FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1925-6, XT1925-12, XT1925DL
FCC ID	:	IHDT56XD1
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures and had been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

TESTING
NVLAP LAB CODE 600155-0

Approved by: Mark Qu / Manager

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA7D2507	Rev. 01	Initial issue of report	Feb. 02, 2018

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility LLC, Mobile Cellular Phone, XT1925-6, XT1925-12, XT1925DL, are as follows.

Highest 1g SAR Summary						
Equipment Class	Frequency Band		Head (Separation 0mm)	Hotspot (Separation 5mm)	Body-worn (Separation 5mm)	Highest Simultaneous Transmission 1g SAR (W/kg)
			1g SAR (W/kg)			
Licensed	GSM	GSM850	0.42	1.14	1.14	1.59
		GSM1900	0.15	1.07	0.79	
	WCDMA	Band V	0.44	0.94	0.94	
		Band IV	0.49	1.03	0.78	
		Band II	0.32	1.06	0.68	
	CDMA2000	BC10	0.44	0.92	1.26	
		BC0	0.40	0.96	**1.41**	
		BC1	0.24	1.09	0.73	
	LTE	Band 12/Band 17	0.34	0.66	0.66	
		Band 13	0.36	1.03	1.03	
		Band 26/Band 5	0.36	1.05	1.05	
		Band 66/Band 4	0.32	0.93	0.60	
		Band 25/Band 2	0.25	1.08	0.70	
		Band 30	0.46	0.78	0.78	
		Band 7	0.86	0.96	0.96	
		Band 41/Band 38	0.58	1.08	1.08	
DTS	WLAN	2.4GHz WLAN	0.74	0.43	0.43	1.58
NII		5GHz WLAN	**1.10**	**1.18**	1.17	1.59
DSS	Bluetooth	2.4GHz Bluetooth		0.11	0.11	1.48

Highest 10g SAR Summary				
Equipment Class	Frequency Band		Product Specific 10g SAR (W/kg) (Separation 0mm)	Highest Simultaneous Transmission 10g SAR (W/kg)
Licensed	GSM	GSM1900	3.40	3.81
	WCDMA	Band IV	2.78	
		Band II	2.86	
	CDMA2000	BC1	3.29	
	LTE	Band 66/Band 4	3.40	
		Band 25/Band 2	**3.62**	
		Band 30	1.28	
		Band 7	1.11	
		Band 41/Band 38	0.64	
NII	WLAN	5GHz WLAN	2.00	3.81
Date of Testing:			2018/1/7~2018/1/20	

Remark: This device supports LTE B2 / B4 / B5 / B17 / B38 and B25 / B66 / B26 / B12 / B41. Since the supported frequency span for LTE B2 / B4 / B5 / B17 / B38 falls completely within the supports frequency span for LTE B25 / B66 / B26 / B12 / B41, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B25 / B66 / B26 / B12 / B41.

This device is in compliance with Specific Absorption Rate (SAR) for general population/uncontrolled exposure limits (1.6 W/kg for Partial-Body 1g SAR, 4.0 W/kg for Product Specific 10g SAR) specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013 and FCC KDB publications.

2. Administration Data

Testing Laboratory	
Test Site	Sporton International (Kunshan) Inc.
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958

Applicant	
Company Name	Motorola Mobility LLC
Address	222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

Manufacturer	
Company Name	Motorola Mobility LLC
Address	222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

3. Guidance Applied

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

- FCC 47 CFR Part 2 (2.1093)
- ANSI/IEEE C95.1-1992
- IEEE 1528-2013
- FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz v01r04
- FCC KDB 865664 D02 SAR Reporting v01r02
- FCC KDB 447498 D01 General RF Exposure Guidance v06
- FCC KDB 648474 D04 SAR Evaluation Considerations for Wireless Handsets v01r03
- FCC KDB 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB 941225 D01 3G SAR Procedures v03r01
- FCC KDB 941225 D05 SAR for LTE Devices v02r05
- FCC KDB 941225 D05A Rel.10 LTE SAR Test Guidance v01r02
- FCC KDB 941225 D06 Hotspot Mode SAR v02r01

