

FCC SAR TEST REPORT

FCC ID : 2ABTU-FN990A28
Equipment : 5G NR Module
Brand Name : RuggON
Model No. : PX501
Applicant : RuggON Corporation
4F, No. 298, Yang Guan St., Neihu Dist., Taipei City, Taiwan
Manufacturer : RuggON Corporation
4F, No. 298, Yang Guan St., Neihu Dist., Taipei City, Taiwan
Standard : FCC 47 CFR Part 2 (2.1093)

The product was received on Nov. 22, 2024 and testing was started from Dec. 12, 2024 and completed on Dec. 19, 2024. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in 47 CFR Part 2.1093 and FCC KDB and has been pass the FCC requirement.

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



Approved by: Cona Huang / Deputy Manager



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History of this test report

Report No.	Version	Description	Issued Date
FA4N2217A	01	Initial issue of report	Apr. 14, 2025

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) for **RuggON Corporation, 5G NR Module, PX501**, are as follows.

Equipment Class	Frequency Band	Highest SAR Summary	Highest Simultaneous Transmission 1g SAR (W/kg)
		Body (Separation 0mm)	
		1g SAR (W/kg)	
Licensed	WCDMA II	1.19	1.44
	WCDMA IV	1.19	
	WCDMA V	1.00	
	LTE Band 7	0.88	
	LTE Band 12/17	0.41	
	LTE Band 13	0.64	
	LTE Band 14	0.68	
	LTE Band 2/25	1.19	
	LTE Band 5/26	0.86	
	LTE Band 30	0.84	
	LTE Band 4/66	1.11	
	LTE Band 71	0.27	
	LTE Band 38/41	0.33	
	LTE Band 42	1.20	
	LTE Band 43	1.14	
	LTE Band 48	1.12	
	FR1 n5	1.03	
	FR1 n7	1.13	
	FR1 n2/n25	1.02	
	FR1 n30	0.79	
	FR1 n66	1.06	
	FR1 n71	0.25	
	FR1 n38	1.01	
	FR1 n41	1.13	
	FR1 n48	1.13	
	FR1 n77/n78	1.11	
Date of Testing:		2024/12/12 ~ 2024/12/19	

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation 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) 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: Daisy Peng



2. Equipment Under Test (EUT) Information

2.1 General Information

Product Feature & Specification	
Equipment Name	5G NR Module
Brand Name	RuggON
Model No.	PX501
FCC ID	2ABTU-FN990A28
Integrated WLAN Module	Brand Name: Intel® Wi-Fi 6E AX210 Model Name: AX210NGW
Wireless Technology and Frequency Range	WCDMA Band II: 1850 MHz ~ 1910 MHz WCDMA Band IV: 1710 MHz ~ 1755 MHz WCDMA Band V: 824 MHz ~ 849 MHz LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz, 3550 MHz ~ 3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz 5G NR n2 : 1850 MHz ~ 1910 MHz 5G NR n5 : 824 MHz ~ 849 MHz 5G NR n7 : 2500 MHz ~ 2570 MHz 5G NR n25 : 1850 MHz ~ 1915 MHz 5G NR n30 : 2305 MHz ~ 2315 MHz 5G NR n38 : 2570 MHz ~ 2620 MHz 5G NR n41 : 2496 MHz ~ 2690 MHz 5G NR n48 : 3550 MHz ~ 3700 MHz 5G NR n66 : 1710 MHz ~ 1780 MHz 5G NR n71 : 663 MHz ~ 698 MHz 5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz 5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz WLAN 2.4 GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2 GHz Band: 5150 MHz ~ 5250 MHz WLAN 5.3 GHz Band: 5250 MHz ~ 5350 MHz WLAN 5.6 GHz Band: 5470 MHz ~ 5725 MHz WLAN 5.8 GHz Band: 5725 MHz ~ 5850 MHz WLAN 6GHz Band: 5925 MHz ~ 6425 MHz, 6425 MHz ~ 6525 MHz, 6525 MHz ~ 6875 MHz, 6875 MHz ~ 7125 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	RMC 12.2Kbps HSDPA HSUPA DC-HSDPA LTE: QPSK, 16QAM, 64QAM, 256QAM 5G NR: 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/VHT160/HE20/HE40/HE80/HE160 Bluetooth BR/EDR/LE
Remark: 1. The Intel® Wi-Fi 6E AX210 WLAN/Bluetooth module is also integrated into this host, WLAN/Bluetooth power and WLAN SAR testing data, which can be referred to Sporton FCC SAR Test Report, Report No.: FA390721(FCC ID: 2ABTU-AX210NG) and these results are used simultaneous transmission analysis.	

2.2 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05																																																																										
FCC ID		2ABTU-FN990A28																																																																								
Equipment Name		5G NR Module																																																																								
Operating Frequency Range of each LTE transmission band		LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2500 MHz ~ 2570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1850 MHz ~ 1915 MHz LTE Band 26: 814 MHz ~ 849 MHz LTE Band 30: 2305 MHz ~ 2315 MHz LTE Band 38: 2570 MHz ~ 2620 MHz LTE Band 41: 2496 MHz ~ 2690 MHz LTE Band 42: 3450 MHz ~ 3550 MHz, 3550 MHz ~3600 MHz LTE Band 43: 3600 MHz ~ 3700 MHz LTE Band 48: 3550 MHz ~ 3700 MHz LTE Band 66: 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 MHz																																																																								
Channel Bandwidth		LTE Band 2:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12:1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 13: 5MHz, 10MHz LTE Band 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 42: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 43: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 48: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 71: 5MHz, 10MHz, 15MHz, 20MHz																																																																								
uplink modulations used		QPSK / 16QAM / 64QAM / 256QAM																																																																								
LTE Voice / Data requirements		Data only																																																																								
LTE MPR permanently built-in by design		<table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><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><tr><td>QPSK</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>> 5</td><td>> 4</td><td>> 8</td><td>> 12</td><td>> 16</td><td>> 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table>			Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3								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
Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3																																																																										
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																																																																			
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, Proximity Sensor.																																																																								
LTE Carrier Aggregation Combinations		Intra-Band possible combinations and the detail power measurement please referred to section 14.																																																																								
LTE Carrier Aggregation Additional Information		This device supports maximum of 2 carriers in the uplink. 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					
	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				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 14												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Channel #		Channel #		Freq.(MHz)					
L	23305		790.5		23330		793					
M	23330		793									
H	23355		795.5									
LTE Band 17												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq. (MHz)					
L	23755		706.5		23780		709					
M	23790		710		23790		710					
H	23825		713.5		23800		711					
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



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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)	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)	Ch. #	Freq. (MHz)		
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506				
L M	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5				
	40620	2593	40620	2593	40620	2593	40620	2593				
H M	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5				
	41565	2687.5	41540	2685	41515	2682.5	41490	2680				
LTE Band 42_Part 96												
	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)		
L	43315	3552.5	43140	3555	43165	3557.5	43190	3560				
M	43340	3575	43340	3575	43340	3575	43340	3575				
H	43565	3597.5	43540	3595	43515	3592.5	43490	3590				
LTE Band 42_Part 27Q												
	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)		
L	42115	3452.5	42140	3455	42165	3457.5	42190	3460				
M	42590	3500	42590	3500	42590	3500	42590	3500				
H	43065	3547.5	43040	3545	43015	3542.5	42990	3540				
LTE Band 43												
	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)		
L	43615	3602.5	43640	3605	43665	3607.5	43690	3610				
M	44090	3650	44090	3650	44090	3650	44090	3650				
H	44565	3697.5	44540	369	44515	3692.5	44490	3690				
LTE Band 48												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	55265	3552.5	55290	3555	55315	3557.5	55340	3560				
L M	55810	3607	55815	3607.5	55820	3608	55830	3609				
	56170	3643	56165	3642.5	56160	3642	56150	3641				
H	56715	3697.5	56690	3695	56665	3692.5	56640	3690				
LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	



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	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)	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				



2.3 General 5G NR SAR Test and Reporting Considerations

5G NR Information								
FCC ID	2ABTU-FN990A28							
Equipment Name	5G NR Module							
Operating Frequency Range of each 5G NR transmission band	5G NR n2: 1850 MHz ~ 1910 MHz							
	5G NR n5: 824 MHz ~ 849 MHz							
	5G NR n7: 2500 MHz ~ 2570 MHz							
	5G NR n25: 1850 MHz ~ 1915 MHz							
	5G NR n30 : 2305 MHz ~ 2315 MHz							
	5G NR n38: 2570 MHz ~ 2620 MHz							
	5G NR n41: 2496 MHz ~ 2690 MHz							
	5G NR n48 : 3550 MHz ~ 3700 MHz							
	5G NR n66: 1710 MHz ~ 1780 MHz							
	5G NR n71: 663 MHz ~ 698 MHz							
	5G NR n77: 3700 MHz ~ 3980 MHz, 3450MHz ~ 3550MHz							
Channel Bandwidth	5G NR n78: 3700 MHz ~ 3800 MHz, 3450MHz ~ 3550MHz							
	5G NR n2: 5MHz, 10MHz, 15MHz, 20MHz							
	5G NR n5: 5MHz, 10MHz, 15MHz, 20MHz							
	5G NR n7: 5MHz, 10MHz, 15MHz, 20MHz							
	5G NR n25: 5MHz, 10MHz, 15MHz, 20MHz							
	5G NR n30: 5MHz, 10MHz							
	5G NR n38: 10MHz, 15MHz, 20MHzzz, 30MHz, 40MHz							
	5G NR n41: 10MHz, 15MHz, 20MHz, 30MHz, 40MHz, 50MHz, 60MHz, 80MHz, 90MHz, 100MHz							
	5G NR n48: 10MHz, 20MHz, 40MHz							
	5G NR n66: 5MHz, 10MHz, 15MHz, 20MHz							
	5G NR n71: 5MHz, 10MHz, 15MHz, 20MHz							
SCS	5G NR n77/78: 10MHz, 20MHz, 25 MHz, 30MHz, 40MHz, 50MHz, 60MHz, 70MHz, 80MHz, 90MHz, 100MHz							
	FDD: SCS15KHz, TDD: SCS30KHz							
	uplink modulations used							
	DFT-s-OFDM: PI/2 BPSK / QPSK / 16QAM / 64QAM / 256QAM							
	CP-OFDM QPSK / 16QAM / 64QAM / 256QAM							
	A-MPR (Additional MPR) disabled for SAR Testing?							
	Yes							
	LTE Anchor Bands for n2							
	LTE B2/5/12/13/14/30/48/66/71							
	LTE Anchor Bands for n5							
	LTE B2/5/7/30/48/66							
LTE Anchor Bands for n7								
LTE B2/5/7/12/13/66/71								
LTE Anchor Bands for n25								
LTE B2/5/7/12/13/26/48/66/71								
LTE Anchor Bands for n30								
LTE B2/5/12/14/66								
LTE Anchor Bands for n38								
LTE B2/4/5/12/66/71								
LTE Anchor Bands for n41								
LTE B2/4/5/12/25/26/41/66/71								
LTE Anchor Bands for n48								
LTE B2/5/13/48/66								
LTE Anchor Bands for n66								
LTE B2/5/7/12/13/14/30/48/66/71								
LTE Anchor Bands for n71								
LTE B2/7/48/66/71								
LTE Anchor Bands for n77								
LTE B2/5/7/12/13/14/25/30/41/42/48/66/71								
LTE Anchor Bands for n78								
LTE B2/4/5/7/12/13/25/26/38/41/42/66/71								
NR Band 2								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	370500	1852.5	371000	1855	371500	1857.5	372000	1860
M	376000	1880	376000	1880	376000	1880	376000	1880
H	381500	1907.5	381000	1905	380500	1902.5	380000	1900
NR Band 5								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	165300	826.5	165800	829	166300	831.5	166800	834
M	167300	836.5	167300	836.5	167300	836.5	167300	836.5
H	169300	846.5	168800	844	168300	841.5	167800	839
NR Band 7								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	500500	2502.5	501000	2505	501500	2507.5	502000	2510
M	507000	2535	507000	2535	507000	2535	507000	2535
H	513500	2567.5	513000	2565	512500	2562.5	512000	2560
NR Band 25								
	Bandwidth 5MHz		Bandwidth 10MHz		Bandwidth 15MHz		Bandwidth 20MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)



FCC SAR TEST REPORT

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	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)									
L	370500		1852.5		371000		1855		371500		1857.5		372000		1860									
M	376500		1882.5		376500		1882.5		376500		1882.5		376500		1882.5									
H	382500		1912.5		382000		1910		381500		1907.5		381000		1905									
NR Band 30																								
	Bandwidth 5MHz								Bandwidth 10MHz															
	Ch. #				Freq. (MHz)				Ch. #				Freq. (MHz)											
L	461500				2307.5				462000				2310											
M	462000				2310																			
H	462500				2312.5																			
NR Band 38																								
	Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz				Bandwidth 30MHz				Bandwidth 40MHz							
	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)					
L	515004		2575.02		515502		2577.51		516000		2580		517002		2585.01		518004		2590.02					
M	519000		2595		519000		2595		519000		2595		519000		2595		519000		2595					
H	522996		2614.98		522498		2612.49		522000		2610		520998		2604.99		519996		2599.98					
NR Band 41																								
	Bandwidth10MHz		Bandwidth15MHz		Bandwidth20MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	500202	2501.01	500700	2503.5	501204	2506.02	502200	2511	503202	2516.01	504204	2521.02	505200	2526	507204	2536.02	508200	2541	509202	2546.01				
M	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99	518598	2592.99				
H	537000	2685	536496	2682.48	535998	2679.99	534996	2674.98	534000	2670	532998	2664.99	531996	2659.98	529998	2649.99	528996	2644.98	528000	2640				
NR Band 48																								
	Bandwidth10MHz						Bandwidth20MHz						Bandwidth 40MHz											
	Ch. #			Freq. (MHz)			Ch. #			Freq. (MHz)			Ch. #			Freq. (MHz)								
L	637000			3555			637334			3560.01			638000			3570								
M	641666			3624.99			641666			3624.99			641666			3624.99								
H	646332			3694.98			646000			3690			645332			3679.98								
NR Band 66																								
	Bandwidth 5MHz				Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz											
	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)									
L	342500		1712.5		343000		1715		343500		1717.5		344000		1720									
M	349000		1745		349000		1745		349000		1745		349000		1745									
H	355500		1777.5		355000		1775		354500		1772.5		354000		1770									
NR Band 71																								
	Bandwidth 5MHz				Bandwidth 10MHz				Bandwidth 15MHz				Bandwidth 20MHz											
	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)									
L	133100		665.5		133600		668		13410		670.5		134600		673									
M	136100		680.5		136100		680.5		136100		680.5		136100		680.5									
H	139100		695.5		138600		693		13810		690.5		137600		688									
NR Band 77																								
	Bandwidth 20MHz				Bandwidth30MHz				Bandwidth 40MHz				Bandwidth 60MHz				Bandwidth 80MHz				Bandwidth100MHz			
	Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)		Ch. #		Freq. (MHz)	
L	647334		3710.01		647668		3715.02		648000		3720		648668		3730.02		649334		3740.01		650000		3750	
M	656000		3840		656000		3840		656000		3840		656000		3840		656000		3840		656000		3840	
H	664666		3969.99		664332		3964.98		664000		3960		663332		3949.98		662666		3939.99		662000		3930	
NR Band 78																								
	Bandwidth10MHz		Bandwidth 20MHz		Bandwidth25MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	647000	3705	647334	3710.01	647500	3712.5	647668	3715.02	648000	3720	648334	3725.01	648668	3730.02	649000	3735	649334	3740.01	649668	3745.02	650000	3750		
M	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750	650000	3750		
H	653000	3795	652666	3789.99	652500	3787.50	652332	3784.98	652000	3780	651666	3774.99	651332	3769.98	651000	3765	650666	3759.99	650332	3754.98	650000	3750		
NR Band 77/78(3450MHz ~ 3550MHz)																								
	Bandwidth10MHz		Bandwidth 20MHz		Bandwidth25MHz		Bandwidth30MHz		Bandwidth 40MHz		Bandwidth 50MHz		Bandwidth 60MHz		Bandwidth 70MHz		Bandwidth 80MHz		Bandwidth 90MHz		Bandwidth100MHz			
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)		
L	630334	3455.01	630668	3460.02	630834	3462.51	631000	3465	631334	3470.01	631668	3475.02	632000	3480	632334	3485.01	632668	3490.02	633000	3495	633334	3500.01		
M	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98	633332	3499.98		
H	636332	3544.98	636000	3540	635832	3537.48	635666	3534.99	635332	3529.98	635000	3525	634666	3519.99	634332	3514.98	634000	3510	633666	3504.99	633332	3499.98		

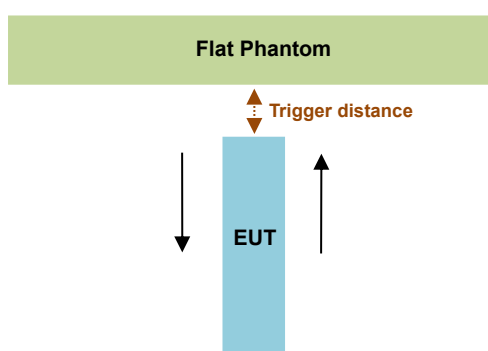
3. Proximity Sensor Triggering Test

<Proximity Sensor Triggering Distance (KDB 616217 D04 section 6.2)>:

For the device is fully integrated, touch sensing capacitive sensor. It uses a charge transfer capacitive acquisition method that is capable of near range proximity detection. In this device offers a state of the art capacitive sensing engine with an embedded sampling capacitor and voltage regulator allowing the overall solution cost to be reduced and improving system immunity in noisy environments.

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. The details are illustrated as following, and the shortest triggering distances were reported and used for SAR assessment.

In the preliminary triggering distance testing, the tissue-equivalent medium for different frequency bands were used for verification; no other frequency bands tissue-equivalent medium was found to result in shortest triggering distance than that for 1900MHz, and the tissue-equivalent medium for 1900MHz was used for formal proximity sensor triggering testing.



<Ant 0>

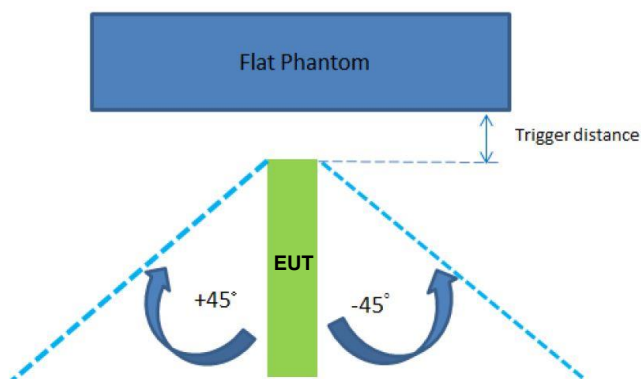
Proximity Sensor Trigger Distance (mm)				
Position	Back		Top Edge	
	moving toward	moving away	moving toward	moving away
Minimum	7	37	8	36

<Proximity Sensor Triggering Coverage (KDB 616217 D04 section 6.3)>:

Since the antenna and sensor are collocated and all of the peak SAR location is overlapping with the sensor pad for this device, therefore, According to KDB 616217 section 6.3, these procedures do not apply and are not required for this device. due to the antenna and sensor are collocated and the peak SAR location is overlapping with the sensor on this device.

<Tablet Tilt angle influences to proximity sensor triggering (KDB 616217 D04 section 6.4)>:

The influence of table tilt angles to proximity sensor triggering was determined by positioning each tablet edge that contains a transmitting antenna, perpendicular to the flat phantom, at above separation distance. Rotating the tablet around the edge next to the phantom in $\leq 10^\circ$ increments until the tablet is $\pm 45^\circ$ from the vertical position at 0° , and the maximum output power remains in the reduced mode.


<Ant 0>

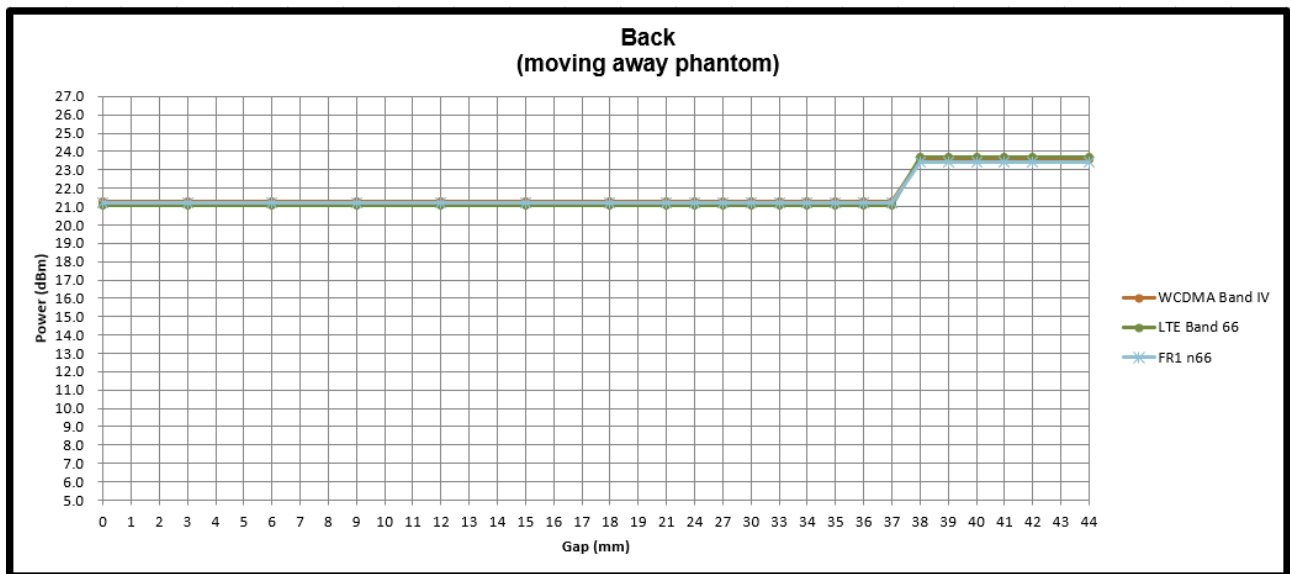
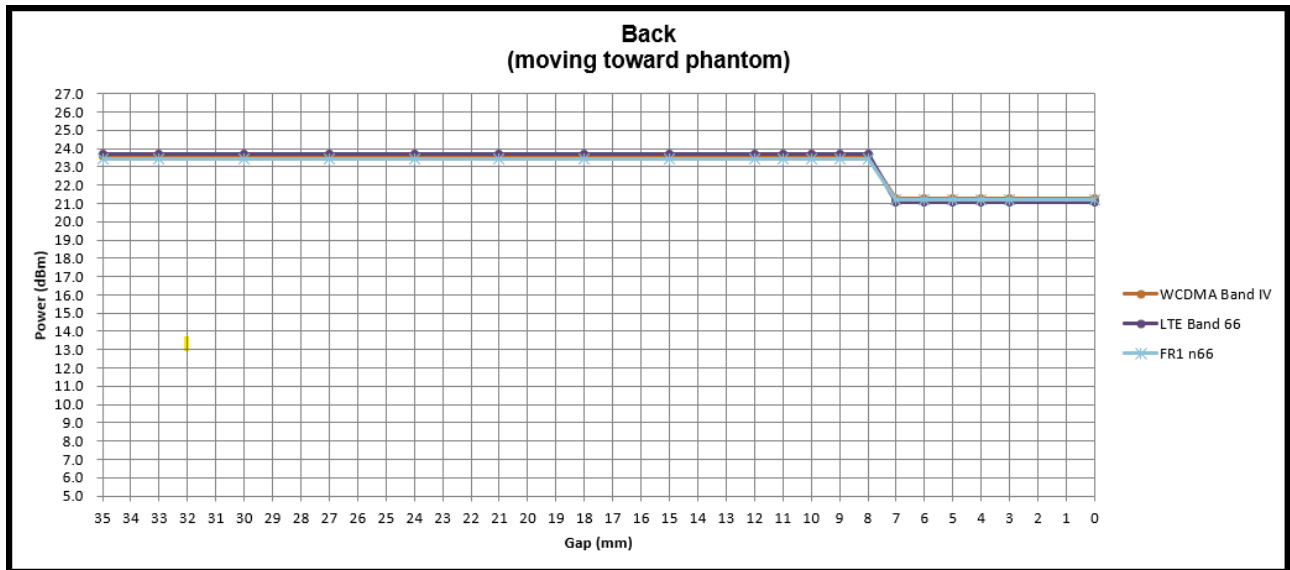
The Sensor Trigger Distance (mm)		
Position	Top Edge	
	+45°	-45°
Minimum	8	8

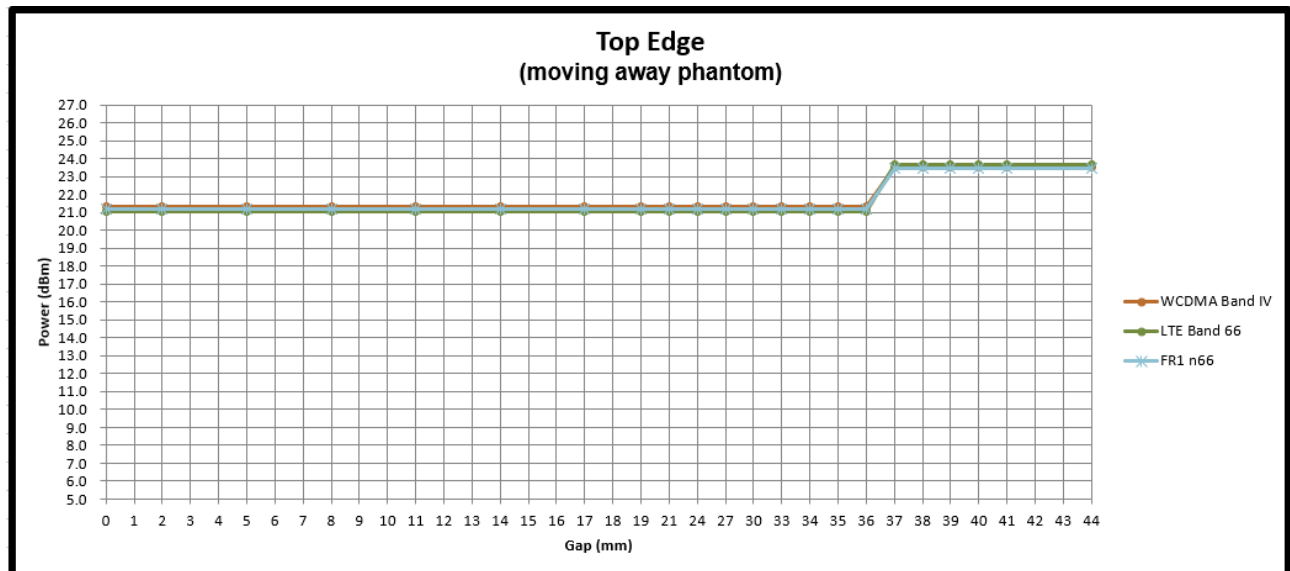
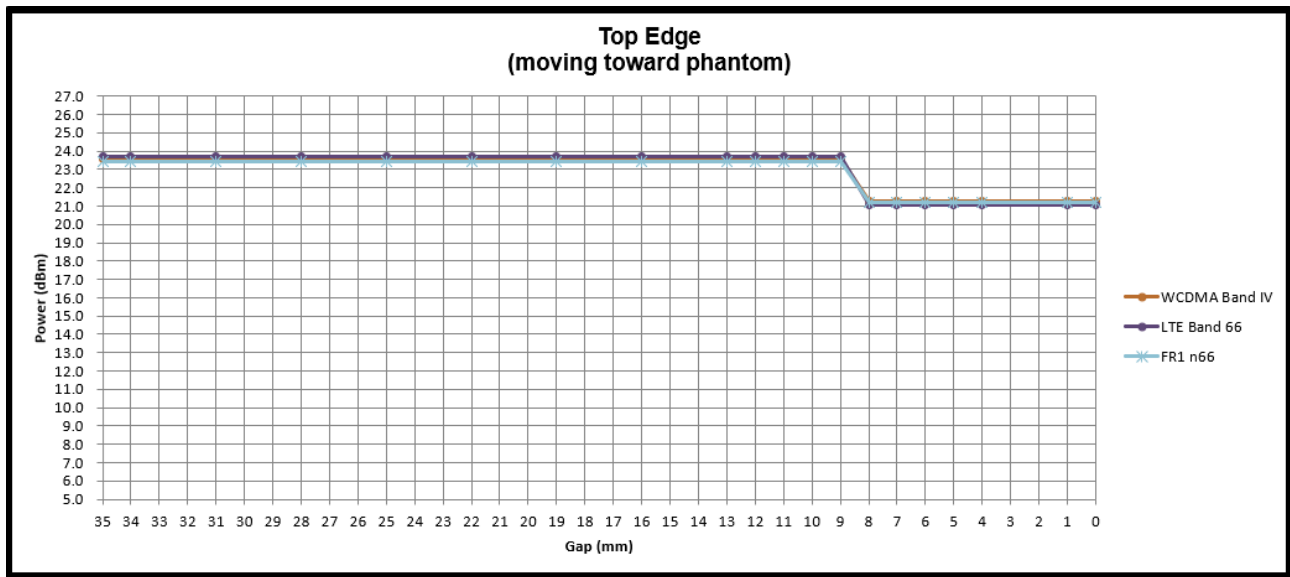
Proximity sensor power reduction

Band	Antenna	Top Edge ⁽¹⁾
		(dB)
WCDMA B2	0	0.8
WCDMA B4	0	3.2
LTE B2	0	0.7
LTE B4	0	2.6
LTE B25	0	0.7
LTE B66	0	2.6
FR1 n2	0	1.5
FR1 n25	0	1.5
FR1 n66	0	2.5

Remark:

- ⁽¹⁾: Reduced maximum limit applied by activation of proximity sensor.
- Tests were performed in accordance with KDB 616217 D04 section 6.1, 6.2, 6.3, 6.4 and 6.5 and compliant results are shown as below.
- 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:
 - Top Edge: [7 mm](#)

Power Measurement during Sensor Trigger distance testing
Ant 0




4. Smart Transmit feature for RF Exposure compliance

The Smart Transmit algorithm maintains the time-averaged transmit power, in turn, time-averaged RF exposure of SAR_design_target, below the predefined time-averaged power limit, for each characterized technology and band (refer to RF exposure part0 report)

Smart Transmit allows the device to transmit at higher power instantaneously, as high as P_{max}, when needed, but enforces power limiting to maintain time-averaged transmit power to P_{limit}. Below table shows P_{limit} EFS settings and maximum tune up output power P_{max} configured for this EUT for various transmit conditions (Device State Index DSI).

<P_{limit} for supported technologies and bands (P_{limit} in EFS file)>

Band	Antenna	1g SAR design target (W/kg)	TDD duty cycle	P _{limit} *		P _{max} * (dBm)	Power Tolerance (dB)
				DSI:0 Sensor off	DSI:1 Sensor on		
WCDMA II	0	0.949	100.00%	23.5	22.7	23.5	1
WCDMA IV	0	0.949	100.00%	23.5	20.3	23.5	1
WCDMA V	0	0.949	100.00%	24.2	24.2	23.5	1
LTE Band 7	0	0.949	100.00%	24.3	24.3	23.0	1
LTE Band 12/17	0	0.949	100.00%	27.6	27.6	23.0	1
LTE Band 13	0	0.949	100.00%	25.7	25.7	23.0	1
LTE Band 14	0	0.949	100.00%	25.4	25.4	23.0	1
LTE Band 25/2	0	0.949	100.00%	23.0	22.3	23.0	1
LTE Band 26/5	0	0.949	100.00%	24.3	24.3	23.0	1
LTE Band 30	0	0.949	100.00%	23.5	23.5	22.0	1
LTE Band 66/4	0	0.949	100.00%	23.0	20.4	23.0	1
LTE Band 71	0	0.949	100.00%	29.5	29.5	23.0	1
LTE Band 41/38**	0	0.949	63.30%	27.0	27.0	21.0	1
LTE Band 41 HPUE**	0	0.949	43.30%			21.9	1
LTE Band 42**	3	0.949	63.30%	13.9	13.9	19.5	1
LTE Band 43**	3	0.949	63.30%	15.2	15.2	19.5	1
LTE Band 48**	3	0.949	63.30%	14.5	14.5	19.5	1
n5	0	0.949	100.00%	24.1	24.1	23.5	1
n7	0	0.949	100.00%	23.7	23.7	23.5	1
n25/2	0	0.949	100.00%	23.5	22.0	23.5	1
n30	0	0.949	100.00%	23.7	23.7	22.0	1
n66	0	0.949	100.00%	23.5	21.0	23.5	1
n71	0	0.949	100.00%	30.2	30.2	23.5	1
n38	0	0.949	100.00%	24.7	24.7	24.0	1
n41	0	0.849	100.00%	23.6	23.6	23.0	1.5
n41 HPUE**	0	0.949	50.00%			23.5	1
n41/n38	2	0.849	100.00%	16.2	16.2	23.0	1.5
n41 HPUE**	2	0.949	50.00%			23.5	1
n48	1	0.949	100.00%	16.8	16.8	21.5	1
n48	3	0.949	100.00%	14.3	14.3	21.5	1
n77/78	1	0.849	100.00%	15.7	15.7	23.0	1.5
n77/78 HPUE**	1	0.949	50.00%			23.5	1
n77/78	3	0.849	100.00%	12.7	12.7	23.0	1.5
n77/78 HPUE**	3	0.949	50.00%			23.5	1

*P_{max} is used for RF tune up procedure. The maximum allowed output power is equal to P_{max} + device uncertainty.

**All P_{limit} power levels entered in the Table correspond to average power levels after accounting for duty cycle in the case TDD modulation schemes (for e.g., GSM & LTE TDD & NR TDD).

The max allowed output power is the P_{limit} + device uncertainty, and if P_{limit} is higher than P_{max}, the device output power will be P_{max} instead.

5. Guidance Applied

The Specific Absorption Rate (SAR) testing specification, method, and procedure for this device is in accordance with the following standards, the below KDB standard may not including in the TAF code without accreditation.

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 616217 D04 SAR for laptop and tablets v01r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02

6. RF Exposure Limits

6.1 Uncontrolled Environment

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

6.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

7. Specific Absorption Rate (SAR)

7.1 Introduction

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

7.2 SAR Definition

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

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

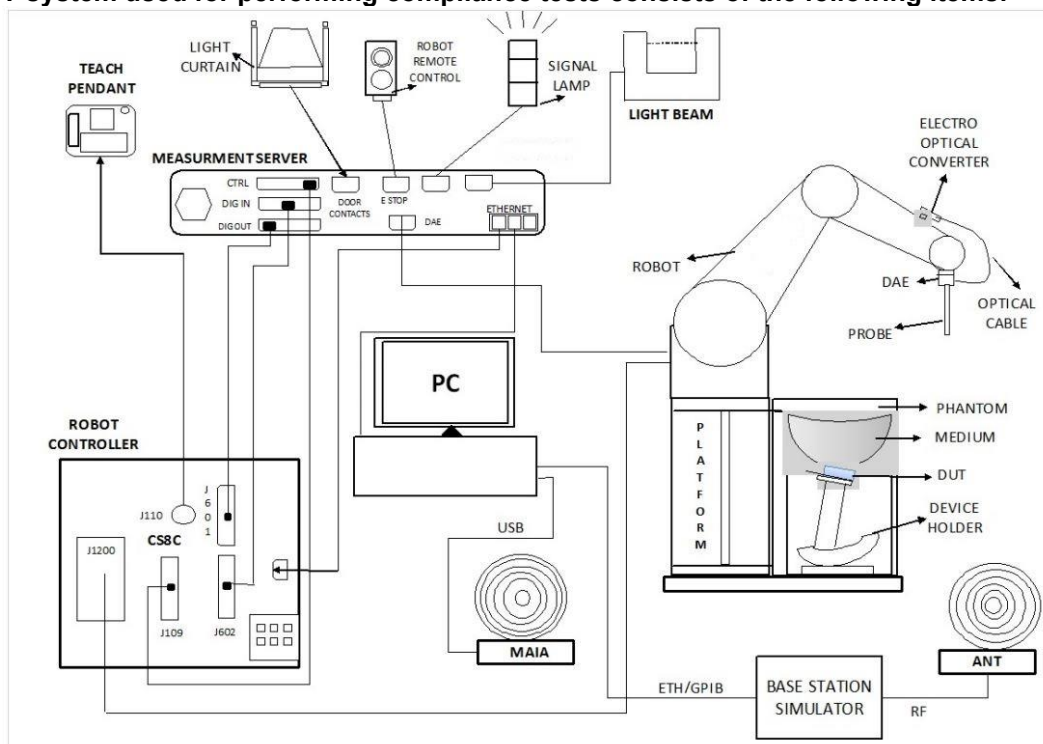
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

8. System Description and Setup

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



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

8.1 Test Site Location

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

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

8.2 E-Field Probe

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

<ES3DV3 Probe>

Construction	Symmetric design with triangular core Interleaved sensors Built-in shielding against static charges PEEK enclosure material (resistant to organic solvents, e.g., DGBE)	
Frequency	4 MHz – 4 GHz; Linearity: ± 0.2 dB (30 MHz – 4 GHz)	
Directivity	± 0.2 dB in TSL (rotation around probe axis) ± 0.3 dB in TSL (rotation normal to probe axis)	
Dynamic Range	5 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	4 MHz – >6 GHz Linearity: ± 0.2 dB (30 MHz – 6 GHz)	
Directivity	± 0.3 dB in TSL (rotation around probe axis) ± 0.5 dB in TSL (rotation normal to probe axis)	
Dynamic Range	10 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	

8.3 Data Acquisition Electronics (DAE)

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

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

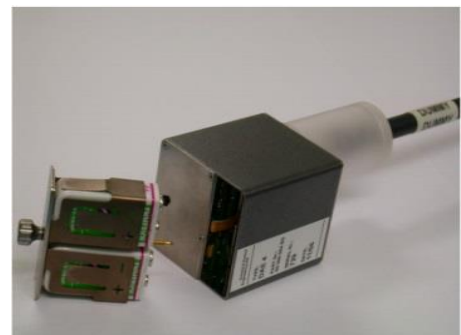


Fig 5.1 Photo of DAE

8.4 Phantom

<SAM Twin Phantom>

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

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

<ELI Phantom>

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

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

8.5 Device Holder

<Mounting Device for Hand-Held Transmitter>

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



Mounting Device for Hand-Held Transmitters



Mounting Device Adaptor for Wide-Phones

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

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



Mounting Device for Laptops

9. Measurement Procedures

The measurement procedures are as follows:

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

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

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

9.1 Spatial Peak SAR Evaluation

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

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

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

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values 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

9.2 Power Reference Measurement

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

9.3 Area Scan

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

Area scan parameters extracted from FCC KDB 865664 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	$30^\circ \pm 1^\circ$	$20^\circ \pm 1^\circ$
Maximum area scan spatial resolution: Δx_{Area} , Δy_{Area}	≤ 2 GHz: ≤ 15 mm $2 - 3$ GHz: ≤ 12 mm	$3 - 4$ GHz: ≤ 12 mm $4 - 6$ GHz: ≤ 10 mm
	When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device.	

9.4 Zoom Scan

Zoom scans are used to 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 whose 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: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$			≤ 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: $\Delta z_{\text{Zoom}}(n)$		≤ 5 mm	3 – 4 GHz: ≤ 4 mm 4 – 5 GHz: ≤ 3 mm 5 – 6 GHz: ≤ 2 mm
	graded grid	$\Delta z_{\text{Zoom}}(1)$: 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
		$\Delta z_{\text{Zoom}}(n>1)$: between subsequent points	$\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$	
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.				

9.5 Volume Scan Procedures

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

9.6 Power Drift Monitoring

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

10. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1012	Aug. 22, 2024	Aug. 21, 2025
SPEAG	835MHz System Validation Kit ⁽²⁾	D835V2	4d060	Mar. 24, 2022	Mar. 21, 2025
SPEAG	1750MHz System Validation Kit ⁽²⁾	D1750V2	1120	Mar. 25, 2022	Mar. 22, 2025
SPEAG	1750MHz System Validation Kit ⁽²⁾	D1750V2	1068	Nov. 21, 2022	Nov. 18, 2025
SPEAG	1900MHz System Validation Kit	D1900V2	5d041	Aug. 15, 2024	Aug. 14, 2025
SPEAG	2300MHz System Validation Kit	D2300V2	1088	Jul. 10, 2024	Jul. 09, 2025
SPEAG	2600MHz System Validation Kit ⁽²⁾	D2600V2	1078	Jun. 23, 2022	Jun. 20, 2025
SPEAG	3500MHz System Validation Kit ⁽²⁾	D3500V2	1036	Mar. 23, 2022	Mar. 20, 2025
SPEAG	3700MHz System Validation Kit ⁽²⁾	D3700V2	1006	Jun. 20, 2022	Jun. 17, 2025
SPEAG	3900MHz System Validation Kit ⁽²⁾	D3900V2	1017	Apr. 22, 2022	Apr. 19, 2025
SPEAG	Data Acquisition Electronics	DAE4	1512	Mar. 14, 2024	Mar. 13, 2025
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	Apr. 25, 2024	Apr. 24, 2025
Testo	Hygro meter	608-H1	45196600	Oct. 28, 2024	Oct. 27, 2025
Anritsu	Radio Communication Analyzer	MT8821C	6201341950	Nov. 12, 2024	Nov. 11, 2025
Keysight	5G Wireless Test Platform	E7515B	MY58300712	Apr. 22, 2024	Apr. 21, 2025
SPEAG	Device Holder	N/A	N/A	N/A	N/A
Anritsu	Signal Generator	MG3710A	6201502524	Sep. 24, 2024	Sep. 23, 2025
Keysight	ENA Network Analyzer	E5071C	MY46104758	Oct. 20, 2024	Oct. 19, 2025
SPEAG	Dielectric Probe Kit	DAK-3.5	1126	Sep. 17, 2024	Sep. 16, 2025
LINE SEIKI	Digital Thermometer	DTM3000-spezial	3690	Aug. 07, 2024	Aug. 06, 2025
Anritsu	Power Meter	ML2495A	1419002	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Power Sensor	MA2411B	1911176	Aug. 13, 2024	Aug. 12, 2025
Anritsu	Spectrum Analyzer	MS2830A	6201396378	Jul. 09, 2024	Jul. 08, 2025
Mini-Circuits	Power Amplifier	ZVE-8G+	6418	Oct. 23, 2024	Oct. 22, 2025
ATM	Dual Directional Coupler	C122H-10	P610410z-02	Note 1	
Warison	Directional Coupler	WCOU-10-50S-10	WR889BMC4B1	Note 1	
Woken	Attenuator 1	WK0602-XX	N/A	Note 1	
PE	Attenuator 2	PE7005-10	N/A	Note 1	
PE	Attenuator 3	PE7005- 3	N/A	Note 1	

General Note:

1. Prior to system verification and validation, the path loss from the signal generator to the system check source and the power meter, which includes the amplifier, cable, attenuator and directional coupler, was measured by the network analyzer. The reading of the power meter was offset by the path loss difference between the path to the power meter and the path to the system check source to monitor the actual power level fed to the system check source.
2. The dipole calibration interval can be extended to 3 years with justification according to KDB 865664 D01. The dipoles are also not physically damaged, or repaired during the interval. The justification data in appendix C can be found which the return loss is < -20dB, within 20% of prior calibration, the impedance is within 5 ohm of prior calibration for each dipole.

