



# SAR TEST REPORT

No. I22Z60033-SEM01

For

**TCL Communication Ltd.**

**GSM/UMTS/LTE Mobile phone**

**Model Name: 4058W**

with

**Hardware Version: 03**

**Software Version: KE26**

**FCC ID: 2ACCJN059**

**Issued Date: 2022-2-24**

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## **REPORT HISTORY**

<b>Report Number</b>	<b>Revision</b>	<b>Issue Date</b>	<b>Description</b>
I22Z60033-SEM01	Rev.0	2022-2-24	Initial creation of test report

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## 1 Test Laboratory

### 1.1 Testing Location

Company Name:	CTTL(Shouxiang)
Address:	No. 51 Shouxiang Science Building, Xueyuan Road, Haidian District, Beijing, P. R. China100191

### 1.2 Testing Environment

Temperature:	18°C~25°C,
Relative humidity:	30%~ 70%
Ground system resistance:	< 0.5 $\Omega$
Ambient noise & Reflection:	< 0.012 W/kg

### 1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Yao Juming
Testing Start Date:	January 19, 2022
Testing End Date:	February 11, 2022

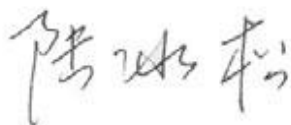
### 1.4 Signature



Yao Juming  
(Prepared this test report)



Qi Dianyuan  
(Reviewed this test report)



Lu Bingsong  
Deputy Director of the laboratory  
(Approved this test report)

## 2 Statement of Compliance

This EUT is variant product and the report of original sample is No.I21Z62522-SEM05. We do spot check on highest value point in all bands of the original report for head and body respectively. The results of spot check are presented in the annex I.

The maximum results of Specific Absorption Rate (SAR) found during testing for TCL Communication Ltd. GSM/UMTS/LTE Mobile phone T408DL, 4058L, 4058G are as follows:

**Table 2.1: Highest Reported SAR (1g)**

Technology Band	Head	Hotspot	Body-Worn	Equipment Class
GSM850	<b>0.86</b>	<b>1.02</b>	<b>1.02</b>	PCE
GSM1900	<b>0.27</b>	<b>1.29</b>	<b>1.29</b>	
WCDMA1900	<b>0.52</b>	<b>1.17</b>	<b>1.20</b>	
WCDMA 1700	<b>0.51</b>	<b>1.24</b>	<b>1.27</b>	
WCDMA 850	<b>0.59</b>	<b>0.74</b>	<b>0.74</b>	
LTE Band12	<b>0.47</b>	<b>0.67</b>	<b>0.67</b>	
LTE Band25	<b>0.40</b>	<b>0.90</b>	<b>1.08</b>	
LTE Band26	<b>0.54</b>	<b>0.56</b>	<b>0.56</b>	
LTE Band41-PC3	<b>0.43</b>	<b>0.91</b>	<b>0.91</b>	
LTE Band41-PC2	<b>0.55</b>	<b>1.02</b>	<b>0.79</b>	
LTE Band66	<b>0.43</b>	<b>1.26</b>	<b>0.63</b>	
LTE Band71	<b>0.37</b>	<b>0.47</b>	<b>0.47</b>	
WLAN 2.4GHz	<b>0.79</b>	<b>0.32</b>	<b>0.14</b>	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 C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10/15 mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

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:

**Head: 0.86 W/kg (1g)**

**Body: 1.29 W/kg (1g)**

Remark:

This device supports both LTE B2/B4/B5 and LTE B25/B66/B26. Since the supported frequency span for LTE B2/B4/B5 falls completely within the supports frequency span for LTE B25/B66/B26, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25/B66/B26.

**Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G (1g)**

	Position	Main antenna	WiFi-2.4G	Sum
<b>Highest SAR value for Head</b>	Right head, Cheek (GSM850)	0.86	0.43	<b>1.29</b>
<b>Highest SAR value for Body</b>	Rear 10mm (GSM1900)	1.29	0.20	<b>1.49</b>

**Table 2.3: The sum of SAR values for main antenna and BT (1g)**

	Position	Main antenna	BT	Sum
<b>Maximum reported SAR value for Head</b>	Right head, Cheek (GSM850)	0.86	0.33 <sup>[1]</sup>	<b>1.19</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm (GSM1900)	1.29	0.17 <sup>[1]</sup>	<b>1.46</b>

[1] - Estimated SAR for Bluetooth (see the table 13.3)

**Conclusion:**

According to the above tables, the sum of reported SAR values is <math>1.6\text{W/kg}</math>. So the simultaneous transmission SAR with volume scans is not required.

According to the above tables, the highest sum of reported SAR values is **1.49 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

### 3 Client Information

#### 3.1 Applicant Information

Company Name:	TCL Communication Ltd.
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#### 3.2 Manufacturer Information

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Contact Person:	Peter yang
Contact Email:	peter.yang@tcl.com
Telephone:	+86 755 3664 5759
Fax:	+86 755 3661 2000-81722



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

### 4.1 About EUT

Description:	GSM/UMTS/LTE Mobile phone
Model name:	4058W
Operating mode(s):	GSM850/900/1800/1900, WCDMA850/1700/1900 LTE Band 2/4/5/12/25/26/41/66 BT, Wi-Fi2.4G
Tested Tx Frequency:	824 – 849 MHz (GSM 850)
	1850 – 1910 MHz (GSM 1900)
	824 – 849 MHz (WCDMA 850 Band V)
	1710-1755 MHz (WCDMA1700 Band IV)
	1850 – 1910 MHz (WCDMA1900 Band II)
	699.7 – 715.3 MHz (LTE Band 12)
	1850.7 –1914.3 MHz (LTE Band 25)
	814.7 –848.3 MHz (LTE Band 26)
	2498.5 – 2687.5 MHz (LTE Band41)
	1710.7 –1779.3 MHz (LTE Band 66)
	665.5 –695.5 MHz (LTE Band 71)
	2412 – 2462 MHz (Wi-Fi 2.4G)
2400 – 2483.5 MHz (Bluetooth)	
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*	IMEI	HW Version	SW Version
EUT1	016157000201806	03	KE26
EUT2	016157000201814	03	KE26

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

**Note:** It is performed to test SAR with the EUT1 and conducted power with the EUT2.

**4.3 Internal Identification of AE used during the test**

AE ID*	Description	Model	SN	Manufacturer
AE1	Battery	TLi017C1	/	BYD
AE2	Battery	TLi017C7	/	veken

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

## 5 TEST METHODOLOGY

### 5.1 Applicable Limit Regulations

**ANSI C95.1–1992:** 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: Measurement Techniques.

**KDB447498 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

**KDB941225 D06 Hotspot Mode SAR v02r01:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

**KDB248227 D01 802.11 Wi-Fi SAR v02r02:** SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

**KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04:** SAR Measurement Requirements for 100 MHz to 6 GHz.

**KDB865664 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 ( $\rho$ ). 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 heat capacity,  $\delta T$  is the temperature rise and  $\delta t$  is the exposure duration, or related to the electrical field in the tissue by

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

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  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**

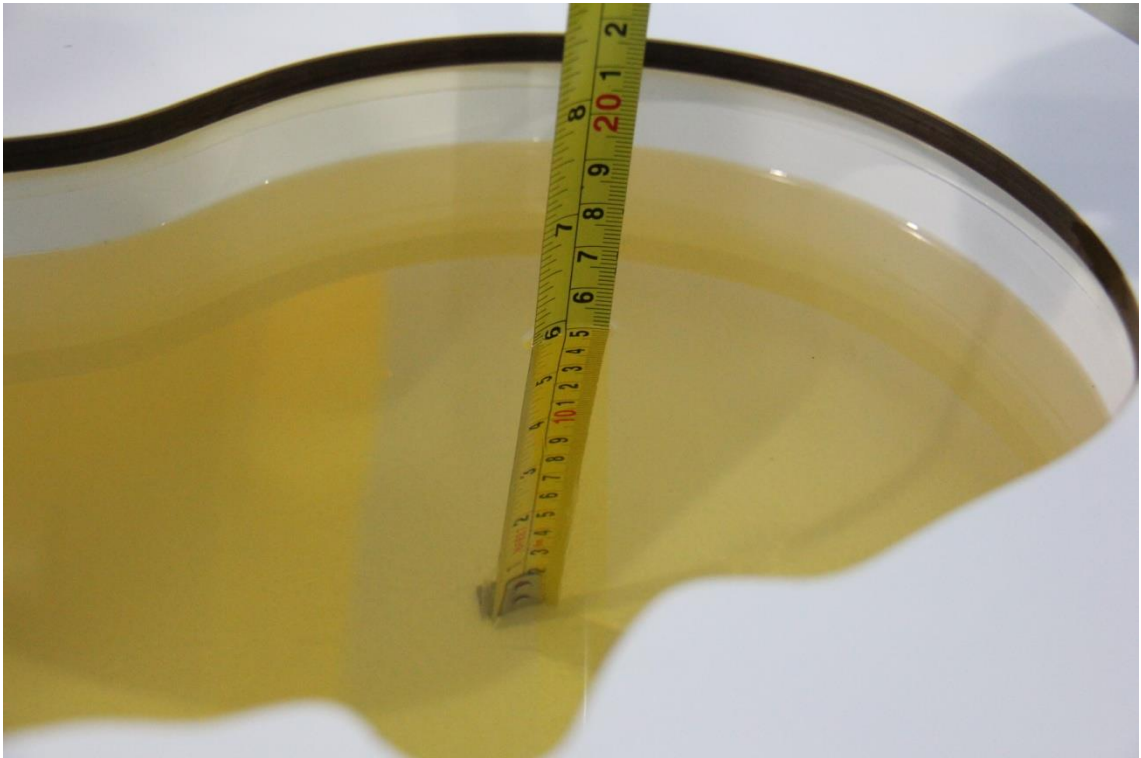
Frequency(MHz)	Liquid Type	Conductivity( $\sigma$ )	$\pm 5\%$ Range	Permittivity( $\epsilon$ )	$\pm 5\%$ Range
750	Head	0.89	0.85~0.93	41.94	39.8~44.0
835	Head	0.90	0.86~0.95	41.5	39.4~43.6
1800	Head	1.40	1.33~1.47	40.0	38.0~42.0
1900	Head	1.40	1.33~1.47	40.0	38.0~42.0
2450	Head	1.67	1.59~1.75	39.47	37.5~41.4
2600	Head	1.96	1.86~2.06	39.01	37.1~41.0

### 7.2 Dielectric Performance

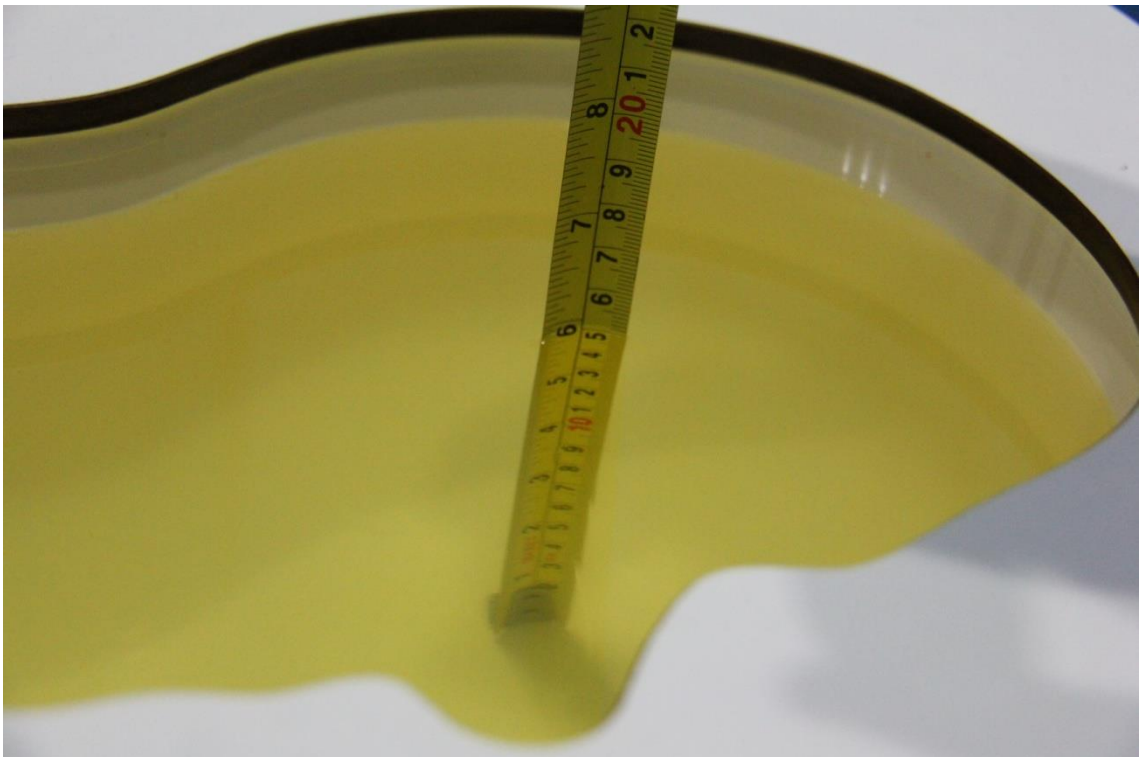
**Table 7.2: Dielectric Performance of Tissue Simulating Liquid**

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity $\epsilon$	Drift (%)	Conductivity $\sigma$ (S/m)	Drift (%)
2022-1-19	Head	750 MHz	45.89	9.42%	0.8459	-4.96%
2022-1-20	Head	835 MHz	45.55	9.76%	0.8797	-2.26%
2022-1-21	Head	1800 MHz	42.96	7.40%	1.459	4.21%
2022-1-22	Head	1900 MHz	42.79	6.98%	1.527	9.07%
2022-1-23	Head	2450 MHz	41.6	6.12%	1.963	9.06%
2022-1-24	Head	2600 MHz	41.19	5.59%	2.109	7.60%

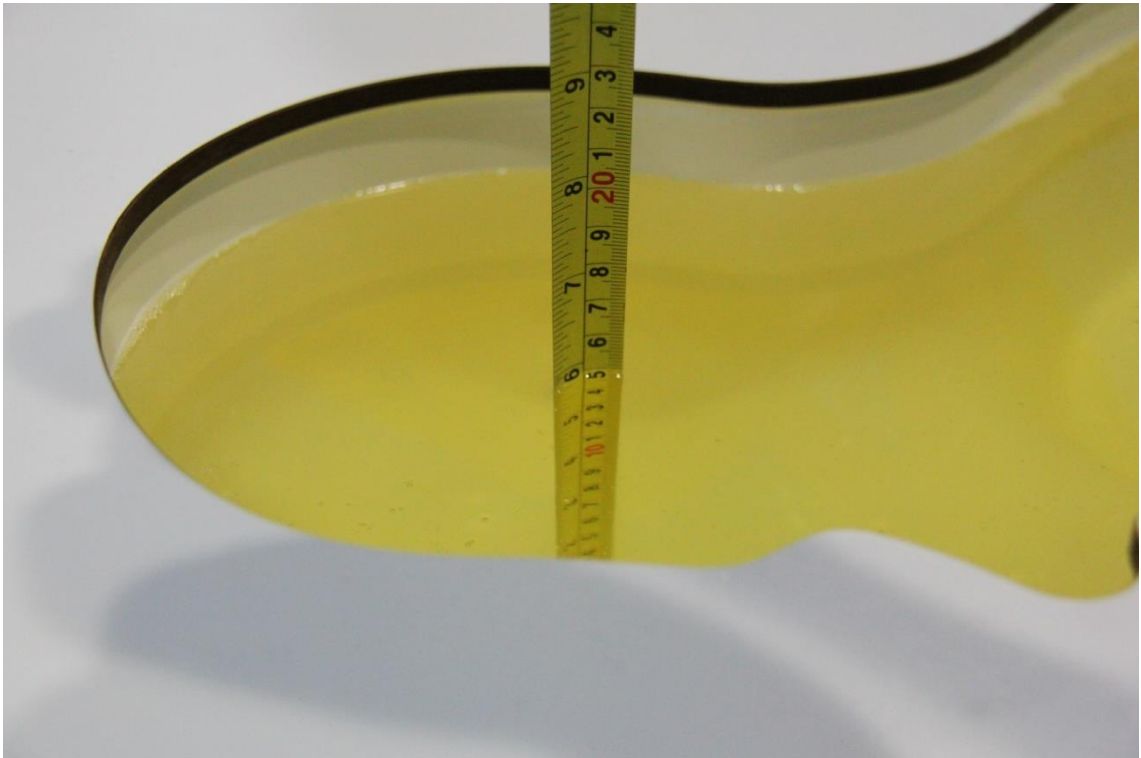
Note: The liquid temperature is 22.0°C



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



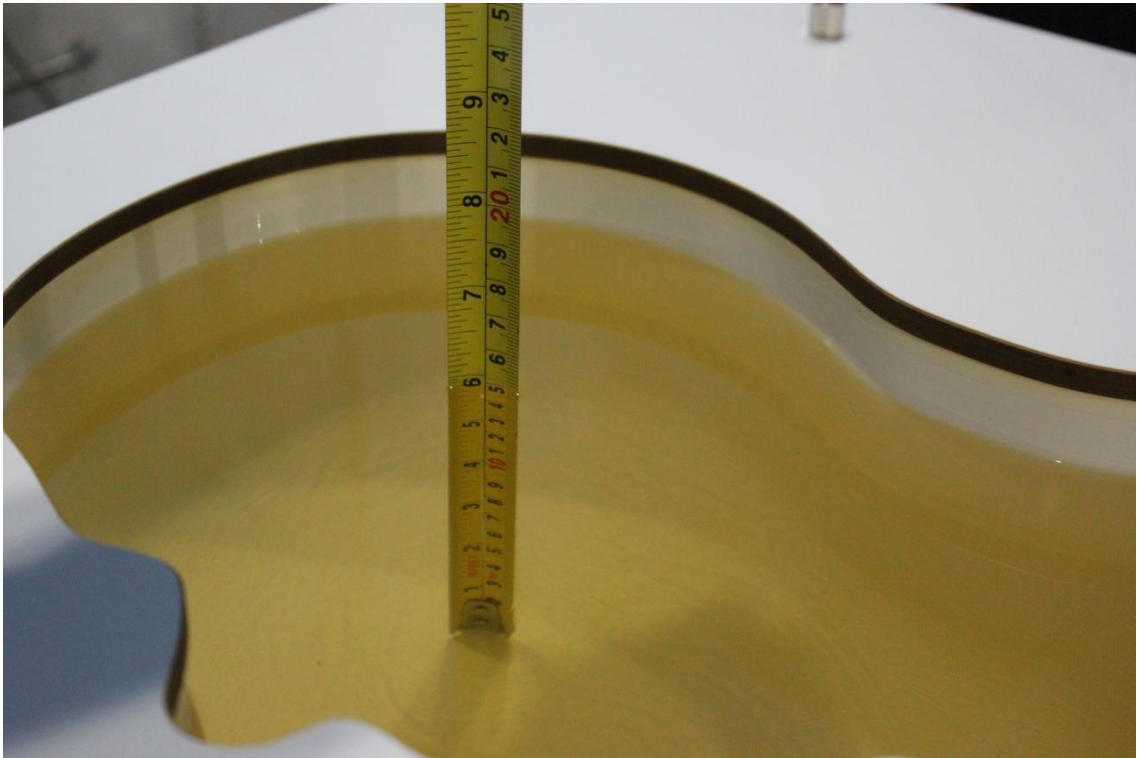
Picture 7-2 Liquid depth in the Head Phantom (1900 MHz)



Picture 7-3 Liquid depth in the Head Phantom (2450MHz)



Picture 7-4 Liquid depth in the Head Phantom (2600 MHz)



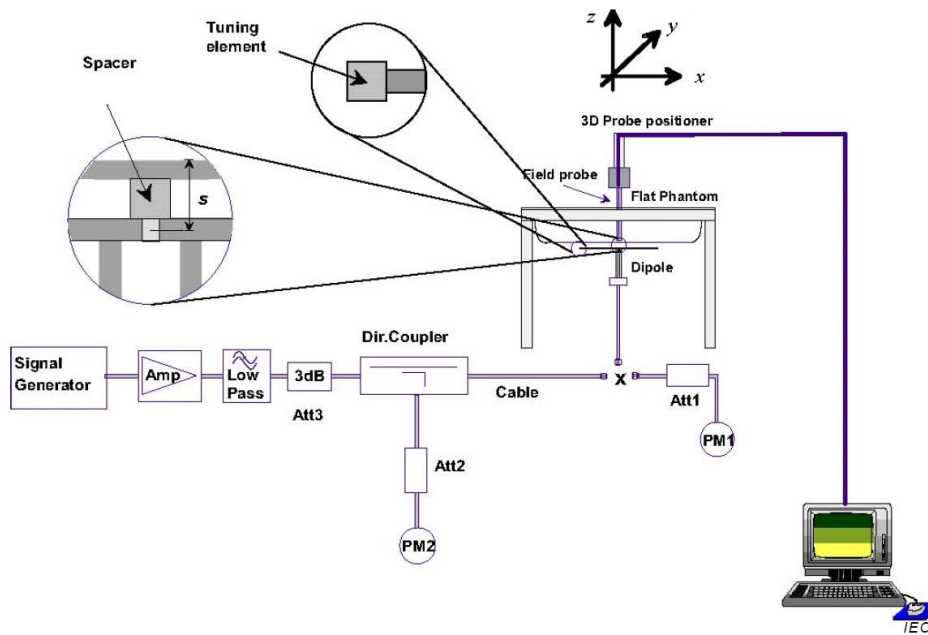
Picture 7-5 Liquid depth in the Head Phantom (750 MHz)



## 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.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

**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
2022-1-19	750 MHz	5.65	8.68	5.84	8.92	3.36%	2.76%
2022-1-20	835 MHz	6.24	9.63	6.08	9.52	-2.56%	-1.14%
2022-1-21	1800 MHz	19.9	38.3	20.6	39.1	3.52%	2.04%
2022-1-22	1900 MHz	20.9	40.1	20.5	39.2	-2.01%	-2.34%
2022-1-23	2450 MHz	24.9	53.3	24.6	52.8	-1.20%	-0.86%
2022-1-24	2600 MHz	25.5	57.1	25.1	56.5	-1.49%	-1.09%

## 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.

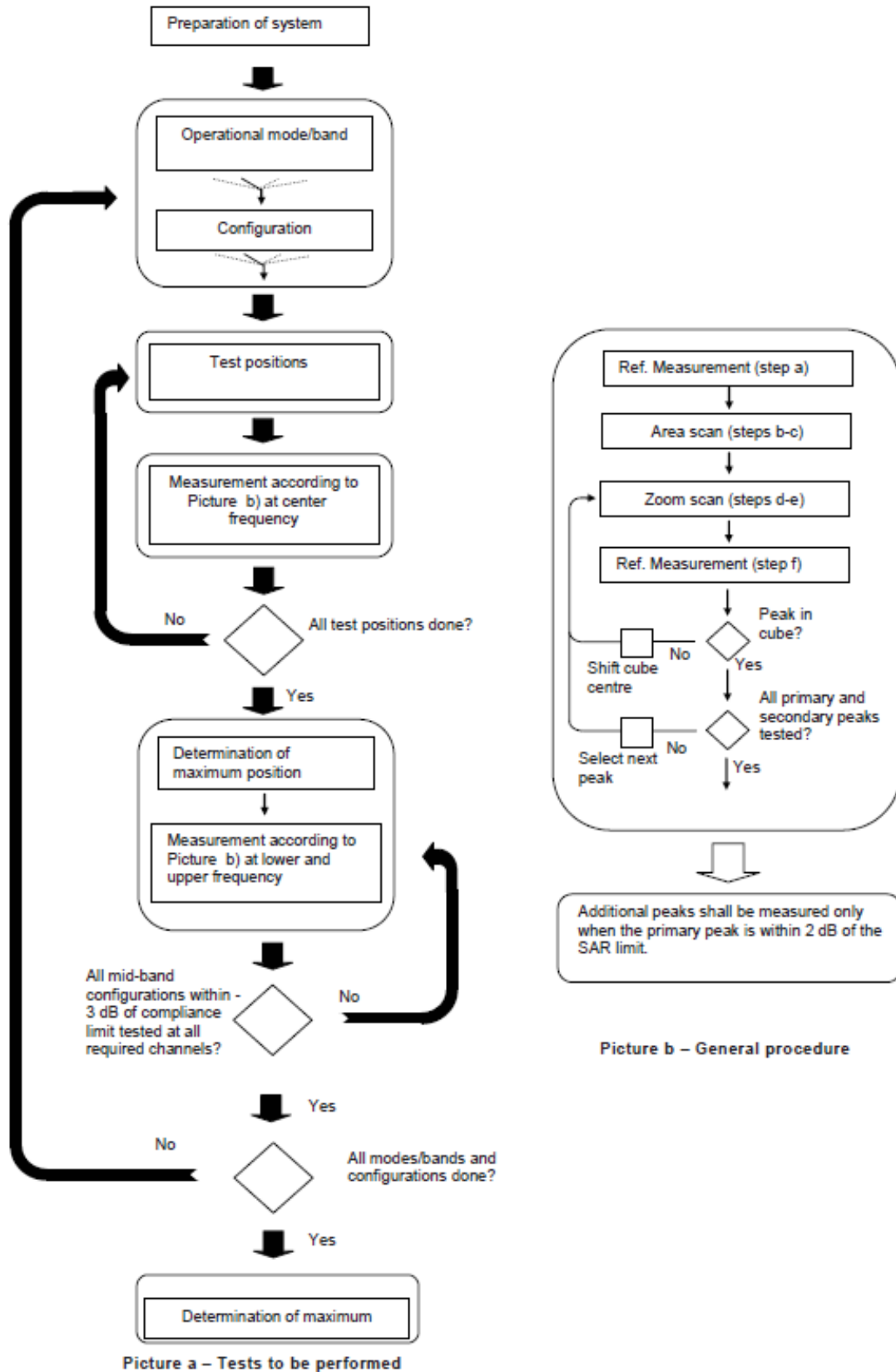
**Step 1:** The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band ( $f_c$ ) for:

- 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.

