



FCC SAR TEST REPORT

FCC ID : IHDT56YJ2
Equipment : Mobile Cellular Phone
Brand Name : Motorola
Applicant : Motorola Mobility, LLC
222 W Merchandise Mart Plaza, Suite 1800,
Chicago, IL 60654, United States
Standard : FCC 47 CFR Part 2 (2.1093)
ANSI/IEEE C95.1-1992
IEEE 1528-2013

The product was received on Feb. 05, 2020 and testing was started from Feb. 19, 2020 and completed on Mar. 15, 2020. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

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

Approved by: Cona Huang / Deputy Manager

Sporton International Inc.

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan



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History of this test report

Report No.	Version	Description	Issued Date
FA9D0635-01A	01	Initial issue of report	Mar. 20, 2020



1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility, LLC, Mobile Cellular Phone, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary				Highest Simultaneous Transmission 1g SAR (W/kg)
		Head (Separation 0mm)	Body-worn (Separation 5mm)	Hotspot (Separation 5mm)	Product Specific (Separation 0mm)	
		1g SAR (W/kg)				
Licensed	GSM850	0.37	1.14	1.14		1.59
	GSM1900	0.20	0.59	0.96	3.51	
	WCDMA II	0.16	0.85	1.31	3.59	
	WCDMA IV	0.14	0.96	1.09	3.24	
	WCDMA V	0.19	0.61	0.61		
	CDMA BC0	0.53	0.89	0.93		
	CDMA BC1	0.25	0.93	1.16	3.49	
	LTE Band 7	0.06	0.47	1.15	3.02	
	LTE Band 12 / 17	0.19	0.54	0.52		
	LTE Band 13	0.31	0.91	0.91		
	LTE Band 2 / 25	0.19	0.90	1.31	3.59	
	LTE Band 5 / 26	0.22	0.85	0.85		
	LTE Band 30	0.04	0.71	1.16	2.20	
	LTE Band 38 / 41	0.01	0.38	0.72		
	LTE Band 4 / 66	0.16	0.63	1.25	3.11	
	LTE Band 71	0.14	0.53	0.53		
	n5	0.12	0.06	0.06		
n66	0.37	0.71	0.75			
n71	0.11	0.12	0.12			
DTS	2.4GHz WLAN	0.05	0.58	0.31	1.16	1.58
NII	5GHz WLAN	0.84	0.21	0.11	0.92	1.59
DSS	Bluetooth	0.00	0.25	0.25		1.59
Date of Testing:		2020/2/19 ~ 2019/3/15				

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 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, 4.0 W/kg for Product Specific 10g 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: Wan Liu



2. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- 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 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01
- FCC KDB 941225 D07 UMPC Mini Tablet v01r02



3. Equipment Under Test (EUT) Information

3.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
FCC ID	IHDT56YJ2
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz 5G NR n5 : 826.5 MHz ~ 846.5 MHz 5G NR n66 : 1712.5 MHz ~ 1777.5 MHz 5G NR n71 : 665.5 MHz ~ 695.5 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5720 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz NFC : 13.56 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM 5GNR: DFT-s-OFDM/CP-OFDM, PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM WLAN: 802.11a/b/g/n/ac/ax HT20 / HT40 / VHT20 / VHT40 / VHT80 / HE20 / HE40 / HE80 Bluetooth BR/EDR/LE NFC:ASK
HW Version	DVT2
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype
Remark: 1. This device WLAN 2.4GHz / 5.2GHz / 5.8GHz supports Hotspot operation and Bluetooth support tethering applications. 2. The device implements the power management for SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity) and the smart transmit will manage to ensure the averaged power level not exceeding the associated power table. Proximity sensors are used to detect the exposure conditions and the verification is illustrated in section 4. Details about the power management decision are provided in the operational description.	



3.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																															
FCC ID	IHDT56YJ2																																																														
Equipment Name	Mobile Cellular Phone																																																														
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz																																																														
Channel Bandwidth	LTE Band 02: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 04: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 05: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 07: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 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 66: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																														
uplink modulations used	QPSK / 16QAM / 64QAM																																																														
LTE Voice / Data requirements	Voice and Data																																																														
LTE MPR permanently built-in by design	<p>Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</p> <table border="1"> <thead> <tr> <th rowspan="2">Modulation</th> <th colspan="6">Channel bandwidth / Transmission bandwidth (N_{RB})</th> <th rowspan="2">MPR (dB)</th> </tr> <tr> <th>1.4 MHz</th> <th>3.0 MHz</th> <th>5 MHz</th> <th>10 MHz</th> <th>15 MHz</th> <th>20 MHz</th> </tr> </thead> <tbody> <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> </tbody> </table>	Modulation	Channel bandwidth / Transmission bandwidth (N _{RB})						MPR (dB)	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1	16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1	16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2	64 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 2	64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3	256 QAM	≥ 1						≤ 5
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64 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 3																																																								
256 QAM	≥ 1						≤ 5																																																								
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.																																																														
Power reduction applied to satisfy SAR compliance	Yes, when operating in hotspot/body-worn/extremity mode power reduction applied to satisfy SAR compliance.																																																														
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power measurement please referred to section 12.																																																														
LTE Carrier Aggregation Additional Information	This device supports maximum of 7 carriers in the downlink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.																																																														



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		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	20407	824.7	20415	825.5	20425	826.5	20450	829	20450	829	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844	20600	844	20600	844				
LTE Band 7																
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 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	20775	2502.5	20800	2505	20825	2507.5	20850	2510	20850	2510	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560	21350	2560	21350	2560				
LTE Band 12																
	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	23017	699.7	23025	700.5	23035	701.5	23060	704	23060	704	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711	23130	711	23130	711				
LTE Band 13																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23205		779.5		23230		782		23255		784.5		23280		787	
M	23230		782		23255		784.5		23280		787		23305		789.5	
H	23255		784.5		23280		787		23305		789.5		23330		792	
LTE Band 17																
	Bandwidth 5 MHz				Bandwidth 10 MHz				Bandwidth 15 MHz				Bandwidth 20 MHz			
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)		Channel #		Freq.(MHz)	
L	23755		706.5		23780		709		23805		712		23830		715	
M	23790		710		23815		714		23840		718		23865		722	
H	23825		713.5		23850		717		23875		721		23900		725	
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				

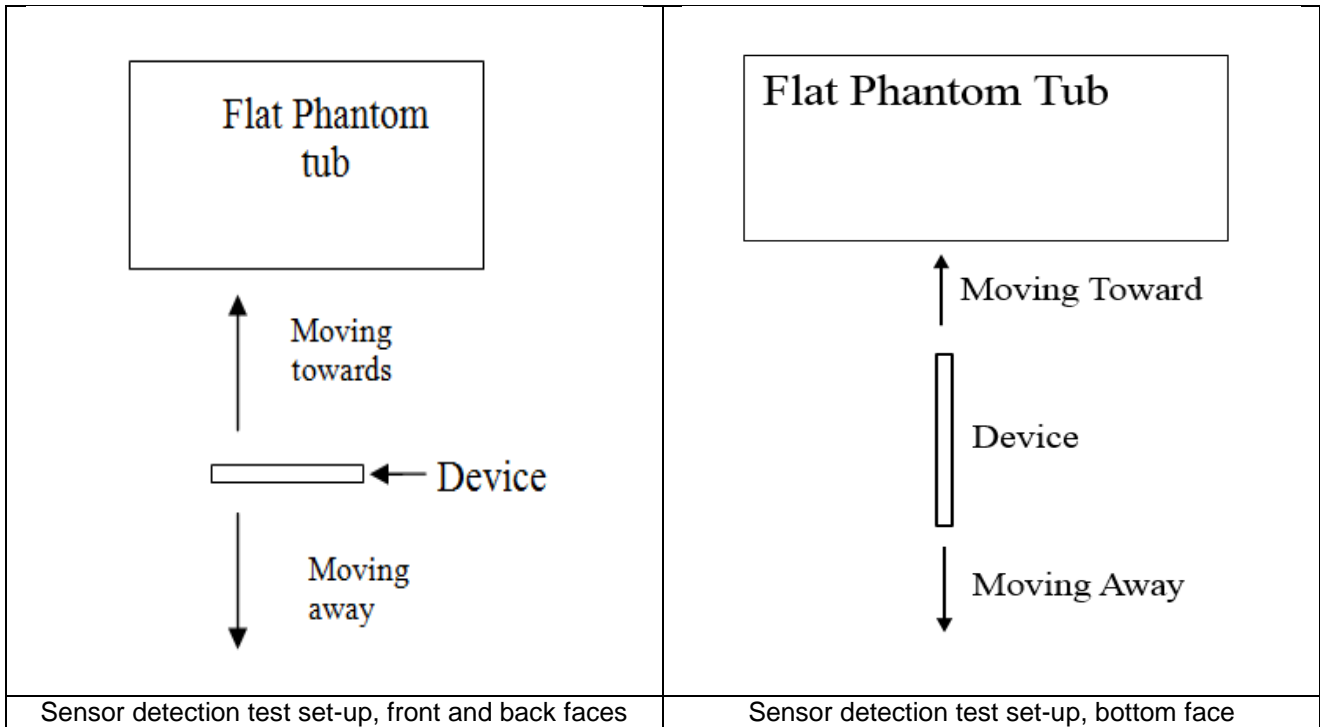


LTE Band 26												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	26697	814.7	26705	815.5	26715	816.5	26740	819	26765	821.5		
M	26865	831.5	26865	831.5	26865	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		27710		2310					
M	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				
L	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
M	40620	2593	40620	2593	40620	2593	40620	2593				
H	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
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				

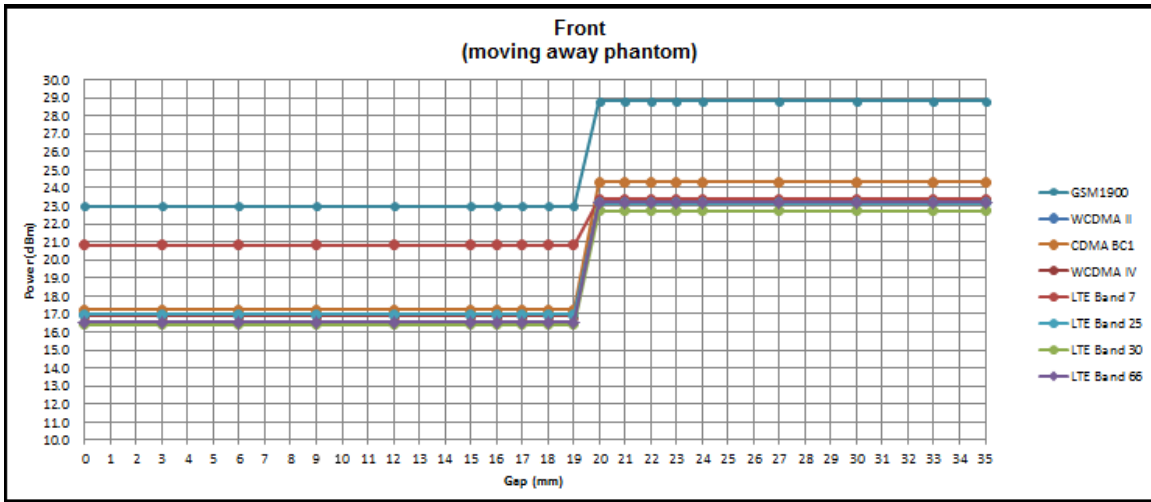
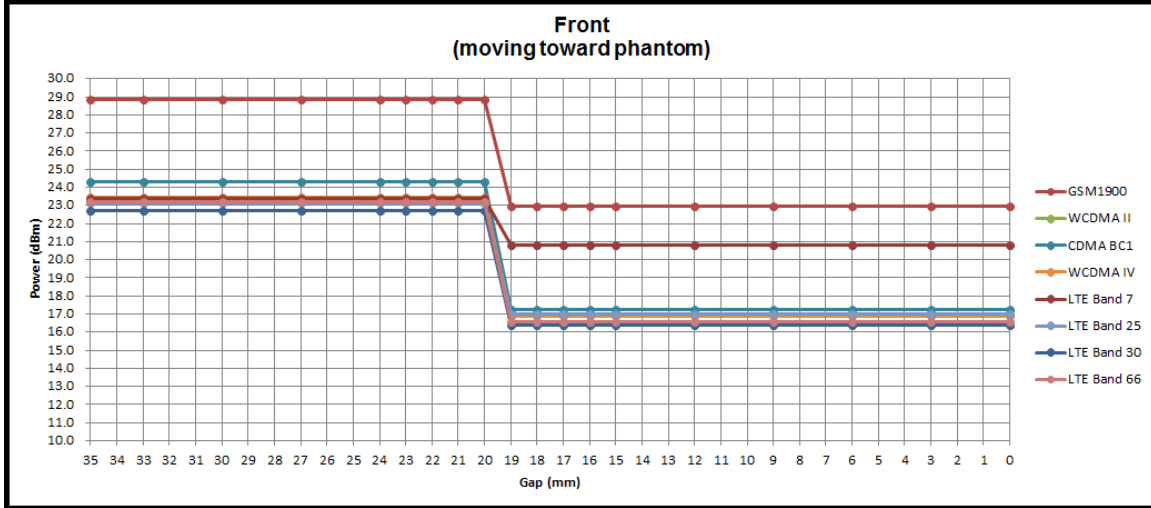
4. Proximity Sensor Triggering Test

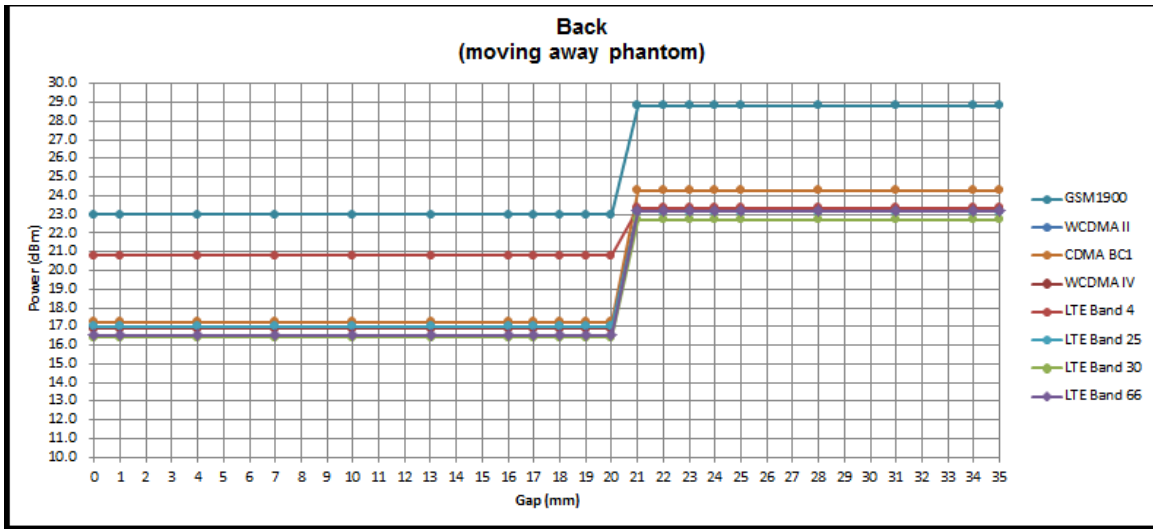
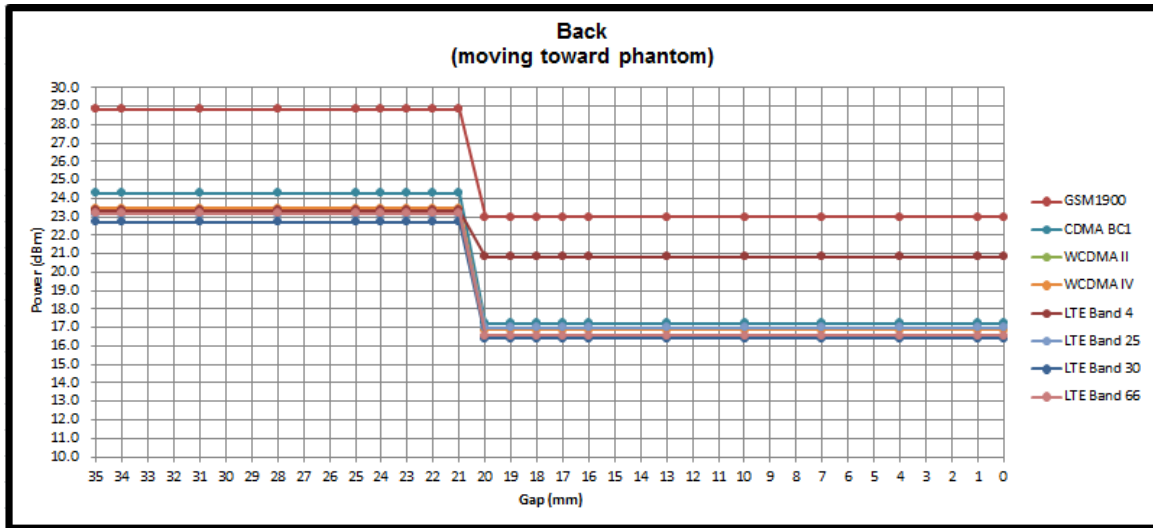
<Proximity Sensor Triggering Distance>:

1. Proximity sensor triggering distance testing was performed according to the procedures outlined in KDB 616217 D04 section 6.2, and EUT moving further away from the flat phantom and EUT moving toward the flat phantom were both assessed and the tissue-equivalent medium for highest frequency (3700MHz) and lowest (750MHz) frequency was used for proximity sensor triggering testing.
2. Capacitive proximity sensors placed coincident with antenna elements at the top and bottom ends of the phone are utilized to determine when the device comes in proximity of the user's body at the front or back of the device.
3. When the sensor is active, the device will reduce maximum output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1, LTE B2 / B4 / B7 / B25 / B30 / B66 / B48.
4. Body-worn/Hotspot SAR was tested at 5mm separation and extremity SAR was tested at 0mm separation, at the reduced power level in each associated power table. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
 - a. For Body-worn:
 - Front: [14 mm](#)
 - Back: [18 mm](#)
 - b. For Extremity::
 - Front: [5 mm](#)
 - Back: [8 mm](#)
 - Bottom: [7 mm](#)

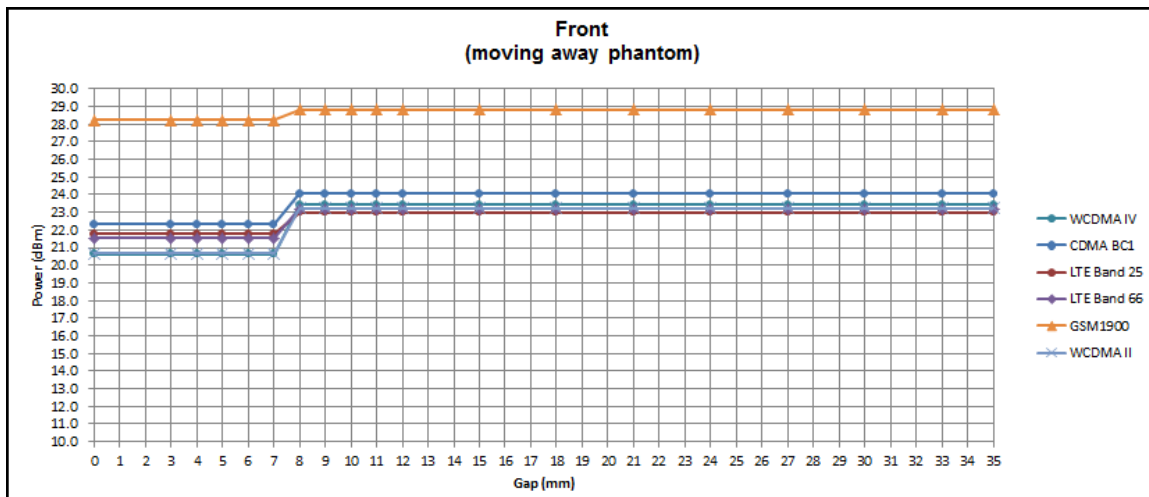
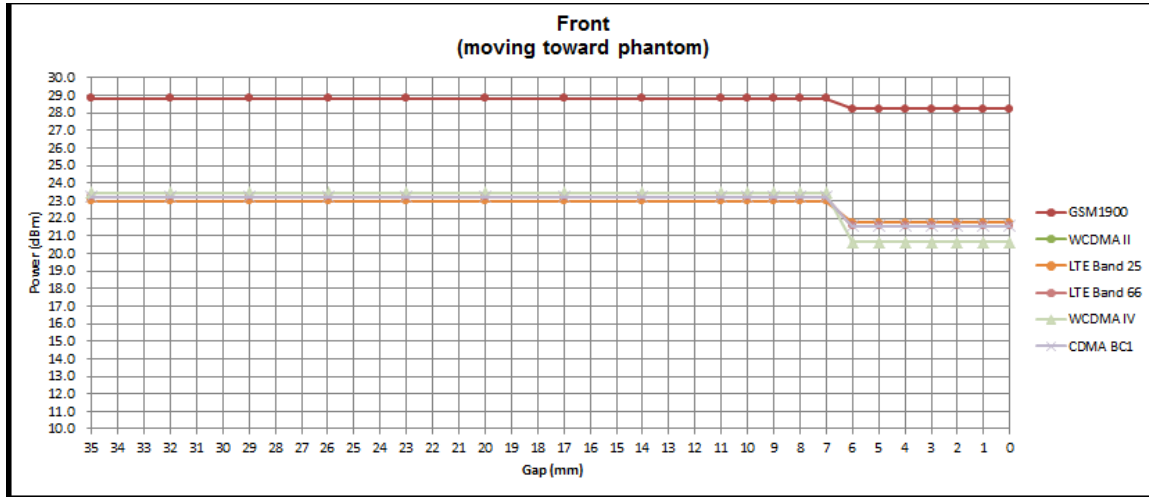


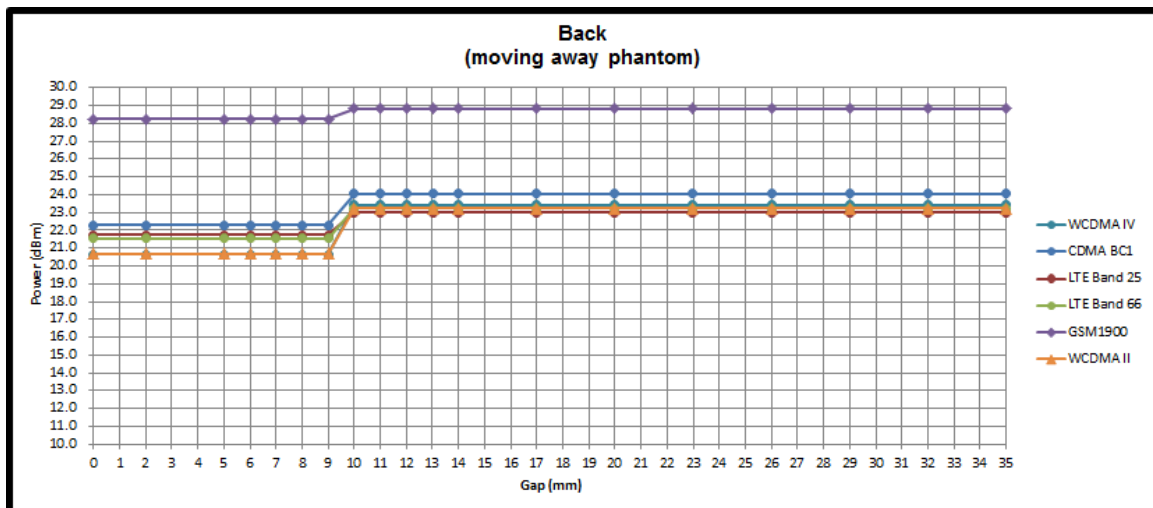
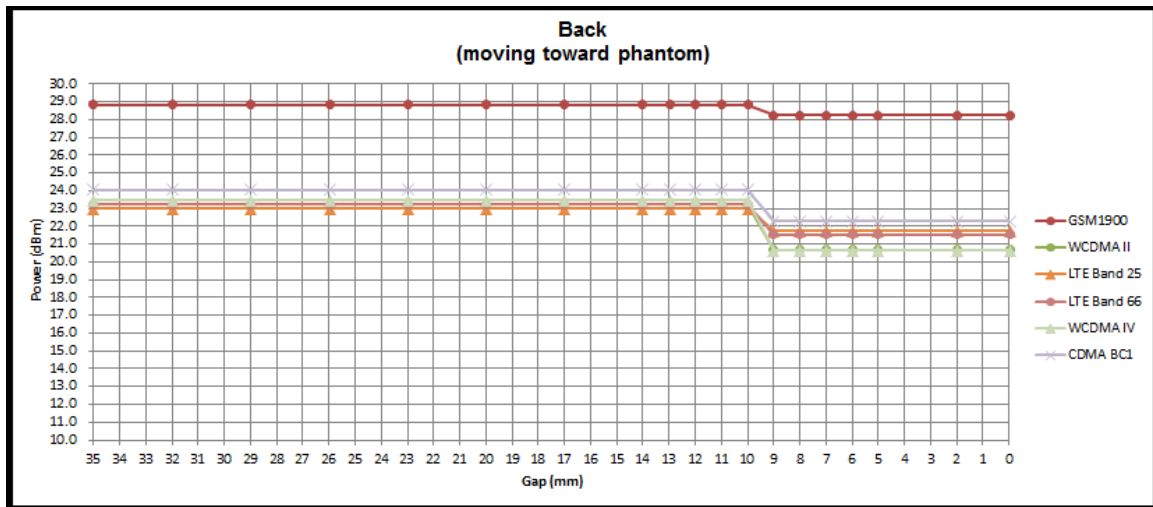
Proximity Top+ Bottom Sensor Trigger Distance for Body-worn(mm)				
Position	Front		Back	
Position	Moving towards	Moving away	Moving towards	Moving away
Minimum	19	19	20	20

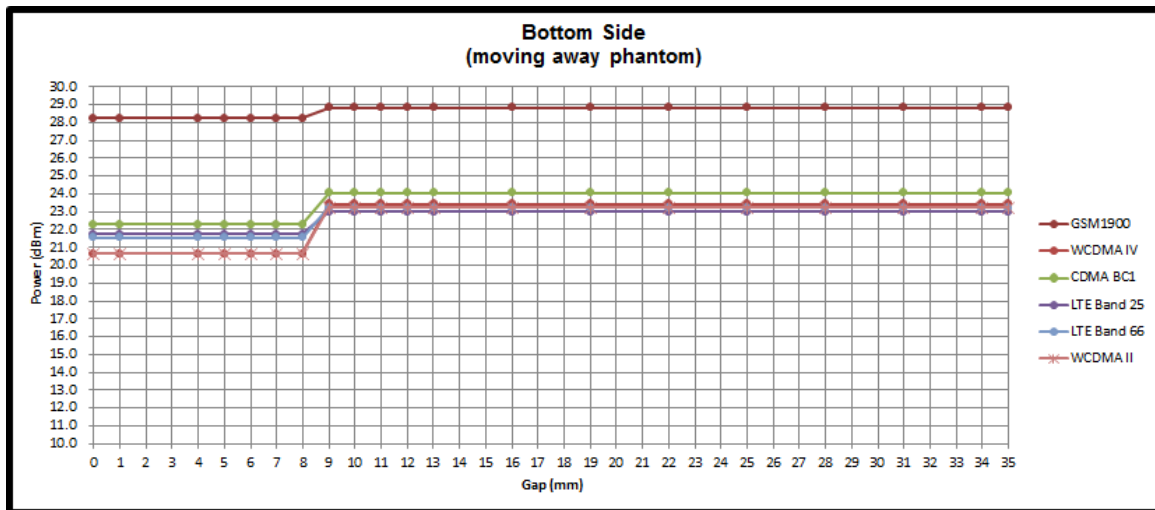
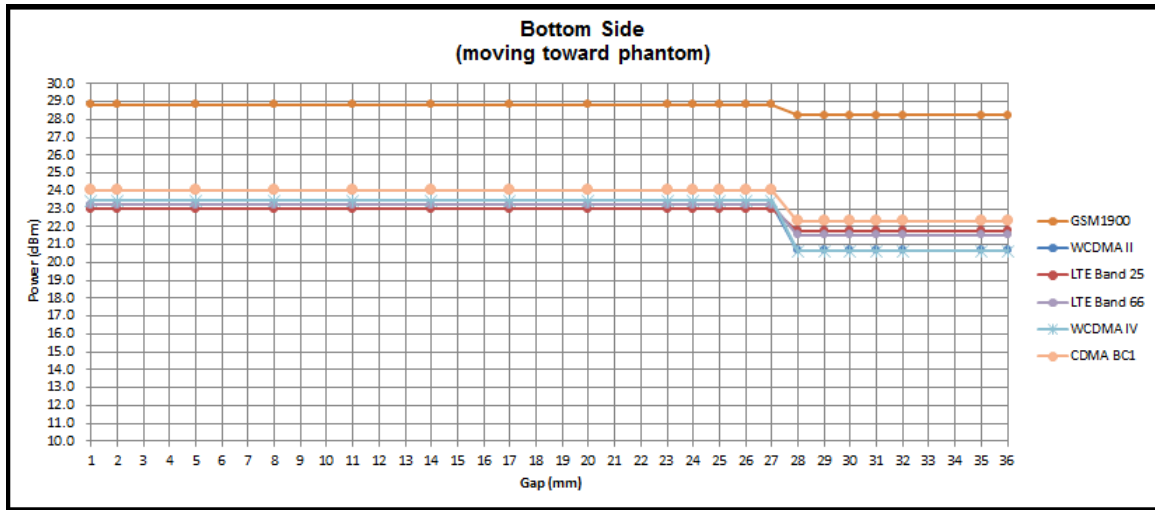




Proximity Bottom Sensor Trigger Distance (mm) for Extremity						
Position	Front		Back		Bottom Side	
Position	Moving towards	Moving away	Moving towards	Moving away	Moving towards	Moving away
Minimum	6	7	9	9	8	8









5. RF Exposure Limits

5.1 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.

5.2 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.

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

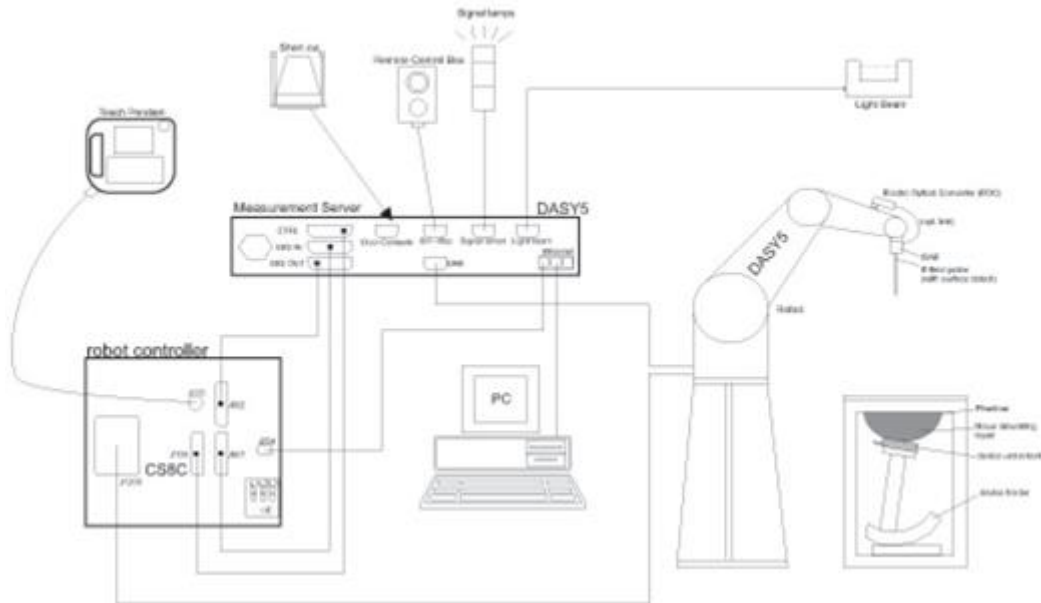
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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




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


7.1 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	10 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 μ W/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	10 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 μ W/g – >100 mW/g Linearity: ± 0.2 dB (noise: typically <1 μ W/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	

7.2 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


7.3 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.

7.4 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



8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 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 from 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

8.2 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.

8.3 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° ± 1°	20° ± 1°
Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$	≤ 2 GHz: ≤ 15 mm 2 – 3 GHz: ≤ 12 mm	3 – 4 GHz: ≤ 12 mm 4 – 6 GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

8.4 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.

		≤ 3 GHz	> 3 GHz	
Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$		≤ 2 GHz: ≤ 8 mm 2 – 3 GHz: ≤ 5 mm*	3 – 4 GHz: ≤ 5 mm* 4 – 6 GHz: ≤ 4 mm*	
Maximum zoom scan spatial resolution, normal to phantom surface	uniform grid: $\Delta z_{Zoom}(n)$	≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm	
	graded grid	$\Delta z_{Zoom}(1)$: between 1 st two points closest to phantom surface	≤ 4 mm	3 – 4 GHz: ≤ 3 mm 4 – 5 GHz: ≤ 2.5 mm 5 – 6 GHz: ≤ 2 mm
		$\Delta z_{Zoom}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$	
Minimum zoom scan volume	x, y, z	≥ 30 mm	3 – 4 GHz: ≥ 28 mm 4 – 5 GHz: ≥ 25 mm 5 – 6 GHz: ≥ 22 mm	
Note: δ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details. * When zoom scan is required and the <i>reported</i> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4 W/kg, ≤ 8 mm, ≤ 7 mm and ≤ 5 mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz.				

8.5 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.

8.6 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.



9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1107	Mar. 08, 2019	Mar. 06, 2021
SPEAG	835MHz System Validation Kit	D835V2	4d167	Nov. 25, 2019	Nov. 24, 2020
SPEAG	1750MHz System Validation Kit	D1750V2	1112	Mar. 07, 2019	Mar. 05, 2021
SPEAG	1900MHz System Validation Kit	D1900V2	5d185	Mar. 07, 2019	Mar. 05, 2021
SPEAG	2300MHz System Validation Kit	D2300V2	1006	Jan. 28, 2019	Jan. 26, 2021
SPEAG	2450MHz System Validation Kit	D2450V2	736	Aug. 31, 2018	Aug. 29, 2020
SPEAG	2600MHz System Validation Kit	D2600V2	1008	Aug. 31, 2018	Aug. 29, 2020
SPEAG	3500MHz System Validation Kit	D3500V2	1014	Jan. 29, 2019	Jan. 27, 2021
SPEAG	3700MHz System Validation Kit	D3700V2	1006	Mar. 05, 2019	Mar. 03, 2021
SPEAG	5GHz System Validation Kit	D5GHzV2	1006	Sep. 27, 2018	Sep. 25, 2020
SPEAG	5GHz System Validation Kit	D5GHzV2	1128	Dec. 16, 2019	Dec. 15, 2020
SPEAG	Data Acquisition Electronics	DAE3	495	May. 21, 2019	May. 20, 2020
SPEAG	Data Acquisition Electronics	DAE3	577	Sep. 17, 2019	Sep. 16, 2020
SPEAG	Data Acquisition Electronics	DAE4	778	May. 21, 2019	May. 20, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	3728	Feb. 04, 2020	Feb. 03, 2021
SPEAG	Dosimetric E-Field Probe	EX3DV4	3925	Sep. 20, 2019	Sep. 19, 2020
SPEAG	Dosimetric E-Field Probe	EX3DV4	7306	Jul. 22, 2019	Jul. 21, 2020
RCPTWN	Thermometer	HTC-1	TM685-1	Nov. 12, 2019	Nov. 11, 2020
RCPTWN	Thermometer	HTC-1	TM560-2	Nov. 12, 2019	Nov. 11, 2020
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Oct. 31, 2019	Oct. 30, 2020
Agilent	Wireless Communication Test Set	E5515C	MY50267236	Apr. 01, 2019	Mar. 31, 2020
R&S	BT Base Station	CBT32	100522	Mar. 18, 2019	Mar. 17, 2020
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Nov. 20, 2019	Nov. 19, 2020
Agilent	ENA Network Analyzer	E5071C	MY46104758	Sep. 06, 2019	Sep. 05, 2020
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 18, 2019	Sep. 17, 2020
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3169	Sep. 10, 2019	Sep. 09, 2020
Anritsu	Power Meter	ML2495A	1036004	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Sensor	MA2411B	1027253	Aug. 08, 2019	Aug. 07, 2020
Anritsu	Power Meter	ML2495A	1419002	May. 29, 2019	May. 28, 2020
Anritsu	Power Sensor	MA2411B	1339124	May. 29, 2019	May. 28, 2020
Agilent	Spectrum Analyzer	E4408B	MY44211028	Aug. 27, 2019	Aug. 26, 2020
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jun. 27, 2019	Jun. 26, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 16, 2019	Oct. 15, 2020
Mini-Circuits	Power Amplifier	ZVE-8G+	6382	Aug. 12, 2019	Aug. 11, 2020
ATM	Dual Directional Coupler	C122H-10	P610410z-02	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. Referring to KDB 865664 D01v01r04, the dipole calibration interval can be extended to 3 years with justification. The dipoles are also not physically damaged, or repaired during the interval.
3. The justification data of dipole D750V3, SN: 1107, D1750V2, SN: 1112, D1900V2, SN: 5d185, D2300V2, SN: 1006, D2450V2, SN:736, D2600V2, SN: 1008, D3500V2, SN: 1014, D3700V2, SN: 1006, D5GHzV2, SN: 1006, can be found in appendix C. The return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration.

10. System Verification

10.1 Tissue Simulating Liquids

For the measurement of the field distribution inside the SAM phantom with DASY, the phantom must be filled with around 25 liters of homogeneous body tissue simulating liquid. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.1. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm, which is shown in Fig. 10.2.

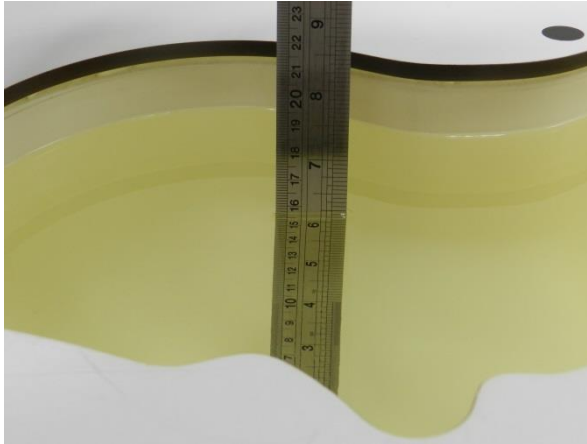


Fig 10.1 Photo of Liquid Height for Head SAR

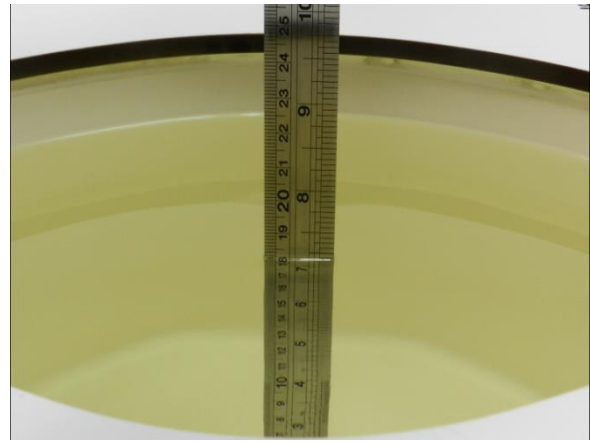


Fig 10.2 Photo of Liquid Height for Body SAR



10.2 Tissue Verification

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

Frequency (MHz)	Water (%)	Sugar (%)	Cellulose (%)	Salt (%)	Preventol (%)	DGBE (%)	Conductivity (σ)	Permittivity (ε _r)
750	41.1	57.0	0.2	1.4	0.2	0	0.89	41.9
835	40.3	57.9	0.2	1.4	0.2	0	0.90	41.5
900	40.3	57.9	0.2	1.4	0.2	0	0.97	41.5
1800, 1900, 2000	55.2	0	0	0.3	0	44.5	1.40	40.0
2450	55.0	0	0	0	0	45.0	1.80	39.2
2600	54.8	0	0	0.1	0	45.1	1.96	39.0

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ε _r)	Conductivity Target (σ)	Permittivity Target (ε _r)	Delta (σ) (%)	Delta (ε _r) (%)	Limit (%)	Date
750	22.4	0.887	42.938	0.89	41.90	-0.34	2.48	±5	2020/2/20
750	22.4	0.891	43.276	0.89	41.90	0.11	3.28	±5	2020/2/21
750	22.3	0.899	43.706	0.89	41.90	1.01	4.31	±5	2020/2/26
750	22.5	0.898	41.246	0.89	41.90	0.90	-1.56	±5	2020/3/13
835	22.4	0.869	42.487	0.90	41.50	-3.44	2.38	±5	2020/2/19
835	22.5	0.897	42.276	0.90	41.50	-0.33	1.87	±5	2020/2/23
835	22.3	0.934	43.410	0.90	41.50	3.78	4.60	±5	2020/2/26
835	22.5	0.894	42.284	0.90	41.50	-0.67	1.89	±5	2020/3/13
1750	22.4	1.347	40.840	1.37	40.10	-1.68	1.85	±5	2020/2/22
1750	22.5	1.361	40.492	1.37	40.10	-0.66	0.98	±5	2020/2/25
1750	22.3	1.382	40.689	1.37	40.10	0.88	1.47	±5	2020/2/25
1750	22.8	1.383	41.198	1.37	40.10	0.95	2.74	±5	2020/2/28
1750	22.4	1.389	39.447	1.37	40.10	1.39	-1.63	±5	2020/3/12
1750	22.5	1.377	39.646	1.37	40.10	0.51	-1.13	±5	2020/3/13
1750	22.4	1.385	40.071	1.37	40.10	1.09	-0.07	±5	2020/3/13
1900	22.4	1.446	38.895	1.40	40.00	3.29	-2.76	±5	2020/2/20
1900	22.5	1.420	39.030	1.40	40.00	1.43	-2.43	±5	2020/2/25
1900	22.8	1.427	40.812	1.40	40.00	1.93	2.03	±5	2020/2/28
1900	22.4	1.402	40.779	1.40	40.00	0.14	1.95	±5	2020/3/12
1900	22.4	1.453	41.053	1.40	40.00	3.79	2.63	±5	2020/3/13
1900	22.5	1.414	40.714	1.40	40.00	1.00	1.79	±5	2020/3/15
2300	22.4	1.696	39.932	1.67	39.50	1.56	1.09	±5	2020/2/21
2300	22.5	1.653	39.263	1.67	39.50	-1.02	-0.60	±5	2020/3/3
2300	22.5	1.660	40.165	1.67	39.50	-0.60	1.68	±5	2020/3/13
2450	22.5	1.793	38.961	1.80	39.20	-0.39	-0.61	±5	2020/2/21
2600	22.4	1.986	39.358	1.96	39.00	1.33	0.92	±5	2020/2/19
2600	22.4	1.982	38.418	1.96	39.00	1.12	-1.49	±5	2020/2/22
2600	22.3	1.986	38.153	1.96	39.00	1.33	-2.17	±5	2020/2/26
2600	22.5	1.965	38.147	1.96	39.00	0.26	-2.19	±5	2020/3/3
2600	22.5	1.964	39.381	1.96	39.00	0.20	0.98	±5	2020/3/13
2600	22.6	2.014	37.954	1.96	39.00	2.76	-2.68	±5	2020/3/14
3500	22.4	2.951	39.103	2.91	37.90	1.41	3.17	±5	2020/3/14
3700	22.4	3.111	38.864	3.12	37.70	-0.29	3.09	±5	2020/3/14
5250	22.6	4.645	35.925	4.71	35.95	-1.38	-0.07	±5	2020/2/23
5250	22.5	4.572	36.816	4.71	35.95	-2.93	2.41	±5	2020/2/24
5250	22.8	4.674	35.972	4.71	35.95	-0.76	0.06	±5	2020/2/25
5600	22.6	4.988	35.414	5.07	35.50	-1.62	-0.24	±5	2020/2/23
5600	22.5	4.975	36.482	5.07	35.50	-1.87	2.77	±5	2020/2/24
5600	22.8	5.014	35.497	5.07	35.50	-1.10	-0.01	±5	2020/2/25
5750	22.5	5.126	35.932	5.22	35.35	-1.80	1.65	±5	2020/2/24
5750	22.8	5.171	35.291	5.22	35.35	-0.94	-0.17	±5	2020/2/25



10.3 System Performance Check Results

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

Date	Frequency (MHz)	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 (%)
2020/2/20	750	250	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	2.05	8.32	8.2	-1.44
2020/2/21	750	250	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	2.06	8.32	8.24	-0.96
2020/2/26	750	250	D750V3-1107	EX3DV4 - SN3728	DAE3 Sn495	2.12	8.32	8.48	1.92
2020/3/13	750	250	D750V3-1107	EX3DV4 - SN7306	DAE3 Sn577	2.21	8.32	8.84	6.25
2020/2/19	835	250	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	2.29	9.55	9.16	-4.08
2020/2/23	835	250	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	2.36	9.55	9.44	-1.15
2020/2/26	835	250	D835V2-4d167	EX3DV4 - SN3728	DAE3 Sn495	2.46	9.55	9.84	3.04
2020/3/13	835	250	D835V2-4d167	EX3DV4 - SN7306	DAE3 Sn577	2.50	9.55	10	4.71
2020/2/22	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	8.89	36.70	35.56	-3.11
2020/2/25	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	8.99	36.70	35.96	-2.02
2020/2/25	1750	250	D1750V2-1112	EX3DV4 - SN3728	DAE3 Sn495	8.71	36.70	34.84	-5.07
2020/2/28	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	9.40	36.70	37.6	2.45
2020/3/12	1750	250	D1750V2-1112	EX3DV4 - SN3728	DAE3 Sn495	8.90	36.70	35.6	-3.00
2020/3/13	1750	250	D1750V2-1112	EX3DV4 - SN7306	DAE3 Sn577	9.04	36.70	36.16	-1.47
2020/3/13	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	9.15	36.70	36.6	-0.27
2020/2/20	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	9.84	39.40	39.36	-0.10
2020/2/25	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	9.67	39.40	38.68	-1.83
2020/2/28	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	9.57	39.40	38.28	-2.84
2020/3/12	1900	250	D1900V2-5d185	EX3DV4 - SN3728	DAE3 Sn495	10.30	39.40	41.2	4.57
2020/3/13	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	9.89	39.40	39.56	0.41
2020/3/15	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	9.64	39.40	38.56	-2.13
2020/2/21	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	12.50	48.70	50	2.67
2020/3/3	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	12.20	48.70	48.8	0.21
2020/3/13	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	12.50	48.70	50	2.67
2020/2/21	2450	250	D2450V2-736	EX3DV4 - SN3728	DAE3 Sn495	12.70	52.70	50.8	-3.61
2020/2/19	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	14.80	56.40	59.2	4.96
2020/2/22	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	14.80	56.40	59.2	4.96
2020/2/26	2600	250	D2600V2-1008	EX3DV4 - SN3728	DAE3 Sn495	15.00	56.40	60	6.38
2020/3/3	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	14.70	56.40	58.8	4.26
2020/3/13	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	14.70	56.40	58.8	4.26
2020/3/14	2600	250	D2600V2-1008	EX3DV4 - SN3728	DAE3 Sn495	15.00	56.40	60	6.38
2020/3/14	3500	100	D3500V2-1014	EX3DV4 - SN3925	DAE4 Sn778	6.55	67.90	65.5	-3.53
2020/3/14	3700	100	D3700V2-1006	EX3DV4 - SN3925	DAE4 Sn778	6.82	67.30	68.2	1.34
2020/2/23	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3728	DAE3 Sn495	7.43	80.70	74.3	-7.93
2020/2/24	5250	100	D5GHzV2-1128-5250	EX3DV4 - SN3728	DAE3 Sn495	7.32	80.00	73.2	-8.50
2020/2/25	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3728	DAE3 Sn495	7.56	80.70	75.6	-6.32
2020/2/23	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3728	DAE3 Sn495	8.48	83.30	84.8	1.80
2020/2/24	5600	100	D5GHzV2-1128-5600	EX3DV4 - SN3728	DAE3 Sn495	7.75	82.40	77.5	-5.95
2020/2/25	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3728	DAE3 Sn495	7.81	83.30	78.1	-6.24
2020/2/24	5750	100	D5GHzV2-1128-5750	EX3DV4 - SN3728	DAE3 Sn495	7.24	79.10	72.4	-8.47
2020/2/25	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN3728	DAE3 Sn495	7.83	80.40	78.3	-2.61

Date	Frequency (MHz)	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2020/2/20	750	250	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	1.38	5.61	5.52	-1.60
2020/2/21	750	250	D750V3-1107	EX3DV4 - SN3925	DAE4 Sn778	1.38	5.61	5.52	-1.60
2020/2/26	750	250	D750V3-1107	EX3DV4 - SN3728	DAE3 Sn495	1.36	5.61	5.44	-3.03
2020/3/13	750	250	D750V3-1107	EX3DV4 - SN7306	DAE3 Sn577	1.49	5.61	5.96	6.24
2020/2/19	835	250	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	1.52	6.21	6.08	-2.09
2020/2/23	835	250	D835V2-4d167	EX3DV4 - SN3925	DAE4 Sn778	1.57	6.21	6.28	1.13
2020/2/26	835	250	D835V2-4d167	EX3DV4 - SN3728	DAE3 Sn495	1.56	6.21	6.24	0.48
2020/3/13	835	250	D835V2-4d167	EX3DV4 - SN7306	DAE3 Sn577	1.64	6.21	6.56	5.64
2020/2/22	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	4.64	19.40	18.56	-4.33
2020/2/25	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	4.69	19.40	18.76	-3.30
2020/2/25	1750	250	D1750V2-1112	EX3DV4 - SN3728	DAE3 Sn495	4.62	19.40	18.48	-4.74
2020/2/28	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	5.12	19.40	20.48	5.57
2020/3/12	1750	250	D1750V2-1112	EX3DV4 - SN3728	DAE3 Sn495	4.69	19.40	18.76	-3.30
2020/3/13	1750	250	D1750V2-1112	EX3DV4 - SN7306	DAE3 Sn577	4.65	19.40	18.6	-4.12
2020/3/13	1750	250	D1750V2-1112	EX3DV4 - SN3925	DAE4 Sn778	4.77	19.40	19.08	-1.65
2020/2/20	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	5.09	20.50	20.36	-0.68
2020/2/25	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	5.00	20.50	20	-2.44
2020/2/28	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	4.97	20.50	19.88	-3.02
2020/3/12	1900	250	D1900V2-5d185	EX3DV4 - SN3728	DAE3 Sn495	5.28	20.50	21.12	3.02
2020/3/13	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	5.12	20.50	20.48	-0.10
2020/3/15	1900	250	D1900V2-5d185	EX3DV4 - SN3925	DAE4 Sn778	5.00	20.50	20	-2.44
2020/2/21	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	6.02	23.20	24.08	3.79
2020/3/3	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	5.87	23.20	23.48	1.21
2020/3/13	2300	250	D2300V2-1006	EX3DV4 - SN3925	DAE4 Sn778	6.03	23.20	24.12	3.97
2020/2/21	2450	250	D2450V2-736	EX3DV4 - SN3728	DAE3 Sn495	5.89	24.60	23.56	-4.23
2020/2/19	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	6.62	25.30	26.48	4.66
2020/2/22	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	6.60	25.30	26.4	4.35
2020/2/26	2600	250	D2600V2-1008	EX3DV4 - SN3728	DAE3 Sn495	6.57	25.30	26.28	3.87
2020/3/3	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	6.55	25.30	26.2	3.56
2020/3/13	2600	250	D2600V2-1008	EX3DV4 - SN3925	DAE4 Sn778	6.57	25.30	26.28	3.87
2020/3/14	2600	250	D2600V2-1008	EX3DV4 - SN3728	DAE3 Sn495	6.61	25.30	26.44	4.51
2020/3/14	3500	100	D3500V2-1014	EX3DV4 - SN3925	DAE4 Sn778	2.45	25.60	24.5	-4.30
2020/3/14	3700	100	D3700V2-1006	EX3DV4 - SN3925	DAE4 Sn778	2.46	24.50	24.6	0.41
2020/2/23	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3728	DAE3 Sn495	2.12	23.20	21.2	-8.62
2020/2/24	5250	100	D5GHzV2-1128-5250	EX3DV4 - SN3728	DAE3 Sn495	2.08	22.90	20.8	-9.17
2020/2/25	5250	100	D5GHzV2-1006-5250	EX3DV4 - SN3728	DAE3 Sn495	2.24	23.20	22.4	-3.45
2020/2/23	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3728	DAE3 Sn495	2.35	23.80	23.5	-1.26
2020/2/24	5600	100	D5GHzV2-1128-5600	EX3DV4 - SN3728	DAE3 Sn495	2.13	23.60	21.3	-9.75
2020/2/25	5600	100	D5GHzV2-1006-5600	EX3DV4 - SN3728	DAE3 Sn495	2.25	23.80	22.5	-5.46
2020/2/24	5750	100	D5GHzV2-1128-5750	EX3DV4 - SN3728	DAE3 Sn495	2.07	22.60	20.7	-8.41
2020/2/25	5750	100	D5GHzV2-1006-5750	EX3DV4 - SN3728	DAE3 Sn495	2.21	22.90	22.1	-3.49

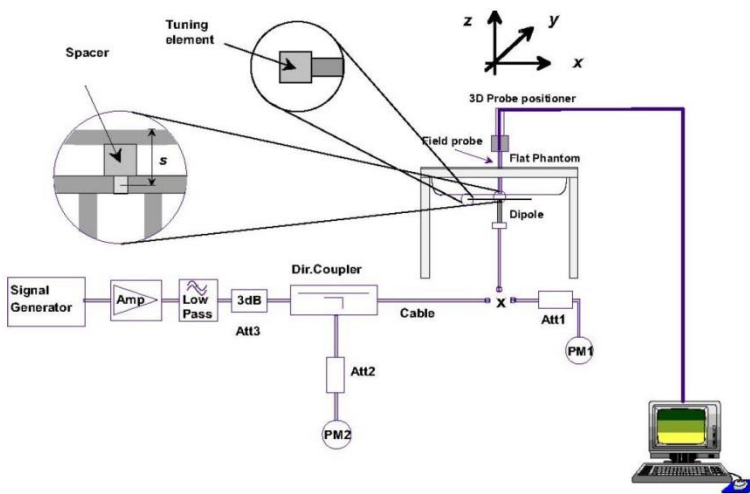


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

Figure 9.1.1 shows the front, back, and side views of the SAM phantom. The center-of-mouth reference point is labeled “M,” the left ear reference point (ERP) is marked “LE,” and the right ERP is marked “RE.” Each ERP is 15 mm along the B-M (back-mouth) line behind the entrance-to-ear-canal (EEC) point, as shown in Figure 9.1.2 The Reference Plane is defined as passing through the two ear reference points and point M. The line N-F (neck-front), also called the reference pivoting line, is normal to the Reference Plane and perpendicular to both a line passing through RE and LE and the B-M line (see Figure 9.1.3). Both N-F and B-M lines should be marked on the exterior of the phantom shell to facilitate handset positioning. Posterior to the N-F line the ear shape is a flat surface with 6 mm thickness at each ERP, and forward of the N-F line the ear is truncated, as illustrated in Figure 9.1.2. The ear truncation is introduced to preclude the ear lobe from interfering with handset tilt, which could lead to unstable positioning at the cheek.

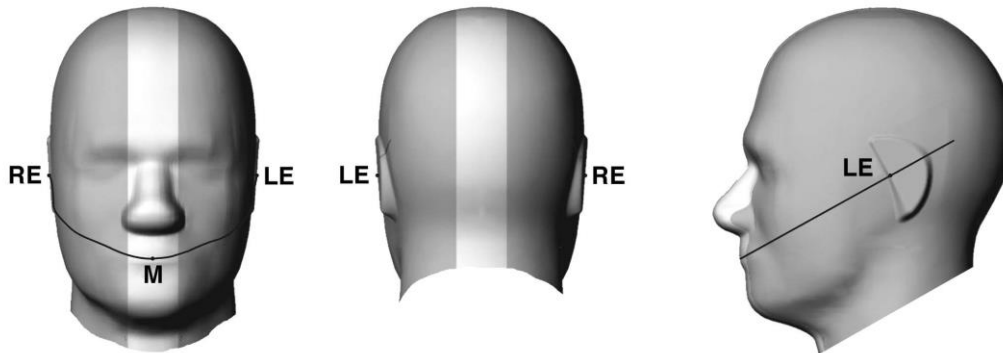


Fig 9.1.1 Front, back, and side views of SAM twin phantom

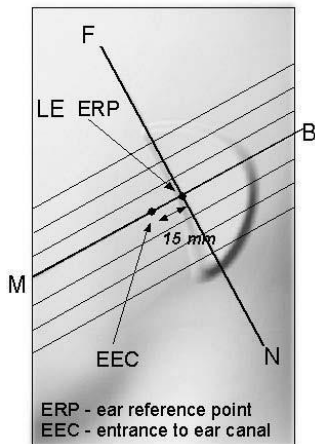


Fig 9.1.2 Close-up side view of phantom showing the ear region.

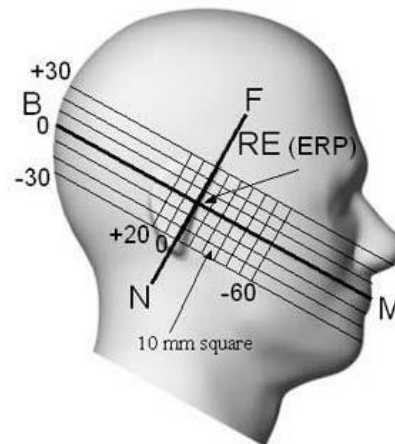


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. Define two imaginary lines on the handset—the vertical centerline and the horizontal line. The vertical centerline passes through two points on the front side of the handset—the midpoint of the width w_t of the handset at the level of the acoustic output (point A in Figure 9.2.1 and Figure 9.2.2), and the midpoint of the width w_b of the bottom of the handset (point B). The horizontal line is perpendicular to the vertical centerline and passes through the center of the acoustic output (see Figure 9.2.1). The two lines intersect at point A. Note that for many handsets, point A coincides with the center of the acoustic output; however, the acoustic output may be located elsewhere on the horizontal line. Also note that the vertical centerline is not necessarily parallel to the front face of the handset (see Figure 9.2.2), especially for clamshell handsets, handsets with flip covers, and other irregularly-shaped handsets.
3. Position the handset close to the surface of the phantom such that point A is on the (virtual) extension of the line passing through points RE and LE on the phantom (see Figure 9.2.3), such that the plane defined by the vertical centerline and the horizontal line of the handset is approximately parallel to the sagittal plane of the phantom.
4. Translate the handset towards the phantom along the line passing through RE and LE until handset point A touches the pinna at the ERP.
5. While maintaining the handset in this plane, rotate it around the LE-RE line until the vertical centerline is in the plane normal to the plane containing B-M and N-F lines, i.e., the Reference Plane.
6. Rotate the handset around the vertical centerline until the handset (horizontal line) is parallel to the N-F line.
7. While maintaining the vertical centerline in the Reference Plane, keeping point A on the line passing through RE and LE, and maintaining the handset contact with the pinna, rotate the handset about the N-F line until any point on the handset is in contact with a phantom point below the pinna on the cheek. See Figure 9.2.3. The actual rotation angles should be documented in the test report.

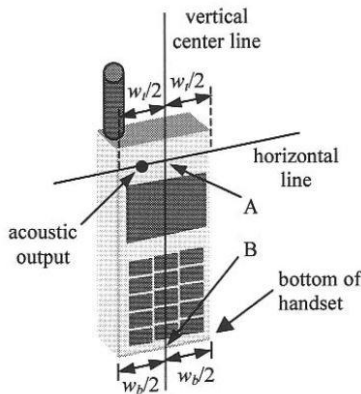


Fig 9.2.1 Handset vertical and horizontal reference lines—“fixed case”

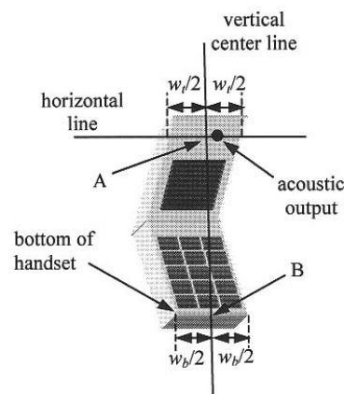


Fig 9.2.2 Handset vertical and horizontal reference lines—“clam-shell case”

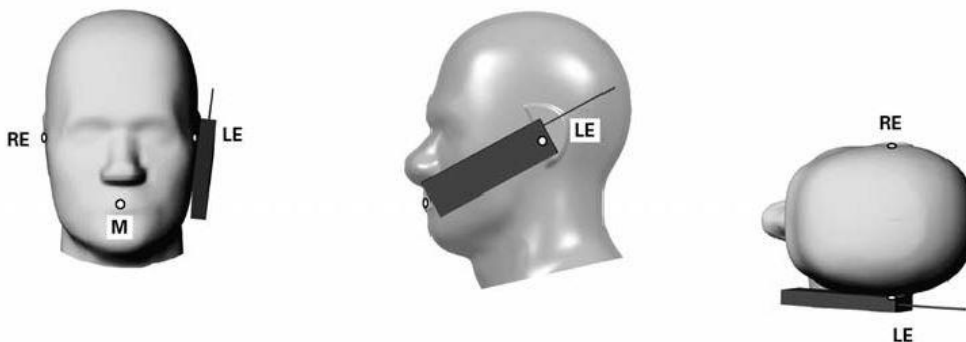


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

1. Ready the handset for talk operation, if necessary. For example, for handsets with a cover piece (flip cover), open the cover. If the handset can transmit with the cover closed, both configurations must be tested.
2. While maintaining the orientation of the handset, move the handset away from the pinna along the line passing through RE and LE far enough to allow a rotation of the handset away from the cheek by 15°.
3. Rotate the handset around the horizontal line by 15°.
4. While maintaining the orientation of the handset, move the handset towards the phantom on the line passing through RE and LE until any part of the handset touches the ear. The tilt position is obtained when the contact point is on the pinna. See Figure 9.3.1. If contact occurs at any location other than the pinna, e.g., the antenna at the back of the phantom head, the angle of the handset should be reduced. In this case, the tilt position is obtained if any point on the handset is in contact with the pinna and a second point

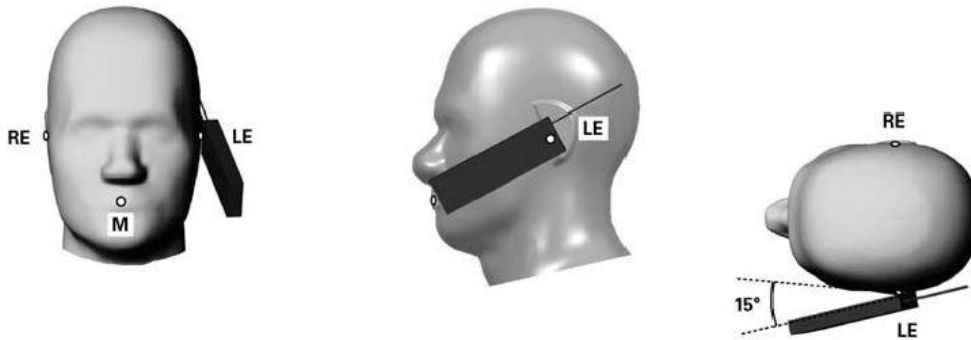


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 9.4). Per KDB648474 D04v01r03, body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB 447498 D01v06 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for body-worn accessory, measured without a headset connected to the handset is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a handset attached to the handset.

Accessories for body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are test with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-chip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

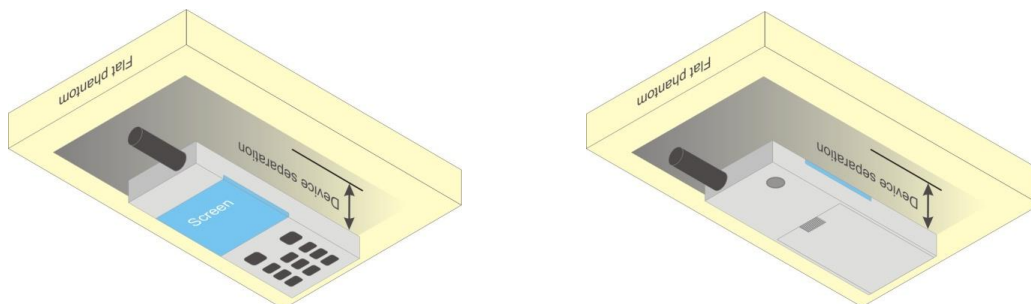


Fig 9.4 Body Worn Position



11.5 Extremity Exposure

For smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm that provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets that support voice calls next to the ear, According to KDB648474 D04v01r03, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
2. The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at ≤ 25 mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB 865664 to address interactive hand use exposure conditions.6 The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg.