11. System Verification

11.1 Tissue Verification

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

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Liquid Temp. (°C)	Conductivity (σ)	Permittivity (ϵ_r)	Conductivity Target (σ)	Permittivity Target (ϵ_r)	Delta (σ) (%)	Delta (ϵ_r) (%)	Limit (%)	Date
750	22.3	0.891	42.591	0.89	41.90	0.11	1.65	± 5	2024/12/13
750	22.5	0.890	43.121	0.89	41.90	0.00	2.91	± 5	2024/12/16
835	22.5	0.918	42.264	0.90	41.50	2.00	1.84	± 5	2024/12/12
835	22.5	0.921	42.705	0.90	41.50	2.33	2.90	± 5	2024/12/16
1750	22.5	1.370	40.364	1.37	40.10	0.00	0.66	± 5	2024/12/12
1750	22.5	1.352	40.497	1.37	40.10	-1.31	0.99	± 5	2024/12/16
1900	22.5	1.436	40.569	1.40	40.00	2.57	1.42	± 5	2024/12/12
1900	22.5	1.428	38.949	1.40	40.00	2.00	-2.63	± 5	2024/12/16
2300	22.3	1.637	39.758	1.67	39.50	-1.98	0.65	± 5	2024/12/13
2300	22.5	1.648	39.944	1.67	39.50	-1.32	1.12	± 5	2024/12/16
2600	22.3	1.938	38.975	1.96	39.00	-1.12	-0.06	± 5	2024/12/13
2600	22.5	1.962	38.881	1.96	39.00	0.10	-0.31	± 5	2024/12/16
2600	22.3	2.000	39.117	1.96	39.00	2.04	0.30	± 5	2024/12/17
3500	22.1	2.907	37.922	2.91	37.90	-0.10	0.06	± 5	2024/12/14
3500	22.2	2.939	37.599	2.91	37.90	1.00	-0.79	± 5	2024/12/15
3500	22.3	2.964	38.057	2.91	37.90	1.86	0.41	± 5	2024/12/18
3500	22.4	3.032	37.043	2.91	37.90	4.19	-2.26	± 5	2024/12/19
3700	22.1	3.112	37.692	3.12	37.70	-0.26	-0.02	± 5	2024/12/14
3700	22.2	3.150	37.398	3.12	37.70	0.96	-0.80	± 5	2024/12/15
3700	22.3	3.108	37.803	3.12	37.70	-0.38	0.27	± 5	2024/12/18
3700	22.4	3.177	36.784	3.12	37.70	1.83	-2.43	± 5	2024/12/19
3900	22.1	3.317	37.461	3.33	37.51	-0.39	-0.13	± 5	2024/12/14
3900	22.2	3.360	37.210	3.33	37.51	0.90	-0.80	± 5	2024/12/15
3900	22.3	3.263	37.598	3.33	37.51	-2.01	0.23	± 5	2024/12/18
3900	22.4	3.330	36.577	3.33	37.51	0.00	-2.49	± 5	2024/12/19

11.2 System Performance Check Results

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

Date	Frequency (MHz)	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 (%)	Test Site
2024/12/13	750	50	D750V3-1012	EX3DV4 - SN3642	DAE4 Sn1512	0.420	8.400	8.4	0.00	SAR-03
2024/12/16	750	50	D750V3-1012	EX3DV4 - SN3642	DAE4 Sn1512	0.409	8.400	8.18	-2.62	SAR-03
2024/12/12	835	50	D835V2-4d060	EX3DV4 - SN3642	DAE4 Sn1512	0.468	9.730	9.36	-3.80	SAR-03
2024/12/16	835	50	D835V2-4d060	EX3DV4 - SN3642	DAE4 Sn1512	0.445	9.730	8.9	-8.53	SAR-03
2024/12/12	1750	50	D1750V2-1120	EX3DV4 - SN3642	DAE4 Sn1512	1.750	36.400	35	-3.85	SAR-03
2024/12/16	1750	50	D1750V2-1068	EX3DV4 - SN3642	DAE4 Sn1512	1.810	36.700	36.2	-1.36	SAR-03
2024/12/12	1900	50	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn1512	1.870	39.200	37.4	-4.59	SAR-03
2024/12/16	1900	50	D1900V2-5d041	EX3DV4 - SN3642	DAE4 Sn1512	1.790	39.200	35.8	-8.67	SAR-03
2024/12/13	2300	50	D2300V2-1088	EX3DV4 - SN3642	DAE4 Sn1512	2.310	48.200	46.2	-4.15	SAR-03
2024/12/16	2300	50	D2300V2-1088	EX3DV4 - SN3642	DAE4 Sn1512	2.330	48.200	46.6	-3.32	SAR-03
2024/12/13	2600	50	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn1512	2.550	55.400	51	-7.94	SAR-03
2024/12/16	2600	50	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn1512	2.590	55.400	51.8	-6.50	SAR-03
2024/12/17	2600	50	D2600V2-1078	EX3DV4 - SN3642	DAE4 Sn1512	2.640	55.400	52.8	-4.69	SAR-03
2024/12/14	3500	50	D3500V2-1036	EX3DV4 - SN3642	DAE4 Sn1512	3.140	67.400	62.8	-6.82	SAR-03
2024/12/15	3500	50	D3500V2-1036	EX3DV4 - SN3642	DAE4 Sn1512	3.170	67.400	63.4	-5.93	SAR-03
2024/12/18	3500	50	D3500V2-1036	EX3DV4 - SN3642	DAE4 Sn1512	3.190	67.400	63.8	-5.34	SAR-03
2024/12/19	3500	50	D3500V2-1036	EX3DV4 - SN3642	DAE4 Sn1512	3.250	67.400	65	-3.56	SAR-03
2024/12/14	3700	50	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1512	3.210	65.600	64.2	-2.13	SAR-03
2024/12/15	3700	50	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1512	3.250	65.600	65	-0.91	SAR-03
2024/12/18	3700	50	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1512	3.210	65.600	64.2	-2.13	SAR-03
2024/12/19	3700	50	D3700V2-1006	EX3DV4 - SN3642	DAE4 Sn1512	3.280	65.600	65.6	0.00	SAR-03
2024/12/14	3900	50	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn1512	3.330	68.700	66.6	-3.06	SAR-03
2024/12/15	3900	50	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn1512	3.360	68.700	67.2	-2.18	SAR-03
2024/12/18	3900	50	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn1512	3.240	68.700	64.8	-5.68	SAR-03
2024/12/19	3900	50	D3900V2-1017-3900	EX3DV4 - SN3642	DAE4 Sn1512	3.340	68.700	66.8	-2.77	SAR-03

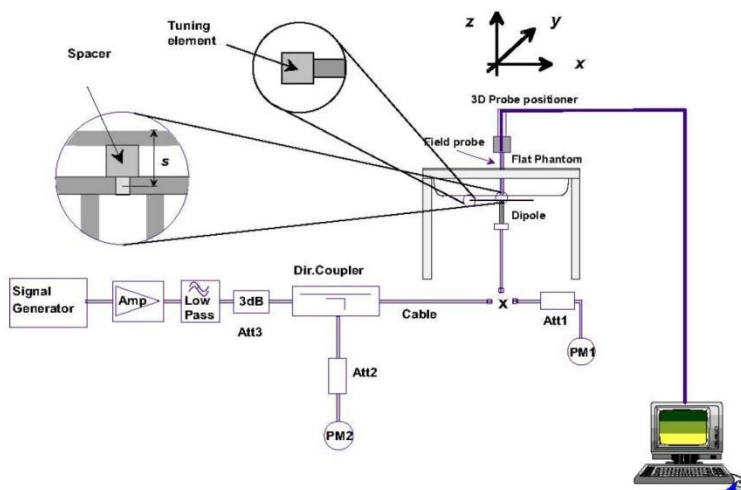


Fig 8.3.1 System Performance Check Setup



Fig 8.3.2 Setup Photo



12. RF Exposure Positions

12.1 SAR Testing for Tablet

This device can be used also in full sized tablet exposure conditions, due to its size. Per FCC KDB 616217, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR exclusion threshold in KDB 447498 D01v06 can be applied to determine SAR test exclusion for adjacent edge configurations. The closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

13. UMTS/LTE Output Power (Unit: dBm)

<WCDMA Conducted Power>

1. The following tests were conducted according to the test requirements outlines in 3GPP TS 34.121 specification.
2. The procedures in KDB 941225 D01v03r01 are applied for 3GPP Rel. 6 HSPA to configure the device in the required sub-test mode(s) to determine SAR test exclusion.
3. For DC-HSDPA, the device was configured according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1, with the primary and the secondary serving HS-DSCH Cell enabled during the power measurement.

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{hs} (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: Δ_{ACK} , Δ_{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-TFCI
 - viii. Confirm that E-TFCI is equal to the target E-TFCI of 75 for sub-test 1, and other subtest's E-TFCI
- d. The transmitted maximum output power was recorded.

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note 1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/25	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	β_{ed1} : 47/15 β_{ed2} : 47/15	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 $\beta_d/\beta_c = 12/15$, $\beta_{hs}/\beta_c = 24/15$. 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

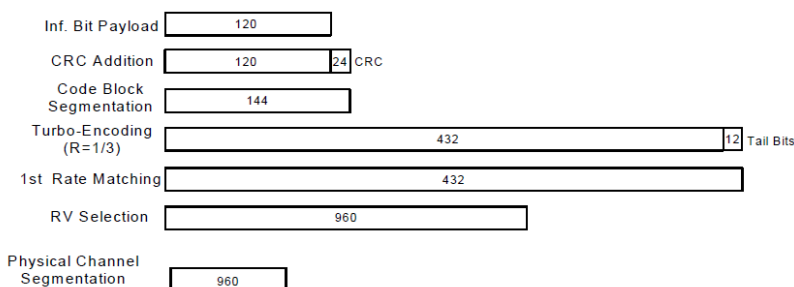
DC-HSDPA 3GPP release 8 Setup Configuration:

- 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.

<WCDMA>													
Band		WCDMA II_Ant 0_Sensor OFF			Tune-up Limit (dBm)	WCDMA IV_Ant 0_Sensor OFF			Tune-up Limit (dBm)	WCDMA V_Ant 0_Sensor OFF			Tune-up Limit (dBm)
TX Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	RMC 12.2Kbps	23.76	23.37	23.27	24.50	23.55	23.33	23.25	24.50	23.81	23.72	23.48	24.50
3GPP Rel 6	HSDPA Subtest-1	22.68	22.38	22.27	23.50	22.56	22.32	22.21	23.50	22.87	22.70	22.48	23.50
3GPP Rel 6	HSDPA Subtest-2	22.70	22.43	22.28	23.50	22.60	22.38	22.24	23.50	22.84	22.70	22.45	23.50
3GPP Rel 6	HSDPA Subtest-3	22.21	21.89	21.80	23.00	22.05	21.83	21.72	23.00	22.05	22.21	21.98	23.00
3GPP Rel 6	HSDPA Subtest-4	22.17	21.86	21.79	23.00	22.04	21.80	21.73	23.00	22.33	22.23	21.98	23.00
3GPP Rel 8	DC-HSDPA Subtest-1	22.49	22.38	22.16	23.50	23.45	23.19	23.19	23.50	23.48	23.40	23.36	23.50
3GPP Rel 8	DC-HSDPA Subtest-2	22.54	22.25	22.24	23.50	22.41	22.13	22.03	23.50	22.76	22.51	22.33	23.50
3GPP Rel 8	DC-HSDPA Subtest-3	22.18	21.73	21.80	23.00	22.40	22.37	22.21	23.00	22.78	22.70	22.41	23.00
3GPP Rel 8	DC-HSDPA Subtest-4	22.04	21.69	21.61	23.00	22.01	21.65	21.52	23.00	21.93	22.15	21.92	23.00
3GPP Rel 6	HSUPA Subtest-1	22.64	22.29	22.24	23.50	22.50	22.27	22.18	23.50	22.59	22.24	22.12	23.50
3GPP Rel 6	HSUPA Subtest-2	20.65	20.30	20.16	21.50	20.50	20.19	20.15	21.50	20.58	20.22	20.12	21.50
3GPP Rel 6	HSUPA Subtest-3	21.60	21.29	21.21	22.50	21.44	21.13	21.13	22.50	21.48	21.26	21.10	22.50
3GPP Rel 6	HSUPA Subtest-4	20.65	20.31	20.19	21.50	20.48	20.17	20.09	21.50	20.53	20.11	20.15	21.50
3GPP Rel 6	HSUPA Subtest-5	22.70	22.30	22.20	23.50	22.50	22.25	22.11	23.50	22.52	22.22	22.16	23.50

<WCDMA>									
Band		WCDMA II_Ant 0_Sensor ON			Tune-up Limit (dBm)	WCDMA IV_Ant 0_Sensor ON			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	RMC 12.2Kbps	23.70	23.37	23.27	23.70	21.30	21.16	21.05	21.30
3GPP Rel 6	HSDPA Subtest-1	22.68	22.38	22.27	22.70	19.35	19.10	18.94	20.30
3GPP Rel 6	HSDPA Subtest-2	22.70	22.43	22.28	22.70	19.39	19.08	19.01	20.30
3GPP Rel 6	HSDPA Subtest-3	22.20	21.89	21.80	22.20	18.76	18.63	18.49	19.80
3GPP Rel 6	HSDPA Subtest-4	22.17	21.86	21.79	22.20	18.83	18.58	18.47	19.80
3GPP Rel 8	DC-HSDPA Subtest-1	22.49	22.38	22.16	22.70	20.23	19.89	19.93	20.30
3GPP Rel 8	DC-HSDPA Subtest-2	22.54	22.25	22.24	22.70	19.17	18.88	18.77	20.30
3GPP Rel 8	DC-HSDPA Subtest-3	22.18	21.73	21.80	22.20	19.13	19.16	18.98	19.80
3GPP Rel 8	DC-HSDPA Subtest-4	22.04	21.69	21.61	22.20	18.76	18.36	18.32	19.80
3GPP Rel 6	HSUPA Subtest-1	22.64	22.29	22.24	22.70	19.23	18.99	18.88	20.30
3GPP Rel 6	HSUPA Subtest-2	20.65	20.30	20.16	20.70	17.22	16.98	16.94	18.30
3GPP Rel 6	HSUPA Subtest-3	21.60	21.29	21.21	21.70	18.20	17.93	17.83	19.30
3GPP Rel 6	HSUPA Subtest-4	20.65	20.31	20.19	20.70	17.22	16.88	16.89	18.30
3GPP Rel 6	HSUPA Subtest-5	22.70	22.30	22.20	22.70	19.28	19.03	18.81	20.30

<LTE Conducted Power>**General Note:**

1. A Base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $>$ not $\frac{1}{2}$ 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 B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
9. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. the maximum output power, including tolerance, for the smaller band is $\leq$ 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



<LTE Band 2_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.37	23.06	23.20	24
20	QPSK	1	49	23.35	23.09	23.06	
20	QPSK	1	99	23.14	23.09	22.95	
20	QPSK	50	0	22.44	22.20	22.10	23
20	QPSK	50	24	22.43	22.23	22.09	
20	QPSK	50	50	22.33	22.21	22.15	
20	QPSK	100	0	22.44	22.17	22.07	
20	16QAM	1	0	22.67	22.46	22.36	23
20	16QAM	1	49	22.77	22.30	22.41	
20	16QAM	1	99	22.61	22.28	22.30	
20	16QAM	50	0	21.47	21.25	21.09	22
20	16QAM	50	24	21.49	21.23	21.09	
20	16QAM	50	50	21.37	21.24	21.15	
20	16QAM	100	0	21.44	21.26	21.12	
20	64QAM	1	0	21.48	21.19	21.32	22
20	64QAM	1	49	21.44	21.32	21.19	
20	64QAM	1	99	21.64	21.22	21.29	
20	64QAM	50	0	20.42	20.17	20.05	21
20	64QAM	50	24	20.47	20.23	20.05	
20	64QAM	50	50	20.31	20.22	20.18	
20	64QAM	100	0	20.50	20.17	20.15	
20	256QAM	1	0	18.50	18.43	18.22	19
20	256QAM	1	49	18.49	18.33	18.02	
20	256QAM	1	99	18.34	18.31	18.27	
20	256QAM	50	0	18.43	18.22	18.08	19
20	256QAM	50	24	18.39	18.23	18.11	
20	256QAM	50	50	18.28	18.17	18.13	
20	256QAM	100	0	18.38	18.16	18.19	
Channel				18675	18900	19125	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	23.24	23.04	23.17	24
15	QPSK	1	37	23.35	23.03	23.02	
15	QPSK	1	74	23.08	23.06	22.78	
15	QPSK	36	0	22.33	22.03	21.96	23
15	QPSK	36	20	22.23	22.03	21.94	
15	QPSK	36	39	22.27	22.05	22.07	
15	QPSK	75	0	22.41	22.09	21.92	23
15	16QAM	1	0	22.47	22.38	22.24	
15	16QAM	1	37	22.62	22.10	22.33	
15	16QAM	1	74	22.50	22.10	22.13	22
15	16QAM	36	0	21.36	21.13	21.09	
15	16QAM	36	20	21.49	21.08	21.02	
15	16QAM	36	39	21.17	21.22	21.07	
15	16QAM	75	0	21.33	21.25	21.11	22
15	64QAM	1	0	21.30	20.99	21.32	
15	64QAM	1	37	21.30	21.25	21.11	
15	64QAM	1	74	21.51	21.18	21.16	21
15	64QAM	36	0	20.39	19.97	19.98	
15	64QAM	36	20	20.27	20.14	19.89	
15	64QAM	36	39	20.12	20.05	20.12	
15	64QAM	75	0	20.41	20.14	20.13	19
15	256QAM	1	0	18.45	18.28	18.18	
15	256QAM	1	37	18.37	18.22	17.95	
15	256QAM	1	74	18.16	18.12	18.20	19
15	256QAM	36	0	18.26	18.16	17.89	
15	256QAM	36	20	18.23	18.06	17.95	



FCC SAR TEST REPORT

Report No. : FA4N2217A

15	256QAM	36	39	18.27	18.07	18.08	Tune-up limit (dBm)
15	256QAM	75	0	18.32	18.09	18.16	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.35	23.06	23.17	24
10	QPSK	1	25	23.23	22.90	23.06	
10	QPSK	1	49	22.96	23.05	22.84	
10	QPSK	25	0	22.34	22.09	21.98	23
10	QPSK	25	12	22.43	22.17	21.95	
10	QPSK	25	25	22.13	22.01	22.00	
10	QPSK	50	0	22.43	22.10	22.05	
10	16QAM	1	0	22.56	22.40	22.23	23
10	16QAM	1	25	22.67	22.26	22.30	
10	16QAM	1	49	22.60	22.15	22.11	22
10	16QAM	25	0	21.44	21.24	20.99	
10	16QAM	25	12	21.41	21.16	21.00	
10	16QAM	25	25	21.31	21.07	21.10	
10	16QAM	50	0	21.33	21.14	21.03	22
10	64QAM	1	0	21.38	21.14	21.20	
10	64QAM	1	25	21.40	21.22	21.05	
10	64QAM	1	49	21.47	21.12	21.14	
10	64QAM	25	0	20.28	20.14	19.87	21
10	64QAM	25	12	20.43	20.10	19.92	
10	64QAM	25	25	20.21	20.14	20.03	
10	64QAM	50	0	20.40	20.06	20.05	
10	256QAM	1	0	18.50	18.29	18.14	19
10	256QAM	1	25	18.44	18.26	17.84	
10	256QAM	1	49	18.30	18.29	18.24	
10	256QAM	25	0	18.32	18.13	18.05	
10	256QAM	25	12	18.34	18.06	17.94	19
10	256QAM	25	25	18.10	18.15	18.05	
10	256QAM	50	0	18.21	18.06	18.18	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.26	22.86	23.00	24
5	QPSK	1	12	23.32	23.08	22.99	
5	QPSK	1	24	23.08	22.89	22.95	
5	QPSK	12	0	22.35	22.06	21.95	23
5	QPSK	12	7	22.26	22.17	21.99	
5	QPSK	12	13	22.29	22.08	22.12	
5	QPSK	25	0	22.36	22.03	21.88	
5	16QAM	1	0	22.53	22.29	22.27	23
5	16QAM	1	12	22.66	22.28	22.28	
5	16QAM	1	24	22.41	22.15	22.25	
5	16QAM	12	0	21.37	21.18	20.99	
5	16QAM	12	7	21.35	21.07	20.93	22
5	16QAM	12	13	21.24	21.15	21.14	
5	16QAM	25	0	21.35	21.08	20.99	
5	64QAM	1	0	21.46	21.19	21.16	
5	64QAM	1	12	21.31	21.13	21.02	22
5	64QAM	1	24	21.53	21.18	21.27	
5	64QAM	12	0	20.32	20.15	19.86	
5	64QAM	12	7	20.42	20.11	19.91	
5	64QAM	12	13	20.11	20.15	20.00	21
5	64QAM	25	0	20.46	20.06	20.15	
5	256QAM	1	0	18.34	18.31	18.18	
5	256QAM	1	12	18.45	18.14	17.94	
5	256QAM	1	24	18.24	18.16	18.24	19
5	256QAM	12	0	18.31	18.11	18.05	
5	256QAM	12	7	18.36	18.21	18.06	
5	256QAM	12	13	18.09	17.98	17.93	
5	256QAM	25	0	18.25	18.05	18.02	Tune-up limit
Channel				18615	18900	19185	



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	23.33	22.92	23.19	24
3	QPSK	1	8	23.35	23.03	22.87	
3	QPSK	1	14	23.02	23.07	22.94	
3	QPSK	8	0	22.26	22.09	22.03	23
3	QPSK	8	4	22.35	22.12	21.93	
3	QPSK	8	7	22.29	22.17	22.13	
3	QPSK	15	0	22.44	22.06	22.02	23
3	16QAM	1	0	22.62	22.35	22.17	
3	16QAM	1	8	22.75	22.20	22.28	
3	16QAM	1	14	22.41	22.27	22.26	22
3	16QAM	8	0	21.34	21.09	20.98	
3	16QAM	8	4	21.37	21.20	20.97	
3	16QAM	8	7	21.18	21.19	20.96	22
3	16QAM	15	0	21.30	21.19	20.96	
3	64QAM	1	0	21.41	21.03	21.18	
3	64QAM	1	8	21.37	21.22	21.19	21
3	64QAM	1	14	21.46	21.04	21.16	
3	64QAM	8	0	20.31	19.99	19.86	
3	64QAM	8	4	20.40	20.10	19.90	19
3	64QAM	8	7	20.21	20.14	20.15	
3	64QAM	15	0	20.36	20.01	20.00	
3	256QAM	1	0	18.34	18.39	18.14	19
3	256QAM	1	8	18.31	18.18	17.86	
3	256QAM	1	14	18.23	18.23	18.26	
3	256QAM	8	0	18.28	18.21	17.98	19
3	256QAM	8	4	18.33	18.16	17.98	
3	256QAM	8	7	18.28	17.99	17.97	
3	256QAM	15	0	18.30	18.12	18.15	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.32	22.97	23.09	24
1.4	QPSK	1	3	23.18	23.06	23.01	
1.4	QPSK	1	5	22.97	22.97	22.88	
1.4	QPSK	3	0	23.29	22.90	23.00	23
1.4	QPSK	3	1	23.28	23.01	22.98	
1.4	QPSK	3	3	23.02	23.02	22.85	
1.4	QPSK	6	0	22.36	22.17	21.98	23
1.4	16QAM	1	0	22.30	22.13	21.94	
1.4	16QAM	1	3	22.13	22.06	22.00	
1.4	16QAM	1	5	22.25	22.07	21.90	22
1.4	16QAM	3	0	22.56	22.27	22.24	
1.4	16QAM	3	1	22.74	22.14	22.30	
1.4	16QAM	3	3	22.61	22.26	22.23	22
1.4	16QAM	6	0	21.27	21.09	21.06	
1.4	64QAM	1	0	21.37	21.09	20.99	
1.4	64QAM	1	3	21.27	21.14	21.13	22
1.4	64QAM	1	5	21.31	21.10	20.98	
1.4	64QAM	3	0	21.38	21.01	21.15	
1.4	64QAM	3	1	21.25	21.18	21.01	21
1.4	64QAM	3	3	21.44	21.17	21.17	
1.4	64QAM	6	0	20.29	20.15	20.05	
1.4	256QAM	1	0	18.47	18.41	18.17	19
1.4	256QAM	1	3	18.48	18.17	17.89	
1.4	256QAM	1	5	18.25	18.29	18.25	
1.4	256QAM	3	0	18.29	18.16	17.93	19
1.4	256QAM	3	1	18.19	18.14	18.04	
1.4	256QAM	3	3	18.24	18.16	18.10	
1.4	256QAM	6	0	18.30	18.03	18.11	19



<LTE Band 2_Ant 0_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				18700	18900	19100	
Frequency (MHz)				1860	1880	1900	
20	QPSK	1	0	23.30	23.06	23.20	
20	QPSK	1	49	23.29	23.09	23.06	23.3
20	QPSK	1	99	23.14	23.09	22.95	
20	QPSK	50	0	22.44	22.20	22.10	
20	QPSK	50	24	22.43	22.23	22.09	23
20	QPSK	50	50	22.33	22.21	22.15	
20	QPSK	100	0	22.44	22.17	22.07	
20	16QAM	1	0	22.67	22.46	22.36	23
20	16QAM	1	49	22.77	22.30	22.41	
20	16QAM	1	99	22.61	22.28	22.30	
20	16QAM	50	0	21.47	21.25	21.09	22
20	16QAM	50	24	21.49	21.23	21.09	
20	16QAM	50	50	21.37	21.24	21.15	
20	16QAM	100	0	21.44	21.26	21.12	22
20	64QAM	1	0	21.48	21.19	21.32	
20	64QAM	1	49	21.44	21.32	21.19	
20	64QAM	1	99	21.64	21.22	21.29	21
20	64QAM	50	0	20.42	20.17	20.05	
20	64QAM	50	24	20.47	20.23	20.05	
20	64QAM	50	50	20.31	20.22	20.18	19
20	64QAM	100	0	20.50	20.17	20.15	
20	256QAM	1	0	18.50	18.43	18.22	
20	256QAM	1	49	18.49	18.33	18.02	19
20	256QAM	1	99	18.34	18.31	18.27	
20	256QAM	50	0	18.43	18.22	18.08	
20	256QAM	50	24	18.39	18.23	18.11	19
20	256QAM	50	50	18.28	18.17	18.13	
20	256QAM	100	0	18.38	18.16	18.19	
Channel				18675	18900	19125	
Frequency (MHz)				1857.5	1880	1902.5	
15	QPSK	1	0	23.24	23.04	23.17	
15	QPSK	1	37	23.28	23.03	23.02	23.3
15	QPSK	1	74	23.08	23.06	22.78	
15	QPSK	36	0	22.33	22.03	21.96	23
15	QPSK	36	20	22.23	22.03	21.94	
15	QPSK	36	39	22.27	22.05	22.07	
15	QPSK	75	0	22.41	22.09	21.92	23
15	16QAM	1	0	22.47	22.38	22.24	
15	16QAM	1	37	22.62	22.10	22.33	
15	16QAM	1	74	22.50	22.10	22.13	22
15	16QAM	36	0	21.36	21.13	21.09	
15	16QAM	36	20	21.49	21.08	21.02	
15	16QAM	36	39	21.17	21.22	21.07	22
15	16QAM	75	0	21.33	21.25	21.11	
15	64QAM	1	0	21.30	20.99	21.32	
15	64QAM	1	37	21.30	21.25	21.11	21
15	64QAM	1	74	21.51	21.18	21.16	
15	64QAM	36	0	20.39	19.97	19.98	
15	64QAM	36	20	20.27	20.14	19.89	19
15	64QAM	36	39	20.12	20.05	20.12	
15	64QAM	75	0	20.41	20.14	20.13	
15	256QAM	1	0	18.45	18.28	18.18	19
15	256QAM	1	37	18.37	18.22	17.95	
15	256QAM	1	74	18.16	18.12	18.20	
15	256QAM	36	0	18.26	18.16	17.89	19
15	256QAM	36	20	18.23	18.06	17.95	



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15	256QAM	36	39	18.27	18.07	18.08	Tune-up limit (dBm)
15	256QAM	75	0	18.32	18.09	18.16	
Channel				18650	18900	19150	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	QPSK	1	0	23.28	23.06	23.17	23.3
10	QPSK	1	25	23.23	22.90	23.06	
10	QPSK	1	49	22.96	23.05	22.84	
10	QPSK	25	0	22.34	22.09	21.98	23
10	QPSK	25	12	22.43	22.17	21.95	
10	QPSK	25	25	22.13	22.01	22.00	
10	QPSK	50	0	22.43	22.10	22.05	
10	16QAM	1	0	22.56	22.40	22.23	23
10	16QAM	1	25	22.67	22.26	22.30	
10	16QAM	1	49	22.60	22.15	22.11	22
10	16QAM	25	0	21.44	21.24	20.99	
10	16QAM	25	12	21.41	21.16	21.00	
10	16QAM	25	25	21.31	21.07	21.10	
10	16QAM	50	0	21.33	21.14	21.03	22
10	64QAM	1	0	21.38	21.14	21.20	
10	64QAM	1	25	21.40	21.22	21.05	
10	64QAM	1	49	21.47	21.12	21.14	21
10	64QAM	25	0	20.28	20.14	19.87	
10	64QAM	25	12	20.43	20.10	19.92	
10	64QAM	25	25	20.21	20.14	20.03	
10	64QAM	50	0	20.40	20.06	20.05	19
10	256QAM	1	0	18.50	18.29	18.14	
10	256QAM	1	25	18.44	18.26	17.84	
10	256QAM	1	49	18.30	18.29	18.24	
10	256QAM	25	0	18.32	18.13	18.05	19
10	256QAM	25	12	18.34	18.06	17.94	
10	256QAM	25	25	18.10	18.15	18.05	
10	256QAM	50	0	18.21	18.06	18.18	
Channel				18625	18900	19175	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	QPSK	1	0	23.26	22.86	23.00	23.3
5	QPSK	1	12	23.27	23.08	22.99	
5	QPSK	1	24	23.08	22.89	22.95	
5	QPSK	12	0	22.35	22.06	21.95	23
5	QPSK	12	7	22.26	22.17	21.99	
5	QPSK	12	13	22.29	22.08	22.12	
5	QPSK	25	0	22.36	22.03	21.88	
5	16QAM	1	0	22.53	22.29	22.27	23
5	16QAM	1	12	22.66	22.28	22.28	
5	16QAM	1	24	22.41	22.15	22.25	
5	16QAM	12	0	21.37	21.18	20.99	22
5	16QAM	12	7	21.35	21.07	20.93	
5	16QAM	12	13	21.24	21.15	21.14	
5	16QAM	25	0	21.35	21.08	20.99	
5	64QAM	1	0	21.46	21.19	21.16	22
5	64QAM	1	12	21.31	21.13	21.02	
5	64QAM	1	24	21.53	21.18	21.27	
5	64QAM	12	0	20.32	20.15	19.86	21
5	64QAM	12	7	20.42	20.11	19.91	
5	64QAM	12	13	20.11	20.15	20.00	
5	64QAM	25	0	20.46	20.06	20.15	
5	256QAM	1	0	18.34	18.31	18.18	19
5	256QAM	1	12	18.45	18.14	17.94	
5	256QAM	1	24	18.24	18.16	18.24	
5	256QAM	12	0	18.31	18.11	18.05	19
5	256QAM	12	7	18.36	18.21	18.06	
5	256QAM	12	13	18.09	17.98	17.93	
5	256QAM	25	0	18.25	18.05	18.02	
Channel				18615	18900	19185	Tune-up limit



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Frequency (MHz)				1851.5	1880	1908.5	(dBm)
3	QPSK	1	0	23.29	22.92	23.19	23.3
3	QPSK	1	8	23.27	23.03	22.87	
3	QPSK	1	14	23.02	23.07	22.94	
3	QPSK	8	0	22.26	22.09	22.03	23
3	QPSK	8	4	22.35	22.12	21.93	
3	QPSK	8	7	22.29	22.17	22.13	
3	QPSK	15	0	22.44	22.06	22.02	23
3	16QAM	1	0	22.62	22.35	22.17	
3	16QAM	1	8	22.75	22.20	22.28	
3	16QAM	1	14	22.41	22.27	22.26	22
3	16QAM	8	0	21.34	21.09	20.98	
3	16QAM	8	4	21.37	21.20	20.97	
3	16QAM	8	7	21.18	21.19	20.96	22
3	16QAM	15	0	21.30	21.19	20.96	
3	64QAM	1	0	21.41	21.03	21.18	
3	64QAM	1	8	21.37	21.22	21.19	21
3	64QAM	1	14	21.46	21.04	21.16	
3	64QAM	8	0	20.31	19.99	19.86	
3	64QAM	8	4	20.40	20.10	19.90	19
3	64QAM	8	7	20.21	20.14	20.15	
3	64QAM	15	0	20.36	20.01	20.00	
3	256QAM	1	0	18.34	18.39	18.14	19
3	256QAM	1	8	18.31	18.18	17.86	
3	256QAM	1	14	18.23	18.23	18.26	
3	256QAM	8	0	18.28	18.21	17.98	19
3	256QAM	8	4	18.33	18.16	17.98	
3	256QAM	8	7	18.28	17.99	17.97	
3	256QAM	15	0	18.30	18.12	18.15	
Channel				18607	18900	19193	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1909.3	
1.4	QPSK	1	0	23.29	22.97	23.09	23.3
1.4	QPSK	1	3	23.18	23.06	23.01	
1.4	QPSK	1	5	22.97	22.97	22.88	
1.4	QPSK	3	0	23.29	22.90	23.00	23
1.4	QPSK	3	1	23.28	23.01	22.98	
1.4	QPSK	3	3	23.02	23.02	22.85	
1.4	QPSK	6	0	22.36	22.17	21.98	23
1.4	16QAM	1	0	22.30	22.13	21.94	
1.4	16QAM	1	3	22.13	22.06	22.00	
1.4	16QAM	1	5	22.25	22.07	21.90	22
1.4	16QAM	3	0	22.56	22.27	22.24	
1.4	16QAM	3	1	22.74	22.14	22.30	
1.4	16QAM	3	3	22.61	22.26	22.23	22
1.4	16QAM	6	0	21.27	21.09	21.06	
1.4	64QAM	1	0	21.37	21.09	20.99	
1.4	64QAM	1	3	21.27	21.14	21.13	22
1.4	64QAM	1	5	21.31	21.10	20.98	
1.4	64QAM	3	0	21.38	21.01	21.15	
1.4	64QAM	3	1	21.25	21.18	21.01	21
1.4	64QAM	3	3	21.44	21.17	21.17	
1.4	64QAM	6	0	20.29	20.15	20.05	
1.4	256QAM	1	0	18.47	18.41	18.17	19
1.4	256QAM	1	3	18.48	18.17	17.89	
1.4	256QAM	1	5	18.25	18.29	18.25	
1.4	256QAM	3	0	18.29	18.16	17.93	19
1.4	256QAM	3	1	18.19	18.14	18.04	
1.4	256QAM	3	3	18.24	18.16	18.10	
1.4	256QAM	6	0	18.30	18.03	18.11	19

**<LTE Band 4_Ant 0_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	22.91	22.92	22.66	24
20	QPSK	1	49	22.90	22.69	22.56	
20	QPSK	1	99	22.86	22.61	22.47	
20	QPSK	50	0	21.98	22.01	21.69	23
20	QPSK	50	24	21.96	21.79	21.71	
20	QPSK	50	50	21.90	21.66	21.62	
20	QPSK	100	0	21.80	21.83	21.66	
20	16QAM	1	0	22.43	22.12	21.97	23
20	16QAM	1	49	22.13	22.04	21.90	
20	16QAM	1	99	21.94	22.13	21.76	
20	16QAM	50	0	21.03	20.83	20.74	22
20	16QAM	50	24	21.05	20.82	20.66	
20	16QAM	50	50	21.02	20.72	20.72	
20	16QAM	100	0	21.03	20.77	20.69	
20	64QAM	1	0	21.32	21.04	20.88	22
20	64QAM	1	49	21.10	20.90	20.74	
20	64QAM	1	99	21.06	20.91	20.78	
20	64QAM	50	0	20.08	19.86	19.69	21
20	64QAM	50	24	20.05	19.80	19.73	
20	64QAM	50	50	19.99	19.67	19.69	
20	64QAM	100	0	20.06	19.79	19.67	
20	256QAM	1	0	18.29	18.03	17.92	19
20	256QAM	1	49	17.98	17.88	17.69	
20	256QAM	1	99	17.81	17.72	17.58	
20	256QAM	50	0	17.87	17.78	17.70	19
20	256QAM	50	24	18.00	17.78	17.66	
20	256QAM	50	50	17.93	17.65	17.64	
20	256QAM	100	0	18.00	17.83	17.66	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	22.74	22.81	22.57	24
15	QPSK	1	37	22.73	22.49	22.48	
15	QPSK	1	74	22.77	22.54	22.35	
15	QPSK	36	0	21.80	21.91	21.66	23
15	QPSK	36	20	21.88	21.59	21.68	
15	QPSK	36	39	21.70	21.54	21.59	
15	QPSK	75	0	21.60	21.75	21.56	
15	16QAM	1	0	22.28	22.00	21.93	23
15	16QAM	1	37	22.03	21.97	21.76	
15	16QAM	1	74	21.75	21.99	21.60	
15	16QAM	36	0	20.87	20.78	20.70	22
15	16QAM	36	20	20.91	20.72	20.49	
15	16QAM	36	39	20.85	20.68	20.53	
15	16QAM	75	0	20.86	20.72	20.50	
15	64QAM	1	0	21.26	20.96	20.79	22
15	64QAM	1	37	20.99	20.70	20.63	
15	64QAM	1	74	21.01	20.89	20.62	
15	64QAM	36	0	19.91	19.72	19.53	
15	64QAM	36	20	20.02	19.73	19.65	21
15	64QAM	36	39	19.99	19.61	19.53	
15	64QAM	75	0	20.02	19.67	19.50	
15	256QAM	1	0	18.28	18.02	17.86	
15	256QAM	1	37	17.96	17.88	17.60	19
15	256QAM	1	74	17.75	17.59	17.58	
15	256QAM	36	0	17.83	17.67	17.61	



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15	256QAM	36	20	17.83	17.59	17.56	
15	256QAM	36	39	17.77	17.55	17.44	
15	256QAM	75	0	17.93	17.67	17.61	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	22.79	22.80	22.56	24
10	QPSK	1	25	22.78	22.63	22.56	
10	QPSK	1	49	22.77	22.60	22.30	
10	QPSK	25	0	21.87	22.01	21.66	23
10	QPSK	25	12	21.81	21.76	21.57	
10	QPSK	25	25	21.76	21.55	21.57	
10	QPSK	50	0	21.73	21.77	21.56	
10	16QAM	1	0	22.26	22.11	21.93	23
10	16QAM	1	25	22.13	21.94	21.78	
10	16QAM	1	49	21.84	22.08	21.75	
10	16QAM	25	0	20.90	20.71	20.60	22
10	16QAM	25	12	20.92	20.75	20.56	
10	16QAM	25	25	20.95	20.71	20.71	
10	16QAM	50	0	20.88	20.65	20.60	
10	64QAM	1	0	21.14	20.88	20.68	22
10	64QAM	1	25	21.09	20.79	20.60	
10	64QAM	1	49	21.06	20.89	20.62	
10	64QAM	25	0	20.02	19.79	19.55	21
10	64QAM	25	12	19.89	19.76	19.64	
10	64QAM	25	25	19.93	19.50	19.53	
10	64QAM	50	0	19.96	19.70	19.54	
10	256QAM	1	0	18.16	17.87	17.91	19
10	256QAM	1	25	17.78	17.76	17.67	
10	256QAM	1	49	17.75	17.67	17.46	
10	256QAM	25	0	17.82	17.71	17.53	19
10	256QAM	25	12	17.87	17.59	17.46	
10	256QAM	25	25	17.74	17.59	17.47	
10	256QAM	50	0	17.82	17.78	17.65	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	22.86	22.89	22.50	24
5	QPSK	1	12	22.79	22.64	22.37	
5	QPSK	1	24	22.75	22.56	22.34	
5	QPSK	12	0	21.84	21.98	21.59	23
5	QPSK	12	7	21.83	21.64	21.64	
5	QPSK	12	13	21.88	21.51	21.56	
5	QPSK	25	0	21.78	21.72	21.57	
5	16QAM	1	0	22.28	21.98	21.82	23
5	16QAM	1	12	22.05	21.86	21.79	
5	16QAM	1	24	21.76	22.09	21.66	
5	16QAM	12	0	20.92	20.79	20.67	22
5	16QAM	12	7	21.04	20.67	20.53	
5	16QAM	12	13	20.93	20.66	20.61	
5	16QAM	25	0	20.91	20.64	20.57	
5	64QAM	1	0	21.24	20.95	20.78	22
5	64QAM	1	12	21.10	20.84	20.58	
5	64QAM	1	24	20.87	20.81	20.65	
5	64QAM	12	0	20.06	19.86	19.65	21
5	64QAM	12	7	19.95	19.76	19.70	
5	64QAM	12	13	19.96	19.59	19.65	
5	64QAM	25	0	19.89	19.74	19.49	
5	256QAM	1	0	18.22	17.95	17.82	19
5	256QAM	1	12	17.79	17.82	17.59	
5	256QAM	1	24	17.78	17.59	17.41	
5	256QAM	12	0	17.70	17.63	17.51	19
5	256QAM	12	7	17.80	17.64	17.65	
5	256QAM	12	13	17.79	17.60	17.51	
5	256QAM	25	0	17.89	17.69	17.58	



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Channel				19965	20175	20385	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1732.5	1753.5	
3	QPSK	1	0	22.77	22.72	22.48	24
3	QPSK	1	8	22.84	22.55	22.44	
3	QPSK	1	14	22.73	22.55	22.38	
3	QPSK	8	0	21.95	21.96	21.59	23
3	QPSK	8	4	21.84	21.74	21.57	
3	QPSK	8	7	21.73	21.46	21.50	
3	QPSK	15	0	21.62	21.69	21.57	23
3	16QAM	1	0	22.39	22.06	21.85	
3	16QAM	1	8	22.07	21.85	21.71	
3	16QAM	1	14	21.88	22.10	21.63	22
3	16QAM	8	0	20.88	20.82	20.60	
3	16QAM	8	4	20.93	20.77	20.64	
3	16QAM	8	7	20.85	20.53	20.61	22
3	16QAM	15	0	20.94	20.75	20.63	
3	64QAM	1	0	21.30	20.87	20.75	
3	64QAM	1	8	20.92	20.77	20.59	22
3	64QAM	1	14	20.99	20.83	20.67	
3	64QAM	8	0	20.06	19.84	19.54	21
3	64QAM	8	4	20.04	19.65	19.69	
3	64QAM	8	7	19.96	19.49	19.65	
3	64QAM	15	0	19.88	19.66	19.49	19
3	256QAM	1	0	18.19	17.84	17.76	
3	256QAM	1	8	17.86	17.73	17.64	
3	256QAM	1	14	17.79	17.66	17.49	19
3	256QAM	8	0	17.80	17.73	17.61	
3	256QAM	8	4	17.80	17.76	17.47	
3	256QAM	8	7	17.78	17.45	17.55	19
3	256QAM	15	0	18.00	17.68	17.56	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	22.83	22.79	22.64	24
1.4	QPSK	1	3	22.86	22.59	22.50	
1.4	QPSK	1	5	22.67	22.46	22.27	
1.4	QPSK	3	0	22.90	22.86	22.47	23
1.4	QPSK	3	1	22.83	22.52	22.41	
1.4	QPSK	3	3	22.84	22.57	22.28	
1.4	QPSK	6	0	21.80	21.94	21.52	23
1.4	16QAM	1	0	21.81	21.77	21.67	
1.4	16QAM	1	3	21.71	21.61	21.54	
1.4	16QAM	1	5	21.61	21.75	21.66	23
1.4	16QAM	3	0	22.23	22.12	21.87	
1.4	16QAM	3	1	22.00	21.96	21.75	
1.4	16QAM	3	3	21.79	22.01	21.57	22
1.4	16QAM	6	0	20.87	20.67	20.71	
1.4	64QAM	1	0	21.00	20.81	20.64	
1.4	64QAM	1	3	21.02	20.58	20.71	22
1.4	64QAM	1	5	20.98	20.65	20.64	
1.4	64QAM	3	0	21.23	20.86	20.83	
1.4	64QAM	3	1	21.10	20.83	20.73	21
1.4	64QAM	3	3	20.87	20.73	20.75	
1.4	64QAM	6	0	20.00	19.84	19.67	
1.4	256QAM	1	0	18.29	17.96	17.88	19
1.4	256QAM	1	3	17.97	17.72	17.52	
1.4	256QAM	1	5	17.72	17.55	17.41	
1.4	256QAM	3	0	17.75	17.74	17.55	19
1.4	256QAM	3	1	17.83	17.74	17.56	
1.4	256QAM	3	3	17.92	17.63	17.51	
1.4	256QAM	6	0	17.88	17.74	17.65	19



<LTE Band 4_Ant 0_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20050	20175	20300	
Frequency (MHz)				1720	1732.5	1745	
20	QPSK	1	0	20.79	20.49	20.30	21.4
20	QPSK	1	49	20.73	20.30	20.23	
20	QPSK	1	99	20.45	20.33	20.32	
20	QPSK	50	0	20.73	20.52	20.31	21.4
20	QPSK	50	24	20.60	20.50	20.34	
20	QPSK	50	50	20.59	20.52	20.41	
20	QPSK	100	0	20.73	20.53	20.35	
20	16QAM	1	0	20.78	20.78	20.63	21.4
20	16QAM	1	49	20.63	20.61	20.62	
20	16QAM	1	99	20.69	20.74	20.60	
20	16QAM	50	0	20.73	20.54	20.34	21.4
20	16QAM	50	24	20.73	20.52	20.34	
20	16QAM	50	50	20.65	20.47	20.39	
20	16QAM	100	0	20.70	20.48	20.37	
20	64QAM	1	0	20.75	20.65	20.52	21.4
20	64QAM	1	49	20.68	20.63	20.63	
20	64QAM	1	99	20.54	20.59	20.45	
20	64QAM	50	0	20.24	20.14	19.92	21
20	64QAM	50	24	20.25	20.13	19.93	
20	64QAM	50	50	20.21	20.08	19.99	
20	64QAM	100	0	20.30	20.13	19.94	
20	256QAM	1	0	18.54	18.25	18.12	19
20	256QAM	1	49	18.27	18.14	18.04	
20	256QAM	1	99	18.06	18.19	18.02	
20	256QAM	50	0	18.35	18.14	17.98	19
20	256QAM	50	24	18.30	18.13	17.98	
20	256QAM	50	50	18.20	18.10	18.04	
20	256QAM	100	0	18.26	18.07	17.96	
Channel				20025	20175	20325	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1732.5	1747.5	
15	QPSK	1	0	20.74	20.49	20.25	21.4
15	QPSK	1	37	20.72	20.30	20.14	
15	QPSK	1	74	20.44	20.30	20.30	
15	QPSK	36	0	20.71	20.44	20.21	21.4
15	QPSK	36	20	20.56	20.43	20.26	
15	QPSK	36	39	20.49	20.50	20.41	
15	QPSK	75	0	20.73	20.45	20.35	
15	16QAM	1	0	20.73	20.68	20.61	21.4
15	16QAM	1	37	20.60	20.59	20.62	
15	16QAM	1	74	20.63	20.66	20.57	
15	16QAM	36	0	20.73	20.48	20.34	21.4
15	16QAM	36	20	20.70	20.47	20.30	
15	16QAM	36	39	20.59	20.37	20.36	
15	16QAM	75	0	20.64	20.38	20.33	
15	64QAM	1	0	20.73	20.61	20.50	21.4
15	64QAM	1	37	20.68	20.58	20.60	
15	64QAM	1	74	20.44	20.59	20.35	
15	64QAM	36	0	19.91	19.72	19.53	21
15	64QAM	36	20	20.02	19.73	19.65	
15	64QAM	36	39	19.99	19.61	19.53	
15	64QAM	75	0	20.02	19.67	19.50	
15	256QAM	1	0	18.28	18.02	17.86	19
15	256QAM	1	37	17.96	17.88	17.60	
15	256QAM	1	74	17.75	17.59	17.58	
15	256QAM	36	0	17.83	17.67	17.61	19
15	256QAM	36	20	17.83	17.59	17.56	



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15	256QAM	36	39	17.77	17.55	17.44	Tune-up limit (dBm)
15	256QAM	75	0	17.93	17.67	17.61	
Channel				20000	20175	20350	Tune-up limit (dBm)
Frequency (MHz)				1715	1732.5	1750	
10	QPSK	1	0	20.76	20.49	20.26	21.4
10	QPSK	1	25	20.68	20.22	20.20	
10	QPSK	1	49	20.36	20.33	20.30	
10	QPSK	25	0	20.71	20.46	20.31	21.4
10	QPSK	25	12	20.60	20.44	20.30	
10	QPSK	25	25	20.58	20.42	20.32	
10	QPSK	50	0	20.70	20.47	20.35	
10	16QAM	1	0	20.74	20.71	20.54	21.4
10	16QAM	1	25	20.61	20.59	20.60	
10	16QAM	1	49	20.59	20.67	20.56	
10	16QAM	25	0	20.65	20.47	20.26	21.4
10	16QAM	25	12	20.73	20.48	20.33	
10	16QAM	25	25	20.55	20.40	20.31	
10	16QAM	50	0	20.62	20.48	20.31	
10	64QAM	1	0	20.75	20.58	20.52	21.4
10	64QAM	1	25	20.59	20.58	20.63	
10	64QAM	1	49	20.49	20.59	20.41	
10	64QAM	25	0	20.02	19.79	19.55	21
10	64QAM	25	12	19.89	19.76	19.64	
10	64QAM	25	25	19.93	19.50	19.53	
10	64QAM	50	0	19.96	19.70	19.54	
10	256QAM	1	0	18.16	17.87	17.91	19
10	256QAM	1	25	17.78	17.76	17.67	
10	256QAM	1	49	17.75	17.67	17.46	
10	256QAM	25	0	17.82	17.71	17.53	19
10	256QAM	25	12	17.87	17.59	17.46	
10	256QAM	25	25	17.74	17.59	17.47	
10	256QAM	50	0	17.82	17.78	17.65	
Channel				19975	20175	20375	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1732.5	1752.5	
5	QPSK	1	0	20.77	20.46	20.25	21.4
5	QPSK	1	12	20.70	20.27	20.21	
5	QPSK	1	24	20.36	20.24	20.30	
5	QPSK	12	0	20.63	20.50	20.24	21.4
5	QPSK	12	7	20.56	20.45	20.24	
5	QPSK	12	13	20.59	20.43	20.35	
5	QPSK	25	0	20.73	20.48	20.32	
5	16QAM	1	0	20.77	20.78	20.62	21.4
5	16QAM	1	12	20.61	20.52	20.52	
5	16QAM	1	24	20.60	20.66	20.57	
5	16QAM	12	0	20.70	20.49	20.31	21.4
5	16QAM	12	7	20.71	20.43	20.32	
5	16QAM	12	13	20.60	20.40	20.32	
5	16QAM	25	0	20.69	20.40	20.37	
5	64QAM	1	0	20.70	20.57	20.50	21.4
5	64QAM	1	12	20.63	20.55	20.63	
5	64QAM	1	24	20.52	20.58	20.44	
5	64QAM	12	0	20.06	19.86	19.65	21
5	64QAM	12	7	19.95	19.76	19.70	
5	64QAM	12	13	19.96	19.59	19.65	
5	64QAM	25	0	19.89	19.74	19.49	
5	256QAM	1	0	18.22	17.95	17.82	19
5	256QAM	1	12	17.79	17.82	17.59	
5	256QAM	1	24	17.78	17.59	17.41	
5	256QAM	12	0	17.70	17.63	17.51	19
5	256QAM	12	7	17.80	17.64	17.65	
5	256QAM	12	13	17.79	17.60	17.51	
5	256QAM	25	0	17.89	17.69	17.58	
Channel				19965	20175	20385	Tune-up limit