		$\leq 3$ GHz	$> 3$ GHz	
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		$5 \pm 1$ mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm	
Maximum probe angle from probe axis to phantom surface normal at the measurement location		$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$	
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$		$\leq 2$ GHz: $\leq 15$ mm 2 – 3 GHz: $\leq 12$ mm	3 – 4 GHz: $\leq 12$ mm 4 – 6 GHz: $\leq 10$ 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 $\leq$ 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: $\Delta x_{Zoom}, \Delta y_{Zoom}$		$\leq 2$ GHz: $\leq 8$ mm 2 – 3 GHz: $\leq 5$ mm*	3 – 4 GHz: $\leq 5$ mm* 4 – 6 GHz: $\leq 4$ mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	$\leq 5$ mm	3 – 4 GHz: $\leq 4$ mm 4 – 5 GHz: $\leq 3$ mm 5 – 6 GHz: $\leq 2$ mm	
	graded grid	$\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface	$\leq 4$ mm	3 – 4 GHz: $\leq 3$ mm 4 – 5 GHz: $\leq 2.5$ mm 5 – 6 GHz: $\leq 2$ mm
		$\Delta z_{Zoom}(n>1)$ : between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	$\geq 30$ mm	3 – 4 GHz: $\geq 28$ mm 4 – 5 GHz: $\geq 25$ mm 5 – 6 GHz: $\geq 22$ mm	
Note: $\delta$ 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 <i>reported</i> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ 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<sub>n</sub>), 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	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c / \beta_d$	$\beta_{hs}$	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	$\beta_c$	$\beta_d$	$\beta_d$ (SF)	$\beta_c / \beta_d$	$\beta_{hs}$	$\beta_{ec}$	$\beta_{ed}$	$\beta_{ed}$ (SF)	$\beta_{ed}$ (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	1.5	1.5	20	75
2	6/15	15/15	64	6/15	12/15	12/15	12/15	4	1	1.5	1.5	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed1}:47/15$ $\beta_{ed2}:47/15$	4	2	1.5	1.5	15	92
4	2/15	15/15	64	2/15	4/15	4/15	56/75	4	1	1.5	1.5	17	71
5	15/15	15/15	64	15/15	24/15	30/15	134/15	4	1	1.5	1.5	21	81

#### Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

## 9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

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  $\leq 0.8$  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

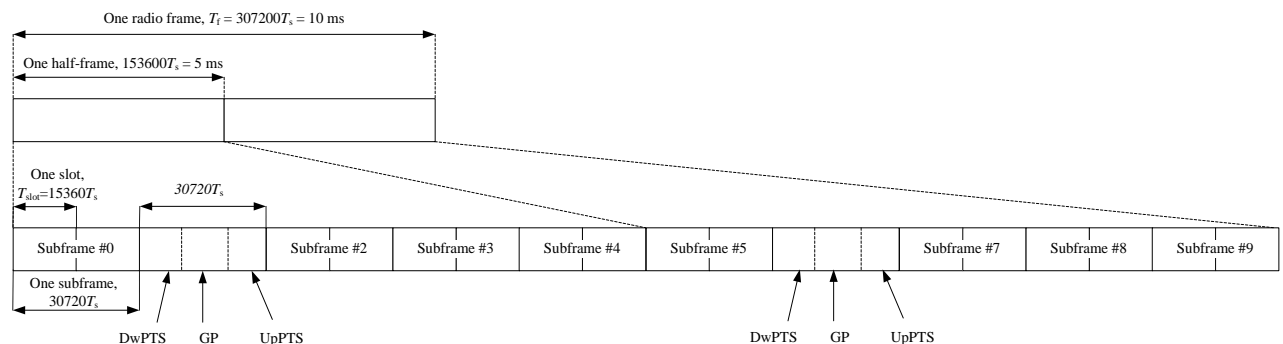
The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

### 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  $\leq 0.8$  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.

## TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.



**Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)**

**Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

Special subframe configuration	Normal cyclic prefix in downlink			Extended cyclic prefix in downlink		
	DwPTS	UpPTS		DwPTS	UpPTS	
		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink		Normal cyclic prefix in uplink	Extended cyclic prefix in uplink
0	$6592 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$	$7680 \cdot T_s$	$2192 \cdot T_s$	$2560 \cdot T_s$
1	$19760 \cdot T_s$			$20480 \cdot T_s$		
2	$21952 \cdot T_s$			$23040 \cdot T_s$		
3	$24144 \cdot T_s$			$25600 \cdot T_s$		
4	$26336 \cdot T_s$			$7680 \cdot T_s$		
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
6	$19760 \cdot T_s$			$23040 \cdot T_s$		
7	$21952 \cdot T_s$			$12800 \cdot T_s$		
8	$24144 \cdot T_s$			-		
9	$13168 \cdot T_s$			-		

**Table 9.2: Uplink-downlink configurations**

Uplink-downlink configuration	Downlink-to-Uplink Switch-point periodicity	Subframe number									
		0	1	2	3	4	5	6	7	8	9
0	5 ms	D	S	U	U	U	D	S	U	U	U
1	5 ms	D	S	U	U	D	D	S	U	U	D
2	5 ms	D	S	U	D	D	D	S	U	D	D
3	10 ms	D	S	U	U	U	D	D	D	D	D
4	10 ms	D	S	U	U	D	D	D	D	D	D
5	10 ms	D	S	U	D	D	D	D	D	D	D
6	5 ms	D	S	U	U	U	D	S	U	U	D

Duty factor is calculated by:

Duty factor = uplink frame\*6+UpPTS\*2/one frame length

$$= (30720 \cdot T_s * 6 + 5120 \cdot T_s * 2) / 307200 \cdot T_s$$

$$= 0.633$$



## 9.5 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.

## 9.6 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 Area Scan Based 1-g SAR

### 10.1 Requirement of KDB

According to the KDB447498 D01, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is  $\leq 1.2$  W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

### 10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.

## 11 Conducted Output Power

**Table11: Summary of Receiver detection mechanism**

Antenna	Receiver on (head scenario)	Receiver off + Hotspot off (Body scenario)	Receiver off + Hotspot on (Hotspot scenario)
Main Antenna	Power Level A1	Power Level B1	Power Level C1

For WWAN, When the phone is in body mode (receiver off) and hotspot worked, then power reduction will be implemented immediately at WCDMA B2/B4 and LTE B25/B41-HPUE/B66. When the phone is in body mode (receiver off) and hotspot not worked, then power reduction will be implemented immediately at LTE B66.

### 11.1 GSM Measurement result

**Table 11.1-1: The conducted power measurement results-GSM850 Power Level A1/B1/C1**

GSM 850 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.57	31.47	31.29	33.00	/	/	/	/
GSM 850 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.59	31.50	31.30	33.00	-9.03	22.56	22.47	22.27
2 Txslots	30.95	30.84	30.64	31.00	-6.02	24.93	24.82	24.62
3 Txslots	29.19	29.16	28.96	30.00	-4.26	24.93	24.90	24.70
<b>4 Txslots</b>	27.96	27.94	27.87	28.50	-3.01	24.95	24.93	24.86
GSM 850 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	31.61	31.48	31.28	33.00	-9.03	22.58	22.45	22.25
2 Txslots	30.96	30.83	30.62	31.00	-6.02	24.94	24.81	24.60
3 Txslots	29.20	29.15	28.95	29.50	-4.26	24.94	24.89	24.69
<b>4 Txslots</b>	28.00	27.92	27.73	28.50	-3.01	24.99	24.91	24.72
GSM 850 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	251	190	128			251	190	128
1 Txslot	25.60	25.42	25.82	27.00	-9.03	16.57	16.39	16.79
2 Txslots	24.36	24.22	24.42	25.00	-6.02	18.34	18.20	18.40
3Txslots	22.36	22.56	22.23	23.00	-4.26	18.10	18.30	17.97
4 Txslots	21.25	21.17	21.19	22.00	-3.01	18.24	18.16	18.18

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

**According to the conducted power as above, the body measurements are performed with 4Txslots for GSM850.**

**Table 11.1-2: The conducted power measurement results-GSM1900 Power Level A1/B1/C1**

PCS1900 Speech (GMSK)	Measured timeslot-averaged output power (dBm)			Tune up	calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.65	28.50	28.51	29.50	/	/	/	/
PCS1900 GPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.65	28.51	28.48	29.50	-9.03	19.62	19.48	19.45
<b>2 Txslots</b>	27.88	27.66	27.66	28.00	-6.02	21.86	21.64	21.64
3 Txslots	25.96	25.71	25.70	26.50	-4.26	21.70	21.45	21.44
4 Txslots	24.84	24.59	24.56	25.50	-3.01	21.83	21.58	21.55
PCS1900 EGPRS (GMSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	28.69	28.55	28.52	29.50	-9.03	19.66	19.52	19.49
<b>2 Txslots</b>	27.90	27.71	27.70	28.50	-6.02	21.88	21.69	21.68
3Txslots	26.00	25.76	25.74	26.50	-4.26	21.74	21.50	21.48
4 Txslots	24.88	24.63	24.60	25.00	-3.01	21.87	21.62	21.59
PCS1900 EGPRS (8PSK)	Measured timeslot-averaged output power (dBm)				calculation	Source-based time-averaged output power (dBm)		
	810	661	512			810	661	512
1 Txslot	25.47	25.35	25.18	26.00	-9.03	16.44	16.32	16.15
2 Txslots	24.56	24.37	24.44	25.00	-6.02	18.54	18.35	18.42
3Txslots	22.49	22.46	22.36	22.50	-4.26	18.23	18.20	18.10
4 Txslots	21.69	21.51	21.22	22.00	-3.01	18.68	18.50	18.21

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

**According to the conducted power as above, the body measurements are performed with 2Txslots for GSM1900.**

## 11.2 WCDMA Measurement result

**Table 11.2-1: The conducted Power for WCDMA Band5-Power Level A1/B1/C1**

WCDMA850	Sub test	FDDV result (dBm)			Tune up
		4233/4458	4183/4408	4132/4357	
		(846.6MHz)	(836.6MHz)	(826.4MHz)	
	/	23.52	23.49	23.39	24.00
HSUPA	1	20.90	20.95	20.84	22.00
	2	20.58	20.55	20.48	21.50
	3	20.98	20.96	20.97	21.00
	4	20.14	20.13	20.06	22.00
	5	21.58	21.56	21.46	22.50
DC-HSDPA	1	22.47	22.45	22.40	23.00
	2	22.46	22.44	22.41	23.00
	3	21.97	21.96	21.93	22.50
	4	22.04	21.97	21.92	22.50

**Table 11.2-2: The conducted Power for WCDMA Band2-Power Level A1/B1**

WCDMA1900	Sub test	FDDII result (dBm)			Tune up
		9538/9938	9400/9800	9262/9662	
		(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	/	23.48	23.41	23.22	24.00
HSUPA	1	20.83	20.78	20.72	22.50
	2	20.46	20.43	20.33	21.50
	3	21.45	21.38	21.29	22.00
	4	20.03	20.00	19.91	21.00
	5	21.45	21.39	21.30	22.50
DC-HSDPA	1	22.56	22.59	22.46	23.00
	2	22.57	22.58	22.45	23.00
	3	22.09	22.11	21.98	23.00
	4	22.08	22.10	21.99	23.00

**Table 11.2-3: The conducted Power for WCDMA Band2-Power Level C1**

WCDMA1900	Sub test	FDDII result (dBm)			Tune up
		9538/9938	9400/9800	9262/9662	
		(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	/	19.94	19.96	19.85	20.50
HSUPA	1	17.35	17.33	17.23	19.50
	2	16.98	16.97	16.87	18.50
	3	17.95	17.93	17.83	18.50
	4	16.58	16.57	16.45	18.00
	5	17.96	17.94	17.84	19.00
DC-HSDPA	1	19.07	19.05	18.96	20.00
	2	19.06	19.04	18.97	20.00
	3	18.57	18.56	18.49	19.50
	4	18.58	18.55	18.50	19.50

**Table 11.2-4: The conducted Power for WCDMA Band4-Power Level A1/B1**

WCDMA1700	Sub test	FDDIV result (dBm)			Tune up
		1513/1738	1412/1637	1312/1537	
		(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	/	23.25	23.26	23.33	24.00
HSUPA	1	20.57	20.62	20.62	22.00
	2	20.20	20.26	20.25	21.50
	3	20.98	20.96	20.96	21.00
	4	19.75	19.81	19.80	22.00
	5	21.20	21.26	21.23	22.50
DC-HSDPA	1	22.23	22.22	22.27	22.50
	2	22.25	22.23	22.28	22.50
	3	21.77	21.75	21.79	22.00
	4	21.78	21.76	21.80	22.00

Table 11.2-5: The conducted Power for WCDMA Band4-Power Level C1

WCDMA1700	Sub test	FDDIV result (dBm)			Tune up
		1513/1738	1412/1637	1312/1537	
		(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	/	19.75	19.77	19.85	20.50
HSUPA	1	17.10	17.16	17.15	19.00
	2	16.67	16.73	16.72	18.50
	3	17.70	17.76	17.74	18.00
	4	16.28	16.30	16.30	17.50
	5	17.72	17.77	17.75	19.50
DC-HSDPA	1	18.80	18.84	18.82	19.50
	2	18.81	18.85	18.81	19.50
	3	18.31	18.36	18.32	19.00
	4	18.30	18.35	18.32	19.00

### 11.3 LTE Measurement result

#### Maximum Target Power for Production Unit – Power Level A1/B1/C1

Band	Tune up (dBm)		
	Receiver on (head scenario)	Receiver off + Hotspot off (Body scenario)	Receiver off + Hotspot on (Hotspot scenario)
	Level A1	Level B1	Level C1
Band 12	23.5	23.5	23.5
Band 25	23.5	23.5	20.5
Band 26	23.5	23.5	23.5
Band 41-PC3	23.5	23.5	23.5
Band 41-PC2	26.5	26.5	25.5
Band 66	23.5	21.5	20.5
Band 71	23.5	23.5	23.5



LTE B12-Power Level A1/B1/C1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	715.3 (23173)	22.71	21.39
		707.5 (23095)	22.70	21.47
		699.7 (23017)	22.42	21.49
	1RB-Middle (3)	715.3 (23173)	22.85	21.59
		707.5 (23095)	22.85	21.72
		699.7 (23017)	22.35	21.61
	1RB-Low (0)	715.3 (23173)	22.70	21.53
		707.5 (23095)	22.59	21.56
		699.7 (23017)	22.21	21.62
	3RB-High (3)	715.3 (23173)	22.82	21.30
		707.5 (23095)	22.72	21.26
		699.7 (23017)	22.37	21.30
	3RB-Middle (1)	715.3 (23173)	22.87	21.34
		707.5 (23095)	22.72	21.32
		699.7 (23017)	22.38	21.35
	3RB-Low (0)	715.3 (23173)	22.81	21.36
		707.5 (23095)	22.59	21.32
		699.7 (23017)	22.33	21.40
	6RB (0)	715.3 (23173)	21.79	20.59
		707.5 (23095)	21.78	20.43
		699.7 (23017)	21.41	20.43
3MHz	1RB-High (14)	714.5 (23165)	22.72	21.98
		707.5 (23095)	22.70	21.97
		700.5 (23025)	22.78	22.10
	1RB-Middle (7)	714.5 (23165)	22.91	22.25
		707.5 (23095)	22.96	22.24
		700.5 (23025)	22.91	22.18
	1RB-Low (0)	714.5 (23165)	22.77	22.11
		707.5 (23095)	22.75	22.09
		700.5 (23025)	22.79	22.10
	8RB-High (7)	714.5 (23165)	21.77	20.85
		707.5 (23095)	21.76	20.90
		700.5 (23025)	21.79	20.92
	8RB-Middle (4)	714.5 (23165)	21.81	20.91
		707.5 (23095)	21.81	20.92
		700.5 (23025)	21.82	20.98
	8RB-Low (0)	714.5 (23165)	21.79	20.89
		707.5 (23095)	21.74	20.87
		700.5 (23025)	21.78	20.93
	15RB (0)	714.5 (23165)	21.75	20.83
		707.5 (23095)	21.76	20.82
		700.5 (23025)	21.80	20.88

5MHz	1RB-High (24)	713.5 (23155)	22.64	21.95	
		707.5 (23095)	22.64	21.89	
		701.5 (23035)	22.69	21.99	
	1RB-Middle (12)	713.5 (23155)	22.92	22.24	
		707.5 (23095)	22.92	22.19	
		701.5 (23035)	22.95	22.22	
	1RB-Low (0)	713.5 (23155)	22.68	21.94	
		707.5 (23095)	22.72	22.03	
		701.5 (23035)	22.69	21.91	
	12RB-High (13)	713.5 (23155)	21.73	20.77	
		707.5 (23095)	21.81	20.84	
		701.5 (23035)	21.83	20.86	
	12RB-Middle (6)	713.5 (23155)	21.87	20.88	
		707.5 (23095)	21.81	20.85	
		701.5 (23035)	21.83	20.90	
	12RB-Low (0)	713.5 (23155)	21.81	20.84	
		707.5 (23095)	21.74	20.78	
		701.5 (23035)	21.84	20.90	
	25RB (0)	713.5 (23155)	21.80	20.87	
		707.5 (23095)	21.76	20.80	
		701.5 (23035)	21.82	20.89	
	10MHz	1RB-High (49)	711 (23130)	22.71	22.04
			707.5 (23095)	22.69	21.97
			704 (23060)	22.68	22.01
1RB-Middle (24)		711 (23130)	22.85	22.13	
		707.5 (23095)	22.83	22.14	
		704 (23060)	22.94	22.25	
1RB-Low (0)		711 (23130)	22.79	22.06	
		707.5 (23095)	22.78	21.94	
		704 (23060)	22.77	22.07	
25RB-High (25)		711 (23130)	21.75	20.80	
		707.5 (23095)	21.84	20.85	
		704 (23060)	21.88	20.95	
25RB-Middle (12)		711 (23130)	21.81	20.87	
		707.5 (23095)	21.78	20.84	
		704 (23060)	21.82	20.88	
25RB-Low (0)		711 (23130)	21.77	20.82	
		707.5 (23095)	21.73	20.81	
		704 (23060)	21.89	20.92	
50RB (0)		711 (23130)	21.76	20.81	
		707.5 (23095)	21.76	20.81	
		704 (23060)	21.88	20.95	

LTE B25-Power Level A1/B1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	22.58	21.89
		1882.5 (26365)	22.52	21.86
		1850.7 (26047)	22.56	21.85
	1RB-Middle (3)	1914.3 (26683)	22.70	22.00
		1882.5 (26365)	22.60	21.90
		1850.7 (26047)	22.68	21.94
	1RB-Low (0)	1914.3 (26683)	22.59	21.79
		1882.5 (26365)	22.52	21.74
		1850.7 (26047)	22.54	21.87
	3RB-High (3)	1914.3 (26683)	22.69	21.67
		1882.5 (26365)	22.62	21.61
		1850.7 (26047)	22.66	21.66
	3RB-Middle (1)	1914.3 (26683)	22.77	21.68
		1882.5 (26365)	22.65	21.66
		1850.7 (26047)	22.69	21.63
	3RB-Low (0)	1914.3 (26683)	22.70	21.64
		1882.5 (26365)	22.62	21.57
		1850.7 (26047)	22.67	21.63
	6RB (0)	1914.3 (26683)	21.68	20.73
		1882.5 (26365)	21.58	20.65
		1850.7 (26047)	21.63	20.67
3MHz	1RB-High (14)	1913.5 (26675)	22.69	22.01
		1882.5 (26365)	22.65	21.95
		1851.5 (26055)	22.67	21.86
	1RB-Middle (7)	1913.5 (26675)	22.82	22.17
		1882.5 (26365)	22.75	22.05
		1851.5 (26055)	22.84	21.99
	1RB-Low (0)	1913.5 (26675)	22.65	21.96
		1882.5 (26365)	22.61	22.29
		1851.5 (26055)	22.66	21.91
	8RB-High (7)	1913.5 (26675)	21.67	20.71
		1882.5 (26365)	21.66	20.65
		1851.5 (26055)	21.68	20.68
	8RB-Middle (4)	1913.5 (26675)	21.72	20.80
		1882.5 (26365)	21.63	20.64
		1851.5 (26055)	21.67	20.64
	8RB-Low (0)	1913.5 (26675)	21.71	20.75
		1882.5 (26365)	21.63	20.67
		1851.5 (26055)	21.67	20.66
15RB (0)	1913.5 (26675)	21.69	20.66	
	1882.5 (26365)	21.60	20.59	
	1851.5 (26055)	21.62	20.63	

5MHz	1RB-High (24)	1912.5 (26665)	22.61	21.83
		1882.5 (26365)	22.56	21.87
		1852.5 (26065)	22.62	21.89
	1RB-Middle (12)	1912.5 (26665)	22.76	22.04
		1882.5 (26365)	22.81	22.06
		1852.5 (26065)	22.80	22.06
	1RB-Low (0)	1912.5 (26665)	22.60	21.92
		1882.5 (26365)	22.56	21.76
		1852.5 (26065)	22.57	21.90
	12RB-High (13)	1912.5 (26665)	21.67	20.64
		1882.5 (26365)	21.62	20.60
		1852.5 (26065)	21.67	20.60
	12RB-Middle (6)	1912.5 (26665)	21.75	20.74
		1882.5 (26365)	21.67	20.65
		1852.5 (26065)	21.72	20.68
	12RB-Low (0)	1912.5 (26665)	21.69	20.66
		1882.5 (26365)	21.65	20.60
		1852.5 (26065)	21.69	20.70
25RB (0)	1912.5 (26665)	21.69	20.68	
	1882.5 (26365)	21.64	20.63	
	1852.5 (26065)	21.69	20.68	
10MHz	1RB-High (49)	1910 (26640)	22.72	22.02
		1882.5 (26365)	22.67	21.98
		1855 (26090)	22.72	21.95
	1RB-Middle (24)	1910 (26640)	22.76	22.09
		1882.5 (26365)	22.71	21.93
		1855 (26090)	22.81	21.98
	1RB-Low (0)	1910 (26640)	22.70	22.03
		1882.5 (26365)	22.65	21.92
		1855 (26090)	22.68	22.01
	25RB-High (25)	1910 (26640)	21.78	20.77
		1882.5 (26365)	21.67	20.68
		1855 (26090)	21.79	20.79
	25RB-Middle (12)	1910 (26640)	21.74	20.73
		1882.5 (26365)	21.67	20.67
		1855 (26090)	21.77	20.77
	25RB-Low (0)	1910 (26640)	21.74	20.75
		1882.5 (26365)	21.72	20.73
		1855 (26090)	21.82	20.82
50RB (0)	1910 (26640)	21.76	20.73	
	1882.5 (26365)	21.74	20.74	
	1855 (26090)	21.84	20.82	

