TESTING
NVLAP LAB CODE 600118-0

SAR TEST REPORT

No. I23Z60660-SEM01

For

TCL Communication Ltd.

Tablet PC

Model Name: 9166G

with

Hardware Version: PIO

Software Version: JY1H

FCC ID: 2ACCJB204

Issued Date: 2023-6-6

Note:

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

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REPORT HISTORY

Report Number	Revision	Issue Date	Description
I23Z60660-SEM01	Rev.0	2023-6-3	Initial creation of test report
I23Z60660-SEM01	Rev.1	2023-6-6	1. Change the equipment class from PCB to PCT. 2. Revise a typo on table 2.4 (page 7) and table 13.3 (page 69). 3. Reverse the SAR value of 10g and 1g for WIFI5G on page 86.

TABLE OF CONTENT

1 Test Laboratory

1.1 Testing Location

Company Name:	CTTL
Address:	No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191.

1.2 Testing Environment

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

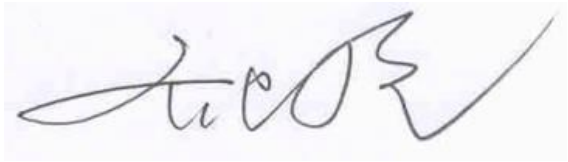
1.3 Project Data

Project Leader:	Qi Dianyuan
Test Engineer:	Yao Juming
Testing Start Date:	April 27, 2023
Testing End Date:	May 22, 2023

1.4 Signature

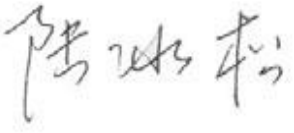
Yao Juming

(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

The maximum results of Specific Absorption Rate (SAR) found during testing for TCL Communication Ltd. Tablet PC 9166G are as follows:

Table 2.1: Highest Reported SAR (1g)

Technology Band	Body SAR 1g (W/kg)	Equipment Class
GSM850	**0.61**	PCT
GSM1900	**0.98**	
WCDMA1900	**0.97**	
WCDMA1700	**1.02**	
WCDMA 850	**0.57**	
LTE Band2	**1.12**	
LTE Band5	**0.39**	
LTE Band7	**1.09**	
LTE Band17	**1.08**	
LTE Band41	**0.99**	
LTE Band66	**1.18**	
WLAN 2.4GHz	**1.13**	DTS
WLAN 5GHz	**1.16**	NII
BT	**0.33**	DSS

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 0mm/14mm/15mm/17mm 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**:**
Body: 1.18 W/kg(1g)

Remark：
This device supports both LTE B4/B38 and LTE B66/B41.Since the supported frequency span for LTE B4/B38 falls completely within the supports frequency span for LTE B66/B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66/B41.

Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Body	Rear 0mm (GSM850)	0.40	1.13	**1.53**

Table 2.3: The sum of SAR values for Main antenna + WiFi-5G

	Position	Main antenna	WiFi-5G	Sum
Highest SAR value for Body	Top 0mm (GSM850)	0.48	1.03	**1.51**

Table 2.4: The sum of SAR values for Main antenna + BT

	Position	Main antenna	BT	Sum
Highest SAR value for Body	Rear 0mm (LTE B66)	1.18	0.33	**1.51**

According to the above tables, the highest sum of reported SAR values is **1.53 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

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.

3 Client Information

3.1 Applicant Information

Company Name:	TCL Communication Ltd.
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Contact Person:	Annie Jiang
Contact Email:	nianxiang.jiang@tcl.com
Telephone:	+86 755 3661 1621

3.2 Manufacturer Information

Company Name:	TCL Communication Ltd.
Address/Post:	5/F, Building 22E, 22 Science Park East Avenue, Hong Kong Science Park, Shatin, NT, Hong Kong
Contact Person:	Annie Jiang
Contact Email:	nianxiang.jiang@tcl.com
Telephone:	+86 755 3661 1621

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

4.1 About EUT

Description:	Tablet PC
Model name:	9166G
Operating mode(s):	GSM850/900/1800/1900, WCDMA850/900/1700/1900/2100 LTEBand1/2/3/4/5/7/8/17/20/28/34/38/39/40/41/66,BT, Wi-Fi(2.4G&5G)
Tested Tx Frequency:	824 – 849 MHz (GSM 850)
	1850 – 1910 MHz (GSM 1900)
	824 – 849 MHz (WCDMA 850 Band V)
	1850 – 1910 MHz (WCDMA1900 Band IV)
	1710-1755 MHz (WCDMA1700 Band II)
	1850 – 1910 MHz (LTE Band 2)
	824 – 849 MHz (LTE Band 5)
	2500 – 2570 MHz (LTE Band 7)
	704 – 716 MHz (LTE Band 17)
	2496 – 2690 MHz (LTE Band41)
	1710 –1780 MHz (LTE Band 66)
	2412 – 2462 MHz (Wi-Fi 2.4G)
	2400 – 2483.5 MHz (Bluetooth)
	5180 – 5240 MHz (Wi-Fi 5.2G)
	5260 – 5320 MHz (Wi-Fi 5.3G)
	5500 – 5720 MHz (Wi-Fi 5.5G)
	5745 – 5825 MHz (Wi-Fi 5.8G)
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/SN	HW Version	SW Version
EUT1	351556360001362	PIO	JY1H
EUT2	351556360001347	PIO	JY1H

*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	TLp078CA	/	tianmao

*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.

KDB616217 D04 SAR for laptop and tablets v01r02 SAR Evaluation Considerations for Laptop, Notebook, Notebook and Tablet Computers.

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 (ρ) . The equation description is as below:

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

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

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

Where: C is the specific head capacity, δT is the temperature rise and δt is the exposure duration, or related to the electrical field in the tissue by

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

Where: σ is the conductivity of the tissue, ρ is the mass density of tissue and E is the RMS electrical field strength.

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

7 Tissue Simulating Liquids

7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

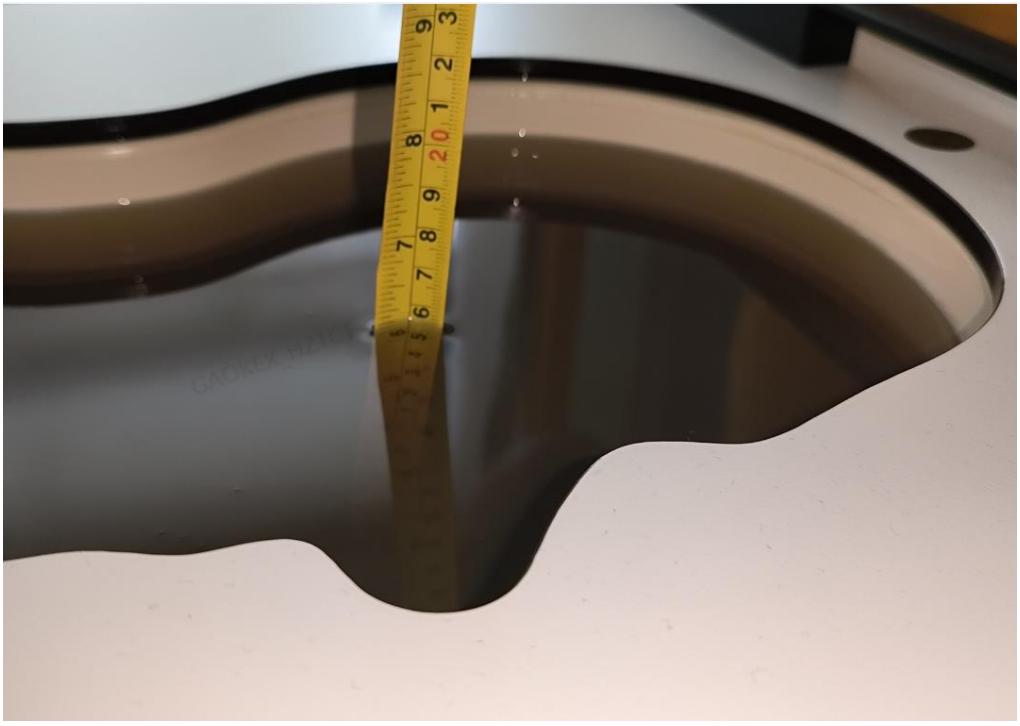
Frequency(MHz)	Liquid Type	Conductivity(σ)	± 5% Range	Permittivity(ε)	± 5% Range
750	Head	0.89	0.85～0.93	41.94	39.8～44.0
835	Head	0.90	0.86～0.95	41.5	39.4～43.6
1750	Head	1.37	1.30～1.44	40.08	38.1～42.1
1900	Head	1.40	1.33～1.47	40.0	38.0～42.0
2450	Head	1.67	1.59～1.75	39.47	37.5～41.4
2600	Head	1.96	1.86～2.06	39.01	37.1～41.0
5250	Head	4.71	4.47～4.95	35.93	34.13～37.73
5600	Head	5.07	4.82～5.32	35.53	33.8～37.3
5750	Head	5.22	4.96～5.48	35.36	33.59～37.13

7.2 Dielectric Performance

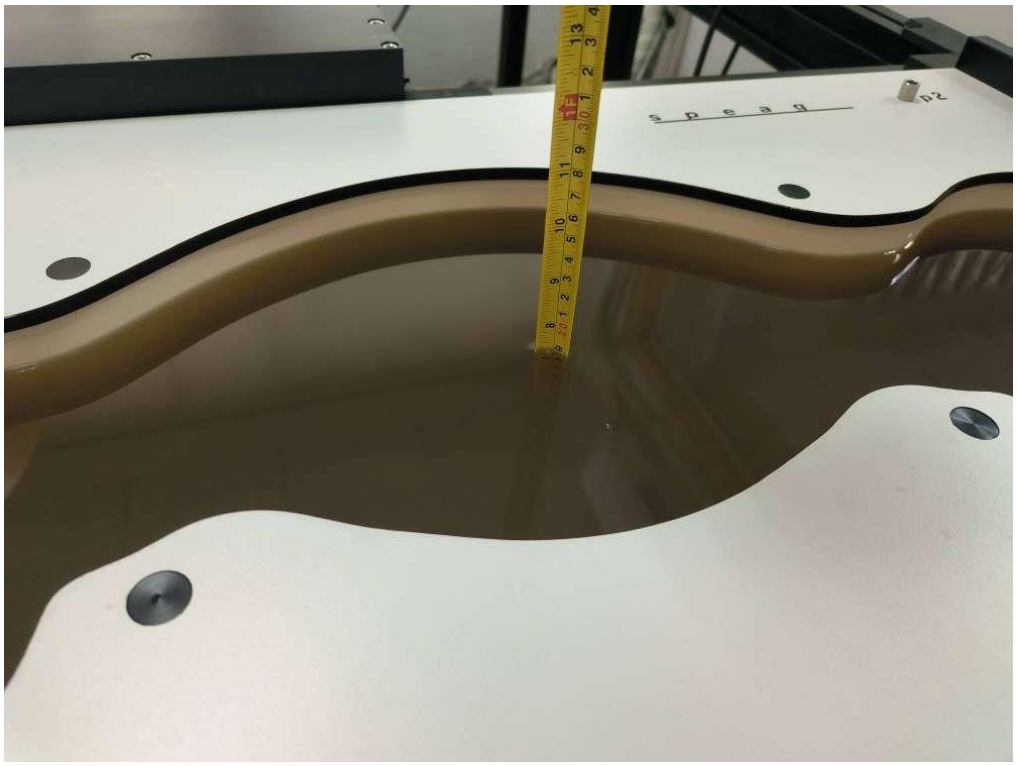
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

Measurement Date (yyyy-mm-dd)	Type	Frequency	Permittivity ε	Drift (%)	Conductivity σ (S/m)	Drift (%)
2023-5-13	Head	750 MHz	42.722	1.86	0.875	-1.69
2023-4-27	Head	835 MHz	42.132	1.52	0.903	0.33
2023-5-7	Head	1750 MHz	39.458	-1.55	1.363	-0.51
2023-5-12	Head	1900 MHz	39.24	-1.90	1.425	1.79
2023-5-18	Head	2450 MHz	40.178	2.49	1.81	0.56
2023-5-16	Head	2600 MHz	38.978	-0.08	1.936	-1.22
2023-5-20	Head	5250 MHz	35.813	-0.33	4.62	-1.91
2023-5-21	Head	5600 MHz	35.254	-0.78	4.985	-1.68
2023-5-22	Head	5750 MHz	35.79	1.22	5.122	-1.88

Note: The liquid temperature is 22.0℃



Picture 7-1 Liquid depth in the Head Phantom

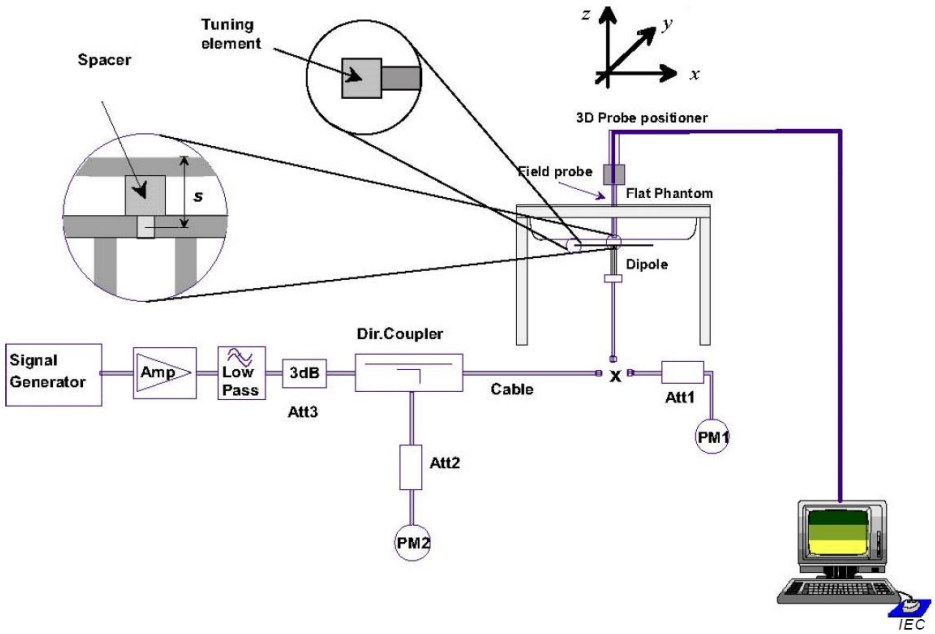


Picture 7-2 Liquid depth in the Head Phantom

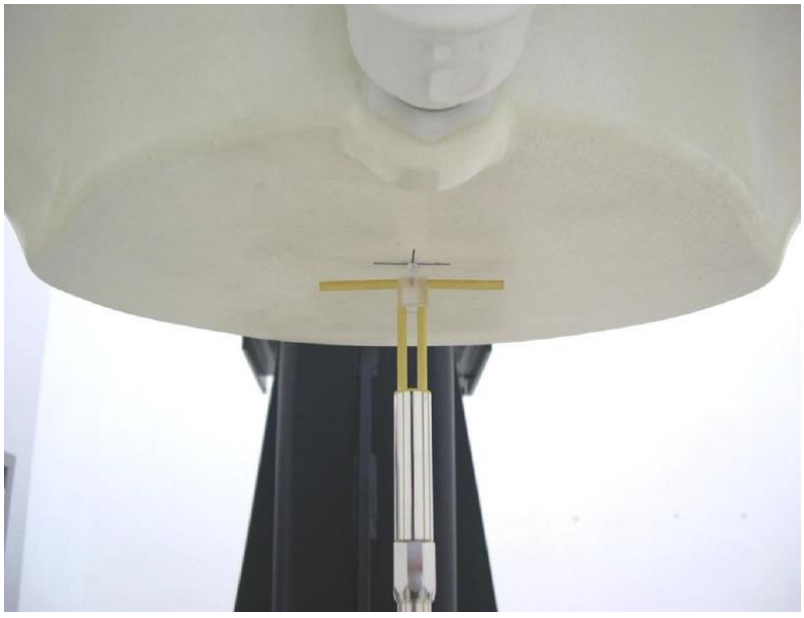
8 System verification

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
2023-5-13	750 MHz	5.64	8.63	5.56	8.68	-1.42%	0.58%
2023-4-27	835 MHz	6.34	9.73	6.24	9.52	-1.58%	-2.16%
2023-5-7	1750 MHz	19.3	36.8	19.12	36.44	-0.93%	-0.98%
2023-5-12	1900 MHz	20.7	39.7	20.84	39.88	0.68%	0.45%
2023-5-18	2450 MHz	24.9	52.7	25.36	53.76	1.85%	2.01%
2023-5-16	2600 MHz	25.2	55.8	25.4	56.28	0.79%	0.86%
2023-5-20	5250 MHz	22.3	78.1	22.6	79.1	1.35%	1.28%
2023-5-21	5600 MHz	23.7	83.2	23.3	82.2	-1.69%	-1.20%
2023-5-22	5750 MHz	22.8	81.4	22.4	80.5	-1.75%	-1.11%

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.

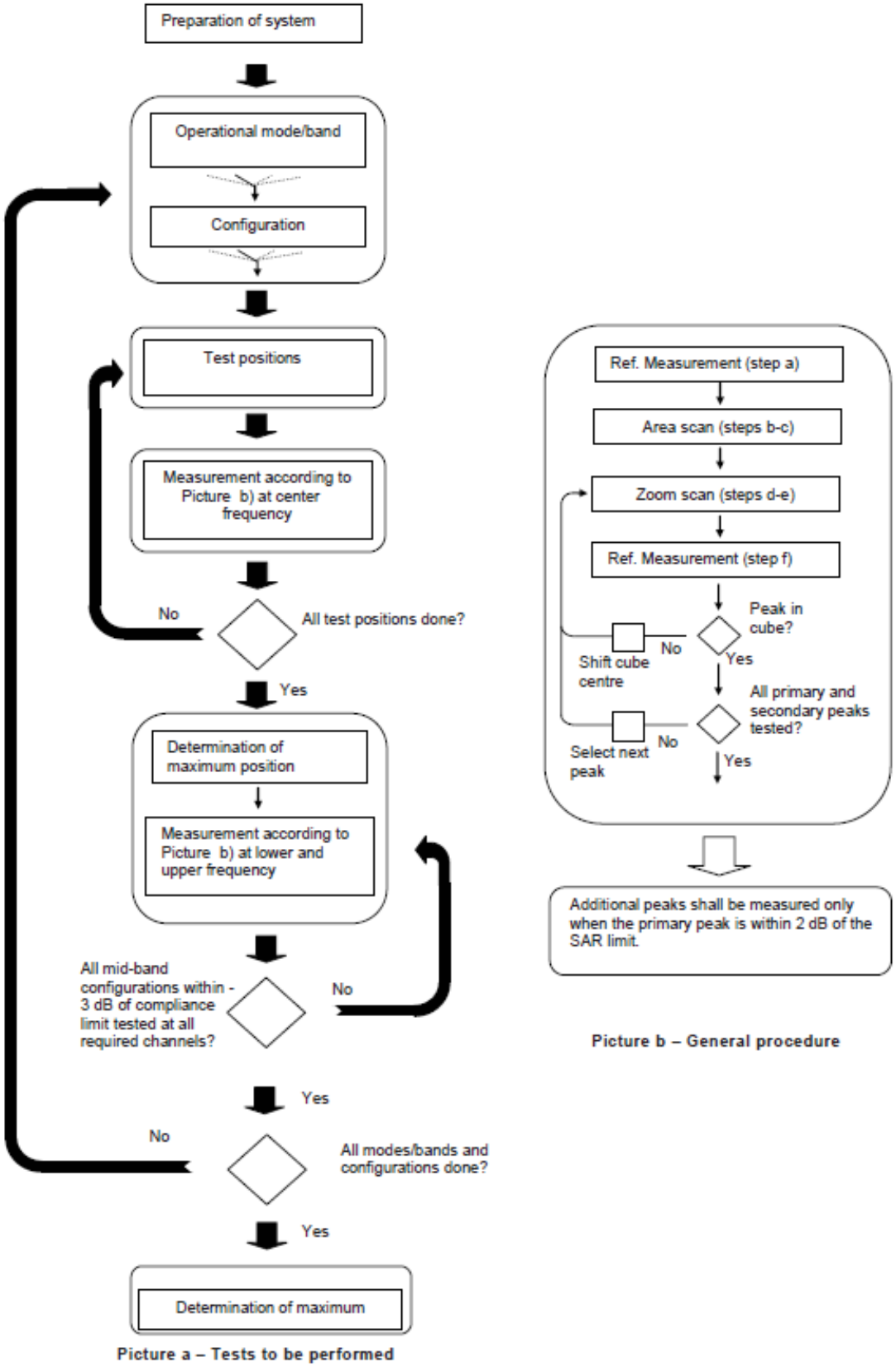
Step 1: The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band (f_c) for:

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 within3 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 9.1Block 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 1528-2003. 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.