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Frequency (MHz)				1711.5	1732.5	1753.5	(dBm)
3	QPSK	1	0	20.71	20.49	20.27	21.4
3	QPSK	1	8	20.64	20.22	20.23	
3	QPSK	1	14	20.35	20.31	20.31	
3	QPSK	8	0	20.68	20.44	20.25	21.4
3	QPSK	8	4	20.58	20.40	20.34	
3	QPSK	8	7	20.57	20.49	20.35	
3	QPSK	15	0	20.68	20.53	20.35	21.4
3	16QAM	1	0	20.73	20.78	20.58	
3	16QAM	1	8	20.63	20.57	20.52	
3	16QAM	1	14	20.66	20.66	20.58	21.4
3	16QAM	8	0	20.63	20.49	20.27	
3	16QAM	8	4	20.67	20.50	20.31	
3	16QAM	8	7	20.59	20.41	20.31	21.4
3	16QAM	15	0	20.69	20.44	20.27	
3	64QAM	1	0	20.75	20.64	20.44	
3	64QAM	1	8	20.63	20.60	20.56	21.4
3	64QAM	1	14	20.45	20.56	20.40	
3	64QAM	8	0	20.06	19.84	19.54	
3	64QAM	8	4	20.04	19.65	19.69	21
3	64QAM	8	7	19.96	19.49	19.65	
3	64QAM	15	0	19.88	19.66	19.49	
3	256QAM	1	0	18.19	17.84	17.76	19
3	256QAM	1	8	17.86	17.73	17.64	
3	256QAM	1	14	17.79	17.66	17.49	
3	256QAM	8	0	17.80	17.73	17.61	19
3	256QAM	8	4	17.80	17.76	17.47	
3	256QAM	8	7	17.78	17.45	17.55	
3	256QAM	15	0	18.00	17.68	17.56	
Channel				19957	20175	20393	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1732.5	1754.3	
1.4	QPSK	1	0	20.72	20.42	20.27	21.4
1.4	QPSK	1	3	20.63	20.25	20.13	
1.4	QPSK	1	5	20.43	20.32	20.24	
1.4	QPSK	3	0	20.69	20.52	20.23	21.4
1.4	QPSK	3	1	20.54	20.45	20.30	
1.4	QPSK	3	3	20.59	20.42	20.32	
1.4	QPSK	6	0	20.64	20.51	20.27	21.4
1.4	16QAM	1	0	20.75	20.78	20.60	21.4
1.4	16QAM	1	3	20.61	20.51	20.53	
1.4	16QAM	1	5	20.67	20.73	20.53	
1.4	16QAM	3	0	20.67	20.44	20.28	21.4
1.4	16QAM	3	1	20.65	20.46	20.26	
1.4	16QAM	3	3	20.55	20.39	20.39	
1.4	16QAM	6	0	20.67	20.48	20.34	21.4
1.4	64QAM	1	0	20.68	20.65	20.49	21.4
1.4	64QAM	1	3	20.58	20.57	20.54	
1.4	64QAM	1	5	20.46	20.56	20.36	
1.4	64QAM	3	0	20.67	20.65	20.47	21.4
1.4	64QAM	3	1	20.59	20.63	20.53	
1.4	64QAM	3	3	20.47	20.55	20.36	
1.4	64QAM	6	0	20.00	19.84	19.67	21
1.4	256QAM	1	0	18.29	17.96	17.88	19
1.4	256QAM	1	3	17.97	17.72	17.52	
1.4	256QAM	1	5	17.72	17.55	17.41	
1.4	256QAM	3	0	17.75	17.74	17.55	19
1.4	256QAM	3	1	17.83	17.74	17.56	
1.4	256QAM	3	3	17.92	17.63	17.51	
1.4	256QAM	6	0	17.88	17.74	17.65	19



<LTE Band 5_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20450	20525	20600	
Frequency (MHz)				829	836.5	844	
10	QPSK	1	0	23.23	23.63	23.38	
10	QPSK	1	25	23.20	23.62	23.27	24
10	QPSK	1	49	23.14	23.32	23.15	
10	QPSK	25	0	22.24	22.67	22.44	
10	QPSK	25	12	22.20	22.47	22.42	23
10	QPSK	25	25	22.24	22.45	22.28	
10	QPSK	50	0	22.30	22.48	22.40	
10	16QAM	1	0	22.57	22.91	22.73	23
10	16QAM	1	25	22.48	22.74	22.68	
10	16QAM	1	49	22.41	22.84	22.55	
10	16QAM	25	0	21.26	21.63	21.51	22
10	16QAM	25	12	21.26	21.56	21.48	
10	16QAM	25	25	21.29	21.49	21.28	
10	16QAM	50	0	21.26	21.54	21.45	22
10	64QAM	1	0	21.35	21.80	21.67	
10	64QAM	1	25	21.41	21.73	21.61	
10	64QAM	1	49	21.31	21.51	21.39	21
10	64QAM	25	0	20.15	20.65	20.46	
10	64QAM	25	12	20.26	20.58	20.48	
10	64QAM	25	25	20.18	20.49	20.28	19
10	64QAM	50	0	20.18	20.49	20.43	
10	256QAM	1	0	18.89	18.78	18.46	
10	256QAM	1	25	18.19	18.60	18.33	19
10	256QAM	1	49	17.99	18.48	18.22	
10	256QAM	25	0	18.14	18.62	18.30	
10	256QAM	25	12	18.08	18.52	18.23	19
10	256QAM	25	25	17.96	18.43	18.13	
10	256QAM	50	0	18.02	18.48	18.15	
Channel				20425	20525	20625	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	QPSK	1	0	23.22	23.50	23.27	
5	QPSK	1	12	23.18	23.43	23.25	24
5	QPSK	1	24	23.01	23.30	22.99	
5	QPSK	12	0	22.09	22.53	22.40	23
5	QPSK	12	7	22.04	22.40	22.42	
5	QPSK	12	13	22.15	22.38	22.11	
5	QPSK	25	0	22.15	22.43	22.24	23
5	16QAM	1	0	22.49	22.81	22.70	
5	16QAM	1	12	22.43	22.70	22.63	
5	16QAM	1	24	22.34	22.73	22.38	22
5	16QAM	12	0	21.13	21.45	21.41	
5	16QAM	12	7	21.11	21.52	21.45	
5	16QAM	12	13	21.09	21.48	21.23	22
5	16QAM	25	0	21.17	21.48	21.42	
5	64QAM	1	0	21.28	21.72	21.67	
5	64QAM	1	12	21.41	21.61	21.58	22
5	64QAM	1	24	21.11	21.48	21.39	
5	64QAM	12	0	20.15	20.64	20.29	
5	64QAM	12	7	20.23	20.55	20.33	21
5	64QAM	12	13	20.15	20.38	20.14	
5	64QAM	25	0	20.06	20.41	20.33	
5	256QAM	1	0	18.72	18.73	18.31	19
5	256QAM	1	12	18.13	18.52	18.15	
5	256QAM	1	24	17.87	18.40	18.15	
5	256QAM	12	0	17.98	18.48	18.27	19
5	256QAM	12	7	17.99	18.36	18.15	



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5	256QAM	12	13	17.91	18.23	18.05	
5	256QAM	25	0	18.01	18.37	18.02	
Channel				20415	20525	20635	Tune-up limit (dBm)
Frequency (MHz)				825.5	836.5	847.5	
3	QPSK	1	0	23.17	23.44	23.27	24
3	QPSK	1	8	23.03	23.53	23.09	
3	QPSK	1	14	23.01	23.29	22.98	
3	QPSK	8	0	22.19	22.53	22.25	23
3	QPSK	8	4	22.01	22.33	22.37	
3	QPSK	8	7	22.17	22.38	22.27	
3	QPSK	15	0	22.12	22.48	22.38	
3	16QAM	1	0	22.42	22.83	22.58	23
3	16QAM	1	8	22.43	22.65	22.67	
3	16QAM	1	14	22.32	22.73	22.41	22
3	16QAM	8	0	21.25	21.59	21.44	
3	16QAM	8	4	21.12	21.37	21.34	
3	16QAM	8	7	21.28	21.47	21.20	
3	16QAM	15	0	21.15	21.38	21.32	22
3	64QAM	1	0	21.15	21.70	21.52	
3	64QAM	1	8	21.41	21.57	21.46	
3	64QAM	1	14	21.26	21.51	21.31	
3	64QAM	8	0	20.01	20.51	20.29	21
3	64QAM	8	4	20.26	20.50	20.42	
3	64QAM	8	7	19.99	20.44	20.24	
3	64QAM	15	0	20.16	20.41	20.33	
3	256QAM	1	0	18.87	18.60	18.26	19
3	256QAM	1	8	18.08	18.44	18.25	
3	256QAM	1	14	17.86	18.35	18.15	
3	256QAM	8	0	18.14	18.50	18.28	19
3	256QAM	8	4	18.05	18.46	18.23	
3	256QAM	8	7	17.90	18.41	18.05	
3	256QAM	15	0	17.92	18.41	18.12	
Channel				20407	20525	20643	Tune-up limit (dBm)
Frequency (MHz)				824.7	836.5	848.3	
1.4	QPSK	1	0	23.07	23.50	23.29	24
1.4	QPSK	1	3	23.04	23.44	23.12	
1.4	QPSK	1	5	22.95	23.22	23.09	
1.4	QPSK	3	0	23.14	23.50	23.22	
1.4	QPSK	3	1	23.09	23.58	23.14	
1.4	QPSK	3	3	23.04	23.30	22.97	23
1.4	QPSK	6	0	22.21	22.64	22.28	
1.4	16QAM	1	0	22.01	22.35	22.22	23
1.4	16QAM	1	3	22.11	22.40	22.24	
1.4	16QAM	1	5	22.29	22.39	22.24	
1.4	16QAM	3	0	22.37	22.86	22.54	
1.4	16QAM	3	1	22.34	22.69	22.55	
1.4	16QAM	3	3	22.25	22.83	22.45	22
1.4	16QAM	6	0	21.17	21.59	21.47	
1.4	64QAM	1	0	21.20	21.42	21.37	22
1.4	64QAM	1	3	21.22	21.34	21.25	
1.4	64QAM	1	5	21.26	21.51	21.42	
1.4	64QAM	3	0	21.22	21.72	21.66	
1.4	64QAM	3	1	21.27	21.56	21.49	
1.4	64QAM	3	3	21.16	21.43	21.28	21
1.4	64QAM	6	0	20.10	20.63	20.36	
1.4	256QAM	1	0	18.71	18.68	18.33	19
1.4	256QAM	1	3	18.17	18.59	18.21	
1.4	256QAM	1	5	17.90	18.34	18.21	
1.4	256QAM	3	0	18.09	18.55	18.13	
1.4	256QAM	3	1	17.91	18.45	18.06	
1.4	256QAM	3	3	17.87	18.32	18.03	19
1.4	256QAM	6	0	17.86	18.28	18.06	

**<LTE Band 7_Ant 0_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				20850	21100	21350	
Frequency (MHz)				2510	2535	2560	
20	QPSK	1	0	23.01	23.22	23.09	24
20	QPSK	1	49	23.07	23.02	22.95	
20	QPSK	1	99	23.04	22.97	22.96	
20	QPSK	50	0	22.10	22.23	22.04	23
20	QPSK	50	24	22.22	22.19	22.03	
20	QPSK	50	50	22.19	22.15	22.04	
20	QPSK	100	0	22.16	22.17	22.05	
20	16QAM	1	0	22.29	22.44	22.30	23
20	16QAM	1	49	22.41	22.53	22.30	
20	16QAM	1	99	22.36	22.29	22.21	
20	16QAM	50	0	21.13	21.19	21.10	22
20	16QAM	50	24	21.23	21.15	21.03	
20	16QAM	50	50	21.18	21.10	21.07	
20	16QAM	100	0	21.21	21.07	21.06	
20	64QAM	1	0	21.20	21.39	21.34	22
20	64QAM	1	49	21.40	21.39	21.23	
20	64QAM	1	99	21.35	21.22	21.25	
20	64QAM	50	0	20.13	20.18	20.08	21
20	64QAM	50	24	20.23	20.15	20.10	
20	64QAM	50	50	20.19	20.14	20.06	
20	64QAM	100	0	20.25	20.18	20.11	
20	256QAM	1	0	18.21	18.27	18.23	19
20	256QAM	1	49	18.12	18.24	18.15	
20	256QAM	1	99	18.06	18.19	18.11	
20	256QAM	50	0	18.09	18.21	18.08	19
20	256QAM	50	24	18.07	18.17	18.04	
20	256QAM	50	50	18.05	18.17	18.11	
20	256QAM	100	0	17.97	18.12	17.99	
Channel				20825	21100	21375	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	QPSK	1	0	22.84	23.08	23.02	24
15	QPSK	1	37	23.05	22.99	22.92	
15	QPSK	1	74	23.00	22.86	22.81	
15	QPSK	36	0	22.10	22.10	21.91	23
15	QPSK	36	20	22.12	22.03	21.94	
15	QPSK	36	39	22.13	22.10	21.98	
15	QPSK	75	0	21.99	21.98	21.88	23
15	16QAM	1	0	22.18	22.44	22.11	
15	16QAM	1	37	22.29	22.49	22.15	
15	16QAM	1	74	22.17	22.26	22.15	22
15	16QAM	36	0	21.10	21.13	20.91	
15	16QAM	36	20	21.06	21.11	20.90	
15	16QAM	36	39	21.15	21.04	20.88	
15	16QAM	75	0	21.09	21.07	21.01	22
15	64QAM	1	0	21.11	21.26	21.15	
15	64QAM	1	37	21.28	21.27	21.05	
15	64QAM	1	74	21.28	21.02	21.25	
15	64QAM	36	0	20.08	20.12	19.95	21
15	64QAM	36	20	20.21	20.02	19.94	
15	64QAM	36	39	20.00	20.08	19.89	
15	64QAM	75	0	20.16	20.14	20.02	
15	256QAM	1	0	18.18	18.21	18.19	19
15	256QAM	1	37	18.10	18.18	18.01	
15	256QAM	1	74	18.00	18.04	17.96	
15	256QAM	36	0	18.00	18.15	18.08	19



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15	256QAM	36	20	18.02	18.09	17.92	
15	256QAM	36	39	17.99	18.09	18.01	
15	256QAM	75	0	17.87	18.03	17.86	
Channel				20800	21100	21400	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	QPSK	1	0	22.97	23.07	23.03	24
10	QPSK	1	25	23.01	22.97	22.89	
10	QPSK	1	49	22.88	22.79	22.83	
10	QPSK	25	0	21.99	22.07	22.04	23
10	QPSK	25	12	22.12	22.08	22.02	
10	QPSK	25	25	22.08	22.09	22.01	
10	QPSK	50	0	21.98	22.13	21.97	23
10	16QAM	1	0	22.16	22.28	22.26	
10	16QAM	1	25	22.28	22.39	22.28	
10	16QAM	1	49	22.21	22.25	22.10	22
10	16QAM	25	0	21.12	21.19	21.03	
10	16QAM	25	12	21.20	21.13	20.95	
10	16QAM	25	25	21.09	21.03	20.94	22
10	16QAM	50	0	21.03	20.99	20.96	
10	64QAM	1	0	21.09	21.22	21.25	
10	64QAM	1	25	21.33	21.29	21.05	21
10	64QAM	1	49	21.19	21.03	21.20	
10	64QAM	25	0	19.97	20.14	20.03	
10	64QAM	25	12	20.11	20.03	19.93	19
10	64QAM	25	25	20.03	19.97	20.00	
10	64QAM	50	0	20.20	20.05	19.97	
10	256QAM	1	0	18.06	18.14	18.05	19
10	256QAM	1	25	18.05	18.12	17.97	
10	256QAM	1	49	17.93	18.18	17.91	
10	256QAM	25	0	17.94	18.03	18.05	19
10	256QAM	25	12	17.95	18.12	17.88	
10	256QAM	25	25	17.97	18.08	17.96	
10	256QAM	50	0	17.97	17.98	17.83	Tune-up limit (dBm)
Channel				20775	21100	21425	
Frequency (MHz)				2502.5	2535	2567.5	Tune-up limit (dBm)
5	QPSK	1	0	22.91	23.10	22.97	
5	QPSK	1	12	22.97	22.92	22.76	24
5	QPSK	1	24	22.99	22.81	22.86	
5	QPSK	12	0	21.92	22.08	22.04	23
5	QPSK	12	7	22.14	22.15	21.87	
5	QPSK	12	13	22.06	22.01	21.93	
5	QPSK	25	0	22.06	22.07	21.87	23
5	16QAM	1	0	22.27	22.38	22.20	
5	16QAM	1	12	22.30	22.47	22.25	
5	16QAM	1	24	22.18	22.10	22.04	22
5	16QAM	12	0	20.97	21.17	20.93	
5	16QAM	12	7	21.21	20.95	20.99	
5	16QAM	12	13	21.17	20.99	20.90	22
5	16QAM	25	0	21.10	20.91	20.87	
5	64QAM	1	0	21.06	21.21	21.23	
5	64QAM	1	12	21.40	21.20	21.20	21
5	64QAM	1	24	21.30	21.13	21.20	
5	64QAM	12	0	20.08	20.09	19.99	
5	64QAM	12	7	20.11	20.01	19.97	19
5	64QAM	12	13	20.13	20.11	19.90	
5	64QAM	25	0	20.10	20.17	20.00	
5	256QAM	1	0	18.03	18.21	18.09	19
5	256QAM	1	12	18.04	18.14	18.02	
5	256QAM	1	24	17.94	18.10	17.95	
5	256QAM	12	0	17.92	18.02	18.01	19
5	256QAM	12	7	17.96	18.17	17.97	
5	256QAM	12	13	18.03	17.97	17.99	
5	256QAM	25	0	17.87	18.04	17.84	

**<LTE Band 12_Ant 0_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23060	23095	23130	
Frequency (MHz)				704	707.5	711	
10	QPSK	1	0	23.71	23.73	23.50	24
10	QPSK	1	25	23.59	23.57	23.55	
10	QPSK	1	49	23.52	23.48	23.44	
10	QPSK	25	0	22.65	22.68	22.50	23
10	QPSK	25	12	22.62	22.61	22.54	
10	QPSK	25	25	22.51	22.55	22.56	
10	QPSK	50	0	22.58	22.59	22.55	
10	16QAM	1	0	22.94	22.95	22.93	23
10	16QAM	1	25	22.91	22.74	22.91	
10	16QAM	1	49	22.81	22.77	22.93	
10	16QAM	25	0	21.74	21.64	21.54	22
10	16QAM	25	12	21.61	21.61	21.52	
10	16QAM	25	25	21.55	21.56	21.58	
10	16QAM	50	0	21.61	21.56	21.55	
10	64QAM	1	0	21.94	21.78	21.88	22
10	64QAM	1	25	21.89	21.68	21.79	
10	64QAM	1	49	21.71	21.62	21.70	
10	64QAM	25	0	20.76	20.67	20.54	21
10	64QAM	25	12	20.63	20.61	20.54	
10	64QAM	25	25	20.53	20.52	20.54	
10	64QAM	50	0	20.60	20.58	20.50	
10	256QAM	1	0	18.82	18.77	18.72	19
10	256QAM	1	25	18.68	18.72	18.57	
10	256QAM	1	49	18.62	18.58	18.52	
10	256QAM	25	0	18.62	18.60	18.52	19
10	256QAM	25	12	18.61	18.63	18.54	
10	256QAM	25	25	18.53	18.58	18.52	
10	256QAM	50	0	18.58	18.57	18.43	
Channel				23035	23095	23155	Tune-up limit (dBm)
Frequency (MHz)				701.5	707.5	713.5	
5	QPSK	1	0	23.61	23.63	23.35	24
5	QPSK	1	12	23.44	23.37	23.38	
5	QPSK	1	24	23.48	23.32	23.33	
5	QPSK	12	0	22.63	22.68	22.30	23
5	QPSK	12	7	22.60	22.61	22.40	
5	QPSK	12	13	22.39	22.39	22.44	
5	QPSK	25	0	22.51	22.55	22.52	
5	16QAM	1	0	22.91	22.79	22.91	23
5	16QAM	1	12	22.78	22.65	22.78	
5	16QAM	1	24	22.68	22.70	22.73	
5	16QAM	12	0	21.63	21.50	21.43	22
5	16QAM	12	7	21.41	21.43	21.40	
5	16QAM	12	13	21.52	21.45	21.39	
5	16QAM	25	0	21.57	21.49	21.37	
5	64QAM	1	0	21.82	21.63	21.78	22
5	64QAM	1	12	21.81	21.59	21.74	
5	64QAM	1	24	21.54	21.46	21.58	
5	64QAM	12	0	20.72	20.66	20.42	21
5	64QAM	12	7	20.54	20.51	20.53	
5	64QAM	12	13	20.42	20.36	20.52	
5	64QAM	25	0	20.48	20.52	20.33	
5	256QAM	1	0	18.73	18.75	18.72	19
5	256QAM	1	12	18.58	18.56	18.52	
5	256QAM	1	24	18.48	18.58	18.44	
5	256QAM	12	0	18.51	18.56	18.34	19



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5	256QAM	12	7	18.46	18.58	18.39	
5	256QAM	12	13	18.36	18.45	18.34	
5	256QAM	25	0	18.44	18.46	18.30	
Channel				23025	23095	23165	Tune-up limit (dBm)
Frequency (MHz)				700.5	707.5	714.5	
3	QPSK	1	0	23.62	23.72	23.39	24
3	QPSK	1	8	23.59	23.54	23.48	
3	QPSK	1	14	23.44	23.33	23.44	
3	QPSK	8	0	22.47	22.62	22.43	23
3	QPSK	8	4	22.45	22.53	22.53	
3	QPSK	8	7	22.35	22.35	22.48	
3	QPSK	15	0	22.47	22.59	22.45	23
3	16QAM	1	0	22.80	22.93	22.89	
3	16QAM	1	8	22.84	22.64	22.71	
3	16QAM	1	14	22.72	22.65	22.83	22
3	16QAM	8	0	21.69	21.63	21.49	
3	16QAM	8	4	21.46	21.48	21.44	
3	16QAM	8	7	21.41	21.44	21.50	22
3	16QAM	15	0	21.48	21.55	21.49	
3	64QAM	1	0	21.83	21.62	21.87	
3	64QAM	1	8	21.83	21.61	21.60	21
3	64QAM	1	14	21.61	21.45	21.61	
3	64QAM	8	0	20.76	20.62	20.53	
3	64QAM	8	4	20.55	20.44	20.43	19
3	64QAM	8	7	20.47	20.38	20.39	
3	64QAM	15	0	20.57	20.40	20.40	
3	256QAM	1	0	18.69	18.57	18.69	19
3	256QAM	1	8	18.49	18.61	18.37	
3	256QAM	1	14	18.54	18.43	18.52	
3	256QAM	8	0	18.62	18.42	18.46	19
3	256QAM	8	4	18.57	18.47	18.52	
3	256QAM	8	7	18.43	18.47	18.32	
3	256QAM	15	0	18.55	18.49	18.24	Tune-up limit (dBm)
Channel				23017	23095	23173	
Frequency (MHz)				699.7	707.5	715.3	Tune-up limit (dBm)
1.4	QPSK	1	0	23.64	23.63	23.32	
1.4	QPSK	1	3	23.50	23.40	23.41	24
1.4	QPSK	1	5	23.37	23.40	23.29	
1.4	QPSK	3	0	23.51	23.71	23.50	
1.4	QPSK	3	1	23.42	23.43	23.45	23
1.4	QPSK	3	3	23.43	23.31	23.29	
1.4	QPSK	6	0	22.56	22.48	22.32	
1.4	16QAM	1	0	22.52	22.46	22.43	23
1.4	16QAM	1	3	22.38	22.54	22.52	
1.4	16QAM	1	5	22.41	22.57	22.52	
1.4	16QAM	3	0	22.77	22.94	22.78	22
1.4	16QAM	3	1	22.71	22.65	22.87	
1.4	16QAM	3	3	22.77	22.66	22.78	
1.4	16QAM	6	0	21.67	21.46	21.52	22
1.4	64QAM	1	0	21.43	21.41	21.40	
1.4	64QAM	1	3	21.50	21.44	21.52	
1.4	64QAM	1	5	21.41	21.52	21.40	21
1.4	64QAM	3	0	21.88	21.61	21.82	
1.4	64QAM	3	1	21.82	21.50	21.59	
1.4	64QAM	3	3	21.58	21.58	21.70	19
1.4	64QAM	6	0	20.64	20.67	20.48	
1.4	256QAM	1	0	18.78	18.59	18.66	
1.4	256QAM	1	3	18.56	18.53	18.47	19
1.4	256QAM	1	5	18.50	18.57	18.32	
1.4	256QAM	3	0	18.60	18.58	18.38	
1.4	256QAM	3	1	18.56	18.45	18.45	19
1.4	256QAM	3	3	18.46	18.41	18.34	
1.4	256QAM	6	0	18.55	18.37	18.25	19

**<LTE Band 13_Ant 0_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23230			
Frequency (MHz)				782			
10	QPSK	1	0		23.74		24
10	QPSK	1	25		23.44		
10	QPSK	1	49		23.33		
10	QPSK	25	0		22.63		23
10	QPSK	25	12		22.51		
10	QPSK	25	25		22.39		
10	QPSK	50	0		22.55		
10	16QAM	1	0		22.95		23
10	16QAM	1	25		22.93		
10	16QAM	1	49		22.73		
10	16QAM	25	0		21.68		22
10	16QAM	25	12		21.52		
10	16QAM	25	25		21.41		
10	16QAM	50	0		21.59		
10	64QAM	1	0		21.87		22
10	64QAM	1	25		21.77		
10	64QAM	1	49		21.68		
10	64QAM	25	0		20.70		21
10	64QAM	25	12		20.49		
10	64QAM	25	25		20.38		
10	64QAM	50	0		20.44		
10	256QAM	1	0		18.74		19
10	256QAM	1	25		18.61		
10	256QAM	1	49		18.44		
10	256QAM	25	0		18.65		19
10	256QAM	25	12		18.52		
10	256QAM	25	25		18.41		
10	256QAM	50	0		18.54		
Channel				23205	23230	23255	Tune-up limit (dBm)
Frequency (MHz)				779.5	782	784.5	
5	QPSK	1	0	23.59	23.67	23.62	24
5	QPSK	1	12	23.25	23.25	23.31	
5	QPSK	1	24	23.17	23.16	23.17	
5	QPSK	12	0	22.59	22.48	22.43	23
5	QPSK	12	7	22.48	22.46	22.44	
5	QPSK	12	13	22.24	22.33	22.27	
5	QPSK	25	0	22.42	22.37	22.47	
5	16QAM	1	0	22.95	22.94	22.93	23
5	16QAM	1	12	22.88	22.88	22.85	
5	16QAM	1	24	22.55	22.58	22.64	
5	16QAM	12	0	21.65	21.50	21.59	22
5	16QAM	12	7	21.38	21.40	21.50	
5	16QAM	12	13	21.41	21.27	21.29	
5	16QAM	25	0	21.45	21.41	21.49	
5	64QAM	1	0	21.80	21.82	21.77	22
5	64QAM	1	12	21.67	21.74	21.75	
5	64QAM	1	24	21.53	21.63	21.49	
5	64QAM	12	0	20.53	20.52	20.66	21
5	64QAM	12	7	20.46	20.38	20.42	
5	64QAM	12	13	20.20	20.18	20.18	
5	64QAM	25	0	20.40	20.32	20.33	
5	256QAM	1	0	18.71	18.60	18.64	19
5	256QAM	1	12	18.48	18.57	18.53	
5	256QAM	1	24	18.38	18.32	18.29	
5	256QAM	12	0	18.63	18.60	18.46	19



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5	256QAM	12	7	18.38	18.47	18.37	
5	256QAM	12	13	18.24	18.40	18.36	
5	256QAM	25	0	18.35	18.35	18.47	

<LTE Band 14_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23330			
Frequency (MHz)				793			
10	QPSK	1	0		23.40		24
10	QPSK	1	25		23.29		
10	QPSK	1	49		23.11		
10	QPSK	25	0		22.31		23
10	QPSK	25	12		22.23		
10	QPSK	25	25		22.28		
10	QPSK	50	0		22.24		
10	16QAM	1	0		22.68		23
10	16QAM	1	25		22.69		
10	16QAM	1	49		22.62		
10	16QAM	25	0		21.33		22
10	16QAM	25	12		21.30		
10	16QAM	25	25		21.31		
10	16QAM	50	0		21.22		
10	64QAM	1	0		21.55		22
10	64QAM	1	25		21.49		
10	64QAM	1	49		21.35		
10	64QAM	25	0		20.32		21
10	64QAM	25	12		20.34		
10	64QAM	25	25		20.31		
10	64QAM	50	0		20.23		
10	256QAM	1	0		18.47		19
10	256QAM	1	25		18.51		
10	256QAM	1	49		18.36		
10	256QAM	25	0		18.33		19
10	256QAM	25	12		18.31		
10	256QAM	25	25		18.30		
10	256QAM	50	0		18.32		
Channel				23305	23330	23355	Tune-up limit (dBm)
Frequency (MHz)				790.5	793	795.5	
5	QPSK	1	0	23.39	23.36	23.28	24
5	QPSK	1	12	23.13	23.21	23.17	
5	QPSK	1	24	23.07	22.99	23.05	
5	QPSK	12	0	22.31	22.28	22.18	23
5	QPSK	12	7	22.17	22.15	22.15	
5	QPSK	12	13	22.13	22.20	22.28	
5	QPSK	25	0	22.15	22.04	22.13	23
5	16QAM	1	0	22.50	22.67	22.55	
5	16QAM	1	12	22.52	22.58	22.63	
5	16QAM	1	24	22.44	22.45	22.62	22
5	16QAM	12	0	21.16	21.17	21.16	
5	16QAM	12	7	21.11	21.26	21.12	
5	16QAM	12	13	21.17	21.24	21.17	22
5	16QAM	25	0	21.17	21.16	21.10	
5	64QAM	1	0	21.51	21.43	21.35	
5	64QAM	1	12	21.37	21.35	21.42	22
5	64QAM	1	24	21.15	21.29	21.28	
5	64QAM	12	0	20.31	20.28	20.21	
5	64QAM	12	7	20.33	20.20	20.24	21
5	64QAM	12	13	20.19	20.20	20.26	
5	64QAM	25	0	20.22	20.04	20.10	
5	256QAM	1	0	18.38	18.34	18.43	19



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5	256QAM	1	12	18.32	18.34	18.45	19
5	256QAM	1	24	18.28	18.21	18.24	
5	256QAM	12	0	18.21	18.29	18.16	
5	256QAM	12	7	18.25	18.26	18.22	
5	256QAM	12	13	18.23	18.17	18.18	
5	256QAM	25	0	18.26	18.26	18.24	

<LTE Band 17_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				23780	23790	23800	
Frequency (MHz)				709	710	711	
10	QPSK	1	0	23.49	23.58	23.54	24
10	QPSK	1	25	23.57	23.56	23.55	
10	QPSK	1	49	23.49	23.50	23.50	
10	QPSK	25	0	22.51	22.60	22.55	23
10	QPSK	25	12	22.55	22.55	22.51	
10	QPSK	25	25	22.55	22.56	22.59	
10	QPSK	50	0	22.51	22.57	22.55	23
10	16QAM	1	0	22.93	22.88	23.00	
10	16QAM	1	25	22.80	22.90	22.87	
10	16QAM	1	49	22.79	22.95	22.92	22
10	16QAM	25	0	21.53	21.57	21.60	
10	16QAM	25	12	21.67	21.56	21.55	
10	16QAM	25	25	21.58	21.55	21.53	22
10	16QAM	50	0	21.56	21.50	21.54	
10	64QAM	1	0	21.81	21.80	21.69	
10	64QAM	1	25	21.72	21.88	21.86	22
10	64QAM	1	49	21.69	21.71	21.74	
10	64QAM	25	0	20.58	20.58	20.56	
10	64QAM	25	12	20.61	20.58	20.55	21
10	64QAM	25	25	20.58	20.60	20.54	
10	64QAM	50	0	20.56	20.60	20.50	
10	256QAM	1	0	18.62	18.62	18.58	19
10	256QAM	1	25	18.62	18.69	18.65	
10	256QAM	1	49	18.47	18.57	18.50	
10	256QAM	25	0	18.45	18.53	18.41	19
10	256QAM	25	12	18.50	18.51	18.43	
10	256QAM	25	25	18.47	18.57	18.51	
10	256QAM	50	0	18.51	18.56	18.45	
Channel				23755	23790	23825	Tune-up limit (dBm)
Frequency (MHz)				706.5	710	713.5	
5	QPSK	1	0	23.37	23.38	23.53	24
5	QPSK	1	12	23.50	23.40	23.50	
5	QPSK	1	24	23.49	23.38	23.47	
5	QPSK	12	0	22.41	22.41	22.54	23
5	QPSK	12	7	22.54	22.52	22.40	
5	QPSK	12	13	22.53	22.40	22.50	
5	QPSK	25	0	22.51	22.43	22.37	23
5	16QAM	1	0	22.81	22.71	22.83	
5	16QAM	1	12	22.63	22.89	22.79	
5	16QAM	1	24	22.66	22.82	22.78	22
5	16QAM	12	0	21.34	21.41	21.55	
5	16QAM	12	7	21.50	21.39	21.45	
5	16QAM	12	13	21.58	21.55	21.44	22
5	16QAM	25	0	21.51	21.46	21.41	
5	64QAM	1	0	21.66	21.64	21.65	
5	64QAM	1	12	21.54	21.80	21.76	22
5	64QAM	1	24	21.60	21.62	21.73	
5	64QAM	12	0	20.49	20.50	20.43	
5	64QAM	12	7	20.51	20.39	20.49	21



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5	64QAM	12	13	20.39	20.56	20.46	19
5	64QAM	25	0	20.54	20.44	20.44	
5	256QAM	1	0	18.52	18.43	18.41	
5	256QAM	1	12	18.53	18.63	18.48	
5	256QAM	1	24	18.44	18.42	18.36	19
5	256QAM	12	0	18.34	18.49	18.31	
5	256QAM	12	7	18.44	18.40	18.30	
5	256QAM	12	13	18.44	18.41	18.36	
5	256QAM	25	0	18.31	18.47	18.33	

<LTE Band 25_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	23.45	23.14	23.09	24
20	QPSK	1	49	23.32	23.04	23.06	
20	QPSK	1	99	23.16	22.93	23.12	
20	QPSK	50	0	22.46	22.22	22.20	23
20	QPSK	50	24	22.45	22.26	22.19	
20	QPSK	50	50	22.34	22.28	22.22	
20	QPSK	100	0	22.44	22.24	22.25	
20	16QAM	1	0	22.57	22.49	22.35	23
20	16QAM	1	49	22.77	22.80	22.58	
20	16QAM	1	99	22.49	22.33	22.35	
20	16QAM	50	0	21.51	21.21	21.18	22
20	16QAM	50	24	21.50	21.24	21.14	
20	16QAM	50	50	21.33	21.18	21.22	
20	16QAM	100	0	21.45	21.28	21.23	
20	64QAM	1	0	21.58	21.32	21.32	22
20	64QAM	1	49	21.44	21.42	21.58	
20	64QAM	1	99	21.46	21.25	21.38	
20	64QAM	50	0	20.54	20.23	20.09	21
20	64QAM	50	24	20.39	20.26	20.25	
20	64QAM	50	50	20.25	20.26	20.27	
20	64QAM	100	0	20.50	20.26	20.21	
20	256QAM	1	0	18.55	18.41	18.20	19
20	256QAM	1	49	18.46	18.36	18.11	
20	256QAM	1	99	18.39	18.27	18.06	
20	256QAM	50	0	18.30	18.17	17.95	19
20	256QAM	50	24	18.29	18.25	18.03	
20	256QAM	50	50	18.17	18.13	17.85	
20	256QAM	100	0	18.21	18.15	17.92	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	23.41	23.10	22.93	24
15	QPSK	1	37	23.27	22.88	23.06	
15	QPSK	1	74	23.03	22.83	23.07	
15	QPSK	36	0	22.39	22.19	22.03	23
15	QPSK	36	20	22.42	22.16	22.02	
15	QPSK	36	39	22.28	22.27	22.11	
15	QPSK	75	0	22.33	22.23	22.19	
15	16QAM	1	0	22.51	22.31	22.33	23
15	16QAM	1	37	22.72	22.64	22.42	
15	16QAM	1	74	22.36	22.23	22.23	
15	16QAM	36	0	21.43	21.08	21.08	22
15	16QAM	36	20	21.37	21.04	21.01	
15	16QAM	36	39	21.16	21.17	21.10	
15	16QAM	75	0	21.44	21.12	21.20	
15	64QAM	1	0	21.58	21.19	21.31	22
15	64QAM	1	37	21.35	21.25	21.45	



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15	64QAM	1	74	21.46	21.20	21.23	21
15	64QAM	36	0	20.46	20.06	20.04	
15	64QAM	36	20	20.22	20.10	20.16	
15	64QAM	36	39	20.24	20.07	20.26	
15	64QAM	75	0	20.45	20.25	20.01	
15	256QAM	1	0	18.39	18.30	18.09	19
15	256QAM	1	37	18.36	18.36	18.05	
15	256QAM	1	74	18.25	18.17	17.98	
15	256QAM	36	0	18.19	18.05	17.89	19
15	256QAM	36	20	18.25	18.08	17.97	
15	256QAM	36	39	17.99	18.09	17.73	
15	256QAM	75	0	18.01	18.12	17.92	
Channel				26090	26340	26640	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1910	
10	QPSK	1	0	23.26	23.14	22.89	24
10	QPSK	1	25	23.22	22.97	22.97	
10	QPSK	1	49	23.16	22.89	23.07	
10	QPSK	25	0	22.28	22.06	22.18	23
10	QPSK	25	12	22.33	22.18	22.15	
10	QPSK	25	25	22.22	22.20	22.18	
10	QPSK	50	0	22.32	22.10	22.13	
10	16QAM	1	0	22.50	22.37	22.27	23
10	16QAM	1	25	22.72	22.60	22.38	
10	16QAM	1	49	22.31	22.15	22.20	
10	16QAM	25	0	21.49	21.14	21.14	22
10	16QAM	25	12	21.43	21.17	21.11	
10	16QAM	25	25	21.16	21.14	21.20	
10	16QAM	50	0	21.33	21.23	21.06	
10	64QAM	1	0	21.50	21.14	21.21	22
10	64QAM	1	25	21.29	21.32	21.39	
10	64QAM	1	49	21.39	21.07	21.32	
10	64QAM	25	0	20.49	20.20	20.01	21
10	64QAM	25	12	20.38	20.17	20.20	
10	64QAM	25	25	20.23	20.16	20.22	
10	64QAM	50	0	20.41	20.13	20.07	
10	256QAM	1	0	18.53	18.33	18.02	19
10	256QAM	1	25	18.37	18.32	18.03	
10	256QAM	1	49	18.39	18.17	17.90	
10	256QAM	25	0	18.30	18.10	17.84	19
10	256QAM	25	12	18.16	18.16	18.02	
10	256QAM	25	25	17.98	18.13	17.79	
10	256QAM	50	0	18.16	18.15	17.91	
Channel				26065	26340	26665	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1912.5	
5	QPSK	1	0	23.37	23.14	22.97	24
5	QPSK	1	12	23.17	22.89	23.06	
5	QPSK	1	24	22.98	22.93	22.92	
5	QPSK	12	0	22.42	22.06	22.03	23
5	QPSK	12	7	22.34	22.09	22.10	
5	QPSK	12	13	22.15	22.21	22.10	
5	QPSK	25	0	22.29	22.07	22.16	23
5	16QAM	1	0	22.53	22.32	22.16	
5	16QAM	1	12	22.70	22.74	22.47	
5	16QAM	1	24	22.34	22.32	22.33	22
5	16QAM	12	0	21.48	21.02	21.02	
5	16QAM	12	7	21.41	21.14	21.10	
5	16QAM	12	13	21.31	21.12	21.09	
5	16QAM	25	0	21.28	21.11	21.13	22
5	64QAM	1	0	21.40	21.27	21.27	
5	64QAM	1	12	21.26	21.33	21.56	
5	64QAM	1	24	21.29	21.06	21.20	21
5	64QAM	12	0	20.48	20.07	19.94	
5	64QAM	12	7	20.38	20.10	20.07	



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5	64QAM	12	13	20.06	20.13	20.27	19
5	64QAM	25	0	20.32	20.12	20.11	
5	256QAM	1	0	18.43	18.26	18.14	
5	256QAM	1	12	18.33	18.19	18.01	
5	256QAM	1	24	18.32	18.22	17.94	19
5	256QAM	12	0	18.23	18.17	17.94	
5	256QAM	12	7	18.14	18.13	17.85	
5	256QAM	12	13	17.98	17.99	17.84	
5	256QAM	25	0	18.03	18.09	17.75	Tune-up limit (dBm)
Channel				26055	26340	26675	
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	23.39	23.01	22.98	24
3	QPSK	1	8	23.23	23.03	23.02	
3	QPSK	1	14	23.14	22.79	22.99	
3	QPSK	8	0	22.28	22.03	22.20	23
3	QPSK	8	4	22.40	22.16	22.17	
3	QPSK	8	7	22.20	22.09	22.06	
3	QPSK	15	0	22.28	22.13	22.25	
3	16QAM	1	0	22.49	22.35	22.26	23
3	16QAM	1	8	22.58	22.65	22.48	
3	16QAM	1	14	22.34	22.22	22.32	
3	16QAM	8	0	21.32	21.21	21.18	22
3	16QAM	8	4	21.37	21.20	21.14	
3	16QAM	8	7	21.25	21.15	21.12	
3	16QAM	15	0	21.43	21.20	21.14	
3	64QAM	1	0	21.47	21.30	21.15	22
3	64QAM	1	8	21.25	21.35	21.57	
3	64QAM	1	14	21.28	21.13	21.36	
3	64QAM	8	0	20.37	20.04	19.99	21
3	64QAM	8	4	20.33	20.16	20.21	
3	64QAM	8	7	20.19	20.18	20.11	
3	64QAM	15	0	20.46	20.14	20.04	
3	256QAM	1	0	18.36	18.41	18.19	19
3	256QAM	1	8	18.40	18.23	18.06	
3	256QAM	1	14	18.24	18.13	17.96	
3	256QAM	8	0	18.26	18.00	17.95	19
3	256QAM	8	4	18.24	18.25	18.02	
3	256QAM	8	7	18.05	17.95	17.79	
3	256QAM	15	0	18.14	18.07	17.87	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	23.41	22.98	22.91	24
1.4	QPSK	1	3	23.26	23.04	23.02	
1.4	QPSK	1	5	23.08	22.77	22.97	
1.4	QPSK	3	0	23.26	23.01	23.06	
1.4	QPSK	3	1	23.29	22.84	23.05	
1.4	QPSK	3	3	23.00	22.90	22.93	
1.4	QPSK	6	0	22.26	22.12	22.12	23
1.4	16QAM	1	0	22.28	22.07	22.18	23
1.4	16QAM	1	3	22.30	22.12	22.10	
1.4	16QAM	1	5	22.31	22.13	22.24	
1.4	16QAM	3	0	22.50	22.48	22.29	
1.4	16QAM	3	1	22.76	22.60	22.53	
1.4	16QAM	3	3	22.31	22.22	22.30	
1.4	16QAM	6	0	21.34	21.13	21.02	22
1.4	64QAM	1	0	21.32	21.19	20.98	22
1.4	64QAM	1	3	21.26	21.11	21.20	
1.4	64QAM	1	5	21.32	21.18	21.13	
1.4	64QAM	3	0	21.58	21.18	21.27	
1.4	64QAM	3	1	21.31	21.26	21.45	
1.4	64QAM	3	3	21.35	21.18	21.24	
1.4	64QAM	6	0	20.47	20.20	20.06	21
1.4	256QAM	1	0	18.42	18.23	18.02	19



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1.4	256QAM	1	3	18.31	18.16	17.91	
1.4	256QAM	1	5	18.27	18.22	18.04	
1.4	256QAM	3	0	18.14	18.04	17.80	
1.4	256QAM	3	1	18.18	18.20	17.95	
1.4	256QAM	3	3	18.15	17.93	17.72	
1.4	256QAM	6	0	18.06	17.95	17.84	19

<LTE Band 25_Ant 0_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26140	26340	26590	
Frequency (MHz)				1860	1880	1905	
20	QPSK	1	0	23.30	23.14	23.09	23.3
20	QPSK	1	49	23.23	23.04	23.06	
20	QPSK	1	99	23.16	22.93	23.12	
20	QPSK	50	0	22.46	22.22	22.20	23
20	QPSK	50	24	22.45	22.26	22.19	
20	QPSK	50	50	22.34	22.28	22.22	
20	QPSK	100	0	22.44	22.24	22.25	23
20	16QAM	1	0	22.57	22.49	22.35	
20	16QAM	1	49	22.77	22.80	22.58	
20	16QAM	1	99	22.49	22.33	22.35	22
20	16QAM	50	0	21.51	21.21	21.18	
20	16QAM	50	24	21.50	21.24	21.14	
20	16QAM	50	50	21.33	21.18	21.22	22
20	16QAM	100	0	21.45	21.28	21.23	
20	64QAM	1	0	21.58	21.32	21.32	
20	64QAM	1	49	21.44	21.42	21.58	22
20	64QAM	1	99	21.46	21.25	21.38	
20	64QAM	50	0	20.54	20.23	20.09	21
20	64QAM	50	24	20.39	20.26	20.25	
20	64QAM	50	50	20.25	20.26	20.27	
20	64QAM	100	0	20.50	20.26	20.21	19
20	256QAM	1	0	18.55	18.41	18.20	
20	256QAM	1	49	18.46	18.36	18.11	
20	256QAM	1	99	18.39	18.27	18.06	19
20	256QAM	50	0	18.30	18.17	17.95	
20	256QAM	50	24	18.29	18.25	18.03	
20	256QAM	50	50	18.17	18.13	17.85	19
20	256QAM	100	0	18.21	18.15	17.92	
Channel				26115	26340	26615	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1907.5	
15	QPSK	1	0	23.29	23.10	22.93	23.3
15	QPSK	1	37	23.27	22.88	23.06	
15	QPSK	1	74	23.03	22.83	23.07	
15	QPSK	36	0	22.39	22.19	22.03	23
15	QPSK	36	20	22.42	22.16	22.02	
15	QPSK	36	39	22.28	22.27	22.11	
15	QPSK	75	0	22.33	22.23	22.19	23
15	16QAM	1	0	22.51	22.31	22.33	
15	16QAM	1	37	22.72	22.64	22.42	
15	16QAM	1	74	22.36	22.23	22.23	22
15	16QAM	36	0	21.43	21.08	21.08	
15	16QAM	36	20	21.37	21.04	21.01	
15	16QAM	36	39	21.16	21.17	21.10	22
15	16QAM	75	0	21.44	21.12	21.20	
15	64QAM	1	0	21.58	21.19	21.31	
15	64QAM	1	37	21.35	21.25	21.45	22
15	64QAM	1	74	21.46	21.20	21.23	
15	64QAM	36	0	20.46	20.06	20.04	
15	64QAM	36	20	20.22	20.10	20.16	21