15MHz	1RB-High (74)	1907.5 (26615)	22.63	21.91
		1882.5 (26365)	22.55	21.89
		1857.5 (26115)	22.60	21.90
	1RB-Middle (37)	1907.5 (26615)	22.72	21.94
		1882.5 (26365)	22.62	21.95
		1857.5 (26115)	22.75	21.92
	1RB-Low (0)	1907.5 (26615)	22.59	21.92
		1882.5 (26365)	22.59	21.83
		1857.5 (26115)	22.58	21.82
	36RB-High (38)	1907.5 (26615)	21.80	20.78
		1882.5 (26365)	21.69	20.60
		1857.5 (26115)	21.85	20.79
	36RB-Middle (19)	1907.5 (26615)	21.78	20.72
		1882.5 (26365)	21.70	20.68
		1857.5 (26115)	21.73	20.71
	36RB-Low (0)	1907.5 (26615)	21.79	20.76
		1882.5 (26365)	21.74	20.71
		1857.5 (26115)	21.76	20.74
75RB (0)	1907.5 (26615)	21.80	20.78	
	1882.5 (26365)	21.72	20.69	
	1857.5 (26115)	21.79	20.77	
20MHz	1RB-High (99)	1905 (26590)	22.46	21.81
		1882.5 (26365)	22.37	21.61
		1860 (26140)	22.38	21.75
	1RB-Middle (50)	1905 (26590)	22.76	21.99
		1882.5 (26365)	22.74	21.96
		1860 (26140)	22.80	21.97
	1RB-Low (0)	1905 (26590)	22.41	21.58
		1882.5 (26365)	22.38	21.65
		1860 (26140)	22.38	21.63
	50RB-High (50)	1905 (26590)	21.78	20.73
		1882.5 (26365)	21.75	20.67
		1860 (26140)	21.85	20.85
	50RB-Middle (25)	1905 (26590)	21.74	20.73
		1882.5 (26365)	21.68	20.68
		1860 (26140)	21.74	20.76
	50RB-Low (0)	1905 (26590)	21.76	20.77
		1882.5 (26365)	21.74	20.74
		1860 (26140)	21.69	20.68
100RB (0)	1905 (26590)	21.76	20.76	
	1882.5 (26365)	21.68	20.66	
	1860 (26140)	21.77	20.74	

LTE B25-Power Level C1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	1914.3 (26683)	20.01	20.14
		1882.5 (26365)	20.04	19.99
		1850.7 (26047)	19.97	19.98
	1RB-Middle (3)	1914.3 (26683)	20.13	20.23
		1882.5 (26365)	19.99	19.96
		1850.7 (26047)	19.98	19.92
	1RB-Low (0)	1914.3 (26683)	20.18	20.00
		1882.5 (26365)	20.04	19.72
		1850.7 (26047)	20.06	19.86
	3RB-High (3)	1914.3 (26683)	20.37	20.00
		1882.5 (26365)	20.01	19.62
		1850.7 (26047)	19.96	19.66
	3RB-Middle (1)	1914.3 (26683)	20.09	19.98
		1882.5 (26365)	20.02	19.76
		1850.7 (26047)	19.99	19.72
	3RB-Low (0)	1914.3 (26683)	20.24	19.81
		1882.5 (26365)	20.21	19.56
		1850.7 (26047)	19.89	20.22
	6RB (0)	1914.3 (26683)	20.09	20.13
		1882.5 (26365)	20.21	19.61
		1850.7 (26047)	19.88	20.12
3MHz	1RB-High (14)	1913.5 (26675)	20.06	20.18
		1882.5 (26365)	19.94	20.00
		1851.5 (26055)	20.02	20.05
	1RB-Middle (7)	1913.5 (26675)	20.10	20.37
		1882.5 (26365)	20.19	19.91
		1851.5 (26055)	19.94	19.94
	1RB-Low (0)	1913.5 (26675)	20.17	19.78
		1882.5 (26365)	19.95	19.91
		1851.5 (26055)	20.12	20.06
	8RB-High (7)	1913.5 (26675)	20.28	20.07
		1882.5 (26365)	20.06	19.74
		1851.5 (26055)	20.10	19.69
	8RB-Middle (4)	1913.5 (26675)	20.07	20.09
		1882.5 (26365)	20.12	19.73
		1851.5 (26055)	20.07	19.69
	8RB-Low (0)	1913.5 (26675)	20.27	19.80
		1882.5 (26365)	19.99	19.67
		1851.5 (26055)	20.15	20.13
15RB (0)	1913.5 (26675)	20.19	20.08	
	1882.5 (26365)	20.26	19.67	
	1851.5 (26055)	19.81	20.15	

5MHz	1RB-High (24)	1912.5 (26665)	20.08	20.26
		1882.5 (26365)	20.00	19.92
		1852.5 (26065)	20.08	20.09
	1RB-Middle (12)	1912.5 (26665)	20.13	20.12
		1882.5 (26365)	20.22	20.19
		1852.5 (26065)	19.93	20.00
	1RB-Low (0)	1912.5 (26665)	19.97	20.06
		1882.5 (26365)	20.08	19.80
		1852.5 (26065)	19.95	20.10
	12RB-High (13)	1912.5 (26665)	20.30	19.86
		1882.5 (26365)	20.20	19.58
		1852.5 (26065)	20.13	19.75
	12RB-Middle (6)	1912.5 (26665)	20.34	19.96
		1882.5 (26365)	20.00	19.76
		1852.5 (26065)	20.24	19.74
	12RB-Low (0)	1912.5 (26665)	20.05	19.73
		1882.5 (26365)	20.24	19.63
		1852.5 (26065)	20.12	20.24
	25RB (0)	1912.5 (26665)	20.13	20.17
		1882.5 (26365)	20.14	19.78
		1852.5 (26065)	19.85	20.20
10MHz	1RB-High (49)	1910 (26640)	20.15	20.27
		1882.5 (26365)	20.12	19.95
		1855 (26090)	20.08	20.07
	1RB-Middle (24)	1910 (26640)	20.26	20.39
		1882.5 (26365)	20.17	20.11
		1855 (26090)	20.13	20.03
	1RB-Low (0)	1910 (26640)	20.17	19.97
		1882.5 (26365)	20.06	19.85
		1855 (26090)	20.08	20.02
	25RB-High (25)	1910 (26640)	20.29	19.98
		1882.5 (26365)	20.14	19.70
		1855 (26090)	20.16	19.81
	25RB-Middle (12)	1910 (26640)	20.24	20.04
		1882.5 (26365)	20.16	19.73
		1855 (26090)	20.19	19.80
	25RB-Low (0)	1910 (26640)	20.21	19.91
		1882.5 (26365)	20.19	19.76
		1855 (26090)	20.07	20.21
	50RB (0)	1910 (26640)	20.25	20.08
		1882.5 (26365)	20.20	19.77
		1855 (26090)	19.99	20.13

15MHz	1RB-High (74)	1907.5 (26615)	20.07	19.99
		1882.5 (26365)	20.03	20.05
		1857.5 (26115)	20.02	20.31
	1RB-Middle (37)	1907.5 (26615)	20.19	20.02
		1882.5 (26365)	20.09	20.25
		1857.5 (26115)	20.18	20.13
	1RB-Low (0)	1907.5 (26615)	20.02	19.84
		1882.5 (26365)	20.03	20.22
		1857.5 (26115)	20.07	19.96
	36RB-High (38)	1907.5 (26615)	20.30	20.29
		1882.5 (26365)	20.13	20.11
		1857.5 (26115)	20.13	19.81
	36RB-Middle (19)	1907.5 (26615)	20.24	20.13
		1882.5 (26365)	20.15	20.13
		1857.5 (26115)	20.11	19.75
	36RB-Low (0)	1907.5 (26615)	20.28	19.92
		1882.5 (26365)	20.18	20.18
		1857.5 (26115)	19.81	19.75
	75RB (0)	1907.5 (26615)	20.27	20.02
		1882.5 (26365)	20.16	20.15
		1857.5 (26115)	20.05	19.80
20MHz	1RB-High (99)	1905 (26590)	19.79	20.06
		1882.5 (26365)	19.71	20.08
		1860 (26140)	19.70	20.02
	1RB-Middle (50)	1905 (26590)	20.15	20.49
		1882.5 (26365)	20.16	20.42
		1860 (26140)	20.19	20.38
	1RB-Low (0)	1905 (26590)	19.68	20.04
		1882.5 (26365)	19.71	20.02
		1860 (26140)	19.73	20.04
	50RB-High (50)	1905 (26590)	20.14	20.15
		1882.5 (26365)	20.05	20.04
		1860 (26140)	20.26	20.21
	50RB-Middle (25)	1905 (26590)	20.08	20.09
		1882.5 (26365)	20.03	20.04
		1860 (26140)	20.10	20.12
	50RB-Low (0)	1905 (26590)	20.15	20.13
		1882.5 (26365)	20.07	20.11
		1860 (26140)	20.05	20.08
	100RB (0)	1905 (26590)	20.15	20.12
		1882.5 (26365)	20.07	20.05
		1860 (26140)	20.16	20.13



LTE B26-Power Level A1/B1/C1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	848.3 (27033)	22.45	21.72
		831.5 (26865)	22.35	21.49
		814.7 (26697)	22.30	21.57
	1RB-Middle (3)	848.3 (27033)	22.59	21.88
		831.5 (26865)	22.52	21.63
		814.7 (26697)	22.45	21.73
	1RB-Low (0)	848.3 (27033)	22.41	21.74
		831.5 (26865)	22.37	21.63
		814.7 (26697)	22.33	21.62
	3RB-High (3)	848.3 (27033)	22.55	21.49
		831.5 (26865)	22.49	21.42
		814.7 (26697)	22.42	21.47
	3RB-Middle (1)	848.3 (27033)	22.62	21.57
		831.5 (26865)	22.48	21.48
		814.7 (26697)	22.48	21.44
	3RB-Low (0)	848.3 (27033)	22.56	21.55
		831.5 (26865)	22.48	21.45
		814.7 (26697)	22.41	21.41
	6RB (0)	848.3 (27033)	21.51	20.59
		831.5 (26865)	21.44	20.50
		814.7 (26697)	21.41	20.50
3MHz	1RB-High (14)	847.5 (27025)	22.51	21.62
		831.5 (26865)	22.34	21.64
		815.5 (26705)	22.39	21.71
	1RB-Middle (7)	847.5 (27025)	22.60	21.93
		831.5 (26865)	22.51	21.79
		815.5 (26705)	22.50	21.69
	1RB-Low (0)	847.5 (27025)	22.45	21.78
		831.5 (26865)	22.38	21.68
		815.5 (26705)	22.40	21.66
	8RB-High (7)	847.5 (27025)	21.46	20.55
		831.5 (26865)	21.37	20.45
		815.5 (26705)	21.35	20.40
	8RB-Middle (4)	847.5 (27025)	21.51	20.57
		831.5 (26865)	21.42	20.47
		815.5 (26705)	21.36	20.44
	8RB-Low (0)	847.5 (27025)	21.48	20.57
		831.5 (26865)	21.38	20.47
		815.5 (26705)	21.37	20.42
	15RB (0)	847.5 (27025)	21.46	20.49
		831.5 (26865)	21.38	20.39
		815.5 (26705)	21.36	20.36

5MHz	1RB-High (24)	846.5 (27015)	22.39	21.67
		831.5 (26865)	22.26	21.63
		816.5 (26715)	22.25	21.55
	1RB-Middle (12)	846.5 (27015)	22.57	21.89
		831.5 (26865)	22.55	21.74
		816.5 (26715)	22.43	21.65
	1RB-Low (0)	846.5 (27015)	22.40	21.64
		831.5 (26865)	22.35	21.56
		816.5 (26715)	22.31	21.61
	12RB-High (13)	846.5 (27015)	21.37	20.36
		831.5 (26865)	21.44	20.43
		816.5 (26715)	21.27	20.25
	12RB-Middle (6)	846.5 (27015)	21.50	20.50
		831.5 (26865)	21.46	20.44
		816.5 (26715)	21.36	20.34
	12RB-Low (0)	846.5 (27015)	21.48	20.47
		831.5 (26865)	21.32	20.36
		816.5 (26715)	21.31	20.28
25RB (0)	846.5 (27015)	21.45	20.45	
	831.5 (26865)	21.40	20.38	
	816.5 (26715)	21.30	20.29	
10MHz	1RB-High (49)	844 (26990)	22.47	21.71
		831.5 (26865)	22.38	21.61
		820 (26750)	22.43	21.69
	1RB-Middle (24)	844 (26990)	22.62	21.86
		831.5 (26865)	22.52	21.78
		820 (26750)	22.50	21.74
	1RB-Low (0)	844 (26990)	22.47	21.85
		831.5 (26865)	22.46	21.76
		820 (26750)	22.39	21.58
	25RB-High (25)	844 (26990)	21.40	20.42
		831.5 (26865)	21.47	20.45
		820 (26750)	21.34	20.38
	25RB-Middle (12)	844 (26990)	21.54	20.56
		831.5 (26865)	21.44	20.46
		820 (26750)	21.47	20.48
	25RB-Low (0)	844 (26990)	21.55	20.56
		831.5 (26865)	21.33	20.35
		820 (26750)	21.56	20.57
50RB (0)	844 (26990)	21.49	20.50	
	831.5 (26865)	21.40	20.42	
	820 (26750)	21.48	20.48	

15MHz	1RB-High (74)	841.5 (26965)	22.41	21.69
		831.5 (26865)	22.32	21.50
		822.5 (26775)	22.33	21.63
	1RB-Middle (37)	841.5 (26965)	22.50	21.86
		831.5 (26865)	22.44	21.71
		822.5 (26775)	22.46	21.69
	1RB-Low (0)	841.5 (26965)	22.35	21.54
		831.5 (26865)	22.41	21.65
		822.5 (26775)	22.28	21.51
	36RB-High (38)	841.5 (26965)	21.49	20.48
		831.5 (26865)	21.41	20.38
		822.5 (26775)	21.52	20.51
	36RB-Middle (19)	841.5 (26965)	21.54	20.55
		831.5 (26865)	21.45	20.41
		822.5 (26775)	21.50	20.49
	36RB-Low (0)	841.5 (26965)	21.65	20.62
		831.5 (26865)	21.46	20.37
		822.5 (26775)	21.59	20.57
	75RB (0)	841.5 (26965)	21.58	20.57
		831.5 (26865)	21.42	20.41
		822.5 (26775)	21.58	20.57

LTE B41 PC3-Power Level A1/B1/C1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
5MHz	1RB-High (24)	2687.5 (41565)	23.14	22.10
		2640.3(41093)	23.15	22.17
		2593 (40620)	23.30	22.31
		2545.8(40148)	22.88	21.91
		2498.5 (39675)	22.89	21.90
	1RB-Middle (12)	2687.5 (41565)	23.37	22.34
		2640.3(41093)	23.32	22.29
		2593 (40620)	23.49	22.50
		2545.8(40148)	23.07	22.10
		2498.5 (39675)	23.04	22.03
	1RB-Low (0)	2687.5 (41565)	23.24	22.28
		2640.3(41093)	23.15	22.16
		2593 (40620)	23.36	22.34
		2545.8(40148)	22.92	22.00
		2498.5 (39675)	22.84	21.86
	12RB-High (13)	2687.5 (41565)	22.17	21.06
		2640.3(41093)	22.14	21.03
		2593 (40620)	22.37	21.24
		2545.8(40148)	21.91	20.87
		2498.5 (39675)	21.96	20.75
	12RB-Middle (6)	2687.5 (41565)	22.27	21.21
		2640.3(41093)	22.22	21.13
		2593 (40620)	22.45	21.34
		2545.8(40148)	21.99	20.97
		2498.5 (39675)	22.03	20.90
	12RB-Low (0)	2687.5 (41565)	22.36	21.15
		2640.3(41093)	22.17	21.04
		2593 (40620)	22.38	21.20
		2545.8(40148)	21.95	20.93
		2498.5 (39675)	21.91	20.79
25RB (0)	2687.5 (41565)	22.33	21.16	
	2640.3(41093)	22.19	21.16	
	2593 (40620)	22.32	21.30	
	2545.8(40148)	21.95	21.01	
	2498.5 (39675)	21.90	20.88	

10MHz	1RB-High (49)	2685 (41540)	23.23	22.21
		2639(41080)	23.25	22.22
		2593 (40620)	23.37	22.35
		2547(40160)	22.91	21.91
		2501 (39700)	23.02	22.05
	1RB-Middle (24)	2685 (41540)	23.45	22.46
		2639(41080)	23.38	22.36
		2593 (40620)	23.46	22.43
		2547(40160)	23.15	22.11
		2501 (39700)	23.09	22.10
	1RB-Low (0)	2685 (41540)	23.44	22.46
		2639(41080)	23.24	22.23
		2593 (40620)	23.50	22.48
		2547(40160)	23.01	22.05
		2501 (39700)	22.92	21.93
	25RB-High (25)	2685 (41540)	22.25	21.24
		2639(41080)	22.14	21.12
		2593 (40620)	22.30	21.28
		2547(40160)	21.86	20.89
		2501 (39700)	21.95	20.93
	25RB-Middle (12)	2685 (41540)	22.40	21.30
		2639(41080)	22.19	21.18
		2593 (40620)	22.41	21.39
		2547(40160)	21.97	21.00
		2501 (39700)	21.95	20.93
	25RB-Low (0)	2685 (41540)	22.49	21.43
		2639(41080)	22.17	21.07
		2593 (40620)	22.36	21.30
		2547(40160)	21.95	21.01
		2501 (39700)	21.91	20.85
50RB (0)	2685 (41540)	22.15	21.24	
	2639(41080)	22.11	21.00	
	2593 (40620)	22.31	21.31	
	2547(40160)	21.88	20.95	
	2501 (39700)	21.88	20.89	

15MHz	1RB-High (74)	2682.5 (41515)	22.66	22.11
		2637.8(41068)	23.05	22.13
		2593 (40620)	23.25	22.25
		2548.3(40173)	22.90	21.95
		2503.5 (39725)	23.04	22.02
	1RB-Middle (37)	2682.5 (41515)	22.93	22.43
		2637.8(41068)	23.27	22.25
		2593 (40620)	23.45	22.44
		2548.3(40173)	23.02	22.01
		2503.5 (39725)	23.03	22.05
	1RB-Low (0)	2682.5 (41515)	23.05	22.44
		2637.8(41068)	23.18	22.15
		2593 (40620)	23.39	22.42
		2548.3(40173)	22.96	22.00
		2503.5 (39725)	22.83	21.84
	36RB-High (38)	2682.5 (41515)	21.88	21.26
		2637.8(41068)	22.18	21.04
		2593 (40620)	22.40	21.30
		2548.3(40173)	21.96	20.92
		2503.5 (39725)	22.06	20.89
	36RB-Middle (19)	2682.5 (41515)	21.95	21.29
		2637.8(41068)	22.27	21.05
		2593 (40620)	22.45	21.34
		2548.3(40173)	21.96	20.94
		2503.5 (39725)	22.01	20.88
	36RB-Low (0)	2682.5 (41515)	22.14	21.40
		2637.8(41068)	22.25	21.03
		2593 (40620)	22.46	21.35
		2548.3(40173)	22.02	20.98
		2503.5 (39725)	21.97	20.81
75RB (0)	2682.5 (41515)	22.02	21.26	
	2637.8(41068)	22.12	21.06	
	2593 (40620)	22.31	21.27	
	2548.3(40173)	21.88	20.99	
	2503.5 (39725)	21.92	20.85	

20MHz	1RB-High (99)	2680 (41490)	22.33	21.30
		2636.5(41055)	22.23	21.26
		2593 (40620)	22.28	21.29
		2549.5(40185)	22.14	21.17
		2506 (39750)	22.24	21.36
	1RB-Middle (50)	2680 (41490)	22.95	21.86
		2636.5(41055)	22.85	21.58
		2593 (40620)	22.88	21.81
		2549.5(40185)	22.76	21.40
		2506 (39750)	22.53	21.53
	1RB-Low (0)	2680 (41490)	22.70	21.67
		2636.5(41055)	22.30	21.29
		2593 (40620)	22.55	21.51
		2549.5(40185)	22.13	21.15
		2506 (39750)	22.02	21.02
	50RB-High (50)	2680 (41490)	21.61	20.54
		2636.5(41055)	21.41	20.44
		2593 (40620)	21.52	20.59
		2549.5(40185)	21.18	20.30
		2506 (39750)	21.44	20.50
	50RB-Middle (25)	2680 (41490)	21.75	20.69
		2636.5(41055)	21.34	20.46
		2593 (40620)	21.60	20.65
		2549.5(40185)	21.13	20.24
		2506 (39750)	21.34	20.40
	50RB-Low (0)	2680 (41490)	21.83	20.80
		2636.5(41055)	21.42	20.49
		2593 (40620)	21.60	20.66
		2549.5(40185)	21.24	20.33
		2506 (39750)	21.23	20.32
100RB (0)	2680 (41490)	21.78	20.77	
	2636.5(41055)	21.51	20.57	
	2593 (40620)	21.63	20.72	
	2549.5(40185)	21.33	20.36	
	2506 (39750)	21.45	20.48	

LTE B41 PC2-Power Level A1/B1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
5MHz	1RB-High (24)	2687.5 (41565)	26.08	25.17
		2640.3(41093)	26.06	25.12
		2593 (40620)	26.19	25.27
		2545.8(40148)	25.83	24.96
		2498.5 (39675)	25.92	25.05
	1RB-Middle (12)	2687.5 (41565)	26.31	25.41
		2640.3(41093)	26.22	25.25
		2593 (40620)	26.39	25.46
		2545.8(40148)	26.06	25.17
		2498.5 (39675)	26.09	25.19
	1RB-Low (0)	2687.5 (41565)	26.21	25.31
		2640.3(41093)	26.05	25.13
		2593 (40620)	26.25	25.32
		2545.8(40148)	25.90	25.02
		2498.5 (39675)	25.99	24.99
	12RB-High (13)	2687.5 (41565)	25.24	24.17
		2640.3(41093)	25.17	24.10
		2593 (40620)	25.27	24.23
		2545.8(40148)	24.97	23.90
		2498.5 (39675)	25.03	23.96
	12RB-Middle (6)	2687.5 (41565)	25.34	24.29
		2640.3(41093)	25.22	24.14
		2593 (40620)	25.40	24.30
		2545.8(40148)	25.02	23.96
		2498.5 (39675)	25.09	24.01
	12RB-Low (0)	2687.5 (41565)	25.30	24.24
		2640.3(41093)	25.16	24.09
		2593 (40620)	25.31	24.24
		2545.8(40148)	25.01	23.92
		2498.5 (39675)	25.00	23.93
	25RB (0)	2687.5 (41565)	25.26	24.23
		2640.3(41093)	25.13	24.09
2593 (40620)		25.23	24.25	
2545.8(40148)		24.96	23.93	
2498.5 (39675)		24.99	23.96	



10MHz	1RB-High (49)	2685 (41540)	26.16	25.26
		2639(41080)	26.13	25.24
		2593 (40620)	26.25	25.37
		2547(40160)	25.97	24.99
		2501 (39700)	26.09	25.16
	1RB-Middle (24)	2685 (41540)	26.40	24.45
		2639(41080)	26.24	25.32
		2593 (40620)	26.41	25.50
		2547(40160)	26.07	25.16
		2501 (39700)	26.11	25.25
	1RB-Low (0)	2685 (41540)	26.45	24.46
		2639(41080)	26.15	25.25
		2593 (40620)	26.36	25.46
		2547(40160)	26.03	25.14
		2501 (39700)	25.98	25.10
	25RB-High (25)	2685 (41540)	25.30	24.27
		2639(41080)	25.19	24.15
		2593 (40620)	25.38	24.28
		2547(40160)	24.92	23.91
		2501 (39700)	25.09	24.06
	25RB-Middle (12)	2685 (41540)	25.38	24.32
		2639(41080)	25.17	24.14
		2593 (40620)	25.36	24.32
		2547(40160)	25.00	23.96
		2501 (39700)	25.07	24.05
	25RB-Low (0)	2685 (41540)	25.48	24.45
		2639(41080)	25.18	24.15
		2593 (40620)	25.32	24.29
		2547(40160)	25.00	23.98
		2501 (39700)	25.03	23.99
50RB (0)	2685 (41540)	25.40	24.40	
	2639(41080)	25.22	24.20	
	2593 (40620)	25.37	24.34	
	2547(40160)	25.01	24.00	
	2501 (39700)	25.10	24.08	