<table>
<tr><td colspan="3"></td><td>≤ 3 GHz</td><td>> 3 GHz</td></tr>
<tr><td colspan="3">Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface</td><td>5 ± 1 mm</td><td>½·δ·ln(2) ± 0.5 mm</td></tr>
<tr><td colspan="3">Maximum probe angle from probe axis to phantom surface normal at the measurement location</td><td>30° ± 1°</td><td>20° ± 1°</td></tr>
<tr><td colspan="3" rowspan="2">Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}</td><td>≤ 2 GHz: ≤ 15 mm
2 – 3 GHz: ≤ 12 mm</td><td>3 – 4 GHz: ≤ 12 mm
4 – 6 GHz: ≤ 10 mm</td></tr>
<tr><td colspan="2">When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.</td></tr>
<tr><td colspan="3">Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}</td><td>≤ 2 GHz: ≤ 8 mm
2 – 3 GHz: ≤ 5 mm*</td><td>3 – 4 GHz: ≤ 5 mm*
4 – 6 GHz: ≤ 4 mm*</td></tr>
<tr><td rowspan="3">Maximum zoom scan spatial resolution, normal to phantom surface</td><td colspan="2">uniform grid: $\Delta z_{Zoom}(n)$</td><td>≤ 5 mm</td><td>3 – 4 GHz: ≤ 4 mm
4 – 5 GHz: ≤ 3 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td rowspan="2">graded grid</td><td>$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface</td><td>≤ 4 mm</td><td>3 – 4 GHz: ≤ 3 mm
4 – 5 GHz: ≤ 2.5 mm
5 – 6 GHz: ≤ 2 mm</td></tr>
<tr><td>$\Delta z_{Zoom}(n>1)$: between subsequent points</td><td colspan="2">≤ 1.5·$\Delta z_{Zoom}(n-1)$</td></tr>
<tr><td>Minimum zoom scan volume</td><td colspan="2">x, y, z</td><td>≥ 30 mm</td><td>3 – 4 GHz: ≥ 28 mm
4 – 5 GHz: ≥ 25 mm
5 – 6 GHz: ≥ 22 mm</td></tr>
<tr><td colspan="5">Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.
* When zoom scan is required and the <u>reported</u> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.</td></tr>
</table>

9.3 WCDMA Measurement Procedures for SAR

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

For Release 5 HSDPA Data Devices:

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

For Release 6 HSPA Data Devices

Sub-test	β_c	β_d	β_d （SF）	β_c/β_d	β_{hs}	β_{ec}	β_{ed}	β_{ed} （SF）	β_{ed} （codes）	CM (dB)	MPR (dB)	AG Index	E-TFCI
1	11/15	15/15	64	11/15	22/15	209/225	1039/225	4	1	1.5	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	β_{ed1}:47/15 β_{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 & Rchwarz 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 ≤ 0.8 W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is > 1.45 W/kg, SAR is required for all three RB offset configurations for that required test channel.
2) QPSK with 50% RB allocation
   The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.
3) QPSK with 100% RB allocation
   For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.

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.

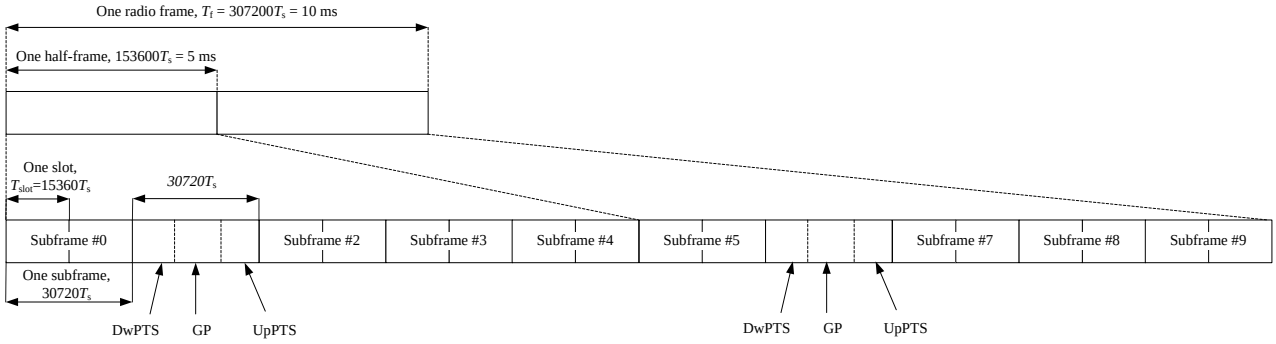


Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)

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	$26336 \cdot T_s$			$7680 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$
5	$6592 \cdot T_s$	$4384 \cdot T_s$	$5120 \cdot T_s$	$20480 \cdot T_s$		
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.T_s * 6+5120. T_s*2)/307200.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 section14 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 ≤ 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 55wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm mare 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

There are two sets of tune-up power, Normal power and Low power, for all bands by proximity sensor. The detail of proximity sensor is presented in Annex I.

11.1 GSM Measurement result

Table 11.1-1: The conducted power measurement results–GSM850 Normal power

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	32.31	32.22	32.08	33.50	-9.03	23.28	23.19	23.05
2 Txslots	31.54	31.50	31.37	32.00	-6.02	25.52	25.48	25.35
3 Txslots	29.62	29.65	29.56	30.00	-4.26	25.36	25.39	25.30
4 Txslots	28.34	28.43	28.35	29.00	-3.01	25.33	25.42	25.34
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	32.23	32.20	32.08	33.50	-9.03	23.20	23.17	23.05
2 Txslots	31.51	31.49	31.37	32.00	-6.02	25.49	25.47	25.35
3 Txslots	29.61	29.64	29.57	30.00	-4.26	25.35	25.38	25.31
4 Txslots	28.33	28.42	28.35	29.00	-3.01	25.32	25.41	25.34
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	26.04	26.41	26.72	28.00	-9.03	17.01	17.38	17.69
2 Txslots	25.08	25.44	25.75	27.00	-6.02	19.06	19.42	19.73
3Txslots	23.00	23.35	23.67	25.00	-4.26	18.74	19.09	19.41
4 Txslots	21.81	22.17	22.48	23.00	-3.01	18.80	19.16	19.47

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

Table 11.1-2: The conducted power measurement results–GSM850 Low power

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	29.45	29.58	29.64	30.50	-9.03	20.42	20.55	20.61
2 Txslots	26.50	26.69	26.72	27.50	-6.02	20.48	20.67	20.70
3 Txslots	24.65	24.87	24.95	25.50	-4.26	20.39	20.61	20.69
4 Txslots	23.42	23.59	23.62	24.50	-3.01	20.41	20.58	20.61
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	29.45	29.61	29.72	30.50	-9.03	20.42	20.58	20.69
2 Txslots	26.52	26.70	26.73	27.50	-6.02	20.50	20.68	20.71
3 Txslots	24.66	24.88	24.92	25.50	-4.26	20.40	20.62	20.66
4 Txslots	23.42	23.60	23.63	24.50	-3.01	20.41	20.59	20.62
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	23.16	24.34	23.87	24.50	-9.03	14.13	15.31	14.84
2 Txslots	20.12	20.47	20.82	21.50	-6.02	14.10	14.45	14.80
3Txslots	18.22	18.59	18.92	19.50	-4.26	13.96	14.33	14.66
4 Txslots	16.97	17.22	17.56	18.50	-3.01	13.96	14.21	14.55

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

Table 11.1-3: The conducted power measurement results-GSM1900 Normal power

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	29.68	29.64	29.56	30.50	-9.03	20.65	20.61	20.53
2 Txslots	28.91	28.90	28.85	29.50	-6.02	22.89	22.88	22.83
3 Txslots	26.96	26.93	26.92	27.50	-4.26	22.70	22.67	22.66
4 Txslots	25.88	25.83	25.81	26.50	-3.01	22.87	22.82	22.80
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	29.65	29.61	29.52	30.50	-9.03	20.62	20.58	20.49
2 Txslots	28.89	28.87	28.82	29.50	-6.02	22.87	22.85	22.80
3 Txslots	26.94	26.91	26.90	27.50	-4.26	22.68	22.65	22.64
4 Txslots	25.86	25.81	25.80	26.50	-3.01	22.85	22.80	22.79
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	26.15	26.64	27.59	28.00	-9.03	17.12	17.61	18.56
2 Txslots	25.10	25.33	25.82	27.00	-6.02	19.08	19.31	19.80
3Txslots	23.35	24.39	23.88	25.00	-4.26	19.09	20.13	19.62
4 Txslots	22.06	22.32	22.89	23.00	-3.01	19.05	19.31	19.88

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

Table 11.1-4: The conducted power measurement results-GSM1900 Low power

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	19.44	19.24	19.00	20.50	-9.03	10.41	10.21	9.97
2 Txslots	17.43	17.16	16.85	18.00	-6.02	11.41	11.14	10.83
3 Txslots	15.49	15.16	14.76	16.00	-4.26	11.23	10.90	10.50
4 Txslots	14.35	14.12	13.69	15.00	-3.01	11.34	11.11	10.68
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	19.39	19.22	18.99	20.50	-9.03	10.36	10.19	9.96
2 Txslots	17.40	17.15	16.84	18.00	-6.02	11.38	11.13	10.82
3 Txslots	15.47	15.15	14.75	16.00	-4.26	11.21	10.89	10.49
4 Txslots	14.37	14.11	13.68	15.00	-3.01	11.36	11.10	10.67
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	14.97	15.07	15.75	16.50	-9.03	5.94	6.04	6.72
2 Txslots	12.98	13.10	13.79	14.50	-6.02	6.96	7.08	7.77
3Txslots	12.27	11.09	12.16	12.50	-4.26	8.01	6.83	7.90
4 Txslots	10.60	11.14	10.73	11.50	-3.01	7.59	8.13	7.72

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

11.2 WCDMA Measurement result

Table 11.2-1: The conducted Power for WCDMA B5-Normal power

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	23.74	23.71	23.79	24.5
HSUPA	20.61	20.63	20.62	21.5
	20.64	20.66	20.61	21.5
	21.62	21.66	21.64	22.5
	20.16	20.18	20.11	21
	21.57	21.61	21.55	22.5
HSPA+	22.31	22.38	22.35	23.5
DC-HSDPA	21.82	21.89	21.87	22.5
	21.77	21.83	21.81	22.5
	21.32	21.42	21.39	22.5
	21.31	21.38	21.36	22.5

Table 11.2-2: The conducted Power for WCDMA B4-Normal power

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	23.43	23.44	23.47	24
HSUPA	20.22	20.24	20.21	21.5
	20.21	20.22	20.20	21.5
	21.31	21.33	21.29	22.5
	19.87	19.88	19.85	20.5
	21.27	21.28	21.24	22.5
HSPA+	21.95	22.02	21.99	23
DC-HSDPA	21.51	21.56	21.55	23.5
	21.5	21.51	21.52	23.5
	21.01	21.09	21.04	23
	21.02	21.02	21.03	23

Table 11.2-3: The conducted Power for WCDMA B2-Normal power

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	23.48	23.52	23.58	24
HSUPA	20.42	20.49	20.43	21.5
	20.43	20.48	20.42	21.5
	21.41	21.45	21.44	22.5
	19.94	19.96	19.93	20.5
	21.34	21.36	21.34	22.5
HSPA+	22.12	22.20	22.18	23.5
DC-HSDPA	21.71	21.75	21.73	23.5
	21.67	21.72	21.70	23.5
	21.16	21.29	21.22	23
	21.14	21.19	21.17	23

Table 11.2-4: The conducted Power for WCDMA B5-Low power

WCDMA850	FDDV result (dBm)			Tune up
	4233/4458	4183/4408	4132/4357	
	(846.6MHz)	(836.6MHz)	(826.4MHz)	
	20.67	20.79	20.82	21.5
HSUPA	18.93	18.94	18.92	20
	18.89	18.91	18.88	20
	19.9	19.92	19.89	20
	18.37	18.38	18.35	19
	19.91	19.93	19.89	20
HSPA+	20.62	20.64	20.61	21.5
DC-HSDPA	13.12	13.16	13.13	14
	13.01	13.05	13.03	14
	12.59	12.61	12.59	13.5
	12.55	12.58	12.52	13.5

Table 11.2-5: The conducted Power for WCDMA B4-Low power

WCDMA1700	FDDIV result (dBm)			Tune up
	1513/1738	1412/1637	1312/1537	
	(1752.6MHz)	(1732.4MHz)	(1712.4MHz)	
	13.78	13.85	13.77	14
HSUPA	11.4	11.41	11.39	12.5
	11.45	11.47	11.43	12.5
	12.46	12.48	12.43	13.5
	10.9	10.92	10.91	12
	12.44	12.45	12.43	13.5
HSPA+	13.11	13.15	13.13	14
DC-HSDPA	12.65	12.66	12.64	13.5
	12.63	12.65	12.62	13.5
	12.11	12.15	12.12	13
	12.13	12.14	12.11	13

Table 11.2-6: The conducted Power for WCDMA B2-Low power

WCDMA1900	FDDII result (dBm)			Tune up
	9538/9938	9400/9800	9262/9662	
	(1907.6MHz)	(1880MHz)	(1852.4MHz)	
	14.74	14.75	14.86	15
HSUPA	12.42	12.44	12.43	13.5
	12.44	12.47	12.45	13.5
	13.36	13.38	13.34	14.5
	11.93	11.91	11.88	13
	13.41	13.43	13.42	14.5
HSPA+	14	14.03	14.01	15
DC-HSDPA	14.51	14.54	14.50	15.5
	14.43	14.45	14.42	15.5
	14	14.01	13.97	15
	14.01	14.04	14.02	15

11.3 LTE Measurement result

Table 11.3-1: Maximum Power Reduction (MPR) for LTE

Modulation	Channel bandwidth / Transmission bandwidth configuration [RB]						MPR (dB)
	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	2
64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	2
64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	3

Table 11.3-2: The tune up for LTE

Band	Tune up	
	Normal power	**Low power**
LTE Band 2	24.5	16
LTE Band 5	24	22
LTE Band 7	24.5	14
LTE Band 17	25	23
LTE Band 41	24	16
LTE Band 66	24.5	14.5

LTE B2-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	23.67	22.78	21.76
		1880 (18900)	23.65	22.80	21.76
		1850.7 (18607)	23.78	22.88	21.87
	1RB-Middle (3)	1909.3 (19193)	23.81	22.93	21.89
		1880 (18900)	23.80	22.96	21.89
		1850.7 (18607)	23.88	23.06	22.13
	1RB-Low (0)	1909.3 (19193)	23.69	22.81	21.83
		1880 (18900)	23.67	22.93	21.80
		1850.7 (18607)	23.75	22.90	21.97
	3RB-High (3)	1909.3 (19193)	23.79	22.68	21.83
		1880 (18900)	23.77	22.71	21.82
		1850.7 (18607)	23.87	22.77	21.93
	3RB-Middle (1)	1909.3 (19193)	23.83	22.69	21.93
		1880 (18900)	23.82	22.66	21.94
		1850.7 (18607)	23.96	22.88	21.97
	3RB-Low (0)	1909.3 (19193)	23.78	22.69	21.85
		1880 (18900)	23.78	22.75	21.82

		1850.7 (18607)	23.89	22.76	21.96
	6RB (0)	1909.3 (19193)	22.83	21.91	20.84
		1880 (18900)	22.84	21.87	20.83
		1850.7 (18607)	22.95	22.00	20.94
3MHz	1RB-High (14)	1908.5 (19185)	23.71	22.78	21.79
		1880 (18900)	23.66	22.77	21.81
		1851.5 (18615)	23.77	22.96	21.95
	1RB-Middle (7)	1908.5 (19185)	23.84	23.04	21.96
		1880 (18900)	23.93	22.94	21.93
		1851.5 (18615)	23.90	23.03	22.13
	1RB-Low (0)	1908.5 (19185)	23.68	22.88	21.91
		1880 (18900)	23.67	22.85	21.84
		1851.5 (18615)	23.77	22.89	21.89
	8RB-High (7)	1908.5 (19185)	22.74	21.79	20.81
		1880 (18900)	22.76	21.75	20.76
		1851.5 (18615)	22.87	21.93	20.95
	8RB-Middle (4)	1908.5 (19185)	22.79	21.84	20.86
		1880 (18900)	22.78	21.80	20.83
		1851.5 (18615)	22.91	21.94	20.94
	8RB-Low (0)	1908.5 (19185)	22.74	21.83	20.83
		1880 (18900)	22.75	21.79	20.81
		1851.5 (18615)	22.85	21.93	20.93
	15RB (0)	1908.5 (19185)	22.76	21.79	20.78
		1880 (18900)	22.78	21.79	20.72
		1851.5 (18615)	22.92	21.88	20.87
5MHz	1RB-High (24)	1907.5 (19175)	23.61	22.65	21.72
		1880 (18900)	23.55	22.72	21.72
		1852.5 (18625)	23.66	22.85	21.82
	1RB-Middle (12)	1907.5 (19175)	23.86	23.00	22.09
		1880 (18900)	23.89	23.03	22.03
		1852.5 (18625)	23.88	23.13	22.08
	1RB-Low (0)	1907.5 (19175)	23.56	22.79	21.80
		1880 (18900)	23.58	22.84	21.71
		1852.5 (18625)	23.67	22.87	21.78
	12RB-High (13)	1907.5 (19175)	22.74	21.75	20.81
		1880 (18900)	22.75	21.73	20.75
		1852.5 (18625)	22.88	21.85	20.88
	12RB-Middle (6)	1907.5 (19175)	22.79	21.80	20.88
		1880 (18900)	22.81	21.77	20.80
		1852.5 (18625)	22.92	21.89	20.94

	12RB-Low (0)	1907.5 (19175)	22.74	21.69	20.78
		1880 (18900)	22.75	21.74	20.73
		1852.5 (18625)	22.81	21.79	20.83
	25RB (0)	1907.5 (19175)	22.77	21.83	20.82
		1880 (18900)	22.79	21.78	20.78
		1852.5 (18625)	22.85	21.86	20.87
10MHz	1RB-High (49)	1905 (19150)	23.67	22.83	21.79
		1880 (18900)	23.63	22.75	21.79
		1855 (18650)	23.72	22.92	21.96
	1RB-Middle (24)	1905 (19150)	23.81	22.98	21.92
		1880 (18900)	23.78	22.96	21.97
		1855 (18650)	23.93	23.05	22.12
	1RB-Low (0)	1905 (19150)	23.68	22.98	21.89
		1880 (18900)	23.68	22.91	21.89
		1855 (18650)	23.80	23.02	21.95
	25RB-High (25)	1905 (19150)	22.88	21.89	20.90
		1880 (18900)	22.79	21.75	20.78
		1855 (18650)	22.96	21.94	20.97
	25RB-Middle (12)	1905 (19150)	22.85	21.86	20.86
		1880 (18900)	22.85	21.81	20.80
		1855 (18650)	22.95	21.93	20.94
	25RB-Low (0)	1905 (19150)	22.88	21.87	20.88
		1880 (18900)	22.83	21.81	20.82
		1855 (18650)	22.92	21.88	20.87
	50RB (0)	1905 (19150)	22.91	21.88	20.92
		1880 (18900)	22.83	21.82	20.80
		1855 (18650)	22.96	21.92	20.93
15MHz	1RB-High (74)	1902.5 (19125)	23.62	22.74	21.74
		1880 (18900)	23.59	22.74	21.69
		1857.5 (18675)	23.64	22.94	21.84
	1RB-Middle (37)	1902.5 (19125)	23.72	22.93	21.90
		1880 (18900)	23.71	22.87	21.88
		1857.5 (18675)	23.81	22.99	22.02
	1RB-Low (0)	1902.5 (19125)	23.65	22.93	21.79
		1880 (18900)	23.65	22.97	21.83
		1857.5 (18675)	23.75	22.99	21.91
	36RB-High (38)	1902.5 (19125)	22.82	21.82	20.86
		1880 (18900)	22.79	21.71	20.74
		1857.5 (18675)	22.92	21.88	20.90
	36RB-Middle (19)	1902.5 (19125)	22.83	21.79	20.83

		1880 (18900)	22.83	21.77	20.82
		1857.5 (18675)	22.93	21.86	20.91
	36RB-Low (0)	1902.5 (19125)	22.86	21.81	20.85
		1880 (18900)	22.83	21.79	20.79
		1857.5 (18675)	22.91	21.88	20.88
	75RB (0)	1902.5 (19125)	22.85	21.83	20.81
		1880 (18900)	22.79	21.75	20.74
		1857.5 (18675)	22.90	21.91	20.88
20MHz	1RB-High (99)	1900 (19100)	23.43	22.61	21.55
		1880 (18900)	23.36	22.56	21.55
		1860 (18700)	23.43	22.66	21.66
	1RB-Middle (50)	1900 (19100)	23.67	22.95	21.82
		1880 (18900)	23.60	22.88	21.82
		1860 (18700)	23.68	22.98	22.01
	1RB-Low (0)	1900 (19100)	23.40	22.61	21.53
		1880 (18900)	23.44	22.74	21.69
		1860 (18700)	23.51	22.77	21.72
	50RB-High (50)	1900 (19100)	22.65	21.66	20.64
		1880 (18900)	22.59	21.58	20.54
		1860 (18700)	22.80	21.79	20.76
	50RB-Middle (25)	1900 (19100)	22.72	21.68	20.72
		1880 (18900)	22.68	21.65	20.67
		1860 (18700)	22.78	21.75	20.73
	50RB-Low (0)	1900 (19100)	22.71	21.69	20.67
		1880 (18900)	22.63	21.59	20.60
		1860 (18700)	22.74	21.68	20.71
	100RB (0)	1900 (19100)	22.68	21.66	20.68
		1880 (18900)	22.59	21.55	20.55
		1860 (18700)	22.75	21.73	20.73