11.6 Wireless Router

Some battery-operated handsets have the capability to transmit and receive user through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06 v02r01 where SAR test considerations for handsets ($L \times W \geq 9$ cm x 5 cm) are based on a composite test separation distance of 10mm from the front, back and edges of the device containing transmitting antennas within 2.5cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some body-worn accessory SAR tests.

When the user enables the personal wireless router functions for the handset, actual operations include simultaneous transmission of both the WIFI transmitter and another licensed transmitter. Both transmitters often do not transmit at the same transmitting frequency and thus cannot be evaluated for SAR under actual use conditions due to the limitations of the SAR assessment probes. Therefore, SAR must be evaluated for each frequency transmission and mode separately and spatially summed with the WIFI transmitter according to FCC KDB Publication 447498 D01v06 publication procedures. The "Portable Hotspot" feature on the handset was NOT activated during SAR assessments, to ensure the SAR measurements were evaluated for a single transmission frequency RF signal at a time.



12. GSM/UMTS/CDMA/LTE Output Power (Unit: dBm)

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
4. The GPRS (3Tx slots) for GSM850 and GPRS (2Tx slots) for GSM1900 for GSM850/GSM1900 head and product specific SAR is considered as the primary mode.
5. The GPRS (3Tx slots) for GSM850 and GPRS (4Tx slots) for GSM1900 for GSM850/GSM1900 hotspot SAR is considered as the primary mode.
6. The GPRS (3Tx slots) for GSM850 and GPRS (2Tx slots) for GSM1900 for GSM850/GSM1900 body-worn SAR is considered as the primary mode.

<Default Power Mode>

GSM850 TX Channel	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	32.25	32.23	32.24	33.50	23.25	23.23	23.24	24.50
GPRS 1 Tx slot	32.39	32.40	32.29	33.50	23.39	23.40	23.29	24.50
GPRS 2 Tx slots	31.73	31.33	30.94	32.00	25.73	25.33	24.94	26.00
GPRS 3 Tx slots	30.23	29.56	28.94	30.50	25.97	25.30	24.68	26.24
GPRS 4 Tx slots	28.56	27.73	27.03	29.00	25.56	24.73	24.03	26.00
EDGE 1 Tx slot	26.40	26.44	26.49	27.50	17.40	17.44	17.49	18.50
EDGE 2 Tx slots	25.59	25.57	25.64	26.50	19.59	19.57	19.64	20.50
EDGE 3 Tx slots	23.92	23.90	24.01	25.00	19.66	19.64	19.75	20.74
EDGE 4 Tx slots	22.39	22.31	22.38	23.50	19.39	19.31	19.38	20.50

GSM1900 TX Channel	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.99	30.01	30.02	30.50	20.99	21.01	21.02	21.50
GPRS 1 Tx slot	29.89	30.02	29.61	30.50	20.89	21.02	20.61	21.50
GPRS 2 Tx slots	28.78	28.81	28.72	30.50	22.78	22.81	22.72	24.50
GPRS 3 Tx slots	27.02	27.08	27.05	28.50	27.00	22.82	22.79	24.24
GPRS 4 Tx slots	25.43	25.47	25.53	27.00	22.43	22.47	22.53	24.00
EDGE 1 Tx slot	25.53	25.50	25.70	26.00	16.53	16.50	16.70	17.00
EDGE 2 Tx slots	24.69	24.70	24.82	25.50	18.69	18.70	18.82	19.50
EDGE 3 Tx slots	23.01	23.11	23.21	24.50	18.75	18.85	18.95	20.24
EDGE 4 Tx slots	21.51	21.52	21.70	23.50	18.51	18.52	18.70	20.50



<Reduced Power on Hotspot / Body-worn Mode>

GSM1900 TX Channel	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	24.25	24.42	24.48	24.50	15.25	15.42	15.48	15.50
GPRS 1 Tx slot	24.41	24.48	24.49	24.50	15.41	15.48	15.49	15.50
GPRS 2 Tx slots	22.82	22.97	22.98	23.00	16.82	16.97	16.98	17.00
GPRS 3 Tx slots	20.96	20.98	20.98	21.00	14.96	16.72	16.72	16.74
GPRS 4 Tx slots	19.82	19.97	19.98	20.00	16.82	16.97	16.98	17.00
EDGE 1 Tx slot	24.48	24.40	24.44	24.50	15.48	15.40	15.44	15.50
EDGE 2 Tx slots	22.91	22.87	22.90	23.00	16.91	16.87	16.90	17.00
EDGE 3 Tx slots	20.86	20.91	20.91	21.00	16.60	16.65	16.65	16.74
EDGE 4 Tx slots	19.54	19.69	19.91	20.00	16.54	16.69	16.91	17.00

<Reduced Power on Product Specific Mode>

GSM1900 TX Channel	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.40	29.55	29.47	30.50	20.40	20.55	20.47	21.50
GPRS 1 Tx slot	29.43	29.58	29.50	30.00	20.43	20.58	20.50	21.00
GPRS 2 Tx slots	27.97	28.23	28.18	28.90	21.97	29.17	22.18	22.90
GPRS 3 Tx slots	26.12	26.27	26.28	26.50	20.12	22.01	22.02	22.24
GPRS 4 Tx slots	24.41	24.52	24.60	25.00	21.41	21.52	21.60	22.00
EDGE 1 Tx slot	24.83	24.81	24.88	25.00	15.83	15.81	15.88	16.00
EDGE 2 Tx slots	24.28	24.24	24.37	24.50	18.28	18.24	18.37	18.50
EDGE 3 Tx slots	22.69	22.64	22.75	23.00	18.43	18.38	18.49	18.74
EDGE 4 Tx slots	20.91	20.85	20.96	21.00	17.91	17.85	17.96	18.00

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 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} (Note 1, 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: $\Delta_{ACK}, \Delta_{NACK}$ and $\Delta_{CQI} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$.

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 $\Delta_{NACK} = 30/15$ with $\beta_{HS} = 30/15 * \beta_c$, and $\Delta_{CQI} = 24/15$ with $\beta_{HS} = 24/15 * \beta_c$.

Note 3: CM = 1 for $\beta_c/\beta_d = 12/15, \beta_{HS}/\beta_c = 24/15$. 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 $\beta_c = 11/15$ and $\beta_d = 15/15$.

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-TFCl
 - viii. Confirm that E-TFCl is equal to the target E-TFCl of 75 for sub-test 1, and other subtest's E-TFCl
- 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-TFCl
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	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	$\beta_{ed1}: 47/15$ $\beta_{ed2}: 47/15$	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 $\Delta_{CQI} = 30/15$ with $\beta_{hs} = 30/15 * \beta_c$. For sub-test 5, Δ_{ACK} , Δ_{NACK} and $\Delta_{CQI} = 5/15$ with $\beta_{hs} = 5/15 * \beta_c$.

Note 2: CM = 1 for $\beta_c/\beta_d = 12/15$, $\beta_{hs}/\beta_c = 24/15$. 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 $\beta_c = 10/15$ and $\beta_d = 15/15$.

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

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: $\beta_c/\beta_d=2/15$
 - b). Subtest 2: $\beta_c/\beta_d=12/15$
 - c). Subtest 3: $\beta_c/\beta_d=15/8$
 - d). Subtest 4: $\beta_c/\beta_d=15/4$
 - 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	Processes	6
Information Bit Payload (N_{INF})	Bits	120
Number Code Blocks	Blocks	1
Binary Channel Bits Per TTI	Bits	960
Total Available SML's in UE	SML's	19200
Number of SML's per HARQ Proc.	SML's	3200
Coding Rate		0.15
Number of Physical Channel Codes	Codes	1
Modulation		QPSK
Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table. Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.		

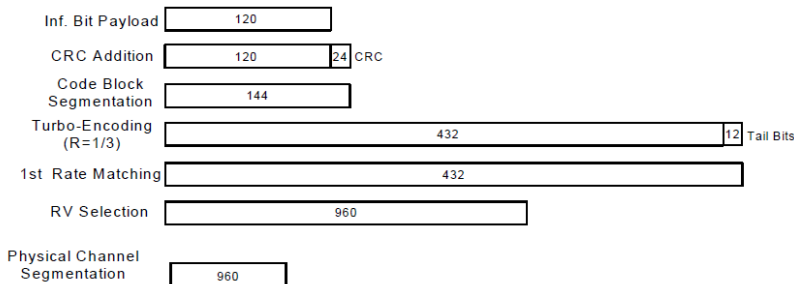


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

Setup Configuration



<WCDMA Conducted Power>

General Note:

1. Per KDB 941225 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 $\leq \frac{1}{4}$ 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 $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Default Power Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)	WCDMA V			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	AMR 12.2Kbps	23.11	23.20	23.15	24.00	23.21	23.22	23.31	24.00	23.15	23.16	23.31	24.00
3GPP Rel 99	RMC 12.2Kbps	23.12	23.22	23.21	24.00	23.31	23.44	23.32	24.00	23.21	23.22	23.35	24.00
3GPP Rel 6	HSDPA Subtest-1	21.90	21.75	21.89	22.00	21.92	21.81	21.98	22.00	21.86	21.66	21.87	22.00
3GPP Rel 6	HSDPA Subtest-2	22.00	21.77	21.61	22.00	21.97	21.85	21.95	22.00	21.85	21.69	21.93	22.00
3GPP Rel 6	HSDPA Subtest-3	21.40	21.36	21.44	21.50	21.46	21.28	21.49	21.50	21.35	21.20	21.38	21.50
3GPP Rel 6	HSDPA Subtest-4	21.43	21.24	21.50	21.50	21.38	21.33	21.47	21.50	21.32	21.21	21.34	21.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.92	21.75	21.89	22.00	21.89	21.82	21.82	22.00	21.74	21.65	21.77	22.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.86	21.69	21.44	22.00	21.85	21.68	21.99	22.00	21.82	21.63	21.87	22.00
3GPP Rel 8	DC-HSDPA Subtest-3	21.40	21.27	21.33	21.50	21.34	21.25	21.33	21.50	21.25	21.09	21.27	21.50
3GPP Rel 8	DC-HSDPA Subtest-4	21.38	21.22	21.42	21.50	21.34	21.24	21.48	21.50	21.22	21.14	21.41	21.50
3GPP Rel 6	HSUPA Subtest-1	21.89	21.80	21.97	22.00	21.90	21.81	21.99	22.00	21.75	21.77	21.89	22.00
3GPP Rel 6	HSUPA Subtest-2	19.85	19.74	19.95	20.00	19.87	19.80	19.98	20.00	19.80	19.71	19.85	20.00
3GPP Rel 6	HSUPA Subtest-3	20.89	20.84	20.71	21.00	20.81	20.78	20.99	21.00	20.72	20.70	20.87	21.00
3GPP Rel 6	HSUPA Subtest-4	19.96	19.77	19.65	20.00	19.91	19.78	19.95	20.00	19.81	19.75	19.84	20.00
3GPP Rel 6	HSUPA Subtest-5	21.82	21.78	21.65	22.00	21.90	21.70	21.61	22.00	21.79	21.60	21.90	22.00

<Reduced Power on Hotspot / Body-worn Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6	1712.4	1732.6	1752.6		
3GPP Rel 99	AMR 12.2Kbps	16.83	16.75	16.95	17.00	16.85	16.87	16.81	17.00
3GPP Rel 99	RMC 12.2Kbps	16.85	16.78	16.96	17.00	16.86	16.88	16.82	17.00
3GPP Rel 6	HSDPA Subtest-1	16.35	16.28	16.48	17.00	16.35	16.38	16.34	17.00
3GPP Rel 6	HSDPA Subtest-2	16.36	16.27	16.47	17.00	16.37	16.39	16.33	17.00
3GPP Rel 6	HSDPA Subtest-3	15.85	15.76	15.97	16.50	15.89	15.90	15.82	16.50
3GPP Rel 6	HSDPA Subtest-4	15.83	15.77	15.97	16.50	15.88	15.90	15.80	16.50
3GPP Rel 8	DC-HSDPA Subtest-1	16.33	16.23	16.44	17.00	16.33	16.36	16.33	17.00
3GPP Rel 8	DC-HSDPA Subtest-2	16.32	16.24	16.46	17.00	16.36	16.40	16.33	17.00
3GPP Rel 8	DC-HSDPA Subtest-3	15.86	15.78	15.98	16.50	15.90	15.88	15.82	16.50
3GPP Rel 8	DC-HSDPA Subtest-4	15.85	15.76	16.00	16.50	15.87	15.91	15.81	16.50
3GPP Rel 6	HSUPA Subtest-1	16.32	16.25	16.44	17.00	16.35	16.36	16.31	17.00
3GPP Rel 6	HSUPA Subtest-2	14.35	14.27	14.46	15.00	14.35	14.37	14.32	15.00
3GPP Rel 6	HSUPA Subtest-3	15.32	15.25	15.45	16.00	15.35	15.37	15.31	16.00
3GPP Rel 6	HSUPA Subtest-4	14.34	14.28	14.45	15.00	14.36	14.37	14.32	15.00
3GPP Rel 6	HSUPA Subtest-5	16.32	16.26	16.45	17.00	16.37	16.39	16.37	17.00



<Reduced Power on Product Specific Mode>

Band		WCDMA II			Tune-up Limit (dBm)	WCDMA IV			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	20.58	20.50	20.56	21.50	20.51	20.52	20.53	21.50
3GPP Rel 99	RMC 12.2Kbps	20.60	20.51	20.66	21.50	20.53	20.59	20.63	21.50
3GPP Rel 6	HSDPA Subtest-1	20.09	20.01	20.07	21.50	20.16	20.20	20.18	21.50
3GPP Rel 6	HSDPA Subtest-2	20.07	20.03	20.06	21.50	20.13	20.15	20.13	21.50
3GPP Rel 6	HSDPA Subtest-3	19.56	19.53	19.58	21.00	19.59	19.66	19.72	21.00
3GPP Rel 6	HSDPA Subtest-4	19.55	19.52	19.56	21.00	19.56	19.61	19.68	21.00
3GPP Rel 8	DC-HSDPA Subtest-1	20.11	20.06	20.13	21.50	20.10	20.18	20.23	21.50
3GPP Rel 8	DC-HSDPA Subtest-2	20.03	20.04	20.12	21.50	20.06	20.09	20.20	21.50
3GPP Rel 8	DC-HSDPA Subtest-3	19.55	19.53	19.64	21.00	19.55	19.53	19.62	21.00
3GPP Rel 8	DC-HSDPA Subtest-4	19.52	19.52	19.53	21.00	19.52	19.55	19.59	21.00
3GPP Rel 6	HSUPA Subtest-1	20.06	20.11	20.26	21.50	20.18	20.16	20.13	21.50
3GPP Rel 6	HSUPA Subtest-2	18.16	18.12	18.21	19.50	18.12	18.16	18.12	19.50
3GPP Rel 6	HSUPA Subtest-3	19.16	19.11	19.26	20.50	19.10	19.08	19.22	20.50
3GPP Rel 6	HSUPA Subtest-4	18.13	18.20	18.19	19.50	18.13	18.16	18.18	19.50
3GPP Rel 6	HSUPA Subtest-5	20.29	20.23	20.22	21.50	20.11	20.20	20.26	21.50



<CDMA2000 Conducted Power>

General Note:

1. Per KDB 941225 D01v03r01, SAR for head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

<Default Power Mode>

Band	CDMA BC0			Tune-up Limit (dBm)	CDMA BC1			Tune-up Limit (dBm)
	TX Channel	1013	384		777	25	600	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75	
RC1 SO55	23.56	23.69	23.92	25.00	23.95	23.94	23.95	25.00
RC3 SO55	23.76	23.69	23.81	25.00	24.30	24.13	24.06	25.00
RC3 SO32 (F+SCH)	23.92	23.70	23.75	25.00	23.93	24.23	24.26	25.00
RC3 SO32 (+SCH)	23.61	23.64	23.59	25.00	23.85	24.03	24.02	25.00
RTAP 153.6Kbps	23.61	23.77	23.53	25.00	24.06	24.20	23.99	25.00
RETAP 4096Bits	23.47	23.82	23.82	25.00	24.03	24.16	23.96	25.00

<Reduced Power on Hotspot / Body-worn Mode>

Band	CDMA BC1			Tune-up Limit (dBm)
	TX Channel	25	600	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	16.98	17.10	17.21	17.50
RC3 SO55	17.00	17.08	17.22	17.50
RC3 SO32 (F+SCH)	17.06	17.11	17.23	17.50
RC3 SO32 (+SCH)	16.99	17.06	17.16	17.50
RTAP 153.6Kbps	16.97	17.00	17.18	17.50
RETAP 4096Bits	17.01	17.02	17.22	17.50

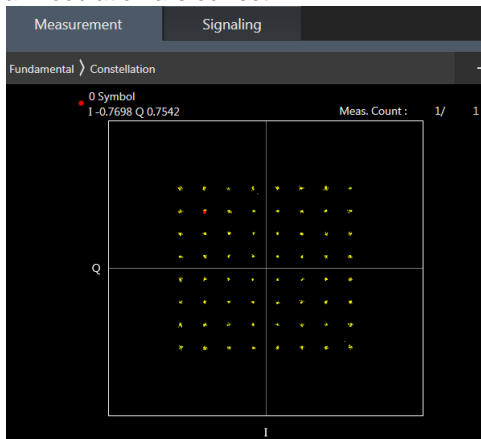
<Reduced Power on Product Specific Mode>

Band	CDMA BC1			Tune-up Limit (dBm)
	TX Channel	25	600	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	22.12	22.24	22.28	23.00
RC3 SO55	22.09	22.19	22.29	23.00
RC3 SO32 (F+SCH)	22.18	22.20	22.26	23.00
RC3 SO32 (+SCH)	22.10	22.16	22.20	23.00
RTAP 153.6Kbps	22.27	22.28	22.31	23.00
RETAP 4096Bits	22.12	22.21	22.28	23.00

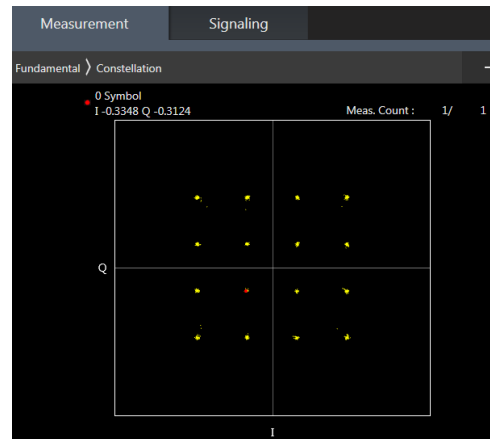
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 B12 / B5 / B4 / B26 / 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 \leq 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
10. According to 2017 TCB workshop, for 64 QAM and 16 QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct



64QAM



16QAM



<Default Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.98	22.91	22.92		
20	QPSK	1	49	22.90	22.83	22.95	24	0
20	QPSK	1	99	22.80	22.91	22.94		
20	QPSK	50	0	22.08	21.94	22.03		
20	QPSK	50	24	22.07	22.02	22.05	23	1
20	QPSK	50	50	22.05	22.05	22.03		
20	QPSK	100	0	22.07	22.03	22.04		
20	16QAM	1	0	22.30	22.23	22.25	23	1
20	16QAM	1	49	22.24	22.21	22.29		
20	16QAM	1	99	22.16	22.24	22.26		
20	16QAM	50	0	21.01	20.96	21.06	22	2
20	16QAM	50	24	21.08	21.08	21.14		
20	16QAM	50	50	21.05	21.03	21.15		
20	16QAM	100	0	21.07	21.03	21.06	22	2
20	64QAM	1	0	21.20	21.05	21.24		
20	64QAM	1	49	21.09	21.02	21.17		
20	64QAM	1	99	21.06	21.15	21.11	21	3
20	64QAM	50	0	20.02	19.97	20.08		
20	64QAM	50	24	20.13	20.05	20.17		
20	64QAM	50	50	20.07	20.07	20.09	21	3
20	64QAM	100	0	20.09	20.03	20.09		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5	Tune-up limit (dBm)	MPR (dB)
15	QPSK	1	0	22.96	22.91	22.93	24	0
15	QPSK	1	37	22.94	22.86	22.97		
15	QPSK	1	74	22.90	22.88	22.91		
15	QPSK	36	0	22.08	21.95	22.02	23	1
15	QPSK	36	20	22.11	22.02	22.15		
15	QPSK	36	39	22.06	22.03	22.15		
15	QPSK	75	0	22.07	22.04	22.06	23	1
15	16QAM	1	0	22.29	22.25	22.35		
15	16QAM	1	37	22.23	22.23	22.30		
15	16QAM	1	74	22.27	22.19	22.29	22	2
15	16QAM	36	0	21.07	20.95	21.03		
15	16QAM	36	20	21.09	21.03	21.14		
15	16QAM	36	39	21.08	21.03	21.15	22	2
15	16QAM	75	0	21.09	21.08	21.08		
15	64QAM	1	0	21.12	21.14	21.20		
15	64QAM	1	37	21.21	21.12	21.09	22	2
15	64QAM	1	74	21.14	21.09	21.07		
15	64QAM	36	0	20.13	20.01	20.10		
15	64QAM	36	20	19.95	20.07	20.16	21	3
15	64QAM	36	39	20.12	20.09	20.05		
15	64QAM	75	0	20.11	20.05	20.07		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905	24	0
10	QPSK	1	0	22.75	22.64	22.76		
10	QPSK	1	25	22.71	22.62	22.79		
10	QPSK	1	49	22.67	22.65	22.78		



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10	QPSK	25	0	21.85	21.70	21.82	23	1
10	QPSK	25	12	21.88	21.81	21.88		
10	QPSK	25	25	21.87	21.82	21.96		
10	QPSK	50	0	21.89	21.82	21.85	23	1
10	16QAM	1	0	22.12	22.00	22.16		
10	16QAM	1	25	22.07	22.03	22.17		
10	16QAM	1	49	22.07	22.08	22.16	22	2
10	16QAM	25	0	20.85	20.72	20.83		
10	16QAM	25	12	20.90	20.83	20.86		
10	16QAM	25	25	20.88	20.83	20.96	22	2
10	16QAM	50	0	20.86	20.81	20.84		
10	64QAM	1	0	21.04	20.86	21.04		
10	64QAM	1	25	21.03	20.95	21.10	21	3
10	64QAM	1	49	20.98	20.99	21.09		
10	64QAM	25	0	19.89	19.74	19.85		
10	64QAM	25	12	19.93	19.84	19.94	21	3
10	64QAM	25	25	19.87	19.85	19.99		
10	64QAM	50	0	19.91	19.85	19.87		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.73	22.60	22.79	24	0
5	QPSK	1	12	22.77	22.71	22.86		
5	QPSK	1	24	22.77	22.71	22.83		
5	QPSK	12	0	21.87	21.71	21.90	23	1
5	QPSK	12	7	21.91	21.80	21.95		
5	QPSK	12	13	21.87	21.79	21.91		
5	QPSK	25	0	21.85	21.76	21.91	23	1
5	16QAM	1	0	22.06	21.94	22.09		
5	16QAM	1	12	22.06	21.98	22.12		
5	16QAM	1	24	22.09	22.05	22.15	22	2
5	16QAM	12	0	20.87	20.74	20.89		
5	16QAM	12	7	20.89	20.83	20.95		
5	16QAM	12	13	20.88	20.82	20.93	22	2
5	16QAM	25	0	20.89	20.79	20.93		
5	64QAM	1	0	21.01	20.86	21.04		
5	64QAM	1	12	21.01	20.92	21.07	21	3
5	64QAM	1	24	21.01	20.98	21.08		
5	64QAM	12	0	19.89	19.76	19.95		
5	64QAM	12	7	19.93	19.92	20.02	21	3
5	64QAM	12	13	19.95	19.87	20.02		
5	64QAM	25	0	19.88	19.80	19.92		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.78	22.67	22.78	24	0
3	QPSK	1	8	22.86	22.74	22.86		
3	QPSK	1	14	22.80	22.72	22.82		
3	QPSK	8	0	21.85	21.78	21.87	23	1
3	QPSK	8	4	21.90	21.78	21.95		
3	QPSK	8	7	21.87	21.78	21.92		
3	QPSK	15	0	21.86	21.80	21.89	23	1
3	16QAM	1	0	22.14	21.97	22.07		
3	16QAM	1	8	22.24	22.08	22.24		
3	16QAM	1	14	22.18	22.02	22.18	22	2
3	16QAM	8	0	20.90	20.83	20.94		
3	16QAM	8	4	20.95	20.89	20.97		
3	16QAM	8	7	20.93	20.85	20.96		



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3	16QAM	15	0	20.88	20.82	20.93		
3	64QAM	1	0	21.01	20.89	21.04	22	2
3	64QAM	1	8	21.08	20.99	21.11		
3	64QAM	1	14	21.02	20.95	21.07		
3	64QAM	8	0	19.91	19.84	19.96	21	3
3	64QAM	8	4	19.95	19.86	20.00		
3	64QAM	8	7	19.94	19.85	19.98		
3	64QAM	15	0	19.90	19.82	19.94		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.66	22.58	22.69	24	0
1.4	QPSK	1	3	22.72	22.64	22.79		
1.4	QPSK	1	5	22.67	22.61	22.75		
1.4	QPSK	3	0	22.69	22.65	22.76		
1.4	QPSK	3	1	22.72	22.69	22.78		
1.4	QPSK	3	3	22.70	22.63	22.77		
1.4	QPSK	6	0	21.79	21.69	21.85	23	1
1.4	16QAM	1	0	22.02	21.94	22.06	23	1
1.4	16QAM	1	3	22.10	22.06	22.12		
1.4	16QAM	1	5	22.04	21.99	22.08		
1.4	16QAM	3	0	21.83	21.73	21.83		
1.4	16QAM	3	1	21.87	21.76	21.89		
1.4	16QAM	3	3	21.83	21.75	21.83		
1.4	16QAM	6	0	20.85	20.77	20.90	22	2
1.4	64QAM	1	0	20.95	20.85	20.96	22	2
1.4	64QAM	1	3	20.99	20.92	21.03		
1.4	64QAM	1	5	20.94	20.87	20.98		
1.4	64QAM	3	0	20.95	20.85	20.96		
1.4	64QAM	3	1	20.98	20.87	21.02		
1.4	64QAM	3	3	20.94	20.86	20.97		
1.4	64QAM	6	0	19.81	19.74	19.85	21	3



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.12	23.16	23.14	24	0
20	QPSK	1	49	22.96	23.00	22.95		
20	QPSK	1	99	23.00	22.96	22.88		
20	QPSK	50	0	22.14	22.21	22.14	23	1
20	QPSK	50	24	22.20	22.12	22.15		
20	QPSK	50	50	22.11	22.11	22.04		
20	QPSK	100	0	22.14	22.16	22.11	23	1
20	16QAM	1	0	22.46	22.45	22.46		
20	16QAM	1	49	22.33	22.38	22.28		
20	16QAM	1	99	22.37	22.31	22.22	22	2
20	16QAM	50	0	21.19	21.23	21.14		
20	16QAM	50	24	21.19	21.16	21.16		
20	16QAM	50	50	21.10	21.12	21.05	22	2
20	16QAM	100	0	21.17	21.13	21.11		
20	64QAM	1	0	21.97	21.95	21.88		
20	64QAM	1	49	21.77	21.83	21.74	22	2
20	64QAM	1	99	21.69	21.83	21.76		
20	64QAM	50	0	20.75	20.83	20.71		
20	64QAM	50	24	20.76	20.73	20.72	21	3
20	64QAM	50	50	20.69	20.70	20.64		
20	64QAM	100	0	20.77	20.75	20.73		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.10	23.14	23.12	24	0
15	QPSK	1	37	22.98	23.00	22.97		
15	QPSK	1	74	22.91	22.95	22.94		
15	QPSK	36	0	22.13	22.21	22.13	23	1
15	QPSK	36	20	22.12	22.13	22.03		
15	QPSK	36	39	22.08	22.11	22.06		
15	QPSK	75	0	22.15	22.12	22.06	23	1
15	16QAM	1	0	22.45	22.49	22.40		
15	16QAM	1	37	22.26	22.33	22.25		
15	16QAM	1	74	22.24	22.33	22.25	22	2
15	16QAM	36	0	21.13	21.20	21.13		
15	16QAM	36	20	21.15	21.12	21.05		
15	16QAM	36	39	21.10	21.13	21.08	22	2
15	16QAM	75	0	21.16	21.13	21.07		
15	64QAM	1	0	21.96	21.95	21.89		
15	64QAM	1	37	21.74	21.86	21.76	22	2
15	64QAM	1	74	21.70	21.85	21.78		
15	64QAM	36	0	20.72	20.80	20.73		
15	64QAM	36	20	20.73	20.70	20.63	21	3
15	64QAM	36	39	20.71	20.73	20.67		
15	64QAM	75	0	20.76	20.73	20.65		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.84	22.95	22.80	24	0
10	QPSK	1	25	22.83	22.89	22.78		
10	QPSK	1	49	22.80	22.86	22.78		
10	QPSK	25	0	21.93	21.92	21.83	23	1



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10	QPSK	25	12	21.94	21.94	21.96		
10	QPSK	25	25	21.95	21.99	21.92		
10	QPSK	50	0	21.96	21.92	21.85		
10	16QAM	1	0	22.24	22.33	22.21	23	1
10	16QAM	1	25	22.23	22.28	22.17		
10	16QAM	1	49	22.20	22.25	22.18		
10	16QAM	25	0	20.91	20.89	20.84	22	2
10	16QAM	25	12	20.96	20.95	20.93		
10	16QAM	25	25	20.95	21.01	20.93		
10	16QAM	50	0	20.97	20.93	20.85		
10	64QAM	1	0	21.83	21.87	21.84	22	2
10	64QAM	1	25	21.77	21.89	21.81		
10	64QAM	1	49	21.77	21.87	21.82		
10	64QAM	25	0	20.52	20.51	20.46	21	3
10	64QAM	25	12	20.60	20.55	20.54		
10	64QAM	25	25	20.59	20.59	20.54		
10	64QAM	50	0	20.58	20.54	20.47		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.84	22.83	22.80	24	0
5	QPSK	1	12	22.90	22.93	22.80		
5	QPSK	1	24	22.85	22.93	22.83		
5	QPSK	12	0	21.94	21.93	21.91	23	1
5	QPSK	12	7	21.99	21.98	21.92		
5	QPSK	12	13	21.97	22.01	21.94		
5	QPSK	25	0	21.92	21.92	21.88		
5	16QAM	1	0	22.16	22.20	22.13	23	1
5	16QAM	1	12	22.18	22.25	22.15		
5	16QAM	1	24	22.23	22.22	22.17		
5	16QAM	12	0	20.98	20.95	20.89	22	2
5	16QAM	12	7	20.97	20.97	20.97		
5	16QAM	12	13	20.99	21.00	20.92		
5	16QAM	25	0	20.96	20.95	20.89		
5	64QAM	1	0	21.70	21.69	21.67	22	2
5	64QAM	1	12	21.67	21.71	21.59		
5	64QAM	1	24	21.74	21.71	21.63		
5	64QAM	12	0	20.51	20.52	20.47	21	3
5	64QAM	12	7	20.58	20.58	20.55		
5	64QAM	12	13	20.57	20.58	20.49		
5	64QAM	25	0	20.57	20.55	20.49		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.87	22.84	22.78	24	0
3	QPSK	1	8	22.93	22.96	22.84		
3	QPSK	1	14	22.89	22.93	22.80		
3	QPSK	8	0	21.91	21.89	21.87	23	1
3	QPSK	8	4	21.94	21.97	21.88		
3	QPSK	8	7	21.93	22.03	21.90		
3	QPSK	15	0	21.96	21.96	21.90		
3	16QAM	1	0	22.20	22.12	22.10	23	1
3	16QAM	1	8	22.24	22.24	22.21		
3	16QAM	1	14	22.17	22.21	22.12		
3	16QAM	8	0	21.02	21.01	20.97	22	2
3	16QAM	8	4	21.01	20.99	20.98		
3	16QAM	8	7	20.98	21.06	20.94		
3	16QAM	15	0	20.95	20.95	20.95		



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3	64QAM	1	0	21.11	21.13	21.05	22	2
3	64QAM	1	8	21.21	21.24	21.15		
3	64QAM	1	14	21.17	21.20	21.08		
3	64QAM	8	0	20.04	20.00	19.93	21	3
3	64QAM	8	4	20.05	20.03	19.97		
3	64QAM	8	7	19.99	20.05	19.97		
3	64QAM	15	0	19.97	19.99	19.95		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.79	22.81	22.72	24	0
1.4	QPSK	1	3	22.85	22.86	22.80		
1.4	QPSK	1	5	22.77	22.80	22.75		
1.4	QPSK	3	0	22.84	22.84	22.79		
1.4	QPSK	3	1	22.83	22.85	22.79		
1.4	QPSK	3	3	22.81	22.88	22.75		
1.4	QPSK	6	0	21.86	21.92	21.79	23	1
1.4	16QAM	1	0	22.13	22.14	22.01	23	1
1.4	16QAM	1	3	22.17	22.20	22.08		
1.4	16QAM	1	5	22.12	22.14	22.00		
1.4	16QAM	3	0	21.87	21.94	21.83		
1.4	16QAM	3	1	21.92	22.01	21.88		
1.4	16QAM	3	3	21.90	21.94	21.83		
1.4	16QAM	6	0	20.96	20.98	20.91	22	2
1.4	64QAM	1	0	21.02	21.11	20.98	22	2
1.4	64QAM	1	3	21.13	21.18	21.09		
1.4	64QAM	1	5	21.07	21.12	21.02		
1.4	64QAM	3	0	21.00	21.04	20.94		
1.4	64QAM	3	1	21.07	21.07	21.01		
1.4	64QAM	3	3	21.04	21.07	20.96		
1.4	64QAM	6	0	19.90	19.93	19.84	21	3



<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	22.90	22.98	23.04		
10	QPSK	1	25	22.81	22.95	22.93	24	0
10	QPSK	1	49	22.93	22.93	22.89		
10	QPSK	25	0	21.96	22.10	22.07		
10	QPSK	25	12	22.05	22.06	22.05	23	1
10	QPSK	25	25	22.05	22.08	22.09		
10	QPSK	50	0	22.04	22.06	22.05		
10	16QAM	1	0	22.25	22.30	22.37	23	1
10	16QAM	1	25	22.26	22.34	22.30		
10	16QAM	1	49	22.29	22.32	22.29		
10	16QAM	25	0	20.95	21.09	21.07	22	2
10	16QAM	25	12	21.06	21.08	21.09		
10	16QAM	25	25	21.03	21.12	21.11		
10	16QAM	50	0	21.05	21.08	21.06	22	2
10	64QAM	1	0	21.15	21.11	21.25		
10	64QAM	1	25	21.22	21.28	21.27		
10	64QAM	1	49	21.22	21.20	21.20	22	2
10	64QAM	25	0	19.95	20.07	20.09		
10	64QAM	25	12	20.08	20.12	20.11		
10	64QAM	25	25	20.07	20.13	20.13	21	3
10	64QAM	50	0	20.06	20.09	20.09		
Channel				20425	20525	20625		
Frequency (MHz)				826.5	836.5	846.5	Tune-up limit (dBm)	MPR (dB)
5	QPSK	1	0	22.99	22.99	23.01	24	0
5	QPSK	1	12	22.91	23.00	23.01		
5	QPSK	1	24	22.89	23.00	22.92		
5	QPSK	12	0	22.03	22.06	22.03	23	1
5	QPSK	12	7	22.04	22.08	22.05		
5	QPSK	12	13	21.99	22.09	22.03		
5	QPSK	25	0	22.03	22.03	22.02	23	1
5	16QAM	1	0	22.34	22.36	22.37		
5	16QAM	1	12	22.22	22.34	22.30		
5	16QAM	1	24	22.22	22.33	22.24	23	1
5	16QAM	12	0	21.09	21.13	21.09		
5	16QAM	12	7	21.02	21.07	21.08		
5	16QAM	12	13	20.98	21.09	21.05	22	2
5	16QAM	25	0	21.02	21.03	21.03		
5	64QAM	1	0	21.29	21.29	21.24		
5	64QAM	1	12	21.17	21.26	21.24	22	2
5	64QAM	1	24	21.18	21.29	21.19		
5	64QAM	12	0	20.13	20.15	20.12		
5	64QAM	12	7	20.05	20.12	20.08	21	3
5	64QAM	12	13	20.04	20.14	20.07		
5	64QAM	25	0	20.03	20.09	20.06		
Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.97	22.99	22.92	24	0
3	QPSK	1	8	22.93	23.03	22.97		
3	QPSK	1	14	22.84	22.94	22.87		



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3	QPSK	8	0	22.00	22.06	22.04	23	1
3	QPSK	8	4	22.01	22.08	22.08		
3	QPSK	8	7	21.97	22.04	22.00		
3	QPSK	15	0	21.98	22.03	21.96		
3	16QAM	1	0	22.28	22.33	22.31	23	1
3	16QAM	1	8	22.28	22.39	22.35		
3	16QAM	1	14	22.20	22.28	22.24		
3	16QAM	8	0	21.09	21.13	21.07	22	2
3	16QAM	8	4	21.08	21.11	21.14		
3	16QAM	8	7	21.04	21.10	21.08		
3	16QAM	15	0	21.06	21.05	21.02		
3	64QAM	1	0	21.22	21.20	21.18	22	2
3	64QAM	1	8	21.20	21.32	21.28		
3	64QAM	1	14	21.10	21.22	21.14		
3	64QAM	8	0	20.07	20.14	20.06	21	3
3	64QAM	8	4	20.07	20.12	20.11		
3	64QAM	8	7	20.02	20.17	20.06		
3	64QAM	15	0	20.03	20.08	20.01		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.89	22.88	22.86	24	0
1.4	QPSK	1	3	22.87	22.97	22.91		
1.4	QPSK	1	5	22.84	22.88	22.86		
1.4	QPSK	3	0	22.90	22.89	22.90		
1.4	QPSK	3	1	22.91	22.91	22.90		
1.4	QPSK	3	3	22.86	22.95	22.88		
1.4	QPSK	6	0	21.97	22.05	21.97	23	1
1.4	16QAM	1	0	21.89	21.92	21.93	23	1
1.4	16QAM	1	3	21.94	22.07	21.91		
1.4	16QAM	1	5	21.86	21.96	21.91		
1.4	16QAM	3	0	21.68	21.72	21.69		
1.4	16QAM	3	1	21.71	21.75	21.73		
1.4	16QAM	3	3	21.64	21.75	21.62		
1.4	16QAM	6	0	20.67	20.65	20.59	22	2
1.4	64QAM	1	0	21.17	21.17	21.15	22	2
1.4	64QAM	1	3	21.18	21.30	21.20		
1.4	64QAM	1	5	21.09	21.18	21.06		
1.4	64QAM	3	0	21.08	21.14	21.10		
1.4	64QAM	3	1	21.14	21.15	21.12		
1.4	64QAM	3	3	21.07	21.14	21.06		
1.4	64QAM	6	0	19.97	20.07	19.95	21	3



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.16	23.06	23.16		
20	QPSK	1	49	23.20	23.06	23.22	24	0
20	QPSK	1	99	23.22	23.36	23.34		
20	QPSK	50	0	22.34	22.23	22.26		
20	QPSK	50	24	22.31	22.25	22.33	23	1
20	QPSK	50	50	22.35	22.37	22.34		
20	QPSK	100	0	22.30	22.35	22.34		
20	16QAM	1	0	22.47	22.42	22.52	23	1
20	16QAM	1	49	22.56	22.42	22.54		
20	16QAM	1	99	22.52	22.48	22.65		
20	16QAM	50	0	21.36	21.25	21.30	22	2
20	16QAM	50	24	21.33	21.25	21.36		
20	16QAM	50	50	21.31	21.29	21.43		
20	16QAM	100	0	21.29	21.26	21.33	22	2
20	64QAM	1	0	22.00	21.86	21.95		
20	64QAM	1	49	21.95	21.93	21.84		
20	64QAM	1	99	21.76	22.00	21.88	22	2
20	64QAM	50	0	20.94	20.82	20.90		
20	64QAM	50	24	20.92	20.86	20.96		
20	64QAM	50	50	20.87	20.88	20.85	21	3
20	64QAM	100	0	20.89	20.86	20.92		
Channel				20825	21100	21375		
Frequency (MHz)				2507.5	2535	2562.5	Tune-up limit (dBm)	MPR (dB)
15	QPSK	1	0	23.19	23.09	23.23	24	0
15	QPSK	1	37	23.17	23.08	23.24		
15	QPSK	1	74	23.25	23.19	23.35		
15	QPSK	36	0	22.35	22.23	22.30	23	1
15	QPSK	36	20	22.38	22.25	22.36		
15	QPSK	36	39	22.29	22.26	22.43		
15	QPSK	75	0	22.28	22.25	22.34	23	1
15	16QAM	1	0	22.52	22.38	22.50		
15	16QAM	1	37	22.53	22.43	22.60		
15	16QAM	1	74	22.52	22.51	22.67	22	2
15	16QAM	36	0	21.38	21.22	21.31		
15	16QAM	36	20	21.39	21.26	21.34		
15	16QAM	36	39	21.30	21.26	21.44	22	2
15	16QAM	75	0	21.31	21.26	21.35		
15	64QAM	1	0	21.97	21.83	21.92		
15	64QAM	1	37	21.85	21.85	21.99	22	2
15	64QAM	1	74	21.56	21.94	21.88		
15	64QAM	36	0	20.91	20.78	20.86		
15	64QAM	36	20	20.95	20.80	20.89	21	3
15	64QAM	36	39	20.85	20.83	21.00		
15	64QAM	75	0	20.83	20.81	20.91		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565	24	0
10	QPSK	1	0	22.93	22.82	22.99		
10	QPSK	1	25	22.90	22.79	22.99		
10	QPSK	1	49	22.96	22.86	23.05		



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10	QPSK	25	0	22.11	21.99	22.11	23	1
10	QPSK	25	12	22.17	22.03	22.16		
10	QPSK	25	25	22.17	22.03	22.24		
10	QPSK	50	0	22.16	22.03	22.14	23	1
10	16QAM	1	0	22.30	22.24	22.30		
10	16QAM	1	25	22.30	22.19	22.36		
10	16QAM	1	49	22.32	22.26	22.39	22	2
10	16QAM	25	0	21.13	21.02	21.08		
10	16QAM	25	12	21.18	21.03	21.15		
10	16QAM	25	25	21.16	21.03	21.25		
10	16QAM	50	0	21.13	21.04	21.12	22	2
10	64QAM	1	0	21.86	21.74	21.87		
10	64QAM	1	25	21.83	21.71	21.90		
10	64QAM	1	49	21.93	21.79	21.88	21	3
10	64QAM	25	0	20.69	20.55	20.64		
10	64QAM	25	12	20.72	20.64	20.69		
10	64QAM	25	25	20.71	20.59	20.78		
10	64QAM	50	0	20.70	20.57	20.67	Tune-up limit (dBm)	MPR (dB)
Channel				20775	21100	21425		
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.95	22.86	23.03	24	0
5	QPSK	1	12	22.99	22.90	23.05		
5	QPSK	1	24	23.01	22.88	23.06		
5	QPSK	12	0	22.14	22.02	22.18	23	1
5	QPSK	12	7	22.12	22.05	22.21		
5	QPSK	12	13	22.15	22.04	22.19		
5	QPSK	25	0	22.13	22.00	22.21		
5	16QAM	1	0	22.32	22.22	22.39	23	1
5	16QAM	1	12	22.33	22.21	22.37		
5	16QAM	1	24	22.37	22.27	22.42		
5	16QAM	12	0	21.13	21.03	21.21	22	2
5	16QAM	12	7	21.17	21.02	21.21		
5	16QAM	12	13	21.18	21.03	21.23		
5	16QAM	25	0	21.13	21.02	21.20		
5	64QAM	1	0	21.77	21.66	21.85	22	2
5	64QAM	1	12	21.75	21.65	21.86		
5	64QAM	1	24	21.79	21.72	21.88		
5	64QAM	12	0	20.67	20.56	20.74	21	3
5	64QAM	12	7	20.66	20.58	20.76		
5	64QAM	12	13	20.72	20.57	20.75		
5	64QAM	25	0	20.71	20.57	20.75		



<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	22.75	22.99	22.71		
10	QPSK	1	25	22.70	22.72	22.73	24	0
10	QPSK	1	49	22.79	22.83	22.75		
10	QPSK	25	0	21.88	21.92	21.89		
10	QPSK	25	12	21.83	21.88	21.88	23	1
10	QPSK	25	25	21.84	21.85	21.84		
10	QPSK	50	0	21.85	21.87	21.88		
10	16QAM	1	0	22.14	22.08	22.03	23	1
10	16QAM	1	25	22.10	22.11	22.09		
10	16QAM	1	49	22.18	22.20	22.11		
10	16QAM	25	0	20.90	20.91	20.90	22	2
10	16QAM	25	12	20.95	20.89	20.87		
10	16QAM	25	25	20.92	20.94	20.90		
10	16QAM	50	0	20.95	20.89	20.87	22	2
10	64QAM	1	0	21.02	20.96	21.04		
10	64QAM	1	25	21.07	21.06	21.09		
10	64QAM	1	49	21.11	21.09	21.08	22	2
10	64QAM	25	0	19.92	19.90	19.91		
10	64QAM	25	12	20.00	19.94	19.91		
10	64QAM	25	25	19.97	19.96	19.98	21	3
10	64QAM	50	0	20.01	19.95	19.91		
Channel				23035	23095	23155		
Frequency (MHz)				701.5	707.5	713.5	Tune-up limit (dBm)	MPR (dB)
5	QPSK	1	0	22.83	22.77	22.70	24	0
5	QPSK	1	12	22.78	22.77	22.82		
5	QPSK	1	24	22.79	22.78	22.79		
5	QPSK	12	0	21.96	21.90	21.89	23	1
5	QPSK	12	7	21.92	21.91	21.90		
5	QPSK	12	13	21.92	21.92	21.87		
5	QPSK	25	0	21.91	21.87	21.87	23	1
5	16QAM	1	0	22.12	22.11	22.04		
5	16QAM	1	12	22.06	22.05	22.10		
5	16QAM	1	24	22.10	22.12	22.12	22	2
5	16QAM	12	0	21.00	20.91	20.89		
5	16QAM	12	7	20.94	20.95	20.93		
5	16QAM	12	13	20.89	20.93	20.91	22	2
5	16QAM	25	0	20.92	20.88	20.87		
5	64QAM	1	0	21.05	21.06	21.00		
5	64QAM	1	12	20.97	21.04	21.08	22	2
5	64QAM	1	24	21.05	21.03	21.01		
5	64QAM	12	0	20.01	19.95	19.99		
5	64QAM	12	7	20.02	19.99	19.97	21	3
5	64QAM	12	13	19.99	19.98	19.97		
5	64QAM	25	0	19.95	19.88	19.92		
Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5	24	0
3	QPSK	1	0	22.83	22.81	22.83		
3	QPSK	1	8	22.83	22.86	22.84		
3	QPSK	1	14	22.73	22.78	22.77		



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3	QPSK	8	0	21.93	21.86	21.86	23	1
3	QPSK	8	4	21.94	21.91	21.94		
3	QPSK	8	7	21.88	21.86	21.90		
3	QPSK	15	0	21.92	21.84	21.83	23	1
3	16QAM	1	0	22.20	22.11	22.11		
3	16QAM	1	8	22.15	22.17	22.15		
3	16QAM	1	14	22.05	22.11	22.06	22	2
3	16QAM	8	0	21.01	20.93	20.96		
3	16QAM	8	4	21.01	21.01	20.99		
3	16QAM	8	7	20.94	20.93	20.95		
3	16QAM	15	0	20.97	20.88	20.91	22	2
3	64QAM	1	0	21.08	21.05	21.02		
3	64QAM	1	8	21.07	21.10	21.08		
3	64QAM	1	14	21.02	21.02	20.99		
3	64QAM	8	0	19.99	19.95	19.95	21	3
3	64QAM	8	4	20.02	19.96	19.99		
3	64QAM	8	7	19.93	19.97	19.97		
3	64QAM	15	0	19.95	19.87	19.91		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.70	22.69	22.73	24	0
1.4	QPSK	1	3	22.78	22.76	22.75		
1.4	QPSK	1	5	22.66	22.69	22.68		
1.4	QPSK	3	0	22.76	22.67	22.73		
1.4	QPSK	3	1	22.80	22.72	22.74		
1.4	QPSK	3	3	22.73	22.69	22.69		
1.4	QPSK	6	0	21.85	21.86	21.78	23	1
1.4	16QAM	1	0	22.10	22.00	22.07	23	1
1.4	16QAM	1	3	22.11	22.08	22.10		
1.4	16QAM	1	5	22.01	22.02	22.03		
1.4	16QAM	3	0	21.85	21.77	21.81		
1.4	16QAM	3	1	21.87	21.83	21.84		
1.4	16QAM	3	3	21.82	21.80	21.80		
1.4	16QAM	6	0	20.92	20.92	20.90	22	2
1.4	64QAM	1	0	20.99	20.89	20.96	22	2
1.4	64QAM	1	3	21.06	21.03	21.02		
1.4	64QAM	1	5	21.00	20.96	20.94		
1.4	64QAM	3	0	20.95	20.88	20.93		
1.4	64QAM	3	1	20.99	20.91	20.97		
1.4	64QAM	3	3	20.90	20.93	20.90		
1.4	64QAM	6	0	19.88	19.86	19.83	21	3



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		22.88		24	0
10	QPSK	1	25		22.84			
10	QPSK	1	49		22.79			
10	QPSK	25	0		21.94		23	1
10	QPSK	25	12		21.91			
10	QPSK	25	25		21.88			
10	QPSK	50	0		21.93		23	1
10	16QAM	1	0		22.12			
10	16QAM	1	25		22.12			
10	16QAM	1	49		22.17		22	2
10	16QAM	25	0		20.94			
10	16QAM	25	12		20.93			
10	16QAM	25	25		20.97		22	2
10	16QAM	50	0		20.91			
10	64QAM	1	0		21.11			
10	64QAM	1	25		21.14		22	2
10	64QAM	1	49		21.05			
10	64QAM	25	0		19.95			
10	64QAM	25	12		19.97		21	3
10	64QAM	25	25		19.99			
10	64QAM	50	0		19.97			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.79	22.78	22.80	24	0
5	QPSK	1	12	22.83	22.86	22.82		
5	QPSK	1	24	22.87	22.83	22.80		
5	QPSK	12	0	21.92	21.93	21.90	23	1
5	QPSK	12	7	21.99	21.94	21.97		
5	QPSK	12	13	21.98	21.96	21.89		
5	QPSK	25	0	21.92	21.88	21.93	23	1
5	16QAM	1	0	22.09	22.07	22.12		
5	16QAM	1	12	22.11	22.11	22.10		
5	16QAM	1	24	22.16	22.13	22.13	22	2
5	16QAM	12	0	20.96	20.98	20.94		
5	16QAM	12	7	21.00	20.92	20.96		
5	16QAM	12	13	20.99	20.97	20.96	22	2
5	16QAM	25	0	21.00	20.92	20.94		
5	64QAM	1	0	21.01	21.05	21.02		
5	64QAM	1	12	21.04	21.08	21.09	22	2
5	64QAM	1	24	21.08	21.09	21.10		
5	64QAM	12	0	20.03	20.02	19.95		
5	64QAM	12	7	20.04	19.96	19.99	21	3
5	64QAM	12	13	20.04	19.99	19.96		
5	64QAM	25	0	20.02	19.92	19.98		



<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	22.74	22.81	22.64	24	0
10	QPSK	1	25	22.67	22.70	22.67		
10	QPSK	1	49	22.76	22.74	22.73		
10	QPSK	25	0	21.74	21.84	21.81	23	1
10	QPSK	25	12	21.81	21.77	21.76		
10	QPSK	25	25	21.83	21.82	21.82		
10	QPSK	50	0	21.88	21.82	21.81	23	1
10	16QAM	1	0	22.06	22.00	21.97		
10	16QAM	1	25	22.08	22.04	22.06		
10	16QAM	1	49	22.14	22.16	22.11	22	2
10	16QAM	25	0	20.76	20.80	20.79		
10	16QAM	25	12	20.92	20.86	20.84		
10	16QAM	25	25	20.85	20.88	20.90	22	2
10	16QAM	50	0	20.91	20.82	20.81		
10	64QAM	1	0	20.96	20.84	20.88		
10	64QAM	1	25	21.02	21.00	21.02	22	2
10	64QAM	1	49	21.03	21.07	21.01		
10	64QAM	25	0	19.81	19.80	19.83		
10	64QAM	25	12	19.96	19.89	19.89	21	3
10	64QAM	25	25	19.97	19.95	19.96		
10	64QAM	50	0	19.94	19.84	19.84		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.68	22.67	22.71	24	0
5	QPSK	1	12	22.77	22.76	22.76		
5	QPSK	1	24	22.79	22.78	22.72		
5	QPSK	12	0	21.84	21.82	21.81	23	1
5	QPSK	12	7	21.91	21.89	21.89		
5	QPSK	12	13	21.91	21.90	21.87		
5	QPSK	25	0	21.88	21.80	21.83	23	1
5	16QAM	1	0	22.02	22.01	22.00		
5	16QAM	1	12	22.07	22.04	22.09		
5	16QAM	1	24	22.12	22.17	22.13	22	2
5	16QAM	12	0	20.88	20.85	20.87		
5	16QAM	12	7	20.91	20.91	20.95		
5	16QAM	12	13	20.93	20.90	20.89	22	2
5	16QAM	25	0	20.91	20.81	20.81		
5	64QAM	1	0	20.98	20.93	20.92		
5	64QAM	1	12	21.02	20.98	21.00	22	2
5	64QAM	1	24	21.09	21.05	21.04		
5	64QAM	12	0	19.90	19.88	19.88		
5	64QAM	12	7	20.00	19.96	19.96	21	3
5	64QAM	12	13	19.98	19.98	19.94		
5	64QAM	25	0	19.93	19.84	19.87		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				26140	26340	26590				
Frequency (MHz)				1860	1880	1905				
20	QPSK	1	0	23.15	22.99	23.08				
20	QPSK	1	49	22.97	22.95	23.05	24	0		
20	QPSK	1	99	22.90	22.96	23.07				
20	QPSK	50	0	22.16	22.13	22.14				
20	QPSK	50	24	22.14	22.10	22.08	23	1		
20	QPSK	50	50	22.05	22.07	22.13				
20	QPSK	100	0	22.17	22.11	22.12				
20	16QAM	1	0	22.42	22.36	22.38	23	1		
20	16QAM	1	49	22.36	22.33	22.42				
20	16QAM	1	99	22.25	22.31	22.41				
20	16QAM	50	0	21.19	21.05	21.18	22	2		
20	16QAM	50	24	21.13	21.12	21.20				
20	16QAM	50	50	21.07	21.08	21.24				
20	16QAM	100	0	21.12	21.09	21.17	22	2		
20	64QAM	1	0	21.26	21.20	21.25				
20	64QAM	1	49	21.21	21.14	21.11				
20	64QAM	1	99	21.13	21.23	20.87	21	3		
20	64QAM	50	0	20.20	20.07	20.13				
20	64QAM	50	24	20.18	20.13	19.98				
20	64QAM	50	50	20.10	20.08	19.86	21	3		
20	64QAM	100	0	20.13	20.10	19.75				
Channel				26115	26340	26615			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5	24	0		
15	QPSK	1	0	23.11	23.00	23.10				
15	QPSK	1	37	23.03	22.94	23.14				
15	QPSK	1	74	23.00	22.94	23.12	23	1		
15	QPSK	36	0	22.18	22.12	22.19				
15	QPSK	36	20	22.15	22.11	22.20				
15	QPSK	36	39	22.07	22.05	22.23	23	1		
15	QPSK	75	0	22.13	22.07	22.18				
15	16QAM	1	0	22.37	22.32	22.35				
15	16QAM	1	37	22.33	22.29	22.45	22	2		
15	16QAM	1	74	22.29	22.24	22.42				
15	16QAM	36	0	21.20	21.14	21.21				
15	16QAM	36	20	21.16	21.10	21.19	22	2		
15	16QAM	36	39	21.06	21.06	21.25				
15	16QAM	75	0	21.13	21.09	21.19				
15	64QAM	1	0	21.27	21.26	21.02	22	2		
15	64QAM	1	37	21.29	21.23	20.91				
15	64QAM	1	74	21.19	21.22	20.74				
15	64QAM	36	0	20.26	20.18	19.98	21	3		
15	64QAM	36	20	20.21	20.14	19.97				
15	64QAM	36	39	20.11	20.08	19.86				
15	64QAM	75	0	20.14	20.10	19.72	23	1		
Channel				26090	26340	26640			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910			24	0
10	QPSK	1	0	22.83	22.70	22.90				
10	QPSK	1	25	22.77	22.69	22.91				
10	QPSK	1	49	22.73	22.74	22.91	23	1		
10	QPSK	25	0	21.91	21.85	21.95				



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10	QPSK	25	12	21.93	21.89	22.00		
10	QPSK	25	25	21.90	21.87	22.07		
10	QPSK	50	0	21.91	21.87	21.98		
10	16QAM	1	0	22.23	22.10	22.25	23	1
10	16QAM	1	25	22.14	22.07	22.30		
10	16QAM	1	49	22.09	22.08	22.25		
10	16QAM	25	0	20.92	20.87	20.97	22	2
10	16QAM	25	12	20.93	20.90	21.02		
10	16QAM	25	25	20.91	20.90	21.05		
10	16QAM	50	0	20.95	20.88	21.00		
10	64QAM	1	0	21.16	20.97	21.02	22	2
10	64QAM	1	25	21.06	21.06	20.96		
10	64QAM	1	49	21.07	21.02	20.75		
10	64QAM	25	0	19.95	19.90	19.99	21	3
10	64QAM	25	12	19.99	19.93	20.00		
10	64QAM	25	25	19.95	19.91	19.87		
10	64QAM	50	0	19.96	19.90	19.75		
Channel				26065	26340	26665		
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	22.81	22.72	22.94	24	0
5	QPSK	1	12	22.85	22.76	22.98		
5	QPSK	1	24	22.80	22.78	22.99		
5	QPSK	12	0	21.87	21.82	21.97	23	1
5	QPSK	12	7	21.97	21.90	22.05		
5	QPSK	12	13	21.94	21.88	22.04		
5	QPSK	25	0	21.90	21.83	22.02		
5	16QAM	1	0	22.18	22.12	22.21		
5	16QAM	1	12	22.12	22.04	22.21	23	1
5	16QAM	1	24	22.19	22.10	22.23		
5	16QAM	12	0	20.91	20.83	20.99		
5	16QAM	12	7	20.96	20.91	21.05	22	2
5	16QAM	12	13	20.97	20.91	21.06		
5	16QAM	25	0	20.95	20.86	21.03		
5	64QAM	1	0	21.10	21.03	21.06		
5	64QAM	1	12	21.01	20.91	20.93		
5	64QAM	1	24	21.05	20.97	20.76	22	2
5	64QAM	12	0	19.98	19.91	20.03		
5	64QAM	12	7	20.02	19.95	19.98		
5	64QAM	12	13	20.04	19.97	19.84		
5	64QAM	25	0	19.95	19.90	19.74		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.63	22.64	22.89	24	0
3	QPSK	1	8	22.84	22.64	22.92		
3	QPSK	1	14	22.65	22.67	22.88		
3	QPSK	8	0	21.82	21.70	21.89	23	1
3	QPSK	8	4	21.90	21.85	21.89		
3	QPSK	8	7	21.84	21.73	21.93		
3	QPSK	15	0	21.74	21.76	21.96		
3	16QAM	1	0	22.05	22.08	22.07		
3	16QAM	1	8	22.06	21.88	22.19	23	1
3	16QAM	1	14	22.16	22.01	22.20		
3	16QAM	8	0	20.81	20.70	20.87		
3	16QAM	8	4	20.89	20.76	20.90	22	2
3	16QAM	8	7	20.95	20.87	20.93		
3	16QAM	15	0	20.87	20.84	20.96		



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3	64QAM	1	0	20.98	20.99	21.00	22	2
3	64QAM	1	8	20.90	20.82	20.84		
3	64QAM	1	14	20.88	20.86	20.65		
3	64QAM	8	0	19.87	19.89	19.92	21	3
3	64QAM	8	4	19.92	19.87	19.85		
3	64QAM	8	7	19.94	19.91	19.74		
3	64QAM	15	0	19.81	19.78	19.65		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.04	22.98	22.99	24	0
1.4	QPSK	1	3	22.88	22.85	23.08		
1.4	QPSK	1	5	22.83	22.86	22.98		
1.4	QPSK	3	0	22.15	22.00	22.04		
1.4	QPSK	3	1	22.08	22.05	22.15		
1.4	QPSK	3	3	22.04	22.02	22.16		
1.4	QPSK	6	0	22.05	22.00	22.11	23	1
1.4	16QAM	1	0	22.41	22.33	22.37	23	1
1.4	16QAM	1	3	22.36	22.33	22.34		
1.4	16QAM	1	5	22.19	22.30	22.38		
1.4	16QAM	3	0	21.12	21.03	21.08		
1.4	16QAM	3	1	21.08	21.04	21.14		
1.4	16QAM	3	3	21.07	21.06	21.17		
1.4	16QAM	6	0	21.10	21.01	21.15	22	2
1.4	64QAM	1	0	21.25	21.18	21.21	22	2
1.4	64QAM	1	3	21.19	21.08	21.06		
1.4	64QAM	1	5	21.09	21.22	20.87		
1.4	64QAM	3	0	20.19	20.11	20.10		
1.4	64QAM	3	1	20.10	20.13	20.07		
1.4	64QAM	3	3	20.05	20.08	20.02		
1.4	64QAM	6	0	20.10	20.01	19.65	21	3



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				26765	26865	26965				
Frequency (MHz)				821.5	831.5	841.5				
15	QPSK	1	0	23.06	23.02	23.07				
15	QPSK	1	37	22.97	23.06	23.04	24	0		
15	QPSK	1	74	23.04	23.08	22.99				
15	QPSK	36	0	22.15	22.19	22.27				
15	QPSK	36	20	22.20	22.17	22.25	23	1		
15	QPSK	36	39	22.22	22.28	22.24				
15	QPSK	75	0	22.16	22.23	22.19				
15	16QAM	1	0	22.37	22.32	22.41	23	1		
15	16QAM	1	37	22.30	22.37	22.42				
15	16QAM	1	74	22.35	22.36	22.25				
15	16QAM	36	0	21.14	21.21	21.29	22	2		
15	16QAM	36	20	21.18	21.19	21.28				
15	16QAM	36	39	21.23	21.23	21.23				
15	16QAM	75	0	21.21	21.19	21.21	22	2		
15	64QAM	1	0	21.24	21.21	21.24				
15	64QAM	1	37	21.24	21.29	21.33				
15	64QAM	1	74	21.25	21.26	21.21	21	3		
15	64QAM	36	0	20.17	20.26	20.31				
15	64QAM	36	20	20.22	20.18	20.36				
15	64QAM	36	39	20.28	20.28	20.29	21	3		
15	64QAM	75	0	20.20	20.18	20.22				
Channel				26740	26865	26990			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844	24	0		
10	QPSK	1	0	22.89	22.85	22.95				
10	QPSK	1	25	22.77	22.87	22.99				
10	QPSK	1	49	22.84	22.93	22.96	23	1		
10	QPSK	25	0	21.99	21.96	22.02				
10	QPSK	25	12	21.99	21.99	22.02				
10	QPSK	25	25	21.89	22.00	22.00	23	1		
10	QPSK	50	0	21.97	21.96	21.99				
10	16QAM	1	0	22.29	22.20	22.41				
10	16QAM	1	25	22.14	22.23	22.38	22	2		
10	16QAM	1	49	22.22	22.32	22.33				
10	16QAM	25	0	20.99	20.96	21.07				
10	16QAM	25	12	20.99	20.97	21.02	22	2		
10	16QAM	25	25	20.93	20.98	20.97				
10	16QAM	50	0	20.94	20.93	21.01				
10	64QAM	1	0	21.22	21.05	21.23	22	2		
10	64QAM	1	25	21.10	21.17	21.21				
10	64QAM	1	49	21.18	21.23	21.16				
10	64QAM	25	0	20.03	20.02	20.08	21	3		
10	64QAM	25	12	20.00	20.01	20.07				
10	64QAM	25	25	19.95	20.03	20.03				
10	64QAM	50	0	20.00	19.99	20.04	23	1		
Channel				26715	26865	27015			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5				
5	QPSK	1	0	22.91	22.85	22.96	24	0		
5	QPSK	1	12	22.88	22.92	22.95				
5	QPSK	1	24	22.78	22.91	22.85				
5	QPSK	12	0	22.00	21.99	22.03	23	1		