15MHz	1RB-High (74)	2682.5 (41515)	26.03	25.16
		2637.8(41068)	26.00	25.08
		2593 (40620)	26.09	25.20
		2548.3(40173)	25.82	25.21
		2503.5 (39725)	25.95	25.09
	1RB-Middle (37)	2682.5 (41515)	26.30	25.42
		2637.8(41068)	26.09	25.19
		2593 (40620)	26.29	25.39
		2548.3(40173)	25.94	25.05
		2503.5 (39725)	26.04	25.15
	1RB-Low (0)	2682.5 (41515)	26.41	25.47
		2637.8(41068)	26.00	25.11
		2593 (40620)	26.27	25.36
		2548.3(40173)	26.01	25.04
		2503.5 (39725)	25.89	25.01
	36RB-High (38)	2682.5 (41515)	25.26	24.19
		2637.8(41068)	25.15	24.03
		2593 (40620)	25.25	24.17
		2548.3(40173)	24.90	23.82
		2503.5 (39725)	25.09	23.99
	36RB-Middle (19)	2682.5 (41515)	25.36	24.28
		2637.8(41068)	25.14	24.05
		2593 (40620)	25.33	24.23
		2548.3(40173)	24.93	23.85
		2503.5 (39725)	25.06	23.99
	36RB-Low (0)	2682.5 (41515)	25.46	24.38
		2637.8(41068)	25.14	24.05
		2593 (40620)	25.32	24.25
2548.3(40173)		24.97	23.90	
2503.5 (39725)		24.99	23.91	
75RB (0)	2682.5 (41515)	25.35	24.32	
	2637.8(41068)	25.12	24.08	
	2593 (40620)	25.30	24.26	
	2548.3(40173)	24.93	23.92	
	2503.5 (39725)	25.06	24.01	

20MHz	1RB-High (99)	2680 (41490)	25.68	24.78
		2636.5(41055)	25.65	24.74
		2593 (40620)	25.72	24.82
		2549.5(40185)	25.59	24.70
		2506 (39750)	25.70	24.82
	1RB-Middle (50)	2680 (41490)	26.26	25.36
		2636.5(41055)	25.99	25.09
		2593 (40620)	26.17	25.27
		2549.5(40185)	25.81	24.80
		2506 (39750)	25.93	25.04
	1RB-Low (0)	2680 (41490)	26.07	25.16
		2636.5(41055)	25.71	24.80
		2593 (40620)	25.95	25.02
		2549.5(40185)	25.59	24.70
		2506 (39750)	25.49	24.58
	50RB-High (50)	2680 (41490)	25.12	24.10
		2636.5(41055)	25.01	23.96
		2593 (40620)	25.12	24.10
		2549.5(40185)	24.76	23.74
		2506 (39750)	25.04	24.01
	50RB-Middle (25)	2680 (41490)	25.33	24.30
		2636.5(41055)	25.00	23.98
		2593 (40620)	25.20	24.18
		2549.5(40185)	24.78	23.75
		2506 (39750)	24.92	23.89
	50RB-Low (0)	2680 (41490)	25.37	24.36
		2636.5(41055)	25.00	23.98
		2593 (40620)	25.19	24.16
		2549.5(40185)	24.83	23.81
		2506 (39750)	24.82	23.80
100RB (0)	2680 (41490)	25.28	24.25	
	2636.5(41055)	25.03	23.97	
	2593 (40620)	25.17	24.13	
	2549.5(40185)	24.83	23.79	
	2506 (39750)	24.95	23.91	

LTE B41 PC2-Power Level C1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
5MHz	1RB-High (24)	2687.5 (41565)	24.89	24.99
		2640.3(41093)	24.80	24.95
		2593 (40620)	24.65	24.93
		2545.8(40148)	24.81	24.77
		2498.5 (39675)	24.76	24.72
	1RB-Middle (12)	2687.5 (41565)	25.19	25.25
		2640.3(41093)	25.17	25.11
		2593 (40620)	25.22	25.43
		2545.8(40148)	25.09	25.02
		2498.5 (39675)	24.98	24.89
	1RB-Low (0)	2687.5 (41565)	25.08	25.07
		2640.3(41093)	24.93	24.98
		2593 (40620)	24.80	25.25
		2545.8(40148)	24.82	24.87
		2498.5 (39675)	24.56	24.45
	12RB-High (13)	2687.5 (41565)	25.12	24.02
		2640.3(41093)	25.13	23.94
		2593 (40620)	24.96	23.94
		2545.8(40148)	24.98	23.77
		2498.5 (39675)	24.93	23.95
	12RB-Middle (6)	2687.5 (41565)	25.40	24.45
		2640.3(41093)	24.97	24.08
		2593 (40620)	25.38	24.23
		2545.8(40148)	24.94	24.01
		2498.5 (39675)	25.31	24.00
	12RB-Low (0)	2687.5 (41565)	25.52	24.41
		2640.3(41093)	25.10	24.14
		2593 (40620)	25.06	24.30
		2545.8(40148)	24.98	23.74
		2498.5 (39675)	24.71	24.00
25RB (0)	2687.5 (41565)	25.30	24.29	
	2640.3(41093)	25.20	24.04	
	2593 (40620)	25.17	24.07	
	2545.8(40148)	24.67	23.86	
	2498.5 (39675)	24.82	24.10	

15MHz	1RB-High (74)	2682.5 (41515)	24.74	24.99
		2637.8(41068)	24.76	24.92
		2593 (40620)	24.94	24.67
		2548.3(40173)	24.52	24.66
		2503.5 (39725)	24.70	24.74
	1RB-Middle (37)	2682.5 (41515)	25.33	25.31
		2637.8(41068)	25.20	25.01
		2593 (40620)	25.13	25.26
		2548.3(40173)	25.23	24.88
		2503.5 (39725)	25.04	24.94
	1RB-Low (0)	2682.5 (41515)	25.29	25.36
		2637.8(41068)	24.80	24.75
		2593 (40620)	25.10	24.86
		2548.3(40173)	24.51	24.81
		2503.5 (39725)	24.60	24.79
	36RB-High (38)	2682.5 (41515)	25.15	24.22
		2637.8(41068)	24.96	23.91
		2593 (40620)	25.26	24.05
		2548.3(40173)	24.83	23.71
		2503.5 (39725)	24.94	24.21
	36RB-Middle (19)	2682.5 (41515)	25.52	24.25
		2637.8(41068)	25.25	23.91
		2593 (40620)	25.32	24.05
		2548.3(40173)	24.97	23.86
		2503.5 (39725)	25.12	23.98
	36RB-Low (0)	2682.5 (41515)	25.46	24.45
		2637.8(41068)	25.13	23.98
		2593 (40620)	25.06	24.13
		2548.3(40173)	24.78	23.99
		2503.5 (39725)	24.76	23.80
75RB (0)	2682.5 (41515)	25.19	24.35	
	2637.8(41068)	24.86	24.06	
	2593 (40620)	25.26	24.31	
	2548.3(40173)	24.78	23.65	
	2503.5 (39725)	25.17	24.11	

20MHz	1RB-High (99)	2680 (41490)	24.88	24.94
		2636.5(41055)	24.82	24.88
		2593 (40620)	24.86	24.94
		2549.5(40185)	24.79	24.84
		2506 (39750)	24.88	24.98
	1RB-Middle (50)	2680 (41490)	25.47	25.47
		2636.5(41055)	25.15	25.21
		2593 (40620)	25.35	25.39
		2549.5(40185)	25.20	25.03
		2506 (39750)	25.10	25.05
	1RB-Low (0)	2680 (41490)	25.23	25.30
		2636.5(41055)	24.84	24.93
		2593 (40620)	25.08	25.15
		2549.5(40185)	24.80	24.85
		2506 (39750)	24.67	24.74
	50RB-High (50)	2680 (41490)	25.28	24.26
		2636.5(41055)	25.14	24.11
		2593 (40620)	25.24	24.21
		2549.5(40185)	24.90	23.89
		2506 (39750)	25.18	24.16
	50RB-Middle (25)	2680 (41490)	25.45	24.43
		2636.5(41055)	25.25	24.13
		2593 (40620)	25.33	24.31
		2549.5(40185)	25.15	23.91
		2506 (39750)	25.38	24.07
	50RB-Low (0)	2680 (41490)	25.42	24.51
		2636.5(41055)	25.14	24.12
		2593 (40620)	25.32	24.28
		2549.5(40185)	24.97	23.97
		2506 (39750)	25.00	23.97
100RB (0)	2680 (41490)	25.44	24.39	
	2636.5(41055)	25.16	24.10	
	2593 (40620)	25.29	24.26	
	2549.5(40185)	24.96	23.94	
	2506 (39750)	25.10	24.07	

LTE B66-Power Level A1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	22.62	21.92
		1745 (132322)	22.72	22.03
		1710.7 (131979)	22.76	22.03
	1RB-Middle (3)	1779.3 (132665)	22.82	21.96
		1745 (132322)	22.84	22.12
		1710.7 (131979)	22.88	22.10
	1RB-Low (0)	1779.3 (132665)	22.60	21.87
		1745 (132322)	22.72	22.09
		1710.7 (131979)	22.73	22.08
	3RB-High (3)	1779.3 (132665)	22.74	21.73
		1745 (132322)	22.85	21.85
		1710.7 (131979)	22.90	21.80
	3RB-Middle (1)	1779.3 (132665)	22.78	21.83
		1745 (132322)	22.89	21.86
		1710.7 (131979)	22.94	21.94
	3RB-Low (0)	1779.3 (132665)	22.75	21.73
		1745 (132322)	22.86	21.84
		1710.7 (131979)	22.87	21.85
	6RB (0)	1779.3 (132665)	21.72	20.83
		1745 (132322)	21.80	20.88
		1710.7 (131979)	21.87	20.92
3MHz	1RB-High (14)	1778.5 (132657)	22.65	21.90
		1745 (132322)	22.73	22.09
		1711.5 (131987)	22.82	22.13
	1RB-Middle (7)	1778.5 (132657)	22.76	22.00
		1745 (132322)	22.94	22.18
		1711.5 (131987)	22.97	22.19
	1RB-Low (0)	1778.5 (132657)	22.65	21.87
		1745 (132322)	22.75	22.02
		1711.5 (131987)	22.77	22.00
	8RB-High (7)	1778.5 (132657)	21.64	20.69
		1745 (132322)	21.73	20.79
		1711.5 (131987)	21.77	20.82
	8RB-Middle (4)	1778.5 (132657)	21.69	20.72
		1745 (132322)	21.77	20.84
		1711.5 (131987)	21.80	20.86
	8RB-Low (0)	1778.5 (132657)	21.67	20.68
		1745 (132322)	21.77	20.80
		1711.5 (131987)	21.77	20.82
15RB (0)	1778.5 (132657)	21.64	20.65	
	1745 (132322)	21.75	20.73	
	1711.5 (131987)	21.75	20.79	

5MHz	1RB-High (24)	1777.5 (132647)	22.65	21.78
		1745 (132322)	22.65	21.78
		1712.5 (131997)	22.66	21.92
	1RB-Middle (12)	1777.5 (132647)	22.91	22.11
		1745 (132322)	22.87	22.32
		1712.5 (131997)	22.89	22.26
	1RB-Low (0)	1777.5 (132647)	22.67	21.77
		1745 (132322)	22.65	22.00
		1712.5 (131997)	22.66	21.86
	12RB-High (13)	1777.5 (132647)	22.11	20.57
		1745 (132322)	21.77	20.67
		1712.5 (131997)	21.83	20.81
	12RB-Middle (6)	1777.5 (132647)	22.16	20.66
		1745 (132322)	21.80	20.77
		1712.5 (131997)	21.84	20.80
	12RB-Low (0)	1777.5 (132647)	22.13	20.68
		1745 (132322)	21.75	20.72
		1712.5 (131997)	21.79	20.75
25RB (0)	1777.5 (132647)	22.11	20.61	
	1745 (132322)	21.75	20.73	
	1712.5 (131997)	21.80	20.79	
10MHz	1RB-High (49)	1775 (132622)	23.13	22.47
		1745 (132322)	23.19	22.43
		1715 (132022)	23.30	22.45
	1RB-Middle (24)	1775 (132622)	23.27	22.47
		1745 (132322)	23.32	22.45
		1715 (132022)	23.34	22.45
	1RB-Low (0)	1775 (132622)	23.10	22.42
		1745 (132322)	23.24	22.28
		1715 (132022)	23.24	22.14
	25RB-High (25)	1775 (132622)	22.10	21.09
		1745 (132322)	22.23	21.26
		1715 (132022)	22.37	21.35
	25RB-Middle (12)	1775 (132622)	22.16	21.20
		1745 (132322)	22.30	21.27
		1715 (132022)	22.34	21.24
	25RB-Low (0)	1775 (132622)	22.27	21.27
		1745 (132322)	22.33	21.27
		1715 (132022)	22.33	21.30
50RB (0)	1775 (132622)	22.20	21.19	
	1745 (132322)	22.29	21.21	
	1715 (132022)	22.36	21.16	



15MHz	1RB-High (74)	1772.5 (132597)	23.00	22.29
		1745 (132322)	23.07	22.38
		1717.5 (132047)	23.15	22.50
	1RB-Middle (37)	1772.5 (132597)	23.11	22.39
		1745 (132322)	23.23	22.43
		1717.5 (132047)	23.24	22.47
	1RB-Low (0)	1772.5 (132597)	22.96	22.32
		1745 (132322)	23.18	22.50
		1717.5 (132047)	23.24	22.49
	36RB-High (38)	1772.5 (132597)	22.06	21.04
		1745 (132322)	22.21	21.19
		1717.5 (132047)	22.34	21.33
	36RB-Middle (19)	1772.5 (132597)	22.15	21.13
		1745 (132322)	22.23	21.23
		1717.5 (132047)	22.31	21.25
	36RB-Low (0)	1772.5 (132597)	22.11	21.10
		1745 (132322)	22.27	21.26
		1717.5 (132047)	22.26	21.26
75RB (0)	1772.5 (132597)	22.10	21.12	
	1745 (132322)	22.21	21.22	
	1717.5 (132047)	22.33	21.29	
20MHz	1RB-High (99)	1770 (132572)	22.38	21.71
		1745 (132322)	22.48	21.82
		1720 (132072)	22.51	21.66
	1RB-Middle (50)	1770 (132572)	22.71	21.97
		1745 (132322)	22.86	22.16
		1720 (132072)	22.93	22.18
	1RB-Low (0)	1770 (132572)	22.39	21.67
		1745 (132322)	22.54	21.85
		1720 (132072)	22.57	21.91
	50RB-High (50)	1770 (132572)	21.54	20.56
		1745 (132322)	21.75	20.75
		1720 (132072)	21.94	20.93
	50RB-Middle (25)	1770 (132572)	21.67	20.64
		1745 (132322)	21.80	20.77
		1720 (132072)	21.84	20.83
	50RB-Low (0)	1770 (132572)	21.62	20.60
		1745 (132322)	21.89	20.89
		1720 (132072)	21.80	20.78
100RB (0)	1770 (132572)	21.57	20.54	
	1745 (132322)	21.81	20.78	
	1720 (132072)	21.85	20.85	

LTE B66-Power Level B1				
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM
1.4MHz	1RB-High (5)	1779.3 (132665)	20.69	21.18
		1745 (132322)	20.99	21.04
		1710.7 (131979)	20.96	20.99
	1RB-Middle (3)	1779.3 (132665)	21.03	21.21
		1745 (132322)	21.40	21.49
		1710.7 (131979)	21.17	21.45
	1RB-Low (0)	1779.3 (132665)	20.70	20.86
		1745 (132322)	21.00	20.84
		1710.7 (131979)	20.95	21.17
	3RB-High (3)	1779.3 (132665)	21.36	20.88
		1745 (132322)	21.45	21.26
		1710.7 (131979)	21.10	21.15
	3RB-Middle (1)	1779.3 (132665)	21.25	20.82
		1745 (132322)	21.18	21.20
		1710.7 (131979)	21.13	21.10
	3RB-Low (0)	1779.3 (132665)	21.07	20.85
		1745 (132322)	21.05	21.13
		1710.7 (131979)	20.99	21.28
	6RB (0)	1779.3 (132665)	21.07	20.80
		1745 (132322)	21.40	21.03
		1710.7 (131979)	21.31	21.27
3MHz	1RB-High (14)	1778.5 (132657)	20.76	21.19
		1745 (132322)	20.79	20.99
		1711.5 (131987)	21.00	21.12
	1RB-Middle (7)	1778.5 (132657)	21.14	21.07
		1745 (132322)	21.19	21.36
		1711.5 (131987)	21.52	21.51
	1RB-Low (0)	1778.5 (132657)	20.65	20.95
		1745 (132322)	20.94	20.89
		1711.5 (131987)	20.97	21.42
	8RB-High (7)	1778.5 (132657)	21.23	20.87
		1745 (132322)	21.21	20.90
		1711.5 (131987)	21.36	21.35
	8RB-Middle (4)	1778.5 (132657)	21.17	20.97
		1745 (132322)	21.33	21.28
		1711.5 (131987)	21.39	21.17
	8RB-Low (0)	1778.5 (132657)	20.92	20.71
		1745 (132322)	21.15	21.22
		1711.5 (131987)	20.97	21.22
	15RB (0)	1778.5 (132657)	20.80	21.08
		1745 (132322)	21.23	21.27
		1711.5 (131987)	21.03	21.25

5MHz	1RB-High (24)	1777.5 (132647)	20.68	21.26
		1745 (132322)	20.76	21.19
		1712.5 (131997)	20.72	20.98
	1RB-Middle (12)	1777.5 (132647)	21.01	21.44
		1745 (132322)	21.27	21.55
		1712.5 (131997)	21.13	21.27
	1RB-Low (0)	1777.5 (132647)	20.62	21.14
		1745 (132322)	20.72	20.94
		1712.5 (131997)	20.85	21.18
	12RB-High (13)	1777.5 (132647)	21.39	20.85
		1745 (132322)	21.20	20.90
		1712.5 (131997)	21.31	21.47
	12RB-Middle (6)	1777.5 (132647)	21.15	21.01
		1745 (132322)	21.31	21.09
		1712.5 (131997)	21.12	21.33
	12RB-Low (0)	1777.5 (132647)	21.08	20.74
		1745 (132322)	21.07	21.43
		1712.5 (131997)	21.06	20.98
25RB (0)	1777.5 (132647)	20.92	21.07	
	1745 (132322)	21.20	21.16	
	1712.5 (131997)	21.23	21.05	
10MHz	1RB-High (49)	1775 (132622)	20.86	21.06
		1745 (132322)	20.66	21.09
		1715 (132022)	20.65	21.18
	1RB-Middle (24)	1775 (132622)	21.00	21.34
		1745 (132322)	21.35	21.54
		1715 (132022)	21.27	21.50
	1RB-Low (0)	1775 (132622)	20.77	21.05
		1745 (132322)	20.87	20.94
		1715 (132022)	20.83	21.08
	25RB-High (25)	1775 (132622)	21.32	20.84
		1745 (132322)	21.12	21.24
		1715 (132022)	21.35	21.13
	25RB-Middle (12)	1775 (132622)	21.24	20.81
		1745 (132322)	21.28	21.27
		1715 (132022)	21.36	21.09
	25RB-Low (0)	1775 (132622)	21.14	21.01
		1745 (132322)	21.19	21.16
		1715 (132022)	21.32	21.13
50RB (0)	1775 (132622)	20.75	20.80	
	1745 (132322)	21.31	21.18	
	1715 (132022)	21.27	21.27	

15MHz	1RB-High (74)	1772.5 (132597)	20.56	20.95
		1745 (132322)	20.86	21.32
		1717.5 (132047)	20.72	21.17
	1RB-Middle (37)	1772.5 (132597)	21.10	21.13
		1745 (132322)	21.24	21.53
		1717.5 (132047)	21.37	21.56
	1RB-Low (0)	1772.5 (132597)	20.80	21.00
		1745 (132322)	21.08	21.12
		1717.5 (132047)	21.11	21.36
	36RB-High (38)	1772.5 (132597)	21.32	21.06
		1745 (132322)	21.15	21.22
		1717.5 (132047)	21.47	21.12
	36RB-Middle (19)	1772.5 (132597)	20.94	21.09
		1745 (132322)	21.10	21.11
		1717.5 (132047)	21.26	21.19
	36RB-Low (0)	1772.5 (132597)	20.84	20.82
		1745 (132322)	21.33	21.08
		1717.5 (132047)	21.08	21.01
75RB (0)	1772.5 (132597)	20.79	20.95	
	1745 (132322)	21.12	21.20	
	1717.5 (132047)	21.25	21.31	
20MHz	1RB-High (99)	1770 (132572)	20.85	21.24
		1745 (132322)	20.89	21.22
		1720 (132072)	20.93	21.21
	1RB-Middle (50)	1770 (132572)	21.19	21.35
		1745 (132322)	21.45	21.45
		1720 (132072)	21.42	21.47
	1RB-Low (0)	1770 (132572)	20.87	21.06
		1745 (132322)	20.99	21.13
		1720 (132072)	21.02	21.38
	50RB-High (50)	1770 (132572)	21.30	21.00
		1745 (132322)	21.39	21.20
		1720 (132072)	21.37	21.37
	50RB-Middle (25)	1770 (132572)	21.15	21.11
		1745 (132322)	21.26	21.25
		1720 (132072)	21.31	21.31
	50RB-Low (0)	1770 (132572)	21.05	21.01
		1745 (132322)	21.30	21.36
		1720 (132072)	21.27	21.27
100RB (0)	1770 (132572)	21.00	21.01	
	1745 (132322)	21.32	21.23	
	1720 (132072)	21.30	21.30	

LTE B66-Power Level C1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	
1.4MHz	1RB-High (5)	1779.3 (132665)	19.75	19.97	
		1745 (132322)	19.64	20.10	
		1710.7 (131979)	20.08	19.66	
	1RB-Middle (3)	1779.3 (132665)	20.23	20.19	
		1745 (132322)	19.94	20.42	
		1710.7 (131979)	20.31	20.09	
	1RB-Low (0)	1779.3 (132665)	19.68	20.23	
		1745 (132322)	20.10	19.83	
		1710.7 (131979)	20.06	19.95	
	3RB-High (3)	1779.3 (132665)	20.11	19.82	
		1745 (132322)	20.00	19.63	
		1710.7 (131979)	20.11	19.59	
	3RB-Middle (1)	1779.3 (132665)	19.87	20.02	
		1745 (132322)	20.14	20.00	
		1710.7 (131979)	20.44	19.98	
	3RB-Low (0)	1779.3 (132665)	19.98	19.81	
		1745 (132322)	20.12	19.70	
		1710.7 (131979)	19.93	19.65	
	6RB (0)	1779.3 (132665)	19.91	19.94	
		1745 (132322)	20.09	19.77	
		1710.7 (131979)	20.40	19.87	
	3MHz	1RB-High (14)	1778.5 (132657)	19.81	20.28
			1745 (132322)	19.97	19.85
			1711.5 (131987)	19.69	19.79
1RB-Middle (7)		1778.5 (132657)	19.80	20.35	
		1745 (132322)	20.18	20.44	
		1711.5 (131987)	20.38	20.40	
1RB-Low (0)		1778.5 (132657)	19.99	20.17	
		1745 (132322)	19.91	19.59	
		1711.5 (131987)	19.98	19.71	
8RB-High (7)		1778.5 (132657)	20.31	19.76	
		1745 (132322)	19.91	19.74	
		1711.5 (131987)	20.37	19.63	
8RB-Middle (4)		1778.5 (132657)	20.15	20.12	
		1745 (132322)	20.33	19.92	
		1711.5 (131987)	20.23	20.04	
8RB-Low (0)		1778.5 (132657)	19.77	20.21	
		1745 (132322)	20.04	19.60	
		1711.5 (131987)	20.11	19.70	
15RB (0)		1778.5 (132657)	20.09	19.88	
		1745 (132322)	20.03	19.60	
		1711.5 (131987)	20.31	19.79	

