FCC SAR Test Report

APPLICANT	:	Wistron Corporation
EQUIPMENT	:	Tablet PC
BRAND NAME	:	Lenovo
MODEL NAME	:	TP00065A
FCC ID	:	PU5-TP00065AUC
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2003

We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by: Eric Huang / Deputy Manager

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA471416-02	Rev. 01	Initial issue of report	Sep. 29, 2014
FA471416-02	Rev. 02	Add LTE Release 9 and Category 3 in section 4.3.	Oct. 03, 2014

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for **Wistron Corporation, Tablet PC, TP00065A** are as follows.

Equipment Class	Frequency Band	Highest SAR Summary	
		Body 1g SAR (W/kg)	Simultaneous Transmission 1g SAR (W/kg)
PCB	GSM850	1.26	1.49
	GSM1900	1.26	
	WCDMA Band V	1.37	
	WCDMA Band IV	1.22	
	WCDMA Band II	1.35	
	LTE Band 17	**1.38**	
	LTE Band 13	1.29	
	LTE Band 5	1.07	
	LTE Band 4	1.22	
	LTE Band 2	1.37	
	LTE Band 7	1.28	
DTS	2.4GHz Band	0.29	1.49
NII	5.2GHz Band	1.16	1.45
	5.3GHz Band	0.90	
	5.5GHz Band	0.79	
	5.8GHz Band	0.41	
Date of Testing:		08/01/2014 ~ 08/09/2014	

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2003.

2. Administration Data

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978

Applicant	
Company Name	Wistron Corporation
Address	21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei City 221,Taiwan R.O.C.

Manufacturer	
Company Name	Wistron Corporation
Address	21F, No. 88, Sec. 1, Hsin Tai Wu Rd., Hsichih Dist, New Taipei City 221,Taiwan R.O.C.

3. Guidance Standard

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards:

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2003
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r03
- FCC KDB 865664 D02 SAR Reporting v01r01
- FCC KDB 447498 D01 General RF Exposure Guidance v05r02
- FCC KDB 616217 D04 SAR for laptop and tablets v01r01
- FCC KDB 941225 D01 SAR test for 3G devices v02
- FCC KDB 941225 D02 HSPA and 1x Advanced v02r02
- FCC KDB 941225 D03 SAR Test Reduction GSM GPRS EDGE v01
- FCC KDB 941225 D05 SAR for LTE Devices v02r03

4. Equipment Under Test (EUT)

4.1 General Information

Product Feature & Specification	
Equipment Name	Tablet PC
Brand Name	Lenovo
Model Name	TP00065A
FCC ID	PU5-TP00065AUC
IMEI Code	013937001347085
DUT Description	A tablet (PAD) computer, contains 802.11a/b/g/n/ac, Bluetooth and LTE+UMTS+GSM transceiver (radio module).
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
EUT supports Radios application	• GPRS/EGPRS • RMC 12.2Kbps • HSDPA • HSUPA • DC-HSDPA • LTE: QPSK, 16QAM • 802.11a/b/g/n/ac HT20/HT40/VHT20/VHT40/VHT80 • Bluetooth v3.0+EDR, Bluetooth v4.0-LE
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The WLAN/BT module (Intel 7265D2W) utilizing in the host platform which is certified under FCC ID: PU5-TP00065A is also integrated into this host, where the WLAN/BT module and the antenna are identical in two hosts. Based on the equality of two hosts, the WLAN/BT conducted power and SAR test results are used to evaluate the simultaneous transmission, which can be referred to Sporton FCC SAR Report, Report No: FA471416-04 Rev.01.
3. This host has two kinds antenna manufacturer. RF exposure evaluation is selected antenna1 as the main test; and antenna2 will be verified at the highest RF exposure position found in antenna1 perform SAR testing.
4. The Docking brand name: Lenovo, model name: TP00065K1 can be combined or separated with this host, combined the functionality becomes a notebook computer, whereas, separated functionality of the host is a tablet computer.

Antenna Information				
Antenna 1	Manufacturer	HIGH-TEK HARNESS ENT	Peak gain	GSM : -4.24dBi WCDMA / LTE : -2.76dBi
	P/N	025.9004S.0011	Antenna Type	PIFA antenna
Antenna 2	Manufacturer	WNC	Peak gain	GSM : 1.32dBi WCDMA / LTE : 1.48dBi
	P/N	025.9004S.0001	Antenna Type	PIFA antenna

4.2 Maximum Tune-up Limit

Mode / Band	Burst Average Power (dBm)			
	GSM 850		GSM 1900	
Output Power Status	Full Power Mode	Reduce Power Mode	Full Power Mode	Reduce Power Mode
GPRS (GMSK, 1 Tx slot)	33.00	29.50	30.00	26.00
GPRS (GMSK, 2 Tx slots)	30.50	26.50	30.00	23.00
GPRS (GMSK, 3 Tx slots)	29.50	24.50	28.50	21.00
GPRS (GMSK, 4 Tx slots)	28.50	23.50	27.50	20.00
EDGE (8PSK, 1 Tx slot)	28.00	28.00	27.00	26.00
EDGE (8PSK, 2 Tx slots)	28.00	26.00	27.00	23.00
EDGE (8PSK, 3 Tx slots)	27.00	24.00	26.00	21.00
EDGE (8PSK, 4 Tx slots)	26.00	23.00	25.00	20.00

Mode / Band	Average Power (dBm)					
	WCDMA Band V		WCDMA Band II		WCDMA Band IV	
Output Power Status	Full Power Mode	Reduce Power Mode	Full Power Mode	Reduce Power Mode	Full Power Mode	Reduce Power Mode
RMC 12.2Kbps	24.50	20.00	24.50	17.00	24.50	18.00
HSDPA Subtest-1	24.50	20.00	24.50	17.00	24.50	18.00
DC-HSDPA Subtest-1	24.50	20.00	24.50	17.00	24.50	18.00
HSUPA Subtest-5	24.50	20.00	24.50	17.00	24.50	18.00

LTE Band 17						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	10	≤ 12	0	23.5	0	21.5
QPSK	10	> 12	1	22.5	1	20.5
16QAM	10	≤ 12	1	22.5	1	20.5
16QAM	10	> 12	2	21.5	2	19.5
QPSK	5	≤ 8	0	23.5	0	21.5
QPSK	5	> 8	1	22.5	1	20.5
16QAM	5	≤ 8	1	22.5	1	20.5
16QAM	5	> 8	2	21.5	2	19.5

LTE Band 13						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	10	≤ 12	0	23.5	0	20.5
QPSK	10	> 12	1	22.5	1	19.5
16QAM	10	≤ 12	1	22.5	1	19.5
16QAM	10	> 12	2	21.5	2	18.5
QPSK	5	≤ 8	0	23.5	0	20.5
QPSK	5	> 8	1	22.5	1	19.5
16QAM	5	≤ 8	1	22.5	1	19.5
16QAM	5	> 8	2	21.5	2	18.5

LTE Band 5						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	10	≤ 12	0	23.5	0	19.0
QPSK	10	> 12	1	22.5	1	18.0
16QAM	10	≤ 12	1	22.5	1	18.0
16QAM	10	> 12	2	21.5	2	17.0
QPSK	5	≤ 8	0	23.5	0	19.0
QPSK	5	> 8	1	22.5	1	18.0
16QAM	5	≤ 8	1	22.5	1	18.0
16QAM	5	> 8	2	21.5	2	17.0
QPSK	3	≤ 4	0	23.5	0	19.0
QPSK	3	>4	1	22.5	1	18.0
16QAM	3	≤ 4	1	22.5	1	18.0
16QAM	3	> 4	2	21.5	2	17.0
QPSK	1.4	≤ 5	0	23.5	0	19.0
QPSK	1.4	> 5	1	22.5	1	18.0
16QAM	1.4	≤ 5	1	22.5	1	18.0
16QAM	1.4	> 5	2	21.5	2	17.0

LTE Band 4						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	20	≤ 18	0	23.5	0	18.0
QPSK	20	> 18	1	22.5	1	17.0
16QAM	20	≤ 18	1	22.5	1	17.0
16QAM	20	> 18	2	21.5	2	16.0
QPSK	15	≤ 16	0	23.5	0	18.0
QPSK	15	> 16	1	22.5	1	17.0
16QAM	15	≤ 16	1	22.5	1	17.0
16QAM	15	> 16	2	21.5	2	16.0
QPSK	10	≤ 12	0	23.5	0	18.0
QPSK	10	> 12	1	22.5	1	17.0
16QAM	10	≤ 12	1	22.5	1	17.0
16QAM	10	> 12	2	21.5	2	16.0
QPSK	5	≤ 8	0	23.5	0	18.0
QPSK	5	> 8	1	22.5	1	17.0
16QAM	5	≤ 8	1	22.5	1	17.0
16QAM	5	> 8	2	21.5	2	16.0
QPSK	3	≤ 4	0	23.5	0	18.0
QPSK	3	>4	1	22.5	1	17.0
16QAM	3	≤ 4	1	22.5	1	17.0
16QAM	3	> 4	2	21.5	2	16.0
QPSK	1.4	≤ 5	0	23.5	0	18.0
QPSK	1.4	> 5	1	22.5	1	17.0
16QAM	1.4	≤ 5	1	22.5	1	17.0
16QAM	1.4	> 5	2	21.5	2	16.0

LTE Band 2						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	20	≤ 18	0	23.5	0	17.5
QPSK	20	> 18	1	22.5	1	16.5
16QAM	20	≤ 18	1	22.5	1	16.5
16QAM	20	> 18	2	21.5	2	15.5
QPSK	15	≤ 16	0	23.5	0	17.5
QPSK	15	> 16	1	22.5	1	16.5
16QAM	15	≤ 16	1	22.5	1	16.5
16QAM	15	> 16	2	21.5	2	15.5
QPSK	10	≤ 12	0	23.5	0	17.5
QPSK	10	> 12	1	22.5	1	16.5
16QAM	10	≤ 12	1	22.5	1	16.5
16QAM	10	> 12	2	21.5	2	15.5
QPSK	5	≤ 8	0	23.5	0	17.5
QPSK	5	> 8	1	22.5	1	16.5
16QAM	5	≤ 8	1	22.5	1	16.5
16QAM	5	> 8	2	21.5	2	15.5
QPSK	3	≤ 4	0	23.5	0	17.5
QPSK	3	>4	1	22.5	1	16.5
16QAM	3	≤ 4	1	22.5	1	16.5
16QAM	3	> 4	2	21.5	2	15.5
QPSK	1.4	≤ 5	0	23.5	0	17.5
QPSK	1.4	> 5	1	22.5	1	16.5
16QAM	1.4	≤ 5	1	22.5	1	16.5
16QAM	1.4	> 5	2	21.5	2	15.5

LTE Band 7						
Modulation	BW (MHz)	RB size	Full Power Mode		Reduce Power Mode	
			MPR	Average Power (dBm)	MPR	Average Power (dBm)
QPSK	20	≤ 18	0	23.5	0	16.0
QPSK	20	> 18	1	22.5	1	15.0
16QAM	20	≤ 18	1	22.5	1	15.0
16QAM	20	> 18	2	21.5	2	14.0
QPSK	15	≤ 16	0	23.5	0	16.0
QPSK	15	> 16	1	22.5	1	15.0
16QAM	15	≤ 16	1	22.5	1	15.0
16QAM	15	> 16	2	21.5	2	14.0
QPSK	10	≤ 12	0	23.5	0	16.0
QPSK	10	> 12	1	22.5	1	15.0
16QAM	10	≤ 12	1	22.5	1	15.0
16QAM	10	> 12	2	21.5	2	14.0
QPSK	5	≤ 8	0	23.5	0	16.0
QPSK	5	> 8	1	22.5	1	15.0
16QAM	5	≤ 8	1	22.5	1	15.0
16QAM	5	> 8	2	21.5	2	14.0

4.3 General LTE SAR Test and Reporting Considerations

<table>
<tr><th colspan="2">Summarized necessary items addressed in KDB 941225 D05 v02r03</th></tr>
<tr><td>FCC ID</td><td>PU5-TP00065AUC</td></tr>
<tr><td>Equipment Name</td><td>Tablet PC</td></tr>
<tr><td>Operating Frequency Range of each LTE transmission band</td><td>LTE Band 17: 706.5 MHz ~ 713.5 MHz
LTE Band 13: 779.5 MHz ~ 784.5 MHz
LTE Band 05: 824.7 MHz ~ 848.3 MHz
LTE Band 04: 1710.7 MHz ~ 1754.3 MHz
LTE Band 02: 1850.7 MHz ~ 1909.3 MHz
LTE Band 07: 2502.5 MHz ~ 2567.5 MHz</td></tr>
<tr><td>Channel Bandwidth</td><td>LTE Band 17: 5MHz, 10MHz
LTE Band 13: 5MHz, 10MHz
LTE Band 05:1.4MHz, 3MHz, 5MHz, 10MHz
LTE Band 04:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 02:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz</td></tr>
<tr><td>uplink modulations used</td><td>QPSK, and 16QAM</td></tr>
<tr><td>LTE Release</td><td>9</td></tr>
<tr><td>LTE Category</td><td>3</td></tr>
<tr><td>LTE Voice / Data requirements</td><td>Data only</td></tr>
<tr><td>LTE MPR permanently built-in by design</td><td>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3
<table>
<tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (RB)</th><th rowspan="2">MPR (dB)</th></tr>
<tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr>
<tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr>
<tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr>
</table></td></tr>
<tr><td>LTE A-MPR</td><td>In the base station simulator configuration, Network Setting value is set to NS_01 to disable A-MPR during SAR testing and the LTE SAR tests was transmitting on all TTI frames (Maximum TTI)</td></tr>
<tr><td>Spectrum plots for RB configuration</td><td>A properly configured base station simulator was used for the SAR and power measurement; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</td></tr>
<tr><td>Power reduction applied to satisfy SAR compliance</td><td>Yes, proximity sensor.</td></tr>
</table>

Transmission (H, M, L) channel numbers and frequencies in each LTE band								
LTE Band 17								
	Bandwidth 5 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)	
L	23755		706.5		23780		709	
M	23790		710		23790		710	
H	23825		713.5		23800		711	
LTE Band 13								
	Bandwidth 5 MHz				Bandwidth 10 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5					
M	23230		782		23230		782	
H	23255		784.5					
LTE Band 5								
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844
LTE Band 4												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745
LTE Band 2												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900
LTE Band 7								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

5. Proximity Sensor Triggering Test

Proximity sensor power reduction

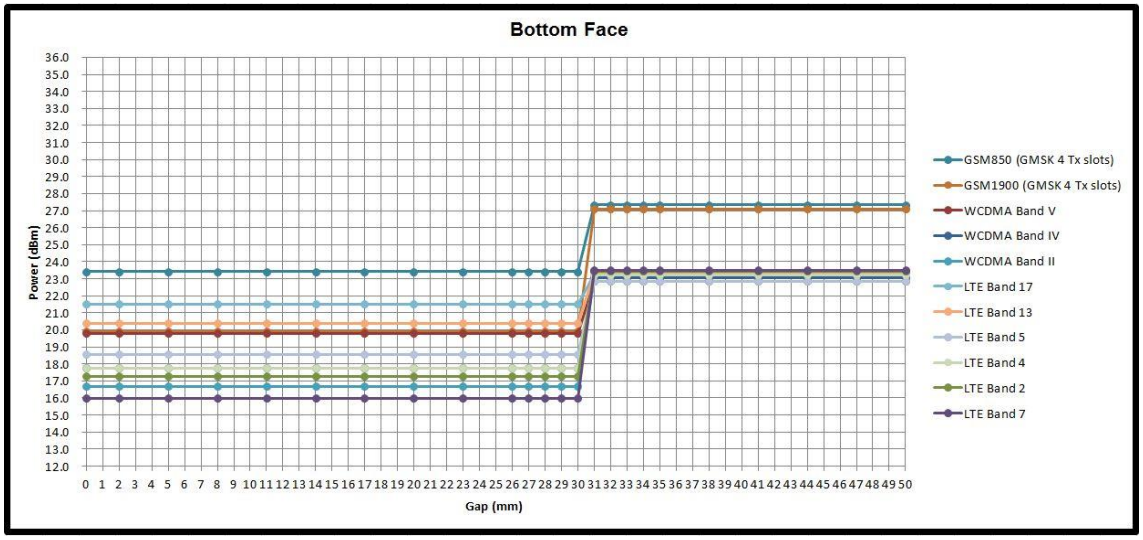
Exposure Position / wireless mode	Bottom Face(1)	Curved surface of Edge1(1)	Edge 1(1)	Edge 2	Edge 3	Edge 4
GSM850 GPRS (GMSK 1 Tx slot) - CS1	3.5 dB	3.5 dB	3.5 dB	0 dB	0 dB	0 dB
GSM850 GPRS (GMSK 2 Tx slot) - CS1	4.0 dB	4.0 dB	4.0 dB			
GSM850 GPRS (GMSK 3 Tx slot) - CS1	5.0 dB	5.0 dB	5.0 dB			
GSM850 GPRS (GMSK 4 Tx slot) - CS1	5.0 dB	5.0 dB	5.0 dB			
GSM850 EDGE (8PSK 1 Tx slot) - MCS5	0.0 dB	0.0 dB	0.0 dB			
GSM850 EDGE (8PSK 2 Tx slot) - MCS5	2.0 dB	2.0 dB	2.0 dB			
GSM850 EDGE (8PSK 3 Tx slot) - MCS5	3.0 dB	3.0 dB	3.0 dB			
GSM850 EDGE (8PSK 4 Tx slot) - MCS5	3.0 dB	3.0 dB	3.0 dB			
GSM1900 GPRS (GMSK 1 Tx slot) - CS1	4.0 dB	4.0 dB	4.0 dB			
GSM1900 GPRS (GMSK 2 Tx slot) - CS1	7.0 dB	7.0 dB	7.0 dB			
GSM1900 GPRS (GMSK 3 Tx slot) - CS1	7.5 dB	7.5 dB	7.5 dB			
GSM1900 GPRS (GMSK 4 Tx slot) - CS1	7.5 dB	7.5 dB	7.5 dB			
GSM1900 EDGE (8PSK 1 Tx slot) - MCS5	1.0 dB	1.0 dB	1.0 dB			
GSM1900 EDGE (8PSK 2 Tx slot) - MCS5	4.0 dB	4.0 dB	4.0 dB			
GSM1900 EDGE (8PSK 3 Tx slot) - MCS5	5.0 dB	5.0 dB	5.0 dB			
GSM1900 EDGE (8PSK 4 Tx slot) - MCS5	5.0 dB	5.0 dB	5.0 dB			
WCDMA Band V	4.5 dB	4.5 dB	4.5 dB			
WCDMA Band II	7.5 dB	7.5 dB	7.5 dB			
WCDMA Band IV	6.5 dB	6.5 dB	6.5 dB			
LTE Band 17	2.0 dB	2.0 dB	2.0 dB			
LTE Band 13	3.0 dB	3.0 dB	3.0 dB			
LTE Band 5	4.5 dB	4.5 dB	4.5 dB			
LTE Band 4	5.5 dB	5.5 dB	5.5 dB			
LTE Band 2	6.0 dB	6.0 dB	6.0 dB			
LTE Band 7	7.5 dB	7.5 dB	7.5 dB			

