distance 10mm)	GSM850	0.40	PCE
	PCS1900	**0.77**	
	UMTS FDD 5	0.28	
	UMTS FDD 2	0.71	
	LTE Band 5	0.21	
	LTE Band 7	0.34	
	WLAN 2.4GHz	0.15	DTS
Body-worn (Separation Distance 15mm)	GSM850	0.29	PCE
	PCS1900	0.53	
	UMTS FDD 5	0.40	
	UMTS FDD 2	**0.56**	
	LTE Band 5	0.14	
	LTE Band 7	0.19	
	WLAN 2.4GHz	0.07	DTS

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/Kg as averaged over any 1g tissue according to the ANSI C95.1-1999.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report.

A detailed description of the equipment under test can be found in chapter 4 of this test report.

The highest reported SAR value is obtained at the case of **(Table 2.1),** and the values are**: 0.77W/kg (1g).**

Table 2.2: The sum of reported SAR values for main antenna and Wi-Fi

/	Position	Main antenna	Wi-Fi	Sum
Highest reported SAR value for Head	Left Touch	0.257	0.524	**0.78**
Highest reported SAR value for Hotspot	Rear	0.770	0.105	**0.88**
Highest reported SAR value for Body-worn	Rear	0.558	0.050	**0.61**

Table2.3: The sum of reported SAR values for main antenna and BT

/	Position	Main antenna	BT*	Sum
Highest reported SAR value for Head	Left Touch	0.257	0.37	**0.63**
Highest reported SAR value for Hotspot	Rear	0.770	0.19	**0.96**
Highest reported SAR value for Body-worn	Rear	0.558	0.14	**0.70**

BT*-Estimated SAR for Bluetooth (seethetable12.3)

According to the above tables, the highest sum of reported SAR values is **0.96W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 12.

3 Client Information

3.1 Applicant Information

Company Name:	Huawei Technologies Co., Ltd.
Address /Post:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
Contact:	Ma Yan
Email:	mayan15@huawei.com
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3.2 Manufacturer Information

Company Name:	Huawei Technologies Co., Ltd.
Address /Post:	Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C
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Email:	mayan15@huawei.com
Telephone:	+86-18092693925
Fax:	/

4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

4.1 About EUT

Description:	Smart Phone
Model Name:	LDN-L01
Operating mode(s):	GSM 850/1900, WCDMA 850/1900, LTE_FDD Band 5/7, BT, Wi-Fi 2.4G
Tested Tx Frequency:	825 – 848.8MHz (GSM 850)
	1850.2 – 1910MHz (GSM 1900)
	826.4 – 846.6MHz (WCDMA850 Band V)
	1852.4 – 1907.6MHz (WCDMA1900 Band II)
	824.7 – 848.3MHz (LTE_FDD Band 5)
	2502.5 – 2567.5MHz (LTE_FDD Band 7)
	2412 – 2462MHz (Wi-Fi 2.4G)
GPRS&EGPRS Multislot Class:	12
Test device Production information:	Production unit
Device type:	Portable device
Antenna type:	Integrated antenna
Hotspot mode:	Support

4.2 Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version
EUT1	IMEI: 867239030029496	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT2	IMEI: 867239030028951	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT3	IMEI: 867239030029793	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT4	IMEI: 867239030031856	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT5	IMEI: 867239030029181	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT6	IMEI: 867239030029447	HL1LDNM	LDN-L01 5.0.1.37(C900)
EUT7	IMEI: 867239030029819	HL1LDNM	LDN-L01 5.0.1.37(C900)

*EUT ID: is used to identify the test sample in the lab internally.

Note: It is performed to test SAR with the EUT 1 & 2 & 3 & 4 & 5 & 6, and conducted power with the EUT 7.

4.3 Internal Identification of AE used during the test

AE ID*	Description	Model	Manufacturer
AE1	Battery	HB366481ECW-11	Sunwoda Electronic Co., Ltd.
AE2	Battery	HB366481ECW-11	Huizhou Desay Battery Co., Ltd.
AE3	Battery	HB366481ECW-11	SCUD (FUJIAN) Electronics Co., Ltd.

*AE ID: is used to identify the test sample in the lab internally.

5 TEST METHODOLOGY

5.1 Applicable Limit Regulations

ANSI C95.1–1999:IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

5.2 Applicable Measurement Standards

IEEE 1528–2013: Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Experimental Techniques.

KDB 447498 D01 General RF Exposure Guidance v06: Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

KDB648474 D04 Handset SAR v01r03: SAR Evaluation Considerations for Wireless Handsets.

KDB941225 D01 SAR test for 3G devices v03r01: SAR Measurement Procedures for 3G Devices

KDB941225 D05 SAR for LTE Devices v02r05: SAR Evaluation Considerations for LTE Devices

KDB 941225 D06 Hot Spot SAR v02r01: SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

KDB 248227 D01 802.11 Wi-Fi SAR v02r02: SAR Guidance for IEEE 802.11 (Wi-Fi) Transmitters.

KDB 865664 D01SAR measurement 100 MHz to 6 GHz v01r04: SAR Measurement Requirements for 100 MHz to 6 GHz.

KDB 865664 D02 RF Exposure Reporting v01r02: RF Exposure Compliance Reporting and Documentation Considerations

6 Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

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

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

Where: C is the specific head capacity, δT is the temperature rise and δt is the exposure duration, or 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 tissue and E is the RMS electrical field strength.

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

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

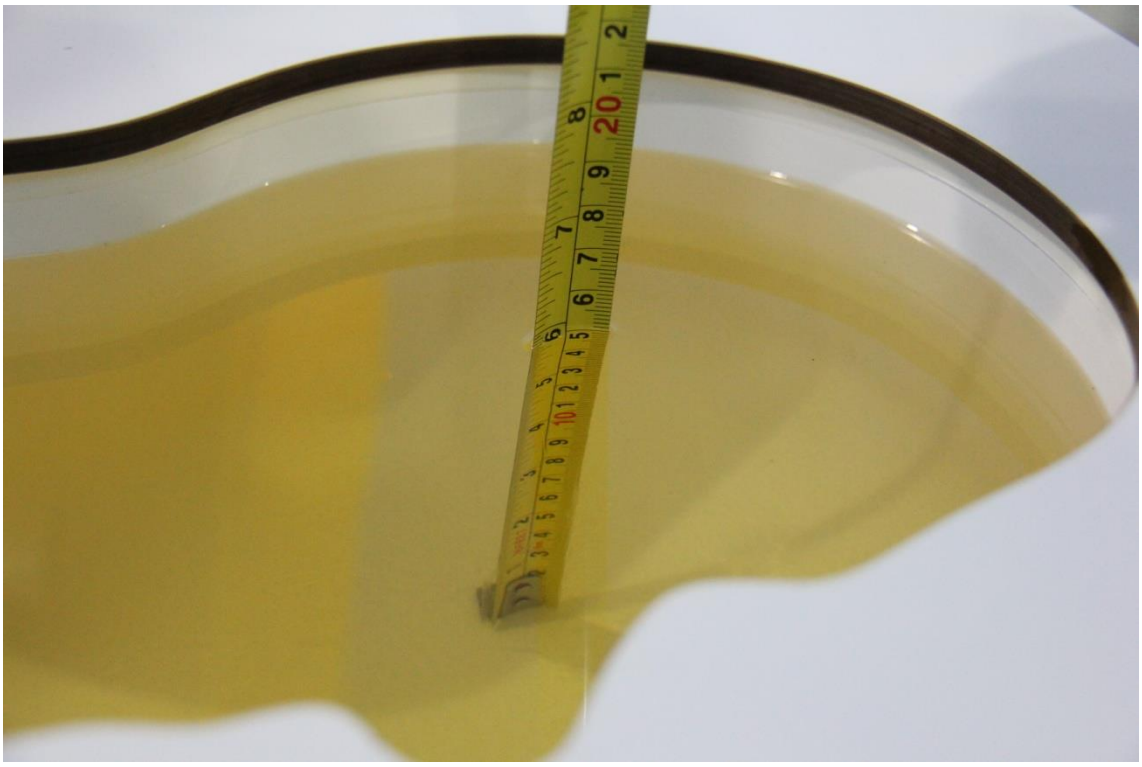
Frequency (MHz)	Liquid Type	Conductivity (σ)	± 5% Range	Permittivity (ε)	± 5% Range
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
835	Body	0.97	0.92～1.02	55.2	52.4～58.0
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
1900	Body	1.52	1.44～1.60	53.3	50.6～56.0
2450	Head	1.80	1.71～1.89	39.2	37.2～41.2
2450	Body	1.95	1.85～2.05	52.7	50.1～55.3
2550	Head	1.91	1.81～2.01	39.07	37.1～41.0
2550	Body	2.09	1.99～2.19	52.6	50.0～55.2