5MHz	1RB-High (24)	1777.5 (132647)	19.57	19.81
		1745 (132322)	19.90	19.80
		1712.5 (131997)	20.08	20.01
	1RB-Middle (12)	1777.5 (132647)	20.19	20.46
		1745 (132322)	19.90	20.36
		1712.5 (131997)	20.38	20.43
	1RB-Low (0)	1777.5 (132647)	19.65	20.12
		1745 (132322)	19.68	19.87
		1712.5 (131997)	19.79	20.04
	12RB-High (13)	1777.5 (132647)	20.04	19.70
		1745 (132322)	20.02	20.00
		1712.5 (131997)	20.18	19.93
	12RB-Middle (6)	1777.5 (132647)	20.26	19.98
		1745 (132322)	20.36	19.70
		1712.5 (131997)	20.40	19.81
	12RB-Low (0)	1777.5 (132647)	19.74	20.20
		1745 (132322)	20.39	19.63
		1712.5 (131997)	20.15	19.52
	25RB (0)	1777.5 (132647)	19.69	19.71
		1745 (132322)	19.98	19.94
		1712.5 (131997)	20.34	19.93
10MHz	1RB-High (49)	1775 (132622)	19.56	20.27
		1745 (132322)	19.98	19.95
		1715 (132022)	19.75	19.64
	1RB-Middle (24)	1775 (132622)	20.20	20.31
		1745 (132322)	19.96	20.44
		1715 (132022)	20.10	20.03
	1RB-Low (0)	1775 (132622)	19.81	20.20
		1745 (132322)	20.10	19.55
		1715 (132022)	20.12	19.91
	25RB-High (25)	1775 (132622)	20.34	19.77
		1745 (132322)	20.31	19.51
		1715 (132022)	20.25	19.68
	25RB-Middle (12)	1775 (132622)	19.97	20.07
		1745 (132322)	20.13	19.57
		1715 (132022)	20.03	19.94
	25RB-Low (0)	1775 (132622)	20.12	19.93
		1745 (132322)	20.07	20.02
		1715 (132022)	20.07	19.86
	50RB (0)	1775 (132622)	20.07	20.14
		1745 (132322)	20.39	19.91
		1715 (132022)	20.36	19.91

15MHz	1RB-High (74)	1772.5 (132597)	19.89	20.12
		1745 (132322)	19.94	19.97
		1717.5 (132047)	19.99	19.81
	1RB-Middle (37)	1772.5 (132597)	20.30	20.31
		1745 (132322)	20.33	20.21
		1717.5 (132047)	20.28	20.08
	1RB-Low (0)	1772.5 (132597)	19.65	19.92
		1745 (132322)	19.63	19.75
		1717.5 (132047)	19.85	19.93
	36RB-High (38)	1772.5 (132597)	20.31	19.62
		1745 (132322)	20.04	19.98
		1717.5 (132047)	20.43	19.99
	36RB-Middle (19)	1772.5 (132597)	20.16	20.07
		1745 (132322)	19.94	19.75
		1717.5 (132047)	20.34	19.94
	36RB-Low (0)	1772.5 (132597)	20.10	19.71
		1745 (132322)	20.08	19.82
		1717.5 (132047)	20.04	19.58
75RB (0)	1772.5 (132597)	19.71	19.94	
	1745 (132322)	19.98	19.73	
	1717.5 (132047)	20.06	19.79	
20MHz	1RB-High (99)	1770 (132572)	19.77	20.11
		1745 (132322)	19.83	19.95
		1720 (132072)	19.90	19.88
	1RB-Middle (50)	1770 (132572)	20.10	20.37
		1745 (132322)	20.19	20.44
		1720 (132072)	20.32	20.23
	1RB-Low (0)	1770 (132572)	19.79	20.11
		1745 (132322)	19.92	19.79
		1720 (132072)	19.98	19.87
	50RB-High (50)	1770 (132572)	20.22	19.92
		1745 (132322)	20.11	19.80
		1720 (132072)	20.33	19.84
	50RB-Middle (25)	1770 (132572)	20.07	20.06
		1745 (132322)	20.20	19.82
		1720 (132072)	20.26	19.90
	50RB-Low (0)	1770 (132572)	19.97	20.01
		1745 (132322)	20.31	19.87
		1720 (132072)	20.21	19.79
100RB (0)	1770 (132572)	19.97	19.95	
	1745 (132322)	20.21	19.76	
	1720 (132072)	20.28	19.77	

LTE B71-Power Level A1/B1/C1					
BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	
5MHz	1RB-High (24)	695.5 (133447)	22.96	21.85	
		680.5 (133297)	22.84	21.72	
		665.5 (133147)	22.52	21.82	
	1RB-Middle (12)	695.5 (133447)	23.30	22.04	
		680.5 (133297)	23.22	22.04	
		665.5 (133147)	22.86	22.04	
	1RB-Low (0)	695.5 (133447)	22.98	21.75	
		680.5 (133297)	22.93	21.81	
		665.5 (133147)	22.52	21.81	
	12RB-High (13)	695.5 (133447)	22.07	20.59	
		680.5 (133297)	21.90	20.61	
		665.5 (133147)	21.69	20.66	
	12RB-Middle (6)	695.5 (133447)	22.15	20.72	
		680.5 (133297)	22.09	20.63	
		665.5 (133147)	21.75	20.70	
	12RB-Low (0)	695.5 (133447)	22.10	20.68	
		680.5 (133297)	22.10	20.64	
		665.5 (133147)	21.60	20.59	
	25RB (0)	695.5 (133447)	22.09	20.78	
		680.5 (133297)	21.97	20.63	
		665.5 (133147)	21.66	20.67	
	10MHz	1RB-High (49)	693 (132422)	23.13	22.37
			680.5 (133297)	23.02	22.33
			668 (133172)	23.06	22.21
1RB-Middle (24)		693 (132422)	23.23	22.45	
		680.5 (133297)	23.17	22.44	
		668 (133172)	23.28	22.20	
1RB-Low (0)		693 (132422)	23.20	22.45	
		680.5 (133297)	23.09	22.47	
		668 (133172)	22.99	21.96	
25RB-High (25)		693 (132422)	22.22	21.22	
		680.5 (133297)	22.21	21.22	
		668 (133172)	21.97	21.00	
25RB-Middle (12)		693 (132422)	22.21	21.21	
		680.5 (133297)	22.22	21.22	
		668 (133172)	22.00	21.00	
25RB-Low (0)		693 (132422)	22.20	21.21	
		680.5 (133297)	22.26	21.28	
		668 (133172)	21.96	20.78	
50RB (0)		693 (132422)	22.24	21.25	
		680.5 (133297)	22.27	21.24	
		668 (133172)	22.08	20.77	



15MHz	1RB-High (74)	690.5 (133397)	22.98	22.25	
		680.5 (133297)	22.98	22.32	
		670.5 (133197)	22.97	22.30	
	1RB-Middle (37)	690.5 (133397)	23.07	22.29	
		680.5 (133297)	23.08	22.44	
		670.5 (133197)	23.17	22.45	
	1RB-Low (0)	690.5 (133397)	23.03	22.35	
		680.5 (133297)	23.05	22.42	
		670.5 (133197)	23.14	22.49	
	36RB-High (38)	690.5 (133397)	22.10	21.11	
		680.5 (133297)	22.22	21.18	
		670.5 (133197)	22.27	21.20	
	36RB-Middle (19)	690.5 (133397)	22.18	21.13	
		680.5 (133297)	22.21	21.17	
		670.5 (133197)	22.28	21.21	
	36RB-Low (0)	690.5 (133397)	22.15	21.07	
		680.5 (133297)	22.22	21.18	
		670.5 (133197)	22.23	21.18	
	75RB (0)	690.5 (133397)	22.14	21.11	
		680.5 (133297)	22.19	21.17	
		670.5 (133197)	22.21	21.20	
	20MHz	1RB-High (99)	688 (133372)	22.29	21.71
			683 (133322)	22.24	21.54
			673 (133222)	22.24	21.53
		1RB-Middle (50)	688 (133372)	22.69	21.99
			683 (133322)	22.62	22.00
			673 (133222)	22.68	22.00
1RB-Low (0)		688 (133372)	22.35	21.70	
		683 (133322)	22.35	21.66	
		673 (133222)	22.43	21.73	
50RB-High (50)		688 (133372)	21.67	20.56	
		683 (133322)	21.71	20.72	
		673 (133222)	21.66	20.67	
50RB-Middle (25)		688 (133372)	21.74	20.69	
		683 (133322)	21.70	20.70	
		673 (133222)	21.69	20.69	
50RB-Low (0)		688 (133372)	21.64	20.65	
		683 (133322)	21.73	20.71	
		673 (133222)	21.60	20.60	
100RB (0)		688 (133372)	21.61	20.56	
		683 (133322)	21.71	20.69	
		673 (133222)	21.59	20.59	

#### 11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 8.23dBm.

The maximum tune up of BT antenna is 9dBm.

The average conducted power for Wi-Fi 2.4G is as following-Normal power (Receiver off):

802.11b	
Channel\data rate	5.5Mbps
11(2462MHz)	17.97
6(2437(MHz))	17.61
1(2412MHz)	17.63
Tune up	19.50
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	17.69
6(2437(MHz))	17.67
1(2412MHz)	17.85
Tune up	18.50
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	17.71
6(2437(MHz))	17.69
1(2412MHz)	17.47
Tune up	18.50
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	17.00
6(2437MHz)	16.93
3(2422MHz)	16.55
Tune up	18.00

The average conducted power for Wi-Fi 2.4G is as following-Low power (Wifi only, Receiver on):

802.11b	
Channel\data rate	5.5Mbps
11(2462MHz)	16.60
6(2437(MHz)	16.20
1(2412MHz)	16.10
Tune up	18.00
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	16.40
6(2437(MHz)	16.43
1(2412MHz)	16.67
Tune up	17.00
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	16.22
6(2437(MHz)	16.12
1(2412MHz)	16.18
Tune up	17.00
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	17.00
6(2437MHz)	16.93
3(2422MHz)	16.55
Tune up	18.00



The average conducted power for Wi-Fi 2.4G is as following-Low power (WIFI+ Cellular, Receiver on):

802.11b	
Channel\data rate	5.5Mbps
11(2462MHz)	13.28
6(2437(MHz)	13.22
1(2412MHz)	13.12
Tune up	15.00
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	13.85
6(2437(MHz)	13.95
1(2412MHz)	14.41
Tune up	14.50
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	13.86
6(2437(MHz)	14.00
1(2412MHz)	13.66
Tune up	14.50
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	12.98
6(2437MHz)	12.65
3(2422MHz)	12.80
Tune up	14.00

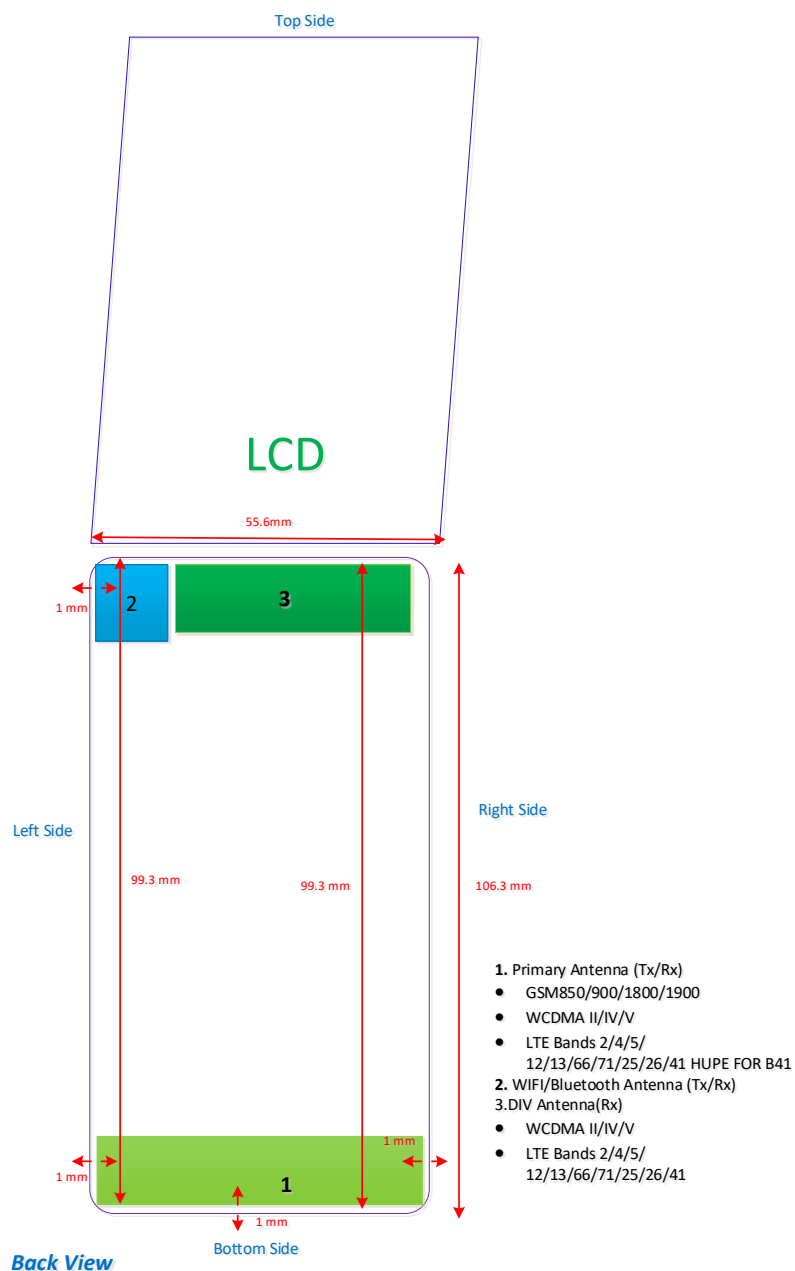
## 12 Simultaneous TX SAR Considerations

### 12.1 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.

### 12.2 Transmit Antenna Separation Distances



Picture 12.1 Antenna Locations

### 12.3 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	Right	Top	Bottom
MAIN ANT	Yes	Yes	Yes	Yes	No	Yes
WiFi ANT	Yes	Yes	Yes	No	Yes	No

### 12.4 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  $\leq 50$  mm are determined by:

$$\left[ \frac{\text{max. power of channel, including tune-up tolerance, mW}}{\text{min. test separation distance, mm}} \right] \cdot \left[ \sqrt{f(\text{GHz})} \right] \leq 3.0 \text{ for 1-g SAR, where}$$

- $f(\text{GHz})$  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 12.1: 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	7.94	Yes
		Body	19.20	9	7.94	Yes
2.4GHz WLAN	2.45	Head	9.58	18	63.1	No
		Body	19.17	19.5	89.13	No

### 13 Evaluation of Simultaneous

**Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G (1g)**

	Position	Main antenna	WiFi-2.4G	Sum
<b>Highest SAR value for Head</b>	Right head, Cheek (GSM850)	0.86	0.43	<b>1.29</b>
<b>Highest SAR value for Body</b>	Rear 10mm (GSM1900)	1.29	0.20	<b>1.49</b>

**Table 13.2: The sum of SAR values for main antenna and BT (1g)**

	Position	Main antenna	BT	Sum
<b>Maximum reported SAR value for Head</b>	Right head, Cheek (GSM850)	0.86	0.33 <sup>[1]</sup>	<b>1.19</b>
<b>Maximum reported SAR value for Body</b>	Rear 10mm (GSM1900)	1.29	0.17 <sup>[1]</sup>	<b>1.46</b>

[1] - Estimated SAR for Bluetooth (see the table 13.3)

**Table 13.3: Estimated SAR for Bluetooth**

Mode/Band	F (GHz)	Position	Distance (mm)	Upper limit of power *		Estimated SAR <sub>1g</sub> (W/kg)
				dBm	mW	
Bluetooth	2.441	Head	5	9	7.94	0.33
Bluetooth	2.441	Body	10	9	7.94	0.17

\* - 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.

## 14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom. The distance is 10/15 mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

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

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

$P_{\text{Measured}}$  is the measured power in chapter 11.

**Table 14.1: Duty Cycle**

Mode	Duty Cycle
GPRS&EGPRS for GSM 850/1900	1:2 or 1:4
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58 or 1:2.37

We'll perform the head measurement in all bands with the primary battery depending on the evaluation of multi-batteries and retest on highest value point with other batteries. Then, repeat the measurement in the Body test.

**Table 14.2: The evaluation of multi-batteries for Head Test**

Frequency		Mode/Band	Side	Test Position	Battery	SAR(1g) (W/kg)	Power Drift(dB)
MHz	Ch.						
848.8	251	GSM850	Right	Cheek	B1	0.76	0.06
848.8	251	GSM850	Right	Cheek	B2	0.732	0.13

Note: According to the values in the above table, the **B1** is the primary battery.

We'll perform the head measurement with the **B1** and retest on highest value point with others.

**Table 14.3: The evaluation of multi-batteries for Body Test**

Frequency		Mode/Band	Position	Battery	SAR(1g) (W/kg)	Power Drift
MHz	Channel					
1850.2	512	GSM1900	Rear 10mm	B1	1.19	-0.11
1850.2	512	GSM1900	Rear 10mm	B2	1.1	-0.15

Note: According to the values in the above table, the **B1** is the primary battery.

We'll perform the head measurement with the **B1** and retest on highest value point with others.

### Note:

The **B1** is the battery of TLi017C1 by BYD

The **B2** is the battery of TLi017C7 by VEKEN



### 14.1 SAR results for 2G/3G/4G

**Table 14.1-1: SAR Values (GSM 850 MHz Band - Head)**

Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C											
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	Left	Cheek	/	27.94	28.5	0.411	<b>0.47</b>	0.687	<b>0.78</b>	-0.08
190	836.6	Left	Tilt	/	27.94	28.5	0.292	<b>0.33</b>	0.397	<b>0.45</b>	0.06
251	848.8	Right	Cheek	Fig.1	27.96	28.5	0.490	<b>0.55</b>	0.760	<b>0.86</b>	0.06
190	836.6	Right	Cheek	/	27.94	28.5	0.470	<b>0.53</b>	0.743	<b>0.85</b>	-0.12
128	824.2	Right	Cheek	/	27.87	28.5	0.459	<b>0.53</b>	0.731	<b>0.85</b>	0.07
190	836.6	Right	Tilt	/	27.94	28.5	0.340	<b>0.39</b>	0.484	<b>0.55</b>	0.09
251	848.8	Right	Cheek	B2	27.96	28.5	0.463	<b>0.52</b>	0.732	<b>0.83</b>	0.13

Note: The head SAR of GSM850 is tested with GPRS (4Txslots) mode because of VoIP.

**Table 14.1-2: SAR Values (GSM 850 MHz Band - Body)**

Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C											
Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS (4)	Front	/	27.94	28.5	0.199	<b>0.23</b>	0.265	<b>0.30</b>	-0.11
251	848.8	GPRS (4)	Rear	/	27.96	28.5	0.548	<b>0.62</b>	0.801	<b>0.91</b>	-0.11
190	836.6	GPRS (4)	Rear	/	27.94	28.5	0.580	<b>0.66</b>	0.842	<b>0.96</b>	0.15
128	824.2	GPRS (4)	Rear	/	27.87	28.5	0.563	<b>0.65</b>	0.825	<b>0.95</b>	-0.07
251	848.8	GPRS (4)	Rear	Unfold	27.96	28.5	0.576	<b>0.65</b>	0.834	<b>0.94</b>	0.19
190	836.6	GPRS (4)	Rear	Unfold /Fig.2	27.94	28.5	0.615	<b>0.70</b>	0.899	<b>1.02</b>	-0.05
128	824.2	GPRS (4)	Rear	Unfold	27.87	28.5	0.604	<b>0.70</b>	0.879	<b>1.02</b>	-0.02
190	836.6	GPRS (4)	Left	/	27.94	28.5	0.167	<b>0.19</b>	0.245	<b>0.28</b>	-0.1
190	836.6	GPRS (4)	Right	/	27.94	28.5	0.410	<b>0.47</b>	0.619	<b>0.70</b>	0.09
190	836.6	GPRS (4)	Bottom	/	27.94	28.5	0.106	<b>0.12</b>	0.175	<b>0.20</b>	0.05
190	836.6	EGPRS (4)	Rear	Unfold	27.92	28.5	0.595	<b>0.68</b>	0.854	<b>0.98</b>	0.12

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-3: SAR Values (GSM 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	Left	Cheek	Fig.3	27.88	28	0.167	<b>0.17</b>	0.267	<b>0.27</b>	0.04
661	1880	Left	Cheek	/	27.66	28	0.144	<b>0.16</b>	0.205	<b>0.22</b>	-0.15
512	1850.2	Left	Cheek	/	27.66	28	0.132	<b>0.14</b>	0.201	<b>0.22</b>	0.08
661	1880	Left	Tilt	/	27.66	28	0.059	<b>0.06</b>	0.071	<b>0.08</b>	-0.11
661	1880	Right	Cheek	/	27.66	28	0.089	<b>0.10</b>	0.129	<b>0.14</b>	-0.03
661	1880	Right	Tilt	/	27.66	28	0.046	<b>0.05</b>	0.057	<b>0.06</b>	0.03

Note: The head SAR of GSM1900 is tested with GPRS (2Txslots) mode because of VoIP.