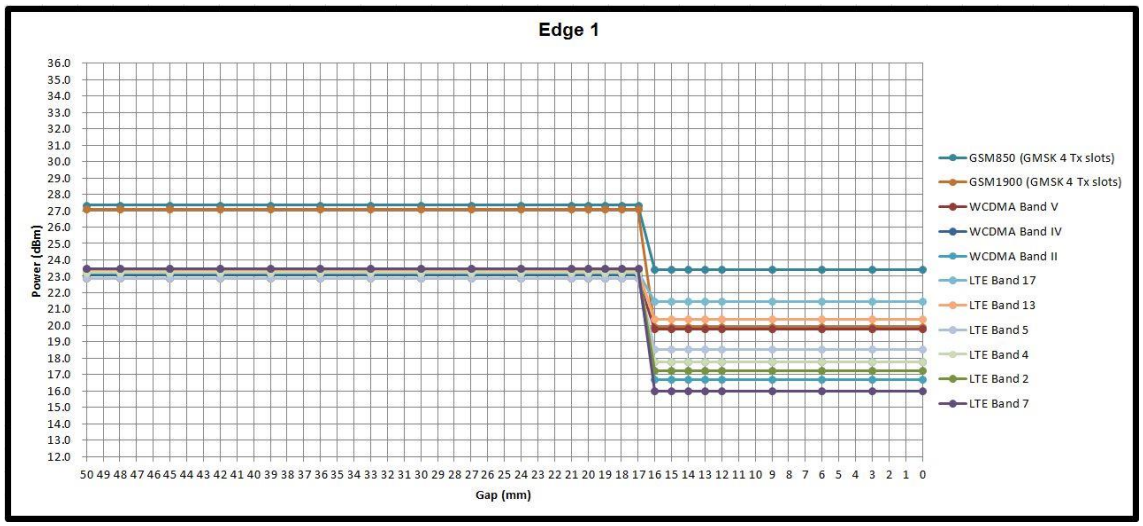
Remark:

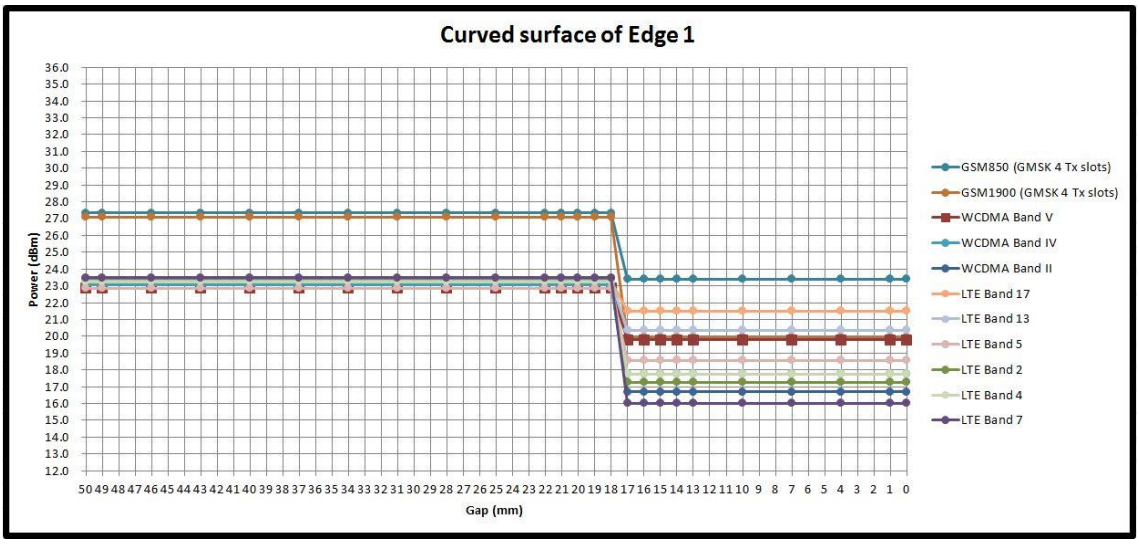
1. (1): Reduced maximum limit applied by activation of proximity sensor.
2. Power reduction is not applicable for WLAN and Bluetooth.
3. Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown and described in exhibit “P-Sensor operational description
4. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
   - Bottom Face: 10 mm
   - Edge1: 10 mm
   - Curved surface of Edge1: 10 mm

Power Measurement during Sensor Trigger distance testing

Band/Mode	Ch #	Measured power reduction (dBm)		Reduction Levels
		w/o power back-off	w/ power back-off	(dB)
GPRS850	189	27.33	23.41	3.92
GPRS1900	661	27.09	19.90	7.19
WCDMA Band V	4233	22.86	19.78	3.08
WCDMA Band IV	1413	23.07	17.76	5.31
WCDMA Band II	9400	23.21	16.68	6.53
LTE Band 17	23790	23.27	21.48	1.79
LTE Band 13	23230	23.35	20.36	2.99
LTE Band 5	20450	22.85	18.54	4.31
LTE Band 4	20175	23.22	17.76	5.46
LTE Band 2	18900	23.44	17.24	6.20
LTE Band 7	21100	23.48	15.99	7.49






Curved surface of Edge 1
Power (dBm)
Gap (mm)
GSM850 (GMSK 4 Tx slots)
GSM1900 (GMSK 4 Tx slots)
WCDMA Band V
WCDMA Band IV
WCDMA Band II
LTE Band 17
LTE Band 13
LTE Band 5
LTE Band 2
LTE Band 4
LTE Band 7

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.4	8.0	20.0

Limits for General Population/Uncontrolled Exposure (W/kg)

Whole-Body	Partial-Body	Hands, Wrists, Feet and Ankles
0.08	1.6	4.0

1. Whole-Body SAR is averaged over the entire body, partial-body SAR is averaged over any 1gram of tissue defined as a tissue volume in the shape of a cube. SAR for hands, wrists, feet and ankles is averaged over any 10 grams of tissue defined as a tissue volume in the shape of a cube.

7. Specific Absorption Rate (SAR)

7.1 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.

7.2 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:

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

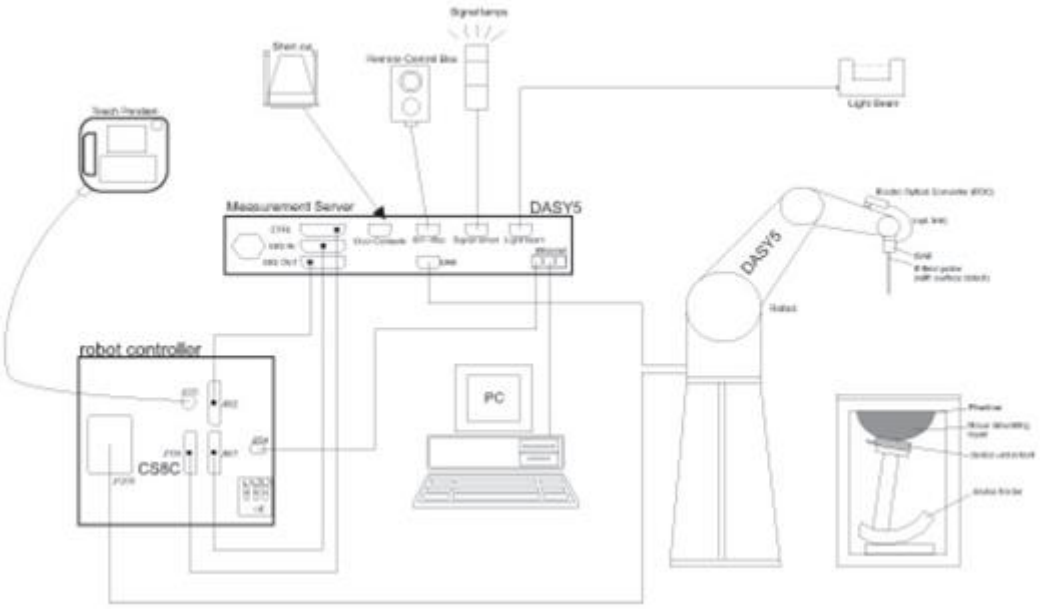
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY5 software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

9. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

(a) For WWAN power measurement, use base station simulator to configure EUT WWAN transmission in conducted connection with RF cable, at maximum power in each supported wireless interface and frequency band.
(b) Read the WWAN RF power level from the base station simulator.
(c) For WLAN/BT power measurement, use engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power in each supported wireless interface and frequency band
(d) Connect EUT RF port through RF cable to the power meter, and measure WLAN/BT output power

<SAR measurement>

(a) Use base station simulator to configure EUT WWAN transmission in radiated connection, and engineering software to configure EUT WLAN/BT continuously transmission, at maximum RF power, in the highest power channel.
(b) Place the EUT in the positions as Appendix D demonstrates.
(c) Set scan area, grid size and other setting on the DASY software.
(d) Measure SAR results for the highest power channel on each testing position.
(e) Find out the largest SAR result on these testing positions of each band
(f) Measure SAR results for other channels in worst SAR testing position if the reported SAR of highest power channel is larger than 0.8 W/kg

According to the test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

(a) Power reference measurement
(b) Area scan
(c) Zoom scan
(d) Power drift measurement

9.1 Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

(a) Extraction of the measured data (grid and values) from the Zoom Scan
(b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
(c) Generation of a high-resolution mesh within the measured volume
(d) Interpolation of all measured values form the measurement grid to the high-resolution grid
(e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
(f) Calculation of the averaged SAR within masses of 1g and 10g

9.2 Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

9.3 Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB0 is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz.

	≤ 3 GHz	> 3 GHz
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface	5 ± 1 mm	½·δ·ln(2) ± 0.5 mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	30° ± 1°	20° ± 1°
Maximum area scan spatial resolution: Δx_{Area}, Δy_{Area}	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

Zoom scans are used assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube shoes base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01v01r03 SAR measurement 100 MHz to 6 GHz.

			≤ 3 GHz	> 3 GHz
Maximum zoom scan spatial resolution: Δx_{Zoom}, Δy_{Zoom}			≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{Zoom}(1)$: between 1st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	≤ 1.5·$\Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z		≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm

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

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

9.5 Volume Scan Procedures

The volume scan is used for assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

9.6 Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	May. 16, 2014	May. 15, 2015
SPEAG	835MHz System Validation Kit	D835V2	499	Mar. 24, 2014	Mar. 23, 2015
SPEAG	1750MHz System Validation Kit	D1750V2	1068	Nov. 27, 2013	Nov. 26, 2014
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Mar. 21, 2014	Mar. 20, 2015
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 23, 2013	Aug. 22, 2014
SPEAG	Data Acquisition Electronics	DAE4	1279	Jul. 23, 2014	Jul. 22, 2015
SPEAG	Data Acquisition Electronics	DAE4	1425	Mar. 03, 2014	Mar. 02, 2015
SPEAG	Data Acquisition Electronics	DAE3	495	May. 19, 2014	May. 18, 2015
SPEAG	Data Acquisition Electronics	DAE4	1399	Nov. 07, 2013	Nov. 06, 2014
SPEAG	Dosimetric E-Field Probe	ES3DV3	3270	Sep. 24, 2013	Sep. 23, 2014
SPEAG	Dosimetric E-Field Probe	EX3DV4	3954	Nov. 04, 2013	Nov. 03, 2014
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	May. 22, 2014	May. 21, 2015
SPEAG	Dosimetric E-Field Probe	EX3DV4	3955	Nov. 12, 2013	Nov. 11, 2014
Wisewind	Thermometer	ETP-101	TM560	Oct. 22, 2013	Oct. 21, 2014
Wisewind	Thermometer	ETP-101	TM685	Oct. 22, 2013	Oct. 21, 2014
Wisewind	Thermometer	HTC-1	TM642	Oct. 22, 2013	Oct. 21, 2014
Wisewind	Thermometer	HTC-1	TM281	Oct. 22, 2013	Oct. 21, 2014
Anritsu	Radio Communication Analyzer	MT8820C	6201381760	May. 28, 2014	May. 27, 2016
Agilent	Wireless Communication Test Set	E5515C	MY48360820	Jan. 10, 2014	Jan. 09, 2016
SPEAG	Device Holder	N/A	N/A	NCR	NCR
Agilent	Signal Generator	N5181A	MY50145381	Jan. 04, 2014	Jan. 03, 2015
SPEAG	Dielectric Probe Kit	DAKS-3.5	0004	Mar. 04, 2014	Mar. 03, 2015
Agilent	ENA Network Analyzer	E5071C	MY46101588	May. 31, 2014	May. 30, 2015
Anritsu	Power Meter	ML2495A	1036004	Aug. 09, 2014	Aug. 08, 2015
Anritsu	Power Sensor	MA2411B	1027253	Aug. 11, 2014	Aug. 10, 2015
R&S	Spectrum Analyzer	FSP 7	101131	Jul. 10, 2014	Jul. 09, 2015
Agilent	Dual Directional Coupler	778D	50422	Note1	
Woken	Attenuator 1	WK0602-XX	N/A	Note1	
PE	Attenuator 2	PE7005-10	N/A	Note1	
PE	Attenuator 3	PE7005- 3	N/A	Note1	
AR	Power Amplifier	5S1G4M2	0328767	Note1	
Mini-Circuits	Power Amplifier	ZVE-3W	162601250	Note1	
Mini-Circuits	Power Amplifier	ZHL-42W+	13440021344	Note1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.

11. System Verification

11.1 Tissue Verification

The following tissue formulations are provided for reference only as some of the parameters have not been thoroughly verified. The composition of ingredients may be modified accordingly to achieve the desired target tissue parameters required for routine SAR evaluation.

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (εr)
For Head								
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0
For Body								
750	51.7	47.2	0	0.9	0.1	0	0.96	55.5
835	50.8	48.2	0	0.9	0.1	0	0.97	55.2
900	50.8	48.2	0	0.9	0.1	0	1.05	55.0
1800, 1900, 2000	70.2	0	0	0.4	0	29.4	1.52	53.3
2450	68.6	0	0	0	0	31.4	1.95	52.7
2600	68.1	0	0	0.1	0	31.8	2.16	52.5

Simulating Liquid for 5GHz, Manufactured by SPEAG

Ingredients	(% by weight)
Water	64~78%
Mineral oil	11~18%
Emulsifiers	9~15%
Additives and Salt	2~3%

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Body	22.2	0.970	54.646	0.96	55.50	1.04	-1.54	±5	2014/8/3
750	Body	22.5	0.969	54.642	0.96	55.50	0.94	-1.55	±5	2014/8/7
835	Body	22.6	0.981	53.711	0.97	55.20	1.13	-2.70	±5	2014/8/3
835	Body	22.7	0.976	53.012	0.97	55.20	0.62	-3.96	±5	2014/8/8
1750	Body	22.3	1.545	51.722	1.49	53.40	3.69	-3.14	±5	2014/8/1
1750	Body	22.3	1.517	52.252	1.49	53.40	1.81	-2.15	±5	2014/8/7
1900	Body	22.4	1.532	52.863	1.52	53.30	0.79	-0.82	±5	2014/8/2
1900	Body	22.2	1.565	52.909	1.52	53.30	2.96	-0.73	±5	2014/8/6
1900	Body	22.2	1.565	52.909	1.52	53.30	2.96	-0.73	±5	2014/8/6
2600	Body	22.4	2.209	51.123	2.16	52.50	2.27	-2.62	±5	2014/8/4
2600	Body	22.5	2.165	53.823	2.16	52.50	0.23	2.52	±5	2014/8/9

11.2 System Performance Check Results

Comparing to the original SAR value provided by SPEAG, the verification data should be within its specification of 10 %. Below table shows the target SAR and measured SAR after normalized to 1W input power. The table below indicates the system performance check can meet the variation criterion and the plots can be referred to Appendix A of this report.

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2014/8/3	750	Body	250	D750V3-1012	EX3DV4 - SN3925	DAE3 Sn495	2.10	8.65	8.40	-2.89
2014/8/7	750	Body	250	D750V3-1012	EX3DV4 - SN3955	DAE4 Sn1399	2.14	8.65	8.56	-1.04
2014/8/3	835	Body	250	D835V2-499	EX3DV4 - SN3925	DAE3 Sn495	2.40	9.46	9.60	1.48
2014/8/8	835	Body	250	D835V2-499	EX3DV4 - SN3955	DAE4 Sn1399	2.37	9.46	9.48	0.21
2014/8/1	1750	Body	250	D1750V2-1068	EX3DV4 - SN3925	DAE3 Sn495	9.71	37.50	38.84	3.57
2014/8/7	1750	Body	250	D1750V2-1068	ES3DV3 - SN3270	DAE4 Sn1279	9.48	37.50	37.92	1.12
2014/8/2	1900	Body	250	D1900V2-5d041	EX3DV4 - SN3925	DAE3 Sn495	9.75	41.00	39.00	-4.88
2014/8/6	1900	Body	250	D1900V2-5d041	EX3DV4 - SN3954	DAE4 Sn1425	11.00	41.00	44.00	7.32
2014/8/6	1900	Body	250	D1900V2-5d041	ES3DV3 - SN3270	DAE4 Sn1279	9.68	41.00	38.72	-5.56
2014/8/4	2600	Body	250	D2600V2-1008	EX3DV4 - SN3925	DAE3 Sn495	13.50	55.20	54.00	-2.17
2014/8/9	2600	Body	250	D2600V2-1008	EX3DV4 - SN3955	DAE4 Sn1399	14.80	55.20	59.20	7.25

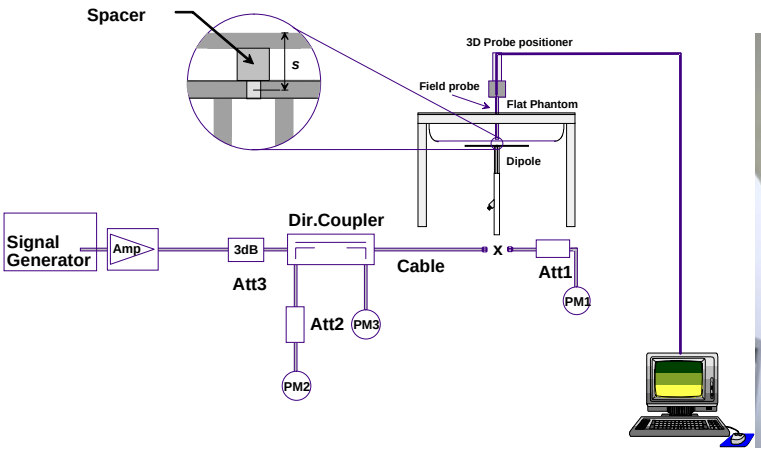


Fig 8.3.1 System Performance Check Setup

Fig 8.3.2 Setup Photo

12. RF Exposure Positions

12.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v05r02 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

13. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

General Note:

1. Per KDB 447498 D01v05r02, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. For Body SAR testing was following KDB 941225 D03v01, the GPRS 4Tx slots modes was selected when EUT operating without power back-off, the GPRS 4Tx slots modes was selected when EUT operating with power back-off, according to the highest source-based time-averaged output power.