7.2 Dielectric Performance

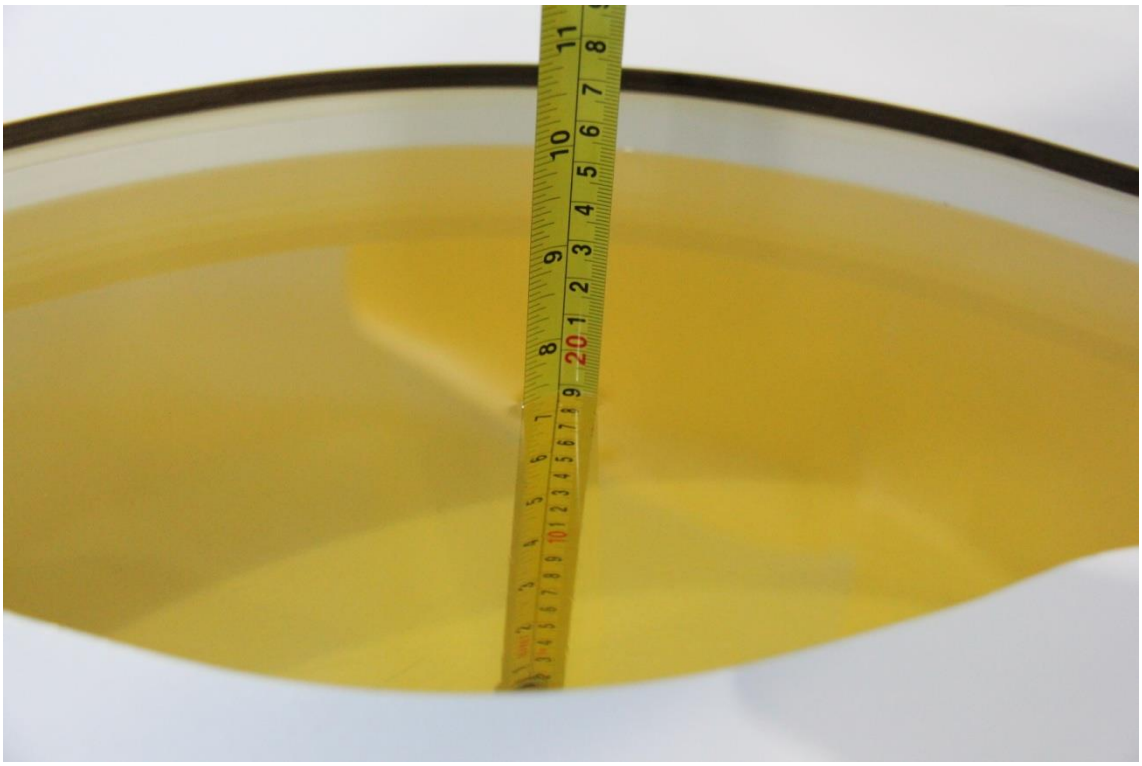
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Conductivity σ (S/m)	Drift (%)	Permittivity ε	Drift (%)
2018-1-10	Head	835	0.916	1.78	40.95	-1.33
2018-1-12	Body	835	0.985	1.55	53.88	-2.39
2018-2-6	Head	1900	1.416	1.14	38.91	-2.73
2018-2-6	Body	1900	1.559	2.57	52.95	-0.66
2018-2-4	Head	2450	1.859	3.28	39.5	0.77
2018-2-4	Body	2450	1.912	-1.95	51.65	-1.99
2018-1-24	Head	2550	1.931	1.10	38.36	-1.82
2018-1-25	Body	2550	2.055	-1.67	53.21	1.16

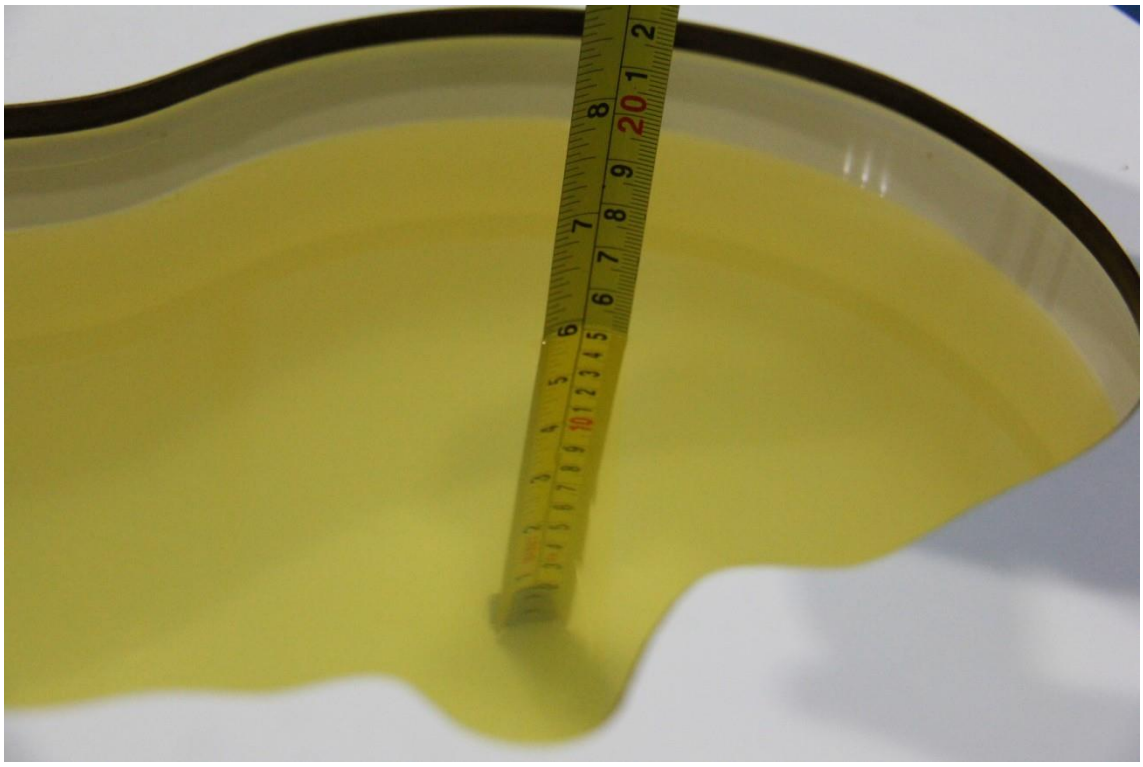
Note: The liquid temperature is 22.0°C



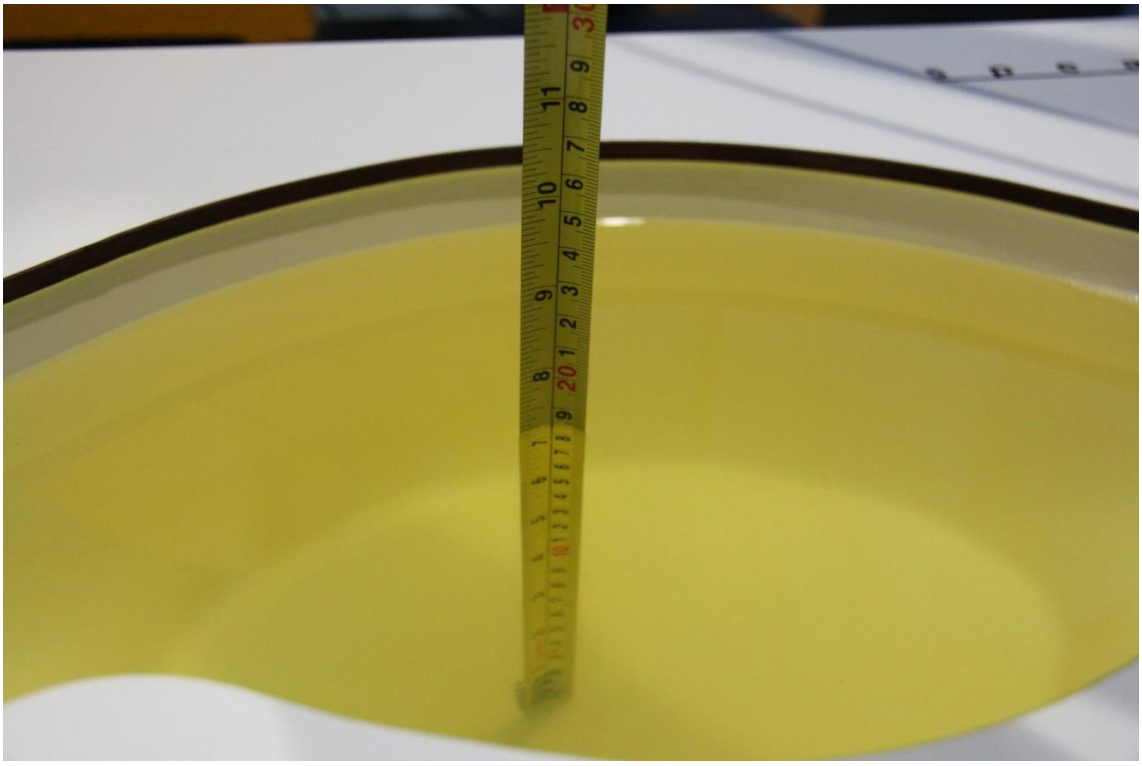
Picture 7-1: Liquid depth in the Head Phantom (835 MHz)



