FCC SAR TEST REPORT

FCC ID	:	**B94TNQ296PR**
Equipment	:	**Notebook PC**
Brand Name	:	**HP**
Model Name	:	**TPN-Q296**
Applicant	:	**HP Inc.**
		1501 Page Mill Road, Palo Alto CA, 94304, USA
Standard	:	**FCC 47 CFR Part 2 (2.1093)**

The product was received on Jul. 11, 2025 and testing was started from Jul. 13, 2025 and completed on Jul. 16, 2025. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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

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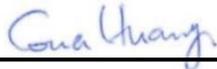
Approved by: Cona Huang / Deputy Manager

ilac-MRA   TAF Testing Laboratory 3786

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History of this test report

Report No.	Version	Description	Issued Date
FA382109-16	01	Initial issue of report	Aug. 05, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for HP Inc., Notebook PC, TPN-Q296, are as follows.

Equipment Class	Frequency Band		Highest SAR Summary	Highest Simultaneous Transmission 1g SAR (W/kg)
			Body (Separation 0mm)	
			1g SAR (W/kg)	
Licensed	WCDMA	WCDMA II	0.51	1.59
		WCDMA IV	1.13	
		WCDMA V	0.99	
	LTE	LTE Band 7	1.31	
		LTE Band 12/17	1.12	
		LTE Band 13	1.13	
		LTE Band 14	1.06	
		LTE Band 2/25	0.48	
		LTE Band 5/26	1.07	
		LTE Band 30	1.24	
		LTE Band 38/41	1.44	
		LTE Band 48	0.53	
		LTE Band 4/66	1.29	
		LTE Band 71	1.41	
Date of Testing:			2025/07/13 ~ 2025/07/16	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation and the FCC designation No. TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test. This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR) 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 1528-2013 and FCC KDB publications.

Reviewed by: Jason Wang
Report Producer: Carlie Tsai

2. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.
- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05

3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Notebook PC
Brand Name	HP
Model Name	TPN-Q296
FCC ID	B94TNQ296PR
Integrated WWAN Module	Brand Name: Rolling Wireless Model Name: RW101R-GL
Integrated WLAN Module 1	Brand Name: Intel® Wi-Fi 6E AX211 Model Name: AX211NGW
Integrated WLAN Module 2	Brand Name: MediaTek Model Name: MT7921
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 5.9 GHz Band: 5850 MHz ~ 5895 MHz WLAN 6GHz Band: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM WLAN: 802.11a/b/g/n/ac/ax HT20/HT40/VHT20/VHT40/VHT80/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE
EUT Stage	Production Unit

Remark:
1. This device has two antenna vendors; RF exposure evaluation selects Vendor1 as the main test, Vendor2 will spot check worst case found in Vendor1.
2. This device is convertible type notebook PC, and there are two mode as usage way, one is laptop mode, another is tablet mode.
3. The Intel AX211NGW and MediaTek MT7921 WLAN/Bluetooth modules are also integrated into this host. The WLAN/Bluetooth power and SAR testing data can be found in the Sporton SAR Test Report, Report No.: FA382109-04, and these results are used for simultaneous transmission analysis.

WWAN Antenna Information				
Vendor 1 Ant5: DQ6915G0200 (81ELA915.G02)	Ant. Type	PIFA	Peak Gain	WCDMA Band II: 0.13 WCDMA Band IV: 0.17 WCDMA Band V: 1.49 LTE Band 2: 0.13 LTE Band 4: 0.17 LTE Band 5: 1.49 LTE Band 7: 1.27 LTE Band 12: 1.84 LTE Band 13: 1.20 LTE Band 14: -0.14 LTE Band 17: -0.14 LTE Band 25: 1.34 LTE Band 26: 1.49 LTE Band 30: 1.28 LTE Band 38: 0.15 LTE Band 41: 1.59 LTE Band 48: 1.74 LTE Band 66: 1.89 LTE Band 71: 1.09
Vendor 2 Ant5: DQ6E1LTE100 (MDA-LTE1LTE1-01-001)	Ant. Type	PIFA	Peak Gain	WCDMA Band II: 0.10 WCDMA Band IV: -0.50 WCDMA Band V: 1.50 LTE Band 2: 0.10 LTE Band 4: -0.50 LTE Band 5: 1.50 LTE Band 7: 1.30 LTE Band 12: 1.80 LTE Band 13: 1.20 LTE Band 14: -0.10 LTE Band 17: -0.10 LTE Band 25: 1.30 LTE Band 26: 1.50 LTE Band 30: 1.30 LTE Band 38: 0.20 LTE Band 41: 1.60 LTE Band 48: 1.70 LTE Band 66: -0.50 LTE Band 71: -0.62

WLAN Antenna Information									
	Ant. Type	PIFA	connector	50 ohm Coaxial		Ant. Type	PIFA	connector	50 ohm Coaxial
	Model No.	Ant1: DQ6915G0500 (81ELA915.G05) Ant2: DQ6915G0300 (81ELA915.G03)				Model No.	Ant1: DQ600101200 (MDA-LE-01-012) Ant2: DQ600101103 (MDA-LE-01-011)		
Vendor 1	Peak Gain (dBi)				Vendor 2	Peak Gain (dBi)			
	2400~2483.5MHz	Ant1:1.62 Ant2:1.14	5725~5850MHz	Ant1:1.34 Ant2:0.91		2400~2483.5MHz	Ant1:1.58 Ant2:1.14	5725~5850MHz	Ant1:1.34 Ant2:0.91
	5150~5250MHz	Ant1:0.67 Ant2:2.11	5850~5925MHz	Ant1:1.64 Ant2:1.71		5150~5250MHz	Ant1:0.67 Ant2:2.04	5850~5925MHz	Ant1:1.64 Ant2:1.71
	5250~5350MHz	Ant1:0.12 Ant2:1.5	5925~6425MHz	Ant1:1.97 Ant2:1.54		5250~5350MHz	Ant1:0.12 Ant2:1.5	5925~6425MHz	Ant1:1.97 Ant2:1.54
	5470~5725MHz	Ant1:1.74 Ant2:0.56	5925~7125MHz	Ant1:2.74 Ant2:2.24		5470~5725MHz	Ant1:1.66 Ant2:0.56	5925~7125MHz	Ant1:2.62 Ant2:2.24

3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	B94TNQ296PR
Equipment Name	NOTEBOOK PC
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz
Channel Bandwidth	LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK / 16QAM
LTE Voice / Data requirements	Data only
LTE MPR permanently built-in by design	Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3 <table><tr><td rowspan="2">Modulation</td><td colspan="6">Channel bandwidth / Transmission bandwidth (N_RB)</td><td rowspan="2">MPR (dB)</td></tr><tr><td>1.4 MHz</td><td>3.0 MHz</td><td>5 MHz</td><td>10 MHz</td><td>15 MHz</td><td>20 MHz</td></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><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>
LTE A-MPR	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)
Spectrum plots for RB configuration	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.

Transmission (H, M, L) channel numbers and frequencies in each LTE band											
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 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 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 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

LTE Band 12							
	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	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13			
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	23205	779.5	23230	782
M	23230	782		
H	23255	784.5		

LTE Band 14			
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Channel #	Channel #	Freq.(MHz)
L	23305	790.5	23330	793
M	23330	793		
H	23355	795.5		

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

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LTE Band 25											
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	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

(Note: header row for Band 25 has L/M/H labels in first column; values below align with bandwidth columns.)

LTE Band 26										
Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5
M	26865	831.5	26865	831.5	26865	831.5	26865	831.5	26865	831.5
H	27033	848.3	27025	847.5	27015	846.5	26990	844	26965	841.5

LTE Band 30			
Bandwidth 5 MHz		Bandwidth 10 MHz	
Channel #	Freq.(MHz)	Channel #	Freq.(MHz)
L	27685	2307.5	
M	27710	2310	27710	2310
H	27735	2312.5	

LTE Band 38							
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	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41							
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	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 48							
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	55265	3552.5	55290	3555	55315	3557.5	55340	3560
LM	55810	3607	55815	3607.5	55820	3608	55830	3609
MH	56170	3643	56165	3642.5	56160	3642	56150	3641
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690

LTE Band 66											
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	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

LTE Band 71							
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	133147	665.5	133172	668	133197	670.5	133222	673
M	133297	680.5	133297	680.5	133297	680.5	133297	680.5
H	133447	695.5	133422	693	133397	690.5	133372	688

3.3 *Sensor Triggering angle and power verification*

General Note:
1. The following guidance should be applied to laptops/tablets that use Hall Effect or gravity sensors to detect lid angle for the purpose of power reduction:

   Step 1: With the lid is in closed mode (0 degrees), open the screen in 10 degree steps until laptop mode is obtained
   Step 2: Lower the screen 5 degrees. Closed mode should be reobtained. If not keep lowering in 5 degree steps
   Step 3: Open the screen in 1 degree steps until laptop mode is reobtained
   Step 4: Continue opening the screen in 1 degree steps until at least 5 degrees past where laptop mode was obtained
   Step 5: Then continue opening the screen in 10 degree steps until tablet mode is obtained
   Step 6: Power measurements should be taken at each step
   Step 7: Reverse this procedure going from tablet mode back down to closed mode

		when the screen angle is from 0 degree to 360 degree		
	Wireless		WWAN	
	Band		WCDMA II	LTE Band 2
	Lid Close Mode	0	standby	standby
		10	standby	standby
		20	standby	standby
		25	standby	standby
		26	standby	standby
		27	standby	standby
		28	standby	standby
		29	standby	standby
		30	standby	standby
Screen angle (degree) v.s. power	Laptop Mode	31	23.0	22.7
		32	23.6	22.3
		33	23.3	22.7
		34	22.7	22.6
		35	22.7	22.7
		40	23.4	22.3
		50	23.6	22.2
		60	23.4	22.7
		70	23.3	22.6
		80	23.1	23.0
		90	22.6	23.3
		100	22.8	22.7
		110	23.0	23.1
		120	23.3	22.6
		125	23.6	22.7
		126	23.4	22.9
		127	23.2	22.7
		128	23.0	22.9
		129	23.4	22.9
		130	23.5	22.7
		131	23.5	22.4
		132	23.6	22.9
		133	22.9	22.2
		134	22.6	22.9
		135	23.9	22.5
		140	23.2	22.8
		150	23.2	23.3
		160	23.2	22.9
		170	22.6	23.0
		180	22.9	23.1
		190	22.9	22.9
		195	23.4	22.7

		196	23.4	23.2
		197	22.7	22.4
		198	22.8	22.7
		199	23.2	22.4
		200	17.0	16.5
		201	17.1	17.0
		202	16.9	17.0
		203	17.1	16.8
		204	16.9	16.7
		205	16.7	17.3
		210	17.1	16.9
		220	16.9	16.9
		230	17.2	16.8
		240	16.9	17.0
	Tablet Mode	250	17.2	17.0
		260	16.6	16.8
		270	16.9	17.0
		280	16.8	17.2
		290	16.7	16.9
		300	16.7	16.7
		310	17.1	16.9
		320	17.2	17.3
		330	17.2	16.9
		340	17.0	16.6
		350	16.5	16.9
		360	16.9	16.8

when the screen angle is from 0 degree to 360 degree				
	Wireless		WWAN	
	Band		WCDMA II	LTE Band 2
		360	17.0	17.1
		350	16.8	16.8
		340	17.1	17.0
		330	17.0	16.8
		320	16.6	17.0
		310	16.7	16.7
		300	16.8	17.0
		290	17.0	16.9
		280	17.2	16.9
		270	16.7	17.2
	Tablet Mode	260	16.6	17.0
Screen angle (degree) v.s. power		250	17.0	17.1
		240	16.8	16.9
		230	16.7	16.9
		220	17.0	16.6
		210	17.1	16.7
		205	17.0	17.0
		204	17.2	16.8
		203	17.0	16.9
		202	16.9	16.8
		201	16.6	17.4
		200	17.0	16.8
		199	23.0	22.0
	Laptop Mode	198	22.6	22.2
		197	23.2	22.8
		196	22.5	22.7

		195	23.4	22.6
		190	22.8	22.0
		180	23.7	23.4
		170	23.0	23.2
		160	23.5	22.3
		150	23.5	23.2
		140	23.4	22.8
		135	23.5	22.5
		134	23.4	22.4
		133	22.8	23.1
		132	23.5	23.2
		131	22.8	22.6
		130	23.5	22.2
		129	23.3	22.5
		128	23.4	23.1
		127	23.7	23.2
		126	23.3	22.7
		125	22.7	22.2
		120	23.3	22.4
		110	23.5	22.6
		100	23.0	22.1
		90	23.2	22.6
		80	23.5	22.3
		70	23.5	23.1
		60	22.8	22.9
		50	23.7	23.0
		40	23.1	22.5
		35	23.7	23.0
		34	22.8	23.0
		33	23.7	23.2
		32	22.8	22.5
		31	23.1	22.5
	Lid Close Mode	30	standby	standby
		29	standby	standby
		28	standby	standby
		27	standby	standby
		26	standby	standby
		25	standby	standby
		20	standby	standby
		10	standby	standby
		0	standby	standby

4. *RF Exposure Limits*

4.1 *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.

4.2 *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.

5. *Specific Absorption Rate (SAR)*

5.1 *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.

5.2 *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:

$$\mathbf{SAR} = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{dm}}\right) = \frac{\mathbf{d}}{\mathbf{dt}}\left(\frac{\mathbf{dW}}{\mathbf{\rho dv}}\right)$$
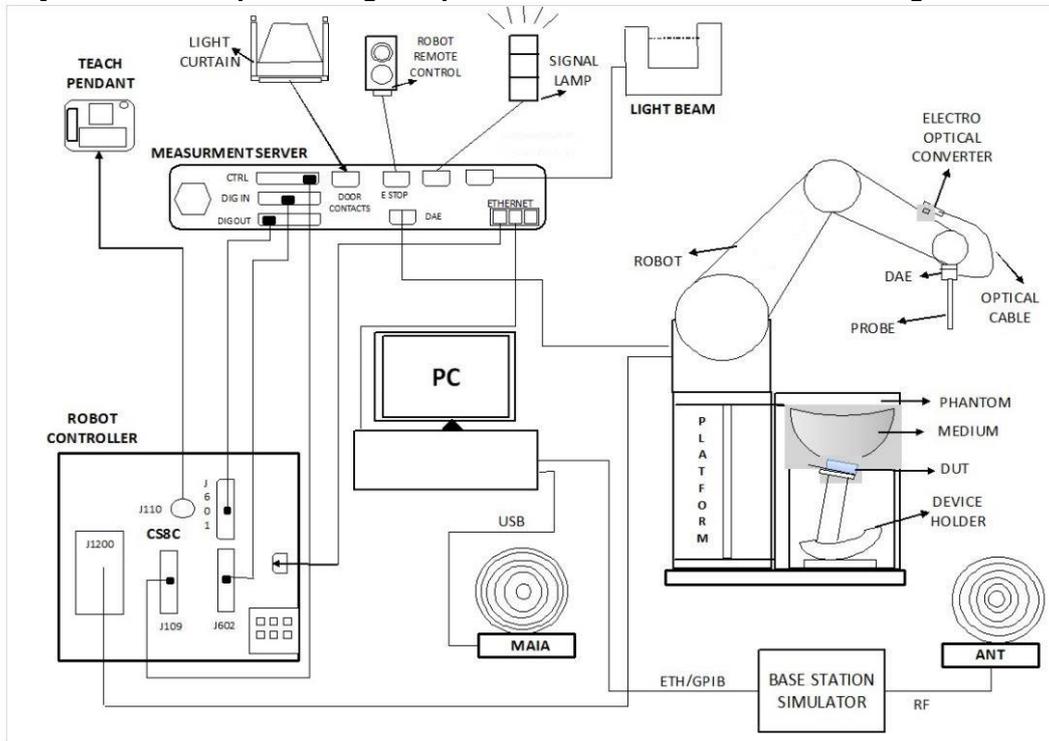
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

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6. *System Description and Setup*

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

- The DASY system in SAR Configuration is shown above
- 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 windows software and the DASY 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.

6.1 *Test Site Location*

The SAR measurement facilities used to collect data are within both Sporton Lab list below test site location are accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190 and 3786) and the FCC designation No. TW1190 and TW3786 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Laboratory	EMC & Wireless Communications Laboratory		Wensan Laboratory				
Test Site Location	TW1190 No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan		TW3786 No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan				
Test Site No.	SAR01-HY	SAR03-HY	SAR08-HY	SAR09-HY	SAR15-HY	SAR18-HY	SAR21-HY
	SAR04-HY	SAR05-HY	SAR11-HY	SAR12-HY	SAR16-HY	SAR19-HY	SAR22-HY
	SAR06-HY	SAR10-HY	SAR13-HY	SAR14-HY	SAR17-HY	SAR20-HY	

6.2 *E-Field Probe*

The SAR measurement is conducted with the dosimetric probe (manufactured by SPEAG).The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency. This probe has a built in optical surface detection system to prevent from collision with phantom.

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – 4 GHz; Linearity: ±0.2 dB (30 MHz – 4 GHz)	
Directivity	±0.2 dB in TSL (rotation around probe axis)	
	±0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 µW/g – >100 mW/g; Linearity: ±0.2 dB	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 3.9 mm (body: 12 mm) Distance from probe tip to dipole centers: 3.0 mm	

<EX3DV4 Probe>

Construction	Symmetric design with triangular core Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – >6 GHz Linearity: ±0.2 dB (30 MHz – 6 GHz)	
Directivity	±0.3 dB in TSL (rotation around probe axis)	
	±0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 µW/g – >100 mW/g Linearity: ±0.2 dB (noise: typically <1 µW/g)	
Dimensions	Overall length: 337 mm (tip: 20 mm) Tip diameter: 2.5 mm (body: 12 mm) Typical distance from probe tip to dipole centers: 1 mm	

6.3 *Data Acquisition Electronics (DAE)*

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

The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.
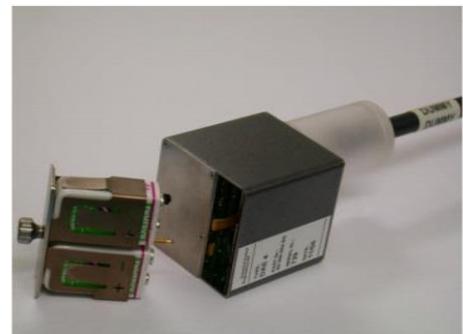
Fig 5.1   Photo of DAE

6.4 *Phantom*

<SAM Twin Phantom>

Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom

The bottom plate contains three pair of bolts for locking the device holder. The device holder positions are adjusted to the standard measurement positions in the three sections. A white cover is provided to tap the phantom during off-periods to prevent water evaporation and changes in the liquid parameters. On the phantom top, three reference markers are provided to identify the phantom position with respect to the robot.

<ELI Phantom>

Shell Thickness	2 ± 0.2 mm (sagging: <1%)
Filling Volume	Approx. 30 liters
Dimensions	Major ellipse axis: 600 mm Minor axis: 400 mm

The ELI phantom is intended for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI4 is fully compatible with standard and all known tissue simulating liquids.

6.5 *Device Holder*

<Mounting Device for Hand-Held Transmitter>

In combination with the Twin SAM V5.0/V5.0c or ELI phantoms, the Mounting Device for Hand-Held Transmitters enables rotation of the mounted transmitter device to specified spherical coordinates. At the heads, the rotation axis is at the ear opening. Transmitter devices can be easily and accurately positioned according to IEC 62209-1, IEEE 1528, FCC, or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). And upgrade kit to Mounting Device to enable easy mounting of wider devices like big smart-phones, e-books, small tablets, etc. It holds devices with width up to 140 mm.

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

<Mounting Device for Laptops and other Body-Worn Transmitters>

The extension is lightweight and made of POM, acrylic glass and foam. It fits easily on the upper part of the mounting device in place of the phone positioned. The extension is fully compatible with the SAM Twin and ELI phantoms.

Mounting Device for Laptops

7. *Measurement Procedures*

The measurement procedures are as follows:

(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

7.1 *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

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7.2 *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.

7.3 *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 D01v01r04 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	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm
Maximum probe angle from probe axis to phantom surface normal at the measurement location	$30° \pm 1°$	$20° \pm 1°$
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 $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

7.4 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 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

Note: 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 $\leq$ 1.4 W/kg, $\leq$ 8 mm, $\leq$ 7 mm and $\leq$ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.

7.5 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.

7.6 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.

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8. *Test Equipment List*

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Jun. 11, 2025	Jun. 10, 2026
SPEAG	835MHz System Validation Kit[2]	D835V2	4d167	Nov. 24, 2022	Nov. 21, 2025
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Feb. 20, 2025	Feb. 19, 2026
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Aug. 15, 2024	Aug. 14, 2025
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 14, 2025	Jan. 13, 2026
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 15, 2024	Aug. 14, 2025
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 15, 2025	Jan. 14, 2026
SPEAG	3700MHz System Validation Kit	D3700V2	1006	Jun. 12, 2025	Jun. 11, 2026
SPEAG	Data Acquisition Electronics	DAE4	376	May. 06, 2025	May. 05, 2026
SPEAG	Dosimetric E-Field Probe	EX3DV4	7785	Nov. 28, 2024	Nov. 27, 2025
Testo	Hygro meter	608-H1	45196600	Oct. 28, 2024	Oct. 27, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 12, 2024	Nov. 11, 2025
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2024	Sep. 23, 2025
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 20, 2024	Oct. 19, 2025
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 17, 2024	Sep. 16, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 07, 2024	Aug. 06, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Sensor	MA2411B	1911176	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2025	Jul. 08, 2026
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 23, 2024	Oct. 22, 2025
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

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.

2. The dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

9. System Verification

9.1 Tissue Verification

The tissue dielectric parameters of tissue-equivalent media used for SAR measurements must be characterized within a temperature range of 18℃ to 25℃, measured with calibrated instruments and apparatuses, such as network analyzers and temperature probes. The temperature of the tissue-equivalent medium during SAR measurement must also be within 18℃ to 25℃ and within ± 2℃ of the temperature when the tissue parameters are characterized. The tissue dielectric measurement system must be calibrated before use. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements.

The liquid tissue depth was at least 15cm in the phantom for all SAR testing

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (εr)	Conductivity Target (σ)	Permittivity Target (εr)	Delta (σ) (%)	Delta (εr) (%)	Limit (%)	Date
750	22.6	0.894	42.200	0.89	41.90	0.45	0.72	±5	2025/7/16
835	22.6	0.928	42.000	0.90	41.50	3.11	1.20	±5	2025/7/16
1750	22.5	1.35	40.2	1.37	40.10	-1.46	0.25	±5	2025/7/15
1900	22.5	1.39	38.8	1.40	40.00	-0.71	-3.00	±5	2025/7/15
2300	22.4	1.650	40.600	1.67	39.50	-1.20	2.78	±5	2025/7/14
2600	22.4	1.950	39.500	1.96	39.00	-0.51	1.28	±5	2025/7/14
3500	22.3	2.900	37.400	2.91	37.90	-0.34	-1.32	±5	2025/7/13
3700	22.3	3.090	37.100	3.12	37.70	-0.96	-1.59	±5	2025/7/13

9.2 _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.