Full Power Mode (Proximity Sensor Inactive)

Band GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GPRS (GMSK, 1 Tx slot)	31.53	31.61	31.64	33.00	22.53	22.61	22.64	24.00
GPRS (GMSK, 2 Tx slots)	30.27	30.36	30.48	30.50	24.27	24.36	24.48	24.50
GPRS (GMSK, 3 Tx slots)	28.37	28.47	28.44	29.50	24.11	24.21	24.18	25.24
GPRS (GMSK, 4 Tx slots)	27.22	27.33	27.26	28.50	24.22	24.33	24.26	25.50
EDGE (8PSK, 1 Tx slot)	26.22	26.25	26.14	28.00	17.22	17.25	17.14	19.00
EDGE (8PSK, 2 Tx slots)	26.18	26.19	26.10	28.00	20.18	20.19	20.10	22.00
EDGE (8PSK, 3 Tx slots)	25.39	25.33	25.87	27.00	21.13	21.07	21.61	22.74
EDGE (8PSK, 4 Tx slots)	24.41	24.33	25.18	26.00	21.41	21.33	22.18	23.00

Band GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GPRS (GMSK, 1 Tx slot)	28.88	29.14	28.96	30.00	19.88	20.14	19.96	21.00
GPRS (GMSK, 2 Tx slots)	28.83	29.09	28.95	30.00	22.83	23.09	22.95	24.00
GPRS (GMSK, 3 Tx slots)	28.00	28.32	28.14	28.50	23.74	24.06	23.88	24.24
GPRS (GMSK, 4 Tx slots)	26.90	27.09	26.97	27.50	23.90	24.09	23.97	24.50
EDGE (8PSK, 1 Tx slot)	25.24	25.31	25.36	27.00	16.24	16.31	16.36	18.00
EDGE (8PSK, 2 Tx slots)	25.24	25.30	25.34	27.00	19.24	19.30	19.34	21.00
EDGE (8PSK, 3 Tx slots)	24.55	24.63	24.68	26.00	20.29	20.37	20.42	21.74
EDGE (8PSK, 4 Tx slots)	23.62	23.68	23.70	25.00	20.62	20.68	20.70	22.00

Reduced Power Mode (Proximity Sensor Active)

Band GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GPRS (GMSK, 1 Tx slot)	29.33	29.46	29.44	29.50	20.33	20.46	20.44	20.50
GPRS (GMSK, 2 Tx slots)	26.41	26.42	26.47	26.50	20.41	20.42	20.47	20.50
GPRS (GMSK, 3 Tx slots)	24.42	24.44	24.39	24.50	20.16	20.18	20.13	20.24
GPRS (GMSK, 4 Tx slots)	23.45	23.41	23.38	23.50	20.45	20.41	20.38	20.50
EDGE (8PSK, 1 Tx slot)	26.22	26.25	26.14	28.00	17.22	17.25	17.14	19.00
EDGE (8PSK, 2 Tx slots)	24.17	24.20	24.11	26.00	18.17	18.20	18.11	20.00
EDGE (8PSK, 3 Tx slots)	23.40	23.34	23.67	24.00	19.14	19.08	19.41	19.74
EDGE (8PSK, 4 Tx slots)	22.62	22.65	22.68	23.00	19.62	19.65	19.68	20.00

Band GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
TX Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GPRS (GMSK, 1 Tx slot)	25.88	25.98	25.80	26.00	16.88	16.98	16.80	17.00
GPRS (GMSK, 2 Tx slots)	22.86	22.97	22.77	23.00	16.86	16.97	16.77	17.00
GPRS (GMSK, 3 Tx slots)	20.82	20.94	20.72	21.00	16.56	16.68	16.46	16.74
GPRS (GMSK, 4 Tx slots)	19.75	19.90	19.79	20.00	16.75	16.90	16.79	17.00
EDGE (8PSK, 1 Tx slot)	24.71	24.77	24.76	26.00	15.71	15.77	15.76	17.00
EDGE (8PSK, 2 Tx slots)	21.68	21.72	21.74	23.00	15.68	15.72	15.74	17.00
EDGE (8PSK, 3 Tx slots)	20.58	20.63	20.68	21.00	16.32	16.37	16.42	16.74
EDGE (8PSK, 4 Tx slots)	19.72	19.78	19.70	20.00	16.72	16.78	16.70	17.00

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set Gain Factors (β_c and β_d) and parameters were set according to each
   ii. Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
   iii. Set RMC 12.2Kbps + HSDPA mode.
   iv. Set Cell Power = -86 dBm
   v. Set HS-DSCH Configuration Type to FRC (H-set 1, QPSK)
   vi. Select HSDPA Uplink Parameters
   vii. Set Delta ACK, Delta NACK and Delta CQI = 8
   viii. Set Ack-Nack Repetition Factor to 3
   ix. Set CQI Feedback Cycle (k) to 4 ms
   x. Set CQI Repetition Factor to 2
   xi. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

Table C.10.1.4: β values for transmitter characteristics tests with HS-DPCCH

Sub-test	β_c	β_d	β_d *(SF)*	β_c/β_d	β_{HS} *(Note1, Note 2)*	**CM** (dB) *(Note 3)*	**MPR** (dB) *(Note 3)*
1	2/15	15/15	64	2/15	4/15	0.0	0.0
2	12/15 *(Note 4)*	15/15 *(Note 4)*	64	12/15 *(Note 4)*	24/15	1.0	0.0
3	15/15	8/15	64	15/8	30/15	1.5	0.5
4	15/15	4/15	64	15/4	30/15	1.5	0.5

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.

Note 2: For the HS-DPCCH power mask requirement test in clause 5.2C, 5.7A, and the Error Vector Magnitude (EVM) with HS-DPCCH test in clause 5.13.1A, and HSDPA EVM with phase discontinuity in clause 5.13.1AA, Δ_{ACK} and Δ_{NACK} = 30/15 with β_{hs} = 30/15 * β_c, and Δ_{CQI} = 24/15 with β_{hs} = 24/15 * β_c.

Note 3: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH and HS-DPCCH the MPR is based on the relative CM difference. This is applicable for only UEs that support HSDPA in release 6 and later releases.

Note 4: For subtest 2 the β_c/β_d ratio of 12/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 11/15 and β_d = 15/15.

Setup Configuration

HSUPA Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration.
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting * :
   i. Call Configs = 5.2B, 5.9B, 5.10B, and 5.13.2B with QPSK
   ii. Set the Gain Factors (β_c and β_d) and parameters (AG Index) were set according to each specific sub-test in the following table, C11.1.3, quoted from the TS 34.121
   iii. Set Cell Power = -86 dBm
   iv. Set Channel Type = 12.2k + HSPA
   v. Set UE Target Power
   vi. Power Ctrl Mode= Alternating bits
   vii. Set and observe the E-TFCI
   viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
d. The transmitted maximum output power was recorded.

Table C.11.1.3: β values for transmitter characteristics tests with HS-DPCCH and E-DCH

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 5) (Note 6)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2)	AG Index (Note 6)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	β_{ed}1: 47/15 β_{ed}2: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15 (Note 4)	15/15 (Note 4)	64	15/15 (Note 4)	30/15	24/15	134/15	4	1	1.0	0.0	21	81

Note 1: Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c.
Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.
Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.
Note 4: For subtest 5 the β_c/β_d ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 14/15 and β_d = 15/15.
Note 5: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.
Note 6: β_{ed} can not be set directly, it is set by Absolute Grant Value.

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

a. The EUT was connected to Base Station Agilent E5515C referred to the Setup Configuration below
b. The RF path losses were compensated into the measurements.
c. A call was established between EUT and Base Station with following setting:
   i. Set RMC 12.2Kbps + HSDPA mode.
   ii. Set Cell Power = -25 dBm
   iii. Set HS-DSCH Configuration Type to FRC (H-set 12, QPSK)
   iv. Select HSDPA Uplink Parameters
   v. Set Gain Factors (β_c and β_d) and parameters were set according to each Specific sub-test in the following table, C10.1.4, quoted from the TS 34.121
      a). Subtest 1: β_c/β_d=2/15
      b). Subtest 2: β_c/β_d=12/15
      c). Subtest 3: β_c/β_d=15/8
      d). Subtest 4: β_c/β_d=15/4
   vi. Set Delta ACK, Delta NACK and Delta CQI = 8
   vii. Set Ack-Nack Repetition Factor to 3
   viii. Set CQI Feedback Cycle (k) to 4 ms
   ix. Set CQI Repetition Factor to 2
   x. Power Ctrl Mode = All Up bits
d. The transmitted maximum output power was recorded.

The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
A summary of these settings are illustrated below:

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

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

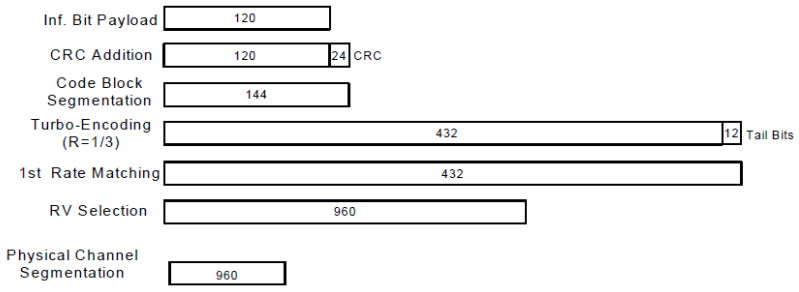


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration

<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 D02v02r02, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is < 0.25dB higher than RMC, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded.

Full Power Mode (Proximity Sensor Inactive)

Band			WCDMA V			WCDMA II			WCDMA IV		
TX Channel			4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency (MHz)			826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
MPR(dB)	3GPP Rel 99	RMC 12.2Kbps	22.58	22.52	22.86	22.97	23.21	23.06	22.96	23.07	23.06
0	3GPP Rel 6	HSDPA Subtest-1	22.56	22.52	22.78	22.95	23.18	23.01	22.95	23.05	23.04
0	3GPP Rel 6	HSDPA Subtest-2	22.51	22.53	22.76	22.93	23.16	23.02	22.94	23.04	23.02
0.5	3GPP Rel 6	HSDPA Subtest-3	22.19	22.20	22.41	22.68	22.66	22.84	22.48	22.56	22.51
0.5	3GPP Rel 6	HSDPA Subtest-4	22.21	22.17	22.38	22.47	22.43	22.63	22.52	22.60	22.50
0	3GPP Rel 8	DC-HSDPA Subtest-1	22.55	22.51	22.75	22.96	23.17	23.02	22.94	23.04	23.01
0	3GPP Rel 8	DC-HSDPA Subtest-2	22.54	22.50	22.73	22.95	23.18	23.04	22.93	23.01	23.00
0.5	3GPP Rel 8	DC-HSDPA Subtest-3	22.18	22.20	22.40	22.67	22.64	22.81	22.50	22.55	22.50
0.5	3GPP Rel 8	DC-HSDPA Subtest-4	22.20	22.22	22.39	22.46	22.44	22.61	22.49	22.58	22.48
0	3GPP Rel 6	HSUPA Subtest-1	22.55	22.51	22.69	22.94	23.20	23.04	22.94	23.04	23.03
2	3GPP Rel 6	HSUPA Subtest-2	20.68	20.61	20.70	20.81	21.17	21.01	20.99	21.05	21.03
1	3GPP Rel 6	HSUPA Subtest-3	21.61	21.58	21.71	21.77	22.20	22.05	22.01	22.04	22.01
2	3GPP Rel 6	HSUPA Subtest-4	21.34	21.36	21.38	21.42	21.88	21.85	21.47	21.56	21.41
0	3GPP Rel 6	HSUPA Subtest-5	22.52	22.51	22.70	22.93	23.19	23.02	22.91	23.00	22.99

Reduced Power Mode (Proximity Sensor active)

Band			WCDMA V			WCDMA II			WCDMA IV		
TX Channel			4132	4182	4233	9262	9400	9538	1312	1413	1513
Frequency (MHz)			826.4	836.4	846.6	1852.4	1880	1907.6	1712.4	1732.6	1752.6
MPR(dB)	3GPP Rel 99	RMC 12.2Kbps	19.98	19.63	19.78	16.40	16.68	16.88	17.60	17.76	17.83
0	3GPP Rel 6	HSDPA Subtest-1	19.96	19.62	19.76	16.35	16.66	16.81	17.57	17.67	17.66
0	3GPP Rel 6	HSDPA Subtest-2	19.91	19.63	19.74	16.38	16.64	16.82	17.56	17.66	17.64
0.5	3GPP Rel 6	HSDPA Subtest-3	19.49	19.50	19.41	16.18	16.16	16.34	17.10	17.18	17.13
0.5	3GPP Rel 6	HSDPA Subtest-4	19.41	19.47	19.48	15.97	15.93	16.13	17.14	17.22	17.12
0	3GPP Rel 8	DC-HSDPA Subtest-1	19.95	19.61	19.75	16.33	16.64	16.79	17.55	17.65	17.64
0	3GPP Rel 8	DC-HSDPA Subtest-2	19.90	19.62	19.73	16.36	16.62	16.80	17.54	17.64	17.62
0.5	3GPP Rel 8	DC-HSDPA Subtest-3	19.48	19.49	19.40	16.16	16.14	16.32	17.08	17.16	17.11
0.5	3GPP Rel 8	DC-HSDPA Subtest-4	19.40	19.46	19.47	15.95	15.91	16.11	17.12	17.20	17.10
0	3GPP Rel 6	HSUPA Subtest-1	19.95	19.61	19.69	16.36	16.60	16.79	17.55	17.62	17.71
2	3GPP Rel 6	HSUPA Subtest-2	17.98	17.61	17.70	14.77	14.91	14.95	15.61	15.64	15.70
1	3GPP Rel 6	HSUPA Subtest-3	18.91	18.72	18.71	15.72	15.85	15.90	16.56	16.63	16.72
2	3GPP Rel 6	HSUPA Subtest-4	17.84	17.66	17.68	14.91	14.93	14.96	15.73	15.88	15.92
0	3GPP Rel 6	HSUPA Subtest-5	19.92	19.61	19.70	16.38	16.59	16.77	17.59	17.74	17.81

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r03, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r03, 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 for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r03, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. 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.
6. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, 16QAM SAR testing is not required.
7. Per KDB 941225 D05v02r03, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.

Maximum Average RF Power (Proximity Sensor Inactive)

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.15	23.27	23.17	23.5	0
10	QPSK	1	24	23.12	23.09	23.13		
10	QPSK	1	49	22.91	22.83	23.00		
10	QPSK	25	0	22.38	22.41	22.39	22.5	1
10	QPSK	25	12	22.35	22.32	22.36		
10	QPSK	25	24	22.31	22.26	22.35		
10	QPSK	50	0	22.34	22.39	22.38		
10	16QAM	1	0	22.39	22.30	22.49	22.5	1
10	16QAM	1	24	22.47	22.45	22.48		
10	16QAM	1	49	22.26	22.15	22.37		
10	16QAM	25	0	21.41	21.39	21.43	21.5	2
10	16QAM	25	12	21.38	21.41	21.43		
10	16QAM	25	24	21.35	21.36	21.41		
10	16QAM	50	0	21.38	21.40	21.44		
Channel				23755	23790	23825	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.17	23.07	23.06	23.5	0
5	QPSK	1	12	23.21	23.14	23.07		
5	QPSK	1	24	23.13	23.05	23.03		
5	QPSK	12	0	22.45	22.40	22.35	22.5	1
5	QPSK	12	6	22.43	22.36	22.33		
5	QPSK	12	11	22.41	22.34	22.33		
5	QPSK	25	0	22.41	22.32	22.33		
5	16QAM	1	0	22.49	22.39	22.38	22.5	1
5	16QAM	1	12	22.40	22.46	22.40		
5	16QAM	1	24	22.42	22.34	22.31		
5	16QAM	12	0	21.41	21.42	21.37	21.5	2
5	16QAM	12	6	21.48	21.40	21.39		
5	16QAM	12	11	21.45	21.39	21.41		
5	16QAM	25	0	21.48	21.41	21.37		

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		23.35		23.5	0
10	QPSK	1	24		22.99			
10	QPSK	1	49		22.92			
10	QPSK	25	0		22.48		22.5	1
10	QPSK	25	12		22.42			
10	QPSK	25	24		22.40			
10	QPSK	50	0		22.35			
10	16QAM	1	0		22.36		22.5	1
10	16QAM	1	24		22.26			
10	16QAM	1	49		21.91			
10	16QAM	25	0		21.44		21.5	2
10	16QAM	25	12		21.47			
10	16QAM	25	24		21.46			
10	16QAM	50	0		21.31			
Channel				23205	23230	23255	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.30	23.33	23.29	23.5	0
5	QPSK	1	12	23.22	23.34	23.31		
5	QPSK	1	24	23.27	23.24	23.19		
5	QPSK	12	0	22.48	22.48	22.43	22.5	1
5	QPSK	12	6	22.46	22.46	22.42		
5	QPSK	12	11	22.47	22.45	22.39		
5	QPSK	25	0	22.45	22.44	22.38		
5	16QAM	1	0	22.49	22.41	22.49	22.5	1
5	16QAM	1	12	22.44	22.44	22.42		
5	16QAM	1	24	22.46	22.31	22.35		
5	16QAM	12	0	21.46	21.36	21.40	21.5	2
5	16QAM	12	6	21.42	21.31	21.39		
5	16QAM	12	11	21.49	21.47	21.33		
5	16QAM	25	0	21.30	21.48	21.35		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.85	22.67	22.45	23.5	0
10	QPSK	1	24	22.77	22.59	22.52		
10	QPSK	1	49	22.59	22.39	22.34		
10	QPSK	25	0	22.00	21.84	21.69	22.5	1
10	QPSK	25	12	21.91	21.75	21.68		
10	QPSK	25	24	21.87	21.69	21.64		
10	QPSK	50	0	21.95	21.78	21.69		
10	16QAM	1	0	22.13	21.97	21.74	22.5	1
10	16QAM	1	24	22.04	21.88	21.78		
10	16QAM	1	49	21.83	21.69	21.58		
10	16QAM	25	0	20.88	20.71	20.56	21.5	2
10	16QAM	25	12	20.79	20.60	20.58		
10	16QAM	25	24	20.74	20.56	20.58		
10	16QAM	50	0	20.81	20.64	20.61		
Channel				20425	20525	20625	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.83	22.61	22.53	23.5	0
5	QPSK	1	12	22.84	22.64	22.57		
5	QPSK	1	24	22.73	22.49	22.54		
5	QPSK	12	0	22.05	21.83	21.77	22.5	1
5	QPSK	12	6	22.00	21.79	21.76		
5	QPSK	12	11	21.99	21.77	21.76		
5	QPSK	25	0	21.99	21.78	21.75		
5	16QAM	1	0	22.09	21.88	21.79	22.5	1
5	16QAM	1	12	22.11	21.97	21.84		
5	16QAM	1	24	22.00	21.75	21.76		
5	16QAM	12	0	20.94	20.73	20.63	21.5	2
5	16QAM	12	6	20.86	20.68	20.64		
5	16QAM	12	11	20.85	20.64	20.62		
5	16QAM	25	0	20.88	20.67	20.64		
Channel				20415	20525	20635	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.83	22.64	22.55	23.5	0
3	QPSK	1	7	22.84	22.60	22.55		
3	QPSK	1	14	22.78	22.55	22.57		
3	QPSK	8	0	22.04	21.81	21.78	22.5	1
3	QPSK	8	4	22.00	21.77	21.77		
3	QPSK	8	7	22.00	21.77	21.80		
3	QPSK	15	0	22.01	21.78	21.82		
3	16QAM	1	0	22.11	21.88	21.78	22.5	1
3	16QAM	1	7	22.10	21.94	21.86		
3	16QAM	1	14	22.04	21.81	21.78		
3	16QAM	8	0	20.98	20.76	20.70	21.5	2
3	16QAM	8	4	20.92	20.70	20.67		
3	16QAM	8	7	20.91	20.72	20.72		
3	16QAM	15	0	20.91	20.70	20.67		