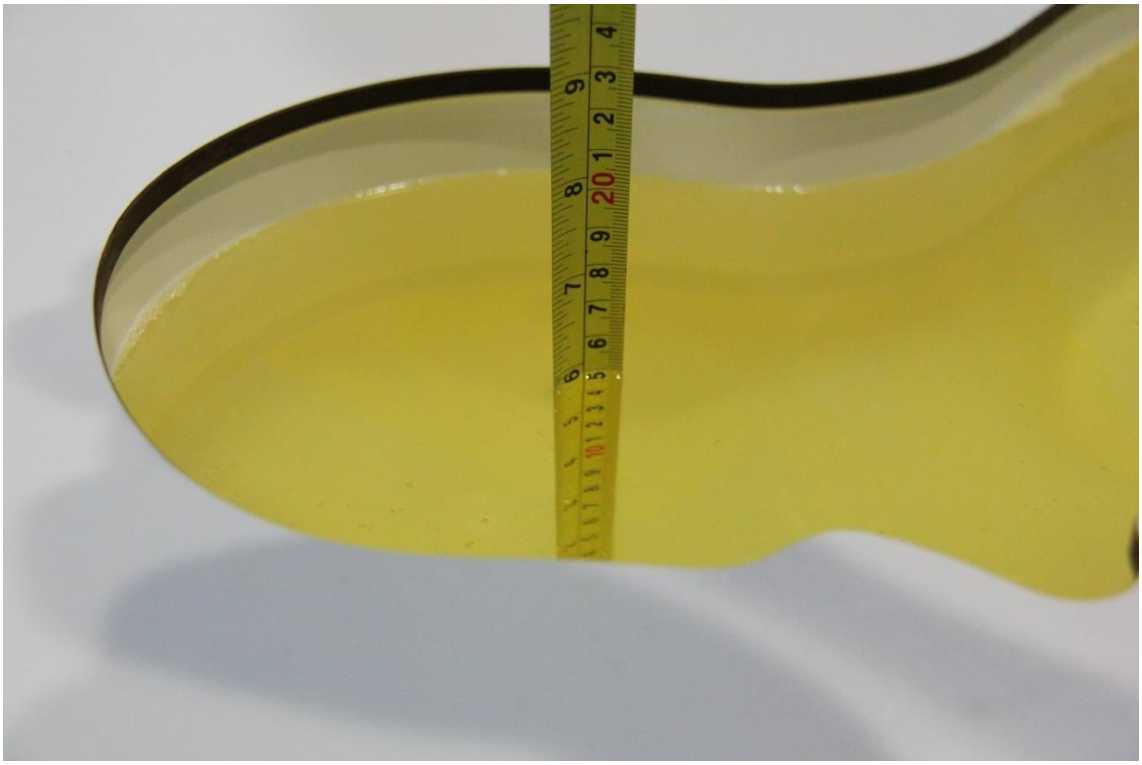
Picture 7-2: Liquid depth in the Flat Phantom (835 MHz)



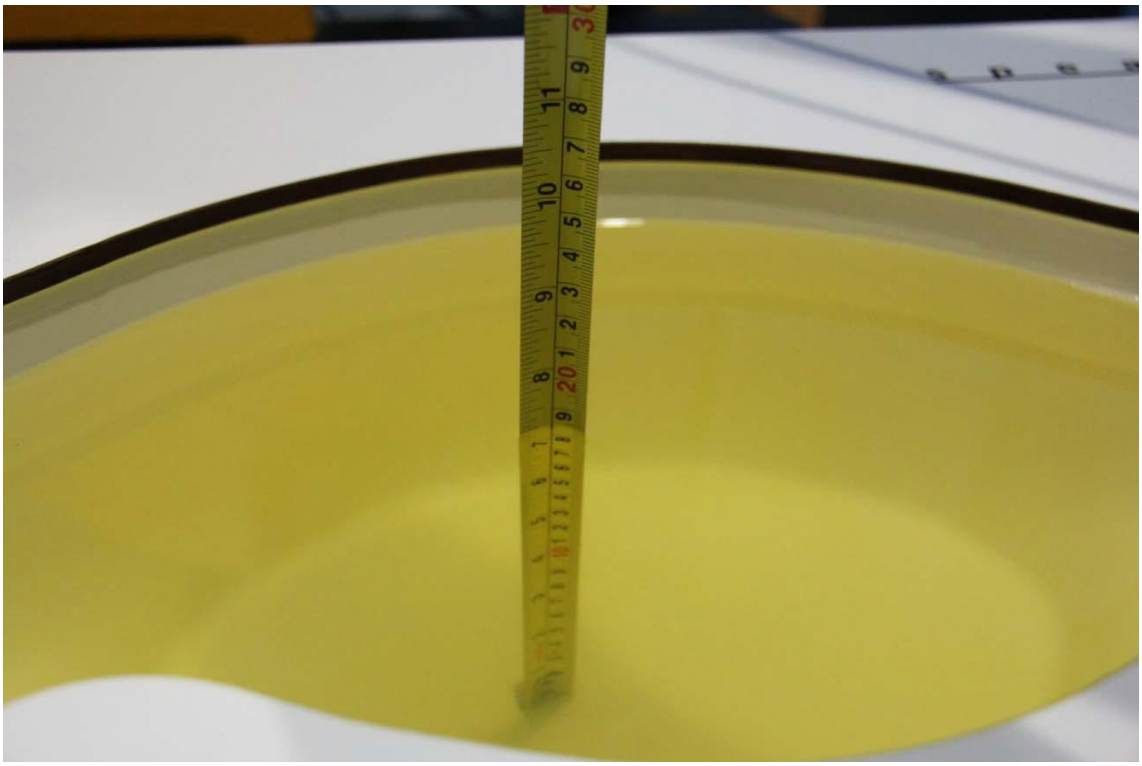
Picture 7-3: Liquid depth in the Head Phantom (1900 MHz)



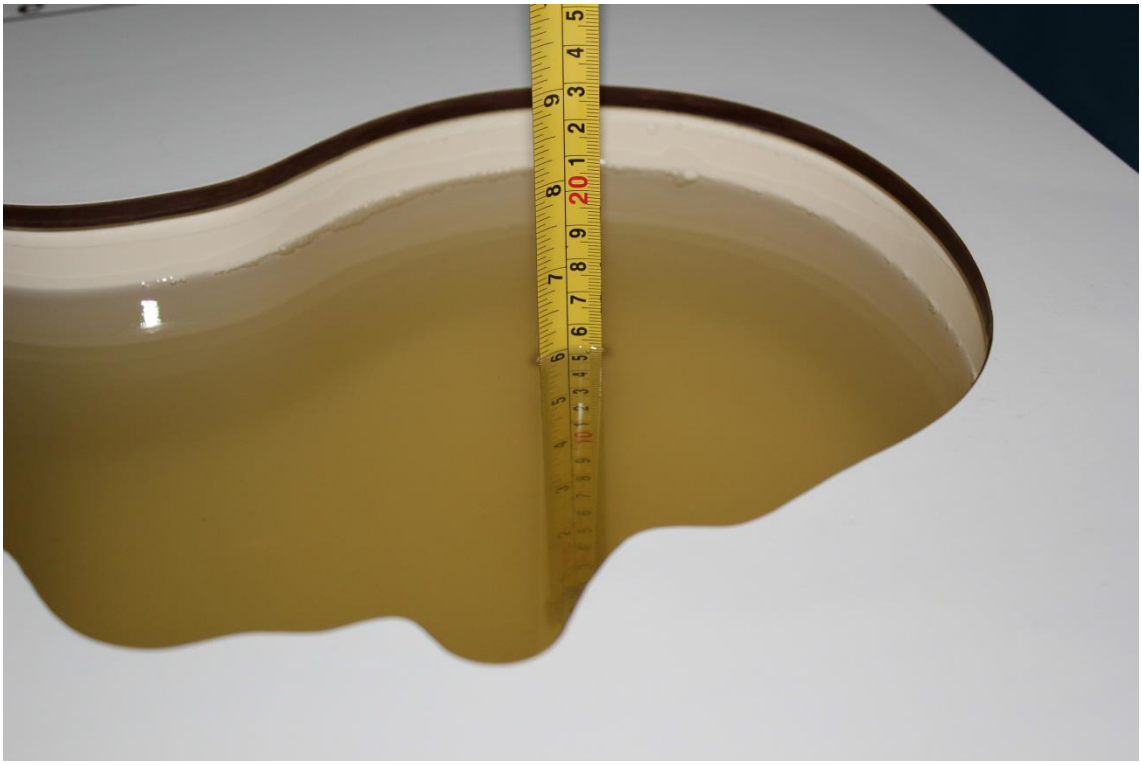
Picture 7-4: Liquid depth in the Flat Phantom (1900MHz)