LTE B2-Low power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1909.3 (19193)	14.78	15.05	14.84
		1880 (18900)	14.72	15.03	14.74
		1850.7 (18607)	14.78	15.16	15.06
	1RB-Middle (3)	1909.3 (19193)	14.89	15.23	15.12
		1880 (18900)	14.99	15.19	15.27
		1850.7 (18607)	14.94	15.40	15.16
	1RB-Low (0)	1909.3 (19193)	14.69	15.27	15.12

		1880 (18900)	14.92	15.02	15.10
		1850.7 (18607)	14.76	15.08	15.04
	3RB-High (3)	1909.3 (19193)	14.91	14.81	14.75
		1880 (18900)	14.96	14.96	14.75
		1850.7 (18607)	15.03	15.11	15.03
	3RB-Middle (1)	1909.3 (19193)	14.96	14.88	14.97
		1880 (18900)	15.01	14.90	14.98
		1850.7 (18607)	14.93	14.88	15.07
	3RB-Low (0)	1909.3 (19193)	15.09	14.87	14.93
		1880 (18900)	14.79	14.82	14.77
		1850.7 (18607)	14.96	14.86	14.99
	6RB (0)	1909.3 (19193)	15.00	14.90	14.81
		1880 (18900)	14.93	14.81	14.84
		1850.7 (18607)	15.08	15.05	14.93
3MHz	1RB-High (14)	1908.5 (19185)	14.59	15.06	14.88
		1880 (18900)	14.78	15.16	14.85
		1851.5 (18615)	14.76	15.19	15.06
	1RB-Middle (7)	1908.5 (19185)	14.83	15.31	15.11
		1880 (18900)	14.86	15.11	15.08
		1851.5 (18615)	15.01	15.48	15.29
	1RB-Low (0)	1908.5 (19185)	14.83	15.30	15.18
		1880 (18900)	14.89	15.08	15.02
		1851.5 (18615)	14.70	15.04	15.17
	8RB-High (7)	1908.5 (19185)	14.91	14.86	14.69
		1880 (18900)	14.89	15.02	14.93
		1851.5 (18615)	14.94	15.06	14.87
	8RB-Middle (4)	1908.5 (19185)	14.88	14.96	14.94
		1880 (18900)	14.96	14.90	14.95
		1851.5 (18615)	14.89	14.91	15.04
	8RB-Low (0)	1908.5 (19185)	14.86	14.95	14.98
		1880 (18900)	14.75	14.92	14.77
		1851.5 (18615)	14.79	14.86	14.93
	15RB (0)	1908.5 (19185)	14.87	14.82	14.82
		1880 (18900)	14.78	14.96	14.75
		1851.5 (18615)	14.87	15.05	14.95
5MHz	1RB-High (24)	1907.5 (19175)	14.74	15.14	14.90
		1880 (18900)	14.57	14.96	14.74
		1852.5 (18625)	14.65	15.15	14.85
	1RB-Middle (12)	1907.5 (19175)	14.84	15.30	15.17
		1880 (18900)	14.84	15.18	15.19

		1852.5 (18625)	14.96	15.41	15.24
	1RB-Low (0)	1907.5 (19175)	14.83	15.28	14.97
		1880 (18900)	14.91	15.15	14.98
		1852.5 (18625)	14.87	15.20	15.02
	12RB-High (13)	1907.5 (19175)	14.79	14.69	14.76
		1880 (18900)	14.75	14.94	14.96
		1852.5 (18625)	15.03	14.90	14.97
	12RB-Middle (6)	1907.5 (19175)	14.83	15.07	14.88
		1880 (18900)	14.90	14.89	14.83
		1852.5 (18625)	15.06	14.94	15.01
	12RB-Low (0)	1907.5 (19175)	14.84	14.92	15.06
		1880 (18900)	14.82	14.99	14.82
		1852.5 (18625)	14.82	14.90	14.91
	25RB (0)	1907.5 (19175)	14.97	14.79	14.82
		1880 (18900)	14.74	14.78	14.91
		1852.5 (18625)	15.05	14.99	15.01
10MHz	1RB-High (49)	1905 (19150)	14.72	15.12	14.92
		1880 (18900)	14.59	15.04	14.85
		1855 (18650)	14.65	15.27	14.86
	1RB-Middle (24)	1905 (19150)	14.95	15.34	15.14
		1880 (18900)	15.05	15.06	15.22
		1855 (18650)	15.08	15.41	15.26
	1RB-Low (0)	1905 (19150)	14.75	15.26	14.97
		1880 (18900)	14.85	14.98	14.96
		1855 (18650)	14.79	15.22	15.09
	25RB-High (25)	1905 (19150)	14.76	14.72	14.81
		1880 (18900)	14.76	14.86	14.86
		1855 (18650)	14.85	14.97	15.09
	25RB-Middle (12)	1905 (19150)	14.80	14.84	14.85
		1880 (18900)	14.97	14.88	14.99
		1855 (18650)	14.89	15.12	14.90
	25RB-Low (0)	1905 (19150)	14.93	14.91	14.94
		1880 (18900)	14.93	14.76	14.98
		1855 (18650)	14.98	15.04	15.08
	50RB (0)	1905 (19150)	14.87	14.89	14.89
		1880 (18900)	14.90	14.77	14.95
		1855 (18650)	15.04	14.99	14.91
15MHz	1RB-High (74)	1902.5 (19125)	14.76	15.15	14.96
		1880 (18900)	14.77	14.99	14.96
		1857.5 (18675)	14.66	15.09	14.88

	1RB-Middle (37)	1902.5 (19125)	14.95	15.37	15.15
		1880 (18900)	15.02	15.19	15.17
		1857.5 (18675)	14.99	15.46	15.18
	1RB-Low (0)	1902.5 (19125)	14.82	15.28	14.94
		1880 (18900)	14.67	15.23	14.97
		1857.5 (18675)	14.89	15.11	15.25
	36RB-High (38)	1902.5 (19125)	14.89	14.74	14.68
		1880 (18900)	14.91	14.84	14.96
		1857.5 (18675)	14.84	15.03	14.88
	36RB-Middle (19)	1902.5 (19125)	14.94	15.06	14.98
		1880 (18900)	14.97	14.85	15.06
		1857.5 (18675)	14.99	15.11	14.95
	36RB-Low (0)	1902.5 (19125)	15.07	14.93	14.94
		1880 (18900)	14.78	14.88	14.97
		1857.5 (18675)	14.82	15.03	14.93
	75RB (0)	1902.5 (19125)	14.81	14.97	14.80
		1880 (18900)	14.80	14.76	14.92
		1857.5 (18675)	15.05	14.89	15.04
20MHz	1RB-High (99)	1900 (19100)	14.72	15.13	14.91
		1880 (18900)	14.72	15.06	14.87
		1860 (18700)	14.79	15.19	14.99
	1RB-Middle (50)	1900 (19100)	14.97	15.35	15.09
		1880 (18900)	14.96	15.17	15.23
		1860 (18700)	15.05	15.44	15.24
	1RB-Low (0)	1900 (19100)	14.78	15.20	15.08
		1880 (18900)	14.82	15.13	15.08
		1860 (18700)	14.85	15.16	15.15
	50RB-High (50)	1900 (19100)	14.81	14.84	14.81
		1880 (18900)	14.88	14.92	14.90
		1860 (18700)	14.99	15.03	15.02
	50RB-Middle (25)	1900 (19100)	14.94	14.97	14.96
		1880 (18900)	14.93	14.98	14.98
		1860 (18700)	15.03	15.03	15.03
	50RB-Low (0)	1900 (19100)	14.99	14.99	15.01
		1880 (18900)	14.88	14.89	14.92
		1860 (18700)	14.93	14.97	14.99
	100RB (0)	1900 (19100)	14.91	14.91	14.88
		1880 (18900)	14.89	14.89	14.87
		1860 (18700)	15.02	14.99	14.97

LTE B5-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	848.3 (20643)	23.27	22.61	21.45
		836.5 (20525)	23.13	22.59	21.44
		824.7 (20407)	23.20	22.40	21.44
	1RB-Middle (3)	848.3 (20643)	23.30	22.58	21.50
		836.5 (20525)	23.26	22.61	21.54
		824.7 (20407)	23.35	22.46	21.43
	1RB-Low (0)	848.3 (20643)	23.31	22.55	21.46
		836.5 (20525)	23.24	22.54	21.46
		824.7 (20407)	23.24	22.36	21.47
	3RB-High (3)	848.3 (20643)	23.26	22.57	21.29
		836.5 (20525)	23.23	22.38	21.34
		824.7 (20407)	23.21	22.36	21.25
	3RB-Middle (1)	848.3 (20643)	23.25	22.66	21.35
		836.5 (20525)	23.30	22.51	21.32
		824.7 (20407)	23.40	22.59	21.45
	3RB-Low (0)	848.3 (20643)	23.11	22.35	21.40
		836.5 (20525)	23.09	22.43	21.47
		824.7 (20407)	23.16	22.49	21.29
	6RB (0)	848.3 (20643)	22.26	21.30	20.45
		836.5 (20525)	22.28	21.38	20.42
		824.7 (20407)	22.15	21.37	20.19
3MHz	1RB-High (14)	847.5 (20635)	23.10	22.47	21.25
		836.5 (20525)	23.23	22.37	21.38
		825.5 (20415)	23.05	22.52	21.24
	1RB-Middle (7)	847.5 (20635)	23.26	22.60	21.46
		836.5 (20525)	23.27	22.59	21.57
		825.5 (20415)	23.30	22.52	21.55
	1RB-Low (0)	847.5 (20635)	23.26	22.41	21.48
		836.5 (20525)	23.26	22.50	21.48
		825.5 (20415)	23.08	22.41	21.45
	8RB-High (7)	847.5 (20635)	22.23	21.15	20.33
		836.5 (20525)	22.30	21.18	20.37
		825.5 (20415)	22.15	21.24	20.31
	8RB-Middle (4)	847.5 (20635)	22.29	21.32	20.33
		836.5 (20525)	22.31	21.42	20.18
		825.5 (20415)	22.38	21.33	20.25
	8RB-Low (0)	847.5 (20635)	22.26	21.42	20.31

		836.5 (20525)	22.43	21.31	20.35
		825.5 (20415)	22.21	21.23	20.20
	15RB (0)	847.5 (20635)	22.23	21.37	20.22
		836.5 (20525)	22.18	21.34	20.23
		825.5 (20415)	22.30	21.19	20.37
5MHz	1RB-High (24)	846.5 (20625)	23.10	22.45	21.33
		836.5 (20525)	23.27	22.36	21.52
		826.5 (20425)	23.07	22.41	21.26
	1RB-Middle (12)	846.5 (20625)	23.31	22.65	21.46
		836.5 (20525)	23.42	22.65	21.35
		826.5 (20425)	23.27	22.64	21.59
	1RB-Low (0)	846.5 (20625)	23.23	22.51	21.26
		836.5 (20525)	23.23	22.55	21.33
		826.5 (20425)	23.19	22.56	21.36
	12RB-High (13)	846.5 (20625)	22.26	21.36	20.18
		836.5 (20525)	22.36	21.21	20.29
		826.5 (20425)	22.22	21.18	20.27
	12RB-Middle (6)	846.5 (20625)	22.23	21.39	20.32
		836.5 (20525)	22.23	21.35	20.17
		826.5 (20425)	22.39	21.33	20.20
	12RB-Low (0)	846.5 (20625)	22.35	21.38	20.37
		836.5 (20525)	22.40	21.32	20.25
		826.5 (20425)	22.32	21.20	20.33
	25RB (0)	846.5 (20625)	22.39	21.28	20.22
		836.5 (20525)	22.33	21.38	20.17
		826.5 (20425)	22.37	21.18	20.29
10MHz	1RB-High (49)	844 (20600)	23.21	22.52	21.36
		836.5 (20525)	23.18	22.50	21.43
		829 (20450)	23.17	22.42	21.34
	1RB-Middle (24)	844 (20600)	23.34	22.63	21.49
		836.5 (20525)	23.32	22.65	21.47
		829 (20450)	23.35	22.61	21.49
	1RB-Low (0)	844 (20600)	23.26	22.49	21.41
		836.5 (20525)	23.22	22.47	21.46
		829 (20450)	23.18	22.49	21.37
	25RB-High (25)	844 (20600)	22.30	21.27	20.28
		836.5 (20525)	22.29	21.28	20.29
		829 (20450)	22.30	21.31	20.31
	25RB-Middle (12)	844 (20600)	22.37	21.35	20.37
		836.5 (20525)	22.30	21.32	20.30

		829 (20450)	22.34	21.33	20.31
	25RB-Low (0)	844 (20600)	22.41	21.43	20.41
		836.5 (20525)	22.33	21.37	20.35
		829 (20450)	22.30	21.32	20.30
	50RB (0)	844 (20600)	22.36	21.36	20.36
		836.5 (20525)	22.33	21.32	20.32
		829 (20450)	22.30	21.32	20.32

LTE B5-Low power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	848.3 (20643)	20.81	21.35	21.14
		836.5 (20525)	20.93	21.23	21.04
		824.7 (20407)	20.90	21.19	20.99
	1RB-Middle (3)	848.3 (20643)	21.22	21.21	21.25
		836.5 (20525)	21.22	21.24	21.17
		824.7 (20407)	21.10	21.42	21.15
	1RB-Low (0)	848.3 (20643)	20.81	21.26	21.03
		836.5 (20525)	20.79	21.15	21.06
		824.7 (20407)	20.94	21.30	21.22
	3RB-High (3)	848.3 (20643)	20.97	21.08	21.12
		836.5 (20525)	21.00	21.11	20.97
		824.7 (20407)	21.17	21.14	20.97
	3RB-Middle (1)	848.3 (20643)	21.23	21.04	21.10
		836.5 (20525)	21.12	20.84	20.91
		824.7 (20407)	20.90	21.13	21.14
	3RB-Low (0)	848.3 (20643)	20.98	21.06	21.25
		836.5 (20525)	20.88	21.11	21.11
		824.7 (20407)	21.12	21.06	21.12
	6RB (0)	848.3 (20643)	21.08	21.23	21.03
		836.5 (20525)	21.00	20.96	21.10
		824.7 (20407)	20.91	21.18	20.87
3MHz	1RB-High (14)	847.5 (20635)	20.97	21.18	21.23
		836.5 (20525)	20.92	21.19	21.05
		825.5 (20415)	20.93	21.09	21.14
	1RB-Middle (7)	847.5 (20635)	21.17	21.26	21.20
		836.5 (20525)	21.15	21.43	21.27
		825.5 (20415)	21.03	21.32	21.12
	1RB-Low (0)	847.5 (20635)	20.94	21.29	21.16
		836.5 (20525)	21.01	21.24	21.01

		825.5 (20415)	20.88	21.36	21.09
	8RB-High (7)	847.5 (20635)	21.12	21.17	21.18
		836.5 (20525)	20.90	21.00	20.98
		825.5 (20415)	21.05	21.16	21.06
	8RB-Middle (4)	847.5 (20635)	20.94	21.09	21.05
		836.5 (20525)	21.00	20.97	20.92
		825.5 (20415)	21.07	21.03	20.98
	8RB-Low (0)	847.5 (20635)	21.10	21.07	21.06
		836.5 (20525)	20.99	21.10	20.90
		825.5 (20415)	21.05	21.09	21.16
	15RB (0)	847.5 (20635)	21.04	21.11	21.23
		836.5 (20525)	21.05	20.91	20.89
		825.5 (20415)	20.86	20.90	21.14
5MHz	1RB-High (24)	846.5 (20625)	20.86	21.39	21.23
		836.5 (20525)	20.86	21.11	21.12
		826.5 (20425)	20.89	21.06	21.14
	1RB-Middle (12)	846.5 (20625)	21.08	21.46	21.35
		836.5 (20525)	21.14	21.31	21.28
		826.5 (20425)	21.14	21.38	21.22
	1RB-Low (0)	846.5 (20625)	20.97	21.25	21.08
		836.5 (20525)	20.95	21.18	21.08
		826.5 (20425)	20.83	21.17	21.17
	12RB-High (13)	846.5 (20625)	20.89	21.07	21.05
		836.5 (20525)	20.83	20.85	20.89
		826.5 (20425)	21.05	20.91	21.04
	12RB-Middle (6)	846.5 (20625)	21.17	20.94	21.01
		836.5 (20525)	21.14	20.85	20.95
		826.5 (20425)	21.11	20.86	21.04
	12RB-Low (0)	846.5 (20625)	21.10	21.05	20.95
		836.5 (20525)	21.15	21.05	20.95
		826.5 (20425)	21.09	20.94	20.89
	25RB (0)	846.5 (20625)	21.17	21.20	21.12
		836.5 (20525)	21.03	21.07	20.97
		826.5 (20425)	20.94	21.00	21.16
10MHz	1RB-High (49)	844 (20600)	20.98	21.30	21.22
		836.5 (20525)	21.00	21.30	21.14
		829 (20450)	20.93	21.21	21.12
	1RB-Middle (24)	844 (20600)	21.13	21.40	21.29
		836.5 (20525)	21.12	21.44	21.26
		829 (20450)	21.14	21.43	21.23

	1RB-Low (0)	844 (20600)	20.98	21.24	21.18
		836.5 (20525)	20.96	21.31	21.17
		829 (20450)	20.97	21.33	21.13
	25RB-High (25)	844 (20600)	21.08	21.09	21.11
		836.5 (20525)	21.00	21.01	21.01
		829 (20450)	21.08	21.09	21.07
	25RB-Middle (12)	844 (20600)	21.14	21.09	21.10
		836.5 (20525)	21.06	21.04	21.07
		829 (20450)	21.05	21.06	21.06
	25RB-Low (0)	844 (20600)	21.16	21.16	21.15
		836.5 (20525)	21.07	21.13	21.09
		829 (20450)	21.11	21.09	21.08
	50RB (0)	844 (20600)	21.13	21.15	21.15
		836.5 (20525)	21.05	21.05	21.04
		829 (20450)	21.06	21.08	21.06

LTE B7-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	23.37	22.47	21.53
		2535 (21100)	23.53	22.66	21.68
		2502.5 (20775)	23.53	22.79	21.71
	1RB-Middle (12)	2567.5 (21425)	23.72	22.85	21.86
		2535 (21100)	23.82	22.98	22.04
		2502.5 (20775)	23.82	22.94	22.02
	1RB-Low (0)	2567.5 (21425)	23.43	22.56	21.67
		2535 (21100)	23.57	22.80	21.79
		2502.5 (20775)	23.52	22.72	21.77
	12RB-High (13)	2567.5 (21425)	22.48	21.46	20.62
		2535 (21100)	22.66	21.70	20.76
		2502.5 (20775)	22.69	21.73	20.84
	12RB-Middle (6)	2567.5 (21425)	22.61	21.62	20.73
		2535 (21100)	22.75	21.76	20.85
		2502.5 (20775)	22.75	21.79	20.91
	12RB-Low (0)	2567.5 (21425)	22.60	21.59	20.72
		2535 (21100)	22.72	21.73	20.80
		2502.5 (20775)	22.69	21.70	20.86
	25RB (0)	2567.5 (21425)	22.60	21.55	20.67
		2535 (21100)	22.72	21.72	20.77
		2502.5 (20775)	22.74	21.74	20.81

10MHz	1RB-High (49)	2565 (21400)	23.46	22.51	21.54
		2535 (21100)	23.57	22.72	21.72
		2505 (20800)	23.65	22.87	21.90
	1RB-Middle (24)	2565 (21400)	23.68	22.81	21.82
		2535 (21100)	23.70	22.96	21.92
		2505 (20800)	23.74	22.90	21.91
	1RB-Low (0)	2565 (21400)	23.61	22.90	21.82
		2535 (21100)	23.66	22.84	21.93
		2505 (20800)	23.63	22.77	21.85
	25RB-High (25)	2565 (21400)	22.62	21.59	20.70
		2535 (21100)	22.72	21.70	20.79
		2505 (20800)	22.76	21.79	20.84
	25RB-Middle (12)	2565 (21400)	22.72	21.72	20.79
		2535 (21100)	22.78	21.77	20.83
		2505 (20800)	22.79	21.79	20.85
	25RB-Low (0)	2565 (21400)	22.80	21.80	20.87
		2535 (21100)	22.76	21.80	20.84
		2505 (20800)	22.80	21.80	20.87
	50RB (0)	2565 (21400)	22.75	21.74	20.82
		2535 (21100)	22.77	21.75	20.80
		2505 (20800)	22.81	21.80	20.86
15MHz	1RB-High (74)	2562.5 (21375)	23.40	22.57	21.51
		2535 (21100)	23.50	22.63	21.66
		2507.5 (20825)	23.63	22.93	21.87
	1RB-Middle (37)	2562.5 (21375)	23.63	22.81	21.84
		2535 (21100)	23.67	22.92	21.86
		2507.5 (20825)	23.68	22.91	21.85
	1RB-Low (0)	2562.5 (21375)	23.49	22.74	21.80
		2535 (21100)	23.66	22.95	21.94
		2507.5 (20825)	23.58	22.75	21.75
	36RB-High (38)	2562.5 (21375)	22.60	21.59	20.65
		2535 (21100)	22.71	21.66	20.71
		2507.5 (20825)	22.80	21.80	20.87
	36RB-Middle (19)	2562.5 (21375)	22.73	21.74	20.78
		2535 (21100)	22.78	21.74	20.82
		2507.5 (20825)	22.83	21.82	20.86
	36RB-Low (0)	2562.5 (21375)	22.71	21.71	20.74
		2535 (21100)	22.79	21.77	20.81
		2507.5 (20825)	22.80	21.81	20.87
	75RB (0)	2562.5 (21375)	22.67	21.67	20.70