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5	QPSK	12	7	22.02	22.03	22.03		
5	QPSK	12	13	21.92	21.97	21.94		
5	QPSK	25	0	21.94	21.96	21.98		
5	16QAM	1	0	22.26	22.18	22.34	23	1
5	16QAM	1	12	22.20	22.25	22.25		
5	16QAM	1	24	22.15	22.23	22.22		
5	16QAM	12	0	21.06	20.98	21.06	22	2
5	16QAM	12	7	21.04	21.05	21.06		
5	16QAM	12	13	20.91	21.00	20.95		
5	16QAM	25	0	20.97	20.95	21.00		
5	64QAM	1	0	21.18	21.15	21.27	22	2
5	64QAM	1	12	21.11	21.21	21.17		
5	64QAM	1	24	21.07	21.22	21.15		
5	64QAM	12	0	20.10	20.07	20.09	21	3
5	64QAM	12	7	20.05	20.09	20.05		
5	64QAM	12	13	20.01	20.05	20.00		
5	64QAM	25	0	19.99	19.99	20.03		
Channel				26705	26865	27025		
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.91	22.90	22.98	24	0
3	QPSK	1	8	22.95	22.95	22.98		
3	QPSK	1	14	22.82	22.91	22.87		
3	QPSK	8	0	22.00	21.99	21.99	23	1
3	QPSK	8	4	22.03	22.05	21.96		
3	QPSK	8	7	21.91	21.98	21.94		
3	QPSK	15	0	22.01	21.94	21.97		
3	16QAM	1	0	22.23	22.17	22.28		
3	16QAM	1	8	22.29	22.31	22.34	23	1
3	16QAM	1	14	22.14	22.23	22.20		
3	16QAM	8	0	21.10	21.00	21.04		
3	16QAM	8	4	21.05	21.12	21.06	22	2
3	16QAM	8	7	20.98	21.04	20.98		
3	16QAM	15	0	21.04	21.00	20.99		
3	64QAM	1	0	21.16	21.12	21.20		
3	64QAM	1	8	21.18	21.24	21.20	22	2
3	64QAM	1	14	21.08	21.23	21.08		
3	64QAM	8	0	20.08	20.03	20.09		
3	64QAM	8	4	20.12	20.12	20.08	21	3
3	64QAM	8	7	19.97	20.06	19.98		
3	64QAM	15	0	20.05	19.98	20.03		
Channel				26697	26865	27033		
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.86	22.83	22.81	24	0
1.4	QPSK	1	3	22.91	22.91	22.85		
1.4	QPSK	1	5	22.83	22.83	22.81		
1.4	QPSK	3	0	22.89	22.85	22.85		
1.4	QPSK	3	1	22.90	22.85	22.84		
1.4	QPSK	3	3	22.86	22.84	22.83	23	1
1.4	16QAM	1	0	22.17	22.12	22.17		
1.4	16QAM	1	3	22.18	22.21	22.18	23	1
1.4	16QAM	1	5	22.10	22.17	22.14		
1.4	16QAM	3	0	21.97	21.91	21.96		
1.4	16QAM	3	1	22.01	21.98	21.96		
1.4	16QAM	3	3	21.92	21.95	21.89		
1.4	16QAM	6	0	21.02	21.04	20.95	22	2



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1.4	64QAM	1	0	21.13	21.04	21.09	22	2
1.4	64QAM	1	3	21.16	21.18	21.16		
1.4	64QAM	1	5	21.06	21.09	21.05		
1.4	64QAM	3	0	21.07	21.02	21.03		
1.4	64QAM	3	1	21.13	21.05	21.11		
1.4	64QAM	3	3	21.06	21.09	21.03		
1.4	64QAM	6	0	19.95	20.01	19.92	21	3



<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710			24	0
Frequency (MHz)				2310				
10	QPSK	1	0		22.73		24	0
10	QPSK	1	25		22.57			
10	QPSK	1	49		22.62			
10	QPSK	25	0		21.77		23	1
10	QPSK	25	12		21.73			
10	QPSK	25	25		21.72			
10	QPSK	50	0		21.73		23	1
10	16QAM	1	0		21.99			
10	16QAM	1	25		22.03			
10	16QAM	1	49		22.05		22	2
10	16QAM	25	0		20.69			
10	16QAM	25	12		20.81			
10	16QAM	25	25		20.81		22	2
10	16QAM	50	0		20.75			
10	64QAM	1	0		20.83			
10	64QAM	1	25		20.93		22	2
10	64QAM	1	49		20.96			
10	64QAM	25	0		19.73			
10	64QAM	25	12		19.87		21	3
10	64QAM	25	25		19.88			
10	64QAM	50	0		19.78			
Channel				27685	27710	27735	24	0
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	22.54	22.57	22.59	24	0
5	QPSK	1	12	22.63	22.66	22.67		
5	QPSK	1	24	22.60	22.63	22.65		
5	QPSK	12	0	21.68	21.69	21.73	23	1
5	QPSK	12	7	21.82	21.81	21.85		
5	QPSK	12	13	21.79	21.82	21.86		
5	QPSK	25	0	21.77	21.78	21.73	23	1
5	16QAM	1	0	21.94	21.91	21.92		
5	16QAM	1	12	21.98	22.02	22.05		
5	16QAM	1	24	22.07	22.07	22.11	22	2
5	16QAM	12	0	20.74	20.75	20.76		
5	16QAM	12	7	20.87	20.85	20.87		
5	16QAM	12	13	20.84	20.83	20.88	22	2
5	16QAM	25	0	20.82	20.80	20.76		
5	64QAM	1	0	20.79	20.84	20.86		
5	64QAM	1	12	20.96	20.87	20.91	22	2
5	64QAM	1	24	21.06	20.98	20.96		
5	64QAM	12	0	19.75	19.76	19.81		
5	64QAM	12	7	19.88	19.88	19.91	21	3
5	64QAM	12	13	19.88	19.89	19.93		
5	64QAM	25	0	19.81	19.81	19.79		



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.17	23.18	23.05		
20	QPSK	1	49	23.01	23.05	22.89	24	0
20	QPSK	1	99	22.98	22.96	22.74		
20	QPSK	50	0	22.13	22.14	22.04		
20	QPSK	50	24	22.09	22.11	22.01	23	1
20	QPSK	50	50	22.12	22.12	21.94		
20	QPSK	100	0	22.07	22.09	22.03		
20	16QAM	1	0	22.49	22.53	22.42	23	1
20	16QAM	1	49	22.41	22.43	22.27		
20	16QAM	1	99	22.31	22.33	22.15		
20	16QAM	50	0	21.15	21.15	21.03	22	2
20	16QAM	50	24	21.22	21.15	21.06		
20	16QAM	50	50	21.16	21.14	20.96		
20	16QAM	100	0	21.16	21.09	21.03	22	2
20	64QAM	1	0	21.93	21.95	21.94		
20	64QAM	1	49	21.84	21.91	21.77		
20	64QAM	1	99	21.75	21.86	21.65	21	3
20	64QAM	50	0	20.71	20.75	20.63		
20	64QAM	50	24	20.79	20.73	20.65		
20	64QAM	50	50	20.73	20.73	20.56	21	3
20	64QAM	100	0	20.77	20.68	20.63		
Channel				132047	132322	132597		
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.07	23.08	23.00		
15	QPSK	1	37	23.03	23.05	22.89	24	0
15	QPSK	1	74	23.04	22.99	22.79		
15	QPSK	36	0	22.10	22.12	21.95		
15	QPSK	36	20	22.17	22.11	21.94	23	1
15	QPSK	36	39	22.13	22.12	21.92		
15	QPSK	75	0	22.17	22.09	21.91		
15	16QAM	1	0	22.38	22.42	22.34	23	1
15	16QAM	1	37	22.38	22.35	22.19		
15	16QAM	1	74	22.32	22.35	22.13		
15	16QAM	36	0	21.11	21.13	21.00	22	2
15	16QAM	36	20	21.19	21.13	20.95		
15	16QAM	36	39	21.12	21.12	20.95		
15	16QAM	75	0	21.16	21.10	20.93	22	2
15	64QAM	1	0	21.88	21.87	21.80		
15	64QAM	1	37	21.86	21.87	21.67		
15	64QAM	1	74	21.78	21.86	21.60	21	3
15	64QAM	36	0	20.70	20.73	20.57		
15	64QAM	36	20	20.79	20.73	20.55		
15	64QAM	36	39	20.74	20.74	20.55	21	3
15	64QAM	75	0	20.77	20.70	20.54		
Channel				132022	132322	132622		
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.91	22.85	22.70		
10	QPSK	1	25	22.79	22.82	22.61	24	0
10	QPSK	1	49	22.78	22.76	22.58		
10	QPSK	25	0	21.99	21.89	21.72		



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10	QPSK	25	12	21.97	21.88	21.77		
10	QPSK	25	25	21.92	21.90	21.71		
10	QPSK	50	0	21.96	21.87	21.68		
10	16QAM	1	0	22.27	22.26	22.08	23	1
10	16QAM	1	25	22.21	22.18	22.02		
10	16QAM	1	49	22.14	22.12	21.92		
10	16QAM	25	0	20.98	20.91	20.73	22	2
10	16QAM	25	12	20.98	20.89	20.78		
10	16QAM	25	25	20.94	20.94	20.70		
10	16QAM	50	0	20.98	20.88	20.68		
10	64QAM	1	0	21.92	21.82	21.67	22	2
10	64QAM	1	25	21.82	21.78	21.63		
10	64QAM	1	49	21.82	21.74	21.60		
10	64QAM	25	0	20.58	20.50	20.33	21	3
10	64QAM	25	12	20.59	20.50	20.41		
10	64QAM	25	25	20.55	20.51	20.26		
10	64QAM	50	0	20.54	20.43	20.26		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	22.89	22.79	22.66	24	0
5	QPSK	1	12	22.89	22.89	22.68		
5	QPSK	1	24	22.81	22.80	22.59		
5	QPSK	12	0	21.94	21.88	21.77	23	1
5	QPSK	12	7	22.02	21.94	21.77		
5	QPSK	12	13	21.92	21.90	21.70		
5	QPSK	25	0	21.94	21.87	21.71		
5	16QAM	1	0	22.24	22.14	22.00	23	1
5	16QAM	1	12	22.21	22.20	21.97		
5	16QAM	1	24	22.15	22.15	21.95		
5	16QAM	12	0	20.98	20.93	20.76	22	2
5	16QAM	12	7	21.03	20.97	20.77		
5	16QAM	12	13	20.94	20.95	20.69		
5	16QAM	25	0	20.98	20.91	20.72		
5	64QAM	1	0	21.70	21.63	21.52	22	2
5	64QAM	1	12	21.67	21.66	21.42		
5	64QAM	1	24	21.68	21.66	21.39		
5	64QAM	12	0	20.56	20.52	20.33	21	3
5	64QAM	12	7	20.60	20.54	20.34		
5	64QAM	12	13	20.52	20.52	20.30		
5	64QAM	25	0	20.57	20.50	20.34		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	22.88	22.79	22.64	24	0
3	QPSK	1	8	22.92	22.87	22.71		
3	QPSK	1	14	22.81	22.78	22.62		
3	QPSK	8	0	21.95	21.87	21.70	23	1
3	QPSK	8	4	21.98	21.94	21.74		
3	QPSK	8	7	21.94	21.93	21.65		
3	QPSK	15	0	21.94	21.86	21.67		
3	16QAM	1	0	22.21	22.13	21.94	23	1
3	16QAM	1	8	22.24	22.26	22.04		
3	16QAM	1	14	22.14	22.16	21.97		
3	16QAM	8	0	20.99	20.93	20.75	22	2
3	16QAM	8	4	20.99	21.02	20.76		
3	16QAM	8	7	20.97	20.96	20.76		
3	16QAM	15	0	21.01	20.89	20.78		



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3	64QAM	1	0	21.11	21.14	20.88	22	2
3	64QAM	1	8	21.18	21.16	20.96		
3	64QAM	1	14	21.10	21.12	20.82		
3	64QAM	8	0	20.02	19.94	19.79	21	3
3	64QAM	8	4	20.02	19.98	19.80		
3	64QAM	8	7	19.97	19.99	19.74		
3	64QAM	15	0	19.96	19.92	19.72		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	22.79	22.74	22.52	24	0
1.4	QPSK	1	3	22.84	22.79	22.61		
1.4	QPSK	1	5	22.74	22.76	22.51		
1.4	QPSK	3	0	22.82	22.80	22.62		
1.4	QPSK	3	1	22.87	22.81	22.61		
1.4	QPSK	3	3	22.83	22.78	22.55		
1.4	QPSK	6	0	21.89	21.85	21.65	23	1
1.4	16QAM	1	0	22.11	22.08	21.85	23	1
1.4	16QAM	1	3	22.14	22.15	21.97		
1.4	16QAM	1	5	22.09	22.09	21.87		
1.4	16QAM	3	0	21.93	21.90	21.68		
1.4	16QAM	3	1	21.97	21.93	21.68		
1.4	16QAM	3	3	21.90	21.88	21.66		
1.4	16QAM	6	0	20.92	20.93	20.71	22	2
1.4	64QAM	1	0	21.09	21.05	20.82	22	2
1.4	64QAM	1	3	21.10	21.09	20.89		
1.4	64QAM	1	5	21.06	21.01	20.78		
1.4	64QAM	3	0	21.04	21.02	20.81		
1.4	64QAM	3	1	21.07	21.05	20.84		
1.4	64QAM	3	3	21.04	20.97	20.77		
1.4	64QAM	6	0	19.91	19.89	19.66	21	3



<LTE Band 71>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				133222	133322	133372				
Frequency (MHz)				673	683	688				
20	QPSK	1	0	23.11	23.21	23.00				
20	QPSK	1	49	23.01	22.99	22.95	24	0		
20	QPSK	1	99	22.84	22.88	22.87				
20	QPSK	50	0	22.87	22.76	22.70				
20	QPSK	50	24	22.86	22.75	22.74	23	1		
20	QPSK	50	50	22.75	22.68	22.66				
20	QPSK	100	0	22.82	22.71	22.73				
20	16QAM	1	0	22.88	22.99	22.99	23	1		
20	16QAM	1	49	22.76	22.75	22.95				
20	16QAM	1	99	22.92	22.88	22.85				
20	16QAM	50	0	21.91	21.81	21.80	22	2		
20	16QAM	50	24	21.99	21.78	21.90				
20	16QAM	50	50	21.94	21.90	21.76				
20	16QAM	100	0	21.74	21.73	21.79	22	2		
20	64QAM	1	0	21.93	21.89	21.86				
20	64QAM	1	49	21.99	21.98	21.91				
20	64QAM	1	99	21.91	21.84	21.86	21	3		
20	64QAM	50	0	20.93	20.87	20.79				
20	64QAM	50	24	20.81	20.78	20.91				
20	64QAM	50	50	20.97	20.83	20.81	21	3		
20	64QAM	100	0	20.99	20.86	20.83				
Channel				133197	133297	133397			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				670.5	680.5	690.5				
15	QPSK	1	0	22.59	22.78	23.01				
15	QPSK	1	37	22.88	22.97	22.73				
15	QPSK	1	74	23.00	22.76	22.78	24	0		
15	QPSK	36	0	22.92	22.75	22.77				
15	QPSK	36	20	22.81	22.61	22.73				
15	QPSK	36	39	22.74	22.73	22.82	23	1		
15	QPSK	75	0	22.55	22.46	22.63				
15	16QAM	1	0	22.61	22.72	22.70				
15	16QAM	1	37	22.53	22.43	22.49	23	1		
15	16QAM	1	74	22.50	22.76	22.34				
15	16QAM	36	0	21.84	21.73	21.85				
15	16QAM	36	20	21.71	21.86	21.88	22	2		
15	16QAM	36	39	21.78	21.83	21.73				
15	16QAM	75	0	21.65	21.92	21.80				
15	64QAM	1	0	21.88	21.97	21.93	22	2		
15	64QAM	1	37	21.99	21.54	21.85				
15	64QAM	1	74	21.81	21.41	21.82				
15	64QAM	36	0	20.89	20.88	20.62	21	3		
15	64QAM	36	20	20.83	20.67	20.95				
15	64QAM	36	39	20.82	20.90	20.74				
15	64QAM	75	0	20.55	20.96	20.71	21	3		
Channel				133172	133272	133422			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				668	678	693				
10	QPSK	1	0	22.43	22.94	22.99				
10	QPSK	1	25	22.85	22.91	22.69				
10	QPSK	1	49	22.97	22.53	22.72	24	0		
10	QPSK	25	0	22.71	22.89	22.92				
10	QPSK	25	0	22.71	22.89	22.92				



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10	QPSK	25	12	22.94	22.47	22.86		
10	QPSK	25	25	22.87	22.59	22.90		
10	QPSK	50	0	22.62	22.35	22.53		
10	16QAM	1	0	22.82	22.55	22.48	23	1
10	16QAM	1	25	22.62	22.38	22.52		
10	16QAM	1	49	22.47	22.79	22.58		
10	16QAM	25	0	21.76	21.84	21.88	22	2
10	16QAM	25	12	21.54	21.90	21.95		
10	16QAM	25	25	21.63	21.84	21.72		
10	16QAM	50	0	21.31	21.98	21.76		
10	64QAM	1	0	21.81	21.76	21.77	22	2
10	64QAM	1	25	21.62	21.81	21.82		
10	64QAM	1	49	21.87	21.83	21.79		
10	64QAM	25	0	20.65	20.71	20.73	21	3
10	64QAM	25	12	20.87	20.86	20.61		
10	64QAM	25	25	20.54	20.66	20.67		
10	64QAM	50	0	20.85	20.78	20.71		
Channel				133147	133247	133447	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				665.5	675.5	695.5		
5	QPSK	1	0	22.38	22.80	23.14	24	0
5	QPSK	1	12	22.96	22.70	22.83		
5	QPSK	1	24	23.08	22.47	22.59		
5	QPSK	12	0	22.88	22.90	22.51	23	1
5	QPSK	12	7	22.81	22.48	22.95		
5	QPSK	12	13	22.69	22.28	22.38		
5	QPSK	25	0	22.52	21.75	22.30		
5	16QAM	1	0	22.56	22.48	22.44	23	1
5	16QAM	1	12	22.87	22.24	22.56		
5	16QAM	1	24	22.32	22.86	22.42		
5	16QAM	12	0	21.49	21.58	21.89	22	2
5	16QAM	12	7	21.42	21.78	21.94		
5	16QAM	12	13	21.77	21.83	21.70		
5	16QAM	25	0	21.52	21.55	21.91		
5	64QAM	1	0	21.61	21.66	21.49	22	2
5	64QAM	1	12	21.85	21.80	21.82		
5	64QAM	1	24	21.95	21.96	21.81		
5	64QAM	12	0	20.72	20.77	20.82	21	3
5	64QAM	12	7	20.70	20.60	20.21		
5	64QAM	12	13	20.54	20.84	20.83		
5	64QAM	25	0	20.89	20.63	20.79		



<Reduced Power on Hotspot / Body-worn Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	15.92	15.76	16.34	17	0
20	QPSK	1	49	15.83	15.83	15.83		
20	QPSK	1	99	15.84	15.82	15.94		
20	QPSK	50	0	16.02	15.95	15.97	17	0
20	QPSK	50	24	16.02	15.92	16.01		
20	QPSK	50	50	16.02	15.99	16.10		
20	QPSK	100	0	16.02	16.00	15.95	17	0
20	16QAM	1	0	16.36	16.33	16.11		
20	16QAM	1	49	16.28	16.26	16.20		
20	16QAM	1	99	16.23	16.16	16.34	17	0
20	16QAM	50	0	16.06	16.03	15.98		
20	16QAM	50	24	16.07	16.03	16.02		
20	16QAM	50	50	16.05	16.02	16.09	17	0
20	16QAM	100	0	16.03	15.93	15.95		
20	64QAM	1	0	16.08	16.07	16.09		
20	64QAM	1	49	16.01	16.00	16.00	17	0
20	64QAM	1	99	16.10	16.09	16.24		
20	64QAM	50	0	16.07	16.00	16.00		
20	64QAM	50	24	16.07	16.04	16.02	17	0
20	64QAM	50	50	16.07	16.05	16.12		
20	64QAM	100	0	16.06	15.99	16.00		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.88	15.74	16.24	17	0
15	QPSK	1	37	15.77	15.75	15.78		
15	QPSK	1	74	15.76	15.80	15.89		
15	QPSK	36	0	16.00	15.90	15.94	17	0
15	QPSK	36	20	15.96	15.91	15.96		
15	QPSK	36	39	15.97	15.90	16.09		
15	QPSK	75	0	15.97	15.97	15.92	17	0
15	16QAM	1	0	16.34	16.31	16.03		
15	16QAM	1	37	16.18	16.17	16.10		
15	16QAM	1	74	16.16	16.12	16.29	17	0
15	16QAM	36	0	16.06	16.03	15.93		
15	16QAM	36	20	16.04	15.93	15.94		
15	16QAM	36	39	15.98	15.99	16.02	17	0
15	16QAM	75	0	16.02	15.85	15.85		
15	64QAM	1	0	15.99	15.98	15.99		
15	64QAM	1	37	15.96	15.95	15.98	17	0
15	64QAM	1	74	16.08	16.07	16.23		
15	64QAM	36	0	16.02	15.91	15.98		
15	64QAM	36	20	16.06	15.95	15.93	17	0
15	64QAM	36	39	16.06	16.01	16.08		
15	64QAM	75	0	15.96	15.90	15.97		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.83	15.70	16.30	17	0
10	QPSK	1	25	15.79	15.78	15.78		
10	QPSK	1	49	15.75	15.77	15.86		



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10	QPSK	25	0	15.95	15.90	15.97	17	0
10	QPSK	25	12	15.99	15.82	15.99		
10	QPSK	25	25	15.99	15.93	16.03		
10	QPSK	50	0	15.97	15.99	15.94	17	0
10	16QAM	1	0	16.29	16.27	16.02		
10	16QAM	1	25	16.20	16.21	16.19		
10	16QAM	1	49	16.15	16.15	16.26	17	0
10	16QAM	25	0	16.02	15.97	15.90		
10	16QAM	25	12	15.97	15.99	15.95		
10	16QAM	25	25	16.00	15.99	16.03	17	0
10	16QAM	50	0	16.02	15.92	15.89		
10	64QAM	1	0	15.99	16.05	16.06		
10	64QAM	1	25	15.93	15.92	15.90	17	0
10	64QAM	1	49	16.09	15.99	16.18		
10	64QAM	25	0	16.02	15.98	15.94		
10	64QAM	25	12	15.97	15.95	15.96	17	0
10	64QAM	25	25	15.98	15.98	16.10		
10	64QAM	50	0	16.05	15.94	15.90		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.87	15.75	16.32	17	0
5	QPSK	1	12	15.76	15.81	15.76		
5	QPSK	1	24	15.76	15.76	15.87		
5	QPSK	12	0	15.93	15.87	15.95	17	0
5	QPSK	12	7	16.02	15.90	15.91		
5	QPSK	12	13	15.95	15.93	16.01		
5	QPSK	25	0	15.97	15.93	15.95	17	0
5	16QAM	1	0	16.28	16.31	16.05		
5	16QAM	1	12	16.25	16.19	16.17		
5	16QAM	1	24	16.18	16.14	16.32	17	0
5	16QAM	12	0	16.00	16.02	15.90		
5	16QAM	12	7	15.99	15.94	15.92		
5	16QAM	12	13	16.01	15.98	15.99	17	0
5	16QAM	25	0	15.96	15.86	15.90		
5	64QAM	1	0	16.03	16.04	16.03		
5	64QAM	1	12	15.96	15.90	15.95	17	0
5	64QAM	1	24	16.04	16.00	16.20		
5	64QAM	12	0	16.02	15.97	15.94		
5	64QAM	12	7	16.07	15.96	15.99	17	0
5	64QAM	12	13	16.02	15.98	16.09		
5	64QAM	25	0	15.97	15.97	15.92		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.82	15.66	16.31	17	0
3	QPSK	1	8	15.82	15.83	15.83		
3	QPSK	1	14	15.83	15.75	15.89		
3	QPSK	8	0	15.95	15.94	15.93	17	0
3	QPSK	8	4	15.96	15.82	16.01		
3	QPSK	8	7	16.01	15.95	16.03		
3	QPSK	15	0	15.93	16.00	15.88	17	0
3	16QAM	1	0	16.27	16.26	16.11		
3	16QAM	1	8	16.20	16.25	16.18		
3	16QAM	1	14	16.15	16.15	16.31	17	0
3	16QAM	8	0	16.04	16.00	15.88		
3	16QAM	8	4	16.03	15.97	15.94		
3	16QAM	8	7	15.98	16.01	16.05	17	0



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3	16QAM	15	0	15.95	15.83	15.86		
3	64QAM	1	0	16.06	16.00	16.04	17	0
3	64QAM	1	8	15.95	15.92	15.93		
3	64QAM	1	14	16.02	16.00	16.24		
3	64QAM	8	0	16.02	15.96	16.00	17	0
3	64QAM	8	4	16.05	15.96	15.95		
3	64QAM	8	7	16.00	15.97	16.02		
3	64QAM	15	0	16.05	15.97	15.99		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	15.87	15.67	16.32	17	0
1.4	QPSK	1	3	15.73	15.83	15.81		
1.4	QPSK	1	5	15.84	15.77	15.93		
1.4	QPSK	3	0	15.95	15.86	15.93		
1.4	QPSK	3	1	16.01	15.92	15.98		
1.4	QPSK	3	3	15.99	15.94	16.02		
1.4	QPSK	6	0	15.92	15.94	15.95	17	0
1.4	16QAM	1	0	16.34	16.27	16.11	17	0
1.4	16QAM	1	3	16.23	16.22	16.11		
1.4	16QAM	1	5	16.23	16.09	16.27		
1.4	16QAM	3	0	16.05	16.03	15.93		
1.4	16QAM	3	1	16.02	15.98	15.98		
1.4	16QAM	3	3	15.95	15.92	16.04		
1.4	16QAM	6	0	15.97	15.90	15.92	17	0
1.4	64QAM	1	0	16.00	16.05	16.03	17	0
1.4	64QAM	1	3	15.91	15.92	15.96		
1.4	64QAM	1	5	16.04	16.00	16.21		
1.4	64QAM	3	0	16.07	15.92	15.99		
1.4	64QAM	3	1	15.99	15.95	16.02		
1.4	64QAM	3	3	16.07	15.99	16.04		
1.4	64QAM	6	0	15.97	15.97	16.00	17	0



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	16.23	16.58	16.28	17	0
20	QPSK	1	49	16.04	16.07	15.99		
20	QPSK	1	99	16.11	16.06	16.00		
20	QPSK	50	0	16.23	16.28	16.31	17	0
20	QPSK	50	24	16.25	16.23	16.22		
20	QPSK	50	50	16.19	16.20	16.14		
20	QPSK	100	0	16.23	16.23	16.20	17	0
20	16QAM	1	0	16.55	16.62	16.57		
20	16QAM	1	49	16.41	16.43	16.35		
20	16QAM	1	99	16.44	16.43	16.40	17	0
20	16QAM	50	0	16.26	16.32	16.34		
20	16QAM	50	24	16.29	16.23	16.24		
20	16QAM	50	50	16.24	16.24	16.17	17	0
20	16QAM	100	0	16.28	16.21	16.23		
20	64QAM	1	0	16.49	16.45	16.21		
20	64QAM	1	49	16.32	16.31	16.25	17	0
20	64QAM	1	99	16.37	16.31	16.29		
20	64QAM	50	0	16.27	16.33	16.35		
20	64QAM	50	24	16.28	16.25	16.24	17	0
20	64QAM	50	50	16.22	16.24	16.17		
20	64QAM	100	0	16.30	16.23	16.25		
Channel				20025	20175	20325		
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	16.21	16.57	16.28	17	0
15	QPSK	1	37	16.04	15.97	15.96		
15	QPSK	1	74	16.10	15.97	16.00		
15	QPSK	36	0	16.20	16.19	16.24	17	0
15	QPSK	36	20	16.22	16.16	16.14		
15	QPSK	36	39	16.11	16.16	16.14		
15	QPSK	75	0	16.23	16.22	16.15	17	0
15	16QAM	1	0	16.49	16.52	16.55		
15	16QAM	1	37	16.36	16.42	16.29		
15	16QAM	1	74	16.36	16.42	16.40	17	0
15	16QAM	36	0	16.25	16.32	16.27		
15	16QAM	36	20	16.29	16.18	16.16		
15	16QAM	36	39	16.23	16.23	16.15	17	0
15	16QAM	75	0	16.24	16.17	16.20		
15	64QAM	1	0	16.47	16.37	16.16		
15	64QAM	1	37	16.24	16.28	16.17	17	0
15	64QAM	1	74	16.37	16.30	16.26		
15	64QAM	36	0	16.18	16.25	16.32		
15	64QAM	36	20	16.23	16.15	16.16	17	0
15	64QAM	36	39	16.19	16.19	16.09		
15	64QAM	75	0	16.25	16.20	16.19		
Channel				20000	20175	20350		
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	16.14	16.56	16.22	17	0
10	QPSK	1	25	16.04	16.00	15.97		
10	QPSK	1	49	16.09	15.97	15.91		
10	QPSK	25	0	16.21	16.26	16.27		



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10	QPSK	25	12	16.23	16.22	16.20		
10	QPSK	25	25	16.18	16.15	16.08		
10	QPSK	50	0	16.23	16.17	16.11		
10	16QAM	1	0	16.47	16.54	16.54	17	0
10	16QAM	1	25	16.39	16.38	16.29		
10	16QAM	1	49	16.44	16.43	16.30		
10	16QAM	25	0	16.25	16.28	16.29	17	0
10	16QAM	25	12	16.23	16.21	16.18		
10	16QAM	25	25	16.22	16.22	16.13		
10	16QAM	50	0	16.28	16.17	16.20		
10	64QAM	1	0	16.47	16.44	16.12	17	0
10	64QAM	1	25	16.28	16.26	16.18		
10	64QAM	1	49	16.36	16.25	16.22		
10	64QAM	25	0	16.26	16.23	16.31	17	0
10	64QAM	25	12	16.26	16.19	16.23		
10	64QAM	25	25	16.15	16.16	16.12		
10	64QAM	50	0	16.29	16.15	16.17		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	16.20	16.56	16.27	17	0
5	QPSK	1	12	16.02	16.06	15.94		
5	QPSK	1	24	16.02	15.97	15.99		
5	QPSK	12	0	16.18	16.28	16.21	17	0
5	QPSK	12	7	16.17	16.13	16.17		
5	QPSK	12	13	16.17	16.11	16.08		
5	QPSK	25	0	16.14	16.14	16.12		
5	16QAM	1	0	16.47	16.54	16.57	17	0
5	16QAM	1	12	16.41	16.37	16.27		
5	16QAM	1	24	16.42	16.38	16.37		
5	16QAM	12	0	16.16	16.29	16.24	17	0
5	16QAM	12	7	16.29	16.21	16.16		
5	16QAM	12	13	16.19	16.15	16.07		
5	16QAM	25	0	16.25	16.12	16.17		
5	64QAM	1	0	16.39	16.39	16.14	17	0
5	64QAM	1	12	16.32	16.29	16.25		
5	64QAM	1	24	16.29	16.28	16.20		
5	64QAM	12	0	16.17	16.28	16.31	17	0
5	64QAM	12	7	16.22	16.18	16.21		
5	64QAM	12	13	16.12	16.21	16.07		
5	64QAM	25	0	16.28	16.20	16.18		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	16.18	16.48	16.28	17	0
3	QPSK	1	8	15.96	16.06	15.93		
3	QPSK	1	14	16.10	15.97	15.96		
3	QPSK	8	0	16.14	16.28	16.21	17	0
3	QPSK	8	4	16.16	16.13	16.18		
3	QPSK	8	7	16.17	16.10	16.12		
3	QPSK	15	0	16.20	16.23	16.20		
3	16QAM	1	0	16.50	16.53	16.53	17	0
3	16QAM	1	8	16.37	16.35	16.30		
3	16QAM	1	14	16.39	16.41	16.32		
3	16QAM	8	0	16.18	16.25	16.30	17	0
3	16QAM	8	4	16.20	16.18	16.23		
3	16QAM	8	7	16.19	16.17	16.17		
3	16QAM	15	0	16.24	16.15	16.13		



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3	64QAM	1	0	16.49	16.42	16.16	17	0
3	64QAM	1	8	16.31	16.22	16.15		
3	64QAM	1	14	16.34	16.23	16.23		
3	64QAM	8	0	16.27	16.32	16.32	17	0
3	64QAM	8	4	16.20	16.16	16.19		
3	64QAM	8	7	16.15	16.21	16.11		
3	64QAM	15	0	16.26	16.18	16.18		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	16.20	16.53	16.24	17	0
1.4	QPSK	1	3	16.04	16.04	15.90		
1.4	QPSK	1	5	16.08	15.99	15.96		
1.4	QPSK	3	0	16.13	16.26	16.21		
1.4	QPSK	3	1	16.19	16.13	16.22		
1.4	QPSK	3	3	16.10	16.13	16.09		
1.4	QPSK	6	0	16.13	16.16	16.14	17	0
1.4	16QAM	1	0	16.51	16.54	16.53	17	0
1.4	16QAM	1	3	16.37	16.37	16.32		
1.4	16QAM	1	5	16.35	16.36	16.40		
1.4	16QAM	3	0	16.25	16.32	16.29		
1.4	16QAM	3	1	16.24	16.15	16.16		
1.4	16QAM	3	3	16.15	16.17	16.17		
1.4	16QAM	6	0	16.24	16.21	16.22	17	0
1.4	64QAM	1	0	16.41	16.41	16.16	17	0
1.4	64QAM	1	3	16.27	16.30	16.22		
1.4	64QAM	1	5	16.33	16.26	16.28		
1.4	64QAM	3	0	16.17	16.24	16.34		
1.4	64QAM	3	1	16.27	16.25	16.24		
1.4	64QAM	3	3	16.22	16.23	16.07		
1.4	64QAM	6	0	16.25	16.14	16.17	17	0



<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	20.63	20.82	20.80		
20	QPSK	1	49	20.46	20.36	20.61	21.5	0
20	QPSK	1	99	20.56	20.50	20.72		
20	QPSK	50	0	20.71	20.77	20.64		
20	QPSK	50	24	20.62	20.56	20.69	21.5	0
20	QPSK	50	50	20.63	20.58	20.62		
20	QPSK	100	0	20.64	20.77	20.69		
20	16QAM	1	0	20.81	20.73	20.75	21.5	0
20	16QAM	1	49	20.73	20.73	20.74		
20	16QAM	1	99	20.70	20.70	20.76		
20	16QAM	50	0	20.60	20.56	20.66	21.5	0
20	16QAM	50	24	20.65	20.61	20.73		
20	16QAM	50	50	20.67	20.63	20.73		
20	16QAM	100	0	20.64	20.59	20.72	21.5	0
20	64QAM	1	0	20.71	20.61	20.71		
20	64QAM	1	49	20.67	20.63	20.73		
20	64QAM	1	99	20.75	20.73	20.76	21	0.5
20	64QAM	50	0	19.76	20.07	19.90		
20	64QAM	50	24	19.86	20.09	20.07		
20	64QAM	50	50	19.94	20.13	20.00	21	0.5
20	64QAM	100	0	19.85	20.10	19.79		
Channel				20825	21100	21375		
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	20.54	20.76	20.70	21.5	0
15	QPSK	1	37	20.45	20.36	20.57		
15	QPSK	1	74	20.53	20.50	20.69		
15	QPSK	36	0	20.61	20.72	20.57	21.5	0
15	QPSK	36	20	20.57	20.55	20.64		
15	QPSK	36	39	20.62	20.50	20.56		
15	QPSK	75	0	20.57	20.72	20.68	21.5	0
15	16QAM	1	0	20.77	20.73	20.65		
15	16QAM	1	37	20.63	20.69	20.66		
15	16QAM	1	74	20.61	20.66	20.68	21.5	0
15	16QAM	36	0	20.53	20.53	20.63		
15	16QAM	36	20	20.57	20.58	20.69		
15	16QAM	36	39	20.57	20.57	20.69	21.5	0
15	16QAM	75	0	20.56	20.57	20.62		
15	64QAM	1	0	20.71	20.57	20.70		
15	64QAM	1	37	20.60	20.58	20.66	21.5	0
15	64QAM	1	74	20.68	20.71	20.76		
15	64QAM	36	0	19.67	20.07	19.83		
15	64QAM	36	20	19.78	20.01	20.02	21	0.5
15	64QAM	36	39	19.84	20.09	19.99		
15	64QAM	75	0	19.82	20.08	19.72		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	20.61	20.79	20.73	21.5	0
10	QPSK	1	25	20.36	20.36	20.59		
10	QPSK	1	49	20.46	20.40	20.70		
10	QPSK	25	0	20.61	20.75	20.54	21.5	0



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10	QPSK	25	12	20.52	20.51	20.65		
10	QPSK	25	25	20.53	20.48	20.58		
10	QPSK	50	0	20.60	20.70	20.61		
10	16QAM	1	0	20.80	20.63	20.66	21.5	0
10	16QAM	1	25	20.71	20.73	20.74		
10	16QAM	1	49	20.70	20.60	20.66		
10	16QAM	25	0	20.56	20.50	20.64	21.5	0
10	16QAM	25	12	20.63	20.60	20.65		
10	16QAM	25	25	20.60	20.56	20.67		
10	16QAM	50	0	20.54	20.52	20.66		
10	64QAM	1	0	20.66	20.58	20.61	21.5	0
10	64QAM	1	25	20.60	20.54	20.69		
10	64QAM	1	49	20.69	20.66	20.72		
10	64QAM	25	0	19.76	20.02	19.85	21	0.5
10	64QAM	25	12	19.85	19.99	20.04		
10	64QAM	25	25	19.85	20.12	19.90		
10	64QAM	50	0	19.79	20.07	19.70		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	20.53	20.75	20.75	21.5	0
5	QPSK	1	12	20.44	20.34	20.61		
5	QPSK	1	24	20.53	20.42	20.68		
5	QPSK	12	0	20.59	20.71	20.57	21.5	0
5	QPSK	12	7	20.61	20.46	20.69		
5	QPSK	12	13	20.53	20.58	20.52		
5	QPSK	25	0	20.58	20.77	20.59		
5	16QAM	1	0	20.72	20.65	20.73	21.5	0
5	16QAM	1	12	20.68	20.69	20.68		
5	16QAM	1	24	20.67	20.68	20.68		
5	16QAM	12	0	20.60	20.48	20.60	21.5	0
5	16QAM	12	7	20.55	20.54	20.69		
5	16QAM	12	13	20.57	20.63	20.71		
5	16QAM	25	0	20.61	20.53	20.63		
5	64QAM	1	0	20.68	20.59	20.66	21.5	0
5	64QAM	1	12	20.58	20.61	20.70		
5	64QAM	1	24	20.65	20.69	20.68		
5	64QAM	12	0	19.68	19.98	19.90	21	0.5
5	64QAM	12	7	19.83	20.09	19.99		
5	64QAM	12	13	19.88	20.05	20.00		
5	64QAM	25	0	19.75	20.06	19.74		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)		
Channel				26140	26340	26590				
Frequency (MHz)				1860	1880	1905				
20	QPSK	1	0	16.99	16.88	16.79				
20	QPSK	1	49	16.68	16.65	16.81	17	0		
20	QPSK	1	99	16.65	16.74	16.88				
20	QPSK	50	0	16.95	16.86	16.90				
20	QPSK	50	24	16.89	16.85	16.78	17	0		
20	QPSK	50	50	16.85	16.83	16.85				
20	QPSK	100	0	16.90	16.88	16.85				
20	16QAM	1	0	16.82	16.89	16.89	17	0		
20	16QAM	1	49	16.71	16.71	16.79				
20	16QAM	1	99	16.57	16.71	16.75				
20	16QAM	50	0	16.97	16.84	16.94	17	0		
20	16QAM	50	24	16.96	16.84	16.97				
20	16QAM	50	50	16.94	16.86	16.57				
20	16QAM	100	0	16.91	16.82	16.93	17	0		
20	64QAM	1	0	16.98	16.94	16.98				
20	64QAM	1	49	16.89	16.88	16.77				
20	64QAM	1	99	16.95	16.75	16.79	17	0		
20	64QAM	50	0	16.97	16.88	16.97				
20	64QAM	50	24	16.95	16.87	16.72				
20	64QAM	50	50	16.91	16.88	16.71	17	0		
20	64QAM	100	0	16.93	16.85	16.80				
Channel				26115	26340	26615			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5	17	0		
15	QPSK	1	0	16.89	16.85	16.75				
15	QPSK	1	37	16.60	16.63	16.81				
15	QPSK	1	74	16.62	16.66	16.79	17	0		
15	QPSK	36	0	16.93	16.81	16.88				
15	QPSK	36	20	16.87	16.80	16.75				
15	QPSK	36	39	16.82	16.80	16.79	17	0		
15	QPSK	75	0	16.83	16.82	16.83				
15	16QAM	1	0	16.81	16.79	16.85				
15	16QAM	1	37	16.69	16.70	16.69	17	0		
15	16QAM	1	74	16.52	16.65	16.72				
15	16QAM	36	0	16.94	16.75	16.92				
15	16QAM	36	20	16.92	16.82	16.89	17	0		
15	16QAM	36	39	16.89	16.85	16.48				
15	16QAM	75	0	16.86	16.82	16.88				
15	64QAM	1	0	16.88	16.86	16.95	17	0		
15	64QAM	1	37	16.88	16.82	16.67				
15	64QAM	1	74	16.89	16.68	16.70				
15	64QAM	36	0	16.92	16.85	16.87	17	0		
15	64QAM	36	20	16.91	16.83	16.62				
15	64QAM	36	39	16.86	16.87	16.69				
15	64QAM	75	0	16.89	16.83	16.80	17	0		
Channel				26090	26340	26640			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910			17	0
10	QPSK	1	0	16.96	16.88	16.79				
10	QPSK	1	25	16.66	16.61	16.81				
10	QPSK	1	49	16.59	16.66	16.83	17	0		
10	QPSK	25	0	16.90	16.76	16.86				



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10	QPSK	25	12	16.87	16.78	16.76		
10	QPSK	25	25	16.84	16.81	16.76		
10	QPSK	50	0	16.90	16.83	16.81		
10	16QAM	1	0	16.81	16.88	16.88	17	0
10	16QAM	1	25	16.61	16.61	16.75		
10	16QAM	1	49	16.55	16.69	16.69		
10	16QAM	25	0	16.96	16.76	16.90	17	0
10	16QAM	25	12	16.90	16.74	16.89		
10	16QAM	25	25	16.94	16.82	16.53		
10	16QAM	50	0	16.90	16.78	16.85		
10	64QAM	1	0	16.90	16.87	16.89	17	0
10	64QAM	1	25	16.82	16.79	16.69		
10	64QAM	1	49	16.89	16.74	16.79		
10	64QAM	25	0	16.87	16.86	16.91	17	0
10	64QAM	25	12	16.89	16.86	16.69		
10	64QAM	25	25	16.82	16.79	16.68		
10	64QAM	50	0	16.87	16.83	16.73		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	16.94	16.82	16.75	17	0
5	QPSK	1	12	16.61	16.62	16.79		
5	QPSK	1	24	16.61	16.69	16.81		
5	QPSK	12	0	16.89	16.86	16.90	17	0
5	QPSK	12	7	16.82	16.76	16.69		
5	QPSK	12	13	16.79	16.78	16.83		
5	QPSK	25	0	16.84	16.85	16.76		
5	16QAM	1	0	16.73	16.82	16.89	17	0
5	16QAM	1	12	16.69	16.71	16.75		
5	16QAM	1	24	16.49	16.64	16.71		
5	16QAM	12	0	16.88	16.84	16.94	17	0
5	16QAM	12	7	16.90	16.84	16.87		
5	16QAM	12	13	16.88	16.80	16.50		
5	16QAM	25	0	16.89	16.78	16.89		
5	64QAM	1	0	16.88	16.93	16.94	17	0
5	64QAM	1	12	16.84	16.78	16.74		
5	64QAM	1	24	16.94	16.72	16.71		
5	64QAM	12	0	16.97	16.82	16.88	17	0
5	64QAM	12	7	16.90	16.82	16.69		
5	64QAM	12	13	16.85	16.86	16.64		
5	64QAM	25	0	16.87	16.77	16.71		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	16.95	16.81	16.77	17	0
3	QPSK	1	8	16.61	16.61	16.75		
3	QPSK	1	14	16.64	16.64	16.85		
3	QPSK	8	0	16.94	16.76	16.90	17	0
3	QPSK	8	4	16.86	16.75	16.73		
3	QPSK	8	7	16.85	16.75	16.80		
3	QPSK	15	0	16.87	16.86	16.84		
3	16QAM	1	0	16.82	16.84	16.84	17	0
3	16QAM	1	8	16.61	16.66	16.76		
3	16QAM	1	14	16.57	16.62	16.67		
3	16QAM	8	0	16.96	16.80	16.90	17	0
3	16QAM	8	4	16.88	16.77	16.89		
3	16QAM	8	7	16.92	16.85	16.48		
3	16QAM	15	0	16.82	16.80	16.85		



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3	64QAM	1	0	16.89	16.90	16.90	17	0
3	64QAM	1	8	16.87	16.85	16.74		
3	64QAM	1	14	16.89	16.71	16.73		
3	64QAM	8	0	16.91	16.86	16.90	17	0
3	64QAM	8	4	16.93	16.82	16.67		
3	64QAM	8	7	16.89	16.82	16.64		
3	64QAM	15	0	16.84	16.75	16.72		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	16.98	16.81	16.78	17	0
1.4	QPSK	1	3	16.68	16.60	16.74		
1.4	QPSK	1	5	16.58	16.73	16.88		
1.4	QPSK	3	0	16.90	16.84	16.90		
1.4	QPSK	3	1	16.89	16.82	16.70		
1.4	QPSK	3	3	16.83	16.83	16.83		
1.4	QPSK	6	0	16.87	16.85	16.79	17	0
1.4	16QAM	1	0	16.75	16.86	16.84	17	0
1.4	16QAM	1	3	16.64	16.63	16.78		
1.4	16QAM	1	5	16.49	16.69	16.75		
1.4	16QAM	3	0	16.88	16.82	16.88		
1.4	16QAM	3	1	16.94	16.81	16.88		
1.4	16QAM	3	3	16.92	16.85	16.50		
1.4	16QAM	6	0	16.85	16.80	16.83	17	0
1.4	64QAM	1	0	16.97	16.88	16.90	17	0
1.4	64QAM	1	3	16.79	16.88	16.74		
1.4	64QAM	1	5	16.88	16.70	16.77		
1.4	64QAM	3	0	16.91	16.82	16.89		
1.4	64QAM	3	1	16.87	16.83	16.68		
1.4	64QAM	3	3	16.89	16.85	16.67		
1.4	64QAM	6	0	16.84	16.77	16.73	17	0



<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710			17.5	0
Frequency (MHz)				2310				
10	QPSK	1	0		16.41		17.5	0
10	QPSK	1	25		16.23			
10	QPSK	1	49		16.01			
10	QPSK	25	0		16.14		17.5	0
10	QPSK	25	12		16.04			
10	QPSK	25	25		16.02			
10	QPSK	50	0		16.13		17.5	0
10	16QAM	1	0		16.13			
10	16QAM	1	25		16.14			
10	16QAM	1	49		16.11		17.5	0
10	16QAM	25	0		16.01			
10	16QAM	25	12		16.09			
10	16QAM	25	25		16.12		17.5	0
10	16QAM	50	0		16.04			
10	64QAM	1	0		16.15			
10	64QAM	1	25		16.28		17.5	0
10	64QAM	1	49		16.28			
10	64QAM	25	0		16.03			
10	64QAM	25	12		16.07		17.5	0
10	64QAM	25	25		16.19			
10	64QAM	50	0		16.11			
Channel				27685	27710	27735	17.5	0
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	16.39	16.38	16.33	17.5	0
5	QPSK	1	12	16.16	16.15	16.17		
5	QPSK	1	24	16.00	15.92	15.96		
5	QPSK	12	0	16.10	16.13	16.11	17.5	0
5	QPSK	12	7	16.00	16.04	16.03		
5	QPSK	12	13	15.99	15.96	15.98		
5	QPSK	25	0	15.97	15.98	15.99	17.5	0
5	16QAM	1	0	16.05	16.12	16.04		
5	16QAM	1	12	16.04	16.10	16.11		
5	16QAM	1	24	16.11	16.05	16.11	17.5	0
5	16QAM	12	0	15.92	15.94	15.93		
5	16QAM	12	7	16.02	16.09	15.99		
5	16QAM	12	13	16.04	16.06	16.02	17.5	0
5	16QAM	25	0	16.00	15.95	15.94		
5	64QAM	1	0	16.11	16.05	16.09		
5	64QAM	1	12	16.26	16.23	16.25	17.5	0
5	64QAM	1	24	16.28	16.28	16.18		
5	64QAM	12	0	16.03	15.99	15.95		
5	64QAM	12	7	15.98	15.98	16.06	17.5	0
5	64QAM	12	13	16.13	16.11	16.18		
5	64QAM	25	0	16.01	16.04	16.08		



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572	17	0
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	16.55	16.53	16.40		
20	QPSK	1	49	16.08	16.07	15.90	17	0
20	QPSK	1	99	16.12	16.06	15.79		
20	QPSK	50	0	16.25	16.18	16.04		
20	QPSK	50	24	16.16	16.16	16.04	17	0
20	QPSK	50	50	16.21	16.18	15.94		
20	QPSK	100	0	16.21	16.13	16.06		
20	16QAM	1	0	16.45	16.52	16.40	17	0
20	16QAM	1	49	16.46	16.44	16.21		
20	16QAM	1	99	16.38	16.43	16.10		
20	16QAM	50	0	16.20	16.21	16.03	17	0
20	16QAM	50	24	16.27	16.18	16.06		
20	16QAM	50	50	16.23	16.22	15.99		
20	16QAM	100	0	16.24	16.16	16.07	17	0
20	64QAM	1	0	16.37	16.32	16.25		
20	64QAM	1	49	16.36	16.29	16.12		
20	64QAM	1	99	16.30	16.31	16.05	17	0
20	64QAM	50	0	16.21	16.23	16.07		
20	64QAM	50	24	16.29	16.18	16.07		
20	64QAM	50	50	16.21	16.19	15.97	17	0
20	64QAM	100	0	16.26	16.17	16.03		
Channel				132047	132322	132597		
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	16.45	16.45	16.36	17	0
15	QPSK	1	37	16.04	15.99	15.83		
15	QPSK	1	74	16.09	16.05	15.74		
15	QPSK	36	0	16.17	16.12	15.98	17	0
15	QPSK	36	20	16.06	16.11	16.02		
15	QPSK	36	39	16.15	16.08	15.87		
15	QPSK	75	0	16.16	16.03	16.03	17	0
15	16QAM	1	0	16.36	16.46	16.30		
15	16QAM	1	37	16.36	16.36	16.15		
15	16QAM	1	74	16.29	16.43	16.07	17	0
15	16QAM	36	0	16.11	16.20	15.99		
15	16QAM	36	20	16.19	16.14	15.99		
15	16QAM	36	39	16.16	16.21	15.89	17	0
15	16QAM	75	0	16.16	16.13	15.99		
15	64QAM	1	0	16.31	16.24	16.15		
15	64QAM	1	37	16.32	16.22	16.06	17	0
15	64QAM	1	74	16.24	16.27	16.03		
15	64QAM	36	0	16.14	16.23	15.97		
15	64QAM	36	20	16.23	16.17	16.02	17	0
15	64QAM	36	39	16.13	16.18	15.91		
15	64QAM	75	0	16.25	16.09	16.02		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	16.45	16.43	16.40	17	0
10	QPSK	1	25	16.00	15.97	15.90		
10	QPSK	1	49	16.11	16.02	15.78		
10	QPSK	25	0	16.22	16.10	16.04		



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10	QPSK	25	12	16.10	16.12	16.03		
10	QPSK	25	25	16.20	16.13	15.92		
10	QPSK	50	0	16.15	16.12	16.01		
10	16QAM	1	0	16.40	16.44	16.36	17	0
10	16QAM	1	25	16.39	16.34	16.20		
10	16QAM	1	49	16.28	16.40	16.10		
10	16QAM	25	0	16.15	16.17	15.96	17	0
10	16QAM	25	12	16.20	16.13	16.04		
10	16QAM	25	25	16.15	16.15	15.93		
10	16QAM	50	0	16.18	16.12	16.03		
10	64QAM	1	0	16.34	16.26	16.22	17	0
10	64QAM	1	25	16.28	16.19	16.08		
10	64QAM	1	49	16.25	16.29	15.95		
10	64QAM	25	0	16.17	16.18	16.04	17	0
10	64QAM	25	12	16.26	16.13	16.05		
10	64QAM	25	25	16.12	16.19	15.97		
10	64QAM	50	0	16.17	16.13	16.01		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	16.47	16.44	16.36	17	0
5	QPSK	1	12	16.07	16.06	15.89		
5	QPSK	1	24	16.02	16.06	15.69		
5	QPSK	12	0	16.18	16.18	15.98	17	0
5	QPSK	12	7	16.06	16.10	15.99		
5	QPSK	12	13	16.18	16.11	15.85		
5	QPSK	25	0	16.19	16.08	16.01		
5	16QAM	1	0	16.44	16.47	16.35	17	0
5	16QAM	1	12	16.40	16.35	16.16		
5	16QAM	1	24	16.36	16.36	16.03		
5	16QAM	12	0	16.17	16.20	15.98	17	0
5	16QAM	12	7	16.21	16.17	15.99		
5	16QAM	12	13	16.14	16.12	15.95		
5	16QAM	25	0	16.16	16.14	16.01		
5	64QAM	1	0	16.30	16.22	16.15	17	0
5	64QAM	1	12	16.30	16.19	16.03		
5	64QAM	1	24	16.30	16.23	15.95		
5	64QAM	12	0	16.14	16.15	16.02	17	0
5	64QAM	12	7	16.23	16.10	15.98		
5	64QAM	12	13	16.16	16.15	15.97		
5	64QAM	25	0	16.24	16.12	15.99		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	16.52	16.48	16.30	17	0
3	QPSK	1	8	16.00	16.06	15.90		
3	QPSK	1	14	16.07	16.04	15.74		
3	QPSK	8	0	16.25	16.13	16.00	17	0
3	QPSK	8	4	16.09	16.08	16.04		
3	QPSK	8	7	16.16	16.10	15.91		
3	QPSK	15	0	16.12	16.09	16.02		
3	16QAM	1	0	16.36	16.45	16.39	17	0
3	16QAM	1	8	16.40	16.37	16.20		
3	16QAM	1	14	16.31	16.37	16.02		
3	16QAM	8	0	16.20	16.19	16.01	17	0
3	16QAM	8	4	16.21	16.10	15.99		
3	16QAM	8	7	16.17	16.21	15.89		
3	16QAM	15	0	16.17	16.15	15.99		



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3	64QAM	1	0	16.27	16.24	16.23	17	0
3	64QAM	1	8	16.29	16.22	16.09		
3	64QAM	1	14	16.25	16.29	15.96		
3	64QAM	8	0	16.14	16.18	16.06	17	0
3	64QAM	8	4	16.20	16.17	16.04		
3	64QAM	8	7	16.16	16.18	15.87		
3	64QAM	15	0	16.25	16.15	15.99		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	16.49	16.53	16.38	17	0
1.4	QPSK	1	3	16.04	16.02	15.90		
1.4	QPSK	1	5	16.05	15.98	15.70		
1.4	QPSK	3	0	16.23	16.09	16.04		
1.4	QPSK	3	1	16.09	16.16	16.04		
1.4	QPSK	3	3	16.20	16.16	15.93		
1.4	QPSK	6	0	16.19	16.12	16.06	17	0
1.4	16QAM	1	0	16.41	16.48	16.36	17	0
1.4	16QAM	1	3	16.39	16.44	16.14		
1.4	16QAM	1	5	16.28	16.33	16.05		
1.4	16QAM	3	0	16.20	16.20	15.96		
1.4	16QAM	3	1	16.24	16.16	16.03		
1.4	16QAM	3	3	16.18	16.12	15.99		
1.4	16QAM	6	0	16.20	16.07	16.04	17	0
1.4	64QAM	1	0	16.33	16.26	16.18	17	0
1.4	64QAM	1	3	16.32	16.29	16.02		
1.4	64QAM	1	5	16.28	16.30	16.05		
1.4	64QAM	3	0	16.17	16.23	15.99		
1.4	64QAM	3	1	16.20	16.14	16.00		
1.4	64QAM	3	3	16.21	16.18	15.90		
1.4	64QAM	6	0	16.26	16.11	16.02	17	0



<Reduced Power on Product Specific Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	21.51	21.50	21.74		
20	QPSK	1	49	21.35	21.29	21.40	22.5	0
20	QPSK	1	99	21.33	21.42	21.46		
20	QPSK	50	0	21.52	21.49	21.63		
20	QPSK	50	24	21.53	21.49	21.53	22.5	0
20	QPSK	50	50	21.50	21.48	21.60		
20	QPSK	100	0	21.53	21.49	21.55		
20	16QAM	1	0	21.76	21.69	21.72	22.5	0
20	16QAM	1	49	21.68	21.68	21.77		
20	16QAM	1	99	21.63	21.76	21.83		
20	16QAM	50	0	21.00	20.89	20.96	22	0.5
20	16QAM	50	24	21.01	20.98	21.11		
20	16QAM	50	50	21.01	21.02	21.14		
20	16QAM	100	0	20.99	20.95	20.99	22	0.5
20	64QAM	1	0	21.12	21.03	21.24		
20	64QAM	1	49	21.08	20.95	21.09		
20	64QAM	1	99	21.02	21.06	21.04	21	1.5
20	64QAM	50	0	19.99	19.96	20.01		
20	64QAM	50	24	20.10	19.98	20.14		
20	64QAM	50	50	20.06	20.04	20.07	21	1.5
20	64QAM	100	0	20.01	19.98	20.02		
Channel				18675	18900	19125		
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	21.51	21.48	21.74	22.5	0
15	QPSK	1	37	21.30	21.29	21.39		
15	QPSK	1	74	21.23	21.41	21.38		
15	QPSK	36	0	21.43	21.47	21.60	22.5	0
15	QPSK	36	20	21.48	21.48	21.46		
15	QPSK	36	39	21.43	21.39	21.56		
15	QPSK	75	0	21.46	21.43	21.52	22.5	0
15	16QAM	1	0	21.67	21.67	21.65		
15	16QAM	1	37	21.58	21.59	21.69		
15	16QAM	1	74	21.59	21.70	21.76	22	0.5
15	16QAM	36	0	20.96	20.89	21.00		
15	16QAM	36	20	21.02	21.02	21.08		
15	16QAM	36	39	20.96	20.98	21.14	22	0.5
15	16QAM	75	0	20.99	21.02	20.99		
15	64QAM	1	0	21.14	21.00	21.17		
15	64QAM	1	37	21.02	21.02	21.11	22	0.5
15	64QAM	1	74	21.04	21.10	21.01		
15	64QAM	36	0	19.96	19.92	20.05		
15	64QAM	36	20	20.07	20.02	20.17	21	1.5
15	64QAM	36	39	19.99	19.97	20.09		
15	64QAM	75	0	20.08	19.95	20.02		
Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	21.51	21.42	21.70	22.5	0
10	QPSK	1	25	21.26	21.24	21.33		



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10	QPSK	1	49	21.25	21.40	21.41		
10	QPSK	25	0	21.47	21.44	21.61	22.5	0
10	QPSK	25	12	21.44	21.47	21.47		
10	QPSK	25	25	21.47	21.47	21.54		
10	QPSK	50	0	21.51	21.39	21.53		
10	16QAM	1	0	21.66	21.64	21.63	22.5	0
10	16QAM	1	25	21.59	21.59	21.75		
10	16QAM	1	49	21.63	21.72	21.61		
10	16QAM	25	0	21.00	20.91	20.99	22	0.5
10	16QAM	25	12	21.01	20.98	21.05		
10	16QAM	25	25	21.01	20.98	21.12		
10	16QAM	50	0	21.05	20.93	21.05		
10	64QAM	1	0	21.14	21.02	21.20	22	0.5
10	64QAM	1	25	21.05	21.00	21.17		
10	64QAM	1	49	20.99	21.12	21.11		
10	64QAM	25	0	19.93	19.95	20.01	21	1.5
10	64QAM	25	12	20.08	19.99	20.17		
10	64QAM	25	25	20.06	20.03	20.08		
10	64QAM	50	0	20.05	19.96	20.00		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	21.50	21.42	21.69	22.5	0
5	QPSK	1	12	21.35	21.20	21.37		
5	QPSK	1	24	21.24	21.42	21.42		
5	QPSK	12	0	21.51	21.42	21.62	22.5	0
5	QPSK	12	7	21.46	21.45	21.52		
5	QPSK	12	13	21.49	21.39	21.59		
5	QPSK	25	0	21.47	21.40	21.46		
5	16QAM	1	0	21.67	21.63	21.66	22.5	0
5	16QAM	1	12	21.59	21.60	21.69		
5	16QAM	1	24	21.60	21.66	21.71		
5	16QAM	12	0	20.98	20.92	20.96	22	0.5
5	16QAM	12	7	21.00	21.04	21.11		
5	16QAM	12	13	21.04	20.98	21.12		
5	16QAM	25	0	21.00	21.02	21.05		
5	64QAM	1	0	21.18	21.00	21.24	22	0.5
5	64QAM	1	12	21.07	20.95	21.07		
5	64QAM	1	24	21.03	21.09	21.06		
5	64QAM	12	0	19.99	19.88	20.06	21	1.5
5	64QAM	12	7	20.13	19.98	20.17		
5	64QAM	12	13	20.01	20.02	20.05		
5	64QAM	25	0	20.02	20.01	20.02		
Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	21.49	21.47	21.67	22.5	0
3	QPSK	1	8	21.28	21.23	21.31		
3	QPSK	1	14	21.24	21.39	21.46		
3	QPSK	8	0	21.45	21.46	21.56	22.5	0
3	QPSK	8	4	21.45	21.39	21.52		
3	QPSK	8	7	21.41	21.40	21.58		
3	QPSK	15	0	21.49	21.43	21.45		
3	16QAM	1	0	21.76	21.59	21.69	22.5	0
3	16QAM	1	8	21.60	21.66	21.74		
3	16QAM	1	14	21.54	21.68	21.76		
3	16QAM	8	0	20.99	20.89	21.03	22	0.5
3	16QAM	8	4	21.07	21.01	21.13		



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3	16QAM	8	7	20.99	21.02	21.14		
3	16QAM	15	0	21.06	20.99	21.06		
3	64QAM	1	0	21.11	21.04	21.24		
3	64QAM	1	8	20.99	21.00	21.09	22	0.5
3	64QAM	1	14	21.06	21.09	21.10		
3	64QAM	8	0	19.99	19.87	20.00		
3	64QAM	8	4	20.10	20.01	20.12	21	1.5
3	64QAM	8	7	20.07	20.05	20.02		
3	64QAM	15	0	20.03	20.00	20.04		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	21.51	21.40	21.67	22.5	0
1.4	QPSK	1	3	21.33	21.21	21.33		
1.4	QPSK	1	5	21.31	21.34	21.43		
1.4	QPSK	3	0	21.47	21.43	21.59		
1.4	QPSK	3	1	21.53	21.39	21.45		
1.4	QPSK	3	3	21.46	21.44	21.59		
1.4	QPSK	6	0	21.53	21.48	21.54	22.5	0
1.4	16QAM	1	0	21.66	21.61	21.71	22.5	0
1.4	16QAM	1	3	21.60	21.66	21.76		
1.4	16QAM	1	5	21.53	21.73	21.75		
1.4	16QAM	3	0	21.45	21.46	21.56		
1.4	16QAM	3	1	21.45	21.39	21.52		
1.4	16QAM	3	3	21.41	21.40	21.58		
1.4	16QAM	6	0	21.51	21.40	21.48	22	0.5
1.4	64QAM	1	0	20.92	20.96	21.06	22	0.5
1.4	64QAM	1	3	21.03	21.03	21.14		
1.4	64QAM	1	5	21.04	20.93	21.15		
1.4	64QAM	3	0	21.07	21.03	21.01		
1.4	64QAM	3	1	21.14	21.01	21.17		
1.4	64QAM	3	3	20.99	20.96	21.17		
1.4	64QAM	6	0	20.12	19.95	20.15	21	1.5