Test Site	Date	Frequency (MHz)	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 (%)
SAR-18	2025/7/16	750	250	D750V3-1107	EX3DV4 - SN7785	DAE4 Sn376	2.080	8.840	8.32	-5.88
SAR-18	2025/7/16	835	250	D835V2-4d167	EX3DV4 - SN7785	DAE4 Sn376	2.300	9.800	9.2	-6.12
SAR-18	2025/7/15	1750	100	D1750V2-1112	EX3DV4 - SN7785	DAE4 Sn376	3.440	36.300	34.4	-5.23
SAR-18	2025/7/15	1900	100	D1900V2-5d041	EX3DV4 - SN7785	DAE4 Sn376	3.640	39.200	36.4	-7.14
SAR-18	2025/7/14	2300	100	D2300V2-1006	EX3DV4 - SN7785	DAE4 Sn376	4.570	48.200	45.7	-5.19
SAR-18	2025/7/14	2600	100	D2600V2-1008	EX3DV4 - SN7785	DAE4 Sn376	5.250	55.700	52.5	-5.75
SAR-18	2025/7/13	3500	50	D3500V2-1014	EX3DV4 - SN7785	DAE4 Sn376	3.220	65.700	64.4	-1.98
SAR-18	2025/7/13	3700	50	D3700V2-1006	EX3DV4 - SN7785	DAE4 Sn376	3.270	69.900	65.4	-6.44
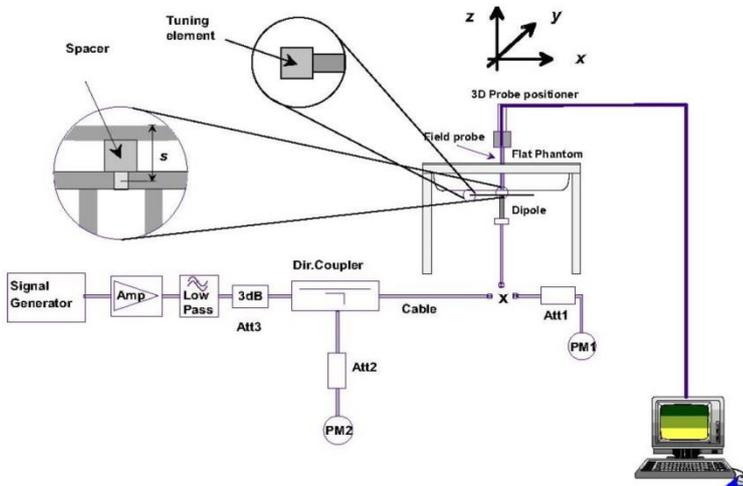
Fig 8.3.1 System Performance Check Setup   **Fig 8.3.2 Setup Photo**

10. _RF Exposure Positions_

10.1 _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 D01v06 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.

11. _UMTS/LTE Output Power (Unit: dBm)_

<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 D01v03r01 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 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	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	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c . For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * 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: 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 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

Note 6: For subtests 2, 3 and 4, UE may perform E-DPDCH power scaling at max power which could results in slightly smaller MPR values.

Setup Configuration

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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.		

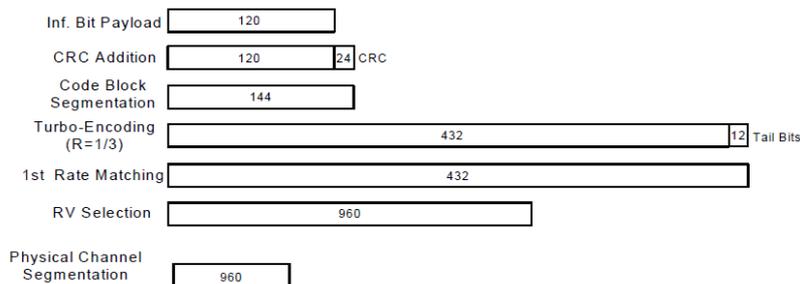|		
Inf. Bit Payload	120	
CRC Addition	120	24 CRC
Code Block Segmentation	144	
Turbo-Encoding (R=1/3)	432	12 Tail Bits
1st Rate Matching	432	
RV Selection	960	
Physical Channel Segmentation	960	

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 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSUPA, HSDPA, DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<WCDMA>

Band		WCDMA II_Laptop Mode			Tune-up Limit (dBm)	WCDMA IV_Laptop Mode			Tune-up Limit (dBm)	WCDMA V_Laptop Mode			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.52	23.62	23.31	24.50	23.29	23.58	23.55	24.50	23.61	23.62	23.51	24.50
3GPP Rel 6	HSDPA Subtest-1	22.63	22.60	22.54	23.50	22.33	22.56	22.51	23.50	22.45	22.43	22.40	23.50
3GPP Rel 6	HSDPA Subtest-2	22.56	22.61	22.39	23.50	22.20	22.61	22.52	23.50	22.41	22.52	22.29	23.50
3GPP Rel 6	HSDPA Subtest-3	21.97	22.05	21.92	23.00	21.62	21.92	22.07	23.00	21.89	21.92	21.76	23.00
3GPP Rel 6	HSDPA Subtest-4	22.14	22.11	22.03	23.00	21.73	22.04	22.03	23.00	21.90	21.99	21.85	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.53	22.56	22.46	23.50	22.27	22.51	22.51	23.50	22.39	22.45	22.32	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.43	22.58	22.41	23.50	22.14	22.49	22.55	23.50	22.37	22.43	22.26	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	21.95	22.05	21.90	23.00	21.67	21.91	21.98	23.00	21.90	21.89	21.78	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.05	22.07	22.03	23.00	21.72	21.94	21.94	23.00	21.87	22.00	21.80	23.00
3GPP Rel 6	HSUPA Subtest-1	22.50	22.58	22.34	23.50	22.32	22.41	22.55	23.50	22.44	22.46	22.34	23.50
3GPP Rel 6	HSUPA Subtest-2	20.56	20.65	20.46	21.50	20.26	20.46	20.54	21.50	20.40	20.47	20.11	21.50
3GPP Rel 6	HSUPA Subtest-3	21.50	21.56	21.41	22.50	21.28	21.52	21.40	22.50	21.40	21.39	21.36	22.50
3GPP Rel 6	HSUPA Subtest-4	20.68	20.58	20.54	21.50	20.32	20.53	20.56	21.50	20.38	20.41	20.37	21.50
3GPP Rel 6	HSUPA Subtest-5	22.50	22.40	22.15	23.50	21.95	22.40	22.37	23.50	22.16	22.33	22.14	23.50

<WCDMA>

Band		WCDMA II_Tablet Mode			Tune-up Limit (dBm)	WCDMA IV_Tablet Mode			Tune-up Limit (dBm)	WCDMA V_Tablet Mode			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	17.10	17.12	16.95	18.00	19.14	19.47	19.41	20.00	21.12	21.13	20.88	22.00
3GPP Rel 6	HSDPA Subtest-1	17.04	17.06	16.81	17.50	19.07	19.18	19.12	19.50	21.07	21.03	20.84	21.50
3GPP Rel 6	HSDPA Subtest-2	17.02	16.98	16.83	17.50	19.05	19.00	19.14	19.50	21.10	20.95	20.91	21.50
3GPP Rel 6	HSDPA Subtest-3	16.97	17.00	16.78	17.50	18.66	18.98	18.92	19.50	20.98	20.97	20.85	21.50
3GPP Rel 6	HSDPA Subtest-4	16.98	16.96	16.74	17.50	18.68	18.93	18.82	19.50	21.01	20.95	20.81	21.50
3GPP Rel 8	DC-HSDPA Subtest-1	16.96	16.96	16.71	17.50	18.98	19.21	19.10	19.50	20.98	20.93	20.78	21.50
3GPP Rel 8	DC-HSDPA Subtest-2	16.94	16.90	16.77	17.50	18.96	19.14	19.16	19.50	21.01	20.90	20.84	21.50
3GPP Rel 8	DC-HSDPA Subtest-3	16.92	16.94	16.70	17.50	18.61	18.86	18.75	19.50	20.88	20.91	20.75	21.50
3GPP Rel 8	DC-HSDPA Subtest-4	16.92	16.90	16.67	17.50	18.61	18.81	18.72	19.50	20.95	20.89	20.71	21.50
3GPP Rel 6	HSUPA Subtest-1	16.97	16.92	16.77	17.50	18.99	19.16	19.16	19.50	21.05	21.02	20.82	21.50
3GPP Rel 6	HSUPA Subtest-2	16.86	16.88	16.65	17.50	18.87	19.12	19.03	19.50	20.30	20.37	20.01	21.50
3GPP Rel 6	HSUPA Subtest-3	16.87	16.83	16.72	17.50	18.88	19.06	19.11	19.50	21.00	20.99	20.96	21.50
3GPP Rel 6	HSUPA Subtest-4	16.85	16.85	16.65	17.50	18.86	19.08	19.03	19.50	20.28	20.31	20.27	21.50
3GPP Rel 6	HSUPA Subtest-5	16.97	16.98	16.73	17.50	18.99	19.23	19.12	19.50	21.01	20.98	20.79	21.50

<LTE Conducted Power>

General Note:

1. A 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 D05v02r05, 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 D05v02r05, 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 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.

5. Per KDB 941225 D05v02r05, 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 D05v02r05, 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 D05v02r05, 16QAM SAR testing is not required.

7. Per KDB 941225 D05v02r05, 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 D05v02r05, smaller bandwidth SAR testing is not required.

8. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.

9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band

<LTE Band 2_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.00	23.11	22.98	24
20	QPSK	1	49	22.99	22.85	22.86	
20	QPSK	1	99	22.81	22.75	22.61	
20	QPSK	50	0	22.08	22.09	22.06	23
20	QPSK	50	24	22.05	21.98	21.90	
20	QPSK	50	50	22.04	21.94	21.86	
20	QPSK	100	0	22.07	22.08	21.86	
20	16QAM	1	0	22.38	22.30	22.22	23
20	16QAM	1	49	22.25	22.21	22.25	
20	16QAM	1	99	22.20	22.05	21.98	
20	16QAM	50	0	21.09	21.12	21.01	22
20	16QAM	50	24	21.17	21.01	21.02	
20	16QAM	50	50	21.15	20.99	20.90	
20	16QAM	100	0	21.10	20.98	20.93	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	22.90	22.99	22.80	24
15	QPSK	1	37	22.82	22.70	22.67	
15	QPSK	1	74	22.68	22.63	22.48	
15	QPSK	36	0	21.95	21.92	21.87	23
15	QPSK	36	20	21.95	21.82	21.77	
15	QPSK	36	39	21.93	21.74	21.66	
15	QPSK	75	0	21.92	21.98	21.76	
15	16QAM	1	0	22.21	22.11	22.10	23
15	16QAM	1	37	22.06	22.07	22.15	
15	16QAM	1	74	22.02	21.86	21.83	
15	16QAM	36	0	20.96	21.01	20.83	22
15	16QAM	36	20	20.98	20.90	20.87	
15	16QAM	36	39	21.00	20.81	20.73	
15	16QAM	75	0	20.92	20.78	20.78	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	22.89	23.01	22.85	24
10	QPSK	1	25	22.84	22.66	22.76	
10	QPSK	1	49	22.70	22.59	22.44	
10	QPSK	25	0	21.91	21.93	21.96	23
10	QPSK	25	12	21.87	21.82	21.76	
10	QPSK	25	25	21.92	21.77	21.71	
10	QPSK	50	0	21.93	21.95	21.68	
10	16QAM	1	0	22.19	22.20	22.04	23
10	16QAM	1	25	22.06	22.02	22.09	
10	16QAM	1	49	22.10	21.91	21.83	
10	16QAM	25	0	20.95	21.00	20.89	22
10	16QAM	25	12	20.97	20.88	20.85	
10	16QAM	25	25	20.96	20.84	20.77	
10	16QAM	50	0	20.96	20.78	20.83	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	22.83	22.99	22.81	24
5	QPSK	1	12	22.82	22.67	22.73	
5	QPSK	1	24	22.67	22.58	22.46	
5	QPSK	12	0	21.88	21.97	21.92	23
5	QPSK	12	7	21.90	21.87	21.73	
5	QPSK	12	13	21.89	21.80	21.69	
5	QPSK	25	0	21.87	21.94	21.70	
5	16QAM	1	0	22.19	22.17	22.07	23

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
5	16QAM	1	12	22.05	22.11	22.06	
5	16QAM	1	24	22.08	21.85	21.80	
5	16QAM	12	0	20.93	20.95	20.84	
5	16QAM	12	7	21.02	20.88	20.89	22
5	16QAM	12	13	20.98	20.87	20.70	
5	16QAM	25	0	20.98	20.84	20.77	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	22.83	22.98	22.86	
3	QPSK	1	8	22.87	22.71	22.75	24
3	QPSK	1	14	22.64	22.65	22.48	
3	QPSK	8	0	21.95	21.98	21.92	
3	QPSK	8	4	21.94	21.88	21.70	23
3	QPSK	8	7	21.85	21.75	21.73	
3	QPSK	15	0	21.89	21.92	21.74	
3	16QAM	1	0	22.21	22.20	22.06	
3	16QAM	1	8	22.10	22.10	22.10	23
3	16QAM	1	14	22.09	21.94	21.87	
3	16QAM	8	0	20.99	21.00	20.89	
3	16QAM	8	4	20.99	20.89	20.86	22
3	16QAM	8	7	20.95	20.87	20.80	
3	16QAM	15	0	20.99	20.84	20.81	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.08	22.90	22.95	
1.4	QPSK	1	3	22.95	23.03	22.70	
1.4	QPSK	1	5	22.86	22.93	22.67	
1.4	QPSK	3	0	22.84	23.02	22.70	24
1.4	QPSK	3	1	22.99	23.08	22.79	
1.4	QPSK	3	3	22.93	23.04	22.71	
1.4	QPSK	6	0	21.93	21.98	21.79	23
1.4	16QAM	1	0	22.12	22.27	22.01	
1.4	16QAM	1	3	22.17	22.40	22.06	
1.4	16QAM	1	5	22.09	22.26	21.92	
1.4	16QAM	3	0	21.94	22.02	21.75	23
1.4	16QAM	3	1	22.00	22.04	21.77	
1.4	16QAM	3	3	21.94	22.08	21.74	
1.4	16QAM	6	0	20.96	21.15	20.92	22

<LTE Band 2_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	16.93	17.15	17.00	
20	QPSK	1	49	16.81	17.08	16.90	18
20	QPSK	1	99	16.67	16.93	16.72	
20	QPSK	50	0	16.78	17.09	16.91	
20	QPSK	50	24	16.81	17.08	16.82	18
20	QPSK	50	50	16.82	17.07	16.76	
20	QPSK	100	0	16.78	17.05	16.82	
20	16QAM	1	0	16.71	17.01	16.90	
20	16QAM	1	49	16.76	17.04	16.81	18
20	16QAM	1	99	16.60	16.89	16.77	
20	16QAM	50	0	16.76	17.05	16.82	
20	16QAM	50	24	16.74	17.04	16.80	18
20	16QAM	50	50	16.77	17.03	16.76	
20	16QAM	100	0	16.81	17.06	16.88	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	

15	QPSK	1	0	16.86	17.09	16.94	18
15	QPSK	1	37	16.72	17.04	16.87	
15	QPSK	1	74	16.60	16.85	16.63	
15	QPSK	36	0	16.71	17.02	16.87	18
15	QPSK	36	20	16.72	17.03	16.73	
15	QPSK	36	39	16.78	17.03	16.72	
15	QPSK	75	0	16.69	16.97	16.74	
15	16QAM	1	0	16.66	16.96	16.84	18
15	16QAM	1	37	16.68	17.01	16.75	
15	16QAM	1	74	16.55	16.85	16.68	
15	16QAM	36	0	16.70	17.01	16.79	18
15	16QAM	36	20	16.65	16.96	16.77	
15	16QAM	36	39	16.70	16.98	16.70	
15	16QAM	75	0	16.76	16.98	16.85	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	16.85	17.12	16.95	18
10	QPSK	1	25	16.75	17.05	16.81	
10	QPSK	1	49	16.61	16.86	16.69	
10	QPSK	25	0	16.74	17.05	16.88	18
10	QPSK	25	12	16.75	17.00	16.79	
10	QPSK	25	25	16.77	16.98	16.67	
10	QPSK	50	0	16.73	17.01	16.76	
10	16QAM	1	0	16.67	16.97	16.81	18
10	16QAM	1	25	16.71	16.95	16.74	
10	16QAM	1	49	16.52	16.86	16.74	
10	16QAM	25	0	16.72	17.01	16.73	18
10	16QAM	25	12	16.67	17.01	16.71	
10	16QAM	25	25	16.74	16.97	16.71	
10	16QAM	50	0	16.72	17.02	16.85	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	16.86	17.11	16.96	18
5	QPSK	1	12	16.73	17.03	16.86	
5	QPSK	1	24	16.62	16.89	16.69	
5	QPSK	12	0	16.75	17.03	16.88	18
5	QPSK	12	7	16.77	16.99	16.75	
5	QPSK	12	13	16.75	17.02	16.72	
5	QPSK	25	0	16.73	16.99	16.74	
5	16QAM	1	0	16.64	16.96	16.87	18
5	16QAM	1	12	16.72	17.00	16.73	
5	16QAM	1	24	16.57	16.83	16.73	
5	16QAM	12	0	16.73	16.99	16.79	18
5	16QAM	12	7	16.71	16.96	16.71	
5	16QAM	12	13	16.74	16.95	16.69	
5	16QAM	25	0	16.76	17.03	16.80	
Channel				18615	18900	19185	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1908.5	
3	QPSK	1	0	16.88	17.11	16.94	18
3	QPSK	1	8	16.76	16.99	16.85	
3	QPSK	1	14	16.61	16.88	16.63	
3	QPSK	8	0	16.75	17.01	16.85	18
3	QPSK	8	4	16.74	16.99	16.77	
3	QPSK	8	7	16.74	17.00	16.70	
3	QPSK	15	0	16.71	16.96	16.73	
3	16QAM	1	0	16.68	16.97	16.82	18
3	16QAM	1	8	16.73	16.97	16.76	
3	16QAM	1	14	16.57	16.83	16.72	
3	16QAM	8	0	16.72	16.98	16.75	18
3	16QAM	8	4	16.67	16.96	16.72	
3	16QAM	8	7	16.70	16.98	16.72	
3	16QAM	15	0	16.73	17.02	16.79	
Channel				18607	18900	19193	Tune-up limit

Frequency (MHz)				1850.7	1880	1909.3	(dBm)
1.4	QPSK	1	0	16.89	17.10	16.95	
1.4	QPSK	1	3	16.78	17.05	16.85	
1.4	QPSK	1	5	16.61	16.84	16.68	
1.4	QPSK	3	0	16.70	17.06	16.84	18
1.4	QPSK	3	1	16.76	17.01	16.78	
1.4	QPSK	3	3	16.78	17.01	16.68	
1.4	QPSK	6	0	16.74	16.98	16.73	18
1.4	16QAM	1	0	16.63	16.97	16.86	
1.4	16QAM	1	3	16.67	16.98	16.77	
1.4	16QAM	1	5	16.57	16.82	16.68	
1.4	16QAM	3	0	16.67	17.00	16.79	18
1.4	16QAM	3	1	16.71	16.95	16.74	
1.4	16QAM	3	3	16.69	17.00	16.67	
1.4	16QAM	6	0	16.75	17.00	16.85	18

<LTE Band 4_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	23.26	23.42	23.39	
20	QPSK	1	49	22.89	23.07	23.02	24
20	QPSK	1	99	22.86	22.92	22.85	
20	QPSK	50	0	22.05	22.16	22.15	
20	QPSK	50	24	22.08	22.06	22.11	23
20	QPSK	50	50	22.05	21.95	22.02	
20	QPSK	100	0	22.06	22.14	22.13	
20	16QAM	1	0	22.17	22.42	22.42	
20	16QAM	1	49	22.29	22.34	22.36	23
20	16QAM	1	99	22.31	22.18	22.20	
20	16QAM	50	0	21.03	21.10	21.07	
20	16QAM	50	24	21.12	21.07	21.06	22
20	16QAM	50	50	21.05	21.05	21.07	
20	16QAM	100	0	21.10	21.06	21.07	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	23.25	23.23	23.25	
15	QPSK	1	37	22.74	22.90	22.96	24
15	QPSK	1	74	22.69	22.75	22.84	
15	QPSK	36	0	21.97	22.06	22.14	
15	QPSK	36	20	21.88	22.03	21.97	23
15	QPSK	36	39	21.98	21.94	21.85	
15	QPSK	75	0	21.92	21.97	21.97	
15	16QAM	1	0	22.15	22.25	22.25	
15	16QAM	1	37	22.09	22.23	22.28	23
15	16QAM	1	74	22.21	22.14	22.12	
15	16QAM	36	0	20.96	20.94	20.91	
15	16QAM	36	20	21.00	20.93	21.05	22
15	16QAM	36	39	20.88	21.00	20.85	
15	16QAM	75	0	21.01	21.03	21.04	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	23.14	23.30	23.27	
10	QPSK	1	25	22.76	22.87	23.07	24
10	QPSK	1	49	22.73	22.85	22.73	
10	QPSK	25	0	21.95	22.03	22.03	
10	QPSK	25	12	21.96	22.04	21.96	23
10	QPSK	25	25	21.96	21.98	21.83	
10	QPSK	50	0	22.02	21.96	22.08	