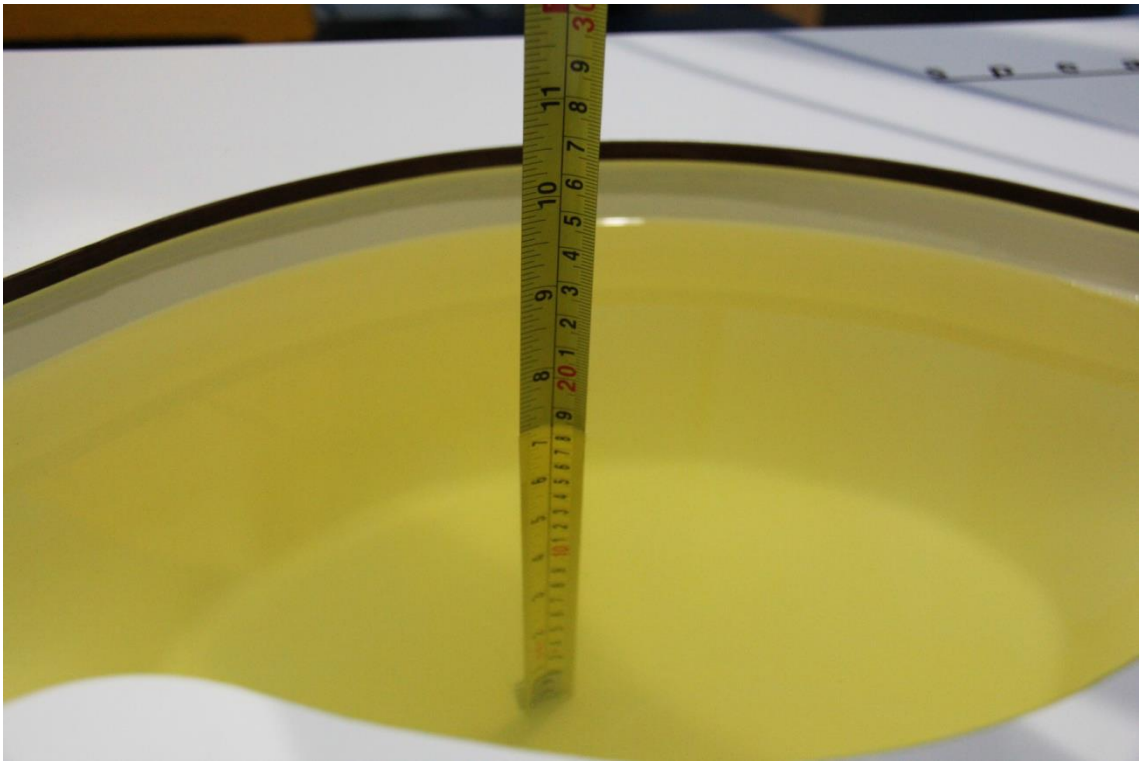
Picture 7-5: Liquid depth in the Head Phantom(2450MHz)



Picture 7-6: Liquid depth in the Flat Phantom(2450MHz)



Picture 7-7: Liquid depth in the Head Phantom(2550MHz)

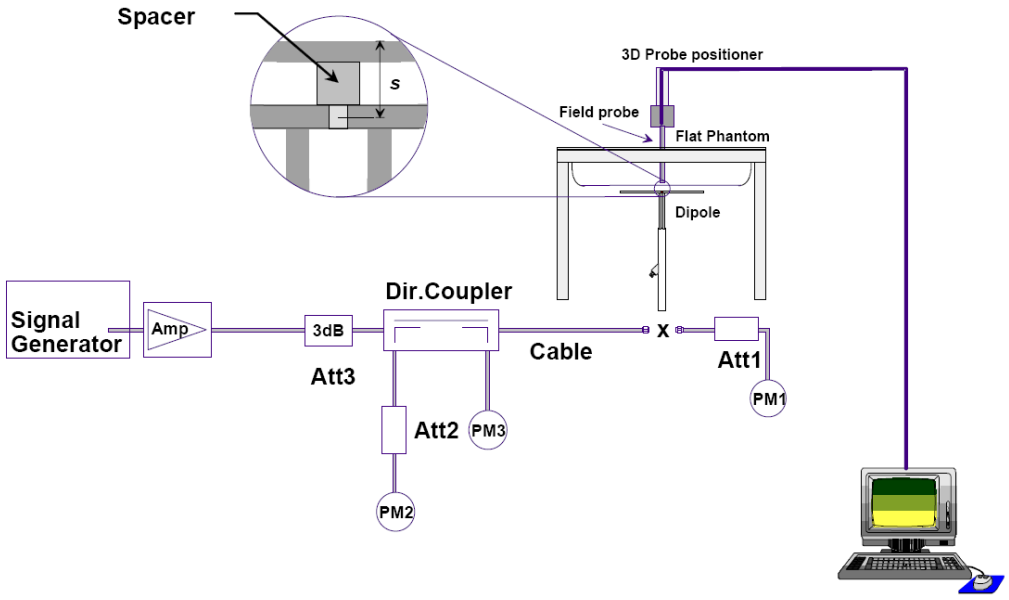


Picture 7-8: Liquid depth in the Flat Phantom(2550MHz)

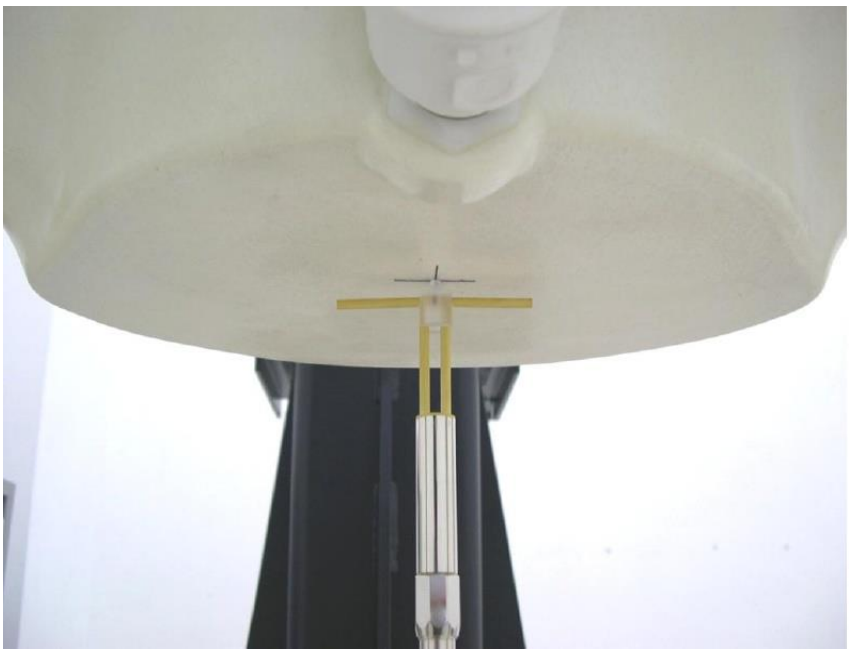
8 System verification

8.1 System Setup

In the simplified setup for system evaluation, the DUT 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:



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

Table 8.1: System Verification of Head

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation (%)	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2018-1-10	835 MHz	6.03	9.22	5.92	8.88	-1.82	-3.69
2018-2-6	1900 MHz	21.0	40.8	21.24	41.60	1.14	1.96
2018-2-4	2450 MHz	24.1	52.5	24.60	54.00	2.07	2.86
2018-1-24	2550 MHz	26.2	57.2	25.88	55.60	-1.22	-2.80

Table 8.2: System Verification of Body

Measurement Date (yyyy-mm-dd)	Frequency	Target value (W/kg)		Measured value (W/kg)		Deviation (%)	
		10 g Average	1 g Average	10 g Average	1 g Average	10 g Average	1 g Average
2018-1-12	835 MHz	6.20	9.44	6.16	9.16	-0.65	-2.97
2018-2-6	1900 MHz	21.3	41.1	20.96	39.80	-1.60	-3.16
2018-2-4	2450 MHz	24.4	52.3	24.04	50.80	-1.48	-2.87
2018-1-25	2550 MHz	25.1	54.8	25.44	56.40	1.35	2.92