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15	64QAM	36	39	20.24	20.07	20.26	19
15	64QAM	75	0	20.45	20.25	20.01	
15	256QAM	1	0	18.39	18.30	18.09	
15	256QAM	1	37	18.36	18.36	18.05	
15	256QAM	1	74	18.25	18.17	17.98	19
15	256QAM	36	0	18.19	18.05	17.89	
15	256QAM	36	20	18.25	18.08	17.97	
15	256QAM	36	39	17.99	18.09	17.73	
15	256QAM	75	0	18.01	18.12	17.92	Tune-up limit (dBm)
Channel				26090	26340	26640	
Frequency (MHz)				1855	1880	1910	23.3
10	QPSK	1	0	23.26	23.14	22.89	
10	QPSK	1	25	23.22	22.97	22.97	
10	QPSK	1	49	23.16	22.89	23.07	
10	QPSK	25	0	22.28	22.06	22.18	23
10	QPSK	25	12	22.33	22.18	22.15	
10	QPSK	25	25	22.22	22.20	22.18	
10	QPSK	50	0	22.32	22.10	22.13	
10	16QAM	1	0	22.50	22.37	22.27	23
10	16QAM	1	25	22.72	22.60	22.38	
10	16QAM	1	49	22.31	22.15	22.20	
10	16QAM	25	0	21.49	21.14	21.14	
10	16QAM	25	12	21.43	21.17	21.11	22
10	16QAM	25	25	21.16	21.14	21.20	
10	16QAM	50	0	21.33	21.23	21.06	
10	64QAM	1	0	21.50	21.14	21.21	
10	64QAM	1	25	21.29	21.32	21.39	22
10	64QAM	1	49	21.39	21.07	21.32	
10	64QAM	25	0	20.49	20.20	20.01	
10	64QAM	25	12	20.38	20.17	20.20	
10	64QAM	25	25	20.23	20.16	20.22	21
10	64QAM	50	0	20.41	20.13	20.07	
10	256QAM	1	0	18.53	18.33	18.02	
10	256QAM	1	25	18.37	18.32	18.03	
10	256QAM	1	49	18.39	18.17	17.90	19
10	256QAM	25	0	18.30	18.10	17.84	
10	256QAM	25	12	18.16	18.16	18.02	
10	256QAM	25	25	17.98	18.13	17.79	
10	256QAM	50	0	18.16	18.15	17.91	Tune-up limit (dBm)
Channel				26065	26340	26665	
Frequency (MHz)				1852.5	1880	1912.5	23.3
5	QPSK	1	0	23.27	23.14	22.97	
5	QPSK	1	12	23.17	22.89	23.06	
5	QPSK	1	24	22.98	22.93	22.92	
5	QPSK	12	0	22.42	22.06	22.03	23
5	QPSK	12	7	22.34	22.09	22.10	
5	QPSK	12	13	22.15	22.21	22.10	
5	QPSK	25	0	22.29	22.07	22.16	
5	16QAM	1	0	22.53	22.32	22.16	23
5	16QAM	1	12	22.70	22.74	22.47	
5	16QAM	1	24	22.34	22.32	22.33	
5	16QAM	12	0	21.48	21.02	21.02	
5	16QAM	12	7	21.41	21.14	21.10	22
5	16QAM	12	13	21.31	21.12	21.09	
5	16QAM	25	0	21.28	21.11	21.13	
5	64QAM	1	0	21.40	21.27	21.27	
5	64QAM	1	12	21.26	21.33	21.56	22
5	64QAM	1	24	21.29	21.06	21.20	
5	64QAM	12	0	20.48	20.07	19.94	
5	64QAM	12	7	20.38	20.10	20.07	
5	64QAM	12	13	20.06	20.13	20.27	21
5	64QAM	25	0	20.32	20.12	20.11	
5	256QAM	1	0	18.43	18.26	18.14	
5	256QAM	1	0	18.43	18.26	18.14	19



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5	256QAM	1	12	18.33	18.19	18.01	19
5	256QAM	1	24	18.32	18.22	17.94	
5	256QAM	12	0	18.23	18.17	17.94	
5	256QAM	12	7	18.14	18.13	17.85	
5	256QAM	12	13	17.98	17.99	17.84	
5	256QAM	25	0	18.03	18.09	17.75	Tune-up limit (dBm)
Channel				26055	26340	26675	
Frequency (MHz)				1851.5	1880	1913.5	
3	QPSK	1	0	23.28	23.01	22.98	23.3
3	QPSK	1	8	23.23	23.03	23.02	
3	QPSK	1	14	23.14	22.79	22.99	
3	QPSK	8	0	22.28	22.03	22.20	23
3	QPSK	8	4	22.40	22.16	22.17	
3	QPSK	8	7	22.20	22.09	22.06	
3	QPSK	15	0	22.28	22.13	22.25	
3	16QAM	1	0	22.49	22.35	22.26	23
3	16QAM	1	8	22.58	22.65	22.48	
3	16QAM	1	14	22.34	22.22	22.32	
3	16QAM	8	0	21.32	21.21	21.18	22
3	16QAM	8	4	21.37	21.20	21.14	
3	16QAM	8	7	21.25	21.15	21.12	
3	16QAM	15	0	21.43	21.20	21.14	
3	64QAM	1	0	21.47	21.30	21.15	22
3	64QAM	1	8	21.25	21.35	21.57	
3	64QAM	1	14	21.28	21.13	21.36	
3	64QAM	8	0	20.37	20.04	19.99	21
3	64QAM	8	4	20.33	20.16	20.21	
3	64QAM	8	7	20.19	20.18	20.11	
3	64QAM	15	0	20.46	20.14	20.04	
3	256QAM	1	0	18.36	18.41	18.19	19
3	256QAM	1	8	18.40	18.23	18.06	
3	256QAM	1	14	18.24	18.13	17.96	
3	256QAM	8	0	18.26	18.00	17.95	19
3	256QAM	8	4	18.24	18.25	18.02	
3	256QAM	8	7	18.05	17.95	17.79	
3	256QAM	15	0	18.14	18.07	17.87	
Channel				26047	26340	26683	Tune-up limit (dBm)
Frequency (MHz)				1850.7	1880	1914.3	
1.4	QPSK	1	0	23.29	22.98	22.91	23.3
1.4	QPSK	1	3	23.26	23.04	23.02	
1.4	QPSK	1	5	23.08	22.77	22.97	
1.4	QPSK	3	0	23.26	23.01	23.06	
1.4	QPSK	3	1	23.29	22.84	23.05	
1.4	QPSK	3	3	23.00	22.90	22.93	23
1.4	QPSK	6	0	22.26	22.12	22.12	
1.4	16QAM	1	0	22.28	22.07	22.18	23
1.4	16QAM	1	3	22.30	22.12	22.10	
1.4	16QAM	1	5	22.31	22.13	22.24	
1.4	16QAM	3	0	22.50	22.48	22.29	
1.4	16QAM	3	1	22.76	22.60	22.53	
1.4	16QAM	3	3	22.31	22.22	22.30	
1.4	16QAM	6	0	21.34	21.13	21.02	22
1.4	64QAM	1	0	21.32	21.19	20.98	22
1.4	64QAM	1	3	21.26	21.11	21.20	
1.4	64QAM	1	5	21.32	21.18	21.13	
1.4	64QAM	3	0	21.58	21.18	21.27	
1.4	64QAM	3	1	21.31	21.26	21.45	
1.4	64QAM	3	3	21.35	21.18	21.24	
1.4	64QAM	6	0	20.47	20.20	20.06	21
1.4	256QAM	1	0	18.42	18.23	18.02	19
1.4	256QAM	1	3	18.31	18.16	17.91	
1.4	256QAM	1	5	18.27	18.22	18.04	
1.4	256QAM	3	0	18.14	18.04	17.80	



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1.4	256QAM	3	1	18.18	18.20	17.95	
1.4	256QAM	3	3	18.15	17.93	17.72	
1.4	256QAM	6	0	18.06	17.95	17.84	19

<LTE Band 26_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				26765	26865	26965	
Frequency (MHz)				821.5	831.5	841.5	
15	QPSK	1	0	23.24	23.44	23.20	24
15	QPSK	1	37	23.39	23.36	23.12	
15	QPSK	1	74	23.41	23.13	22.91	
15	QPSK	36	0	22.48	22.50	22.35	23
15	QPSK	36	20	22.49	22.38	22.20	
15	QPSK	36	39	22.48	22.38	22.14	
15	QPSK	75	0	22.37	22.38	22.30	23
15	16QAM	1	0	22.63	22.65	22.46	
15	16QAM	1	37	22.66	22.65	22.38	
15	16QAM	1	74	22.51	22.38	22.06	22
15	16QAM	36	0	21.51	21.48	21.30	
15	16QAM	36	20	21.49	21.38	21.29	
15	16QAM	36	39	21.48	21.37	21.12	22
15	16QAM	75	0	21.53	21.42	21.27	
15	64QAM	1	0	21.74	21.63	21.39	
15	64QAM	1	37	21.62	21.64	21.30	21
15	64QAM	1	74	21.70	21.41	21.06	
15	64QAM	36	0	20.43	20.46	20.37	
15	64QAM	36	20	20.44	20.48	20.24	19
15	64QAM	36	39	20.48	20.40	20.13	
15	64QAM	75	0	20.53	20.46	20.30	
15	256QAM	1	0	18.25	18.51	18.44	19
15	256QAM	1	37	18.06	18.41	18.25	
15	256QAM	1	74	18.05	18.41	18.29	
15	256QAM	36	0	18.10	18.43	18.34	19
15	256QAM	36	20	18.10	18.46	18.34	
15	256QAM	36	39	18.04	18.36	18.20	
15	256QAM	75	0	18.08	18.42	18.27	
Channel				26740	26865	26990	
Frequency (MHz)				819	831.5	844	
10	QPSK	1	0	23.12	23.33	23.10	24
10	QPSK	1	25	23.39	23.35	22.99	
10	QPSK	1	49	23.28	23.11	22.76	
10	QPSK	25	0	22.36	22.32	22.34	23
10	QPSK	25	12	22.40	22.18	22.05	
10	QPSK	25	25	22.31	22.23	22.12	
10	QPSK	50	0	22.20	22.29	22.24	23
10	16QAM	1	0	22.50	22.49	22.38	
10	16QAM	1	25	22.49	22.54	22.32	
10	16QAM	1	49	22.36	22.26	21.95	22
10	16QAM	25	0	21.40	21.35	21.25	
10	16QAM	25	12	21.46	21.31	21.09	
10	16QAM	25	25	21.35	21.36	21.00	22
10	16QAM	50	0	21.42	21.38	21.16	
10	64QAM	1	0	21.71	21.55	21.29	
10	64QAM	1	25	21.53	21.44	21.22	21
10	64QAM	1	49	21.59	21.30	21.05	
10	64QAM	25	0	20.37	20.29	20.28	
10	64QAM	25	12	20.34	20.30	20.13	19
10	64QAM	25	25	20.34	20.38	20.12	
10	64QAM	50	0	20.52	20.43	20.16	
10	256QAM	1	0	18.12	18.46	18.24	19



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10	256QAM	1	25	17.89	18.25	18.05	19
10	256QAM	1	49	17.87	18.38	18.27	
10	256QAM	25	0	17.95	18.38	18.14	
10	256QAM	25	12	17.93	18.27	18.21	
10	256QAM	25	25	17.94	18.31	18.05	
10	256QAM	50	0	18.08	18.28	18.10	Tune-up limit (dBm)
Channel				26715	26865	27015	
Frequency (MHz)				816.5	831.5	846.5	24
5	QPSK	1	0	23.21	23.39	23.12	
5	QPSK	1	12	23.20	23.35	23.02	
5	QPSK	1	24	23.27	22.94	22.89	
5	QPSK	12	0	22.33	22.35	22.35	23
5	QPSK	12	7	22.35	22.23	22.01	
5	QPSK	12	13	22.35	22.21	22.04	
5	QPSK	25	0	22.17	22.36	22.22	
5	16QAM	1	0	22.49	22.49	22.39	
5	16QAM	1	12	22.58	22.51	22.25	22
5	16QAM	1	24	22.37	22.29	22.05	
5	16QAM	12	0	21.33	21.34	21.27	
5	16QAM	12	7	21.39	21.30	21.18	
5	16QAM	12	13	21.37	21.34	20.95	
5	16QAM	25	0	21.45	21.32	21.20	22
5	64QAM	1	0	21.64	21.53	21.29	
5	64QAM	1	12	21.48	21.60	21.30	
5	64QAM	1	24	21.65	21.32	20.86	
5	64QAM	12	0	20.37	20.29	20.17	
5	64QAM	12	7	20.29	20.46	20.24	21
5	64QAM	12	13	20.43	20.32	19.95	
5	64QAM	25	0	20.51	20.26	20.19	
5	256QAM	1	0	18.15	18.41	18.30	
5	256QAM	1	12	18.02	18.22	18.14	
5	256QAM	1	24	17.94	18.32	18.19	19
5	256QAM	12	0	18.01	18.39	18.27	
5	256QAM	12	7	18.05	18.26	18.22	
5	256QAM	12	13	17.97	18.24	18.18	
5	256QAM	25	0	17.92	18.22	18.12	
Channel				26705	26865	27025	Tune-up limit (dBm)
Frequency (MHz)				815.5	831.5	847.5	
3	QPSK	1	0	23.07	23.35	23.16	24
3	QPSK	1	8	23.36	23.34	23.03	
3	QPSK	1	14	23.41	23.07	22.71	
3	QPSK	8	0	22.31	22.43	22.17	
3	QPSK	8	4	22.47	22.23	22.02	23
3	QPSK	8	7	22.39	22.36	22.09	
3	QPSK	15	0	22.31	22.28	22.22	
3	16QAM	1	0	22.45	22.53	22.35	
3	16QAM	1	8	22.52	22.62	22.36	
3	16QAM	1	14	22.45	22.24	21.94	22
3	16QAM	8	0	21.37	21.29	21.16	
3	16QAM	8	4	21.34	21.27	21.27	
3	16QAM	8	7	21.42	21.33	21.03	
3	16QAM	15	0	21.52	21.22	21.09	
3	64QAM	1	0	21.74	21.50	21.27	22
3	64QAM	1	8	21.61	21.44	21.30	
3	64QAM	1	14	21.68	21.25	21.05	
3	64QAM	8	0	20.27	20.38	20.24	
3	64QAM	8	4	20.34	20.30	20.12	21
3	64QAM	8	7	20.38	20.29	20.01	
3	64QAM	15	0	20.39	20.31	20.21	
3	256QAM	1	0	18.15	18.42	18.44	
3	256QAM	1	8	18.03	18.31	18.10	
3	256QAM	1	14	18.00	18.35	18.16	19
3	256QAM	8	0	17.98	18.29	18.33	



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3	256QAM	8	4	18.05	18.26	18.21	
3	256QAM	8	7	17.91	18.19	18.03	
3	256QAM	15	0	18.07	18.36	18.15	
Channel				26697	26865	27033	Tune-up limit (dBm)
Frequency (MHz)				814.7	831.5	848.3	
1.4	QPSK	1	0	23.24	23.32	23.09	24
1.4	QPSK	1	3	23.19	23.27	23.01	
1.4	QPSK	1	5	23.24	23.00	22.82	
1.4	QPSK	3	0	23.22	23.38	23.09	
1.4	QPSK	3	1	23.25	23.21	23.05	
1.4	QPSK	3	3	23.25	23.11	22.80	
1.4	QPSK	6	0	22.47	22.43	22.35	23
1.4	16QAM	1	0	22.35	22.34	22.16	23
1.4	16QAM	1	3	22.28	22.30	22.03	
1.4	16QAM	1	5	22.23	22.37	22.25	
1.4	16QAM	3	0	22.55	22.57	22.42	
1.4	16QAM	3	1	22.50	22.65	22.28	
1.4	16QAM	3	3	22.35	22.24	22.06	
1.4	16QAM	6	0	21.39	21.29	21.18	22
1.4	64QAM	1	0	21.33	21.24	21.24	22
1.4	64QAM	1	3	21.29	21.17	21.00	
1.4	64QAM	1	5	21.48	21.25	21.14	
1.4	64QAM	3	0	21.65	21.53	21.33	
1.4	64QAM	3	1	21.54	21.47	21.23	
1.4	64QAM	3	3	21.60	21.39	20.95	
1.4	64QAM	6	0	20.37	20.38	20.36	21
1.4	256QAM	1	0	18.18	18.51	18.37	19
1.4	256QAM	1	3	17.91	18.38	18.15	
1.4	256QAM	1	5	17.86	18.32	18.16	
1.4	256QAM	3	0	18.06	18.28	18.28	
1.4	256QAM	3	1	18.10	18.43	18.21	
1.4	256QAM	3	3	17.95	18.22	18.14	
1.4	256QAM	6	0	17.90	18.23	18.21	19

<LTE Band 30_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				27710			
Frequency (MHz)				2310			
10	QPSK	1	0		21.92		23
10	QPSK	1	25		21.88		
10	QPSK	1	49		21.86		
10	QPSK	25	0		21.00		22
10	QPSK	25	12		20.90		
10	QPSK	25	25		20.99		
10	QPSK	50	0		20.87		22
10	16QAM	1	0		21.41		
10	16QAM	1	25		21.18		
10	16QAM	1	49		21.34		21
10	16QAM	25	0		19.89		
10	16QAM	25	12		19.99		
10	16QAM	25	25		20.00		21
10	16QAM	50	0		19.93		
10	64QAM	1	0		20.11		
10	64QAM	1	25		20.20		21
10	64QAM	1	49		20.01		
10	64QAM	25	0		18.89		20
10	64QAM	25	12		18.93		
10	64QAM	25	25		18.94		
10	64QAM	50	0		18.94		



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10	256QAM	1	0		16.91		18
10	256QAM	1	25		17.21		
10	256QAM	1	49		16.90		
10	256QAM	25	0		16.95		18
10	256QAM	25	12		16.95		
10	256QAM	25	25		16.96		
10	256QAM	50	0		16.97		
Channel				27685	27710	27735	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	QPSK	1	0	21.75	21.73	21.79	23
5	QPSK	1	12	21.81	21.78	21.79	
5	QPSK	1	24	21.82	21.74	21.74	
5	QPSK	12	0	20.95	20.82	20.89	22
5	QPSK	12	7	20.78	20.79	20.88	
5	QPSK	12	13	20.86	20.81	20.92	
5	QPSK	25	0	20.84	20.82	20.79	
5	16QAM	1	0	21.41	21.34	21.39	22
5	16QAM	1	12	21.15	21.18	21.14	
5	16QAM	1	24	21.22	21.18	21.19	
5	16QAM	12	0	19.70	19.71	19.74	21
5	16QAM	12	7	19.91	19.88	19.79	
5	16QAM	12	13	19.81	20.00	19.89	
5	16QAM	25	0	19.86	19.87	19.92	
5	64QAM	1	0	19.99	19.93	20.02	21
5	64QAM	1	12	20.05	20.17	20.05	
5	64QAM	1	24	19.95	19.92	19.90	
5	64QAM	12	0	18.70	18.88	18.74	20
5	64QAM	12	7	18.84	18.79	18.75	
5	64QAM	12	13	18.88	18.82	18.74	
5	64QAM	25	0	18.74	18.78	18.75	
5	256QAM	1	0	16.73	16.73	16.72	18
5	256QAM	1	12	17.21	17.21	17.13	
5	256QAM	1	24	16.75	16.73	16.87	
5	256QAM	12	0	16.91	16.85	16.76	18
5	256QAM	12	7	16.78	16.94	16.86	
5	256QAM	12	13	16.82	16.79	16.78	
5	256QAM	25	0	16.97	16.82	16.80	

<LTE Band 66_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	23.06	22.66	23.69	24
20	QPSK	1	49	23.00	22.48	23.40	
20	QPSK	1	99	22.88	22.78	23.15	
20	QPSK	50	0	22.15	21.66	22.64	23
20	QPSK	50	24	22.16	21.59	22.45	
20	QPSK	50	50	22.00	21.66	22.36	
20	QPSK	100	0	22.06	21.65	22.52	
20	16QAM	1	0	22.64	22.01	22.36	23
20	16QAM	1	49	22.29	22.01	22.98	
20	16QAM	1	99	22.19	22.12	22.79	
20	16QAM	50	0	21.11	20.66	21.34	22
20	16QAM	50	24	21.08	20.62	21.56	
20	16QAM	50	50	20.91	20.75	21.68	
20	16QAM	100	0	21.15	20.74	21.50	
20	64QAM	1	0	21.32	20.85	21.22	22
20	64QAM	1	49	21.18	20.80	21.70	



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20	64QAM	1	99	21.08	21.03	21.85	21
20	64QAM	50	0	20.16	19.63	20.32	
20	64QAM	50	24	20.12	19.62	20.47	
20	64QAM	50	50	20.04	19.74	20.67	
20	64QAM	100	0	20.13	19.74	20.44	19
20	256QAM	1	0	18.33	17.75	18.19	
20	256QAM	1	49	18.20	17.67	18.08	
20	256QAM	1	99	18.41	17.90	18.27	19
20	256QAM	50	0	18.18	17.62	18.01	
20	256QAM	50	24	18.14	17.63	17.99	
20	256QAM	50	50	18.25	17.70	18.04	
20	256QAM	100	0	18.25	17.73	18.15	Tune-up limit (dBm)
Channel				132047	132322	132597	
Frequency (MHz)				1717.5	1745	1772.5	24
15	QPSK	1	0	23.00	22.46	23.53	
15	QPSK	1	37	22.94	22.38	23.38	
15	QPSK	1	74	22.83	22.70	22.99	
15	QPSK	36	0	21.98	21.59	22.51	23
15	QPSK	36	20	21.97	21.41	22.31	
15	QPSK	36	39	21.81	21.52	22.29	
15	QPSK	75	0	21.93	21.59	22.42	
15	16QAM	1	0	22.51	22.01	22.32	23
15	16QAM	1	37	22.28	21.97	22.92	
15	16QAM	1	74	22.07	21.94	22.67	
15	16QAM	36	0	20.98	20.50	21.26	22
15	16QAM	36	20	20.92	20.57	21.41	
15	16QAM	36	39	20.79	20.75	21.67	
15	16QAM	75	0	20.95	20.59	21.40	
15	64QAM	1	0	21.21	20.80	21.20	22
15	64QAM	1	37	21.04	20.75	21.50	
15	64QAM	1	74	20.96	20.87	21.76	
15	64QAM	36	0	20.10	19.59	20.19	
15	64QAM	36	20	20.06	19.52	20.34	21
15	64QAM	36	39	20.00	19.54	20.55	
15	64QAM	75	0	19.96	19.58	20.41	
15	256QAM	1	0	18.31	17.71	18.19	
15	256QAM	1	37	18.17	17.48	17.91	19
15	256QAM	1	74	18.40	17.89	18.27	
15	256QAM	36	0	18.14	17.61	17.85	
15	256QAM	36	20	18.09	17.46	17.86	19
15	256QAM	36	39	18.10	17.54	17.87	
15	256QAM	75	0	18.18	17.60	18.09	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	22.93	22.46	23.61	24
10	QPSK	1	25	22.95	22.33	23.30	
10	QPSK	1	49	22.80	22.63	23.10	
10	QPSK	25	0	22.14	21.59	22.52	23
10	QPSK	25	12	22.09	21.48	22.28	
10	QPSK	25	25	21.81	21.64	22.21	
10	QPSK	50	0	21.97	21.57	22.37	
10	16QAM	1	0	22.59	22.00	22.26	23
10	16QAM	1	25	22.17	21.89	22.82	
10	16QAM	1	49	22.09	21.97	22.61	
10	16QAM	25	0	20.99	20.62	21.23	
10	16QAM	25	12	21.08	20.56	21.51	22
10	16QAM	25	25	20.91	20.71	21.48	
10	16QAM	50	0	20.95	20.73	21.42	
10	64QAM	1	0	21.30	20.68	21.21	
10	64QAM	1	25	21.16	20.74	21.59	22
10	64QAM	1	49	21.07	20.83	21.84	
10	64QAM	25	0	20.11	19.63	20.30	
10	64QAM	25	12	19.98	19.43	20.32	21



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10	64QAM	25	25	20.00	19.59	20.49	19
10	64QAM	50	0	20.05	19.63	20.27	
10	256QAM	1	0	18.29	17.61	18.04	
10	256QAM	1	25	18.17	17.47	18.03	
10	256QAM	1	49	18.29	17.81	18.26	19
10	256QAM	25	0	18.15	17.48	17.84	
10	256QAM	25	12	18.12	17.53	17.99	
10	256QAM	25	25	18.19	17.57	17.92	
10	256QAM	50	0	18.09	17.67	18.13	Tune-up limit (dBm)
Channel				131997	132322	132647	
Frequency (MHz)				1712.5	1745	1777.5	24
5	QPSK	1	0	22.86	22.56	23.68	
5	QPSK	1	12	22.96	22.47	23.33	23
5	QPSK	1	24	22.84	22.60	23.02	
5	QPSK	12	0	22.05	21.46	22.52	
5	QPSK	12	7	22.00	21.40	22.28	
5	QPSK	12	13	21.87	21.66	22.18	23
5	QPSK	25	0	21.91	21.58	22.43	
5	16QAM	1	0	22.49	21.91	22.22	
5	16QAM	1	12	22.25	21.82	22.78	
5	16QAM	1	24	22.11	22.00	22.69	22
5	16QAM	12	0	20.96	20.62	21.21	
5	16QAM	12	7	20.97	20.51	21.47	
5	16QAM	12	13	20.76	20.58	21.66	
5	16QAM	25	0	21.05	20.70	21.45	22
5	64QAM	1	0	21.18	20.71	21.19	
5	64QAM	1	12	21.04	20.79	21.68	
5	64QAM	1	24	21.02	20.92	21.84	
5	64QAM	12	0	20.09	19.55	20.23	21
5	64QAM	12	7	19.92	19.60	20.42	
5	64QAM	12	13	19.98	19.72	20.54	
5	64QAM	25	0	20.12	19.69	20.43	
5	256QAM	1	0	18.28	17.72	18.09	19
5	256QAM	1	12	18.05	17.49	17.98	
5	256QAM	1	24	18.25	17.73	18.18	
5	256QAM	12	0	18.14	17.60	17.99	
5	256QAM	12	7	18.09	17.62	17.99	19
5	256QAM	12	13	18.09	17.54	17.94	
5	256QAM	25	0	18.22	17.63	18.04	
Channel				131987	132322	132657	Tune-up limit (dBm)
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	23.04	22.46	23.61	24
3	QPSK	1	8	22.83	22.35	23.33	
3	QPSK	1	14	22.82	22.64	23.04	
3	QPSK	8	0	22.12	21.56	22.45	
3	QPSK	8	4	22.14	21.53	22.32	23
3	QPSK	8	7	21.90	21.60	22.22	
3	QPSK	15	0	22.06	21.57	22.39	
3	16QAM	1	0	22.59	21.82	22.34	
3	16QAM	1	8	22.15	22.00	22.89	23
3	16QAM	1	14	22.04	22.08	22.62	
3	16QAM	8	0	21.00	20.51	21.24	
3	16QAM	8	4	20.96	20.54	21.56	
3	16QAM	8	7	20.85	20.71	21.60	22
3	16QAM	15	0	21.11	20.67	21.33	
3	64QAM	1	0	21.17	20.76	21.21	
3	64QAM	1	8	21.04	20.73	21.70	
3	64QAM	1	14	20.92	20.83	21.85	21
3	64QAM	8	0	19.98	19.57	20.14	
3	64QAM	8	4	20.07	19.47	20.28	
3	64QAM	8	7	19.94	19.69	20.62	
3	64QAM	15	0	20.03	19.74	20.38	19
3	256QAM	1	0	18.29	17.61	18.12	



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3	256QAM	1	8	18.06	17.64	17.99	19
3	256QAM	1	14	18.39	17.84	18.20	
3	256QAM	8	0	17.99	17.45	18.01	
3	256QAM	8	4	18.04	17.60	17.79	
3	256QAM	8	7	18.09	17.70	17.85	
3	256QAM	15	0	18.13	17.58	18.12	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	23.06	22.59	23.61	24
1.4	QPSK	1	3	22.90	22.46	23.23	
1.4	QPSK	1	5	22.68	22.58	23.10	
1.4	QPSK	3	0	22.94	22.65	23.57	
1.4	QPSK	3	1	22.80	22.43	23.23	
1.4	QPSK	3	3	22.75	22.72	23.15	
1.4	QPSK	6	0	22.07	21.59	22.58	23
1.4	16QAM	1	0	22.04	21.51	22.42	23
1.4	16QAM	1	3	21.89	21.61	22.23	
1.4	16QAM	1	5	21.98	21.48	22.51	
1.4	16QAM	3	0	22.58	21.85	22.24	
1.4	16QAM	3	1	22.18	22.00	22.82	
1.4	16QAM	3	3	22.08	22.12	22.62	
1.4	16QAM	6	0	20.92	20.54	21.16	22
1.4	64QAM	1	0	20.89	20.61	21.49	22
1.4	64QAM	1	3	20.83	20.58	21.62	
1.4	64QAM	1	5	21.08	20.56	21.33	
1.4	64QAM	3	0	21.17	20.71	21.22	
1.4	64QAM	3	1	21.17	20.65	21.60	
1.4	64QAM	3	3	21.06	20.84	21.72	
1.4	64QAM	6	0	20.06	19.56	20.37	21
1.4	256QAM	1	0	18.18	17.56	18.16	19
1.4	256QAM	1	3	18.19	17.57	17.95	
1.4	256QAM	1	5	18.34	17.75	18.17	
1.4	256QAM	3	0	17.99	17.44	17.95	
1.4	256QAM	3	1	18.12	17.49	17.96	
1.4	256QAM	3	3	18.06	17.58	17.91	
1.4	256QAM	6	0	18.24	17.65	18.04	19

<LTE Band 66_Ant 0_Sensor ON>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				132072	132322	132572	
Frequency (MHz)				1720	1745	1770	
20	QPSK	1	0	20.78	20.37	21.05	21.4
20	QPSK	1	49	20.68	20.13	20.73	
20	QPSK	1	99	20.48	20.52	20.99	
20	QPSK	50	0	20.75	20.29	21.02	21.4
20	QPSK	50	24	20.78	20.31	20.93	
20	QPSK	50	50	20.60	20.32	20.98	
20	QPSK	100	0	20.71	20.35	21.04	
20	16QAM	1	0	20.94	20.58	20.85	21.4
20	16QAM	1	49	20.90	20.58	20.97	
20	16QAM	1	99	20.73	20.72	20.92	
20	16QAM	50	0	20.73	20.34	20.97	21.4
20	16QAM	50	24	20.74	20.27	20.95	
20	16QAM	50	50	20.57	20.40	21.03	
20	16QAM	100	0	20.73	20.31	21.00	
20	64QAM	1	0	20.98	20.57	20.82	21.4
20	64QAM	1	49	20.75	20.67	20.92	
20	64QAM	1	99	20.69	20.71	20.96	
20	64QAM	50	0	20.16	19.63	20.32	21
20	64QAM	50	24	20.12	19.62	20.47	



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20	64QAM	50	50	20.04	19.74	20.67	19
20	64QAM	100	0	20.13	19.74	20.44	
20	256QAM	1	0	18.33	17.75	18.19	
20	256QAM	1	49	18.20	17.67	18.08	
20	256QAM	1	99	18.41	17.90	18.27	19
20	256QAM	50	0	18.18	17.62	18.01	
20	256QAM	50	24	18.14	17.63	17.99	
20	256QAM	50	50	18.25	17.70	18.04	
20	256QAM	100	0	18.25	17.73	18.15	Tune-up limit (dBm)
Channel				132047	132322	132597	
Frequency (MHz)				1717.5	1745	1772.5	
15	QPSK	1	0	20.77	20.31	20.99	21.4
15	QPSK	1	37	20.68	20.04	20.68	
15	QPSK	1	74	20.40	20.43	20.93	
15	QPSK	36	0	20.68	20.24	20.92	21.4
15	QPSK	36	20	20.77	20.22	20.92	
15	QPSK	36	39	20.53	20.24	20.92	
15	QPSK	75	0	20.61	20.25	20.97	21.4
15	16QAM	1	0	20.85	20.49	20.82	
15	16QAM	1	37	20.81	20.50	20.92	
15	16QAM	1	74	20.64	20.65	20.90	21.4
15	16QAM	36	0	20.68	20.28	20.91	
15	16QAM	36	20	20.66	20.19	20.91	
15	16QAM	36	39	20.50	20.35	20.93	21.4
15	16QAM	75	0	20.67	20.21	20.96	
15	64QAM	1	0	20.89	20.48	20.79	
15	64QAM	1	37	20.66	20.57	20.86	21.4
15	64QAM	1	74	20.67	20.61	20.96	
15	64QAM	36	0	20.10	19.59	20.19	21
15	64QAM	36	20	20.06	19.52	20.34	
15	64QAM	36	39	20.00	19.54	20.55	
15	64QAM	75	0	19.96	19.58	20.41	19
15	256QAM	1	0	18.31	17.71	18.19	
15	256QAM	1	37	18.17	17.48	17.91	
15	256QAM	1	74	18.40	17.89	18.27	19
15	256QAM	36	0	18.14	17.61	17.85	
15	256QAM	36	20	18.09	17.46	17.86	
15	256QAM	36	39	18.10	17.54	17.87	19
15	256QAM	75	0	18.18	17.60	18.09	
Channel				132022	132322	132622	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	QPSK	1	0	20.68	20.36	20.99	21.4
10	QPSK	1	25	20.68	20.04	20.67	
10	QPSK	1	49	20.40	20.50	20.91	
10	QPSK	25	0	20.67	20.20	20.96	21.4
10	QPSK	25	12	20.72	20.30	20.90	
10	QPSK	25	25	20.60	20.23	20.92	
10	QPSK	50	0	20.64	20.28	21.02	21.4
10	16QAM	1	0	20.88	20.52	20.77	
10	16QAM	1	25	20.81	20.50	20.94	
10	16QAM	1	49	20.70	20.65	20.90	21.4
10	16QAM	25	0	20.70	20.32	20.95	
10	16QAM	25	12	20.70	20.18	20.87	
10	16QAM	25	25	20.48	20.33	21.01	21.4
10	16QAM	50	0	20.66	20.29	20.92	
10	64QAM	1	0	20.93	20.50	20.80	
10	64QAM	1	25	20.68	20.62	20.88	21
10	64QAM	1	49	20.64	20.71	20.91	
10	64QAM	25	0	20.11	19.63	20.30	
10	64QAM	25	12	19.98	19.43	20.32	19
10	64QAM	25	25	20.00	19.59	20.49	
10	64QAM	50	0	20.05	19.63	20.27	
10	256QAM	1	0	18.29	17.61	18.04	19



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10	256QAM	1	25	18.17	17.47	18.03	19
10	256QAM	1	49	18.29	17.81	18.26	
10	256QAM	25	0	18.15	17.48	17.84	
10	256QAM	25	12	18.12	17.53	17.99	
10	256QAM	25	25	18.19	17.57	17.92	
10	256QAM	50	0	18.09	17.67	18.13	Tune-up limit (dBm)
Channel				131997	132322	132647	
Frequency (MHz)				1712.5	1745	1777.5	
5	QPSK	1	0	20.68	20.27	21.04	21.4
5	QPSK	1	12	20.66	20.09	20.73	
5	QPSK	1	24	20.45	20.49	20.97	
5	QPSK	12	0	20.73	20.26	20.99	21.4
5	QPSK	12	7	20.74	20.25	20.93	
5	QPSK	12	13	20.51	20.31	20.96	
5	QPSK	25	0	20.62	20.26	20.99	
5	16QAM	1	0	20.86	20.50	20.80	21.4
5	16QAM	1	12	20.90	20.48	20.92	
5	16QAM	1	24	20.72	20.66	20.88	
5	16QAM	12	0	20.67	20.29	20.96	21.4
5	16QAM	12	7	20.74	20.22	20.94	
5	16QAM	12	13	20.54	20.35	21.00	
5	16QAM	25	0	20.66	20.27	20.93	
5	64QAM	1	0	20.97	20.51	20.77	21.4
5	64QAM	1	12	20.75	20.59	20.89	
5	64QAM	1	24	20.65	20.64	20.93	
5	64QAM	12	0	20.09	19.55	20.23	21
5	64QAM	12	7	19.92	19.60	20.42	
5	64QAM	12	13	19.98	19.72	20.54	
5	64QAM	25	0	20.12	19.69	20.43	
5	256QAM	1	0	18.28	17.72	18.09	19
5	256QAM	1	12	18.05	17.49	17.98	
5	256QAM	1	24	18.25	17.73	18.18	
5	256QAM	12	0	18.14	17.60	17.99	19
5	256QAM	12	7	18.09	17.62	17.99	
5	256QAM	12	13	18.09	17.54	17.94	
5	256QAM	25	0	18.22	17.63	18.04	Tune-up limit (dBm)
Channel				131987	132322	132657	
Frequency (MHz)				1711.5	1745	1778.5	
3	QPSK	1	0	20.76	20.31	20.97	21.4
3	QPSK	1	8	20.62	20.03	20.65	
3	QPSK	1	14	20.48	20.45	20.95	
3	QPSK	8	0	20.65	20.24	21.00	21.4
3	QPSK	8	4	20.71	20.21	20.84	
3	QPSK	8	7	20.56	20.32	20.93	
3	QPSK	15	0	20.64	20.29	20.97	
3	16QAM	1	0	20.86	20.50	20.77	21.4
3	16QAM	1	8	20.87	20.50	20.94	
3	16QAM	1	14	20.63	20.69	20.91	
3	16QAM	8	0	20.63	20.29	20.89	21.4
3	16QAM	8	4	20.66	20.26	20.95	
3	16QAM	8	7	20.55	20.31	20.96	
3	16QAM	15	0	20.73	20.25	20.98	
3	64QAM	1	0	20.93	20.50	20.74	21.4
3	64QAM	1	8	20.68	20.66	20.83	
3	64QAM	1	14	20.63	20.69	20.88	
3	64QAM	8	0	19.98	19.57	20.14	21
3	64QAM	8	4	20.07	19.47	20.28	
3	64QAM	8	7	19.94	19.69	20.62	
3	64QAM	15	0	20.03	19.74	20.38	
3	256QAM	1	0	18.29	17.61	18.12	19
3	256QAM	1	8	18.06	17.64	17.99	
3	256QAM	1	14	18.39	17.84	18.20	
3	256QAM	8	0	17.99	17.45	18.01	19



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3	256QAM	8	4	18.04	17.60	17.79	
3	256QAM	8	7	18.09	17.70	17.85	
3	256QAM	15	0	18.13	17.58	18.12	
Channel				131979	132322	132665	Tune-up limit (dBm)
Frequency (MHz)				1710.7	1745	1779.3	
1.4	QPSK	1	0	20.75	20.35	20.97	21.4
1.4	QPSK	1	3	20.59	20.13	20.72	
1.4	QPSK	1	5	20.48	20.48	20.89	
1.4	QPSK	3	0	20.71	20.22	20.97	
1.4	QPSK	3	1	20.73	20.23	20.86	
1.4	QPSK	3	3	20.56	20.29	20.91	
1.4	QPSK	6	0	20.67	20.34	20.98	21.4
1.4	16QAM	1	0	20.90	20.49	20.82	21.4
1.4	16QAM	1	3	20.88	20.50	20.92	
1.4	16QAM	1	5	20.65	20.68	20.87	
1.4	16QAM	3	0	20.64	20.30	20.92	
1.4	16QAM	3	1	20.67	20.23	20.95	
1.4	16QAM	3	3	20.49	20.37	20.99	
1.4	16QAM	6	0	20.64	20.29	20.95	21.4
1.4	64QAM	1	0	20.96	20.56	20.80	21.4
1.4	64QAM	1	3	20.69	20.65	20.90	
1.4	64QAM	1	5	20.66	20.67	20.91	
1.4	64QAM	3	0	20.95	20.48	20.72	
1.4	64QAM	3	1	20.72	20.64	20.90	
1.4	64QAM	3	3	20.66	20.61	20.93	
1.4	64QAM	6	0	20.06	19.56	20.37	21
1.4	256QAM	1	0	18.18	17.56	18.16	19
1.4	256QAM	1	3	18.19	17.57	17.95	
1.4	256QAM	1	5	18.34	17.75	18.17	
1.4	256QAM	3	0	17.99	17.44	17.95	
1.4	256QAM	3	1	18.12	17.49	17.96	
1.4	256QAM	3	3	18.06	17.58	17.91	
1.4	256QAM	6	0	18.24	17.65	18.04	19

<LTE Band 71_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				133222	133297	133372	
Frequency (MHz)				673	680.5	688	
20	QPSK	1	0	23.70	23.87	23.76	24
20	QPSK	1	49	23.52	23.63	23.84	
20	QPSK	1	99	23.48	23.62	23.66	
20	QPSK	50	0	22.72	22.83	22.78	23
20	QPSK	50	24	22.76	22.75	22.69	
20	QPSK	50	50	22.74	22.72	22.81	
20	QPSK	100	0	22.79	22.86	22.85	23
20	16QAM	1	0	22.81	22.94	22.98	
20	16QAM	1	49	22.89	22.93	22.98	
20	16QAM	1	99	22.72	22.86	22.87	22
20	16QAM	50	0	21.78	21.76	21.78	
20	16QAM	50	24	21.74	21.75	21.72	
20	16QAM	50	50	21.72	21.74	21.82	22
20	16QAM	100	0	21.76	21.81	21.86	
20	64QAM	1	0	21.89	21.87	21.82	
20	64QAM	1	49	21.95	21.87	21.95	21
20	64QAM	1	99	21.75	21.76	21.84	
20	64QAM	50	0	20.73	20.75	20.76	
20	64QAM	50	24	20.74	20.74	20.82	21
20	64QAM	50	50	20.73	20.80	20.87	
20	64QAM	100	0	20.82	20.87	20.89	
20	256QAM	1	0	18.98	18.86	18.82	19



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20	256QAM	1	49	18.93	18.84	18.76	19
20	256QAM	1	99	18.92	18.90	18.77	
20	256QAM	50	0	18.86	18.76	18.70	
20	256QAM	50	24	18.89	18.82	18.69	
20	256QAM	50	50	18.91	18.82	18.72	
20	256QAM	100	0	18.85	18.83	18.74	
Channel				133197	133297	133397	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	QPSK	1	0	23.70	23.67	23.63	24
15	QPSK	1	37	23.43	23.47	23.84	
15	QPSK	1	74	23.31	23.62	23.49	
15	QPSK	36	0	22.58	22.65	22.73	23
15	QPSK	36	20	22.60	22.60	22.54	
15	QPSK	36	39	22.65	22.61	22.77	
15	QPSK	75	0	22.75	22.80	22.70	
15	16QAM	1	0	22.74	22.84	22.82	23
15	16QAM	1	37	22.88	22.74	22.82	
15	16QAM	1	74	22.64	22.67	22.86	
15	16QAM	36	0	21.68	21.65	21.77	22
15	16QAM	36	20	21.59	21.57	21.59	
15	16QAM	36	39	21.64	21.73	21.79	
15	16QAM	75	0	21.71	21.62	21.71	
15	64QAM	1	0	21.84	21.79	21.72	22
15	64QAM	1	37	21.94	21.85	21.86	
15	64QAM	1	74	21.65	21.64	21.64	
15	64QAM	36	0	20.64	20.75	20.67	21
15	64QAM	36	20	20.71	20.74	20.81	
15	64QAM	36	39	20.63	20.80	20.81	
15	64QAM	75	0	20.63	20.72	20.75	
15	256QAM	1	0	18.87	18.84	18.74	19
15	256QAM	1	37	18.76	18.79	18.74	
15	256QAM	1	74	18.80	18.81	18.68	
15	256QAM	36	0	18.69	18.65	18.58	19
15	256QAM	36	20	18.87	18.65	18.62	
15	256QAM	36	39	18.84	18.77	18.53	
15	256QAM	75	0	18.73	18.76	18.73	
Channel				133172	133297	133422	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	QPSK	1	0	23.51	23.84	23.62	24
10	QPSK	1	25	23.42	23.52	23.66	
10	QPSK	1	49	23.34	23.61	23.62	
10	QPSK	25	0	22.53	22.81	22.71	23
10	QPSK	25	12	22.59	22.61	22.59	
10	QPSK	25	25	22.57	22.55	22.76	
10	QPSK	50	0	22.72	22.79	22.72	
10	16QAM	1	0	22.80	22.82	22.91	23
10	16QAM	1	25	22.87	22.73	22.88	
10	16QAM	1	49	22.57	22.84	22.86	
10	16QAM	25	0	21.72	21.66	21.64	22
10	16QAM	25	12	21.56	21.56	21.61	
10	16QAM	25	25	21.71	21.59	21.68	
10	16QAM	50	0	21.62	21.81	21.82	
10	64QAM	1	0	21.74	21.74	21.76	22
10	64QAM	1	25	21.75	21.79	21.79	
10	64QAM	1	49	21.55	21.67	21.69	
10	64QAM	25	0	20.57	20.68	20.74	21
10	64QAM	25	12	20.60	20.61	20.70	
10	64QAM	25	25	20.55	20.78	20.67	
10	64QAM	50	0	20.81	20.86	20.69	
10	256QAM	1	0	18.83	18.71	18.76	19
10	256QAM	1	25	18.90	18.76	18.76	
10	256QAM	1	49	18.77	18.81	18.68	
10	256QAM	25	0	18.71	18.65	18.55	19



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10	256QAM	25	12	18.73	18.64	18.56	
10	256QAM	25	25	18.79	18.78	18.69	
10	256QAM	50	0	18.73	18.79	18.56	
Channel				133147	133297	133447	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	QPSK	1	0	23.70	23.68	23.72	24
5	QPSK	1	12	23.32	23.47	23.70	
5	QPSK	1	24	23.30	23.44	23.63	
5	QPSK	12	0	22.53	22.79	22.67	23
5	QPSK	12	7	22.74	22.71	22.51	
5	QPSK	12	13	22.58	22.66	22.71	
5	QPSK	25	0	22.63	22.68	22.71	23
5	16QAM	1	0	22.75	22.81	22.92	
5	16QAM	1	12	22.69	22.88	22.88	
5	16QAM	1	24	22.72	22.72	22.79	22
5	16QAM	12	0	21.68	21.63	21.61	
5	16QAM	12	7	21.56	21.58	21.52	
5	16QAM	12	13	21.60	21.66	21.77	22
5	16QAM	25	0	21.58	21.71	21.70	
5	64QAM	1	0	21.69	21.77	21.67	
5	64QAM	1	12	21.81	21.83	21.87	21
5	64QAM	1	24	21.58	21.71	21.64	
5	64QAM	12	0	20.64	20.68	20.69	
5	64QAM	12	7	20.71	20.54	20.80	19
5	64QAM	12	13	20.58	20.68	20.72	
5	64QAM	25	0	20.78	20.72	20.86	
5	256QAM	1	0	18.88	18.69	18.66	19
5	256QAM	1	12	18.74	18.82	18.76	
5	256QAM	1	24	18.78	18.83	18.68	
5	256QAM	12	0	18.75	18.75	18.61	19
5	256QAM	12	7	18.88	18.79	18.58	
5	256QAM	12	13	18.84	18.62	18.61	
5	256QAM	25	0	18.71	18.78	18.67	

<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.