Channel				20407	20525	20643	Tune up Limit (dBm)	Target MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.73	22.71	22.68	23.5	0
1.4	QPSK	1	2	22.71	22.68	22.67		
1.4	QPSK	1	5	22.72	22.70	22.71		
1.4	QPSK	3	0	22.77	22.73	22.75		
1.4	QPSK	3	1	22.76	22.75	22.75		
1.4	QPSK	3	2	22.76	22.72	22.76		
1.4	QPSK	6	0	21.85	21.83	21.85	22.5	1
1.4	16QAM	1	0	21.95	21.94	21.86	22.5	1
1.4	16QAM	1	2	21.94	21.93	21.86		
1.4	16QAM	1	5	21.94	21.92	21.88		
1.4	16QAM	3	0	21.77	21.74	21.73		
1.4	16QAM	3	1	21.75	21.70	21.69		
1.4	16QAM	3	2	21.75	21.71	21.72		
1.4	16QAM	6	0	20.79	20.77	20.79	21.5	2

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.15	23.22	23.18	23.5	0
20	QPSK	1	49	22.74	22.65	22.69		
20	QPSK	1	99	22.52	22.61	22.57		
20	QPSK	50	0	22.19	22.22	22.15	22.5	1
20	QPSK	50	24	21.98	21.94	21.93		
20	QPSK	50	49	21.86	21.88	21.86		
20	QPSK	100	0	22.05	22.08	21.99		
20	16QAM	1	0	22.24	22.32	22.29	22.5	1
20	16QAM	1	49	22.05	22.00	21.99		
20	16QAM	1	99	21.67	21.74	21.62		
20	16QAM	50	0	21.19	21.18	21.13	21.5	2
20	16QAM	50	24	20.98	20.94	20.94		
20	16QAM	50	49	20.85	20.88	20.90		
20	16QAM	100	0	20.99	20.98	21.02		
Channel				20025	20175	20325	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.08	23.05	23.02	23.5	0
15	QPSK	1	37	23.00	22.81	22.92		
15	QPSK	1	74	22.78	22.79	22.80		
15	QPSK	36	0	22.29	22.24	22.27	22.5	1
15	QPSK	36	18	22.08	22.02	22.09		
15	QPSK	36	37	22.02	22.01	22.06		
15	QPSK	75	0	22.16	22.10	22.17		
15	16QAM	1	0	22.43	22.46	22.43	22.5	1
15	16QAM	1	37	22.20	22.26	22.16		
15	16QAM	1	74	22.09	22.14	22.06		
15	16QAM	36	0	21.31	21.27	21.26	21.5	2
15	16QAM	36	18	21.10	21.06	21.06		
15	16QAM	36	37	21.03	21.02	21.02		
15	16QAM	75	0	21.15	21.10	21.18		
Channel				20000	20175	20350	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.07	22.99	23.05	23.5	0
10	QPSK	1	24	22.99	22.84	22.96		
10	QPSK	1	49	22.76	22.69	22.75		
10	QPSK	25	0	22.22	22.08	22.19	22.5	1
10	QPSK	25	12	22.11	22.01	22.10		
10	QPSK	25	24	22.04	21.94	22.05		
10	QPSK	50	0	22.11	22.01	22.15		
10	16QAM	1	0	22.31	22.31	22.37	22.5	1
10	16QAM	1	24	22.20	22.19	22.22		
10	16QAM	1	49	22.01	22.04	22.07		
10	16QAM	25	0	21.19	21.12	21.21	21.5	2
10	16QAM	25	12	21.12	21.02	21.10		
10	16QAM	25	24	21.05	20.95	21.07		
10	16QAM	50	0	21.15	21.08	21.15		

Channel				19975	20175	20375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.95	22.90	22.94	23.5	0
5	QPSK	1	12	22.90	22.92	22.87		
5	QPSK	1	24	22.81	22.77	22.84		
5	QPSK	12	0	22.17	22.08	22.13	22.5	1
5	QPSK	12	6	22.12	22.04	22.10		
5	QPSK	12	11	22.08	22.02	22.07		
5	QPSK	25	0	22.11	22.05	22.09		
5	16QAM	1	0	22.24	22.24	22.23	22.5	1
5	16QAM	1	12	22.20	22.28	22.22		
5	16QAM	1	24	22.12	22.09	22.10		
5	16QAM	12	0	21.21	21.15	21.18	21.5	2
5	16QAM	12	6	21.15	21.07	21.12		
5	16QAM	12	11	21.11	21.07	21.10		
5	16QAM	25	0	21.13	21.09	21.12		
Channel				19965	20175	20385	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.98	22.91	22.89	23.5	0
3	QPSK	1	7	22.87	22.90	22.85		
3	QPSK	1	14	22.88	22.81	22.82		
3	QPSK	8	0	22.17	22.05	22.11	22.5	1
3	QPSK	8	4	22.13	22.00	22.10		
3	QPSK	8	7	22.11	22.01	22.06		
3	QPSK	15	0	22.14	22.03	22.09		
3	16QAM	1	0	22.25	22.19	22.16	22.5	1
3	16QAM	1	7	22.22	22.29	22.15		
3	16QAM	1	14	22.15	22.13	22.11		
3	16QAM	8	0	21.23	21.14	21.17	21.5	2
3	16QAM	8	4	21.19	21.10	21.15		
3	16QAM	8	7	21.18	21.10	21.17		
3	16QAM	15	0	21.19	21.12	21.20		
Channel				19957	20175	20393	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.99	22.94	22.97	23.5	0
1.4	QPSK	1	2	22.98	22.92	22.94		
1.4	QPSK	1	5	22.98	22.92	22.95		
1.4	QPSK	3	0	23.07	22.98	23.02		
1.4	QPSK	3	1	23.06	22.99	23.00		
1.4	QPSK	3	2	23.07	22.97	23.04		
1.4	QPSK	6	0	22.10	22.09	22.09	22.5	1
1.4	16QAM	1	0	22.28	22.25	22.26	22.5	1
1.4	16QAM	1	2	22.25	22.25	22.24		
1.4	16QAM	1	5	22.24	22.23	22.22		
1.4	16QAM	3	0	22.08	22.04	22.07		
1.4	16QAM	3	1	22.10	21.96	22.01		
1.4	16QAM	3	2	22.05	22.00	22.02		
1.4	16QAM	6	0	21.26	21.17	21.26	21.5	2

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	23.39	23.44	23.34	23.5	0
20	QPSK	1	49	22.96	23.09	22.88		
20	QPSK	1	99	22.88	22.76	22.80		
20	QPSK	50	0	22.47	22.48	22.42	22.5	1
20	QPSK	50	24	22.31	22.45	22.27		
20	QPSK	50	49	22.32	22.38	22.19		
20	QPSK	100	0	22.47	22.49	22.39		
20	16QAM	1	0	22.44	22.46	22.48	22.5	1
20	16QAM	1	49	22.22	22.37	22.15		
20	16QAM	1	99	22.19	21.99	21.81		
20	16QAM	50	0	21.42	21.47	21.48	21.5	2
20	16QAM	50	24	21.25	21.32	21.18		
20	16QAM	50	49	21.25	21.28	21.10		
20	16QAM	100	0	21.37	21.40	21.30		
Channel				18675	18900	19125	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.39	23.35	23.32	23.5	0
15	QPSK	1	37	23.13	23.18	22.98		
15	QPSK	1	74	23.12	22.97	22.78		
15	QPSK	36	0	22.43	22.40	22.45	22.5	1
15	QPSK	36	18	22.37	22.46	22.26		
15	QPSK	36	37	22.36	22.36	22.17		
15	QPSK	75	0	22.46	22.46	22.31		
15	16QAM	1	0	22.40	22.45	22.48	22.5	1
15	16QAM	1	37	22.34	22.40	22.27		
15	16QAM	1	74	22.39	22.20	21.98		
15	16QAM	36	0	21.49	21.40	21.36	21.5	2
15	16QAM	36	18	21.28	21.38	21.18		
15	16QAM	36	37	21.26	21.29	21.07		
15	16QAM	75	0	21.38	21.38	21.20		
Channel				18650	18900	19150	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.27	23.37	23.23	23.5	0
10	QPSK	1	24	23.03	23.16	22.96		
10	QPSK	1	49	23.01	23.15	22.87		
10	QPSK	25	0	22.39	22.46	22.38	22.5	1
10	QPSK	25	12	22.27	22.42	22.25		
10	QPSK	25	24	22.26	22.42	22.20		
10	QPSK	50	0	22.34	22.48	22.29		
10	16QAM	1	0	22.47	22.47	22.42	22.5	1
10	16QAM	1	24	22.33	22.36	22.31		
10	16QAM	1	49	22.31	22.33	22.16		
10	16QAM	25	0	21.33	21.48	21.33	21.5	2
10	16QAM	25	12	21.21	21.40	21.18		
10	16QAM	25	24	21.19	21.40	21.17		
10	16QAM	50	0	21.28	21.46	21.26		

Channel				18625	18900	19175	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.10	23.30	23.02	23.5	0
5	QPSK	1	12	23.09	23.29	22.98		
5	QPSK	1	24	22.99	23.16	22.84		
5	QPSK	12	0	22.37	22.48	22.28	22.5	1
5	QPSK	12	6	22.29	22.45	22.21		
5	QPSK	12	11	22.29	22.45	22.21		
5	QPSK	25	0	22.30	22.46	22.22		
5	16QAM	1	0	22.38	22.49	22.30	22.5	1
5	16QAM	1	12	22.32	22.48	22.21		
5	16QAM	1	24	22.26	22.45	22.10		
5	16QAM	12	0	21.33	21.49	21.25	21.5	2
5	16QAM	12	6	21.25	21.40	21.15		
5	16QAM	12	11	21.22	21.37	21.13		
5	16QAM	25	0	21.25	21.41	21.17		
Channel				18615	18900	19185	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.04	23.26	22.96	23.5	0
3	QPSK	1	7	23.06	23.26	22.88		
3	QPSK	1	14	22.98	23.18	22.81		
3	QPSK	8	0	22.31	22.47	22.23	22.5	1
3	QPSK	8	4	22.26	22.42	22.18		
3	QPSK	8	7	22.28	22.44	22.18		
3	QPSK	15	0	22.28	22.45	22.19		
3	16QAM	1	0	22.33	22.48	22.23	22.5	1
3	16QAM	1	7	22.31	22.43	22.15		
3	16QAM	1	14	22.27	22.42	22.10		
3	16QAM	8	0	21.31	21.48	21.22	21.5	2
3	16QAM	8	4	21.28	21.42	21.18		
3	16QAM	8	7	21.27	21.42	21.15		
3	16QAM	15	0	21.27	21.42	21.16		
Channel				18607	18900	19193	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.12	23.34	23.02	23.5	0
1.4	QPSK	1	2	23.09	23.30	23.01		
1.4	QPSK	1	5	23.11	23.30	23.00		
1.4	QPSK	3	0	23.21	23.41	23.15		
1.4	QPSK	3	1	23.21	23.40	23.12		
1.4	QPSK	3	2	23.18	23.36	23.14		
1.4	QPSK	6	0	22.31	22.50	22.19	22.5	1
1.4	16QAM	1	0	22.37	22.48	22.23	22.5	1
1.4	16QAM	1	2	22.35	22.45	22.20		
1.4	16QAM	1	5	22.34	22.42	22.17		
1.4	16QAM	3	0	22.22	22.40	22.11		
1.4	16QAM	3	1	22.18	22.34	22.14		
1.4	16QAM	3	2	22.20	22.37	22.10		
1.4	16QAM	6	0	21.31	21.47	21.24	21.5	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.43	23.48	23.34	23.5	0
20	QPSK	1	49	23.08	22.96	22.68		
20	QPSK	1	99	22.92	22.90	22.67		
20	QPSK	50	0	22.41	22.43	22.37	22.5	1
20	QPSK	50	24	22.32	22.23	22.27		
20	QPSK	50	49	22.38	22.24	22.04		
20	QPSK	100	0	22.40	22.47	22.25		
20	16QAM	1	0	22.46	22.44	22.40	22.5	1
20	16QAM	1	49	22.30	22.26	22.00		
20	16QAM	1	99	22.23	22.13	21.96		
20	16QAM	50	0	21.43	21.40	21.31	21.5	2
20	16QAM	50	24	21.29	21.21	20.92		
20	16QAM	50	49	21.33	21.19	20.99		
20	16QAM	100	0	21.42	21.40	21.16		
Channel				20825	21100	21375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.40	23.41	23.40	23.5	0
15	QPSK	1	37	23.15	23.03	22.80		
15	QPSK	1	74	23.37	22.98	22.96		
15	QPSK	36	0	22.41	22.44	22.26	22.5	1
15	QPSK	36	18	22.42	22.25	22.01		
15	QPSK	36	37	22.46	22.21	22.04		
15	QPSK	75	0	22.31	22.35	22.15		
15	16QAM	1	0	22.44	22.32	22.45	22.5	1
15	16QAM	1	37	22.32	22.25	22.00		
15	16QAM	1	74	22.41	22.22	22.13		
15	16QAM	36	0	21.49	21.50	21.22	21.5	2
15	16QAM	36	18	21.33	21.28	20.97		
15	16QAM	36	37	21.39	21.24	21.02		
15	16QAM	75	0	21.47	21.38	21.13		
Channel				20800	21100	21400	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.18	23.21	22.99	23.5	0
10	QPSK	1	24	23.13	23.07	22.78		
10	QPSK	1	49	23.03	22.87	22.75		
10	QPSK	25	0	22.35	22.35	22.11	22.5	1
10	QPSK	25	12	22.26	22.21	21.95		
10	QPSK	25	24	22.24	22.17	21.95		
10	QPSK	50	0	22.30	22.28	22.04		
10	16QAM	1	0	22.48	22.46	22.32	22.5	1
10	16QAM	1	24	22.44	22.43	22.13		
10	16QAM	1	49	22.31	22.21	22.09		
10	16QAM	25	0	21.34	21.34	21.07	21.5	2
10	16QAM	25	12	21.31	21.20	20.95		
10	16QAM	25	24	21.29	21.16	20.95		
10	16QAM	50	0	21.34	21.25	21.02		

Channel				20775	21100	21425	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.03	22.99	22.76	23.5	0
5	QPSK	1	12	23.06	22.96	22.76		
5	QPSK	1	24	22.97	22.83	22.68		
5	QPSK	12	0	22.33	22.26	22.03	22.5	1
5	QPSK	12	6	22.28	22.21	21.98		
5	QPSK	12	11	22.29	22.18	21.98		
5	QPSK	25	0	22.26	22.19	21.95		
5	16QAM	1	0	22.37	22.40	22.03	22.5	1
5	16QAM	1	12	22.37	22.38	22.03		
5	16QAM	1	24	22.29	22.22	21.95		
5	16QAM	12	0	21.32	21.32	20.95	21.5	2
5	16QAM	12	6	21.23	21.27	20.91		
5	16QAM	12	11	21.25	21.22	20.91		
5	16QAM	25	0	21.25	21.25	20.95		

Reduced Average RF Power (Proximity Sensor active)

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	21.46	21.48	21.43	21.5	0
10	QPSK	1	24	21.40	21.46	21.42		
10	QPSK	1	49	21.27	21.35	21.31		
10	QPSK	25	0	20.46	20.49	20.49	20.5	1
10	QPSK	25	12	20.41	20.47	20.46		
10	QPSK	25	24	20.40	20.38	20.41		
10	QPSK	50	0	20.28	20.29	20.27		
10	16QAM	1	0	20.47	20.35	20.48	20.5	1
10	16QAM	1	24	20.29	20.24	20.41		
10	16QAM	1	49	20.15	20.22	20.27		
10	16QAM	25	0	19.50	19.48	19.46	19.5	2
10	16QAM	25	12	19.35	19.43	19.43		
10	16QAM	25	24	19.34	19.42	19.36		
10	16QAM	50	0	19.27	19.36	19.28		
Channel				23755	23790	23825	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	21.46	21.48	21.38	21.5	0
5	QPSK	1	12	21.35	21.40	21.33		
5	QPSK	1	24	21.25	21.33	21.31		
5	QPSK	12	0	20.41	20.49	20.42	20.5	1
5	QPSK	12	6	20.31	20.39	20.38		
5	QPSK	12	11	20.37	20.28	20.32		
5	QPSK	25	0	20.19	20.19	20.22		
5	16QAM	1	0	20.45	20.29	20.47	20.5	1
5	16QAM	1	12	20.25	20.24	20.37		
5	16QAM	1	24	20.11	20.19	20.27		
5	16QAM	12	0	19.42	19.48	19.36	19.5	2
5	16QAM	12	6	19.34	19.42	19.41		
5	16QAM	12	11	19.26	19.37	19.26		
5	16QAM	25	0	19.22	19.35	19.19		

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		20.36		20.5	0
10	QPSK	1	24		20.31			
10	QPSK	1	49		19.86			
10	QPSK	25	0		19.49		19.5	1
10	QPSK	25	12		19.42			
10	QPSK	25	24		19.33			
10	QPSK	50	0		19.25			
10	16QAM	1	0		19.47		19.5	1
10	16QAM	1	24		19.38			
10	16QAM	1	49		18.99			
10	16QAM	25	0		18.47		18.5	2
10	16QAM	25	12		18.39			
10	16QAM	25	24		18.36			
10	16QAM	50	0		18.23			
Channel				23205	23230	23255	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	20.31	20.32	20.25	20.5	0
5	QPSK	1	12	20.21	20.24	20.24		
5	QPSK	1	24	19.83	19.85	19.77		
5	QPSK	12	0	19.37	19.41	19.32	19.5	1
5	QPSK	12	6	19.34	19.36	19.30		
5	QPSK	12	11	19.21	19.30	19.20		
5	QPSK	25	0	19.23	19.24	19.24		
5	16QAM	1	0	19.41	19.47	19.45	19.5	1
5	16QAM	1	12	19.29	19.36	19.36		
5	16QAM	1	24	18.91	18.95	18.87		
5	16QAM	12	0	18.37	18.46	18.36	18.5	2
5	16QAM	12	6	18.24	18.31	18.28		
5	16QAM	12	11	18.27	18.34	18.26		
5	16QAM	25	0	18.18	18.20	18.16		