4. Equipment Under Test (EUT) Information

4.1 General Information

Product Feature & Specification	
Equipment Name	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1925-6, XT1925-12, XT1925DL
FCC ID	IHDT56XD1
IMEI Code	351884090006778
Wireless Technology and Frequency Range	GSM850: 824.2 MHz ~ 848.8 MHz GSM1900: 1850.2 MHz ~ 1909.8 MHz WCDMA Band II: 1852.4 MHz ~ 1907.6 MHz WCDMA Band IV: 1712.4 MHz ~ 1752.6 MHz WCDMA Band V: 826.4 MHz ~ 846.6 MHz CDMA2000 BC0: 824.7 MHz ~ 848.31 MHz CDMA 2000 BC1: 1851.25 MHz ~ 1908.75 MHz CDMA 2000 BC10: 817.9 MHz ~ 823.1 MHz LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~1779.3 MHz WLAN 2.4GHz Band: 2412 MHz ~ 2462 MHz WLAN 5.2GHz Band: 5180 MHz ~ 5240 MHz WLAN 5.3GHz Band: 5260 MHz ~ 5320 MHz WLAN 5.5GHz Band: 5500 MHz ~ 5700 MHz WLAN 5.8GHz Band: 5745 MHz ~ 5825 MHz Bluetooth: 2402 MHz ~ 2480 MHz
Mode	GSM/GPRS/EGPRS RMC/AMR 12.2Kbps HSDPA HSUPA DC-HSDPA HSPA+ (16QAM uplink is not supported) CDMA2000 : 1xRTT/1xEv-Do(Rev.0)/1xEv-Do(Rev.A) LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth v3.0+EDR, Bluetooth v4.0 LE, Bluetooth v4.1 LE, Bluetooth v4.2 LE
HW Version	DVT1-B
SW Version	ali_n-userdebug 8.0.0 OPS27.55 1276 intcfg,test-keys
GSM / (E)GPRS Transfer mode	Class B – EUT cannot support Packet Switched and Circuit Switched Network simultaneously but can automatically switch between Packet and Circuit Switched Network.
EUT Stage	Identical Prototype

Remark:

1. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
3. This device 2.4GHz WLAN/5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WiFi Direct (GC/GO), and 5.3GHz / 5.5GHz supports WiFi Direct (GC only).
4. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 12.

5. When operating in any other radiated condition, the device uses the default power which is the same as full power level.
6. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/30/38/41/66 and WLAN 5.2/5.3/5.8GHz reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
7. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/30/38/41/66 and WLAN 5.2/5.3/5.8GHz.
8. P-sensor can detect handheld state, for product specific 10g SAR condition, GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/25/66 reduced powers will be active, and WLAN 5.3GHz at front or back faces reduced powers will be active. For LTE band 7/30/38/41 and WLAN 5.5GHz, the power levels are the same as the full power.
9. This device hotspot reduced power and P-sensor reduced power level are the same. So only show one reduced power level for hotspot reduced power and P-sensor reduced power for this application.
10. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN5.2/5.3/5.5/5.8GHz.
11. This device has three WWAN transmitter antennas. WWAN antenna 1 is located at the middle of bottom edge of the device, WWAN antenna 2 is located at the right side of bottom edge of the device, and WWAN antenna 3 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, CDMA2000 BC0/1/10, WCDMA Band II/IV/V, LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency bands include LTE Band 7/30/38/41and WWAN antenna 3 frequency bands include LTE 7/30/38/41.
12. The device is capable of switching between the WWAN antenna 2 and WWAN antenna 3 based on signal strength. When WWAN antenna 2 acted as a transmitter, then WWAN antenna 3 acted as a receiver. The same as the reversed.
13. The model names (XT1925-6, XT1925-12, XT1925DL) are the same product except model name different for carrier.
14. This device implements antenna tuning techniques for several WWAN (cellular) operating modes and frequencies for the purpose of improving antenna efficiency over a broad range of frequencies. Specifically, these techniques are employed in the GSM, CDMA2000, WCDMA and LTE modes of WWAN antenna 1. In this report SAR was measured according to the normally required SAR configurations with the tuner active and worst tune state (auto tune) was used for SAR testing. The detail descriptions of the antenna tuner are included in the operational description and supplemental data for additional information on section16.

4.2 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola (Salom)	Model Name	SC-22
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 1(EU)	Brand Name	Motorola (Salom)	Model Name	SC-23
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 1(UK)	Brand Name	Motorola (Salom)	Model Name	SC-24
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 1(IN)	Brand Name	Motorola (Salom)	Model Name	SC-25
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 1(AU)	Brand Name	Motorola (Salom)	Model Name	SC-26
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 1 (PRC)	Brand Name	Motorola (Salom)	Model Name	SC-21
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 2(US)	Brand Name	Motorola (Chenyang)	Model Name	SC-22
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 2(EU)	Brand Name	Motorola (Chenyang)	Model Name	SC-23
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 2(UK)	Brand Name	Motorola (Chenyang)	Model Name	SC-24
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 2(IN)	Brand Name	Motorola (Chenyang)	Model Name	SC-25
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
AC Adapter 2(AU)	Brand Name	Motorola (Chenyang)	Model Name	SC-26
	Power Rating	I/P: 100-240 Vac, 500mA, O/P: 5Vdc,3000mA or 9Vdc,1600mA or 12Vdc,1200mA		
Battery	Brand Name	Motorola (ATL)	Model Name	HG30
	Power Rating	3.8Vdc,3000mAh	Type	Li-ion
Earphone 1	Brand Name	Motorola (Jiahe)	Model Name	LS-118M-12
	Signal Line Type	1.2 meter, non-shielded cable, without ferrite core		
Earphone 2	Brand Name	Motorola (Lianyun)	Model Name	TS910A-38AMS01WHR-M
	Signal Line Type	1.2 meter, non-shielded cable, without ferrite core		
USB Cable	Brand Name	Motorola (Liqi)	Model Name	L32B-053000100-ALL
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