		2535 (21100)	22.73	21.74	20.76
		2507.5 (20825)	22.77	21.78	20.82
20MHz	1RB-High (99)	2560 (21350)	23.33	22.32	21.41
		2535 (21100)	23.40	22.57	21.59
		2510 (20850)	23.41	22.69	21.75
	1RB-Middle (50)	2560 (21350)	23.72	22.95	21.93
		2535 (21100)	23.70	22.84	21.86
		2510 (20850)	23.62	22.88	21.90
	1RB-Low (0)	2560 (21350)	23.51	22.68	21.73
		2535 (21100)	23.52	22.78	21.79
		2510 (20850)	23.33	22.58	21.58
	50RB-High (50)	2560 (21350)	22.61	21.59	20.66
		2535 (21100)	22.64	21.62	20.68
		2510 (20850)	22.64	21.68	20.69
	50RB-Middle (25)	2560 (21350)	22.75	21.76	20.82
		2535 (21100)	22.76	21.75	20.80
		2510 (20850)	22.67	21.68	20.71
	50RB-Low (0)	2560 (21350)	22.77	21.76	20.83
		2535 (21100)	22.71	21.70	20.75
		2510 (20850)	22.65	21.64	20.70
	100RB (0)	2560 (21350)	22.68	21.66	20.71
		2535 (21100)	22.67	21.64	20.69
		2510 (20850)	22.61	21.63	20.67

LTE B7-Low power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2567.5 (21425)	13.58	13.75	13.75
		2535 (21100)	13.57	13.81	13.71
		2502.5 (20775)	13.44	13.81	13.63
	1RB-Middle (12)	2567.5 (21425)	13.59	13.86	13.79
		2535 (21100)	13.79	13.80	13.92
		2502.5 (20775)	13.75	13.84	13.87
	1RB-Low (0)	2567.5 (21425)	13.55	13.77	13.65
		2535 (21100)	13.66	13.91	13.75
		2502.5 (20775)	13.62	13.76	13.57
	12RB-High (13)	2567.5 (21425)	13.40	13.43	13.51
		2535 (21100)	13.56	13.56	13.50
		2502.5 (20775)	13.70	13.72	13.71
	12RB-Middle (6)	2567.5 (21425)	13.74	13.71	13.69

		2535 (21100)	13.63	13.72	13.79
		2502.5 (20775)	13.65	13.77	13.66
	12RB-Low (0)	2567.5 (21425)	13.77	13.66	13.77
		2535 (21100)	13.84	13.67	13.56
		2502.5 (20775)	13.88	13.71	13.69
	25RB (0)	2567.5 (21425)	13.68	13.66	13.58
		2535 (21100)	13.58	13.50	13.57
		2502.5 (20775)	13.62	13.74	13.57
10MHz	1RB-High (49)	2565 (21400)	13.56	13.59	13.73
		2535 (21100)	13.48	13.77	13.62
		2505 (20800)	13.52	13.82	13.76
	1RB-Middle (24)	2565 (21400)	13.63	13.89	13.68
		2535 (21100)	13.92	13.84	13.95
		2505 (20800)	13.86	13.75	13.86
	1RB-Low (0)	2565 (21400)	13.48	13.92	13.67
		2535 (21100)	13.61	13.93	13.76
		2505 (20800)	13.59	13.83	13.66
	25RB-High (25)	2565 (21400)	13.39	13.53	13.36
		2535 (21100)	13.56	13.62	13.49
		2505 (20800)	13.77	13.58	13.70
	25RB-Middle (12)	2565 (21400)	13.62	13.54	13.62
		2535 (21100)	13.71	13.61	13.68
		2505 (20800)	13.80	13.66	13.66
	25RB-Low (0)	2565 (21400)	13.71	13.65	13.62
		2535 (21100)	13.73	13.61	13.56
		2505 (20800)	13.79	13.81	13.75
	50RB (0)	2565 (21400)	13.65	13.54	13.52
		2535 (21100)	13.66	13.52	13.63
		2505 (20800)	13.68	13.70	13.71
15MHz	1RB-High (74)	2562.5 (21375)	13.51	13.57	13.63
		2535 (21100)	13.38	13.75	13.57
		2507.5 (20825)	13.48	13.80	13.68
	1RB-Middle (37)	2562.5 (21375)	13.66	13.86	13.62
		2535 (21100)	13.78	13.82	13.85
		2507.5 (20825)	13.70	13.78	13.96
	1RB-Low (0)	2562.5 (21375)	13.58	13.78	13.73
		2535 (21100)	13.48	13.97	13.73
		2507.5 (20825)	13.61	13.92	13.63
	36RB-High (38)	2562.5 (21375)	13.50	13.53	13.52
		2535 (21100)	13.56	13.48	13.52

		2507.5 (20825)	13.70	13.64	13.74
	36RB-Middle (19)	2562.5 (21375)	13.60	13.70	13.55
		2535 (21100)	13.67	13.70	13.63
		2507.5 (20825)	13.81	13.76	13.75
	36RB-Low (0)	2562.5 (21375)	13.82	13.60	13.66
		2535 (21100)	13.69	13.74	13.71
		2507.5 (20825)	13.72	13.78	13.70
	75RB (0)	2562.5 (21375)	13.52	13.51	13.61
		2535 (21100)	13.61	13.63	13.58
		2507.5 (20825)	13.64	13.58	13.63
20MHz	1RB-High (99)	2560 (21350)	13.56	13.70	13.70
		2535 (21100)	13.52	13.78	13.68
		2510 (20850)	13.54	13.89	13.73
	1RB-Middle (50)	2560 (21350)	13.65	13.91	13.74
		2535 (21100)	13.89	13.85	13.90
		2510 (20850)	13.83	13.84	13.94
	1RB-Low (0)	2560 (21350)	13.56	13.88	13.76
		2535 (21100)	13.63	13.97	13.86
		2510 (20850)	13.58	13.87	13.72
	50RB-High (50)	2560 (21350)	13.54	13.49	13.48
		2535 (21100)	13.63	13.61	13.59
		2510 (20850)	13.74	13.68	13.69
	50RB-Middle (25)	2560 (21350)	13.72	13.67	13.67
		2535 (21100)	13.76	13.75	13.74
		2510 (20850)	13.80	13.77	13.76
	50RB-Low (0)	2560 (21350)	13.78	13.75	13.73
		2535 (21100)	13.84	13.71	13.70
		2510 (20850)	13.83	13.80	13.78
	100RB (0)	2560 (21350)	13.65	13.62	13.61
		2535 (21100)	13.65	13.63	13.65
		2510 (20850)	13.76	13.71	13.72

LTE B17-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	713.5 (23825)	23.60	22.73	21.78
		710 (23790)	23.58	22.76	21.76
		706.5 (23755)	23.59	22.92	21.71
	1RB-Middle (12)	713.5 (23825)	23.92	23.03	21.98
		710 (23790)	23.90	23.05	22.02

		706.5 (23755)	23.89	23.06	22.06
	1RB-Low (0)	713.5 (23825)	23.60	22.75	21.79
		710 (23790)	23.66	22.79	21.76
		706.5 (23755)	23.65	22.83	21.81
	12RB-High (13)	713.5 (23825)	22.75	21.69	20.78
		710 (23790)	22.73	21.70	20.78
		706.5 (23755)	22.74	21.70	20.82
	12RB-Middle (6)	713.5 (23825)	22.80	21.76	20.86
		710 (23790)	22.79	21.73	20.85
		706.5 (23755)	22.82	21.78	20.88
	12RB-Low (0)	713.5 (23825)	22.75	21.74	20.81
		710 (23790)	22.79	21.74	20.81
		706.5 (23755)	22.78	21.75	20.82
	25RB (0)	713.5 (23825)	22.74	21.73	20.79
		710 (23790)	22.76	21.74	20.79
		706.5 (23755)	22.76	21.77	20.80
10MHz	1RB-High (49)	711 (23800)	23.69	22.89	21.82
		710 (23790)	23.67	22.83	21.85
		709 (23780)	23.68	22.83	21.83
	1RB-Middle (24)	711 (23800)	23.80	23.06	21.91
		710 (23790)	23.83	23.13	22.00
		709 (23780)	23.80	22.91	21.96
	1RB-Low (0)	711 (23800)	23.79	22.99	21.94
		710 (23790)	23.77	23.01	21.85
		709 (23780)	23.75	22.91	21.82
	25RB-High (25)	711 (23800)	22.78	21.75	20.82
		710 (23790)	22.76	21.75	20.80
		709 (23780)	22.75	21.74	20.81
	25RB-Middle (12)	711 (23800)	22.81	21.79	20.84
		710 (23790)	22.85	21.83	20.87
		709 (23780)	22.81	21.81	20.85
	25RB-Low (0)	711 (23800)	22.87	21.87	20.91
		710 (23790)	22.89	21.88	20.91
		709 (23780)	22.85	21.85	20.88
	50RB (0)	711 (23800)	22.83	21.81	20.83
		710 (23790)	22.84	21.84	20.88
		709 (23780)	22.84	21.82	20.87

LTE B17-Low power

BANDWIDTH	Number of RBs	Frequency	QPSK	16QAM	64QAM
5MHz	1RB-High (24)	713.5 (23825)	21.99	22.28	22.25
		710 (23790)	21.99	22.17	22.16
		706.5 (23755)	21.92	22.22	22.14
	1RB-Middle (12)	713.5 (23825)	22.12	22.31	22.20
		710 (23790)	22.06	22.21	22.08
		706.5 (23755)	21.99	22.40	22.23
	1RB-Low (0)	713.5 (23825)	21.93	22.31	22.01
		710 (23790)	22.05	22.23	22.08
		706.5 (23755)	21.98	22.41	22.21
	12RB-High (13)	713.5 (23825)	21.85	21.92	21.04
		710 (23790)	21.96	21.93	21.03
		706.5 (23755)	22.07	22.05	20.94
	12RB-Middle (6)	713.5 (23825)	21.98	21.96	21.14
		710 (23790)	22.17	22.08	21.18
		706.5 (23755)	22.11	22.03	21.12
	12RB-Low (0)	713.5 (23825)	22.07	22.03	21.11
		710 (23790)	22.01	22.00	21.13
		706.5 (23755)	22.11	22.08	21.18
	25RB (0)	713.5 (23825)	21.96	21.98	20.98
		710 (23790)	21.97	22.01	20.98
		706.5 (23755)	22.04	22.11	21.15
10MHz	1RB-High (49)	711 (23800)	21.98	22.25	22.21
		710 (23790)	21.99	22.24	22.13
		709 (23780)	21.94	22.23	22.11
	1RB-Middle (24)	711 (23800)	22.18	22.28	22.32
		710 (23790)	22.19	22.31	22.22
		709 (23780)	22.13	22.43	22.23
	1RB-Low (0)	711 (23800)	22.06	22.30	22.13
		710 (23790)	22.08	22.37	22.21
		709 (23780)	22.08	22.36	22.17
	25RB-High (25)	711 (23800)	22.00	21.99	21.05
		710 (23790)	22.06	22.03	21.09
		709 (23780)	22.05	22.00	21.08
	25RB-Middle (12)	711 (23800)	22.11	22.08	21.17
		710 (23790)	22.13	22.11	21.17
		709 (23780)	22.12	22.09	21.16
	25RB-Low (0)	711 (23800)	22.14	22.11	21.17
		710 (23790)	22.15	22.11	21.18

		709 (23780)	22.12	22.10	21.16
	50RB (0)	711 (23800)	22.10	22.05	21.10
		710 (23790)	22.09	22.06	21.11
		709 (23780)	22.09	22.07	21.15

LTE B41-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2687.5 (41565)	23.51	22.30	21.04
		2640.3(41093)	23.24	22.47	21.13
		2593 (40620)	23.39	22.50	21.17
		2545.8(40148)	23.26	22.56	21.13
		2498.5 (39675)	23.50	22.57	21.03
	1RB-Middle (12)	2687.5 (41565)	23.74	22.52	21.38
		2640.3(41093)	23.59	22.55	21.24
		2593 (40620)	23.77	22.84	21.49
		2545.8(40148)	23.45	22.78	21.24
		2498.5 (39675)	23.56	22.64	21.27
	1RB-Low (0)	2687.5 (41565)	23.49	22.64	21.14
		2640.3(41093)	23.42	22.56	21.06
		2593 (40620)	23.69	22.70	21.20
		2545.8(40148)	23.49	22.60	21.05
		2498.5 (39675)	23.42	22.47	21.03
	12RB-High (13)	2687.5 (41565)	22.49	21.53	20.46
		2640.3(41093)	22.46	21.45	20.46
		2593 (40620)	22.70	21.71	20.71
		2545.8(40148)	22.34	21.40	20.33
		2498.5 (39675)	22.61	21.66	20.46
	12RB-Middle (6)	2687.5 (41565)	22.39	21.50	20.77
		2640.3(41093)	22.48	21.63	20.69
		2593 (40620)	22.71	21.86	20.75
		2545.8(40148)	22.65	21.58	20.52
		2498.5 (39675)	22.53	21.65	20.53
	12RB-Low (0)	2687.5 (41565)	22.63	21.68	20.79
		2640.3(41093)	22.69	21.72	20.64
		2593 (40620)	22.58	21.67	20.69
		2545.8(40148)	22.56	21.48	20.48
		2498.5 (39675)	22.49	21.59	20.36
	25RB (0)	2687.5 (41565)	22.72	21.51	20.71
		2640.3(41093)	22.55	21.62	20.63

		2593 (40620)	22.64	21.66	20.69
		2545.8(40148)	22.57	21.60	20.38
		2498.5 (39675)	22.49	21.62	20.49
10MHz	1RB-High (49)	2685 (41540)	23.31	22.34	21.13
		2639(41080)	23.36	22.33	21.02
		2593 (40620)	23.60	22.57	21.08
		2547(40160)	23.26	22.50	21.02
		2501 (39700)	23.25	22.53	21.19
	1RB-Middle (24)	2685 (41540)	23.66	22.52	21.33
		2639(41080)	23.74	22.72	21.31
		2593 (40620)	23.65	22.77	21.60
		2547(40160)	23.57	22.79	21.35
		2501 (39700)	23.53	22.75	21.31
	1RB-Low (0)	2685 (41540)	23.59	22.58	21.09
		2639(41080)	23.55	22.66	21.29
		2593 (40620)	23.50	22.64	21.24
		2547(40160)	23.51	22.58	21.13
		2501 (39700)	23.22	22.61	20.98
	25RB-High (25)	2685 (41540)	22.46	21.46	20.53
		2639(41080)	22.41	21.53	20.44
		2593 (40620)	22.70	21.75	20.58
		2547(40160)	22.41	21.57	20.49
		2501 (39700)	22.45	21.57	20.55
	25RB-Middle (12)	2685 (41540)	22.39	21.54	20.79
		2639(41080)	22.49	21.52	20.68
		2593 (40620)	22.81	21.71	20.81
		2547(40160)	22.41	21.53	20.60
		2501 (39700)	22.59	21.48	20.44
	25RB-Low (0)	2685 (41540)	22.54	21.77	20.82
		2639(41080)	22.50	21.55	20.51
		2593 (40620)	22.71	21.87	20.69
		2547(40160)	22.57	21.54	20.52
		2501 (39700)	22.53	21.45	20.56
	50RB (0)	2685 (41540)	22.56	21.69	20.79
		2639(41080)	22.50	21.59	20.49
		2593 (40620)	22.59	21.81	20.75
		2547(40160)	22.61	21.57	20.58
		2501 (39700)	22.63	21.57	20.48
15MHz	1RB-High (74)	2682.5 (41515)	23.34	22.39	21.00
		2637.8(41068)	23.44	22.25	20.96

		2593 (40620)	23.40	22.52	21.25
		2548.3(40173)	23.48	22.46	21.00
		2503.5 (39725)	23.48	22.59	21.02
	1RB-Middle (37)	2682.5 (41515)	23.64	22.69	21.40
		2637.8(41068)	23.59	22.64	21.30
		2593 (40620)	23.81	22.95	21.58
		2548.3(40173)	23.52	22.63	21.34
		2503.5 (39725)	23.51	22.77	21.26
	1RB-Low (0)	2682.5 (41515)	23.53	22.42	21.12
		2637.8(41068)	23.48	22.52	21.15
		2593 (40620)	23.50	22.64	21.32
		2548.3(40173)	23.32	22.52	21.09
		2503.5 (39725)	23.41	22.56	21.07
	36RB-High (38)	2682.5 (41515)	22.38	21.46	20.56
		2637.8(41068)	22.36	21.38	20.43
		2593 (40620)	22.59	21.69	20.67
		2548.3(40173)	22.39	21.60	20.33
		2503.5 (39725)	22.59	21.61	20.52
	36RB-Middle (19)	2682.5 (41515)	22.47	21.74	20.69
		2637.8(41068)	22.59	21.52	20.44
		2593 (40620)	22.56	21.82	20.56
		2548.3(40173)	22.60	21.70	20.55
		2503.5 (39725)	22.58	21.53	20.53
	36RB-Low (0)	2682.5 (41515)	22.60	21.55	20.70
		2637.8(41068)	22.57	21.63	20.71
		2593 (40620)	22.63	21.78	20.74
		2548.3(40173)	22.58	21.58	20.42
		2503.5 (39725)	22.34	21.50	20.53
	75RB (0)	2682.5 (41515)	22.69	21.64	20.82
		2637.8(41068)	22.64	21.64	20.54
		2593 (40620)	22.73	21.81	20.60
		2548.3(40173)	22.46	21.63	20.33
		2503.5 (39725)	22.59	21.46	20.43
20MHz	1RB-High (99)	2680 (41490)	23.41	22.40	21.03
		2636.5(41055)	23.37	22.39	21.03
		2593 (40620)	23.53	22.63	21.21
		2549.5(40185)	23.38	22.51	21.11
		2506 (39750)	23.40	22.57	21.12
	1RB-Middle (50)	2680 (41490)	23.66	22.64	21.33
		2636.5(41055)	23.64	22.65	21.34

		2593 (40620)	23.75	22.89	21.51
		2549.5(40185)	23.58	22.71	21.37
		2506 (39750)	23.57	22.74	21.36
	1RB-Low (0)	2680 (41490)	23.55	22.55	21.17
		2636.5(41055)	23.53	22.56	21.21
		2593 (40620)	23.59	22.72	21.31
		2549.5(40185)	23.44	22.56	21.16
		2506 (39750)	23.37	22.51	21.11
	50RB-High (50)	2680 (41490)	22.41	21.58	20.61
		2636.5(41055)	22.36	21.45	20.46
		2593 (40620)	22.62	21.65	20.65
		2549.5(40185)	22.49	21.54	20.45
		2506 (39750)	22.55	21.59	20.54
	50RB-Middle (25)	2680 (41490)	22.54	21.65	20.70
		2636.5(41055)	22.51	21.59	20.59
		2593 (40620)	22.71	21.76	20.71
		2549.5(40185)	22.55	21.60	20.52
		2506 (39750)	22.53	21.63	20.55
	50RB-Low (0)	2680 (41490)	22.54	21.70	20.78
		2636.5(41055)	22.60	21.70	20.66
		2593 (40620)	22.73	21.78	20.74
		2549.5(40185)	22.55	21.56	20.49
		2506 (39750)	22.46	21.56	20.47
	100RB (0)	2680 (41490)	22.62	21.66	20.72
		2636.5(41055)	22.57	21.58	20.59
		2593 (40620)	22.72	21.76	20.69
		2549.5(40185)	22.57	21.55	20.48
		2506 (39750)	22.58	21.60	20.53

LTE B41-Low power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
5MHz	1RB-High (24)	2687.5 (41565)	15.42	15.51	15.10
		2640.3(41093)	15.24	15.49	15.03
		2593 (40620)	15.57	15.68	15.20
		2545.8(40148)	15.26	15.41	15.05
		2498.5 (39675)	15.46	15.55	15.23
	1RB-Middle (12)	2687.5 (41565)	15.65	15.76	15.38
		2640.3(41093)	15.65	15.81	15.24
		2593 (40620)	15.77	15.71	15.56