<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	21.52	21.64	21.55	22	0
20	QPSK	1	49	21.03	21.06	20.93		
20	QPSK	1	99	21.08	21.02	20.96		
20	QPSK	50	0	21.52	21.55	21.53	22	0
20	QPSK	50	24	21.23	21.19	21.22		
20	QPSK	50	50	21.21	21.19	21.13		
20	QPSK	100	0	21.24	21.22	21.19	22	0
20	16QAM	1	0	21.52	21.50	21.55		
20	16QAM	1	49	21.36	21.39	21.40		
20	16QAM	1	99	21.37	21.42	21.37	22	0
20	16QAM	50	0	21.18	21.20	21.10		
20	16QAM	50	24	21.12	21.14	21.09		
20	16QAM	50	50	21.10	21.03	21.04	22	0
20	16QAM	100	0	21.15	21.05	21.11		
20	64QAM	1	0	21.21	21.20	21.12		
20	64QAM	1	49	21.20	21.17	21.33	22	0
20	64QAM	1	99	21.12	21.15	21.24		
20	64QAM	50	0	20.71	20.78	20.64		
20	64QAM	50	24	20.73	20.67	20.68	21	1
20	64QAM	50	50	20.63	20.67	20.54		
20	64QAM	100	0	20.71	20.71	20.71		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	21.43	21.59	21.45	22	0
15	QPSK	1	37	21.01	20.99	20.93		
15	QPSK	1	74	21.07	21.02	20.89		
15	QPSK	36	0	21.51	21.47	21.50	22	0
15	QPSK	36	20	21.20	21.09	21.18		
15	QPSK	36	39	21.19	21.10	21.12		
15	QPSK	75	0	21.21	21.19	21.10	22	0
15	16QAM	1	0	21.51	21.45	21.53		
15	16QAM	1	37	21.26	21.36	21.34		
15	16QAM	1	74	21.32	21.41	21.29	22	0
15	16QAM	36	0	21.12	21.16	21.05		
15	16QAM	36	20	21.15	21.09	21.16		
15	16QAM	36	39	21.04	21.05	21.05	22	0
15	16QAM	75	0	21.09	21.13	21.08		
15	64QAM	1	0	21.16	21.20	21.19		
15	64QAM	1	37	21.14	21.13	21.34	22	0
15	64QAM	1	74	21.22	21.17	21.23		
15	64QAM	36	0	20.75	20.77	20.69		
15	64QAM	36	20	20.76	20.73	20.66	21	1
15	64QAM	36	39	20.65	20.65	20.54		
15	64QAM	75	0	20.77	20.74	20.70		
Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	21.52	21.57	21.51	22	0
10	QPSK	1	25	20.93	20.98	20.91		
10	QPSK	1	49	21.02	21.02	20.96		
10	QPSK	25	0	21.47	21.53	21.49	22	0



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10	QPSK	25	12	21.13	21.17	21.18		
10	QPSK	25	25	21.15	21.12	21.09		
10	QPSK	50	0	21.16	21.22	21.19		
10	16QAM	1	0	21.48	21.40	21.52	22	0
10	16QAM	1	25	21.29	21.29	21.31		
10	16QAM	1	49	21.35	21.36	21.28		
10	16QAM	25	0	21.17	21.21	21.04	22	0
10	16QAM	25	12	21.16	21.14	21.09		
10	16QAM	25	25	21.06	21.02	20.98		
10	16QAM	50	0	21.16	21.12	21.07		
10	64QAM	1	0	21.16	21.16	21.11	22	0
10	64QAM	1	25	21.21	21.15	21.35		
10	64QAM	1	49	21.21	21.14	21.25		
10	64QAM	25	0	20.66	20.83	20.71	21	1
10	64QAM	25	12	20.72	20.68	20.63		
10	64QAM	25	25	20.69	20.61	20.54		
10	64QAM	50	0	20.69	20.69	20.69		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	21.48	21.57	21.55	22	0
5	QPSK	1	12	21.01	21.06	20.93		
5	QPSK	1	24	21.06	20.95	20.95		
5	QPSK	12	0	21.48	21.48	21.48	22	0
5	QPSK	12	7	21.21	21.19	21.16		
5	QPSK	12	13	21.19	21.12	21.06		
5	QPSK	25	0	21.15	21.14	21.09		
5	16QAM	1	0	21.48	21.45	21.49	22	0
5	16QAM	1	12	21.36	21.31	21.32		
5	16QAM	1	24	21.34	21.36	21.28		
5	16QAM	12	0	21.11	21.22	21.14	22	0
5	16QAM	12	7	21.14	21.15	21.07		
5	16QAM	12	13	21.07	21.05	21.05		
5	16QAM	25	0	21.07	21.04	21.11		
5	64QAM	1	0	21.20	21.15	21.18	22	0
5	64QAM	1	12	21.17	21.10	21.26		
5	64QAM	1	24	21.20	21.18	21.16		
5	64QAM	12	0	20.66	20.73	20.64	21	1
5	64QAM	12	7	20.66	20.72	20.70		
5	64QAM	12	13	20.59	20.70	20.62		
5	64QAM	25	0	20.72	20.75	20.70		
Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	21.51	21.54	21.45	22	0
3	QPSK	1	8	20.93	21.00	20.87		
3	QPSK	1	14	21.06	21.01	20.89		
3	QPSK	8	0	21.52	21.47	21.43	22	0
3	QPSK	8	4	21.19	21.13	21.12		
3	QPSK	8	7	21.13	21.09	21.09		
3	QPSK	15	0	21.17	21.18	21.16		
3	16QAM	1	0	21.44	21.40	21.47	22	0
3	16QAM	1	8	21.30	21.31	21.30		
3	16QAM	1	14	21.37	21.40	21.35		
3	16QAM	8	0	21.09	21.15	21.05	22	0
3	16QAM	8	4	21.12	21.06	21.09		
3	16QAM	8	7	21.07	21.10	20.96		
3	16QAM	15	0	21.13	21.03	21.10		



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3	64QAM	1	0	21.20	21.17	21.12	22	0
3	64QAM	1	8	21.20	21.09	21.34		
3	64QAM	1	14	21.19	21.16	21.25		
3	64QAM	8	0	20.68	20.73	20.65	21	1
3	64QAM	8	4	20.70	20.70	20.63		
3	64QAM	8	7	20.64	20.68	20.59		
3	64QAM	15	0	20.75	20.73	20.66		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	21.45	21.64	21.51	22	0
1.4	QPSK	1	3	20.97	20.97	20.84		
1.4	QPSK	1	5	21.02	20.95	20.94		
1.4	QPSK	3	0	21.49	21.47	21.48		
1.4	QPSK	3	1	21.13	21.13	21.13		
1.4	QPSK	3	3	21.20	21.19	21.07		
1.4	QPSK	6	0	21.21	21.13	21.11		
1.4	16QAM	1	0	21.44	21.45	21.50	22	0
1.4	16QAM	1	3	21.36	21.32	21.32		
1.4	16QAM	1	5	21.32	21.32	21.27		
1.4	16QAM	3	0	21.18	21.16	21.13		
1.4	16QAM	3	1	21.12	21.14	21.09		
1.4	16QAM	3	3	21.02	21.10	20.96		
1.4	16QAM	6	0	21.13	21.06	21.07		
1.4	64QAM	1	0	21.25	21.11	21.15	22	0
1.4	64QAM	1	3	21.18	21.18	21.32		
1.4	64QAM	1	5	21.19	21.17	21.19		
1.4	64QAM	3	0	21.13	21.09	21.05		
1.4	64QAM	3	1	21.19	21.20	21.17		
1.4	64QAM	3	3	21.19	21.10	21.34		
1.4	64QAM	6	0	20.71	20.71	20.68		
							21	1



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	21.69	21.54	21.76	22.5	0
20	QPSK	1	49	21.42	21.37	21.54		
20	QPSK	1	99	21.38	21.50	21.61		
20	QPSK	50	0	21.53	21.54	21.74	22.5	0
20	QPSK	50	24	21.59	21.56	21.66		
20	QPSK	50	50	21.53	21.54	21.52		
20	QPSK	100	0	21.58	21.55	21.68	22.5	0
20	16QAM	1	0	21.70	21.67	21.61		
20	16QAM	1	49	21.69	21.73	21.52		
20	16QAM	1	99	21.67	21.66	21.73	22	0.5
20	16QAM	50	0	20.85	21.01	21.06		
20	16QAM	50	24	20.96	20.99	21.02		
20	16QAM	50	50	20.95	21.03	21.04	21	1.5
20	16QAM	100	0	21.03	21.02	21.02		
20	64QAM	1	0	21.13	21.03	21.19		
20	64QAM	1	49	21.21	21.27	21.17	22	0.5
20	64QAM	1	99	21.21	21.15	21.19		
20	64QAM	50	0	19.92	20.01	20.09		
20	64QAM	50	24	20.06	20.12	20.10	21	1.5
20	64QAM	50	50	20.01	20.08	20.09		
20	64QAM	100	0	20.02	20.01	20.06		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	21.47	21.54	21.74	22.5	0
15	QPSK	1	37	21.33	21.34	21.46		
15	QPSK	1	74	21.31	21.41	21.52		
15	QPSK	36	0	21.45	21.54	21.68	22.5	0
15	QPSK	36	20	21.56	21.56	21.62		
15	QPSK	36	39	21.51	21.48	21.48		
15	QPSK	75	0	21.50	21.51	21.63	22.5	0
15	16QAM	1	0	21.62	21.63	21.51		
15	16QAM	1	37	21.60	21.68	21.51		
15	16QAM	1	74	21.62	21.56	21.72	22	0.5
15	16QAM	36	0	20.93	21.06	21.00		
15	16QAM	36	20	21.06	21.08	21.09		
15	16QAM	36	39	20.95	21.03	21.11	22	0.5
15	16QAM	75	0	20.96	21.07	20.96		
15	64QAM	1	0	21.06	21.02	21.20		
15	64QAM	1	37	21.21	21.26	21.22	22	0.5
15	64QAM	1	74	21.20	21.13	21.12		
15	64QAM	36	0	19.88	20.06	20.06		
15	64QAM	36	20	20.06	20.08	20.10	21	1.5
15	64QAM	36	39	20.02	20.04	20.10		
15	64QAM	75	0	20.04	20.00	20.09		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	21.52	21.46	21.71	22.5	0
10	QPSK	1	25	21.35	21.31	21.51		
10	QPSK	1	49	21.29	21.48	21.53		
10	QPSK	25	0	21.53	21.54	21.71	22.5	0



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10	QPSK	25	12	21.50	21.49	21.57		
10	QPSK	25	25	21.53	21.45	21.42		
10	QPSK	50	0	21.52	21.55	21.62		
10	16QAM	1	0	21.61	21.63	21.59	22.5	0
10	16QAM	1	25	21.66	21.68	21.51		
10	16QAM	1	49	21.63	21.63	21.70		
10	16QAM	25	0	20.90	21.04	21.04	22	0.5
10	16QAM	25	12	20.98	21.03	20.99		
10	16QAM	25	25	21.02	21.06	21.10		
10	16QAM	50	0	20.97	21.08	20.96		
10	64QAM	1	0	21.11	21.06	21.21	22	0.5
10	64QAM	1	25	21.18	21.25	21.23		
10	64QAM	1	49	21.13	21.17	21.11		
10	64QAM	25	0	19.85	20.00	20.00	21	1.5
10	64QAM	25	12	19.99	20.03	20.10		
10	64QAM	25	25	20.00	20.05	20.13		
10	64QAM	50	0	19.97	20.04	20.01		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	21.43	21.46	21.70	22.5	0
5	QPSK	1	12	21.40	21.32	21.45		
5	QPSK	1	24	21.36	21.50	21.54		
5	QPSK	12	0	21.45	21.51	21.72	22.5	0
5	QPSK	12	7	21.54	21.50	21.58		
5	QPSK	12	13	21.43	21.50	21.42		
5	QPSK	25	0	21.52	21.49	21.62		
5	16QAM	1	0	21.70	21.58	21.56	22.5	0
5	16QAM	1	12	21.61	21.71	21.48		
5	16QAM	1	24	21.61	21.61	21.63		
5	16QAM	12	0	20.90	21.01	21.03	22	0.5
5	16QAM	12	7	21.04	20.98	21.03		
5	16QAM	12	13	20.95	21.06	21.09		
5	16QAM	25	0	21.01	21.05	21.03		
5	16QAM	25	12	21.01	21.05	21.03		
5	64QAM	1	0	21.14	21.11	21.23	22	0.5
5	64QAM	1	12	21.18	21.26	21.20		
5	64QAM	1	24	21.16	21.16	21.11		
5	64QAM	12	0	19.88	19.99	20.06	21	1.5
5	64QAM	12	7	19.99	20.08	20.05		
5	64QAM	12	13	20.03	20.11	20.11		
5	64QAM	25	0	20.01	19.99	20.01		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	21.53	21.48	21.69	22.5	0
3	QPSK	1	8	21.38	21.28	21.48		
3	QPSK	1	14	21.35	21.41	21.57		
3	QPSK	8	0	21.43	21.44	21.68	22.5	0
3	QPSK	8	4	21.53	21.47	21.61		
3	QPSK	8	7	21.51	21.51	21.51		
3	QPSK	15	0	21.58	21.53	21.59		
3	16QAM	1	0	21.69	21.59	21.51	22.5	0
3	16QAM	1	8	21.61	21.71	21.48		
3	16QAM	1	14	21.59	21.57	21.64		
3	16QAM	8	0	20.93	21.06	21.04	22	0.5
3	16QAM	8	4	21.03	21.01	21.01		
3	16QAM	8	7	21.01	21.12	21.03		
3	16QAM	15	0	21.04	21.08	20.99		



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3	64QAM	1	0	21.14	21.10	21.16	22	0.5
3	64QAM	1	8	21.13	21.19	21.19		
3	64QAM	1	14	21.12	21.20	21.16		
3	64QAM	8	0	19.92	20.03	20.00	21	1.5
3	64QAM	8	4	20.02	20.07	20.07		
3	64QAM	8	7	20.01	20.03	20.04		
3	64QAM	15	0	20.02	20.08	20.09		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	21.46	21.54	21.71	22.5	0
1.4	QPSK	1	3	21.41	21.34	21.53		
1.4	QPSK	1	5	21.37	21.48	21.55		
1.4	QPSK	3	0	21.51	21.48	21.71		
1.4	QPSK	3	1	21.50	21.48	21.61		
1.4	QPSK	3	3	21.49	21.48	21.47		
1.4	QPSK	6	0	21.48	21.48	21.68	22.5	0
1.4	16QAM	1	0	21.65	21.61	21.52	22.5	0
1.4	16QAM	1	3	21.66	21.69	21.45		
1.4	16QAM	1	5	21.59	21.60	21.73		
1.4	16QAM	3	0	21.43	21.44	21.68		
1.4	16QAM	3	1	21.53	21.47	21.61		
1.4	16QAM	3	3	21.51	21.51	21.51		
1.4	16QAM	6	0	21.01	21.02	21.05	22	0.5
1.4	64QAM	1	0	21.06	21.07	21.25	22	0.5
1.4	64QAM	1	3	21.14	21.21	21.23		
1.4	64QAM	1	5	21.14	21.11	21.18		
1.4	64QAM	3	0	21.02	21.01	20.99		
1.4	64QAM	3	1	21.05	21.09	21.15		
1.4	64QAM	3	3	21.16	21.20	21.23		
1.4	64QAM	6	0	20.02	20.08	20.07	21.5	1



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	21.55	21.49	21.37		
20	QPSK	1	49	21.06	21.07	20.84	22	0
20	QPSK	1	99	21.06	21.03	20.76		
20	QPSK	50	0	21.52	21.49	21.37		
20	QPSK	50	24	21.24	21.15	21.04	22	0
20	QPSK	50	50	21.20	21.19	20.95		
20	QPSK	100	0	21.20	21.14	21.03		
20	16QAM	1	0	21.35	21.39	21.30	22	0
20	16QAM	1	49	21.44	21.40	21.20		
20	16QAM	1	99	21.38	21.38	21.13		
20	16QAM	50	0	21.11	21.09	20.99	22	0
20	16QAM	50	24	21.13	21.05	21.00		
20	16QAM	50	50	21.08	21.10	20.95		
20	16QAM	100	0	21.15	21.01	21.03	22	0
20	64QAM	1	0	21.33	21.37	21.22		
20	64QAM	1	49	21.41	21.35	21.10		
20	64QAM	1	99	21.33	21.31	21.10	22	0
20	64QAM	50	0	20.64	20.67	20.60		
20	64QAM	50	24	20.74	20.67	20.59		
20	64QAM	50	50	20.64	20.67	20.54	21	1
20	64QAM	100	0	20.69	20.66	20.54		
Channel				132047	132322	132597		
Frequency (MHz)				1717.5	1745	1772.5	22	0
15	QPSK	1	0	21.51	21.41	21.33		
15	QPSK	1	37	21.04	21.06	20.82		
15	QPSK	1	74	20.99	20.94	20.70	22	0
15	QPSK	36	0	21.49	21.40	21.36		
15	QPSK	36	20	21.22	21.09	20.94		
15	QPSK	36	39	21.11	21.09	20.95	22	0
15	QPSK	75	0	21.14	21.11	21.00		
15	16QAM	1	0	21.33	21.30	21.22		
15	16QAM	1	37	21.42	21.30	21.15	22	0
15	16QAM	1	74	21.31	21.35	21.09		
15	16QAM	36	0	21.10	21.07	20.96		
15	16QAM	36	20	21.18	21.08	21.02	22	0
15	16QAM	36	39	21.16	21.07	20.95		
15	16QAM	75	0	21.15	21.08	20.94		
15	64QAM	1	0	21.35	21.32	21.25	22	0
15	64QAM	1	37	21.43	21.36	21.10		
15	64QAM	1	74	21.29	21.36	21.08		
15	64QAM	36	0	20.67	20.67	20.62	21	1
15	64QAM	36	20	20.70	20.69	20.62		
15	64QAM	36	39	20.73	20.68	20.49		
15	64QAM	75	0	20.77	20.65	20.55	22	0
Channel				132022	132322	132622		
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	21.49	21.41	21.34	22	0
10	QPSK	1	25	21.06	21.00	20.79		



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10	QPSK	1	49	21.03	20.97	20.76		
10	QPSK	25	0	21.48	21.41	21.35	22	0
10	QPSK	25	12	21.24	21.06	21.01		
10	QPSK	25	25	21.17	21.19	20.90		
10	QPSK	50	0	21.15	21.13	20.94		
10	16QAM	1	0	21.32	21.29	21.28	22	0
10	16QAM	1	25	21.39	21.37	21.20		
10	16QAM	1	49	21.38	21.35	21.10		
10	16QAM	25	0	21.11	21.14	20.93	22	0
10	16QAM	25	12	21.12	21.06	20.97		
10	16QAM	25	25	21.10	21.04	20.91		
10	16QAM	50	0	21.11	20.99	20.96		
10	64QAM	1	0	21.26	21.32	21.29	22	0
10	64QAM	1	25	21.38	21.33	21.11		
10	64QAM	1	49	21.36	21.33	21.05		
10	64QAM	25	0	20.64	20.66	20.63	21	1
10	64QAM	25	12	20.74	20.68	20.57		
10	64QAM	25	25	20.64	20.72	20.48		
10	64QAM	50	0	20.68	20.59	20.62		
Channel				131997	132322	132647		
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	21.45	21.44	21.27	22	0
5	QPSK	1	12	20.97	21.02	20.79		
5	QPSK	1	24	21.06	21.02	20.69		
5	QPSK	12	0	21.44	21.46	21.34	22	0
5	QPSK	12	7	21.19	21.12	21.04		
5	QPSK	12	13	21.12	21.19	20.93		
5	QPSK	25	0	21.13	21.11	20.96		
5	16QAM	1	0	21.33	21.37	21.28	22	0
5	16QAM	1	12	21.43	21.38	21.10		
5	16QAM	1	24	21.30	21.28	21.03		
5	16QAM	12	0	21.14	21.07	21.03	22	0
5	16QAM	12	7	21.12	21.09	21.04		
5	16QAM	12	13	21.13	21.09	20.96		
5	16QAM	25	0	21.14	21.07	20.98		
5	64QAM	1	0	21.25	21.38	21.22		
5	64QAM	1	12	21.42	21.33	21.18	22	0
5	64QAM	1	24	21.33	21.34	21.09		
5	64QAM	12	0	20.67	20.73	20.60		
5	64QAM	12	7	20.78	20.73	20.65	21	1
5	64QAM	12	13	20.63	20.70	20.53		
5	64QAM	25	0	20.68	20.63	20.57		
Channel				131987	132322	132657		
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	21.46	21.45	21.28	22	0
3	QPSK	1	8	21.03	21.00	20.83		
3	QPSK	1	14	20.99	20.94	20.70		
3	QPSK	8	0	21.43	21.48	21.31	22	0
3	QPSK	8	4	21.22	21.11	21.04		
3	QPSK	8	7	21.11	21.16	20.87		
3	QPSK	15	0	21.14	21.06	20.93		
3	16QAM	1	0	21.26	21.32	21.23	22	0
3	16QAM	1	8	21.36	21.31	21.10		
3	16QAM	1	14	21.38	21.38	21.04		
3	16QAM	8	0	21.08	21.10	20.97	22	0
3	16QAM	8	4	21.18	21.14	20.97		



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3	16QAM	8	7	21.15	21.04	20.91		
3	16QAM	15	0	21.15	20.99	21.02		
3	64QAM	1	0	21.29	21.35	21.28		
3	64QAM	1	8	21.42	21.40	21.16	22	0
3	64QAM	1	14	21.35	21.29	21.12		
3	64QAM	8	0	20.64	20.71	20.59	21	1
3	64QAM	8	4	20.78	20.73	20.64		
3	64QAM	8	7	20.63	20.70	20.49		
3	64QAM	15	0	20.72	20.66	20.61		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	21.50	21.39	21.29	22	0
1.4	QPSK	1	3	21.00	21.06	20.82		
1.4	QPSK	1	5	20.96	21.02	20.68		
1.4	QPSK	3	0	21.51	21.46	21.31		
1.4	QPSK	3	1	21.23	21.10	21.02		
1.4	QPSK	3	3	21.17	21.18	20.85		
1.4	QPSK	6	0	21.20	21.08	21.03	22	0
1.4	16QAM	1	0	21.25	21.30	21.28	22	0
1.4	16QAM	1	3	21.35	21.30	21.13		
1.4	16QAM	1	5	21.38	21.29	21.03		
1.4	16QAM	3	0	21.13	21.12	21.00		
1.4	16QAM	3	1	21.18	21.14	20.96		
1.4	16QAM	3	3	21.12	21.05	20.88		
1.4	16QAM	6	0	21.10	21.02	20.97	22	0
1.4	64QAM	1	0	21.31	21.37	21.28	22	0
1.4	64QAM	1	3	21.37	21.36	21.12		
1.4	64QAM	1	5	21.29	21.29	21.03		
1.4	64QAM	3	0	21.14	21.05	20.98		
1.4	64QAM	3	1	21.31	21.32	21.22		
1.4	64QAM	3	3	21.34	21.33	21.18		
1.4	64QAM	6	0	20.71	20.63	20.60	21	1



<When EN-DC is active>

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	18.86	18.91	18.90	19	0
20	QPSK	1	49	18.85	18.86	18.79		
20	QPSK	1	99	18.84	18.82	18.78		
20	QPSK	50	0	18.76	18.83	18.72	19	0
20	QPSK	50	24	18.74	18.78	18.80		
20	QPSK	50	50	18.71	18.82	18.73		
20	QPSK	100	0	18.72	18.87	18.75	19	0
20	16QAM	1	0	18.85	18.90	18.83		
20	16QAM	1	49	18.77	18.85	18.74		
20	16QAM	1	99	18.82	18.74	18.68	19	0
20	16QAM	50	0	18.75	18.78	18.68		
20	16QAM	50	24	18.65	18.73	18.71		
20	16QAM	50	50	18.70	18.77	18.69	19	0
20	16QAM	100	0	18.71	18.80	18.70		
20	64QAM	1	0	18.78	18.82	18.89		
20	64QAM	1	49	18.76	18.79	18.75	19	0
20	64QAM	1	99	18.84	18.72	18.76		
20	64QAM	50	0	18.74	18.79	18.63		
20	64QAM	50	24	18.73	18.70	18.80	19	0
20	64QAM	50	50	18.69	18.75	18.69		
20	64QAM	100	0	18.69	18.84	18.71		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.80	18.87	18.81	19	0
15	QPSK	1	37	18.83	18.76	18.79		
15	QPSK	1	74	18.79	18.75	18.75		
15	QPSK	36	0	18.66	18.81	18.64	19	0
15	QPSK	36	20	18.64	18.74	18.72		
15	QPSK	36	39	18.66	18.78	18.73		
15	QPSK	75	0	18.66	18.82	18.74	19	0
15	16QAM	1	0	18.75	18.84	18.82		
15	16QAM	1	37	18.70	18.81	18.74		
15	16QAM	1	74	18.81	18.66	18.60	19	0
15	16QAM	36	0	18.75	18.78	18.67		
15	16QAM	36	20	18.56	18.71	18.66		
15	16QAM	36	39	18.64	18.74	18.68	19	0
15	16QAM	75	0	18.66	18.72	18.66		
15	64QAM	1	0	18.73	18.82	18.86		
15	64QAM	1	37	18.75	18.77	18.67	19	0
15	64QAM	1	74	18.76	18.65	18.73		
15	64QAM	36	0	18.68	18.74	18.53		
15	64QAM	36	20	18.67	18.61	18.77	19	0
15	64QAM	36	39	18.68	18.65	18.65		
15	64QAM	75	0	18.60	18.82	18.68		
Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.79	18.86	18.81	19	0
10	QPSK	1	25	18.81	18.79	18.72		
10	QPSK	1	49	18.77	18.78	18.74		



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10	QPSK	25	0	18.72	18.83	18.65	19	0
10	QPSK	25	12	18.74	18.75	18.79		
10	QPSK	25	25	18.64	18.76	18.68		
10	QPSK	50	0	18.70	18.87	18.69		
10	16QAM	1	0	18.75	18.85	18.79	19	0
10	16QAM	1	25	18.77	18.79	18.70		
10	16QAM	1	49	18.72	18.67	18.64		
10	16QAM	25	0	18.72	18.69	18.68	19	0
10	16QAM	25	12	18.55	18.71	18.64		
10	16QAM	25	25	18.65	18.72	18.64		
10	16QAM	50	0	18.67	18.77	18.68		
10	64QAM	1	0	18.76	18.77	18.88	19	0
10	64QAM	1	25	18.70	18.77	18.69		
10	64QAM	1	49	18.76	18.63	18.70		
10	64QAM	25	0	18.66	18.76	18.63	19	0
10	64QAM	25	12	18.67	18.63	18.79		
10	64QAM	25	25	18.69	18.67	18.64		
10	64QAM	50	0	18.66	18.77	18.63		
Channel				20775	21100	21425		
Frequency (MHz)				2502.5	2535	2567.5		
							Tune-up limit (dBm)	MPR (dB)
5	QPSK	1	0	18.80	18.87	18.82	19	0
5	QPSK	1	12	18.84	18.81	18.69		
5	QPSK	1	24	18.76	18.82	18.72		
5	QPSK	12	0	18.74	18.83	18.65	19	0
5	QPSK	12	7	18.66	18.75	18.70		
5	QPSK	12	13	18.70	18.74	18.70		
5	QPSK	25	0	18.62	18.79	18.75		
5	16QAM	1	0	18.83	18.81	18.80		
5	16QAM	1	12	18.75	18.83	18.72	19	0
5	16QAM	1	24	18.75	18.64	18.67		
5	16QAM	12	0	18.71	18.77	18.62		
5	16QAM	12	7	18.59	18.72	18.61	19	0
5	16QAM	12	13	18.70	18.68	18.59		
5	16QAM	25	0	18.65	18.75	18.60		
5	64QAM	1	0	18.69	18.77	18.86		
5	64QAM	1	12	18.76	18.73	18.65		
5	64QAM	1	24	18.74	18.63	18.67	19	0
5	64QAM	12	0	18.74	18.75	18.56		
5	64QAM	12	7	18.67	18.69	18.78		
5	64QAM	12	13	18.63	18.71	18.63		
5	64QAM	25	0	18.69	18.76	18.63		



<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23230				
Frequency (MHz)				782				
10	QPSK	1	0		20.93		21.5	0
10	QPSK	1	25		20.85			
10	QPSK	1	49		20.75			
10	QPSK	25	0		20.67		21.5	0
10	QPSK	25	12		20.56			
10	QPSK	25	25		20.61			
10	QPSK	50	0		20.59		21.5	0
10	16QAM	1	0		20.79			
10	16QAM	1	25		20.78			
10	16QAM	1	49		20.59		21.5	0
10	16QAM	25	0		20.50			
10	16QAM	25	12		20.42			
10	16QAM	25	25		20.61		21.5	0
10	16QAM	50	0		20.57			
10	64QAM	1	0		20.59			
10	64QAM	1	25		20.61		21.5	0
10	64QAM	1	49		20.61			
10	64QAM	25	0		20.13			
10	64QAM	25	12		20.14		21	0.5
10	64QAM	25	25		20.17			
10	64QAM	50	0		20.14			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	20.88	20.93	20.83	21.5	0
5	QPSK	1	12	20.80	20.79	20.77		
5	QPSK	1	24	20.68	20.69	20.74		
5	QPSK	12	0	20.62	20.67	20.60	21.5	0
5	QPSK	12	7	20.47	20.50	20.48		
5	QPSK	12	13	20.51	20.59	20.56		
5	QPSK	25	0	20.57	20.51	20.49	21.5	0
5	16QAM	1	0	20.74	20.70	20.78		
5	16QAM	1	12	20.68	20.75	20.76		
5	16QAM	1	24	20.49	20.50	20.52	21.5	0
5	16QAM	12	0	20.41	20.49	20.43		
5	16QAM	12	7	20.32	20.35	20.42		
5	16QAM	12	13	20.58	20.55	20.58	21.5	0
5	16QAM	25	0	20.53	20.51	20.54		
5	64QAM	1	0	20.54	20.58	20.54		
5	64QAM	1	12	20.54	20.55	20.60	21.5	0
5	64QAM	1	24	20.51	20.52	20.56		
5	64QAM	12	0	20.04	20.12	20.10		
5	64QAM	12	7	20.08	20.08	20.10	21	0.5
5	64QAM	12	13	20.17	20.09	20.07		
5	64QAM	25	0	20.13	20.14	20.14		



<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	14.88	14.77	14.96	15	0
20	QPSK	1	49	14.85	14.74	14.94		
20	QPSK	1	99	14.85	14.85	14.87		
20	QPSK	50	0	14.87	14.77	14.84	15	0
20	QPSK	50	24	14.85	14.76	14.90		
20	QPSK	50	50	14.79	14.77	14.90		
20	QPSK	100	0	14.81	14.73	14.84	15	0
20	16QAM	1	0	14.87	14.89	14.85		
20	16QAM	1	49	14.72	14.68	14.78		
20	16QAM	1	99	14.67	14.61	14.86	15	0
20	16QAM	50	0	14.69	14.73	14.96		
20	16QAM	50	24	14.66	14.69	14.89		
20	16QAM	50	50	14.61	14.55	14.67	15	0
20	16QAM	100	0	14.52	14.50	14.64		
20	64QAM	1	0	14.54	14.59	14.73		
20	64QAM	1	49	14.73	14.63	14.75	15	0
20	64QAM	1	99	14.66	14.62	14.88		
20	64QAM	50	0	14.60	14.65	14.88		
20	64QAM	50	24	14.63	14.63	14.86	15	0
20	64QAM	50	50	14.67	14.61	14.86		
20	64QAM	100	0	14.69	14.73	14.96		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	14.86	14.71	14.95	15	0
15	QPSK	1	37	14.81	14.74	14.93		
15	QPSK	1	74	14.85	14.75	14.87		
15	QPSK	36	0	14.81	14.67	14.74	15	0
15	QPSK	36	20	14.77	14.70	14.85		
15	QPSK	36	39	14.74	14.74	14.89		
15	QPSK	75	0	14.72	14.68	14.76	15	0
15	16QAM	1	0	14.84	14.87	14.85		
15	16QAM	1	37	14.70	14.64	14.75		
15	16QAM	1	74	14.67	14.53	14.79	15	0
15	16QAM	36	0	14.66	14.66	14.94		
15	16QAM	36	20	14.57	14.63	14.88		
15	16QAM	36	39	14.53	14.49	14.60	15	0
15	16QAM	75	0	14.52	14.42	14.55		
15	64QAM	1	0	14.51	14.51	14.72		
15	64QAM	1	37	14.63	14.53	14.71	15	0
15	64QAM	1	74	14.58	14.60	14.84		
15	64QAM	36	0	14.60	14.61	14.78		
15	64QAM	36	20	14.63	14.60	14.81	15	0
15	64QAM	36	39	14.65	14.61	14.83		
15	64QAM	75	0	14.62	14.73	14.87		
Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	14.79	14.76	14.94	15	0
10	QPSK	1	25	14.80	14.65	14.92		
10	QPSK	1	49	14.79	14.76	14.89		
10	QPSK	25	0	14.84	14.76	14.81		



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10	QPSK	25	12	14.77	14.70	14.88		
10	QPSK	25	25	14.75	14.75	14.84		
10	QPSK	50	0	14.78	14.64	14.79		
10	16QAM	1	0	14.85	14.84	14.91	15	0
10	16QAM	1	25	14.71	14.62	14.71		
10	16QAM	1	49	14.65	14.52	14.76		
10	16QAM	25	0	14.69	14.71	14.85	15	0
10	16QAM	25	12	14.64	14.59	14.83		
10	16QAM	25	25	14.58	14.46	14.60		
10	16QAM	50	0	14.47	14.50	14.55		
10	64QAM	1	0	14.47	14.49	14.64	15	0
10	64QAM	1	25	14.67	14.63	14.66		
10	64QAM	1	49	14.66	14.52	14.88		
10	64QAM	25	0	14.57	14.64	14.88	15	0
10	64QAM	25	12	14.62	14.56	14.85		
10	64QAM	25	25	14.60	14.61	14.84		
10	64QAM	50	0	14.68	14.63	14.94		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	14.82	14.72	14.91	15	0
5	QPSK	1	12	14.79	14.71	14.84		
5	QPSK	1	24	14.83	14.84	14.88		
5	QPSK	12	0	14.81	14.67	14.76	15	0
5	QPSK	12	7	14.76	14.75	14.87		
5	QPSK	12	13	14.70	14.69	14.82		
5	QPSK	25	0	14.72	14.64	14.78		
5	16QAM	1	0	14.86	14.87	14.85	15	0
5	16QAM	1	12	14.67	14.62	14.70		
5	16QAM	1	24	14.58	14.52	14.76		
5	16QAM	12	0	14.66	14.63	14.94	15	0
5	16QAM	12	7	14.58	14.65	14.88		
5	16QAM	12	13	14.56	14.46	14.67		
5	16QAM	25	0	14.50	14.41	14.62		
5	64QAM	1	0	14.49	14.54	14.72	15	0
5	64QAM	1	12	14.64	14.54	14.69		
5	64QAM	1	24	14.60	14.57	14.80		
5	64QAM	12	0	14.56	14.61	14.79	15	0
5	64QAM	12	7	14.62	14.54	14.82		
5	64QAM	12	13	14.67	14.61	14.84		
5	64QAM	25	0	14.61	14.64	14.92		
Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	14.78	14.73	14.96	15	0
3	QPSK	1	8	14.85	14.74	14.90		
3	QPSK	1	14	14.77	14.77	14.89		
3	QPSK	8	0	14.80	14.72	14.82	15	0
3	QPSK	8	4	14.80	14.67	14.86		
3	QPSK	8	7	14.72	14.74	14.88		
3	QPSK	15	0	14.71	14.71	14.78		
3	16QAM	1	0	14.79	14.81	14.82	15	0
3	16QAM	1	8	14.71	14.68	14.72		
3	16QAM	1	14	14.57	14.61	14.79		
3	16QAM	8	0	14.66	14.69	14.95	15	0
3	16QAM	8	4	14.64	14.64	14.86		
3	16QAM	8	7	14.53	14.53	14.60		
3	16QAM	15	0	14.49	14.45	14.63		



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3	64QAM	1	0	14.47	14.59	14.68	15	0
3	64QAM	1	8	14.66	14.62	14.73		
3	64QAM	1	14	14.59	14.54	14.87		
3	64QAM	8	0	14.55	14.62	14.81	15	0
3	64QAM	8	4	14.56	14.60	14.77		
3	64QAM	8	7	14.57	14.56	14.82		
3	64QAM	15	0	14.59	14.70	14.95		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	14.79	14.75	14.88	15	0
1.4	QPSK	1	3	14.77	14.73	14.90		
1.4	QPSK	1	5	14.77	14.83	14.92		
1.4	QPSK	3	0	14.87	14.71	14.78		
1.4	QPSK	3	1	14.83	14.76	14.81		
1.4	QPSK	3	3	14.74	14.76	14.89		
1.4	QPSK	6	0	14.74	14.72	14.78	15	0
1.4	16QAM	1	0	14.82	14.79	14.89	15	0
1.4	16QAM	1	3	14.69	14.59	14.77		
1.4	16QAM	1	5	14.65	14.58	14.84		
1.4	16QAM	3	0	14.61	14.64	14.88		
1.4	16QAM	3	1	14.63	14.63	14.89		
1.4	16QAM	3	3	14.61	14.46	14.63		
1.4	16QAM	6	0	14.43	14.48	14.56	15	0
1.4	64QAM	1	0	14.44	14.51	14.71	15	0
1.4	64QAM	1	3	14.73	14.55	14.67		
1.4	64QAM	1	5	14.65	14.61	14.78		
1.4	64QAM	3	0	14.56	14.60	14.79		
1.4	64QAM	3	1	14.62	14.56	14.78		
1.4	64QAM	3	3	14.64	14.55	14.86		
1.4	64QAM	6	0	14.60	14.68	14.88	15	0



<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	21.97	22.00	21.99	22.5	0
15	QPSK	1	37	21.88	21.95	21.98		
15	QPSK	1	74	21.92	21.92	21.95		
15	QPSK	36	0	21.67	21.59	21.80	22.5	0
15	QPSK	36	20	21.50	21.67	21.62		
15	QPSK	36	39	21.75	21.76	21.69		
15	QPSK	75	0	21.71	21.83	21.80	22.5	0
15	16QAM	1	0	21.68	21.81	21.88		
15	16QAM	1	37	21.84	21.93	21.93		
15	16QAM	1	74	21.73	21.84	21.86	22	0.5
15	16QAM	36	0	21.11	21.13	21.19		
15	16QAM	36	20	21.17	21.12	21.18		
15	16QAM	36	39	21.23	21.13	21.22	21	1.5
15	16QAM	75	0	21.17	21.09	21.21		
15	64QAM	1	0	21.17	21.20	21.16		
15	64QAM	1	37	21.16	21.23	21.29	22	0.5
15	64QAM	1	74	21.17	21.23	21.15		
15	64QAM	36	0	20.08	20.26	20.31		
15	64QAM	36	20	20.20	20.13	20.27	21	1.5
15	64QAM	36	39	20.25	20.25	20.27		
15	64QAM	75	0	20.17	20.09	20.12		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.91	21.93	21.94	22.5	0
10	QPSK	1	25	21.84	21.90	21.95		
10	QPSK	1	49	21.88	21.85	21.88		
10	QPSK	25	0	21.63	21.51	21.79	22.5	0
10	QPSK	25	12	21.42	21.64	21.56		
10	QPSK	25	25	21.69	21.76	21.61		
10	QPSK	50	0	21.68	21.75	21.77	22.5	0
10	16QAM	1	0	21.65	21.79	21.84		
10	16QAM	1	25	21.78	21.85	21.84		
10	16QAM	1	49	21.73	21.75	21.83	22	0.5
10	16QAM	25	0	21.09	21.04	21.12		
10	16QAM	25	12	21.13	21.10	21.15		
10	16QAM	25	25	21.14	21.06	21.20	22	0.5
10	16QAM	50	0	21.14	20.99	21.15		
10	64QAM	1	0	21.17	21.13	21.11		
10	64QAM	1	25	21.07	21.22	21.26	21	1.5
10	64QAM	1	49	21.11	21.23	21.05		
10	64QAM	25	0	20.06	20.18	20.31		
10	64QAM	25	12	20.14	20.13	20.25	22.5	0
10	64QAM	25	25	20.22	20.17	20.20		
10	64QAM	50	0	20.10	20.05	20.11		
Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	21.94	21.91	21.97	22.5	0
5	QPSK	1	12	21.88	21.89	21.96		
5	QPSK	1	24	21.92	21.86	21.95		
5	QPSK	12	0	21.62	21.56	21.76	22.5	0



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5	QPSK	12	7	21.49	21.63	21.56		
5	QPSK	12	13	21.67	21.73	21.59		
5	QPSK	25	0	21.65	21.78	21.72		
5	16QAM	1	0	21.65	21.80	21.86	22.5	0
5	16QAM	1	12	21.79	21.92	21.89		
5	16QAM	1	24	21.70	21.78	21.86		
5	16QAM	12	0	21.07	21.08	21.12	22	0.5
5	16QAM	12	7	21.09	21.12	21.09		
5	16QAM	12	13	21.18	21.05	21.14		
5	16QAM	25	0	21.07	21.08	21.20		
5	64QAM	1	0	21.09	21.12	21.11	22	0.5
5	64QAM	1	12	21.06	21.20	21.22		
5	64QAM	1	24	21.14	21.15	21.10		
5	64QAM	12	0	20.01	20.22	20.30	21	1.5
5	64QAM	12	7	20.14	20.12	20.26		
5	64QAM	12	13	20.24	20.21	20.26		
5	64QAM	25	0	20.15	20.00	20.09		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	21.92	21.91	21.93	22.5	0
3	QPSK	1	8	21.82	21.94	21.94		
3	QPSK	1	14	21.90	21.86	21.86		
3	QPSK	8	0	21.64	21.58	21.75	22.5	0
3	QPSK	8	4	21.48	21.60	21.62		
3	QPSK	8	7	21.70	21.75	21.66		
3	QPSK	15	0	21.61	21.73	21.78		
3	16QAM	1	0	21.59	21.79	21.81	22.5	0
3	16QAM	1	8	21.75	21.88	21.92		
3	16QAM	1	14	21.67	21.83	21.78		
3	16QAM	8	0	21.02	21.12	21.16	22	0.5
3	16QAM	8	4	21.16	21.08	21.11		
3	16QAM	8	7	21.14	21.13	21.15		
3	16QAM	15	0	21.13	21.01	21.13		
3	64QAM	1	0	21.17	21.20	21.14	22	0.5
3	64QAM	1	8	21.13	21.13	21.20		
3	64QAM	1	14	21.17	21.17	21.08		
3	64QAM	8	0	20.01	20.17	20.23	21	1.5
3	64QAM	8	4	20.16	20.04	20.17		
3	64QAM	8	7	20.17	20.21	20.25		
3	64QAM	15	0	20.15	20.02	20.11		
Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	21.87	21.86	21.99	22.5	0
1.4	QPSK	1	3	21.84	21.88	21.93		
1.4	QPSK	1	5	21.82	21.92	21.88		
1.4	QPSK	3	0	21.62	21.54	21.70	22.5	0
1.4	QPSK	3	1	21.48	21.64	21.54		
1.4	QPSK	3	3	21.71	21.74	21.67		
1.4	QPSK	6	0	21.63	21.81	21.70	22.5	0
1.4	16QAM	1	0	21.62	21.79	21.78	22.5	0
1.4	16QAM	1	3	21.79	21.90	21.86		
1.4	16QAM	1	5	21.66	21.76	21.83		
1.4	16QAM	3	0	21.71	21.71	21.66	22.5	0
1.4	16QAM	3	1	21.65	21.74	21.79		
1.4	16QAM	3	3	21.58	21.74	21.78		
1.4	16QAM	6	0	21.08	21.05	21.12	22	0.5



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1.4	64QAM	1	0	21.17	21.13	21.09	22	0.5
1.4	64QAM	1	3	21.14	21.23	21.26		
1.4	64QAM	1	5	21.15	21.16	21.09		
1.4	64QAM	3	0	21.10	21.15	21.15		
1.4	64QAM	3	1	21.16	21.21	21.22		
1.4	64QAM	3	3	21.09	21.19	21.08		
1.4	64QAM	6	0	20.16	20.06	20.04	21	1.5



<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				27710			16	0
Frequency (MHz)				2310				
10	QPSK	1	0		15.61		16	0
10	QPSK	1	25		15.54			
10	QPSK	1	49		15.59			
10	QPSK	25	0		15.19		16	0
10	QPSK	25	12		15.27			
10	QPSK	25	25		15.35			
10	QPSK	50	0		15.25		16	0
10	16QAM	1	0		15.19			
10	16QAM	1	25		15.21			
10	16QAM	1	49		15.29		16	0
10	16QAM	25	0		15.27			
10	16QAM	25	12		15.31			
10	16QAM	25	25		15.46		16	0
10	16QAM	50	0		15.32			
10	64QAM	1	0		15.31			
10	64QAM	1	25		15.46		16	0
10	64QAM	1	49		15.50			
10	64QAM	25	0		15.19			
10	64QAM	25	12		15.30		16	0
10	64QAM	25	25		15.37			
10	64QAM	50	0		15.11			
Channel				27685	27710	27735	16	0
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	15.52	15.58	15.60	16	0
5	QPSK	1	12	15.54	15.53	15.48		
5	QPSK	1	24	15.52	15.55	15.57		
5	QPSK	12	0	15.09	15.15	15.13	16	0
5	QPSK	12	7	15.27	15.26	15.20		
5	QPSK	12	13	15.25	15.30	15.35		
5	QPSK	25	0	15.17	15.22	15.23	16	0
5	16QAM	1	0	15.19	15.14	15.09		
5	16QAM	1	12	15.12	15.20	15.17		
5	16QAM	1	24	15.25	15.24	15.24	16	0
5	16QAM	12	0	15.25	15.27	15.27		
5	16QAM	12	7	15.23	15.26	15.31		
5	16QAM	12	13	15.44	15.40	15.41	16	0
5	16QAM	25	0	15.28	15.30	15.28		
5	64QAM	1	0	15.27	15.27	15.23		
5	64QAM	1	12	15.37	15.38	15.39	16	0
5	64QAM	1	24	15.45	15.45	15.47		
5	64QAM	12	0	15.16	15.14	15.18		
5	64QAM	12	7	15.20	15.29	15.20	16	0
5	64QAM	12	13	15.37	15.28	15.32		
5	64QAM	25	0	15.11	15.06	15.06		



<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	13.87	13.77	13.97	14	0
20	QPSK	1	49	13.77	13.77	13.55		
20	QPSK	1	99	13.85	13.72	13.53		
20	QPSK	50	0	13.85	13.74	13.72	14	0
20	QPSK	50	24	13.83	13.75	13.67		
20	QPSK	50	50	13.72	13.70	13.57		
20	QPSK	100	0	13.83	13.71	13.66	14	0
20	16QAM	1	0	13.80	13.91	13.92		
20	16QAM	1	49	13.83	13.86	13.82		
20	16QAM	1	99	13.90	13.88	13.72	14	0
20	16QAM	50	0	13.88	13.79	13.75		
20	16QAM	50	24	13.84	13.73	13.64		
20	16QAM	50	50	13.80	13.71	13.62	14	0
20	16QAM	100	0	13.82	13.78	13.68		
20	64QAM	1	0	13.92	13.88	13.86		
20	64QAM	1	49	13.87	13.84	13.68	14	0
20	64QAM	1	99	13.91	13.79	13.59		
20	64QAM	50	0	13.93	13.84	13.82		
20	64QAM	50	24	13.87	13.79	13.70	14	0
20	64QAM	50	50	13.83	13.73	13.65		
20	64QAM	100	0	13.87	13.79	13.70		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	13.87	13.95	13.66	14	0
15	QPSK	1	37	13.71	13.77	13.47		
15	QPSK	1	74	13.85	13.77	13.51		
15	QPSK	36	0	13.85	13.83	13.70	14	0
15	QPSK	36	20	13.73	13.71	13.65		
15	QPSK	36	39	13.72	13.62	13.57		
15	QPSK	75	0	13.76	13.66	13.65	14	0
15	16QAM	1	0	13.81	13.83	13.86		
15	16QAM	1	37	13.89	13.88	13.73		
15	16QAM	1	74	13.84	13.86	13.71	14	0
15	16QAM	36	0	13.78	13.75	13.66		
15	16QAM	36	20	13.79	13.69	13.62		
15	16QAM	36	39	13.77	13.66	13.56	14	0
15	16QAM	75	0	13.79	13.70	13.59		
15	64QAM	1	0	13.89	13.83	13.85		
15	64QAM	1	37	13.77	13.79	13.65	14	0
15	64QAM	1	74	13.90	13.77	13.53		
15	64QAM	36	0	13.86	13.84	13.75		
15	64QAM	36	20	13.85	13.74	13.67	14	0
15	64QAM	36	39	13.79	13.71	13.59		
15	64QAM	75	0	13.81	13.70	13.69		
Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	13.79	13.93	13.71	14	0
10	QPSK	1	25	13.76	13.77	13.47		
10	QPSK	1	49	13.79	13.80	13.53		
10	QPSK	25	0	13.87	13.75	13.70		



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10	QPSK	25	12	13.76	13.68	13.65		
10	QPSK	25	25	13.65	13.62	13.51		
10	QPSK	50	0	13.78	13.71	13.64		
10	16QAM	1	0	13.83	13.82	13.86	14	0
10	16QAM	1	25	13.87	13.89	13.73		
10	16QAM	1	49	13.87	13.87	13.72		
10	16QAM	25	0	13.82	13.74	13.66	14	0
10	16QAM	25	12	13.84	13.73	13.56		
10	16QAM	25	25	13.78	13.61	13.54		
10	16QAM	50	0	13.82	13.76	13.67		
10	64QAM	1	0	13.88	13.82	13.77	14	0
10	64QAM	1	25	13.86	13.83	13.63		
10	64QAM	1	49	13.81	13.74	13.54		
10	64QAM	25	0	13.85	13.82	13.80	14	0
10	64QAM	25	12	13.79	13.76	13.69		
10	64QAM	25	25	13.81	13.63	13.60		
10	64QAM	50	0	13.85	13.79	13.65		
Channel				131997	132322	132647		
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	13.78	13.92	13.69	14	0
5	QPSK	1	12	13.71	13.68	13.50		
5	QPSK	1	24	13.81	13.81	13.44		
5	QPSK	12	0	13.87	13.84	13.65	14	0
5	QPSK	12	7	13.78	13.67	13.66		
5	QPSK	12	13	13.70	13.68	13.52		
5	QPSK	25	0	13.78	13.71	13.56		
5	16QAM	1	0	13.82	13.90	13.91		
5	16QAM	1	12	13.87	13.91	13.76	14	0
5	16QAM	1	24	13.90	13.78	13.67		
5	16QAM	12	0	13.84	13.69	13.70		
5	16QAM	12	7	13.82	13.66	13.60	14	0
5	16QAM	12	13	13.80	13.64	13.61		
5	16QAM	25	0	13.77	13.70	13.68		
5	64QAM	1	0	13.82	13.83	13.85		
5	64QAM	1	12	13.77	13.76	13.58		
5	64QAM	1	24	13.90	13.77	13.55	14	0
5	64QAM	12	0	13.91	13.80	13.75		
5	64QAM	12	7	13.86	13.69	13.64		
5	64QAM	12	13	13.83	13.71	13.62		
5	64QAM	25	0	13.85	13.71	13.65		
Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	13.84	13.89	13.66	14	0
3	QPSK	1	8	13.71	13.73	13.50		
3	QPSK	1	14	13.77	13.79	13.53		
3	QPSK	8	0	13.85	13.76	13.68	14	0
3	QPSK	8	4	13.77	13.74	13.60		
3	QPSK	8	7	13.69	13.61	13.56		
3	QPSK	15	0	13.75	13.66	13.61		
3	16QAM	1	0	13.88	13.90	13.86		
3	16QAM	1	8	13.86	13.95	13.76	14	0
3	16QAM	1	14	13.80	13.86	13.70		
3	16QAM	8	0	13.79	13.79	13.73		
3	16QAM	8	4	13.83	13.69	13.56	14	0
3	16QAM	8	7	13.80	13.69	13.61		
3	16QAM	15	0	13.78	13.69	13.67		



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3	64QAM	1	0	13.82	13.81	13.82	14	0
3	64QAM	1	8	13.84	13.78	13.63		
3	64QAM	1	14	13.90	13.74	13.51		
3	64QAM	8	0	13.91	13.79	13.76	14	0
3	64QAM	8	4	13.81	13.78	13.60		
3	64QAM	8	7	13.81	13.63	13.55		
3	64QAM	15	0	13.83	13.78	13.66		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	13.86	13.87	13.68	14	0
1.4	QPSK	1	3	13.67	13.72	13.48		
1.4	QPSK	1	5	13.83	13.75	13.52		
1.4	QPSK	3	0	13.87	13.83	13.72		
1.4	QPSK	3	1	13.81	13.66	13.62		
1.4	QPSK	3	3	13.63	13.62	13.55		
1.4	QPSK	6	0	13.80	13.70	13.59		
1.4	16QAM	1	0	13.86	13.82	13.85	14	0
1.4	16QAM	1	3	13.91	13.93	13.72		
1.4	16QAM	1	5	13.86	13.82	13.69		
1.4	16QAM	3	0	13.81	13.71	13.65		
1.4	16QAM	3	1	13.81	13.66	13.63		
1.4	16QAM	3	3	13.74	13.68	13.55		
1.4	16QAM	6	0	13.77	13.78	13.59		
1.4	64QAM	1	0	13.83	13.82	13.79	14	0
1.4	64QAM	1	3	13.81	13.80	13.64		
1.4	64QAM	1	5	13.86	13.73	13.52		
1.4	64QAM	3	0	13.87	13.76	13.73		
1.4	64QAM	3	1	13.83	13.75	13.62		
1.4	64QAM	3	3	13.79	13.67	13.57		
1.4	64QAM	6	0	13.83	13.69	13.65		

<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 Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

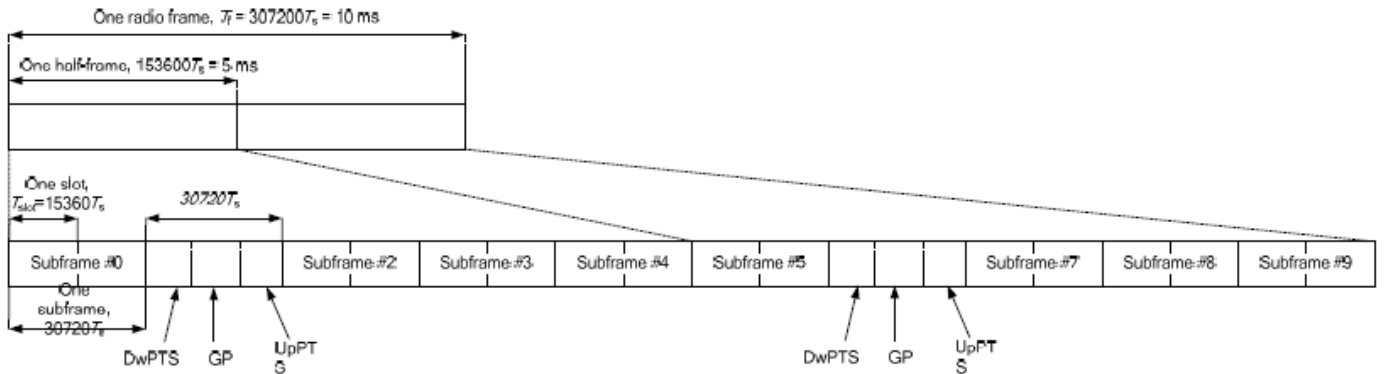


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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 · Ts	2192 · Ts	2560 · Ts	7680 · Ts	2192 · Ts	2560 · Ts		
1	19760 · Ts			20480 · Ts				
2	21952 · Ts			23040 · Ts				
3	24144 · Ts			25600 · Ts				
4	26336 · Ts			7680 · Ts				
5	6592 · Ts	4384 · Ts	5120 · Ts	20480 · Ts	4384 · Ts	5120 · Ts		
6	19760 · Ts			23040 · Ts				
7	21952 · Ts			12800 · Ts				
8	24144 · Ts			-			-	-
9	13168 · Ts			-			-	-

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 subframes, 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.