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	18.54	18.36	18.25	19	0
10	QPSK	1	24	18.50	18.30	18.21		
10	QPSK	1	49	18.28	17.97	18.04		
10	QPSK	25	0	17.55	17.36	17.26	18	1
10	QPSK	25	12	17.48	17.31	17.22		
10	QPSK	25	24	17.41	17.21	17.19		
10	QPSK	50	0	17.48	17.29	17.21		
10	16QAM	1	0	17.72	17.51	17.38	18	1
10	16QAM	1	24	17.68	17.53	17.41		
10	16QAM	1	49	17.47	17.22	17.24		
10	16QAM	25	0	16.50	16.33	16.22	17	2
10	16QAM	25	12	16.42	16.24	16.18		
10	16QAM	25	24	16.38	16.15	16.15		
10	16QAM	50	0	16.43	16.25	16.18		
Channel				20425	20525	20625	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	18.47	18.25	18.12	19	0
5	QPSK	1	12	18.47	18.29	18.19		
5	QPSK	1	24	18.37	18.13	18.11		
5	QPSK	12	0	17.55	17.33	17.22	18	1
5	QPSK	12	6	17.50	17.31	17.22		
5	QPSK	12	11	17.48	17.28	17.23		
5	QPSK	25	0	17.49	17.28	17.22		
5	16QAM	1	0	17.68	17.47	17.32	18	1
5	16QAM	1	12	17.69	17.51	17.41		
5	16QAM	1	24	17.56	17.32	17.29		
5	16QAM	12	0	16.53	16.32	16.19	17	2
5	16QAM	12	6	16.46	16.27	16.18		
5	16QAM	12	11	16.43	16.24	16.16		
5	16QAM	25	0	16.45	16.26	16.18		
Channel				20415	20525	20635	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	18.50	18.30	18.16	19	0
3	QPSK	1	7	18.48	18.18	18.20		
3	QPSK	1	14	18.42	18.19	18.14		
3	QPSK	8	0	17.55	17.32	17.25	18	1
3	QPSK	8	4	17.52	17.28	17.24		
3	QPSK	8	7	17.52	17.28	17.26		
3	QPSK	15	0	17.52	17.29	17.23		
3	16QAM	1	0	17.66	17.47	17.37	18	1
3	16QAM	1	7	17.69	17.51	17.45		
3	16QAM	1	14	17.59	17.37	17.36		
3	16QAM	8	0	16.57	16.34	16.24	17	2
3	16QAM	8	4	16.55	16.31	16.23		
3	16QAM	8	7	16.55	16.32	16.25		
3	16QAM	15	0	16.55	16.34	16.22		

Channel				20407	20525	20643	Tune up Limit (dBm)	Target MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	18.49	18.36	18.26	19	0
1.4	QPSK	1	2	18.48	18.34	18.26		
1.4	QPSK	1	5	18.46	18.35	18.27		
1.4	QPSK	3	0	18.46	18.38	18.30		
1.4	QPSK	3	1	18.40	18.39	18.30		
1.4	QPSK	3	2	18.45	18.39	18.31		
1.4	QPSK	6	0	17.57	17.41	17.32	18	1
1.4	16QAM	1	0	17.75	17.60	17.44	18	1
1.4	16QAM	1	2	17.71	17.54	17.45		
1.4	16QAM	1	5	17.75	17.52	17.46		
1.4	16QAM	3	0	17.53	17.28	17.26		
1.4	16QAM	3	1	17.51	17.24	17.21		
1.4	16QAM	3	2	17.51	17.25	17.24		
1.4	16QAM	6	0	16.61	16.36	16.34	17	2

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	17.74	17.76	17.64	18	0
20	QPSK	1	49	17.47	17.34	17.36		
20	QPSK	1	99	17.33	17.28	17.22		
20	QPSK	50	0	16.68	16.73	16.67	17	1
20	QPSK	50	24	16.51	16.41	16.41		
20	QPSK	50	49	16.44	16.36	16.36		
20	QPSK	100	0	16.59	16.60	16.51		
20	16QAM	1	0	16.98	16.98	16.96	17	1
20	16QAM	1	49	16.60	16.56	16.53		
20	16QAM	1	99	16.33	16.31	16.32		
20	16QAM	50	0	15.60	15.58	15.54	16	2
20	16QAM	50	24	15.37	15.30	15.29		
20	16QAM	50	49	15.29	15.24	15.23		
20	16QAM	100	0	15.43	15.38	15.36		
Channel				20025	20175	20325	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	17.69	17.66	17.59	18	0
15	QPSK	1	37	17.55	17.43	17.41		
15	QPSK	1	74	17.24	17.36	17.20		
15	QPSK	36	0	16.69	16.71	16.60	17	1
15	QPSK	36	18	16.53	16.47	16.48		
15	QPSK	36	37	16.45	16.47	16.39		
15	QPSK	75	0	16.56	16.58	16.51		
15	16QAM	1	0	16.88	16.88	16.89	17	1
15	16QAM	1	37	16.82	16.83	16.68		
15	16QAM	1	74	16.58	16.70	16.51		
15	16QAM	36	0	15.58	15.61	15.47	16	2
15	16QAM	36	18	15.42	15.39	15.32		
15	16QAM	36	37	15.31	15.35	15.24		
15	16QAM	75	0	15.43	15.44	15.38		
Channel				20000	20175	20350	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	17.59	17.72	17.68	18	0
10	QPSK	1	24	17.58	17.47	17.48		
10	QPSK	1	49	17.45	17.38	17.44		
10	QPSK	25	0	16.67	16.61	16.61	17	1
10	QPSK	25	12	16.56	16.50	16.48		
10	QPSK	25	24	16.51	16.44	16.48		
10	QPSK	50	0	16.62	16.54	16.57		
10	16QAM	1	0	16.89	16.89	16.94	17	1
10	16QAM	1	24	16.78	16.77	16.70		
10	16QAM	1	49	16.74	16.64	16.68		
10	16QAM	25	0	15.58	15.51	15.51	16	2
10	16QAM	25	12	15.47	15.38	15.38		
10	16QAM	25	24	15.44	15.32	15.38		
10	16QAM	50	0	15.53	15.43	15.46		

Channel				19975	20175	20375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	17.54	17.46	17.44	18	0
5	QPSK	1	12	17.50	17.48	17.41		
5	QPSK	1	24	17.43	17.32	17.35		
5	QPSK	12	0	16.59	16.50	16.50	17	1
5	QPSK	12	6	16.54	16.44	16.46		
5	QPSK	12	11	16.52	16.42	16.46		
5	QPSK	25	0	16.54	16.45	16.46		
5	16QAM	1	0	16.80	16.77	16.70	17	1
5	16QAM	1	12	16.82	16.87	16.72		
5	16QAM	1	24	16.66	16.59	16.59		
5	16QAM	12	0	15.50	15.45	15.43	16	2
5	16QAM	12	6	15.43	15.37	15.37		
5	16QAM	12	11	15.41	15.34	15.35		
5	16QAM	25	0	15.44	15.38	15.40		
Channel				19965	20175	20385	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	17.59	17.54	17.50	18	0
3	QPSK	1	7	17.53	17.52	17.44		
3	QPSK	1	14	17.50	17.40	17.42		
3	QPSK	8	0	16.61	16.50	16.54	17	1
3	QPSK	8	4	16.60	16.48	16.55		
3	QPSK	8	7	16.58	16.47	16.51		
3	QPSK	15	0	16.59	16.48	16.53		
3	16QAM	1	0	16.81	16.76	16.74	17	1
3	16QAM	1	7	16.84	16.84	16.77		
3	16QAM	1	14	16.72	16.63	16.66		
3	16QAM	8	0	15.59	15.48	15.48	16	2
3	16QAM	8	4	15.56	15.44	15.47		
3	16QAM	8	7	15.56	15.47	15.49		
3	16QAM	15	0	15.53	15.49	15.46		
Channel				19957	20175	20393	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	17.58	17.50	17.47	18	0
1.4	QPSK	1	2	17.56	17.47	17.45		
1.4	QPSK	1	5	17.54	17.45	17.44		
1.4	QPSK	3	0	17.60	17.46	17.42		
1.4	QPSK	3	1	17.57	17.47	17.43		
1.4	QPSK	3	2	17.58	17.44	17.40		
1.4	QPSK	6	0	16.55	16.52	16.49	17	1
1.4	16QAM	1	0	16.83	16.77	16.78	17	1
1.4	16QAM	1	2	16.82	16.75	16.75		
1.4	16QAM	1	5	16.79	16.74	16.77		
1.4	16QAM	3	0	16.59	16.50	16.55		
1.4	16QAM	3	1	16.62	16.45	16.56		
1.4	16QAM	3	2	16.58	16.46	16.52		
1.4	16QAM	6	0	15.60	15.49	15.57	16	2

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	16.75	17.24	16.92	17.5	0
20	QPSK	1	49	16.70	16.71	16.54		
20	QPSK	1	99	16.25	16.55	16.35		
20	QPSK	50	0	15.87	16.20	15.98	16.5	1
20	QPSK	50	24	15.73	15.91	15.70		
20	QPSK	50	49	15.66	15.85	15.61		
20	QPSK	100	0	15.76	16.01	15.80		
20	16QAM	1	0	16.01	16.49	16.11	16.5	1
20	16QAM	1	49	15.89	16.03	15.73		
20	16QAM	1	99	15.54	15.73	15.47		
20	16QAM	50	0	14.83	15.12	14.90	15.5	2
20	16QAM	50	24	14.68	14.84	14.60		
20	16QAM	50	49	14.59	14.78	14.53		
20	16QAM	100	0	14.69	14.91	14.73		
Channel				18675	18900	19125	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	16.67	17.15	16.82	17.5	0
15	QPSK	1	37	16.55	16.64	16.53		
15	QPSK	1	74	16.18	16.46	16.31		
15	QPSK	36	0	15.82	16.15	15.90	16.5	1
15	QPSK	36	18	15.65	15.83	15.67		
15	QPSK	36	37	15.58	15.77	15.60		
15	QPSK	75	0	15.69	16.00	15.78		
15	16QAM	1	0	16.02	16.47	16.01	16.5	1
15	16QAM	1	37	15.87	16.03	15.73		
15	16QAM	1	74	15.47	15.71	15.42		
15	16QAM	36	0	14.78	15.12	14.89	15.5	2
15	16QAM	36	18	14.60	14.80	14.56		
15	16QAM	36	37	14.50	14.75	14.47		
15	16QAM	75	0	14.66	14.90	14.66		
Channel				18650	18900	19150	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	16.60	17.06	16.75	17.5	0
10	QPSK	1	24	16.55	16.61	16.48		
10	QPSK	1	49	16.18	16.43	16.26		
10	QPSK	25	0	15.75	16.07	15.82	16.5	1
10	QPSK	25	12	15.58	15.74	15.63		
10	QPSK	25	24	15.56	15.71	15.52		
10	QPSK	50	0	15.65	15.99	15.72		
10	16QAM	1	0	15.89	16.24	15.94	16.5	1
10	16QAM	1	24	15.87	16.00	15.63		
10	16QAM	1	49	15.39	15.63	15.38		
10	16QAM	25	0	14.75	15.04	14.88	15.5	2
10	16QAM	25	12	14.60	14.76	14.46		
10	16QAM	25	24	14.40	14.67	14.46		
10	16QAM	50	0	14.56	14.80	14.64		

Channel				18625	18900	19175	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	16.55	17.05	16.68	17.5	0
5	QPSK	1	12	16.47	16.61	16.48		
5	QPSK	1	24	16.17	16.36	16.17		
5	QPSK	12	0	15.71	15.97	15.75	16.5	1
5	QPSK	12	6	15.51	15.66	15.63		
5	QPSK	12	11	15.47	15.71	15.42		
5	QPSK	25	0	15.55	15.93	15.68		
5	16QAM	1	0	15.79	16.24	15.90	16.5	1
5	16QAM	1	12	15.67	15.93	15.57		
5	16QAM	1	24	15.30	15.58	15.38		
5	16QAM	12	0	14.74	15.04	14.78	15.5	2
5	16QAM	12	6	14.60	14.74	14.45		
5	16QAM	12	11	14.34	14.62	14.45		
5	16QAM	25	0	14.54	14.76	14.62		
Channel				18615	18900	19185	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	16.46	16.60	16.60	17.5	0
3	QPSK	1	7	16.40	16.59	16.43		
3	QPSK	1	14	16.17	16.41	16.07		
3	QPSK	8	0	15.63	15.90	15.71	16.5	1
3	QPSK	8	4	15.50	15.61	15.56		
3	QPSK	8	7	15.41	15.68	15.39		
3	QPSK	15	0	15.51	15.88	15.63		
3	16QAM	1	0	15.70	16.04	15.85	16.5	1
3	16QAM	1	7	15.65	15.83	15.52		
3	16QAM	1	14	15.22	15.52	15.30		
3	16QAM	8	0	14.67	14.94	14.70	15.5	2
3	16QAM	8	4	14.59	14.67	14.35		
3	16QAM	8	7	14.26	14.55	14.43		
3	16QAM	15	0	14.44	14.68	14.53		
Channel				18607	18900	19193	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	16.44	16.80	16.60	17.5	0
1.4	QPSK	1	2	16.23	16.51	16.34		
1.4	QPSK	1	5	16.10	16.31	16.04		
1.4	QPSK	3	0	15.85	16.29	15.94		
1.4	QPSK	3	1	15.81	16.25	15.92		
1.4	QPSK	3	2	15.78	16.23	15.91		
1.4	QPSK	6	0	15.46	15.81	15.55	16.5	1
1.4	16QAM	1	0	15.65	16.12	15.75	16.5	1
1.4	16QAM	1	2	15.64	15.81	15.45		
1.4	16QAM	1	5	15.21	15.43	15.24		
1.4	16QAM	3	0	14.85	15.31	15.19		
1.4	16QAM	3	1	14.81	15.29	15.11		
1.4	16QAM	3	2	14.78	15.25	15.08		
1.4	16QAM	6	0	14.39	14.64	14.49	15.5	2

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune up Limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	15.97	15.99	15.62	16	0
20	QPSK	1	49	15.52	15.52	15.23		
20	QPSK	1	99	15.39	15.34	14.93		
20	QPSK	50	0	14.82	14.91	14.55	15	1
20	QPSK	50	24	14.51	14.55	14.27		
20	QPSK	50	49	14.56	14.55	14.23		
20	QPSK	100	0	14.71	14.72	14.39		
20	16QAM	1	0	14.98	14.99	14.88	15	1
20	16QAM	1	49	14.76	14.71	14.49		
20	16QAM	1	99	14.66	14.51	14.19		
20	16QAM	50	0	13.74	13.73	13.44	14	2
20	16QAM	50	24	13.43	13.39	13.16		
20	16QAM	50	49	13.48	13.38	13.12		
20	16QAM	100	0	13.60	13.56	13.27		
Channel				20825	21100	21375	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	15.93	15.93	15.52	16	0
15	QPSK	1	37	15.44	15.49	15.13		
15	QPSK	1	74	15.37	15.26	15.00		
15	QPSK	36	0	14.81	14.89	14.45	15	1
15	QPSK	36	18	14.46	14.54	14.20		
15	QPSK	36	37	14.47	14.47	14.13		
15	QPSK	75	0	14.66	14.67	14.34		
15	16QAM	1	0	14.89	14.89	14.78	15	1
15	16QAM	1	37	14.75	14.62	14.43		
15	16QAM	1	74	14.64	14.48	14.16		
15	16QAM	36	0	13.72	13.68	13.38	14	2
15	16QAM	36	18	13.36	13.36	13.08		
15	16QAM	36	37	13.45	13.34	13.12		
15	16QAM	75	0	13.58	13.55	13.27		
Channel				20800	21100	21400	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	15.87	15.88	15.50	16	0
10	QPSK	1	24	15.37	15.39	15.12		
10	QPSK	1	49	15.33	15.26	14.84		
10	QPSK	25	0	14.74	14.84	14.37	15	1
10	QPSK	25	12	14.38	14.44	14.19		
10	QPSK	25	24	14.42	14.46	14.05		
10	QPSK	50	0	14.63	14.58	14.29		
10	16QAM	1	0	14.85	14.85	14.68	15	1
10	16QAM	1	24	14.73	14.58	14.40		
10	16QAM	1	49	14.57	14.43	14.12		
10	16QAM	25	0	13.62	13.64	13.38	14	2
10	16QAM	25	12	13.30	13.29	13.01		
10	16QAM	25	24	13.45	13.24	13.08		
10	16QAM	50	0	13.58	13.49	13.24		

Channel				20775	21100	21425	Tune up Limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	15.87	15.87	15.49	16	0
5	QPSK	1	12	15.34	15.32	15.05		
5	QPSK	1	24	15.28	15.20	14.83		
5	QPSK	12	0	14.71	14.82	14.36	15	1
5	QPSK	12	6	14.30	14.38	14.11		
5	QPSK	12	11	14.38	14.45	14.05		
5	QPSK	25	0	14.56	14.57	14.27		
5	16QAM	1	0	14.81	14.80	14.59	15	1
5	16QAM	1	12	14.73	14.53	14.35		
5	16QAM	1	24	14.54	14.37	14.13		
5	16QAM	12	0	13.60	13.59	13.35	14	2
5	16QAM	12	6	13.30	13.25	12.96		
5	16QAM	12	11	13.43	13.18	13.03		
5	16QAM	25	0	13.53	13.49	13.23		

<SAR test exclusion table>

General Note:

1. The detail Antenna location which refer to the Appendix D.
2. The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
3. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
4. Per KDB 447498 D01v05r02, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
5. Per KDB 447498 D01v05r02, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
6. Per KDB 447498 D01v05r02, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:
   [(*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)] ·[√f(GHz)] ≤ 3.0 for 1-g SAR and ≤ 7.5 for 10-g extremity SAR
   - f(GHz) is the RF channel transmit frequency in GHz
   - Power and distance are rounded to the nearest mW and mm before calculation
   - The result is rounded to one decimal place for comparison
7. Per KDB 447498 D01v05r02, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
   a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·(f(MHz)/150)] mW, at 100 MHz to 1500 MHz
   b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm)·10] mW at > 1500 MHz and ≤ 6 GHz