		2545.8(40148)	15.58	15.77	15.22
		2498.5 (39675)	15.64	15.83	15.24
	1RB-Low (0)	2687.5 (41565)	15.38	15.58	15.17
		2640.3(41093)	15.43	15.69	15.20
		2593 (40620)	15.62	15.67	15.18
		2545.8(40148)	15.37	15.46	15.13
		2498.5 (39675)	15.27	15.45	15.07
	12RB-High (13)	2687.5 (41565)	15.53	15.44	15.40
		2640.3(41093)	15.28	15.35	15.56
		2593 (40620)	15.53	15.66	15.62
		2545.8(40148)	15.46	15.47	15.40
		2498.5 (39675)	15.56	15.48	15.50
	12RB-Middle (6)	2687.5 (41565)	15.62	15.50	15.65
		2640.3(41093)	15.57	15.49	15.55
		2593 (40620)	15.64	15.77	15.80
		2545.8(40148)	15.49	15.49	15.62
		2498.5 (39675)	15.60	15.49	15.53
	12RB-Low (0)	2687.5 (41565)	15.53	15.65	15.59
		2640.3(41093)	15.51	15.72	15.56
		2593 (40620)	15.56	15.85	15.76
		2545.8(40148)	15.50	15.43	15.59
		2498.5 (39675)	15.45	15.44	15.39
	25RB (0)	2687.5 (41565)	15.61	15.67	15.57
		2640.3(41093)	15.47	15.58	15.60
		2593 (40620)	15.77	15.74	15.71
		2545.8(40148)	15.60	15.49	15.58
		2498.5 (39675)	15.57	15.46	15.50
10MHz	1RB-High (49)	2685 (41540)	15.37	15.58	14.95
		2639(41080)	15.24	15.37	14.98
		2593 (40620)	15.56	15.61	15.11
		2547(40160)	15.28	15.50	15.16
		2501 (39700)	15.42	15.54	15.11
	1RB-Middle (24)	2685 (41540)	15.67	15.75	15.31
		2639(41080)	15.65	15.63	15.39
		2593 (40620)	15.84	15.79	15.42
		2547(40160)	15.67	15.72	15.26
		2501 (39700)	15.55	15.73	15.29
	1RB-Low (0)	2685 (41540)	15.49	15.49	15.19
		2639(41080)	15.41	15.68	15.11
		2593 (40620)	15.55	15.62	15.37

		2547(40160)	15.50	15.48	15.13
		2501 (39700)	15.25	15.57	15.16
	25RB-High (25)	2685 (41540)	15.54	15.48	15.53
		2639(41080)	15.41	15.49	15.38
		2593 (40620)	15.64	15.51	15.65
		2547(40160)	15.48	15.45	15.41
		2501 (39700)	15.50	15.47	15.48
	25RB-Middle (12)	2685 (41540)	15.54	15.60	15.63
		2639(41080)	15.58	15.68	15.47
		2593 (40620)	15.61	15.69	15.61
		2547(40160)	15.50	15.48	15.48
		2501 (39700)	15.53	15.55	15.47
	25RB-Low (0)	2685 (41540)	15.62	15.70	15.65
		2639(41080)	15.65	15.70	15.76
		2593 (40620)	15.70	15.65	15.67
		2547(40160)	15.35	15.55	15.39
		2501 (39700)	15.33	15.34	15.36
	50RB (0)	2685 (41540)	15.64	15.64	15.57
		2639(41080)	15.54	15.60	15.54
		2593 (40620)	15.62	15.74	15.83
		2547(40160)	15.53	15.54	15.52
		2501 (39700)	15.59	15.51	15.53
15MHz	1RB-High (74)	2682.5 (41515)	15.38	15.57	15.01
		2637.8(41068)	15.22	15.36	15.06
		2593 (40620)	15.48	15.59	15.11
		2548.3(40173)	15.40	15.34	15.04
		2503.5 (39725)	15.48	15.50	15.13
	1RB-Middle (37)	2682.5 (41515)	15.58	15.78	15.42
		2637.8(41068)	15.61	15.64	15.35
		2593 (40620)	15.69	15.73	15.53
		2548.3(40173)	15.66	15.81	15.31
		2503.5 (39725)	15.65	15.65	15.42
	1RB-Low (0)	2682.5 (41515)	15.48	15.64	15.24
		2637.8(41068)	15.41	15.67	15.30
		2593 (40620)	15.61	15.78	15.26
		2548.3(40173)	15.39	15.53	15.08
		2503.5 (39725)	15.36	15.39	15.12
	36RB-High (38)	2682.5 (41515)	15.49	15.43	15.55
		2637.8(41068)	15.31	15.43	15.42
		2593 (40620)	15.52	15.56	15.53

		2548.3(40173)	15.36	15.54	15.56
		2503.5 (39725)	15.49	15.43	15.44
	36RB-Middle (19)	2682.5 (41515)	15.47	15.52	15.52
		2637.8(41068)	15.49	15.57	15.57
		2593 (40620)	15.67	15.79	15.62
		2548.3(40173)	15.52	15.45	15.52
		2503.5 (39725)	15.50	15.53	15.46
	36RB-Low (0)	2682.5 (41515)	15.69	15.61	15.57
		2637.8(41068)	15.59	15.74	15.76
		2593 (40620)	15.70	15.68	15.75
		2548.3(40173)	15.39	15.52	15.59
		2503.5 (39725)	15.34	15.41	15.48
	75RB (0)	2682.5 (41515)	15.69	15.74	15.66
		2637.8(41068)	15.52	15.68	15.50
		2593 (40620)	15.74	15.65	15.75
		2548.3(40173)	15.57	15.45	15.54
		2503.5 (39725)	15.46	15.56	15.41
20MHz	1RB-High (99)	2680 (41490)	15.38	15.53	15.10
		2636.5(41055)	15.37	15.48	15.07
		2593 (40620)	15.56	15.67	15.20
		2549.5(40185)	15.41	15.48	15.12
		2506 (39750)	15.46	15.60	15.19
	1RB-Middle (50)	2680 (41490)	15.67	15.83	15.42
		2636.5(41055)	15.65	15.76	15.35
		2593 (40620)	15.82	15.83	15.52
		2549.5(40185)	15.66	15.79	15.37
		2506 (39750)	15.65	15.78	15.38
	1RB-Low (0)	2680 (41490)	15.50	15.63	15.21
		2636.5(41055)	15.56	15.68	15.26
		2593 (40620)	15.62	15.76	15.32
		2549.5(40185)	15.48	15.58	15.19
		2506 (39750)	15.39	15.54	15.11
	50RB-High (50)	2680 (41490)	15.61	15.54	15.51
		2636.5(41055)	15.52	15.47	15.51
		2593 (40620)	15.73	15.66	15.64
		2549.5(40185)	15.61	15.53	15.51
		2506 (39750)	15.63	15.58	15.55
	50RB-Middle (25)	2680 (41490)	15.72	15.65	15.63
		2636.5(41055)	15.68	15.64	15.60
		2593 (40620)	15.80	15.75	15.75

		2549.5(40185)	15.62	15.55	15.57
		2506 (39750)	15.65	15.64	15.59
	50RB-Low (0)	2680 (41490)	15.74	15.72	15.69
		2636.5(41055)	15.73	15.72	15.71
		2593 (40620)	15.81	15.80	15.77
		2549.5(40185)	15.58	15.58	15.54
		2506 (39750)	15.56	15.49	15.46
	100RB (0)	2680 (41490)	15.67	15.70	15.70
		2636.5(41055)	15.62	15.65	15.63
		2593 (40620)	15.73	15.78	15.78
		2549.5(40185)	15.56	15.57	15.58
		2506 (39750)	15.56	15.55	15.53

LTE B66-Normal power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	23.70	22.91	21.83
		1745 (132322)	23.61	22.88	21.82
		1710.7 (131979)	23.63	22.95	21.83
	1RB-Middle (3)	1779.3 (132665)	23.75	22.86	21.92
		1745 (132322)	23.71	22.87	21.89
		1710.7 (131979)	23.74	23.07	22.03
	1RB-Low (0)	1779.3 (132665)	23.70	22.80	21.81
		1745 (132322)	23.61	22.74	21.79
		1710.7 (131979)	23.64	22.94	21.94
	3RB-High (3)	1779.3 (132665)	23.77	22.70	21.84
		1745 (132322)	23.70	22.59	21.76
		1710.7 (131979)	23.77	22.69	21.86
	3RB-Middle (1)	1779.3 (132665)	23.83	22.78	21.93
		1745 (132322)	23.73	22.63	21.87
		1710.7 (131979)	23.78	22.81	21.90
	3RB-Low (0)	1779.3 (132665)	23.77	22.69	21.84
		1745 (132322)	23.72	22.61	21.81
		1710.7 (131979)	23.75	22.66	21.89
	6RB (0)	1779.3 (132665)	22.82	21.90	20.80
		1745 (132322)	22.70	21.81	20.73
		1710.7 (131979)	22.76	21.89	20.84
3MHz	1RB-High (14)	1778.5 (132657)	23.77	22.86	21.94
		1745 (132322)	23.69	22.96	21.92
		1711.5 (131987)	23.73	23.03	22.00

	1RB-Middle (7)	1778.5 (132657)	23.94	23.06	21.98
		1745 (132322)	23.88	22.94	22.06
		1711.5 (131987)	23.91	23.14	22.18
	1RB-Low (0)	1778.5 (132657)	23.76	22.93	21.98
		1745 (132322)	23.71	22.89	21.81
		1711.5 (131987)	23.74	23.04	21.93
	8RB-High (7)	1778.5 (132657)	22.81	21.85	20.87
		1745 (132322)	22.73	21.83	20.83
		1711.5 (131987)	22.76	21.88	20.85
	8RB-Middle (4)	1778.5 (132657)	22.85	21.90	20.91
		1745 (132322)	22.74	21.85	20.86
		1711.5 (131987)	22.79	21.92	20.92
	8RB-Low (0)	1778.5 (132657)	22.80	21.85	20.86
		1745 (132322)	22.73	21.81	20.85
		1711.5 (131987)	22.75	21.90	20.92
	15RB (0)	1778.5 (132657)	22.83	21.84	20.83
		1745 (132322)	22.77	21.78	20.76
		1711.5 (131987)	22.78	21.86	20.84
5MHz	1RB-High (24)	1777.5 (132647)	23.68	22.89	21.83
		1745 (132322)	23.58	22.79	21.80
		1712.5 (131997)	23.62	22.90	21.85
	1RB-Middle (12)	1777.5 (132647)	23.92	23.14	22.13
		1745 (132322)	23.80	22.95	22.03
		1712.5 (131997)	23.97	23.21	22.18
	1RB-Low (0)	1777.5 (132647)	23.68	22.81	21.86
		1745 (132322)	23.61	22.82	21.87
		1712.5 (131997)	23.63	22.89	21.87
	12RB-High (13)	1777.5 (132647)	22.79	21.76	20.85
		1745 (132322)	22.74	21.72	20.80
		1712.5 (131997)	22.80	21.85	20.88
	12RB-Middle (6)	1777.5 (132647)	22.85	21.85	20.89
		1745 (132322)	22.80	21.82	20.87
		1712.5 (131997)	22.83	21.88	20.91
	12RB-Low (0)	1777.5 (132647)	22.82	21.80	20.86
		1745 (132322)	22.75	21.77	20.83
		1712.5 (131997)	22.77	21.79	20.85
	25RB (0)	1777.5 (132647)	22.85	21.83	20.84
		1745 (132322)	22.76	21.79	20.82
		1712.5 (131997)	22.80	21.85	20.85
10MHz	1RB-High (49)	1775 (132622)	23.78	22.84	21.96

		1745 (132322)	23.65	22.81	21.87
		1715 (132022)	23.70	22.99	22.00
	1RB-Middle (24)	1775 (132622)	23.86	23.05	22.06
		1745 (132322)	23.79	22.97	21.95
		1715 (132022)	23.89	23.14	22.17
	1RB-Low (0)	1775 (132622)	23.80	22.91	21.95
		1745 (132322)	23.70	22.90	21.87
		1715 (132022)	23.74	23.02	21.95
	25RB-High (25)	1775 (132622)	22.88	21.81	20.85
		1745 (132322)	22.81	21.80	20.83
		1715 (132022)	22.86	21.91	20.90
	25RB-Middle (12)	1775 (132622)	22.87	21.88	20.89
		1745 (132322)	22.82	21.83	20.85
		1715 (132022)	22.85	21.90	20.93
	25RB-Low (0)	1775 (132622)	22.91	21.89	20.90
		1745 (132322)	22.82	21.83	20.84
		1715 (132022)	22.87	21.89	20.92
	50RB (0)	1775 (132622)	22.91	21.89	20.89
		1745 (132322)	22.80	21.84	20.84
		1715 (132022)	22.90	21.93	20.93
15MHz	1RB-High (74)	1772.5 (132597)	23.71	22.84	21.79
		1745 (132322)	23.62	22.89	21.82
		1717.5 (132047)	23.69	22.96	21.92
	1RB-Middle (37)	1772.5 (132597)	23.84	22.96	21.91
		1745 (132322)	23.75	22.94	21.98
		1717.5 (132047)	23.76	23.06	22.04
	1RB-Low (0)	1772.5 (132597)	23.72	22.82	22.01
		1745 (132322)	23.67	22.94	21.84
		1717.5 (132047)	23.71	22.94	21.93
	36RB-High (38)	1772.5 (132597)	22.85	21.84	20.86
		1745 (132322)	22.80	21.80	20.83
		1717.5 (132047)	22.86	21.86	20.89
	36RB-Middle (19)	1772.5 (132597)	22.90	21.86	20.90
		1745 (132322)	22.79	21.80	20.83
		1717.5 (132047)	22.85	21.88	20.91
	36RB-Low (0)	1772.5 (132597)	22.91	21.86	20.90
		1745 (132322)	22.83	21.80	20.86
		1717.5 (132047)	22.83	21.83	20.88
	75RB (0)	1772.5 (132597)	22.87	21.84	20.87
		1745 (132322)	22.80	21.83	20.84

		1717.5 (132047)	22.83	21.86	20.86
20MHz	1RB-High (99)	1770 (132572)	23.49	22.66	21.65
		1745 (132322)	23.47	22.73	21.63
		1720 (132072)	23.53	22.73	21.78
	1RB-Middle (50)	1770 (132572)	23.75	22.96	21.88
		1745 (132322)	23.73	22.90	21.93
		1720 (132072)	23.77	22.93	22.00
	1RB-Low (0)	1770 (132572)	23.52	22.82	21.73
		1745 (132322)	23.56	22.71	21.75
		1720 (132072)	23.56	22.78	21.78
	50RB-High (50)	1770 (132572)	22.68	21.68	20.68
		1745 (132322)	22.68	21.69	20.70
		1720 (132072)	22.76	21.80	20.83
	50RB-Middle (25)	1770 (132572)	22.76	21.78	20.77
		1745 (132322)	22.72	21.74	20.73
		1720 (132072)	22.79	21.81	20.80
	50RB-Low (0)	1770 (132572)	22.78	21.75	20.78
		1745 (132322)	22.76	21.76	20.76
		1720 (132072)	22.76	21.79	20.78
	100RB (0)	1770 (132572)	22.72	21.71	20.72
		1745 (132322)	22.73	21.73	20.73
		1720 (132072)	22.74	21.74	20.77

LTE B66-Low power					
BANDWIDTH	**Number of RBs**	**Frequency**	**QPSK**	**16QAM**	**64QAM**
1.4MHz	1RB-High (5)	1779.3 (132665)	13.82	14.26	14.12
		1745 (132322)	13.85	13.98	13.86
		1710.7 (131979)	13.77	14.11	14.06
	1RB-Middle (3)	1779.3 (132665)	14.12	14.35	14.28
		1745 (132322)	14.03	14.20	14.18
		1710.7 (131979)	13.94	14.29	14.10
	1RB-Low (0)	1779.3 (132665)	13.92	14.04	14.11
		1745 (132322)	13.78	14.17	13.99
		1710.7 (131979)	13.75	14.04	14.02
	3RB-High (3)	1779.3 (132665)	13.88	14.02	13.93
		1745 (132322)	13.85	13.86	13.87
		1710.7 (131979)	13.96	13.89	13.91
	3RB-Middle (1)	1779.3 (132665)	14.00	14.15	14.01
		1745 (132322)	13.80	13.90	13.85

		1710.7 (131979)	13.76	13.85	13.89
	3RB-Low (0)	1779.3 (132665)	14.02	13.93	13.91
		1745 (132322)	13.84	13.98	13.94
		1710.7 (131979)	13.89	13.85	13.87
	6RB (0)	1779.3 (132665)	14.00	14.08	14.07
		1745 (132322)	13.96	13.85	13.81
		1710.7 (131979)	13.88	13.91	13.85
3MHz	1RB-High (14)	1778.5 (132657)	13.92	14.17	14.16
		1745 (132322)	13.77	14.10	13.94
		1711.5 (131987)	13.81	14.07	14.02
	1RB-Middle (7)	1778.5 (132657)	14.06	14.37	14.26
		1745 (132322)	13.88	14.20	14.25
		1711.5 (131987)	13.88	14.22	14.13
	1RB-Low (0)	1778.5 (132657)	13.80	14.15	13.92
		1745 (132322)	13.83	14.14	14.04
		1711.5 (131987)	13.68	14.24	14.12
	8RB-High (7)	1778.5 (132657)	13.85	13.93	14.08
		1745 (132322)	13.94	13.94	13.79
		1711.5 (131987)	13.94	13.96	13.91
	8RB-Middle (4)	1778.5 (132657)	14.06	14.09	13.99
		1745 (132322)	13.97	13.88	13.98
		1711.5 (131987)	13.90	13.89	13.86
	8RB-Low (0)	1778.5 (132657)	14.05	13.91	13.90
		1745 (132322)	13.81	13.94	14.03
		1711.5 (131987)	13.73	13.87	13.87
	15RB (0)	1778.5 (132657)	14.00	14.10	13.89
		1745 (132322)	13.94	13.85	13.91
		1711.5 (131987)	13.79	13.83	13.93
5MHz	1RB-High (24)	1777.5 (132647)	13.85	14.27	14.03
		1745 (132322)	13.78	13.91	14.05
		1712.5 (131997)	13.81	14.03	13.87
	1RB-Middle (12)	1777.5 (132647)	14.09	14.38	14.42
		1745 (132322)	13.88	14.36	14.31
		1712.5 (131997)	13.87	14.37	14.06
	1RB-Low (0)	1777.5 (132647)	13.90	14.11	13.94
		1745 (132322)	13.75	14.22	14.09
		1712.5 (131997)	13.76	14.14	13.95
	12RB-High (13)	1777.5 (132647)	14.00	13.94	13.91
		1745 (132322)	13.95	13.90	13.88
		1712.5 (131997)	13.88	13.94	13.88

	12RB-Middle (6)	1777.5 (132647)	14.02	14.03	14.10
		1745 (132322)	13.86	13.96	13.97
		1712.5 (131997)	13.76	13.82	13.91
	12RB-Low (0)	1777.5 (132647)	13.89	13.93	13.99
		1745 (132322)	13.94	13.95	13.90
		1712.5 (131997)	13.81	13.96	13.90
	25RB (0)	1777.5 (132647)	14.03	13.91	13.92
		1745 (132322)	13.96	13.81	13.83
		1712.5 (131997)	13.75	13.83	13.78
10MHz	1RB-High (49)	1775 (132622)	13.90	14.17	14.07
		1745 (132322)	13.85	13.90	13.88
		1715 (132022)	13.64	14.05	13.97
	1RB-Middle (24)	1775 (132622)	14.09	14.20	14.44
		1745 (132322)	14.00	14.34	14.23
		1715 (132022)	13.91	14.38	14.19
	1RB-Low (0)	1775 (132622)	13.75	14.14	13.94
		1745 (132322)	13.74	14.10	13.94
		1715 (132022)	13.73	14.24	14.10
	25RB-High (25)	1775 (132622)	13.90	13.88	13.90
		1745 (132322)	13.78	13.85	13.89
		1715 (132022)	13.84	13.98	13.82
	25RB-Middle (12)	1775 (132622)	13.98	14.07	13.97
		1745 (132322)	13.89	13.94	13.87
		1715 (132022)	13.90	13.98	13.99
	25RB-Low (0)	1775 (132622)	13.90	14.05	13.95
		1745 (132322)	13.78	13.98	13.85
		1715 (132022)	13.86	13.89	13.92
	50RB (0)	1775 (132622)	13.97	13.99	14.09
		1745 (132322)	13.77	13.83	13.98
		1715 (132022)	13.92	13.84	13.77
15MHz	1RB-High (74)	1772.5 (132597)	13.85	14.12	14.08
		1745 (132322)	13.86	13.92	13.97
		1717.5 (132047)	13.78	14.16	14.02
	1RB-Middle (37)	1772.5 (132597)	13.98	14.21	14.34
		1745 (132322)	14.07	14.36	14.22
		1717.5 (132047)	13.93	14.37	14.12
	1RB-Low (0)	1772.5 (132597)	13.90	14.12	14.09
		1745 (132322)	13.65	14.11	13.97
		1717.5 (132047)	13.70	14.04	14.07
	36RB-High (38)	1772.5 (132597)	13.88	14.08	13.97

		1745 (132322)	13.92	13.92	13.88
		1717.5 (132047)	13.77	13.89	13.92
	36RB-Middle (19)	1772.5 (132597)	13.94	14.11	14.14
		1745 (132322)	13.91	14.02	13.85
		1717.5 (132047)	13.75	13.88	13.86
	36RB-Low (0)	1772.5 (132597)	13.91	14.05	13.95
		1745 (132322)	13.87	13.95	14.01
		1717.5 (132047)	13.93	13.91	13.89
	75RB (0)	1772.5 (132597)	13.92	14.01	14.02
		1745 (132322)	13.79	13.88	13.91
		1717.5 (132047)	13.87	13.94	13.78
20MHz	1RB-High (99)	1770 (132572)	13.97	14.26	14.11
		1745 (132322)	13.81	14.05	14.01
		1720 (132072)	13.79	14.15	14.01
	1RB-Middle (50)	1770 (132572)	14.13	14.33	14.39
		1745 (132322)	14.03	14.35	14.27
		1720 (132072)	14.00	14.33	14.16
	1RB-Low (0)	1770 (132572)	13.87	14.11	14.07
		1745 (132322)	13.78	14.20	14.04
		1720 (132072)	13.82	14.19	14.09
	50RB-High (50)	1770 (132572)	14.00	14.03	14.04
		1745 (132322)	13.92	13.97	13.93
		1720 (132072)	13.91	13.97	13.96
	50RB-Middle (25)	1770 (132572)	14.06	14.10	14.10
		1745 (132322)	13.94	13.99	13.98
		1720 (132072)	13.89	13.95	13.95
	50RB-Low (0)	1770 (132572)	14.03	14.05	14.04
		1745 (132322)	13.93	13.98	13.98
		1720 (132072)	13.88	13.91	13.92
	100RB (0)	1770 (132572)	14.01	14.05	14.04
		1745 (132322)	13.91	13.95	13.94
		1720 (132072)	13.88	13.89	13.91

11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 10.98dBm.
The maximum tune up of BT antenna is 11dBm.