<Default Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	22.66	22.93	23.16		
20	QPSK	1	49	22.74	23.16	23.25	24	0
20	QPSK	1	99	22.94	23.24	23.31		
20	QPSK	50	0	21.72	22.15	22.36		
20	QPSK	50	24	21.91	22.27	22.39	23	1
20	QPSK	50	50	22.02	22.36	22.46		
20	QPSK	100	0	21.91	22.25	22.39		
20	16QAM	1	0	21.74	21.99	22.25	23	1
20	16QAM	1	49	21.83	22.22	22.32		
20	16QAM	1	99	22.06	22.38	22.33		
20	16QAM	50	0	20.76	21.19	21.40	22	2
20	16QAM	50	24	20.94	21.28	21.40		
20	16QAM	50	50	21.04	21.38	21.51		
20	16QAM	100	0	20.93	21.27	21.39	22	2
20	64QAM	1	0	20.41	20.67	20.92		
20	64QAM	1	49	20.58	20.96	21.00		
20	64QAM	1	99	20.83	21.10	21.16	21	3
20	64QAM	50	0	19.75	20.21	20.40		
20	64QAM	50	24	19.93	20.31	20.41		
20	64QAM	50	50	20.04	20.39	20.48	21	3
20	64QAM	100	0	19.92	20.28	20.40		
Channel				37825	38000	38175		
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	22.57	22.90	23.13	24	0
15	QPSK	1	37	22.70	23.06	23.23		
15	QPSK	1	74	22.87	23.15	23.30		
15	QPSK	36	0	21.70	22.10	22.32	23	1
15	QPSK	36	20	21.89	22.19	22.36		
15	QPSK	36	39	22.02	22.27	22.42		
15	QPSK	75	0	21.83	22.17	22.37	23	1
15	16QAM	1	0	21.67	21.95	22.17		
15	16QAM	1	37	21.77	22.19	22.23		
15	16QAM	1	74	21.96	22.36	22.25	22	2
15	16QAM	36	0	20.69	21.15	21.30		
15	16QAM	36	20	20.86	21.26	21.30		
15	16QAM	36	39	20.96	21.32	21.51	22	2
15	16QAM	75	0	20.84	21.26	21.35		
15	64QAM	1	0	20.39	20.59	20.82		
15	64QAM	1	37	20.50	20.93	20.96	22	2
15	64QAM	1	74	20.76	21.00	21.09		
15	64QAM	36	0	19.71	20.13	20.32		
15	64QAM	36	20	19.89	20.30	20.38	21	3
15	64QAM	36	39	19.95	20.30	20.45		
15	64QAM	75	0	19.86	20.19	20.40		
Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	22.65	22.93	23.12	24	0
10	QPSK	1	25	22.70	23.07	23.17		
10	QPSK	1	49	22.85	23.21	23.26		



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10	QPSK	25	0	21.70	22.05	22.26	23	1
10	QPSK	25	12	21.90	22.21	22.29		
10	QPSK	25	25	22.00	22.34	22.36		
10	QPSK	50	0	21.90	22.23	22.36	23	1
10	16QAM	1	0	21.65	21.97	22.19		
10	16QAM	1	25	21.79	22.13	22.24		
10	16QAM	1	49	22.02	22.32	22.25	22	2
10	16QAM	25	0	20.70	21.13	21.33		
10	16QAM	25	12	20.89	21.27	21.33		
10	16QAM	25	25	20.95	21.30	21.51	22	2
10	16QAM	50	0	20.89	21.22	21.37		
10	64QAM	1	0	20.31	20.66	20.82		
10	64QAM	1	25	20.51	20.86	20.91	21	3
10	64QAM	1	49	20.75	21.10	21.16		
10	64QAM	25	0	19.75	20.16	20.39		
10	64QAM	25	12	19.91	20.29	20.40	24	0
10	64QAM	25	25	20.00	20.35	20.44		
10	64QAM	50	0	19.91	20.19	20.38		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.64	22.87	23.09	23	1
5	QPSK	1	12	22.74	23.14	23.24		
5	QPSK	1	24	22.88	23.21	23.29		
5	QPSK	12	0	21.68	22.12	22.29	23	1
5	QPSK	12	7	21.90	22.26	22.37		
5	QPSK	12	13	21.94	22.35	22.46		
5	QPSK	25	0	21.82	22.15	22.34	23	1
5	16QAM	1	0	21.72	21.91	22.18		
5	16QAM	1	12	21.81	22.12	22.25		
5	16QAM	1	24	22.05	22.34	22.31	22	2
5	16QAM	12	0	20.74	21.09	21.36		
5	16QAM	12	7	20.86	21.19	21.31		
5	16QAM	12	13	20.99	21.37	21.50	22	2
5	16QAM	25	0	20.86	21.18	21.37		
5	64QAM	1	0	20.39	20.63	20.85		
5	64QAM	1	12	20.55	20.90	20.96	21	3
5	64QAM	1	24	20.75	21.03	21.15		
5	64QAM	12	0	19.65	20.12	20.40		
5	64QAM	12	7	19.92	20.22	20.34	21	3
5	64QAM	12	13	19.94	20.29	20.45		
5	64QAM	25	0	19.89	20.21	20.32		



<LTE Band 41>

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)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.13	23.15	23.34	23.24	23.37	24	0
20	QPSK	1	49	23.16	23.18	23.27	23.20	23.32		
20	QPSK	1	99	23.17	23.21	23.35	23.28	23.41		
20	QPSK	50	0	22.21	22.25	22.35	22.32	22.40	23	1
20	QPSK	50	24	22.31	22.34	22.43	22.33	22.41		
20	QPSK	50	50	22.32	22.36	22.46	22.35	22.49		
20	QPSK	100	0	22.31	22.37	22.40	22.33	22.45	23	1
20	16QAM	1	0	22.25	22.25	22.45	22.38	22.49		
20	16QAM	1	49	22.24	22.22	22.31	22.22	22.41		
20	16QAM	1	99	22.30	22.27	22.47	22.32	22.51	22	2
20	16QAM	50	0	21.24	21.31	21.40	21.38	21.43		
20	16QAM	50	24	21.33	21.40	21.47	21.37	21.45		
20	16QAM	50	50	21.31	21.40	21.47	21.37	21.52	22	2
20	16QAM	100	0	21.32	21.38	21.46	21.37	21.43		
20	64QAM	1	0	21.18	21.02	20.93	21.01	21.07		
20	64QAM	1	49	21.18	20.99	21.14	21.00	21.16	22	2
20	64QAM	1	99	21.11	20.99	21.16	21.01	21.25		
20	64QAM	50	0	20.22	20.31	20.39	20.35	20.45		
20	64QAM	50	24	20.35	20.40	20.49	20.38	20.45	21	3
20	64QAM	50	50	20.33	20.39	20.47	20.37	20.51		
20	64QAM	100	0	20.35	20.38	20.40	20.36	20.46		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.13	23.21	23.25	22.52	22.82	24	0
15	QPSK	1	37	23.12	23.20	23.24	22.63	22.85		
15	QPSK	1	74	23.11	23.22	23.26	22.79	22.98		
15	QPSK	36	0	22.27	22.27	22.35	22.23	22.42	23	1
15	QPSK	36	20	22.29	22.36	22.43	22.30	22.47		
15	QPSK	36	39	22.26	22.34	22.42	22.32	22.49		
15	QPSK	75	0	22.32	22.34	22.44	22.33	22.43	23	1
15	16QAM	1	0	22.75	22.81	22.86	22.81	22.94		
15	16QAM	1	37	22.67	22.71	22.80	22.74	22.84		
15	16QAM	1	74	22.83	22.88	22.98	22.87	22.78	22	2
15	16QAM	36	0	21.74	21.73	21.82	21.73	21.89		
15	16QAM	36	20	21.78	21.81	21.88	21.77	21.96		
15	16QAM	36	39	21.75	21.82	21.89	21.80	21.96	22	2
15	16QAM	75	0	21.85	21.88	21.95	21.85	21.94		
15	64QAM	1	0	21.25	21.46	21.30	21.46	21.55		
15	64QAM	1	37	21.56	21.05	21.12	21.50	21.61	22	2
15	64QAM	1	74	21.64	21.10	21.29	21.59	21.44		
15	64QAM	36	0	20.81	20.50	20.53	20.77	20.93		
15	64QAM	36	20	20.83	20.56	20.55	20.83	20.96	21	3
15	64QAM	36	39	20.79	20.57	20.57	20.86	20.68		
15	64QAM	75	0	20.84	20.56	20.43	20.86	20.91		
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	22.97	22.96	23.10	22.96	23.17	24	0
10	QPSK	1	25	22.98	22.99	23.05	23.00	23.21		
10	QPSK	1	49	22.99	22.98	23.02	22.98	23.19		



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10	QPSK	25	0	22.56	22.66	22.86	22.54	22.76	23	1
10	QPSK	25	12	22.58	22.65	22.79	22.69	22.77		
10	QPSK	25	25	22.57	22.62	22.76	22.66	22.85		
10	QPSK	50	0	22.57	22.67	22.71	22.64	22.76		
10	16QAM	1	0	22.58	22.69	22.68	22.68	22.85	23	1
10	16QAM	1	25	22.61	22.63	22.65	22.67	22.84		
10	16QAM	1	49	22.58	22.64	22.67	22.68	22.84		
10	16QAM	25	0	21.92	21.63	21.63	21.54	21.74	22	2
10	16QAM	25	12	21.88	21.70	21.73	21.69	21.76		
10	16QAM	25	25	21.77	21.62	21.69	21.62	21.81		
10	16QAM	50	0	21.56	21.70	21.65	21.67	21.80		
10	64QAM	1	0	21.30	21.33	20.74	21.47	21.46	22	2
10	64QAM	1	25	21.54	21.10	20.62	21.36	21.20		
10	64QAM	1	49	21.47	20.96	20.56	21.24	20.99		
10	64QAM	25	0	20.65	20.58	20.50	20.62	20.75	21	3
10	64QAM	25	12	20.67	20.53	20.54	20.78	20.70		
10	64QAM	25	25	20.63	20.53	20.52	20.67	20.45		
10	64QAM	50	0	20.66	20.46	20.41	20.69	20.49		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	22.95	23.02	22.96	23.05	22.95	24	0
5	QPSK	1	12	22.94	22.95	23.01	23.06	22.96		
5	QPSK	1	24	22.98	22.97	22.96	23.11	23.00		
5	QPSK	12	0	22.56	22.56	22.62	22.64	22.61	23	1
5	QPSK	12	7	22.60	22.60	22.66	22.74	22.65		
5	QPSK	12	13	22.58	22.58	22.63	22.71	22.63		
5	QPSK	25	0	22.55	22.56	22.61	22.71	22.59		
5	16QAM	1	0	22.63	22.65	22.62	22.70	22.58	23	1
5	16QAM	1	12	22.57	22.59	22.69	22.80	22.73		
5	16QAM	1	24	22.69	22.71	22.71	22.79	22.71		
5	16QAM	12	0	21.55	21.59	21.61	21.63	21.58	22	2
5	16QAM	12	7	21.58	21.60	21.64	21.72	21.66		
5	16QAM	12	13	21.56	21.56	21.61	21.67	21.62		
5	16QAM	25	0	21.59	21.60	21.66	21.73	21.66		
5	64QAM	1	0	21.37	21.43	21.28	21.23	21.33	22	2
5	64QAM	1	12	21.41	21.43	21.21	21.31	21.44		
5	64QAM	1	24	21.48	21.48	21.18	21.26	21.41		
5	64QAM	12	0	20.63	20.64	20.58	20.62	20.67	21	3
5	64QAM	12	7	20.62	20.64	20.61	20.62	20.68		
5	64QAM	12	13	20.62	20.64	20.59	20.56	20.68		
5	64QAM	25	0	20.61	20.63	20.54	20.55	20.67		



<Reduced Power on Hotspot / Body-worn Mode>

<LTE Band 48>

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)	MPR (dB)
Channel				55340	55830	56150	56640		
Frequency (MHz)				3560	3609	3641	3690		
20	QPSK	1	0	17.86	17.87	17.63	17.70	19	0
20	QPSK	1	49	17.77	17.71	17.43	17.46		
20	QPSK	1	99	17.72	17.56	17.33	17.39		
20	QPSK	50	0	17.74	17.76	17.70	17.64	19	0
20	QPSK	50	24	17.72	17.59	17.68	17.63		
20	QPSK	50	50	17.69	17.46	17.71	17.54		
20	QPSK	100	0	17.70	17.72	17.56	17.54	19	0
20	16QAM	1	0	17.77	17.69	17.61	17.65		
20	16QAM	1	49	17.64	17.52	17.53	17.52		
20	16QAM	1	99	17.58	17.43	17.40	17.44	19	0
20	16QAM	50	0	17.66	17.78	17.63	17.67		
20	16QAM	50	24	17.65	17.74	17.58	17.68		
20	16QAM	50	50	17.75	17.59	17.60	17.62	19	0
20	16QAM	100	0	17.78	17.74	17.54	17.59		
20	64QAM	1	0	17.65	17.55	17.35	17.39		
20	64QAM	1	49	17.53	17.36	17.29	17.30	19	0
20	64QAM	1	99	17.38	17.23	17.18	17.22		
20	64QAM	50	0	17.76	17.80	17.64	17.66		
20	64QAM	50	24	17.83	17.75	17.58	17.69	19	0
20	64QAM	50	50	17.76	17.60	17.60	17.62		
20	64QAM	100	0	17.83	17.75	17.55	17.59		
Channel				55315	55820	56160	56665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3557.5	3608	3642	3692.5		
15	QPSK	1	0	17.70	17.66	17.49	17.40	19	0
15	QPSK	1	37	17.67	17.51	17.37	17.37		
15	QPSK	1	74	17.63	17.44	17.27	17.29		
15	QPSK	36	0	17.74	17.68	17.58	17.55	19	0
15	QPSK	36	20	17.57	17.39	17.56	17.56		
15	QPSK	36	39	17.67	17.30	17.56	17.42		
15	QPSK	75	0	17.52	17.53	17.53	17.37	19	0
15	16QAM	1	0	17.59	17.60	17.46	17.50		
15	16QAM	1	37	17.57	17.32	17.34	17.51		
15	16QAM	1	74	17.56	17.24	17.20	17.25	19	0
15	16QAM	36	0	17.47	17.69	17.56	17.47		
15	16QAM	36	20	17.53	17.60	17.38	17.54		
15	16QAM	36	39	17.58	17.55	17.60	17.62	19	0
15	16QAM	75	0	17.68	17.71	17.36	17.40		
15	64QAM	1	0	17.52	17.40	17.23	17.36		
15	64QAM	1	37	17.36	17.34	17.28	17.28	19	0
15	64QAM	1	74	17.28	17.05	17.13	17.05		
15	64QAM	36	0	17.57	17.75	17.61	17.55		
15	64QAM	36	20	17.76	17.68	17.56	17.65	19	0
15	64QAM	36	39	17.67	17.58	17.55	17.60		
15	64QAM	75	0	17.73	17.63	17.37	17.39		
Channel				55290	55815	56165	56690	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3555	3607.5	3642.5	3695		
10	QPSK	1	0	17.59	17.72	17.50	17.44	19	0
10	QPSK	1	25	17.66	17.67	17.38	17.34		
10	QPSK	1	49	17.70	17.52	17.25	17.32		



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10	QPSK	25	0	17.60	17.72	17.59	17.50	19	0
10	QPSK	25	12	17.64	17.44	17.60	17.62		
10	QPSK	25	25	17.68	17.32	17.58	17.35		
10	QPSK	50	0	17.69	17.71	17.49	17.49		
10	16QAM	1	0	17.69	17.65	17.47	17.60	19	0
10	16QAM	1	25	17.57	17.46	17.38	17.33		
10	16QAM	1	49	17.41	17.28	17.21	17.25		
10	16QAM	25	0	17.50	17.70	17.48	17.64	19	0
10	16QAM	25	12	17.62	17.72	17.50	17.56		
10	16QAM	25	25	17.71	17.41	17.51	17.49		
10	16QAM	50	0	17.65	17.67	17.35	17.49		
10	64QAM	1	0	17.52	17.49	17.31	17.33	19	0
10	64QAM	1	25	17.46	17.36	17.20	17.11		
10	64QAM	1	49	17.30	17.16	17.15	17.14		
10	64QAM	25	0	17.56	17.65	17.48	17.55	19	0
10	64QAM	25	12	17.82	17.62	17.54	17.58		
10	64QAM	25	25	17.71	17.60	17.52	17.60		
10	64QAM	50	0	17.82	17.65	17.54	17.51		
Channel				55265	55810	56170	56715	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				3552.5	3607	3643	3697.5		
5	QPSK	1	0	17.72	17.65	17.31	17.42	19	0
5	QPSK	1	12	17.57	17.68	17.33	17.41		
5	QPSK	1	24	17.69	17.44	17.28	17.32		
5	QPSK	12	0	17.67	17.71	17.66	17.62	19	0
5	QPSK	12	7	17.52	17.58	17.65	17.59		
5	QPSK	12	13	17.68	17.44	17.70	17.35		
5	QPSK	25	0	17.67	17.72	17.45	17.47		
5	16QAM	1	0	17.64	17.58	17.54	17.57	19	0
5	16QAM	1	12	17.54	17.45	17.48	17.50		
5	16QAM	1	24	17.58	17.24	17.26	17.32		
5	16QAM	12	0	17.58	17.61	17.44	17.59	19	0
5	16QAM	12	7	17.63	17.66	17.47	17.54		
5	16QAM	12	13	17.56	17.48	17.48	17.57		
5	16QAM	25	0	17.68	17.67	17.49	17.55		
5	64QAM	1	0	17.53	17.54	17.27	17.37	19	0
5	64QAM	1	12	17.48	17.20	17.25	17.10		
5	64QAM	1	24	17.29	17.17	17.17	17.02		
5	64QAM	12	0	17.65	17.63	17.63	17.53	19	0
5	64QAM	12	7	17.78	17.64	17.46	17.51		
5	64QAM	12	13	17.65	17.54	17.54	17.50		
5	64QAM	25	0	17.78	17.72	17.55	17.59		



<When EN-DC is active>

<LTE Band 41>

Channel	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)	MPR (dB)		
20	21.27	21.27	21.43	21.26	21.45	21.5	0		
20	21.31	21.33	21.30	21.29	21.32				
20	21.31	21.33	21.42	21.32	21.36				
20	21.11	21.22	21.33	21.22	21.33	21.5	0		
20	21.20	21.24	21.40	21.22	21.38				
20	21.29	21.32	21.40	21.24	21.38				
20	21.21	21.26	21.39	21.27	21.38	21.5	0		
20	21.14	21.15	21.35	21.28	21.36				
20	21.15	21.19	21.21	21.12	21.30				
20	21.27	21.24	21.40	21.24	21.37	21.5	0		
20	21.16	21.31	21.35	21.36	21.40				
20	21.31	21.39	21.41	21.37	21.38				
20	21.31	21.35	21.44	21.37	21.38	21.5	0		
20	21.24	21.36	21.41	21.32	21.42				
20	21.10	21.01	20.89	21.01	21.06				
20	21.12	20.93	21.06	20.92	21.07	21.5	0		
20	21.04	20.94	21.15	20.98	21.18				
20	20.20	20.23	20.31	20.29	20.36				
20	20.31	20.31	20.41	20.33	20.41	21	0.5		
20	20.33	20.39	20.38	20.31	20.48				
20	20.34	20.31	20.38	20.30	20.39				
Channel	39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)		
Frequency (MHz)	2503.5	2548.3	2593	2637.8	2682.5	21.5	0		
15	21.18	21.27	21.37	21.22	21.36				
15	21.31	21.33	21.24	21.23	21.27				
15	21.26	21.26	21.33	21.25	21.30	21.5	0		
15	21.05	21.19	21.28	21.17	21.29				
15	21.15	21.22	21.40	21.15	21.32				
15	21.26	21.23	21.32	21.16	21.28	21.5	0		
15	21.21	21.25	21.39	21.22	21.36				
15	21.08	21.14	21.29	21.28	21.36				
15	21.10	21.17	21.16	21.12	21.24	21.5	0		
15	21.24	21.19	21.34	21.18	21.36				
15	21.11	21.27	21.29	21.31	21.35				
15	21.27	21.32	21.32	21.36	21.35	21.5	0		
15	21.24	21.30	21.41	21.36	21.32				
15	21.22	21.32	21.40	21.28	21.42				
15	21.02	20.91	20.82	20.96	21.01	21.5	0		
15	21.08	20.89	20.96	20.83	21.04				
15	20.99	20.92	21.06	20.94	21.17				
15	20.12	20.23	20.30	20.23	20.28	21	0.5		
15	20.30	20.24	20.41	20.27	20.36				
15	20.28	20.30	20.38	20.28	20.48				
15	20.34	20.24	20.33	20.28	20.36	21.5	0		
Channel	39700	40160	40620	41080	41540			Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)	2501	2547	2593	2639	2685				
10	21.21	21.21	21.34	21.21	21.41	21.5	0		



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10	QPSK	1	25	21.25	21.31	21.22	21.21	21.24		
10	QPSK	1	49	21.21	21.23	21.36	21.29	21.28		
10	QPSK	25	0	21.03	21.21	21.27	21.17	21.27	21.5	0
10	QPSK	25	12	21.11	21.24	21.40	21.20	21.31		
10	QPSK	25	25	21.25	21.29	21.37	21.16	21.35		
10	QPSK	50	0	21.12	21.17	21.39	21.20	21.28		
10	16QAM	1	0	21.13	21.14	21.27	21.18	21.35		
10	16QAM	1	25	21.05	21.11	21.17	21.06	21.20	21.5	0
10	16QAM	1	49	21.17	21.23	21.37	21.21	21.32		
10	16QAM	25	0	21.11	21.23	21.35	21.27	21.32		
10	16QAM	25	12	21.23	21.38	21.39	21.27	21.28	21.5	0
10	16QAM	25	25	21.28	21.26	21.34	21.28	21.38		
10	16QAM	50	0	21.17	21.34	21.35	21.30	21.34		
10	64QAM	1	0	21.10	20.99	20.87	20.97	21.02	21.5	0
10	64QAM	1	25	21.02	20.93	20.97	20.85	21.02		
10	64QAM	1	49	20.96	20.86	21.06	20.94	21.13		
10	64QAM	25	0	20.12	20.15	20.26	20.25	20.28	21	0.5
10	64QAM	25	12	20.24	20.24	20.31	20.30	20.38		
10	64QAM	25	25	20.25	20.37	20.29	20.21	20.43		
10	64QAM	50	0	20.31	20.29	20.30	20.27	20.37		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	21.24	21.21	21.40	21.18	21.35	21.5	0
5	QPSK	1	12	21.30	21.33	21.21	21.21	21.26		
5	QPSK	1	24	21.30	21.29	21.41	21.22	21.32		
5	QPSK	12	0	21.04	21.16	21.27	21.16	21.28	21.5	0
5	QPSK	12	7	21.19	21.21	21.39	21.22	21.34		
5	QPSK	12	13	21.22	21.28	21.32	21.20	21.33		
5	QPSK	25	0	21.13	21.21	21.31	21.26	21.29		
5	16QAM	1	0	21.06	21.07	21.32	21.19	21.33	21.5	0
5	16QAM	1	12	21.14	21.16	21.14	21.06	21.22		
5	16QAM	1	24	21.18	21.22	21.39	21.24	21.33		
5	16QAM	12	0	21.16	21.21	21.32	21.36	21.34	21.5	0
5	16QAM	12	7	21.31	21.37	21.33	21.32	21.37		
5	16QAM	12	13	21.25	21.33	21.38	21.35	21.34		
5	16QAM	25	0	21.16	21.30	21.37	21.26	21.42		
5	64QAM	1	0	21.03	21.00	20.81	20.92	21.05	21.5	0
5	64QAM	1	12	21.11	20.83	21.01	20.89	20.98		
5	64QAM	1	24	20.95	20.85	21.15	20.94	21.10		
5	64QAM	12	0	20.18	20.20	20.24	20.24	20.31	21	0.5
5	64QAM	12	7	20.22	20.24	20.34	20.29	20.40		
5	64QAM	12	13	20.24	20.32	20.29	20.31	20.40		
5	64QAM	25	0	20.26	20.31	20.34	20.30	20.34		



13. DL carrier aggregation power verification

<LTE Carrier Aggregation combinations>

General Note:

1. This device supports Carrier Aggregation on downlink only for inter and intra band, Uplink CA is not supported. For the device supports combination bands and configurations are according to 3GPP.
2. In applying the existing power measurement procedure of KDB 941225 D05A for DL CA SAR test exclusion, only the subset with the largest number of combinations of the frequency band and CCs in each row need consideration, and that configurations require power measurement should be highlighted in the below table.

2CC Downlink Carrier Aggregation			3CC Downlink Carrier Aggregation			4CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
1	2A-2A	47	47	2A-2A-5A	103	103	2A-2A-5A-66A	131
2	2A-4A	51	48	2A-2A-7A	104	104	2A-2A-7A-12A	132
3	2A-5A	47	49	2A-2A-12A	104	105	2A-2A-7A-66A	132
4	2A-7A	48	50	2A-2A-66A	105	106	2A-4A-5A-29A	
5	2A-12A	49	51	2A-4A-4A		107	2A-4A-7C	
6	2A-13A	67	52	2A-4A-5A	106	108	2A-4A-7A-7A	
7	2A-29A	55	53	2A-4A-7A	108	109	2A-4A-7A-12A	
8	2A-30A	56	54	2A-4A-12A	110	110	2A-4A-12A-30A	
9	2A-46A	72	55	2A-4A-29A	111	111	2A-4A-29A-30A	
10	2A-66A	50	56	2A-4A-30A	111	112	2A-5A-30A-66A	133
11	2A-71A		57	2A-5A-29A	106	113	2A-5A-66A-66A	133
12	4A-4A	74	58	2A-5A-30A	112	114	2A-7A-7A-66A	134
13	4A-5A	52	59	2A-5A-66A	113	115	2A-7A-12A-66A	132
14	4A-7A	53	60	2A-7C	107	116	2A-7A-66A-66A	134
15	4A-12A	54	61	2A-7A-7A	114	117	2A-12A-30A-66A	135
16	4A-29A	55	62	2A-7A-12A	115	118	2A-12A-66A-66A	135
17	4A-30A	56	63	2A-7A-66A	116	119	2A-30A-66A-66A	135
18	4A-46A	83	64	2A-12B		120	2A-46D	136
19	4A-71A		65	2A-12A-30A	117	121	2A-46C-66A	137
20	5A-7A	85	66	2A-12A-66A	118	122	4A-46D	138
21	5A-30A	86	67	2A-13A-66A		123	4A-46A-46C	138
22	5A-38A		68	2A-29A-30A	111	124	5A-30A-66A-66A	133
23	5A-41A		69	2A-29A-66A		125	7A-7A-46C	139
24	5A-66A	87	70	2A-30A-66A	119	126	7C-66A-66A	
25	7B		71	2A-46C	121	127	7A-46D	139
26	7C	60	72	2A-46A-46A	137	128	12A-30A-66A-66A	135
27	7A-7A	61	73	2A-66A-66A	113	129	46D-66A	141
28	7A-12A	62	74	4A-4A-7A		130	46C-66A-66A	142
29	7A-46A	88	75	4A-4A-12A				
30	7A-66A	92	76	4A-7C	107			
31	12B	64	77	4A-7A-7A	108			
32	12A-30A	93	78	4A-7A-12A	109			
33	12A-66A	94	79	4A-12B				
34	13A-46A	95	80	4A-12A-30A	110			
35	13A-66A	96	81	4A-29A-30A	111			
36	29A-30A	68	82	4A-46C	122			
37	29A-66A	69	83	4A-46A-46A	123			
38	30A-66A	70	84	5A-7C				
39	38C		85	5A-7A-7A				
40	41C	97	86	5A-30A-66A	112			
41	41A-41A		87	5A-66A-66A	113			
42	46A-66A	102	88	7A-7A-46A	125			
43	66B	44	89	7C-66A	126			



44	66C		90	7A-12A-66A	115			
45	66A-66A	102	91	7A-46C	125			
46	66A-71A		92	7A-66A-66A	116			
			93	12A-30A-66A	128			
			94	12A-66A-66A	128			
			95	13A-46A-66A				
			96	13A-66A-66A				
			97	26A-41C				
			98	30A-66A-66A	119			
			99	41D				
			100	46C-66A	130			
			101	46A-46A-66A	RX Only			
			102	46A-66A-66A	130			

5CC Downlink Carrier Aggregation			6CC Downlink Carrier Aggregation		
Number	Combination	Covered by Measurement Superset	Number	Combination	Covered by Measurement Superset
131	2A-2A-5A-66A-66A		143	2A-46E-66A	
132	2A-2A-7A-12A-66A		144	7A-7A-46E	145
133	2A-5A-30A-66A-66A		7CC Downlink Carrier Aggregation		
134	2A-7A-7A-66A-66A		Number	Combination	Covered by Measurement Superset
135	2A-12A-30A-66A-66A		145	2A-7A-7A-46E	
136	2A-46E	143			
137	2A-46D-66A	143			
138	4A-46A-46D				
139	7A-7A-46D	144			
140	7A-46E	144			
141	46E-66A	143			
142	46D-66A-66A	RX Only			

<Power verification when LTE Carrier Aggregation Active>

General Note:

- i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.
- ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.
- iii. The device supports downlink two carrier aggregation. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
- iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.
- v. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band.
- vi. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

$$\text{Nominal channel spacing} = \left\lceil \frac{BW_{\text{Channel}(1)} + BW_{\text{Channel}(2)} - 0.1|BW_{\text{Channel}(1)} - BW_{\text{Channel}(2)}|}{0.6} \right\rceil 0.3 \text{ [MHz]}$$

<Two Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC				Power		
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)	
Inter-Band	2A-71A	2	20	1860	18700	QPSK	1	0	71	20	680.5	133297	23.07	22.98	
	4A-71A	4	20	1732.5	20175	QPSK	1	0	71	20	680.5	133297	23.05	23.16	
	5A-38A	5	10	844	20600	QPSK	1	0	38	20	2595	38000	23.14	23.04	
	5A-41A	5	10	844	20600	QPSK	1	0	41	20	2593	40620	23.22	23.04	
	66A-71A	66	20	1745	132322	QPSK	1	0	71	20	680.5	133297	23.22	23.18	
Intra-Band	Contiguous	7B	7	15	2535	21100	QPSK	1	74	7	5	2664.3	3193	23.34	23.29
		38C	38	20	2610	38150	QPSK	1	99	38	20	2590.2	37952	23.30	23.31
		66C	66	20	1745	132322	QPSK	1	0	66	20	2674.8	3298	23.23	23.18

<Three Carrier power verification>

Configure	CA Configuration (BCS)	PCC								SCC				SCC2				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)	
Inter-Band	2A-4A-4A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	4	20	2145	2300	23.06	22.98	
	2A-12B	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	12	5	746.8	5188	22.97	22.98	
	2A-13A-66A	2	20	1860	18700	QPSK	1	0	13	10	751	5230	66	20	2155	66886	23.05	22.98	
	2A-29A-66A	2	20	1860	18700	QPSK	1	0	29	10	722.5	9715	66	20	2155	66886	23.11	22.98	
	4A-4A-7A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	7	20	2655	3100	23.15	23.16	
	4A-4A-12A	4	20	1732.5	20175	QPSK	1	0	4	20	2145	2300	12	10	737.5	5095	23.23	23.16	
	4A-12B	4	20	1732.5	20175	QPSK	1	0	12	10	737.5	5095	12	5	746.8	5188	23.19	23.16	
	5A-7C	5	10	844	20600	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	23.01	23.04	
	5A-7A-7A	5	10	844	20600	QPSK	1	0	7	20	2655	3100	7	20	2680	3350	23.12	23.04	
	13A-46A-66A	13	10	782	23230	QPSK	1	0	46	20	5537.5	50665	66	20	2155	66886	22.94	22.88	
	13A-66A-66A	13	10	782	23230	QPSK	1	0	66	20	2155	66886	66	20	2190	67236	22.83	22.88	
	26A-41C	26	15	831.5	26865	QPSK	1	74	41	20	2593	40620	41	20	2612.8	40818	23.12	23.08	
Intra-Band	Contiguous	41D	41	20	2680	41490	QPSK	1	99	41	20	2660.2	41292	41	20	2640.4	41094	23.55	23.41



<Four Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2A-4A-5A-29A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	5	10	881.5	2525	29	10	722.5	9715	23.07	22.98
	2A-4A-7C	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	7	20	2674.8	3298	23.01	22.98
	2A-4A-7A-7A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	7	20	2680	3350	23.06	22.98
	2A-4A-7A-12A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	7	20	2655	3100	12	10	737.5	5095	22.87	22.98
	2A-4A-12A-30A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	12	10	737.5	5095	30	10	2355	9820	22.96	22.98
	2A-4A-29A-30A	2	20	1860	18700	QPSK	1	0	4	20	2132.5	2175	29	10	722.5	9715	30	10	2355	9820	23.15	22.98
	7C-66A-66A	7	20	2535	21100	QPSK	1	99	7	20	2674.8	3298	66	20	2155	66886	66	20	2190	67236	23.45	23.36

<Five Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2A-2A-5A-66A-66A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	5	10	881.5	2525	66	20	2155	66886	66	20	2190	67236	23.02	22.98
	2A-2A-7A-12A-66A	2	20	1860	18700	QPSK	1	0	2	20	1980	1100	7	20	2655	3100	12	10	737.5	5059	66	20	2155	66886	23.07	22.98
	2A-5A-30A-66A-66A	2	20	1860	18700	QPSK	1	0	5	10	881.5	2525	30	10	2355	9820	66	20	2155	66886	66	20	2190	67236	23.01	22.98
	2A-7A-7A-66A-66A	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2674.8	3298	66	20	2155	66886	66	20	2190	67236	22.88	22.98
	2A-12A-30A-66A-66A	2	20	1860	18700	QPSK	1	0	12	10	737.5	5095	30	10	2355	9820	66	20	2155	66886	66	20	2190	67236	22.99	22.98
	4A-46A-46D	4	20	1732.5	20175	QPSK	1	0	46	20	5537.5	50665	46	20	5925	54539	46	20	5905.2	54341	46	20	5930.4	54143	23.20	23.16

<Six Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2A-46E-66A	2	20	1860	18700	QPSK	1	0	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	66	20	2155	66886	22.95	22.98

<Seven Carrier power verification>

Configure	CA Configuration (BCS)	PCC							SCC1				SCC2				SCC3				SCC4				SCC5				SCC6				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx.Power (dBm)	W/O CA Tx.Power (dBm)
Inter-Band	2A-7A-7A-46E	2	20	1860	18700	QPSK	1	0	7	20	2655	3100	7	20	2680	3350	46	20	5537.5	50665	46	20	5557.3	50863	46	20	5577.1	51061	46	20	5596.9	51259	23.11	22.98



14. 5G NR Output Power (Unit: dBm)

General Note:

1. NR implementation of n5, n66, n71 is limited to EN-DC operations only (NSA), with LTE Bands 2/5/7/12/25/26/30/38/41/66 acting as anchor bands, SAR tests for NR Bands and LTE Anchors Bands were performed separately due to limitations in SAR probe calibration factors. The detail EN-DC combination as below.
2. Following 5G NR n5/n66/n71 support SCS 30KHz D DFT-s/CP-OFDM, Pi/2 BPSK/QPSK/16QAM/64QAM/256QAM, Bandwidth 5M/10M/15M/20M.
3. For 5G NR test procedure was following step similar FCC KDB 941225 D05:
 - a. For DFT-OFDM and CP-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, the CP-OFDM mode will not higher than DFT-OFDM mode, therefore, similar FCC KDB 941225 D05 procedure for other modulation output power for each RB allocation configuration is > not ½ dB higher than the same configuration in DFT-QPSK and the reported SAR for the DFT-QPSK configuration is ≤ 1.45 W/kg; CP-OFDM measurement is not required.
 - b. For DFT-OFDM output power measurement reduction, according to 38.101 maximum power reduction for power class 3, full measurement on Pi/2 BPSK and QPSK, for 16QAM/64QMA/256QAM spot check 1RB 1offset configuration to ensure the output power will not ½ dB higher than Pi/2 BPSK and QPSK, for smaller bandwidth output power will spot check 1RB 1offset configuration at Pi/2 BPSK to ensure output power will not ½ dB higher than largest supported bandwidth.
 - c. SAR testing start with the largest channel bandwidth and measure SAR for Pi/2 BPSK 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.
 - d. 50% RB allocation for Pi/2 BPSK SAR testing follows 1RB Pi/2 BPSK allocation procedure.
 - e. Pi/2 BPSK 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.
 - f. QPSK/16QAM/64QAM/256QAM output powers according to 3GPP MPR will not ½ dB higher than the same configuration in Pi/2 BPSK, also reported SAR for the Pi/2 BPSK configuration is less than 1.45 W/kg, QPSK/16QAM/64QAM/256QAM SAR testing are not required.
 - g. Smaller bandwidth output power for each RB allocation configuration for this device will 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, smaller bandwidth SAR testing is not required for this device
4. Due to test setup limitations, SAR testing for NR was performed using Factory Test Mode software to establish the connection and perform SAR with 100% transmission.
5. The device implanted DPS (Dynamic Power Share) function to achieve higher uplink data rate keeping the total power unchanged in 5G NR NSA EN-DC mode according to 3GPP 38.213, when the equipment has a dynamic power sharing capability, it adjusts the LTE or NR transmission power so that the instantaneous total power does not exceed the specified value, when the maximum transmission power of NR (P_{LTE}, P_{NR}) and the specified total power (P_{total}) have been set and the instantaneous calculated total transmission power exceeds P_{total}, the NR transmission power is reduced so that the actual transmission power of the user equipment will not exceed P_{total} power.

<3GPP 38.101 MPR for EN-DC>

Table 6.2.2-1 Maximum power reduction (MPR) for power class 3

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	$\leq 3.5^1$	$\leq 1.2^1$	$\leq 0.2^1$
		$\leq 0.5^2$	$\leq 0.5^2$	0 ²
	QPSK	≤ 1		0
	16 QAM	≤ 2		≤ 1
	64 QAM		≤ 2.5	
CP-OFDM	256 QAM		≤ 4.5	
	QPSK	≤ 3		≤ 1.5
	16 QAM	≤ 3		≤ 2
	64 QAM		≤ 3.5	
	256 QAM		≤ 6.5	

NOTE 1: Applicable for UE operating in TDD mode with Pi/2 BPSK modulation and UE indicates support for UE capability *powerBoosting-pi2BPSK* and if the IE *powerBoostPi2BPSK* is set to 1 and 40 % or less slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79. The reference power of 0 dB MPR is 26 dBm.

NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n41, n77, n78 and n79 with Pi/2 BPSK modulation and if the IE *powerBoostPi2BPSK* is set to 0 and if more than 40 % of slots in radio frame are used for UL transmission for bands n40, n41, n77, n78 and n79.

Table 6.2.2-2 Maximum power reduction (MPR) for power class 2

Modulation		MPR (dB)		
		Edge RB allocations	Outer RB allocations	Inner RB allocations
DFT-s-OFDM	Pi/2 BPSK	≤ 3.5	≤ 0.5	0
	QPSK	≤ 3.5	≤ 1	0
	16 QAM	≤ 3.5	≤ 2	≤ 1
	64 QAM	≤ 3.5		≤ 2.5
	256 QAM		≤ 4.5	
CP-OFDM	QPSK	≤ 3.5	≤ 3	≤ 1.5
	16 QAM	≤ 3.5	≤ 3	≤ 2
	64 QAM		≤ 3.5	
	256 QAM		≤ 6.5	



<EN-DC combination and power level>

General Note:

1. Due to the device implanted DPS (Dynamic Power Share) function and the DPS will manage to ensure the averaged power level not exceeding total power 24dBm in each EN-DC combination, so for each combination in each NR band or LTE Anchors Bands if the SAR test level at 24dBm which the Sim-Tx analysis only required separate LTE or NR transmit simultaneous with WiFi / Bluetooth.
2. If the EN-DC combination SAR was not test at 24dBm level which the DPS was in-active, so the Sim-Tx analysis need to compliance with single uplink 1g SAR values for each LTE Anchors Bands and 5G NR are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required according to TCBC workshop guidance.

ENDC Combination	Band	Head power(dBm)	Hotspot/Body-worn power(dBm)
DC_2A_n5A	LTE B2	24	14.5
	N5	24	24
DC_7A_n5A	LTE B7	24	19
	N5	24	24
DC_30A_n5A	LTE B30	24	16
	N5	24	24
DC_66A_n5A	LTE B66	24	16
	N5	24	24
DC_2A_n71A	LTE B2	24	14.5
	N71	24	24
DC_66A_n71A	LTE B66	24	16
	N71	24	24
DC_7A_n71A	LTE B7	24	19
	N71	24	24
DC_12A_n66A	LTE B12	24	24
	N66	24	22.5
DC_13A_n66A	LTE B13	24	21.5
	N66	24	22.5
DC_2A_n66A	LTE B2	24	14.5
	N66	24	22.5
DC_30A_n66A	LTE B30	24	16
	N66	24	22.5
DC_5A_n66A	LTE B5	24	22
	N66	24	22.5
DC_7A_n66A	LTE B7	24	19
	N66	24	22.5
DC_66_n66A	LTE B66	24	16
	N66	24	22.5



<Default Power Mode>
<5G NR n5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				166800	167300	167800	24.0	0.0
Frequency (MHz)				834	837	839		
20	PI/2 BPSK	1	1	23.74	23.84	23.95		
20	PI/2 BPSK	1	53	23.68	23.78	23.92	24.0	0.0
20	PI/2 BPSK	1	104	23.59	23.68	23.77		
20	PI/2 BPSK	50	0	23.62	23.82	23.94		
20	PI/2 BPSK	50	28	23.64	23.82	23.81	24.0	0.0
20	PI/2 BPSK	50	56	23.64	23.73	23.94		
20	PI/2 BPSK	100	0	22.70	22.82	22.78		
20	QPSK	1	1	23.66	23.67	23.91	24.0	0.0
20	QPSK	1	53	23.62	23.60	23.80		
20	QPSK	1	104	23.56	23.54	23.60		
20	QPSK	50	0	23.66	23.70	23.84	24.0	0.0
20	QPSK	50	28	23.67	23.69	23.81		
20	QPSK	50	56	23.54	23.67	23.62		
20	QPSK	100	0	22.74	22.81	22.78	23.0	1.0
20	16QAM	1	1	22.58	22.66	22.79	23.0	1.0
20	64QAM	1	1	21.05	21.28	21.37	21.5	2.5
20	256QAM	1	1	19.06	19.15	19.44	19.5	4.5
Channel				166300	167300	168300	24.0	0.0
Frequency (MHz)				831.5	836.5	841.5		
15	QPSK	1	1	23.51	23.50	23.67	24.0	0.0
Channel				165800	167300	168800	24.0	0.0
Frequency (MHz)				829	836.5	844		
10	QPSK	1	1	23.40	23.52	23.64	24.0	0.0
Channel				165300	167300	169300	24.0	0.0
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	1	23.46	23.63	23.63	24.0	0.0



<5G NR n66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				346000	349000	352000	24.0	0.0
Frequency (MHz)				1730	1745	1760		
20	PI/2 BPSK	1	1	23.76	23.89	23.80		
20	PI/2 BPSK	1	53	23.59	23.75	23.60	24.0	0.0
20	PI/2 BPSK	1	104	23.68	23.85	23.68		
20	PI/2 BPSK	50	0	23.67	23.73	23.72		
20	PI/2 BPSK	50	28	23.69	23.62	23.65	24.0	0.0
20	PI/2 BPSK	50	56	23.61	23.71	23.67		
20	PI/2 BPSK	100	0	22.58	22.69	22.77		
20	QPSK	1	1	23.59	23.73	23.75	24.0	0.0
20	QPSK	1	53	23.55	23.71	23.56		
20	QPSK	1	104	23.67	23.67	23.56		
20	QPSK	50	0	23.59	23.80	23.64	24.0	0.0
20	QPSK	50	28	23.44	23.61	23.52		
20	QPSK	50	56	23.59	23.79	23.53		
20	QPSK	100	0	22.24	22.56	22.74	23.0	1.0
20	16QAM	1	1	22.39	22.63	22.57	23.0	1.0
20	64QAM	1	1	20.88	21.02	21.15	21.5	2.5
20	256QAM	1	1	19.06	18.99	19.11	19.5	4.5
Channel				343500	349000	354500	24.0	0.0
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	1	23.40	23.73	23.75	24.0	0.0
Channel				343000	349000	355000		
Frequency (MHz)				1715	1745	1775	24.0	0.0
10	QPSK	1	1	23.43	23.64	23.72		
Channel				342500	349000	355500	24.0	0.0
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	1	23.58	23.60	23.66	24.0	0.0



<5G NR n71>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				134600	136100	137600	24.0	0.0
Frequency (MHz)				673	681	688		
20	PI/2 BPSK	1	1	23.95	23.97	23.88		
20	PI/2 BPSK	1	53	23.84	23.83	23.77	24.0	0.0
20	PI/2 BPSK	1	104	23.80	23.85	23.81		
20	PI/2 BPSK	50	0	23.86	23.86	23.83		
20	PI/2 BPSK	50	28	23.81	23.77	23.79	24.0	0.0
20	PI/2 BPSK	50	56	23.78	23.83	23.81		
20	PI/2 BPSK	100	0	22.94	22.89	22.81		
20	QPSK	1	1	23.81	23.80	23.76	24.0	0.0
20	QPSK	1	53	23.82	23.78	23.69		
20	QPSK	1	104	23.92	23.79	23.68		
20	QPSK	50	0	23.86	23.91	23.78	24.0	0.0
20	QPSK	50	28	23.91	23.90	23.85		
20	QPSK	50	56	23.88	23.77	23.71		
20	QPSK	100	0	22.95	22.88	22.83	23.0	1.0
20	16QAM	1	1	22.89	22.86	22.68	23.0	1.0
20	64QAM	1	1	21.37	21.35	21.38	21.5	2.5
20	256QAM	1	1	19.36	19.40	19.37	19.5	4.5
Channel				134100	136100	138100	24.0	0.0
Frequency (MHz)				670.5	680.5	690.5		
15	QPSK	1	1	23.94	23.89	23.86	24.0	0.0
Channel				133600	136100	138600		
Frequency (MHz)				668	680.5	693	24.0	0.0
10	QPSK	1	1	23.89	23.95	23.74		
Channel				133100	136100	139100	24.0	0.0
Frequency (MHz)				665.5	680.5	695.5		
5	QPSK	1	1	23.91	23.88	23.70	24.0	0.0



15. WiFi/Bluetooth Output Power (Unit: dBm)

General Note:

1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures. 18 The initial test position procedure is described in the following:
 - a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
 - b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
 - c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. Per 201904 TCBC workshops, General principles of FCC KDB Publication 248227 D01 can be applied to determine the SAR Initial Test Configurations and test reduction for 802.11ax SAR testing. For the table below the 802.11ax maximum power is SU (non-OFDMA)
6. In applying the test guidance, the IEEE 802.11 mode with the maximum output power (out of all modes) should be considered for testing
7. For modes with the same maximum output power, the guidance from section 5.3.2 a) of FCC KDB Publication 248227 D01 should be applied, with 802.11ax being considered as the highest 802.11 mode for the appropriate frequency bands
8. When SAR testing for 802.11ax is required
 - a. If the maximum output power is highest for OFDMA scenarios, choose the tone size with the maximum number of tones and the highest maximum output power
 - b. Otherwise, consider the fully allocated channel for SAR testing
 - c. When SAR testing is required on RU sizes less than the fully allocated channel, use the RU number closest to the middle of the channel, choosing the higher RU number when two RUs are equidistant to the middle of the channel
 - d. In this report, the 802.11ax maximum output power is low than the low 802.11 mode, therefore, 802.11ax SAR was not necessary according to KLDB 447498 D01 section 5.3.2.
9. For each antenna, transmit power in SISO operation is equal the power in MIMO operation, for RF exposure compliance of SISO mode can be deduced from the compliance transmission of single antenna operating in MIMO mode.
10. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.
11. The Tx Beamforming maximum power is equal to the 802.11 mode, therefore, the output power measurement was not necessary
12. The device implements the power management for WLAN SAR compliance at different exposure conditions (head, body-worn, hotspot, extremity). Details about the power management decision are provided in the operational description.



<Default Max Power Mode>

<2.4GHz WLAN>

Transmit antenna				Ant 6			Ant 4			Ant 4+6						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	17.70	17.80	100.00	17.40	17.80	100.00	17.70	17.80	16.90	17.80	20.33	20.80	100.00
		6	2437	17.70	17.80		17.70	17.80		16.80	17.80	20.28	20.80			
		11	2462	17.70	17.80		17.40	17.80		16.30	17.80	20.12	20.80			
	802.11g 6Mbps	1	2412	Not Required	17.80	99.25	Not Required	17.80	99.25	Not Required	17.80	Not Required	17.80	Not Required	20.80	99.25
		6	2437		17.80			17.80			20.80					
		11	2462		17.80			17.80			20.80					
	802.11n-HT20 MCS0	1	2412	Not Required	17.50	100.00	Not Required	17.50	100.00	Not Required	17.50	Not Required	17.50	Not Required	20.50	100.00
		6	2437		17.80			17.80			20.80					
		11	2462		17.50			17.50			20.50					
	802.11ax-HE20 MCS0	1	2412	Not Required	17.00	100.00	Not Required	17.00	100.00	Not Required	17.00	Not Required	17.00	Not Required	20.00	100.00
		6	2437		17.80			17.80			20.80					
		11	2462		17.00			17.00			20.00					
802.11ax-HE40 MCS0	3	2422	Not Required	17.50	100.00	Not Required	17.50	100.00	Not Required	17.50	Not Required	17.50	Not Required	20.50	100.00	
	6	2437		17.80			17.80			20.80						
	9	2452		16.50			16.50			19.50						

<5GHz WLAN>

Transmit antenna				Ant 6			Ant 3			Ant 3+6						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	16.80	99.00	Not Required	16.80	99.00	Not Required	16.80	Not Required	16.80	Not Required	19.80	99.00
		40	5200		16.80			16.80			19.80					
		44	5220		16.80			16.80			19.80					
		48	5240		16.80			16.80			19.80					
	802.11n-HT20 MCS0	36	5180	Not Required	16.00	100.00	Not Required	16.00	100.00	Not Required	16.00	Not Required	16.00	Not Required	19.00	100.00
		40	5200		16.80			16.80			19.80					
		44	5220		16.80			16.80			19.80					
		48	5240		16.80			16.80			19.80					
	802.11n-HT40 MCS0	38	5190	14.70	16.00	100.00	14.60	16.00	100.00	14.70	16.00	14.70	16.00	17.71	19.00	100.00
		46	5230	16.20	16.80	100.00	16.20	16.80	100.00	16.20	16.80	16.20	16.80	19.21	19.80	100.00
	802.11ac-VHT20 MCS0	36	5180	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	Not Required	19.80	100.00
		40	5200		16.80			16.80			19.80					
		44	5220		16.80			16.80			19.80					
		48	5240		16.80			16.80			19.80					
	802.11ac-VHT40 MCS0	38	5190	Not Required	16.00	100.00	Not Required	16.00	100.00	Not Required	16.00	Not Required	16.00	Not Required	19.00	100.00
		46	5230		16.80	16.80		19.80								
802.11ac-VHT80 MCS0	42	5210	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00	
802.11ax-HE20 MCS0	36	5180		16.50	100.00		Not Required	16.50		100.00		Not Required		16.50	Not Required	16.50
	40	5200	16.50	16.50		19.50										
	44	5220	16.80	16.80		19.80										
	48	5240	16.80	16.80		19.80										
802.11ax-HE40 MCS0	38	5190	Not Required	15.50	100.00	Not Required	15.50	100.00	Not Required	15.50	Not Required	15.50	Not Required	18.50	100.00	
	46	5230		16.80	16.80		19.80									
802.11ax-HE80 MCS0	42	5210	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00	



Transmit antenna				Ant 6			Ant 3			Ant 3+6						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
5.2GHz WLAN	802.11a 6Mbps	52	5260	Not Required	16.80	99.00	Not Required	16.80	99.00	Not Required	16.80	Not Required	16.80	19.80	99.00	
		56	5280		16.80			16.80			16.80		16.80			19.80
		60	5300		16.80			16.80			16.80		16.80			19.80
		64	5320		16.80			16.80			16.80		16.80			19.80
	802.11n-HT20 MCS0	52	5260	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	19.80	100.00	
		56	5280		16.80			16.80			16.80		16.80			19.80
		60	5300		16.80			16.80			16.80		16.80			19.80
		64	5320		16.80			16.80			16.80		16.80			19.80
	802.11n-HT40 MCS0	54	5270	16.30	16.80	100.00	16.50	16.80	100.00	16.50	16.80	16.54	16.80	19.53	19.80	100.00
		62	5310	16.40	16.80		16.30	16.80		16.34	16.80	16.40	16.80	19.38		
	802.11ac-VHT20 MCS0	52	5260	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	19.80	100.00	
		56	5280		16.80			16.80			16.80		16.80			19.80
		60	5300		16.80			16.80			16.80		16.80			19.80
		64	5320		16.80			16.80			16.80		16.80			19.80
	802.11ac-VHT40 MCS0	54	5270	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	19.80	100.00	
		62	5310		16.80			16.80			16.80		16.80			19.80
	802.11ac-VHT80 MCS0	58	5290	Not Required	15.50	100.00	Not Required	15.50	100.00	Not Required	15.50	Not Required	15.50	Not Required	18.50	100.00
	802.11ax-HE20 MCS0	52	5260	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	19.80	100.00	
		56	5280		16.80			16.80			16.80		16.80			19.80
		60	5300		16.80			16.80			16.80		16.80			19.80
64		5320	16.80		16.80			16.80			16.80		19.80			
802.11ax-HE40 MCS0	54	5270	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	19.80	100.00		
	62	5310		15.50			15.50			15.50		15.50			18.50	
802.11ax-HE80 MCS0	58	5290	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00	



5GHz WLAN				Ant 6			Ant 3			Ant 3+6					
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %
802.11a 6Mbps	100	5500		16.80	99.00		16.80	99.00		16.80		16.80		19.80	99.00
	116	5580		16.80			16.80			16.80		19.80			
	124	5620		16.80			16.80			16.80		19.80			
	132	5660		16.80			16.80			16.80		19.80			
	144	5720		16.00			16.00			16.00		19.00			
802.11n-HT20 MCS0	100	5500		16.80	100.00		16.80	100.00		16.80		16.80		19.80	100.00
	116	5580		16.80			16.80			16.80		19.80			
	124	5620		16.80			16.80			16.80		19.80			
	132	5660		16.80			16.80			16.80		19.80			
	144	5720		16.80			16.80			16.80		19.80			
802.11n-HT40 MCS0	102	5510	Not Required	16.80	100.00	Not Required	16.80	100.00	Not Required	16.80	Not Required	16.80	Not Required	19.80	100.00
	110	5550		16.80			16.80			16.80		19.80			
	126	5630		16.80			16.80			16.80		19.80			
	134	5670		16.80			16.80			16.80		19.80			
	142	5710		16.80			16.80			16.80		19.80			
802.11ac-VHT20 MCS0	100	5500		16.80	100.00		16.80	100.00		16.80		16.80		19.80	100.00
	116	5580		16.80			16.80			16.80		19.80			
	124	5620		16.80			16.80			16.80		19.80			
	132	5660		16.80			16.80			16.80		19.80			
	144	5720		16.80			16.80			16.80		19.80			
802.11ac-VHT40 MCS0	102	5510		16.80	100.00		16.80	100.00		16.80		16.80		19.80	100.00
	110	5550		16.80			16.80			16.80		19.80			
	126	5630		16.80			16.80			16.80		19.80			
	134	5670		16.80			16.80			16.80		19.80			
	142	5710		16.80			16.80			16.80		19.80			
802.11ac-VHT80 MCS0	106	5530	15.90	16.80	100.00	15.90	16.80	100.00	15.90	16.80	15.90	16.80	18.91	19.80	100.00
	122	5610	16.50	16.80		16.80	16.80		16.80	16.80	16.80	19.80	19.80		
	138	5690	16.50	16.80		16.40	16.80		15.98	16.80	16.00	16.80	19.00	19.80	
802.11ax-HE20 MCS0	100	5500		16.80	100.00		16.80	100.00		16.80		16.80		19.80	100.00
	116	5580		16.80			16.80			16.80		19.80			
	124	5620		16.80			16.80			16.80		19.80			
	132	5660		16.80			16.80			16.80		19.80			
	144	5720		16.50			16.50			16.50		19.50			
802.11ax-HE40 MCS0	102	5510	Not Required	16.50	100.00	Not Required	16.50	100.00	Not Required	16.50	Not Required	16.50	Not Required	19.50	100.00
	110	5550		16.80			16.80			16.80		19.80			
	126	5630		16.80			16.80			16.80		19.80			
	134	5670		16.80			16.80			16.80		19.80			
	142	5710		16.80			16.80			16.80		19.80			
802.11ax-HE80 MCS0	106	5530		16.80	100.00		16.80	100.00		16.80		16.80		19.80	100.00
	122	5610		16.80			16.80			16.80		19.80			
	138	5690		16.80			16.80			16.80		19.80			



Transmit antenna				Ant 6			Ant 3			Ant 3+6											
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
5.2GHz WLAN	802.11a 6Mbps	149	5745	Not Required	16.80	99.00	Not Required	16.80	Not Required	16.80	Not Required	16.80	Not Required	19.80	99.00						
		157	5785		16.80			16.80		16.80		19.80									
		165	5825		16.80			16.80		16.80		19.80									
		149	5745		16.80			16.80		16.80		19.80									
	802.11n-HT20 MCS0	157	5785		16.80	100.00		16.80		100.00		16.80		16.80	16.80	16.80	16.80	16.80	19.80	100.00	
		165	5825		16.80			16.80				16.80		19.80							
		151	5755		16.80			16.80				16.80		19.80							
	802.11n-HT40 MCS0	149	5745		16.80	100.00		16.80		100.00		16.80		16.80	16.80	16.80	16.80	16.80	19.80	100.00	
		157	5785		16.80			16.80				16.80		19.80							
	802.11ac-VHT20 MCS0	165	5825		16.80	100.00		16.80		100.00		16.80		16.80	16.80	16.80	16.80	16.80	19.80	100.00	
		159	5795		16.80			16.80				16.80		19.80							
		155	5775		16.80			16.80				16.80		19.80							
	802.11ac-VHT40 MCS0	149	5745		16.80	100.00		16.80		100.00		16.80		16.80	16.80	16.80	16.80	16.80	19.80	100.00	
		157	5785		16.80			16.80				16.80		19.80							
	802.11ac-VHT80 MCS0	165	5825		16.70	16.80		100.00		16.70		16.80		100.00	16.80	16.80	16.70	16.80	16.76	19.80	100.00
	802.11ax-HE20 MCS0	151	5755		16.80	100.00		16.80		100.00		16.80		100.00	16.80	16.80	16.80	16.80	16.80	19.80	100.00
		159	5795		16.80			16.80				16.80			19.80						
		155	5775		16.80			16.80				16.80			19.80						
		149	5745		16.80			16.80				16.80			19.80						
	802.11ax-HE40 MCS0	157	5785		16.80	100.00		16.80		100.00		16.80		16.80	16.80	16.80	16.80	16.80	19.80	100.00	
165		5825	16.80	16.80	16.80		19.80														
802.11ax-HE80 MCS0	149	5745	16.80	100.00	16.80	100.00	16.80	100.00	16.80	16.80	16.80	16.80	19.80	100.00							



<Power Table 1>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6						
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %
	2.4GHz WLAN	802.11b 1Mbps	1	2412	14.10	14.30	100.00	14.10	14.30	100.00	14.30	14.30	13.96	14.30	17.14	17.30
6			2437	14.10	14.30	14.00		14.30	14.30		13.96	14.30	17.14	17.30		
11			2462	14.10	14.30	14.00		14.30	14.30		14.12	14.30	17.22	17.30		
802.11g 6Mbps		1	2412	Not Required	14.30	99.25	14.30	99.25	14.30	99.25	14.30	14.30	14.30	14.30	17.30	99.25
		6	2437		14.30		14.30		14.30		14.30	17.30				
		11	2462		14.30		14.30		14.30		14.30	17.30				
802.11n-HT20 MCS0		1	2412	Not Required	14.30	100.00	14.30	100.00	14.30	100.00	14.30	14.30	14.30	14.30	17.30	100.00
		6	2437		14.30		14.30		14.30		14.30	17.30				
		11	2462		14.30		14.30		14.30		14.30	17.30				
802.11ax-HE20 MCS0		1	2412	Not Required	14.30	100.00	14.30	100.00	14.30	100.00	14.30	14.30	14.30	14.30	17.30	100.00
		6	2437		14.30		14.30		14.30		14.30	17.30				
		11	2462		14.30		14.30		14.30		14.30	17.30				
802.11ax-HE40 MCS0		3	2422	Not Required	14.30	100.00	14.30	100.00	14.30	100.00	14.30	14.30	14.30	14.30	17.30	100.00
		6	2437		14.30		14.30		14.30		14.30	17.30				
		9	2452		14.30		14.30		14.30		14.30	17.30				



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6														
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6	Tune-Up	Ant 3	Tune-Up	Ant 3+6	Tune-Up	Duty Cycle									
									Average power (dBm)	Limit	Average power (dBm)	Limit	Average power (dBm)	Limit	Average power (dBm)	Limit	Average power (dBm)	Limit	%					
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	13.30	Not Required	13.30	100.00	Not Required	13.30	Not Required	13.30	Not Required	16.30	99.00									
		40	5200		13.30					13.30														
		44	5220		13.30					13.30														
		48	5240		13.30					13.30														
	802.11n-HT20 MCS0	36	5180		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		40	5200		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		44	5220		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		48	5240		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
	802.11n-HT40 MCS0	38	5190		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		46	5230		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
	802.11ac-VHT20 MCS0	36	5180		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		40	5200		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		44	5220		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
	802.11ac-VHT40 MCS0	38	5190		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		46	5230		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
	802.11ac-VHT80 MCS0	42	5210		13.00					100.00		13.10				100.00	13.10	100.00	13.10	13.30	13.20	13.30	16.16	100.00
	802.11ax-HE20 MCS0	36	5180		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		40	5200		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		44	5220		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
		48	5240		13.30					100.00		13.30				100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00
802.11ax-HE40 MCS0	38	5190	13.30	100.00	13.30	100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00										
	46	5230	13.30	100.00	13.30	100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00										
802.11ax-HE80 MCS0	42	5210	13.30	100.00	13.30	100.00	13.30	100.00	13.30	13.30	13.30	13.30	16.30	100.00										



5GHz WLAN				Ant 6			Ant 3			Ant 3+6																		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %													
				13.30	99.00		13.30	99.00		13.30		13.30		13.30	16.30	99.00												
802.11a 6Mbps	52	5260	Not Required	13.30	99.00	Not Required	13.30	99.00	Not Required	13.30	Not Required	13.30	Not Required	16.30	99.00													
	56	5280		13.30			13.30			13.30		16.30																
	60	5300		13.30			13.30			13.30		16.30																
	64	5320		13.30			13.30			13.30		16.30																
802.11n-HT20 MCS0	52	5260		13.30	100.00		Not Required	13.30		100.00		Not Required		13.30	Not Required	13.30	100.00	16.30	100.00									
	56	5280		13.30				13.30						13.30		16.30												
	60	5300		13.30				13.30						13.30		16.30												
	64	5320		13.30				13.30						13.30		16.30												
802.11n-HT40 MCS0	54	5270		13.30	100.00			Not Required		13.30				100.00		Not Required	13.30	Not Required	13.30	100.00	16.30	100.00						
	62	5310		13.30						13.30							13.30		16.30									
802.11ac-VHT20 MCS0	52	5260		13.30	100.00					Not Required				13.30			100.00		Not Required	13.30	Not Required	13.30	100.00	16.30	100.00			
	56	5280		13.30										13.30						13.30		16.30						
	60	5300		13.30										13.30						13.30		16.30						
	64	5320		13.30										13.30						13.30		16.30						
802.11ac-VHT40 MCS0	54	5270		13.30	100.00									Not Required			13.30			100.00		Not Required	13.30	Not Required	13.30	100.00	16.30	100.00
	62	5310		13.30													13.30						13.30		16.30			
802.11ac-VHT80 MCS0	58	5290	13.20	100.00	13.20	100.00			13.20		100.00		13.20				100.00			13.20			100.00		16.21	100.00		
802.11ax-HE20 MCS0	52	5260	13.30	100.00	Not Required	13.30			100.00		Not Required		13.30				Not Required			13.30			100.00		16.30	100.00		
	56	5280	13.30			13.30							13.30							16.30								
	60	5300	13.30			13.30							13.30							16.30								
	64	5320	13.30			13.30	13.30					16.30																
802.11ax-HE40 MCS0	54	5270	13.30	100.00		Not Required	13.30		100.00			Not Required	13.30		Not Required					13.30			100.00		16.30	100.00		
	62	5310	13.30				13.30						13.30							16.30								
802.11ax-HE80 MCS0	58	5290	13.30	100.00			13.30		100.00				13.30							100.00			13.30		100.00	13.30	100.00	16.30



5GHz WLAN				Ant 6			Ant 3			Ant 3+6															
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %										
802.11a 6Mbps	100	5500	Not Required	13.30	99.00	13.30	13.30	99.00	13.30	13.30	13.30	13.30	13.30	16.30	99.00										
	116	5580		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	124	5620		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	132	5660		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	144	5720		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11n-HT20 MCS0	100	5500	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	116	5580		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	124	5620		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	132	5660		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	144	5720		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11n-HT40 MCS0	102	5510	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	110	5550		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	126	5630		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	134	5670		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	142	5710		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11ac-VHT20 MCS0	100	5500	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	116	5580		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	124	5620		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	132	5660		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	144	5720		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11ac-VHT40 MCS0	102	5510	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	110	5550		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	126	5630		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	134	5670		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	142	5710		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11ac-VHT80 MCS0	106	5530	13.00	13.30	100.00	12.90	13.30	100.00	13.21	13.30	13.30	13.30	16.27	16.30	100.00										
	122	5610	13.00	13.30		13.00	13.30		13.20	13.30	13.30	13.30	16.26	16.30											
	138	5690	13.00	13.30		13.10	13.30		13.11	13.30	13.30	13.30	16.22	16.30											
802.11ax-HE20 MCS0	100	5500	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	116	5580		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	124	5620		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	132	5660		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	144	5720		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11ax-HE40 MCS0	102	5510	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	110	5550		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	126	5630		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	134	5670		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
	142	5710		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30
802.11ax-HE80 MCS0	106	5530	Not Required	13.30	100.00	13.30	13.30	100.00	13.30	13.30	13.30	13.30	13.30	16.30	100.00										
	122	5610		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30	
	138	5690		13.30												13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	13.30	16.30



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	13.30	99.00	Not Required	13.30	99.00	Not Required	13.30	Not Required	13.30	Not Required	16.30	99.00					
157			5785	13.30		13.30			13.30			16.30										
165			5825	13.30		13.30			13.30			16.30										
802.11n-HT20 MCS0		149	5745	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
		157	5785	13.30			13.30			13.30				16.30								
		165	5825	13.30			13.30			13.30				16.30								
802.11n-HT40 MCS0		151	5755	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
		159	5795	13.30			13.30			13.30				16.30								
802.11ac-VHT20 MCS0		149	5745	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
		157	5785	13.30			13.30			13.30				16.30								
		165	5825	13.30			13.30			13.30				16.30								
802.11ac-VHT40 MCS0		151	5755	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
		159	5795	13.30			13.30			13.30				16.30								
802.11ac-VHT80 MCS0		155	5775	13.00		13.30	100.00		13.20	13.30		100.00		12.90		13.30	13.10	13.30	16.01	13.30	100.00	100.00
802.11ax-HE20 MCS0		149	5745	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
		157	5785	13.30			13.30			13.30				16.30								
		165	5825	13.30			13.30			13.30				16.30								
802.11ax-HE40 MCS0		151	5755	13.30		100.00	13.30		100.00	13.30		100.00		13.30		100.00	13.30	100.00	13.30	100.00	16.30	100.00
	159	5795	13.30	13.30	13.30		16.30															
802.11ax-HE80 MCS0	155	5775	13.30	100.00	13.30	100.00	13.30	100.00	13.30	100.00	13.30	100.00	13.30	100.00	16.30	100.00						



<Power Table 2>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6							
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
	2.4GHz WLAN	802.11b 1Mbps	1	2412	11.10	11.40	100.00	11.00	11.40	100.00	11.38	11.40	11.30	11.40	14.35	14.40	100.00
6			2437	11.00	11.40	11.00		11.40	11.38		11.40	11.30	11.40	14.35	14.40		
11			2462	11.10	11.40	11.00		11.40	11.30		11.40	11.20	11.40	14.26	14.40		
802.11g 6Mbps		1	2412	Not Required	11.40	99.25	Not Required	11.40	99.25	Not Required	11.40	Not Required	11.40	Not Required	11.40	14.40	99.25
		6	2437		11.40			11.40			11.40		11.40				
		11	2462		11.40			11.40			11.40		11.40				
802.11n-HT20 MCS0		1	2412	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	11.40	14.40	100.00
		6	2437		11.40			11.40			11.40		11.40				
		11	2462		11.40			11.40			11.40		11.40				
802.11ax-HE20 MCS0		1	2412	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	11.40	14.40	100.00
		6	2437		11.40			11.40			11.40		11.40				
		11	2462		11.40			11.40			11.40		11.40				
802.11ax-HE40 MCS0		3	2422	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	11.40	14.40	100.00
		6	2437		11.40			11.40			11.40		11.40				
		9	2452		11.40			11.40			11.40		11.40				



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6											
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %					
	5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	8.70	99.00	Not Required	8.70	99.00	Not Required	8.70	Not Required	8.70	Not Required	11.70	99.00				
40			5200	8.70		8.70			8.70			11.70									
44			5220	8.70		8.70			8.70			11.70									
48			5240	8.70		8.70			8.70			11.70									
802.11n-HT20 MCS0		36	5180	8.70		100.00	8.70		100.00	8.70		100.00	8.70	100.00		8.70	Not Required	8.70	Not Required	11.70	100.00
		40	5200	8.70			8.70			8.70			11.70								
		44	5220	8.70			8.70			8.70			11.70								
		48	5240	8.70			8.70			8.70			11.70								
802.11n-HT40 MCS0		38	5190	8.70		100.00	8.70		100.00	8.70		100.00	8.70	100.00		8.70	Not Required	8.70	Not Required	11.70	100.00
		46	5230	8.70			8.70			8.70			11.70								
802.11ac-VHT20 MCS0		36	5180	8.70		100.00	8.70		100.00	8.70		100.00	8.70	100.00		8.70	Not Required	8.70	Not Required	11.70	100.00
		40	5200	8.70			8.70			8.70			11.70								
		44	5220	8.70			8.70			8.70			11.70								
		48	5240	8.70			8.70			8.70			11.70								
802.11ac-VHT40 MCS0		38	5190	8.70		100.00	8.70		100.00	8.70		100.00	8.70	100.00		8.70	Not Required	8.70	Not Required	11.70	100.00
		46	5230	8.70			8.70			8.70			11.70								
802.11ac-VHT80 MCS0		42	5210	8.30		8.70	100.00		8.30	8.70		100.00	8.34	8.70		8.40	8.70	11.38	8.70	100.00	
802.11ax-HE20 MCS0		36	5180	8.70		100.00	8.70		100.00	8.70		100.00	8.70	100.00		8.70	Not Required	8.70	Not Required	11.70	100.00
		40	5200	8.70			8.70			8.70			11.70								
		44	5220	8.70			8.70			8.70			11.70								
	48	5240	8.70	8.70	8.70		11.70														
802.11ax-HE40 MCS0	38	5190	8.70	100.00	8.70	100.00	8.70	100.00	8.70	100.00	8.70	Not Required	8.70	Not Required	11.70	100.00					
	46	5230	8.70		8.70		8.70		11.70												
802.11ax-HE80 MCS0	42	5210	8.70	100.00	8.70	100.00	8.70	100.00	8.70	100.00	8.70	8.70	11.70	100.00							



5GHz WLAN				Ant 6			Ant 3			Ant 3+6											
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %					
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	8.70	99.00	Not Required	8.70	99.00	Not Required	8.70	Not Required	8.70	Not Required	11.70	99.00				
157			5785	8.70		8.70			8.70			11.70									
165			5825	8.70		8.70			8.70			11.70									
802.11n-HT20 MCS0		149	5745	8.70		100.00	8.70		8.70	8.70		11.70									
		157	5785	8.70			8.70		8.70	11.70											
		165	5825	8.70			8.70		8.70	11.70											
802.11n-HT40 MCS0		151	5755	8.70		100.00	8.70		8.70	8.70		11.70									
		159	5795	8.70			8.70		8.70	11.70											
802.11ac-VHT20 MCS0		149	5745	8.70		100.00	8.70		8.70	8.70		11.70									
		157	5785	8.70			8.70		8.70	11.70											
		165	5825	8.70			8.70		8.70	11.70											
802.11ac-VHT40 MCS0		151	5755	8.70		100.00	8.70		8.70	8.70		11.70									
		159	5795	8.70			8.70		8.70	11.70											
802.11ac-VHT80 MCS0		155	5775	8.40		8.70	100.00		8.50	8.70		100.00		8.34		8.70	8.70	8.70	11.53	11.70	100.00
802.11ax-HE20 MCS0		149	5745	8.70		100.00	8.70		8.70	8.70		11.70									
		157	5785	8.70			8.70		8.70	11.70											
		165	5825	8.70			8.70		8.70	11.70											
802.11ax-HE40 MCS0		151	5755	8.70		100.00	8.70		8.70	8.70		11.70									
	159	5795	8.70	8.70	8.70		11.70														
802.11ax-HE80 MCS0	155	5775	8.70	100.00	8.70	100.00	8.70	100.00	8.70	8.70	8.70	8.70	11.70	100.00							