**Table 14.1-4: SAR Values (GSM 1900 MHz Band – Body)**

Frequency		Mode (number of timeslots)	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
661	1880	GPRS (2)	Front	/	27.66	28	0.143	<b>0.15</b>	0.232	<b>0.25</b>	-0.02
810	1909.8	GPRS (2)	Rear	/	27.88	28	0.571	<b>0.59</b>	0.989	<b>1.02</b>	-0.1
661	1880	GPRS (2)	Rear	/	27.66	28	0.540	<b>0.58</b>	0.927	<b>1.00</b>	0.15
512	1850.2	GPRS (2)	Rear	Fig.4	27.66	28	0.685	<b>0.74</b>	1.190	<b>1.29</b>	-0.11
810	1909.8	GPRS (2)	Rear	Unfold	27.88	28	0.509	<b>0.52</b>	0.902	<b>0.93</b>	-0.12
661	1880	GPRS (2)	Rear	Unfold	27.66	28	0.481	<b>0.52</b>	0.845	<b>0.91</b>	0.15
512	1850.2	GPRS (2)	Rear	Unfold	27.66	28	0.589	<b>0.64</b>	1.060	<b>1.15</b>	0.12
661	1880	GPRS (2)	Left	/	27.66	28	0.240	<b>0.26</b>	0.403	<b>0.44</b>	0.19
661	1880	GPRS (2)	Right	/	27.66	28	0.140	<b>0.15</b>	0.290	<b>0.31</b>	-0.1
661	1880	GPRS (2)	Bottom	/	27.66	28	0.131	<b>0.14</b>	0.204	<b>0.22</b>	0.1
512	1850.2	EGPRS (2)	Rear	/	27.66	28	0.657	<b>0.71</b>	1.120	<b>1.21</b>	0.09
512	1850.2	GPRS (2)	Rear	B2	27.66	28	0.643	<b>0.70</b>	1.100	<b>1.19</b>	-0.15
512	1850.2	GPRS (2)	Rear	Headset	27.66	28	0.663	<b>0.72</b>	1.150	<b>1.24</b>	0.15

Note: The distance between the EUT and the phantom bottom is 10mm

**Table 14.1-5: SAR Values (WCDMA 1900 MHz Band - Head)**

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C											
9538	1907.6	Left	Cheek	Fig.5	23.48	24	0.29	<b>0.33</b>	0.465	<b>0.52</b>	-0.05
9400	1880	Left	Cheek	/	23.41	24	0.255	<b>0.29</b>	0.448	<b>0.51</b>	-0.05
9262	1852.4	Left	Cheek	/	23.22	24	0.25	<b>0.30</b>	0.387	<b>0.46</b>	0.17
9400	1880	Left	Tilt	/	23.41	24	0.116	<b>0.13</b>	0.19	<b>0.22</b>	0.14
9400	1880	Right	Cheek	/	23.41	24	0.242	<b>0.28</b>	0.436	<b>0.50</b>	0.12
9400	1880	Right	Tilt	/	23.41	24	0.099	<b>0.11</b>	0.157	<b>0.18</b>	0.11

**Table 14.1-6: SAR Values (WCDMA 1900 MHz Band – Body Worn)**

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C										
9400	1880	Front	/	23.41	24	0.269	<b>0.31</b>	0.447	<b>0.51</b>	-0.14
9538	1907.6	Rear	/	23.48	24	0.571	<b>0.64</b>	0.955	<b>1.08</b>	-0.02
9400	1880	Rear	Fig.6	23.41	24	0.612	<b>0.70</b>	1.050	<b>1.20</b>	0.07
9262	1852.4	Rear	/	23.22	24	0.586	<b>0.70</b>	0.994	<b>1.19</b>	-0.08
9538	1907.6	Rear	Unfold	23.48	24	0.516	<b>0.58</b>	0.845	<b>0.95</b>	0.12
9400	1880	Rear	Unfold	23.41	24	0.522	<b>0.60</b>	0.870	<b>1.00</b>	-0.04
9262	1852.4	Rear	Unfold	23.22	24	0.542	<b>0.65</b>	0.905	<b>1.08</b>	-0.19
9400	1880	Rear	Headset	23.41	24	0.595	<b>0.68</b>	1.020	<b>1.17</b>	0.05

Note: The distance between the EUT and the phantom bottom is 15mm

**Table 14.1-7: SAR Values (WCDMA 1900 MHz Band – Hotspot)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
9400	1880	Front	/	19.96	20.5	0.128	<b>0.14</b>	0.217	<b>0.25</b>	0.07
9538	1907.6	Rear	/	19.94	20.5	0.466	<b>0.53</b>	0.842	<b>0.96</b>	0.12
9400	1880	Rear	/	19.96	20.5	0.475	<b>0.54</b>	0.883	<b>1.00</b>	0.04
9262	1852.4	Rear	Fig.7	19.85	20.5	0.576	<b>0.67</b>	1.010	<b>1.17</b>	-0.02
9538	1907.6	Rear	Unfold	19.94	20.5	0.417	<b>0.47</b>	0.738	<b>0.84</b>	-0.15
9400	1880	Rear	Unfold	19.96	20.5	0.444	<b>0.50</b>	0.793	<b>0.90</b>	0.18
9262	1852.4	Rear	Unfold	19.85	20.5	0.474	<b>0.55</b>	0.846	<b>0.98</b>	-0.08
9400	1880	Left	/	19.96	20.5	0.209	<b>0.24</b>	0.362	<b>0.41</b>	-0.08
9400	1880	Right	/	19.96	20.5	0.125	<b>0.14</b>	0.252	<b>0.29</b>	0.14
9400	1880	Bottom	/	19.96	20.5	0.108	<b>0.12</b>	0.177	<b>0.20</b>	0.17

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-8: SAR Values (WCDMA 1700 MHz Band - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C					
Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1513	1752.6	Left	Cheek	/	23.48	24	0.291	<b>0.33</b>	0.442	<b>0.50</b>	0.14
1412	1732.4	Left	Cheek	Fig.8	23.41	24	0.296	<b>0.34</b>	0.446	<b>0.51</b>	0.2
1312	1712.4	Left	Cheek	/	23.22	24	0.284	<b>0.34</b>	0.419	<b>0.50</b>	0.16
1412	1732.4	Left	Tilt	/	23.41	24	0.076	<b>0.09</b>	0.102	<b>0.12</b>	0.03
1412	1732.4	Right	Cheek	/	23.41	24	0.154	<b>0.18</b>	0.219	<b>0.25</b>	-0.15
1412	1732.4	Right	Tilt	/	23.41	24	0.069	<b>0.08</b>	0.089	<b>0.10</b>	0.07

**Table 14.1-9: SAR Values (WCDMA 1700 MHz Band – Body Worn)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
1412	1732.4	Front	/	23.41	24	0.243	<b>0.28</b>	0.401	<b>0.46</b>	0.03
1513	1752.6	Rear	/	23.48	24	0.579	<b>0.65</b>	1.030	<b>1.16</b>	0.18
1412	1732.4	Rear	/	23.41	24	0.588	<b>0.67</b>	1.030	<b>1.18</b>	-0.01
1312	1712.4	Rear	Fig.9	23.22	24	0.605	<b>0.72</b>	1.060	<b>1.27</b>	0.17
1513	1752.6	Rear	Unfold	23.48	24	0.530	<b>0.60</b>	0.895	<b>1.01</b>	0.16
1412	1732.4	Rear	Unfold	23.41	24	0.537	<b>0.62</b>	0.878	<b>1.01</b>	-0.06
1312	1712.4	Rear	Unfold	23.22	24	0.560	<b>0.67</b>	0.912	<b>1.09</b>	0.09
1312	1712.4	Rear	Headset	23.22	24	0.575	<b>0.69</b>	1.030	<b>1.23</b>	0.09

Note: The distance between the EUT and the phantom bottom is 15mm

**Table 14.1-10: SAR Values (WCDMA 1700 MHz Band – Hotspot)**

Frequency		Test Position	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
1412	1732.4	Front	/	19.77	20.5	0.158	<b>0.19</b>	0.261	<b>0.31</b>	0.06
1513	1752.6	Rear	/	19.75	20.5	0.567	<b>0.67</b>	1.030	<b>1.22</b>	0.15
1412	1732.4	Rear	Fig.10	19.77	20.5	0.580	<b>0.69</b>	1.050	<b>1.24</b>	0.04
1312	1712.4	Rear	/	19.85	20.5	0.571	<b>0.66</b>	1.040	<b>1.21</b>	-0.02
1513	1752.6	Rear	Unfold	19.75	20.5	0.511	<b>0.61</b>	0.900	<b>1.07</b>	-0.02
1412	1732.4	Rear	Unfold	19.77	20.5	0.517	<b>0.61</b>	0.889	<b>1.05</b>	-0.08
1312	1712.4	Rear	Unfold	19.85	20.5	0.517	<b>0.60</b>	0.881	<b>1.02</b>	-0.04
1412	1732.4	Left	/	19.77	20.5	0.183	<b>0.22</b>	0.306	<b>0.36</b>	-0.05
1412	1732.4	Right	/	19.77	20.5	0.083	<b>0.10</b>	0.137	<b>0.16</b>	0.03
1412	1732.4	Bottom	/	19.77	20.5	0.184	<b>0.22</b>	0.331	<b>0.39</b>	-0.15
1412	1732.4	Rear	Headset	19.77	20.5	0.563	<b>0.67</b>	1.010	<b>1.19</b>	0.15

Note: The distance between the EUT and the phantom bottom is 10mm

**Table 14.1-11: SAR Values (WCDMA 850 MHz Band - Head)**

Frequency		Side	Test Position	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz						Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
4183	836.6	Left	Cheek	/	23.49	24	0.258	<b>0.29</b>	0.447	<b>0.50</b>	-0.15
4183	836.6	Left	Tilt	/	23.49	24	0.163	<b>0.18</b>	0.235	<b>0.26</b>	0.02
4233	846.6	Right	Cheek	/	23.52	24	0.314	<b>0.35</b>	0.506	<b>0.57</b>	-0.07
4183	836.6	Right	Cheek	/	23.49	24	0.271	<b>0.30</b>	0.451	<b>0.51</b>	-0.16
4132	826.4	Right	Cheek	Fig.11	23.39	24	0.320	<b>0.37</b>	0.514	<b>0.59</b>	-0.03
4183	836.6	Right	Tilt	/	23.49	24	0.102	<b>0.11</b>	0.285	<b>0.32</b>	0.05

**Table 14.1-12: SAR Values (WCDMA 850 MHz Band - Body)**

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
4183	836.6	Front	/	23.49	24	0.118	<b>0.13</b>	0.184	<b>0.21</b>	0.11
4233	846.6	Rear	Fig.12	23.52	24	0.405	<b>0.45</b>	0.662	<b>0.74</b>	0.01
4183	836.6	Rear	/	23.49	24	0.403	<b>0.45</b>	0.652	<b>0.73</b>	-0.03
4132	826.4	Rear	/	23.39	24	0.389	<b>0.45</b>	0.638	<b>0.73</b>	0.14
4183	836.6	Rear	Unfold	23.49	24	0.263	<b>0.30</b>	0.419	<b>0.47</b>	-0.04
4183	836.6	Left	/	23.49	24	0.168	<b>0.19</b>	0.277	<b>0.31</b>	-0.09
4183	836.6	Right	/	23.49	24	0.282	<b>0.32</b>	0.464	<b>0.52</b>	-0.17
4183	836.6	Bottom	/	23.49	24	0.061	<b>0.07</b>	0.104	<b>0.12</b>	0.07

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-13: SAR Values (LTE Band12 - Head)**

Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz							Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
23060	704	1RB_Mid	Left	Cheek	/	22.94	23.5	0.185	<b>0.21</b>	0.339	<b>0.39</b>	0.14
23060	704	1RB_Mid	Left	Tilt	/	22.94	23.5	0.100	<b>0.11</b>	0.137	<b>0.16</b>	-0.18
23060	704	1RB_Mid	Right	Cheek	Fig.13	22.94	23.5	0.268	<b>0.30</b>	0.410	<b>0.47</b>	-0.04
23060	704	1RB_Mid	Right	Tilt	/	22.94	23.5	0.118	<b>0.13</b>	0.163	<b>0.19</b>	0.11
23060	704	25RB-Low	Left	Cheek	/	21.89	22.5	0.146	<b>0.17</b>	0.285	<b>0.33</b>	0.01
23060	704	25RB-Low	Left	Tilt	/	21.89	22.5	0.079	<b>0.09</b>	0.106	<b>0.12</b>	-0.09
23060	704	25RB-Low	Right	Cheek	/	21.89	22.5	0.194	<b>0.22</b>	0.304	<b>0.35</b>	-0.02
23060	704	25RB-Low	Right	Tilt	/	21.89	22.5	0.084	<b>0.10</b>	0.116	<b>0.13</b>	0.09

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-14: SAR Values (LTE Band12 – Body)**

Frequency		Mode	Figure No.	Conduct ed Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C			Power Drift (dB)
Ch.	MHz				Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	
23060	704	1RB-Mid Front	/	22.94	23.5	0.120	<b>0.14</b>	0.163	<b>0.19</b>	0.1
23060	704	1RB-Mid Rear	Fig.14	22.94	23.5	0.422	<b>0.48</b>	0.592	<b>0.67</b>	-0.07
23060	704	1RB-Mid Rear	Unfold	22.94	23.5	0.374	<b>0.43</b>	0.518	<b>0.59</b>	-0.16
23060	704	1RB-Mid Left	/	22.94	23.5	0.152	<b>0.17</b>	0.215	<b>0.24</b>	0.17
23060	704	1RB-Mid Right	/	22.94	23.5	0.183	<b>0.21</b>	0.261	<b>0.30</b>	-0.09
23060	704	1RB-Mid Bottom	/	22.94	23.5	0.037	<b>0.04</b>	0.054	<b>0.06</b>	0.16
23060	704	25RB-Low Front	/	21.89	22.5	0.092	<b>0.11</b>	0.124	<b>0.14</b>	0.16
23060	704	25RB-Low Rear	/	21.89	22.5	0.317	<b>0.36</b>	0.446	<b>0.51</b>	-0.16
23060	704	25RB-Low Rear	Unfold	21.89	22.5	0.289	<b>0.33</b>	0.401	<b>0.46</b>	-0.1
23060	704	25RB-Low Left	/	21.89	22.5	0.114	<b>0.13</b>	0.162	<b>0.19</b>	-0.01
23060	704	25RB-Low Right	/	21.89	22.5	0.138	<b>0.16</b>	0.199	<b>0.23</b>	-0.12
23060	704	25RB-Low Bottom	/	21.89	22.5	0.035	<b>0.04</b>	0.058	<b>0.07</b>	-0.15

Note: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-17: SAR Values (LTE Band25 - Head)**

Frequency		Mode	Side	Test Position	Figure No./Note	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C			Power Drift (dB)	
Ch.	MHz					Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)		Reported SAR(1g) (W/kg)
26140	1860	1RB_Mid	Left	Cheek	Fig.17	22.8	23.5	0.221	<b>0.26</b>	0.338	<b>0.40</b>	-0.16
26140	1860	1RB_Mid	Left	Tilt	/	22.8	23.5	0.082	<b>0.10</b>	0.099	<b>0.12</b>	0.03
26140	1860	1RB_Mid	Right	Cheek	/	22.8	23.5	0.145	<b>0.17</b>	0.222	<b>0.26</b>	0.04
26140	1860	1RB_Mid	Right	Tilt	/	22.8	23.5	0.066	<b>0.08</b>	0.079	<b>0.09</b>	0.17
26140	1860	50RB_High	Left	Cheek	/	21.85	22.5	0.170	<b>0.20</b>	0.262	<b>0.30</b>	-0.04
26140	1860	50RB_High	Left	Tilt	/	21.85	22.5	0.065	<b>0.08</b>	0.079	<b>0.09</b>	-0.03
26140	1860	50RB_High	Right	Cheek	/	21.85	22.5	0.111	<b>0.13</b>	0.164	<b>0.19</b>	-0.06
26140	1860	50RB_High	Right	Tilt	/	21.85	22.5	0.053	<b>0.06</b>	0.063	<b>0.07</b>	-0.11

Note: The LTE mode is QPSK\_20MHz.

**Table 14.1-18: SAR Values (LTE Band25 –Body worn)**

Frequency		Mode	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
		Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5°C				
26140	1860	1RB-Mid Front	/	22.8	23.5	0.170	<b>0.20</b>	0.263	<b>0.31</b>	-0.08
26590	1905	1RB-Mid Rear	/	22.76	23.5	0.518	<b>0.61</b>	0.874	<b>1.04</b>	-0.14
26365	1882.5	1RB-Mid Rear	/	22.74	23.5	0.515	<b>0.61</b>	0.876	<b>1.04</b>	-0.08
26140	1860	1RB-Mid Rear	Fig.18	22.8	23.5	0.540	<b>0.63</b>	0.919	<b>1.08</b>	-0.07
26140	1860	100RB Rear	/	21.77	22.5	0.411	<b>0.49</b>	0.684	<b>0.81</b>	0.12
26590	1905	1RB-Mid Rear	Unfold	22.76	23.5	0.453	<b>0.54</b>	0.765	<b>0.91</b>	0.05
26365	1882.5	1RB-Mid Rear	Unfold	22.74	23.5	0.467	<b>0.56</b>	0.783	<b>0.93</b>	-0.13
26140	1860	1RB-Mid Rear	Unfold	22.8	23.5	0.490	<b>0.58</b>	0.821	<b>0.96</b>	-0.16
26140	1860	100RB Rear	Unfold	21.77	22.5	0.373	<b>0.44</b>	0.611	<b>0.72</b>	0.13
26140	1860	50RB-High Front	/	21.85	22.5	0.126	<b>0.15</b>	0.198	<b>0.23</b>	-0.07
26140	1860	50RB-High Rear	/	21.85	22.5	0.400	<b>0.46</b>	0.677	<b>0.79</b>	-0.16
26140	1860	50RB-High Rear	Unfold	21.85	22.5	0.360	<b>0.42</b>	0.604	<b>0.70</b>	0.05

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-19: SAR Values (LTE Band25 –Hotspot)**

Frequency		Mode	Figure No.	Conduct ed Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
		Ambient Temperature: 22.9 °C				Liquid Temperature: 22.5°C				
26140	1860	1RB-Mid Front	/	20.19	20.5	0.111	<b>0.12</b>	0.182	<b>0.20</b>	0.19
26590	1905	1RB-Mid Rear	Fig.19	20.15	20.5	0.479	<b>0.52</b>	0.833	<b>0.90</b>	0.08
26365	1882.5	1RB-Mid Rear	/	20.16	20.5	0.465	<b>0.50</b>	0.820	<b>0.89</b>	0.13
26140	1860	1RB-Mid Rear	/	20.19	20.5	0.447	<b>0.48</b>	0.791	<b>0.85</b>	0.15
26590	1905	100RB Rear	/	20.15	20.5	0.473	<b>0.51</b>	0.825	<b>0.89</b>	-0.05
26590	1905	1RB-Mid Rear	Unfold	20.15	20.5	0.431	<b>0.47</b>	0.747	<b>0.81</b>	-0.1
26365	1882.5	1RB-Mid Rear	Unfold	20.16	20.5	0.444	<b>0.48</b>	0.772	<b>0.83</b>	-0.17
26140	1860	1RB-Mid Rear	Unfold	20.19	20.5	0.447	<b>0.48</b>	0.798	<b>0.86</b>	-0.18
26140	1860	100RB Rear	Unfold	20.16	20.5	0.431	<b>0.47</b>	0.778	<b>0.84</b>	0.11
26140	1860	1RB-Mid Left	/	20.19	20.5	0.168	<b>0.18</b>	0.283	<b>0.30</b>	-0.18
26140	1860	1RB-Mid Right	/	20.19	20.5	0.094	<b>0.10</b>	0.184	<b>0.20</b>	-0.03
26140	1860	1RB-Mid Bottom	/	20.19	20.5	0.099	<b>0.11</b>	0.163	<b>0.18</b>	-0.11
26140	1860	50RB-High Front	/	20.26	20.5	0.105	<b>0.11</b>	0.173	<b>0.18</b>	-0.08
26140	1860	50RB-High Rear	/	20.26	20.5	0.422	<b>0.45</b>	0.752	<b>0.79</b>	-0.14
26140	1860	50RB-High Rear	Unfold	20.26	20.5	0.390	<b>0.41</b>	0.692	<b>0.73</b>	-0.04



26140	1860	50RB-High Left	/	20.26	20.5	0.155	<b>0.16</b>	0.260	<b>0.27</b>	0.04
26140	1860	50RB-High Right	/	20.26	20.5	0.098	<b>0.10</b>	0.188	<b>0.20</b>	-0.1
26140	1860	50RB-High Bottom	/	20.26	20.5	0.093	<b>0.10</b>	0.155	<b>0.16</b>	-0.17

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-20: SAR Values (LTE Band26 - Head)**

Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
26965	841.5	1RB-Mid	Left	Cheek	/	22.5	23.5	0.240	<b>0.30</b>	0.381	<b>0.48</b>	0.1
26965	841.5	1RB-Mid	Left	Tilt	/	22.5	23.5	0.169	<b>0.21</b>	0.246	<b>0.31</b>	0.04
26965	841.5	1RB-Mid	Right	Cheek	Fig.20	22.5	23.5	0.273	<b>0.34</b>	0.427	<b>0.54</b>	0.15
26965	841.5	1RB-Mid	Right	Tilt	/	22.5	23.5	0.200	<b>0.25</b>	0.295	<b>0.37</b>	-0.14
26965	841.5	36RB-Low	Left	Cheek	/	21.65	22.5	0.187	<b>0.23</b>	0.297	<b>0.36</b>	-0.09
26965	841.5	36RB-Low	Left	Tilt	/	21.65	22.5	0.124	<b>0.15</b>	0.182	<b>0.22</b>	-0.14
26965	841.5	36RB-Low	Right	Cheek	/	21.65	22.5	0.209	<b>0.25</b>	0.344	<b>0.42</b>	-0.1
26965	841.5	36RB-Low	Right	Tilt	/	21.65	22.5	0.154	<b>0.19</b>	0.227	<b>0.28</b>	-0.03

Note1: The LTE mode is QPSK\_15MHz.

**Table 14.1-21: SAR Values (LTE Band26 - Body)**

Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
26965	841.5	1RB-Mid Front	/	22.5	23.5	0.130	<b>0.16</b>	0.173	<b>0.22</b>	-0.02
26965	841.5	1RB-Mid Rear	Fig.21	22.5	23.5	0.315	<b>0.40</b>	0.441	<b>0.56</b>	0.05
26965	841.5	1RB-Mid Rear	Unfold	22.5	23.5	0.206	<b>0.26</b>	0.287	<b>0.36</b>	-0.12
26965	841.5	1RB-Mid Left	/	22.5	23.5	0.124	<b>0.16</b>	0.179	<b>0.23</b>	0.13
26965	841.5	1RB-Mid Right	/	22.5	23.5	0.220	<b>0.28</b>	0.319	<b>0.40</b>	0.18
26965	841.5	1RB-Mid Bottom	/	22.5	23.5	0.038	<b>0.05</b>	0.063	<b>0.08</b>	-0.15
26965	841.5	36RB-Low Front	/	21.65	22.5	0.110	<b>0.13</b>	0.150	<b>0.18</b>	-0.1
26965	841.5	36RB-Low Rear	/	21.65	22.5	0.272	<b>0.33</b>	0.385	<b>0.47</b>	0.05
26965	841.5	36RB-Low Rear	Unfold	21.65	22.5	0.164	<b>0.20</b>	0.226	<b>0.27</b>	-0.17
26965	841.5	36RB-Low Left	/	21.65	22.5	0.114	<b>0.14</b>	0.167	<b>0.20</b>	0.13
26965	841.5	36RB-Low Right	/	21.65	22.5	0.190	<b>0.23</b>	0.275	<b>0.33</b>	-0.09
26965	841.5	36RB-Low Bottom	/	21.65	22.5	0.033	<b>0.04</b>	0.051	<b>0.06</b>	-0.13

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_15MHz.