							Tune-up limit (dBm)
10	16QAM	1	0	22.00	22.36	22.24	23
10	16QAM	1	25	22.14	22.28	22.26	
10	16QAM	1	49	22.24	22.02	22.17	
10	16QAM	25	0	20.92	21.03	21.03	22
10	16QAM	25	12	20.97	20.92	20.98	
10	16QAM	25	25	21.00	20.93	20.92	
10	16QAM	50	0	20.92	20.87	20.91	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	23.12	23.31	23.39	24
5	QPSK	1	12	22.76	22.98	22.90	
5	QPSK	1	24	22.66	22.68	22.88	
5	QPSK	12	0	21.96	22.09	22.04	23
5	QPSK	12	7	21.94	22.07	22.00	
5	QPSK	12	13	22.00	21.84	21.80	
5	QPSK	25	0	22.06	22.01	22.06	
5	16QAM	1	0	22.03	22.32	22.25	23
5	16QAM	1	12	22.10	22.16	22.17	
5	16QAM	1	24	22.13	22.04	22.15	
5	16QAM	12	0	21.03	21.05	21.00	22
5	16QAM	12	7	21.05	21.02	21.04	
5	16QAM	12	13	20.95	20.96	20.94	
5	16QAM	25	0	21.02	20.88	20.92	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	23.19	23.30	23.36	24
3	QPSK	1	8	22.69	22.98	22.96	
3	QPSK	1	14	22.75	22.70	22.73	
3	QPSK	8	0	21.87	22.01	22.10	23
3	QPSK	8	4	21.95	22.05	21.97	
3	QPSK	8	7	21.87	21.88	21.91	
3	QPSK	15	0	22.05	22.13	22.05	
3	16QAM	1	0	22.01	22.23	22.39	23
3	16QAM	1	8	22.19	22.33	22.26	
3	16QAM	1	14	22.23	22.17	21.98	
3	16QAM	8	0	20.97	20.92	21.06	22
3	16QAM	8	4	20.94	21.00	20.99	
3	16QAM	8	7	21.01	21.06	20.96	
3	16QAM	15	0	21.00	20.96	20.94	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	23.00	22.98	23.10	24
1.4	QPSK	1	3	22.93	23.03	23.22	
1.4	QPSK	1	5	22.89	23.00	22.93	
1.4	QPSK	3	0	23.03	23.16	23.07	
1.4	QPSK	3	1	23.14	23.14	23.15	
1.4	QPSK	3	3	22.95	23.07	23.06	
1.4	QPSK	6	0	22.07	22.11	22.12	23
1.4	16QAM	1	0	22.25	22.33	22.29	23
1.4	16QAM	1	3	22.29	22.54	22.36	
1.4	16QAM	1	5	22.26	22.35	22.39	
1.4	16QAM	3	0	22.04	22.25	22.11	
1.4	16QAM	3	1	22.16	22.10	22.24	
1.4	16QAM	3	3	21.95	22.24	22.05	
1.4	16QAM	6	0	21.03	21.21	21.20	22

<LTE Band 4_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	19.31	19.36	19.28	
20	QPSK	1	49	19.17	19.28	19.14	20
20	QPSK	1	99	19.02	19.09	18.97	
20	QPSK	50	0	19.20	19.29	19.18	
20	QPSK	50	24	19.15	19.22	19.09	20
20	QPSK	50	50	19.08	19.18	19.06	
20	QPSK	100	0	19.13	19.23	19.11	
20	16QAM	1	0	19.21	19.28	19.17	
20	16QAM	1	49	19.16	19.23	19.10	20
20	16QAM	1	99	19.10	19.19	19.07	
20	16QAM	50	0	19.16	19.24	19.13	
20	16QAM	50	24	19.06	19.17	19.04	20
20	16QAM	50	50	19.09	19.16	19.03	
20	16QAM	100	0	19.20	19.30	19.20	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	19.23	19.31	19.24	
15	QPSK	1	37	19.08	19.20	19.10	20
15	QPSK	1	74	18.99	19.01	18.88	
15	QPSK	36	0	19.11	19.22	19.11	
15	QPSK	36	20	19.09	19.17	19.02	20
15	QPSK	36	39	19.04	19.12	18.99	
15	QPSK	75	0	19.05	19.17	19.07	
15	16QAM	1	0	19.15	19.23	19.09	
15	16QAM	1	37	19.13	19.20	19.04	20
15	16QAM	1	74	19.06	19.14	18.98	
15	16QAM	36	0	19.10	19.16	19.08	
15	16QAM	36	20	18.98	19.11	18.98	20
15	16QAM	36	39	19.00	19.08	18.95	
15	16QAM	75	0	19.11	19.27	19.12	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	19.28	19.32	19.23	
10	QPSK	1	25	19.11	19.23	19.10	20
10	QPSK	1	49	18.99	19.00	18.90	
10	QPSK	25	0	19.14	19.24	19.10	
10	QPSK	25	12	19.10	19.13	19.05	20
10	QPSK	25	25	19.05	19.12	18.98	
10	QPSK	50	0	19.10	19.14	19.02	
10	16QAM	1	0	19.18	19.20	19.08	
10	16QAM	1	25	19.09	19.20	19.01	20
10	16QAM	1	49	19.02	19.11	18.98	
10	16QAM	25	0	19.13	19.20	19.05	
10	16QAM	25	12	19.00	19.12	19.00	20
10	16QAM	25	25	19.01	19.11	18.94	
10	16QAM	50	0	19.13	19.26	19.11	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	19.28	19.28	19.24	
5	QPSK	1	12	19.09	19.21	19.08	20
5	QPSK	1	24	18.93	19.06	18.91	
5	QPSK	12	0	19.16	19.25	19.09	
5	QPSK	12	7	19.06	19.15	19.04	20
5	QPSK	12	13	19.04	19.10	18.98	
5	QPSK	25	0	19.10	19.20	19.06	
5	16QAM	1	0	19.17	19.20	19.14	20

5	16QAM	1	12	19.12	19.14	19.01	
5	16QAM	1	24	19.03	19.10	19.01	
5	16QAM	12	0	19.11	19.19	19.08	
5	16QAM	12	7	19.03	19.08	18.99	20
5	16QAM	12	13	19.03	19.07	19.00	
5	16QAM	25	0	19.13	19.23	19.11	
Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	19.28	19.29	19.25	
3	QPSK	1	8	19.08	19.21	19.07	20
3	QPSK	1	14	18.93	19.06	18.94	
3	QPSK	8	0	19.17	19.20	19.10	
3	QPSK	8	4	19.08	19.19	19.05	20
3	QPSK	8	7	19.02	19.09	19.03	
3	QPSK	15	0	19.09	19.20	19.02	
3	16QAM	1	0	19.12	19.22	19.14	
3	16QAM	1	8	19.10	19.19	19.02	20
3	16QAM	1	14	19.05	19.11	18.99	
3	16QAM	8	0	19.13	19.18	19.06	
3	16QAM	8	4	19.00	19.08	19.00	20
3	16QAM	8	7	19.00	19.10	18.96	
3	16QAM	15	0	19.14	19.24	19.16	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	19.22	19.27	19.23	
1.4	QPSK	1	3	19.10	19.23	19.11	
1.4	QPSK	1	5	18.94	19.02	18.91	20
1.4	QPSK	3	0	19.12	19.24	19.11	
1.4	QPSK	3	1	19.06	19.14	19.00	
1.4	QPSK	3	3	19.01	19.11	18.97	
1.4	QPSK	6	0	19.06	19.14	19.07	20
1.4	16QAM	1	0	19.13	19.22	19.11	
1.4	16QAM	1	3	19.10	19.15	19.03	
1.4	16QAM	1	5	19.03	19.13	19.02	
1.4	16QAM	3	0	19.10	19.17	19.04	20
1.4	16QAM	3	1	19.00	19.09	18.95	
1.4	16QAM	3	3	19.02	19.12	19.00	
1.4	16QAM	6	0	19.17	19.23	19.15	20

<LTE Band 5_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	23.80	23.88	23.81	
10	QPSK	1	25	23.53	23.75	23.70	25
10	QPSK	1	49	23.65	23.68	23.65	
10	QPSK	25	0	22.87	22.89	22.88	
10	QPSK	25	12	22.73	22.76	22.81	24
10	QPSK	25	25	22.81	22.76	22.74	
10	QPSK	50	0	22.75	22.80	22.79	
10	16QAM	1	0	22.89	23.05	22.92	
10	16QAM	1	25	22.99	22.94	22.98	24
10	16QAM	1	49	22.91	22.88	23.04	
10	16QAM	25	0	21.77	21.86	21.83	
10	16QAM	25	12	21.80	21.85	21.88	23
10	16QAM	25	25	21.85	21.69	21.80	
10	16QAM	50	0	21.76	21.76	21.77	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	

BW [MHz]	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit (dBm)
5	QPSK	1	0	23.80	23.63	23.84	25
5	QPSK	1	12	23.34	23.58	23.56	
5	QPSK	1	24	23.62	23.54	23.65	
5	QPSK	12	0	22.67	22.77	22.85	24
5	QPSK	12	7	22.68	22.71	22.57	
5	QPSK	12	13	22.63	22.61	22.68	
5	QPSK	25	0	22.59	22.59	22.64	
5	16QAM	1	0	22.86	22.85	23.02	24
5	16QAM	1	12	22.97	22.97	22.91	
5	16QAM	1	24	22.87	22.99	22.76	
5	16QAM	12	0	21.59	21.71	21.77	23
5	16QAM	12	7	21.78	21.70	21.67	
5	16QAM	12	13	21.83	21.62	21.68	
5	16QAM	25	0	21.73	21.58	21.57	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	23.61	23.73	23.83	25
3	QPSK	1	8	23.42	23.62	23.57	
3	QPSK	1	14	23.49	23.51	23.66	
3	QPSK	8	0	22.80	22.86	22.74	24
3	QPSK	8	4	22.60	22.71	22.71	
3	QPSK	8	7	22.78	22.66	22.71	
3	QPSK	15	0	22.60	22.69	22.78	
3	16QAM	1	0	22.76	22.85	22.93	24
3	16QAM	1	8	22.97	22.82	22.75	
3	16QAM	1	14	22.72	22.87	22.86	
3	16QAM	8	0	21.66	21.80	21.72	23
3	16QAM	8	4	21.64	21.69	21.80	
3	16QAM	8	7	21.81	21.78	21.58	
3	16QAM	15	0	21.63	21.77	21.67	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	23.58	23.58	23.57	25
1.4	QPSK	1	3	23.63	23.67	23.60	
1.4	QPSK	1	5	23.43	23.50	23.57	
1.4	QPSK	3	0	23.50	23.75	23.75	
1.4	QPSK	3	1	23.59	23.81	23.71	
1.4	QPSK	3	3	23.64	23.64	23.67	
1.4	QPSK	6	0	22.68	22.75	22.75	24
1.4	16QAM	1	0	22.82	22.71	22.80	24
1.4	16QAM	1	3	22.91	22.79	22.90	
1.4	16QAM	1	5	22.86	22.78	22.85	
1.4	16QAM	3	0	22.55	22.71	22.66	
1.4	16QAM	3	1	22.56	22.66	22.64	
1.4	16QAM	3	3	22.58	22.67	22.71	
1.4	16QAM	6	0	21.80	21.76	21.88	23

<LTE Band 5_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	21.65	21.73	21.66	22
10	QPSK	1	25	21.38	21.60	21.55	
10	QPSK	1	49	21.50	21.53	21.50	
10	QPSK	25	0	21.61	21.63	21.62	22
10	QPSK	25	12	21.47	21.50	21.55	
10	QPSK	25	25	21.55	21.50	21.48	
10	QPSK	50	0	21.49	21.54	21.53	
10	16QAM	1	0	21.44	21.60	21.47	22

10	16QAM	1	25	21.54	21.49	21.53	
10	16QAM	1	49	21.46	21.43	21.59	
10	16QAM	25	0	21.47	21.56	21.53	
10	16QAM	25	12	21.50	21.55	21.58	22
10	16QAM	25	25	21.55	21.39	21.50	
10	16QAM	50	0	21.46	21.46	21.47	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	21.59	21.71	21.61	
5	QPSK	1	12	21.34	21.54	21.49	22
5	QPSK	1	24	21.47	21.52	21.44	
5	QPSK	12	0	21.60	21.61	21.59	
5	QPSK	12	7	21.45	21.47	21.50	22
5	QPSK	12	13	21.53	21.46	21.43	
5	QPSK	25	0	21.47	21.49	21.50	
5	16QAM	1	0	21.40	21.55	21.46	
5	16QAM	1	12	21.49	21.47	21.48	22
5	16QAM	1	24	21.41	21.39	21.57	
5	16QAM	12	0	21.42	21.54	21.51	
5	16QAM	12	7	21.44	21.52	21.57	22
5	16QAM	12	13	21.52	21.34	21.48	
5	16QAM	25	0	21.42	21.43	21.46	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	21.63	21.68	21.64	
3	QPSK	1	8	21.37	21.56	21.51	22
3	QPSK	1	14	21.47	21.50	21.45	
3	QPSK	8	0	21.58	21.61	21.57	
3	QPSK	8	4	21.45	21.48	21.54	22
3	QPSK	8	7	21.50	21.46	21.46	
3	QPSK	15	0	21.46	21.52	21.50	
3	16QAM	1	0	21.42	21.58	21.46	
3	16QAM	1	8	21.52	21.48	21.52	22
3	16QAM	1	14	21.43	21.38	21.56	
3	16QAM	8	0	21.45	21.50	21.52	
3	16QAM	8	4	21.48	21.50	21.56	22
3	16QAM	8	7	21.50	21.38	21.44	
3	16QAM	15	0	21.43	21.42	21.41	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	21.59	21.70	21.62	
1.4	QPSK	1	3	21.36	21.55	21.51	
1.4	QPSK	1	5	21.47	21.47	21.49	
1.4	QPSK	3	0	21.58	21.59	21.58	22
1.4	QPSK	3	1	21.41	21.49	21.51	
1.4	QPSK	3	3	21.52	21.46	21.44	
1.4	QPSK	6	0	21.43	21.53	21.52	22
1.4	16QAM	1	0	21.43	21.55	21.45	
1.4	16QAM	1	3	21.50	21.46	21.52	
1.4	16QAM	1	5	21.41	21.38	21.56	
1.4	16QAM	3	0	21.42	21.53	21.48	22
1.4	16QAM	3	1	21.46	21.52	21.54	
1.4	16QAM	3	3	21.53	21.33	21.47	
1.4	16QAM	6	0	21.43	21.42	21.44	22

<LTE Band 7_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	22.81	22.95	22.93	24
20	QPSK	1	49	22.42	22.61	22.64	24
20	QPSK	1	99	22.48	22.58	22.63	24
20	QPSK	50	0	21.56	21.87	21.86	23
20	QPSK	50	24	21.53	21.77	21.75	23
20	QPSK	50	50	21.52	21.77	21.82	23
20	QPSK	100	0	21.56	21.69	21.61	23
20	16QAM	1	0	21.33	21.63	21.77	23
20	16QAM	1	49	21.40	21.63	21.67	23
20	16QAM	1	99	21.52	21.54	21.63	23
20	16QAM	50	0	20.51	20.71	20.77	22
20	16QAM	50	24	20.55	20.71	20.69	22
20	16QAM	50	50	20.47	20.66	20.70	22
20	16QAM	100	0	20.52	20.72	20.71	22
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.74	22.91	22.88	24
15	QPSK	1	37	22.29	22.55	22.46	24
15	QPSK	1	74	22.40	22.49	22.54	24
15	QPSK	36	0	21.54	21.83	21.71	23
15	QPSK	36	20	21.40	21.62	21.71	23
15	QPSK	36	39	21.37	21.76	21.68	23
15	QPSK	75	0	21.37	21.48	21.68	23
15	16QAM	1	0	21.14	21.73	21.53	23
15	16QAM	1	37	21.30	21.62	21.47	23
15	16QAM	1	74	21.42	21.61	21.45	23
15	16QAM	36	0	20.50	20.74	20.51	22
15	16QAM	36	20	20.42	20.61	20.59	22
15	16QAM	36	39	20.41	20.57	20.47	22
15	16QAM	75	0	20.48	20.57	20.64	22
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.77	22.87	22.87	24
10	QPSK	1	25	22.25	22.54	22.57	24
10	QPSK	1	49	22.48	22.53	22.45	24
10	QPSK	25	0	21.39	21.84	21.83	23
10	QPSK	25	12	21.45	21.65	21.75	23
10	QPSK	25	25	21.36	21.79	21.69	23
10	QPSK	50	0	21.41	21.59	21.61	23
10	16QAM	1	0	21.28	21.69	21.60	23
10	16QAM	1	25	21.24	21.53	21.47	23
10	16QAM	1	49	21.48	21.52	21.47	23
10	16QAM	25	0	20.36	20.68	20.64	22
10	16QAM	25	12	20.41	20.58	20.56	22
10	16QAM	25	25	20.36	20.53	20.54	22
10	16QAM	50	0	20.39	20.57	20.56	22
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	QPSK	1	0	22.79	22.77	22.90	24
5	QPSK	1	12	22.30	22.44	22.59	24
5	QPSK	1	24	22.47	22.54	22.58	24
5	QPSK	12	0	21.45	21.66	21.78	23
5	QPSK	12	7	21.35	21.59	21.72	23
5	QPSK	12	13	21.36	21.81	21.72	23
5	QPSK	25	0	21.53	21.44	21.58	23
5	16QAM	1	0	21.30	21.60	21.63	23

5	16QAM	1	12	21.29	21.64	21.55	
5	16QAM	1	24	21.50	21.54	21.38	
5	16QAM	12	0	20.45	20.59	20.52	
5	16QAM	12	7	20.51	20.66	20.58	22
5	16QAM	12	13	20.39	20.68	20.53	
5	16QAM	25	0	20.49	20.51	20.67	

\<LTE Band 7_Tablet Mode\>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	20.62	21.08	21.02	
20	QPSK	1	49	20.54	21.00	20.93	22
20	QPSK	1	99	20.55	21.04	20.96	
20	QPSK	50	0	20.54	21.01	20.95	
20	QPSK	50	24	20.42	20.89	20.79	22
20	QPSK	50	50	20.42	20.91	20.85	
20	QPSK	100	0	20.59	21.05	20.98	
20	16QAM	1	0	20.55	21.04	20.96	
20	16QAM	1	49	20.59	21.04	20.96	22
20	16QAM	1	99	20.48	20.95	20.85	
20	16QAM	50	0	20.51	20.71	20.77	
20	16QAM	50	24	20.55	20.71	20.69	22
20	16QAM	50	50	20.47	20.66	20.70	
20	16QAM	100	0	20.52	20.72	20.71	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	20.55	21.02	20.97	
15	QPSK	1	37	20.46	20.97	20.89	22
15	QPSK	1	74	20.48	20.96	20.92	
15	QPSK	36	0	20.50	20.98	20.91	
15	QPSK	36	20	20.39	20.81	20.76	22
15	QPSK	36	39	20.38	20.83	20.78	
15	QPSK	75	0	20.55	20.96	20.93	
15	16QAM	1	0	20.50	21.01	20.93	
15	16QAM	1	37	20.55	20.98	20.92	22
15	16QAM	1	74	20.41	20.92	20.78	
15	16QAM	36	0	20.50	20.74	20.51	
15	16QAM	36	20	20.42	20.61	20.59	22
15	16QAM	36	39	20.41	20.57	20.47	
15	16QAM	75	0	20.48	20.57	20.64	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	20.54	21.04	20.96	
10	QPSK	1	25	20.45	20.91	20.89	22
10	QPSK	1	49	20.49	20.96	20.93	
10	QPSK	25	0	20.49	20.98	20.88	
10	QPSK	25	12	20.36	20.86	20.71	22
10	QPSK	25	25	20.36	20.84	20.80	
10	QPSK	50	0	20.51	21.02	20.94	
10	16QAM	1	0	20.47	20.96	20.90	
10	16QAM	1	25	20.55	20.99	20.87	22
10	16QAM	1	49	20.44	20.92	20.82	
10	16QAM	25	0	20.36	20.68	20.64	
10	16QAM	25	12	20.41	20.58	20.56	22
10	16QAM	25	25	20.36	20.53	20.54	
10	16QAM	50	0	20.39	20.57	20.56	
Channel				20775	21100	21425	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	

5	QPSK	1	0	20.53	21.04	20.95	
5	QPSK	1	12	20.48	20.93	20.86	22
5	QPSK	1	24	20.51	20.95	20.93	
5	QPSK	12	0	20.47	20.96	20.88	
5	QPSK	12	7	20.35	20.84	20.75	22
5	QPSK	12	13	20.33	20.82	20.81	
5	QPSK	25	0	20.52	20.99	20.91	
5	16QAM	1	0	20.49	20.97	20.90	
5	16QAM	1	12	20.56	21.01	20.90	22
5	16QAM	1	24	20.44	20.87	20.77	
5	16QAM	12	0	20.45	20.59	20.52	
5	16QAM	12	7	20.51	20.66	20.58	22
5	16QAM	12	13	20.39	20.68	20.53	
5	16QAM	25	0	20.49	20.51	20.67	

<LTE Band 12_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.66	23.71	23.67	
10	QPSK	1	25	23.52	23.44	23.53	25
10	QPSK	1	49	23.53	23.54	23.50	
10	QPSK	25	0	22.69	22.70	22.63	
10	QPSK	25	12	22.68	22.67	22.69	24
10	QPSK	25	25	22.65	22.65	22.60	
10	QPSK	50	0	22.70	22.71	22.67	
10	16QAM	1	0	22.75	22.81	22.92	
10	16QAM	1	25	22.89	22.83	22.76	24
10	16QAM	1	49	22.67	22.91	22.87	
10	16QAM	25	0	21.72	21.72	21.61	
10	16QAM	25	12	21.70	21.81	21.70	23
10	16QAM	25	25	21.72	21.71	21.64	
10	16QAM	50	0	21.68	21.72	21.66	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.51	23.53	23.56	
5	QPSK	1	12	23.24	23.44	23.51	25
5	QPSK	1	24	23.51	23.37	23.48	
5	QPSK	12	0	22.54	22.61	22.57	
5	QPSK	12	7	22.66	22.67	22.69	24
5	QPSK	12	13	22.65	22.56	22.51	
5	QPSK	25	0	22.57	22.53	22.49	
5	16QAM	1	0	22.69	22.55	22.88	
5	16QAM	1	12	22.72	22.80	22.68	24
5	16QAM	1	24	22.82	22.60	22.84	
5	16QAM	12	0	21.67	21.64	21.59	
5	16QAM	12	7	21.61	21.52	21.61	23
5	16QAM	12	13	21.59	21.64	21.64	
5	16QAM	25	0	21.52	21.66	21.53	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.67	23.49	23.54	
3	QPSK	1	8	23.35	23.34	23.48	25
3	QPSK	1	14	23.36	23.52	23.33	
3	QPSK	8	0	22.60	22.60	22.56	
3	QPSK	8	4	22.56	22.58	22.65	24
3	QPSK	8	7	22.54	22.54	22.49	
3	QPSK	15	0	22.55	22.55	22.51	
3	16QAM	1	0	22.81	22.75	22.89	24

BW	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit
3	16QAM	1	8	22.68	22.89	22.76	
3	16QAM	1	14	22.74	22.67	22.67	
3	16QAM	8	0	21.70	21.54	21.51	
3	16QAM	8	4	21.63	21.65	21.50	23
3	16QAM	8	7	21.68	21.67	21.53	
3	16QAM	15	0	21.56	21.59	21.57	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	23.49	23.49	23.53	
1.4	QPSK	1	3	23.49	23.50	23.64	
1.4	QPSK	1	5	23.49	23.48	23.52	25
1.4	QPSK	3	0	23.57	23.51	23.66	
1.4	QPSK	3	1	23.62	23.70	23.70	
1.4	QPSK	3	3	23.52	23.65	23.70	
1.4	QPSK	6	0	22.77	22.57	22.70	24
1.4	16QAM	1	0	22.75	22.73	22.88	
1.4	16QAM	1	3	22.86	22.85	22.82	
1.4	16QAM	1	5	22.84	22.74	22.68	
1.4	16QAM	3	0	22.68	22.56	22.64	24
1.4	16QAM	3	1	22.71	22.59	22.62	
1.4	16QAM	3	3	22.65	22.59	22.51	
1.4	16QAM	6	0	21.80	21.67	21.85	23