- 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
- “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
- Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Base station simulator was used for LTE output power measurements and SAR testing.

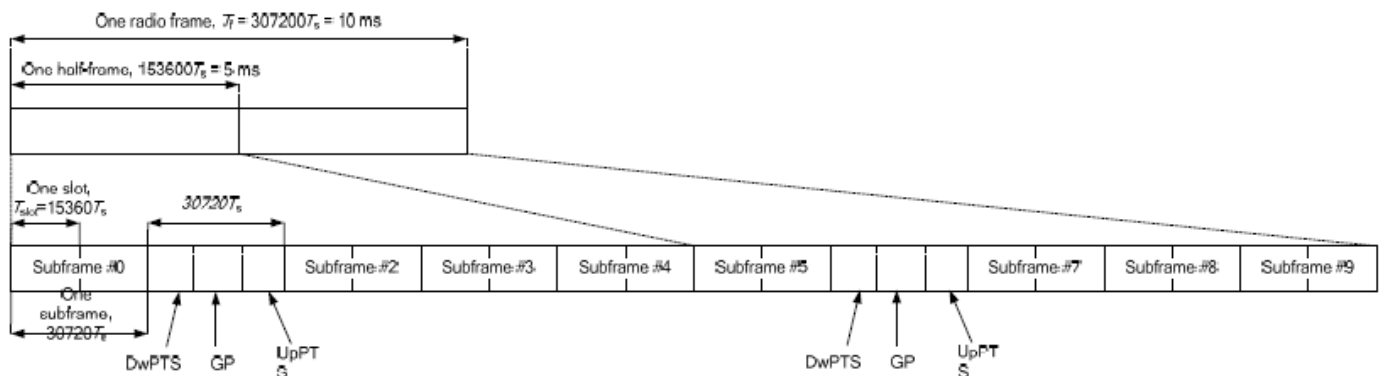


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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.
- vi. The device supports Power Class 3 uplink-downlink configurations 0 and 6, and Power Class 2 uplink-downlink configurations 1 to 5 operations for LTE Band 41.
- vii. The highest available duty cycle for Power Class 2 operation is 43.3% using UL-DL configuration 1, for Power Class 3 operation is 63.3% using UL-DL configuration 0. Per FCC Guidance, all SAR tests were performed using Power Class 3. SAR with Power Class 2 at the available duty factor was additionally performed for the Power Class 3 configuration with the highest SAR among all exposure condition.



<LTE Band 38_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				37850	38000	38150	
Frequency (MHz)				2580	2595	2610	
20	QPSK	1	0	23.33	23.50	23.43	24
20	QPSK	1	49	23.17	23.30	23.18	
20	QPSK	1	99	23.17	23.27	23.28	
20	QPSK	50	0	22.22	22.47	22.45	23
20	QPSK	50	24	22.27	22.30	22.43	
20	QPSK	50	50	22.31	22.42	22.44	
20	QPSK	100	0	22.33	22.35	22.34	
20	16QAM	1	0	22.01	22.39	22.38	23
20	16QAM	1	49	22.59	22.05	22.77	
20	16QAM	1	99	22.43	22.59	22.57	
20	16QAM	50	0	21.11	21.46	21.36	22
20	16QAM	50	24	21.36	21.33	21.56	
20	16QAM	50	50	21.45	21.42	21.48	
20	16QAM	100	0	21.34	21.32	21.42	
20	64QAM	1	0	20.92	21.07	21.96	22
20	64QAM	1	49	20.98	21.56	21.29	
20	64QAM	1	99	21.16	21.09	21.16	
20	64QAM	50	0	20.13	20.34	20.28	21
20	64QAM	50	24	20.38	20.36	20.54	
20	64QAM	50	50	20.35	20.40	20.50	
20	64QAM	100	0	20.26	20.31	20.56	
20	256QAM	1	0	18.44	18.40	18.47	19
20	256QAM	1	49	18.47	18.41	18.65	
20	256QAM	1	99	17.97	17.99	18.23	
20	256QAM	50	0	18.26	18.39	18.51	19
20	256QAM	50	24	18.18	18.48	18.47	
20	256QAM	50	50	18.34	18.53	18.63	
20	256QAM	100	0	18.38	18.39	18.62	
Channel				37825	38000	38175	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	QPSK	1	0	23.31	23.30	23.35	24
15	QPSK	1	37	22.97	23.26	23.08	
15	QPSK	1	74	23.12	23.16	23.26	
15	QPSK	36	0	22.13	22.34	22.42	23
15	QPSK	36	20	22.18	22.22	22.34	
15	QPSK	36	39	22.28	22.28	22.39	
15	QPSK	75	0	22.17	22.25	22.19	
15	16QAM	1	0	21.88	22.20	22.23	23
15	16QAM	1	37	22.43	21.88	22.65	
15	16QAM	1	74	22.34	22.44	22.55	
15	16QAM	36	0	20.97	21.34	21.20	22
15	16QAM	36	20	21.32	21.20	21.36	
15	16QAM	36	39	21.38	21.39	21.30	
15	16QAM	75	0	21.14	21.14	21.32	
15	64QAM	1	0	20.75	20.87	21.83	22
15	64QAM	1	37	20.82	21.40	21.27	
15	64QAM	1	74	21.12	21.07	21.11	
15	64QAM	36	0	20.03	20.20	20.18	21
15	64QAM	36	20	20.31	20.33	20.52	
15	64QAM	36	39	20.23	20.27	20.33	
15	64QAM	75	0	20.13	20.21	20.50	
15	256QAM	1	0	18.37	18.34	18.47	19
15	256QAM	1	37	18.32	18.35	18.51	
15	256QAM	1	74	17.85	17.94	18.03	
15	256QAM	36	0	18.20	18.26	18.43	19
15	256QAM	36	20	18.06	18.33	18.34	



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15	256QAM	36	39	18.23	18.45	18.52	Tune-up limit (dBm)
15	256QAM	75	0	18.33	18.37	18.43	
Channel				37800	38000	38200	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	QPSK	1	0	23.14	23.33	23.28	24
10	QPSK	1	25	23.14	23.23	22.99	
10	QPSK	1	49	23.01	23.08	23.27	
10	QPSK	25	0	22.20	22.33	22.36	23
10	QPSK	25	12	22.25	22.13	22.38	
10	QPSK	25	25	22.12	22.35	22.33	
10	QPSK	50	0	22.27	22.30	22.17	
10	16QAM	1	0	21.91	22.27	22.33	23
10	16QAM	1	25	22.53	21.97	22.64	
10	16QAM	1	49	22.41	22.51	22.53	22
10	16QAM	25	0	21.08	21.33	21.32	
10	16QAM	25	12	21.34	21.26	21.48	
10	16QAM	25	25	21.43	21.41	21.45	
10	16QAM	50	0	21.34	21.16	21.39	22
10	64QAM	1	0	20.80	20.90	21.91	
10	64QAM	1	25	20.82	21.38	21.24	
10	64QAM	1	49	21.01	21.04	21.04	
10	64QAM	25	0	20.12	20.17	20.22	21
10	64QAM	25	12	20.38	20.19	20.36	
10	64QAM	25	25	20.35	20.36	20.40	
10	64QAM	50	0	20.17	20.26	20.53	
10	256QAM	1	0	18.40	18.39	18.45	19
10	256QAM	1	25	18.41	18.33	18.52	
10	256QAM	1	49	17.78	17.87	18.09	
10	256QAM	25	0	18.11	18.19	18.36	19
10	256QAM	25	12	18.18	18.44	18.27	
10	256QAM	25	25	18.14	18.51	18.49	
10	256QAM	50	0	18.24	18.35	18.43	
Channel				37775	38000	38225	Tune-up limit (dBm)
Frequency (MHz)				2572.5	2595	2617.5	
5	QPSK	1	0	23.23	23.43	23.34	24
5	QPSK	1	12	23.15	23.29	23.01	
5	QPSK	1	24	23.17	23.24	23.27	
5	QPSK	12	0	22.19	22.41	22.41	23
5	QPSK	12	7	22.16	22.11	22.32	
5	QPSK	12	13	22.30	22.29	22.30	
5	QPSK	25	0	22.15	22.30	22.29	
5	16QAM	1	0	21.90	22.21	22.25	23
5	16QAM	1	12	22.59	21.91	22.67	
5	16QAM	1	24	22.33	22.41	22.49	
5	16QAM	12	0	21.07	21.37	21.19	22
5	16QAM	12	7	21.36	21.25	21.46	
5	16QAM	12	13	21.39	21.24	21.28	
5	16QAM	25	0	21.26	21.19	21.39	
5	64QAM	1	0	20.80	21.00	21.91	22
5	64QAM	1	12	20.94	21.44	21.26	
5	64QAM	1	24	21.02	20.96	21.01	
5	64QAM	12	0	20.01	20.17	20.15	21
5	64QAM	12	7	20.20	20.20	20.36	
5	64QAM	12	13	20.30	20.34	20.35	
5	64QAM	25	0	20.23	20.12	20.44	
5	256QAM	1	0	18.26	18.25	18.42	19
5	256QAM	1	12	18.47	18.32	18.52	
5	256QAM	1	24	17.78	17.90	18.17	
5	256QAM	12	0	18.23	18.26	18.36	19
5	256QAM	12	7	18.02	18.41	18.38	
5	256QAM	12	13	18.14	18.47	18.58	
5	256QAM	25	0	18.27	18.22	18.58	



<LTE Band 41_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	23.14	23.05	23.40	23.23	23.83	24
20	QPSK	1	49	23.00	23.12	23.17	23.27	23.70	
20	QPSK	1	99	22.92	22.77	23.39	23.14	23.67	
20	QPSK	50	0	22.01	21.96	22.21	22.37	22.81	23
20	QPSK	50	24	22.17	22.17	22.22	22.46	22.69	
20	QPSK	50	50	22.05	21.98	22.35	22.34	22.75	
20	QPSK	100	0	22.07	22.19	22.19	22.32	22.73	23
20	16QAM	1	0	21.53	22.03	22.38	22.40	22.37	
20	16QAM	1	49	22.03	21.90	22.57	22.26	22.95	
20	16QAM	1	99	21.76	21.41	21.81	22.39	22.87	22
20	16QAM	50	0	21.01	21.07	21.21	21.35	21.54	
20	16QAM	50	24	21.12	21.11	21.18	21.39	21.47	
20	16QAM	50	50	21.10	21.17	21.36	21.39	21.79	22
20	16QAM	100	0	21.24	21.08	21.30	21.35	21.67	
20	64QAM	1	0	20.77	21.66	21.09	21.03	21.66	
20	64QAM	1	49	21.14	21.49	21.04	21.10	21.88	21
20	64QAM	1	99	21.45	20.75	20.86	21.32	21.75	
20	64QAM	50	0	20.05	20.12	20.21	20.38	20.67	
20	64QAM	50	24	20.17	20.12	20.37	20.47	20.68	19
20	64QAM	50	50	20.08	20.15	20.26	20.30	20.76	
20	64QAM	100	0	20.08	20.18	20.25	20.30	20.72	
20	256QAM	1	0	17.86	18.33	18.26	18.72	18.87	19
20	256QAM	1	49	18.23	18.05	18.45	18.62	18.31	
20	256QAM	1	99	17.99	17.86	18.29	18.62	18.20	
20	256QAM	50	0	18.05	18.09	18.26	18.42	18.54	19
20	256QAM	50	24	18.23	18.16	18.24	18.36	18.61	
20	256QAM	50	50	18.11	18.19	18.31	18.29	18.72	
20	256QAM	100	0	18.18	18.05	18.24	18.40	18.83	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	23.01	22.90	23.36	23.13	23.80	24.00
15	QPSK	1	37	22.91	23.06	23.11	23.08	23.50	
15	QPSK	1	74	22.81	22.77	23.23	22.99	23.52	
15	QPSK	36	0	21.99	21.94	22.02	22.19	22.79	23
15	QPSK	36	20	22.00	21.97	22.15	22.26	22.51	
15	QPSK	36	39	21.87	21.80	22.20	22.21	22.67	
15	QPSK	75	0	21.94	22.07	22.18	22.19	22.53	23
15	16QAM	1	0	21.48	21.88	22.25	22.31	22.23	
15	16QAM	1	37	21.85	21.76	22.56	22.08	22.93	
15	16QAM	1	74	21.64	21.39	21.81	22.30	22.79	22
15	16QAM	36	0	20.95	21.00	21.13	21.32	21.54	
15	16QAM	36	20	20.93	20.97	21.18	21.22	21.35	
15	16QAM	36	39	21.03	21.07	21.27	21.24	21.65	22
15	16QAM	75	0	21.15	21.07	21.19	21.19	21.61	
15	64QAM	1	0	20.73	21.48	20.98	20.84	21.66	
15	64QAM	1	37	21.04	21.29	20.89	21.01	21.70	21
15	64QAM	1	74	21.29	20.64	20.67	21.27	21.60	
15	64QAM	36	0	20.02	19.98	20.06	20.35	20.55	
15	64QAM	36	20	20.04	19.93	20.27	20.30	20.52	19
15	64QAM	36	39	19.88	20.10	20.13	20.30	20.58	
15	64QAM	75	0	20.00	20.15	20.17	20.18	20.57	
15	256QAM	1	0	17.70	18.16	18.22	18.70	18.75	19
15	256QAM	1	37	18.22	18.05	18.36	18.57	18.28	
15	256QAM	1	74	17.85	17.78	18.28	18.51	18.09	
15	256QAM	36	0	17.92	18.08	18.21	18.39	18.43	19



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15	256QAM	36	20	18.09	18.14	18.14	18.29	18.55	
15	256QAM	36	39	18.02	18.13	18.26	18.28	18.58	
15	256QAM	75	0	18.16	17.85	18.21	18.34	18.72	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	23.03	22.91	23.34	23.03	23.80	24.00
10	QPSK	1	25	22.95	22.92	23.12	23.19	23.52	
10	QPSK	1	49	22.77	22.73	23.29	23.12	23.59	
10	QPSK	25	0	22.00	21.96	22.04	22.30	22.62	23
10	QPSK	25	12	22.03	22.14	22.09	22.44	22.58	
10	QPSK	25	25	21.90	21.93	22.16	22.15	22.71	
10	QPSK	50	0	21.94	22.03	22.02	22.30	22.53	23
10	16QAM	1	0	21.48	21.91	22.32	22.38	22.31	
10	16QAM	1	25	21.95	21.81	22.43	22.16	22.79	
10	16QAM	1	49	21.57	21.27	21.81	22.23	22.79	22
10	16QAM	25	0	20.88	20.96	21.08	21.32	21.40	
10	16QAM	25	12	20.96	20.92	21.17	21.31	21.43	
10	16QAM	25	25	21.10	21.02	21.20	21.39	21.74	22
10	16QAM	50	0	21.12	20.93	21.29	21.19	21.50	
10	64QAM	1	0	20.72	21.48	21.09	20.86	21.50	
10	64QAM	1	25	21.10	21.44	21.04	21.10	21.78	21
10	64QAM	1	49	21.26	20.75	20.66	21.22	21.71	
10	64QAM	25	0	19.91	19.98	20.21	20.36	20.65	
10	64QAM	25	12	20.08	20.00	20.32	20.45	20.65	19
10	64QAM	25	25	20.06	20.13	20.19	20.29	20.70	
10	64QAM	50	0	19.90	20.17	20.12	20.17	20.68	
10	256QAM	1	0	17.69	18.23	18.09	18.56	18.76	19
10	256QAM	1	25	18.05	17.97	18.42	18.42	18.29	
10	256QAM	1	49	17.92	17.68	18.22	18.52	18.03	
10	256QAM	25	0	18.02	17.89	18.20	18.39	18.46	19
10	256QAM	25	12	18.08	17.97	18.19	18.34	18.44	
10	256QAM	25	25	18.03	18.15	18.16	18.09	18.54	
10	256QAM	50	0	18.00	18.05	18.11	18.32	18.63	Tune-up limit (dBm)
Channel				39675	40148	40620	41093	41565	
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	24.00
5	QPSK	1	0	23.03	23.00	23.32	23.12	23.78	
5	QPSK	1	12	22.93	23.09	23.09	23.16	23.57	
5	QPSK	1	24	22.88	22.58	23.34	23.01	23.47	23
5	QPSK	12	0	21.97	21.83	22.17	22.29	22.67	
5	QPSK	12	7	21.99	22.12	22.02	22.31	22.51	
5	QPSK	12	13	22.02	21.79	22.19	22.18	22.71	23
5	QPSK	25	0	21.96	22.14	22.17	22.23	22.63	
5	16QAM	1	0	21.44	21.85	22.26	22.29	22.36	
5	16QAM	1	12	21.86	21.81	22.53	22.18	22.92	22
5	16QAM	1	24	21.71	21.38	21.63	22.29	22.68	
5	16QAM	12	0	20.85	21.00	21.05	21.20	21.45	
5	16QAM	12	7	20.99	21.03	21.12	21.35	21.42	22
5	16QAM	12	13	20.97	21.13	21.22	21.19	21.61	
5	16QAM	25	0	21.15	20.99	21.16	21.24	21.50	
5	64QAM	1	0	20.60	21.60	20.96	20.83	21.61	21
5	64QAM	1	12	21.12	21.43	20.86	21.10	21.85	
5	64QAM	1	24	21.34	20.68	20.85	21.23	21.68	
5	64QAM	12	0	20.02	19.93	20.10	20.26	20.50	19
5	64QAM	12	7	19.98	19.96	20.23	20.32	20.68	
5	64QAM	12	13	20.06	19.98	20.07	20.16	20.59	
5	64QAM	25	0	20.02	20.16	20.09	20.12	20.64	19
5	256QAM	1	0	17.85	18.19	18.22	18.72	18.87	
5	256QAM	1	12	18.18	17.98	18.30	18.55	18.17	
5	256QAM	1	24	17.98	17.77	18.21	18.51	18.10	19
5	256QAM	12	0	17.99	18.05	18.25	18.39	18.36	
5	256QAM	12	7	18.20	18.05	18.08	18.20	18.53	
5	256QAM	12	13	17.91	18.05	18.19	18.10	18.59	19
5	256QAM	25	0	18.02	17.95	18.18	18.34	18.83	



<LTE Band 41_HPUE_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				39750	40185	40620	41055	41490	
Frequency (MHz)				2506	2549.5	2593	2636.5	2680	
20	QPSK	1	0	25.67	25.78	25.90	26.06	26.33	26.5
20	QPSK	1	49	25.83	25.67	25.96	26.01	26.27	
20	QPSK	1	99	25.68	25.60	25.94	25.93	26.32	
20	QPSK	50	0	24.77	24.76	24.91	25.03	25.52	25.5
20	QPSK	50	24	24.83	24.81	24.94	25.09	25.37	
20	QPSK	50	50	24.79	24.75	25.00	25.03	25.49	
20	QPSK	100	0	24.80	24.77	24.92	25.00	25.45	25.5
20	16QAM	1	0	24.87	25.08	25.25	25.46	25.45	
20	16QAM	1	49	25.28	25.25	25.22	25.49	25.44	
20	16QAM	1	99	25.09	24.91	25.24	25.25	25.48	24.5
20	16QAM	50	0	23.53	23.77	23.94	24.08	24.34	
20	16QAM	50	24	23.57	23.82	23.95	24.13	24.36	
20	16QAM	50	50	23.52	23.77	24.03	24.06	24.42	24.5
20	16QAM	100	0	23.55	23.81	23.94	24.01	24.46	
20	64QAM	1	0	23.92	23.97	24.18	24.27	24.47	
20	64QAM	1	49	23.95	24.00	24.19	24.26	24.42	24.5
20	64QAM	1	99	23.90	23.82	24.24	24.20	24.48	
20	64QAM	50	0	23.24	22.76	22.90	23.04	23.33	
20	64QAM	50	24	23.34	22.80	22.95	23.12	23.35	23.5
20	64QAM	50	50	23.32	22.77	23.01	23.04	23.46	
20	64QAM	100	0	23.33	22.80	22.93	23.03	23.47	
20	256QAM	1	0	20.67	20.73	20.99	21.00	21.22	21.5
20	256QAM	1	49	20.81	20.75	20.94	21.03	21.43	
20	256QAM	1	99	20.98	20.71	21.03	20.94	21.41	
20	256QAM	50	0	20.66	20.68	20.83	20.91	21.18	21.5
20	256QAM	50	24	20.72	20.72	20.82	20.97	21.23	
20	256QAM	50	50	20.75	20.65	20.93	20.93	21.34	
20	256QAM	100	0	20.74	20.69	20.82	20.88	21.32	
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5	
15	QPSK	1	0	25.52	25.78	25.71	26.03	26.20	26.50
15	QPSK	1	37	25.79	25.57	25.85	25.81	26.24	
15	QPSK	1	74	25.65	25.56	25.87	25.78	26.26	
15	QPSK	36	0	24.60	24.69	24.71	24.91	25.38	25.5
15	QPSK	36	20	24.76	24.79	24.82	24.96	25.30	
15	QPSK	36	39	24.69	24.58	24.81	24.93	25.42	
15	QPSK	75	0	24.63	24.77	24.72	24.83	25.28	25.5
15	16QAM	1	0	24.80	25.02	25.08	25.41	25.46	
15	16QAM	1	37	25.28	25.07	25.04	25.29	25.42	
15	16QAM	1	74	24.97	24.80	25.22	25.13	25.48	24.5
15	16QAM	36	0	23.55	23.77	23.81	24.06	24.14	
15	16QAM	36	20	23.53	23.72	23.81	24.07	24.32	
15	16QAM	36	39	23.57	23.77	23.90	24.00	24.32	24.5
15	16QAM	75	0	23.53	23.64	23.76	23.96	24.40	
15	64QAM	1	0	23.90	23.86	24.00	24.20	24.29	
15	64QAM	1	37	23.86	23.99	24.19	24.23	24.41	23.5
15	64QAM	1	74	23.73	23.78	24.21	24.03	24.42	
15	64QAM	36	0	23.11	22.70	22.90	22.95	23.14	
15	64QAM	36	20	23.19	22.72	22.83	23.06	23.23	21.5
15	64QAM	36	39	23.21	22.57	22.92	23.00	23.32	
15	64QAM	75	0	23.30	22.65	22.92	22.91	23.30	
15	256QAM	1	0	20.58	20.63	20.96	20.85	21.13	21.5
15	256QAM	1	37	20.73	20.73	20.76	21.00	21.34	
15	256QAM	1	74	20.84	20.61	20.98	20.93	21.41	
15	256QAM	36	0	20.50	20.56	20.71	20.73	21.13	21.5



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15	256QAM	36	20	20.65	20.71	20.74	20.95	21.22	Tune-up limit (dBm)
15	256QAM	36	39	20.62	20.55	20.77	20.86	21.25	
15	256QAM	75	0	20.73	20.67	20.74	20.84	21.22	
Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)
Frequency (MHz)				2501	2547	2593	2639	2685	
10	QPSK	1	0	25.56	25.63	25.70	25.92	26.23	26.50
10	QPSK	1	25	25.69	25.56	25.91	25.85	26.11	
10	QPSK	1	49	25.57	25.57	25.90	25.76	26.15	
10	QPSK	25	0	24.71	24.70	24.79	25.03	25.43	25.5
10	QPSK	25	12	24.77	24.76	24.80	25.06	25.21	
10	QPSK	25	25	24.73	24.75	24.95	24.96	25.33	
10	QPSK	50	0	24.66	24.65	24.84	24.96	25.33	25.5
10	16QAM	1	0	24.78	24.99	25.20	25.41	25.45	
10	16QAM	1	25	25.21	25.07	25.09	25.31	25.46	
10	16QAM	1	49	24.92	24.82	25.21	25.25	25.43	24.5
10	16QAM	25	0	23.56	23.74	23.85	23.88	24.17	
10	16QAM	25	12	23.57	23.72	23.78	23.97	24.30	
10	16QAM	25	25	23.51	23.69	23.87	23.95	24.45	24.5
10	16QAM	50	0	23.57	23.61	23.78	23.86	24.38	
10	64QAM	1	0	23.90	23.78	23.98	24.17	24.39	
10	64QAM	1	25	23.75	23.92	24.15	24.07	24.43	23.5
10	64QAM	1	49	23.71	23.62	24.08	24.00	24.42	
10	64QAM	25	0	23.15	22.66	22.87	22.92	23.20	
10	64QAM	25	12	23.29	22.76	22.77	23.03	23.28	21.5
10	64QAM	25	25	23.19	22.75	22.91	22.97	23.35	
10	64QAM	50	0	23.18	22.73	22.73	22.98	23.40	
10	256QAM	1	0	20.57	20.57	20.99	20.99	21.12	21.5
10	256QAM	1	25	20.80	20.59	20.74	21.02	21.35	
10	256QAM	1	49	20.83	20.57	20.97	20.90	21.50	
10	256QAM	25	0	20.59	20.68	20.71	20.72	21.15	21.5
10	256QAM	25	12	20.64	20.59	20.72	20.93	21.05	
10	256QAM	25	25	20.61	20.59	20.83	20.80	21.29	
10	256QAM	50	0	20.62	20.53	20.64	20.68	21.16	Tune-up limit (dBm)
Channel				39675	40148	40620	41093	41565	
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5	26.50
5	QPSK	1	0	25.60	25.78	25.90	25.80	26.06	
5	QPSK	1	12	25.69	25.50	25.78	25.73	25.89	
5	QPSK	1	24	25.59	25.58	25.93	25.61	25.98	25.5
5	QPSK	12	0	24.71	24.63	24.83	24.74	25.18	
5	QPSK	12	7	24.77	24.65	24.81	24.69	25.16	
5	QPSK	12	13	24.67	24.56	24.89	24.77	25.13	25.5
5	QPSK	25	0	24.64	24.72	24.83	24.77	25.05	
5	16QAM	1	0	24.80	25.02	25.22	25.24	25.41	
5	16QAM	1	12	25.16	25.19	25.13	25.12	25.39	24.5
5	16QAM	1	24	25.01	24.77	25.15	24.93	24.42	
5	16QAM	12	0	23.50	23.67	23.87	23.68	23.97	
5	16QAM	12	7	23.53	23.69	23.84	23.85	23.99	24.5
5	16QAM	12	13	23.59	23.59	23.99	23.76	24.16	
5	16QAM	25	0	23.53	23.77	23.82	23.75	24.14	
5	64QAM	1	0	23.75	23.90	24.18	23.97	24.09	23.5
5	64QAM	1	12	23.85	23.82	24.17	24.02	24.39	
5	64QAM	1	24	23.82	23.73	24.24	23.92	24.40	
5	64QAM	12	0	23.04	22.66	22.88	22.83	22.96	21.5
5	64QAM	12	7	23.34	22.69	22.86	22.85	22.99	
5	64QAM	12	13	23.27	22.62	22.99	22.79	23.14	
5	64QAM	25	0	23.18	22.63	22.87	22.69	23.11	21.5
5	256QAM	1	0	20.60	20.62	20.92	20.67	20.93	
5	256QAM	1	12	20.76	20.60	20.86	20.73	21.20	
5	256QAM	1	24	20.94	20.55	20.87	20.68	21.13	21.5
5	256QAM	12	0	20.50	20.62	20.65	20.71	20.94	
5	256QAM	12	7	20.59	20.52	20.73	20.71	20.91	
5	256QAM	12	13	20.66	20.58	20.76	20.63	21.03	21.5
5	256QAM	25	0	20.68	20.67	20.79	20.62	20.95	



<LTE Band 42_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				43190	43340	43490	
Frequency (MHz)				3560	3575	3590	
20	QPSK	1	0	16.42	16.50	16.48	16.9
20	QPSK	1	49	16.45	16.47	16.37	
20	QPSK	1	99	16.47	16.39	16.29	
20	QPSK	50	0	16.39	16.45	16.41	16.9
20	QPSK	50	24	16.41	16.44	16.44	
20	QPSK	50	50	16.35	16.42	16.41	
20	QPSK	100	0	16.39	16.42	16.41	16.9
20	16QAM	1	0	16.40	16.40	16.44	
20	16QAM	1	49	16.38	16.47	16.45	
20	16QAM	1	99	16.44	16.38	16.27	16.9
20	16QAM	50	0	16.43	16.35	16.45	
20	16QAM	50	24	16.38	16.36	16.47	
20	16QAM	50	50	16.39	16.46	16.38	16.9
20	16QAM	100	0	16.36	16.41	16.42	
20	64QAM	1	0	16.30	16.29	16.22	
20	64QAM	1	49	16.47	16.42	16.33	16.9
20	64QAM	1	99	16.37	16.39	16.36	
20	64QAM	50	0	16.42	16.35	16.45	16.9
20	64QAM	50	24	16.36	16.35	16.38	
20	64QAM	50	50	16.40	16.47	16.37	
20	64QAM	100	0	16.42	16.44	16.46	16.9
20	256QAM	1	0	16.28	16.36	16.39	
20	256QAM	1	49	16.28	16.30	16.40	
20	256QAM	1	99	16.21	16.22	16.33	16.9
20	256QAM	50	0	16.34	16.43	16.46	
20	256QAM	50	24	16.33	16.29	16.40	
20	256QAM	50	50	16.33	16.35	16.39	16.9
20	256QAM	100	0	16.35	16.32	16.44	
Channel				43165	43340	43515	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3575	3592.5	
15	QPSK	1	0	16.34	16.47	16.36	16.9
15	QPSK	1	37	16.38	16.43	16.35	
15	QPSK	1	74	16.43	16.32	16.26	
15	QPSK	36	0	16.29	16.38	16.39	16.9
15	QPSK	36	20	16.41	16.37	16.42	
15	QPSK	36	39	16.27	16.37	16.40	
15	QPSK	75	0	16.36	16.39	16.40	16.9
15	16QAM	1	0	16.31	16.32	16.41	
15	16QAM	1	37	16.31	16.45	16.40	
15	16QAM	1	74	16.36	16.32	16.24	16.9
15	16QAM	36	0	16.42	16.29	16.36	
15	16QAM	36	20	16.31	16.30	16.41	
15	16QAM	36	39	16.29	16.44	16.33	16.9
15	16QAM	75	0	16.31	16.38	16.40	
15	64QAM	1	0	16.28	16.21	16.16	
15	64QAM	1	37	16.39	16.38	16.25	16.9
15	64QAM	1	74	16.34	16.31	16.26	
15	64QAM	36	0	16.37	16.35	16.43	
15	64QAM	36	20	16.31	16.27	16.30	16.9
15	64QAM	36	39	16.33	16.37	16.33	
15	64QAM	75	0	16.40	16.36	16.37	
15	256QAM	1	0	16.22	16.34	16.32	16.9
15	256QAM	1	37	16.21	16.23	16.39	
15	256QAM	1	74	16.16	16.17	16.27	
15	256QAM	36	0	16.28	16.37	16.38	16.9



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15	256QAM	36	20	16.24	16.21	16.35	
15	256QAM	36	39	16.26	16.29	16.30	
15	256QAM	75	0	16.34	16.26	16.41	
Channel				43140	43340	43540	Tune-up limit (dBm)
Frequency (MHz)				3555	3575	3595	
10	QPSK	1	0	16.41	16.38	16.34	16.9
10	QPSK	1	25	16.36	16.46	16.28	
10	QPSK	1	49	16.40	16.34	16.22	
10	QPSK	25	0	16.30	16.38	16.41	16.9
10	QPSK	25	12	16.34	16.37	16.38	
10	QPSK	25	25	16.26	16.32	16.39	
10	QPSK	50	0	16.30	16.36	16.37	
10	16QAM	1	0	16.37	16.39	16.43	16.9
10	16QAM	1	25	16.28	16.42	16.45	
10	16QAM	1	49	16.36	16.31	16.17	
10	16QAM	25	0	16.41	16.27	16.35	16.9
10	16QAM	25	12	16.32	16.26	16.37	
10	16QAM	25	25	16.37	16.39	16.32	
10	16QAM	50	0	16.30	16.39	16.35	
10	64QAM	1	0	16.21	16.25	16.14	16.9
10	64QAM	1	25	16.44	16.40	16.23	
10	64QAM	1	49	16.35	16.29	16.27	
10	64QAM	25	0	16.33	16.25	16.43	16.9
10	64QAM	25	12	16.34	16.29	16.31	
10	64QAM	25	25	16.40	16.41	16.28	
10	64QAM	50	0	16.37	16.34	16.37	
10	256QAM	1	0	16.18	16.35	16.29	16.9
10	256QAM	1	25	16.18	16.30	16.30	
10	256QAM	1	49	16.18	16.19	16.32	
10	256QAM	25	0	16.28	16.40	16.41	16.9
10	256QAM	25	12	16.30	16.24	16.40	
10	256QAM	25	25	16.25	16.27	16.31	
10	256QAM	50	0	16.26	16.23	16.39	
Channel				43115	43340	43565	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3575	3597.5	
5	QPSK	1	0	16.42	16.43	16.36	16.9
5	QPSK	1	12	16.43	16.43	16.28	
5	QPSK	1	24	16.45	16.35	16.19	
5	QPSK	12	0	16.32	16.44	16.39	16.9
5	QPSK	12	7	16.34	16.44	16.34	
5	QPSK	12	13	16.30	16.36	16.37	
5	QPSK	25	0	16.30	16.38	16.37	
5	16QAM	1	0	16.35	16.30	16.35	16.9
5	16QAM	1	12	16.33	16.37	16.45	
5	16QAM	1	24	16.39	16.33	16.26	
5	16QAM	12	0	16.36	16.35	16.39	16.9
5	16QAM	12	7	16.31	16.35	16.45	
5	16QAM	12	13	16.32	16.46	16.33	
5	16QAM	25	0	16.29	16.36	16.37	
5	64QAM	1	0	16.20	16.29	16.19	16.9
5	64QAM	1	12	16.44	16.38	16.33	
5	64QAM	1	24	16.29	16.29	16.28	
5	64QAM	12	0	16.32	16.28	16.44	16.9
5	64QAM	12	7	16.33	16.34	16.28	
5	64QAM	12	13	16.31	16.44	16.34	
5	64QAM	25	0	16.33	16.42	16.38	
5	256QAM	1	0	16.27	16.27	16.33	16.9
5	256QAM	1	12	16.22	16.20	16.39	
5	256QAM	1	24	16.15	16.22	16.23	
5	256QAM	12	0	16.28	16.34	16.39	16.9
5	256QAM	12	7	16.28	16.19	16.36	
5	256QAM	12	13	16.24	16.32	16.35	
5	256QAM	25	0	16.29	16.25	16.44	

**<LTE Band 42_Ant 3_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				42190	42590	42990	
Frequency (MHz)				3460	3500	3540	
20	QPSK	1	0	16.55	16.37	16.36	
20	QPSK	1	49	16.34	16.34	16.33	16.9
20	QPSK	1	99	16.24	16.35	16.31	
20	QPSK	50	0	16.48	16.38	16.40	
20	QPSK	50	24	16.31	16.39	16.40	16.9
20	QPSK	50	50	16.36	16.39	16.34	
20	QPSK	100	0	16.37	16.36	16.36	
20	16QAM	1	0	16.33	16.31	16.26	16.9
20	16QAM	1	49	16.38	16.36	16.37	
20	16QAM	1	99	16.28	16.29	16.32	
20	16QAM	50	0	16.42	16.38	16.38	16.9
20	16QAM	50	24	16.35	16.34	16.33	
20	16QAM	50	50	16.34	16.34	16.35	
20	16QAM	100	0	16.42	16.32	16.39	16.9
20	64QAM	1	0	16.29	16.20	16.23	
20	64QAM	1	49	16.35	16.32	16.31	
20	64QAM	1	99	16.25	16.24	16.34	16.9
20	64QAM	50	0	16.33	16.35	16.37	
20	64QAM	50	24	16.35	16.34	16.33	
20	64QAM	50	50	16.35	16.35	16.34	16.9
20	64QAM	100	0	16.42	16.29	16.42	
20	256QAM	1	0	16.30	16.25	16.41	
20	256QAM	1	49	16.35	16.29	16.39	16.9
20	256QAM	1	99	16.39	16.29	16.33	
20	256QAM	50	0	16.32	16.41	16.41	
20	256QAM	50	24	16.37	16.34	16.37	16.9
20	256QAM	50	50	16.41	16.38	16.31	
20	256QAM	100	0	16.37	16.34	16.34	
Channel				42165	42590	43015	Tune-up limit (dBm)
Frequency (MHz)				3457.5	3500	3542.5	
15	QPSK	1	0	16.20	16.41	16.21	
15	QPSK	1	37	16.28	16.30	16.26	16.9
15	QPSK	1	74	16.24	16.34	16.31	
15	QPSK	36	0	16.29	16.41	16.38	
15	QPSK	36	20	16.26	16.32	16.40	16.9
15	QPSK	36	39	16.35	16.33	16.26	
15	QPSK	75	0	16.27	16.30	16.27	
15	16QAM	1	0	16.28	16.25	16.19	16.9
15	16QAM	1	37	16.34	16.31	16.32	
15	16QAM	1	74	16.24	16.27	16.32	
15	16QAM	36	0	16.40	16.30	16.36	16.9
15	16QAM	36	20	16.27	16.26	16.29	
15	16QAM	36	39	16.28	16.30	16.33	
15	16QAM	75	0	16.34	16.24	16.29	16.9
15	64QAM	1	0	16.19	16.16	16.15	
15	64QAM	1	37	16.31	16.30	16.23	
15	64QAM	1	74	16.22	16.14	16.32	16.9
15	64QAM	36	0	16.23	16.35	16.33	
15	64QAM	36	20	16.34	16.25	16.30	
15	64QAM	36	39	16.27	16.31	16.32	16.9
15	64QAM	75	0	16.34	16.19	16.41	
15	256QAM	1	0	16.21	16.21	16.33	
15	256QAM	1	37	16.35	16.24	16.33	16.9
15	256QAM	1	74	16.32	16.21	16.25	



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15	256QAM	36	0	16.29	16.31	16.31	16.9
15	256QAM	36	20	16.27	16.24	16.30	
15	256QAM	36	39	16.32	16.29	16.21	
15	256QAM	75	0	16.33	16.27	16.26	
Channel				42140	42590	43040	Tune-up limit (dBm)
Frequency (MHz)				3455	3500	3545	
10	QPSK	1	0	16.18	16.32	16.25	16.9
10	QPSK	1	25	16.27	16.29	16.29	
10	QPSK	1	49	16.15	16.27	16.31	
10	QPSK	25	0	16.29	16.34	16.36	16.9
10	QPSK	25	12	16.29	16.36	16.30	
10	QPSK	25	25	16.29	16.32	16.33	
10	QPSK	50	0	16.32	16.31	16.29	
10	16QAM	1	0	16.26	16.29	16.18	16.9
10	16QAM	1	25	16.34	16.35	16.37	
10	16QAM	1	49	16.24	16.20	16.22	
10	16QAM	25	0	16.35	16.28	16.38	16.9
10	16QAM	25	12	16.29	16.25	16.27	
10	16QAM	25	25	16.32	16.33	16.29	
10	16QAM	50	0	16.32	16.28	16.38	
10	64QAM	1	0	16.27	16.20	16.17	16.9
10	64QAM	1	25	16.32	16.27	16.27	
10	64QAM	1	49	16.24	16.19	16.28	
10	64QAM	25	0	16.24	16.32	16.37	16.9
10	64QAM	25	12	16.29	16.24	16.32	
10	64QAM	25	25	16.35	16.27	16.31	
10	64QAM	50	0	16.38	16.24	16.37	
10	256QAM	1	0	16.28	16.25	16.36	16.9
10	256QAM	1	25	16.32	16.23	16.36	
10	256QAM	1	49	16.39	16.28	16.27	
10	256QAM	25	0	16.24	16.32	16.38	16.9
10	256QAM	25	12	16.33	16.25	16.35	
10	256QAM	25	25	16.37	16.35	16.25	
10	256QAM	50	0	16.28	16.24	16.31	
Channel				42115	42590	43065	Tune-up limit (dBm)
Frequency (MHz)				3452.5	3500	3547.5	
5	QPSK	1	0	16.18	16.38	16.17	16.9
5	QPSK	1	12	16.30	16.33	16.31	
5	QPSK	1	24	16.20	16.34	16.29	
5	QPSK	12	0	16.33	16.38	16.33	16.9
5	QPSK	12	7	16.23	16.32	16.37	
5	QPSK	12	13	16.32	16.38	16.24	
5	QPSK	25	0	16.24	16.32	16.26	
5	16QAM	1	0	16.31	16.28	16.22	16.9
5	16QAM	1	12	16.32	16.30	16.31	
5	16QAM	1	24	16.23	16.26	16.24	
5	16QAM	12	0	16.41	16.33	16.30	16.9
5	16QAM	12	7	16.31	16.25	16.25	
5	16QAM	12	13	16.31	16.30	16.26	
5	16QAM	25	0	16.42	16.30	16.39	
5	64QAM	1	0	16.26	16.17	16.21	16.9
5	64QAM	1	12	16.33	16.30	16.25	
5	64QAM	1	24	16.23	16.18	16.34	
5	64QAM	12	0	16.27	16.26	16.30	16.9
5	64QAM	12	7	16.25	16.30	16.33	
5	64QAM	12	13	16.33	16.25	16.25	
5	64QAM	25	0	16.33	16.21	16.34	
5	256QAM	1	0	16.25	16.20	16.39	16.9
5	256QAM	1	12	16.34	16.24	16.35	
5	256QAM	1	24	16.38	16.23	16.26	
5	256QAM	12	0	16.22	16.35	16.37	16.9
5	256QAM	12	7	16.32	16.25	16.30	
5	256QAM	12	13	16.41	16.30	16.28	



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5	256QAM	25	0	16.33	16.31	16.25	
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<LTE Band 43_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				43690	44090	44490	
Frequency (MHz)				3610	3650	3690	
20	QPSK	1	0	17.62	17.64	17.80	
20	QPSK	1	49	17.70	17.70	17.61	18.2
20	QPSK	1	99	17.69	17.65	17.55	
20	QPSK	50	0	17.75	17.62	17.76	
20	QPSK	50	24	17.68	17.65	17.75	18.2
20	QPSK	50	50	17.71	17.74	17.71	
20	QPSK	100	0	17.67	17.70	17.75	
20	16QAM	1	0	17.64	17.67	17.67	18.2
20	16QAM	1	49	17.65	17.72	17.68	
20	16QAM	1	99	17.71	17.67	17.57	
20	16QAM	50	0	17.69	17.79	17.74	18.2
20	16QAM	50	24	17.67	17.65	17.75	
20	16QAM	50	50	17.71	17.76	17.70	
20	16QAM	100	0	17.64	17.62	17.76	18.2
20	64QAM	1	0	17.76	17.60	17.67	
20	64QAM	1	49	17.77	17.65	17.73	
20	64QAM	1	99	17.75	17.69	17.57	18.2
20	64QAM	50	0	17.68	17.71	17.75	
20	64QAM	50	24	17.68	17.65	17.70	
20	64QAM	50	50	17.62	17.79	17.70	18.2
20	64QAM	100	0	17.68	17.63	17.77	
20	256QAM	1	0	17.16	17.22	17.34	
20	256QAM	1	49	17.00	17.24	17.28	17.5
20	256QAM	1	99	17.10	17.24	17.17	
20	256QAM	50	0	17.15	17.28	17.38	
20	256QAM	50	24	17.19	17.28	17.45	17.5
20	256QAM	50	50	17.14	17.34	17.33	
20	256QAM	100	0	17.18	17.25	17.39	
Channel				43665	44090	44515	Tune-up limit (dBm)
Frequency (MHz)				3607.5	3650	3692.5	
15	QPSK	1	0	17.75	17.62	17.58	
15	QPSK	1	37	17.64	17.66	17.60	18.2
15	QPSK	1	74	17.67	17.61	17.49	
15	QPSK	36	0	17.70	17.62	17.66	
15	QPSK	36	20	17.59	17.60	17.69	18.2
15	QPSK	36	39	17.68	17.73	17.66	
15	QPSK	75	0	17.60	17.66	17.68	
15	16QAM	1	0	17.54	17.60	17.59	18.2
15	16QAM	1	37	17.60	17.67	17.58	
15	16QAM	1	74	17.70	17.60	17.47	
15	16QAM	36	0	17.61	17.74	17.66	18.2
15	16QAM	36	20	17.64	17.59	17.73	
15	16QAM	36	39	17.64	17.75	17.64	
15	16QAM	75	0	17.56	17.59	17.71	18.2
15	64QAM	1	0	17.66	17.59	17.61	
15	64QAM	1	37	17.67	17.64	17.72	
15	64QAM	1	74	17.65	17.64	17.50	18.2
15	64QAM	36	0	17.67	17.70	17.74	
15	64QAM	36	20	17.60	17.65	17.61	
15	64QAM	36	39	17.61	17.77	17.63	18.2
15	64QAM	75	0	17.58	17.57	17.72	
15	256QAM	1	0	17.20	17.03	17.26	