9 Measurement Procedures

9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

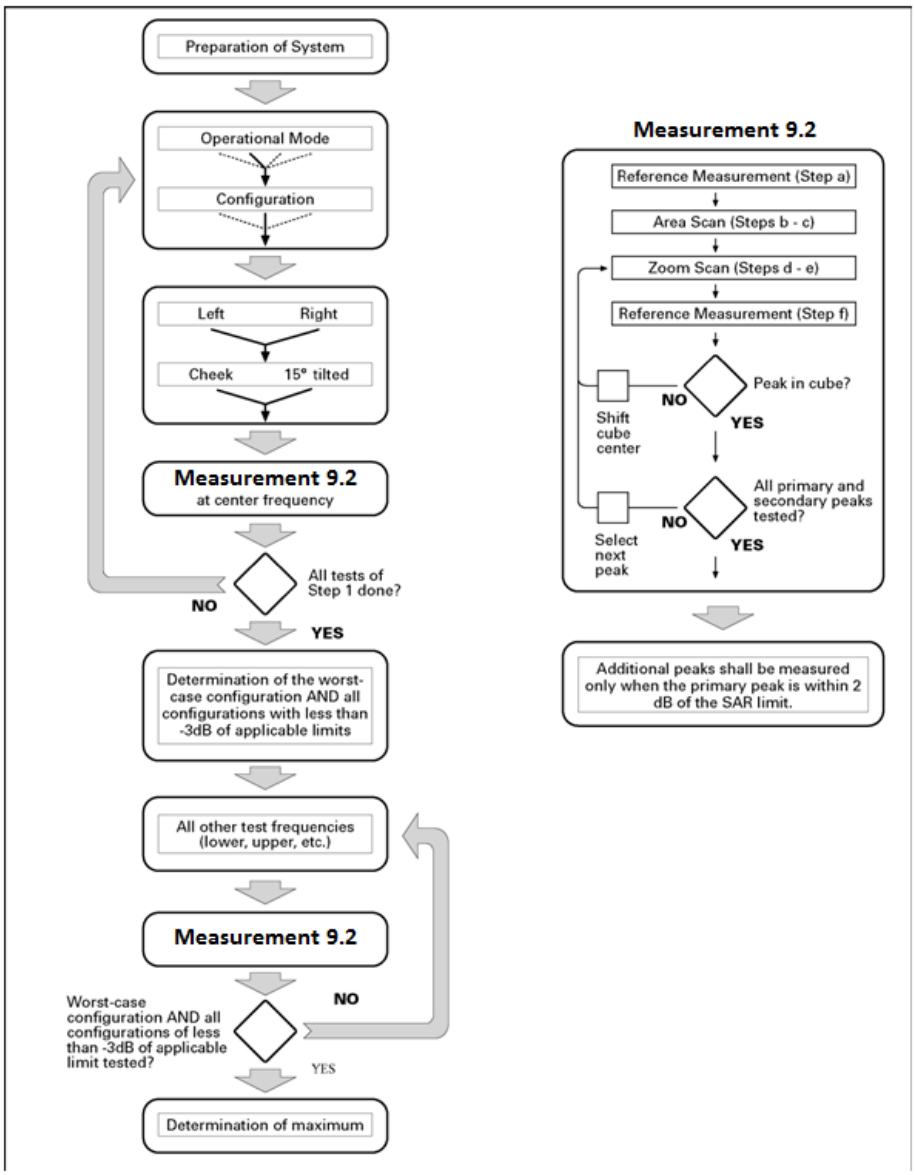
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the center of the transmit frequency band (f_c) for:

a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
b) all configurations for each device position in a), e.g., antenna extended and retracted, and
c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (i.e., N_c > 3), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., lowest and highest frequencies. In addition, for all other conditions (device position, configuration and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies shall be tested as well.

Step 3: Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1 Block diagram of the tests to be performed

9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. 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. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

			≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface			5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location			30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}			≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
			When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.

* When zoom scan is required and the *reported* SAR from the area scan based *1-g SAR estimation* procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & $DPDCH_n$), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

For Release 5 HSDPA Data Devices:

Sub-test	β_c	β_d	β_d （SF）	β_c / β_d	β_{hs}	CM/dB
1	2/15	15/15	64	2/15	4/15	0.0
2	12/15	15/15	64	12/15	24/25	1.0
3	15/15	8/15	64	15/8	30/15	1.5
4	15/15	4/15	64	15/4	30/15	1.5

For Release 6 HSPA Data Devices

Sub-test	β_c	β_d	β_d （SF）	β_c / β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} （SF）	β_{ed} （codes）	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed1}:47/15 β_{ed2}:47/15	4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	3.0	2.0	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.0	0.0	21	81

9.4 Bluetooth & WI-FI Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

9.5 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Anristu MT8820C. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the Anristu MT8820C.It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test

positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

1) QPSK with 1 RB allocation
   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 offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2) QPSK with 50% RB allocation
   The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.
3) QPSK with 100% RB allocation
   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 in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

9.6 Proximity Sensor Considerations

This device uses a power reduction mechanism to reduce output powers in certain use conditions of the main antenna when the device is used close the user's body.

When the device's main antenna is within a certain distance of the user, the sensor activates and reduces the maximum allowed output power. However, the sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, additional evaluation is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level. FCC KDB Publication 616217 D04v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional test positions. Sensor triggering distance summary data is included in Appendix J.

9.7 Power Drift

To control the output power stability during the SAR test, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in Section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

10 Conducted Output Power

10.1 GSM Measurement result

During the process of testing, the EUT was controlled via Agilent Digital Radio Communication tester (E5515C) to ensure the maximum power transmission and proper modulation. This result contains conducted output power for the EUT. In all cases, the measured peak output power should be greater and within 5% than EMI measurement.

Table 10.1: The conducted power measurement results for GSM850/1900

Full Power				
GSM850MHz	Tune up	Conducted Power (dBm)		
		Channel 251 (848.8MHz)	Channel 190 (836.6MHz)	Channel 128 (824.2MHz)
	34	32.53	32.36	32.66
GSM1900MHz	Tune up	Conducted Power(dBm)		
		Channel 810 (1909.8MHz)	Channel 661 (1880MHz)	Channel 512 (1850.2MHz)
	30.8	29.64	29.74	29.67

Table 10.2: The conducted power measurement results for GPRS and EGPRS

Full Power								
GPRS 850	Tune up	Measured Power (dBm)			calculation	Average Power (dBm)		
		251	190	128		251	190	128
1Tx-slots	34	32.40	32.22	32.53	-9.03dB	23.37	23.19	23.5
2Tx-slots	31	29.87	29.91	29.89	-6.02dB	23.85	23.89	23.87
3Tx-slots	29.8	28.33	28.56	28.48	-4.26dB	24.07	24.30	24.22
4Tx-slots	29	**27.34**	**27.41**	**27.26**	-3.01dB	**24.33**	**24.40**	**24.25**
EGPRS 850 (8PSK)	Tune up	Measured Power (dBm)			calculation	Measured Power (dBm)		
		251	190	128		251	190	128
1Tx-slots	27.1	26.03	26.20	26.38	-9.03dB	17.00	17.17	17.35
2Tx-slots	24.1	23.18	23.35	23.51	-6.02dB	17.16	17.33	17.49
3Tx-slots	22.9	22.86	22.73	22.64	-4.26dB	18.60	18.47	18.38
4Tx-slots	23.1	21.71	21.92	22.05	-3.01dB	18.70	18.91	19.04

Full Power								
GPRS 1900	Tune up	Measured Power (dBm)			calculation	Average Power (dBm)		
		810	661	512		810	661	512
1Tx-slots	**30.8**	29.62	29.72	29.64	-9.03dB	20.59	20.69	20.61
2Tx-slots	**27.8**	26.84	26.98	26.85	-6.02dB	20.82	20.96	20.83
3Tx-slots	**26.8**	25.74	25.81	25.82	-4.26dB	21.48	21.55	21.56
4Tx-slots	**26.5**	**25.29**	**25.45**	**25.37**	-3.01dB	**22.28**	**22.44**	**22.36**
EGPRS 1900 (8PSK)	Tune up	Measured Power (dBm)			calculation	Measured Power (dBm)		
		810	661	512		810	661	512
1Tx-slots	**26.6**	25.27	25.52	25.65	-9.03dB	16.24	16.49	16.62
2Tx-slots	**23.6**	22.59	22.74	22.94	-6.02dB	16.57	16.72	16.92
3Tx-slots	**23.4**	22.16	22.27	22.51	-4.26dB	17.90	18.01	18.25
4Tx-slots	**23.1**	21.74	21.91	22.12	-3.01dB	18.73	18.90	19.11
Hotspot &Sensor on & Hotspot + sensor on								
GPRS 1900	Tune up	Measured Power (dBm)			calculation	Average Power (dBm)		
		810	661	512		810	661	512
1Tx-slots	**26.8**	**26.29**	**26.36**	**26.32**	-9.03dB	**17.26**	**17.33**	**17.29**
2Tx-slots	**23.8**	22.16	22.31	23.22	-6.02dB	16.14	16.29	17.20
3Tx-slots	**22.3**	20.95	21.02	20.96	-4.26dB	16.69	16.76	16.70
4Tx-slots	**20.8**	19.13	19.38	19.35	-3.01dB	16.12	16.37	16.34
EGPRS 1900 (8PSK)	Tune up	Measured Power (dBm)			calculation	Measured Power (dBm)		
		810	661	512		810	661	512
1Tx-slots	**23.5**	22.75	22.92	23.09	-9.03dB	13.72	13.89	14.06
2Tx-slots	**20.5**	19.66	19.83	20.00	-6.02dB	13.64	13.81	13.98
3Tx-slots	**19**	18.74	18.87	18.80	-4.26dB	14.48	14.61	14.54
4Tx-slots	**17.5**	16.72	16.84	16.78	-3.01dB	13.71	13.83	13.77