<LTE Band 12_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	21.73	21.86	21.78	
10	QPSK	1	25	21.50	21.58	21.50	23
10	QPSK	1	49	21.56	21.67	21.62	
10	QPSK	25	0	21.68	21.77	21.68	
10	QPSK	25	12	21.66	21.74	21.66	23
10	QPSK	25	25	21.60	21.72	21.65	
10	QPSK	50	0	21.67	21.77	21.71	
10	16QAM	1	0	21.68	21.80	21.75	
10	16QAM	1	25	21.73	21.82	21.77	23
10	16QAM	1	49	21.66	21.75	21.69	
10	16QAM	25	0	21.72	21.72	21.61	
10	16QAM	25	12	21.70	21.81	21.70	23
10	16QAM	25	25	21.72	21.71	21.64	
10	16QAM	50	0	21.68	21.72	21.66	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	21.71	21.77	21.74	
5	QPSK	1	12	21.48	21.54	21.48	23
5	QPSK	1	24	21.54	21.62	21.59	
5	QPSK	12	0	21.65	21.75	21.64	
5	QPSK	12	7	21.63	21.68	21.61	23
5	QPSK	12	13	21.55	21.68	21.59	
5	QPSK	25	0	21.61	21.74	21.68	
5	16QAM	1	0	21.62	21.78	21.73	
5	16QAM	1	12	21.67	21.76	21.72	23
5	16QAM	1	24	21.61	21.72	21.66	
5	16QAM	12	0	21.67	21.64	21.59	
5	16QAM	12	7	21.61	21.52	21.61	23
5	16QAM	12	13	21.59	21.64	21.64	
5	16QAM	25	0	21.52	21.66	21.53	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	

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3	QPSK	1	0	21.71	21.81	21.76	
3	QPSK	1	8	21.44	21.55	21.47	23
3	QPSK	1	14	21.54	21.65	21.57	
3	QPSK	8	0	21.65	21.72	21.62	
3	QPSK	8	4	21.62	21.71	21.62	23
3	QPSK	8	7	21.58	21.67	21.62	
3	QPSK	15	0	21.62	21.71	21.68	
3	16QAM	1	0	21.63	21.77	21.71	
3	16QAM	1	8	21.67	21.80	21.75	23
3	16QAM	1	14	21.60	21.73	21.65	
3	16QAM	8	0	21.70	21.54	21.51	
3	16QAM	8	4	21.63	21.65	21.50	23
3	16QAM	8	7	21.68	21.67	21.53	
3	16QAM	15	0	21.56	21.59	21.57	
Channel				23017	23095	23173	Tune-up limit (dBm)
Frequency (MHz)				699.7	707.5	715.3	
1.4	QPSK	1	0	21.68	21.81	21.73	
1.4	QPSK	1	3	21.48	21.52	21.44	
1.4	QPSK	1	5	21.54	21.63	21.59	23
1.4	QPSK	3	0	21.63	21.73	21.63	
1.4	QPSK	3	1	21.62	21.69	21.63	
1.4	QPSK	3	3	21.54	21.66	21.61	
1.4	QPSK	6	0	21.62	21.75	21.65	23
1.4	16QAM	1	0	21.66	21.76	21.73	
1.4	16QAM	1	3	21.70	21.77	21.72	
1.4	16QAM	1	5	21.61	21.72	21.65	
1.4	16QAM	3	0	21.60	21.70	21.68	23
1.4	16QAM	3	1	21.64	21.72	21.69	
1.4	16QAM	3	3	21.59	21.70	21.63	
1.4	16QAM	6	0	21.80	21.67	21.85	23

<LTE Band 13_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23230		
Frequency (MHz)					782		
10	QPSK	1	0		23.80		
10	QPSK	1	25		23.70		25
10	QPSK	1	49		23.72		
10	QPSK	25	0		22.85		
10	QPSK	25	12		22.83		24
10	QPSK	25	25		22.83		
10	QPSK	50	0		22.88		
10	16QAM	1	0		22.85		
10	16QAM	1	25		23.03		24
10	16QAM	1	49		23.03		
10	16QAM	25	0		21.85		
10	16QAM	25	12		21.85		23
10	16QAM	25	25		21.86		
10	16QAM	50	0		21.91		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	23.67	23.63	23.63	
5	QPSK	1	12	23.61	23.58	23.61	25
5	QPSK	1	24	23.59	23.57	23.57	
5	QPSK	12	0	22.85	22.82	22.84	
5	QPSK	12	7	22.80	22.84	22.86	24
5	QPSK	12	13	22.77	22.75	22.81	
5	QPSK	25	0	22.75	22.80	22.80	
5	16QAM	1	0	22.78	22.73	22.80	24

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
5	16QAM	1	12	22.89	22.92	22.91	
5	16QAM	1	24	22.95	22.97	22.96	
5	16QAM	12	0	21.78	21.80	21.81	23
5	16QAM	12	7	21.79	21.78	21.78	
5	16QAM	12	13	21.72	21.78	21.71	
5	16QAM	25	0	21.81	21.87	21.82	

<LTE Band 13_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23230		
Frequency (MHz)					782		
10	QPSK	1	0		21.96		22
10	QPSK	1	25		21.85		
10	QPSK	1	49		21.80		
10	QPSK	25	0		21.82		22
10	QPSK	25	12		21.80		
10	QPSK	25	25		21.79		
10	QPSK	50	0		21.85		
10	16QAM	1	0		21.82		22
10	16QAM	1	25		21.83		
10	16QAM	1	49		21.80		
10	16QAM	25	0		21.85		22
10	16QAM	25	12		21.85		
10	16QAM	25	25		21.86		
10	16QAM	50	0		21.91		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	21.92	21.88	21.88	22
5	QPSK	1	12	21.86	21.83	21.86	
5	QPSK	1	24	21.84	21.82	21.82	
5	QPSK	12	0	21.65	21.62	21.64	22
5	QPSK	12	7	21.60	21.64	21.66	
5	QPSK	12	13	21.57	21.55	21.61	
5	QPSK	25	0	21.55	21.60	21.60	
5	16QAM	1	0	21.58	21.53	21.60	22
5	16QAM	1	12	21.69	21.72	21.71	
5	16QAM	1	24	21.75	21.77	21.76	
5	16QAM	12	0	21.78	21.80	21.81	22
5	16QAM	12	7	21.79	21.78	21.78	
5	16QAM	12	13	21.72	21.78	21.71	
5	16QAM	25	0	21.81	21.87	21.82	

<LTE Band 14_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23330		
Frequency (MHz)					793		
10	QPSK	1	0		23.74		25
10	QPSK	1	25		23.70		
10	QPSK	1	49		23.68		
10	QPSK	25	0		22.71		24
10	QPSK	25	12		22.68		
10	QPSK	25	25		22.70		
10	QPSK	50	0		22.68		
10	16QAM	1	0		22.97		24
10	16QAM	1	25		22.93		

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10	16QAM	1	49		22.97		
10	16QAM	25	0		21.78		
10	16QAM	25	12		21.82		23
10	16QAM	25	25		21.79		
10	16QAM	50	0		21.73		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	23.67	23.63	23.65	
5	QPSK	1	12	23.67	23.62	23.69	25
5	QPSK	1	24	23.63	23.61	23.65	
5	QPSK	12	0	22.66	22.67	22.68	
5	QPSK	12	7	22.73	22.62	22.61	24
5	QPSK	12	13	22.71	22.61	22.71	
5	QPSK	25	0	22.66	22.73	22.68	
5	16QAM	1	0	22.86	22.93	22.89	
5	16QAM	1	12	22.94	22.94	22.91	24
5	16QAM	1	24	22.88	22.97	22.91	
5	16QAM	12	0	21.66	21.72	21.68	
5	16QAM	12	7	21.69	21.71	21.69	23
5	16QAM	12	13	21.74	21.68	21.68	
5	16QAM	25	0	21.71	21.68	21.66	

<LTE Band 14_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					23330		
Frequency (MHz)					793		
10	QPSK	1	0		21.90		
10	QPSK	1	25		21.86		22
10	QPSK	1	49		21.84		
10	QPSK	25	0		21.85		
10	QPSK	25	12		21.82		22
10	QPSK	25	25		21.84		
10	QPSK	50	0		21.82		
10	16QAM	1	0		21.80		
10	16QAM	1	25		21.76		22
10	16QAM	1	49		21.80		
10	16QAM	25	0		21.78		
10	16QAM	25	12		21.82		22
10	16QAM	25	25		21.79		
10	16QAM	50	0		21.73		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	21.78	21.80	21.79	
5	QPSK	1	12	21.80	21.73	21.79	22
5	QPSK	1	24	21.74	21.79	21.77	
5	QPSK	12	0	21.68	21.75	21.70	
5	QPSK	12	7	21.74	21.70	21.64	22
5	QPSK	12	13	21.72	21.69	21.73	
5	QPSK	25	0	21.68	21.81	21.70	
5	16QAM	1	0	21.58	21.71	21.62	
5	16QAM	1	12	21.66	21.72	21.64	22
5	16QAM	1	24	21.60	21.75	21.64	
5	16QAM	12	0	21.66	21.72	21.68	
5	16QAM	12	7	21.69	21.71	21.69	22
5	16QAM	12	13	21.74	21.68	21.68	
5	16QAM	25	0	21.71	21.68	21.66	

<LTE Band 17_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.73	23.74	23.70	25
10	QPSK	1	25	23.46	23.43	23.43	25
10	QPSK	1	49	23.43	23.41	23.37	25
10	QPSK	25	0	22.60	22.68	22.59	24
10	QPSK	25	12	22.58	22.64	22.57	24
10	QPSK	25	25	22.58	22.55	22.59	24
10	QPSK	50	0	22.64	22.65	22.57	24
10	16QAM	1	0	22.73	22.81	22.79	24
10	16QAM	1	25	22.78	22.81	22.70	24
10	16QAM	1	49	22.68	22.66	22.62	24
10	16QAM	25	0	21.65	21.61	21.56	23
10	16QAM	25	12	21.66	21.70	21.63	23
10	16QAM	25	25	21.52	21.56	21.57	23
10	16QAM	50	0	21.61	21.54	21.65	23
Channel				23755	23790	23825	Tune-up limit (dBM)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.66	23.72	23.60	25
5	QPSK	1	12	23.40	23.34	23.42	25
5	QPSK	1	24	23.40	23.38	23.32	25
5	QPSK	12	0	22.54	22.66	22.56	24
5	QPSK	12	7	22.58	22.56	22.48	24
5	QPSK	12	13	22.53	22.55	22.54	24
5	QPSK	25	0	22.56	22.62	22.50	24
5	16QAM	1	0	22.63	22.71	22.71	24
5	16QAM	1	12	22.73	22.73	22.60	24
5	16QAM	1	24	22.58	22.63	22.60	24
5	16QAM	12	0	21.58	21.51	21.51	23
5	16QAM	12	7	21.65	21.69	21.63	23
5	16QAM	12	13	21.51	21.50	21.57	23
5	16QAM	25	0	21.56	21.54	21.55	23

<LTE Band 17_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	21.76	21.81	21.71	23
10	QPSK	1	25	21.47	21.51	21.41	23
10	QPSK	1	49	21.44	21.45	21.41	23
10	QPSK	25	0	21.71	21.75	21.69	23
10	QPSK	25	12	21.69	21.69	21.63	23
10	QPSK	25	25	21.61	21.62	21.56	23
10	QPSK	50	0	21.76	21.77	21.72	23
10	16QAM	1	0	21.73	21.72	21.66	23
10	16QAM	1	25	21.72	21.74	21.66	23
10	16QAM	1	49	21.60	21.61	21.56	23
10	16QAM	25	0	21.65	21.61	21.56	23
10	16QAM	25	12	21.66	21.70	21.63	23
10	16QAM	25	25	21.52	21.56	21.57	23
10	16QAM	50	0	21.61	21.54	21.65	23
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	21.70	21.76	21.65	23
5	QPSK	1	12	21.45	21.49	21.35	23

5	QPSK	1	24	21.39	21.42	21.37	
5	QPSK	12	0	21.65	21.72	21.66	23
5	QPSK	12	7	21.64	21.67	21.57	
5	QPSK	12	13	21.57	21.57	21.52	
5	QPSK	25	0	21.73	21.73	21.67	
5	16QAM	1	0	21.71	21.67	21.64	23
5	16QAM	1	12	21.68	21.72	21.62	
5	16QAM	1	24	21.57	21.57	21.53	
5	16QAM	12	0	21.58	21.51	21.51	23
5	16QAM	12	7	21.65	21.69	21.63	
5	16QAM	12	13	21.51	21.50	21.57	
5	16QAM	25	0	21.56	21.54	21.55	

<LTE Band 25_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	22.92	23.00	22.80	24
20	QPSK	1	49	22.90	22.99	22.70	
20	QPSK	1	99	22.86	22.98	22.53	
20	QPSK	50	0	22.10	22.13	21.89	23
20	QPSK	50	24	22.09	22.12	21.83	
20	QPSK	50	50	22.00	22.02	21.75	
20	QPSK	100	0	22.01	22.10	21.71	
20	16QAM	1	0	22.34	22.48	22.20	23
20	16QAM	1	49	22.17	22.31	22.03	
20	16QAM	1	99	22.16	22.30	21.87	
20	16QAM	50	0	21.09	21.12	20.85	22
20	16QAM	50	24	21.08	21.10	20.83	
20	16QAM	50	50	21.01	21.10	20.70	
20	16QAM	100	0	21.04	21.06	20.79	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	22.91	22.97	22.78	24
15	QPSK	1	37	22.87	22.98	22.69	
15	QPSK	1	74	22.84	22.95	22.51	
15	QPSK	36	0	22.09	22.10	21.86	23
15	QPSK	36	20	22.07	22.09	21.82	
15	QPSK	36	39	21.99	22.01	21.72	
15	QPSK	75	0	22.00	22.07	21.70	
15	16QAM	1	0	22.33	22.47	22.18	23
15	16QAM	1	37	22.14	22.30	22.01	
15	16QAM	1	74	22.13	22.28	21.84	
15	16QAM	36	0	21.08	21.09	20.84	22
15	16QAM	36	20	21.07	21.07	20.81	
15	16QAM	36	39	20.99	21.09	20.67	
15	16QAM	75	0	21.02	21.03	20.76	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	22.91	22.97	22.79	24
10	QPSK	1	25	22.89	22.96	22.69	
10	QPSK	1	49	22.84	22.97	22.52	
10	QPSK	25	0	22.09	22.11	21.86	23
10	QPSK	25	12	22.06	22.11	21.82	
10	QPSK	25	25	21.98	22.01	21.74	
10	QPSK	50	0	21.98	22.08	21.70	
10	16QAM	1	0	22.32	22.45	22.18	23
10	16QAM	1	25	22.14	22.28	22.01	
10	16QAM	1	49	22.15	22.28	21.85	

BW	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit (dBm)
10	16QAM	25	0	21.06	21.09	20.83	
10	16QAM	25	12	21.05	21.07	20.80	22
10	16QAM	25	25	20.99	21.07	20.67	
10	16QAM	50	0	21.03	21.04	20.77	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	22.91	22.98	22.78	
5	QPSK	1	12	22.88	22.97	22.69	24
5	QPSK	1	24	22.83	22.95	22.52	
5	QPSK	12	0	22.08	22.12	21.88	
5	QPSK	12	7	22.07	22.10	21.82	23
5	QPSK	12	13	21.97	22.01	21.72	
5	QPSK	25	0	22.00	22.07	21.69	
5	16QAM	1	0	22.32	22.47	22.19	
5	16QAM	1	12	22.15	22.29	22.01	23
5	16QAM	1	24	22.15	22.28	21.86	
5	16QAM	12	0	21.07	21.09	20.83	
5	16QAM	12	7	21.07	21.07	20.82	22
5	16QAM	12	13	20.98	21.07	20.68	
5	16QAM	25	0	21.01	21.04	20.78	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	22.90	22.97	22.78	
3	QPSK	1	8	22.89	22.97	22.67	24
3	QPSK	1	14	22.85	22.97	22.50	
3	QPSK	8	0	22.07	22.12	21.86	
3	QPSK	8	4	22.07	22.10	21.80	23
3	QPSK	8	7	21.98	22.01	21.72	
3	QPSK	15	0	21.99	22.07	21.70	
3	16QAM	1	0	22.33	22.45	22.18	
3	16QAM	1	8	22.15	22.30	22.01	23
3	16QAM	1	14	22.15	22.27	21.85	
3	16QAM	8	0	21.06	21.11	20.82	
3	16QAM	8	4	21.06	21.08	20.80	22
3	16QAM	8	7	20.98	21.07	20.69	
3	16QAM	15	0	21.01	21.05	20.78	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	22.80	22.80	22.38	
1.4	QPSK	1	3	22.87	22.85	22.44	
1.4	QPSK	1	5	22.64	22.91	22.53	
1.4	QPSK	3	0	22.77	22.99	22.57	24
1.4	QPSK	3	1	22.83	23.00	22.53	
1.4	QPSK	3	3	22.71	22.97	22.52	
1.4	QPSK	6	0	21.80	21.85	21.61	23
1.4	16QAM	1	0	22.05	22.23	21.65	
1.4	16QAM	1	3	22.04	22.27	21.84	
1.4	16QAM	1	5	22.11	22.16	21.67	23
1.4	16QAM	3	0	21.82	21.91	21.55	
1.4	16QAM	3	1	21.92	21.99	21.52	
1.4	16QAM	3	3	21.91	21.84	21.48	
1.4	16QAM	6	0	20.92	20.99	20.69	22

<LTE Band 25_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	17.03	17.15	16.93	18
20	QPSK	1	49	16.91	17.08	16.83	

							Tune-up limit (dBm)
20	QPSK	1	99	16.78	16.98	16.67	
20	QPSK	50	0	16.93	17.10	16.82	18
20	QPSK	50	24	16.85	17.04	16.75	
20	QPSK	50	50	16.87	17.07	16.81	
20	QPSK	100	0	16.93	17.08	16.82	
20	16QAM	1	0	16.92	17.09	16.79	18
20	16QAM	1	49	16.86	17.05	16.75	
20	16QAM	1	99	16.88	17.06	16.79	
20	16QAM	50	0	16.89	17.09	16.82	18
20	16QAM	50	24	16.85	17.04	16.76	
20	16QAM	50	50	16.93	17.10	16.84	
20	16QAM	100	0	16.93	17.08	16.82	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	16.99	17.12	16.86	18
15	QPSK	1	37	16.88	17.02	16.80	
15	QPSK	1	74	16.70	16.93	16.58	
15	QPSK	36	0	16.90	17.06	16.74	18
15	QPSK	36	20	16.79	16.96	16.67	
15	QPSK	36	39	16.82	17.00	16.72	
15	QPSK	75	0	16.89	17.01	16.73	
15	16QAM	1	0	16.88	17.02	16.76	18
15	16QAM	1	37	16.79	16.98	16.67	
15	16QAM	1	74	16.85	16.98	16.75	
15	16QAM	36	0	16.83	17.04	16.77	18
15	16QAM	36	20	16.79	16.96	16.72	
15	16QAM	36	39	16.90	17.03	16.77	
15	16QAM	75	0	16.84	17.05	16.79	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	16.99	17.06	16.90	18
10	QPSK	1	25	16.88	17.03	16.78	
10	QPSK	1	49	16.75	16.89	16.64	
10	QPSK	25	0	16.87	17.05	16.79	18
10	QPSK	25	12	16.79	16.95	16.68	
10	QPSK	25	25	16.84	17.01	16.73	
10	QPSK	50	0	16.84	17.03	16.75	
10	16QAM	1	0	16.86	17.01	16.70	18
10	16QAM	1	25	16.79	16.99	16.66	
10	16QAM	1	49	16.82	17.03	16.74	
10	16QAM	25	0	16.85	17.06	16.78	18
10	16QAM	25	12	16.77	17.01	16.73	
10	16QAM	25	25	16.90	17.01	16.81	
10	16QAM	50	0	16.89	17.04	16.76	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	17.00	17.09	16.88	18
5	QPSK	1	12	16.83	17.03	16.76	
5	QPSK	1	24	16.69	16.95	16.60	
5	QPSK	12	0	16.89	17.01	16.79	18
5	QPSK	12	7	16.78	16.97	16.68	
5	QPSK	12	13	16.81	17.01	16.77	
5	QPSK	25	0	16.87	17.05	16.73	
5	16QAM	1	0	16.83	17.00	16.73	18
5	16QAM	1	12	16.79	16.96	16.67	
5	16QAM	1	24	16.80	17.03	16.72	
5	16QAM	12	0	16.83	17.00	16.76	18
5	16QAM	12	7	16.80	16.98	16.72	
5	16QAM	12	13	16.90	17.02	16.77	
5	16QAM	25	0	16.87	17.03	16.78	
Channel				26055	26340	26675	Tune-up limit (dBm)
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	17.00	17.07	16.84	18

3	QPSK	1	8	16.87	17.05	16.76	
3	QPSK	1	14	16.74	16.95	16.62	
3	QPSK	8	0	16.90	17.07	16.75	
3	QPSK	8	4	16.77	17.00	16.71	18
3	QPSK	8	7	16.82	16.99	16.78	
3	QPSK	15	0	16.88	17.05	16.75	
3	16QAM	1	0	16.85	17.05	16.75	
3	16QAM	1	8	16.81	16.97	16.66	18
3	16QAM	1	14	16.82	16.97	16.76	
3	16QAM	8	0	16.80	17.02	16.79	
3	16QAM	8	4	16.80	16.98	16.71	18
3	16QAM	8	7	16.85	17.02	16.78	
3	16QAM	15	0	16.87	17.03	16.77	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	16.94	17.10	16.87	
1.4	QPSK	1	3	16.88	17.05	16.75	
1.4	QPSK	1	5	16.69	16.92	16.58	
1.4	QPSK	3	0	16.87	17.03	16.77	18
1.4	QPSK	3	1	16.82	16.98	16.72	
1.4	QPSK	3	3	16.83	17.04	16.76	
1.4	QPSK	6	0	16.85	17.04	16.79	18
1.4	16QAM	1	0	16.83	17.05	16.75	
1.4	16QAM	1	3	16.82	17.00	16.71	
1.4	16QAM	1	5	16.84	16.99	16.73	
1.4	16QAM	3	0	16.83	17.00	16.78	18
1.4	16QAM	3	1	16.79	16.96	16.72	
1.4	16QAM	3	3	16.86	17.01	16.80	
1.4	16QAM	6	0	16.89	17.01	16.76	18