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15	256QAM	1	37	17.04	17.23	17.23	17.5
15	256QAM	1	74	17.14	17.07	17.08	
15	256QAM	36	0	17.05	17.19	17.26	
15	256QAM	36	20	17.26	17.17	17.39	
15	256QAM	36	39	17.09	17.25	17.27	
15	256QAM	75	0	17.11	17.18	17.33	
Channel				43640	44090	44540	Tune-up limit (dBm)
Frequency (MHz)				3605	3650	3695	
10	QPSK	1	0	17.70	17.54	17.54	18.2
10	QPSK	1	25	17.63	17.60	17.57	
10	QPSK	1	49	17.69	17.57	17.52	
10	QPSK	25	0	17.67	17.59	17.65	18.2
10	QPSK	25	12	17.61	17.60	17.72	
10	QPSK	25	25	17.68	17.72	17.62	
10	QPSK	50	0	17.60	17.63	17.71	
10	16QAM	1	0	17.55	17.60	17.62	18.2
10	16QAM	1	25	17.58	17.67	17.60	
10	16QAM	1	49	17.68	17.62	17.50	
10	16QAM	25	0	17.68	17.76	17.74	
10	16QAM	25	12	17.61	17.63	17.67	18.2
10	16QAM	25	25	17.61	17.74	17.68	
10	16QAM	50	0	17.61	17.53	17.71	
10	64QAM	1	0	17.66	17.56	17.60	18.2
10	64QAM	1	25	17.77	17.58	17.69	
10	64QAM	1	49	17.65	17.65	17.49	
10	64QAM	25	0	17.64	17.62	17.73	18.2
10	64QAM	25	12	17.59	17.64	17.61	
10	64QAM	25	25	17.57	17.74	17.69	
10	64QAM	50	0	17.60	17.63	17.67	
10	256QAM	1	0	17.27	17.17	17.18	17.5
10	256QAM	1	25	17.08	17.06	17.22	
10	256QAM	1	49	17.25	17.08	17.10	
10	256QAM	25	0	17.22	17.21	17.32	17.5
10	256QAM	25	12	17.26	17.23	17.42	
10	256QAM	25	25	17.12	17.26	17.23	
10	256QAM	50	0	17.14	17.14	17.30	
Channel				43615	44090	44565	Tune-up limit (dBm)
Frequency (MHz)				3602.5	3650	3697.5	
5	QPSK	1	0	17.74	17.62	17.62	18.2
5	QPSK	1	12	17.70	17.69	17.61	
5	QPSK	1	24	17.66	17.62	17.53	
5	QPSK	12	0	17.66	17.53	17.75	18.2
5	QPSK	12	7	17.68	17.65	17.75	
5	QPSK	12	13	17.62	17.69	17.61	
5	QPSK	25	0	17.62	17.66	17.67	
5	16QAM	1	0	17.59	17.61	17.66	18.2
5	16QAM	1	12	17.65	17.68	17.65	
5	16QAM	1	24	17.62	17.66	17.47	
5	16QAM	12	0	17.60	17.72	17.65	18.2
5	16QAM	12	7	17.61	17.62	17.73	
5	16QAM	12	13	17.70	17.75	17.62	
5	16QAM	25	0	17.57	17.60	17.72	
5	64QAM	1	0	17.76	17.57	17.66	18.2
5	64QAM	1	12	17.69	17.62	17.73	
5	64QAM	1	24	17.72	17.67	17.49	
5	64QAM	12	0	17.63	17.62	17.69	18.2
5	64QAM	12	7	17.68	17.61	17.65	
5	64QAM	12	13	17.59	17.78	17.68	
5	64QAM	25	0	17.60	17.56	17.75	
5	256QAM	1	0	17.29	17.15	17.14	17.5
5	256QAM	1	12	17.15	17.24	17.11	
5	256QAM	1	24	17.18	17.16	17.09	
5	256QAM	12	0	17.15	17.23	17.28	17.5



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5	256QAM	12	7	17.33	17.18	17.32	
5	256QAM	12	13	17.34	17.20	17.31	
5	256QAM	25	0	17.36	17.09	17.38	

<LTE Band 48_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				55340	55830	56150	56640	
Frequency (MHz)				3560	3609	3641	3690	
20	QPSK	1	0	17.17	17.28	17.37	17.13	17.5
20	QPSK	1	49	17.26	17.35	17.33	17.12	
20	QPSK	1	99	17.23	17.33	17.33	17.05	
20	QPSK	50	0	17.35	17.34	17.36	17.23	17.5
20	QPSK	50	24	17.32	17.35	17.30	17.25	
20	QPSK	50	50	17.33	17.35	17.35	17.16	
20	QPSK	100	0	17.33	17.34	17.35	17.22	
20	16QAM	1	0	17.24	17.26	17.35	17.09	17.5
20	16QAM	1	49	17.31	17.31	17.32	17.21	
20	16QAM	1	99	17.25	17.33	17.32	17.04	
20	16QAM	50	0	17.35	17.35	17.28	17.25	17.5
20	16QAM	50	24	17.30	17.28	17.35	17.24	
20	16QAM	50	50	17.31	17.36	17.32	17.15	
20	16QAM	100	0	17.33	17.35	17.34	17.24	
20	64QAM	1	0	17.10	17.25	17.27	17.09	17.5
20	64QAM	1	49	17.29	17.31	17.27	17.13	
20	64QAM	1	99	17.15	17.33	17.29	16.97	
20	64QAM	50	0	17.36	17.34	17.35	17.26	17.5
20	64QAM	50	24	17.32	17.28	17.35	17.33	
20	64QAM	50	50	17.30	17.29	17.31	17.17	
20	64QAM	100	0	17.33	17.28	17.35	17.23	
20	256QAM	1	0	17.19	17.27	17.29	17.17	17.5
20	256QAM	1	49	17.29	17.28	17.35	17.12	
20	256QAM	1	99	17.30	17.36	17.29	17.08	
20	256QAM	50	0	17.31	17.36	17.32	17.27	17.5
20	256QAM	50	24	17.29	17.32	17.29	17.26	
20	256QAM	50	50	17.30	17.35	17.36	17.16	
20	256QAM	100	0	17.32	17.27	17.36	17.25	
Channel				55315	55820	56160	56665	Tune-up limit (dBm)
Frequency (MHz)				3557.5	3608	3642	3692.5	
15	QPSK	1	0	17.14	17.30	17.27	17.09	17.5
15	QPSK	1	37	17.18	17.30	17.27	17.12	
15	QPSK	1	74	17.14	17.23	17.28	17.00	
15	QPSK	36	0	17.35	17.32	17.31	17.18	17.5
15	QPSK	36	20	17.25	17.35	17.29	17.25	
15	QPSK	36	39	17.31	17.35	17.34	17.13	
15	QPSK	75	0	17.32	17.34	17.24	17.20	
15	16QAM	1	0	17.24	17.19	17.35	17.05	17.5
15	16QAM	1	37	17.28	17.26	17.28	17.20	
15	16QAM	1	74	17.23	17.33	17.23	16.95	
15	16QAM	36	0	17.35	17.25	17.20	17.17	17.5
15	16QAM	36	20	17.27	17.23	17.31	17.19	
15	16QAM	36	39	17.29	17.27	17.26	17.07	
15	16QAM	75	0	17.27	17.27	17.33	17.23	
15	64QAM	1	0	17.06	17.23	17.22	17.01	17.5
15	64QAM	1	37	17.22	17.23	17.27	17.06	
15	64QAM	1	74	17.15	17.23	17.21	16.90	
15	64QAM	36	0	17.31	17.34	17.27	17.19	17.5
15	64QAM	36	20	17.24	17.23	17.25	17.30	
15	64QAM	36	39	17.24	17.20	17.23	17.11	
15	64QAM	75	0	17.29	17.23	17.32	17.18	
15	256QAM	1	0	17.15	17.26	17.29	17.07	17.5



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15	256QAM	1	37	17.27	17.23	17.33	17.04	17.5
15	256QAM	1	74	17.28	17.29	17.21	17.08	
15	256QAM	36	0	17.29	17.30	17.27	17.17	
15	256QAM	36	20	17.20	17.25	17.29	17.20	
15	256QAM	36	39	17.30	17.34	17.36	17.14	
15	256QAM	75	0	17.31	17.26	17.35	17.21	Tune-up limit (dBm)
Channel				55290	55815	56165	56690	
Frequency (MHz)				3555	3607.5	3642.5	3695	17.5
10	QPSK	1	0	17.17	17.27	17.26	17.05	
10	QPSK	1	25	17.21	17.25	17.25	17.11	
10	QPSK	1	49	17.13	17.27	17.23	17.02	
10	QPSK	25	0	17.33	17.29	17.28	17.22	
10	QPSK	25	12	17.27	17.32	17.21	17.16	17.5
10	QPSK	25	25	17.28	17.25	17.31	17.07	
10	QPSK	50	0	17.33	17.30	17.27	17.19	
10	16QAM	1	0	17.16	17.21	17.25	17.01	
10	16QAM	1	25	17.24	17.29	17.23	17.21	
10	16QAM	1	49	17.24	17.24	17.23	16.99	17.5
10	16QAM	25	0	17.33	17.26	17.27	17.22	
10	16QAM	25	12	17.28	17.20	17.26	17.22	
10	16QAM	25	25	17.21	17.35	17.30	17.10	
10	16QAM	50	0	17.24	17.34	17.32	17.23	
10	64QAM	1	0	17.04	17.19	17.25	17.01	17.5
10	64QAM	1	25	17.19	17.26	17.26	17.07	
10	64QAM	1	49	17.09	17.27	17.22	16.97	
10	64QAM	25	0	17.31	17.25	17.28	17.22	
10	64QAM	25	12	17.32	17.19	17.26	17.29	
10	64QAM	25	25	17.24	17.26	17.22	17.17	17.5
10	64QAM	50	0	17.27	17.21	17.30	17.16	
10	256QAM	1	0	17.19	17.25	17.28	17.16	
10	256QAM	1	25	17.24	17.28	17.27	17.02	
10	256QAM	1	49	17.25	17.36	17.27	17.06	
10	256QAM	25	0	17.22	17.29	17.32	17.23	17.5
10	256QAM	25	12	17.19	17.29	17.26	17.20	
10	256QAM	25	25	17.22	17.33	17.34	17.16	
10	256QAM	50	0	17.32	17.22	17.30	17.16	
Channel				55265	55810	56170	56715	Tune-up limit (dBm)
Frequency (MHz)				3552.5	3607	3643	3697.5	
5	QPSK	1	0	17.16	17.35	17.26	17.13	17.5
5	QPSK	1	12	17.23	17.32	17.32	17.11	
5	QPSK	1	24	17.23	17.33	17.29	17.04	
5	QPSK	12	0	17.29	17.28	17.34	17.22	
5	QPSK	12	7	17.22	17.30	17.26	17.17	
5	QPSK	12	13	17.25	17.28	17.28	17.10	17.5
5	QPSK	25	0	17.34	17.30	17.31	17.17	
5	16QAM	1	0	17.16	17.18	17.33	17.06	
5	16QAM	1	12	17.30	17.30	17.22	17.14	
5	16QAM	1	24	17.23	17.33	17.32	16.96	
5	16QAM	12	0	17.34	17.28	17.24	17.20	17.5
5	16QAM	12	7	17.27	17.19	17.28	17.14	
5	16QAM	12	13	17.30	17.30	17.30	17.11	
5	16QAM	25	0	17.32	17.29	17.32	17.22	
5	64QAM	1	0	17.06	17.22	17.23	17.06	
5	64QAM	1	12	17.29	17.23	17.26	17.13	17.5
5	64QAM	1	24	17.08	17.33	17.19	16.90	
5	64QAM	12	0	17.35	17.30	17.25	17.19	
5	64QAM	12	7	17.24	17.28	17.27	17.33	
5	64QAM	12	13	17.28	17.29	17.28	17.15	
5	64QAM	25	0	17.28	17.28	17.25	17.16	17.5
5	256QAM	1	0	17.18	17.21	17.25	17.11	
5	256QAM	1	12	17.29	17.23	17.28	17.09	
5	256QAM	1	24	17.22	17.35	17.24	17.00	
5	256QAM	12	0	17.22	17.29	17.22	17.22	

5	256QAM	12	7	17.21	17.23	17.27	17.19
5	256QAM	12	13	17.28	17.25	17.32	17.15
5	256QAM	25	0	17.25	17.24	17.34	17.20

14. UL/DL Carrier aggregation

<LTE DL Carrier Aggregation>

General Note:

1. According to 202410 TCB workshop, the downlink (DL) pertains to receiver functionality, thus it is not related to RF exposure compliance limits related to cumulative effects of different transmitters.
2. According to 202410 TCB workshop, equipment authorization applications shall refer to the worst-case UL powers resulting from all the possible modes of operations. Accordingly, CA-DL cases do not need to be analyzed separately, unless pertinent to establishing UL power setting.
3. This device supports LTE carrier aggregation in the downlink. All 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

<LTE UL carrier aggregation>

General Note:

1. The device supports intra-band uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre 3GPP requirement.
2. The device supports uplink carrier aggregation with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when not-contiguous RB allocation is implemented. The conducted power and MPR setting in this device are permanently implemented pre the 3GPP requirement.
3. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
4. According TCB workshop, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.
5. Additional SAR measurement for LTE UL CA whit other DL CA combinations active were not required since the maximum output power for this configuration was not > 0.25dB higher than the maximum output power for UL CA active.

2CC Uplink Carrier Aggregation	
Number	Combination
1	2C
2	5B
3	7C
4	66B
5	66C
6	38C
7	41C
8	42C
9	43C
10	48C

Sensor OFF

CA_2C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
18700	18898	QPSK	1	0	0	0	1	0	22.82	24
18900	18702	QPSK	1	0	0	0	2	0	22.76	24
19100	18902	QPSK	1	0	0	0	2	0	22.7	24

CA_5B_Ant 0										
Combination 10MHz+10MHz (50RB+50RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20450	20549	QPSK	1	0	0	0	1	0	23.54	24
20475	20574	QPSK	1	0	0	0	2	0	23.55	24
20600	20501	QPSK	1	0	0	0	2	0	23.13	24

CA_7C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
20850	21048	QPSK	1	0	0	0	1	0	22.9	24
21100	20902	QPSK	1	0	0	0	2	0	23.04	24
21350	21152	QPSK	1	0	0	0	2	0	22.97	24

CA_66B_Ant 0										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	22.91	24
132322	132229	QPSK	1	0	0	0	2	0	22.41	24
132597	132504	QPSK	1	0	0	0	2	0	22.9	24

CA_66C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	22.96	24
132322	132124	QPSK	1	0	0	0	2	0	22.37	24
132572	132374	QPSK	1	0	0	0	2	0	22.92	24

CA_38C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
37850	38048	QPSK	1	0	0	0	1	0	23.29	24
37901	38099	QPSK	1	0	0	0	1	0	23.33	24
38150	37952	QPSK	1	0	0	0	2	0	23.26	24

CA_41C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	0	0	0	1	0	22.87	24
40185	39987	QPSK	1	0	0	0	2	0	22.94	24
40620	40422	QPSK	1	0	0	0	2	0	23.22	24
41055	40857	QPSK	1	0	0	0	2	0	23.38	24
41490	41292	QPSK	1	0	0	0	2	0	23.46	24

CA_42C_Ant 3										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
41690	41888	QPSK	1	0	0	0	1	0	16.5	16.9
42491	42689	QPSK	1	0	0	0	2	0	16.52	16.9
43292	43490	QPSK	1	0	0	0	2	0	16.53	16.9

CA_43C_Ant 3										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
43690	43888	QPSK	1	0	0	0	1	0	17.67	18.2
44292	44490	QPSK	1	0	0	0	2	0	17.59	18.2
43981	44179	QPSK	1	0	0	0	2	0	17.65	18.2

CA_48C_Ant 3										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
55340	55538	QPSK	1	0	0	0	1	0	17.02	17.5
55830	55632	QPSK	1	0	0	0	2	0	17.28	17.5
56150	55952	QPSK	1	0	0	0	2	0	17.29	17.5
56640	56442	QPSK	1	0	0	0	2	0	17.08	17.5

Sensor ON

CA_2C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
18700	18898	QPSK	1	0	0	0	1	0	22.82	23.3
18900	18702	QPSK	1	0	0	0	2	0	22.76	23.3
19100	18902	QPSK	1	0	0	0	2	0	22.7	23.3

CA_66B_Ant 0										
Combination 15MHz+5MHz (75RB+25RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132047	132140	QPSK	1	0	0	0	1	0	20.77	21.4
132322	132229	QPSK	1	0	0	0	2	0	20.27	21.4
132597	132504	QPSK	1	0	0	0	2	0	20.76	21.4

CA_66C_Ant 0										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
132072	132270	QPSK	1	0	0	0	1	0	21.04	21.4
132322	132124	QPSK	1	0	0	0	2	0	20.45	21.4
132572	132374	QPSK	1	0	0	0	2	0	21.01	21.4

15. 5G NR Output Power (Unit: dBm)

General Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below
 - a. For DFT-OFDM output power measurement, full measurement was done for PI/2 BPSK and QPSK and for the largest supported bandwidth, repeat test for 16QAM/64QAM/256QAM under 1RB 1Offset configuration. For smaller bandwidth, measure conducted power for PI/2 BPSK and 1RB 1Offset configuration.
 - b. According to the tune-up, CP-OFDM output power is not ½ dB higher than DFT-OFDM mode, and the reported SAR of DFT-OFDM mode reported SAR is ≤ 1.45 W/kg, SAR test and thus conducted power for CP-OFDM mode is not required.
 - c. To start SAR test for the largest channel bandwidth 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. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - d. For PI/2 BPSK with 100% RB allocation, SAR test 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.
 - e. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is 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.
 - f. Smaller bandwidth output power for each RB allocation configuration for this device is not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg, smaller bandwidth SAR testing is not required for this device
2. 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. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission

<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		



<FR1 n2_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	23.44	23.31	23.26	
20	PI/2 BPSK	1	53	23.30	23.26	23.14	24.5
20	PI/2 BPSK	1	104	23.37	23.27	23.15	
20	PI/2 BPSK	50	0	22.79	22.75	22.65	24.0
20	PI/2 BPSK	50	28	23.32	23.26	23.12	24.5
20	PI/2 BPSK	50	56	22.73	22.70	22.57	24.0
20	PI/2 BPSK	100	0	22.80	22.74	22.62	
20	QPSK	1	1	23.36	23.32	23.18	24.5
20	QPSK	1	53	23.27	23.24	23.16	
20	QPSK	1	104	23.34	23.25	23.11	
20	QPSK	50	0	22.40	22.27	22.21	23.5
20	QPSK	50	28	23.36	23.26	23.14	24.5
20	QPSK	50	56	22.33	22.23	22.11	23.5
20	QPSK	100	0	22.40	22.28	22.17	
20	16QAM	1	1	22.28	22.20	22.07	23.5
20	64QAM	1	1	20.86	20.75	20.67	22.0
20	256QAM	1	1	18.92	18.84	18.73	20.0
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	23.38	23.12	23.16	24.5
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	23.25	23.30	23.26	24.5
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	23.28	23.12	23.21	24.5



<FR1 n2_Ant 0_Sensor On>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376000	380000	
Frequency (MHz)				1860	1880	1900	
20	PI/2 BPSK	1	1	22.54	22.37	22.32	
20	PI/2 BPSK	1	53	22.44	22.36	22.22	23.0
20	PI/2 BPSK	1	104	22.48	22.35	22.21	
20	PI/2 BPSK	50	0	22.50	22.39	22.27	
20	PI/2 BPSK	50	28	22.49	22.34	22.19	23.0
20	PI/2 BPSK	50	56	22.41	22.33	22.27	23.0
20	PI/2 BPSK	100	0	22.46	22.38	22.32	
20	QPSK	1	1	22.47	22.50	22.36	
20	QPSK	1	53	22.50	22.46	22.40	23.0
20	QPSK	1	104	22.48	22.41	22.26	
20	QPSK	50	0	22.00	21.89	21.77	
20	QPSK	50	28	22.43	22.36	22.28	23.0
20	QPSK	50	56	21.98	21.87	21.73	23.0
20	QPSK	100	0	21.98	21.82	21.76	
20	16QAM	1	1	21.79	21.72	21.59	
20	64QAM	1	1	20.48	20.33	20.28	22.0
20	256QAM	1	1	18.40	18.25	18.17	20.0
Channel				371500	376000	380500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1880	1902.5	
15	PI/2 BPSK	1	1	22.44	22.29	22.28	
Channel				371000	376000	381000	Tune-up limit (dBm)
Frequency (MHz)				1855	1880	1905	
10	PI/2 BPSK	1	1	22.45	22.28	22.25	
Channel				370500	376000	381500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1880	1907.5	
5	PI/2 BPSK	1	1	22.49	22.28	22.29	



<FR1 n5_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				166800	167300	167800	
Frequency (MHz)				834	836.5	839	
20	PI/2 BPSK	1	1	23.47	23.48	23.37	24.5
20	PI/2 BPSK	1	53	23.16	23.26	23.07	
20	PI/2 BPSK	1	104	22.94	23.04	22.86	
20	PI/2 BPSK	50	0	22.78	22.86	22.65	24.0
20	PI/2 BPSK	50	28	23.19	23.27	23.08	24.5
20	PI/2 BPSK	50	56	22.64	22.71	22.56	24.0
20	PI/2 BPSK	100	0	22.75	22.82	22.64	
20	QPSK	1	1	23.35	23.45	23.30	24.5
20	QPSK	1	53	23.24	23.27	23.08	
20	QPSK	1	104	23.00	23.10	22.98	
20	QPSK	50	0	22.32	22.36	22.15	23.5
20	QPSK	50	28	23.29	23.31	23.12	24.5
20	QPSK	50	56	22.11	22.17	22.00	23.5
20	QPSK	100	0	22.23	22.28	22.10	
20	16QAM	1	1	22.56	22.58	22.37	23.5
20	64QAM	1	1	20.59	20.67	20.46	22.0
20	256QAM	1	1	18.94	19.03	18.90	20.0
Channel				166300	167300	168300	Tune-up limit (dBm)
Frequency (MHz)				831.5	836.5	841.5	
15	PI/2 BPSK	1	1	23.30	23.41	23.18	24.5
Channel				165800	167300	168800	Tune-up limit (dBm)
Frequency (MHz)				829	836.5	844	
10	PI/2 BPSK	1	1	23.28	23.41	23.20	24.5
Channel				165300	167300	169300	Tune-up limit (dBm)
Frequency (MHz)				826.5	836.5	846.5	
5	PI/2 BPSK	1	1	23.36	23.43	23.18	24.5

<FR1 n7_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				502000	507000	512000	
Frequency (MHz)				2510	2535	2560	
20	PI/2 BPSK	1	1	22.84	23.08	22.97	24.5
20	PI/2 BPSK	1	53	22.82	23.07	22.90	
20	PI/2 BPSK	1	104	22.77	23.06	22.86	
20	PI/2 BPSK	50	0	22.26	22.59	22.39	24.0
20	PI/2 BPSK	50	28	22.79	23.04	22.93	24.5
20	PI/2 BPSK	50	56	22.25	22.57	22.41	24.0
20	PI/2 BPSK	100	0	22.29	22.61	22.45	
20	QPSK	1	1	22.72	23.02	22.84	24.5
20	QPSK	1	53	22.72	23.05	22.91	
20	QPSK	1	104	22.75	23.04	22.87	
20	QPSK	50	0	21.81	22.06	21.93	23.5
20	QPSK	50	28	22.70	23.04	22.89	24.5
20	QPSK	50	56	21.71	22.03	21.82	23.5
20	QPSK	100	0	21.75	22.08	21.91	
20	16QAM	1	1	21.87	22.13	21.98	23.5
20	64QAM	1	1	20.04	20.36	20.25	22.0
20	256QAM	1	1	18.33	18.57	18.40	20.0
Channel				501500	507000	512500	Tune-up limit (dBm)
Frequency (MHz)				2507.5	2535	2562.5	
15	PI/2 BPSK	1	1	22.74	22.98	22.90	24.5
Channel				501000	507000	513000	Tune-up limit (dBm)
Frequency (MHz)				2505	2535	2565	
10	PI/2 BPSK	1	1	22.64	22.96	22.82	24.5
Channel				500500	507000	513500	Tune-up limit (dBm)
Frequency (MHz)				2502.5	2535	2567.5	
5	PI/2 BPSK	1	1	22.79	23.06	22.82	24.5

<FR1 n25_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	23.52	23.31	23.26	24.5
20	PI/2 BPSK	1	53	23.41	23.25	23.11	
20	PI/2 BPSK	1	104	23.39	23.27	23.22	
20	PI/2 BPSK	50	0	22.97	22.78	22.65	24.0
20	PI/2 BPSK	50	28	23.44	23.23	23.15	24.5
20	PI/2 BPSK	50	56	22.89	22.73	22.60	24.0
20	PI/2 BPSK	100	0	22.97	22.77	22.64	
20	QPSK	1	1	23.47	23.29	23.19	24.5
20	QPSK	1	53	23.41	23.27	23.18	
20	QPSK	1	104	23.47	23.26	23.17	
20	QPSK	50	0	22.40	22.23	22.14	23.5
20	QPSK	50	28	23.45	23.25	23.10	24.5
20	QPSK	50	56	22.44	22.23	22.16	23.5
20	QPSK	100	0	22.36	22.24	22.16	
20	16QAM	1	1	22.65	22.44	22.36	23.5
20	64QAM	1	1	20.81	20.63	20.57	22.0
20	256QAM	1	1	18.97	18.79	18.70	20.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	23.32	23.26	23.17	24.5
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	23.39	23.14	23.13	24.5
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	23.38	23.17	23.12	24.5



<FR1 n25_Ant 0_Sensor On>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				372000	376500	381000	
Frequency (MHz)				1860	1882.5	1905	
20	PI/2 BPSK	1	1	22.45	22.26	22.15	
20	PI/2 BPSK	1	53	22.36	22.15	22.06	23.0
20	PI/2 BPSK	1	104	22.27	22.07	21.90	
20	PI/2 BPSK	50	0	22.40	22.15	22.01	
20	PI/2 BPSK	50	28	22.35	22.11	22.00	23.0
20	PI/2 BPSK	50	56	22.31	22.02	21.97	23.0
20	PI/2 BPSK	100	0	22.33	22.13	22.03	
20	QPSK	1	1	22.39	22.19	22.00	
20	QPSK	1	53	22.35	22.06	21.97	23.0
20	QPSK	1	104	22.36	22.08	22.05	
20	QPSK	50	0	22.24	22.03	21.88	
20	QPSK	50	28	22.26	22.02	21.87	23.0
20	QPSK	50	56	22.31	22.11	21.99	23.0
20	QPSK	100	0	22.26	21.97	21.86	
20	16QAM	1	1	22.28	22.07	21.89	
20	64QAM	1	1	20.64	20.40	20.31	22.0
20	256QAM	1	1	18.98	18.76	18.68	20.0
Channel				371500	376500	381500	Tune-up limit (dBm)
Frequency (MHz)				1857.5	1882.5	1907.5	
15	PI/2 BPSK	1	1	22.34	22.18	22.08	
Channel				371000	376500	382000	Tune-up limit (dBm)
Frequency (MHz)				1855	1882.5	1910	
10	PI/2 BPSK	1	1	22.40	22.23	22.06	
Channel				370500	376500	382500	Tune-up limit (dBm)
Frequency (MHz)				1852.5	1882.5	1912.5	
5	PI/2 BPSK	1	1	22.41	22.17	22.03	

**<FR1 n30_Ant 0_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					462000		
Frequency (MHz)					2310		
10	PI/2 BPSK	1	1		21.81		23.0
10	PI/2 BPSK	1	26		21.76		
10	PI/2 BPSK	1	50		21.75		
10	PI/2 BPSK	25	0		21.12		22.5
10	PI/2 BPSK	25	14		21.62		23.0
10	PI/2 BPSK	25	27		21.09		22.5
10	PI/2 BPSK	50	0		21.13		
10	QPSK	1	1		21.63		23.0
10	QPSK	1	26		21.73		
10	QPSK	1	50		21.73		
10	QPSK	25	0		20.62		22.0
10	QPSK	25	14		21.61		23.0
10	QPSK	25	27		20.61		22.0
10	QPSK	50	0		20.65		
10	16QAM	1	1		21.00		22.0
10	64QAM	1	1		19.04		20.5
10	256QAM	1	1		17.00		18.5
Channel				461500	462000	462500	Tune-up limit (dBm)
Frequency (MHz)				2307.5	2310	2312.5	
5	PI/2 BPSK	1	1	21.61	21.65	21.64	23.0

<FR1 n66_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344000	349000	354000	
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	23.17	22.69	23.43	24.5
20	PI/2 BPSK	1	53	22.96	22.50	22.94	
20	PI/2 BPSK	1	104	23.40	22.94	23.38	
20	PI/2 BPSK	50	0	22.58	22.10	22.58	24.0
20	PI/2 BPSK	50	28	23.01	22.58	23.06	24.5
20	PI/2 BPSK	50	56	22.63	22.16	22.66	24.0
20	PI/2 BPSK	100	0	22.64	22.22	22.68	
20	QPSK	1	1	23.22	22.84	23.38	24.5
20	QPSK	1	53	23.11	22.67	23.19	
20	QPSK	1	104	23.11	23.06	23.19	
20	QPSK	50	0	22.07	21.59	22.13	23.5
20	QPSK	50	28	22.99	22.61	23.08	24.5
20	QPSK	50	56	22.14	21.70	22.16	23.5
20	QPSK	100	0	22.07	21.69	22.23	
20	16QAM	1	1	22.80	22.42	22.86	23.5
20	64QAM	1	1	20.63	20.24	20.78	22.0
20	256QAM	1	1	18.87	18.40	18.94	20.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	23.14	22.69	23.08	24.5
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	22.97	22.65	23.18	24.5
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	23.17	22.56	23.04	24.5



<FR1 n66_Ant 0_Sensor On>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				344000	349000	354000	22.0
Frequency (MHz)				1720	1745	1770	
20	PI/2 BPSK	1	1	21.17	20.79	21.21	
20	PI/2 BPSK	1	53	21.10	20.77	21.20	22.0
20	PI/2 BPSK	1	104	21.07	20.76	21.19	
20	PI/2 BPSK	50	0	21.10	20.66	21.16	
20	PI/2 BPSK	50	28	20.98	20.65	21.12	22.0
20	PI/2 BPSK	50	56	20.89	20.59	21.03	22.0
20	PI/2 BPSK	100	0	20.95	20.53	21.03	
20	QPSK	1	1	21.04	20.67	21.14	
20	QPSK	1	53	20.95	20.58	21.10	22.0
20	QPSK	1	104	20.95	20.65	21.08	
20	QPSK	50	0	20.88	20.54	21.00	
20	QPSK	50	28	20.91	20.52	20.97	22.0
20	QPSK	50	56	20.90	20.53	20.96	22.0
20	QPSK	100	0	20.81	20.48	20.92	
20	16QAM	1	1	21.02	20.68	21.12	
20	64QAM	1	1	20.82	20.53	20.95	22.0
20	256QAM	1	1	18.69	18.23	18.75	20.0
Channel				343500	349000	354500	Tune-up limit (dBm)
Frequency (MHz)				1717.5	1745	1772.5	
15	PI/2 BPSK	1	1	21.15	20.67	21.09	
Channel				343000	349000	355000	Tune-up limit (dBm)
Frequency (MHz)				1715	1745	1775	
10	PI/2 BPSK	1	1	21.12	20.76	21.14	
Channel				342500	349000	355500	Tune-up limit (dBm)
Frequency (MHz)				1712.5	1745	1777.5	
5	PI/2 BPSK	1	1	21.07	20.67	21.18	

<FR1 n71_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				134600	136100	137600	
Frequency (MHz)				673	680.5	688	
20	PI/2 BPSK	1	1	23.93	23.95	23.87	24.5
20	PI/2 BPSK	1	53	23.73	23.82	23.65	
20	PI/2 BPSK	1	104	23.82	23.94	23.84	
20	PI/2 BPSK	50	0	23.35	23.40	23.32	24.0
20	PI/2 BPSK	50	28	23.75	23.84	23.71	24.5
20	PI/2 BPSK	50	56	23.21	23.31	23.22	24.0
20	PI/2 BPSK	100	0	23.23	23.34	23.21	
20	QPSK	1	1	23.87	23.91	23.82	24.5
20	QPSK	1	53	23.76	23.79	23.63	
20	QPSK	1	104	23.77	23.80	23.67	
20	QPSK	50	0	22.77	22.89	22.72	23.5
20	QPSK	50	28	23.77	23.84	23.74	24.5
20	QPSK	50	56	22.71	22.82	22.66	23.5
20	QPSK	100	0	22.76	22.87	22.72	
20	16QAM	1	1	22.69	22.75	22.62	23.5
20	64QAM	1	1	21.15	21.20	21.06	22.0
20	256QAM	1	1	19.24	19.29	19.17	20.0
Channel				134100	136100	138100	Tune-up limit (dBm)
Frequency (MHz)				670.5	680.5	690.5	
15	PI/2 BPSK	1	1	23.74	23.87	23.70	24.5
Channel				133600	136100	138600	Tune-up limit (dBm)
Frequency (MHz)				668	680.5	693	
10	PI/2 BPSK	1	1	23.84	23.87	23.73	24.5
Channel				133100	136100	139100	Tune-up limit (dBm)
Frequency (MHz)				665.5	680.5	695.5	
5	PI/2 BPSK	1	1	23.91	23.82	23.80	24.5



<FR1 n38_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				518000	519000	520000	
Frequency (MHz)				2590	2595	2600	
40	PI/2 BPSK	1	1	23.43	23.44	23.35	25.0
40	PI/2 BPSK	1	53	23.17	23.19	23.03	
40	PI/2 BPSK	1	104	23.24	23.34	23.23	
40	PI/2 BPSK	50	0	22.74	22.75	22.64	24.5
40	PI/2 BPSK	50	28	23.23	23.26	23.15	25.0
40	PI/2 BPSK	50	56	22.69	22.77	22.58	24.5
40	PI/2 BPSK	100	0	22.66	22.76	22.66	
40	QPSK	1	1	23.33	23.37	23.27	25.0
40	QPSK	1	53	23.03	23.12	23.00	
40	QPSK	1	104	23.24	23.27	23.09	
40	QPSK	50	0	22.13	22.24	22.14	24.0
40	QPSK	50	28	23.10	23.16	23.02	25.0
40	QPSK	50	56	22.08	22.14	22.19	24.0
40	QPSK	100	0	22.20	22.21	22.11	
40	16QAM	1	1	22.20	22.24	22.07	24.0
40	64QAM	1	1	20.73	20.83	20.65	22.5
40	256QAM	1	1	18.70	18.77	18.61	20.5
Channel				517000	519000	521000	Tune-up limit (dBm)
Frequency (MHz)				2585	2595	2605	
30	PI/2 BPSK	1	1	23.36	23.39	23.28	25.0
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	23.42	23.34	23.23	25.0
Channel				515500	519000	522500	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	PI/2 BPSK	1	1	23.41	23.41	23.20	25.0
Channel				515000	519000	523000	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	PI/2 BPSK	1	1	23.25	23.38	23.20	25.0



<FR1 n38_Ant 2_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				518000	519000	520000	17.7
Frequency (MHz)				2590	2595	2600	
40	PI/2 BPSK	1	1	16.94	16.98	16.85	
40	PI/2 BPSK	1	53	16.66	16.79	16.57	17.7
40	PI/2 BPSK	1	104	16.87	16.94	16.81	
40	PI/2 BPSK	50	0	16.68	16.78	16.62	
40	PI/2 BPSK	50	28	16.77	16.81	16.61	17.7
40	PI/2 BPSK	50	56	16.75	16.79	16.65	17.7
40	PI/2 BPSK	100	0	16.68	16.75	16.58	
40	QPSK	1	1	16.75	16.86	16.73	
40	QPSK	1	53	16.60	16.74	16.54	17.7
40	QPSK	1	104	16.93	16.97	16.78	
40	QPSK	50	0	16.71	16.75	16.54	
40	QPSK	50	28	16.66	16.80	16.60	17.7
40	QPSK	50	56	16.77	16.87	16.74	17.7
40	QPSK	100	0	16.74	16.82	16.64	
40	16QAM	1	1	16.43	16.52	16.37	
40	64QAM	1	1	16.74	16.82	16.59	17.7
40	256QAM	1	1	16.86	16.90	16.68	17.7
Channel				517000	519000	521000	Tune-up limit (dBm)
Frequency (MHz)				2585	2595	2605	
30	PI/2 BPSK	1	1	16.85	16.97	16.77	
Channel				516000	519000	522000	Tune-up limit (dBm)
Frequency (MHz)				2580	2595	2610	
20	PI/2 BPSK	1	1	16.93	16.88	16.80	
Channel				515500	519000	522500	Tune-up limit (dBm)
Frequency (MHz)				2577.5	2595	2612.5	
15	PI/2 BPSK	1	1	16.84	16.93	16.75	
Channel				515000	519000	523000	Tune-up limit (dBm)
Frequency (MHz)				2575	2595	2615	
10	PI/2 BPSK	1	1	16.87	16.92	16.77	



<FR1 n41_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	24.5
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	23.01	23.53	23.35	
100	PI/2 BPSK	1	137	22.83	23.40	23.14	24.0
100	PI/2 BPSK	1	271	22.88	23.42	23.21	
100	PI/2 BPSK	135	0	22.31	22.93	22.69	
100	PI/2 BPSK	135	69	22.83	23.38	23.14	24.0
100	PI/2 BPSK	135	138	22.24	22.76	22.49	
100	PI/2 BPSK	270	0	22.32	22.87	22.67	
100	QPSK	1	1	22.97	23.52	23.28	24.5
100	QPSK	1	137	22.76	23.33	23.07	
100	QPSK	1	271	22.84	23.38	23.15	
100	QPSK	135	0	21.87	22.46	22.20	23.5
100	QPSK	135	69	22.80	23.35	23.13	24.5
100	QPSK	135	138	21.66	22.23	22.03	23.5
100	QPSK	270	0	21.83	22.36	22.13	
100	16QAM	1	1	21.86	22.44	22.16	
100	64QAM	1	1	20.25	20.84	20.66	22.0
100	256QAM	1	1	18.47	19.09	18.89	20.0
Channel				508200	518598	528996	24.5
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	22.95	23.40	23.22	
Channel				507204	518598	529998	24.5
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	22.95	23.48	23.20	
Channel				505200	518598	531996	24.5
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	22.82	23.33	23.20	
Channel				504204	518598	532998	24.5
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	22.97	23.52	23.24	
Channel				503202	518598	534000	24.5
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	22.87	23.42	23.35	
Channel				502200	518598	534996	24.5
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	22.94	23.44	23.21	
Channel				501204	518598	535998	24.5
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	22.83	23.43	23.28	
Channel				500700	518598	536496	24.5
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	22.95	23.37	23.17	
Channel				500202	518598	537000	24.5
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	22.95	23.49	23.30	



<FR1 n41_Ant 2_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	17.7
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	16.34	16.96	16.73	
100	PI/2 BPSK	1	137	16.24	16.59	16.32	17.7
100	PI/2 BPSK	1	271	16.31	16.64	16.38	
100	PI/2 BPSK	135	0	16.25	16.57	16.30	
100	PI/2 BPSK	135	69	16.22	16.58	16.29	17.7
100	PI/2 BPSK	135	138	16.23	16.44	16.32	
100	PI/2 BPSK	270	0	16.20	16.62	16.32	
100	QPSK	1	1	16.38	16.80	16.54	17.7
100	QPSK	1	137	16.26	16.54	16.21	
100	QPSK	1	271	16.29	16.48	16.23	
100	QPSK	135	0	16.29	16.68	16.42	17.7
100	QPSK	135	69	16.26	16.55	16.32	
100	QPSK	135	138	16.24	16.40	16.37	
100	QPSK	270	0	16.29	16.58	16.33	17.7
100	16QAM	1	1	16.33	16.95	16.71	
100	64QAM	1	1	16.23	16.75	16.46	
100	256QAM	1	1	16.21	16.70	16.37	17.7
Channel				508200	518598	528996	17.7
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	16.25	16.86	16.73	
Channel				507204	518598	529998	17.7
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	16.24	16.92	16.70	
Channel				505200	518598	531996	17.7
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	16.29	16.92	16.69	
Channel				504204	518598	532998	17.7
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	16.26	16.90	16.66	
Channel				503202	518598	534000	17.7
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	16.28	16.94	16.73	
Channel				502200	518598	534996	17.7
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	16.34	16.86	16.63	
Channel				501204	518598	535998	17.7
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	16.27	16.87	16.69	
Channel				500700	518598	536496	17.7
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	16.28	16.95	16.70	
Channel				500202	518598	537000	17.7
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	16.32	16.95	16.64	



<FR1 n41_HPUE_Ant 0_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	25.96	26.46	26.25	27.5
100	PI/2 BPSK	1	137	25.73	26.24	25.95	
100	PI/2 BPSK	1	271	25.75	26.28	26.07	
100	PI/2 BPSK	135	0	25.41	25.95	25.68	27.0
100	PI/2 BPSK	135	69	25.87	26.37	26.13	27.5
100	PI/2 BPSK	135	138	25.18	25.74	25.49	27.0
100	PI/2 BPSK	270	0	25.35	25.87	25.62	
100	QPSK	1	1	25.87	26.43	26.16	27.5
100	QPSK	1	137	25.83	26.41	26.13	
100	QPSK	1	271	25.81	26.40	26.09	
100	QPSK	135	0	24.94	25.45	25.19	26.5
100	QPSK	135	69	25.84	26.34	26.08	27.5
100	QPSK	135	138	24.73	25.26	25.04	26.5
100	QPSK	270	0	24.88	25.40	25.12	
100	16QAM	1	1	25.32	25.85	25.54	26.5
100	64QAM	1	1	23.48	23.98	23.73	25.0
100	256QAM	1	1	21.32	21.87	21.64	23.0
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	25.81	26.36	26.17	27.5
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	25.89	26.30	26.08	27.5
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	25.86	26.33	26.09	27.5
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	25.95	26.35	26.17	27.5
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	25.82	26.38	26.25	27.5
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	25.81	26.32	26.11	27.5
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	25.90	26.28	26.05	27.5
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	25.90	26.41	26.12	27.5
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	25.80	26.33	26.22	27.5



<FR1 n41_HPUE_Ant 2_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				509202	518598	528000	20.2
Frequency (MHz)				2546.01	2592.99	2640	
100	PI/2 BPSK	1	1	19.28	19.88	19.70	
100	PI/2 BPSK	1	137	18.98	19.63	19.43	20.2
100	PI/2 BPSK	1	271	18.91	19.60	19.40	
100	PI/2 BPSK	135	0	19.08	19.51	19.47	
100	PI/2 BPSK	135	69	18.99	19.59	19.31	20.2
100	PI/2 BPSK	135	138	18.85	19.52	19.25	20.2
100	PI/2 BPSK	270	0	18.97	19.58	19.34	
100	QPSK	1	1	19.22	19.86	19.58	
100	QPSK	1	137	18.97	19.62	19.36	20.2
100	QPSK	1	271	19.02	19.72	19.45	
100	QPSK	135	0	19.01	19.67	19.42	
100	QPSK	135	69	18.92	19.61	19.34	20.2
100	QPSK	135	138	18.90	19.53	19.35	20.2
100	QPSK	270	0	18.91	19.60	19.34	
100	16QAM	1	1	19.15	19.85	19.63	
100	64QAM	1	1	18.90	19.60	19.33	20.2
100	256QAM	1	1	19.21	19.87	19.67	20.2
Channel				508200	518598	528996	Tune-up limit (dBm)
Frequency (MHz)				2541	2592.99	2644.98	
90	PI/2 BPSK	1	1	19.24	19.82	19.60	
Channel				507204	518598	529998	Tune-up limit (dBm)
Frequency (MHz)				2536.02	2592.99	2649.99	
80	PI/2 BPSK	1	1	19.19	19.79	19.69	
Channel				505200	518598	531996	Tune-up limit (dBm)
Frequency (MHz)				2526	2592.99	2659.98	
60	PI/2 BPSK	1	1	19.28	19.79	19.63	
Channel				504204	518598	532998	Tune-up limit (dBm)
Frequency (MHz)				2521.02	2592.99	2664.99	
50	PI/2 BPSK	1	1	19.24	19.83	19.66	
Channel				503202	518598	534000	Tune-up limit (dBm)
Frequency (MHz)				2516.01	2592.99	2670	
40	PI/2 BPSK	1	1	19.26	19.83	19.68	
Channel				502200	518598	534996	Tune-up limit (dBm)
Frequency (MHz)				2511	2592.99	2674.98	
30	PI/2 BPSK	1	1	19.21	19.86	19.61	
Channel				501204	518598	535998	Tune-up limit (dBm)
Frequency (MHz)				2506.02	2592.99	2679.99	
20	PI/2 BPSK	1	1	19.20	19.87	19.66	
Channel				500700	518598	536496	Tune-up limit (dBm)
Frequency (MHz)				2503.5	2592.99	2682.48	
15	PI/2 BPSK	1	1	19.18	19.79	19.60	
Channel				500202	518598	537000	Tune-up limit (dBm)
Frequency (MHz)				2501.01	2592.99	2685	
10	PI/2 BPSK	1	1	19.21	19.85	19.68	

**<FR1 n48_Ant 1_Sensor OFF>**

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	17.8
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	1	1	17.11	17.15	17.10	
40	PI/2 BPSK	1	53	17.03	17.03	17.01	17.8
40	PI/2 BPSK	1	104	17.07	17.07	17.09	
40	PI/2 BPSK	50	0	17.00	17.03	17.02	
40	PI/2 BPSK	50	28	17.02	17.06	17.04	17.8
40	PI/2 BPSK	50	56	17.01	17.05	17.03	17.8
40	PI/2 BPSK	100	0	17.07	17.09	17.05	
40	QPSK	1	1	17.09	16.98	17.07	
40	QPSK	1	53	17.06	16.94	17.07	17.8
40	QPSK	1	104	17.10	17.03	17.04	
40	QPSK	50	0	17.03	17.02	17.04	
40	QPSK	50	28	17.04	17.01	17.01	17.8
40	QPSK	50	56	17.05	16.98	17.02	17.8
40	QPSK	100	0	17.11	17.02	17.02	
40	16QAM	1	1	17.11	17.02	17.06	
40	64QAM	1	1	17.10	16.73	17.10	17.8
40	256QAM	1	1	17.08	16.84	17.10	17.8
Channel				637334	641666	646000	17.8
Frequency (MHz)				3560.01	3624.99	3690	
20	PI/2 BPSK	1	1	17.08	17.13	17.03	
Channel				637000	641666	646332	17.8
Frequency (MHz)				3555	3624.99	3694.98	
10	PI/2 BPSK	1	1	17.11	17.12	17.10	

<FR1 n48_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				638000	641666	645332	15.3
Frequency (MHz)				3570	3624.99	3679.98	
40	PI/2 BPSK	1	1	14.96	15.01	14.89	
40	PI/2 BPSK	1	53	14.81	14.92	14.76	15.3
40	PI/2 BPSK	1	104	14.86	14.96	14.76	
40	PI/2 BPSK	50	0	14.94	14.99	14.86	
40	PI/2 BPSK	50	28	14.90	14.92	14.83	15.3
40	PI/2 BPSK	50	56	14.83	14.91	14.83	15.3
40	PI/2 BPSK	100	0	14.89	14.88	14.80	
40	QPSK	1	1	14.93	15.00	14.81	
40	QPSK	1	53	14.73	14.86	14.66	15.3
40	QPSK	1	104	14.80	14.95	14.77	
40	QPSK	50	0	14.92	14.98	14.79	
40	QPSK	50	28	14.80	14.91	14.75	15.3
40	QPSK	50	56	14.91	14.98	14.82	15.3
40	QPSK	100	0	14.77	14.87	14.70	
40	16QAM	1	1	14.85	14.99	14.78	
40	64QAM	1	1	14.79	14.89	14.76	15.3
40	256QAM	1	1	14.83	14.88	14.71	15.3
Channel				637334	641666	646000	15.3
Frequency (MHz)				3560.01	3624.99	3690	
20	PI/2 BPSK	1	1	14.95	14.99	14.86	
Channel				637000	641666	646332	15.3
Frequency (MHz)				3555	3624.99	3694.98	
10	PI/2 BPSK	1	1	14.88	14.97	14.84	



<FR1 n77_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	17.2
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	16.67	16.88	16.82	
100	PI/2 BPSK	1	137	16.49	16.79	16.64	17.2
100	PI/2 BPSK	1	271	16.50	16.80	16.68	
100	PI/2 BPSK	135	0	16.54	16.83	16.70	
100	PI/2 BPSK	135	69	16.56	16.84	16.68	17.2
100	PI/2 BPSK	135	138	16.59	16.81	16.69	
100	PI/2 BPSK	270	0	16.47	16.78	16.64	
100	QPSK	1	1	16.60	16.87	16.75	17.2
100	QPSK	1	137	16.60	16.85	16.74	
100	QPSK	1	271	16.51	16.76	16.65	
100	QPSK	135	0	16.55	16.82	16.75	17.2
100	QPSK	135	69	16.53	16.83	16.76	
100	QPSK	135	138	16.55	16.79	16.69	
100	QPSK	270	0	16.47	16.78	16.64	17.2
100	16QAM	1	1	16.63	16.87	16.74	
100	64QAM	1	1	16.57	16.84	16.69	
100	256QAM	1	1	16.52	16.81	16.73	17.2
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	16.61	16.86	16.73	
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	16.61	16.80	16.77	
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	16.61	16.78	16.72	
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	16.66	16.81	16.76	
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	16.61	16.85	16.78	