NOTES:

1) Division Factors

To average the power, the division factor is as follows:

1TX-slot = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

10.2 WCDMA Measurement result

Table 10.3: The conducted Power for WCDMA850/1900

Full Power					
Item	band	FDD Band 5 result			
	ARFCN	Tune up	4233 (846.6MHz)	4182 (836.4MHz)	4132 (826.4MHz)
WCDMA	\	25	23.4	23.4	23.4
HSDPA	1	24	22.4	22.4	22.4
	2	24	22.3	22.4	22.4
	3	23.5	21.9	21.9	21.9
	4	23.5	21.9	21.9	21.9
HSUPA	1	23.5	22.3	21.7	22.4
	2	23	21.3	21.0	20.9
	3	22.5	20.9	21.1	21.0
	4	23	21.9	22.0	21.3
	5	23.5	22.5	22.4	22.4
Item	band	FDD Band 2 result			
	ARFCN	Tune up	9538 (1907.6MHz)	9400 (1880MHz)	9262 (1852.4MHz)
WCDMA	\	23.6	22.9	22.8	22.7
HSDPA	1	22.6	21.9	21.7	21.7
	2	22.6	21.8	21.8	21.7
	3	22.1	21.4	21.3	21.2
	4	22.1	21.4	21.4	21.3
HSUPA	1	22.6	21.9	21.8	20.9
	2	21.6	20.9	20.8	20.7
	3	21.1	20.4	20.3	20.3
	4	22.1	21.4	21.4	21.3
	5	22.6	21.8	21.8	21.8

Hotspot &Sensor on & Hotspot + sensor on					
Item	band	FDD Band 2 result			
	ARFCN	Tune up	9538 (1907.6MHz)	9400 (1880MHz)	9262 (1852.4MHz)
WCDMA	\	21.5	19.7	19.7	19.7
HSDPA	1	20.5	18.9	18.8	18.6
	2	20.5	18.9	18.8	18.7
	3	20	18.4	18.3	18.2
	4	20	18.3	18.3	18.2
HSUPA	1	20.5	18.9	18.2	18.0
	2	19.5	17.9	17.7	17.6
	3	19	17.3	17.3	17.4
	4	20	18.5	18.3	18.3
	5	20.5	18.9	18.8	18.8

10.3 LTE-FDD Measurement result

Table 10.4: The conducted Power for LTE

Full Power							
LTE-FDD Band 5				Actual output Power (dBm)			Tune up
Band-width	RB allocation	RB offset	Modulation	High	Middle	Low	
1.4 MHz				848.3MHz	836.5MHz	824.7MHz	
	1RB	High	QPSK	23.11	23.15	23.07	24
			16QAM	22.36	21.89	21.95	23
		Middle	QPSK	23.13	23.24	23.17	24
			16QAM	21.81	22.28	21.93	23
		Low	QPSK	23.01	23.19	23.22	24
			16QAM	21.83	22.43	21.81	23
	3RB	High	QPSK	23.19	23.21	23.24	24
			16QAM	22.13	22.04	22.17	23
		Middle	QPSK	23.50	23.23	23.33	24
			16QAM	22.22	22.16	22.02	23
		Low	QPSK	23.44	23.20	23.30	24
			16QAM	22.60	22.03	22.12	23
	6RB	/	QPSK	22.37	22.11	22.24	23
			16QAM	21.11	21.01	20.99	22
3 MHz				847.5MHz	836.5MHz	825.5MHz	/
	1RB	High	QPSK	23.36	23.06	23.14	24
			16QAM	21.72	22.23	21.53	23
		Middle	QPSK	23.29	23.19	23.42	24
			16QAM	22.11	22.52	21.98	23
		Low	QPSK	23.22	23.19	23.14	24
			16QAM	21.78	22.29	21.72	23
	8RB	High	QPSK	22.41	22.28	22.29	23
			16QAM	21.31	21.17	21.32	22
		Middle	QPSK	22.35	22.23	22.37	23
			16QAM	21.25	21.28	21.33	22
		Low	QPSK	22.34	22.22	22.47	23
			16QAM	21.36	21.28	21.37	22
	15RB	/	QPSK	22.38	22.21	22.31	23
			16QAM	21.25	21.13	21.21	22

5 MHz				846.5MHz	836.5MHz	826.5MHz	**Tune up**
	1RB	High	QPSK	23.14	22.87	22.87	**24**
			16QAM	22.26	21.71	21.68	**23**
		Middle	QPSK	23.23	23.09	23.17	**24**
			16QAM	22.05	21.83	21.81	**23**
		Low	QPSK	22.87	23.00	23.12	**24**
			16QAM	21.43	21.84	21.78	**23**
	12RB	High	QPSK	22.32	22.19	22.19	**23**
			16QAM	21.06	21.16	21.07	**22**
		Middle	QPSK	22.33	22.30	22.34	**23**
			16QAM	21.26	21.19	21.11	**22**
		Low	QPSK	22.21	22.25	22.40	**23**
			16QAM	21.06	21.17	21.16	**22**
	25RB	/	QPSK	22.27	22.23	22.30	**23**
			16QAM	21.30	21.12	21.24	**22**
10 MHz				844MHz	836.5MHz	829MHz	/
	1RB	High	QPSK	23.16	23.08	23.10	**24**
			16QAM	22.13	21.83	21.87	**23**
		Middle	QPSK	23.09	**23.31**	23.39	**24**
			16QAM	21.72	21.68	22.00	**23**
		Low	QPSK	23.05	23.14	23.08	**24**
			16QAM	21.70	21.71	21.89	**23**
	25RB	High	QPSK	22.22	22.24	22.26	**23**
			16QAM	21.17	21.05	21.18	**22**
		Middle	QPSK	22.11	**22.25**	22.24	**23**
			16QAM	21.07	21.13	21.07	**22**
		Low	QPSK	22.14	22.21	22.28	**23**
			16QAM	21.10	20.99	21.19	**22**
	50RB	/	QPSK	22.16	22.19	22.28	**23**
			16QAM	21.14	21.08	21.30	**22**

Full Power							
LTE-FDD Band 7				Actual output Power (dBm)			Tune up
Band-width	RB allocation	RB offset	Modulation	High	Middle	Low	
5 MHz				2567.4MHz	2535MHz	2502.5MHz	
	1RB	High	QPSK	22.88	22.79	22.53	24
			16QAM	21.55	21.15	21.75	23
		Middle	QPSK	23.01	22.94	22.60	24
			16QAM	21.63	21.32	21.61	23
		Low	QPSK	22.86	22.70	22.59	24
			16QAM	21.43	20.99	21.17	23
	12RB	High	QPSK	22.04	21.98	21.86	23
			16QAM	20.93	20.95	20.52	22
		Middle	QPSK	22.04	21.96	21.81	23
			16QAM	20.99	20.91	20.57	22
		Low	QPSK	21.99	21.89	21.64	23
			16QAM	20.94	20.86	20.51	22
	25RB	/	QPSK	21.98	22.00	21.76	23
			16QAM	21.03	21.05	20.61	22
10 MHz				2565MHz	2535MHz	2505MHz	/
	1RB	High	QPSK	23.15	22.97	22.65	24
			16QAM	21.28	21.58	21.85	23
		Middle	QPSK	23.15	22.93	22.85	24
			16QAM	21.56	22.10	21.33	23
		Low	QPSK	22.96	22.76	22.54	24
			16QAM	21.19	21.14	21.20	23
	25RB	High	QPSK	22.02	21.93	21.87	23
			16QAM	20.97	21.00	20.84	22
		Middle	QPSK	22.12	21.99	21.81	23
			16QAM	21.00	21.05	20.89	22
		Low	QPSK	21.96	21.80	21.76	23
			16QAM	20.93	20.86	20.82	22
	50RB	/	QPSK	22.08	21.96	21.88	23
			16QAM	20.97	20.94	20.93	22