Exposure Position	Wireless Interface	GPRS 850 Class 12	GPRS 1900 Class 12	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 17	LTE Band 13	LTE Band 5	LTE Band 4	LTE Band 2	LTE Band 7
	Calculated Frequency	848MHz	1909MHz	846MHz	1750MHz	1907MHz	713MHz	784MHz	848MHz	1754MHz	1909MHz	2570MHz
	Maximum power (dBm)	25.5	24.5	24.5	24.5	24.5	23.5	23.5	23.5	23.5	23.5	23.5
	Maximum rated power(mW)	355	282	282	282	282	224	224	224	224	224	224
Bottom Face	Separation distance(mm)	5										
	exclusion threshold	65	78	52	75	78	38	40	41	59	62	72
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 1	Separation distance(mm)	5										
	exclusion threshold	65	78	52	75	78	38	40	41	59	62	72
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Edge 2	Separation distance(mm)	70										
	exclusion threshold	276	309	276	313	309	273	274	276	313	309	294
	Testing required?	Yes	No	Yes	No	No	No	No	No	No	No	No
Edge 3	Separation distance(mm)	176										
	exclusion threshold	875	1369	874	1373	1369	777	828	875	1373	1369	1354
	Testing required?	No	No	No	No	No	No	No	No	No	No	No
Edge 4	Separation distance(mm)	166										
	exclusion threshold	819	1269	817	1273	1269	729	776	819	1273	1269	1254
	Testing required?	No	No	No	No	No	No	No	No	No	No	No
Bottom of Laptop	Separation distance(mm)	186										
	exclusion threshold	932	1469	930	1473	1469	824	880	932	1473	1469	1454
	Testing required?	No	No	No	No	No	No	No	No	No	No	No

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v05r02, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
2. Per KDB 447498 D01v05r02, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. For the exposure positions that proximity sensor power reduction is applied for SAR compliance, additional SAR testing with EUT transmitting full power in normal mode was performed; 1.0cm for bottom face, 1.0cm for edge1, and 1.0cm for Curved surface of Edge1
4. Per KDB 616217 D04v01r01, the additional separation introduced by the contour against a flat phantom is < 5 mm on this device and reported SAR is > 1.2 W/kg, a curved or contoured back surface or edge SAR is required, more detail information please refer to the setup photo.
5. For SAR testing of the curved region of the device, the device was placed directly against the phantom at the point where the distance between the antenna and device exterior is a minimum.
6. For Body SAR testing was following KDB 941225 D03v01, the GPRS 4Tx slots modes was selected when EUT operating without power back-off, the GPRS 4Tx slots modes was selected when EUT operating with power back-off, according to the highest source-based time-averaged output power.
7. Per KDB 941225 D02v02r02, RMC 12.2kbps setting is used to evaluate SAR. If HSDPA/HSUPA/DC-HSDPA output power is < 0.25dB higher than RMC, or reported SAR with RMC 12.2kbps setting is ≤ 1.2W/kg, HSDPA/HSUPA/DC-HSDPA SAR evaluation can be excluded..
8. Per KDB 941225 D05v02r03, 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 for RB offsets at the upper edge, middle and lower edge of each required test channel.
9. Per KDB 941225 D05v02r03, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
10. Per KDB 941225 D05v02r03, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. 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.
11. Per KDB 941225 D05v02r03, 16QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, 16QAM SAR testing is not required.
12. Per KDB 941225 D05v02r03, Smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r03, smaller bandwidth SAR testing is not required.

14.1 Body SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
1	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	128	824.2	23.45	23.50	1.012	-0.05	1.250	**1.264**
	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	189	836.4	23.41	23.50	1.021	0.02	1.230	1.256
	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	251	848.8	23.38	23.50	1.028	-0.06	1.130	1.162
	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	128	824.2	23.45	23.50	1.012	0	1.230	1.244
	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	189	836.4	23.41	23.50	1.021	-0.03	1.130	1.154
	GSM850	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	251	848.8	23.38	23.50	1.028	-0.04	1.010	1.038
	GSM850	GPRS (4 Tx slots)	Edge 1	0cm	HT	ON	128	824.2	23.45	23.50	1.012	-0.03	0.920	0.931
	GSM850	GPRS (4 Tx slots)	Edge 1	0cm	HT	ON	189	836.4	23.41	23.50	1.021	0.12	0.861	0.879
	GSM850	GPRS (4 Tx slots)	Edge 1	0cm	HT	ON	251	848.8	23.38	23.50	1.028	0.05	0.771	0.793
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	0cm	HT	ON	128	824.2	23.45	23.50	1.012	0.04	0.975	0.986
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	0cm	HT	ON	189	836.4	23.41	23.50	1.021	0.05	0.932	0.952
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	0cm	HT	ON	251	848.8	23.38	23.50	1.028	0.01	0.843	0.867
	GSM850	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	189	836.4	27.33	28.50	1.309	-0.04	0.859	1.125
	GSM850	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	128	824.2	27.22	28.50	1.343	-0.01	0.854	1.147
	GSM850	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	251	848.8	27.26	28.50	1.330	-0.05	0.856	1.139
	GSM850	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	189	836.4	27.33	28.50	1.309	-0.03	0.739	0.967
	GSM850	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	128	824.2	27.22	28.50	1.343	-0.09	0.719	0.965
	GSM850	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	251	848.8	27.26	28.50	1.330	-0.07	0.717	0.954
	GSM850	GPRS (4 Tx slots)	Edge 2	0cm	HT	OFF	189	836.4	27.33	28.50	1.309	-0.06	0.124	0.162
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	189	836.4	27.33	28.50	1.309	-0.03	0.888	1.163
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	128	824.2	27.22	28.50	1.343	-0.05	0.866	1.163
	GSM850	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	251	848.8	27.26	28.50	1.330	-0.05	0.877	1.167
	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	661	1880	19.90	20.00	1.023	0.07	1.190	1.218
	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	512	1850.2	19.75	20.00	1.059	-0.04	1.010	1.070
2	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	HT	ON	810	1909.8	19.79	20.00	1.050	0.05	1.200	**1.259**
	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	661	1880	19.90	20.00	1.023	-0.03	0.901	0.922
	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	512	1850.2	19.75	20.00	1.059	-0.03	0.760	0.805
	GSM1900	GPRS (4 Tx slots)	Bottom Face	0cm	WNC	ON	810	1909.8	19.79	20.00	1.050	-0.11	0.908	0.953
	GSM1900	GPRS (4 Tx slots)	Edge 1	0cm	HT	ON	661	1880	19.90	20.00	1.023	-0.03	0.587	0.601
	GSM1900	GPRS (4 Tx slots)	Curved surface of Edge1	0cm	HT	ON	661	1880	19.90	20.00	1.023	-0.16	0.626	0.641
	GSM1900	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	661	1880	27.09	27.50	1.099	0.03	0.904	0.994
	GSM1900	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	512	1850.2	26.90	27.50	1.148	0	0.821	0.943
	GSM1900	GPRS (4 Tx slots)	Bottom Face	1cm	HT	OFF	810	1909.8	26.97	27.50	1.130	0.06	0.949	1.072
	GSM1900	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	661	1880	27.09	27.50	1.099	-0.02	0.944	1.037
	GSM1900	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	512	1850.2	26.90	27.50	1.148	-0.01	0.819	0.940
	GSM1900	GPRS (4 Tx slots)	Edge 1	1cm	HT	OFF	810	1909.8	26.97	27.50	1.130	-0.03	0.997	1.126
	GSM1900	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	661	1880	27.09	27.50	1.099	0.01	0.967	1.063
	GSM1900	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	512	1850.2	26.90	27.50	1.148	-0.03	0.867	0.995
	GSM1900	GPRS (4 Tx slots)	Curved surface of Edge1	1cm	HT	OFF	810	1909.8	26.97	27.50	1.130	-0.01	0.966	1.091

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	4132	826.4	19.98	20.00	1.005	0.01	1.240	1.246
3	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	4182	836.4	19.63	20.00	1.089	0	1.260	**1.372**
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	4233	846.6	19.78	20.00	1.052	0	1.180	1.241
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	4182	836.4	19.63	20.00	1.089	-0.01	0.991	1.079
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	4132	826.4	19.98	20.00	1.005	-0.01	1.090	1.095
	WCDMA V	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	4233	846.6	19.78	20.00	1.052	0	0.937	0.986
	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	HT	ON	4132	826.4	19.98	20.00	1.005	0.02	0.933	0.937
	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	HT	ON	4182	836.4	19.63	20.00	1.089	0.01	0.854	0.930
	WCDMA V	RMC 12.2Kbps	Edge 1	0cm	HT	ON	4233	846.6	19.78	20.00	1.052	0	0.803	0.845
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	4132	826.4	19.98	20.00	1.005	0.04	0.995	1.000
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	4182	836.4	19.63	20.00	1.089	0.04	0.915	0.996
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	4233	846.6	19.78	20.00	1.052	0.04	0.870	0.915
	WCDMA V	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	4233	846.6	22.86	24.50	1.459	0.01	0.780	1.138
	WCDMA V	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	4132	826.4	22.58	24.50	1.556	-0.05	0.751	1.169
	WCDMA V	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	4182	836.4	22.52	24.50	1.578	0.01	0.731	1.153
	WCDMA V	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	4233	846.6	22.86	24.50	1.459	-0.07	0.582	0.849
	WCDMA V	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	4132	826.4	22.58	24.50	1.556	-0.02	0.585	0.910
	WCDMA V	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	4182	836.4	22.52	24.50	1.578	-0.06	0.558	0.880
	WCDMA V	RMC 12.2Kbps	Edge 2	0cm	HT	OFF	4233	846.6	22.86	24.50	1.459	-0.04	0.063	0.092
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	4233	846.6	22.86	24.50	1.459	-0.04	0.767	1.119
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	4132	826.4	22.58	24.50	1.556	0.02	0.678	1.055
	WCDMA V	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	4182	836.4	22.52	24.50	1.578	-0.01	0.671	1.059
4	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	1513	1752.6	17.83	18.00	1.040	-0.04	1.170	**1.217**
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	1312	1712.4	17.60	18.00	1.096	-0.02	0.914	1.002
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	1413	1732.6	17.76	18.00	1.057	-0.02	0.992	1.048
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	1513	1752.6	17.83	18.00	1.040	-0.1	1.100	1.144
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	1312	1712.4	17.60	18.00	1.096	-0.09	1.070	1.173
	WCDMA IV	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	1413	1732.6	17.76	18.00	1.057	-0.06	1.060	1.120
	WCDMA IV	RMC 12.2Kbps	Edge 1	0cm	HT	ON	1513	1752.6	17.83	18.00	1.040	-0.02	0.767	0.798
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	1513	1752.6	17.83	18.00	1.040	-0.02	0.878	0.913
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	1312	1712.4	17.60	18.00	1.096	0.01	0.849	0.931
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	1413	1732.6	17.76	18.00	1.057	-0.1	0.834	0.881
	WCDMA IV	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	1413	1732.6	23.07	24.50	1.390	0.09	0.559	0.777
	WCDMA IV	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	1413	1732.6	23.07	24.50	1.390	0.02	0.865	1.202
	WCDMA IV	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	1312	1712.4	22.96	24.50	1.426	0	0.780	1.112
	WCDMA IV	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	1513	1752.6	23.06	24.50	1.393	0.01	0.860	1.198
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	1413	1732.6	23.07	24.50	1.390	-0.03	0.802	1.115
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	1312	1712.4	22.96	24.50	1.426	0.01	0.735	1.048
	WCDMA IV	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	1513	1752.6	23.06	24.50	1.393	-0.01	0.819	1.141

Plot No.	Band	Mode	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	9538	1907.6	16.88	17.00	1.028	0	1.210	1.244
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	9262	1852.4	16.40	17.00	1.148	0.02	1.030	1.183
5	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	9400	1880	16.68	17.00	1.076	0.03	1.250	**1.346**
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	9538	1907.6	16.88	17.00	1.028	0	1.030	1.059
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	9262	1852.4	16.40	17.00	1.148	-0.04	0.824	0.946
	WCDMA II	RMC 12.2Kbps	Bottom Face	0cm	WNC	ON	9400	1880	16.68	17.00	1.076	-0.05	0.932	1.003
	WCDMA II	RMC 12.2Kbps	Edge 1	0cm	HT	ON	9538	1907.6	16.88	17.00	1.028	-0.03	0.595	0.612
	WCDMA II	RMC 12.2Kbps	Curved surface of Edge1	0cm	HT	ON	9538	1907.6	16.88	17.00	1.028	-0.14	0.640	0.658
	WCDMA II	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	9400	1880	23.21	24.50	1.346	0.01	0.852	1.147
	WCDMA II	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	9262	1852.4	22.97	24.50	1.422	0.06	0.799	1.136
	WCDMA II	RMC 12.2Kbps	Bottom Face	1cm	HT	OFF	9538	1907.6	23.06	24.50	1.393	0.01	0.857	1.194
	WCDMA II	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	9400	1880	23.21	24.50	1.346	-0.01	0.929	1.250
	WCDMA II	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	9262	1852.4	22.97	24.50	1.422	-0.01	0.927	1.318
	WCDMA II	RMC 12.2Kbps	Edge 1	1cm	HT	OFF	9538	1907.6	23.06	24.50	1.393	-0.01	0.958	1.335
	WCDMA II	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	9400	1880	23.21	24.50	1.346	-0.03	0.925	1.245
	WCDMA II	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	9262	1852.4	22.97	24.50	1.422	-0.05	0.882	1.254
	WCDMA II	RMC 12.2Kbps	Curved surface of Edge1	1cm	HT	OFF	9538	1907.6	23.06	24.50	1.393	-0.05	0.912	1.271

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 17	10M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	23790	710	21.48	21.50	1.005	-0.05	1.140	1.145
	LTE Band 17	10M	QPSK	25RB	0offset	Bottom Face	0cm	HT	ON	23790	710	20.49	20.50	1.002	-0.05	0.979	0.981
	LTE Band 17	10M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	23790	710	20.29	20.50	1.050	-0.04	0.981	1.030
6	LTE Band 17	10M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	23790	710	21.48	21.50	1.005	0.05	1.370	**1.376**
	LTE Band 17	10M	QPSK	25RB	0offset	Bottom Face	0cm	WNC	ON	23790	710	20.49	20.50	1.002	-0.08	1.170	1.173
	LTE Band 17	10M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	23790	710	20.29	20.50	1.050	0.04	1.190	1.249
	LTE Band 17	10M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	23790	710	21.48	21.50	1.005	-0.16	1.138	1.143
	LTE Band 17	10M	QPSK	25RB	0offset	Edge 1	0cm	HT	ON	23790	710	20.49	20.50	1.002	-0.09	0.954	0.956
	LTE Band 17	10M	QPSK	50RB	0offset	Edge 1	0cm	HT	ON	23790	710	20.29	20.50	1.050	-0.09	0.933	0.979
	LTE Band 17	10M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	23790	710	21.48	21.50	1.005	-0.1	1.139	1.144
	LTE Band 17	10M	QPSK	25RB	0offset	Curved surface of Edge1	0cm	HT	ON	23790	710	20.49	20.50	1.002	-0.05	0.954	0.956
	LTE Band 17	10M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	23790	710	20.29	20.50	1.050	-0.08	0.947	0.994
	LTE Band 17	10M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	23790	710	23.27	23.50	1.054	-0.04	0.491	0.518
	LTE Band 17	10M	QPSK	25RB	0offset	Bottom Face	1cm	HT	OFF	23790	710	22.41	22.50	1.021	-0.05	0.418	0.427
	LTE Band 17	10M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	23790	710	23.27	23.50	1.054	-0.1	0.411	0.433
	LTE Band 17	10M	QPSK	25RB	0offset	Edge 1	1cm	HT	OFF	23790	710	22.41	22.50	1.021	-0.11	0.347	0.354
	LTE Band 17	10M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	23790	710	23.27	23.50	1.054	-0.05	0.445	0.469
	LTE Band 17	10M	QPSK	25RB	0offset	Curved surface of Edge1	1cm	HT	OFF	23790	710	22.41	22.50	1.021	-0.04	0.378	0.386

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
7	LTE Band 13	10M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	23230	782	20.36	20.50	1.033	-0.01	1.250	**1.291**
	LTE Band 13	10M	QPSK	25RB	0offset	Bottom Face	0cm	HT	ON	23230	782	19.49	19.50	1.002	0.01	1.120	1.123
	LTE Band 13	10M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	23230	782	19.25	19.50	1.059	-0.01	1.110	1.176
	LTE Band 13	10M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	23230	782	20.36	20.50	1.033	0.06	1.240	1.281
	LTE Band 13	10M	QPSK	25RB	0offset	Bottom Face	0cm	WNC	ON	23230	782	19.49	19.50	1.002	0	1.100	1.103
	LTE Band 13	10M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	23230	782	19.25	19.50	1.059	0.01	1.110	1.176
	LTE Band 13	10M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	23230	782	20.36	20.50	1.033	-0.04	0.886	0.915
	LTE Band 13	10M	QPSK	25RB	0offset	Edge 1	0cm	HT	ON	23230	782	19.49	19.50	1.002	-0.04	0.776	0.778
	LTE Band 13	10M	QPSK	50RB	0offset	Edge 1	0cm	HT	ON	23230	782	19.25	19.50	1.059	-0.04	0.776	0.822
	LTE Band 13	10M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	23230	782	20.36	20.50	1.033	0.13	0.957	0.988
	LTE Band 13	10M	QPSK	25RB	0offset	Curved surface of Edge1	0cm	HT	ON	23230	782	19.49	19.50	1.002	0.01	0.848	0.850
	LTE Band 13	10M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	23230	782	19.25	19.50	1.059	0.04	0.847	0.897
	LTE Band 13	10M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	23230	782	23.35	23.50	1.035	-0.03	0.702	0.727
	LTE Band 13	10M	QPSK	25RB	0offset	Bottom Face	1cm	HT	OFF	23230	782	22.48	22.50	1.005	-0.01	0.650	0.653
	LTE Band 13	10M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	23230	782	23.35	23.50	1.035	-0.12	0.595	0.616
	LTE Band 13	10M	QPSK	25RB	0offset	Edge 1	1cm	HT	OFF	23230	782	22.48	22.50	1.005	-0.09	0.539	0.541
	LTE Band 13	10M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	23230	782	23.35	23.50	1.035	-0.06	0.651	0.674
	LTE Band 13	10M	QPSK	25RB	0offset	Curved surface of Edge1	1cm	HT	OFF	23230	782	22.48	22.50	1.005	-0.06	0.584	0.587
8	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20450	829	18.54	19.00	1.112	0.01	0.962	**1.069**
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20525	836.5	18.36	19.00	1.159	0.04	0.919	1.065
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20600	844	18.25	19.00	1.189	0.03	0.884	1.051
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	0cm	HT	ON	20450	829	17.55	18.00	1.109	0	0.779	0.864
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	0cm	HT	ON	20525	836.5	17.36	18.00	1.159	0.04	0.744	0.862
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	0cm	HT	ON	20600	844	17.26	18.00	1.186	-0.02	0.704	0.835
	LTE Band 5	10M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	20450	829	17.48	18.00	1.127	0.01	0.763	0.860
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20450	829	18.54	19.00	1.112	-0.04	0.849	0.944
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20525	836.5	18.36	19.00	1.159	-0.02	0.838	0.971
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20600	844	18.25	19.00	1.189	0	0.789	0.938
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	0cm	WNC	ON	20450	829	17.55	18.00	1.109	0.01	0.701	0.778
	LTE Band 5	10M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	20450	829	17.48	18.00	1.127	-0.01	0.688	0.776
	LTE Band 5	10M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	20450	829	18.54	19.00	1.112	0.01	0.666	0.740
	LTE Band 5	10M	QPSK	25RB	0offset	Edge 1	0cm	HT	ON	20450	829	17.55	18.00	1.109	-0.01	0.523	0.580
	LTE Band 5	10M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	20450	829	18.54	19.00	1.112	0.03	0.707	0.786
	LTE Band 5	10M	QPSK	25RB	0offset	Curved surface of Edge1	0cm	HT	ON	20450	829	17.55	18.00	1.109	0.01	0.565	0.627
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	20450	829	22.85	23.50	1.161	0.03	0.839	0.974
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	20525	836.5	22.67	23.50	1.211	0.01	0.794	0.961
	LTE Band 5	10M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	20600	844	22.45	23.50	1.274	-0.04	0.811	1.033
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	1cm	HT	OFF	20450	829	22.00	22.50	1.122	-0.06	0.716	0.803
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	1cm	HT	OFF	20525	836.5	21.84	22.50	1.164	-0.06	0.688	0.801
	LTE Band 5	10M	QPSK	25RB	0offset	Bottom Face	1cm	HT	OFF	20600	844	21.69	22.50	1.205	-0.06	0.673	0.811
	LTE Band 5	10M	QPSK	50RB	0offset	Bottom Face	1cm	HT	OFF	20450	829	21.95	22.50	1.135	-0.06	0.707	0.802
	LTE Band 5	10M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	20450	829	22.85	23.50	1.161	0	0.631	0.733
	LTE Band 5	10M	QPSK	25RB	0offset	Edge 1	1cm	HT	OFF	20450	829	22.00	22.50	1.122	-0.02	0.506	0.568
	LTE Band 5	10M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20450	829	22.85	23.50	1.161	-0.06	0.817	0.949
	LTE Band 5	10M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20525	836.5	22.67	23.50	1.211	-0.03	0.796	0.964
	LTE Band 5	10M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20600	844	22.45	23.50	1.274	-0.05	0.780	0.993
	LTE Band 5	10M	QPSK	25RB	0offset	Curved surface of Edge1	0cm	HT	OFF	20450	829	22.00	22.50	1.122	-0.04	0.636	0.714
	LTE Band 5	10M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	OFF	20450	829	21.95	22.50	1.135	-0.05	0.620	0.704