The average conducted power for Wi-Fi 2.4G is as following-Normal power

802.11b	
Channel\data rate	1Mbps
11(2462MHz)	18.69
6(2437(MHz)	18.88
1(2412MHz)	18.67
Tune up	19.50
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	13.98
6(2437(MHz)	13.91
1(2412MHz)	13.58
Tune up	15.50
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	14.61
6(2437(MHz)	14.71
1(2412MHz)	14.39
Tune up	16.00
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	12.62
6(2437MHz)	12.72
3(2422MHz)	12.46
Tune up	14.00

The average conducted power for Wi-Fi 2.4G is as following-Low power by sensor

802.11b	
Channel\data rate	1Mbps
11(2462MHz)	13.29
6(2437(MHz)	13.41
1(2412MHz)	12.93
Tune up	14.00
802.11g	
Channel\data rate	6Mbps
11(2462MHz)	10.91
6(2437(MHz)	11.01
1(2412MHz)	10.51
Tune up	12.00
802.11n-20MHz	
Channel\data rate	MCS0
11(2462MHz)	10.67
6(2437(MHz)	10.86
1(2412MHz)	10.36
Tune up	11.50
802.11n-40MHz	
Channel\data rate	MCS0
9(2452MHz)	10.73
6(2437MHz)	10.71
3(2422MHz)	10.51
Tune up	11.50

The tune up power for Wi-Fi 5G is as following:

	STATE1	Normal Power			STATE2	Power Reduced (SAR Sensor)		
WiFi 802.11a (5GHz)								
Channel	Channel 36~64	Channel 100~144	Channel 149~165		Channel 36~64	Channel 100~144	Channel 149~165	
Target (dBm)	16.5+/-1.5	16.5+/-1.5	16.5+/-1.5		10.0+/-1.5	10.0+/-1.5	10.0+/-1.5	
WiFi 802.11n - BW20 (5GHz)								
Channel	Channel 36~64	Channel 100~144	Channel 149~165		Channel 36~64	Channel 100~144	Channel 149~165	
Target (dBm)	16.0+/-1	16.0 +/-1	16.0+/-1		9.0+/-1.5	9.0+/-1.5	9.0+/-1.5	
WiFi 802.11n - BW40 (5GHz)								
Channel	Channel 38~62	Channel 102~134	Channel 149~159		Channel 38~62	Channel 102~134	Channel 149~159	
Target (dBm)	16.0+/-1	16.0 +/-1	16.0+/-1		9.0+/-1.5	9.0+/-1.5	9.0+/-1.5	
WiFi 802.11ac - BW20 (5GHz)								
Channel	Channel 36~64	Channel 100~144	Channel 149~165		Channel 36~64	Channel 100~144	Channel 149~165	
Target (dBm)	16.0+/-1	16.0 +/-1	16.0+/-1		9.0+/-1.5	9.0+/-1.5	9.0+/-1.5	
WiFi 802.11ac - BW40 (5GHz) MCS0								
Channel	Channel 38	Channel 46~62	Channel 102	Channel 110~159	Channel 38	Channel 46~62	Channel 102	Channel 110~159
Target (dBm)	12.5+/-1	16.0 +/-1	13.5+/-1	16.0+/-1	9.0+/-1.5	9.0+/-1.5	9.0+/-1.5	9.0+/-1.5
WiFi 802.11ac - BW80 (5GHz) MCS0								
Channel	Channel 42	Channel 58	Channel 106	Channel 122~138	Channel 42	Channel 58	Channel 106	Channel 122~138
Target (dBm)	13.5+/-1.5	15.5 +/-1.5	12.5+/-1.5	16.0+/-1.5	9.0+/-1.5	9.0+/-1.5	9.0+/-1.5	9.0+/-1.5

The average conducted power for Wi-Fi 5G is as following-Normal power

802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	16.49
40(5200 MHz)	16.62
44(5220 MHz)	16.85
48(5240 MHz)	17.12
52(5260 MHz)	16.48
56(5280 MHz)	16.26
60(5300 MHz)	15.91
64(5320 MHz)	15.73
100(5500 MHz)	15.48
104(5520 MHz)	16.25
108(5540 MHz)	17.68
112(5560 MHz)	16.66
116(5580 MHz)	17.61
120(5600 MHz)	17.78
124(5620 MHz)	17.81
128(5640 MHz)	17.61
132(5660 MHz)	17.01
136(5680 MHz)	16.61
140(5700 MHz)	16.46
144(5720 MHz)	16.37
149(5745 MHz)	16.53
153(5765 MHz)	16.99
157(5785 MHz)	17.19
161(5805 MHz)	16.98
165(5825 MHz)	16.53
Tune up	18.00

The average conducted power for Wi-Fi 5G is as following-Low power by sensor

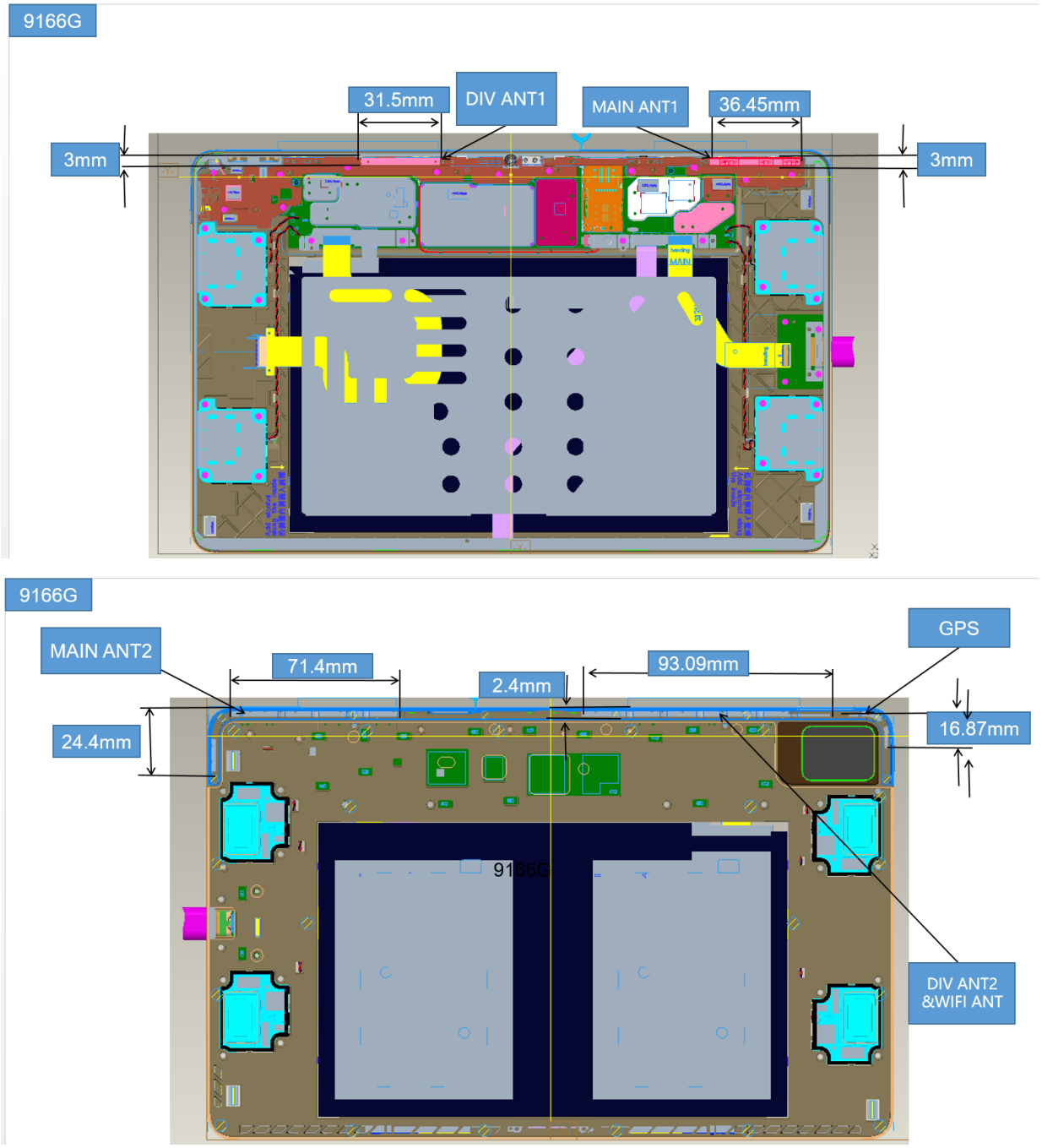
802.11a(dBm)	
Channel\data rate	6Mbps
36(5180 MHz)	9.29
40(5200 MHz)	9.68
44(5220 MHz)	9.52
48(5240 MHz)	9.87
52(5260 MHz)	10.25
56(5280 MHz)	9.97
60(5300 MHz)	9.45
64(5320 MHz)	9.36
100(5500 MHz)	9.78
104(5520 MHz)	9.69
108(5540 MHz)	9.99
112(5560 MHz)	10.34
116(5580 MHz)	10.35
120(5600 MHz)	10.42
124(5620 MHz)	10.61
128(5640 MHz)	10.39
132(5660 MHz)	10.49
136(5680 MHz)	10.56
140(5700 MHz)	10.58
144(5720 MHz)	10.45
149(5745 MHz)	10.36
153(5765 MHz)	10.75
157(5785 MHz)	10.96
161(5805 MHz)	10.89
165(5825 MHz)	10.93
Tune up	11.50

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 23 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 edge	Right edge	Top edge	Bottom edge
WWAN-Main ANT1	No	Yes	No	Yes	Yes	No
WIFI ANT	No	Yes	No	No	Yes	No

13 Evaluation of Simultaneous

Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G

	Position	Main antenna	WiFi-2.4G	Sum
Highest SAR value for Body	Rear 0mm (GSM850)	0.40	1.13	**1.53**

Table 13.2: The sum of SAR values for Main antenna + WiFi-5G

	Position	Main antenna	WiFi-5G	Sum
Highest SAR value for Body	Top 0mm (GSM850)	0.48	1.03	**1.51**

Table 13.3: The sum of SAR values for Main antenna + BT

	Position	Main antenna	BT	Sum
Highest SAR value for Body	Rear 0mm (LTE B66)	1.18	0.33	**1.51**

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.

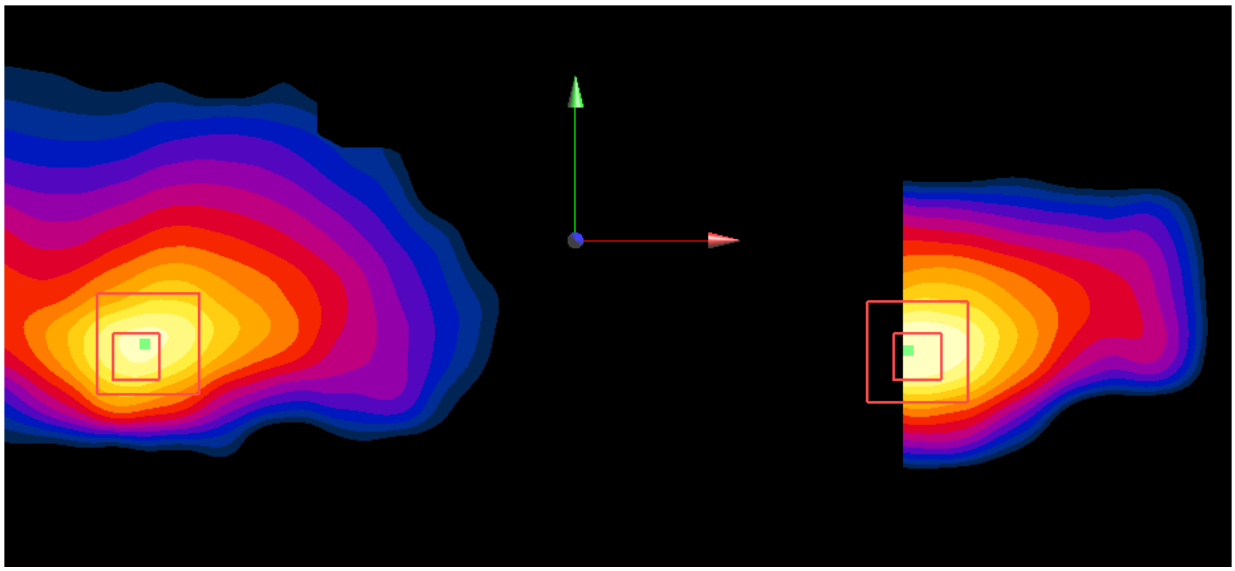
Table 13.4: The sum of reported SAR values for main antenna and WiFi2.4G (SPLSR)

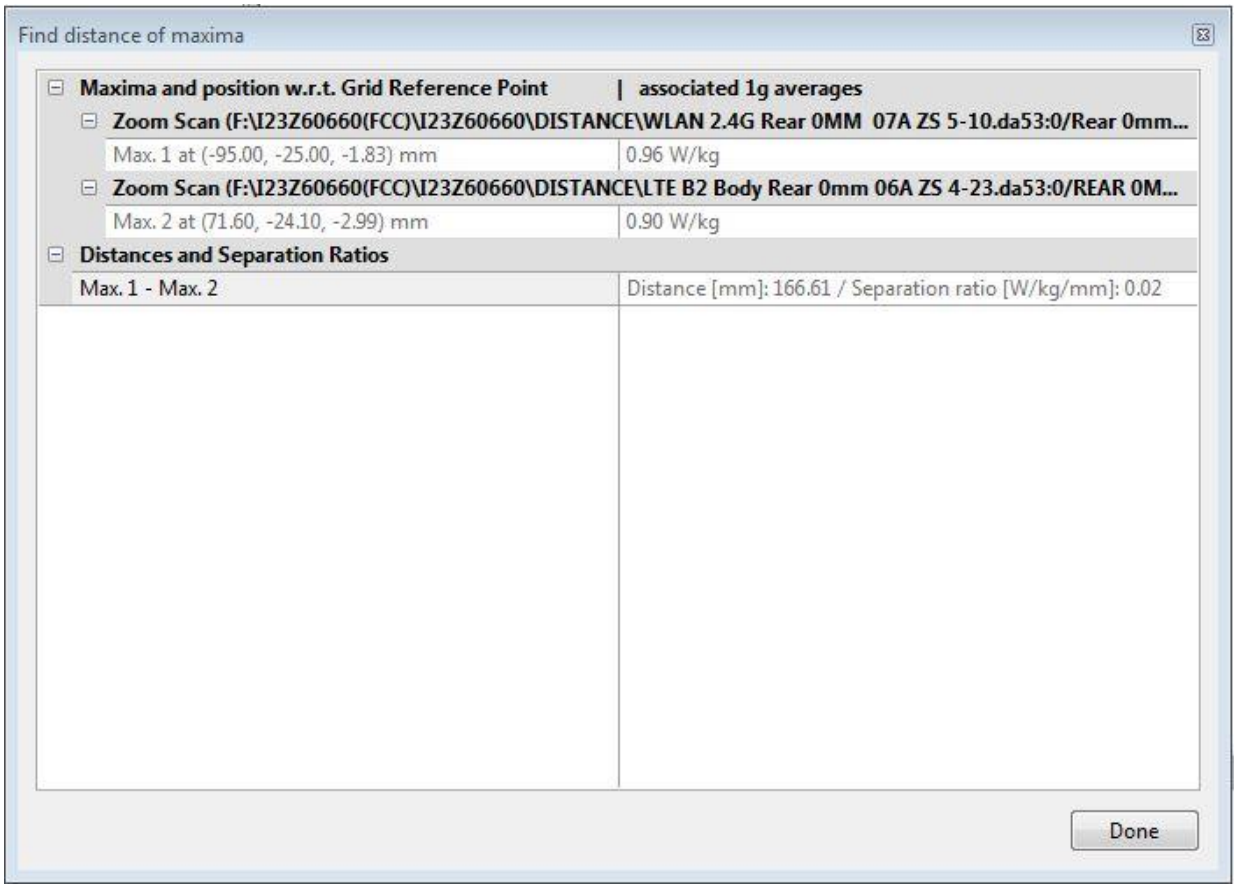
	Position	Band	Channel Number	Frequency (MHz)	Main antenna	WIFI2.4G	Sum	Distance (mm)	Ratio
Highest reported SAR value for Body 0mm	Rear	GSM1900	810	1909.8	0.98	1.13	**2.11**	156.02	0.0196
	Rear	GSM1900	661	1880	0.97	1.13	**2.1**	157.32	0.0193
	Rear	GSM1900	512	1850.2	0.84	1.13	**1.97**	155.46	0.0178
	Rear	WCDMA1900	9538	1907.6	0.93	1.13	**2.06**	165.58	0.0179
	Rear	WCDMA1900	9400	1880	0.94	1.13	**2.07**	172.35	0.0173
	Rear	WCDMA1900	9262	1852.4	0.97	1.13	**2.1**	169.54	0.0179
	Rear	WCDMA1700	1513	1752.6	1.02	1.13	**2.15**	178.14	0.0177
	Rear	WCDMA1700	1412	1732.5	0.94	1.13	**2.07**	177.4	0.0168
	Rear	WCDMA1700	1312	1712.4	0.91	1.13	**2.04**	175.95	0.0166
	Rear	LTE B2	19100	1900	0.99	1.13	**2.12**	164.32	0.0188
	Rear	LTE B2	18900	1880	1.08	1.13	**2.21**	168.51	0.0195
	Rear	LTE B2	18700	1860	1.12	1.13	**2.25**	166.61	**0.0203**
	Rear	LTE B7	21100	2535	0.79	1.13	**1.92**	174.92	0.0152
	Rear	LTE B17	23780	709	0.79	1.13	**1.92**	196.9	0.0135
	Rear	LTE B17	23790	710	0.86	1.13	**1.99**	196.44	0.0143
	Rear	LTE B17	23800	711	0.73	1.13	**1.86**	199.57	0.0127
	Rear	LTE B41	41490	2680	0.61	1.13	**1.74**	175.35	0.0131
	Rear	LTE B41	41055	2636.5	0.67	1.13	**1.8**	176.12	0.0137
	Rear	LTE B41	40620	2593	0.76	1.13	**1.89**	177.32	0.0147
	Rear	LTE B41	40185	2549.5	0.87	1.13	**2**	178.39	0.0159
	Rear	LTE B41	39750	2506	0.99	1.13	**2.12**	180.12	0.0171
	Rear	LTE B66	132572	1770	1.13	1.13	**2.26**	184.4	0.0184
	Rear	LTE B66	132322	1745	1.16	1.13	**2.29**	185.46	0.0187
	Rear	LTE B66	132072	1720	1.18	1.13	**2.31**	183.45	0.0191

Table 13.5: The sum of reported SAR values for main antenna and WiFi5G (SPLSR)