<FR1 n77_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	14.2
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	13.48	13.52	13.44	
100	PI/2 BPSK	1	137	13.43	13.49	13.33	14.2
100	PI/2 BPSK	1	271	13.45	13.50	13.41	
100	PI/2 BPSK	135	0	13.36	13.46	13.32	
100	PI/2 BPSK	135	69	13.36	13.47	13.37	14.2
100	PI/2 BPSK	135	138	13.37	13.42	13.26	14.2
100	PI/2 BPSK	270	0	13.33	13.47	13.35	
100	QPSK	1	1	13.38	13.43	13.34	
100	QPSK	1	137	13.37	13.48	13.32	14.2
100	QPSK	1	271	13.35	13.46	13.36	
100	QPSK	135	0	13.35	13.47	13.38	
100	QPSK	135	69	13.36	13.49	13.31	14.2
100	QPSK	135	138	13.28	13.40	13.30	14.2
100	QPSK	270	0	13.34	13.45	13.30	
100	16QAM	1	1	13.00	13.13	12.98	
100	64QAM	1	1	13.30	13.36	13.18	14.2
100	256QAM	1	1	13.32	13.40	13.23	14.2
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	13.47	13.44	13.35	
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	13.39	13.49	13.39	
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	13.38	13.42	13.43	
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	13.39	13.50	13.43	
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	13.39	13.45	13.39	



<FR1 n77_HPUE_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	19.7
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	19.48	19.70	19.63	
100	PI/2 BPSK	1	137	19.39	19.67	19.60	19.7
100	PI/2 BPSK	1	271	19.29	19.57	19.50	
100	PI/2 BPSK	135	0	19.35	19.61	19.56	
100	PI/2 BPSK	135	69	19.38	19.63	19.50	19.7
100	PI/2 BPSK	135	138	19.46	19.62	19.52	19.7
100	PI/2 BPSK	270	0	19.32	19.58	19.51	
100	QPSK	1	1	19.40	19.62	19.52	
100	QPSK	1	137	19.40	19.65	19.53	19.7
100	QPSK	1	271	19.29	19.54	19.47	
100	QPSK	135	0	19.40	19.60	19.52	
100	QPSK	135	69	19.31	19.62	19.54	19.7
100	QPSK	135	138	19.34	19.57	19.44	19.7
100	QPSK	270	0	19.20	19.52	19.45	
100	16QAM	1	1	19.42	19.69	19.53	
100	64QAM	1	1	19.14	19.43	19.26	19.7
100	256QAM	1	1	19.23	19.46	19.30	19.7
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	19.39	19.63	19.55	
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	19.44	19.62	19.57	
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	19.45	19.60	19.56	
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	19.41	19.68	19.54	
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	19.43	19.69	19.55	



<FR1 n77_HPUE_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel				650000	656000	662000	16.7
Frequency (MHz)				3750	3840	3930	
100	PI/2 BPSK	1	1	16.30	16.33	16.31	
100	PI/2 BPSK	1	137	16.10	16.21	16.10	16.7
100	PI/2 BPSK	1	271	16.17	16.28	16.24	
100	PI/2 BPSK	135	0	16.11	16.18	16.12	
100	PI/2 BPSK	135	69	16.16	16.28	16.25	16.7
100	PI/2 BPSK	135	138	16.10	16.21	16.14	16.7
100	PI/2 BPSK	270	0	16.17	16.28	16.16	
100	QPSK	1	1	16.12	16.17	16.14	
100	QPSK	1	137	16.15	16.28	16.20	16.7
100	QPSK	1	271	16.11	16.22	16.18	
100	QPSK	135	0	16.18	16.24	16.13	
100	QPSK	135	69	16.15	16.23	16.12	16.7
100	QPSK	135	138	16.16	16.20	16.15	16.7
100	QPSK	270	0	16.15	16.20	16.08	
100	16QAM	1	1	15.89	15.92	15.89	
100	64QAM	1	1	16.01	16.08	16.06	16.7
100	256QAM	1	1	16.05	16.18	16.07	16.7
Channel				649334	656000	662666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3840	3939.99	
80	PI/2 BPSK	1	1	16.28	16.32	16.22	
Channel				648668	656000	663332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3840	3949.98	
60	PI/2 BPSK	1	1	16.28	16.25	16.23	
Channel				648000	656000	664000	Tune-up limit (dBm)
Frequency (MHz)				3720	3840	3960	
40	PI/2 BPSK	1	1	16.22	16.23	16.25	
Channel				647668	656000	664332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3840.00	3964.98	
30	PI/2 BPSK	1	1	16.22	16.23	16.25	
Channel				647334	656000	664666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3840	3969.99	
20	PI/2 BPSK	1	1	16.24	16.27	16.23	



<FR1 n77_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.2
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		17.15		
100	PI/2 BPSK	1	137		16.98		17.2
100	PI/2 BPSK	1	271		16.86		
100	PI/2 BPSK	135	0		17.10		
100	PI/2 BPSK	135	69		17.13		17.2
100	PI/2 BPSK	135	138		16.83		
100	PI/2 BPSK	270	0		17.09		
100	QPSK	1	1		17.14		17.2
100	QPSK	1	137		16.91		
100	QPSK	1	271		16.80		
100	QPSK	135	0		17.09		17.2
100	QPSK	135	69		16.95		
100	QPSK	135	138		16.82		
100	QPSK	270	0		16.99		17.2
100	16QAM	1	1		17.13		
100	64QAM	1	1		16.91		
100	256QAM	1	1		17.14		17.2
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	17.12	17.05	17.09	17.2
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	17.10	17.09	17.14	17.2
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	17.13	17.12	17.13	17.2
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	17.05	17.13	17.12	17.2
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	17.11	17.07	17.05	17.2



<FR1 n77_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		13.52		14.2
100	PI/2 BPSK	1	137		13.43		
100	PI/2 BPSK	1	271		13.20		
100	PI/2 BPSK	135	0		13.45		14.2
100	PI/2 BPSK	135	69		13.48		14.2
100	PI/2 BPSK	135	138		13.24		14.2
100	PI/2 BPSK	270	0		13.45		
100	QPSK	1	1		13.50		14.2
100	QPSK	1	137		13.46		
100	QPSK	1	271		13.28		
100	QPSK	135	0		13.49		14.2
100	QPSK	135	69		13.42		14.2
100	QPSK	135	138		13.30		14.2
100	QPSK	270	0		13.35		
100	16QAM	1	1		13.49		14.2
100	64QAM	1	1		13.44		14.2
100	256QAM	1	1		13.43		14.2
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	13.44	13.49	13.45	14.2
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	13.43	13.42	13.44	14.2
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	13.47	13.50	13.43	14.2
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	13.45	13.49	13.48	14.2
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	13.50	13.51	13.47	14.2



<FR1 n77_HPUE_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		19.70		19.7
100	PI/2 BPSK	1	137		19.34		
100	PI/2 BPSK	1	271		19.17		
100	PI/2 BPSK	135	0		19.40		19.7
100	PI/2 BPSK	135	69		19.66		19.7
100	PI/2 BPSK	135	138		19.17		19.7
100	PI/2 BPSK	270	0		19.61		
100	QPSK	1	1		19.64		19.7
100	QPSK	1	137		19.29		
100	QPSK	1	271		19.16		
100	QPSK	135	0		19.43		19.7
100	QPSK	135	69		19.31		19.7
100	QPSK	135	138		19.12		19.7
100	QPSK	270	0		19.25		
100	16QAM	1	1		19.66		19.7
100	64QAM	1	1		19.31		19.7
100	256QAM	1	1		19.62		19.7
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	19.60	19.67	19.63	19.7
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	19.61	19.66	19.68	19.7
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	19.64	19.63	19.66	19.7
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	19.61	19.64	19.67	19.7
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	19.68	19.69	19.62	19.7



<FR1 n77_HPUE_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.37		16.7
100	PI/2 BPSK	1	137		16.18		
100	PI/2 BPSK	1	271		16.05		
100	PI/2 BPSK	135	0		16.26		16.7
100	PI/2 BPSK	135	69		16.32		16.7
100	PI/2 BPSK	135	138		16.02		16.7
100	PI/2 BPSK	270	0		16.30		
100	QPSK	1	1		16.27		16.7
100	QPSK	1	137		16.31		
100	QPSK	1	271		16.09		
100	QPSK	135	0		16.29		16.7
100	QPSK	135	69		16.22		16.7
100	QPSK	135	138		16.09		16.7
100	QPSK	270	0		16.16		
100	16QAM	1	1		16.25		16.7
100	64QAM	1	1		16.21		16.7
100	256QAM	1	1		16.20		16.7
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.36	16.34	16.31	16.7
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.33	16.34	16.28	16.7
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.36	16.36	16.30	16.7
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	16.32	16.27	16.32	16.7
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.27	16.35	16.31	16.7



<FR1 n78_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		16.55		
100	PI/2 BPSK	1	137		16.51		17.2
100	PI/2 BPSK	1	271		16.54		
100	PI/2 BPSK	135	0		16.49		
100	PI/2 BPSK	135	69		16.54		17.2
100	PI/2 BPSK	135	138		16.50		17.2
100	PI/2 BPSK	270	0		16.53		
100	QPSK	1	1		16.35		
100	QPSK	1	137		16.48		17.2
100	QPSK	1	271		16.49		
100	QPSK	135	0		16.53		
100	QPSK	135	69		16.52		17.2
100	QPSK	135	138		16.48		17.2
100	QPSK	270	0		16.52		
100	16QAM	1	1		16.29		
100	64QAM	1	1		16.42		17.2
100	256QAM	1	1		16.44		17.2
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	16.53	16.47	16.52	
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	16.54	16.52	16.52	
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	16.49	16.53	16.51	
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	16.53	16.51	16.52	
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	16.51	16.54	16.45	
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	16.47	16.50	16.53	
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	16.46	16.49	16.53	
Channel				647500	650000	652500	Tune-up limit (dBm)
Frequency (MHz)				3712.5	3750.00	3787.50	
25	PI/2 BPSK	1	1	16.52	16.53	16.47	
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	16.47	16.48	16.46	
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	16.47	16.54	16.53	



<FR1 n78_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		14.2
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		13.50		
100	PI/2 BPSK	1	137		13.49		14.2
100	PI/2 BPSK	1	271		13.44		
100	PI/2 BPSK	135	0		13.37		
100	PI/2 BPSK	135	69		13.48		14.2
100	PI/2 BPSK	135	138		13.49		14.2
100	PI/2 BPSK	270	0		13.32		
100	QPSK	1	1		13.47		
100	QPSK	1	137		13.48		14.2
100	QPSK	1	271		13.47		
100	QPSK	135	0		13.32		
100	QPSK	135	69		13.45		14.2
100	QPSK	135	138		13.35		14.2
100	QPSK	270	0		13.34		
100	16QAM	1	1		13.43		
100	64QAM	1	1		13.42		14.2
100	256QAM	1	1		13.49		14.2
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	13.44	13.49	13.41	
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	13.45	13.49	13.42	
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	13.49	13.48	13.44	
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	13.46	13.43	13.45	
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	13.45	13.42	13.46	
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	13.46	13.47	13.41	
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	13.49	13.48	13.45	
Channel				647500	650000	652500	Tune-up limit (dBm)
Frequency (MHz)				3712.5	3750.00	3787.50	
25	PI/2 BPSK	1	1	13.41	13.46	13.46	
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	13.49	13.47	13.46	
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	13.40	13.42	13.44	



<FR1 n78_HPUE_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		19.60		
100	PI/2 BPSK	1	137		19.59		19.7
100	PI/2 BPSK	1	271		19.57		
100	PI/2 BPSK	135	0		19.51		
100	PI/2 BPSK	135	69		19.57		19.7
100	PI/2 BPSK	135	138		19.55		19.7
100	PI/2 BPSK	270	0		19.56		
100	QPSK	1	1		19.53		
100	QPSK	1	137		19.58		19.7
100	QPSK	1	271		19.54		
100	QPSK	135	0		19.44		
100	QPSK	135	69		19.52		19.7
100	QPSK	135	138		19.51		19.7
100	QPSK	270	0		19.58		
100	16QAM	1	1		19.14		
100	64QAM	1	1		19.13		19.7
100	256QAM	1	1		19.44		19.7
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	19.57	19.58	19.52	
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	19.51	19.53	19.58	
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	19.59	19.51	19.51	
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	19.59	19.58	19.57	
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	19.58	19.50	19.54	
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	19.53	19.58	19.51	
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	19.53	19.52	19.51	
Channel				647500	650000	652500	Tune-up limit (dBm)
Frequency (MHz)				3712.5	3750.00	3787.50	
25	PI/2 BPSK	1	1	19.52	19.58	19.59	
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	19.52	19.56	19.55	
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	19.53	19.54	19.57	



<FR1 n78_HPUE_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					650000		
Frequency (MHz)					3750		
100	PI/2 BPSK	1	1		16.58		
100	PI/2 BPSK	1	137		16.54		16.7
100	PI/2 BPSK	1	271		16.44		
100	PI/2 BPSK	135	0		16.43		
100	PI/2 BPSK	135	69		16.47		16.7
100	PI/2 BPSK	135	138		16.50		16.7
100	PI/2 BPSK	270	0		16.40		
100	QPSK	1	1		16.49		
100	QPSK	1	137		16.55		16.7
100	QPSK	1	271		16.48		
100	QPSK	135	0		16.39		
100	QPSK	135	69		16.51		16.7
100	QPSK	135	138		16.33		16.7
100	QPSK	270	0		16.39		
100	16QAM	1	1		16.48		
100	64QAM	1	1		16.44		16.7
100	256QAM	1	1		16.48		16.7
Channel				649668	650000	650332	Tune-up limit (dBm)
Frequency (MHz)				3745.02	3750	3754.98	
90	PI/2 BPSK	1	1	16.52	16.52	16.56	
Channel				649334	650000	650666	Tune-up limit (dBm)
Frequency (MHz)				3740.01	3750	3759.99	
80	PI/2 BPSK	1	1	16.54	16.53	16.57	
Channel				649000	650000	651000	Tune-up limit (dBm)
Frequency (MHz)				3735	3750	3765	
70	PI/2 BPSK	1	1	16.55	16.57	16.53	
Channel				648668	650000	651332	Tune-up limit (dBm)
Frequency (MHz)				3730.02	3750	3769.98	
60	PI/2 BPSK	1	1	16.53	16.52	16.49	
Channel				648334	650000	651666	Tune-up limit (dBm)
Frequency (MHz)				3725.01	3750	3774.99	
50	PI/2 BPSK	1	1	16.53	16.49	16.48	
Channel				648000	650000	652000	Tune-up limit (dBm)
Frequency (MHz)				3720	3750	3780	
40	PI/2 BPSK	1	1	16.55	16.51	16.55	
Channel				647668	650000	652332	Tune-up limit (dBm)
Frequency (MHz)				3715.02	3750.00	3784.98	
30	PI/2 BPSK	1	1	16.56	16.54	16.50	
Channel				647500	650000	652500	Tune-up limit (dBm)
Frequency (MHz)				3712.5	3750.00	3787.50	
25	PI/2 BPSK	1	1	16.57	16.50	16.53	
Channel				647334	650000	652666	Tune-up limit (dBm)
Frequency (MHz)				3710.01	3750	3789.99	
20	PI/2 BPSK	1	1	16.53	16.57	16.56	
Channel				647000	650000	653000	Tune-up limit (dBm)
Frequency (MHz)				3705	3750	3795	
10	PI/2 BPSK	1	1	16.48	16.50	16.54	



<FR1 n78_Ant 1_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		17.2
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.43		
100	PI/2 BPSK	1	137		16.36		17.2
100	PI/2 BPSK	1	271		16.13		
100	PI/2 BPSK	135	0		16.37		
100	PI/2 BPSK	135	69		16.40		17.2
100	PI/2 BPSK	135	138		16.28		17.2
100	PI/2 BPSK	270	0		16.33		
100	QPSK	1	1		16.39		
100	QPSK	1	137		16.28		17.2
100	QPSK	1	271		16.09		
100	QPSK	135	0		16.34		
100	QPSK	135	69		16.36		17.2
100	QPSK	135	138		16.22		17.2
100	QPSK	270	0		16.30		
100	16QAM	1	1		16.37		
100	64QAM	1	1		16.25		17.2
100	256QAM	1	1		16.24		17.2
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	16.42	16.33	16.40	
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.35	16.41	16.35	
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	16.36	16.36	16.41	
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.35	16.38	16.35	
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.37	16.38	16.41	
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.40	16.39	16.42	
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	16.40	16.37	16.39	
Channel				630834	633332	635832	Tune-up limit (dBm)
Frequency (MHz)				3462.51	3499.98	3537.48	
25	PI/2 BPSK	1	1	16.35	16.41	16.33	
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.35	16.34	16.34	
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.40	16.42	16.41	



<FR1 n78_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		14.2
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		13.60		
100	PI/2 BPSK	1	137		13.54		14.2
100	PI/2 BPSK	1	271		13.36		
100	PI/2 BPSK	135	0		13.57		
100	PI/2 BPSK	135	69		13.53		14.2
100	PI/2 BPSK	135	138		13.39		14.2
100	PI/2 BPSK	270	0		13.56		
100	QPSK	1	1		13.55		
100	QPSK	1	137		13.53		14.2
100	QPSK	1	271		13.28		
100	QPSK	135	0		13.52		
100	QPSK	135	69		13.50		14.2
100	QPSK	135	138		13.43		14.2
100	QPSK	270	0		13.51		
100	16QAM	1	1		13.56		
100	64QAM	1	1		13.49		14.2
100	256QAM	1	1		13.57		14.2
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	13.53	13.54	13.59	
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	13.56	13.53	13.55	
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	13.51	13.50	13.57	
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	13.55	13.59	13.51	
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	13.56	13.55	13.50	
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	13.52	13.57	13.53	
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	13.50	13.55	13.59	
Channel				630834	633332	635832	Tune-up limit (dBm)
Frequency (MHz)				3462.51	3499.98	3537.48	
25	PI/2 BPSK	1	1	13.58	13.56	13.55	
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	13.53	13.56	13.46	
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	13.59	13.51	13.54	



<FR1 n78_HPUE_Ant 1_Sensor OFF>

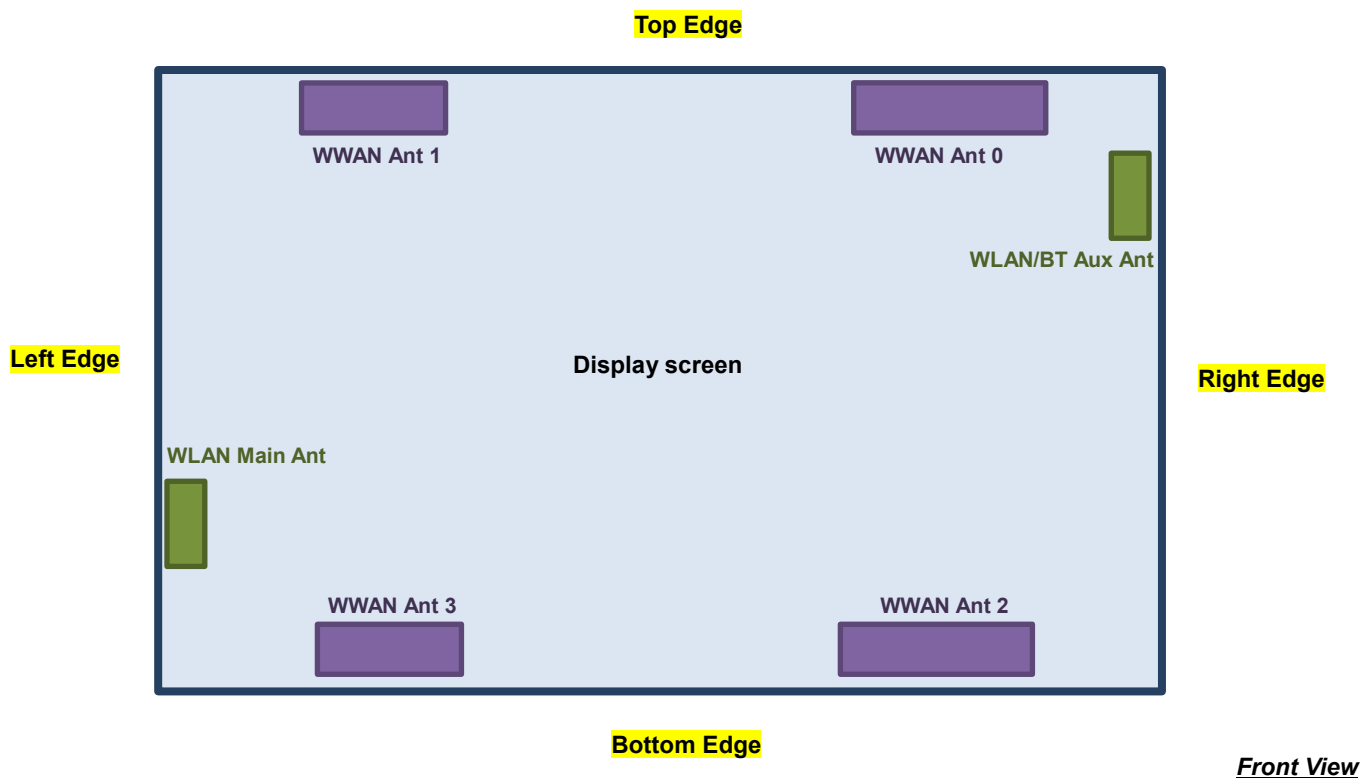
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		19.66		19.7
100	PI/2 BPSK	1	137		19.56		
100	PI/2 BPSK	1	271		19.43		
100	PI/2 BPSK	135	0		19.58		19.7
100	PI/2 BPSK	135	69		19.64		19.7
100	PI/2 BPSK	135	138		19.50		19.7
100	PI/2 BPSK	270	0		19.53		
100	QPSK	1	1		19.62		19.7
100	QPSK	1	137		19.51		
100	QPSK	1	271		19.42		
100	QPSK	135	0		19.62		19.7
100	QPSK	135	69		19.53		19.7
100	QPSK	135	138		19.45		19.7
100	QPSK	270	0		19.51		
100	16QAM	1	1		19.52		19.7
100	64QAM	1	1		19.51		19.7
100	256QAM	1	1		19.44		19.7
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	19.65	19.63	19.62	19.7
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	19.59	19.58	19.63	19.7
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	19.62	19.64	19.59	19.7
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	19.57	19.63	19.64	19.7
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	19.63	19.56	19.63	19.7
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	19.64	19.56	19.56	19.7
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	19.57	19.63	19.62	19.7
Channel				630834	633332	635832	Tune-up limit (dBm)
Frequency (MHz)				3462.51	3499.98	3537.48	
25	PI/2 BPSK	1	1	19.62	19.65	19.61	19.7
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	19.59	19.61	19.60	19.7
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	19.65	19.62	19.56	19.7



<FR1 n78_HPUE_Ant 3_Sensor OFF>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)
Channel					633332		16.7
Frequency (MHz)					3499.98		
100	PI/2 BPSK	1	1		16.48		
100	PI/2 BPSK	1	137		16.47		16.7
100	PI/2 BPSK	1	271		16.32		
100	PI/2 BPSK	135	0		16.44		
100	PI/2 BPSK	135	69		16.40		16.7
100	PI/2 BPSK	135	138		16.41		16.7
100	PI/2 BPSK	270	0		16.47		
100	QPSK	1	1		16.47		
100	QPSK	1	137		16.46		16.7
100	QPSK	1	271		16.27		
100	QPSK	135	0		16.43		
100	QPSK	135	69		16.39		16.7
100	QPSK	135	138		16.36		16.7
100	QPSK	270	0		16.46		
100	16QAM	1	1		16.38		
100	64QAM	1	1		16.09		16.7
100	256QAM	1	1		16.45		16.7
Channel				633000	633332	633666	Tune-up limit (dBm)
Frequency (MHz)				3495	3499.98	3504.99	
90	PI/2 BPSK	1	1	16.39	16.47	16.38	
Channel				632668	633332	634000	Tune-up limit (dBm)
Frequency (MHz)				3490.02	3499.98	3510	
80	PI/2 BPSK	1	1	16.45	16.46	16.40	
Channel				632334	633332	634332	Tune-up limit (dBm)
Frequency (MHz)				3485.01	3499.98	3514.98	
70	PI/2 BPSK	1	1	16.43	16.44	16.47	
Channel				632000	633332	634666	Tune-up limit (dBm)
Frequency (MHz)				3480	3499.98	3519.99	
60	PI/2 BPSK	1	1	16.38	16.47	16.42	
Channel				631668	633332	635000	Tune-up limit (dBm)
Frequency (MHz)				3475.02	3499.98	3525	
50	PI/2 BPSK	1	1	16.46	16.42	16.39	
Channel				631334	633332	635332	Tune-up limit (dBm)
Frequency (MHz)				3470.01	3499.98	3529.98	
40	PI/2 BPSK	1	1	16.40	16.47	16.41	
Channel				631000	633332	635666	Tune-up limit (dBm)
Frequency (MHz)				3465	3499.98	3534.99	
30	PI/2 BPSK	1	1	16.42	16.45	16.44	
Channel				630834	633332	635832	Tune-up limit (dBm)
Frequency (MHz)				3462.51	3499.98	3537.48	
25	PI/2 BPSK	1	1	16.40	16.41	16.38	
Channel				630668	633332	636000	Tune-up limit (dBm)
Frequency (MHz)				3460.02	3499.98	3540	
20	PI/2 BPSK	1	1	16.41	16.39	16.47	
Channel				630334	633332	636332	Tune-up limit (dBm)
Frequency (MHz)				3455.01	3499.98	3544.98	
10	PI/2 BPSK	1	1	16.46	16.39	16.43	

16. Antenna Location



The separation distance for antenna to edge :

Antenna	To Top Edge (mm)	To Right Edge (mm)	To Left Edge (mm)	To Bottom Edge (mm)
WWAN Ant 0	< 5	24	162	173
WWAN Ant 1	< 5	207	32	177
WWAN Ant 2	140	30	160	< 5
WWAN Ant 3	175	210	27	< 5
WLAN Main Antenna	103	246	54	< 5
WLAN/BT Aux Antenna	55	< 5	107	258

<SAR test exclusion table>**General Note:**

1. The below table, when the distance is < 50 mm exclusion threshold is "Ratio", when the distance is > 50 mm exclusion threshold is "mW"
2. Maximum power is the source-based time-average power and represents the maximum RF output power among production units
3. Per KDB 447498 D01v06, for larger devices, the test separation distance of adjacent edge configuration is determined by the closest separation between the antenna and the user.
4. Per KDB 447498 D01v06, standalone SAR test exclusion threshold is applied; If the test separation distance is < 5mm, 5mm is used to determine SAR exclusion threshold.
5. Per KDB 447498 D01v06, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at *test separation distances* ≤ 50 mm are determined by:

$$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g extremity SAR}$$
 - f(GHz) is the RF channel transmit frequency in GHz
 - Power and distance are rounded to the nearest mW and mm before calculation
 - The result is rounded to one decimal place for comparison
6. Per KDB 447498 D01v06, at 100 MHz to 6 GHz and for *test separation distances* > 50 mm, the SAR test exclusion threshold is determined according to the following
 - a) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · (f(MHz)/150)] mW, at 100 MHz to 1500 MHz
 - b) [Threshold at 50 mm in step 1) + (test separation distance - 50 mm) · 10] mW at > 1500 MHz and ≤ 6 GHz
7. The below table, exemption limits for routine evaluation based on frequency and separation distance was according to SAR-based Exemption – §1.1307(b)(3)(i)(B).

Ant 0

Exposure Position	Wireless Interface	WCDMA Band V	WCDMA Band IV	WCDMA Band II	LTE Band 71	LTE Band 12	LTE Band 13	LTE Band 14	LTE Band 17	LTE Band 5	LTE Band 26	LTE Band 4	LTE Band 66	LTE Band 2	LTE Band 25	LTE Band 30	LTE Band 7	LTE Band 38	LTE Band 41	LTE Band n2	LTE Band n5	LTE Band n7	LTE Band n25	LTE Band n30	LTE Band n38	LTE Band n41	LTE Band n66	LTE Band n71
	Calculated Frequency (MHz)	846	1750	1907	695	715	784	795	713	848	848	1754	1779	1909	1914	2312	2567	2617	2687	1909	848	2567	1914	2312	2617	2687	1779	695
	Maximum power (dBm)	24.5	24.5	24.5	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	24.0	23.0	24.0	24.0	26.5	24.5	24.5	24.5	24.5	23.0	25.0	27.5	24.5	24.5
	Maximum rated power(mW)	281.84	281.84	281.84	251.19	251.19	251.19	251.19	251.19	251.19	251.19	251.19	251.19	251.19	251.19	199.53	251.19	251.19	446.68	281.84	281.84	281.84	281.84	199.53	316.23	562.34	281.84	281.84
Back	Separation distance(mm)	5.0																										
	exclusion threshold	51.9	74.6	77.8	41.9	42.5	44.5	44.8	42.4	46.3	46.3	66.5	67.0	69.4	69.5	60.7	80.5	81.3	146.4	77.9	51.9	90.3	78.0	60.7	102.3	184.4	75.2	47.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Top Edge	Separation distance(mm)	5.0																										
	exclusion threshold	51.9	74.6	77.8	41.9	42.5	44.5	44.8	42.4	46.3	46.3	66.5	67.0	69.4	69.5	60.7	80.5	81.3	146.4	77.9	51.9	90.3	78.0	60.7	102.3	184.4	75.2	47.0
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Edge	Separation distance(mm)	24.0																										
	exclusion threshold	10.8	15.5	16.2	8.7	8.9	9.3	9.3	8.8	9.6	9.6	13.9	14.0	14.5	14.5	12.6	16.8	16.9	30.5	16.2	10.8	18.8	16.3	12.6	21.3	38.4	15.7	9.8
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Bottom Edge	Separation distance(mm)	173.0																										
	exclusion threshold	857.0	1343.0	1339.0	750.0	764.0	812.0	820.0	762.0	858.0	858.0	1343.0	1342.0	1339.0	1338.0	1329.0	1324.0	1323.0	1322.0	1339.0	858.0	1324.0	1338.0	1329.0	1323.0	1322.0	1342.0	750.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Left Edge	Separation distance(mm)	162.0																										
	exclusion threshold	795.0	1233.0	1229.0	699.0	711.0	755.0	762.0	710.0	796.0	796.0	1233.0	1232.0	1229.0	1228.0	1219.0	1214.0	1213.0	1212.0	1229.0	796.0	2010.0	1228.0	1219.0	1213.0	1212.0	1232.0	699.0
	Testing required?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Ant 1

Exposure Position	Wireless Interface	LTE Band n48	LTE Band n77	LTE Band n78
	Calculated Frequency (MHz)	3697	3650	3650
	Maximum power (dBm)	17.8	19.7	19.7
	Maximum rated power(mW)	60.26	93.33	93.33
Back	Separation distance(mm)	5.0		
	exclusion threshold	23.2	35.7	35.7
	Testing required?	Yes	Yes	Yes
Top Edge	Separation distance(mm)	5.0		
	exclusion threshold	23.2	35.7	35.7
	Testing required?	Yes	Yes	Yes
Right Edge	Separation distance(mm)	207.0		
	exclusion threshold	1648.0	1649.0	1649.0
	Testing required?	No	No	No
Bottom Edge	Separation distance(mm)	177.0		
	exclusion threshold	1348.0	1349.0	1349.0
	Testing required?	No	No	No
Left Edge	Separation distance(mm)	32.0		
	exclusion threshold	3.6	5.6	5.6
	Testing required?	Yes	Yes	Yes

Ant 2

Exposure Position	Wireless Interface	LTE Band n38	LTE Band n41
	Calculated Frequency (MHz)	2617	2687
	Maximum power (dBm)	17.7	20.5
	Maximum rated power(mW)	58.88	112.20
Back	Separation distance(mm)	5.0	
	exclusion threshold	19.1	36.8
	Testing required?	Yes	Yes
Top Edge	Separation distance(mm)	140.0	
	exclusion threshold	993.0	992.0
	Testing required?	No	No
Right Edge	Separation distance(mm)	30.0	
	exclusion threshold	3.2	6.1
	Testing required?	Yes	Yes
Bottom Edge	Separation distance(mm)	5.0	
	exclusion threshold	19.1	36.8
	Testing required?	Yes	Yes
Left Edge	Separation distance(mm)	160.0	
	exclusion threshold	1193.0	1192.0
	Testing required?	No	No

Ant 3

Exposure Position	Wireless Interface	LTE Band 42	LTE Band 43	LTE Band 48	LTE Band n48	LTE Band n77	LTE Band n78
	Calculated Frequency (MHz)	3597	3697	3697	3697	3650	3650
	Maximum power (dBm)	16.9	18.2	17.5	15.3	16.7	16.7
	Maximum rated power(mW)	48.98	66.07	56.23	33.88	46.77	46.77
Back	Separation distance(mm)	5.0					
	exclusion threshold	18.6	25.4	21.6	13.0	17.9	17.9
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes
Top Edge	Separation distance(mm)	175.0					
	exclusion threshold	1329.0	1328.0	1328.0	1328.0	1329.0	1329.0
	Testing required?	No	No	No	No	No	No
Right Edge	Separation distance(mm)	210.0					
	exclusion threshold	1679.0	1678.0	1678.0	1678.0	1679.0	1679.0
	Testing required?	No	No	No	No	No	No
Bottom Edge	Separation distance(mm)	5.0					
	exclusion threshold	18.6	25.4	21.6	13.0	17.9	17.9
	Testing required?	Yes	Yes	Yes	Yes	Yes	Yes
Left Edge	Separation distance(mm)	27.0					
	exclusion threshold	3.4	4.7	4.0	2.4	3.3	3.3
	Testing required?	Yes	Yes	Yes	No	Yes	Yes

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 WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
 - c. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix $63.3\%/62.9\% = 1.006$ is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
 - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
 - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
 - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥ 0.8 W/kg.

UMTS Note:

1. Per KDB 941225 D01v03r01, for SAR testing is measured using a 12.2 kbps RMC with TPC bits configured to all "1's".
2. Per KDB 941225 D01v03r01, RMC 12.2kbps setting is used to evaluate SAR. The maximum output power and tune-up tolerance specified for production units in HSDPA / HSUPA / DC-HSDPA is $\leq 1/4$ 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 $1/4$ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM output power for each RB allocation configuration is $> \text{not } 1/2$ 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 $> \text{not } 1/2$ 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 B4/B5/B12/B17/B26/B38/B71 the maximum bandwidth does not support three non-overlapping channels, per KDB 941225 D05v02r05, when a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing.
7. LTE band 2/4/5/17/38 SAR test was covered by Band 25/66/26/12/41; according to TCB workshop, SAR test for overlapping LTE bands can be reduced if
 - a. The maximum output power, including tolerance, for the smaller band is $\leq$ 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.

5G NR Note:

1. Referencing the procedure in KDB 941225, the test procedures are outlined as below:
 - a. To start SAR test for the largest channel bandwidth 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. Also do SAR test for 50% RB allocation for PI/2 BPSK SAR testing using 1RB PI/2 BPSK allocation procedure
 - b. For PI/2 BPSK with 100% RB allocation, SAR test 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.
 - c. For higher modulation QPSK/16QAM/64QAM/256QAM, according to tune-up document the power level is not $\frac{1}{2}$ 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.
 - d. Smaller bandwidth output power for each RB allocation configuration for this device 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, smaller bandwidth SAR testing is not required for this device
 - e. For 5G FR1 n5/n12/n41/n71/n77, the maximum channel bandwidth does not support three non-overlapping channels in the frequency band, the middle channel of the group of overlapping channels were selected for testing.
 - f. 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. And only for TDD power class2 was performed using Factory Test Mode software to establish the connection and perform SAR with 50% transmission

17.1 Body SAR

<WCDMA SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Sensor	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_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	9262	1852.4	23.76	24.50	1.186	-0.14	0.687	0.815
	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	9400	1880	23.37	24.50	1.297	-0.1	0.631	0.819
	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	9538	1907.6	23.27	24.50	1.327	-0.08	0.626	0.831
	WCDMA II_Ant 0	RMC 12.2Kbps	Back	0mm	Sensor OFF	9262	1852.4	23.76	24.50	1.186	-0.08	0.632	0.749
	WCDMA II_Ant 0	RMC 12.2Kbps	Right Edge	0mm	Sensor OFF	9262	1852.4	23.76	24.50	1.186	-0.06	0.060	0.071
	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	9262	1852.4	23.70	23.70	1.000	0.06	1.140	1.140
	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	9400	1880	23.37	23.70	1.079	-0.12	1.080	1.165
01	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	9538	1907.6	23.27	23.70	1.104	0	1.080	1.192
	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	1312	1712.4	23.55	24.50	1.245	-0.15	0.702	0.874
	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	1413	1732.6	23.33	24.50	1.309	0.1	0.717	0.939
	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	7mm	Sensor OFF	1513	1752.6	23.25	24.50	1.334	-0.02	0.873	1.164
	WCDMA IV_Ant 0	RMC 12.2Kbps	Back	0mm	Sensor OFF	1312	1712.4	23.55	24.50	1.245	0.11	0.369	0.459
	WCDMA IV_Ant 0	RMC 12.2Kbps	Right Edge	0mm	Sensor OFF	1312	1712.4	23.55	24.50	1.245	-0.14	0.077	0.096
	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	1312	1712.4	21.30	21.30	1.000	0.1	0.901	0.901
	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	1413	1732.6	21.16	21.30	1.033	-0.12	0.920	0.950
02	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	1513	1752.6	21.05	21.30	1.059	-0.06	1.120	1.186
	WCDMA V_Ant 0	RMC 12.2Kbps	Back	0mm	Sensor OFF	4132	826.4	23.81	24.50	1.172	0	0.534	0.626
	WCDMA V_Ant 0	RMC 12.2Kbps	Right Edge	0mm	Sensor OFF	4132	826.4	23.81	24.50	1.172	-0.03	0.002	0.002
03	WCDMA V_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor OFF	4132	826.4	23.81	24.50	1.172	-0.02	0.850	0.996
	WCDMA V_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor OFF	4182	836.4	23.72	24.50	1.197	0.04	0.813	0.973
	WCDMA V_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor OFF	4233	846.6	23.48	24.50	1.265	0.14	0.748	0.946



<LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sensor	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 7_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	21100	2535	23.22	24.00	1.197			0.13	0.343	0.410
	LTE Band 7_Ant 0	20M	QPSK	50	0	Back	0mm	Sensor OFF	21100	2535	22.23	23.00	1.194			0.19	0.266	0.318
	LTE Band 7_Ant 0	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	21100	2535	23.22	24.00	1.197			0.02	0.001	0.001
	LTE Band 7_Ant 0	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	21100	2535	22.23	23.00	1.194			0.05	0.001	0.001
	LTE Band 7_Ant 0	20M	QPSK	1	0	Right Edge	0mm	Sensor OFF	21100	2535	23.22	24.00	1.197			-0.01	0.086	0.103
	LTE Band 7_Ant 0	20M	QPSK	50	0	Right Edge	0mm	Sensor OFF	21100	2535	22.23	23.00	1.194			-0.01	0.067	0.080
04	LTE Band 7_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor OFF	21100	2535	23.22	24.00	1.197			-0.12	0.734	0.878
	LTE Band 7_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor OFF	20850	2510	23.01	24.00	1.256			-0.05	0.675	0.848
	LTE Band 7_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor OFF	21350	2560	23.09	24.00	1.233			0.08	0.622	0.767
	LTE Band 7_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor OFF	21100	2535	22.23	23.00	1.194			0	0.503	0.601
	LTE Band 7_Ant 0	20M	QPSK	100	0	Top Edge	0mm	Sensor OFF	21100	2535	22.17	23.00	1.211			0.02	0.481	0.582
	LTE Band 7_Ant 0	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	21100	2535	23.22	24.00	1.197			0.14	0.001	0.001
	LTE Band 7_Ant 0	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	21100	2535	22.23	23.00	1.194			0.06	0.001	0.001
	LTE Band 7C_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor OFF	21100+20929	2535+2517.9	23.04	24.00	1.247			0.01	0.701	0.874
	LTE Band 12_Ant 0	10M	QPSK	1	0	Back	0mm	Sensor OFF	23095	707.5	23.73	24.00	1.064			0.04	0.328	0.349
	LTE Band 12_Ant 0	10M	QPSK	25	0	Back	0mm	Sensor OFF	23095	707.5	22.68	23.00	1.076			0.18	0.249	0.268
	LTE Band 12_Ant 0	10M	QPSK	1	0	Right Edge	0mm	Sensor OFF	23095	707.5	23.73	24.00	1.064			0.09	0.061	0.065
05	LTE Band 12_Ant 0	10M	QPSK	25	0	Right Edge	0mm	Sensor OFF	23095	707.5	22.68	23.00	1.076			0.15	0.042	0.045
	LTE Band 12_Ant 0	10M	QPSK	1	0	Top Edge	0mm	Sensor OFF	23095	707.5	23.73	24.00	1.064			-0.1	0.381	0.405
	LTE Band 12_Ant 0	10M	QPSK	25	0	Top Edge	0mm	Sensor OFF	23095	707.5	22.68	23.00	1.076			-0.08	0.293	0.315
	LTE Band 13_Ant 0	10M	QPSK	1	0	Back	0mm	Sensor OFF	23230	782	23.74	24.00	1.062			0.08	0.423	0.449
	LTE Band 13_Ant 0	10M	QPSK	25	0	Back	0mm	Sensor OFF	23230	782	22.63	23.00	1.089			0.13	0.328	0.357
	LTE Band 13_Ant 0	10M	QPSK	1	0	Right Edge	0mm	Sensor OFF	23230	782	23.74	24.00	1.062			0.1	0.001	0.001
	LTE Band 13_Ant 0	10M	QPSK	25	0	Right Edge	0mm	Sensor OFF	23230	782	22.63	23.00	1.089			0	0.001	0.001
06	LTE Band 13_Ant 0	10M	QPSK	1	0	Top Edge	0mm	Sensor OFF	23230	782	23.74	24.00	1.062			0.11	0.598	0.635
	LTE Band 13_Ant 0	10M	QPSK	25	0	Top Edge	0mm	Sensor OFF	23230	782	22.63	23.00	1.089			-0.03	0.459	0.500
	LTE Band 14_Ant 0	10M	QPSK	1	0	Back	0mm	Sensor OFF	23330	793	23.40	24.00	1.148			0.08	0.385	0.442
	LTE Band 14_Ant 0	10M	QPSK	25	0	Back	0mm	Sensor OFF	23330	793	22.31	23.00	1.172			0.01	0.299	0.350
	LTE Band 14_Ant 0	10M	QPSK	1	0	Right Edge	0mm	Sensor OFF	23330	793	23.40	24.00	1.148			0.03	0.001	0.001
	LTE Band 14_Ant 0	10M	QPSK	25	0	Right Edge	0mm	Sensor OFF	23330	793	22.31	23.00	1.172			-0.08	0.001	0.001
07	LTE Band 14_Ant 0	10M	QPSK	1	0	Top Edge	0mm	Sensor OFF	23330	793	23.40	24.00	1.148			0.02	0.588	0.675
	LTE Band 14_Ant 0	10M	QPSK	25	0	Top Edge	0mm	Sensor OFF	23330	793	22.31	23.00	1.172			-0.08	0.452	0.530
	LTE Band 25_Ant 0	20M	QPSK	1	0	Top Edge	7mm	Sensor OFF	26140	1860	23.45	24.00	1.135			-0.01	0.694	0.788
	LTE Band 25_Ant 0	20M	QPSK	50	0	Top Edge	7mm	Sensor OFF	26140	1860	22.46	23.00	1.132			-0.01	0.560	0.634
	LTE Band 25_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	26140	1860	23.45	24.00	1.135			0.1	0.574	0.651
	LTE Band 25_Ant 0	20M	QPSK	50	0	Back	0mm	Sensor OFF	26140	1860	22.46	23.00	1.132			-0.18	0.388	0.439
	LTE Band 25_Ant 0	20M	QPSK	1	0	Right Edge	0mm	Sensor OFF	26140	1860	23.45	24.00	1.135			0.1	0.048	0.054
	LTE Band 25_Ant 0	20M	QPSK	50	0	Right Edge	0mm	Sensor OFF	26140	1860	22.46	23.00	1.132			0.12	0.032	0.036
	LTE Band 25_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	26140	1860	23.30	23.30	1.000			0.08	0.910	0.910
	LTE Band 25_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	26340	1880	23.14	23.30	1.038			-0.03	0.945	0.980
08	LTE Band 25_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	26590	1905	23.09	23.30	1.050			-0.03	1.130	1.186
	LTE Band 25_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor ON	26140	1860	22.46	23.00	1.132			-0.17	0.704	0.797
	LTE Band 25_Ant 0	20M	QPSK	100	0	Top Edge	0mm	Sensor ON	26140	1860	22.44	23.00	1.138			-0.11	0.822	0.935
	LTE Band 2C_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	18700+18898	1860+1879.8	22.82	23.30	1.117			0.04	0.994	1.110
	LTE Band 26_Ant 0	15M	QPSK	1	0	Back	0mm	Sensor OFF	26865	831.5	23.44	24.00	1.138			0.11	0.487	0.554
	LTE Band 26_Ant 0	15M	QPSK	36	0	Back	0mm	Sensor OFF	26865	831.5	22.50	23.00	1.122			-0.05	0.391	0.439
	LTE Band 26_Ant 0	15M	QPSK	1	0	Right Edge	0mm	Sensor OFF	26865	831.5	23.44	24.00	1.138			0.18	0.001	0.001
	LTE Band 26_Ant 0	15M	QPSK	36	0	Right Edge	0mm	Sensor OFF	26865	831.5	22.50	23.00	1.122			0.14	0.001	0.001
09	LTE Band 26_Ant 0	15M	QPSK	1	0	Top Edge	0mm	Sensor OFF	26865	831.5	23.44	24.00	1.138			-0.02	0.757	0.861
	LTE Band 26_Ant 0	15M	QPSK	36	0	Top Edge	0mm	Sensor OFF	26865	831.5	22.50	23.00	1.122			-0.17	0.613	0.688
	LTE Band 26_Ant 0	15M	QPSK	75	0	Top Edge	0mm	Sensor OFF	26865	831.5	22.38	23.00	1.153			-0.11	0.588	0.678
	LTE Band 5B_Ant 0	15M	QPSK	1	0	Top Edge	0mm	Sensor OFF	20475+20574	831.5+841.4	23.55	24.00	1.109			0.02	0.751	0.833
	LTE Band 30_Ant 0	10M	QPSK	1	0	Back	0mm	Sensor OFF	27710	2310	21.92	23.00	1.282			0.04	0.284	0.364
	LTE Band 30_Ant 0	10M	QPSK	25	0	Back	0mm	Sensor OFF	27710	2310	21.00	22.00	1.259			-0.01	0.221	0.278