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20175	1732.5	17.76	18.00	1.057	-0.01	1.070	1.131
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20050	1720	17.74	18.00	1.062	0.07	1.020	1.083
9	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20300	1745	17.64	18.00	1.086	-0.04	1.120	**1.217**
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	20175	1732.5	16.73	17.00	1.064	0	0.917	0.976
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	20050	1720	16.68	17.00	1.076	-0.06	0.869	0.935
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	20300	1745	16.67	17.00	1.079	-0.1	0.926	0.999
	LTE Band 4	20M	QPSK	100RB	0offset	Bottom Face	0cm	HT	ON	20175	1732.5	16.60	17.00	1.096	0.01	0.875	0.959
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20300	1745	17.64	18.00	1.086	-0.09	1.080	1.173
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20050	1720	17.76	18.00	1.057	-0.07	1.110	1.173
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	20175	1732.5	17.74	18.00	1.062	-0.12	1.090	1.157
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	20175	1732.5	16.68	17.00	1.076	-0.16	0.904	0.973
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	20050	1720	16.73	17.00	1.064	-0.05	0.881	0.938
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	20300	1745	16.67	17.00	1.079	-0.11	0.870	0.939
	LTE Band 4	20M	QPSK	100RB	0offset	Bottom Face	0cm	WNC	ON	20175	1732.5	16.60	17.00	1.096	-0.09	0.953	1.045
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	20175	1732.5	17.76	18.00	1.057	-0.06	0.764	0.807
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	20050	1720	17.74	18.00	1.062	-0.01	0.757	0.804
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	20300	1745	17.64	18.00	1.086	-0.05	0.752	0.817
	LTE Band 4	20M	QPSK	50RB	0offset	Edge 1	0cm	HT	ON	20175	1732.5	16.73	17.00	1.064	-0.01	0.604	0.643
	LTE Band 4	20M	QPSK	100RB	0offset	Edge 1	0cm	HT	ON	20175	1732.5	16.60	17.00	1.096	0	0.572	0.627
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	20175	1732.5	17.76	18.00	1.057	-0.01	0.853	0.901
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	20050	1720	17.74	18.00	1.062	0.04	0.832	0.883
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	20030	1745	17.64	18.00	1.086	-0.02	0.839	0.912
	LTE Band 4	20M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	20175	1732.5	16.73	17.00	1.064	-0.09	0.681	0.725
	LTE Band 4	20M	QPSK	100RB	0offset	Curved surface of Edge1	0cm	HT	ON	20175	1732.5	16.60	17.00	1.096	-0.01	0.640	0.702
	LTE Band 4	20M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	20175	1732.5	23.22	23.50	1.067	0.02	0.595	0.635
	LTE Band 4	20M	QPSK	50RB	0offset	Bottom Face	1cm	HT	OFF	20175	1732.5	22.22	22.50	1.067	0.01	0.507	0.541
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	20175	1732.5	23.22	23.50	1.067	0.01	0.950	1.013
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	20050	1720	23.15	23.50	1.084	-0.01	0.914	0.991
	LTE Band 4	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	20300	1745	23.18	23.50	1.076	-0.04	0.902	0.971
	LTE Band 4	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	20175	1732.5	22.22	22.50	1.067	0.02	0.815	0.869
	LTE Band 4	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	20050	1720	22.19	22.50	1.074	0.01	0.823	0.884
	LTE Band 4	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	20300	1745	22.15	22.50	1.084	-0.01	0.816	0.884
	LTE Band 4	20M	QPSK	100RB	0offset	Edge 1	1cm	HT	OFF	20175	1732.5	22.08	22.50	1.102	-0.01	0.782	0.861
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20175	1732.5	23.22	23.50	1.067	0	0.960	1.024
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20050	1720	23.15	23.50	1.084	-0.01	0.939	1.018
	LTE Band 4	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20300	1745	23.18	23.50	1.076	-0.01	0.950	1.023
	LTE Band 4	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20175	1732.5	22.22	22.50	1.067	0.01	0.780	0.832
	LTE Band 4	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20050	1720	22.19	22.50	1.074	0.07	0.781	0.839
	LTE Band 4	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20300	1745	22.15	22.50	1.084	0.02	0.765	0.829
	LTE Band 4	20M	QPSK	100RB	0offset	Curved surface of Edge1	1cm	HT	OFF	20175	1732.5	22.08	22.50	1.102	0.03	0.708	0.780

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	18900	1880	17.24	17.50	1.062	0.03	1.210	1.285
10	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	18700	1860	16.75	17.50	1.189	0.09	1.150	**1.367**
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	19100	1900	16.92	17.50	1.143	-0.03	1.120	1.280
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	18900	1880	16.20	16.50	1.072	-0.02	0.972	1.042
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	18700	1860	15.87	16.50	1.156	-0.03	0.893	1.032
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	19100	1900	15.98	16.50	1.127	-0.01	1.010	1.138
	LTE Band 2	20M	QPSK	100RB	0offset	Bottom Face	0cm	HT	ON	18900	1880	16.01	16.50	1.119	-0.05	0.962	1.077
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	18700	1860	16.75	17.50	1.189	-0.03	0.898	1.067
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	18900	1880	17.24	17.50	1.062	-0.02	1.020	1.083
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	19100	1900	16.92	17.50	1.143	-0.07	0.946	1.081
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	18900	1880	16.20	16.50	1.072	-0.04	0.805	0.863
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	18700	1860	15.87	16.50	1.156	-0.03	0.748	0.865
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	19100	1900	15.98	16.50	1.127	-0.05	0.799	0.901
	LTE Band 2	20M	QPSK	100RB	0offset	Bottom Face	0cm	WNC	ON	18900	1880	16.01	16.50	1.119	-0.01	0.822	0.920
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	18900	1880	17.24	17.50	1.062	-0.09	0.789	0.838
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	18700	1860	16.75	17.50	1.189	-0.02	0.737	0.876
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	19100	1900	16.92	17.50	1.143	-0.02	0.743	0.849
	LTE Band 2	20M	QPSK	50RB	0offset	Edge 1	0cm	HT	ON	18900	1880	16.20	16.50	1.072	-0.11	0.647	0.693
	LTE Band 2	20M	QPSK	100RB	0offset	Edge 1	0cm	HT	ON	18900	1880	16.01	16.50	1.119	-0.03	0.600	0.672
	LTE Band 2	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	18900	1880	17.24	17.50	1.062	-0.04	0.722	0.767
	LTE Band 2	20M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	18900	1880	16.20	16.50	1.072	0	0.564	0.604
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	18900	1880	23.44	23.50	1.014	-0.03	0.961	0.974
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	18700	1860	23.39	23.50	1.026	-0.04	0.897	0.920
	LTE Band 2	20M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	19100	1900	23.34	23.50	1.038	-0.07	0.986	1.023
	LTE Band 2	20M	QPSK	50RB	0offset	Bottom Face	1cm	HT	OFF	18900	1880	22.48	22.50	1.005	-0.08	0.781	0.785
	LTE Band 2	20M	QPSK	100RB	0offset	Bottom Face	1cm	HT	OFF	18900	1880	22.49	22.50	1.002	-0.04	0.743	0.745
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	18900	1880	23.44	23.50	1.014	0.03	1.110	1.125
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	18700	1860	23.39	23.50	1.026	-0.05	1.060	1.087
	LTE Band 2	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	19100	1900	23.34	23.50	1.038	-0.07	1.010	1.048
	LTE Band 2	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	18900	1880	22.48	22.50	1.005	-0.14	0.847	0.851
	LTE Band 2	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	18700	1860	22.47	22.50	1.007	-0.07	0.874	0.880
	LTE Band 2	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	19100	1900	22.42	22.50	1.019	-0.05	0.828	0.843
	LTE Band 2	20M	QPSK	100RB	0offset	Edge 1	1cm	HT	OFF	18900	1880	22.49	22.50	1.002	-0.16	0.809	0.811
	LTE Band 2	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	18900	1880	23.44	23.50	1.014	-0.06	1.040	1.054
	LTE Band 2	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	18700	1860	23.39	23.50	1.026	-0.05	0.997	1.023
	LTE Band 2	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	19100	1900	23.34	23.50	1.038	-0.06	1.040	1.079
	LTE Band 2	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	18900	1880	22.48	22.50	1.005	-0.04	0.857	0.861
	LTE Band 2	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	18700	1860	22.47	22.50	1.007	-0.04	0.819	0.825
	LTE Band 2	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	19100	1900	22.42	22.50	1.019	-0.01	0.850	0.866
	LTE Band 2	20M	QPSK	100RB	0offset	Curved surface of Edge1	1cm	HT	OFF	18900	1880	22.49	22.50	1.002	-0.07	0.811	0.813

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	21100	2535	15.99	16.00	1.002	-0.04	1.220	1.223
11	LTE Band 7	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	20850	2510	15.97	16.00	1.007	0.06	1.270	**1.279**
	LTE Band 7	20M	QPSK	1RB	0offset	Bottom Face	0cm	HT	ON	21350	2560	15.62	16.00	1.091	-0.02	0.980	1.070
	LTE Band 7	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	21100	2535	14.91	15.00	1.021	0.07	0.901	0.920
	LTE Band 7	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	20850	2510	14.82	15.00	1.042	0.01	0.958	0.999
	LTE Band 7	20M	QPSK	50RB	0offset	Bottom Face	0cm	HT	ON	21350	2560	14.55	15.00	1.109	-0.01	0.726	0.805
	LTE Band 7	20M	QPSK	100RB	0offset	Bottom Face	0cm	HT	ON	21100	2535	14.72	15.00	1.067	0	0.824	0.879
	LTE Band 7	20M	QPSK	1RB	0offset	Bottom Face	0cm	WNC	ON	21100	2535	15.99	16.00	1.002	0.18	0.731	0.733
	LTE Band 7	20M	QPSK	50RB	0offset	Bottom Face	0cm	WNC	ON	21100	2510	14.91	15.00	1.021	0.06	0.521	0.532
	LTE Band 7	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	21100	2535	15.99	16.00	1.002	-0.04	1.060	1.062
	LTE Band 7	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	20850	2510	15.97	16.00	1.007	-0.01	1.160	1.168
	LTE Band 7	20M	QPSK	1RB	0offset	Edge 1	0cm	HT	ON	21350	2560	15.62	16.00	1.091	0	0.881	0.962
	LTE Band 7	20M	QPSK	50RB	0offset	Edge 1	0cm	HT	ON	21100	2535	14.91	15.00	1.021	-0.15	0.751	0.767
	LTE Band 7	20M	QPSK	100RB	0offset	Edge 1	0cm	HT	ON	21100	2535	14.72	15.00	1.067	0.04	0.687	0.733
	LTE Band 7	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	21100	2535	15.99	16.00	1.002	-0.11	1.180	1.183
	LTE Band 7	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	20850	2510	15.97	16.00	1.007	0.02	1.250	1.259
	LTE Band 7	20M	QPSK	1RB	0offset	Curved surface of Edge1	0cm	HT	ON	21350	2560	15.62	16.00	1.091	-0.01	0.924	1.008
	LTE Band 7	20M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	21100	2535	14.91	15.00	1.021	-0.01	0.870	0.888
	LTE Band 7	20M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	20850	2510	14.82	15.00	1.042	0	1.010	1.053
	LTE Band 7	20M	QPSK	50RB	0offset	Curved surface of Edge1	0cm	HT	ON	21350	2560	14.55	15.00	1.109	-0.04	0.727	0.806
	LTE Band 7	20M	QPSK	100RB	0offset	Curved surface of Edge1	0cm	HT	ON	21100	2535	14.72	15.00	1.067	-0.03	0.806	0.860
	LTE Band 7	20M	QPSK	1RB	0offset	Bottom Face	1cm	HT	OFF	21100	2535	23.48	23.50	1.005	0	0.473	0.475
	LTE Band 7	20M	QPSK	50RB	0offset	Bottom Face	1cm	HT	OFF	21100	2535	22.43	22.50	1.016	-0.04	0.377	0.383
	LTE Band 7	20M	QPSK	1RB	0offset	Edge 1	1cm	HT	OFF	21100	2535	23.48	23.50	1.005	-0.13	0.610	0.613
	LTE Band 7	20M	QPSK	50RB	0offset	Edge 1	1cm	HT	OFF	21100	2535	22.43	22.50	1.016	-0.09	0.453	0.460
	LTE Band 7	20M	QPSK	1RB	0offset	Curved surface of Edge1	1cm	HT	OFF	21100	2535	23.48	23.50	1.005	-0.17	0.526	0.528
	LTE Band 7	20M	QPSK	50RB	0offset	Curved surface of Edge1	1cm	HT	OFF	21100	2535	22.43	22.50	1.016	-0.02	0.389	0.395

14.2 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Mode	Test Position	Gap (cm)	Antenna Vendor	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	4182	836.4	19.63	20.00	1.089	0	1.260	-	1.372
2nd	WCDMA V	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	4182	836.4	19.63	20.00	1.089	0.01	1.200	1.05	1.307
1st	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	1513	1752.6	17.83	18.00	1.040	-0.04	1.170	-	1.217
2nd	WCDMA IV	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	1513	1752.6	17.83	18.00	1.040	-0.04	1.130	1.04	1.175
1st	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	9400	1880	16.68	17.00	1.076	0.03	1.250	-	1.346
2nd	WCDMA II	-	-	-	-	RMC 12.2Kbps	Bottom Face	0cm	HT	ON	9400	1880	16.68	17.00	1.076	0.02	1.220	1.02	1.313
1st	LTE Band 17	10M	QPSK	1RB	0offset	-	Bottom Face	0cm	WNC	ON	23790	710	21.48	21.50	1.005	0.05	1.370	-	1.376
2nd	LTE Band 17	10M	QPSK	1RB	0offset	-	Bottom Face	0cm	WNC	ON	23790	710	21.48	21.50	1.005	0.07	1.310	1.05	1.316
1st	LTE Band 7	20M	QPSK	1RB	0offset	-	Bottom Face	0cm	HT	ON	20850	2510	15.97	16.00	1.007	0.06	1.270	-	1.279
2nd	LTE Band 7	20M	QPSK	1RB	0offset	-	Bottom Face	0cm	HT	ON	20850	2510	15.97	16.00	1.007	0	1.180	1.08	1.188

General Note:

1. Per KDB 865664 D01v01r03, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg
2. Per KDB 865664 D01v01r03, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Portable Tablet	Note
		Body	
1.	GPRS/EDGE(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
2.	WCDMA(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
3.	LTE(Data) + WLAN2.4GHz(data)	Yes	2.4GHz Hotspot
4.	GPRS/EDGE(Data) + Bluetooth(data)	Yes	
5.	WCDMA(Data) + Bluetooth(data)	Yes	
6.	LTE(Data) + Bluetooth(data)	Yes	
7.	GPRS/EDGE(data) + WLAN5GHz(data)	Yes	
8.	WCDMA(data) + WLAN5GHz(data)	Yes	
9.	LTE(data) + WLAN5GHz(data)	Yes	

General Note:

1. The WLAN/BT module (Intel 7265D2W) utilizing in the host platform which is certified under FCC ID: PU5-TP00065A is also integrated into this host, where the WLAN/BT module and the antenna are identical in two hosts. Based on the equality of two hosts, the WLAN/BT conducted power and SAR test results are used to evaluate the simultaneous transmission, which can be referred to Sporton FCC SAR Report, Report No: FA471416-04 Rev.01.
2. The worst case WLAN reported SAR for each configuration was used for SAR summation, regardless of whether the WLAN channel has WiFi Direct and Hotspot capability. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
3. For co-location analysis:
   i) For WWAN SAR testing was performed on bottom face, Edge1 and Edge2, according to KDB 447498 D01v05r02 exclusion thresholds which can be referred to page51.
   ii) The WLAN SAR testing was performed on bottom face, Edge1 and Edge4, according to KDB 447498 D01v05r02 exclusion thresholds which can be referred to Sporton FCC SAR Report, FCC ID: PU5-TP00065A, FA471416-04 Rev.01 page28.
   iii) For co-location analysis was performed at the same exposure positions, which are bottom face and Edge1, where both WWAN standalone SAR and WLAN standalone SAR was assessed.
4. Per KDB 447498 D01v05r02, simultaneous transmission SAR is compliant if,
   i) Scalar SAR summation < 1.6W/kg.
   ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
   iii) If SPLSR ≤ 0.04, simultaneously transmission SAR measurement is not necessary.
   iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.
5. For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01v05r02 based on the formula below.
   i) (*max. power of channel, including tune-up tolerance, mW*)/(*min. test separation distance, mm*)]·[$\sqrt{}$f(GHz)/*x*] W/kg for *test separation distances* ≤ 50 mm; where *x* = 7.5 for 1-g SAR, and *x* = 18.75 for 10-g SAR.
   ii) When the minimum separation distance is < 5mm, the distance is used 5mm to determine SAR test exclusion.
   iii) 0.4 W/kg for 1-g SAR and 1.0 W/kg for 10-g SAR, when the *test separation distances* is > 50 mm.
   iv) Bluetooth estimated SAR is conservatively determined by 5mm separation, for all applicable exposure positions.