<Power Table 4>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6						
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %
	2.4GHz WLAN	802.11b 1Mbps	1	2412	20.50	20.80	100.00	20.30	20.80	100.00	20.78	20.80	20.20	20.80	23.53	23.80
6			2437	20.50	20.80	20.20		20.80	20.78		20.80	20.20	20.80	23.53	23.80	
11			2462	20.60	20.80	20.30		20.80	20.58		20.80	20.20	20.80	23.40	23.80	
802.11g 6Mbps		1	2412	Not Required	18.50	99.25	Not Required	18.50	99.25	Not Required	18.50	Not Required	18.50	Not Required	21.50	99.25
		6	2437		20.50			20.50			20.50		20.50		23.50	
		11	2462		18.50			18.50			18.50		21.50			
802.11n-HT20 MCS0		1	2412	Not Required	17.50	100.00	Not Required	17.50	100.00	Not Required	17.50	Not Required	17.50	Not Required	20.50	100.00
		6	2437		20.50			20.50			20.50		23.50			
		11	2462		17.50			17.50			17.50		20.50			
802.11ax-HE20 MCS0		1	2412	Not Required	17.00	100.00	Not Required	17.00	100.00	Not Required	17.00	Not Required	17.00	Not Required	20.00	100.00
		6	2437		20.80			20.80			20.80		23.80			
		11	2462		17.00			17.00			17.00		20.00			
802.11ax-HE40 MCS0		3	2422	Not Required	17.50	100.00	Not Required	17.50	100.00	Not Required	17.50	Not Required	17.50	Not Required	20.50	100.00
		6	2437		20.50			20.50			20.50		23.50			
		9	2452		16.50			16.50			16.50		19.50			



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6									
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %				
802.11a 6Mbps	36	5180	16.60	17.30	99.00	16.60	17.30	99.00	16.60	17.30	16.70	17.30	19.66	20.30	99.00				
	40	5200	16.60	17.30		16.60	17.30		16.60	17.30	16.70	17.30	19.66	20.30					
	44	5220	16.60	17.30		16.60	17.30		16.60	17.30	16.70	17.30	19.66	20.30					
	48	5240	16.60	17.30		16.60	17.30		16.60	17.30	16.70	17.30	19.66	20.30					
802.11n-HT20 MCS0	36	5180	Not Required	16.00	100.00	Not Required	16.00	100.00	Not Required	16.00	Not Required	16.00	Not Required	19.00	100.00				
	40	5200		17.30			17.30			17.30		20.30							
	44	5220		17.30			17.30			17.30		20.30							
	48	5240		17.30			17.30			17.30		20.30							
802.11n-HT40 MCS0	38	5190	Not Required	16.00	100.00	Not Required	16.00	100.00	Not Required	16.00	Not Required	16.00	Not Required	19.00	100.00				
	46	5230		17.30			17.30			17.30		20.30							
802.11ac-VHT20 MCS0	36	5180	Not Required	17.30	100.00	Not Required	17.30	100.00	Not Required	17.30	Not Required	17.30	Not Required	20.30	100.00				
	40	5200		17.30			17.30			17.30		20.30							
	44	5220		17.30			17.30			17.30		20.30							
	48	5240		17.30			17.30			17.30		20.30							
802.11ac-VHT40 MCS0	38	5190	Not Required	16.00	100.00	Not Required	16.00	100.00	Not Required	16.00	Not Required	16.00	Not Required	19.00	100.00				
	46	5230		17.00			17.00			17.00		20.00							
802.11ac-VHT80 MCS0	42	5210	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00				
802.11ax-HE20 MCS0	36	5180		16.50	100.00		16.50	100.00		16.50		100.00		16.50	Not Required	16.50	Not Required	19.50	100.00
	40	5200		16.50			16.50			16.50				19.50					
	44	5220		17.00			17.00			17.00				20.00					
	48	5240	17.00	17.00		17.00	20.00												
802.11ax-HE40 MCS0	38	5190	Not Required	15.50	100.00	Not Required	15.50	100.00	Not Required	15.50	Not Required	15.50	Not Required	18.50	100.00				
	46	5230		17.20			17.20			17.20		20.20							
802.11ax-HE80 MCS0	42	5210	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00				



5GHz WLAN				Ant 6			Ant 3			Ant 3+6									
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %				
802.11a 6Mbps	52	5260	16.80	17.30	99.00	16.80	17.30	99.00	16.80	17.30	16.80	17.30	19.81	20.30	99.00				
	56	5280	17.00	17.30		17.00	17.30		16.78	17.30	16.80	17.30	19.80	20.30					
	60	5300	17.00	17.30		17.00	17.30		17.15	17.30	17.15	17.30	20.16	20.30					
	64	5320	17.00	17.30		17.00	17.30		17.15	17.30	17.15	17.30	20.16	20.30					
802.11n-HT20 MCS0	52	5260	Not Required	17.30	100.00	Not Required	17.30	100.00	Not Required	17.30	Not Required	17.30	Not Required	20.30	100.00				
	56	5280		17.30			17.30			17.30		17.30		20.30					
	60	5300		17.30			17.30			17.30		17.30		20.30					
	64	5320		17.30			17.30			17.30		17.30		20.30					
802.11n-HT40 MCS0	54	5270	Not Required	17.00	100.00	Not Required	17.00	100.00	Not Required	17.00	Not Required	17.00	Not Required	20.00	100.00				
	62	5310		17.00			17.00			17.00		17.00		20.00					
802.11ac-VHT20 MCS0	52	5260	Not Required	17.30	100.00	Not Required	17.30	100.00	Not Required	17.30	Not Required	17.30	Not Required	20.30	100.00				
	56	5280		17.30			17.30			17.30		17.30		20.30					
	60	5300		17.30			17.30			17.30		17.30		20.30					
	64	5320		17.30			17.30			17.30		17.30		20.30					
802.11ac-VHT40 MCS0	54	5270	Not Required	17.00	100.00	Not Required	17.00	100.00	Not Required	17.00	Not Required	17.00	Not Required	20.00	100.00				
	62	5310		17.00			17.00			17.00		17.00		20.00					
802.11ac-VHT80 MCS0	58	5290	Not Required	15.50	100.00	Not Required	15.50	100.00	Not Required	15.50	Not Required	15.50	Not Required	18.50	100.00				
802.11ax-HE20 MCS0	52	5260		17.00	100.00		17.00	100.00		17.00		100.00		17.00	100.00	17.00	100.00	20.00	100.00
	56	5280		17.00			17.00			17.00				17.00		20.00			
	60	5300		17.00			17.00			17.00				17.00		20.00			
	64	5320	17.00	17.00		17.00	17.00		20.00										
802.11ax-HE40 MCS0	54	5270	Not Required	17.00	100.00	Not Required	17.00	100.00	Not Required	17.00	Not Required	17.00	Not Required	20.00	100.00				
	62	5310		15.50			15.50			15.50		15.50		18.50					
802.11ax-HE80 MCS0	58	5290	Not Required	15.00	100.00	Not Required	15.00	100.00	Not Required	15.00	Not Required	15.00	Not Required	18.00	100.00				



5GHz WLAN				Ant 6			Ant 3			Ant 3+6																	
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %												
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	100.00	Not Required	17.30	99.00	17.30	17.30	Not Required	17.30	Not Required	20.30	99.00												
		116	5580				17.30									17.30	17.30	17.30	17.30	20.30							
		124	5620				17.30									17.30	17.30	17.30	17.30	20.30							
		132	5660				17.30									17.30	17.30	17.30	17.30	20.30							
		144	5720				16.00									16.00	16.00	16.00	16.00	19.00							
	802.11n-HT20 MCS0	100	5500				17.30									100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	20.30	100.00
		116	5580				17.30										17.30		17.30		17.30		17.30		20.30		
		124	5620				17.30										17.30		17.30		17.30		17.30		20.30		
		132	5660				17.30										17.30		17.30		17.30		17.30		20.30		
		144	5720				17.30										17.30		17.30		17.30		17.30		20.30		
	802.11n-HT40 MCS0	102	5510				17.00									100.00	17.00	100.00	17.00	100.00	17.00	100.00	17.00	100.00	17.00	20.30	100.00
		110	5550				17.30										17.30		17.30		17.30		17.30		20.30		
		126	5630				17.30										17.30		17.30		17.30		17.30		20.30		
		134	5670				17.30										17.30		17.30		17.30		17.30		20.30		
	802.11ac-VHT20 MCS0	100	5500				17.30									100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	20.30	100.00
		116	5580				17.30										17.30		17.30		17.30		17.30		20.30		
		124	5620				17.30										17.30		17.30		17.30		17.30		20.30		
		132	5660				17.30										17.30		17.30		17.30		17.30		20.30		
		144	5720				17.30										17.30		17.30		17.30		17.30		20.30		
	802.11ac-VHT40 MCS0	102	5510				17.00									100.00	17.00	100.00	17.00	100.00	17.00	100.00	17.00	100.00	17.00	20.30	100.00
110		5550	17.30	17.30	17.30	17.30	17.30	20.30																			
126		5630	17.30	17.30	17.30	17.30	17.30	20.30																			
134		5670	17.00	17.00	17.00	17.00	17.00	20.30																			
142		5710	17.00	17.00	17.00	17.00	17.00	20.30																			
802.11ac-VHT80 MCS0	106	5530	15.90	100.00	15.90	100.00	15.90	100.00	15.90	100.00	15.90	100.00	15.90	20.30	100.00												
	122	5610	16.50		16.50		16.50		16.50		16.50		19.83														
	138	5690	16.50		16.50		16.50		16.50		16.50		18.91														
802.11ax-HE20 MCS0	100	5500	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	20.30	100.00												
	116	5580	17.30		17.30		17.30		17.30		17.30		20.30														
	124	5620	17.30		17.30		17.30		17.30		17.30		20.30														
	132	5660	17.30		17.30		17.30		17.30		17.30		20.30														
	144	5720	16.50		16.50		16.50		16.50		16.50		19.50														
802.11ax-HE40 MCS0	102	5510	16.50	100.00	16.50	100.00	16.50	100.00	16.50	100.00	16.50	100.00	16.50	20.30	100.00												
	110	5550	17.30		17.30		17.30		17.30		17.30		20.30														
	126	5630	17.30		17.30		17.30		17.30		17.30		20.30														
	134	5670	17.30		17.30		17.30		17.30		17.30		20.30														
802.11ax-HE80 MCS0	106	5530	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	100.00	17.30	20.30	100.00												
	122	5610	17.30		17.30		17.30		17.30		17.30		20.30														
	138	5690	17.30		17.30		17.30		17.30		17.30		20.30														



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	17.30	99.00	Not Required	17.30	99.00	Not Required	17.30	Not Required	17.30	Not Required	20.30	99.00					
157			5785	17.30		17.30			17.30			20.30										
165			5825	17.30		17.30			17.30			20.30										
802.11n-HT20 MCS0		149	5745	17.30		100.00	Not Required		17.30	100.00		Not Required		17.30		Not Required		17.30	Not Required	20.30	100.00	
		157	5785	17.30					17.30					17.30				20.30				
		165	5825	17.30					17.30					17.30				20.30				
802.11n-HT40 MCS0		151	5755	16.60		17.30	100.00		16.60	17.30		100.00		16.60		17.30		16.60	17.30	19.61	20.30	100.00
		159	5795	17.30		17.30			17.30	17.30				17.30		20.30						
802.11ac-VHT20 MCS0		149	5745	Not Required		17.30	100.00		Not Required	17.30		100.00		Not Required		17.30		Not Required	17.30	Not Required	17.30	Not Required
		157	5785		17.30	17.30		17.30		20.30												
		165	5825		17.30	17.30		17.30		20.30												
802.11ac-VHT40 MCS0		151	5755		17.30	100.00	Not Required	17.30		100.00	Not Required	17.30	Not Required		17.30	Not Required	20.30	100.00				
		159	5795		17.30			17.30				17.30			20.30							
802.11ac-VHT80 MCS0		155	5775		16.70	17.30	100.00	16.70		17.30	100.00	16.70	17.30		16.80	17.30	19.76	20.30	100.00			
802.11ax-HE20 MCS0		149	5745		Not Required	17.30	100.00	Not Required		17.30	100.00	Not Required	17.30		Not Required	17.30	Not Required	17.30	Not Required	100.00		
		157	5785			17.30				17.30			17.30			20.30						
		165	5825			17.30				17.30			17.30			20.30						
802.11ax-HE40 MCS0		151	5755	17.30		100.00	Not Required		17.30	100.00	Not Required		17.30	Not Required	17.30	Not Required	20.30	100.00				
	159	5795	17.30	17.30					17.30				20.30									
802.11ax-HE80 MCS0	155	5775	17.30	100.00		Not Required	17.30		100.00	Not Required	17.30		100.00	Not Required	17.30	Not Required	20.30	100.00				



<Power Table 5>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6							
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
	2.4GHz WLAN	802.11b 1Mbps	1	2412	20.50	20.80	100.00	20.30	20.80	100.00	20.80	20.80	20.21	20.80	23.53	23.80	100.00
6			2437	20.50	20.80	20.20		20.80	20.80		20.21	20.80	23.53	23.80			
11			2462	20.60	20.80	20.30		20.80	20.58		20.80	20.20	20.80	23.40	23.80		
802.11g 6Mbps		1	2412	Not Required	18.50	99.25	100.00	18.50	99.25	100.00	18.50	100.00	18.50	100.00	18.50	100.00	21.50
		6	2437		20.50			20.50	20.50		20.50		23.50				
		11	2462		18.50			18.50	18.50		18.50		21.50				
802.11n-HT20 MCS0		1	2412	Not Required	17.50	100.00	100.00	17.50	100.00	100.00	17.50	100.00	17.50	100.00	17.50	100.00	20.50
		6	2437		20.50			20.50			20.50		20.50		23.50		
		11	2462		17.50			17.50			17.50		17.50		20.50		
802.11ax-HE20 MCS0		1	2412	Not Required	17.00	100.00	100.00	17.00	100.00	100.00	17.00	100.00	17.00	100.00	17.00	100.00	20.00
		6	2437		20.80			20.80			20.80		20.80		23.80		
		11	2462		17.00			17.00			17.00		17.00		20.00		
802.11ax-HE40 MCS0		3	2422	Not Required	17.50	100.00	100.00	17.50	100.00	100.00	17.50	100.00	17.50	100.00	17.50	100.00	20.50
		6	2437		20.50			20.50			20.50		20.50		23.50		
		9	2452		16.50			16.50			16.50		16.50		19.50		



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6										
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %					
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	14.80	99.00	Not Required	14.80	Not Required	14.80	Not Required	14.80	Not Required	17.80	99.00					
		40	5200		14.80			14.80		14.80		17.80								
		44	5220		14.80			14.80		14.80		17.80								
		48	5240		14.80			14.80		14.80		17.80								
	802.11n-HT20 MCS0	36	5180		14.80	100.00		14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		40	5200		14.80			14.80				14.80			17.80					
		44	5220		14.80			14.80				14.80			17.80					
		48	5240		14.80			14.80				14.80			17.80					
	802.11n-HT40 MCS0	38	5190		14.80	100.00		14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		46	5230		14.80			14.80				14.80			17.80					
	802.11ac-VHT20 MCS0	36	5180		14.80	100.00		14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		40	5200		14.80			14.80				14.80			17.80					
44		5220	14.80	14.80	14.80		17.80													
48		5240	14.80	14.80	14.80		17.80													
802.11ac-VHT40 MCS0	38	5190	14.80	100.00	14.80	100.00	14.80	100.00	14.80	100.00	14.80	100.00	17.80	100.00						
	46	5230	14.80		14.80		14.80		17.80											
802.11ac-VHT80 MCS0	42	5210	14.50	14.80	100.00	14.70	14.80	100.00	14.60	14.80	14.80	14.80	17.71	17.80	100.00					
802.11ax-HE20 MCS0	36	5180	Not Required	14.80	100.00	Not Required	14.80	100.00	Not Required	14.80	Not Required	14.80	Not Required	17.80	100.00					
	40	5200		14.80			14.80			14.80		17.80								
	44	5220		14.80			14.80			14.80		17.80								
	48	5240		14.80			14.80			14.80		17.80								
802.11ax-HE40 MCS0	38	5190	14.80	100.00	14.80	100.00	14.80	100.00	14.80	100.00	14.80	100.00	17.80	100.00						
	46	5230	14.80		14.80		14.80		17.80											
802.11ax-HE80 MCS0	42	5210	14.80	100.00	100.00	14.80	100.00	100.00	14.80	100.00	14.80	100.00	17.80	100.00						



5GHz WLAN				Ant 6			Ant 3			Ant 3+6											
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %					
	5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	14.80	99.00	Not Required	14.80	99.00	Not Required	14.80	Not Required	14.80	Not Required	17.80	99.00				
56			5280	14.80		14.80			14.80			17.80									
60			5300	14.80		14.80			14.80			17.80									
64			5320	14.80		14.80			14.80			17.80									
802.11n-HT20 MCS0		52	5260	14.80		100.00	14.80		100.00	14.80		100.00	14.80	Not Required		14.80	Not Required	14.80	Not Required	17.80	100.00
		56	5280	14.80			14.80			14.80			17.80								
		60	5300	14.80			14.80			14.80			17.80								
		64	5320	14.80			14.80			14.80			17.80								
802.11n-HT40 MCS0		54	5270	14.80		100.00	14.80		100.00	14.80		100.00	14.80	Not Required		14.80	Not Required	14.80	Not Required	17.80	100.00
		62	5310	14.80			14.80			14.80			17.80								
802.11ac-VHT20 MCS0		52	5260	14.80		100.00	14.80		100.00	14.80		100.00	14.80	Not Required		14.80	Not Required	14.80	Not Required	17.80	100.00
		56	5280	14.80			14.80			14.80			17.80								
		60	5300	14.80			14.80			14.80			17.80								
		64	5320	14.80			14.80			14.80			17.80								
802.11ac-VHT40 MCS0		54	5270	14.80		100.00	14.80		100.00	14.80		100.00	14.80	Not Required		14.80	Not Required	14.80	Not Required	17.80	100.00
		62	5310	14.80			14.80			14.80			17.80								
802.11ac-VHT80 MCS0	58	5290	14.40	14.80	100.00	14.60	14.80	100.00	14.50	14.80	14.70	14.80	17.61	17.80	100.00						
802.11ax-HE20 MCS0	52	5260	Not Required	14.80	100.00	Not Required	14.80	100.00	Not Required	14.80	Not Required	14.80	Not Required	14.80	Not Required	17.80	100.00				
	56	5280		14.80			14.80			14.80		17.80									
	60	5300		14.80			14.80			14.80		17.80									
	64	5320		14.80			14.80			14.80		17.80									
802.11ax-HE40 MCS0	54	5270	14.80	100.00	14.80	100.00	14.80	100.00	14.80	Not Required	14.80	Not Required	14.80	Not Required	17.80	100.00					
	62	5310	14.80		14.80		14.80		17.80												
802.11ax-HE80 MCS0	58	5290	14.80	100.00	100.00	14.80	100.00	100.00	14.80	100.00	14.80	100.00	14.80	100.00	17.80	100.00					



5GHz WLAN				Ant 6			Ant 3			Ant 3+6																	
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %												
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	14.80	100.00	Not Required	14.80	Not Required	14.80	Not Required	14.80	Not Required	17.80	99.00												
		116	5580																								
		124	5620																								
		132	5660																								
		144	5720																								
	802.11n-HT20 MCS0	100	5500													14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00
		116	5580																								
		124	5620																								
		132	5660																								
		144	5720																								
	802.11n-HT40 MCS0	102	5510													14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00
		110	5550																								
		126	5630																								
		134	5670																								
		142	5710																								
	802.11ac-VHT20 MCS0	100	5500													14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00
		116	5580																								
		124	5620																								
		132	5660																								
		144	5720																								
802.11ac-VHT40 MCS0	102	5510	14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00													
	110	5550																									
	126	5630																									
	134	5670																									
	142	5710																									
802.11ac-VHT80 MCS0	106	5530	14.60	100.00	14.30	100.00	14.70	100.00	14.70	14.80	14.80	14.80	17.76	100.00													
	122	5610																									
	138	5690																									
802.11ax-HE20 MCS0	100	5500	14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00													
	116	5580																									
	124	5620																									
	132	5660																									
	144	5720																									
802.11ax-HE40 MCS0	102	5510	14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00													
	110	5550																									
	126	5630																									
	134	5670																									
	142	5710																									
802.11ax-HE80 MCS0	106	5530	14.80	100.00	14.80	100.00	14.80	100.00	14.80	14.80	14.80	14.80	17.80	100.00													
	122	5610																									
	138	5690																									



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	14.80	99.00	Not Required	14.80	99.00	Not Required	14.80	Not Required	14.80	Not Required	17.80	99.00					
157			5785	14.80		14.80			14.80			17.80										
165			5825	14.80		14.80			14.80			17.80										
802.11n-HT20 MCS0		149	5745	14.80		100.00	14.80		100.00	14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		157	5785	14.80			14.80			14.80				17.80								
		165	5825	14.80			14.80			14.80				17.80								
802.11n-HT40 MCS0		151	5755	14.80		100.00	14.80		100.00	14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		159	5795	14.80			14.80			14.80				17.80								
802.11ac-VHT20 MCS0		149	5745	14.80		100.00	14.80		100.00	14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		157	5785	14.80			14.80			14.80				17.80								
		165	5825	14.80			14.80			14.80				17.80								
802.11ac-VHT40 MCS0		151	5755	14.80		100.00	14.80		100.00	14.80		100.00		14.80		100.00	14.80	100.00	14.80	100.00	17.80	100.00
		159	5795	14.80			14.80			14.80				17.80								
802.11ac-VHT80 MCS0		155	5775	14.50		14.80	100.00		14.70	14.80		100.00		14.40		14.80	14.70	14.80	17.56	14.80	100.00	100.00
802.11ax-HE20 MCS0		149	5745	Not Required		14.80	100.00		Not Required	14.80		100.00		Not Required		14.80	100.00	Not Required	14.80	100.00	17.80	100.00
		157	5785			14.80				14.80						14.80			17.80			
		165	5825			14.80				14.80						14.80			17.80			
802.11ax-HE40 MCS0		151	5755			14.80	100.00			14.80		100.00				14.80	100.00		14.80	100.00	14.80	100.00
	159	5795	14.80		14.80	14.80		17.80														
802.11ax-HE80 MCS0	155	5775	14.80		100.00	14.80	100.00	14.80		100.00	14.80	100.00	14.80		100.00	14.80	100.00		17.80	100.00		



<Power Table 6>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6							
2.4GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
	2.4GHz WLAN	802.11b 1Mbps	1	2412	13.70	14.00	100.00	13.70	14.00	100.00	13.96	14.00	13.90	14.00	16.94	17.00	100.00
6			2437	13.70	14.00	13.60		14.00	13.96		14.00	13.90	14.00	16.94	17.00		
11			2462	13.70	14.00	13.60		14.00	13.91		14.00	13.50	14.00	16.72	17.00		
802.11g 6Mbps		1	2412	Not Required	14.00	99.25	Not Required	14.00	99.25	Not Required	14.00	Not Required	Not Required	14.00	Not Required	17.00	99.25
		6	2437		14.00			14.00			14.00			17.00			
		11	2462		14.00			14.00			14.00			17.00			
802.11n-HT20 MCS0		1	2412	Not Required	14.00	100.00	Not Required	14.00	100.00	Not Required	14.00	Not Required	Not Required	14.00	Not Required	17.00	100.00
		6	2437		14.00			14.00			14.00			17.00			
		11	2462		14.00			14.00			14.00			17.00			
802.11ax-HE20 MCS0		1	2412	Not Required	14.00	100.00	Not Required	14.00	100.00	Not Required	14.00	Not Required	Not Required	14.00	Not Required	17.00	100.00
		6	2437		14.00			14.00			14.00			17.00			
		11	2462		14.00			14.00			14.00			17.00			
802.11ax-HE40 MCS0		3	2422	Not Required	14.00	100.00	Not Required	14.00	100.00	Not Required	14.00	Not Required	Not Required	14.00	Not Required	17.00	100.00
		6	2437		14.00			14.00			14.00			17.00			
		9	2452		14.00			14.00			14.00			17.00			



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.2GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	10.90	99.00	Not Required	10.90	99.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	99.00					
40			5200	10.90		10.90			10.90			13.90										
44			5220	10.90		10.90			10.90			13.90										
48			5240	10.90		10.90			10.90			13.90										
802.11n-HT20 MCS0		36	5180	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		40	5200	10.90			10.90			10.90				13.90								
		44	5220	10.90			10.90			10.90				13.90								
		48	5240	10.90			10.90			10.90				13.90								
802.11n-HT40 MCS0		38	5190	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		46	5230	10.90			10.90			10.90				13.90								
802.11ac-VHT20 MCS0		36	5180	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		40	5200	10.90			10.90			10.90				13.90								
		44	5220	10.90			10.90			10.90				13.90								
		48	5240	10.90			10.90			10.90				13.90								
802.11ac-VHT40 MCS0		38	5190	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		46	5230	10.90			10.90			10.90				13.90								
802.11ac-VHT80 MCS0	42	5210	10.60	10.90	100.00	10.70	10.90	100.00	10.84	10.90	10.88	10.90	13.87	13.90	100.00							
802.11ax-HE20 MCS0	36	5180	Not Required	10.90	100.00	Not Required	10.90	100.00	Not Required	10.90	Not Required	10.90	Not Required	10.90	100.00	13.90						
	40	5200		10.90			10.90			10.90		13.90										
	44	5220		10.90			10.90			10.90		13.90										
	48	5240		10.90			10.90			10.90		13.90										
802.11ax-HE40 MCS0	38	5190		10.90	100.00		10.90	100.00		10.90		100.00		10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00	
	46	5230		10.90			10.90			10.90				13.90								
802.11ax-HE80 MCS0	42	5210		10.90	100.00		10.90	100.00		10.90		100.00		10.90	100.00	10.90	100.00	13.90	100.00			



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	10.90	99.00	Not Required	10.90	99.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	99.00					
56			5280	10.90		10.90			13.90													
60			5300	10.90		10.90			13.90													
64			5320	10.90		10.90			13.90													
802.11n-HT20 MCS0		52	5260	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		56	5280	10.90			10.90			13.90												
		60	5300	10.90			10.90			13.90												
		64	5320	10.90			10.90			13.90												
802.11n-HT40 MCS0		54	5270	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		62	5310	10.90			10.90			13.90												
802.11ac-VHT20 MCS0		52	5260	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		56	5280	10.90			10.90			13.90												
		60	5300	10.90			10.90			13.90												
		64	5320	10.90			10.90			13.90												
802.11ac-VHT40 MCS0		54	5270	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		62	5310	10.90			10.90			13.90												
802.11ac-VHT80 MCS0		58	5290	10.70		10.90	100.00		10.60	10.90		100.00		10.82		10.90	10.90	10.90	13.87	10.90	100.00	100.00
802.11ax-HE20 MCS0		52	5260	10.90		100.00	10.90		100.00	10.90		100.00		10.90		100.00	10.90	100.00	10.90	100.00	13.90	100.00
		56	5280	10.90			10.90			13.90												
		60	5300	10.90			10.90			13.90												
	64	5320	10.90	10.90	13.90																	
802.11ax-HE40 MCS0	54	5270	10.90	100.00	10.90	100.00	10.90	100.00	10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00						
	62	5310	10.90		10.90		13.90															
802.11ax-HE80 MCS0	58	5290	10.90	10.90	100.00	10.90	10.90	100.00	10.90	10.90	10.90	10.90	13.90	10.90	100.00	100.00						



5GHz WLAN				Ant 6			Ant 3			Ant 3+6															
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %										
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	10.90	Not Required	10.90	10.90	10.90	10.90	10.90	10.90	10.90	13.90	99.00										
		116	5580		10.90																				
		124	5620		10.90																				
		132	5660		10.90																				
		144	5720		10.90																				
	802.11n-HT20 MCS0	100	5500		10.90		100.00									10.90	100.00	10.90	10.90	10.90	10.90	10.90	10.90	13.90	100.00
		116	5580		10.90																				
		124	5620		10.90																				
		132	5660		10.90																				
		144	5720		10.90																				
	802.11n-HT40 MCS0	102	5510		10.90		100.00									10.90	100.00	10.90	Not Required	10.90	Not Required	10.90	Not Required	13.90	100.00
		110	5550		10.90																				
		126	5630		10.90																				
		134	5670		10.90																				
	802.11ac-VHT20 MCS0	100	5500		10.90		100.00									10.90	100.00	10.90	10.90	10.90	10.90	10.90	10.90	13.90	100.00
		116	5580		10.90																				
		124	5620		10.90																				
		132	5660		10.90																				
		144	5720		10.90																				
	802.11ac-VHT40 MCS0	102	5510		10.90		100.00									10.90	100.00	10.90	10.90	10.90	10.90	10.90	10.90	13.90	100.00
110		5550	10.90																						
126		5630	10.90																						
134		5670	10.90																						
142		5710	10.90																						
802.11ac-VHT80 MCS0	106	5530	10.60	100.00	10.60	100.00	10.30	10.90	10.70	10.90	10.90	10.90	13.51	100.00											
	122	5610	10.40		10.70		10.50		13.61																
	138	5690	10.70		10.70		10.70		13.51																
802.11ax-HE20 MCS0	100	5500	10.90	100.00	10.90	100.00	10.90	10.90	10.90	10.90	10.90	10.90	13.90	100.00											
	116	5580	10.90																						
	124	5620	10.90																						
	132	5660	10.90																						
	144	5720	10.90																						
802.11ax-HE40 MCS0	102	5510	10.90	100.00	10.90	100.00	10.90	Not Required	10.90	Not Required	10.90	Not Required	13.90	100.00											
	110	5550	10.90																						
	126	5630	10.90																						
	134	5670	10.90																						
802.11ax-HE80 MCS0	106	5530	10.90	100.00	10.90	100.00	10.90	10.90	10.90	10.90	10.90	10.90	13.90	100.00											
	122	5610	10.90																						
	138	5690	10.90																						



5GHz WLAN				Ant 6			Ant 3			Ant 3+6													
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %							
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	10.90	99.00	Not Required	10.90	100.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	99.00						
157			5785	10.90		10.90			10.90			13.90											
165			5825	10.90		10.90			10.90			13.90											
802.11n-HT20 MCS0		149	5745	10.90		100.00	10.90		100.00			10.90		100.00		10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00
		157	5785	10.90			10.90					10.90				13.90							
		165	5825	10.90			10.90					10.90				13.90							
802.11n-HT40 MCS0		151	5755	10.90		100.00	10.90		100.00			10.90		100.00		10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00
		159	5795	10.90			10.90					10.90				13.90							
802.11ac-VHT20 MCS0		149	5745	10.90		100.00	10.90		100.00			10.90		100.00		10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00
		157	5785	10.90			10.90					10.90				13.90							
		165	5825	10.90			10.90					10.90				13.90							
802.11ac-VHT40 MCS0		151	5755	10.90		100.00	10.90		100.00			10.90		100.00		10.90	100.00	10.90	100.00	10.90	100.00	13.90	100.00
		159	5795	10.90			10.90					10.90				13.90							
802.11ac-VHT80 MCS0		155	5775	10.50		10.90	100.00		10.70			10.90		100.00		10.40	10.90	10.70	10.90	13.56	10.90	100.00	100.00
802.11ax-HE20 MCS0		149	5745	10.90		100.00	10.90		100.00			Not Required		10.90		100.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	100.00
		157	5785	10.90			10.90							10.90				13.90					
		165	5825	10.90			10.90							10.90				13.90					
802.11ax-HE40 MCS0		151	5755	10.90		100.00	10.90		100.00			Not Required		10.90		100.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	100.00
	159	5795	10.90	10.90	10.90		13.90																
802.11ax-HE80 MCS0	155	5775	10.90	100.00	10.90	100.00	Not Required	10.90	100.00	Not Required	10.90	Not Required	10.90	Not Required	13.90	100.00							



<Power Table 7>

<2.4GHz WLAN>

2.4GHz WLAN				Ant 6			Ant 4			Ant 4+6						
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 4 Average power (dBm)	Tune-Up Limit	Ant 4+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %	
2.4GHz WLAN	802.11b 1Mbps	1	2412	11.10	11.40	100.00	11.00	11.40	100.00	11.34	11.40	11.34	11.40	14.35	14.40	100.00
		6	2437	11.00	11.40		11.00	11.40		11.34	11.40	11.34	11.40	14.35	14.40	
		11	2462	11.10	11.40		11.00	11.40		11.22	11.40	11.28	11.40	14.26	14.40	
	802.11g 6Mbps	1	2412	Not Required	11.40	99.25	Not Required	11.40	99.25	Not Required	11.40	Not Required	11.40	Not Required	14.40	99.25
		6	2437		11.40			11.40			11.40		14.40			
		11	2462		11.40			11.40			11.40		14.40			
	802.11n-HT20 MCS0	1	2412	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	14.40	100.00
		6	2437		11.40			11.40			11.40		14.40			
		11	2462		11.40			11.40			11.40		14.40			
	802.11ax-HE20 MCS0	1	2412	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	14.40	100.00
		6	2437		11.40			11.40			11.40		14.40			
		11	2462		11.40			11.40			11.40		14.40			
	802.11ax-HE40 MCS0	3	2422	Not Required	11.40	100.00	Not Required	11.40	100.00	Not Required	11.40	Not Required	11.40	Not Required	14.40	100.00
		6	2437		11.40			11.40			11.40		14.40			
		9	2452		11.40			11.40			11.40		14.40			



<5GHz WLAN>

5GHz WLAN				Ant 6			Ant 3			Ant 3+6																				
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %															
																Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %								
5.2GHz WLAN	802.11a 6Mbps	36	5180	Not Required	8.30	Not Required	Not Required	Not Required	Not Required	8.30	Not Required	8.30	Not Required	Not Required	11.30	99.00														
		40	5200		8.30												8.30	8.30	8.30	11.30										
		44	5220		8.30												8.30	8.30	8.30	11.30										
		48	5240		8.30												8.30	8.30	8.30	11.30										
	802.11n-HT20 MCS0	36	5180		8.30											100.00	8.30	100.00	100.00	100.00	8.30	Not Required	8.30	8.30	Not Required	11.30	100.00			
		40	5200		8.30												8.30											8.30	8.30	11.30
		44	5220		8.30												8.30											8.30	8.30	11.30
		48	5240		8.30												8.30											8.30	8.30	11.30
	802.11n-HT40 MCS0	38	5190		8.30											100.00	8.30	100.00	100.00	100.00	8.30	Not Required	8.30	8.30	Not Required	11.30	100.00			
		46	5230		8.30												8.30											8.30	8.30	11.30
	802.11ac-VHT20 MCS0	36	5180		7.90											8.30	100.00	7.90	8.30	100.00	7.40	8.30	8.30	8.30	10.88	11.30	100.00			
		40	5200													8.30												8.30	8.30	8.30
44		5220	8.30	8.30		8.30	8.30	11.30																						
48		5240	8.30	8.30		8.30	8.30	11.30																						
802.11ac-VHT40 MCS0	38	5190	8.30	100.00		8.30	100.00	100.00	100.00	8.30	Not Required	8.30	8.30	Not Required	11.30	100.00														
	46	5230	8.30			8.30											8.30									8.30	11.30			
802.11ac-VHT80 MCS0	42	5210	7.90	8.30		100.00	7.90	8.30	100.00	7.40	8.30	8.30	8.30	10.88	11.30	100.00														
802.11ax-HE20 MCS0	36	5180	Not Required	8.30		100.00	Not Required	Not Required	Not Required	Not Required	8.30	Not Required	8.30	Not Required	Not Required	11.30	100.00													
	40	5200		8.30																						8.30	8.30	8.30	11.30	
	44	5220		8.30																						8.30	8.30	8.30	11.30	
	48	5240		8.30																						8.30	8.30	8.30	11.30	
802.11ax-HE40 MCS0	38	5190		8.30		100.00										8.30	100.00									100.00	100.00	8.30	Not Required	8.30
	46	5230		8.30	8.30											8.30		8.30	11.30											
802.11ax-HE80 MCS0	42	5210		8.30	100.00	8.30										100.00	100.00	100.00	8.30	Not Required	8.30	8.30	Not Required	11.30	100.00					



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.3GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.3GHz WLAN	802.11a 6Mbps	52	5260	Not Required	8.30	99.00	Not Required	8.30	99.00	Not Required	8.30	Not Required	8.30	Not Required	11.30	99.00					
56			5280	8.30		8.30			8.30			11.30										
60			5300	8.30		8.30			8.30			11.30										
64			5320	8.30		8.30			8.30			11.30										
802.11n-HT20 MCS0		52	5260	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		56	5280	8.30			8.30			8.30				11.30								
		60	5300	8.30			8.30			8.30				11.30								
		64	5320	8.30			8.30			8.30				11.30								
802.11n-HT40 MCS0		54	5270	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		62	5310	8.30			8.30			8.30				11.30								
802.11ac-VHT20 MCS0		52	5260	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		56	5280	8.30			8.30			8.30				11.30								
		60	5300	8.30			8.30			8.30				11.30								
		64	5320	8.30			8.30			8.30				11.30								
802.11ac-VHT40 MCS0		54	5270	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		62	5310	8.30			8.30			8.30				11.30								
802.11ac-VHT80 MCS0		58	5290	8.00		8.30	100.00		8.00	8.30		100.00		7.90		8.30	8.10	8.30	11.01	8.30	100.00	100.00
802.11ax-HE20 MCS0		52	5260	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		56	5280	8.30			8.30			8.30				11.30								
		60	5300	8.30			8.30			8.30				11.30								
	64	5320	8.30	8.30	8.30		11.30															
802.11ax-HE40 MCS0	54	5270	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	11.30	100.00						
	62	5310	8.30		8.30		8.30		11.30													
802.11ax-HE80 MCS0	58	5290	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	8.30	100.00	11.30	100.00						



5GHz WLAN				Ant 6			Ant 3			Ant 3+6																		
Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %													
5.5GHz WLAN	802.11a 6Mbps	100	5500	Not Required	8.30	100.00	Not Required	8.30	8.30	8.30	8.30	8.30	8.30	11.30	99.00													
		116	5580													8.30	8.30	8.30	8.30	8.30	8.30	11.30						
		124	5620													8.30	8.30	8.30	8.30	8.30	8.30	11.30						
		132	5660													8.30	8.30	8.30	8.30	8.30	8.30	11.30						
		144	5720													8.30	8.30	8.30	8.30	8.30	8.30	11.30						
	802.11n-HT20 MCS0	100	5500													8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	11.30	100.00
		116	5580													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
		124	5620													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
		132	5660													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
		144	5720													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
	802.11n-HT40 MCS0	102	5510													8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	11.30	100.00
		110	5550													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
		126	5630													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
		134	5670													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	11.30	
	802.11ac-VHT20 MCS0	100	5500													8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	8.30	100.00
		116	5580													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00
		124	5620													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00
		132	5660													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00
		144	5720													8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00
	802.11ac-VHT40 MCS0	102	5510													8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	8.30	100.00
110		5550	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
126		5630	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
134		5670	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
802.11ac-VHT80 MCS0	106	5530	8.00	8.30	100.00	8.00	8.30	100.00	7.80	8.30	8.40	8.30	11.12	11.30	100.00													
	122	5610	7.90	8.30	7.90	8.30	7.90	8.30	7.90	8.30	8.20	8.30	11.06	11.30														
	138	5690	8.00	8.30	8.00	8.30	7.90	8.30	7.90	8.30	8.20	8.30	11.06	11.30														
802.11ax-HE20 MCS0	100	5500	8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	116	5580	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	124	5620	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	132	5660	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	144	5720	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
802.11ax-HE40 MCS0	102	5510	8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	110	5550	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	126	5630	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	134	5670	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
802.11ax-HE80 MCS0	106	5530	8.30	8.30	100.00	8.30	8.30	100.00	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	122	5610	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													
	138	5690	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	8.30	100.00													



5GHz WLAN				Ant 6			Ant 3			Ant 3+6												
5.8GHz WLAN	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Average power (dBm)	Tune-Up Limit	Duty Cycle %	Ant 6 Average power (dBm)	Tune-Up Limit	Ant 3 Average power (dBm)	Tune-Up Limit	Ant 3+6 Average power (dBm)	Tune-Up Limit	Duty Cycle %						
	5.8GHz WLAN	802.11a 6Mbps	149	5745	Not Required	8.30	99.00	Not Required	8.30	99.00	Not Required	8.30	Not Required	8.30	Not Required	11.30	99.00					
157			5785	8.30		8.30			8.30			11.30										
165			5825	8.30		8.30			8.30			11.30										
802.11n-HT20 MCS0		149	5745	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		157	5785	8.30			8.30			8.30				11.30								
		165	5825	8.30			8.30			8.30				11.30								
802.11n-HT40 MCS0		151	5755	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		159	5795	8.30			8.30			8.30				11.30								
802.11ac-VHT20 MCS0		149	5745	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		157	5785	8.30			8.30			8.30				11.30								
		165	5825	8.30			8.30			8.30				11.30								
802.11ac-VHT40 MCS0		151	5755	8.30		100.00	8.30		100.00	8.30		100.00		8.30		100.00	8.30	100.00	8.30	100.00	11.30	100.00
		159	5795	8.30			8.30			8.30				11.30								
802.11ac-VHT80 MCS0		155	5775	7.90		8.30	100.00		8.00	8.30		100.00		7.60		8.30	8.40	8.30	11.03	8.30	100.00	100.00
802.11ax-HE20 MCS0		149	5745	Not Required		8.30	100.00		Not Required	8.30		100.00		Not Required		8.30	100.00	Not Required	8.30	100.00	11.30	100.00
		157	5785			8.30				8.30						8.30			11.30			
		165	5825			8.30				8.30						8.30			11.30			
802.11ax-HE40 MCS0		151	5755			8.30	100.00			8.30		100.00				8.30	100.00		8.30	100.00	8.30	100.00
	159	5795	8.30		8.30	8.30		11.30														
802.11ax-HE80 MCS0	155	5775	8.30		100.00	8.30	100.00	8.30		100.00	8.30	100.00	8.30		100.00	8.30	100.00		11.30	100.00		



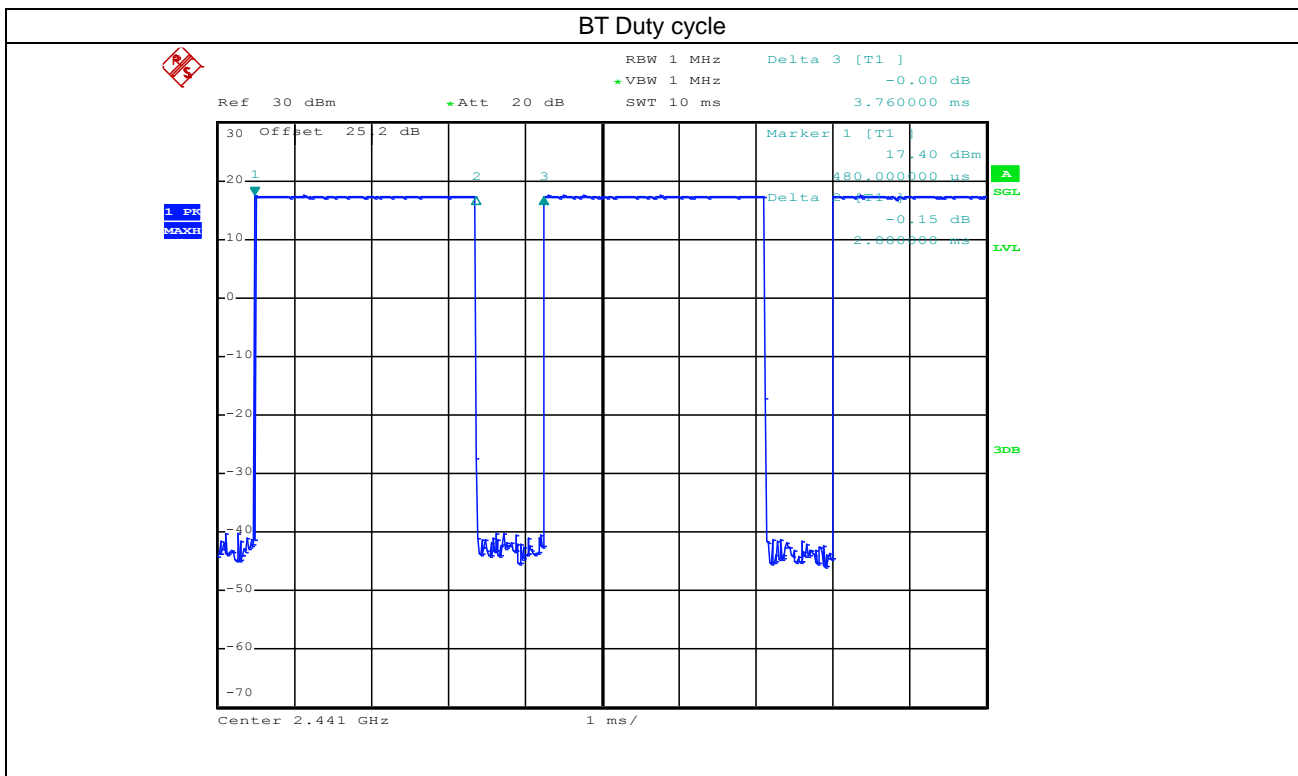
<2.4GHz Bluetooth>

Mode	Channel	Frequency (MHz)	Average power (dBm)		
			1Mbps	2Mbps	3Mbps
BR / EDR	CH 00	2402	16.05	13.38	13.33
	CH 39	2441	17.03	14.53	14.29
	CH 78	2480	16.10	13.60	13.54
Tune-up Limit			17.5	15	15

Mode	Channel	Frequency (MHz)	Average power (dBm)	
			1Mbps	2Mbps
LE	CH 00	2402	13.40	13.50
	CH 19	2440	14.70	14.70
	CH 39	2480	13.70	13.70
Tune-up Limit			15	15

General Note:

- For 2.4GHz Bluetooth SAR testing was selected 1Mbps due to its highest average power and duty cycle is 76.84% considered in SAR testing, and the duty cycle would be scaled to theoretical 83.3% in reported SAR calculation.



16. Antenna Location

Antenna	Support Bands
1	GSM850/1900, WCDMA B2/4/5, CDMA BC0/1, LTE B2/4/5/7/12/13/17/25/26/30/38/41/66/71
2	5G NR n5/n66/n71
3	5GHz WLAN
4	2.4GHz WLAN
6	2.4GHz WLAN, Bluetooth, 5GHz WLAN

Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
1	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
1	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
3	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
4	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
6	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm
4+6	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm
3+6	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
1	Yes	Yes	No	Yes	Yes	Yes
2	Yes	Yes	Yes	No	Yes	Yes
3	Yes	Yes	Yes	No	Yes	Yes
4	Yes	Yes	Yes	No	Yes	Yes
6	Yes	Yes	Yes	No	Yes	No
4+6	Yes	Yes	Yes	No	Yes	Yes
3+6	Yes	Yes	Yes	No	Yes	Yes

General Note:

- Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge



17. SAR Test Results

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 SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
 - c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - d. For WLAN/Bluetooth: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
 - e. 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 ≥ 0.8 W/kg.
4. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.
5. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g product specific SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold, for this device WWAN transmitter scaled to maximum output power is higher than 1.2W/kg of GSM1900, WCDMA B2/4, CDMA BC1, LTE B7/B25/B30/B66 and 2.4GHz/5.2GHz/5.8GHz WLAN, therefore product specific SAR is necessary.
6. For 5.3GHz / 5.5GHz WLAN product specific SAR is necessary too, due to an overall diagonal dimension is > 16 cm.
7. The device additionally employs proximity sensors that detect the presence of tissue near the currently active transmit antenna (if that antenna may require reduced power relative the Default power table in order to meet extremity SAR limits). The control logic is such that, if the Body-Worn, At-Head or WiFi Hotspot conditions are not detected, but tissue (as a finger or hand, for example) is detected near the transmitting antenna, the Handheld power table will be applied
8. When the sensor is active, the device will reduced maximum output powers on the GSM1900, WCDMA B2 / B4, CDMA BC1, LTE B2 / B4 / B7 / B25 / B30 / B66 / B48 transmitter.
9. For verification of compliance of power reduction scheme, additional SAR testing with EUT transmitting at full RF power at a conservative trigger distance was performed:
 - a. For Body-worn:
 - Front: [14 mm](#)
 - Back: [18 mm](#)
 - b. For Extremity::
 - Front: [5 mm](#)
 - Back: [8 mm](#)
 - Bottom: [7 mm](#)

**GSM Note:**

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.
2. The GPRS (3Tx slots) for GSM850 and GPRS (2Tx slots) for GSM1900 for GSM850/GSM1900 head and product specific SAR is considered as the primary mode.
3. The GPRS (3Tx slots) for GSM850 and GPRS (4Tx slots) for GSM1900 for GSM850/GSM1900 hotspot SAR is considered as the primary mode.
4. The GPRS (3Tx slots) for GSM850 and GPRS (2Tx slots) for GSM1900 for GSM850/GSM1900 body-worn SAR is considered as the primary mode.
5. Power reduction which is triggered by proximity sensor is implemented in GSM1900 band, for body-worn mode SAR testing EUT was set in reduced power mode and GPRS 4Tx slot due to its highest frame-average power.
6. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is $\leq \frac{1}{4}$ dB higher than the primary mode, SAR measurement is not required for the secondary mode.

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 $\leq \frac{1}{4}$ 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 $\frac{1}{4}$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

CDMA Note:

1. Per KDB 941225 D01v03r01, SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at full rate in SO55.
2. Per KDB 941225 D01v03r01, in Hotspot mode EUT is treated as data device and SAR is tested with Ev-Do Rev 0 (RTAP 153.6kbps) as the primary mode.
3. Per KDB 941225 D01v03r01, for Body-worn accessory SAR is measured in RC3 with the handset configured in TDSO/SO32 to transmit at full rate on FCH only with all other code channels disabled. The body-worn accessory procedures in KDB Publication 447498 are applied. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH), with FCH only as the primary mode.

**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 $\frac{1}{2}$ 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 $\frac{1}{2}$ 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 B12 / B5 / B4 / B26 / 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 \leq 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.

WLAN Note:

1. Per KDB 248227 D01v02r02, for 2.4GHz 802.11g/n SAR testing is not required when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg.
2. Per KDB 248227 D01v02r02, U-NII-1 SAR testing is not required when the U-NII-2A band highest reported SAR for a test configuration is ≤ 1.2 W/kg, SAR is not required for U-NII-1 band.
3. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
4. For all positions / configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions / configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.
5. During SAR testing the WLAN transmission was verified using a spectrum analyzer.



17.1 Head SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (3 Tx slots)	Right Cheek	0mm	OFF	128	824.2	30.23	30.50	1.064	0.14	0.249	0.265
	GSM850	GPRS (3 Tx slots)	Right Cheek	0mm	OFF	189	836.4	29.56	30.50	1.242	0.14	0.251	0.312
01	GSM850	GPRS (3 Tx slots)	Right Cheek	0mm	OFF	251	848.8	28.94	30.50	1.432	0.14	0.255	0.365
	GSM850	GPRS (3 Tx slots)	Right Tilted	0mm	OFF	128	824.2	30.23	30.50	1.064	0.13	0.132	0.140
	GSM850	GPRS (3 Tx slots)	Left Cheek	0mm	OFF	128	824.2	30.23	30.50	1.064	0.1	0.196	0.209
	GSM850	GPRS (3 Tx slots)	Left Tilted	0mm	OFF	128	824.2	30.23	30.50	1.064	0.19	0.121	0.129
	GSM1900	GPRS (2 Tx slots)	Right Cheek	0mm	OFF	661	1880	28.81	30.50	1.476	0.14	0.081	0.120
	GSM1900	GPRS (2 Tx slots)	Right Tilted	0mm	OFF	661	1880	28.81	30.50	1.476	0.15	0.063	0.093
	GSM1900	GPRS (2 Tx slots)	Left Cheek	0mm	OFF	661	1880	28.81	30.50	1.476	0.01	0.126	0.186
02	GSM1900	GPRS (2 Tx slots)	Left Cheek	0mm	OFF	810	1909.8	28.72	30.50	1.507	0.01	0.130	0.196
	GSM1900	GPRS (2 Tx slots)	Left Cheek	0mm	OFF	512	1850.2	28.78	30.50	1.486	0.01	0.123	0.183
	GSM1900	GPRS (2 Tx slots)	Left Tilted	0mm	OFF	661	1880	28.81	30.50	1.476	0.18	0.080	0.118

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Right Cheek	0mm	OFF	9400	1880	23.22	24.00	1.197	0.01	0.096	0.115
	WCDMA II	RMC 12.2Kbps	Right Tilted	0mm	OFF	9400	1880	23.22	24.00	1.197	0.1	0.053	0.063
03	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	OFF	9400	1880	23.22	24.00	1.197	0.08	0.133	0.159
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	OFF	9538	1907.6	23.21	24.00	1.199	-0.1	0.097	0.116
	WCDMA II	RMC 12.2Kbps	Left Cheek	0mm	OFF	9262	1852.4	23.12	24.00	1.225	-0.1	0.091	0.111
	WCDMA II	RMC 12.2Kbps	Left Tilted	0mm	OFF	9400	1880	23.22	24.00	1.197	0.14	0.084	0.101
	WCDMA IV	RMC 12.2Kbps	Right Cheek	0mm	OFF	1413	1732.6	23.44	24.00	1.138	0.01	0.087	0.099
	WCDMA IV	RMC 12.2Kbps	Right Tilted	0mm	OFF	1413	1732.6	23.44	24.00	1.138	0.1	0.048	0.055
04	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	OFF	1413	1732.6	23.44	24.00	1.138	0.08	0.121	0.138
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	OFF	1513	1752.6	23.32	24.00	1.169	-0.11	0.086	0.101
	WCDMA IV	RMC 12.2Kbps	Left Cheek	0mm	OFF	1312	1712.4	23.31	24.00	1.172	-0.1	0.083	0.097
	WCDMA IV	RMC 12.2Kbps	Left Tilted	0mm	OFF	1413	1732.6	23.44	24.00	1.138	0.14	0.076	0.086
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	OFF	4233	846.6	23.35	24.00	1.161	0.09	0.161	0.187
05	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	OFF	4182	836.4	23.22	24.00	1.197	0.09	0.158	0.189
	WCDMA V	RMC 12.2Kbps	Right Cheek	0mm	OFF	4132	826.4	23.21	24.00	1.199	0.09	0.155	0.186
	WCDMA V	RMC 12.2Kbps	Right Tilted	0mm	OFF	4233	846.6	23.35	24.00	1.161	0.08	0.064	0.074
	WCDMA V	RMC 12.2Kbps	Left Cheek	0mm	OFF	4233	846.6	23.35	24.00	1.161	0.03	0.119	0.138
	WCDMA V	RMC 12.2Kbps	Left Tilted	0mm	OFF	4233	846.6	23.35	24.00	1.161	0.14	0.068	0.079



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	OFF	777	848.31	23.81	25.00	1.315	-0.15	0.389	0.512
06	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	OFF	384	836.52	23.69	25.00	1.352	-0.05	0.389	0.526
	CDMA BC0	1xRTT RC3 SO55	Right Cheek	0mm	OFF	1013	824.7	23.76	25.00	1.330	-0.05	0.381	0.507
	CDMA BC0	1xRTT RC3 SO55	Right Tilted	0mm	OFF	777	848.31	23.81	25.00	1.315	0.01	0.088	0.116
	CDMA BC0	1xRTT RC3 SO55	Left Cheek	0mm	OFF	777	848.31	23.81	25.00	1.315	-0.05	0.187	0.246
	CDMA BC0	1xRTT RC3 SO55	Left Tilted	0mm	OFF	777	848.31	23.81	25.00	1.315	0.16	0.120	0.158
	CDMA BC1	1xRTT RC3 SO55	Right Cheek	0mm	OFF	25	1851.25	24.30	25.00	1.175	0.03	0.135	0.159
	CDMA BC1	1xRTT RC3 SO55	Right Tilted	0mm	OFF	25	1851.25	24.30	25.00	1.175	0.12	0.085	0.100
	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	OFF	25	1851.25	24.30	25.00	1.175	-0.11	0.188	0.221
07	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	OFF	1175	1908.75	24.06	25.00	1.242	-0.11	0.199	0.247
	CDMA BC1	1xRTT RC3 SO55	Left Cheek	0mm	OFF	600	1880	24.13	25.00	1.222	-0.11	0.193	0.236
	CDMA BC1	1xRTT RC3 SO55	Left Tilted	0mm	OFF	25	1851.25	24.30	25.00	1.175	0.11	0.098	0.115

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	99	Right Cheek	0mm	OFF	21100	2535	23.36	24.00	1.159	0.01	0.020	0.023
	LTE Band 7	20M	QPSK	50	50	Right Cheek	0mm	OFF	21100	2535	22.37	23.00	1.156	0.14	0.031	0.036
	LTE Band 7	20M	QPSK	1	99	Right Tilted	0mm	OFF	21100	2535	23.36	24.00	1.159	0.12	0.033	0.038
	LTE Band 7	20M	QPSK	50	50	Right Tilted	0mm	OFF	21100	2535	22.37	23.00	1.156	0.05	0.027	0.031
	LTE Band 7	20M	QPSK	1	99	Left Cheek	0mm	OFF	21100	2535	23.36	24.00	1.159	0.07	0.034	0.039
	LTE Band 7	20M	QPSK	50	50	Left Cheek	0mm	OFF	21100	2535	22.37	23.00	1.156	0.18	0.026	0.030
	LTE Band 7	20M	QPSK	1	99	Left Tilted	0mm	OFF	21100	2535	23.36	24.00	1.159	0.09	0.054	0.063
	LTE Band 7	20M	QPSK	1	99	Left Tilted	0mm	OFF	20850	2510	23.22	24.00	1.197	0.1	0.053	0.063
08	LTE Band 7	20M	QPSK	1	99	Left Tilted	0mm	OFF	21350	2560	23.34	24.00	1.164	0.09	0.055	0.064
	LTE Band 7	20M	QPSK	50	50	Left Tilted	0mm	OFF	21100	2535	22.37	23.00	1.156	0.1	0.043	0.050
	LTE Band 12	10M	QPSK	1	0	Right Cheek	0mm	OFF	23095	707.5	22.99	24.00	1.262	0.18	0.130	0.164
09	LTE Band 12	10M	QPSK	25	0	Right Cheek	0mm	OFF	23095	707.5	21.92	23.00	1.282	-0.01	0.151	0.194
	LTE Band 12	10M	QPSK	1	0	Right Tilted	0mm	OFF	23095	707.5	22.99	24.00	1.262	-0.06	0.057	0.072
	LTE Band 12	10M	QPSK	25	0	Right Tilted	0mm	OFF	23095	707.5	21.92	23.00	1.282	0.06	0.043	0.055
	LTE Band 12	10M	QPSK	1	0	Left Cheek	0mm	OFF	23095	707.5	22.99	24.00	1.262	-0.04	0.143	0.180
	LTE Band 12	10M	QPSK	25	0	Left Cheek	0mm	OFF	23095	707.5	21.92	23.00	1.282	0.1	0.117	0.150
	LTE Band 12	10M	QPSK	1	0	Left Tilted	0mm	OFF	23095	707.5	22.99	24.00	1.262	0.02	0.070	0.088
	LTE Band 12	10M	QPSK	25	0	Left Tilted	0mm	OFF	23095	707.5	21.92	23.00	1.282	0.07	0.057	0.073
	LTE Band 13	10M	QPSK	1	0	Right Cheek	5mm	OFF	23230	782	22.88	24.00	1.294	-0.11	0.178	0.230
	LTE Band 13	10M	QPSK	25	0	Right Cheek	0mm	OFF	23230	782	21.94	23.00	1.276	0.05	0.227	0.290
	LTE Band 13	10M	QPSK	1	0	Right Tilted	0mm	OFF	23230	782	22.88	24.00	1.294	-0.03	0.123	0.159
	LTE Band 13	10M	QPSK	25	0	Right Tilted	0mm	OFF	23230	782	21.94	23.00	1.276	-0.02	0.101	0.129
10	LTE Band 13	10M	QPSK	1	0	Left Cheek	0mm	OFF	23230	782	22.88	24.00	1.294	-0.05	0.239	0.309
	LTE Band 13	10M	QPSK	25	0	Left Cheek	0mm	OFF	23230	782	21.94	23.00	1.276	-0.01	0.193	0.246
	LTE Band 13	10M	QPSK	1	0	Left Tilted	0mm	OFF	23230	782	22.88	24.00	1.294	-0.1	0.131	0.170
	LTE Band 13	10M	QPSK	25	0	Left Tilted	0mm	OFF	23230	782	21.94	23.00	1.276	-0.04	0.107	0.137