<LTE Band 26_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	Tune-up limit (dBm)
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	23.72	23.88	23.86	
15	QPSK	1	37	23.43	23.49	23.51	25
15	QPSK	1	74	23.51	23.52	23.53	
15	QPSK	36	0	22.73	22.63	22.67	
15	QPSK	36	20	22.76	22.63	22.66	24
15	QPSK	36	39	22.69	22.56	22.64	
15	QPSK	75	0	22.57	22.60	22.59	
15	16QAM	1	0	22.83	22.71	22.83	
15	16QAM	1	37	22.74	22.82	22.84	24
15	16QAM	1	74	22.75	22.72	22.79	
15	16QAM	36	0	21.69	21.51	21.74	
15	16QAM	36	20	21.71	21.55	21.67	23
15	16QAM	36	39	21.50	21.63	21.57	
15	16QAM	75	0	21.69	21.60	21.62	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	23.68	23.70	23.81	
10	QPSK	1	25	23.25	23.35	23.41	25
10	QPSK	1	49	23.49	23.35	23.43	
10	QPSK	25	0	22.61	22.65	22.46	
10	QPSK	25	12	22.59	22.56	22.49	24
10	QPSK	25	25	22.62	22.51	22.44	
10	QPSK	50	0	22.47	22.48	22.58	
10	16QAM	1	0	22.83	22.72	22.62	24
10	16QAM	1	25	22.56	22.64	22.73	

10	16QAM	1	49	22.69	22.64	22.56	
10	16QAM	25	0	21.55	21.63	21.43	23
10	16QAM	25	12	21.61	21.57	21.46	
10	16QAM	25	25	21.44	21.43	21.61	
10	16QAM	50	0	21.67	21.46	21.48	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	23.67	23.66	23.79	25
5	QPSK	1	12	23.40	23.34	23.40	
5	QPSK	1	24	23.31	23.42	23.41	
5	QPSK	12	0	22.62	22.49	22.63	24
5	QPSK	12	7	22.68	22.59	22.61	
5	QPSK	12	13	22.61	22.61	22.44	
5	QPSK	25	0	22.50	22.47	22.57	
5	16QAM	1	0	22.79	22.64	22.64	24
5	16QAM	1	12	22.62	22.76	22.70	
5	16QAM	1	24	22.72	22.65	22.58	
5	16QAM	12	0	21.63	21.57	21.31	23
5	16QAM	12	7	21.55	21.58	21.36	
5	16QAM	12	13	21.47	21.40	21.50	
5	16QAM	25	0	21.53	21.51	21.54	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	23.53	23.75	23.71	25
3	QPSK	1	8	23.39	23.49	23.36	
3	QPSK	1	14	23.35	23.46	23.52	
3	QPSK	8	0	22.55	22.60	22.51	24
3	QPSK	8	4	22.63	22.47	22.45	
3	QPSK	8	7	22.57	22.53	22.36	
3	QPSK	15	0	22.54	22.40	22.56	
3	16QAM	1	0	22.82	22.79	22.69	24
3	16QAM	1	8	22.65	22.67	22.65	
3	16QAM	1	14	22.55	22.71	22.68	
3	16QAM	8	0	21.69	21.65	21.38	23
3	16QAM	8	4	21.71	21.51	21.53	
3	16QAM	8	7	21.42	21.47	21.45	
3	16QAM	15	0	21.59	21.43	21.56	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	23.59	23.62	23.55	25
1.4	QPSK	1	3	23.59	23.77	23.76	
1.4	QPSK	1	5	23.59	23.52	23.68	
1.4	QPSK	3	0	23.63	23.67	23.61	
1.4	QPSK	3	1	23.62	23.67	23.81	
1.4	QPSK	3	3	23.60	23.74	23.58	
1.4	QPSK	6	0	22.68	22.75	22.72	24
1.4	16QAM	1	0	22.78	22.88	22.82	24
1.4	16QAM	1	3	22.96	22.79	22.93	
1.4	16QAM	1	5	22.82	22.71	22.81	
1.4	16QAM	3	0	22.52	22.57	22.74	
1.4	16QAM	3	1	22.63	22.60	22.63	
1.4	16QAM	3	3	22.53	22.61	22.68	
1.4	16QAM	6	0	21.61	21.83	21.71	23

<LTE Band 26_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	20.83	21.05	20.94	22
15	QPSK	1	37	20.71	20.98	20.82	
15	QPSK	1	74	20.70	20.95	20.78	
15	QPSK	36	0	20.75	21.01	20.87	22
15	QPSK	36	20	20.73	21.00	20.86	
15	QPSK	36	39	20.70	20.95	20.81	
15	QPSK	75	0	20.74	21.00	20.84	
15	16QAM	1	0	20.78	21.03	20.90	22
15	16QAM	1	37	20.72	20.96	20.80	
15	16QAM	1	74	20.74	21.00	20.85	
15	16QAM	36	0	20.83	20.94	20.67	22
15	16QAM	36	20	20.84	20.91	20.73	
15	16QAM	36	39	20.64	20.80	20.75	
15	16QAM	75	0	20.77	20.89	20.78	
Channel				26740	26865	26990	Tune-up limit (dBm)
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	20.80	21.03	20.91	22
10	QPSK	1	25	20.67	20.96	20.77	
10	QPSK	1	49	20.68	20.91	20.75	
10	QPSK	25	0	20.73	20.95	20.82	22
10	QPSK	25	12	20.71	20.98	20.82	
10	QPSK	25	25	20.66	20.91	20.75	
10	QPSK	50	0	20.71	20.97	20.81	
10	16QAM	1	0	20.74	21.00	20.85	22
10	16QAM	1	25	20.70	20.93	20.74	
10	16QAM	1	49	20.69	20.94	20.80	
10	16QAM	25	0	20.78	20.92	20.61	22
10	16QAM	25	12	20.82	20.89	20.70	
10	16QAM	25	25	20.61	20.77	20.71	
10	16QAM	50	0	20.72	20.85	20.72	
Channel				26715	26865	27015	Tune-up limit (dBm)
Frequency (MHz)				816.5	831.5	846.5	
5	QPSK	1	0	20.77	21.00	20.88	22
5	QPSK	1	12	20.67	20.92	20.79	
5	QPSK	1	24	20.65	20.91	20.75	
5	QPSK	12	0	20.73	20.97	20.84	22
5	QPSK	12	7	20.71	20.97	20.80	
5	QPSK	12	13	20.68	20.90	20.77	
5	QPSK	25	0	20.72	20.97	20.80	
5	16QAM	1	0	20.72	21.00	20.87	22
5	16QAM	1	12	20.67	20.93	20.76	
5	16QAM	1	24	20.70	20.97	20.81	
5	16QAM	12	0	20.78	20.92	20.63	22
5	16QAM	12	7	20.81	20.85	20.69	
5	16QAM	12	13	20.60	20.75	20.72	
5	16QAM	25	0	20.74	20.83	20.73	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	20.78	21.01	20.90	22
3	QPSK	1	8	20.68	20.93	20.79	
3	QPSK	1	14	20.67	20.92	20.75	
3	QPSK	8	0	20.70	20.99	20.84	22
3	QPSK	8	4	20.67	20.96	20.81	
3	QPSK	8	7	20.64	20.89	20.75	
3	QPSK	15	0	20.69	20.96	20.81	
3	16QAM	1	0	20.73	21.01	20.85	22

BW	Modulation	RB Size	RB Offset	Power Low	Power Middle	Power High	Tune-up limit (dBm)
3	16QAM	1	8	20.70	20.92	20.76	
3	16QAM	1	14	20.72	20.96	20.81	
3	16QAM	8	0	20.78	20.90	20.63	22
3	16QAM	8	4	20.78	20.86	20.70	
3	16QAM	8	7	20.62	20.78	20.72	
3	16QAM	15	0	20.73	20.87	20.73	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	20.78	21.03	20.91	22
1.4	QPSK	1	3	20.68	20.95	20.79	
1.4	QPSK	1	5	20.64	20.92	20.73	
1.4	QPSK	3	0	20.69	20.99	20.81	
1.4	QPSK	3	1	20.67	20.98	20.81	
1.4	QPSK	3	3	20.66	20.90	20.76	
1.4	QPSK	6	0	20.71	20.95	20.81	22
1.4	16QAM	1	0	20.72	20.97	20.85	22
1.4	16QAM	1	3	20.66	20.90	20.76	
1.4	16QAM	1	5	20.70	20.96	20.81	
1.4	16QAM	3	0	20.79	20.89	20.62	
1.4	16QAM	3	1	20.81	20.88	20.67	
1.4	16QAM	3	3	20.61	20.78	20.70	
1.4	16QAM	6	0	20.71	20.83	20.74	22

<LTE Band 30_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					27710		
Frequency (MHz)					2310		
10	QPSK	1	0		21.83		23
10	QPSK	1	25		21.77		
10	QPSK	1	49		21.82		
10	QPSK	25	0		20.99		22
10	QPSK	25	12		20.94		
10	QPSK	25	25		20.96		
10	QPSK	50	0		20.93		
10	16QAM	1	0		21.08		22
10	16QAM	1	25		21.17		
10	16QAM	1	49		21.14		
10	16QAM	25	0		19.96		21
10	16QAM	25	12		19.92		
10	16QAM	25	25		19.91		
10	16QAM	50	0		19.86		
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.80	21.80	21.82	23
5	QPSK	1	12	21.76	21.82	21.72	
5	QPSK	1	24	21.82	21.79	21.75	
5	QPSK	12	0	20.88	20.86	20.83	22
5	QPSK	12	7	20.86	20.90	20.90	
5	QPSK	12	13	20.82	20.89	20.80	
5	QPSK	25	0	20.80	20.87	20.86	
5	16QAM	1	0	21.08	21.09	21.07	22
5	16QAM	1	12	21.16	21.10	21.14	
5	16QAM	1	24	21.17	21.11	21.13	
5	16QAM	12	0	19.87	19.89	19.87	21
5	16QAM	12	7	19.83	19.84	19.85	
5	16QAM	12	13	19.85	19.85	19.90	
5	16QAM	25	0	19.81	19.90	19.85	

<LTE Band 30_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
	Channel				27710		
	Frequency (MHz)				2310		
10	QPSK	1	0		21.83		22
10	QPSK	1	25		21.77		
10	QPSK	1	49		21.82		
10	QPSK	25	0		20.99		22
10	QPSK	25	12		20.94		
10	QPSK	25	25		20.96		
10	QPSK	50	0		20.93		
10	16QAM	1	0		21.08		22
10	16QAM	1	25		21.17		
10	16QAM	1	49		21.14		
10	16QAM	25	0		19.96		21
10	16QAM	25	12		19.92		
10	16QAM	25	25		19.91		
10	16QAM	50	0		19.86		
	Channel			27685	27710	27735	Tune-up limit (dBm)
	Frequency (MHz)			2307.5	2310	2312.5	
5	QPSK	1	0	21.80	21.80	21.82	22
5	QPSK	1	12	21.76	21.82	21.72	
5	QPSK	1	24	21.82	21.79	21.75	
5	QPSK	12	0	20.88	20.86	20.83	22
5	QPSK	12	7	20.86	20.90	20.90	
5	QPSK	12	13	20.82	20.89	20.80	
5	QPSK	25	0	20.80	20.87	20.86	
5	16QAM	1	0	21.08	21.09	21.07	22
5	16QAM	1	12	21.16	21.10	21.14	
5	16QAM	1	24	21.17	21.11	21.13	
5	16QAM	12	0	19.87	19.89	19.87	21
5	16QAM	12	7	19.83	19.84	19.85	
5	16QAM	12	13	19.85	19.85	19.90	
5	16QAM	25	0	19.81	19.90	19.85	

<LTE Band 66_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
	Channel			132072	132322	132572	
	Frequency (MHz)			1720	1745	1770	
20	QPSK	1	0	22.77	22.97	22.95	24
20	QPSK	1	49	22.75	22.94	22.85	
20	QPSK	1	99	22.68	22.81	22.86	
20	QPSK	50	0	21.85	21.93	21.92	23
20	QPSK	50	24	21.76	21.84	21.86	
20	QPSK	50	50	21.79	21.86	21.86	
20	QPSK	100	0	21.79	21.88	21.87	
20	16QAM	1	0	22.04	22.32	22.37	23
20	16QAM	1	49	22.24	22.29	22.39	
20	16QAM	1	99	22.00	22.05	22.13	
20	16QAM	50	0	20.91	20.93	20.98	22
20	16QAM	50	24	20.86	20.93	20.87	
20	16QAM	50	50	20.80	20.86	20.96	
20	16QAM	100	0	20.80	20.88	20.91	
	Channel			132047	132322	132597	Tune-up limit (dBm)
	Frequency (MHz)			1717.5	1745	1772.5	
15	QPSK	1	0	22.74	22.94	22.94	24
15	QPSK	1	37	22.72	22.93	22.84	

							Tune-up limit (dBm)
15	QPSK	1	74	22.65	22.78	22.84	
15	QPSK	36	0	21.82	21.92	21.90	
15	QPSK	36	20	21.75	21.82	21.85	23
15	QPSK	36	39	21.76	21.84	21.85	
15	QPSK	75	0	21.77	21.86	21.86	
15	16QAM	1	0	22.02	22.31	22.35	
15	16QAM	1	37	22.21	22.27	22.38	23
15	16QAM	1	74	21.99	22.04	22.11	
15	16QAM	36	0	20.90	20.91	20.97	
15	16QAM	36	20	20.85	20.91	20.86	22
15	16QAM	36	39	20.79	20.84	20.94	
15	16QAM	75	0	20.78	20.86	20.90	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.74	22.95	22.92	
10	QPSK	1	25	22.74	22.91	22.84	24
10	QPSK	1	49	22.65	22.79	22.83	
10	QPSK	25	0	21.84	21.92	21.90	
10	QPSK	25	12	21.75	21.82	21.85	23
10	QPSK	25	25	21.76	21.85	21.84	
10	QPSK	50	0	21.76	21.85	21.86	
10	16QAM	1	0	22.03	22.30	22.35	
10	16QAM	1	25	22.22	22.28	22.36	23
10	16QAM	1	49	21.98	22.03	22.11	
10	16QAM	25	0	20.88	20.90	20.96	
10	16QAM	25	12	20.83	20.91	20.85	22
10	16QAM	25	25	20.77	20.85	20.93	
10	16QAM	50	0	20.77	20.86	20.90	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	22.76	22.96	22.94	
5	QPSK	1	12	22.73	22.93	22.84	24
5	QPSK	1	24	22.65	22.78	22.85	
5	QPSK	12	0	21.83	21.91	21.89	
5	QPSK	12	7	21.73	21.81	21.83	23
5	QPSK	12	13	21.76	21.84	21.84	
5	QPSK	25	0	21.76	21.85	21.84	
5	16QAM	1	0	22.03	22.29	22.36	
5	16QAM	1	12	22.22	22.26	22.36	23
5	16QAM	1	24	21.99	22.04	22.10	
5	16QAM	12	0	20.90	20.90	20.96	
5	16QAM	12	7	20.84	20.90	20.85	22
5	16QAM	12	13	20.79	20.85	20.95	
5	16QAM	25	0	20.77	20.87	20.89	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	22.76	22.96	22.92	
3	QPSK	1	8	22.74	22.93	22.83	24
3	QPSK	1	14	22.65	22.79	22.84	
3	QPSK	8	0	21.82	21.92	21.91	
3	QPSK	8	4	21.75	21.81	21.85	23
3	QPSK	8	7	21.77	21.85	21.83	
3	QPSK	15	0	21.77	21.85	21.86	
3	16QAM	1	0	22.03	22.31	22.36	
3	16QAM	1	8	22.22	22.27	22.38	23
3	16QAM	1	14	21.97	22.03	22.11	
3	16QAM	8	0	20.88	20.91	20.95	
3	16QAM	8	4	20.83	20.92	20.84	22
3	16QAM	8	7	20.78	20.83	20.93	
3	16QAM	15	0	20.78	20.85	20.89	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	22.69	22.82	22.87	24

1.4	QPSK	1	3	22.78	22.88	22.84	
1.4	QPSK	1	5	22.71	22.69	22.77	
1.4	QPSK	3	0	22.81	22.96	22.87	
1.4	QPSK	3	1	22.82	22.95	22.94	
1.4	QPSK	3	3	22.68	22.91	22.95	
1.4	QPSK	6	0	21.85	21.94	21.96	23
1.4	16QAM	1	0	22.07	22.18	22.03	
1.4	16QAM	1	3	22.00	22.13	22.20	
1.4	16QAM	1	5	21.85	22.18	22.07	
1.4	16QAM	3	0	21.68	21.96	21.87	23
1.4	16QAM	3	1	21.84	21.86	22.01	
1.4	16QAM	3	3	21.79	21.92	21.91	
1.4	16QAM	6	0	20.86	20.94	20.98	22

<LTE Band 66_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	18.95	19.07	19.05	20
20	QPSK	1	49	18.87	19.04	18.99	
20	QPSK	1	99	18.69	18.87	18.81	
20	QPSK	50	0	18.76	18.94	18.89	20
20	QPSK	50	24	18.71	18.86	18.82	
20	QPSK	50	50	18.66	18.84	18.78	
20	QPSK	100	0	18.75	18.92	18.84	
20	16QAM	1	0	18.89	19.03	18.98	20
20	16QAM	1	49	18.81	18.98	18.90	
20	16QAM	1	99	18.74	18.91	18.86	
20	16QAM	50	0	18.81	18.98	18.91	20
20	16QAM	50	24	18.73	18.90	18.84	
20	16QAM	50	50	18.72	18.88	18.83	
20	16QAM	100	0	18.80	18.94	18.88	
Channel				132047	132322	132597	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	18.85	18.99	19.00	20
15	QPSK	1	37	18.82	18.99	18.90	
15	QPSK	1	74	18.63	18.77	18.71	
15	QPSK	36	0	18.70	18.85	18.80	20
15	QPSK	36	20	18.64	18.78	18.75	
15	QPSK	36	39	18.58	18.78	18.68	
15	QPSK	75	0	18.69	18.87	18.75	
15	16QAM	1	0	18.82	18.95	18.91	20
15	16QAM	1	37	18.71	18.93	18.85	
15	16QAM	1	74	18.68	18.84	18.81	
15	16QAM	36	0	18.74	18.92	18.84	20
15	16QAM	36	20	18.66	18.84	18.77	
15	16QAM	36	39	18.66	18.83	18.76	
15	16QAM	75	0	18.72	18.84	18.80	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	18.88	18.97	18.95	20
10	QPSK	1	25	18.80	18.99	18.89	
10	QPSK	1	49	18.59	18.81	18.72	
10	QPSK	25	0	18.66	18.87	18.83	20
10	QPSK	25	12	18.62	18.78	18.74	
10	QPSK	25	25	18.56	18.79	18.68	
10	QPSK	50	0	18.67	18.87	18.76	
10	16QAM	1	0	18.82	18.96	18.91	20
10	16QAM	1	25	18.73	18.89	18.85	

							Tune-up limit (dBm)
10	16QAM	1	49	18.68	18.84	18.76	
10	16QAM	25	0	18.76	18.89	18.82	20
10	16QAM	25	12	18.64	18.82	18.77	
10	16QAM	25	25	18.66	18.82	18.78	
10	16QAM	50	0	18.73	18.89	18.78	
Channel				131997	132322	132647	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	18.85	18.99	18.99	20
5	QPSK	1	12	18.77	18.99	18.92	
5	QPSK	1	24	18.60	18.78	18.74	
5	QPSK	12	0	18.71	18.85	18.80	20
5	QPSK	12	7	18.65	18.81	18.76	
5	QPSK	12	13	18.57	18.78	18.72	
5	QPSK	25	0	18.65	18.85	18.74	
5	16QAM	1	0	18.79	18.93	18.88	20
5	16QAM	1	12	18.74	18.89	18.81	
5	16QAM	1	24	18.69	18.86	18.78	
5	16QAM	12	0	18.72	18.93	18.85	20
5	16QAM	12	7	18.65	18.83	18.78	
5	16QAM	12	13	18.63	18.79	18.76	
5	16QAM	25	0	18.73	18.88	18.81	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	18.85	19.00	18.99	20
3	QPSK	1	8	18.81	18.95	18.91	
3	QPSK	1	14	18.60	18.79	18.71	
3	QPSK	8	0	18.67	18.85	18.81	20
3	QPSK	8	4	18.66	18.81	18.75	
3	QPSK	8	7	18.59	18.78	18.72	
3	QPSK	15	0	18.70	18.82	18.76	
3	16QAM	1	0	18.80	18.94	18.88	20
3	16QAM	1	8	18.76	18.88	18.83	
3	16QAM	1	14	18.68	18.81	18.76	
3	16QAM	8	0	18.71	18.91	18.82	20
3	16QAM	8	4	18.67	18.84	18.76	
3	16QAM	8	7	18.66	18.82	18.74	
3	16QAM	15	0	18.73	18.86	18.82	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	18.87	18.97	18.96	20
1.4	QPSK	1	3	18.81	18.94	18.90	
1.4	QPSK	1	5	18.60	18.77	18.73	
1.4	QPSK	3	0	18.70	18.87	18.81	
1.4	QPSK	3	1	18.62	18.79	18.75	
1.4	QPSK	3	3	18.59	18.77	18.69	
1.4	QPSK	6	0	18.69	18.84	18.77	20
1.4	16QAM	1	0	18.79	18.95	18.93	20
1.4	16QAM	1	3	18.75	18.90	18.84	
1.4	16QAM	1	5	18.68	18.81	18.81	
1.4	16QAM	3	0	18.72	18.88	18.86	
1.4	16QAM	3	1	18.66	18.85	18.75	
1.4	16QAM	3	3	18.62	18.82	18.73	
1.4	16QAM	6	0	18.75	18.88	18.81	20