Bluetooth Max Power	Exposure Position	All Positions
5.0 dBm	Estimated SAR (W/kg)	0.126 W/kg

15.1 Body Exposure Conditions

WWAN Band		Exposure Position	1 WWAN SAR (W/kg)	2 2.4GHz Antenna A SAR (W/kg)	3 2.4GHz Antenna B SAR (W/kg)	4 2.4GHz Bluetooth Estimated SAR (W/kg)	1+2+3 Summed SAR (W/kg)	1+3+4 Summed SAR (W/kg)
GSM	GSM850	Bottom Face at 1 cm	1.147	0.030	0.086	0.126	**1.26**	**1.36**
		Edge 1 at 1 cm	0.967	0.047		0.126	**1.01**	**1.09**
		Curved surface of Edge1 at 1 cm	1.167			0.126	**1.17**	**1.29**
		Bottom Face at 0cm	1.264	0.030	0.086	0.126	**1.38**	**1.48**
		Edge1 at 0cm	0.931	0.047		0.126	**0.98**	**1.06**
		Edge2 at 0cm	0.162			0.126	**0.16**	**0.29**
		Curved surface of Edge1	0.931			0.126	**0.93**	**1.06**
	GSM1900	Bottom Face at 1 cm	1.072	0.030	0.086	0.126	**1.19**	**1.28**
		Edge 1 at 1 cm	1.126	0.047		0.126	**1.17**	**1.25**
		Curved surface of Edge1 at 1 cm	1.091			0.126	**1.09**	**1.22**
		Bottom Face at 0cm	1.259	0.030	0.086	0.126	**1.38**	**1.47**
		Edge1 at 0cm	0.601	0.047		0.126	**0.65**	**0.73**
		Curved surface of Edge1	0.641			0.126	**0.64**	**0.77**
WCMDA	Band V	Bottom Face at 1 cm	1.169	0.030	0.086	0.126	**1.29**	**1.38**
		Edge 1 at 1 cm	0.910	0.047		0.126	**0.96**	**1.04**
		Curved surface of Edge1 at 1 cm	1.119			0.126	**1.12**	**1.25**
		Bottom Face at 0cm	1.372	0.030	0.086	0.126	**1.49**	**1.58**
		Edge1 at 0cm	0.937	0.047		0.126	**0.98**	**1.06**
		Edge2 at 0cm	0.092			0.126	**0.09**	**0.22**
		Curved surface of Edge1	0.937			0.126	**0.94**	**1.06**
	Band IV	Bottom Face at 1 cm	0.777	0.030	0.086	0.126	**0.89**	**0.99**
		Edge 1 at 1 cm	1.202	0.047		0.126	**1.25**	**1.33**
		Curved surface of Edge1 at 1 cm	1.141			0.126	**1.14**	**1.27**
		Bottom Face at 0cm	1.217	0.030	0.086	0.126	**1.33**	**1.43**
		Edge1 at 0cm	0.798	0.047		0.126	**0.85**	**0.92**
		Curved surface of Edge1	0.931			0.126	**0.93**	**1.06**
	Band II	Bottom Face at 1 cm	1.194	0.030	0.086	0.126	**1.31**	**1.41**
		Edge 1 at 1 cm	1.335	0.047		0.126	**1.38**	**1.46**
		Curved surface of Edge1 at 1 cm	1.271			0.126	**1.27**	**1.40**
		Bottom Face at 0cm	1.346	0.030	0.086	0.126	**1.46**	**1.56**
		Edge1 at 0cm	0.612	0.047		0.126	**0.66**	**0.74**
		Curved surface of Edge1	0.658			0.126	**0.66**	**0.78**

WWAN Band		Exposure Position	1 WWAN SAR (W/kg)	2 2.4GHz Antenna A SAR (W/kg)	3 2.4GHz Antenna B SAR (W/kg)	4 2.4GHz Bluetooth Estimated SAR (W/kg)	1+2+3 Summed SAR (W/kg)	1+3+4 Summed SAR (W/kg)
LTE	Band 17	Bottom Face at 1 cm	0.518	0.030	0.086	0.126	**0.63**	**0.73**
		Edge 1 at 1 cm	0.433	0.047		0.126	**0.48**	**0.56**
		Curved surface of Edge1 at 1 cm	0.469			0.126	**0.47**	**0.60**
		Bottom Face at 0cm	1.376	0.030	0.086	0.126	**1.49**	**1.59**
		Edge1 at 0cm	1.143	0.047		0.126	**1.19**	**1.27**
		Curved surface of Edge1	1.144			0.126	**1.14**	**1.27**
	Band 13	Bottom Face at 1 cm	0.727	0.030	0.086	0.126	**0.84**	**0.94**
		Edge 1 at 1 cm	0.616	0.047		0.126	**0.66**	**0.74**
		Curved surface of Edge1 at 1 cm	0.674			0.126	**0.67**	**0.80**
		Bottom Face at 0cm	1.291	0.030	0.086	0.126	**1.41**	**1.50**
		Edge1 at 0cm	0.915	0.047		0.126	**0.96**	**1.04**
		Curved surface of Edge1	0.988			0.126	**0.99**	**1.11**
	Band 5	Bottom Face at 1 cm	1.033	0.030	0.086	0.126	**1.15**	**1.25**
		Edge 1 at 1 cm	0.733	0.047		0.126	**0.78**	**0.86**
		Curved surface of Edge1 at 1 cm	0.993			0.126	**0.99**	**1.12**
		Bottom Face at 0cm	1.069	0.030	0.086	0.126	**1.19**	**1.28**
		Edge1 at 0cm	0.74	0.047		0.126	**0.79**	**0.87**
		Curved surface of Edge1	0.786			0.126	**0.79**	**0.91**
	Band 4	Bottom Face at 1 cm	0.635	0.030	0.086	0.126	**0.75**	**0.85**
		Edge 1 at 1 cm	1.013	0.047		0.126	**1.06**	**1.14**
		Curved surface of Edge1 at 1 cm	1.024			0.126	**1.02**	**1.15**
		Bottom Face at 0cm	1.217	0.030	0.086	0.126	**1.33**	**1.43**
		Edge1 at 0cm	0.817	0.047		0.126	**0.86**	**0.94**
		Curved surface of Edge1	0.912			0.126	**0.91**	**1.04**
	Band 2	Bottom Face at 1 cm	1.023	0.030	0.086	0.126	**1.14**	**1.24**
		Edge 1 at 1 cm	1.125	0.047		0.126	**1.17**	**1.25**
		Curved surface of Edge1 at 1 cm	1.079			0.126	**1.08**	**1.21**
		Bottom Face at 0cm	1.367	0.030	0.086	0.126	**1.48**	**1.58**
		Edge1 at 0cm	0.876	0.047		0.126	**0.92**	**1.00**
		Curved surface of Edge1	0.672			0.126	**0.67**	**0.80**
	Band 7	Bottom Face at 1 cm	0.475	0.030	0.086	0.126	**0.59**	**0.69**
		Edge 1 at 1 cm	0.613	0.047		0.126	**0.66**	**0.74**
		Curved surface of Edge1 at 1 cm	0.528			0.126	**0.53**	**0.65**
		Bottom Face at 0cm	1.279	0.030	0.086	0.126	**1.40**	**1.49**
		Edge1 at 0cm	1.168	0.047		0.126	**1.22**	**1.29**
		Curved surface of Edge1	1.259			0.126	**1.26**	**1.39**

WWAN Band		Exposure Position	1 WWAN SAR (W/kg)	2 5GHz Antenna A SAR (W/kg)	3 5GHz Antenna B SAR (W/kg)	1+2+3 Summed SAR (W/kg)
GSM	GSM850	Bottom Face at 1 cm	1.147	0.019	0.057	**1.22**
		Edge 1 at 1 cm	0.967	0.044		**1.01**
		Curved surface of Edge1 at 1 cm	1.167			**1.17**
		Bottom Face at 0cm	1.264	0.019	0.057	**1.34**
		Edge1 at 0cm	0.931	0.044		**0.98**
		Edge2 at 0cm	0.162			**0.16**
		Curved surface of Edge1	0.931			**0.93**
	GSM1900	Bottom Face at 1 cm	1.072	0.019	0.057	**1.15**
		Edge 1 at 1 cm	1.126	0.044		**1.17**
		Curved surface of Edge1 at 1 cm	1.091			**1.09**
		Bottom Face at 0cm	1.259	0.019	0.057	**1.34**
		Edge1 at 0cm	0.601	0.044		**0.65**
		Curved surface of Edge1	0.641			**0.64**
WCMDA	Band V	Bottom Face at 1 cm	1.169	0.019	0.057	**1.25**
		Edge 1 at 1 cm	0.910	0.044		**0.95**
		Curved surface of Edge1 at 1 cm	1.119			**1.12**
		Bottom Face at 0cm	1.372	0.019	0.057	**1.45**
		Edge1 at 0cm	0.937	0.044		**0.98**
		Edge2 at 0cm	0.092			**0.09**
		Curved surface of Edge1	0.937			**0.94**
	Band IV	Bottom Face at 1 cm	0.777	0.019	0.057	**0.85**
		Edge 1 at 1 cm	1.202	0.044		**1.25**
		Curved surface of Edge1 at 1 cm	1.141			**1.14**
		Bottom Face at 0cm	1.217	0.019	0.057	**1.29**
		Edge1 at 0cm	0.798	0.044		**0.84**
		Curved surface of Edge1	0.931			**0.93**
	Band II	Bottom Face at 1 cm	1.194	0.019	0.057	**1.27**
		Edge 1 at 1 cm	1.335	0.044		**1.38**
		Curved surface of Edge1 at 1 cm	1.271			**1.27**
		Bottom Face at 0cm	1.346	0.019	0.057	**1.42**
		Edge1 at 0cm	0.612	0.044		**0.66**
		Curved surface of Edge1	0.658			**0.66**

WWAN Band		Exposure Position	1 WWAN SAR (W/kg)	2 5GHz Antenna A SAR (W/kg)	3 5GHz Antenna B SAR (W/kg)	1+2+3 Summed SAR (W/kg)
LTE	Band 17	Bottom Face at 1 cm	0.518	0.019	0.057	**0.59**
		Edge 1 at 1 cm	0.433	0.044		**0.48**
		Curved surface of Edge1 at 1 cm	0.469			**0.47**
		Bottom Face at 0cm	1.376	0.019	0.057	**1.45**
		Edge1 at 0cm	1.143	0.044		**1.19**
		Curved surface of Edge1	1.144			**1.14**
	Band 13	Bottom Face at 1 cm	0.727	0.019	0.057	**0.80**
		Edge 1 at 1 cm	0.616	0.044		**0.66**
		Curved surface of Edge1 at 1 cm	0.674			**0.67**
		Bottom Face at 0cm	1.291	0.019	0.057	**1.37**
		Edge1 at 0cm	0.915	0.044		**0.96**
		Curved surface of Edge1	0.988			**0.99**
	Band 5	Bottom Face at 1 cm	1.033	0.019	0.057	**1.11**
		Edge 1 at 1 cm	0.733	0.044		**0.78**
		Curved surface of Edge1 at 1 cm	0.993			**0.99**
		Bottom Face at 0cm	1.069	0.019	0.057	**1.15**
		Edge1 at 0cm	0.74	0.044		**0.78**
		Curved surface of Edge1	0.786			**0.79**
	Band 4	Bottom Face at 1 cm	0.635	0.019	0.057	**0.71**
		Edge 1 at 1 cm	1.013	0.044		**1.06**
		Curved surface of Edge1 at 1 cm	1.024			**1.02**
		Bottom Face at 0cm	1.217	0.019	0.057	**1.29**
		Edge1 at 0cm	0.817	0.044		**0.86**
		Curved surface of Edge1	0.912			**0.91**
	Band 2	Bottom Face at 1 cm	1.023	0.019	0.057	**1.10**
		Edge 1 at 1 cm	1.125	0.044		**1.17**
		Curved surface of Edge1 at 1 cm	1.079			**1.08**
		Bottom Face at 0cm	1.367	0.019	0.057	**1.44**
		Edge1 at 0cm	0.876	0.044		**0.92**
		Curved surface of Edge1	0.672			**0.67**
	Band 7	Bottom Face at 1 cm	0.475	0.019	0.057	**0.55**
		Edge 1 at 1 cm	0.613	0.044		**0.66**
		Curved surface of Edge1 at 1 cm	0.528			**0.53**
		Bottom Face at 0cm	1.279	0.019	0.057	**1.36**
		Edge1 at 0cm	1.168	0.044		**1.21**
		Curved surface of Edge1	1.259			**1.26**

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16. Uncertainty Assessment

The component of uncertainly may generally be categorized according to the methods used to evaluate them. The evaluation of uncertainly by the statistical analysis of a series of observations is termed a Type An evaluation of uncertainty. The evaluation of uncertainty by means other than the statistical analysis of a series of observation is termed a Type B evaluation of uncertainty. Each component of uncertainty, however evaluated, is represented by an estimated standard deviation, termed standard uncertainty, which is determined by the positive square root of the estimated variance.

A Type A evaluation of standard uncertainty may be based on any valid statistical method for treating data. This includes calculating the standard deviation of the mean of a series of independent observations; using the method of least squares to fit a curve to the data in order to estimate the parameter of the curve and their standard deviations; or carrying out an analysis of variance in order to identify and quantify random effects in certain kinds of measurement.

A type B evaluation of standard uncertainty is typically based on scientific judgment using all of the relevant information available. These may include previous measurement data, experience, and knowledge of the behavior and properties of relevant materials and instruments, manufacture's specification, data provided in calibration reports and uncertainties assigned to reference data taken from handbooks. Broadly speaking, the uncertainty is either obtained from an outdoor source or obtained from an assumed distribution, such as the normal distribution, rectangular or triangular distributions indicated in table below.

Uncertainty Distributions	Normal	Rectangular	Triangular	U-Shape
Multi-plying Factor[a]	1/k[b]	1/√3	1/√6	1/√2

(a) standard uncertainty is determined as the product of the multiplying factor and the estimated range of variations in the measured quantity

(b) κ is the coverage factor

Table 17.1. Standard Uncertainty for Assumed Distribution

The combined standard uncertainty of the measurement result represents the estimated standard deviation of the result. It is obtained by combining the individual standard uncertainties of both Type A and Type B evaluation using the usual "root-sum-squares" (RSS) methods of combining standard deviations by taking the positive square root of the estimated variances.

Expanded uncertainty is a measure of uncertainty that defines an interval about the measurement result within which the measured value is confidently believed to lie. It is obtained by multiplying the combined standard uncertainty by a coverage factor. Typically, the coverage factor ranges from 2 to 3. Using a coverage factor allows the true value of a measured quantity to be specified with a defined probability within the specified uncertainty range. For purpose of this document, a coverage factor two is used, which corresponds to confidence interval of about 95 %. The DASY uncertainty Budget is shown in the following tables.

Error Description	Uncertainty Value (±%)	Probability Distribution	Divisor	Ci (1g)	Ci (10g)	Standard Uncertainty (1g)	Standard Uncertainty (10g)
Measurement System							
Probe Calibration	6.0	Normal	1	1	1	± 6.0 %	± 6.0 %
Axial Isotropy	4.7	Rectangular	√3	0.7	0.7	± 1.9 %	± 1.9 %
Hemispherical Isotropy	9.6	Rectangular	√3	0.7	0.7	± 3.9 %	± 3.9 %
Boundary Effects	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Linearity	4.7	Rectangular	√3	1	1	± 2.7 %	± 2.7 %
System Detection Limits	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Readout Electronics	0.3	Normal	1	1	1	± 0.3 %	± 0.3 %
Response Time	0.8	Rectangular	√3	1	1	± 0.5 %	± 0.5 %
Integration Time	2.6	Rectangular	√3	1	1	± 1.5 %	± 1.5 %
RF Ambient Noise	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
RF Ambient Reflections	3.0	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Probe Positioner	0.4	Rectangular	√3	1	1	± 0.2 %	± 0.2 %
Probe Positioning	2.9	Rectangular	√3	1	1	± 1.7 %	± 1.7 %
Max. SAR Eval.	1.0	Rectangular	√3	1	1	± 0.6 %	± 0.6 %
Test Sample Related							
Device Positioning	2.9	Normal	1	1	1	± 2.9 %	± 2.9 %
Device Holder	3.6	Normal	1	1	1	± 3.6 %	± 3.6 %
Power Drift	5.0	Rectangular	√3	1	1	± 2.9 %	± 2.9 %
Phantom and Setup							
Phantom Uncertainty	4.0	Rectangular	√3	1	1	± 2.3 %	± 2.3 %
Liquid Conductivity (Target)	5.0	Rectangular	√3	0.64	0.43	± 1.8 %	± 1.2 %
Liquid Conductivity (Meas.)	2.5	Normal	1	0.64	0.43	± 1.6 %	± 1.1 %
Liquid Permittivity (Target)	5.0	Rectangular	√3	0.6	0.49	± 1.7 %	± 1.4 %
Liquid Permittivity (Meas.)	2.5	Normal	1	0.6	0.49	± 1.5 %	± 1.2 %
Combined Standard Uncertainty						± 11.0 %	± 10.8 %
Coverage Factor for 95 %						K=2	
Expanded Uncertainty						**± 22.0 %**	**± 21.5 %**

Table 17.2. Uncertainty Budget for frequency range 300 MHz to 3 GHz

17. References

[1] FCC 47 CFR Part 2 “Frequency Allocations and Radio Treaty Matters; General Rules and Regulations”

[2] ANSI/IEEE Std. C95.1-1992, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz”, September 1992

[3] IEEE Std. 1528-2003, “Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, December 2003

[4] SPEAG DASY System Handbook

[5] FCC KDB 447498 D01 v05r02, “Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies”, Feb 2014

[6] FCC KDB 941225 D01 v02, “SAR Measurement Procedures for 3G Devices – CDMA 2000 / Ev-Do / WCDMA / HSDPA / HSPA”, October 2007

[7] FCC KDB 941225 D02 v02r02, “SAR Guidance for HSPA, HSPA+, DC-HSDPA and 1x-Advanced”, May 2013.

[8] FCC KDB 941225 D03 v01, “Recommended SAR Test Reduction Procedures for GSM / GPRS / EDGE”, December 2008

[9] FCC KDB 941225 D05 v02r03, “SAR Evaluation Considerations for LTE Devices”, Dec 2013

[10] FCC KDB 616217 D04 v01r01, “SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers”, May 2013

[11] FCC KDB 865664 D01 v01r03, "SAR Measurement Requirements for 100 MHz to 6 GHz", Feb 2014.

[12] FCC KDB 865664 D02 v01r01, “RF Exposure Compliance Reporting and Documentation Considerations” May 2013.