15 MHz				2562.5MHz	2535MHz	2507.5MHz	**Tune up**
	1RB	High	QPSK	22.78	22.67	22.68	**24**
			16QAM	21.80	21.55	22.07	**23**
		Middle	QPSK	22.92	22.92	22.76	**24**
			16QAM	21.84	21.48	21.96	**23**
		Low	QPSK	22.42	22.43	22.53	**24**
			16QAM	21.62	21.35	21.36	**23**
	36RB	High	QPSK	22.02	22.04	21.93	**23**
			16QAM	21.07	20.95	20.95	**22**
		Middle	QPSK	22.00	22.03	21.85	**23**
			16QAM	21.07	20.95	20.78	**22**
		Low	QPSK	21.75	21.78	21.68	**23**
			16QAM	20.96	20.79	20.72	**22**
	75RB	/	QPSK	22.01	21.96	21.84	**23**
			16QAM	20.96	20.97	20.86	**22**
20MHz				2560MHz	2535MHz	2510MHz	/
	1RB	High	QPSK	22.66	22.84	22.45	**24**
			16QAM	22.09	21.55	21.40	**23**
		Middle	QPSK	22.96	**22.85**	22.78	**24**
			16QAM	22.22	21.99	21.92	**23**
		Low	QPSK	22.58	22.39	22.31	**24**
			16QAM	21.46	21.25	21.25	**23**
	50RB	High	QPSK	22.03	21.90	21.91	**23**
			16QAM	20.96	20.98	20.97	**22**
		Middle	QPSK	22.13	**21.92**	21.96	**23**
			16QAM	21.00	20.93	21.01	**22**
		Low	QPSK	21.83	21.74	21.72	**23**
			16QAM	20.74	20.88	20.68	**22**
	100RB	/	QPSK	21.99	21.90	21.84	**23**
			16QAM	20.87	20.94	20.78	**22**

Hotspot &Sensor on & Hotspot + sensor on							
LTE-FDD Band 7				Actual output Power (dBm)			Tune up
Band-width	RB allocation	RB offset	Modulation	High	Middle	Low	
5 MHz				2567.4MHz	2535MHz	2502.5MHz	
	1RB	High	QPSK	18.78	18.86	18.75	20
			16QAM	18.09	18.82	18.45	20
		Middle	QPSK	18.79	18.78	18.85	20
			16QAM	18.43	18.55	18.52	20
		Low	QPSK	18.67	18.70	18.69	20
			16QAM	18.13	18.34	18.32	20
	12RB	High	QPSK	18.89	18.98	18.89	20
			16QAM	18.82	18.80	18.61	20
		Middle	QPSK	18.94	18.94	18.84	20
			16QAM	18.81	18.92	18.64	20
		Low	QPSK	18.90	18.89	18.80	20
			16QAM	18.75	18.88	18.57	20
	25RB	/	QPSK	18.99	18.89	18.91	20
			16QAM	18.84	19.04	18.79	20
10 MHz				2565MHz	2535MHz	2505MHz	/
	1RB	High	QPSK	18.92	19.01	18.79	20
			16QAM	18.43	18.54	18.45	20
		Middle	QPSK	18.88	18.94	18.94	20
			16QAM	18.68	18.51	18.58	20
		Low	QPSK	18.66	18.70	18.75	20
			16QAM	18.49	18.56	18.38	20
	25RB	High	QPSK	18.84	18.93	18.97	20
			16QAM	18.94	18.99	18.92	20
		Middle	QPSK	18.85	19.01	18.94	20
			16QAM	19.05	18.98	19.00	20
		Low	QPSK	18.83	18.91	18.90	20
			16QAM	18.87	18.94	18.97	20
	50RB	/	QPSK	18.93	19.00	18.94	20
			16QAM	18.95	19.04	18.97	20

				2562.5MHz	2535MHz	2507.5MHz	Tune up
15 MHz	1RB	High	QPSK	18.70	18.75	18.87	20
			16QAM	18.46	18.51	18.41	20
		Middle	QPSK	18.81	18.73	18.75	20
			16QAM	18.59	18.49	18.31	20
		Low	QPSK	18.54	18.59	18.89	20
			16QAM	18.56	18.42	18.41	20
	36RB	High	QPSK	18.81	18.87	18.98	20
			16QAM	18.86	18.90	19.03	20
		Middle	QPSK	18.87	18.79	18.91	20
			16QAM	18.86	18.81	18.97	20
		Low	QPSK	18.77	18.74	18.83	20
			16QAM	18.91	18.76	18.87	20
	75RB	/	QPSK	18.80	18.85	18.92	20
			16QAM	18.92	18.98	18.99	20
20MHz				2560MHz	2535MHz	2510MHz	/
	1RB	High	QPSK	18.89	18.82	18.67	20
			16QAM	18.61	18.38	18.26	20
		Middle	QPSK	19.07	**19.02**	18.90	20
			16QAM	19.20	18.75	18.46	20
		Low	QPSK	18.47	18.54	18.57	20
			16QAM	18.53	18.34	18.18	20
	50RB	High	QPSK	19.00	18.97	18.91	20
			16QAM	18.97	19.01	18.95	20
		Middle	QPSK	18.97	**18.94**	18.93	20
			16QAM	19.08	19.06	19.09	20
		Low	QPSK	18.86	18.94	18.71	20
			16QAM	18.84	18.87	18.73	20
	100RB	/	QPSK	18.93	19.00	18.90	20
			16QAM	18.96	19.02	18.74	20

10.4 Wi-Fi and BT Measurement result

Table 10.5: The conducted Power measurement results for BT

BT	Tune up	Averaged Power (dBm)		
Mode		Ch.0 (2402 MHz)	Ch.39 (2441 MHz)	Ch.78 (2480 MHz)
GFSK	**9.5**	8.98	9.21	7.89
EDR2M-4_DQPSK	**9.5**	7.41	7.99	6.49
EDR3M-8DPSK	**9.5**	7.39	7.80	6.16
BLE	**2**	Ch.0（2402MHz）	Ch.19（2441MHz）	Ch.39（2480MHz）
		-0.47	-0.22	-1.40

Table 10.6: The conducted Power measurement results for 2.4G WIFI

WiFi 2.4GHz	Tune up	Averaged Power (dBm)		
Mode		Ch.1 (2412 MHz)	Ch.6 (2437Mhz)	Ch.11 (2462MHz)
802.11b	**18**	**16.85**	16.76	16.79
802.11g	**17(Ch6/11)** **15.5(Ch1)**	14.46	14.21	14.33
802.11n(20MHz)	**15**	14.34	14.05	14.10
802.11n(40MHz)	**14**	13.61	13.52	13.72