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1	0	Right Cheek	0mm	OFF	26140	1860	23.15	24.00	1.216	0.08	0.107	0.130
	LTE Band 25	20M	QPSK	50	0	Right Cheek	0mm	OFF	26140	1860	22.16	23.00	1.213	0.04	0.089	0.108
	LTE Band 25	20M	QPSK	1	0	Right Tilted	0mm	OFF	26140	1860	23.15	24.00	1.216	-0.08	0.052	0.063
	LTE Band 25	20M	QPSK	50	0	Right Tilted	0mm	OFF	26140	1860	22.16	23.00	1.213	0.12	0.041	0.050
	LTE Band 25	20M	QPSK	1	0	Left Cheek	0mm	OFF	26140	1860	23.15	24.00	1.216	-0.03	0.102	0.124
	LTE Band 25	20M	QPSK	50	0	Left Cheek	0mm	OFF	26140	1860	22.16	23.00	1.213	0.11	0.123	0.149
	LTE Band 25	20M	QPSK	50	0	Left Cheek	0mm	OFF	26340	1880	22.13	23.00	1.222	-0.03	0.154	0.188
11	LTE Band 25	20M	QPSK	50	0	Left Cheek	0mm	OFF	26590	1905	22.14	23.00	1.219	-0.03	0.158	0.193
	LTE Band 25	20M	QPSK	1	0	Left Tilted	0mm	OFF	26140	1860	23.15	24.00	1.216	0.1	0.069	0.084
	LTE Band 25	20M	QPSK	50	0	Left Tilted	0mm	OFF	26140	1860	22.16	23.00	1.213	0.17	0.057	0.069
12	LTE Band 26	15M	QPSK	1	74	Right Cheek	0mm	OFF	26865	831.5	23.08	24.00	1.236	-0.11	0.178	0.220
	LTE Band 26	15M	QPSK	36	39	Right Cheek	0mm	OFF	26865	831.5	22.28	23.00	1.180	-0.13	0.111	0.131
	LTE Band 26	15M	QPSK	1	74	Right Tilted	0mm	OFF	26865	831.5	23.08	24.00	1.236	-0.07	0.085	0.105
	LTE Band 26	15M	QPSK	36	39	Right Tilted	0mm	OFF	26865	831.5	22.28	23.00	1.180	-0.09	0.054	0.064
	LTE Band 26	15M	QPSK	1	74	Left Cheek	0mm	OFF	26865	831.5	23.08	24.00	1.236	-0.11	0.114	0.141
	LTE Band 26	15M	QPSK	36	39	Left Cheek	0mm	OFF	26865	831.5	22.28	23.00	1.180	-0.14	0.074	0.087
	LTE Band 26	15M	QPSK	1	74	Left Tilted	0mm	OFF	26865	831.5	23.08	24.00	1.236	0.15	0.097	0.120
	LTE Band 26	15M	QPSK	36	39	Left Tilted	0mm	OFF	26865	831.5	22.28	23.00	1.180	0.05	0.077	0.091
	LTE Band 30	10M	QPSK	1	0	Right Cheek	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.16	0.021	0.028
	LTE Band 30	10M	QPSK	25	0	Right Cheek	0mm	OFF	27710	2310	21.77	23.00	1.327	-0.12	0.011	0.015
	LTE Band 30	10M	QPSK	1	0	Right Tilted	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.12	0.013	0.017
	LTE Band 30	10M	QPSK	25	0	Right Tilted	0mm	OFF	27710	2310	21.77	23.00	1.327	-0.1	0.001	0.001
13	LTE Band 30	10M	QPSK	1	0	Left Cheek	0mm	OFF	27710	2310	22.73	24.00	1.340	0.17	0.029	0.039
	LTE Band 30	10M	QPSK	25	0	Left Cheek	0mm	OFF	27710	2310	21.77	23.00	1.327	-0.1	0.014	0.019
	LTE Band 30	10M	QPSK	1	0	Left Tilted	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.05	0.014	0.019
	LTE Band 30	10M	QPSK	25	0	Left Tilted	0mm	OFF	27710	2310	21.77	23.00	1.327	0.06	0.004	0.006
	LTE Band 66	20M	QPSK	1	0	Right Cheek	0mm	OFF	132322	1745	23.18	24.00	1.208	-0.16	0.094	0.114
	LTE Band 66	20M	QPSK	50	0	Right Cheek	0mm	OFF	132322	1745	22.14	23.00	1.219	-0.19	0.089	0.108
	LTE Band 66	20M	QPSK	1	0	Right Tilted	0mm	OFF	132322	1745	23.18	24.00	1.208	0.05	0.054	0.065
	LTE Band 66	20M	QPSK	50	0	Right Tilted	0mm	OFF	132322	1745	22.14	23.00	1.219	0.09	0.045	0.055
14	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	OFF	132322	1745	23.18	24.00	1.208	-0.04	0.133	0.161
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	OFF	132072	1720	23.05	24.00	1.245	-0.06	0.092	0.114
	LTE Band 66	20M	QPSK	1	0	Left Cheek	0mm	OFF	132572	1770	23.17	24.00	1.211	-0.06	0.096	0.116
	LTE Band 66	20M	QPSK	50	0	Left Cheek	0mm	OFF	132322	1745	22.14	23.00	1.219	0.13	0.112	0.137
	LTE Band 66	20M	QPSK	1	0	Left Tilted	0mm	OFF	132322	1745	23.18	24.00	1.208	0.11	0.065	0.079
	LTE Band 66	20M	QPSK	50	0	Left Tilted	0mm	OFF	132322	1745	22.14	23.00	1.219	0.03	0.061	0.074
15	LTE Band 71	20M	QPSK	1	0	Right Cheek	0mm	OFF	133322	683	23.21	24.00	1.199	-0.07	0.114	0.137
	LTE Band 71	20M	QPSK	50	0	Right Cheek	0mm	OFF	133322	683	22.76	23.00	1.057	0.02	0.075	0.079
	LTE Band 71	20M	QPSK	1	0	Right Tilted	0mm	OFF	133322	683	23.21	24.00	1.199	0.02	0.075	0.090
	LTE Band 71	20M	QPSK	50	0	Right Tilted	0mm	OFF	133322	683	22.76	23.00	1.057	0.05	0.025	0.026
	LTE Band 71	20M	QPSK	1	0	Left Cheek	0mm	OFF	133322	683	23.21	24.00	1.199	-0.02	0.100	0.120
	LTE Band 71	20M	QPSK	50	0	Left Cheek	0mm	OFF	133322	683	22.76	23.00	1.057	-0.13	0.056	0.059
	LTE Band 71	20M	QPSK	1	0	Left Tilted	0mm	OFF	133322	683	23.21	24.00	1.199	-0.12	0.048	0.058
	LTE Band 71	20M	QPSK	50	0	Left Tilted	0mm	OFF	133322	683	22.76	23.00	1.057	-0.07	0.032	0.034



<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	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)
16	LTE Band 41	20M	QPSK	1	99	Right Cheek	0mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.02	0.010	0.012
	LTE Band 41	20M	QPSK	50	50	Right Cheek	0mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.14	0.003	0.003
	LTE Band 41	20M	QPSK	1	99	Right Tilted	0mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.15	0.006	0.006
	LTE Band 41	20M	QPSK	50	50	Right Tilted	0mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	0.1	0.001	0.001
	LTE Band 41	20M	QPSK	1	99	Left Cheek	0mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.05	0.009	0.010
	LTE Band 41	20M	QPSK	50	50	Left Cheek	0mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.13	0.007	0.008
	LTE Band 41	20M	QPSK	1	99	Left Tilted	0mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	0	0.009	0.010
	LTE Band 41	20M	QPSK	50	50	Left Tilted	0mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.12	0.008	0.009

<5N NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
17	FR1 n5	20M	PI/2 BPSK	1	1	Right Cheek	0mm	OFF	167300	837	23.84	24.00	1.038	0.03	0.115	0.119
	FR1 n5	20M	PI/2 BPSK	50	0	Right Cheek	0mm	OFF	167300	837	23.82	24.00	1.042	0.04	0.107	0.112
	FR1 n5	20M	PI/2 BPSK	1	1	Right Tilted	0mm	OFF	167300	837	23.84	24.00	1.038	-0.04	0.110	0.114
	FR1 n5	20M	PI/2 BPSK	50	0	Right Tilted	0mm	OFF	167300	837	23.82	24.00	1.042	0.02	0.103	0.107
	FR1 n5	20M	PI/2 BPSK	1	1	Left Cheek	0mm	OFF	167300	837	23.84	24.00	1.038	0.03	0.091	0.094
	FR1 n5	20M	PI/2 BPSK	50	0	Left Cheek	0mm	OFF	167300	837	23.82	24.00	1.042	-0.11	0.084	0.088
	FR1 n5	20M	PI/2 BPSK	1	1	Left Tilted	0mm	OFF	167300	837	23.84	24.00	1.038	0.15	0.077	0.080
	FR1 n5	20M	PI/2 BPSK	50	0	Left Tilted	0mm	OFF	167300	837	23.82	24.00	1.042	0.06	0.071	0.074
	FR1 n66	20M	PI/2 BPSK	1	1	Right Cheek	0mm	OFF	349000	1745	23.89	24.00	1.026	0.06	0.339	0.348
	FR1 n66	20M	PI/2 BPSK	50	0	Right Cheek	0mm	OFF	349000	1745	23.73	24.00	1.064	0.02	0.321	0.342
19	FR1 n66	20M	PI/2 BPSK	1	1	Right Tilted	0mm	OFF	349000	1745	23.89	24.00	1.026	0.03	0.364	0.373
	FR1 n66	20M	PI/2 BPSK	1	1	Right Tilted	0mm	OFF	346000	1730	23.76	24.00	1.057	-0.12	0.346	0.366
	FR1 n66	20M	PI/2 BPSK	1	1	Right Tilted	0mm	OFF	352000	1760	23.80	24.00	1.047	0.06	0.319	0.334
	FR1 n66	20M	PI/2 BPSK	50	0	Right Tilted	0mm	OFF	349000	1745	23.73	24.00	1.064	0.03	0.333	0.354
	FR1 n66	20M	PI/2 BPSK	1	1	Left Cheek	0mm	OFF	349000	1745	23.89	24.00	1.026	-0.11	0.266	0.273
	FR1 n66	20M	PI/2 BPSK	50	0	Left Cheek	0mm	OFF	349000	1745	23.73	24.00	1.064	-0.17	0.252	0.268
	FR1 n66	20M	PI/2 BPSK	1	1	Left Tilted	0mm	OFF	349000	1745	23.89	24.00	1.026	0.09	0.322	0.330
	FR1 n66	20M	PI/2 BPSK	50	0	Left Tilted	0mm	OFF	349000	1745	23.73	24.00	1.064	0.02	0.308	0.328



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
20	FR1 n71	20M	PI/2 BPSK	1	1	Right Cheek	0mm	OFF	136100	681	23.97	24.00	1.007	0.17	0.108	0.109
	FR1 n71	20M	PI/2 BPSK	50	0	Right Cheek	0mm	OFF	136100	681	23.86	24.00	1.033	0.02	0.097	0.100
	FR1 n71	20M	PI/2 BPSK	1	1	Right Tilted	0mm	OFF	136100	681	23.97	24.00	1.007	0.02	0.093	0.094
	FR1 n71	20M	PI/2 BPSK	50	0	Right Tilted	0mm	OFF	136100	681	23.86	24.00	1.033	-0.05	0.091	0.094
	FR1 n71	20M	PI/2 BPSK	1	1	Left Cheek	0mm	OFF	136100	681	23.97	24.00	1.007	0.03	0.098	0.099
	FR1 n71	20M	PI/2 BPSK	50	0	Left Cheek	0mm	OFF	136100	681	23.86	24.00	1.033	0.15	0.093	0.096
	FR1 n71	20M	PI/2 BPSK	1	1	Left Tilted	0mm	OFF	136100	681	23.97	24.00	1.007	-0.14	0.089	0.090
	FR1 n71	20M	PI/2 BPSK	50	0	Left Tilted	0mm	OFF	136100	681	23.86	24.00	1.033	0.03	0.078	0.081

<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	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)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4	4 / 5	1	2412	20.30	20.80	1.122	100	1.000	-0.1	0.037	0.042
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4	4 / 5	6	2437	20.20	20.80	1.148	100	1.000	-0.01	0.029	0.033
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4	4 / 5	11	2462	20.30	20.80	1.122	100	1.000	-0.07	0.033	0.037
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 4	4 / 5	1	2412	20.30	20.80	1.122	100	1.000	0.13	0.030	0.034
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4	4 / 5	1	2412	20.30	20.80	1.122	100	1.000	0.07	0.032	0.036
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 4	4 / 5	1	2412	20.30	20.80	1.122	100	1.000	0.12	0.025	0.028
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4+6	4 / 5	1	2412	23.53	23.80	1.064	100	1.000	-0.15	0.041	0.044
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4+6	4 / 5	6	2437	23.53	23.80	1.064	100	1.000	-0.11	0.037	0.039
22	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	0mm	Ant 4+6	4 / 5	11	2462	23.40	23.80	1.098	100	1.000	-0.17	0.042	0.046
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	0mm	Ant 4+6	4 / 5	1	2412	23.53	23.80	1.064	100	1.000	0.13	0.018	0.019
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	0mm	Ant 4+6	4 / 5	1	2412	23.53	23.80	1.064	100	1.000	0.09	0.030	0.032
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	0mm	Ant 4+6	4 / 5	1	2412	23.53	23.80	1.064	100	1.000	0.16	0.021	0.022
	WLAN5GHz	802.11a 6Mbps	Right Cheek	0mm	Ant 3+6	4	60	5300	20.16	20.30	1.033	99	1.010	0.02	0.321	0.335
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 3+6	4	60	5300	20.16	20.30	1.033	99	1.010	-0.13	0.544	0.567
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 3+6	4	52	5260	19.81	20.30	1.119	99	1.010	-0.17	0.533	0.603
	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 3+6	4	56	5280	19.80	20.30	1.122	99	1.010	-0.02	0.581	0.658
23	WLAN5GHz	802.11a 6Mbps	Right Tilted	0mm	Ant 3+6	4	64	5320	20.16	20.30	1.032	99	1.010	-0.02	0.646	0.673
	WLAN5GHz	802.11a 6Mbps	Left Cheek	0mm	Ant 3+6	4	60	5300	20.16	20.30	1.033	99	1.010	0.06	0.270	0.282
	WLAN5GHz	802.11a 6Mbps	Left Tilted	0mm	Ant 3+6	4	60	5300	20.16	20.30	1.033	99	1.010	0.16	0.359	0.374
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+6	5	58	5290	17.61	17.80	1.045	100	1.000	-0.07	0.149	0.156
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	5	58	5290	17.61	17.80	1.045	100	1.000	-0.18	0.299	0.312
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+6	5	58	5290	17.61	17.80	1.045	100	1.000	0.15	0.125	0.131
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+6	5	58	5290	17.61	17.80	1.045	100	1.000	0.09	0.166	0.173



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	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)
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+6	4	122	5610	19.83	20.30	1.115	100	1.000	-0.1	0.426	0.475
24	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	4	122	5610	19.83	20.30	1.115	100	1.000	-0.1	0.630	0.702
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	4	106	5530	18.91	20.30	1.377	100	1.000	-0.1	0.504	0.694
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	4	138	5690	18.91	20.30	1.377	100	1.000	-0.04	0.501	0.690
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+6	4	122	5610	19.83	20.30	1.115	100	1.000	0.07	0.354	0.395
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+6	4	122	5610	19.83	20.30	1.115	100	1.000	-0.09	0.440	0.490
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+6	5	106	5530	17.76	17.80	1.009	100	1.000	-0.11	0.292	0.295
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	5	106	5530	17.76	17.80	1.009	100	1.000	0.03	0.345	0.348
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	5	122	5610	17.71	17.80	1.021	100	1.000	-0.08	0.413	0.422
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	5	138	5690	17.71	17.80	1.021	100	1.000	0.01	0.343	0.350
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+6	5	106	5530	17.76	17.80	1.009	100	1.000	-0.17	0.242	0.244
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+6	5	106	5530	17.76	17.80	1.009	100	1.000	-0.19	0.301	0.304
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+6	4	155	5775	19.76	20.30	1.132	100	1.000	0.01	0.653	0.739
25	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	4	155	5775	19.76	20.30	1.132	100	1.000	-0.08	0.742	0.840
	WLAN5GHz	802.11n-HT40 MCS0	Right Tilted	0mm	Ant 3+6	4	151	5755	19.61	20.30	1.172	100	1.000	-0.02	0.702	0.823
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+6	4	155	5775	19.76	20.30	1.132	100	1.000	0.12	0.352	0.399
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+6	4	155	5775	19.76	20.30	1.132	100	1.000	-0.09	0.438	0.496
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Cheek	0mm	Ant 3+6	5	155	5775	17.56	17.80	1.057	100	1.000	0.15	0.405	0.428
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Tilted	0mm	Ant 3+6	5	155	5775	17.56	17.80	1.057	100	1.000	-0.06	0.460	0.486
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Cheek	0mm	Ant 3+6	5	155	5775	17.56	17.80	1.057	100	1.000	-0.11	0.218	0.230
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Tilted	0mm	Ant 3+6	5	155	5775	17.56	17.80	1.057	100	1.000	0.14	0.272	0.287

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	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)
26	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	0	2402	16.05	17.50	1.396	76.84	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Right Cheek	0mm	Ant 6	78	2480	16.10	17.50	1.380	76.84	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Right Tilted	0mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Left Cheek	0mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0	0.001	0.001
	Bluetooth	1Mbps	Left Tilted	0mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0	0.001	0.001



17.2 Hotspot SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (3 Tx slots)	Front	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.11	0.571	0.608
	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.17	0.786	0.836
	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	189	836.4	29.56	30.50	1.242	0.04	0.498	0.618
27	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	251	848.8	28.94	30.50	1.432	-0.13	0.793	1.136
	GSM850	GPRS (3 Tx slots)	Left Side	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.13	0.194	0.206
	GSM850	GPRS (3 Tx slots)	Right Side	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.03	0.249	0.265
	GSM850	GPRS (3 Tx slots)	Bottom Side	5mm	OFF	128	824.2	30.23	30.50	1.064	0.09	0.236	0.251
	GSM1900	GPRS (4 Tx slots)	Front	5mm	ON	810	1909.8	19.98	20.00	1.005	0.01	0.552	0.555
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	810	1909.8	19.98	20.00	1.005	0	0.588	0.591
	GSM1900	GPRS (4 Tx slots)	Left Side	5mm	ON	810	1909.8	19.98	20.00	1.005	0.05	0.052	0.052
	GSM1900	GPRS (4 Tx slots)	Right Side	5mm	ON	810	1909.8	19.98	20.00	1.005	0.12	0.661	0.664
28	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	810	1909.8	19.98	20.00	1.005	-0.15	0.954	0.958
	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	512	1850.2	19.82	20.00	1.042	-0.01	0.763	0.795
	GSM1900	GPRS (4 Tx slots)	Bottom Side	5mm	ON	661	1880	19.97	20.00	1.007	-0.17	0.866	0.872

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	5mm	ON	9538	1907.6	16.96	17.00	1.009	0.1	0.687	0.693
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9538	1907.6	16.96	17.00	1.009	-0.07	0.837	0.845
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9262	1852.4	16.85	17.00	1.035	0.05	0.810	0.838
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9400	1880	16.78	17.00	1.052	0.15	0.799	0.841
	WCDMA II	RMC 12.2Kbps	Left Side	5mm	ON	9538	1907.6	16.96	17.00	1.009	0.11	0.054	0.054
	WCDMA II	RMC 12.2Kbps	Right Side	5mm	ON	9538	1907.6	16.96	17.00	1.009	0.15	0.106	0.107
29	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9538	1907.6	16.96	17.00	1.009	-0.11	1.300	1.312
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9262	1852.4	16.85	17.00	1.035	-0.11	1.180	1.221
	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9400	1880	16.78	17.00	1.052	-0.1	1.130	1.189
	WCDMA IV	RMC 12.2Kbps	Front	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.04	0.558	0.574
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.01	0.841	0.865
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1312	1712.4	16.86	17.00	1.033	0	0.826	0.853
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1513	1752.6	16.82	17.00	1.042	-0.1	0.916	0.955
	WCDMA IV	RMC 12.2Kbps	Left Side	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.09	0.191	0.196
	WCDMA IV	RMC 12.2Kbps	Right Side	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.07	0.062	0.064
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1413	1732.6	16.88	17.00	1.028	0.03	1.040	1.069
	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1312	1712.4	16.86	17.00	1.033	0.06	1.010	1.043
30	WCDMA IV	RMC 12.2Kbps	Bottom Side	5mm	ON	1513	1752.6	16.82	17.00	1.042	0.18	1.050	1.094
	WCDMA V	RMC 12.2Kbps	Front	5mm	OFF	4233	846.6	23.35	24.00	1.161	0.03	0.446	0.518
	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4233	846.6	23.35	24.00	1.161	-0.05	0.523	0.607
	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4182	836.4	23.22	24.00	1.197	-0.05	0.512	0.613
31	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4132	826.4	23.21	24.00	1.199	-0.05	0.512	0.614
	WCDMA V	RMC 12.2Kbps	Left Side	5mm	OFF	4233	846.6	23.35	24.00	1.161	-0.12	0.171	0.199
	WCDMA V	RMC 12.2Kbps	Right Side	5mm	OFF	4233	846.6	23.35	24.00	1.161	-0.18	0.193	0.224
	WCDMA V	RMC 12.2Kbps	Bottom Side	5mm	OFF	4233	846.6	23.35	24.00	1.161	-0.09	0.396	0.460



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC0	RTAP 153.6Kbps	Front	5mm	OFF	384	836.52	23.77	25.00	1.327	0.11	0.630	0.836
	CDMA BC0	RTAP 153.6Kbps	Front	5mm	OFF	1013	824.7	23.61	25.00	1.377	0.15	0.552	0.760
	CDMA BC0	RTAP 153.6Kbps	Front	5mm	OFF	777	848.31	23.53	25.00	1.403	0.17	0.647	0.908
	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	384	836.52	23.77	25.00	1.327	-0.14	0.655	0.869
	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	1013	824.7	23.61	25.00	1.377	-0.11	0.589	0.811
32	CDMA BC0	RTAP 153.6Kbps	Back	5mm	OFF	777	848.31	23.53	25.00	1.403	-0.17	0.663	0.930
	CDMA BC0	RTAP 153.6Kbps	Left Side	5mm	OFF	384	836.52	23.77	25.00	1.327	-0.07	0.194	0.258
	CDMA BC0	RTAP 153.6Kbps	Right Side	5mm	OFF	384	836.52	23.77	25.00	1.327	-0.04	0.250	0.332
	CDMA BC0	RTAP 153.6Kbps	Bottom Side	5mm	OFF	384	836.52	23.77	25.00	1.327	0.14	0.236	0.313
	CDMA BC1	RTAP 153.6Kbps	Front	5mm	ON	1175	1908.75	17.18	17.50	1.076	0.06	0.610	0.657
	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	1175	1908.75	17.18	17.50	1.076	0.14	0.834	0.898
	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	600	1880	17.00	17.50	1.122	0.14	0.792	0.889
	CDMA BC1	RTAP 153.6Kbps	Back	5mm	ON	25	1851.25	16.97	17.50	1.130	0.14	0.817	0.923
	CDMA BC1	RTAP 153.6Kbps	Left Side	5mm	ON	1175	1908.75	17.18	17.50	1.076	0.03	0.053	0.057
	CDMA BC1	RTAP 153.6Kbps	Right Side	5mm	ON	1175	1908.75	17.18	17.50	1.076	-0.08	0.056	0.060
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	1175	1908.75	17.18	17.50	1.076	0.02	1.060	1.141
33	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	600	1880	17.00	17.50	1.122	0.09	1.030	1.156
	CDMA BC1	RTAP 153.6Kbps	Bottom Side	5mm	ON	25	1851.25	16.97	17.50	1.130	0.15	1.000	1.130

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Front	5mm	ON	21100	2535	20.82	21.50	1.169	0.12	0.295	0.345
	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	21100	2535	20.77	21.50	1.183	0.17	0.302	0.357
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	21100	2535	20.82	21.50	1.169	0.02	0.400	0.468
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21100	2535	20.77	21.50	1.183	0.05	0.393	0.465
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	ON	21100	2535	20.82	21.50	1.169	0.05	0.037	0.043
	LTE Band 7	20M	QPSK	50	0	Left Side	5mm	ON	21100	2535	20.77	21.50	1.183	0.01	0.035	0.041
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	ON	21100	2535	20.82	21.50	1.169	0.01	0.012	0.014
	LTE Band 7	20M	QPSK	50	0	Right Side	5mm	ON	21100	2535	20.77	21.50	1.183	0.03	0.008	0.009
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	ON	21100	2535	20.82	21.50	1.169	0.19	0.786	0.919
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	ON	20850	2510	20.63	21.50	1.222	0.14	0.749	0.915
34	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	ON	21350	2560	20.80	21.50	1.175	0.12	0.981	1.153
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	21100	2535	20.77	21.50	1.183	0.17	0.925	1.094
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	20850	2510	20.71	21.50	1.199	0.17	0.948	1.137
	LTE Band 7	20M	QPSK	50	0	Bottom Side	5mm	ON	21350	2560	20.64	21.50	1.219	0.14	0.873	1.064
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5mm	ON	21100	2535	20.77	21.50	1.183	0.16	0.909	1.075
	LTE Band 7	20M	QPSK	1	0	Front	5mm	EN-DC ON	21100	2535	18.91	19.00	1.021	0.14	0.203	0.207
	LTE Band 7	20M	QPSK	1	0	Back	5mm	EN-DC ON	21100	2535	18.91	19.00	1.021	0.11	0.263	0.269
	LTE Band 7	20M	QPSK	1	0	Left Side	5mm	EN-DC ON	21100	2535	18.91	19.00	1.021	0	0.018	0.018
	LTE Band 7	20M	QPSK	1	0	Right Side	5mm	EN-DC ON	21100	2535	18.91	19.00	1.021	-0.08	0.012	0.012
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5mm	EN-DC ON	21100	2535	18.91	19.00	1.021	-0.13	0.608	0.621



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 12	10M	QPSK	1	0	Front	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.03	0.351	0.443
	LTE Band 12	10M	QPSK	25	0	Front	5mm	OFF	23095	707.5	21.92	23.00	1.282	0.06	0.343	0.440
35	LTE Band 12	10M	QPSK	1	0	Back	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.1	0.408	0.515
	LTE Band 12	10M	QPSK	25	0	Back	5mm	OFF	23095	707.5	21.92	23.00	1.282	0.03	0.255	0.327
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.03	0.144	0.182
	LTE Band 12	10M	QPSK	25	0	Left Side	5mm	OFF	23095	707.5	21.92	23.00	1.282	0	0.129	0.165
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	OFF	23095	707.5	22.99	24.00	1.262	0.03	0.178	0.225
	LTE Band 12	10M	QPSK	25	0	Right Side	5mm	OFF	23095	707.5	21.92	23.00	1.282	0.06	0.141	0.181
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.04	0.295	0.372
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5mm	OFF	23095	707.5	21.92	23.00	1.282	-0.14	0.200	0.256
	LTE Band 12	10M	QPSK	1	0	Front	5mm	EN-DC ON	23095	707.5	22.99	24.00	1.262	-0.03	0.351	0.443
	LTE Band 12	10M	QPSK	1	0	Back	5mm	EN-DC ON	23095	707.5	22.99	24.00	1.262	-0.1	0.408	0.515
	LTE Band 12	10M	QPSK	1	0	Left Side	5mm	EN-DC ON	23095	707.5	22.99	24.00	1.262	-0.03	0.144	0.182
	LTE Band 12	10M	QPSK	1	0	Right Side	5mm	EN-DC ON	23095	707.5	22.99	24.00	1.262	0.03	0.178	0.225
	LTE Band 12	10M	QPSK	1	0	Bottom Side	5mm	EN-DC ON	23095	707.5	22.99	24.00	1.262	-0.04	0.295	0.372
	LTE Band 13	10M	QPSK	1	0	Front	5mm	OFF	23230	782	22.88	24.00	1.294	-0.12	0.700	0.906
	LTE Band 13	10M	QPSK	25	0	Front	5mm	OFF	23230	782	21.94	23.00	1.276	-0.16	0.404	0.516
36	LTE Band 13	10M	QPSK	1	0	Back	5mm	OFF	23230	782	22.88	24.00	1.294	-0.13	0.704	0.911
	LTE Band 13	10M	QPSK	25	0	Back	5mm	OFF	23230	782	21.94	23.00	1.276	-0.14	0.381	0.486
	LTE Band 13	10M	QPSK	50	0	Back	5mm	OFF	23230	782	21.93	23.00	1.279	-0.14	0.366	0.468
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	OFF	23230	782	22.88	24.00	1.294	-0.01	0.186	0.241
	LTE Band 13	10M	QPSK	25	0	Left Side	5mm	OFF	23230	782	21.94	23.00	1.276	0	0.107	0.137
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	OFF	23230	782	22.88	24.00	1.294	-0.05	0.266	0.344
	LTE Band 13	10M	QPSK	25	0	Right Side	5mm	OFF	23230	782	21.94	23.00	1.276	0.06	0.153	0.195
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	OFF	23230	782	22.88	24.00	1.294	-0.13	0.588	0.761
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5mm	OFF	23230	782	21.94	23.00	1.276	-0.16	0.289	0.369
	LTE Band 13	10M	QPSK	1	0	Front	5mm	EN-DC ON	23230	782	20.93	21.50	1.140	0	0.308	0.351
	LTE Band 13	10M	QPSK	1	0	Back	5mm	EN-DC ON	23230	782	20.93	21.50	1.140	-0.12	0.459	0.523
	LTE Band 13	10M	QPSK	1	0	Left Side	5mm	EN-DC ON	23230	782	20.93	21.50	1.140	-0.03	0.012	0.014
	LTE Band 13	10M	QPSK	1	0	Right Side	5mm	EN-DC ON	23230	782	20.93	21.50	1.140	-0.05	0.059	0.067
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5mm	EN-DC ON	23230	782	20.93	21.50	1.140	0.02	0.247	0.282



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 25	20M	QPSK	1	0	Front	5mm	ON	26140	1860	16.99	17.00	1.002	0.1	0.378	0.379
	LTE Band 25	20M	QPSK	50	0	Front	5mm	ON	26140	1860	16.95	17.00	1.012	0.17	0.408	0.413
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26140	1860	16.99	17.00	1.002	0.1	0.765	0.767
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26340	1880	16.88	17.00	1.028	-0.09	0.726	0.746
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26590	1905	16.79	17.00	1.050	0.05	0.804	0.844
	LTE Band 25	20M	QPSK	50	0	Back	5mm	ON	26140	1860	16.95	17.00	1.012	-0.08	0.768	0.777
	LTE Band 25	20M	QPSK	100	0	Back	5mm	ON	26140	1860	16.90	17.00	1.023	0.1	0.765	0.783
	LTE Band 25	20M	QPSK	1	0	Left Side	5mm	ON	26140	1860	16.99	17.00	1.002	-0.09	0.048	0.048
	LTE Band 25	20M	QPSK	50	0	Left Side	5mm	ON	26140	1860	16.95	17.00	1.012	-0.07	0.052	0.053
	LTE Band 25	20M	QPSK	1	0	Right Side	5mm	ON	26140	1860	16.99	17.00	1.002	-0.07	0.062	0.062
	LTE Band 25	20M	QPSK	50	0	Right Side	5mm	ON	26140	1860	16.95	17.00	1.012	-0.16	0.044	0.045
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	ON	26140	1860	16.99	17.00	1.002	-0.09	1.190	1.193
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	ON	26340	1880	16.88	17.00	1.028	-0.1	1.220	1.254
37	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	ON	26590	1905	16.79	17.00	1.050	-0.19	1.250	1.312
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26140	1860	16.95	17.00	1.012	0.13	1.160	1.173
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26340	1880	16.86	17.00	1.033	0.13	1.160	1.198
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5mm	ON	26590	1905	16.90	17.00	1.023	0.13	1.160	1.187
	LTE Band 25	20M	QPSK	100	0	Bottom Side	5mm	ON	26140	1860	16.90	17.00	1.023	0.01	1.170	1.197
	LTE Band 25	20M	QPSK	50	0	Front	5mm	EN-DC ON	26590	1905	14.96	15.00	1.009	0.02	0.239	0.241
	LTE Band 25	20M	QPSK	1	0	Back	5mm	EN-DC ON	26590	1905	14.96	15.00	1.009	-0.08	0.396	0.400
	LTE Band 25	20M	QPSK	1	0	Left Side	5mm	EN-DC ON	26590	1905	14.96	15.00	1.009	0.04	0.003	0.003
	LTE Band 25	20M	QPSK	1	0	Right Side	5mm	EN-DC ON	26590	1905	14.96	15.00	1.009	-0.03	0.002	0.002
	LTE Band 25	20M	QPSK	1	0	Bottom Side	5mm	EN-DC ON	26590	1905	14.96	15.00	1.009	-0.13	0.687	0.693
	LTE Band 26	15M	QPSK	1	74	Front	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.14	0.568	0.702
	LTE Band 26	15M	QPSK	36	39	Front	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.08	0.490	0.578
38	LTE Band 26	15M	QPSK	1	74	Back	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.16	0.688	0.850
	LTE Band 26	15M	QPSK	36	39	Back	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.18	0.519	0.613
	LTE Band 26	15M	QPSK	75	0	Back	5mm	OFF	26865	831.5	22.23	23.00	1.194	-0.16	0.507	0.605
	LTE Band 26	15M	QPSK	1	74	Left Side	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.02	0.196	0.242
	LTE Band 26	15M	QPSK	36	39	Left Side	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.12	0.112	0.132
	LTE Band 26	15M	QPSK	1	74	Right Side	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.19	0.300	0.371
	LTE Band 26	15M	QPSK	36	39	Right Side	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.14	0.184	0.217
	LTE Band 26	15M	QPSK	1	74	Bottom Side	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.09	0.404	0.499
	LTE Band 26	15M	QPSK	36	39	Bottom Side	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.16	0.311	0.367
	LTE Band 26	15M	QPSK	1	74	Front	5mm	EN-DC ON	26865	831.5	22.00	22.50	1.122	-0.09	0.283	0.318
	LTE Band 26	15M	QPSK	1	74	Back	5mm	EN-DC ON	26865	831.5	22.00	22.50	1.122	-0.12	0.463	0.519
	LTE Band 26	15M	QPSK	1	74	Left Side	5mm	EN-DC ON	26865	831.5	22.00	22.50	1.122	0	0.105	0.118
	LTE Band 26	15M	QPSK	1	74	Right Side	5mm	EN-DC ON	26865	831.5	22.00	22.50	1.122	-0.04	0.062	0.070
	LTE Band 26	15M	QPSK	1	74	Bottom Side	5mm	EN-DC ON	26865	831.5	22.00	22.50	1.122	0.06	0.287	0.322



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 30	10M	QPSK	1	0	Front	5mm	ON	27710	2310	16.41	17.50	1.285	-0.08	0.386	0.496
	LTE Band 30	10M	QPSK	25	0	Front	5mm	ON	27710	2310	16.14	17.50	1.368	-0.09	0.395	0.540
	LTE Band 30	10M	QPSK	1	0	Back	5mm	ON	27710	2310	16.41	17.50	1.285	-0.07	0.512	0.658
	LTE Band 30	10M	QPSK	25	0	Back	5mm	ON	27710	2310	16.14	17.50	1.368	-0.07	0.517	0.707
	LTE Band 30	10M	QPSK	1	0	Left Side	5mm	ON	27710	2310	16.41	17.50	1.285	-0.17	0.016	0.021
	LTE Band 30	10M	QPSK	25	0	Left Side	5mm	ON	27710	2310	16.14	17.50	1.368	-0.19	0.016	0.022
	LTE Band 30	10M	QPSK	1	0	Right Side	5mm	ON	27710	2310	16.41	17.50	1.285	0.12	0.045	0.058
	LTE Band 30	10M	QPSK	25	0	Right Side	5mm	ON	27710	2310	16.14	17.50	1.368	0.05	0.046	0.063
	LTE Band 30	10M	QPSK	1	0	Bottom Side	5mm	ON	27710	2310	16.41	17.50	1.285	-0.13	0.833	1.071
39	LTE Band 30	10M	QPSK	25	0	Bottom Side	5mm	ON	27710	2310	16.14	17.50	1.368	-0.13	0.848	1.160
	LTE Band 30	10M	QPSK	50	0	Bottom Side	5mm	ON	27710	2310	16.13	17.50	1.371	0.11	0.828	1.135
	LTE Band 30	10M	QPSK	25	0	Front	5mm	EN-DC ON	27710	2310	15.61	16.00	1.094	0.02	0.196	0.214
	LTE Band 30	10M	QPSK	25	0	Back	5mm	EN-DC ON	27710	2310	15.61	16.00	1.094	0.17	0.317	0.347
	LTE Band 30	10M	QPSK	25	0	Left Side	5mm	EN-DC ON	27710	2310	15.61	16.00	1.094	-0.02	0.002	0.002
	LTE Band 30	10M	QPSK	25	0	Right Side	5mm	EN-DC ON	27710	2310	15.61	16.00	1.094	0.13	0.004	0.004
	LTE Band 30	10M	QPSK	25	0	Bottom Side	5mm	EN-DC ON	27710	2310	15.61	16.00	1.094	0.16	0.633	0.692
	LTE Band 66	20M	QPSK	1	0	Front	5mm	ON	132072	1720	16.55	17.00	1.109	-0.02	0.284	0.315
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132072	1720	16.25	17.00	1.189	0.08	0.296	0.352
	LTE Band 66	20M	QPSK	1	0	Back	5mm	ON	132072	1720	16.55	17.00	1.109	0.17	0.479	0.531
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132072	1720	16.25	17.00	1.189	-0.03	0.453	0.538
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	ON	132072	1720	16.55	17.00	1.109	-0.1	0.048	0.053
	LTE Band 66	20M	QPSK	50	0	Left Side	5mm	ON	132072	1720	16.25	17.00	1.189	0.07	0.043	0.051
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	ON	132072	1720	16.55	17.00	1.109	0.15	0.087	0.096
	LTE Band 66	20M	QPSK	50	0	Right Side	5mm	ON	132072	1720	16.25	17.00	1.189	-0.16	0.065	0.077
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132072	1720	16.55	17.00	1.109	-0.13	0.907	1.006
40	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132572	1770	16.40	17.00	1.148	-0.01	1.090	1.251
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	ON	132322	1745	16.53	17.00	1.114	-0.13	1.000	1.114
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132072	1720	16.25	17.00	1.189	-0.14	0.884	1.051
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132572	1770	16.04	17.00	1.247	0.06	0.982	1.225
	LTE Band 66	20M	QPSK	50	0	Bottom Side	5mm	ON	132322	1745	16.18	17.00	1.208	0.12	0.983	1.187
	LTE Band 66	20M	QPSK	100	0	Bottom Side	5mm	ON	132072	1720	16.21	17.00	1.199	0.02	0.878	1.053
	LTE Band 66	20M	QPSK	1	0	Front	5mm	EN-DC ON	132572	1770	13.97	14.00	1.007	0.03	0.226	0.228
	LTE Band 66	20M	QPSK	1	0	Back	5mm	EN-DC ON	132572	1770	13.97	14.00	1.007	-0.07	0.360	0.362
	LTE Band 66	20M	QPSK	1	0	Left Side	5mm	EN-DC ON	132572	1770	13.97	14.00	1.007	0.16	0.012	0.012
	LTE Band 66	20M	QPSK	1	0	Right Side	5mm	EN-DC ON	132572	1770	13.97	14.00	1.007	-0.09	0.008	0.008
	LTE Band 66	20M	QPSK	1	0	Bottom Side	5mm	EN-DC ON	132572	1770	13.97	14.00	1.007	0.14	0.526	0.530



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 71	20M	QPSK	1	0	Front	5mm	OFF	133322	683	23.21	24.00	1.199	-0.12	0.343	0.411
	LTE Band 71	20M	QPSK	50	0	Front	5mm	OFF	133322	683	22.76	23.00	1.057	-0.1	0.272	0.287
41	LTE Band 71	20M	QPSK	1	0	Back	5mm	OFF	133322	683	23.21	24.00	1.199	-0.05	0.438	0.525
	LTE Band 71	20M	QPSK	50	0	Back	5mm	OFF	133322	683	22.76	23.00	1.057	-0.15	0.328	0.347
	LTE Band 71	20M	QPSK	1	0	Left Side	5mm	OFF	133322	683	23.21	24.00	1.199	-0.16	0.148	0.178
	LTE Band 71	20M	QPSK	50	0	Left Side	5mm	OFF	133322	683	22.76	23.00	1.057	-0.1	0.093	0.098
	LTE Band 71	20M	QPSK	1	0	Right Side	5mm	OFF	133322	683	23.21	24.00	1.199	-0.17	0.192	0.230
	LTE Band 71	20M	QPSK	50	0	Right Side	5mm	OFF	133322	683	22.76	23.00	1.057	-0.14	0.134	0.142
	LTE Band 71	20M	QPSK	1	0	Bottom Side	5mm	OFF	133322	683	23.21	24.00	1.199	-0.14	0.178	0.214
	LTE Band 71	20M	QPSK	50	0	Bottom Side	5mm	OFF	133322	683	22.76	23.00	1.057	-0.1	0.175	0.185

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	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 41	20M	QPSK	1	99	Front	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.13	0.240	0.277
	LTE Band 41	20M	QPSK	50	50	Front	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.16	0.185	0.209
	LTE Band 41	20M	QPSK	1	99	Back	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.09	0.328	0.378
	LTE Band 41	20M	QPSK	50	50	Back	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.01	0.242	0.274
	LTE Band 41	20M	QPSK	1	99	Left Side	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	0.03	0.121	0.139
	LTE Band 41	20M	QPSK	50	50	Left Side	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	0.07	0.091	0.103
	LTE Band 41	20M	QPSK	1	99	Right Side	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.06	0.043	0.050
	LTE Band 41	20M	QPSK	50	50	Right Side	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	0.18	0.027	0.031
42	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.06	0.623	0.718
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	OFF	39750	2506	23.17	24.00	1.211	62.9	1.006	0.02	0.579	0.705
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	OFF	40185	2549.5	23.21	24.00	1.199	62.9	1.006	0.04	0.581	0.701
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	OFF	40620	2593	23.35	24.00	1.161	62.9	1.006	0.11	0.562	0.657
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	OFF	41055	2636.5	23.28	24.00	1.180	62.9	1.006	-0.03	0.571	0.678
	LTE Band 41	20M	QPSK	50	50	Bottom Side	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.04	0.420	0.475
	LTE Band 41	20M	QPSK	100	0	Bottom Side	5mm	OFF	41490	2680	22.45	23.00	1.135	62.9	1.006	0.06	0.388	0.443
	LTE Band 41	20M	QPSK	1	99	Front	5mm	EN-DC ON	41490	2680	21.45	21.50	1.012	62.9	1.006	0.01	0.162	0.165
	LTE Band 41	20M	QPSK	1	99	Back	5mm	EN-DC ON	41490	2680	21.45	21.50	1.012	62.9	1.006	0.02	0.188	0.191
	LTE Band 41	20M	QPSK	1	99	Left Side	5mm	EN-DC ON	41490	2680	21.45	21.50	1.012	62.9	1.006	-0.08	0.063	0.064
	LTE Band 41	20M	QPSK	1	99	Right Side	5mm	EN-DC ON	41490	2680	21.45	21.50	1.012	62.9	1.006	0.15	0.022	0.022
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5mm	EN-DC ON	41490	2680	21.45	21.50	1.012	62.9	1.006	0.05	0.498	0.507



<5N NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	PI/2 BPSK	1	1	Front	5mm	OFF	167300	837	23.84	24.00	1.038	0.09	0.046	0.048
	FR1 n5	20M	PI/2 BPSK	50	0	Front	5mm	OFF	167300	837	23.82	24.00	1.042	0.05	0.041	0.043
43	FR1 n5	20M	PI/2 BPSK	1	1	Back	5mm	OFF	167300	837	23.84	24.00	1.038	-0.11	0.055	0.057
	FR1 n5	20M	PI/2 BPSK	50	0	Back	5mm	OFF	167300	837	23.82	24.00	1.042	0.03	0.052	0.054
	FR1 n5	20M	PI/2 BPSK	1	1	Left Side	5mm	OFF	167300	837	23.84	24.00	1.038	0.04	0.001	0.001
	FR1 n5	20M	PI/2 BPSK	50	0	Left Side	5mm	OFF	167300	837	23.82	24.00	1.042	0.01	0.001	0.001
	FR1 n5	20M	PI/2 BPSK	1	1	Right Side	5mm	OFF	167300	837	23.84	24.00	1.038	0.15	0.001	0.001
	FR1 n5	20M	PI/2 BPSK	50	0	Right Side	5mm	OFF	167300	837	23.82	24.00	1.042	-0.18	0.001	0.001
	FR1 n5	20M	PI/2 BPSK	1	1	Top Side	5mm	OFF	167300	837	23.84	24.00	1.038	-0.05	0.035	0.036
	FR1 n5	20M	PI/2 BPSK	50	0	Top Side	5mm	OFF	167300	837	23.82	24.00	1.042	0.07	0.033	0.034
	FR1 n66	20M	PI/2 BPSK	1	1	Front	5mm	OFF	349000	1745	23.89	24.00	1.026	0.05	0.201	0.206
	FR1 n66	20M	PI/2 BPSK	50	0	Front	5mm	OFF	349000	1745	23.73	24.00	1.064	0.01	0.192	0.204
	FR1 n66	20M	PI/2 BPSK	1	1	Back	5mm	OFF	349000	1745	23.89	24.00	1.026	-0.13	0.687	0.705
	FR1 n66	20M	PI/2 BPSK	50	0	Back	5mm	OFF	349000	1745	23.73	24.00	1.064	-0.01	0.667	0.710
	FR1 n66	20M	PI/2 BPSK	1	1	Left Side	5mm	OFF	349000	1745	23.89	24.00	1.026	-0.14	0.052	0.053
	FR1 n66	20M	PI/2 BPSK	50	0	Left Side	5mm	OFF	349000	1745	23.73	24.00	1.064	-0.14	0.047	0.050
	FR1 n66	20M	PI/2 BPSK	1	1	Right Side	5mm	OFF	349000	1745	23.89	24.00	1.026	0.03	0.001	0.001
	FR1 n66	20M	PI/2 BPSK	50	0	Right Side	5mm	OFF	349000	1745	23.73	24.00	1.064	0.03	0.001	0.001
45	FR1 n66	20M	PI/2 BPSK	1	1	Top Side	5mm	OFF	349000	1745	23.89	24.00	1.026	-0.14	0.730	0.749
	FR1 n66	20M	PI/2 BPSK	1	1	Top Side	5mm	OFF	346000	1730	23.76	24.00	1.057	0.02	0.702	0.742
	FR1 n66	20M	PI/2 BPSK	1	1	Top Side	5mm	OFF	352000	1760	23.80	24.00	1.047	-0.09	0.710	0.743
	FR1 n66	20M	PI/2 BPSK	50	0	Top Side	5mm	OFF	349000	1745	23.73	24.00	1.064	-0.14	0.688	0.732
	FR1 n71	20M	PI/2 BPSK	1	1	Front	5mm	OFF	136100	681	23.97	24.00	1.007	0.05	0.033	0.033
	FR1 n71	20M	PI/2 BPSK	50	0	Front	5mm	OFF	136100	681	23.86	24.00	1.033	0.05	0.029	0.030
46	FR1 n71	20M	PI/2 BPSK	1	1	Back	5mm	OFF	136100	681	23.97	24.00	1.007	-0.16	0.121	0.122
	FR1 n71	20M	PI/2 BPSK	50	0	Back	5mm	OFF	136100	681	23.86	24.00	1.033	-0.16	0.115	0.119
	FR1 n71	20M	PI/2 BPSK	1	1	Left Side	5mm	OFF	136100	681	23.97	24.00	1.007	-0.02	0.029	0.029
	FR1 n71	20M	PI/2 BPSK	50	0	Left Side	5mm	OFF	136100	681	23.86	24.00	1.033	-0.02	0.024	0.025
	FR1 n71	20M	PI/2 BPSK	1	1	Right Side	5mm	OFF	136100	681	23.97	24.00	1.007	0.07	0.001	0.001
	FR1 n71	20M	PI/2 BPSK	50	0	Right Side	5mm	OFF	136100	681	23.86	24.00	1.033	0.07	0.001	0.001
	FR1 n71	20M	PI/2 BPSK	1	1	Top Side	5mm	OFF	136100	681	23.97	24.00	1.007	0.13	0.039	0.039
	FR1 n71	20M	PI/2 BPSK	50	0	Top Side	5mm	OFF	136100	681	23.86	24.00	1.033	0.13	0.036	0.037



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	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)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4	2	1	2412	11.00	11.40	1.096	100	1.000	0.02	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	2	1	2412	11.00	11.40	1.096	100	1.000	-0.15	0.077	0.084
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	2	6	2437	11.00	11.40	1.096	100	1.000	-0.19	0.075	0.082
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	2	11	2462	11.00	11.40	1.096	100	1.000	-0.06	0.076	0.083
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 4	2	1	2412	11.00	11.40	1.096	100	1.000	0.04	0.012	0.013
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 4	2	1	2412	11.00	11.40	1.096	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 4	2	1	2412	11.00	11.40	1.096	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4+6	2	1	2412	14.35	14.40	1.011	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	2	1	2412	14.35	14.40	1.011	100	1.000	-0.11	0.278	0.281
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	2	6	2437	14.35	14.40	1.011	100	1.000	0.03	0.291	0.294
48	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	2	11	2462	14.26	14.40	1.032	100	1.000	0.11	0.297	0.306
	WLAN2.4GHz	802.11b 1Mbps	Left Side	5mm	Ant 4+6	2	1	2412	14.35	14.40	1.011	100	1.000	-0.01	0.007	0.007
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5mm	Ant 4+6	2	1	2412	14.35	14.40	1.011	100	1.000	0.06	0.015	0.015
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5mm	Ant 4+6	2	1	2412	14.35	14.40	1.011	100	1.000	0.01	0.143	0.145
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	2	42	5210	11.38	11.70	1.076	100	1.000	-0.09	0.001	0.001
49	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	2	42	5210	11.38	11.70	1.076	100	1.000	0.16	0.103	0.111
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 3+6	2	42	5210	11.38	11.70	1.076	100	1.000	0.14	0.011	0.012
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 3+6	2	42	5210	11.38	11.70	1.076	100	1.000	0.1	0.005	0.006
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 3+6	2	42	5210	11.38	11.70	1.076	100	1.000	-0.14	0.038	0.041
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	2	155	5775	11.53	11.70	1.040	100	1.000	0.03	0.001	0.001
50	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	2	155	5775	11.53	11.70	1.040	100	1.000	-0.16	0.089	0.093
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	5mm	Ant 3+6	2	155	5775	11.53	11.70	1.040	100	1.000	0.02	0.013	0.014
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	5mm	Ant 3+6	2	155	5775	11.53	11.70	1.040	100	1.000	0.05	0.007	0.007
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	5mm	Ant 3+6	2	155	5775	11.53	11.70	1.040	100	1.000	0.11	0.073	0.076

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	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)
	Bluetooth	1Mbps	Front	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0.03	0.001	0.001
51	Bluetooth	1Mbps	Back	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	-0.03	0.208	0.251
	Bluetooth	1Mbps	Back	5mm	Ant 6	00	2402	16.05	17.50	1.396	76.84	1.084	-0.01	0.121	0.183
	Bluetooth	1Mbps	Back	5mm	Ant 6	78	2480	16.10	17.50	1.380	76.84	1.084	0.14	0.140	0.209
	Bluetooth	1Mbps	Right Side	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	-0.05	0.043	0.052
	Bluetooth	1Mbps	Top Side	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0.03	0.001	0.001

17.3 Body Worn Accessory SAR
<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS (3 Tx slots)	Front	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.11	0.571	0.608
	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	128	824.2	30.23	30.50	1.064	-0.17	0.786	0.836
	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	189	836.4	29.56	30.50	1.242	0.04	0.498	0.618
52	GSM850	GPRS (3 Tx slots)	Back	5mm	OFF	251	848.8	28.94	30.50	1.432	-0.13	0.793	1.136
	GSM1900	GPRS (4 Tx slots)	Front	5mm	ON	810	1909.8	19.98	20.00	1.005	0.01	0.552	0.555
53	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	810	1909.8	19.98	20.00	1.005	0	0.588	0.591
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	512	1850.2	19.82	20.00	1.042	0	0.511	0.533
	GSM1900	GPRS (4 Tx slots)	Back	5mm	ON	661	1880	19.97	20.00	1.007	0	0.536	0.540
	GSM1900	GPRS (2 Tx slots)	Front	14mm	OFF	661	1880	28.81	30.50	1.476	0.03	0.365	0.539
	GSM1900	GPRS (2 Tx slots)	Back	18mm	OFF	661	1880	28.81	30.50	1.476	0.015	0.358	0.528

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	5mm	ON	9538	1907.6	16.96	17.00	1.009	0.1	0.687	0.693
54	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9538	1907.6	16.96	17.00	1.009	-0.07	0.837	0.845
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9262	1852.4	16.85	17.00	1.035	0.05	0.810	0.838
	WCDMA II	RMC 12.2Kbps	Back	5mm	ON	9400	1880	16.78	17.00	1.052	0.15	0.799	0.841
	WCDMA II	RMC 12.2Kbps	Front	14mm	OFF	9400	1880	23.22	24.00	1.197	0.01	0.524	0.627
	WCDMA II	RMC 12.2Kbps	Back	18mm	OFF	9400	1880	23.22	24.00	1.197	0.03	0.350	0.419
	WCDMA IV	RMC 12.2Kbps	Front	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.04	0.558	0.574
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1413	1732.6	16.88	17.00	1.028	-0.01	0.841	0.865
	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1312	1712.4	16.86	17.00	1.033	0	0.826	0.853
55	WCDMA IV	RMC 12.2Kbps	Back	5mm	ON	1513	1752.6	16.82	17.00	1.042	-0.1	0.916	0.955
	WCDMA IV	RMC 12.2Kbps	Front	14mm	OFF	1413	1732.6	23.44	24.00	1.138	0.05	0.311	0.354
	WCDMA IV	RMC 12.2Kbps	Back	18mm	OFF	1413	1732.6	23.44	24.00	1.138	0.14	0.189	0.215
	WCDMA V	RMC 12.2Kbps	Front	5mm	OFF	4233	846.6	23.35	24.00	1.161	0.03	0.446	0.518
	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4233	846.6	23.35	24.00	1.161	-0.05	0.523	0.607
	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4182	836.4	23.22	24.00	1.197	-0.05	0.512	0.613
56	WCDMA V	RMC 12.2Kbps	Back	5mm	OFF	4132	826.4	23.21	24.00	1.199	-0.05	0.512	0.614



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA BC0	1xRTT RC3 SO32	Front	5mm	OFF	1013	824.7	23.92	25.00	1.282	0.16	0.511	0.655
	CDMA BC0	1xRTT RC3 SO32	Back	5mm	OFF	1013	824.7	23.92	25.00	1.282	-0.13	0.608	0.780
57	CDMA BC0	1xRTT RC3 SO32	Back	5mm	OFF	384	836.52	23.70	25.00	1.349	-0.11	0.659	0.889
	CDMA BC0	1xRTT RC3 SO32	Back	5mm	OFF	777	848.31	23.75	25.00	1.334	-0.12	0.665	0.887
	CDMA BC1	1xRTT RC3 SO32	Front	5mm	ON	1175	1908.75	17.23	17.50	1.064	0.06	0.623	0.663
58	CDMA BC1	1xRTT RC3 SO32	Back	5mm	ON	1175	1908.75	17.23	17.50	1.064	-0.11	0.878	0.934
	CDMA BC1	1xRTT RC3 SO32	Back	5mm	ON	600	1880	17.06	17.50	1.107	0.03	0.807	0.892
	CDMA BC1	1xRTT RC3 SO32	Back	5mm	ON	25	1851.25	17.11	17.50	1.094	0.02	0.811	0.887
	CDMA BC1	1xRTT RC3 SO32	Front	14mm	OFF	1175	1908.75	24.26	25.00	1.186	0.03	0.413	0.490
	CDMA BC1	1xRTT RC3 SO32	Back	18mm	OFF	1175	1908.75	24.26	25.00	1.186	0.15	0.422	0.500

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	0	Front	5mm	ON	21100	2535	20.82	21.50	1.169	0.12	0.295	0.345
	LTE Band 7	20M	QPSK	50	0	Front	5mm	ON	21100	2535	20.77	21.50	1.183	0.17	0.302	0.357
59	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	21100	2535	20.82	21.50	1.169	0.02	0.400	0.468
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	20850	2510	20.63	21.50	1.222	0.06	0.378	0.462
	LTE Band 7	20M	QPSK	1	0	Back	5mm	ON	21350	2560	20.80	21.50	1.175	-0.04	0.361	0.424
	LTE Band 7	20M	QPSK	50	0	Back	5mm	ON	21100	2535	20.77	21.50	1.183	0.05	0.393	0.465
	LTE Band 7	20M	QPSK	1	99	Front	14mm	OFF	21100	2535	23.36	24.00	1.159	0.03	0.176	0.204
	LTE Band 7	20M	QPSK	50	50	Front	14mm	OFF	21100	2535	22.37	23.00	1.156	0.15	0.162	0.187
	LTE Band 7	20M	QPSK	1	99	Back	18mm	OFF	21100	2535	23.36	24.00	1.159	-0.09	0.188	0.218
	LTE Band 7	20M	QPSK	50	50	Back	18mm	OFF	21100	2535	22.37	23.00	1.156	0.14	0.187	0.216
	LTE Band 12	10M	QPSK	1	0	Front	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.03	0.351	0.443
	LTE Band 12	10M	QPSK	25	0	Front	5mm	OFF	23095	707.5	21.92	23.00	1.282	0.06	0.343	0.440
60	LTE Band 12	10M	QPSK	1	0	Back	5mm	OFF	23095	707.5	22.99	24.00	1.262	-0.1	0.428	0.540
	LTE Band 12	10M	QPSK	25	0	Back	5mm	OFF	23095	707.5	21.92	23.00	1.282	0.03	0.255	0.327
	LTE Band 13	10M	QPSK	1	0	Front	5mm	OFF	23230	782	22.88	24.00	1.294	-0.12	0.700	0.906
	LTE Band 13	10M	QPSK	25	0	Front	5mm	OFF	23230	782	21.94	23.00	1.276	-0.16	0.404	0.516
	LTE Band 13	10M	QPSK	50	0	Front	5mm	OFF	23230	782	21.93	23.00	1.279	0.06	0.378	0.484
61	LTE Band 13	10M	QPSK	1	0	Back	5mm	OFF	23230	782	22.88	24.00	1.294	-0.13	0.704	0.911
	LTE Band 13	10M	QPSK	25	0	Back	5mm	OFF	23230	782	21.94	23.00	1.276	-0.14	0.381	0.486
	LTE Band 13	10M	QPSK	50	0	Back	5mm	OFF	23230	782	21.93	23.00	1.279	-0.14	0.366	0.468
	LTE Band 25	20M	QPSK	1	0	Front	5mm	ON	26140	1860	16.99	17.00	1.002	0.1	0.378	0.379
	LTE Band 25	20M	QPSK	50	0	Front	5mm	ON	26140	1860	16.95	17.00	1.012	0.17	0.408	0.413
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26140	1860	16.99	17.00	1.002	0.1	0.765	0.767
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26340	1880	16.88	17.00	1.028	-0.09	0.726	0.746
	LTE Band 25	20M	QPSK	1	0	Back	5mm	ON	26590	1905	16.79	17.00	1.050	0.05	0.804	0.844
	LTE Band 25	20M	QPSK	50	0	Back	5mm	ON	26140	1860	16.95	17.00	1.012	-0.08	0.768	0.777
	LTE Band 25	20M	QPSK	100	0	Back	5mm	ON	26140	1860	16.89	17.00	1.026	0.1	0.765	0.785
	LTE Band 25	20M	QPSK	1	0	Front	14mm	OFF	26140	1860	23.15	24.00	1.216	-0.15	0.689	0.838
	LTE Band 25	20M	QPSK	1	0	Front	14mm	OFF	26340	1880	22.99	24.00	1.262	0.02	0.702	0.886
62	LTE Band 25	20M	QPSK	1	0	Front	14mm	OFF	26590	1905	23.08	24.00	1.236	-0.13	0.729	0.901
	LTE Band 25	20M	QPSK	50	0	Front	14mm	OFF	26140	1860	22.16	23.00	1.213	-0.14	0.574	0.696
	LTE Band 25	20M	QPSK	100	0	Front	14mm	OFF	26140	1860	22.17	23.00	1.211	-0.15	0.551	0.667
	LTE Band 25	20M	QPSK	1	0	Back	18mm	OFF	26140	1860	23.15	24.00	1.216	-0.01	0.605	0.736
	LTE Band 25	20M	QPSK	50	0	Back	18mm	OFF	26140	1860	22.16	23.00	1.213	-0.01	0.501	0.608



Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 26	15M	QPSK	1	74	Front	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.14	0.568	0.702
	LTE Band 26	15M	QPSK	36	39	Front	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.08	0.490	0.578
63	LTE Band 26	15M	QPSK	1	74	Back	5mm	OFF	26865	831.5	23.08	24.00	1.236	-0.16	0.688	0.850
	LTE Band 26	15M	QPSK	36	39	Back	5mm	OFF	26865	831.5	22.28	23.00	1.180	-0.18	0.519	0.613
	LTE Band 26	15M	QPSK	75	0	Back	5mm	OFF	26865	831.5	22.23	23.00	1.194	-0.16	0.507	0.605
	LTE Band 30	10M	QPSK	1	0	Front	5mm	ON	27710	2310	16.41	17.50	1.285	-0.08	0.386	0.496
	LTE Band 30	10M	QPSK	25	0	Front	5mm	ON	27710	2310	16.14	17.50	1.368	-0.09	0.395	0.540
	LTE Band 30	10M	QPSK	1	0	Back	5mm	ON	27710	2310	16.41	17.50	1.285	-0.07	0.512	0.658
64	LTE Band 30	10M	QPSK	25	0	Back	5mm	ON	27710	2310	16.14	17.50	1.368	-0.07	0.517	0.707
	LTE Band 30	10M	QPSK	1	0	Front	14mm	OFF	27710	2310	22.73	24.00	1.340	0.03	0.226	0.303
	LTE Band 30	10M	QPSK	25	0	Front	14mm	OFF	27710	2310	21.77	23.00	1.327	0.15	0.216	0.287
	LTE Band 30	10M	QPSK	1	0	Back	18mm	OFF	27710	2310	22.73	24.00	1.340	-0.09	0.198	0.265
	LTE Band 30	10M	QPSK	25	0	Back	18mm	OFF	27710	2310	21.77	23.00	1.327	0.14	0.177	0.235
	LTE Band 66	20M	QPSK	1	0	Front	5mm	ON	132072	1720	16.55	17.00	1.109	-0.02	0.284	0.315
	LTE Band 66	20M	QPSK	50	0	Front	5mm	ON	132072	1720	16.25	17.00	1.189	0.08	0.296	0.352
	LTE Band 66	20M	QPSK	1	0	Back	5mm	ON	132072	1720	16.55	17.00	1.109	0.17	0.479	0.531
	LTE Band 66	20M	QPSK	50	0	Back	5mm	ON	132072	1720	16.25	17.00	1.189	-0.03	0.453	0.538
65	LTE Band 66	20M	QPSK	1	0	Front	14mm	OFF	132322	1745	23.18	24.00	1.208	-0.11	0.524	0.633
	LTE Band 66	20M	QPSK	1	0	Front	14mm	OFF	132072	1720	23.17	24.00	1.211	0.03	0.511	0.619
	LTE Band 66	20M	QPSK	1	0	Front	14mm	OFF	132572	1770	23.05	24.00	1.245	-0.01	0.501	0.624
	LTE Band 66	20M	QPSK	50	0	Front	14mm	OFF	132322	1745	22.14	23.00	1.219	-0.03	0.419	0.511
	LTE Band 66	20M	QPSK	1	0	Back	18mm	OFF	132322	1745	23.18	24.00	1.208	-0.14	0.453	0.547
	LTE Band 66	20M	QPSK	50	0	Back	18mm	OFF	132322	1745	22.14	23.00	1.219	-0.1	0.363	0.442
	LTE Band 71	20M	QPSK	1	0	Front	5mm	OFF	133322	683	23.21	24.00	1.199	-0.12	0.343	0.411
	LTE Band 71	20M	QPSK	50	0	Front	5mm	OFF	133322	683	22.76	23.00	1.057	-0.1	0.272	0.287
66	LTE Band 71	20M	QPSK	1	0	Back	5mm	OFF	133322	683	23.21	24.00	1.199	-0.05	0.438	0.525
	LTE Band 71	20M	QPSK	50	0	Back	5mm	OFF	133322	683	22.76	23.00	1.057	-0.15	0.328	0.347

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	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 41	20M	QPSK	1	99	Front	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.13	0.240	0.277
	LTE Band 41	20M	QPSK	50	50	Front	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.16	0.185	0.209
67	LTE Band 41	20M	QPSK	1	99	Back	5mm	OFF	41490	2680	23.41	24.00	1.146	62.9	1.006	-0.09	0.328	0.378
	LTE Band 41	20M	QPSK	50	50	Back	5mm	OFF	41490	2680	22.49	23.00	1.125	62.9	1.006	-0.01	0.242	0.274



<5N NR SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	FR1 n5	20M	PI/2 BPSK	1	1	Front	5mm	OFF	167300	837	23.84	24.00	1.038	0.09	0.046	0.048
	FR1 n5	20M	PI/2 BPSK	50	0	Front	5mm	OFF	167300	837	23.82	24.00	1.042	0.09	0.033	0.034
68	FR1 n5	20M	PI/2 BPSK	1	1	Back	5mm	OFF	167300	837	23.84	24.00	1.038	-0.11	0.055	0.057
	FR1 n5	20M	PI/2 BPSK	50	0	Back	5mm	OFF	167300	837	23.82	24.00	1.042	-0.11	0.042	0.044
	FR1 n66	20M	PI/2 BPSK	1	1	Front	5mm	OFF	349000	1745	23.89	24.00	1.026	0.05	0.201	0.206
	FR1 n66	20M	PI/2 BPSK	50	0	Front	5mm	OFF	349000	1745	23.73	24.00	1.064	0.05	0.142	0.151
70	FR1 n66	20M	PI/2 BPSK	1	1	Back	5mm	OFF	349000	1745	23.89	24.00	1.026	-0.13	0.687	0.705
	FR1 n66	20M	PI/2 BPSK	50	0	Back	5mm	OFF	349000	1745	23.73	24.00	1.064	-0.13	0.535	0.569
	FR1 n71	20M	PI/2 BPSK	1	1	Front	5mm	OFF	136100	681	23.97	24.00	1.007	0.05	0.033	0.033
	FR1 n71	20M	PI/2 BPSK	50	0	Front	5mm	OFF	136100	681	23.86	24.00	1.033	0.05	0.021	0.022
71	FR1 n71	20M	PI/2 BPSK	1	1	Back	5mm	OFF	136100	681	23.97	24.00	1.007	-0.16	0.121	0.122
	FR1 n71	20M	PI/2 BPSK	50	0	Back	5mm	OFF	136100	681	23.86	24.00	1.033	-0.16	0.109	0.113