**Table 14.1-22: SAR Values (LTE Band41 PC3 - Head)**

Frequency		Mode	Side	Test Position	Figure No.	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Reported SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz					Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
41490	2680	1RB-Mid	Left	Cheek	Fig.22	22.95	23.5	0.185	<b>0.21</b>	0.379	<b>0.43</b>	-0.09
41490	2680	1RB-Mid	Left	Tilt	/	22.95	23.5	0.057	<b>0.06</b>	0.095	<b>0.11</b>	0.07
41490	2680	1RB-Mid	Right	Cheek	/	22.95	23.5	0.088	<b>0.10</b>	0.186	<b>0.21</b>	-0.11
41490	2680	1RB-Mid	Right	Tilt	/	22.95	23.5	0.028	<b>0.03</b>	0.055	<b>0.06</b>	-0.03
41490	2680	50RB-Low	Left	Cheek	/	21.83	22.5	0.139	<b>0.16</b>	0.318	<b>0.37</b>	0.06
41490	2680	50RB-Low	Left	Tilt	/	21.83	22.5	0.040	<b>0.05</b>	0.067	<b>0.08</b>	-0.15
41490	2680	50RB-Low	Right	Cheek	/	21.83	22.5	0.072	<b>0.08</b>	0.157	<b>0.18</b>	0.07
41490	2680	50RB-Low	Right	Tilt	/	21.83	22.5	0.023	<b>0.03</b>	0.047	<b>0.05</b>	0.16

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-23: SAR Values (LTE Band41 PC3 - Body)**

Frequency		Mode	Figure No.	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Reported SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz			Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
41490	2680	1RB-Mid Front	/	22.95	23.5	0.089	<b>0.10</b>	0.156	<b>0.18</b>	0.19
41490	2680	1RB-Mid Rear	/	22.95	23.5	0.346	<b>0.39</b>	0.665	<b>0.75</b>	-0.09
41490	2680	1RB-Mid Rear	Unfold/ Fig.23	22.95	23.5	0.407	<b>0.46</b>	0.804	<b>0.91</b>	-0.11
41055	2636.5	1RB-Mid Rear	Unfold	22.85	23.5	0.409	<b>0.48</b>	0.774	<b>0.90</b>	-0.03
40620	2593	1RB-Mid Rear	Unfold	22.88	23.5	0.408	<b>0.47</b>	0.781	<b>0.90</b>	-0.12
40185	2549.5	1RB-Mid Rear	Unfold	22.76	23.5	0.372	<b>0.44</b>	0.705	<b>0.84</b>	-0.01
39750	2506	1RB-Mid Rear	Unfold	22.53	23.5	0.373	<b>0.47</b>	0.696	<b>0.87</b>	0.1
41490	2680	100RB Rear	Unfold	21.78	22.5	0.358	<b>0.42</b>	0.711	<b>0.84</b>	0.08
41490	2680	1RB-Mid Left	/	22.95	23.5	0.083	<b>0.09</b>	0.159	<b>0.18</b>	0.12
41490	2680	1RB-Mid Right	/	22.95	23.5	0.225	<b>0.26</b>	0.418	<b>0.47</b>	-0.17
41490	2680	1RB-Mid Bottom	/	22.95	23.5	0.131	<b>0.15</b>	0.254	<b>0.29</b>	0.09
41490	2680	50RB-Low Front	/	21.83	22.5	0.067	<b>0.08</b>	0.117	<b>0.14</b>	0.13
41490	2680	50RB-Low Rear	/	21.83	22.5	0.262	<b>0.31</b>	0.529	<b>0.62</b>	-0.19
41490	2680	50RB-Low Rear	Unfold	21.83	22.5	0.306	<b>0.36</b>	0.600	<b>0.70</b>	0.03
41490	2680	50RB-Low Left	/	21.83	22.5	0.174	<b>0.20</b>	0.328	<b>0.38</b>	0.09
41490	2680	50RB-Low Right	/	21.83	22.5	0.061	<b>0.07</b>	0.116	<b>0.14</b>	0.01
41490	2680	50RB-Low Bottom	/	21.83	22.5	0.094	<b>0.11</b>	0.180	<b>0.21</b>	-0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-24: SAR Values (LTE Band41 PC2 - Head)**

Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
41490	2680	1RB-Mid	Left	Cheek	Fig.24	26.26	26.5	0.252	<b>0.27</b>	0.517	<b>0.55</b>	0.15
41490	2680	1RB-Mid	Left	Tilt	/	26.26	26.5	0.065	<b>0.07</b>	0.110	<b>0.12</b>	0.17
41490	2680	1RB-Mid	Right	Cheek	/	26.26	26.5	0.096	<b>0.10</b>	0.225	<b>0.24</b>	-0.13
41490	2680	1RB-Mid	Right	Tilt	/	26.26	26.5	0.029	<b>0.03</b>	0.056	<b>0.06</b>	-0.04
41490	2680	50RB-Low	Left	Cheek	/	25.37	25.5	0.139	<b>0.14</b>	0.310	<b>0.32</b>	-0.06
41490	2680	50RB-Low	Left	Tilt	/	25.37	25.5	0.045	<b>0.05</b>	0.075	<b>0.08</b>	0.02
41490	2680	50RB-Low	Right	Cheek	/	25.37	25.5	0.068	<b>0.07</b>	0.150	<b>0.15</b>	0.04
41490	2680	50RB-Low	Right	Tilt	/	25.37	25.5	0.021	<b>0.02</b>	0.041	<b>0.04</b>	0.1

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-25: SAR Values (LTE Band41 PC2 – Body worn)**

Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
41490	2680	1RB-Mid Front	/	26.26	26.5	0.093	<b>0.10</b>	0.149	<b>0.16</b>	-0.05
41490	2680	1RB-Mid Rear	Fig.25	26.26	26.5	0.398	<b>0.42</b>	0.746	<b>0.79</b>	0.2
41490	2680	1RB-Mid Rear	Unfold	26.26	26.5	0.378	<b>0.40</b>	0.723	<b>0.76</b>	0.09
41490	2680	50RB-Low Front	/	25.37	25.5	0.068	<b>0.07</b>	0.108	<b>0.11</b>	-0.11
41490	2680	50RB-Low Rear	/	25.37	25.5	0.303	<b>0.31</b>	0.515	<b>0.53</b>	0.09
41490	2680	50RB-Low Rear	Unfold	25.37	25.5	0.338	<b>0.35</b>	0.598	<b>0.62</b>	-0.12

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-26: SAR Values (LTE Band41 PC2 - Hotspot)**

Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
41490	2680	1RB-Mid Front	/	25.47	25.5	0.106	<b>0.11</b>	0.190	<b>0.19</b>	0.09
41490	2680	1RB-Mid Rear	/	25.47	25.5	0.432	<b>0.43</b>	0.825	<b>0.83</b>	0.11
41055	2636.5	1RB-Mid Rear	/	25.15	25.5	0.464	<b>0.50</b>	0.871	<b>0.94</b>	0.08
40620	2593	1RB-Mid Rear	/	25.35	25.5	0.475	<b>0.49</b>	0.916	<b>0.95</b>	-0.09
40185	2549.5	1RB-Mid Rear	/	25.2	25.5	0.395	<b>0.42</b>	0.761	<b>0.82</b>	-0.16
39750	2506	1RB-Mid Rear	/	25.1	25.5	0.406	<b>0.45</b>	0.797	<b>0.87</b>	0.12

40620	2593	100RB Rear	/	25.29	25.5	0.448	<b>0.47</b>	0.887	<b>0.93</b>	0.15
41490	2680	1RB-Mid Rear	Unfold/ Fig.26	25.47	25.5	0.506	<b>0.51</b>	1.010	<b>1.02</b>	-0.08
41055	2636.5	1RB-Mid Rear	Unfold	25.15	25.5	0.478	<b>0.52</b>	0.931	<b>1.01</b>	0.06
40620	2593	1RB-Mid Rear	Unfold	25.35	25.5	0.471	<b>0.49</b>	0.922	<b>0.95</b>	0.11
40185	2549.5	1RB-Mid Rear	Unfold	25.2	25.5	0.477	<b>0.51</b>	0.931	<b>1.00</b>	0.09
39750	2506	1RB-Mid Rear	Unfold	25.1	25.5	0.471	<b>0.52</b>	0.913	<b>1.00</b>	0.09
41490	2680	100RB Rear	Unfold	25.44	25.5	0.486	<b>0.49</b>	0.978	<b>0.99</b>	0.12
41490	2680	1RB-Mid Left	/	25.47	25.5	0.277	<b>0.28</b>	0.536	<b>0.54</b>	-0.18
41490	2680	1RB-Mid Right	/	25.47	25.5	0.096	<b>0.10</b>	0.191	<b>0.19</b>	0.09
41490	2680	1RB-Mid Bottom	/	25.47	25.5	0.161	<b>0.16</b>	0.326	<b>0.33</b>	-0.06
41490	2680	50RB-Mid Front	/	25.45	25.5	0.106	<b>0.11</b>	0.193	<b>0.20</b>	-0.09
41490	2680	50RB-Mid Rear	/	25.45	25.5	0.414	<b>0.42</b>	0.837	<b>0.85</b>	0.18
41055	2636.5	50RB-Mid Rear	/	25.25	25.5	0.445	<b>0.47</b>	0.874	<b>0.93</b>	-0.03
40620	2593	50RB-Mid Rear	/	25.33	25.5	0.45	<b>0.47</b>	0.904	<b>0.94</b>	0.12
40185	2549.5	50RB-Mid Rear	/	25.15	25.5	0.379	<b>0.41</b>	0.772	<b>0.84</b>	0.12
39750	2506	50RB-Mid Rear	/	25.38	25.5	0.389	<b>0.40</b>	0.809	<b>0.83</b>	-0.14
41490	2680	50RB-Mid Rear	Unfold	25.45	25.5	0.487	<b>0.49</b>	0.975	<b>0.99</b>	0.02
41055	2636.5	50RB-Mid Rear	Unfold	25.25	25.5	0.46	<b>0.49</b>	0.899	<b>0.95</b>	0.14
40620	2593	50RB-Mid Rear	Unfold	25.33	25.5	0.453	<b>0.47</b>	0.890	<b>0.93</b>	0.07
40185	2549.5	50RB-Mid Rear	Unfold	25.15	25.5	0.459	<b>0.50</b>	0.899	<b>0.97</b>	-0.09
39750	2506	50RB-Mid Rear	Unfold	25.38	25.5	0.453	<b>0.47</b>	0.881	<b>0.91</b>	0.11
41490	2680	50RB-Mid Left	/	25.45	25.5	0.269	<b>0.27</b>	0.525	<b>0.53</b>	-0.06
41490	2680	50RB-Mid Right	/	25.45	25.5	0.087	<b>0.09</b>	0.177	<b>0.18</b>	0.09
41490	2680	50RB-Mid Bottom	/	25.45	25.5	0.147	<b>0.15</b>	0.298	<b>0.30</b>	0.04

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-27: SAR Values (LTE Band66 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5 °C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
132072	1720	1RB-Mid	Left	Cheek	Fig.27	22.93	23.5	0.251	<b>0.29</b>	0.373	<b>0.43</b>	0.19
132072	1720	1RB-Mid	Left	Tilt	/	22.93	23.5	0.090	<b>0.10</b>	0.102	<b>0.12</b>	0.05
132072	1720	1RB-Mid	Right	Cheek	/	22.93	23.5	0.167	<b>0.19</b>	0.204	<b>0.23</b>	-0.07
132072	1720	1RB-Mid	Right	Tilt	/	22.93	23.5	0.080	<b>0.09</b>	0.088	<b>0.10</b>	0.04
132072	1720	50RB-High	Left	Cheek	/	21.94	22.5	0.170	<b>0.19</b>	0.270	<b>0.31</b>	0.18
132072	1720	50RB-High	Left	Tilt	/	21.94	22.5	0.072	<b>0.08</b>	0.081	<b>0.09</b>	-0.12
132072	1720	50RB-High	Right	Cheek	/	21.94	22.5	0.127	<b>0.14</b>	0.155	<b>0.18</b>	-0.16
132072	1720	50RB-High	Right	Tilt	/	21.94	22.5	0.062	<b>0.07</b>	0.068	<b>0.08</b>	0.15

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-28: SAR Values (LTE Band66 – Body worn)**

Frequency		Mode	Figure No.	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz			Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
132322	1745	1RB-Low Front	/	21.45	21.5	0.131	<b>0.13</b>	0.199	<b>0.20</b>	-0.09
132322	1745	1RB-Low Rear	Fig.28	21.45	21.5	0.362	<b>0.37</b>	0.624	<b>0.63</b>	-0.02
132322	1745	1RB-Low Rear	Unfold	21.45	21.5	0.335	<b>0.34</b>	0.531	<b>0.54</b>	0.12
132322	1745	50RB-High Front	/	21.39	21.5	0.128	<b>0.13</b>	0.192	<b>0.20</b>	0.11
132322	1745	50RB-High Rear	/	21.39	21.5	0.352	<b>0.36</b>	0.603	<b>0.62</b>	0.06
132322	1745	50RB-High Rear	Unfold	21.39	21.5	0.32	<b>0.33</b>	0.508	<b>0.52</b>	-0.07

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-29: SAR Values (LTE Band66 - Hotspot)**

Frequency		Mode	Figure No.	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz			Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)			
132072	1720	1RB-Mid Front	/	20.32	20.5	0.180	<b>0.19</b>	0.298	<b>0.31</b>	0.02
132572	1770	1RB-Mid Rear	/	20.1	20.5	0.598	<b>0.66</b>	1.110	<b>1.22</b>	0.1
132322	1745	1RB-Mid Rear	/	20.19	20.5	0.632	<b>0.68</b>	1.150	<b>1.24</b>	-0.15
132072	1720	1RB-Mid Rear	Fig.29	20.32	20.5	0.659	<b>0.69</b>	1.210	<b>1.26</b>	0.03
132072	1720	100RB Rear	/	20.28	20.5	0.624	<b>0.66</b>	1.120	<b>1.18</b>	-0.05
132572	1770	1RB-Mid Rear	Unfold	20.1	20.5	0.490	<b>0.54</b>	0.875	<b>0.96</b>	0.09
132322	1745	1RB-Mid Rear	Unfold	20.19	20.5	0.520	<b>0.56</b>	0.899	<b>0.97</b>	-0.03
132072	1720	1RB-Mid Rear	Unfold	20.32	20.5	0.451	<b>0.47</b>	0.778	<b>0.81</b>	0.04
132322	1745	100RB Rear	Unfold	20.21	20.5	0.485	<b>0.52</b>	0.877	<b>0.94</b>	-0.19
132072	1720	1RB-Mid Left	/	20.32	20.5	0.191	<b>0.20</b>	0.326	<b>0.34</b>	-0.12
132072	1720	1RB-Mid Right	/	20.32	20.5	0.085	<b>0.09</b>	0.143	<b>0.15</b>	-0.19
132072	1720	1RB-Mid Bottom	/	20.32	20.5	0.215	<b>0.22</b>	0.390	<b>0.41</b>	0.14
132072	1720	50RB-High Front	/	20.33	20.5	0.169	<b>0.18</b>	0.283	<b>0.29</b>	0.12
132572	1770	50RB-High Rear	/	20.22	20.5	0.520	<b>0.55</b>	0.940	<b>1.00</b>	-0.07
132322	1745	50RB-Low Rear	/	20.31	20.5	0.590	<b>0.62</b>	1.060	<b>1.11</b>	-0.08
132072	1720	50RB-High Rear	/	20.33	20.5	0.542	<b>0.56</b>	0.983	<b>1.02</b>	0.15
132322	1745	100RB Rear	/	20.21	20.5	0.578	<b>0.62</b>	1.030	<b>1.10</b>	-0.13
132572	1770	50RB-High Rear	Unfold	20.22	20.5	0.471	<b>0.50</b>	0.843	<b>0.90</b>	0.01
132322	1745	50RB-Low Rear	Unfold	20.31	20.5	0.514	<b>0.54</b>	0.899	<b>0.94</b>	0.11
132072	1720	50RB-High Rear	Unfold	20.33	20.5	0.450	<b>0.47</b>	0.792	<b>0.82</b>	0.14
132072	1720	50RB-High Left	/	20.33	20.5	0.191	<b>0.20</b>	0.326	<b>0.34</b>	-0.14
132072	1720	50RB-High Right	/	20.33	20.5	0.079	<b>0.08</b>	0.132	<b>0.14</b>	-0.17

132072	1720	50RB-High Bottom	/	20.33	20.5	0.205	<b>0.21</b>	0.375	<b>0.39</b>	0.04
132072	1720	1RB-Mid Rear	Headset	20.32	20.5	0.637	<b>0.66</b>	1.180	<b>1.23</b>	-0.12

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-30: SAR Values (LTE Band71 - Head)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C						
Frequency		Mode	Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz											
133372	688	1RB_Mid	Left	Cheek	/	22.69	23.5	0.146	<b>0.18</b>	0.262	<b>0.32</b>	0.16
133372	688	1RB_Mid	Left	Tilt	/	22.69	23.5	0.066	<b>0.08</b>	0.074	<b>0.09</b>	0.09
133372	688	1RB_Mid	Right	Cheek	Fig.30	22.69	23.5	0.212	<b>0.26</b>	0.306	<b>0.37</b>	-0.01
133372	688	1RB_Mid	Right	Tilt	/	22.69	23.5	0.083	<b>0.10</b>	0.094	<b>0.11</b>	-0.09
133372	688	50RB-Mid	Left	Cheek	/	21.74	22.5	0.105	<b>0.13</b>	0.174	<b>0.21</b>	0.02
133372	688	50RB-Mid	Left	Tilt	/	21.74	22.5	0.049	<b>0.06</b>	0.053	<b>0.06</b>	0.14
133372	688	50RB-Mid	Right	Cheek	/	21.74	22.5	0.198	<b>0.24</b>	0.269	<b>0.32</b>	0.02
133372	688	50RB-Mid	Right	Tilt	/	21.74	22.5	0.056	<b>0.07</b>	0.060	<b>0.07</b>	0.11

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-31: SAR Values (LTE Band71 - body)**

Ambient Temperature: 22.9 °C						Liquid Temperature: 22.5°C				
Frequency		Mode	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Power Drift (dB)
Ch.	MHz									
133372	688	1RB-Mid Front	/	22.69	23.5	0.088	<b>0.11</b>	0.122	<b>0.15</b>	0.08
133372	688	1RB-Mid Rear	Fig.31	22.69	23.5	0.274	<b>0.33</b>	0.389	<b>0.47</b>	0.05
133372	688	1RB-Mid Rear	Unfold	22.69	23.5	0.247	<b>0.30</b>	0.346	<b>0.42</b>	-0.05
133372	688	1RB-Mid Left	/	22.69	23.5	0.097	<b>0.12</b>	0.141	<b>0.17</b>	0.17
133372	688	1RB-Mid Right	/	22.69	23.5	0.136	<b>0.16</b>	0.204	<b>0.25</b>	0.11
133372	688	1RB-Mid Bottom	/	22.69	23.5	0.040	<b>0.05</b>	0.068	<b>0.08</b>	-0.08
133372	688	50RB-Mid Front	/	21.74	22.5	0.070	<b>0.08</b>	0.097	<b>0.12</b>	-0.08
133372	688	50RB-Mid Rear	/	21.74	22.5	0.214	<b>0.25</b>	0.309	<b>0.37</b>	-0.11
133372	688	50RB-Mid Rear	Unfold	21.74	22.5	0.199	<b>0.24</b>	0.282	<b>0.34</b>	0.15
133372	688	50RB-Mid Left	/	21.74	22.5	0.080	<b>0.10</b>	0.119	<b>0.14</b>	-0.1
133372	688	50RB-Mid Right	/	21.74	22.5	0.106	<b>0.13</b>	0.158	<b>0.19</b>	-0.03
133372	688	50RB-Mid Bottom	/	21.74	22.5	0.032	<b>0.04</b>	0.057	<b>0.07</b>	-0.16

Note1: The distance between the EUT and the phantom bottom is 10mm.

Note2: The LTE mode is QPSK\_20MHz.

## 14.2 WLAN Evaluation for 2.4G

According to the KDB248227 D01, SAR is measured for 2.4GHz 802.11b DSSS using the initial test position procedure.

### Head Evaluation:

**Table 14.2-1: SAR Values (WLAN - Head)– 802.11b(Fast SAR)**

Frequency		Side	Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g)( W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)( W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C											
11	2462	Left	Cheek	Note1	16.60	18	0.207	<b>0.29</b>	0.363	<b>0.50</b>	-0.11
11	2462	Left	Tilt	Note1	16.60	18	0.073	<b>0.10</b>	0.127	<b>0.18</b>	0.15
11	2462	Right	Cheek	Note1	16.60	18	0.311	<b>0.43</b>	0.572	<b>0.79</b>	0.02
11	2462	Right	Tilt	Note1	16.60	18	0.082	<b>0.11</b>	0.146	<b>0.20</b>	0.06
11	2462	Left	Cheek	Note2	13.28	15	0.097	<b>0.14</b>	0.159	<b>0.24</b>	0.07
11	2462	Left	Tilt	Note2	13.28	15	0.035	<b>0.05</b>	0.059	<b>0.09</b>	-0.12
11	2462	Right	Cheek	Note2	13.28	15	0.157	<b>0.23</b>	0.289	<b>0.43</b>	0.15
11	2462	Right	Tilt	Note2	13.28	15	0.037	<b>0.05</b>	0.062	<b>0.09</b>	0.06

Note1: The results are used for Wifi transmit standalone.

Note2: The results are used for Wifi transmit with WWAN.

As shown above table, the initial test position for head is “Right Cheek”. So the head SAR of WLAN is presented as below:

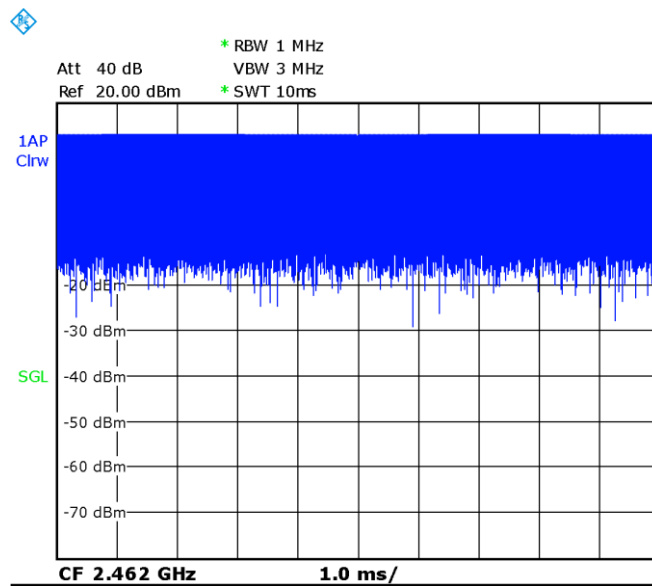
**Table 14.2-2: SAR Values (WLAN - Head)– 802.11b (Full SAR)**

Frequency		Side	Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)( W/kg)	Power Drift (dB)
Ch.	MHz										
Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C											
11	2462	Right	Cheek	Fig.32	16.60	18	0.315	<b>0.43</b>	0.575	<b>0.79</b>	0.02
11	2462	Left	Cheek	/	16.60	18	0.210	<b>0.29</b>	0.366	<b>0.51</b>	-0.11
11	2462	Right	Cheek	/	13.28	15	0.164	<b>0.24</b>	0.296	<b>0.44</b>	0.15

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is ≤ 0.8 W/kg.

Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.



Picture 14.2-1 Duty factor plot

Table 14.2-3: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Frequency		Side	Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz						
11	2462	Right	Cheek	100%	100%	<b>0.79</b>	<b>0.79</b>

SAR is not required for OFDM because the 802.11b adjusted SAR  $\leq$  1.2 W/kg.



**Body Evaluation:**
**Table 14.2-4: SAR Values (WLAN - Body)– 802.11b(Fast SAR)**

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	
11	2462	Front	Note1	17.97	19.5	0.028	<b>0.04</b>	0.058	<b>0.08</b>	-0.09
11	2462	Rear	Note1	17.97	19.5	0.052	<b>0.07</b>	0.097	<b>0.14</b>	0.19
11	2462	Front	Note2	17.97	19.5	0.047	<b>0.07</b>	0.110	<b>0.16</b>	-0.09
11	2462	Rear	Note2	17.97	19.5	0.076	<b>0.11</b>	0.142	<b>0.20</b>	-0.02
11	2462	Rear	Note2/ Unfold	17.97	19.5	0.116	<b>0.16</b>	0.225	<b>0.32</b>	0.15
11	2462	Left	Note2	17.97	19.5	0.044	<b>0.06</b>	0.097	<b>0.14</b>	-0.12
11	2462	Right	Note2	17.97	19.5	0.066	<b>0.09</b>	0.130	<b>0.18</b>	0.02
11	2462	Top	Note2	17.97	19.5	0.053	<b>0.08</b>	0.114	<b>0.16</b>	0.07

Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The distance between the EUT and the phantom bottom is 10mm.

As shown above table, the initial test position for body is “Rear unfold 10mm”. So the body SAR of WLAN is presented as below:

**Table 14.2-5: SAR Values (WLAN - Body)– 802.11b (Full SAR)**

Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Ambient Temperature: 22.9 °C		Liquid Temperature: 22.5°C		Power Drift (dB)
Ch.	MHz					Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	
11	2462	Rear/ Unfold	Fig.33	17.97	19.5	0.119	<b>0.17</b>	0.227	<b>0.32</b>	0.15

Note1: When the reported SAR of the initial test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position using subsequent highest estimated 1-g SAR conditions determined by area scans, on the highest maximum output power channel, until the reported SAR is  $\leq$  0.8 W/kg.

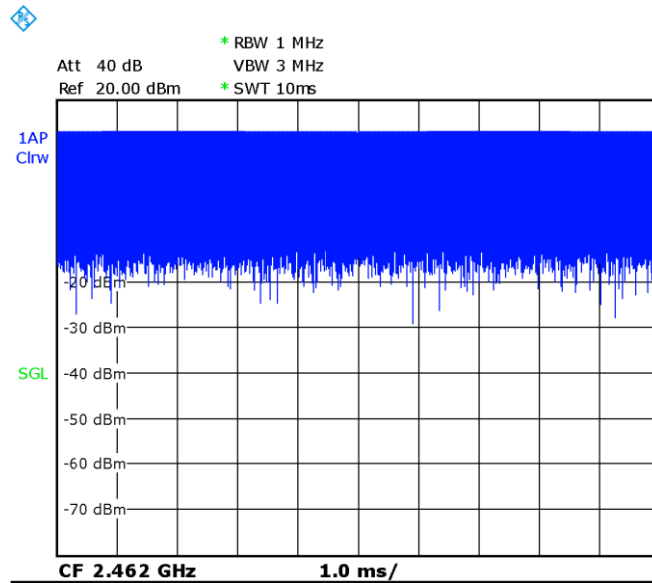
Note2: For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel until the reported SAR is  $\leq$  1.2 W/kg or all required channels are tested.

According to the KDB248227 D01, The reported SAR must be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit. The scaled reported SAR is presented as below.