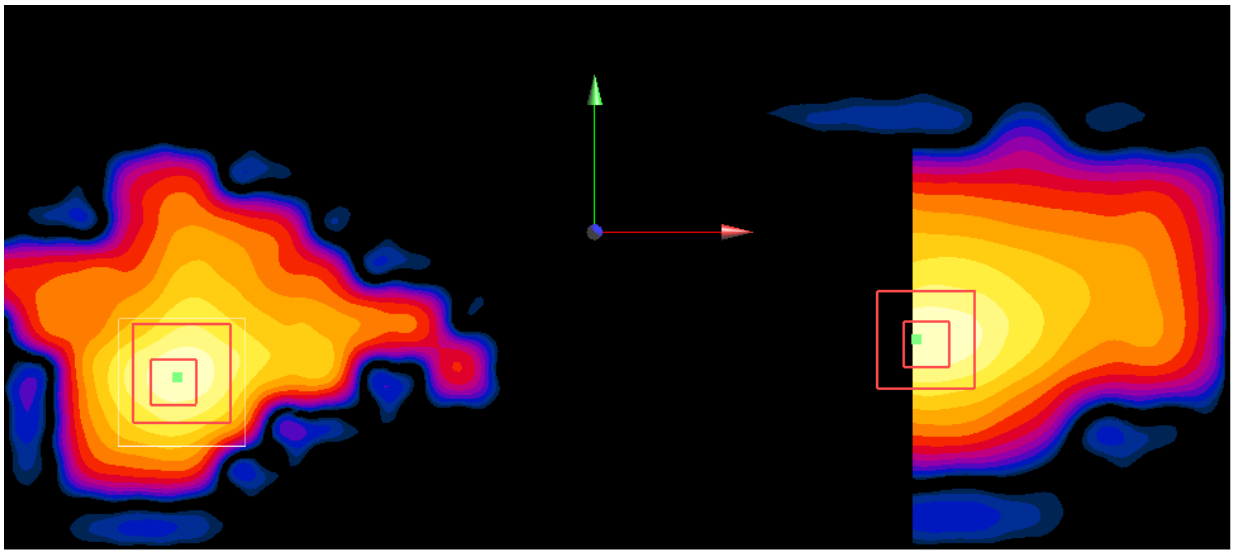
	Position	Band	Channel Number	Frequency (MHz)	Main antenna	WIFI5G	Sum	Distance (mm)	Ratio
Highest reported SAR value for Body 0mm	Rear	GSM1900	810	1909.8	0.98	1.06	**2.04**	154.91	0.0188
	Rear	GSM1900	661	1880	0.97	1.06	**2.03**	155.32	0.0186
	Rear	GSM1900	512	1850.2	0.84	1.06	**1.9**	157.06	0.0167
	Rear	WCDMA1900	9538	1907.6	0.93	1.06	**1.99**	166.11	0.0169
	Rear	WCDMA1900	9400	1880	0.94	1.06	**2**	165.65	0.0171
	Rear	WCDMA1900	9262	1852.4	0.97	1.06	**2.03**	168.21	0.0172
	Rear	WCDMA1700	1513	1752.6	1.02	1.06	**2.08**	176.8	0.0170
	Rear	WCDMA1700	1412	1732.5	0.94	1.06	**2**	177.35	0.0159
	Rear	WCDMA1700	1312	1712.4	0.91	1.06	**1.97**	178.12	0.0155
	Rear	LTE B2	19100	1900	0.99	1.06	**2.05**	163.24	0.0180
	Rear	LTE B2	18900	1880	1.08	1.06	**2.14**	165.95	0.0189
	Rear	LTE B2	18700	1860	1.12	1.06	**2.18**	165.62	**0.0194**
	Rear	LTE B7	21100	2535	0.79	1.06	**1.85**	173.6	0.0145
	Rear	LTE B17	23780	709	0.79	1.06	**1.85**	192.34	0.0131
	Rear	LTE B17	23790	710	0.86	1.06	**1.92**	195.23	0.0136
	Rear	LTE B17	23800	711	0.73	1.06	**1.79**	197.42	0.0121
	Rear	LTE B41	41490	2680	0.61	1.06	**1.67**	175.3	0.0123
	Rear	LTE B41	41055	2636.5	0.67	1.06	**1.73**	173.24	0.0131
	Rear	LTE B41	40620	2593	0.76	1.06	**1.82**	172.1	0.0143
	Rear	LTE B41	40185	2549.5	0.87	1.06	**1.93**	178.32	0.0150
	Rear	LTE B41	39750	2506	0.99	1.06	**2.05**	178.63	0.0164
	Rear	LTE B66	132572	1770	1.13	1.06	**2.19**	185.71	0.0175
	Rear	LTE B66	132322	1745	1.16	1.06	**2.22**	185.32	0.0178
	Rear	LTE B66	132072	1720	1.18	1.06	**2.24**	182.57	0.0184
	Top	GSM1900	810	1909.8	0.80	1.03	**1.83**	167.35	0.0148
	Top	GSM1900	661	1880	0.87	1.03	**1.9**	163.56	0.0160
	Top	GSM1900	512	1850.2	0.86	1.03	**1.89**	164.24	0.0158
	Top	WCDMA1900	9400	1880	0.68	1.03	**1.71**	163.82	0.0136
	Top	LTE B2	19100	1900	0.72	1.03	**1.75**	175.3	0.0132
	Top	LTE B7	21350	2560	1.09	1.03	**2.12**	182.35	0.0169
	Top	LTE B7	21100	2535	0.98	1.03	**2.01**	181.32	0.0157
	Top	LTE B7	20850	2510	1.00	1.03	**2.03**	184.45	0.0157
	Top	LTE B17	23780	709	0.90	1.03	**1.93**	175.38	0.0153
	Top	LTE B17	23790	710	1.04	1.03	**2.07**	180.65	0.0165
	Top	LTE B17	23800	711	0.71	1.03	**1.74**	178.56	0.0129
	Top	LTE B41	41490	2680	0.96	1.03	**1.99**	181.25	0.0155
	Top	LTE B41	41055	2636.5	0.82	1.03	**1.85**	183.32	0.0137
	Top	LTE B41	40620	2593	0.93	1.03	**1.96**	179.73	0.0153
	Top	LTE B41	40185	2549.5	0.93	1.03	**1.96**	175.98	0.0156
	Top	LTE B41	39750	2506	0.98	1.03	**2.01**	180.55	0.0158

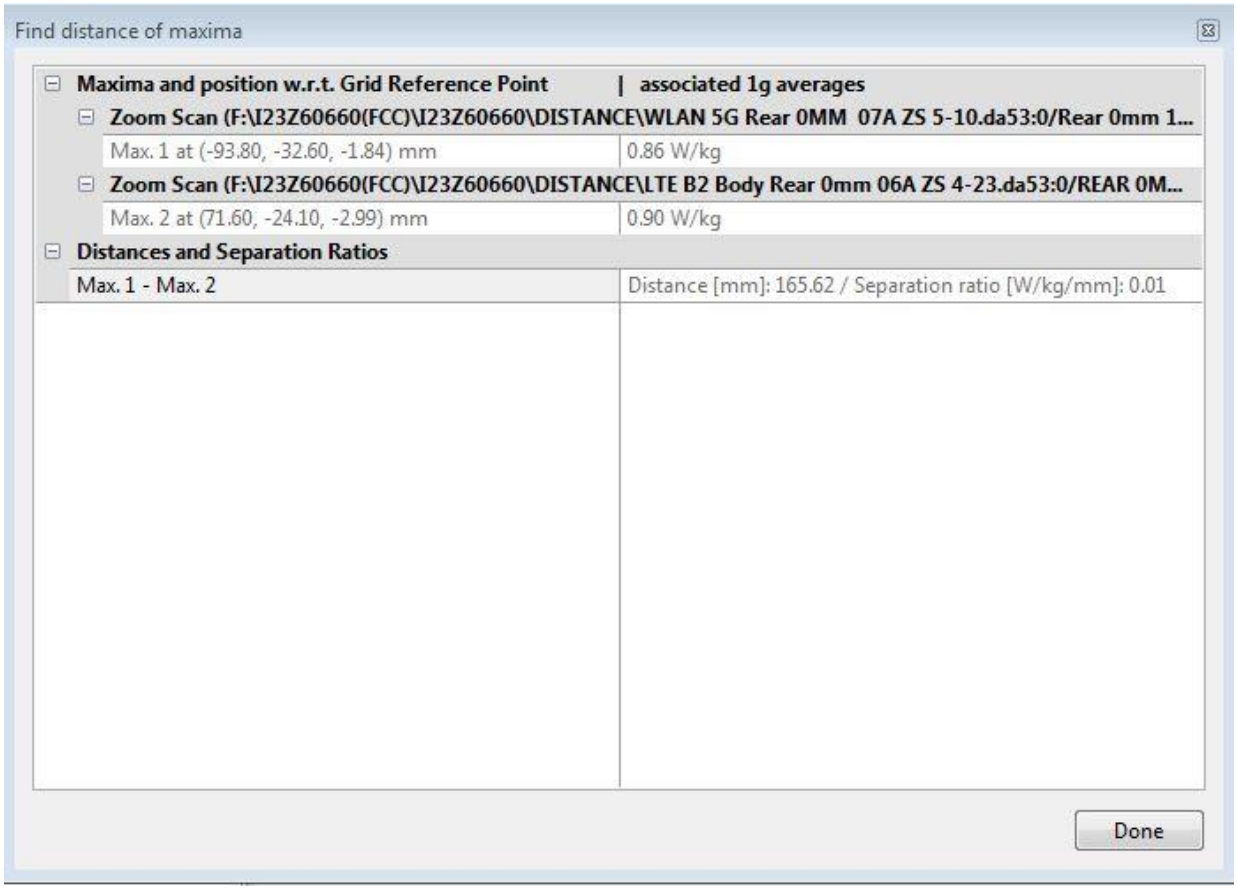
According to the KDB 447498 D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by $(SAR1 + SAR2)^{1.5}/Ri$, rounded to two decimal digits, and must be ≤ 0.04 for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion.





Picture 13.1 Distance evaluation for LTE B2 and WiFi 2.4G Rear 0mm





Picture 13.2 Distance evaluation for LTE B2 and WiFi 5G Rear 0mm

14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom.
The distance is 10 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:

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

Where P_{Target} is the power of manufacturing upper limit;
$P_{Measured}$ is the measured power in chapter 11.

Table 14.1: Duty Cycle

Mode	Duty Cycle
GPRS/EGPRS 850/1900	1:4 or 1:8.3
WCDMA&LTE FDD	1:1
LTE TDD	1:1.58

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

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

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
190	836.6	GPRS(2)	Rear	17mm	31.5	32	0.353	**0.40**	0.242	**0.27**	-0.14
251	848.8	GPRS(2)	Right	14mm	31.54	32	0.481	**0.53**	0.331	**0.37**	0.16
190	836.6	GPRS(2)	Right	1/14mm	31.5	32	0.542	**0.61**	0.376	**0.42**	-0.1
128	824.2	GPRS(2)	Right	14mm	31.37	32	0.516	**0.60**	0.359	**0.42**	-0.02
190	836.6	GPRS(2)	Top	17mm	31.5	32	0.3	**0.34**	0.186	**0.21**	-0.08
190	836.6	EGPRS(2)	Right	14mm	31.49	32	0.53	**0.60**	0.372	**0.42**	0.04
190	836.6	GPRS(1)	Rear	/	26.69	27.5	0.328	**0.40**	0.143	**0.17**	-0.09
251	848.8	GPRS(1)	Right	/	26.5	27.5	0.38	**0.48**	0.133	**0.17**	0.12
190	836.6	GPRS(1)	Right	/	26.69	27.5	0.419	**0.50**	0.142	**0.17**	0.17
128	824.2	GPRS(1)	Right	/	26.72	27.5	0.411	**0.49**	0.132	**0.16**	-0.1
190	836.6	GPRS(1)	Top	/	26.69	27.5	0.402	**0.48**	0.131	**0.16**	-0.09
190	836.6	EGPRS(1)	Right	/	26.7	27.5	0.403	**0.48**	0.133	**0.16**	0.07

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Table 14.1-2: SAR Values (GSM 1900 MHz Band - Body)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
810	1909.8	GPRS(2)	Rear	17mm	28.91	29.5	0.667	**0.76**	0.375	**0.43**	-0.09
661	1880	GPRS(2)	Rear	17mm	28.9	29.5	0.542	**0.62**	0.299	**0.34**	-0.09
512	1850.2	GPRS(2)	Rear	17mm	28.85	29.5	0.447	**0.52**	0.254	**0.30**	-0.18
661	1880	GPRS(2)	Right	14mm	28.9	29.5	0.086	**0.10**	0.052	**0.06**	0.11
661	1880	GPRS(2)	Top	17mm	28.9	29.5	0.477	**0.55**	0.263	**0.30**	0.17
810	1909.8	EGPRS(2)	Rear	17mm	28.89	29.5	0.645	**0.74**	0.367	**0.42**	0.17
810	1909.8	GPRS(1)	Rear	2	17.43	18	0.858	**0.98**	0.359	**0.41**	0.11
661	1880	GPRS(1)	Rear	/	17.16	18	0.8	**0.97**	0.334	**0.41**	0.15
512	1850.2	GPRS(1)	Rear	/	16.85	18	0.648	**0.84**	0.267	**0.35**	-0.09
661	1880	GPRS(1)	Right	/	17.16	18	0.191	**0.23**	0.058	**0.07**	-0.12
810	1909.8	GPRS(1)	Top	/	17.43	18	0.703	**0.80**	0.306	**0.35**	0.03
661	1880	GPRS(1)	Top	/	17.16	18	0.721	**0.87**	0.295	**0.36**	0.14
512	1850.2	GPRS(1)	Top	/	16.85	18	0.691	**0.90**	0.308	**0.40**	-0.09
810	1909.8	EGPRS(1)	Rear	/	17.4	18	0.844	**0.97**	0.347	**0.40**	-0.07

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Table 14.1-3: SAR Values (WCDMA 1900 MHz Band - Body)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
9400	1880	RMC	Rear	17mm	23.52	24	0.554	**0.62**	0.322	**0.36**	0.04
9400	1880	RMC	Right	14mm	23.52	24	0.129	**0.14**	0.079	**0.09**	-0.02
9538	1907.6	RMC	Top	17mm	23.48	24	0.597	**0.67**	0.352	**0.40**	-0.11
9400	1880	RMC	Top	17mm	23.52	24	0.608	**0.68**	0.363	**0.41**	0.06
9262	1852.4	RMC	Top	17mm	23.58	24	0.662	**0.73**	0.393	**0.43**	-0.04
9400	1880	RMC	Top	19mm	23.52	24	0.554	**0.62**	0.322	**0.36**	0.04
9538	1907.6	RMC	Rear	/	14.74	15	0.872	**0.93**	0.377	**0.40**	0.06
9400	1880	RMC	Rear	/	14.75	15	0.885	**0.94**	0.392	**0.42**	-0.16
9262	1852.4	RMC	Rear	3	14.86	15	0.938	**0.97**	0.406	**0.42**	0.01
9400	1880	RMC	Right	/	14.75	15	0.277	**0.29**	0.094	**0.10**	-0.16
9400	1880	RMC	Top	/	14.75	15	0.643	**0.68**	0.259	**0.27**	-0.02

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Table 14.1-4: SAR Values (WCDMA 1700 MHz Band - Body)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
1412	1732.5	RMC	Rear	17mm	23.44	24	0.396	**0.45**	0.241	**0.27**	-0.14
1412	1732.5	RMC	Right	14mm	23.44	24	0.093	**0.11**	0.058	**0.07**	-0.17
1513	1752.6	RMC	Top	17mm	23.43	24	0.582	**0.66**	0.35	**0.40**	0.11
1412	1732.5	RMC	Top	17mm	23.44	24	0.56	**0.64**	0.341	**0.39**	-0.07
1312	1712.4	RMC	Top	17mm	23.47	24	0.568	**0.64**	0.345	**0.39**	-0.06
1412	1732.5	RMC	Top	19mm	23.44	24	0.396	**0.45**	0.241	**0.27**	-0.14
1513	1752.6	RMC	Rear	4	13.78	14	0.971	**1.02**	0.425	**0.45**	0.01
1412	1732.5	RMC	Rear	/	13.85	14	0.908	**0.94**	0.384	**0.40**	0.01
1312	1712.4	RMC	Rear	/	13.77	14	0.859	**0.91**	0.368	**0.39**	-0.18
1412	1732.5	RMC	Right	/	13.85	14	0.128	**0.13**	0.049	**0.05**	-0.12
1412	1732.5	RMC	Top	/	13.85	14	0.437	**0.45**	0.198	**0.20**	0.09

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Table 14.1-5: SAR Values (WCDMA 850 MHz Band - Body)

Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
4183	836.6	RMC	Rear	17mm	23.71	24.5	0.332	**0.40**	0.118	**0.14**	-0.08
4233	846.6	RMC	Right	14mm	23.74	24.5	0.378	**0.45**	0.127	**0.15**	-0.02
4183	836.6	RMC	Right	14mm	23.71	24.5	0.384	**0.46**	0.132	**0.16**	0.01
4132	826.4	RMC	Right	14mm	23.79	24.5	0.381	**0.45**	0.131	**0.15**	-0.03
4183	836.6	RMC	Top	17mm	23.71	24.5	0.178	**0.21**	0.054	**0.06**	0.02
4183	836.6	RMC	Rear	/	20.79	21.5	0.121	**0.14**	0.046	**0.05**	0.04
4233	846.6	RMC	Right	/	20.67	21.5	0.399	**0.48**	0.135	**0.16**	-0.08
4183	836.6	RMC	Right	/	20.79	21.5	0.435	**0.51**	0.147	**0.17**	-0.03
4132	826.4	RMC	Right	5	20.82	21.5	0.486	**0.57**	0.164	**0.19**	0.12
4183	836.6	RMC	Top	/	20.79	21.5	0.135	**0.16**	0.04	**0.05**	-0.13

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Table 14.1-6: SAR Values (LTE Band2 - Body)

Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20450	829	1RB_Mid	Rear	17mm	23.35	24	0.258	**0.30**	0.176	**0.20**	-0.17
20450	829	1RB_Mid	Right	14mm	23.35	24	0.322	**0.37**	0.225	**0.26**	-0.01
20450	829	1RB_Mid	Top	17mm	23.35	24	0.155	**0.18**	0.094	**0.11**	0.08
20600	844	50RB_High	Rear	17mm	22.41	23	0.227	**0.26**	0.153	**0.18**	-0.14
20600	844	50RB_High	Right	14mm	22.41	23	0.26	**0.30**	0.182	**0.21**	0.17
20600	844	50RB_High	Top	17mm	22.41	23	0.137	**0.16**	0.082	**0.09**	-0.08
19100	1900	1RB_High	Rear	/	14.97	16	0.782	**0.99**	0.316	**0.40**	-0.01
18900	1880	1RB_Mid	Rear	/	14.96	16	0.853	**1.08**	0.346	**0.44**	0.18
18700	1860	1RB_Mid	Rear	6	15.05	16	0.901	**1.12**	0.366	**0.46**	0.01
18700	1860	100RB	Rear	/	15.02	16	0.885	**1.11**	0.347	**0.43**	0.07
18700	1860	1RB_Mid	Right	/	15.05	16	0.18	**0.22**	0.073	**0.09**	0.12
18700	1860	1RB_Mid	Top	/	15.05	16	0.576	**0.72**	0.235	**0.29**	0.11
19100	1900	50RB_Mid	Rear	/	14.99	16	0.762	**0.96**	0.308	**0.39**	0.14
18900	1880	50RB_Mid	Rear	/	14.93	16	0.847	**1.08**	0.337	**0.43**	-0.08
18700	1860	50RB_Mid	Rear	/	15.03	16	0.891	**1.11**	0.353	**0.44**	-0.17
18700	1860	50RB_Mid	Right	/	15.03	16	0.177	**0.22**	0.075	**0.09**	-0.11
18700	1860	50RB_Mid	Top	/	15.03	16	0.562	**0.70**	0.228	**0.29**	-0.02

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-7: SAR Values (LTE Band5 - Body)

Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
20450	829	1RB_Mid	Rear	17mm	23.35	24	0.258	**0.30**	0.176	**0.20**	-0.17
20450	829	1RB_Mid	Right	14mm	23.35	24	0.322	**0.37**	0.225	**0.26**	-0.01
20450	829	1RB_Mid	Top	17mm	23.35	24	0.155	**0.18**	0.094	**0.11**	0.08
20600	844	25RB_Low	Rear	17mm	22.41	23	0.227	**0.26**	0.153	**0.18**	-0.14
20600	844	25RB_Low	Right	14mm	22.41	23	0.26	**0.30**	0.182	**0.21**	0.17
20600	844	25RB_Low	Top	17mm	22.41	23	0.137	**0.16**	0.082	**0.09**	-0.08
20450	829	1RB_Mid	Rear	/	21.14	22	0.197	**0.24**	0.235	**0.29**	-0.06
20450	829	1RB_Mid	Right	7	21.14	22	0.321	**0.39**	0.223	**0.27**	0.01
20450	829	1RB_Mid	Top	/	21.14	22	0.169	**0.21**	0.172	**0.21**	-0.08
20600	844	25RB_Low	Rear	/	21.16	22	0.177	**0.21**	0.213	**0.26**	0.12
20600	844	25RB_Low	Right	/	21.16	22	0.267	**0.32**	0.205	**0.25**	-0.07
20600	844	25RB_Low	Top	/	21.16	22	0.194	**0.24**	0.184	**0.22**	0.06

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-8: SAR Values (LTE Band7 - Body)

Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
21350	2560	1RB_Mid	Rear	17mm	23.72	24.5	0.407	**0.49**	0.201	**0.24**	-0.09
21350	2560	1RB_Mid	Right	14mm	23.72	24.5	0.197	**0.24**	0.1	**0.12**	-0.07
21350	2560	1RB_Mid	Top	17mm	23.72	24.5	0.604	**0.72**	0.299	**0.36**	0.15
21350	2560	50RB_Low	Rear	17mm	22.77	23.5	0.365	**0.43**	0.18	**0.21**	-0.16
21350	2560	50RB_Low	Right	14mm	22.77	23.5	0.151	**0.18**	0.076	**0.09**	0.11
21350	2560	50RB_Low	Top	17mm	22.77	23.5	0.462	**0.55**	0.229	**0.27**	-0.16
21100	2535	1RB_Mid	Rear	/	13.89	14	0.77	**0.79**	0.284	**0.29**	0.01
21100	2535	1RB_Mid	Right	/	13.89	14	0.171	**0.18**	0.175	**0.18**	-0.15
21350	2560	1RB_Mid	Top	8	13.65	14	1.01	**1.09**	0.305	**0.33**	0.02
21100	2535	1RB_Mid	Top	/	13.89	14	0.958	**0.98**	0.29	**0.30**	0.14
20850	2510	1RB_Mid	Top	/	13.83	14	0.958	**1.00**	0.292	**0.30**	0.04
21100	2535	100RB	Top	/	13.65	14	0.589	**0.64**	0.27	**0.29**	0.14
21100	2535	50RB_Mid	Rear	/	13.84	14	0.677	**0.70**	0.27	**0.28**	-0.02
21100	2535	50RB_Mid	Right	/	13.84	14	0.182	**0.19**	0.068	**0.07**	0.15
21350	2560	50RB_Mid	Top	/	13.78	14	0.875	**0.92**	0.293	**0.31**	0.11
21100	2535	50RB_Mid	Top	/	13.84	14	0.837	**0.87**	0.283	**0.29**	-0.13
20850	2510	50RB_Mid	Top	/	13.83	14	0.831	**0.86**	0.283	**0.29**	0.12

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-9: SAR Values (LTE Band17 - Body)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
23790	710	1RB_Mid	Rear	17mm	23.83	25	0.186	**0.24**	0.128	**0.17**	-0.06
23790	710	1RB_Mid	Right	14mm	23.83	25	0.213	**0.28**	0.15	**0.20**	0.03
23790	710	1RB_Mid	Top	17mm	23.83	25	0.097	**0.13**	0.059	**0.08**	-0.07
23790	710	25RB_Low	Rear	17mm	22.89	24	0.138	**0.18**	0.095	**0.12**	0.01
23790	710	25RB_Low	Right	14mm	22.89	24	0.16	**0.21**	0.113	**0.15**	0.05
23790	710	25RB_Low	Top	17mm	22.89	24	0.071	**0.09**	0.043	**0.06**	0.12
23790	710	1RB_Mid	Rear	/	22.19	23	0.621	**0.75**	0.262	**0.32**	-0.05
23780	709	1RB_Mid	Right	/	22.13	23	0.667	**0.81**	0.24	**0.29**	0.16
23790	710	1RB_Mid	Right	/	22.19	23	0.709	**0.85**	0.246	**0.30**	-0.11
23800	711	1RB_Mid	Right	/	22.18	23	0.608	**0.73**	0.231	**0.28**	-0.14
23780	709	1RB_Mid	Top	/	22.13	23	0.741	**0.91**	0.274	**0.33**	-0.17
23790	710	1RB_Mid	Top	/	22.19	23	0.819	**0.99**	0.288	**0.35**	-0.01
23800	711	1RB_Mid	Top	/	22.18	23	0.691	**0.83**	0.257	**0.31**	0.07
23780	709	25RB_Low	Rear	/	22.13	23	0.644	**0.79**	0.295	**0.36**	-0.15
23790	710	25RB_Low	Rear	/	22.19	23	0.711	**0.86**	0.309	**0.37**	0.01
23800	711	25RB_Low	Rear	/	22.18	23	0.601	**0.73**	0.257	**0.31**	0.12
23790	710	50RB	Rear	/	22.09	23	0.675	**0.83**	0.281	**0.35**	-0.07
23780	709	25RB_Low	Right	9	22.12	23	0.88	**1.08**	0.281	**0.34**	0.03
23790	710	25RB_Low	Right	/	22.15	23	0.675	**0.82**	0.256	**0.31**	0.17
23800	711	25RB_Low	Right	/	22.14	23	0.585	**0.71**	0.229	**0.28**	0.1
23780	709	50RB	Right	/	22.09	23	0.858	**1.06**	0.273	**0.34**	-0.05
23780	709	25RB_Low	Top	/	22.12	23	0.736	**0.90**	0.279	**0.34**	-0.01
23790	710	25RB_Low	Top	/	22.15	23	0.857	**1.04**	0.285	**0.35**	-0.07
23800	711	25RB_Low	Top	/	22.14	23	0.58	**0.71**	0.227	**0.28**	-0.1
23790	710	50RB	Top	/	22.09	23	0.825	**1.02**	0.265	**0.33**	0.08

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_10MHz.

Table 14.1-10: SAR Values (LTE Band41 - Body)

Ambient Temperature: 22.5 °C Liquid Temperature: 22.3 °C											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
40620	2593	1RB_Mid	Rear	17mm	23.75	24	0.212	**0.22**	0.101	**0.11**	-0.05
40620	2593	1RB_Mid	Right	14mm	23.75	24	0.101	**0.11**	0.05	**0.05**	0.10
40620	2593	1RB_Mid	Top	17mm	23.75	24	0.253	**0.27**	0.125	**0.13**	0.12
40620	2593	50RB_Low	Rear	17mm	22.73	23	0.168	**0.18**	0.08	**0.09**	-0.13
40620	2593	50RB_Low	Right	14mm	22.73	23	0.078	**0.08**	0.038	**0.04**	-0.02
40620	2593	50RB_Low	Top	17mm	22.73	23	0.207	**0.22**	0.1	**0.11**	-0.04
41490	2680	1RB_Mid	Rear	/	15.67	16	0.57	**0.61**	0.205	**0.22**	-0.16
41055	2636.5	1RB_Mid	Rear	/	15.65	16	0.615	**0.67**	0.225	**0.24**	-0.13
40620	2593	1RB_Mid	Rear	/	15.82	16	0.733	**0.76**	0.26	**0.27**	0.01
40185	2549.5	1RB_Mid	Rear	/	15.66	16	0.801	**0.87**	0.296	**0.32**	0.09
39750	2506	1RB_Mid	Rear	10	15.65	16	0.909	**0.99**	0.337	**0.37**	0.01
39750	2506	100RB	Rear	/	15.56	16	0.663	**0.73**	0.244	**0.27**	-0.18
40620	2593	1RB_Mid	Right	/	15.82	16	0.168	**0.18**	0.06	**0.06**	0.11
41490	2680	1RB_Mid	Top	/	15.67	16	0.894	**0.96**	0.234	**0.25**	-0.05
41055	2636.5	1RB_Mid	Top	/	15.65	16	0.754	**0.82**	0.232	**0.25**	-0.07
40620	2593	1RB_Mid	Top	/	15.82	16	0.894	**0.93**	0.246	**0.26**	-0.10
40185	2549.5	1RB_Mid	Top	/	15.66	16	0.86	**0.93**	0.264	**0.29**	0.00
39750	2506	1RB_Mid	Top	/	15.65	16	0.904	**0.98**	0.278	**0.30**	-0.18
39750	2506	100RB	Top	/	15.56	16	0.871	**0.96**	0.253	**0.28**	0.06
40620	2593	50RB_Low	Rear	/	15.71	16	0.622	**0.66**	0.25	**0.27**	0.02
40620	2593	50RB_Low	Right	/	15.71	16	0.157	**0.17**	0.059	**0.06**	0.11
41490	2680	50RB_Low	Top	/	15.64	16	0.883	**0.96**	0.224	**0.24**	-0.17
41055	2636.5	50RB_Low	Top	/	15.63	16	0.749	**0.82**	0.223	**0.24**	-0.17
40620	2593	50RB_Low	Top	/	15.71	16	0.881	**0.94**	0.236	**0.25**	-0.04
40185	2549.5	50RB_Mid	Top	/	15.52	16	0.844	**0.94**	0.253	**0.28**	0.11
39750	2506	50RB_Mid	Top	/	15.55	16	0.89	**0.99**	0.267	**0.30**	0.09

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_20MHz.

Table 14.1-11: SAR Values (LTE Band66 - Body)

Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC											
Frequency		Mode	Test Position	Figure No./Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz										
132072	1720	1RB_Mid	Rear	17mm	23.77	24.5	0.481	**0.57**	0.289	**0.34**	-0.06
132072	1720	1RB_Mid	Right	14mm	23.77	24.5	0.11	**0.13**	0.066	**0.08**	0.02
132072	1720	1RB_Mid	Top	17mm	23.77	24.5	0.624	**0.74**	0.363	**0.43**	-0.04
132072	1720	50RB_Mid	Rear	17mm	22.79	23.5	0.377	**0.44**	0.226	**0.27**	0.03
132072	1720	50RB_Mid	Right	14mm	22.79	23.5	0.086	**0.10**	0.052	**0.06**	0.08
132072	1720	50RB_Mid	Top	17mm	22.79	23.5	0.486	**0.57**	0.283	**0.33**	-0.01
132572	1770	1RB_Mid	Rear	/	14.13	14.5	1.04	**1.13**	0.449	**0.49**	0.06
132322	1745	1RB_Mid	Rear	/	14.03	14.5	1.04	**1.16**	0.456	**0.51**	0.08
132072	1720	1RB_Mid	Rear	11	14	14.5	1.05	1.18	0.466	**0.52**	0.01
132072	1720	100RB	Rear	/	13.88	14.5	1.01	**1.16**	0.439	**0.51**	-0.12
132572	1770	1RB_Mid	Right	/	14.13	14.5	0.218	**0.24**	0.082	**0.09**	-0.14
132572	1770	1RB_Mid	Top	/	14.13	14.5	0.424	**0.46**	0.188	**0.20**	-0.04
132572	1770	50RB_High	Right	/	14.06	14.5	0.925	**1.02**	0.448	**0.50**	-0.15
132322	1745	50RB_High	Top	/	13.94	14.5	0.933	**1.06**	0.452	**0.51**	0.14
132072	1720	50RB_Mid	Rear	/	13.89	14.5	0.927	**1.07**	0.45	**0.52**	-0.02
132572	1770	50RB_Mid	Rear	/	14.06	14.5	0.204	**0.23**	0.084	**0.09**	0.12
132572	1770	50RB_Mid	Rear	/	14.06	14.5	0.411	**0.45**	0.179	**0.20**	-0.18
132572	1770	50RB_Mid	Right	/	14.13	14.5	1.04	**1.13**	0.449	**0.49**	0.06
132322	1745	50RB_Mid	Top	/	14.03	14.5	1.04	**1.16**	0.456	**0.51**	0.08

Note1: The distance between the EUT and the phantom bottom is 14mm/17mm by sensor, the distance for other results is 0mm.

Note2: The LTE mode is QPSK_20MHz.

14.2 WLAN Evaluation for 2.4G

Table 14.2-1: SAR Values (WiFi 2.4G – Body)

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
11	2462	Rear	15mm	18.69	19.5	0.131	**0.16**	0.067	**0.08**	-0.15
6	2437	Rear	15mm	18.88	19.5	0.135	**0.16**	0.071	**0.08**	0.08
1	2412	Rear	15mm	18.67	19.5	0.129	**0.16**	0.065	**0.08**	0.12
6	2437	Top	17mm	18.88	19.5	0.109	**0.13**	0.056	**0.06**	-0.07
11	2462	Rear	12	13.29	14	0.96	**1.13**	0.34	**0.40**	0.01
6	2437	Rear	/	13.41	14	0.79	**0.90**	0.281	**0.32**	-0.09
1	2412	Rear	/	12.93	14	0.864	**1.11**	0.308	**0.39**	0.01
6	2437	Top	/	13.41	14	0.246	**0.28**	0.098	**0.11**	0.12

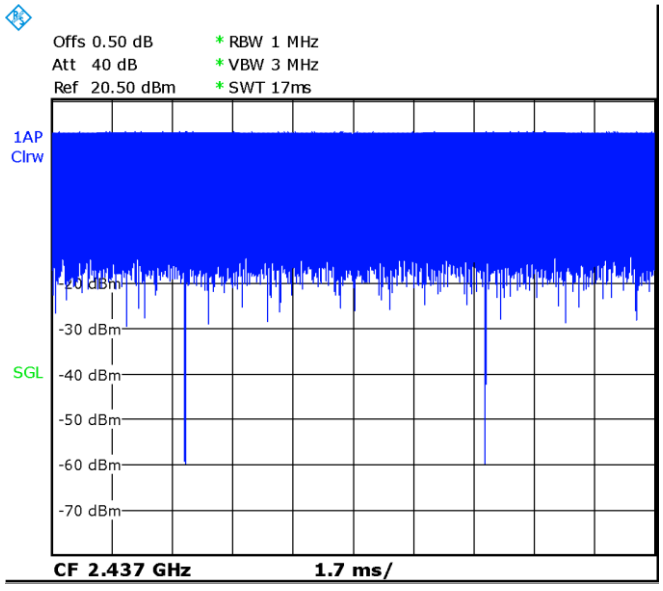
Note1: The distance between the EUT and the phantom bottom is 15mm/17mm by sensor, the distance for other results is 0mm.

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 14.2-2: SAR Values (WLAN - Head) – 802.11b (Scaled Reported SAR)

Ambient Temperature: 22.9 ℃ Liquid Temperature: 22.5℃						
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 0mm	100%	100%	**1.13**	**1.13**

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



Picture 14.2-1 Duty factor plot

14.3 WLAN Evaluation For 5G

Table 14.3-1: SAR Values (WiFi 5G - Body)

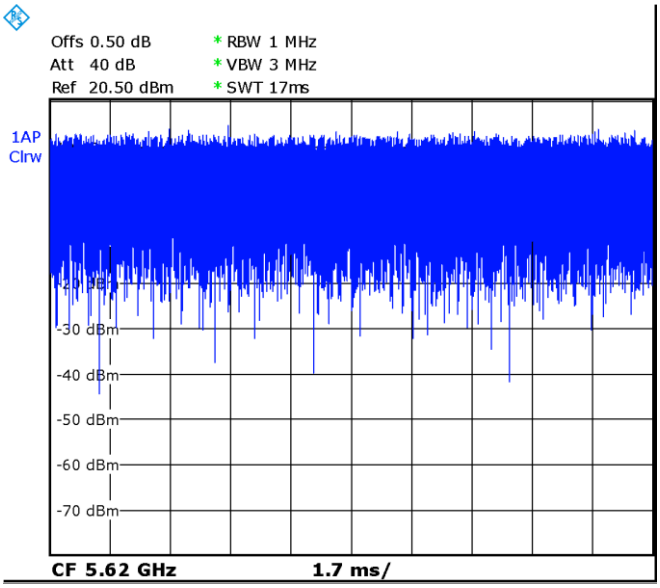
Ambient Temperature: 22.5 ºC Liquid Temperature: 22.3 ºC										
Frequency		Test Position	Figure No.	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g) (W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g)(W/kg)	Power Drift (dB)
Ch.	MHz									
52	5260	Rear	15mm	16.48	18	0.175	**0.25**	0.07	**0.10**	-0.15
52	5260	Top	17mm	16.48	18	0.19	**0.27**	0.079	**0.11**	0.06
124	5620	Rear	15mm	17.81	18	0.275	**0.29**	0.11	**0.11**	0.09
124	5620	Top	17mm	17.81	18	0.346	**0.36**	0.138	**0.14**	-0.04
157	5785	Rear	15mm	17.19	18	0.247	**0.30**	0.097	**0.12**	-0.11
157	5785	Top	17mm	17.19	18	0.257	**0.31**	0.11	**0.13**	-0.04
52	5260	Rear	/	9.74	11.5	0.641	**0.96**	0.201	**0.30**	0.12
56	5280	Rear	/	9.59	11.5	0.729	**1.13**	0.179	**0.28**	-0.09
52	5260	Top	13	9.74	11.5	0.775	**1.16**	0.156	**0.23**	0.05
56	5280	Top	/	9.59	11.5	0.603	**0.94**	0.131	**0.20**	0.06
124	5620	Rear	/	10.61	11.5	0.863	**1.06**	0.21	**0.26**	0.01
140	5700	Rear	/	10.58	11.5	0.758	**0.94**	0.178	**0.22**	-0.12
124	5620	Top	/	10.61	11.5	0.688	**0.84**	0.13	**0.16**	-0.06
157	5785	Rear	/	10.96	11.5	0.595	**0.67**	0.148	**0.17**	0.06
157	5785	Top	/	10.96	11.5	0.488	**0.55**	0.116	**0.13**	0.14

Note1: The distance between the EUT and the phantom bottom is 15mm/18mm by sensor, the distance for other results is 0mm.

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 14.3-2 SAR Values (WLAN 5G - Body) (Scaled Reported SAR)

Frequency		Test Position	Distance (mm)	Actual duty factor	maximum duty factor	Reported SAR (1g) (W/kg)	Scaled reported SAR (1g) (W/kg)
Ch.	MHz						
52	5260	Top	0	100%	100%	**1.16**	**1.16**



Picture 14.3-1 Duty factor plot for CH58

14.4 WLAN Evaluation For BT

Table 14.4-1: SAR Values (BT - Body)

Frequency		Test Position	Figure No./ Note	Conducted Power (dBm)	Max. tune-up Power (dBm)	Measured SAR(1g) (W/kg)	Reported SAR(1g)(W/kg)	Measured SAR(10g) (W/kg)	Reported SAR(10g) (W/kg)	Power Drift (dB)
Ch.	MHz									
0	2402	Rear	14	10.98	11	0.329	**0.33**	0.122	**0.12**	0.09
0	2402	Top	/	10.98	11	0.145	**0.15**	0.048	**0.05**	-0.15

Note: The distance between the EUT and the phantom bottom is 0mm.

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; steps2) through 4) do not apply.

2) When the original highest measured SAR is ≥ 0.80 W/kg, repeat that measurement once.

3) Perform a second repeated measurement only if the ratio of largest to smallest SAR for the original and first repeated measurements is > 1.20 or when the original or repeated measurement is ≥ 1.45W/kg (~ 10% from the 1-g SAR limit).

4) Perform a third repeated measurement only if the original, first or second repeated measurement is ≥1.5 W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is > 1.20

Band	Frequency		Test Position	Original SAR (W/kg)	First Repeated SAR (W/kg)	The Ratio	Second Repeated SAR (W/kg)
	Ch.	MHz					
GSM1900	810	1909.8	Rear 0mm	0.849	0.832	1.02	/
WCDMA B2	9262	1852.4	Rear 0mm	0.938	0.911	1.03	/
WCDMA B4	1513	1752.6	Rear 0mm	0.971	0.954	1.02	/
LTE B2	18700	1860	Rear 0mm	0.901	0.875	1.03	/
LTE B7	21350	2560	Top 0mm	1.01	0.985	1.03	/
LTE B17	23780	709	Right 0mm	0.88	0.872	1.01	/
LTE B41	39750	2506	Rear 0mm	0.909	0.903	1.01	/
LTE B41	39750	2506	Top 0mm	0.904	0.894	1.01	/
LTE B66	132072	1720	Rear0mm	1.05	1.03	1.02	/

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
Measurement system										
1	Probe calibration	B	6.0	N	1	1	1	6.0	6.0	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	1.0	R	√3	1	1	0.6	0.6	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	N	1	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.4	R	√3	1	1	0.2	0.2	∞
12	Probe positioning with respect to phantom shell	B	2.9	R	√3	1	1	1.7	1.7	∞
13	Post-processing	B	1.0	R	√3	1	1	0.6	0.6	∞
Test sample related										
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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
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	√3	0.6	0.49	1.7	1.4	∞
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
Measurement system										
1	Probe calibration	B	6.55	N	1	1	1	6.55	6.55	∞
2	Isotropy	B	4.7	R	√3	0.7	0.7	1.9	1.9	∞
3	Boundary effect	B	2.0	R	√3	1	1	1.2	1.2	∞
4	Linearity	B	4.7	R	√3	1	1	2.7	2.7	∞
5	Detection limit	B	1.0	R	√3	1	1	0.6	0.6	∞
6	Readout electronics	B	0.3	R	√3	1	1	0.3	0.3	∞
7	Response time	B	0.8	R	√3	1	1	0.5	0.5	∞
8	Integration time	B	2.6	R	√3	1	1	1.5	1.5	∞
9	RF ambient conditions-noise	B	0	R	√3	1	1	0	0	∞
10	RFambient conditions-reflection	B	0	R	√3	1	1	0	0	∞
11	Probe positioned mech. restrictions	B	0.8	R	√3	1	1	0.5	0.5	∞
12	Probe positioning with respect to phantom shell	B	6.7	R	√3	1	1	3.9	3.9	∞
13	Post-processing	B	4.0	R	√3	1	1	2.3	2.3	∞
Test sample related										
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	√3	1	1	2.9	2.9	∞
Phantom and set-up										
17	Phantom uncertainty	B	4.0	R	√3	1	1	2.3	2.3	∞
18	Liquid conductivity (target)	B	5.0	R	√3	0.64	0.43	1.8	1.2	∞
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	√3	0.6	0.49	1.7	1.4	∞