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	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)
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4	6	1	2412	13.70	14.00	1.072	100	1.000	0.03	0.006	0.006
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	6	1	2412	13.70	14.00	1.072	100	1.000	-0.04	0.155	0.166
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	6	6	2437	13.60	14.00	1.096	100	1.000	-0.14	0.161	0.177
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	6	11	2462	13.60	14.00	1.096	100	1.000	-0.18	0.163	0.179
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 4	Default Max	6	2437	17.70	17.80	1.023	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 4	Default Max	6	2437	17.70	17.80	1.023	100	1.000	-0.15	0.072	0.074
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4+6	6	1	2412	16.94	17.00	1.014	100	1.000	0.06	0.023	0.023
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	6	1	2412	16.94	17.00	1.014	100	1.000	0	0.507	0.514
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	6	6	2437	16.94	17.00	1.014	100	1.000	-0.06	0.532	0.540
73	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	6	11	2462	16.72	17.00	1.065	100	1.000	-0.09	0.541	0.576
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 4+6	Default Max	1	2412	20.33	20.80	1.115	100	1.000	-0.16	0.005	0.005
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 4+6	Default Max	1	2412	20.33	20.80	1.115	100	1.000	-0.02	0.153	0.171
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4	7	1	2412	11.00	11.40	1.096	100	1.000	0.02	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	7	1	2412	11.00	11.40	1.096	100	1.000	-0.15	0.077	0.084
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	7	6	2437	11.00	11.40	1.096	100	1.000	-0.19	0.075	0.082
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4	7	11	2462	11.00	11.40	1.096	100	1.000	-0.06	0.076	0.083
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 4	1	1	2412	14.10	14.30	1.047	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 4	1	1	2412	14.10	14.30	1.047	100	1.000	0.02	0.027	0.028
	WLAN2.4GHz	802.11b 1Mbps	Front	5mm	Ant 4+6	7	1	2412	14.35	14.40	1.011	100	1.000	0.01	0.001	0.001
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	7	1	2412	14.35	14.40	1.011	100	1.000	-0.11	0.278	0.281
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	7	6	2437	14.35	14.40	1.011	100	1.000	0.03	0.291	0.294
	WLAN2.4GHz	802.11b 1Mbps	Back	5mm	Ant 4+6	7	11	2462	14.26	14.40	1.032	100	1.000	0.11	0.297	0.306
	WLAN2.4GHz	802.11b 1Mbps	Front	14mm	Ant 4+6	1	11	2462	17.22	17.30	1.017	100	1.000	-0.16	0.003	0.003
	WLAN2.4GHz	802.11b 1Mbps	Back	18mm	Ant 4+6	1	11	2462	17.22	17.30	1.017	100	1.000	-0.02	0.077	0.078



Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	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)
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	6	58	5290	13.87	13.90	1.007	100	1.000	0.05	0.001	0.001
74	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	6	58	5290	13.87	13.90	1.007	100	1.000	-0.1	0.211	0.212
	WLAN5GHz	802.11n-HT40 MCS0	Front	14mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11n-HT40 MCS0	Back	18mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	-0.17	0.070	0.075
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	7	58	5290	11.01	11.30	1.069	100	1.000	-0.19	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	7	58	5290	11.01	11.30	1.069	100	1.000	0.19	0.089	0.095
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	14mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	0.01	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	18mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	0.05	0.057	0.058
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	6	122	5610	13.61	13.90	1.069	100	1.000	0.07	0.001	0.001
75	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	6	122	5610	13.61	13.90	1.069	100	1.000	-0.15	0.131	0.140
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	6	106	5530	13.51	13.90	1.094	100	1.000	-0.09	0.117	0.128
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	6	138	5690	13.51	13.90	1.094	100	1.000	0.02	0.123	0.135
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	14mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	18mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	-0.07	0.127	0.127
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	7	106	5530	11.12	11.30	1.042	100	1.000	-0.13	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	7	106	5530	11.12	11.30	1.042	100	1.000	-0.04	0.062	0.065
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	7	122	5610	11.06	11.30	1.057	100	1.000	0.06	0.039	0.041
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	7	138	5690	11.06	11.30	1.057	100	1.000	-0.14	0.045	0.048
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	14mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.01	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	18mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.15	0.056	0.056
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	6	155	5775	13.56	13.90	1.081	100	1.000	0.14	0.001	0.001
76	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	6	155	5775	13.56	13.90	1.081	100	1.000	0.15	0.121	0.131
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	14mm	Ant 3+6	Default Max	155	5775	19.76	19.80	1.009	100	1.000	0	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	18mm	Ant 3+6	Default Max	155	5775	19.76	19.80	1.009	100	1.000	-0.1	0.114	0.115
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	5mm	Ant 3+6	7	155	5775	11.03	11.30	1.064	100	1.000	-0.16	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	5mm	Ant 3+6	7	155	5775	11.03	11.30	1.064	100	1.000	0.05	0.048	0.051
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	14mm	Ant 3+6	1	155	5775	16.01	16.30	1.069	100	1.000	0.01	0.001	0.001
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	18mm	Ant 3+6	1	155	5775	16.01	16.30	1.069	100	1.000	0.06	0.044	0.047

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Ch.	Freq. (MHz)	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)
	Bluetooth	1Mbps	Front	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	0.03	0.001	0.001
77	Bluetooth	1Mbps	Back	5mm	Ant 6	39	2441	17.03	17.50	1.114	76.84	1.084	-0.03	0.208	0.251
	Bluetooth	1Mbps	Back	5mm	Ant 6	00	2402	16.05	17.50	1.396	76.84	1.084	-0.01	0.121	0.183
	Bluetooth	1Mbps	Back	5mm	Ant 6	78	2480	16.10	17.50	1.380	76.84	1.084	0.14	0.140	0.209



17.4 Product Specific SAR

<GSM SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	GSM1900	GPRS (2 Tx Slots)	Front	0mm	ON	661	1880	28.23	29.00	1.194	-0.19	2.760	3.295
	GSM1900	GPRS (2 Tx Slots)	Front	0mm	ON	512	1850.2	27.97	29.00	1.268	-0.14	2.810	3.562
	GSM1900	GPRS (2 Tx Slots)	Front	0mm	ON	810	1909.8	28.18	29.00	1.208	-0.04	2.600	3.140
	GSM1900	GPRS (2 Tx Slots)	Back	0mm	ON	661	1880	28.23	29.00	1.194	-0.11	2.720	3.248
78	GSM1900	GPRS (2 Tx Slots)	Back	0mm	ON	512	1850.2	27.97	29.00	1.268	0.12	2.830	3.587
	GSM1900	GPRS (2 Tx Slots)	Back	0mm	ON	810	1909.8	28.18	29.00	1.208	0.01	2.540	3.068
	GSM1900	GPRS (2 Tx Slots)	Bottom Side	0mm	ON	661	1880	28.23	29.00	1.194	0	1.160	1.385
	GSM1900	GPRS (2 Tx Slots)	Front	5mm	OFF	661	1880	28.81	30.50	1.476	0.03	1.330	1.963
	GSM1900	GPRS (2 Tx Slots)	Back	8mm	OFF	661	1880	28.81	30.50	1.476	-0.11	1.610	2.376
	GSM1900	GPRS (2 Tx Slots)	Back	8mm	OFF	512	1850.2	28.78	30.50	1.486	0.06	1.540	2.288
	GSM1900	GPRS (2 Tx Slots)	Back	8mm	OFF	810	1909.8	28.72	30.50	1.507	0.14	1.510	2.275
	GSM1900	GPRS (2 Tx Slots)	Bottom Side	7mm	OFF	661	1880	28.81	30.50	1.476	0.07	1.500	2.214
	GSM1900	GPRS (2 Tx Slots)	Bottom Side	7mm	OFF	512	1850.2	28.78	30.50	1.486	0.01	1.470	2.184
	GSM1900	GPRS (2 Tx Slots)	Bottom Side	7mm	OFF	810	1909.8	28.72	30.50	1.507	-0.03	1.440	2.170

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA II	RMC 12.2Kbps	Front	0mm	ON	9538	1907.6	20.66	21.50	1.213	-0.13	2.770	3.361
	WCDMA II	RMC 12.2Kbps	Front	0mm	ON	9262	1852.4	20.60	21.50	1.230	-0.14	2.750	3.383
	WCDMA II	RMC 12.2Kbps	Front	0mm	ON	9400	1880	20.51	21.50	1.256	-0.19	2.600	3.266
	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9538	1907.6	20.66	21.50	1.213	0.01	2.800	3.397
79	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9262	1852.4	20.60	21.50	1.230	0.13	2.920	3.592
	WCDMA II	RMC 12.2Kbps	Back	0mm	ON	9400	1880	20.51	21.50	1.256	-0.05	2.610	3.278
	WCDMA II	RMC 12.2Kbps	Bottom Side	0mm	ON	9538	1907.6	20.66	21.50	1.213	-0.15	1.050	1.274
	WCDMA II	RMC 12.2Kbps	Front	5mm	OFF	9400	1880	23.22	24.00	1.197	0.07	1.300	1.556
	WCDMA II	RMC 12.2Kbps	Back	8mm	OFF	9400	1880	23.22	24.00	1.197	0.03	1.580	1.891
	WCDMA II	RMC 12.2Kbps	Bottom Side	7mm	OFF	9400	1880	23.22	24.00	1.197	-0.13	1.520	1.819
	WCDMA IV	RMC 12.2Kbps	Front	0mm	ON	1513	1752.6	20.63	21.50	1.222	-0.12	2.320	2.835
	WCDMA IV	RMC 12.2Kbps	Front	0mm	ON	1312	1712.4	20.53	21.50	1.250	-0.14	2.100	2.626
	WCDMA IV	RMC 12.2Kbps	Front	0mm	ON	1413	1732.6	20.59	21.50	1.233	-0.1	2.200	2.713
80	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1513	1752.6	20.63	21.50	1.222	0.11	2.650	3.238
	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1312	1712.4	20.53	21.50	1.250	-0.08	2.430	3.038
	WCDMA IV	RMC 12.2Kbps	Back	0mm	ON	1413	1732.6	20.59	21.50	1.233	-0.13	2.580	3.181
	WCDMA IV	RMC 12.2Kbps	Bottom Side	0mm	ON	1513	1752.6	20.63	21.50	1.222	-0.12	1.490	1.820
	WCDMA IV	RMC 12.2Kbps	Front	5mm	OFF	1413	1732.6	23.44	24.00	1.138	0.08	0.865	0.984
	WCDMA IV	RMC 12.2Kbps	Back	8mm	OFF	1413	1732.6	23.44	24.00	1.138	0.01	1.060	1.206
	WCDMA IV	RMC 12.2Kbps	Bottom Side	7mm	OFF	1413	1732.6	23.44	24.00	1.138	-0.14	1.520	1.729



<CDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	CDMA BC1	RTAP 153.6bps	Front	0mm	ON	1175	1908.75	22.31	23.00	1.172	-0.08	2.820	3.306
	CDMA BC1	RTAP 153.6bps	Front	0mm	ON	25	1851.25	22.27	23.00	1.183	-0.1	2.660	3.147
	CDMA BC1	RTAP 153.6bps	Front	0mm	ON	600	1880	22.28	23.00	1.180	-0.1	2.630	3.104
	CDMA BC1	RTAP 153.6bps	Back	0mm	ON	1175	1908.75	22.31	23.00	1.172	-0.12	2.950	3.458
81	CDMA BC1	RTAP 153.6bps	Back	0mm	ON	25	1851.25	22.27	23.00	1.183	0.07	2.950	3.490
	CDMA BC1	RTAP 153.6bps	Back	0mm	ON	600	1880	22.28	23.00	1.180	0.06	2.810	3.317
	CDMA BC1	RTAP 153.6bps	Bottom Side	0mm	ON	1175	1908.75	22.31	23.00	1.172	0.07	1.610	1.887
	CDMA BC1	RTAP 153.6bps	Front	5mm	OFF	600	1880	24.20	25.00	1.202	0.05	1.900	2.284
	CDMA BC1	RTAP 153.6bps	Front	5mm	OFF	25	1851.25	24.06	25.00	1.242	0.11	1.820	2.260
	CDMA BC1	RTAP 153.6bps	Front	5mm	OFF	1175	1908.75	23.99	25.00	1.262	0.17	1.780	2.246
	CDMA BC1	RTAP 153.6bps	Back	8mm	OFF	600	1880	24.20	25.00	1.202	-0.17	0.816	0.981
	CDMA BC1	RTAP 153.6bps	Bottom Side	7mm	OFF	600	1880	24.20	25.00	1.202	0.1	2.590	3.114
	CDMA BC1	RTAP 153.6bps	Bottom Side	7mm	OFF	25	1851.25	24.06	25.00	1.242	-0.03	2.510	3.117
	CDMA BC1	RTAP 153.6bps	Bottom Side	7mm	OFF	1175	1908.75	23.99	25.00	1.262	-0.06	2.440	3.079

<FDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 7	20M	QPSK	1	99	Front	0mm	OFF	21100	2535	23.36	24.00	1.159	-0.12	1.800	2.086
	LTE Band 7	20M	QPSK	1	99	Front	0mm	OFF	20850	2510	23.22	24.00	1.197	-0.18	1.830	2.190
	LTE Band 7	20M	QPSK	1	99	Front	0mm	OFF	21350	2560	23.34	24.00	1.164	-0.13	1.730	2.014
	LTE Band 7	20M	QPSK	1	99	Back	0mm	OFF	21100	2535	23.36	24.00	1.159	-0.11	2.210	2.561
	LTE Band 7	20M	QPSK	1	99	Back	0mm	OFF	20850	2510	23.22	24.00	1.197	0.02	2.130	2.549
	LTE Band 7	20M	QPSK	1	99	Back	0mm	OFF	21350	2560	23.34	24.00	1.164	-0.07	1.910	2.223
	LTE Band 7	20M	QPSK	1	99	Bottom Side	0mm	OFF	21100	2535	23.36	24.00	1.159	-0.08	2.380	2.758
82	LTE Band 7	20M	QPSK	1	99	Bottom Side	0mm	OFF	20850	2510	23.22	24.00	1.197	-0.04	2.520	3.016
	LTE Band 7	20M	QPSK	1	99	Bottom Side	0mm	OFF	21350	2560	23.34	24.00	1.164	-0.19	2.060	2.398
	LTE Band 25	20M	QPSK	1	0	Front	0mm	ON	26140	1860	21.69	22.50	1.205	-0.06	2.740	3.302
	LTE Band 25	20M	QPSK	1	0	Front	0mm	ON	26340	1880	21.54	22.50	1.247	-0.05	2.600	3.243
	LTE Band 25	20M	QPSK	1	0	Front	0mm	ON	26590	1905	21.76	22.50	1.186	-0.06	2.680	3.178
83	LTE Band 25	20M	QPSK	1	0	Back	0mm	ON	26140	1860	21.69	22.50	1.205	0.16	2.980	3.591
	LTE Band 25	20M	QPSK	1	0	Back	0mm	ON	26340	1880	21.54	22.50	1.247	0.02	2.620	3.268
	LTE Band 25	20M	QPSK	1	0	Back	0mm	ON	26590	1905	21.76	22.50	1.186	-0.06	2.740	3.249
	LTE Band 25	20M	QPSK	1	0	Bottom Side	0mm	ON	26590	1905	21.76	22.50	1.186	0.18	1.440	1.708
	LTE Band 25	20M	QPSK	1	0	Front	5mm	OFF	26140	1860	23.15	24.00	1.216	-0.15	1.230	1.496
	LTE Band 25	20M	QPSK	1	0	Back	8mm	OFF	26140	1860	23.15	24.00	1.216	-0.06	1.100	1.338
	LTE Band 25	20M	QPSK	1	0	Bottom Side	7mm	OFF	26140	1860	23.15	24.00	1.216	-0.16	1.440	1.751
	LTE Band 30	10M	QPSK	1	0	Front	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.06	1.420	1.902
84	LTE Band 30	10M	QPSK	1	0	Back	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.13	1.640	2.197
	LTE Band 30	10M	QPSK	1	0	Bottom Side	0mm	OFF	27710	2310	22.73	24.00	1.340	-0.15	0.968	1.297
	LTE Band 66	20M	QPSK	1	0	Front	0mm	ON	132072	1720	21.55	22.00	1.109	0.17	2.080	2.307
	LTE Band 66	20M	QPSK	1	0	Front	0mm	ON	132322	1745	21.49	22.00	1.125	-0.09	2.490	2.800
	LTE Band 66	20M	QPSK	1	0	Front	0mm	ON	132572	1770	21.37	22.00	1.156	0.19	2.560	2.960
	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132072	1720	21.55	22.00	1.109	0.19	2.280	2.529
	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132322	1745	21.49	22.00	1.125	0.12	2.270	2.553
85	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132572	1770	21.37	22.00	1.156	-0.15	2.690	3.110
	LTE Band 66	20M	QPSK	1	0	Bottom Side	0mm	ON	132072	1720	21.55	22.00	1.109	-0.18	1.780	1.974
	LTE Band 66	20M	QPSK	1	0	Front	5mm	OFF	132322	1745	23.18	24.00	1.208	-0.18	0.932	1.126
	LTE Band 66	20M	QPSK	1	0	Back	8mm	OFF	132322	1745	23.18	24.00	1.208	-0.19	0.766	0.925
	LTE Band 66	20M	QPSK	1	0	Bottom Side	7mm	OFF	132322	1745	23.18	24.00	1.208	-0.15	1.060	1.280



<WLAN SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Antenna	Output Power Status	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
87	WLAN2.4GHz	802.11b 1Mbps	Back	0mm	Ant 4+6	Default Max	11	2462	20.12	20.80	1.168	100	1.000	-0.17	0.989	1.155
88	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+6	Default Max	46	5230	19.21	19.80	1.144	100	1.000	0.04	0.748	0.856
	WLAN5GHz	802.11n-HT40 MCS0	Front	0mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	0.08	0.432	0.460
89	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	0.06	0.862	0.918
	WLAN5GHz	802.11n-HT40 MCS0	Back	0mm	Ant 3+6	Default Max	62	5310	19.38	19.80	1.101	100	1.000	-0.09	0.824	0.907
	WLAN5GHz	802.11n-HT40 MCS0	Left Side	0mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	-0.17	0.443	0.472
	WLAN5GHz	802.11n-HT40 MCS0	Right Side	0mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	-0.08	0.066	0.070
	WLAN5GHz	802.11n-HT40 MCS0	Top Side	0mm	Ant 3+6	Default Max	54	5270	19.53	19.80	1.064	100	1.000	0.12	0.420	0.447
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	0.17	0.180	0.184
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	0.07	0.375	0.383
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	-0.14	0.196	0.200
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	-0.16	0.031	0.032
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 3+6	1	58	5290	16.21	16.30	1.021	100	1.000	0.16	0.186	0.190
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	0.18	0.447	0.447
90	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	0.04	0.866	0.866
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	Default Max	106	5530	18.91	19.80	1.227	100	1.000	-0.11	0.536	0.658
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	Default Max	138	5690	19.00	19.80	1.202	100	1.000	-0.11	0.529	0.636
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	-0.13	0.430	0.430
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	-0.02	0.079	0.079
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 3+6	Default Max	122	5610	19.80	19.80	1.000	100	1.000	-0.05	0.402	0.402
	WLAN5GHz	802.11ac-VHT80 MCS0	Front	0mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.15	0.172	0.173
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.01	0.325	0.327
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	1	122	5610	16.26	16.30	1.009	100	1.000	0.15	0.303	0.306
	WLAN5GHz	802.11ac-VHT80 MCS0	Back	0mm	Ant 3+6	1	138	5690	16.22	16.30	1.019	100	1.000	0.11	0.192	0.196
	WLAN5GHz	802.11ac-VHT80 MCS0	Left Side	0mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	-0.18	0.167	0.168
	WLAN5GHz	802.11ac-VHT80 MCS0	Right Side	0mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.19	0.039	0.039
	WLAN5GHz	802.11ac-VHT80 MCS0	Top Side	0mm	Ant 3+6	1	106	5530	16.27	16.30	1.007	100	1.000	0.08	0.193	0.194



17.5 Repeated SAR Measurement

No.	Band	Mode	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9538	1907.6	16.96	17.00	1.009	-0.11	1.300	-	1.312
2nd	WCDMA II	RMC 12.2Kbps	Bottom Side	5mm	ON	9538	1907.6	16.96	17.00	1.009	0.14	1.250	1.04	1.262
1st	LTE Band 7	20M_QPSK_1_0	Bottom Side	5mm	ON	21350	2560	20.80	21.50	1.175	0.12	0.981	-	1.153
2nd	LTE Band 7	20M_QPSK_1_0	Bottom Side	5mm	ON	21350	2560	20.80	21.50	1.175	0.07	0.968	1.01	1.137
1st	LTE Band 30	10M_QPSK_25_0	Bottom Side	5mm	ON	27710	2310	16.14	17.50	1.368	-0.13	0.848	-	1.160
2nd	LTE Band 30	10M_QPSK_25_0	Bottom Side	5mm	ON	27710	2310	16.14	17.50	1.368	-0.19	0.844	1.01	1.154
1st	LTE Band 66	20M_QPSK_1_0	Bottom Side	5mm	ON	132572	1770	16.40	17.00	1.148	-0.01	1.090	-	1.251
2nd	LTE Band 66	20M_QPSK_1_0	Bottom Side	5mm	ON	132572	1770	16.40	17.00	1.148	0.03	1.020	1.07	1.171

No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Power Reduction	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	LTE Band 7	20M	QPSK	1	99	Bottom Side	0mm	OFF	20850	2510	23.22	24.00	1.197	-0.04	2.520	-	3.016
2nd	LTE Band 7	20M	QPSK	1	99	Bottom Side	0mm	OFF	20850	2510	23.22	24.00	1.197	-0.04	2.450	1.03	2.932
1st	LTE Band 25	20M	QPSK	1	0	Back	0mm	ON	26140	1860	21.69	22.50	1.205	0.16	2.980	-	3.591
2nd	LTE Band 25	20M	QPSK	1	0	Back	0mm	ON	26140	1860	21.69	22.50	1.205	0.16	2.870	1.04	3.458
1st	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132572	1770	21.37	22.00	1.156	-0.15	2.690	-	3.110
2nd	LTE Band 66	20M	QPSK	1	0	Back	0mm	ON	132572	1770	21.37	22.00	1.156	-0.15	2.600	1.03	3.006

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8W/kg$.
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. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated *measured* SAR.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.



18. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Exposure Positions			
		Head	Hotspot	Body-worn	Extremity
1.	WWAN + 2.4GHz WLAN Ant 4+6	Yes	Yes	Yes	Yes
2.	WWAN + 2.4GHz WLAN Ant 4 + BT Ant 6	Yes	Yes	Yes	Yes
3.	WWAN + 5GHz WLAN Ant 3+6 + BT Ant 6	Yes	Yes	Yes	Yes
4.	WWAN Voice + 2.4GHz WLAN Ant 4+6 + 5GHz WLAN Ant 3+6	Yes	Yes	Yes	Yes
5.	5GHz WLAN Ant 3+6 + BT Ant 6	Yes	No	Yes	Yes
6.	WWAN + 2.4GHz WLAN Ant 4+6 + 5GHz WLAN Ant 3+6+ BT Ant 6	Yes	Yes	Yes	Yes
7.	WWAN + WLAN 2.4GHz + Bluetooth + FR1	Yes	Yes	Yes	Yes
8.	WWAN + WLAN5GHz + Bluetooth + FR1	Yes	Yes	Yes	Yes

General Note:

1. This device WLAN 2.4GHz/5.2GHz/5.8GHz supports Hotspot operation and Bluetooth support tethering applications.
2. The Scaled SAR summation is calculated based on the same configuration and test position.
3. Due to the device implanted DPS (Dynamic Power Share) function and the DPS will manage to ensure the averaged power level not exceeding total power 24dBm in each EN-DC combination, so for each combination in each NR band or LTE Anchors Bands if the SAR test level at 24dBm which the Sim-Tx analysis only required separate LTE or NR transmit simultaneous with WiFi / Bluetooth, therefore, the LTE and NR was separated evaluation for head.
4. If the EN-DC combination SAR was not test at 24dBm level which the DPS was in-active, so the Sim-Tx analysis need to compliance with single uplink 1g SAR values for each LTE Anchors Bands and 5G NR are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg, additional measurements are not required according to TCBC workshop guidance, in this report which the hotspot and body-worn sim-Tx analysis single uplink 1g SAR values for each LTE Anchors Bands and 5G NR are both less than 0.8W/kg and the algebraic summation of the 1g SAR value are less than 1.45W/kg.
5. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - i) Scalar SAR summation < 1.6W/kg.
 - ii) $SPLSR = (SAR1 + SAR2)^{1.5} / (\min. \text{separation distance, mm})$, 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 $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - iv) Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.



18.1 Head Exposure Conditions

<Standalone>

Exposure Position	2	3	4	6	2+4 Summed 1g SAR (W/kg)	3+4+6 Summed 1g SAR (W/kg)
	2.4GHz WLAN Ant 4+6 1g SAR (W/kg)	2.4GHz WLAN Ant 4 1g SAR (W/kg)	5GHz WLAN Ant 3+6 1g SAR (W/kg)	Bluetooth Ant 6 1g SAR (W/kg)		
Right Cheek	0.046	0.042	0.739	0.001	0.785	0.782
Right Tilted	0.019	0.034	0.840	0.001	0.859	0.875
Left Cheek	0.032	0.036	0.399	0.001	0.431	0.436
Left Tilted	0.022	0.028	0.496	0.001	0.518	0.525

<Sim-Tx>

WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	
		WWAN 1g SAR (W/kg)	2.4GHz WLAN Ant 4+6 1g SAR (W/kg)	2.4GHz WLAN Ant 4 1g SAR (W/kg)	5GHz WLAN Ant 3+6 1g SAR (W/kg)	Bluetooth Ant 6 1g SAR (W/kg)						
GSM	GSM850	Right Cheek	0.365	0.046	0.042	0.428	0.001	0.411	0.793	0.839	0.408	0.836
		Right Tilted	0.140	0.019	0.034	0.486	0.001	0.159	0.626	0.645	0.175	0.661
		Left Cheek	0.209	0.032	0.036	0.244	0.001	0.241	0.453	0.485	0.246	0.490
		Left Tilted	0.129	0.022	0.028	0.304	0.001	0.151	0.433	0.455	0.158	0.462
	GSM1900	Right Cheek	0.120	0.046	0.042	0.428	0.001	0.166	0.548	0.594	0.163	0.591
		Right Tilted	0.093	0.019	0.034	0.486	0.001	0.112	0.579	0.598	0.128	0.614
		Left Cheek	0.196	0.032	0.036	0.244	0.001	0.228	0.440	0.472	0.233	0.477
		Left Tilted	0.118	0.022	0.028	0.304	0.001	0.140	0.422	0.444	0.147	0.451
WCDMA	WCDMA II	Right Cheek	0.115	0.046	0.042	0.428	0.001	0.161	0.543	0.589	0.158	0.586
		Right Tilted	0.063	0.019	0.034	0.486	0.001	0.082	0.549	0.568	0.098	0.584
		Left Cheek	0.159	0.032	0.036	0.244	0.001	0.191	0.403	0.435	0.196	0.440
		Left Tilted	0.101	0.022	0.028	0.304	0.001	0.123	0.405	0.427	0.130	0.434
	WCDMA IV	Right Cheek	0.099	0.046	0.042	0.428	0.001	0.145	0.527	0.573	0.142	0.570
		Right Tilted	0.055	0.019	0.034	0.486	0.001	0.074	0.541	0.560	0.090	0.576
		Left Cheek	0.138	0.032	0.036	0.244	0.001	0.170	0.382	0.414	0.175	0.419
		Left Tilted	0.086	0.022	0.028	0.304	0.001	0.108	0.390	0.412	0.115	0.419
	WCDMA V	Right Cheek	0.189	0.046	0.042	0.428	0.001	0.235	0.617	0.663	0.232	0.660
		Right Tilted	0.074	0.019	0.034	0.486	0.001	0.093	0.560	0.579	0.109	0.595
		Left Cheek	0.138	0.032	0.036	0.244	0.001	0.170	0.382	0.414	0.175	0.419
		Left Tilted	0.079	0.022	0.028	0.304	0.001	0.101	0.383	0.405	0.108	0.412
CDMA	CDMA BC0	Right Cheek	0.526	0.046	0.042	0.428	0.001	0.572	0.954	1.000	0.569	0.997
		Right Tilted	0.116	0.019	0.034	0.486	0.001	0.135	0.602	0.621	0.151	0.637
		Left Cheek	0.246	0.032	0.036	0.244	0.001	0.278	0.490	0.522	0.283	0.527
		Left Tilted	0.158	0.022	0.028	0.304	0.001	0.180	0.462	0.484	0.187	0.491
	CDMA BC1	Right Cheek	0.159	0.046	0.042	0.428	0.001	0.205	0.587	0.633	0.202	0.630
		Right Tilted	0.100	0.019	0.034	0.486	0.001	0.119	0.586	0.605	0.135	0.621
		Left Cheek	0.247	0.032	0.036	0.244	0.001	0.279	0.491	0.523	0.284	0.528
		Left Tilted	0.115	0.022	0.028	0.304	0.001	0.137	0.419	0.441	0.144	0.448
LTE	LTE Band 7	Right Cheek	0.036	0.046	0.042	0.428	0.001	0.082	0.464	0.510	0.079	0.507
		Right Tilted	0.038	0.019	0.034	0.486	0.001	0.057	0.524	0.543	0.073	0.559
		Left Cheek	0.039	0.032	0.036	0.244	0.001	0.071	0.283	0.315	0.076	0.320
		Left Tilted	0.064	0.022	0.028	0.304	0.001	0.086	0.368	0.390	0.093	0.397
	LTE Band 12	Right Cheek	0.194	0.046	0.042	0.428	0.001	0.240	0.622	0.668	0.237	0.665
		Right Tilted	0.072	0.019	0.034	0.486	0.001	0.091	0.558	0.577	0.107	0.593
		Left Cheek	0.180	0.032	0.036	0.244	0.001	0.212	0.424	0.456	0.217	0.461
		Left Tilted	0.088	0.022	0.028	0.304	0.001	0.110	0.392	0.414	0.117	0.421
	LTE Band 13	Right Cheek	0.290	0.046	0.042	0.428	0.001	0.336	0.718	0.764	0.333	0.761
		Right Tilted	0.159	0.019	0.034	0.486	0.001	0.178	0.645	0.664	0.194	0.680
		Left Cheek	0.309	0.032	0.036	0.244	0.001	0.341	0.553	0.585	0.346	0.590



	Left Tilted	0.170	0.022	0.028	0.304	0.001	0.192	0.474	0.496	0.199	0.503
LTE Band 25	Right Cheek	0.130	0.046	0.042	0.428	0.001	0.176	0.558	0.604	0.173	0.601
	Right Tilted	0.063	0.019	0.034	0.486	0.001	0.082	0.549	0.568	0.098	0.584
	Left Cheek	0.193	0.032	0.036	0.244	0.001	0.225	0.437	0.469	0.230	0.474
	Left Tilted	0.084	0.022	0.028	0.304	0.001	0.106	0.388	0.410	0.113	0.417
LTE Band 26	Right Cheek	0.220	0.046	0.042	0.428	0.001	0.266	0.648	0.694	0.263	0.691
	Right Tilted	0.105	0.019	0.034	0.486	0.001	0.124	0.591	0.610	0.140	0.626
	Left Cheek	0.141	0.032	0.036	0.244	0.001	0.173	0.385	0.417	0.178	0.422
	Left Tilted	0.120	0.022	0.028	0.304	0.001	0.142	0.424	0.446	0.149	0.453
LTE Band 30	Right Cheek	0.028	0.046	0.042	0.428	0.001	0.074	0.456	0.502	0.071	0.499
	Right Tilted	0.017	0.019	0.034	0.486	0.001	0.036	0.503	0.522	0.052	0.538
	Left Cheek	0.039	0.032	0.036	0.244	0.001	0.071	0.283	0.315	0.076	0.320
	Left Tilted	0.019	0.022	0.028	0.304	0.001	0.041	0.323	0.345	0.048	0.352
LTE Band 41	Right Cheek	0.012	0.046	0.042	0.428	0.001	0.058	0.440	0.486	0.055	0.483
	Right Tilted	0.006	0.019	0.034	0.486	0.001	0.025	0.492	0.511	0.041	0.527
	Left Cheek	0.010	0.032	0.036	0.244	0.001	0.042	0.254	0.286	0.047	0.291
	Left Tilted	0.010	0.022	0.028	0.304	0.001	0.032	0.314	0.336	0.039	0.343
LTE Band 66	Right Cheek	0.114	0.046	0.042	0.428	0.001	0.160	0.542	0.588	0.157	0.585
	Right Tilted	0.065	0.019	0.034	0.486	0.001	0.084	0.551	0.570	0.100	0.586
	Left Cheek	0.161	0.032	0.036	0.244	0.001	0.193	0.405	0.437	0.198	0.442
	Left Tilted	0.079	0.022	0.028	0.304	0.001	0.101	0.383	0.405	0.108	0.412
LTE Band 71	Right Cheek	0.137	0.046	0.042	0.428	0.001	0.183	0.565	0.611	0.180	0.608
	Right Tilted	0.090	0.019	0.034	0.486	0.001	0.109	0.576	0.595	0.125	0.611
	Left Cheek	0.120	0.032	0.036	0.244	0.001	0.152	0.364	0.396	0.157	0.401
	Left Tilted	0.058	0.022	0.028	0.304	0.001	0.080	0.362	0.384	0.087	0.391



<5G NR EN-DC_DPS Active>

WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+4+6 Summed 1g SAR (W/kg)
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6			
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
FR1 n5	Right Cheek	0.119	0.046	0.042	0.428	0.001	0.165	0.162	0.548
	Right Tilted	0.114	0.019	0.034	0.486	0.001	0.133	0.149	0.601
	Left Cheek	0.094	0.032	0.036	0.244	0.001	0.126	0.131	0.339
	Left Tilted	0.080	0.022	0.028	0.304	0.001	0.102	0.109	0.385
FR1 n66	Right Cheek	0.348	0.046	0.042	0.428	0.001	0.394	0.391	0.777
	Right Tilted	0.373	0.019	0.034	0.486	0.001	0.392	0.408	0.860
	Left Cheek	0.273	0.032	0.036	0.244	0.001	0.305	0.310	0.518
	Left Tilted	0.330	0.022	0.028	0.304	0.001	0.352	0.359	0.635
FR1 n71	Right Cheek	0.109	0.046	0.042	0.428	0.001	0.155	0.152	0.538
	Right Tilted	0.094	0.019	0.034	0.486	0.001	0.113	0.129	0.581
	Left Cheek	0.099	0.032	0.036	0.244	0.001	0.131	0.136	0.344
	Left Tilted	0.090	0.022	0.028	0.304	0.001	0.112	0.119	0.395



18.2 Hotspot Exposure Conditions

<Sim-Tx>

WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6						
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
GSM	GSM850	Front	0.608	0.001	0.001	0.001	0.001	0.609	0.609	0.610	0.610	0.611
		Back	1.136	0.306	0.084	0.111	0.251	1.442	1.247	1.553	1.471	1.582
		Left side	0.206	0.007	0.013	0.014		0.213	0.220	0.227	0.219	0.233
		Right side	0.265	0.015	0.001	0.007	0.052	0.280	0.272	0.287	0.318	0.325
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.251					0.251	0.251	0.251	0.251	0.251
	GSM1900	Front	0.555	0.001	0.001	0.001	0.001	0.556	0.556	0.557	0.557	0.558
		Back	0.591	0.306	0.084	0.111	0.251	0.897	0.702	1.008	0.926	1.037
		Left side	0.052	0.007	0.013	0.014		0.059	0.066	0.073	0.065	0.079
		Right side	0.664	0.015	0.001	0.007	0.052	0.679	0.671	0.686	0.717	0.724
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.958					0.958	0.958	0.958	0.958	0.958
WCDMA	WCDMA II	Front	0.693	0.001	0.001	0.001	0.001	0.694	0.694	0.695	0.695	0.696
		Back	0.845	0.306	0.084	0.111	0.251	1.151	0.956	1.262	1.180	1.291
		Left side	0.054	0.007	0.013	0.014		0.061	0.068	0.075	0.067	0.081
		Right side	0.107	0.015	0.001	0.007	0.052	0.122	0.114	0.129	0.160	0.167
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.312					1.312	1.312	1.312	1.312	1.312
	WCDMA IV	Front	0.574	0.001	0.001	0.001	0.001	0.575	0.575	0.576	0.576	0.577
		Back	0.955	0.306	0.084	0.111	0.251	1.261	1.066	1.372	1.290	1.401
		Left side	0.196	0.007	0.013	0.014		0.203	0.210	0.217	0.209	0.223
		Right side	0.064	0.015	0.001	0.007	0.052	0.079	0.071	0.086	0.117	0.124
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.094					1.094	1.094	1.094	1.094	1.094
	WCDMA V	Front	0.518	0.001	0.001	0.001	0.001	0.519	0.519	0.520	0.520	0.521
		Back	0.614	0.306	0.084	0.111	0.251	0.920	0.725	1.031	0.949	1.060
		Left side	0.199	0.007	0.013	0.014		0.206	0.213	0.220	0.212	0.226
		Right side	0.224	0.015	0.001	0.007	0.052	0.239	0.231	0.246	0.277	0.284
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.460					0.460	0.460	0.460	0.460	0.460
CDMA	CDMA BC0	Front	0.908	0.001	0.001	0.001	0.001	0.909	0.909	0.910	0.910	0.911
		Back	0.930	0.306	0.084	0.111	0.251	1.236	1.041	1.347	1.265	1.376
		Left side	0.258	0.007	0.013	0.014		0.265	0.272	0.279	0.271	0.285
		Right side	0.332	0.015	0.001	0.007	0.052	0.347	0.339	0.354	0.385	0.392
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.313					0.313	0.313	0.313	0.313	0.313
	CDMA BC1	Front	0.657	0.001	0.001	0.001	0.001	0.658	0.658	0.659	0.659	0.660
		Back	0.923	0.306	0.084	0.111	0.251	1.229	1.034	1.340	1.258	1.369
		Left side	0.057	0.007	0.013	0.014		0.064	0.071	0.078	0.070	0.084
		Right side	0.060	0.015	0.001	0.007	0.052	0.075	0.067	0.082	0.113	0.120
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.156					1.156	1.156	1.156	1.156	1.156



WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6						
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
LTE	LTE Band 7	Front	0.357	0.001	0.001	0.001	0.001	0.358	0.358	0.359	0.359	0.360
		Back	0.468	0.306	0.084	0.111	0.251	0.774	0.579	0.885	0.803	0.914
		Left side	0.043	0.007	0.013	0.014		0.050	0.057	0.064	0.056	0.070
		Right side	0.014	0.015	0.001	0.007	0.052	0.029	0.021	0.036	0.067	0.074
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.153					1.153	1.153	1.153	1.153	1.153
	LTE Band 12	Front	0.443	0.001	0.001	0.001	0.001	0.444	0.444	0.445	0.445	0.446
		Back	0.515	0.306	0.084	0.111	0.251	0.821	0.626	0.932	0.850	0.961
		Left side	0.182	0.007	0.013	0.014		0.189	0.196	0.203	0.195	0.209
		Right side	0.225	0.015	0.001	0.007	0.052	0.240	0.232	0.247	0.278	0.285
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.372					0.372	0.372	0.372	0.372	0.372
	LTE Band 13	Front	0.906	0.001	0.001	0.001	0.001	0.907	0.907	0.908	0.908	0.909
		Back	0.911	0.306	0.084	0.111	0.251	1.217	1.022	1.328	1.246	1.357
		Left side	0.241	0.007	0.013	0.014		0.248	0.255	0.262	0.254	0.268
		Right side	0.344	0.015	0.001	0.007	0.052	0.359	0.351	0.366	0.397	0.404
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.761					0.761	0.761	0.761	0.761	0.761
	LTE Band 25	Front	0.413	0.001	0.001	0.001	0.001	0.414	0.414	0.415	0.415	0.416
		Back	0.844	0.306	0.084	0.111	0.251	1.150	0.955	1.261	1.179	1.290
		Left side	0.053	0.007	0.013	0.014		0.060	0.067	0.074	0.066	0.080
		Right side	0.062	0.015	0.001	0.007	0.052	0.077	0.069	0.084	0.115	0.122
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.312					1.312	1.312	1.312	1.312	1.312
	LTE Band 26	Front	0.702	0.001	0.001	0.001	0.001	0.703	0.703	0.704	0.704	0.705
		Back	0.850	0.306	0.084	0.111	0.251	1.156	0.961	1.267	1.185	1.296
		Left side	0.242	0.007	0.013	0.014		0.249	0.256	0.263	0.255	0.269
		Right side	0.371	0.015	0.001	0.007	0.052	0.386	0.378	0.393	0.424	0.431
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.499					0.499	0.499	0.499	0.499	0.499
	LTE Band 30	Front	0.540	0.001	0.001	0.001	0.001	0.541	0.541	0.542	0.542	0.543
		Back	0.707	0.306	0.084	0.111	0.251	1.013	0.818	1.124	1.042	1.153
		Left side	0.022	0.007	0.013	0.014		0.029	0.036	0.043	0.035	0.049
		Right side	0.063	0.015	0.001	0.007	0.052	0.078	0.070	0.085	0.116	0.123
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	1.160					1.160	1.160	1.160	1.160	1.160
	LTE Band 41	Front	0.277	0.001	0.001	0.001	0.001	0.278	0.278	0.279	0.279	0.280
		Back	0.378	0.306	0.084	0.111	0.251	0.684	0.489	0.795	0.713	0.824
		Left side	0.139	0.007	0.013	0.014		0.146	0.153	0.160	0.152	0.166
		Right side	0.050	0.015	0.001	0.007	0.052	0.065	0.057	0.072	0.103	0.110
		Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078
		Bottom side	0.718					0.718	0.718	0.718	0.718	0.718
	LTE Band 66	Front	0.352	0.001	0.001	0.001	0.001	0.353	0.353	0.354	0.354	0.355
		Back	0.538	0.306	0.084	0.111	0.251	0.844	0.649	0.955	0.873	0.984
		Left side	0.053	0.007	0.013	0.014		0.060	0.067	0.074	0.066	0.080
Right side		0.096	0.015	0.001	0.007	0.052	0.111	0.103	0.118	0.149	0.156	
Top side			0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078	
Bottom side		1.251					1.251	1.251	1.251	1.251	1.251	
LTE Band 71	Front	0.411	0.001	0.001	0.001	0.001	0.412	0.412	0.413	0.413	0.414	
	Back	0.525	0.306	0.084	0.111	0.251	0.831	0.636	0.942	0.860	0.971	
	Left side	0.178	0.007	0.013	0.014		0.185	0.192	0.199	0.191	0.205	
	Right side	0.230	0.015	0.001	0.007	0.052	0.245	0.237	0.252	0.283	0.290	
	Top side		0.145	0.001	0.076	0.001	0.145	0.076	0.221	0.002	0.078	
	Bottom side	0.214					0.214	0.214	0.214	0.214	0.214	



<5G NR EN-DC_DPS in-Active>

WWAN Band	Exposure Position	1	2	3	4	6	7	1+2+7 Summed 1g SAR (W/kg)	1+3+6+7 Summed 1g SAR (W/kg)	1+4+6+7 Summed 1g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6	FR1				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
DC_n5A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.048	0.290	0.291	0.291
		Back	0.400	0.306	0.084	0.111	0.251	0.057	0.763	0.792	0.819
		Left side	0.003	0.007	0.013	0.014		0.001	0.011	0.017	0.018
		Right side	0.002	0.015	0.001	0.007	0.052	0.001	0.018	0.056	0.062
		Top side		0.145	0.001	0.076	0.001	0.036	0.181	0.038	0.113
		Bottom side	0.693						0.693	0.693	0.693
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.048	0.256	0.257	0.257
		Back	0.269	0.306	0.084	0.111	0.251	0.057	0.632	0.661	0.688
		Left side	0.018	0.007	0.013	0.014		0.001	0.026	0.032	0.033
		Right side	0.012	0.015	0.001	0.007	0.052	0.001	0.028	0.066	0.072
		Top side		0.145	0.001	0.076	0.001	0.036	0.181	0.038	0.113
		Bottom side	0.621						0.621	0.621	0.621
	LTE Band 30	Front	0.214	0.001	0.001	0.001	0.001	0.048	0.263	0.264	0.264
		Back	0.347	0.306	0.084	0.111	0.251	0.057	0.710	0.739	0.766
		Left side	0.002	0.007	0.013	0.014		0.001	0.010	0.016	0.017
		Right side	0.004	0.015	0.001	0.007	0.052	0.001	0.020	0.058	0.064
		Top side		0.145	0.001	0.076	0.001	0.036	0.181	0.038	0.113
		Bottom side	0.692						0.692	0.692	0.692
	LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.048	0.277	0.278	0.278
		Back	0.362	0.306	0.084	0.111	0.251	0.057	0.725	0.754	0.781
		Left side	0.012	0.007	0.013	0.014		0.001	0.020	0.026	0.027
		Right side	0.008	0.015	0.001	0.007	0.052	0.001	0.024	0.062	0.068
		Top side		0.145	0.001	0.076	0.001	0.036	0.181	0.038	0.113
		Bottom side	0.530						0.530	0.530	0.530



WWAN Band	Exposure Position	1	2	3	4	6	7	1+2+7 Summed 1g SAR (W/kg)	1+3+6+7 Summed 1g SAR (W/kg)	1+4+6+7 Summed 1g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6	FR1				
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)				
DC_n66A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.206	0.448	0.449	0.449
		Back	0.400	0.306	0.084	0.111	0.251	0.705	1.411	1.440	1.467
		Left side	0.003	0.007	0.013	0.014		0.053	0.063	0.069	0.070
		Right side	0.002	0.015	0.001	0.007	0.052	0.001	0.018	0.056	0.062
		Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826
		Bottom side	0.693						0.693	0.693	0.693
	LTE Band 5	Front	0.318	0.001	0.001	0.001	0.001	0.206	0.525	0.526	0.526
		Back	0.519	0.306	0.084	0.111	0.251	0.705	1.530	1.559	1.586
		Left side	0.118	0.007	0.013	0.014		0.053	0.178	0.184	0.185
		Right side	0.070	0.015	0.001	0.007	0.052	0.001	0.086	0.124	0.130
		Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826
		Bottom side	0.322						0.322	0.322	0.322
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.206	0.414	0.415	0.415
		Back	0.269	0.306	0.084	0.111	0.251	0.705	1.280	1.309	1.336
		Left side	0.018	0.007	0.013	0.014		0.053	0.078	0.084	0.085
		Right side	0.012	0.015	0.001	0.007	0.052	0.001	0.028	0.066	0.072
		Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826
		Bottom side	0.621						0.621	0.621	0.621
	LTE Band 12	Front	0.443	0.001	0.001	0.001	0.001	0.206	0.650	0.651	0.651
		Back	0.515	0.306	0.084	0.111	0.251	0.705	1.526	1.555	1.582
		Left side	0.182	0.007	0.013	0.014		0.053	0.242	0.248	0.249
		Right side	0.225	0.015	0.001	0.007	0.052	0.001	0.241	0.279	0.285
		Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826
		Bottom side	0.372						0.372	0.372	0.372
	LTE Band 13	Front	0.351	0.001	0.001	0.001	0.001	0.206	0.558	0.559	0.559
		Back	0.523	0.306	0.084	0.111	0.251	0.705	1.534	1.563	1.590
		Left side	0.014	0.007	0.013	0.014		0.053	0.074	0.080	0.081
		Right side	0.067	0.015	0.001	0.007	0.052	0.001	0.083	0.121	0.127
		Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826
		Bottom side	0.282						0.282	0.282	0.282
LTE Band 30	Front	0.214	0.001	0.001	0.001	0.001	0.206	0.421	0.422	0.422	
	Back	0.347	0.306	0.084	0.111	0.251	0.705	1.358	1.387	1.414	
	Left side	0.002	0.007	0.013	0.014		0.053	0.062	0.068	0.069	
	Right side	0.004	0.015	0.001	0.007	0.052	0.001	0.020	0.058	0.064	
	Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826	
	Bottom side	0.692						0.692	0.692	0.692	
LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.206	0.435	0.436	0.436	
	Back	0.362	0.306	0.084	0.111	0.251	0.705	1.373	1.402	1.429	
	Left side	0.012	0.007	0.013	0.014		0.053	0.072	0.078	0.079	
	Right side	0.008	0.015	0.001	0.007	0.052	0.001	0.024	0.062	0.068	
	Top side		0.145	0.001	0.076	0.001	0.749	0.894	0.751	0.826	
	Bottom side	0.530						0.530	0.530	0.530	



WWAN Band		Exposure Position	1	2	3	4	6	7	1+2+7 Summed 1g SAR (W/kg)	1+3+6+7 Summed 1g SAR (W/kg)	1+4+6+7 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6	FR1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
DC_n71A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.033	0.275	0.276	0.276
		Back	0.400	0.306	0.084	0.111	0.251	0.122	0.828	0.857	0.884
		Left side	0.003	0.007	0.013	0.014		0.029	0.039	0.045	0.046
		Right side	0.002	0.015	0.001	0.007	0.052	0.001	0.018	0.056	0.062
		Top side		0.145	0.001	0.076	0.001	0.039	0.184	0.041	0.116
		Bottom side	0.693						0.693	0.693	0.693
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.033	0.241	0.242	0.242
		Back	0.269	0.306	0.084	0.111	0.251	0.122	0.697	0.726	0.753
		Left side	0.018	0.007	0.013	0.014		0.029	0.054	0.060	0.061
		Right side	0.012	0.015	0.001	0.007	0.052	0.001	0.028	0.066	0.072
		Top side		0.145	0.001	0.076	0.001	0.039	0.184	0.041	0.116
		Bottom side	0.621						0.621	0.621	0.621
	LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.033	0.262	0.263	0.263
		Back	0.362	0.306	0.084	0.111	0.251	0.122	0.790	0.819	0.846
		Left side	0.012	0.007	0.013	0.014		0.029	0.048	0.054	0.055
		Right side	0.008	0.015	0.001	0.007	0.052	0.001	0.024	0.062	0.068
		Top side		0.145	0.001	0.076	0.001	0.039	0.184	0.041	0.116
		Bottom side	0.530						0.530	0.530	0.530



18.3 Body-Worn Accessory Exposure Conditions

<Standalone>

Exposure Position	2	3	4	6	2+4 Summed 1g SAR (W/kg)	3+4+6 Summed 1g SAR (W/kg)
	2.4GHz WLAN Ant 4+6 1g SAR (W/kg)	2.4GHz WLAN Ant 4 1g SAR (W/kg)	5GHz WLAN Ant 3+6 1g SAR (W/kg)	Bluetooth Ant 6 1g SAR (W/kg)		
Front at 5mm	0.023	0.006	0.001	0.001	0.024	0.008
Back at 5mm	0.576	0.179	0.212	0.251	0.788	0.642
Front at 14mm	0.005	0.001	0.001	0.001	0.006	0.003
Back at 18mm	0.171	0.074	0.127	0.251	0.298	0.452

<Sim-Tx>

WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	
		WWAN 1g SAR (W/kg)	2.4GHz WLAN Ant 4+6 1g SAR (W/kg)	2.4GHz WLAN Ant 4 1g SAR (W/kg)	5GHz WLAN Ant 3+6 1g SAR (W/kg)	Bluetooth Ant 6 1g SAR (W/kg)						
GSM	GSM850	Front at 5mm	0.608	0.001	0.001	0.001	0.001	0.609	0.609	0.610	0.610	0.611
		Back at 5mm	1.136	0.306	0.084	0.095	0.251	1.442	1.231	1.537	1.471	1.566
	GSM1900	Front at 5mm	0.555	0.001	0.001	0.001	0.001	0.556	0.556	0.557	0.557	0.558
		Back at 5mm	0.591	0.306	0.084	0.095	0.251	0.897	0.686	0.992	0.926	1.021
		Front at 14mm	0.539	0.003	0.001	0.001	0.001	0.542	0.540	0.543	0.541	0.542
Back at 18mm	0.528	0.078	0.028	0.058	0.251	0.606	0.586	0.664	0.807	0.865		
WCDMA	WCDMA II	Front at 5mm	0.693	0.001	0.001	0.001	0.001	0.694	0.694	0.695	0.695	0.696
		Back at 5mm	0.845	0.306	0.084	0.095	0.251	1.151	0.940	1.246	1.180	1.275
		Front at 14mm	0.627	0.003	0.001	0.001	0.001	0.630	0.628	0.631	0.629	0.630
		Back at 18mm	0.419	0.078	0.028	0.058	0.251	0.497	0.477	0.555	0.698	0.756
	WCDMA IV	Front at 5mm	0.574	0.001	0.001	0.001	0.001	0.575	0.575	0.576	0.576	0.577
		Back at 5mm	0.955	0.306	0.084	0.095	0.251	1.261	1.050	1.356	1.290	1.385
		Front at 14mm	0.354	0.003	0.001	0.001	0.001	0.357	0.355	0.358	0.356	0.357
	WCDMA V	Back at 18mm	0.215	0.078	0.028	0.058	0.251	0.293	0.273	0.351	0.494	0.552
		Front at 5mm	0.518	0.001	0.001	0.001	0.001	0.519	0.519	0.520	0.520	0.521
CDMA	CDMA BC0	Back at 5mm	0.614	0.306	0.084	0.095	0.251	0.920	0.709	1.015	0.949	1.044
		Front at 5mm	0.655	0.001	0.001	0.001	0.001	0.656	0.656	0.657	0.657	0.658
	CDMA BC1	Back at 5mm	0.889	0.306	0.084	0.095	0.251	1.195	0.984	1.290	1.224	1.319
		Front at 5mm	0.663	0.001	0.001	0.001	0.001	0.664	0.664	0.665	0.665	0.666
		Back at 5mm	0.934	0.306	0.084	0.095	0.251	1.240	1.029	1.335	1.269	1.364
		Front at 14mm	0.490	0.003	0.001	0.001	0.001	0.493	0.491	0.494	0.492	0.493
		Back at 18mm	0.500	0.078	0.028	0.058	0.251	0.578	0.558	0.636	0.779	0.837



WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 1g SAR (W/kg)	1+4 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+3+6 Summed 1g SAR (W/kg)	1+3+4+6 Summed 1g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6						
		1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)						
LTE	LTE Band 7	Front at 5mm	0.357	0.001	0.001	0.001	0.001	0.358	0.358	0.359	0.359	0.360
		Back at 5mm	0.468	0.306	0.084	0.095	0.251	0.774	0.563	0.869	0.803	0.898
		Front at 14mm	0.204	0.003	0.001	0.001	0.001	0.207	0.205	0.208	0.206	0.207
		Back at 18mm	0.218	0.078	0.028	0.058	0.251	0.296	0.276	0.354	0.497	0.555
	LTE Band 12	Front at 5mm	0.443	0.001	0.001	0.001	0.001	0.444	0.444	0.445	0.445	0.446
		Back at 5mm	0.540	0.306	0.084	0.095	0.251	0.846	0.635	0.941	0.875	0.970
	LTE Band 13	Front at 5mm	0.906	0.001	0.001	0.001	0.001	0.907	0.907	0.908	0.908	0.909
		Back at 5mm	0.911	0.306	0.084	0.095	0.251	1.217	1.006	1.312	1.246	1.341
	LTE Band 25	Front at 5mm	0.413	0.001	0.001	0.001	0.001	0.414	0.414	0.415	0.415	0.416
		Back at 5mm	0.844	0.306	0.084	0.095	0.251	1.150	0.939	1.245	1.179	1.274
		Front at 14mm	0.901	0.003	0.001	0.001	0.001	0.904	0.902	0.905	0.903	0.904
		Back at 18mm	0.736	0.078	0.028	0.058	0.251	0.814	0.794	0.872	1.015	1.073
	LTE Band 26	Front at 5mm	0.702	0.001	0.001	0.001	0.001	0.703	0.703	0.704	0.704	0.705
		Back at 5mm	0.850	0.306	0.084	0.095	0.251	1.156	0.945	1.251	1.185	1.280
	LTE Band 30	Front at 5mm	0.540	0.001	0.001	0.001	0.001	0.541	0.541	0.542	0.542	0.543
		Back at 5mm	0.707	0.306	0.084	0.095	0.251	1.013	0.802	1.108	1.042	1.137
		Front at 14mm	0.303	0.003	0.001	0.001	0.001	0.306	0.304	0.307	0.305	0.306
		Back at 18mm	0.265	0.078	0.028	0.058	0.251	0.343	0.323	0.401	0.544	0.602
	LTE Band 41	Front at 5mm	0.277	0.001	0.001	0.001	0.001	0.278	0.278	0.279	0.279	0.280
		Back at 5mm	0.378	0.306	0.084	0.095	0.251	0.684	0.473	0.779	0.713	0.808
	LTE Band 66	Front at 5mm	0.352	0.001	0.001	0.001	0.001	0.353	0.353	0.354	0.354	0.355
		Back at 5mm	0.538	0.306	0.084	0.095	0.251	0.844	0.633	0.939	0.873	0.968
		Front at 14mm	0.633	0.003	0.001	0.001	0.001	0.636	0.634	0.637	0.635	0.636
		Back at 18mm	0.547	0.078	0.028	0.058	0.251	0.625	0.605	0.683	0.826	0.884
	LTE Band 71	Front at 5mm	0.411	0.001	0.001	0.001	0.001	0.412	0.412	0.413	0.413	0.414
		Back at 5mm	0.525	0.306	0.084	0.095	0.251	0.831	0.620	0.926	0.860	0.955

<5G NR EN-DC_DPS in-Active>

WWAN Band		Exposure Position	1	2	3	4	6	7	1+2+7 Summed 1g SAR (W/kg)	1+3+6+7 Summed 1g SAR (W/kg)	1+4+6+7 Summed 1g SAR (W/kg)
			WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6	FR1			
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)			
DC_n5A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.048	0.290	0.291	0.291
		Back	0.400	0.306	0.084	0.111	0.251	0.057	0.763	0.792	0.819
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.048	0.256	0.257	0.257
		Back	0.269	0.306	0.084	0.111	0.251	0.057	0.632	0.661	0.688
	LTE Band 30	Front	0.214	0.001	0.001	0.001	0.001	0.048	0.263	0.264	0.264
		Back	0.347	0.306	0.084	0.111	0.251	0.057	0.710	0.739	0.766
LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.048	0.277	0.278	0.278	
	Back	0.362	0.306	0.084	0.111	0.251	0.057	0.725	0.754	0.781	
DC_n66A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.206	0.448	0.449	0.449
		Back	0.400	0.306	0.084	0.111	0.251	0.705	1.411	1.440	1.467
	LTE Band 5	Front	0.318	0.001	0.001	0.001	0.001	0.206	0.525	0.526	0.526
		Back	0.519	0.306	0.084	0.111	0.251	0.705	1.530	1.559	1.586
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.206	0.414	0.415	0.415
		Back	0.269	0.306	0.084	0.111	0.251	0.705	1.280	1.309	1.336
	LTE Band 12	Front	0.443	0.001	0.001	0.001	0.001	0.206	0.650	0.651	0.651
		Back	0.515	0.306	0.084	0.111	0.251	0.705	1.526	1.555	1.582
	LTE Band 13	Front	0.351	0.001	0.001	0.001	0.001	0.206	0.558	0.559	0.559
		Back	0.523	0.306	0.084	0.111	0.251	0.705	1.534	1.563	1.590
	LTE Band 30	Front	0.214	0.001	0.001	0.001	0.001	0.206	0.421	0.422	0.422
		Back	0.347	0.306	0.084	0.111	0.251	0.705	1.358	1.387	1.414
LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.206	0.435	0.436	0.436	
	Back	0.362	0.306	0.084	0.111	0.251	0.705	1.373	1.402	1.429	
DC_n71A	LTE Band 2	Front	0.241	0.001	0.001	0.001	0.001	0.033	0.275	0.276	0.276
		Back	0.400	0.306	0.084	0.111	0.251	0.122	0.828	0.857	0.884
	LTE Band 7	Front	0.207	0.001	0.001	0.001	0.001	0.033	0.241	0.242	0.242
		Back	0.269	0.306	0.084	0.111	0.251	0.122	0.697	0.726	0.753
	LTE Band 66	Front	0.228	0.001	0.001	0.001	0.001	0.033	0.262	0.263	0.263
		Back	0.362	0.306	0.084	0.111	0.251	0.122	0.790	0.819	0.846



18.4 Product Specific Exposure Conditions

<Standalone>

Exposure Position	2	3	4	6	2+4 Summed 10g SAR (W/kg)	3+6 Summed 10g SAR (W/kg)	4+6 Summed 10g SAR (W/kg)
	2.4GHz WLAN Ant 4+6 10g SAR (W/kg)	2.4GHz WLAN Ant 4 10g SAR (W/kg)	5GHz WLAN Ant 3+6 10g SAR (W/kg)	Bluetooth Ant 6 10g SAR (W/kg)			
Front			0.460		0.460	0.000	0.460
Back	1.155		0.918		2.073	0.000	0.918
Left side			0.472		0.472	0.000	0.472
Right side			0.079		0.079	0.000	0.079
Top side			0.447		0.447	0.000	0.447
Bottom side					0.000	0.000	0.000

<Sim-Tx>

WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 10g SAR (W/kg)	1+4 Summed 10g SAR (W/kg)	1+2+4 Summed 10g SAR (W/kg)	1+3+6 Summed 10g SAR (W/kg)	1+3+4+6 Summed 10g SAR (W/kg)	
		WWAN 10g SAR (W/kg)	2.4GHz WLAN Ant 4+6 10g SAR (W/kg)	2.4GHz WLAN Ant 4 10g SAR (W/kg)	5GHz WLAN Ant 3+6 10g SAR (W/kg)	Bluetooth Ant 6 10g SAR (W/kg)						
GSM	GSM1900	Front	3.562			0.184		3.562	3.746	3.746	3.562	3.746
		Back	3.587			0.383		3.587	3.970	3.970	3.587	3.970
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.385						1.385	1.385	1.385	1.385
WCDMA	WCDMA II	Front	3.383			0.184		3.383	3.567	3.567	3.383	3.567
		Back	3.592			0.383		3.592	3.975	3.975	3.592	3.975
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.819						1.819	1.819	1.819	1.819
	WCDMA IV	Front	2.835			0.184		2.835	3.019	3.019	2.835	3.019
		Back	3.238			0.383		3.238	3.621	3.621	3.238	3.621
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.820						1.820	1.820	1.820	1.820
CDMA	CDMA BC1	Front	3.306			0.184		3.306	3.490	3.490	3.306	3.490
		Back	3.490			0.383		3.490	3.873	3.873	3.490	3.873
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	3.117						3.117	3.117	3.117	3.117



WWAN Band	Exposure Position	1	2	3	4	6	1+2 Summed 10g SAR (W/kg)	1+4 Summed 10g SAR (W/kg)	1+2+4 Summed 10g SAR (W/kg)	1+3+6 Summed 10g SAR (W/kg)	1+3+4+6 Summed 10g SAR (W/kg)	
		WWAN	2.4GHz WLAN Ant 4+6	2.4GHz WLAN Ant 4	5GHz WLAN Ant 3+6	Bluetooth Ant 6						
		10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)	10g SAR (W/kg)						
LTE	LTE Band 7	Front	2.190			0.184		2.190	2.374	2.374	2.190	2.374
		Back	2.561			0.383		2.561	2.944	2.944	2.561	2.944
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	3.016					3.016	3.016	3.016	3.016	3.016
	LTE Band 25	Front	3.302			0.184		3.302	3.486	3.486	3.302	3.486
		Back	3.591			0.383		3.591	3.974	3.974	3.591	3.974
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.751					1.751	1.751	1.751	1.751	1.751
	LTE Band 30	Front	1.902			0.184		1.902	2.086	2.086	1.902	2.086
		Back	2.197			0.383		2.197	2.580	2.580	2.197	2.580
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.297					1.297	1.297	1.297	1.297	1.297
	LTE Band 66	Front	2.960			0.184		2.960	3.144	3.144	2.960	3.144
		Back	3.110			0.383		3.110	3.493	3.493	3.110	3.493
		Left side				0.200		0.000	0.200	0.200	0.000	0.200
		Right side				0.039		0.000	0.039	0.039	0.000	0.039
		Top side				0.194		0.000	0.194	0.194	0.000	0.194
		Bottom side	1.974					1.974	1.974	1.974	1.974	1.974

Test Engineer : Iran Wang Tommy Chen Steven Chang Mood Huang and Tom Jiang



19. 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 $\leq 30\%$, 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 and highest measured 10-g SAR is less 3.75W/kg. Therefore, the measurement uncertainty table is not required in this report.

20. 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 248227 D01 v02r02, "SAR Guidance for IEEE 802.11 (WiFi) Transmitters", Oct 2015.
- [6] FCC KDB 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [7] FCC KDB 648474 D04 v01r03, "SAR Evaluation Considerations for Wireless Handsets", Oct 2015.
- [8] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [9] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [10] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [11] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.
- [12] FCC KDB 941225 D07 v01r02, " SAR Evaluation Procedures for UMPC Mini-Tablet Devices", Oct 2015.
- [13] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [14] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.