**Table 14.2-6: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)**

Frequency		Test Position	Actual duty factor	maximum duty factor	Reported SAR (1g)(W/kg)	Scaled reported SAR (1g)(W/kg)
Ch.	MHz					
11	2462	Rear 10mm	100%	100%	<b>0.32</b>	<b>0.32</b>

SAR is not required for OFDM because the 802.11b adjusted SAR  $\leq 1.2$  W/kg.



**Picture 14.2-2 Duty factor plot**

## 15 SAR Measurement Variability

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. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

- 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  $\geq 0.80$  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  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 4) Perform a third repeated measurement only if the original, first or second repeated measurement is  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$

**Table 15.1: SAR Measurement Variability for Body GSM850 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
190	836.6	GPRS(4)	Rear 10mm	0.842	0.833	1.01	/
190	836.6	GPRS(4)	Rear 10mm/ Unfold	0.899	0.875	1.03	/

**Table 15.2: SAR Measurement Variability for Body GSM1900 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
512	1850.2	GPRS(4)	Rear 10mm	1.19	1.16	1.03	/
512	1850.2	GPRS(4)	Rear 10mm/ Unfold	1.09	1.04	1.05	/

**Table 15.3: SAR Measurement Variability for Body WCDMA1900 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
9400	1880	RMC	Rear 15mm	1.05	0.997	1.05	/
9262	1852.4	RMC	Rear 15mm	0.905	0.895	1.01	/
9262	1852.4	RMC	Rear 10mm	1.01	0.983	1.03	/
9262	1852.4	RMC	Rear 10mm	0.846	0.826	1.02	/

**Table 15.4: SAR Measurement Variability for Body LTE B25 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
26140	1860	1RB-Mid	Rear 15mm	0.919	0.902	1.02	/
26140	1860	1RB-Mid	Rear 15mm/Unfold	0.821	0.81	1.01	/
26590	1905	1RB-Mid	Rear 10mm	0.833	0.822	1.01	/

**Table 15.5: SAR Measurement Variability for Body LTE B41-PC3 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
41490	2680	1RB-Mid	Rear 10mm/Unfold	0.804	0.788	1.02	/

**Table 15.6: SAR Measurement Variability for Body LTE B41-PC2 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
40620	2593	1RB-Mid	Rear 10mm	0.916	0.901	1.02	/
40620	2593	1RB-Mid	Rear 10mm/Unfold	1.01	0.986	1.02	/

**Table 15.7: SAR Measurement Variability for Body LTE B41-PC2 (1g)**

Frequency		Mode	Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
Ch.	MHz						
132072	1720	1RB-Mid	Rear 10mm	1.21	1.18	1.03	/
132322	1745	1RB-Mid	Rear 10mm/Unfold	0.899	0.877	1.03	/

## 16 Measurement Uncertainty

### 16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	$\infty$
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521

Combined standard uncertainty	$u_c' = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						9.55	9.43	257
Expanded uncertainty (confidence interval of 95 %)	$u_e = 2u_c$						19.1	18.9	

**16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)**

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
13	Post-processing	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
<b>Test sample related</b>										
14	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
15	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
16	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
17	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
18	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
19	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
20	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$

21	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$						10.7	10.6	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						21.4	21.1	

### 16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	∞
11	Probe positioned mech. Restrictions	B	0.4	R	$\sqrt{3}$	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	$\sqrt{3}$	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	∞
14	Fast SAR z-Approximation	B	7.0	R	$\sqrt{3}$	1	1	4.0	4.0	∞
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5
17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	∞
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	∞
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	∞

20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						10.4	10.3	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						20.8	20.6	

#### 16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

No.	Error Description	Type	Uncertainty value	Probably Distribution	Div.	(Ci) 1g	(Ci) 10g	Std. Unc. (1g)	Std. Unc. (10g)	Degree of freedom
<b>Measurement system</b>										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	$\infty$
2	Isotropy	B	4.7	R	$\sqrt{3}$	0.7	0.7	1.9	1.9	$\infty$
3	Boundary effect	B	2.0	R	$\sqrt{3}$	1	1	1.2	1.2	$\infty$
4	Linearity	B	4.7	R	$\sqrt{3}$	1	1	2.7	2.7	$\infty$
5	Detection limit	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
6	Readout electronics	B	0.3	R	$\sqrt{3}$	1	1	0.3	0.3	$\infty$
7	Response time	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
8	Integration time	B	2.6	R	$\sqrt{3}$	1	1	1.5	1.5	$\infty$
9	RF ambient conditions-noise	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
10	RF ambient conditions-reflection	B	0	R	$\sqrt{3}$	1	1	0	0	$\infty$
11	Probe positioned mech. Restrictions	B	0.8	R	$\sqrt{3}$	1	1	0.5	0.5	$\infty$
12	Probe positioning with respect to phantom shell	B	6.7	R	$\sqrt{3}$	1	1	3.9	3.9	$\infty$
13	Post-processing	B	1.0	R	$\sqrt{3}$	1	1	0.6	0.6	$\infty$
14	Fast SAR z-Approximation	B	14.0	R	$\sqrt{3}$	1	1	8.1	8.1	$\infty$
<b>Test sample related</b>										
15	Test sample positioning	A	3.3	N	1	1	1	3.3	3.3	71
16	Device holder uncertainty	A	3.4	N	1	1	1	3.4	3.4	5



17	Drift of output power	B	5.0	R	$\sqrt{3}$	1	1	2.9	2.9	$\infty$
<b>Phantom and set-up</b>										
18	Phantom uncertainty	B	4.0	R	$\sqrt{3}$	1	1	2.3	2.3	$\infty$
19	Liquid conductivity (target)	B	5.0	R	$\sqrt{3}$	0.64	0.43	1.8	1.2	$\infty$
20	Liquid conductivity (meas.)	A	2.06	N	1	0.64	0.43	1.32	0.89	43
21	Liquid permittivity (target)	B	5.0	R	$\sqrt{3}$	0.6	0.49	1.7	1.4	$\infty$
22	Liquid permittivity (meas.)	A	1.6	N	1	0.6	0.49	1.0	0.8	521
Combined standard uncertainty		$u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$						13.5	13.4	257
Expanded uncertainty (confidence interval of 95 %)		$u_e = 2u_c$						27.0	26.8	

## 17 MAIN TEST INSTRUMENTS

**Table 17.1: List of Main Instruments**

No.	Name	Type	Serial Number	Calibration Date	Valid Period
01	Network analyzer	N5239A	MY55491241	May 31, 2021	One year
02	Power meter	NRP2	106276	May 11, 2021	One year
03	Power sensor	NRP6A	101369		
04	Signal Generator	E4438C	MY49070393	May 14, 2021	One Year
05	Amplifier	60S1G4	0331848	No Calibration Requested	
06	BTS	CMW500	166370	June 25, 2021	One year
07	E-field Probe	SPEAG EX3DV4	7548	June 25, 2021	One year
08	DAE	SPEAG DAE4	1331	September 1, 2021	One year
09	Dipole Validation Kit	SPEAG D750V2	1017	July 12,2021	One year
10	Dipole Validation Kit	SPEAG D835V2	4d069	July 12,2021	One year
11	Dipole Validation Kit	SPEAG D1800V2	2d145	July 12,,2021	One year
12	Dipole Validation Kit	SPEAG D1900V2	5d101	July 15,2021	One year
13	Dipole Validation Kit	SPEAG D2450V2	853	July 26,2021	One year
14	Dipole Validation Kit	SPEAG D2600V2	1012	July 26,2021	One year

\*\*\*END OF REPORT BODY\*\*\*

## ANNEX A Graph Results

### GSM850\_CH251 Right Cheek

Date: 1/20/2022

Electronics: DAE4 Sn1331

Medium: head 835 MHz

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.886$  S/m;  $\epsilon_r = 45.499$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 848.8 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 1.12 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 9.610 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.760 W/kg; SAR(10 g) = 0.490 W/kg**

Maximum value of SAR (measured) = 1.01 W/kg

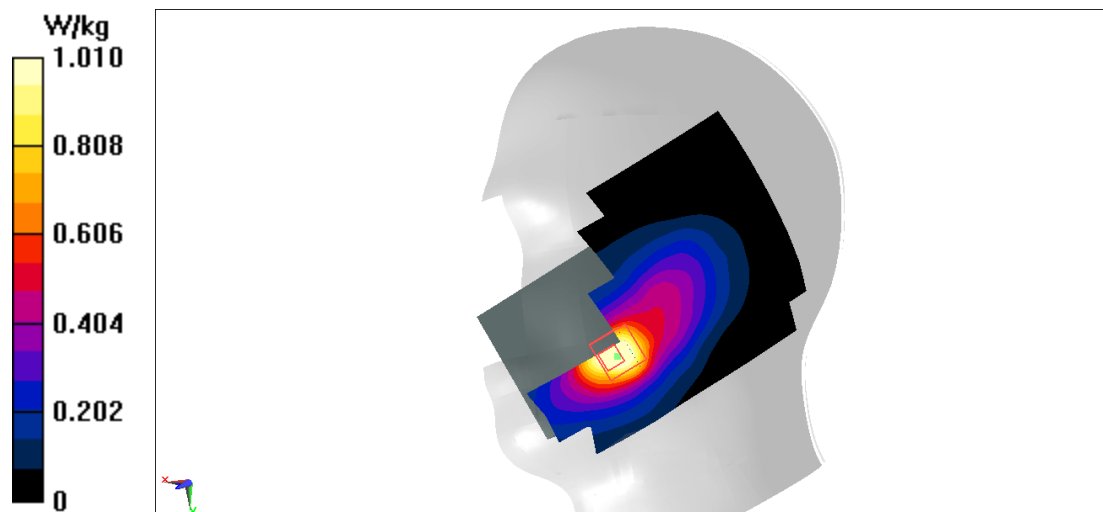


Fig A.1

**GSM850\_CH190 Rear 10mm unfold**

Date: 1/20/2022

Electronics: DAE4 Sn1331

Medium: head 835 MHz

Medium parameters used:  $f = 836.6$  MHz;  $\sigma = 0.88$  S/m;  $\epsilon_r = 45.545$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: GSM850 836.6 MHz Duty Cycle: 1:2

Probe: EX3DV4 – SN7548 ConvF(10.36,10.36,10.36)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500$  mm,  $dy=1.500$  mm

Maximum value of SAR (interpolated) = 1.24 W/kg

**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8$ mm,  $dy=8$ mm,  $dz=5$ mm

Reference Value = 37.08 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 1.32 W/kg

**SAR(1 g) = 0.899 W/kg; SAR(10 g) = 0.615 W/kg**

Maximum value of SAR (measured) = 1.16 W/kg

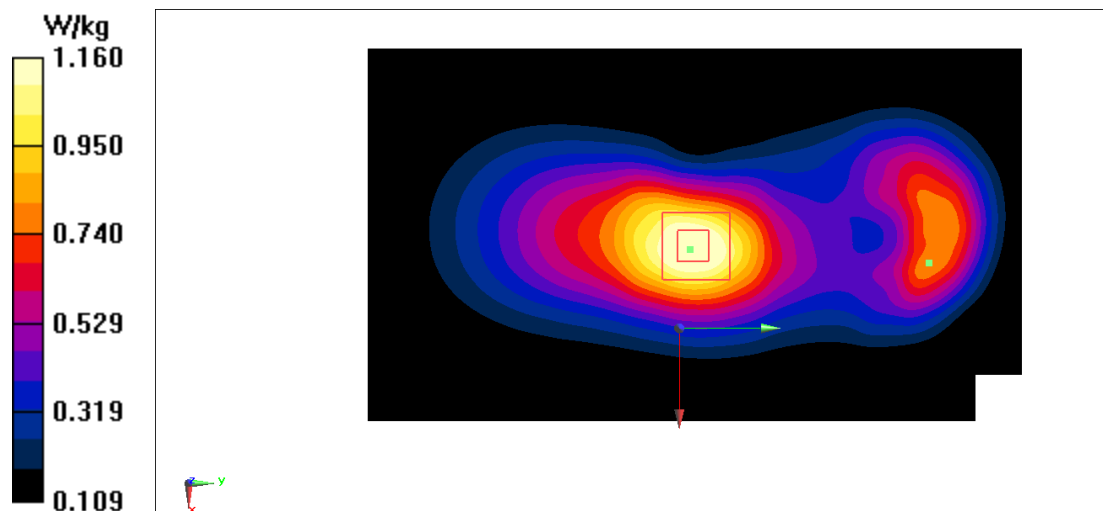


Fig A.2

**PCS1900\_CH810 Left Cheek**

Date: 1/22/2022

Electronics: DAE4 Sn1331

Medium: head 1900 MHz

Medium parameters used:  $f = 1910$  MHz;  $\sigma = 1.535$  S/m;  $\epsilon_r = 42.778$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1910 MHz Duty Cycle: 1:4

Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.368 W/kg

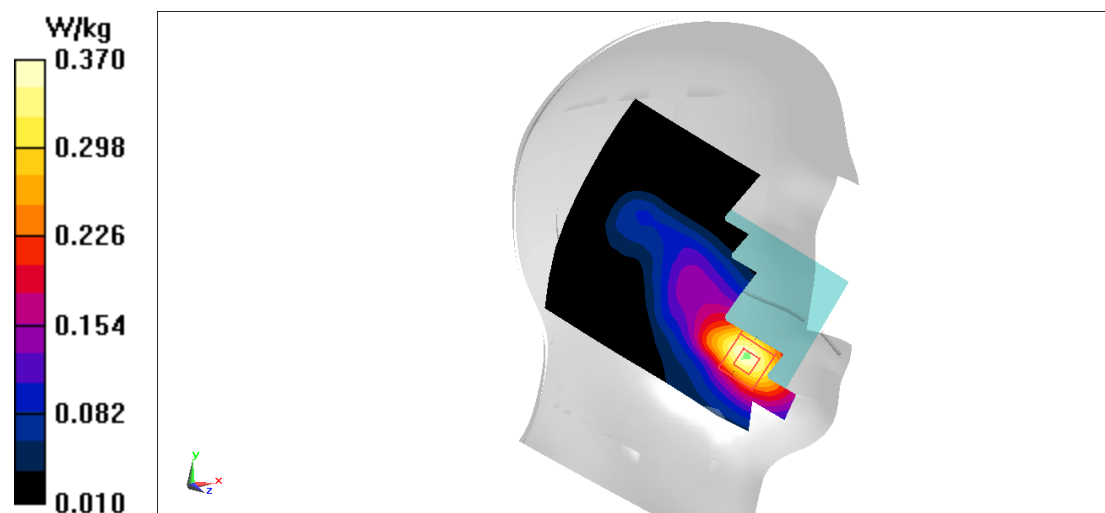
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.866 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.423 W/kg

**SAR(1 g) = 0.267 W/kg; SAR(10 g) = 0.167 W/kg**

Maximum value of SAR (measured) = 0.370 W/kg

**Fig A.3**

**PCS1900\_CH512 Rear 10mm**

Date: 1/22/2022

Electronics: DAE4 Sn1331

Medium: head 1900 MHz

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.493$  S/m;  $\epsilon_r = 42.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: PCS1900 1850.2 MHz Duty Cycle: 1:4

Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.78 W/kg

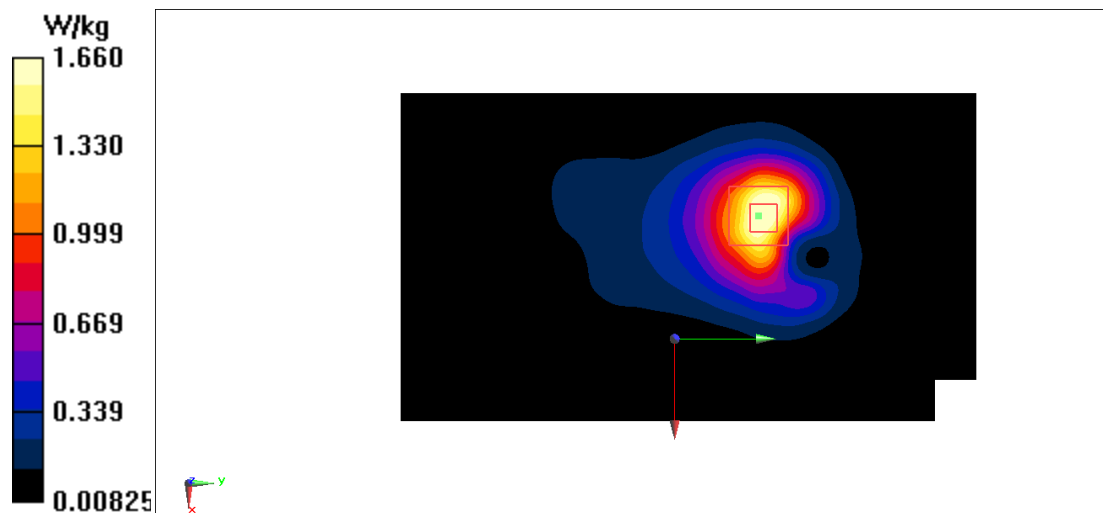
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.53 V/m; Power Drift = -0.11 dB

Peak SAR (extrapolated) = 1.95 W/kg

**SAR(1 g) = 1.19 W/kg; SAR(10 g) = 0.685 W/kg**

Maximum value of SAR (measured) = 1.66 W/kg

**Fig A.4**

**WCDMA1900-BII\_CH9538 Left Cheek**

Date: 1/22/2022

Electronics: DAE4 Sn1331

Medium: head 1900 MHz

Medium parameters used:  $f = 1907.6$  MHz;  $\sigma = 1.47$  S/m;  $\epsilon_r = 42.299$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.620 W/kg

**Zoom Scan (6x6x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.286 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.727 W/kg

**SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.290 W/kg**

Maximum value of SAR (measured) = 0.632 W/kg

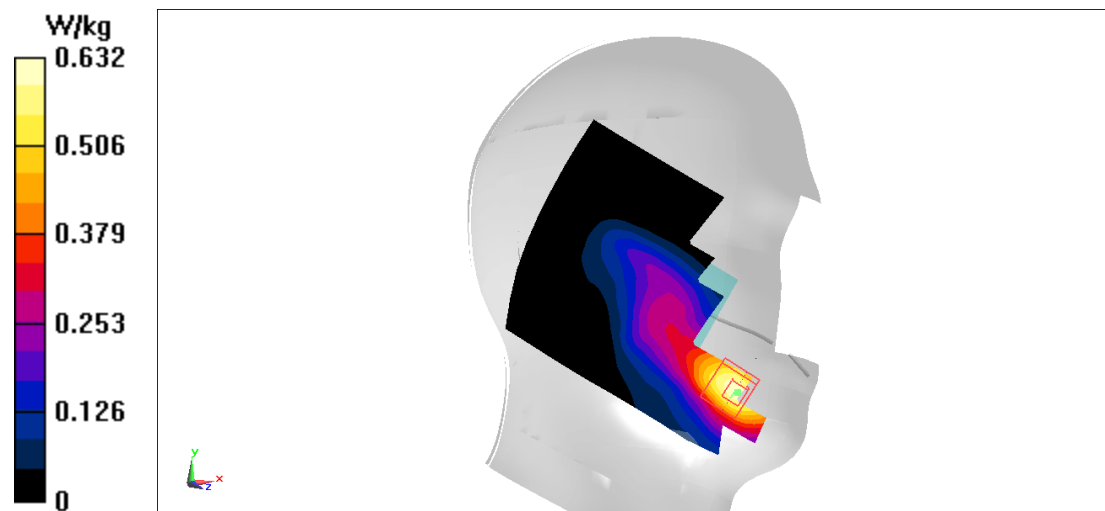


Fig A.5

**WCDMA1900-BII\_CH9400 Rear 15mm\_Body worn**

Date: 1/22/2022

Electronics: DAE4 Sn1331

Medium: head 1900 MHz

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.455$  S/m;  $\epsilon_r = 42.289$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1880 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.48 W/kg

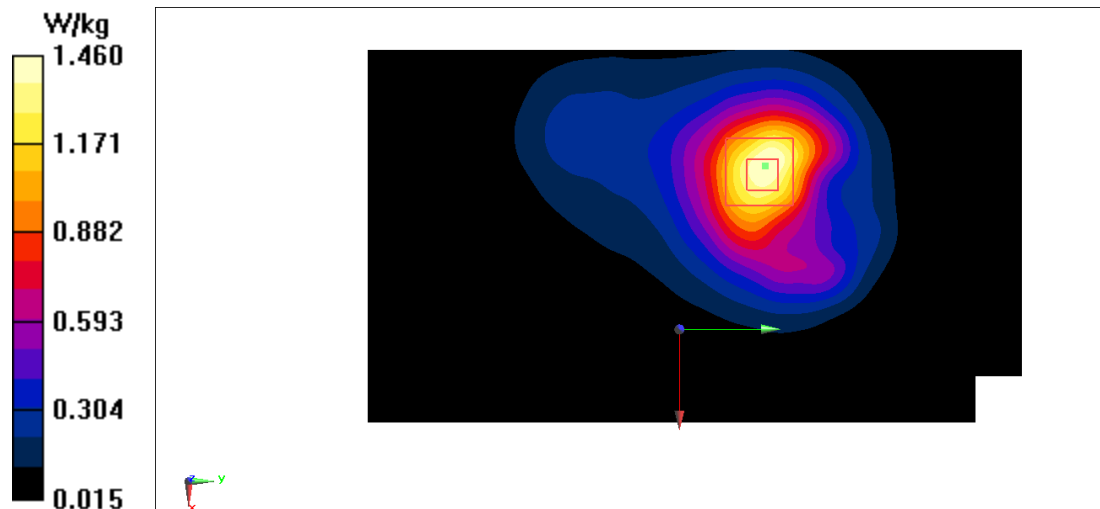
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.34 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.72 W/kg

**SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.612 W/kg**

Maximum value of SAR (measured) = 1.46 W/kg



**Fig A.6**



**WCDMA1900-BII\_CH9262 Rear 10mm\_Hotspot**

Date: 1/22/2022

Electronics: DAE4 Sn1331

Medium: head 1900 MHz

Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.44$  S/m;  $\epsilon_r = 42.304$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.5°C, Liquid Temperature: 22.3°C

Communication System: WCDMA1900-BII 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 – SN7548 ConvF(7.88,7.88,7.88)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.51 W/kg

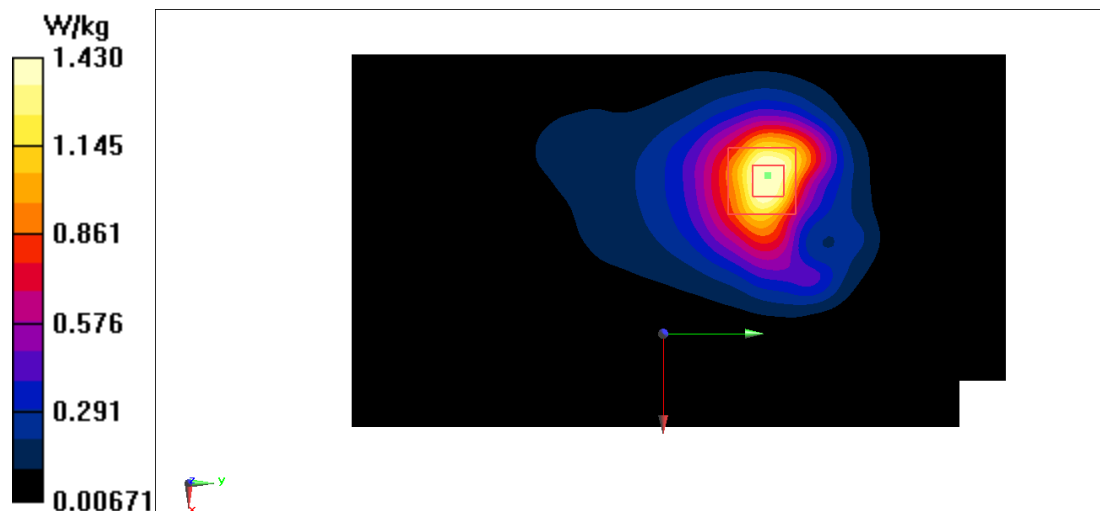
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.74 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 1.68 W/kg

**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.576 W/kg**

Maximum value of SAR (measured) = 1.43 W/kg



**Fig A.7**