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	LTE Band 30_Ant 0	10M	QPSK	1	0	Right Edge	0mm	Sensor OFF	27710	2310	21.92	23.00	1.282			-0.08	0.001	0.001
	LTE Band 30_Ant 0	10M	QPSK	25	0	Right Edge	0mm	Sensor OFF	27710	2310	21.00	22.00	1.259			0.05	0.001	0.001
10	LTE Band 30_Ant 0	10M	QPSK	1	0	Top Edge	0mm	Sensor OFF	27710	2310	21.92	23.00	1.282			-0.03	0.651	0.835
	LTE Band 30_Ant 0	10M	QPSK	25	0	Top Edge	0mm	Sensor OFF	27710	2310	21.00	22.00	1.259			0.06	0.516	0.650
	LTE Band 30_Ant 0	10M	QPSK	50	0	Top Edge	0mm	Sensor OFF	27710	2310	20.87	22.00	1.297			0.08	0.489	0.634
	LTE Band 66_Ant 0	20M	QPSK	1	0	Top Edge	7mm	Sensor OFF	132572	1770	23.69	24.00	1.074			0.02	0.632	0.679
	LTE Band 66_Ant 0	20M	QPSK	50	0	Top Edge	7mm	Sensor OFF	132572	1770	22.64	23.00	1.086			0.02	0.509	0.553
	LTE Band 66_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	132572	1770	23.69	24.00	1.074			-0.09	0.493	0.529
	LTE Band 66_Ant 0	20M	QPSK	50	0	Back	0mm	Sensor OFF	132572	1770	22.64	23.00	1.086			-0.08	0.488	0.530
	LTE Band 66_Ant 0	20M	QPSK	1	0	Right Edge	0mm	Sensor OFF	132572	1770	23.69	24.00	1.074			0.13	0.001	0.001
	LTE Band 66_Ant 0	20M	QPSK	50	0	Right Edge	0mm	Sensor OFF	132572	1770	22.64	23.00	1.086			0.12	0.001	0.001
11	LTE Band 66_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	132572	1770	21.05	21.40	1.084			-0.06	1.020	1.106
	LTE Band 66_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	132072	1720	20.78	21.40	1.153			0.18	0.629	0.726
	LTE Band 66_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	132322	1745	20.37	21.40	1.268			0.16	0.634	0.804
	LTE Band 66_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor ON	132572	1770	21.02	21.40	1.091			0.03	0.984	1.074
	LTE Band 66_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor ON	132072	1720	20.75	21.40	1.161			0.08	0.618	0.718
	LTE Band 66_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor ON	132322	1745	20.29	21.40	1.291			0.11	0.622	0.803
	LTE Band 66_Ant 0	20M	QPSK	100	0	Top Edge	0mm	Sensor ON	132572	1770	21.04	21.40	1.086			0.04	0.975	1.059
	LTE Band 66B_Ant 0	15M	QPSK	1	0	Top Edge	0mm	Sensor ON	132047+132140	1717.5+1726.8	20.77	21.40	1.156			0.01	0.946	1.094
	LTE Band 66C_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	132072+132270	1720+1739.8	21.04	21.40	1.086			0.04	1.010	1.097
	LTE Band 71_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	133297	680.5	23.87	24.00	1.030			-0.1	0.231	0.238
	LTE Band 71_Ant 0	20M	QPSK	50	0	Back	0mm	Sensor OFF	133297	680.5	22.83	23.00	1.040			0.07	0.198	0.206
	LTE Band 71_Ant 0	20M	QPSK	1	0	Right Edge	0mm	Sensor OFF	133297	680.5	23.87	24.00	1.030			0.18	0.001	0.001
	LTE Band 71_Ant 0	20M	QPSK	50	0	Right Edge	0mm	Sensor OFF	133297	680.5	22.83	23.00	1.040			-0.1	0.001	0.001
12	LTE Band 71_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor ON	133297	680.5	23.87	24.00	1.030			-0.07	0.258	0.266
	LTE Band 71_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor ON	133297	680.5	22.83	23.00	1.040			0.01	0.214	0.223
	LTE Band 41_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	41490	2680	23.83	24.00	1.040	62.9	1.006	0	0.285	0.298
	LTE Band 41_Ant 0	20M	QPSK	50	0	Back	0mm	Sensor OFF	41490	2680	22.81	23.00	1.045	62.9	1.006	-0.15	0.227	0.239
	LTE Band 41_Ant 0	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	41490	2680	23.83	24.00	1.040	62.9	1.006	0.19	0.001	0.001
	LTE Band 41_Ant 0	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	41490	2680	22.81	23.00	1.045	62.9	1.006	0.07	0.001	0.001
	LTE Band 41_Ant 0	20M	QPSK	1	0	Right Edge	0mm	Sensor OFF	41490	2680	23.83	24.00	1.040	62.9	1.006	-0.18	0.056	0.059
	LTE Band 41_Ant 0	20M	QPSK	50	0	Right Edge	0mm	Sensor OFF	41490	2680	22.81	23.00	1.045	62.9	1.006	0.03	0.046	0.048
	LTE Band 41_Ant 0	20M	QPSK	1	0	Top Edge	0mm	Sensor OFF	41490	2680	23.83	24.00	1.040	62.9	1.006	-0.15	0.207	0.217
	LTE Band 41_Ant 0	20M	QPSK	50	0	Top Edge	0mm	Sensor OFF	41490	2680	22.81	23.00	1.045	62.9	1.006	-0.15	0.170	0.179
	LTE Band 41_Ant 0	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	41490	2680	23.83	24.00	1.040	62.9	1.006	0.11	0.001	0.001
	LTE Band 41_Ant 0	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	41490	2680	22.81	23.00	1.045	62.9	1.006	-0.08	0.001	0.001
13	LTE Band 41_HPUE_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	41490	2680	26.33	26.50	1.040	42.9	1.009	0.02	0.313	0.328
	LTE Band 41C_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	40185+39987	2549.5+2529.7	22.94	24.00	1.276	62.9	1.006	0	0.224	0.288
	LTE Band 38C_Ant 0	20M	QPSK	1	0	Back	0mm	Sensor OFF	37901+38099	2585.1+2604.9	23.33	24.00	1.167	62.9	1.006	0	0.248	0.291
	LTE Band 42_Ant 3	20M	QPSK	1	0	Back	0mm	Sensor OFF	43340	3575	16.50	16.90	1.096	62.9	1.006	-0.04	0.100	0.110
	LTE Band 42_Ant 3	20M	QPSK	50	0	Back	0mm	Sensor OFF	43340	3575	16.45	16.90	1.109	62.9	1.006	-0.08	0.084	0.094
	LTE Band 42_Ant 3	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	43340	3575	16.50	16.90	1.096	62.9	1.006	-0.13	0.001	0.001
	LTE Band 42_Ant 3	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	43340	3575	16.45	16.90	1.109	62.9	1.006	-0.13	0.001	0.001
	LTE Band 42_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	43340	3575	16.50	16.90	1.096	62.9	1.006	0.06	0.811	0.895
	LTE Band 42_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	43340	3575	16.45	16.90	1.109	62.9	1.006	-0.03	0.761	0.849
	LTE Band 42_Ant 3	20M	QPSK	100	0	Bottom Edge	0mm	Sensor OFF	43340	3575	16.42	16.90	1.117	62.9	1.006	0.01	0.747	0.839
	LTE Band 42_Ant 3	20M	QPSK	1	0	Back	0mm	Sensor OFF	42190	3460	16.55	16.90	1.084	62.9	1.006	0.08	0.167	0.182
	LTE Band 42_Ant 3	20M	QPSK	50	0	Back	0mm	Sensor OFF	42190	3460	16.48	16.90	1.102	62.9	1.006	-0.07	0.138	0.153
	LTE Band 42_Ant 3	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	42190	3460	16.55	16.90	1.084	62.9	1.006	0.05	0.001	0.001
	LTE Band 42_Ant 3	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	42190	3460	16.48	16.90	1.102	62.9	1.006	-0.11	0.001	0.001
14	LTE Band 42_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	42190	3460	16.55	16.90	1.084	62.9	1.006	-0.03	1.100	1.199
	LTE Band 42_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	42590	3500	16.37	16.90	1.130	62.9	1.006	-0.02	1.020	1.159
	LTE Band 42_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	42990	3540	16.36	16.90	1.132	62.9	1.006	0.15	0.890	1.014
	LTE Band 42_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	42190	3460	16.48	16.90	1.102	62.9	1.006	-0.16	1.002	1.110
	LTE Band 42_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	42590	3500	16.38	16.90	1.127	62.9	1.006	0.01	0.978	1.109
	LTE Band 42_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	42990	3540	16.40	16.90	1.122	62.9	1.006	0.07	0.823	0.929
	LTE Band 42_Ant 3	20M	QPSK	100	0	Bottom Edge	0mm	Sensor OFF	42190	3460	16.37	16.90	1.130	62.9	1.006	-0.05	0.966	1.098
	LTE Band 42C_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	43292+43490	3570.2+3590	16.53	16.90	1.089	62.9	1.006	0.13	1.040	1.139
	LTE Band 43_Ant 3	20M	QPSK	1	0	Back	0mm	Sensor OFF	44490	3690	17.80	18.20	1.096	62.9	1.006	0.02	0.133	0.147



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	LTE Band 43_Ant 3	20M	QPSK	50	0	Back	0mm	Sensor OFF	44490	3690	17.76	18.20	1.107	62.9	1.006	0.07	0.122	0.136
	LTE Band 43_Ant 3	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	44490	3690	17.80	18.20	1.096	62.9	1.006	-0.18	0.067	0.074
	LTE Band 43_Ant 3	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	44490	3690	17.76	18.20	1.107	62.9	1.006	0.02	0.056	0.062
	LTE Band 43_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	44490	3690	17.80	18.20	1.096	62.9	1.006	0.07	0.795	0.877
15	LTE Band 43_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	43690	3610	17.62	18.20	1.143	62.9	1.006	0.05	0.987	1.135
	LTE Band 43_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	44090	3650	17.64	18.20	1.138	62.9	1.006	0.01	0.867	0.992
	LTE Band 43_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	44490	3690	17.76	18.20	1.107	62.9	1.006	0	0.761	0.847
	LTE Band 43_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	43690	3610	17.75	18.20	1.109	62.9	1.006	0.03	0.952	1.062
	LTE Band 43_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	44090	3650	17.62	18.20	1.143	62.9	1.006	0.07	0.833	0.958
	LTE Band 43_Ant 3	20M	QPSK	100	0	Bottom Edge	0mm	Sensor OFF	44490	3690	17.75	18.20	1.109	62.9	1.006	0.02	0.742	0.828
	LTE Band 43C_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	43690+43888	3610+3629.8	17.67	18.20	1.130	62.9	1.006	0.01	0.981	1.115
	LTE Band 48_Ant 3	20M	QPSK	1	0	Back	0mm	Sensor OFF	56150	3641	17.37	17.50	1.030	62.9	1.006	0	0.152	0.158
	LTE Band 48_Ant 3	20M	QPSK	50	0	Back	0mm	Sensor OFF	56150	3641	17.36	17.50	1.033	62.9	1.006	-0.13	0.113	0.117
	LTE Band 48_Ant 3	20M	QPSK	1	0	Left Edge	0mm	Sensor OFF	56150	3641	17.37	17.50	1.030	62.9	1.006	-0.01	0.061	0.063
	LTE Band 48_Ant 3	20M	QPSK	50	0	Left Edge	0mm	Sensor OFF	56150	3641	17.36	17.50	1.033	62.9	1.006	-0.09	0.051	0.053
	LTE Band 48_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	56150	3641	17.37	17.50	1.030	62.9	1.006	-0.13	0.845	0.876
16	LTE Band 48_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	55340	3560	17.17	17.50	1.079	62.9	1.006	-0.01	1.030	1.118
	LTE Band 48_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	55830	3609	17.28	17.50	1.052	62.9	1.006	0.06	0.867	0.918
	LTE Band 48_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	56640	3690	17.13	17.50	1.089	62.9	1.006	0	0.696	0.762
	LTE Band 48_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	56150	3641	17.36	17.50	1.033	62.9	1.006	0.17	0.792	0.823
	LTE Band 48_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	55340	3560	17.35	17.50	1.035	62.9	1.006	-0.04	0.965	1.005
	LTE Band 48_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	55830	3609	17.34	17.50	1.038	62.9	1.006	0.09	0.813	0.849
	LTE Band 48_Ant 3	20M	QPSK	50	0	Bottom Edge	0mm	Sensor OFF	56640	3690	17.23	17.50	1.064	62.9	1.006	0.03	0.822	0.880
	LTE Band 48_Ant 3	20M	QPSK	100	0	Bottom Edge	0mm	Sensor OFF	56150	3641	17.35	17.50	1.035	62.9	1.006	0.12	0.755	0.786
	LTE Band 48C_Ant 3	20M	QPSK	1	0	Bottom Edge	0mm	Sensor OFF	56150+55952	3641+3621.2	17.28	17.50	1.052	62.9	1.006	0.18	1.010	1.069

**<5G NR SAR>**

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB offset	Test Position	Gap (mm)	Sensor	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_Ant 0	20M	BPSK	1	1	Back	0mm	Sensor OFF	167300	836.5	23.48	24.50	1.265	-0.16	0.639	0.808
	FR1 n5_Ant 0	20M	BPSK	50	28	Back	0mm	Sensor OFF	167300	836.5	23.27	24.50	1.327	-0.15	0.485	0.644
	FR1 n5_Ant 0	20M	BPSK	100	0	Back	0mm	Sensor OFF	167300	836.5	22.82	24.00	1.312	-0.08	0.412	0.541
	FR1 n5_Ant 0	20M	BPSK	1	1	Right Edge	0mm	Sensor OFF	167300	836.5	23.48	24.50	1.265	-0.06	0.001	0.001
	FR1 n5_Ant 0	20M	BPSK	50	28	Right Edge	0mm	Sensor OFF	167300	836.5	23.27	24.50	1.327	-0.14	0.001	0.001
17	FR1 n5_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor OFF	167300	836.5	23.48	24.50	1.265	-0.06	0.813	1.028
	FR1 n5_Ant 0	20M	BPSK	50	28	Top Edge	0mm	Sensor OFF	167300	836.5	23.27	24.50	1.327	-0.19	0.726	0.964
	FR1 n5_Ant 0	20M	BPSK	100	0	Top Edge	0mm	Sensor OFF	167300	836.5	22.82	24.00	1.312	-0.11	0.655	0.859
	FR1 n7_Ant 0	20M	BPSK	1	1	Back	0mm	Sensor OFF	507000	2535	23.08	24.50	1.387	0.01	0.534	0.741
	FR1 n7_Ant 0	20M	BPSK	50	28	Back	0mm	Sensor OFF	507000	2535	23.04	24.50	1.400	0.06	0.370	0.518
	FR1 n7_Ant 0	20M	BPSK	1	1	Left Edge	0mm	Sensor OFF	507000	2535	23.08	24.50	1.387	0.02	0.001	0.001
	FR1 n7_Ant 0	20M	BPSK	50	28	Left Edge	0mm	Sensor OFF	507000	2535	23.04	24.50	1.400	0.12	0.001	0.001
	FR1 n7_Ant 0	20M	BPSK	1	1	Right Edge	0mm	Sensor OFF	507000	2535	23.08	24.50	1.387	-0.16	0.108	0.150
	FR1 n7_Ant 0	20M	BPSK	50	28	Right Edge	0mm	Sensor OFF	507000	2535	23.04	24.50	1.400	-0.12	0.096	0.134
18	FR1 n7_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor OFF	507000	2535	23.08	24.50	1.387	-0.06	0.814	1.129
	FR1 n7_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor OFF	502000	2510	22.84	24.50	1.466	-0.05	0.763	1.118
	FR1 n7_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor OFF	512000	2560	22.97	24.50	1.422	-0.11	0.724	1.030
	FR1 n7_Ant 0	20M	BPSK	50	28	Top Edge	0mm	Sensor OFF	507000	2535	23.04	24.50	1.400	0.07	0.622	0.871
	FR1 n7_Ant 0	20M	BPSK	50	28	Top Edge	0mm	Sensor OFF	502000	2510	22.79	24.50	1.483	-0.04	0.583	0.864
	FR1 n7_Ant 0	20M	BPSK	50	28	Top Edge	0mm	Sensor OFF	512000	2560	22.93	24.50	1.435	-0.08	0.553	0.794
	FR1 n7_Ant 0	20M	BPSK	100	0	Top Edge	0mm	Sensor OFF	507000	2535	22.61	24.00	1.377	-0.02	0.468	0.645
	FR1 n7_Ant 0	20M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	507000	2535	23.08	24.50	1.387	-0.05	0.001	0.001
	FR1 n7_Ant 0	20M	BPSK	50	28	Bottom Edge	0mm	Sensor OFF	507000	2535	23.04	24.50	1.400	-0.02	0.001	0.001
	FR1 n25_Ant 0	20M	BPSK	1	1	Top Edge	7mm	Sensor OFF	372000	1860	23.52	24.50	1.253	0.03	0.499	0.625
	FR1 n25_Ant 0	20M	BPSK	50	28	Top Edge	7mm	Sensor OFF	372000	1860	23.44	24.50	1.276	0.03	0.488	0.623
	FR1 n25_Ant 0	20M	BPSK	1	1	Back	0mm	Sensor OFF	372000	1860	23.52	24.50	1.253	0.08	0.430	0.539
	FR1 n25_Ant 0	20M	BPSK	50	28	Back	0mm	Sensor OFF	372000	1860	23.44	24.50	1.276	0.16	0.377	0.481
	FR1 n25_Ant 0	20M	BPSK	1	1	Right Edge	0mm	Sensor OFF	372000	1860	23.52	24.50	1.253	0.01	0.001	0.001
	FR1 n25_Ant 0	20M	BPSK	50	28	Right Edge	0mm	Sensor OFF	372000	1860	23.44	24.50	1.276	-0.16	0.001	0.001
	FR1 n25_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	372000	1860	22.45	23.00	1.135	0.1	0.721	0.818
	FR1 n25_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	376500	1882.5	22.26	23.00	1.186	0	0.663	0.786
19	FR1 n25_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	381000	1905	22.15	23.00	1.216	-0.06	0.841	1.023
	FR1 n25_Ant 0	20M	BPSK	50	0	Top Edge	0mm	Sensor ON	372000	1860	22.40	23.00	1.148	-0.04	0.681	0.782
	FR1 n25_Ant 0	20M	BPSK	100	0	Top Edge	0mm	Sensor ON	372000	1860	22.33	23.00	1.167	-0.01	0.674	0.786
	FR1 n30_Ant 0	10M	BPSK	1	1	Back	0mm	Sensor OFF	462000	2310	21.81	23.00	1.315	-0.15	0.325	0.427
	FR1 n30_Ant 0	10M	BPSK	25	14	Back	0mm	Sensor OFF	462000	2310	21.62	23.00	1.374	0.03	0.222	0.305
	FR1 n30_Ant 0	10M	BPSK	1	1	Right Edge	0mm	Sensor OFF	462000	2310	21.81	23.00	1.315	-0.13	0.049	0.064
	FR1 n30_Ant 0	10M	BPSK	25	14	Right Edge	0mm	Sensor OFF	462000	2310	21.62	23.00	1.374	0.16	0.001	0.001
20	FR1 n30_Ant 0	10M	BPSK	1	1	Top Edge	0mm	Sensor OFF	462000	2310	21.81	23.00	1.315	-0.04	0.602	0.792
	FR1 n30_Ant 0	10M	BPSK	25	14	Top Edge	0mm	Sensor OFF	462000	2310	21.62	23.00	1.374	-0.15	0.417	0.573
	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	7mm	Sensor OFF	354000	1770	23.43	24.50	1.279	0.08	0.698	0.893
	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	7mm	Sensor OFF	344000	1720	23.17	24.50	1.358	-0.04	0.564	0.766
	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	7mm	Sensor OFF	349000	1745	22.69	24.50	1.517	0.05	0.520	0.789
	FR1 n66_Ant 0	20M	BPSK	50	28	Top Edge	7mm	Sensor OFF	354000	1770	23.06	24.50	1.393	0.01	0.611	0.851
	FR1 n66_Ant 0	20M	BPSK	50	28	Top Edge	7mm	Sensor OFF	344000	1720	23.01	24.50	1.409	0.06	0.538	0.758
	FR1 n66_Ant 0	20M	BPSK	50	28	Top Edge	7mm	Sensor OFF	349000	1745	22.58	24.50	1.556	-0.07	0.499	0.776
	FR1 n66_Ant 0	20M	BPSK	100	0	Top Edge	7mm	Sensor OFF	354000	1770	22.68	24.00	1.355	-0.01	0.516	0.699
	FR1 n66_Ant 0	20M	BPSK	1	1	Back	0mm	Sensor OFF	354000	1770	23.43	24.50	1.279	-0.02	0.254	0.325
	FR1 n66_Ant 0	20M	BPSK	50	28	Back	0mm	Sensor OFF	354000	1770	23.06	24.50	1.393	-0.09	0.214	0.298
	FR1 n66_Ant 0	20M	BPSK	1	1	Right Edge	0mm	Sensor OFF	354000	1770	23.43	24.50	1.279	0.14	0.031	0.040
	FR1 n66_Ant 0	20M	BPSK	50	28	Right Edge	0mm	Sensor OFF	354000	1770	23.06	24.50	1.393	0.1	0.026	0.036
21	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	354000	1770	21.21	22.00	1.199	0.09	0.884	1.060
	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	344000	1720	21.17	22.00	1.211	-0.09	0.714	0.864
	FR1 n66_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor ON	349000	1745	20.79	22.00	1.321	-0.07	0.659	0.871



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	FR1 n66_Ant 0	20M	BPSK	50	0	Top Edge	0mm	Sensor ON	354000	1770	21.16	22.00	1.213	-0.09	0.859	1.042
	FR1 n66_Ant 0	20M	BPSK	50	0	Top Edge	0mm	Sensor ON	344000	1720	21.10	22.00	1.230	-0.16	0.708	0.871
	FR1 n66_Ant 0	20M	BPSK	50	0	Top Edge	0mm	Sensor ON	349000	1745	20.66	22.00	1.361	0.11	0.651	0.886
	FR1 n66_Ant 0	20M	BPSK	100	0	Top Edge	0mm	Sensor ON	354000	1770	21.03	22.00	1.250	0.07	0.841	1.051
22	FR1 n71_Ant 0	20M	BPSK	1	1	Back	0mm	Sensor OFF	136100	680.5	23.95	24.50	1.135	-0.1	0.221	0.251
	FR1 n71_Ant 0	20M	BPSK	50	28	Back	0mm	Sensor OFF	136100	680.5	23.84	24.50	1.164	-0.1	0.125	0.146
	FR1 n71_Ant 0	20M	BPSK	1	1	Right Edge	0mm	Sensor OFF	136100	680.5	23.95	24.50	1.135	-0.01	0.048	0.054
	FR1 n71_Ant 0	20M	BPSK	50	28	Right Edge	0mm	Sensor OFF	136100	680.5	23.84	24.50	1.164	-0.09	0.028	0.033
	FR1 n71_Ant 0	20M	BPSK	1	1	Top Edge	0mm	Sensor OFF	136100	680.5	23.95	24.50	1.135	-0.06	0.178	0.202
	FR1 n71_Ant 0	20M	BPSK	50	28	Top Edge	0mm	Sensor OFF	136100	680.5	23.84	24.50	1.164	-0.17	0.163	0.190
	FR1 n38_Ant 0	40M	BPSK	1	1	Back	0mm	Sensor OFF	519000	2595	23.44	25.00	1.432	0.07	0.434	0.622
	FR1 n38_Ant 0	40M	BPSK	50	28	Back	0mm	Sensor OFF	519000	2595	23.26	25.00	1.493	0.08	0.361	0.539
	FR1 n38_Ant 0	40M	BPSK	1	1	Left Edge	0mm	Sensor OFF	519000	2595	23.44	25.00	1.432	-0.13	0.001	0.001
	FR1 n38_Ant 0	40M	BPSK	50	28	Left Edge	0mm	Sensor OFF	519000	2595	23.26	25.00	1.493	0.05	0.001	0.001
	FR1 n38_Ant 0	40M	BPSK	1	1	Right Edge	0mm	Sensor OFF	519000	2595	23.44	25.00	1.432	-0.05	0.131	0.188
	FR1 n38_Ant 0	40M	BPSK	50	28	Right Edge	0mm	Sensor OFF	519000	2595	23.26	25.00	1.493	0.03	0.108	0.161
23	FR1 n38_Ant 0	40M	BPSK	1	1	Top Edge	0mm	Sensor OFF	519000	2595	23.44	25.00	1.432	-0.05	0.703	1.007
	FR1 n38_Ant 0	40M	BPSK	50	28	Top Edge	0mm	Sensor OFF	519000	2595	23.26	25.00	1.493	-0.12	0.584	0.872
	FR1 n38_Ant 0	40M	BPSK	100	0	Top Edge	0mm	Sensor OFF	519000	2595	22.76	24.50	1.493	-0.12	0.485	0.724
	FR1 n38_Ant 0	40M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	519000	2595	23.44	25.00	1.432	-0.12	0.001	0.001
	FR1 n38_Ant 0	40M	BPSK	50	28	Bottom Edge	0mm	Sensor OFF	519000	2595	23.26	25.00	1.493	-0.05	0.001	0.001
	FR1 n41_Ant 0	100M	BPSK	1	1	Back	0mm	Sensor OFF	518598	2592.99	23.53	24.50	1.250	-0.01	0.661	0.826
	FR1 n41_Ant 0	100M	BPSK	135	69	Back	0mm	Sensor OFF	518598	2592.99	23.38	24.50	1.294	-0.11	0.476	0.616
	FR1 n41_Ant 0	100M	BPSK	270	0	Back	0mm	Sensor OFF	518598	2592.99	22.87	24.00	1.297	-0.06	0.444	0.576
	FR1 n41_Ant 0	100M	BPSK	1	1	Left Edge	0mm	Sensor OFF	518598	2592.99	23.53	24.50	1.250	0.14	0.001	0.001
	FR1 n41_Ant 0	100M	BPSK	135	69	Left Edge	0mm	Sensor OFF	518598	2592.99	23.38	24.50	1.294	0.03	0.001	0.001
	FR1 n41_Ant 0	100M	BPSK	1	1	Right Edge	0mm	Sensor OFF	518598	2592.99	23.53	24.50	1.250	0.1	0.160	0.200
	FR1 n41_Ant 0	100M	BPSK	135	69	Right Edge	0mm	Sensor OFF	518598	2592.99	23.38	24.50	1.294	0.16	0.126	0.163
	FR1 n41_Ant 0	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	518598	2592.99	23.53	24.50	1.250	-0.06	0.834	1.043
	FR1 n41_Ant 0	100M	BPSK	135	69	Top Edge	0mm	Sensor OFF	518598	2592.99	23.38	24.50	1.294	0.02	0.684	0.885
	FR1 n41_Ant 0	100M	BPSK	270	0	Top Edge	0mm	Sensor OFF	518598	2592.99	22.87	24.00	1.297	0.05	0.560	0.726
	FR1 n41_Ant 0	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	518598	2592.99	23.53	24.50	1.250	-0.16	0.001	0.001
	FR1 n41_Ant 0	100M	BPSK	135	69	Bottom Edge	0mm	Sensor OFF	518598	2592.99	23.38	24.50	1.294	0.05	0.001	0.001
24	FR1 n41_HPUE_Ant 0	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	518598	2592.99	26.46	27.50	1.271	-0.04	0.887	1.127
	FR1 n41_HPUE_Ant 0	100M	BPSK	135	69	Top Edge	0mm	Sensor OFF	518598	2592.99	26.37	27.50	1.297	0.11	0.784	1.017
	FR1 n41_HPUE_Ant 0	100M	BPSK	270	0	Top Edge	0mm	Sensor OFF	518598	2592.99	25.87	27.00	1.297	-0.13	0.786	1.020
	FR1 n41_Ant 2	100M	BPSK	1	1	Back	0mm	Sensor OFF	518598	2592.99	16.96	17.70	1.186	0.17	0.165	0.196
	FR1 n41_Ant 2	100M	BPSK	135	69	Back	0mm	Sensor OFF	518598	2592.99	16.58	17.70	1.294	-0.15	0.143	0.185
	FR1 n41_Ant 2	100M	BPSK	1	1	Right Edge	0mm	Sensor OFF	518598	2592.99	16.96	17.70	1.186	-0.06	0.014	0.017
	FR1 n41_Ant 2	100M	BPSK	135	69	Right Edge	0mm	Sensor OFF	518598	2592.99	16.58	17.70	1.294	-0.13	0.012	0.016
	FR1 n41_Ant 2	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	518598	2592.99	16.96	17.70	1.186	-0.05	0.834	0.989
	FR1 n41_Ant 2	100M	BPSK	135	69	Bottom Edge	0mm	Sensor OFF	518598	2592.99	16.58	17.70	1.294	0.19	0.745	0.964
	FR1 n41_Ant 2	100M	BPSK	270	0	Bottom Edge	0mm	Sensor OFF	518598	2592.99	16.62	17.70	1.282	-0.14	0.722	0.926
	FR1 n41_HPUE_Ant 2	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	518598	2592.99	19.88	20.20	1.076	-0.08	0.814	0.876
	FR1 n48_Ant 1	40M	BPSK	1	1	Back	0mm	Sensor OFF	641666	3624.99	17.15	17.80	1.161	0	0.244	0.283
	FR1 n48_Ant 1	40M	BPSK	50	28	Back	0mm	Sensor OFF	641666	3624.99	17.06	17.80	1.186	-0.1	0.200	0.237
	FR1 n48_Ant 1	40M	BPSK	1	1	Left Edge	0mm	Sensor OFF	641666	3624.99	17.15	17.80	1.161	0.05	0.102	0.118
	FR1 n48_Ant 1	40M	BPSK	50	28	Left Edge	0mm	Sensor OFF	641666	3624.99	17.06	17.80	1.186	0	0.084	0.100
	FR1 n48_Ant 1	40M	BPSK	1	1	Top Edge	0mm	Sensor OFF	641666	3624.99	17.15	17.80	1.161	-0.05	0.693	0.805
	FR1 n48_Ant 1	40M	BPSK	1	1	Top Edge	0mm	Sensor OFF	638000	3570	17.11	17.80	1.172	0	0.816	0.957
	FR1 n48_Ant 1	40M	BPSK	1	1	Top Edge	0mm	Sensor OFF	645332	3679.98	17.10	17.80	1.175	0.01	0.757	0.889
	FR1 n48_Ant 1	40M	BPSK	50	28	Top Edge	0mm	Sensor OFF	641666	3624.99	17.06	17.80	1.186	-0.08	0.663	0.786
	FR1 n48_Ant 1	40M	BPSK	50	28	Top Edge	0mm	Sensor OFF	638000	3570	17.02	17.80	1.197	0.02	0.766	0.917
	FR1 n48_Ant 1	40M	BPSK	50	28	Top Edge	0mm	Sensor OFF	645332	3679.98	17.04	17.80	1.191	0.03	0.711	0.847
	FR1 n48_Ant 1	40M	BPSK	100	0	Top Edge	0mm	Sensor OFF	641666	3624.99	17.09	17.80	1.178	-0.04	0.624	0.735
	FR1 n48_Ant 3	40M	BPSK	1	1	Back	0mm	Sensor OFF	641666	3624.99	15.01	15.30	1.069	-0.11	0.215	0.230
	FR1 n48_Ant 3	40M	BPSK	50	28	Back	0mm	Sensor OFF	641666	3624.99	14.92	15.30	1.091	0.03	0.176	0.192
	FR1 n48_Ant 3	40M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	641666	3624.99	15.01	15.30	1.069	0.04	0.906	0.969
25	FR1 n48_Ant 3	40M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	638000	3570	14.96	15.30	1.081	-0.08	1.040	1.125

	FR1 n48_Ant 3	40M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	645332	3679.98	14.89	15.30	1.099	-0.13	0.768	0.844
	FR1 n48_Ant 3	40M	BPSK	50	28	Bottom Edge	0mm	Sensor OFF	641666	3624.99	14.92	15.30	1.091	0.11	0.838	0.915
	FR1 n48_Ant 3	40M	BPSK	50	28	Bottom Edge	0mm	Sensor OFF	638000	3570	14.90	15.30	1.096	0.02	0.988	1.083
	FR1 n48_Ant 3	40M	BPSK	50	28	Bottom Edge	0mm	Sensor OFF	645332	3679.98	14.83	15.30	1.114	0.06	0.646	0.720
	FR1 n48_Ant 3	40M	BPSK	100	0	Bottom Edge	0mm	Sensor OFF	641666	3624.99	14.88	15.30	1.102	0.08	0.763	0.840
	FR1 n77_Ant 1	100M	BPSK	1	1	Back	0mm	Sensor OFF	656000	3840	16.88	17.20	1.076	0.12	0.342	0.368
	FR1 n77_Ant 1	100M	BPSK	135	69	Back	0mm	Sensor OFF	656000	3840	16.84	17.20	1.086	-0.11	0.281	0.305
	FR1 n77_Ant 1	100M	BPSK	1	1	Left Edge	0mm	Sensor OFF	656000	3840	16.88	17.20	1.076	0.17	0.121	0.130
	FR1 n77_Ant 1	100M	BPSK	135	69	Left Edge	0mm	Sensor OFF	656000	3840	16.84	17.20	1.086	-0.16	0.099	0.108
	FR1 n77_Ant 1	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	656000	3840	16.88	17.20	1.076	-0.04	0.945	1.017
	FR1 n77_Ant 1	100M	BPSK	135	69	Top Edge	0mm	Sensor OFF	656000	3840	16.84	17.20	1.086	-0.17	0.899	0.977
	FR1 n77_Ant 1	100M	BPSK	270	0	Top Edge	0mm	Sensor OFF	656000	3840	16.78	17.20	1.102	0.03	0.856	0.943
	FR1 n77_HPUE_Ant 1	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	656000	3840	19.70	19.70	1.000	-0.01	0.947	0.947
	FR1 n77_Ant 1	100M	BPSK	1	1	Back	0mm	Sensor OFF	633332	3499.98	17.15	17.20	1.012	-0.15	0.365	0.369
	FR1 n77_Ant 1	100M	BPSK	135	69	Back	0mm	Sensor OFF	633332	3499.98	17.13	17.20	1.016	-0.12	0.309	0.314
	FR1 n77_Ant 1	100M	BPSK	1	1	Left Edge	0mm	Sensor OFF	633332	3499.98	17.15	17.20	1.012	-0.17	0.058	0.059
	FR1 n77_Ant 1	100M	BPSK	135	69	Left Edge	0mm	Sensor OFF	633332	3499.98	17.13	17.20	1.016	0.08	0.049	0.050
	FR1 n77_Ant 1	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	633332	3499.98	17.15	17.20	1.012	-0.04	0.838	0.848
	FR1 n77_Ant 1	100M	BPSK	135	69	Top Edge	0mm	Sensor OFF	633332	3499.98	17.13	17.20	1.016	0.01	0.781	0.794
	FR1 n77_Ant 1	100M	BPSK	270	0	Top Edge	0mm	Sensor OFF	633332	3499.98	17.09	17.20	1.026	0.04	0.731	0.750
	FR1 n77_HPUE_Ant 1	100M	BPSK	1	1	Top Edge	0mm	Sensor OFF	633332	3499.98	19.70	19.70	1.000	-0.03	0.826	0.826
	FR1 n77_Ant 3	100M	BPSK	1	1	Back	0mm	Sensor OFF	656000	3840	13.52	14.20	1.169	-0.12	0.098	0.115
	FR1 n77_Ant 3	100M	BPSK	135	69	Back	0mm	Sensor OFF	656000	3840	13.47	14.20	1.183	-0.16	0.082	0.097
	FR1 n77_Ant 3	100M	BPSK	1	1	Left Edge	0mm	Sensor OFF	656000	3840	13.52	14.20	1.169	-0.03	0.001	0.001
	FR1 n77_Ant 3	100M	BPSK	135	69	Left Edge	0mm	Sensor OFF	656000	3840	13.47	14.20	1.183	0.17	0.001	0.001
	FR1 n77_Ant 3	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	656000	3840	13.52	14.20	1.169	-0.12	0.352	0.412
	FR1 n77_Ant 3	100M	BPSK	135	69	Bottom Edge	0mm	Sensor OFF	656000	3840	13.47	14.20	1.183	0.18	0.320	0.379
	FR1 n77_HPUE_Ant 3	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	656000	3840	16.33	16.70	1.089	-0.06	0.334	0.364
	FR1 n77_Ant 3	100M	BPSK	1	1	Back	0mm	Sensor OFF	633332	3499.98	13.52	14.20	1.169	-0.05	0.154	0.180
	FR1 n77_Ant 3	100M	BPSK	135	69	Back	0mm	Sensor OFF	633332	3499.98	13.48	14.20	1.180	-0.04	0.130	0.153
	FR1 n77_Ant 3	100M	BPSK	1	1	Left Edge	0mm	Sensor OFF	633332	3499.98	13.52	14.20	1.169	-0.08	0.066	0.077
	FR1 n77_Ant 3	100M	BPSK	135	69	Left Edge	0mm	Sensor OFF	633332	3499.98	13.48	14.20	1.180	0	0.047	0.055
26	FR1 n77_Ant 3	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	633332	3499.98	13.52	14.20	1.169	0.06	0.952	1.113
	FR1 n77_Ant 3	100M	BPSK	135	69	Bottom Edge	0mm	Sensor OFF	633332	3499.98	13.48	14.20	1.180	0.18	0.911	1.075
	FR1 n77_Ant 3	100M	BPSK	270	0	Bottom Edge	0mm	Sensor OFF	633332	3499.98	13.45	14.20	1.189	-0.02	0.898	1.067
	FR1 n77_HPUE_Ant 3	100M	BPSK	1	1	Bottom Edge	0mm	Sensor OFF	633332	3499.98	16.37	16.70	1.079	-0.06	0.922	0.995



17.2 Repeated SAR Measurement

Plot No.	Band	Mode	Test Position	Gap (mm)	Sensor	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)	Ratio	Reported 1g SAR (W/kg)
1st	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	9262	1852.4	23.70	23.70	1.000			0.06	1.140	-	1.140
2nd	WCDMA II_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	9262	1852.4	23.70	23.70	1.000			0.02	1.110	1.03	1.110
1st	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	1513	1752.6	21.05	21.30	1.059			-0.06	1.120	-	1.186
2nd	WCDMA IV_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor ON	1513	1752.6	21.05	21.30	1.059			-0.03	1.080	1.04	1.144
1st	WCDMA V_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor OFF	4132	826.4	23.81	24.50	1.172			-0.02	0.850	-	0.996
2nd	WCDMA V_Ant 0	RMC 12.2Kbps	Top Edge	0mm	Sensor OFF	4132	826.4	23.81	24.50	1.172			-0.05	0.837	1.02	0.981
1st	LTE Band 42_Ant 3	20M_QPSK_1_0	Bottom Edge	0mm	Sensor OFF	42190	3460	16.55	16.90	1.084	62.9	1.006	-0.03	1.100	-	1.199
2nd	LTE Band 42_Ant 3	20M_QPSK_1_0	Bottom Edge	0mm	Sensor OFF	42190	3460	16.55	16.90	1.084	62.9	1.006	-0.05	1.007	1.09	1.098
1st	LTE Band 43_Ant 3	20M_QPSK_1_0	Bottom Edge	0mm	Sensor OFF	43690	3610	17.62	18.20	1.143	62.9	1.006	0.05	0.987	-	1.135
2nd	LTE Band 43_Ant 3	20M_QPSK_1_0	Bottom Edge	0mm	Sensor OFF	43690	3610	17.62	18.20	1.143	62.9	1.006	0.04	0.899	1.10	1.034
1st	FR1 n41_HPUE_Ant 0	100M_BPSK_1_1	Top Edge	0mm	Sensor OFF	518598	2592.99	26.46	27.50	1.271	50	1.000	-0.04	0.887	-	1.127
2nd	FR1 n41_HPUE_Ant 0	100M_BPSK_1_1	Top Edge	0mm	Sensor OFF	518598	2592.99	26.46	27.50	1.271	50	1.000	0.04	0.874	1.01	1.110
1st	FR1 n77_Ant 1	100M_BPSK_1_1	Top Edge	0mm	Sensor OFF	656000	3840	16.88	17.20	1.076			-0.04	0.945	-	1.017
2nd	FR1 n77_Ant 1	100M_BPSK_1_1	Top Edge	0mm	Sensor OFF	656000	3840	16.88	17.20	1.076			0.04	0.932	1.01	1.003

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is $\geq 0.8\text{W/kg}$.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR $< 1.45\text{W/kg}$, only one repeated measurement is required.
3. The ratio is the difference in percentage between original and repeated *measured SAR*.
4. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

17.3 Power Class 2 and Power Class 3 Linearity

General Note:

This device support Power Class 2 and Power Class 3 operations. Per FCC Guidance based on the device behavior, all SAR tests were performed using Power Class 3. Power Class 2 is tested using the highest SAR test configuration in Power Class 3 for each LTE and FR1 configuration and exposure condition combination, according to the highest time averaged power for Power Class 2. When the reported SAR vs. output power is linearly scaled with < 10% discrepancy between power classes and all reported SAR are < 1.4 W/kg, Separate SAR testing for Power Class 2 is not required. Use PC3 power level and SAR to estimated PC2 SAR linearly, and check if the deviation from the measured PC2 SAR is <10%

	LTE Band 41_Ant 0	LTE Band 41_Ant 0
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	24	27.5
Reported 1g SAR (W/kg)	0.298	0.413
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	159.00	243.49
Linearity SAR(W/kg)	0.46	
% deviation from expected linearity		-9.50%

	FR1 n41_Ant 0	FR1 n41_Ant 0
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	24.5	27.5
Reported 1g SAR (W/kg)	1.043	1.127
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	281.84	281.17
Linearity SAR(W/kg)	1.04	
% deviation from expected linearity		8.31%

	FR1 n41_Ant 2	FR1 n41_Ant 2
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	17.7	20.2
Reported 1g SAR (W/kg)	0.989	0.876
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	58.88	52.36
Linearity SAR(W/kg)	0.88	
% deviation from expected linearity		-0.38%

	FR1 n77_Ant 1	FR1 n77_Ant 1
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	17.2	19.7
Reported 1g SAR (W/kg)	1.017	0.947
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	52.48	46.66
Linearity SAR(W/kg)	0.90	
% deviation from expected linearity		4.73%

	FR1 n77_Ant 3	FR1 n77_Ant 3
	(Power Class 3)	(Power Class 2)
Maximum Tune up Power (dBm)	14.2	16.7
Reported 1g SAR (W/kg)	1.113	0.995
Duty Cycle	100.00%	50.00%
Frame Averaged (mW)	26.30	23.39
Linearity SAR(W/kg)	0.99	
% deviation from expected linearity		0.54%

18. Simultaneous Transmission Analysis

NO.	Simultaneous Transmission Configurations	Body
1.	WWAN + WLAN2.4GHz Main + WLAN2.4GHz Aux	Yes
2.	WWAN + WLAN2.4GHz Main + Bluetooth Ant Aux	Yes
3.	WWAN + WLAN5/6GHz Main + WLAN5/6GHz Ant Aux + Bluetooth Ant Aux	Yes

General Note:

- The worst case WLAN reported SAR for each configuration was used for SAR summation. Therefore, the following summations represent the absolute worst cases for simultaneous transmission with WLAN.
- The Scaled SAR summation is calculated based on the same configuration and test position.
- Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
 - Scalar SAR summation < 1.6W/kg.
 - $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$, and the peak separation distance is determined from the square root of $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$, where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
 - If $SPLSR \leq 0.04$, simultaneously transmission SAR measurement is not necessary.
 - Simultaneously transmission SAR measurement, and the reported multi-band SAR < 1.6W/kg.

18.1 Body Exposure Conditions

WWAN ANT	Exposure Position	1	2	3	4	5	6	1+2+3 Summed 1g SAR (W/kg)	1+2+4 Summed 1g SAR (W/kg)	1+4+5+6 Summed 1g SAR (W/kg)
		Maximum WWAN 1g SAR (W/kg)	WLAN2.4GHz Main 1g SAR (W/kg)	WLAN2.4GHz Aux 1g SAR (W/kg)	Bluetooth Ant Aux 1g SAR (W/kg)	WLAN5/6GHz Main 1g SAR (W/kg)	WLAN5/6GHz Ant Aux 1g SAR (W/kg)			
Ant 0	Back at 0m	0.826	0.049	0.001	0.001	0.102	0.234	0.876	0.876	1.163
	Left Edge at 0mm	0.001	0.075			0.377		0.076	0.076	0.378
	Right Edge at 0mm	0.200		0.885	0.073		0.785	1.085	0.273	1.058
	Top Edge at 0mm	1.192		0.001			0.250	1.193	1.192	1.442
	Bottom Edge at 0mm	0.001	0.001			0.001		0.002	0.002	0.002
Ant 1	Back at 0m	0.369	0.049	0.001	0.001	0.102	0.234	0.419	0.419	0.706
	Left Edge at 0mm	0.130	0.075			0.377		0.205	0.205	0.507
	Right Edge at 0mm			0.885	0.073		0.785	0.885	0.073	0.858
	Top Edge at 0mm	1.024		0.001			0.250	1.025	1.024	1.274
	Bottom Edge at 0mm	0.016	0.001			0.001		0.017	0.017	0.017
Ant 2	Back at 0m	0.196	0.049	0.001	0.001	0.102	0.234	0.246	0.246	0.533
	Left Edge at 0mm	0.001	0.075			0.377		0.076	0.076	0.378
	Right Edge at 0mm	0.017		0.885	0.073		0.785	0.902	0.090	0.875
	Top Edge at 0mm	0.001		0.001			0.250	0.002	0.001	0.251
	Bottom Edge at 0mm	0.989	0.001			0.001		0.990	0.990	0.990
Ant 3	Back at 0m	0.230	0.049	0.001	0.001	0.102	0.234	0.280	0.280	0.567
	Left Edge at 0mm	0.077	0.075			0.377		0.152	0.152	0.454
	Right Edge at 0mm			0.885	0.073		0.785	0.885	0.073	0.858
	Top Edge at 0mm	0.009		0.001			0.250	0.010	0.009	0.259
	Bottom Edge at 0mm	1.199	0.001			0.001		1.200	1.200	1.200

Test Engineer : Bank Liu and Jimmy Lu

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. Therefore, the measurement uncertainty table is not required in this report.

Declaration of Conformity:

The test results with all measurement uncertainty excluded is presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

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 447498 D01 v06, "Mobile and Portable Device RF Exposure Procedures and Equipment Authorization Policies", Oct 2015
- [6] FCC KDB 941225 D01 v03r01, "3G SAR MEAUREMENT PROCEDURES", Oct 2015
- [7] FCC KDB 941225 D05 v02r05, "SAR Evaluation Considerations for LTE Devices", Dec 2015
- [8] FCC KDB 941225 D05A v01r02, "Rel. 10 LTE SAR Test Guidance and KDB Inquiries", Oct 2015
- [9] FCC KDB 616217 D04 v01r02, "SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers", Oct 2015
- [10] FCC KDB 865664 D01 v01r04, "SAR Measurement Requirements for 100 MHz to 6 GHz", Aug 2015.
- [11] FCC KDB 865664 D02 v01r02, "RF Exposure Compliance Reporting and Documentation Considerations" Oct 2015.