Table 10.7: The Reduce conducted Power measurement results for 2.4G WIFI

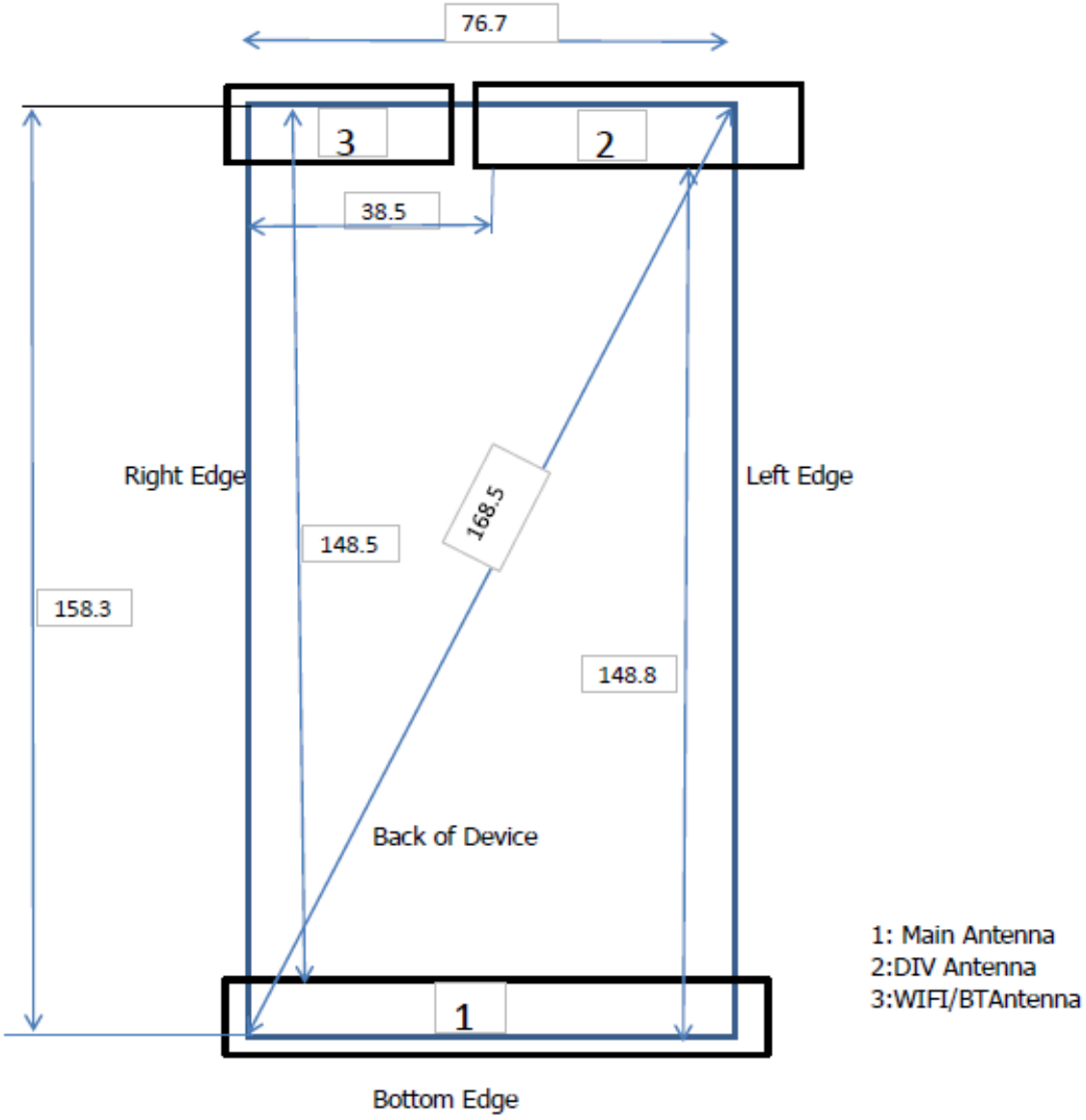
WiFi 2.4GHz	Tune up	Averaged Power (dBm)		
Mode		Ch. 1(2412 MHz)	Ch. 6(2437Mhz)	Ch. 11(2462MHz)
802.11b	**14**	**12.94**	12.75	12.81
802.11g	**14**	13.22	13.12	13.15
802.11n(20MHz)	**14**	13.36	13.08	13.11
802.11n(40MHz)	**14**	13.61	13.52	13.72

11 Simultaneous TX SAR Considerations

11.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter.
For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

11.2 Transmit Antenna Separation Distances



Picture 11.1 Antenna Locations

11.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

SAR measurement positions						
Mode	Front	Rear	Left edge	Right edge	Top edge	Bottom edge
Main antenna	Yes	Yes	Yes	Yes	No	Yes
WLAN	Yes	Yes	No	Yes	Yes	No

11.4 Standalone SAR Test Exclusion Considerations

Standalone 1-g head or body SAR evaluation by measurement or numerical simulation is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied. The 1-g SAR test exclusion threshold for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Table 11.1: Standalone SAR test exclusion considerations

Band/Mode	f(GHz)	Position	SAR test exclusion threshold (mW)	RF output power		SAR test exclusion
				dBm	mW	
Bluetooth	2.441	Head	9.60	9.5	8.9	Yes
		Body	19.20	9.5	8.9	Yes
2.4GHz WLAN	2.45	Head	9.58	18	63.1	No
		Body	19.17	18	63.1	No

12 Evaluation of Simultaneous

Table 12.1: The sum of reported SAR values for main antenna and Wi-Fi

/	Position	Main antenna	Wi-Fi	Sum
Highest reported SAR value for Head	Left Touch	0.257	0.524	**0.781**
	Right Touch	0.194	0.204	**0.398**
Highest reported SAR value for Hotspot	Rear	0.770	0.105	**0.875**
Highest reported SAR value for Body-worn	Rear	0.558	0.050	**0.608**

Table 12.2: The sum of reported SAR values for main antenna and Bluetooth

/	Position	Main antenna	BT*	Sum
Highest reported SAR value for Head	Left Touch	0.257	0.37	**0.627**
	Right Touch	0.194	0.37	**0.564**
Highest reported SAR value for Hotspot	Rear	0.770	0.19	**0.960**
Highest reported SAR value for Body-worn	Rear	0.558	0.14	**0.698**

BT* - Estimated SAR for Bluetooth (see the table 12.3)

Table 12.3: Estimated SAR for Bluetooth

Position	f (GHz)	Distance (mm)	Upper limit of power *		Estimated$_{1g}$ (W/kg)
			dBm	mW	
Head	2.441	5	9.5	8.91	0.37
Body	2.441	10	9.5	8.91	0.19
Body	2.441	15	9.5	8.91	0.14

* - Maximum possible output power declared by manufacturer

When standalone SAR test exclusion applies to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated according to following to determine simultaneous transmission SAR test exclusion:
(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)]·[√f(GHz)/x] W/kg for test separation distances ≤ 50 mm;
Where x = 7.5 for 1-g SAR.
When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion

Conclusion:
According to the above tables, the sum of reported SAR values is < 1.6W/kg. So the simultaneous transmission SAR with volume scans is not required.

13 SAR Test Result

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{Target}-P_{Measured})/10}$$

Where P_{Target} is the power of manufacturing upper limit;

$P_{Measured}$ is the measured power in chapter 10.

Table 13.1: Duty Cycle

Mode	Duty Cycle
Speech for GSM850/1900	1:8.3
GPRS for GSM850 (Hotspot)	1:4
GPRS for GSM1900 (Hotspot)	1:8.3
GPRS for GSM850/1900 (Body-worn)	1:4
WCDMA850/1900	1:1
FDD_LTE Band 5/7	1:1

Note:

EUT1(Battery): HB366481ECW-11 （ Sunwoda Electronic Co., Ltd. ）
EUT2(Battery): HB366481ECW-11 （ Sunwoda Electronic Co., Ltd. ）
EUT3(Battery): HB366481ECW-11 （ Huizhou Desay Battery Co., Ltd. ）
EUT4(Battery): HB366481ECW-11 （ Huizhou Desay Battery Co., Ltd. ）
EUT5(Battery): HB366481ECW-11 （ SCUD(Fujian)Electronics Co., Ltd ）
EUT6(Battery): HB366481ECW-11 （ SCUD(Fujian)Electronics Co., Ltd ）

13.1 SAR results

Table 13.2: SAR Values (GSM 850 - Head)

Ambient Temperature: 22.5°C Liquid Temperature: 22 °C									
Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
836.6	190	Speech	Left Touch	**Fig.1**	32.36	34	**0.127**	**0.185**	0.08
836.6	190	Speech	Left Tilt	/	32.36	34	0.099	**0.144**	0.05
836.6	190	Speech	Right Touch	/	32.36	34	0.125	**0.182**	-0.05
836.6	190	Speech	Right Tilt	/	32.36	34	0.116	**0.169**	0.02
836.6	190	Speech	Left Touch	EUT2	32.36	34	0.076	**0.111**	0.02
836.6	190	Speech	Left Touch	EUT3	32.36	34	0.090	**0.131**	0.02
836.6	190	Speech	Left Touch	EUT4	32.36	34	0.079	**0.115**	-0.07
836.6	190	Speech	Left Touch	EUT5	32.36	34	0.086	**0.125**	0.01
836.6	190	Speech	Left Touch	EUT6	32.36	34	0.072	**0.105**	0.08

Table 13.3: SAR Values (GSM 850 -Body)

Ambient Temperature: 22.5°C Liquid Temperature: 22 °C									
Frequency		Test Mode	Test Position	Figure No. / Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.								
Hotspot Test Data (10mm)									
836.6	190	GPRS	Front	/	27.41	29	0.136	**0.196**	-0.01
836.6	190	GPRS	Rear	**Fig.2**	27.41	29	**0.279**	**0.402**	-0.02
836.6	190	GPRS	Left	/	27.41	29	0.141	**0.203**	-0.02
836.6	190	GPRS	Right	/	27.41	29	0.143	**0.206**	0.09
836.6	190	GPRS	Bottom	/	27.41	29	0.060	**0.087**	0.08
836.6	190	GPRS	Rear	EUT2	27.41	29	0.227	**0.327**	-0.01
836.6	190	GPRS	Rear	EUT3	27.41	29	0.252	**0.363**	0.02
836.6	190	GPRS	Rear	EUT4	27.41	29	0.244	**0.352**	0.02
836.6	190	GPRS	Rear	EUT5	27.41	29	0.210	**0.303**	0.01
836.6	190	GPRS	Rear	EUT6	27.41	29	0.150	**0.216**	0.08
Body Worn Test Data (15mm)									
836.6	190	GPRS	Front	/	27.41	29	0.119	**0.172**	-0.01
836.6	190	GPRS	Rear	/	27.41	29	0.203	**0.293**	-0.03