<LTE Band 71_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.92	23.93	23.80	25
20	QPSK	1	49	23.41	23.35	23.44	
20	QPSK	1	99	23.44	23.37	23.33	
20	QPSK	50	0	22.61	22.62	22.55	24
20	QPSK	50	24	22.52	22.53	22.42	
20	QPSK	50	50	22.50	22.61	22.55	
20	QPSK	100	0	22.47	22.49	22.48	
20	16QAM	1	0	22.69	22.59	22.62	24
20	16QAM	1	49	22.66	22.65	22.69	
20	16QAM	1	99	22.74	22.69	22.54	
20	16QAM	50	0	21.56	21.47	21.53	23
20	16QAM	50	24	21.60	21.54	21.46	
20	16QAM	50	50	21.53	21.64	21.58	
20	16QAM	100	0	21.53	21.45	21.45	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.73	23.84	23.66	25
15	QPSK	1	37	23.22	23.24	23.33	
15	QPSK	1	74	23.30	23.28	23.26	
15	QPSK	36	0	22.61	22.47	22.44	24
15	QPSK	36	20	22.50	22.32	22.26	
15	QPSK	36	39	22.54	22.33	22.37	
15	QPSK	75	0	22.44	22.34	22.44	
15	16QAM	1	0	22.56	22.53	22.49	24
15	16QAM	1	37	22.49	22.65	22.61	
15	16QAM	1	74	22.62	22.65	22.53	
15	16QAM	36	0	21.37	21.51	21.45	23
15	16QAM	36	20	21.44	21.52	21.38	
15	16QAM	36	39	21.51	21.35	21.56	
15	16QAM	75	0	21.44	21.45	21.25	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.81	23.85	23.77	25
10	QPSK	1	25	23.35	23.29	23.38	
10	QPSK	1	49	23.29	23.29	23.19	
10	QPSK	25	0	22.46	22.57	22.51	24
10	QPSK	25	12	22.35	22.51	22.38	
10	QPSK	25	25	22.54	22.37	22.37	
10	QPSK	50	0	22.33	22.28	22.34	
10	16QAM	1	0	22.42	22.55	22.48	24
10	16QAM	1	25	22.48	22.64	22.59	
10	16QAM	1	49	22.50	22.56	22.36	
10	16QAM	25	0	21.36	21.38	21.52	23
10	16QAM	25	12	21.40	21.45	21.27	
10	16QAM	25	25	21.52	21.52	21.43	
10	16QAM	50	0	21.25	21.46	21.31	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.92	23.76	23.77	25
5	QPSK	1	12	23.24	23.36	23.25	
5	QPSK	1	24	23.36	23.27	23.23	
5	QPSK	12	0	22.52	22.45	22.46	24
5	QPSK	12	7	22.47	22.50	22.42	
5	QPSK	12	13	22.56	22.46	22.51	
5	QPSK	25	0	22.41	22.46	22.35	
5	16QAM	1	0	22.48	22.65	22.45	24

5	16QAM	1	12	22.50	22.65	22.64	
5	16QAM	1	24	22.69	22.63	22.42	
5	16QAM	12	0	21.35	21.45	21.53	
5	16QAM	12	7	21.42	21.43	21.46	23
5	16QAM	12	13	21.53	21.52	21.54	
5	16QAM	25	0	21.36	21.50	21.30	

<LTE Band 71_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
		Channel		133222	133297	133372	
		Frequency (MHz)		673	680.5	688	
20	QPSK	1	0	23.92	23.93	23.80	
20	QPSK	1	49	23.41	23.35	23.44	25
20	QPSK	1	99	23.44	23.37	23.33	
20	QPSK	50	0	22.61	22.62	22.55	
20	QPSK	50	24	22.52	22.53	22.42	24
20	QPSK	50	50	22.50	22.61	22.55	
20	QPSK	100	0	22.47	22.49	22.48	
20	16QAM	1	0	22.69	22.59	22.62	
20	16QAM	1	49	22.66	22.65	22.69	24
20	16QAM	1	99	22.74	22.69	22.54	
20	16QAM	50	0	21.56	21.47	21.53	
20	16QAM	50	24	21.60	21.54	21.46	23
20	16QAM	50	50	21.53	21.64	21.58	
20	16QAM	100	0	21.53	21.45	21.45	
		Channel		133197	133297	133397	Tune-up limit (dBm)
		Frequency (MHz)		670.5	680.5	690.5	
15	QPSK	1	0	23.73	23.84	23.66	
15	QPSK	1	37	23.22	23.24	23.33	25
15	QPSK	1	74	23.30	23.28	23.26	
15	QPSK	36	0	22.61	22.47	22.44	
15	QPSK	36	20	22.50	22.32	22.26	24
15	QPSK	36	39	22.54	22.33	22.37	
15	QPSK	75	0	22.44	22.34	22.44	
15	16QAM	1	0	22.56	22.53	22.49	
15	16QAM	1	37	22.49	22.65	22.61	24
15	16QAM	1	74	22.62	22.65	22.53	
15	16QAM	36	0	21.37	21.51	21.45	
15	16QAM	36	20	21.44	21.52	21.38	23
15	16QAM	36	39	21.51	21.35	21.56	
15	16QAM	75	0	21.44	21.45	21.25	
		Channel		133172	133297	133422	Tune-up limit (dBm)
		Frequency (MHz)		668	680.5	693	
10	QPSK	1	0	23.81	23.85	23.77	
10	QPSK	1	25	23.35	23.29	23.38	25
10	QPSK	1	49	23.29	23.29	23.19	
10	QPSK	25	0	22.46	22.57	22.51	
10	QPSK	25	12	22.35	22.51	22.38	24
10	QPSK	25	25	22.54	22.37	22.37	
10	QPSK	50	0	22.33	22.28	22.34	
10	16QAM	1	0	22.42	22.55	22.48	
10	16QAM	1	25	22.48	22.64	22.59	24
10	16QAM	1	49	22.50	22.56	22.36	
10	16QAM	25	0	21.36	21.38	21.52	
10	16QAM	25	12	21.40	21.45	21.27	23
10	16QAM	25	25	21.52	21.52	21.43	
10	16QAM	50	0	21.25	21.46	21.31	
		Channel		133147	133297	133447	Tune-up limit (dBm)
		Frequency (MHz)		665.5	680.5	695.5	

5	QPSK	1	0	23.92	23.76	23.77	
5	QPSK	1	12	23.24	23.36	23.25	25
5	QPSK	1	24	23.36	23.27	23.23	
5	QPSK	12	0	22.52	22.45	22.46	
5	QPSK	12	7	22.47	22.50	22.42	24
5	QPSK	12	13	22.56	22.46	22.51	
5	QPSK	25	0	22.41	22.46	22.35	
5	16QAM	1	0	22.48	22.65	22.45	
5	16QAM	1	12	22.50	22.65	22.64	24
5	16QAM	1	24	22.69	22.63	22.42	
5	16QAM	12	0	21.35	21.45	21.53	
5	16QAM	12	7	21.42	21.43	21.46	23
5	16QAM	12	13	21.53	21.52	21.54	
5	16QAM	25	0	21.36	21.50	21.30	

\<TDD LTE SAR Measurement\>

TDD LTE configuration setup for SAR measurement

SAR was tested with a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by 3GPP.

   a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations

   b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS

   c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Base station simulator was used for LTE output power measurements and SAR testing.
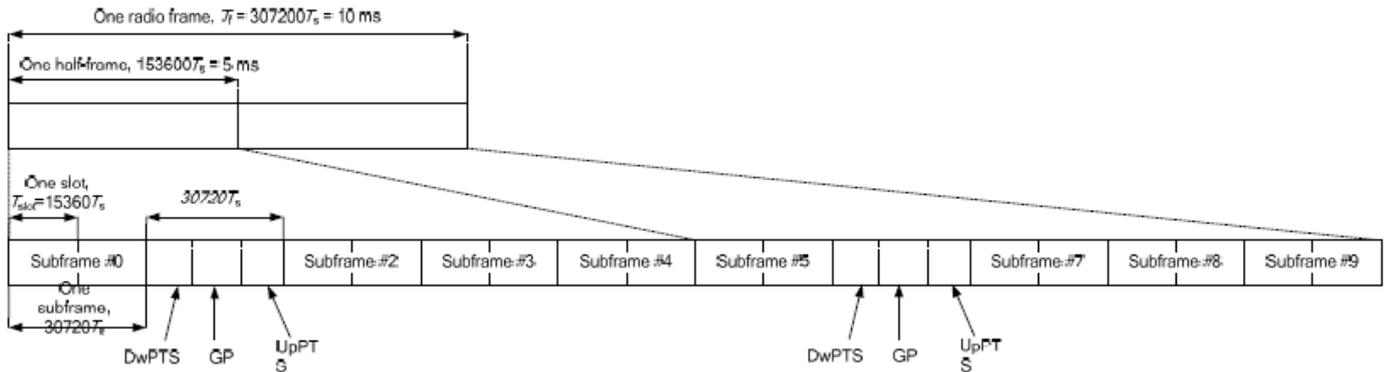

Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

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

Special subframe (30720·T$_s$): Normal cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~4**	7.13%	8.33%
	5~9	14.3%	16.7%

Special subframe(30720·T$_s$): Extended cyclic prefix in downlink (UpPTS)			
	Special subframe configuration	**Normal cyclic prefix in uplink**	**Extended cyclic prefix in uplink**
Uplink duty factor in one special subframe	**0~3**	7.13%	8.33%
	4~7	14.3%	16.7%

The highest duty factor is resulted from:

i. Uplink-downlink configuration: 0. In a half-frame consisted of 5 subfames, uplink operation is in 3 uplink subframes and 1 special subframe.

ii. special subframe configuration: 5-9 for normal cyclic prefix in downlink, 4-7 for extended cyclic prefix in downlink

iii. for special subframe with extended cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.167)/5 = 63.3%

iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (3+0.143)/5 = 62.9%

v. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The scaled TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.

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\<LTE Band 38_Laptop Mode\>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	22.75	22.85	22.77	24
20	QPSK	1	49	22.56	22.75	22.63	
20	QPSK	1	99	22.64	22.78	22.69	
20	QPSK	50	0	21.69	21.96	21.87	23
20	QPSK	50	24	21.68	21.92	21.85	
20	QPSK	50	50	21.66	21.95	21.81	
20	QPSK	100	0	21.73	21.95	21.77	
20	16QAM	1	0	21.68	21.74	21.76	23
20	16QAM	1	49	21.72	21.84	21.74	
20	16QAM	1	99	21.76	21.85	21.82	
20	16QAM	50	0	20.70	20.85	20.76	22
20	16QAM	50	24	20.80	20.92	20.79	
20	16QAM	50	50	20.73	20.97	20.85	
20	16QAM	100	0	20.70	20.91	20.81	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	22.68	22.73	22.84	24
15	QPSK	1	37	22.46	22.60	22.71	
15	QPSK	1	74	22.63	22.52	22.64	
15	QPSK	36	0	21.49	21.78	21.87	23
15	QPSK	36	20	21.66	21.71	21.77	
15	QPSK	36	39	21.55	21.71	21.78	
15	QPSK	75	0	21.62	21.65	21.83	
15	16QAM	1	0	21.57	21.63	21.57	23
15	16QAM	1	37	21.54	21.74	21.71	
15	16QAM	1	74	21.58	21.69	21.65	
15	16QAM	36	0	20.61	20.63	20.70	22
15	16QAM	36	20	20.73	20.72	20.76	
15	16QAM	36	39	20.56	20.68	20.95	
15	16QAM	75	0	20.62	20.66	20.88	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	22.72	22.65	22.84	24
10	QPSK	1	25	22.39	22.59	22.55	
10	QPSK	1	49	22.52	22.59	22.77	
10	QPSK	25	0	21.53	21.74	21.77	23
10	QPSK	25	12	21.63	21.66	21.84	
10	QPSK	25	25	21.65	21.64	21.76	
10	QPSK	50	0	21.57	21.73	21.87	
10	16QAM	1	0	21.64	21.69	21.60	23
10	16QAM	1	25	21.62	21.63	21.81	
10	16QAM	1	49	21.69	21.80	21.85	
10	16QAM	25	0	20.51	20.67	20.81	22
10	16QAM	25	12	20.60	20.68	20.80	
10	16QAM	25	25	20.60	20.83	20.96	
10	16QAM	50	0	20.69	20.72	20.84	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	22.64	22.63	22.81	24
5	QPSK	1	12	22.49	22.48	22.60	
5	QPSK	1	24	22.59	22.52	22.62	
5	QPSK	12	0	21.56	21.71	21.82	23
5	QPSK	12	7	21.54	21.77	21.86	
5	QPSK	12	13	21.46	21.80	21.77	
5	QPSK	25	0	21.70	21.66	21.75	

				Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
5	16QAM	1	0	21.48	21.72	21.55	23
5	16QAM	1	12	21.58	21.54	21.65	
5	16QAM	1	24	21.71	21.77	21.72	
5	16QAM	12	0	20.51	20.63	20.76	22
5	16QAM	12	7	20.78	20.72	20.90	
5	16QAM	12	13	20.70	20.73	20.77	
5	16QAM	25	0	20.53	20.69	20.78	

<LTE Band 38_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	22.75	22.85	22.77	24
20	QPSK	1	49	22.56	22.75	22.63	
20	QPSK	1	99	22.64	22.78	22.69	
20	QPSK	50	0	21.69	21.96	21.87	23
20	QPSK	50	24	21.68	21.92	21.85	
20	QPSK	50	50	21.66	21.95	21.81	
20	QPSK	100	0	21.73	21.95	21.77	
20	16QAM	1	0	21.68	21.74	21.76	23
20	16QAM	1	49	21.72	21.84	21.74	
20	16QAM	1	99	21.76	21.85	21.82	
20	16QAM	50	0	20.70	20.85	20.76	22
20	16QAM	50	24	20.80	20.92	20.79	
20	16QAM	50	50	20.73	20.97	20.85	
20	16QAM	100	0	20.70	20.91	20.81	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	22.68	22.73	22.84	24
15	QPSK	1	37	22.46	22.60	22.71	
15	QPSK	1	74	22.63	22.52	22.64	
15	QPSK	36	0	21.49	21.78	21.87	23
15	QPSK	36	20	21.66	21.71	21.77	
15	QPSK	36	39	21.55	21.71	21.78	
15	QPSK	75	0	21.62	21.65	21.83	
15	16QAM	1	0	21.57	21.63	21.57	23
15	16QAM	1	37	21.54	21.74	21.71	
15	16QAM	1	74	21.58	21.69	21.65	
15	16QAM	36	0	20.61	20.63	20.70	22
15	16QAM	36	20	20.73	20.72	20.76	
15	16QAM	36	39	20.56	20.68	20.95	
15	16QAM	75	0	20.62	20.66	20.88	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	22.72	22.65	22.84	24
10	QPSK	1	25	22.39	22.59	22.55	
10	QPSK	1	49	22.52	22.59	22.77	
10	QPSK	25	0	21.53	21.74	21.77	23
10	QPSK	25	12	21.63	21.66	21.84	
10	QPSK	25	25	21.65	21.64	21.76	
10	QPSK	50	0	21.57	21.73	21.87	
10	16QAM	1	0	21.64	21.69	21.60	23
10	16QAM	1	25	21.62	21.63	21.81	
10	16QAM	1	49	21.69	21.80	21.85	
10	16QAM	25	0	20.51	20.67	20.81	22
10	16QAM	25	12	20.60	20.68	20.80	
10	16QAM	25	25	20.60	20.83	20.96	
10	16QAM	50	0	20.69	20.72	20.84	
Channel				37775	38000	38225	Tune-up limit

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				2572.5	2595	2617.5	(dBm)
Frequency (MHz)				2572.5	2595	2617.5	(dBm)
5	QPSK	1	0	22.64	22.63	22.81	24
5	QPSK	1	12	22.49	22.48	22.60	
5	QPSK	1	24	22.59	22.52	22.62	
5	QPSK	12	0	21.56	21.71	21.82	23
5	QPSK	12	7	21.54	21.77	21.86	
5	QPSK	12	13	21.46	21.80	21.77	
5	QPSK	25	0	21.70	21.66	21.75	
5	16QAM	1	0	21.48	21.72	21.55	23
5	16QAM	1	12	21.58	21.54	21.65	
5	16QAM	1	24	21.71	21.77	21.72	
5	16QAM	12	0	20.51	20.63	20.76	22
5	16QAM	12	7	20.78	20.72	20.90	
5	16QAM	12	13	20.70	20.73	20.77	
5	16QAM	25	0	20.53	20.69	20.78	

<LTE Band 41_Laptop Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.74	22.85	23.20	23.01	22.90	24
20	QPSK	1	49	22.39	22.55	23.05	22.77	22.65	
20	QPSK	1	99	22.43	22.66	23.00	22.88	22.66	
20	QPSK	50	0	21.70	21.69	22.18	22.07	21.89	23
20	QPSK	50	24	21.63	21.68	22.10	22.04	21.80	
20	QPSK	50	50	21.69	21.62	22.13	21.99	21.76	
20	QPSK	100	0	21.58	21.71	22.11	22.06	21.82	
20	16QAM	1	0	21.55	21.72	22.04	21.98	21.71	23
20	16QAM	1	49	21.60	21.61	22.11	21.89	21.76	
20	16QAM	1	99	21.75	21.72	22.16	22.11	21.76	
20	16QAM	50	0	20.58	20.67	21.02	21.01	20.77	22
20	16QAM	50	24	20.65	20.65	21.10	21.03	20.79	
20	16QAM	50	50	20.66	20.60	21.16	20.99	20.86	
20	16QAM	100	0	20.60	20.66	21.15	21.04	20.77	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.66	22.76	23.11	22.96	22.77	24.00
15	QPSK	1	37	22.29	22.48	23.00	22.70	22.56	
15	QPSK	1	74	22.36	22.57	22.92	22.79	22.57	
15	QPSK	36	0	21.61	21.64	22.08	22.01	21.83	23
15	QPSK	36	20	21.54	21.61	22.00	21.97	21.74	
15	QPSK	36	39	21.61	21.56	22.04	21.92	21.71	
15	QPSK	75	0	21.48	21.64	22.03	21.97	21.77	
15	16QAM	1	0	21.47	21.64	21.99	21.91	21.62	23
15	16QAM	1	37	21.52	21.52	22.02	21.80	21.67	
15	16QAM	1	74	21.67	21.67	22.06	22.01	21.69	
15	16QAM	36	0	20.53	20.61	20.93	20.93	20.67	22
15	16QAM	36	20	20.55	20.60	21.04	20.96	20.70	
15	16QAM	36	39	20.58	20.52	21.08	20.94	20.81	
15	16QAM	75	0	20.51	20.57	21.07	20.95	20.71	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	22.65	22.77	23.12	22.96	22.76	24.00
10	QPSK	1	25	22.31	22.48	22.97	22.70	22.59	
10	QPSK	1	49	22.38	22.56	22.92	22.81	22.61	
10	QPSK	25	0	21.61	21.64	22.08	22.01	21.82	23
10	QPSK	25	12	21.53	21.61	22.04	21.97	21.74	
10	QPSK	25	25	21.62	21.54	22.03	21.90	21.68	

BW	Modulation	RB Size	RB Offset	Power Low	Power Low Middle	Power Middle	Power High Middle	Power High	Tune-up limit
10	QPSK	50	0	21.52	21.66	22.05	21.99	21.75	
10	16QAM	1	0	21.50	21.67	21.95	21.88	21.64	
10	16QAM	1	25	21.53	21.51	22.04	21.84	21.66	23
10	16QAM	1	49	21.65	21.64	22.08	22.04	21.68	
10	16QAM	25	0	20.53	20.57	20.94	20.91	20.72	
10	16QAM	25	12	20.60	20.57	21.04	20.93	20.74	22
10	16QAM	25	25	20.56	20.55	21.08	20.93	20.78	
10	16QAM	50	0	20.50	20.56	21.08	20.97	20.71	
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.69	22.76	23.14	22.92	22.78	
5	QPSK	1	12	22.33	22.46	22.97	22.70	22.55	24.00
5	QPSK	1	24	22.38	22.61	22.91	22.80	22.60	
5	QPSK	12	0	21.60	21.59	22.10	21.97	21.82	
5	QPSK	12	7	21.56	21.63	22.05	21.99	21.71	23
5	QPSK	12	13	21.59	21.56	22.06	21.94	21.68	
5	QPSK	25	0	21.52	21.65	22.01	21.97	21.73	
5	16QAM	1	0	21.45	21.62	21.95	21.90	21.61	
5	16QAM	1	12	21.51	21.55	22.05	21.79	21.69	23
5	16QAM	1	24	21.67	21.63	22.06	22.02	21.68	
5	16QAM	12	0	20.52	20.62	20.96	20.95	20.72	
5	16QAM	12	7	20.58	20.59	21.00	20.97	20.73	22
5	16QAM	12	13	20.57	20.54	21.10	20.91	20.78	
5	16QAM	25	0	20.52	20.59	21.08	20.96	20.69	

<LTE Band 41_Tablet Mode>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	22.74	22.85	23.20	23.01	22.90	
20	QPSK	1	49	22.39	22.55	23.05	22.77	22.65	24
20	QPSK	1	99	22.43	22.66	23.00	22.88	22.66	
20	QPSK	50	0	21.70	21.69	22.18	22.07	21.89	
20	QPSK	50	24	21.63	21.68	22.10	22.04	21.80	23
20	QPSK	50	50	21.69	21.62	22.13	21.99	21.76	
20	QPSK	100	0	21.58	21.71	22.11	22.06	21.82	
20	16QAM	1	0	21.55	21.72	22.04	21.98	21.71	
20	16QAM	1	49	21.60	21.61	22.11	21.89	21.76	23
20	16QAM	1	99	21.75	21.72	22.16	22.11	21.76	
20	16QAM	50	0	20.58	20.67	21.02	21.01	20.77	
20	16QAM	50	24	20.65	20.65	21.10	21.03	20.79	22
20	16QAM	50	50	20.66	20.60	21.16	20.99	20.86	
20	16QAM	100	0	20.60	20.66	21.15	21.04	20.77	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	22.66	22.76	23.11	22.96	22.77	
15	QPSK	1	37	22.29	22.48	23.00	22.70	22.56	24.00
15	QPSK	1	74	22.36	22.57	22.92	22.79	22.57	
15	QPSK	36	0	21.61	21.64	22.08	22.01	21.83	
15	QPSK	36	20	21.54	21.61	22.00	21.97	21.74	23
15	QPSK	36	39	21.61	21.56	22.04	21.92	21.71	
15	QPSK	75	0	21.48	21.64	22.03	21.97	21.77	
15	16QAM	1	0	21.47	21.64	21.99	21.91	21.62	
15	16QAM	1	37	21.52	21.52	22.02	21.80	21.67	23
15	16QAM	1	74	21.67	21.67	22.06	22.01	21.69	
15	16QAM	36	0	20.53	20.61	20.93	20.93	20.67	
15	16QAM	36	20	20.55	20.60	21.04	20.96	20.70	22
15	16QAM	36	39	20.58	20.52	21.08	20.94	20.81	
15	16QAM	75	0	20.51	20.57	21.07	20.95	20.71	

	Channel			39700	40160	40620	41080	41540	Tune-up limit (dBm)
	Frequency (MHz)			2501	2547	2593	2639	2685	
10	QPSK	1	0	22.65	22.77	23.12	22.96	22.76	24.00
10	QPSK	1	25	22.31	22.48	22.97	22.70	22.59	
10	QPSK	1	49	22.38	22.56	22.92	22.81	22.61	
10	QPSK	25	0	21.61	21.64	22.08	22.01	21.82	23
10	QPSK	25	12	21.53	21.61	22.04	21.97	21.74	
10	QPSK	25	25	21.62	21.54	22.03	21.90	21.68	
10	QPSK	50	0	21.52	21.66	22.05	21.99	21.75	
10	16QAM	1	0	21.50	21.67	21.95	21.88	21.64	23
10	16QAM	1	25	21.53	21.51	22.04	21.84	21.66	
10	16QAM	1	49	21.65	21.64	22.08	22.04	21.68	
10	16QAM	25	0	20.53	20.57	20.94	20.91	20.72	22
10	16QAM	25	12	20.60	20.57	21.04	20.93	20.74	
10	16QAM	25	25	20.56	20.55	21.08	20.93	20.78	
10	16QAM	50	0	20.50	20.56	21.08	20.97	20.71	
	Channel			39675	40148	40620	41093	41565	Tune-up limit (dBm)
	Frequency (MHz)			2498.5	2545.8	2593	2640.30	2687.5	
5	QPSK	1	0	22.69	22.76	23.14	22.92	22.78	24.00
5	QPSK	1	12	22.33	22.46	22.97	22.70	22.55	
5	QPSK	1	24	22.38	22.61	22.91	22.80	22.60	
5	QPSK	12	0	21.60	21.59	22.10	21.97	21.82	23
5	QPSK	12	7	21.56	21.63	22.05	21.99	21.71	
5	QPSK	12	13	21.59	21.56	22.06	21.94	21.68	
5	QPSK	25	0	21.52	21.65	22.01	21.97	21.73	
5	16QAM	1	0	21.45	21.62	21.95	21.90	21.61	23
5	16QAM	1	12	21.51	21.55	22.05	21.79	21.69	
5	16QAM	1	24	21.67	21.63	22.06	22.02	21.68	
5	16QAM	12	0	20.52	20.62	20.96	20.95	20.72	22
5	16QAM	12	7	20.58	20.59	21.00	20.97	20.73	
5	16QAM	12	13	20.57	20.54	21.10	20.91	20.78	
5	16QAM	25	0	20.52	20.59	21.08	20.96	20.69	

\<LTE Band 48_Laptop Mode\>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
	Channel			55340	55830	56150	56640	
	Frequency (MHz)			3560	3609	3641	3690	
20	QPSK	1	0	21.23	21.34	21.36	21.32	22
20	QPSK	1	49	21.07	21.03	21.07	21.00	
20	QPSK	1	99	20.96	21.01	21.01	20.95	
20	QPSK	50	0	20.28	20.29	20.35	20.29	21
20	QPSK	50	24	20.23	20.26	20.32	20.23	
20	QPSK	50	50	20.05	20.03	20.12	20.09	
20	QPSK	100	0	20.16	20.18	20.19	20.18	
20	16QAM	1	0	20.26	20.22	20.28	20.24	21
20	16QAM	1	49	20.16	20.20	20.22	20.14	
20	16QAM	1	99	20.01	19.99	20.05	19.95	
20	16QAM	50	0	19.38	19.37	19.41	19.35	20
20	16QAM	50	24	19.20	19.27	19.27	19.25	
20	16QAM	50	50	19.24	19.24	19.31	19.30	
20	16QAM	100	0	19.26	19.25	19.29	19.29	
	Channel			55315	55820	56160	56665	Tune-up limit (dBm)
	Frequency (MHz)			3557.5	3608	3642	3692.5	
15	QPSK	1	0	21.11	21.23	21.29	21.16	22
15	QPSK	1	37	20.89	20.95	20.93	20.87	
15	QPSK	1	74	20.94	20.96	20.97	20.85	
15	QPSK	36	0	20.11	20.24	20.34	20.26	21
15	QPSK	36	20	20.07	20.19	20.13	20.21	

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
15	QPSK	36	39	20.04	19.89	19.93	19.95	
15	QPSK	75	0	20.04	20.11	20.12	20.13	
15	16QAM	1	0	20.17	20.18	20.11	20.12	21
15	16QAM	1	37	20.08	20.01	20.11	20.01	
15	16QAM	1	74	19.99	19.98	19.86	19.82	
15	16QAM	36	0	19.23	19.34	19.38	19.24	
15	16QAM	36	20	19.20	19.22	19.08	19.19	20
15	16QAM	36	39	19.07	19.15	19.24	19.19	
15	16QAM	75	0	19.07	19.25	19.09	19.11	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	21.20	21.32	21.35	21.17	22
10	QPSK	1	25	21.00	20.99	20.89	20.98	
10	QPSK	1	49	20.80	20.90	20.87	20.88	
10	QPSK	25	0	20.28	20.07	20.20	20.26	
10	QPSK	25	12	20.07	20.29	20.13	20.05	21
10	QPSK	25	25	19.88	20.00	20.07	20.09	
10	QPSK	50	0	20.07	20.18	20.17	20.13	
10	16QAM	1	0	20.07	20.19	20.09	20.06	
10	16QAM	1	25	20.02	20.19	20.16	20.09	21
10	16QAM	1	49	20.00	19.86	20.02	19.82	
10	16QAM	25	0	19.32	19.34	19.33	19.21	
10	16QAM	25	12	19.01	19.08	19.17	19.07	20
10	16QAM	25	25	19.06	19.19	19.25	19.12	
10	16QAM	50	0	19.12	19.19	19.22	19.27	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	21.18	21.32	21.25	21.24	22
5	QPSK	1	12	21.05	20.88	21.01	20.86	
5	QPSK	1	24	20.88	20.86	20.98	20.75	
5	QPSK	12	0	20.13	20.20	20.23	20.11	
5	QPSK	12	7	20.23	20.24	20.31	20.23	21
5	QPSK	12	13	19.97	19.88	20.04	20.00	
5	QPSK	25	0	20.13	19.98	20.11	20.15	
5	16QAM	1	0	20.25	20.09	20.22	20.06	
5	16QAM	1	12	19.99	20.18	20.21	19.99	21
5	16QAM	1	24	19.87	19.99	19.85	19.91	
5	16QAM	12	0	19.32	19.28	19.29	19.20	
5	16QAM	12	7	19.06	19.20	19.09	19.20	20
5	16QAM	12	13	19.15	19.10	19.20	19.23	
5	16QAM	25	0	19.18	19.24	19.20	19.09	

<LTE Band 48_Tablet Mode>

| BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	21.23	21.34	21.36	21.32	22
20	QPSK	1	49	21.07	21.03	21.07	21.00	
20	QPSK	1	99	20.96	21.01	21.01	20.95	
20	QPSK	50	0	20.28	20.26	20.35	20.29	
20	QPSK	50	24	20.23	20.29	20.32	20.23	21
20	QPSK	50	50	20.05	20.03	20.12	20.09	
20	QPSK	100	0	20.16	20.18	20.19	20.18	
20	16QAM	1	0	20.26	20.22	20.28	20.24	
20	16QAM	1	49	20.16	20.20	20.22	20.14	21
20	16QAM	1	99	20.01	19.99	20.05	19.95	
20	16QAM	50	0	19.38	19.37	19.41	19.35	
20	16QAM	50	24	19.20	19.27	19.27	19.25	20
20	16QAM	50	50	19.24	19.24	19.31	19.30	

20	16QAM	100	0	19.26	19.25	19.29	19.29	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	21.11	21.23	21.29	21.16	22
15	QPSK	1	37	20.89	20.95	20.93	20.87	
15	QPSK	1	74	20.94	20.96	20.97	20.85	
15	QPSK	36	0	20.11	20.24	20.34	20.26	21
15	QPSK	36	20	20.07	20.19	20.13	20.21	
15	QPSK	36	39	20.04	19.89	19.93	19.95	
15	QPSK	75	0	20.04	20.11	20.12	20.13	
15	16QAM	1	0	20.17	20.18	20.11	20.12	21
15	16QAM	1	37	20.08	20.01	20.11	20.01	
15	16QAM	1	74	19.99	19.98	19.86	19.82	
15	16QAM	36	0	19.23	19.34	19.38	19.24	20
15	16QAM	36	20	19.20	19.22	19.08	19.19	
15	16QAM	36	39	19.07	19.15	19.24	19.19	
15	16QAM	75	0	19.07	19.25	19.09	19.11	
Channel				55290	55815	56165	56690	Tune-up limit (dBm)
Frequency (MHz)				3555	3607.5	3642.5	3695	
10	QPSK	1	0	21.20	21.32	21.35	21.17	22
10	QPSK	1	25	21.00	20.99	20.89	20.98	
10	QPSK	1	49	20.80	20.90	20.87	20.88	
10	QPSK	25	0	20.28	20.07	20.20	20.26	21
10	QPSK	25	12	20.07	20.29	20.13	20.05	
10	QPSK	25	25	19.88	20.00	20.07	20.09	
10	QPSK	50	0	20.07	20.18	20.17	20.13	
10	16QAM	1	0	20.07	20.19	20.09	20.06	21
10	16QAM	1	25	20.02	20.19	20.16	20.09	
10	16QAM	1	49	20.00	19.86	20.02	19.82	
10	16QAM	25	0	19.32	19.34	19.33	19.21	20
10	16QAM	25	12	19.01	19.08	19.17	19.07	
10	16QAM	25	25	19.06	19.19	19.25	19.12	
10	16QAM	50	0	19.12	19.19	19.22	19.27	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	21.18	21.32	21.25	21.24	22
5	QPSK	1	12	21.05	20.88	21.01	20.86	
5	QPSK	1	24	20.88	20.86	20.98	20.75	
5	QPSK	12	0	20.13	20.20	20.23	20.11	21
5	QPSK	12	7	20.23	20.24	20.31	20.23	
5	QPSK	12	13	19.97	19.88	20.04	20.00	
5	QPSK	25	0	20.13	19.98	20.11	20.15	
5	16QAM	1	0	20.25	20.09	20.22	20.06	21
5	16QAM	1	12	19.99	20.18	20.21	19.99	
5	16QAM	1	24	19.87	19.99	19.85	19.91	
5	16QAM	12	0	19.32	19.28	19.29	19.20	20
5	16QAM	12	7	19.06	19.20	19.09	19.20	
5	16QAM	12	13	19.15	19.10	19.20	19.23	
5	16QAM	25	0	19.18	19.24	19.20	19.09	

12. *Antenna Location*

<For Tablet>
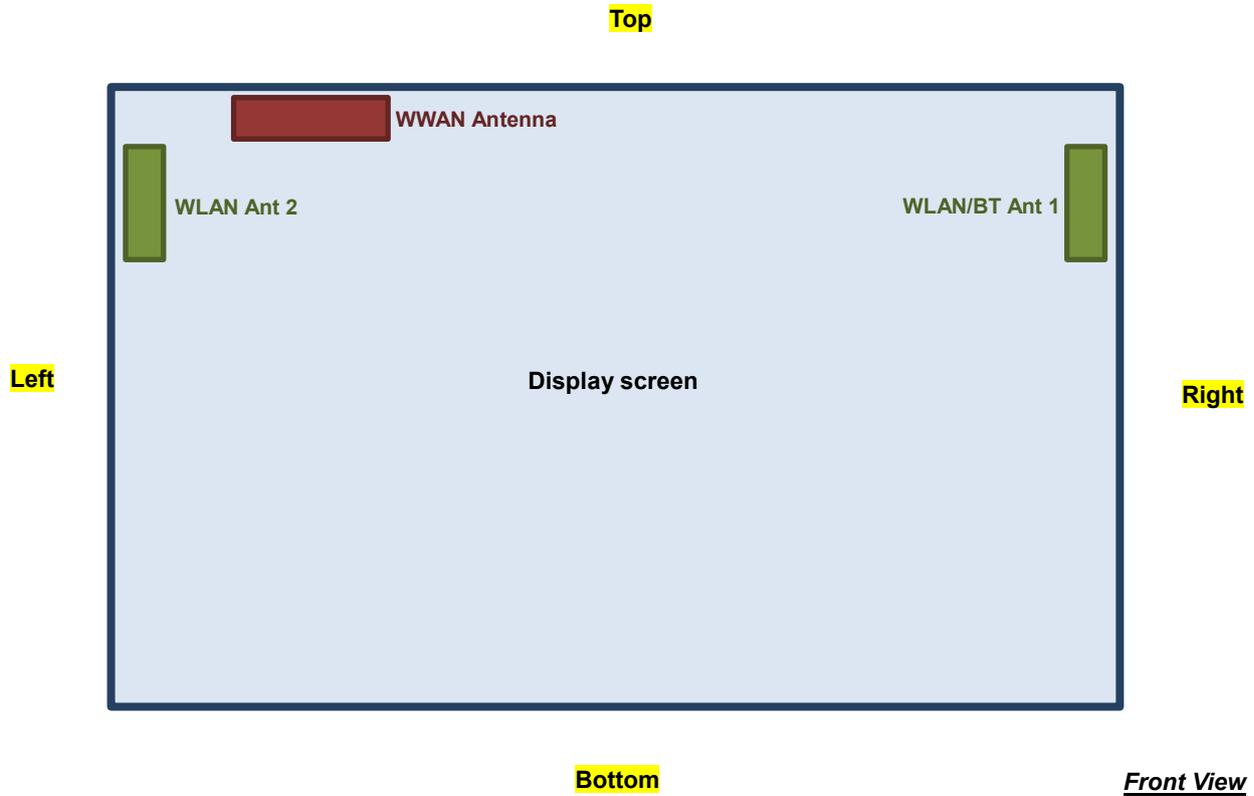
The separation distance for antenna to edge :

Antenna	To Top (mm)	To Right (mm)	To Bottom (mm)	To Left (mm)
WWAN Antenna	6	193.5	185.6	26.5
WLAN/BT Antenna 1	34.8	5.7	79.8	270.2
WLAN Antenna 2	34.8	270.2	79.8	5.7

<For Laptop>
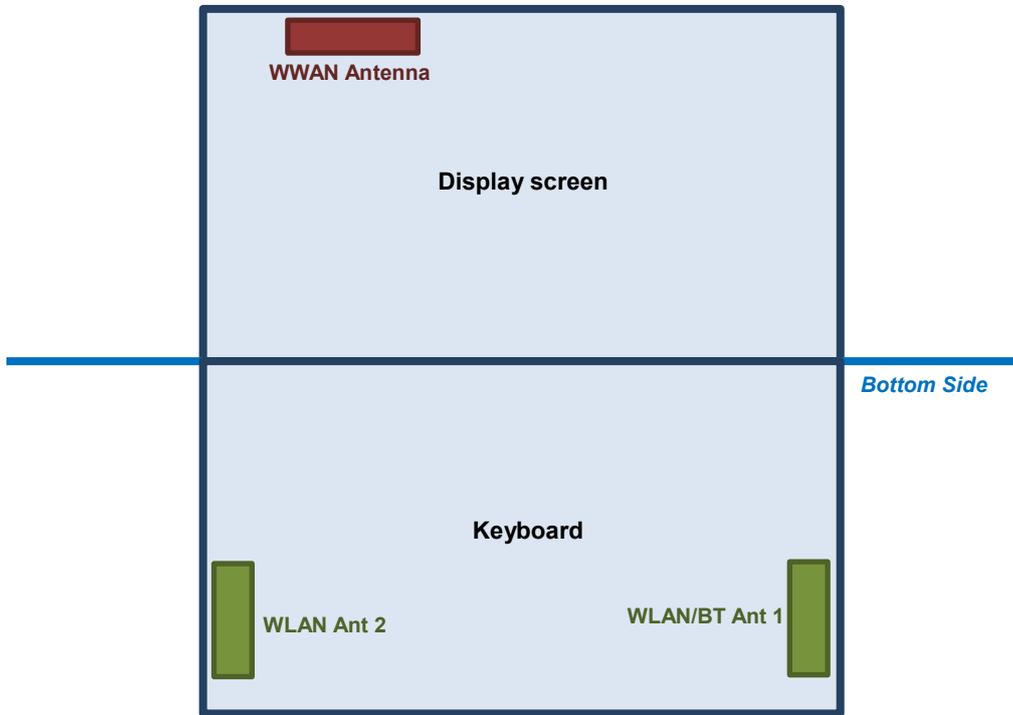
The separation distance for antenna to edge :

Antenna	To Bottom Side (mm)
WWAN Antenna	199.7
WLAN/BT Antenna 1	< 5
WLAN Antenna 2	< 5

<SAR test exclusion table>

General Note:

1. The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
2. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
3. Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
4. Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
5. Per KDB 447498 D01v06, 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
6. Per KDB 447498 D01v06, 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

<Laptop Mode>

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71	LTE Band 12	LTE Band 13	LTE Band 14	LTE Band 17	LTE Band 5	LTE Band 26	LTE Band 4	LTE Band 66	LTE Band 2	LTE Band 25	LTE Band 30	LTE Band 7	LTE Band 38	LTE Band 41	LTE Band 48
	Calculated Frequency (MHz)	836.4	1732.6	1852.4	673	704	782	793	710	844	831.5	1745	1745	1860	1880	2310	2560	2610	2680	3641
	Maximum power (dBm)	24.5	24.5	24.5	25.0	25.0	25.0	25.0	25.0	25.0	25.0	24.0	24.0	24.0	24.0	23.0	24.0	24.0	24.0	22.0
	Maximum rated power(mW)	281.84	281.84	281.84	316.23	316.23	316.23	316.23	316.23	316.23	316.23	251.19	251.19	251.19	251.19	199.53	251.19	251.19	251.19	158.49
Bottom Side	Separation distance(mm)	199.7																		
	exclusion threshold	999.0	1611.0	1607.0	854.0	881.0	950.0	960.0	887.0	1006.0	994.0	1611.0	1611.0	1607.0	1606.0	1596.0	1591.0	1590.0	1589.0	1576.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

<Tablet Mode>

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71	LTE Band 12	LTE Band 13	LTE Band 14	LTE Band 17	LTE Band 5	LTE Band 26	LTE Band 4	LTE Band 66	LTE Band 2	LTE Band 25	LTE Band 30	LTE Band 7	LTE Band 38	LTE Band 41	LTE Band 48
	Calculated Frequency (MHz)	846	1750	1907	695	715	784	795	713	848	848	1754	1779	1909	1914	2312	2567	2617	2687	3697
	Maximum power (dBm)	22.0	20.0	18.0	25.0	23.0	22.0	22.0	23.0	22.0	22.0	20.0	20.0	18.0	18.0	22.0	22.0	24.0	24.0	22.0
	Maximum rated power(mW)	158.49	100.00	63.10	316.23	199.53	158.49	158.49	199.53	158.49	158.49	100.00	100.00	63.10	63.10	158.49	158.49	251.19	251.19	158.49
Back	Separation distance(mm)	5.0																		
	exclusion threshold	29.2	26.5	17.4	52.7	33.7	28.1	28.3	26.8	29.2	29.2	26.5	26.7	17.4	17.5	48.2	50.8	81.3	82.4	61.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Top	Separation distance(mm)	6.0																		
	exclusion threshold	24.3	22.1	14.5	43.9	28.1	23.4	23.6	22.3	24.3	24.3	22.1	22.2	14.5	14.6	40.2	42.3	67.7	68.6	50.8
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right	Separation distance(mm)	193.5																		
	exclusion threshold	972.0	1548.0	1544.0	845.0	861.0	919.0	929.0	860.0	974.0	974.0	1548.0	1547.0	1544.0	1543.0	1534.0	1529.0	1528.0	1527.0	1513.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Bottom	Separation distance(mm)	185.6																		
	exclusion threshold	928.0	1469.0	1465.0	808.0	824.0	878.0	887.0	822.0	929.0	929.0	1469.0	1468.0	1465.0	1464.0	1455.0	1450.0	1449.0	1448.0	1434.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Left	Separation distance(mm)	26.5																		
	exclusion threshold	5.5	5.0	3.3	10.0	6.4	5.3	5.3	5.1	5.5	5.5	5.0	5.0	3.3	3.3	9.1	9.6	15.3	15.5	11.5
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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13. <u>SAR Test Results</u>

General Note:

1. Per KDB 447498 D01v06, 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
    c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, 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. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, 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.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, 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.
4. Per KDB 941225 D05v02r05, 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 D05v02r05, 16QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, 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 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
    a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
    b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

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13.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	User Scenario	Ch.	Freq. (MHz)	Antenna Vendor	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_Ant Main	RMC 12.2Kbps	Back	0mm	Tablet	9400	1880	Vendor1	17.12	18.00	1.225	0.11	0.083	0.102
	WCDMA II_Ant Main	RMC 12.2Kbps	Left	0mm	Tablet	9400	1880	Vendor1	17.12	18.00	1.225	0.11	0.037	0.045
01	WCDMA II_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	9400	1880	Vendor1	17.12	18.00	1.225	-0.01	0.416	0.510
	WCDMA II_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	9400	1880	Vendor2	17.12	18.00	1.225	0.11	0.369	0.452
	WCDMA IV_Ant Main	RMC 12.2Kbps	Back	0mm	Tablet	1413	1732.6	Vendor1	19.47	20.00	1.130	-0.15	0.184	0.208
	WCDMA IV_Ant Main	RMC 12.2Kbps	Left	0mm	Tablet	1413	1732.6	Vendor1	19.47	20.00	1.130	0.11	0.057	0.064
	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1413	1732.6	Vendor1	19.47	20.00	1.130	-0.08	0.811	0.916
	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1312	1712.4	Vendor1	19.14	20.00	1.219	-0.17	0.838	1.022
	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1513	1752.6	Vendor1	19.41	20.00	1.146	-0.08	0.642	0.736
02	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1312	1712.4	Vendor2	19.14	20.00	1.219	-0.01	0.927	1.130
	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1413	1732.6	Vendor2	19.47	20.00	1.130	-0.04	0.964	1.089
	WCDMA IV_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	1513	1752.6	Vendor2	19.41	20.00	1.146	-0.08	0.768	0.880
	WCDMA V_Ant Main	RMC 12.2Kbps	Back	0mm	Tablet	4182	836.4	Vendor1	21.13	22.00	1.222	-0.08	0.227	0.277
	WCDMA V_Ant Main	RMC 12.2Kbps	Left	0mm	Tablet	4182	836.4	Vendor1	21.13	22.00	1.222	0.05	0.043	0.053
	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4182	836.4	Vendor1	21.13	22.00	1.222	0.06	0.714	0.873
	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4132	826.4	Vendor1	21.12	22.00	1.225	-0.09	0.760	0.931
	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4233	846.6	Vendor1	20.88	22.00	1.294	-0.08	0.694	0.898
03	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4132	826.4	Vendor1	21.12	22.00	1.225	-0.01	0.806	0.987
	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4182	836.4	Vendor2	21.13	22.00	1.222	0.13	0.784	0.958
	WCDMA V_Ant Main	RMC 12.2Kbps	Top	0mm	Tablet	4233	846.6	Vendor2	20.88	22.00	1.294	0.12	0.722	0.934

<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	User Scenario	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	Laptop	21100	2535	Vendor1	22.95	24.00	1.274			0	0.001	0.001
	LTE Band 7_Ant Main	20M	QPSK	50	0	Bottom Side	0mm	Laptop	21100	2535	Vendor1	21.87	23.00	1.297			0	0.001	0.001
	LTE Band 7_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	21100	2535	Vendor1	21.08	22.00	1.236			-0.08	0.241	0.298
	LTE Band 7_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	21100	2535	Vendor1	21.01	22.00	1.256			0.1	0.245	0.308
	LTE Band 7_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	21100	2535	Vendor1	21.08	22.00	1.236			-0.18	0.116	0.143
	LTE Band 7_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	21100	2535	Vendor1	21.01	22.00	1.256			0.1	0.119	0.149
	LTE Band 7_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	21100	2535	Vendor1	21.08	22.00	1.236			0.12	0.879	1.086
	LTE Band 7_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	20850	2510	Vendor1	20.62	22.00	1.374			0.08	0.738	1.014
	LTE Band 7_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	21350	2560	Vendor1	21.02	22.00	1.253			-0.17	0.984	1.233
	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	21100	2535	Vendor1	21.01	22.00	1.256			-0.03	0.930	1.168
	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	20850	2510	Vendor1	20.54	22.00	1.400			0.14	0.776	1.086
04	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	21350	2560	Vendor1	20.95	22.00	1.274			0.01	1.030	1.312
	LTE Band 7_Ant Main	20M	QPSK	100	0	Top	0mm	Tablet	21100	2535	Vendor1	21.05	22.00	1.245			0.11	0.948	1.180
	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	21350	2560	Vendor2	20.95	22.00	1.274			0.14	0.994	1.266
	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	20850	2510	Vendor2	20.54	22.00	1.400			0.18	0.730	1.022
	LTE Band 7_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	21100	2535	Vendor2	21.01	22.00	1.256			-0.05	0.885	1.112
	LTE Band 12_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	Laptop	23095	707.5	Vendor1	23.71	25.00	1.346			0	0.001	0.001
	LTE Band 12_Ant Main	10M	QPSK	25	0	Bottom Side	0mm	Laptop	23095	707.5	Vendor1	22.70	24.00	1.349			0	0.001	0.001
	LTE Band 12_Ant Main	10M	QPSK	1	0	Back	0mm	Tablet	23095	707.5	Vendor1	21.86	23.00	1.300			-0.03	0.349	0.454
	LTE Band 12_Ant Main	10M	QPSK	25	0	Back	0mm	Tablet	23095	707.5	Vendor1	21.77	23.00	1.327			0.08	0.347	0.460
	LTE Band 12_Ant Main	10M	QPSK	1	0	Left	0mm	Tablet	23095	707.5	Vendor1	21.86	23.00	1.300			-0.07	0.053	0.069
	LTE Band 12_Ant Main	10M	QPSK	25	0	Left	0mm	Tablet	23095	707.5	Vendor1	21.77	23.00	1.327			0.05	0.054	0.072
	LTE Band 12_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	23095	707.5	Vendor1	21.86	23.00	1.300			-0.11	0.854	1.110
05	LTE Band 12_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23095	707.5	Vendor1	21.77	23.00	1.327			0	0.843	1.119
	LTE Band 12_Ant Main	10M	QPSK	50	0	Top	0mm	Tablet	23095	707.5	Vendor1	21.77	23.00	1.327			-0.12	0.839	1.113

No.	Description	BW	Mod.	RB	Offset	Position	Gap	Device	Ch.	Freq.	Vendor	Meas. Power	Tune-up	Ratio			Drift	Meas. SAR	Scaled SAR
	LTE Band 12_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23095	707.5	Vendor2	21.77	23.00	1.327			0.03	0.827	1.097
	LTE Band 13_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	Laptop	23230	782	Vendor1	23.80	25.00	1.318			0	0.001	0.001
	LTE Band 13_Ant Main	10M	QPSK	25	0	Bottom Side	0mm	Laptop	23230	782	Vendor1	22.85	24.00	1.303			0	0.001	0.001
	LTE Band 13_Ant Main	10M	QPSK	1	0	Back	0mm	Tablet	23230	782	Vendor1	21.96	22.00	1.009			0.1	0.372	0.375
	LTE Band 13_Ant Main	10M	QPSK	25	0	Back	0mm	Tablet	23230	782	Vendor1	21.82	22.00	1.042			-0.17	0.394	0.411
	LTE Band 13_Ant Main	10M	QPSK	1	0	Left	0mm	Tablet	23230	782	Vendor1	21.96	22.00	1.009			0.04	0.051	0.051
	LTE Band 13_Ant Main	10M	QPSK	25	0	Left	0mm	Tablet	23230	782	Vendor1	21.82	22.00	1.042			-0.01	0.055	0.057
	LTE Band 13_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	23230	782	Vendor1	21.96	22.00	1.009			-0.08	1.010	1.019
	LTE Band 13_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23230	782	Vendor1	21.82	22.00	1.042			-0.03	1.070	1.115
	LTE Band 13_Ant Main	10M	QPSK	50	0	Top	0mm	Tablet	23230	782	Vendor1	21.85	22.00	1.035			0.05	1.060	1.097
06	LTE Band 13_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23230	782	Vendor2	21.82	22.00	1.042			-0.01	1.080	1.125
	LTE Band 14_Ant Main	10M	QPSK	1	0	Bottom Side	0mm	Laptop	23330	793	Vendor1	23.74	25.00	1.337			0	0.001	0.001
	LTE Band 14_Ant Main	10M	QPSK	25	0	Bottom Side	0mm	Laptop	23330	793	Vendor1	22.71	24.00	1.346			0	0.001	0.001
	LTE Band 14_Ant Main	10M	QPSK	1	0	Back	0mm	Tablet	23330	793	Vendor1	21.90	22.00	1.023			0.03	0.352	0.360
	LTE Band 14_Ant Main	10M	QPSK	25	0	Back	0mm	Tablet	23330	793	Vendor1	21.85	22.00	1.035			0.18	0.372	0.385
	LTE Band 14_Ant Main	10M	QPSK	1	0	Left	0mm	Tablet	23330	793	Vendor1	21.90	22.00	1.023			0.16	0.050	0.051
	LTE Band 14_Ant Main	10M	QPSK	25	0	Left	0mm	Tablet	23330	793	Vendor1	21.85	22.00	1.035			-0.1	0.049	0.051
	LTE Band 14_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	23330	793	Vendor1	21.90	22.00	1.023			0.07	0.908	0.929
	LTE Band 14_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23330	793	Vendor1	21.85	22.00	1.035			-0.1	1.010	1.045
	LTE Band 14_Ant Main	10M	QPSK	50	0	Top	0mm	Tablet	23330	793	Vendor1	21.82	22.00	1.042			0.18	0.928	0.967
07	LTE Band 14_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	23330	793	Vendor2	21.85	22.00	1.035			0	1.020	1.056
	LTE Band 25_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	26340	1880	Vendor1	17.15	18.00	1.216			0.18	0.063	0.077
	LTE Band 25_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	26340	1880	Vendor1	17.10	18.00	1.230			0.14	0.065	0.080
	LTE Band 25_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	26340	1880	Vendor1	17.15	18.00	1.216			-0.17	0.031	0.038
	LTE Band 25_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	26340	1880	Vendor1	17.10	18.00	1.230			0.17	0.033	0.041
	LTE Band 25_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	26340	1880	Vendor1	17.15	18.00	1.216			-0.05	0.375	0.456
08	LTE Band 25_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	26340	1880	Vendor1	17.10	18.00	1.230			-0.01	0.386	0.475
	LTE Band 25_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	26340	1880	Vendor2	17.10	18.00	1.230			0.01	0.379	0.466
	LTE Band 26_Ant Main	15M	QPSK	1	0	Back	0mm	Tablet	26865	831.5	Vendor1	21.05	22.00	1.245			0.01	0.336	0.418
	LTE Band 26_Ant Main	15M	QPSK	36	0	Back	0mm	Tablet	26865	831.5	Vendor1	21.01	22.00	1.256			-0.15	0.338	0.425
	LTE Band 26_Ant Main	15M	QPSK	1	0	Left	0mm	Tablet	26865	831.5	Vendor1	21.05	22.00	1.245			0.19	0.051	0.063
	LTE Band 26_Ant Main	15M	QPSK	36	0	Left	0mm	Tablet	26865	831.5	Vendor1	21.01	22.00	1.256			0.07	0.054	0.068
	LTE Band 26_Ant Main	15M	QPSK	1	0	Top	0mm	Tablet	26865	831.5	Vendor1	21.05	22.00	1.245			-0.18	0.819	1.020
09	LTE Band 26_Ant Main	15M	QPSK	36	0	Top	0mm	Tablet	26865	831.5	Vendor1	21.01	22.00	1.256			-0.02	0.855	1.074
	LTE Band 26_Ant Main	15M	QPSK	75	0	Top	0mm	Tablet	26865	831.5	Vendor1	21.00	22.00	1.259			0.03	0.851	1.071
	LTE Band 26_Ant Main	15M	QPSK	36	0	Top	0mm	Tablet	26865	831.5	Vendor2	21.01	22.00	1.256			-0.15	0.854	1.073
	LTE Band 30_Ant Main	10M	QPSK	1	0	Back	0mm	Tablet	27710	2310	Vendor1	21.83	22.00	1.040			0.1	0.408	0.424
	LTE Band 30_Ant Main	10M	QPSK	25	0	Back	0mm	Tablet	27710	2310	Vendor1	20.99	22.00	1.262			-0.17	0.334	0.422
	LTE Band 30_Ant Main	10M	QPSK	1	0	Left	0mm	Tablet	27710	2310	Vendor1	21.83	22.00	1.040			0.04	0.186	0.193
	LTE Band 30_Ant Main	10M	QPSK	25	0	Left	0mm	Tablet	27710	2310	Vendor1	20.99	22.00	1.262			-0.01	0.148	0.187
10	LTE Band 30_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	27710	2310	Vendor1	21.83	22.00	1.040			0	1.190	1.238
	LTE Band 30_Ant Main	10M	QPSK	25	0	Top	0mm	Tablet	27710	2310	Vendor1	20.99	22.00	1.262			0.02	0.949	1.198
	LTE Band 30_Ant Main	10M	QPSK	50	0	Top	0mm	Tablet	27710	2310	Vendor1	20.93	22.00	1.279			0.02	0.953	1.219
	LTE Band 30_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	27710	2310	Vendor2	21.83	22.00	1.040			-0.08	1.170	1.217
	LTE Band 41_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	Laptop	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	0	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	50	0	Bottom Side	0mm	Laptop	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	-0.08	0.251	0.304
	LTE Band 41_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0.1	0.210	0.255
	LTE Band 41_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	-0.18	0.158	0.191
	LTE Band 41_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0.1	0.132	0.160
	LTE Band 41_Ant Main	20M	QPSK	1	0	Right	0mm	Tablet	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	0	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	50	0	Right	0mm	Tablet	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0.05	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	0.12	1.100	1.330
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	39750	2506	Vendor1	22.74	24.00	1.337	62.9	1.006	0.08	0.757	1.018
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	40185	2549.5	Vendor1	22.85	24.00	1.303	62.9	1.006	-0.03	0.978	1.282
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41055	2636.5	Vendor1	23.01	24.00	1.256	62.9	1.006	0.14	1.100	1.390

11	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41490	2680	Vendor1	22.90	24.00	1.288	62.9	1.006	0	1.110	1.438
	LTE Band 41_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0.11	0.907	1.102
	LTE Band 41_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	39750	2506	Vendor1	21.70	23.00	1.349	62.9	1.006	-0.05	0.605	0.821
	LTE Band 41_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	40185	2549.5	Vendor1	21.69	23.00	1.352	62.9	1.006	0.14	0.759	1.032
	LTE Band 41_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	41055	2636.5	Vendor1	22.07	23.00	1.239	62.9	1.006	-0.17	0.901	1.123
	LTE Band 41_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	41490	2680	Vendor1	21.89	23.00	1.291	62.9	1.006	0.01	0.898	1.166
	LTE Band 41_Ant Main	20M	QPSK	100	0	Top	0mm	Tablet	40620	2593	Vendor1	22.11	23.00	1.227	62.9	1.006	-0.05	0.859	1.060
	LTE Band 41_Ant Main	20M	QPSK	1	0	Bottom	0mm	Tablet	40620	2593	Vendor1	23.20	24.00	1.202	62.9	1.006	0	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	50	0	Bottom	0mm	Tablet	40620	2593	Vendor1	22.18	23.00	1.208	62.9	1.006	0.06	0.001	0.001
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41490	2680	Vendor2	22.90	24.00	1.288	62.9	1.006	0.01	0.866	1.122
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	39750	2506	Vendor2	22.74	24.00	1.337	62.9	1.006	0.1	0.584	0.785
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	40185	2549.5	Vendor2	22.85	24.00	1.303	62.9	1.006	0.04	0.698	0.915
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	40620	2593	Vendor2	23.20	24.00	1.202	62.9	1.006	-0.01	0.797	0.964
	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41055	2636.5	Vendor2	23.01	24.00	1.256	62.9	1.006	-0.08	0.850	1.074
	LTE Band 48_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	56150	3641	Vendor1	21.36	22.00	1.159	62.9	1.006	0.17	0.138	0.161
	LTE Band 48_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	56150	3641	Vendor1	20.35	21.00	1.161	62.9	1.006	0.18	0.127	0.148
	LTE Band 48_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	56150	3641	Vendor1	21.36	22.00	1.159	62.9	1.006	-0.04	0.089	0.104
	LTE Band 48_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	56150	3641	Vendor1	20.35	21.00	1.161	62.9	1.006	-0.08	0.048	0.056
12	LTE Band 48_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	56150	3641	Vendor1	21.36	22.00	1.159	62.9	1.006	0	0.452	0.527
	LTE Band 48_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	56150	3641	Vendor1	20.35	21.00	1.161	62.9	1.006	-0.03	0.268	0.313
	LTE Band 48_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	56150	3641	Vendor2	21.36	22.00	1.159	62.9	1.006	-0.03	0.350	0.408
	LTE Band 66_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	132322	1745	Vendor1	19.07	20.00	1.239			0.03	0.196	0.243
	LTE Band 66_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	132322	1745	Vendor1	18.94	20.00	1.276			0.18	0.188	0.240
	LTE Band 66_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	132322	1745	Vendor1	19.07	20.00	1.239			0.16	0.049	0.061
	LTE Band 66_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	132322	1745	Vendor1	18.94	20.00	1.276			-0.1	0.044	0.056
	LTE Band 66_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	132322	1745	Vendor1	19.07	20.00	1.239			0.07	0.838	1.038
	LTE Band 66_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	132072	1720	Vendor1	18.95	20.00	1.274			0.18	0.946	1.205
	LTE Band 66_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	132572	1770	Vendor1	19.05	20.00	1.245			-0.1	0.685	0.853
	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132322	1745	Vendor1	18.94	20.00	1.276			0.01	0.799	1.020
	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132072	1720	Vendor1	18.76	20.00	1.330			-0.15	0.926	1.232
	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132572	1770	Vendor1	18.89	20.00	1.291			0.19	0.680	0.878
	LTE Band 66_Ant Main	20M	QPSK	100	0	Top	0mm	Tablet	132322	1745	Vendor1	18.92	20.00	1.282			0.07	0.764	0.979
13	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132072	1720	Vendor2	18.76	20.00	1.330			-0.01	0.967	1.286
	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132322	1745	Vendor2	18.94	20.00	1.276			-0.18	0.928	1.184
	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132572	1770	Vendor2	18.89	20.00	1.291			0.03	0.676	0.873
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom Side	0mm	Laptop	133297	680.5	Vendor1	23.93	25.00	1.279			0	0.001	0.001
	LTE Band 71_Ant Main	20M	QPSK	50	0	Bottom Side	0mm	Laptop	133297	680.5	Vendor1	22.62	24.00	1.374			0	0.001	0.001
	LTE Band 71_Ant Main	20M	QPSK	1	0	Back	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			-0.08	0.442	0.565
	LTE Band 71_Ant Main	20M	QPSK	50	0	Back	0mm	Tablet	133297	680.5	Vendor1	22.62	24.00	1.374			0.1	0.394	0.541
	LTE Band 71_Ant Main	20M	QPSK	1	0	Left	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			-0.18	0.104	0.133
	LTE Band 71_Ant Main	20M	QPSK	50	0	Left	0mm	Tablet	133297	680.5	Vendor1	22.62	24.00	1.374			0.1	0.095	0.131
	LTE Band 71_Ant Main	20M	QPSK	1	0	Right	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			0	0.001	0.001
	LTE Band 71_Ant Main	20M	QPSK	50	0	Right	0mm	Tablet	133297	680.5	Vendor1	22.62	24.00	1.374			0	0.001	0.001
14	LTE Band 71_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			0	1.100	1.407
	LTE Band 71_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	133297	680.5	Vendor1	22.62	24.00	1.374			-0.17	0.962	1.322
	LTE Band 71_Ant Main	20M	QPSK	100	0	Top	0mm	Tablet	133297	680.5	Vendor1	22.49	24.00	1.416			-0.03	0.993	1.406
	LTE Band 71_Ant Main	20M	QPSK	1	0	Bottom	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			0	0.001	0.001
	LTE Band 71_Ant Main	20M	QPSK	50	0	Bottom	0mm	Tablet	133297	680.5	Vendor1	22.62	24.00	1.374			0	0.001	0.001
	LTE Band 71_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	133297	680.5	Vendor2	23.93	25.00	1.279			-0.05	1.090	1.394

13.2 Repeated SAR Measurement

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	User Scenario	Ch.	Freq. (MHz)	Antenna Vendor	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	LTE Band 26_Ant Main	15M	QPSK	36	0	Top	0mm	Tablet	26865	831.5	Vendor1	21.01	22.00	1.256			-0.02	0.855	-	1.074
2nd	LTE Band 26_Ant Main	15M	QPSK	36	0	Top	0mm	Tablet	26865	831.5	Vendor1	21.01	22.00	1.256			0.05	0.813	1.05	1.021
1st	LTE Band 30_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	27710	2310	Vendor1	21.83	22.00	1.040			0	1.190	-	1.238
2nd	LTE Band 30_Ant Main	10M	QPSK	1	0	Top	0mm	Tablet	27710	2310	Vendor1	21.83	22.00	1.040			0.08	1.100	1.08	1.144
1st	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41490	2680	Vendor1	22.90	24.00	1.288	62.9	1.006	0	1.110	-	1.438
2nd	LTE Band 41_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	41490	2680	Vendor1	22.90	24.00	1.288	62.9	1.006	-0.08	1.060	1.05	1.373
1st	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132072	1720	Vendor2	18.76	20.00	1.330			-0.01	0.967	-	1.286
2nd	LTE Band 66_Ant Main	20M	QPSK	50	0	Top	0mm	Tablet	132072	1720	Vendor2	18.76	20.00	1.330			0.13	0.928	1.04	1.234
1st	LTE Band 71_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	133297	680.5	Vendor1	23.93	25.00	1.279			0	1.100	-	1.407
2nd	LTE Band 71_Ant Main	20M	QPSK	1	0	Top	0mm	Tablet	133297	680.5	Vendor1	23.93	24.00	1.016			0.12	1.050	1.05	1.067

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.

2. Per KDB 865664 D01v01r04, 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.

14. *Simultaneous Transmission Analysis*

	NO.	Simultaneous Transmission Configurations	Body
\<AX211NGW\>	1.	WWAN + WLAN2.4GHz Ant 1 + WLAN2.4GHz Ant 2	Yes
	2.	WWAN + WLAN2.4GHz Ant 2 + Bluetooth Ant 1	Yes
	3.	WWAN + WLAN5/6GHz Ant 1 + WLAN5/6GHz Ant 2 + Bluetooth Ant 1	Yes

	NO.	Simultaneous Transmission Configurations	Body
\<MT7921\>	1.	WWAN + WLAN2.4GHz Ant 1 + WLAN2.4GHz Ant 2 + Bluetooth Ant 1	Yes
	2.	WWAN + WLAN5GHz Ant 1 + WLAN5GHz Ant 2 + Bluetooth Ant 1	Yes

General Note:

1. The Intel AX211NGW and MediaTek MT7921 WLAN/Bluetooth modules are also integrated into this host. The WLAN/Bluetooth power and SAR testing data can be found in the Sporton SAR Test Report, Report No.: FA382109-04, and these results are used for simultaneous transmission analysis.
2. The Scaled SAR summation is calculated based on the same configuration and test position.
3. Per KDB 447498 D01v06, 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.

14.1 *Body Exposure Conditions*

\<WWAN + AX211NGW\>

Exposure Position	0 WWAN 1g SAR (W/kg)	1 WLAN2.4GHz Ant 1 1g SAR (W/kg)	2 WLAN2.4GHz Ant 2 1g SAR (W/kg)	3 WLAN5/6GHz Ant 1 1g SAR (W/kg)	4 WLAN5/6GHz Ant 2 1g SAR (W/kg)	5 Bluetooth Ant 1 1g SAR (W/kg)	0+1+2 Summed 1g SAR (W/kg)	0+2+5 Summed 1g SAR (W/kg)	0+3+4+5 Summed 1g SAR (W/kg)
Back at 0mm	0.565	0.360	0.480	0.570	0.420	0.030	**1.405**	**1.075**	**1.585**
Left at 0mm	0.193	0.400	0.870	0.400	0.430	0.400	**1.463**	**1.463**	**1.423**
Top at 0mm	1.438						**1.438**	**1.438**	**1.438**

\<WWAN + MT7921\>

Exposure Position	0 WWAN 1g SAR (W/kg)	1 WLAN2.4GHz Ant 1 1g SAR (W/kg)	2 WLAN2.4GHz Ant 2 1g SAR (W/kg)	3 WLAN5/6GHz Ant 1 1g SAR (W/kg)	4 WLAN5/6GHz Ant 2 1g SAR (W/kg)	5 Bluetooth Ant 1 1g SAR (W/kg)	0+1+2+5 Summed 1g SAR (W/kg)	0+3+4+5 Summed 1g SAR (W/kg)
Back at 0mm	0.565	0.001	0.103	0.125	0.157	0.055	**0.724**	**0.902**
Left at 0mm	0.193		0.162		0.162		**0.355**	**0.355**
Top at 0mm	1.438						**1.438**	**1.438**

Test Engineer： Teddy Chang, Sing Lim

15. *Uncertainty Assessment*

Per KDB 865664 D01 SAR measurement 100MHz to 6GHz, when the highest measured 1-g SAR within a frequency band is < 1.5 W/kg and the measured 10-g SAR within a frequency band is < 3.75 W/kg. The expanded SAR measurement uncertainty must be ≤ 30%, for a confidence interval of k = 2. If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. For this device, the highest measured 1-g SAR is less 1.5W/kg. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:
The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.
Comments and Explanations:
The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

16. *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. 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", Sep 2013

[4]   SPEAG DASY System Handbook

[5]   FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015

[6]   FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015

[7]   FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015

[8]   FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015

[9]   FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.

[10] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.

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