4.3 General LTE SAR Test and Reporting Considerations

Summarized necessary items addressed in KDB 941225 D05 v02r05	
FCC ID	IHDT56XD1
Equipment Name	Mobile Cellular Phone
Operating Frequency Range of each LTE transmission band	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 17: 706.5 MHz ~ 713.5 MHz LTE Band 25: 1850.7 MHz ~ 1914.3 MHz LTE Band 26: 814.7 MHz ~ 848.3 MHz LTE Band 30: 2307.5 MHz ~ 2312.5 MHz LTE Band 38: 2572.5 MHz ~ 2617.5 MHz LTE Band 41: 2498.5 MHz ~ 2687.5 MHz LTE Band 66: 1710.7 MHz ~1779.3 MHz
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 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 66: 1.4MHz, 3MHz,5MHz, 10MHz, 15MHz, 20MHz
uplink modulations used	QPSK, 16QAM and 64QAM
LTE Voice / Data requirements	Voice and Data
LTE Release Version	R10, Cat 6
CA Support	Yes, Downlink Only
LTE MPR permanently built-in by design	**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3** Modulation: Channel bandwidth / Transmission bandwidth (N_{RB}) 1.4 MHz, 3.0 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz; MPR (dB) 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 1. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, LTE band 2/4/7/25/30/38/41/66 reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.) 2. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of LTE band 2/4/7/25/30/38/41/66. 3. P-sensor can detect handheld state, for product specific 10g SAR condition LTE band 2/4/25/66 reduced powers will be active. For LTE band 7/30/38/41, the power levels are the same as the full power.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations as below page and the detail power verification please referred to section 12.
LTE Carrier Aggregation Additional Information	This device does not support full CA features on 3GPP Release 10. It supports a maximum of 2 carriers in the downlink only. All uplink communications are identical to the Release 8 Specifications. Uplink communications are done on the PCC. Due to carrier capability, only the combinations listed above are supported. The 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)				
L	20407	824.7	20415	825.5	20425	826.5	20450	829				
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5				
H	20643	848.3	20635	847.5	20625	846.5	20600	844				
LTE Band 7												
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510				
M	21100	2535	21100	2535	21100	2535	21100	2535				
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560				
LTE Band 12												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz					
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)				
L	23017	699.7	23025	700.5	23035	701.5	23060	704				
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5				
H	23173	715.3	23165	714.5	23155	713.5	23130	711				
LTE Band 13												
	Bandwidth 5 MHz				Bandwidth 10 MHz							
	Channel #		Freq.(MHz)		Channel #		Freq.(MHz)					
L	23205		779.5		23230		782					
M	23230		782									
H	23255		784.5									
LTE Band 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
H	26683	1914.3	26675	1913.5	26665	1912.5	26640	1910	26615	1907.5	26590	1905

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

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

LTE Band 38								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	37775	2572.5	37800	2575	37825	2577.5	37850	2580
M	38000	2595	38000	2595	38000	2595	38000	2595
H	38225	2617.5	38200	2615	38175	2612.5	38150	2610

LTE Band 41								
	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	39675	2498.5	39700	2501	39725	2503.5	39750	2506
LM	40148	2545.8	40160	2547	40173	2548.3	40185	2549.5
M	40620	2593	40620	2593	40620	2593	40620	2593
HM	41093	2640.3	41080	2639	41068	2637.8	41055	2636.5
H	41565	2687.5	41540	2685	41515	2682.5	41490	2680

LTE Band 66												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	131979	1710.7	131987	1711.5	131997	1712.5	132022	1715	132047	1717.5	132072	1720
M	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745	132322	1745
H	132665	1779.3	132657	1778.5	132647	1777.5	132622	1775	132597	1772.5	132572	1770

5. RF Exposure Limits

5.1 Uncontrolled Environment

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

5.2 Controlled Environment

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

Limits for Occupational/Controlled Exposure (W/kg)

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

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

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

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

6. Specific Absorption Rate (SAR)

6.1 Introduction

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

6.2 SAR Definition

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

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

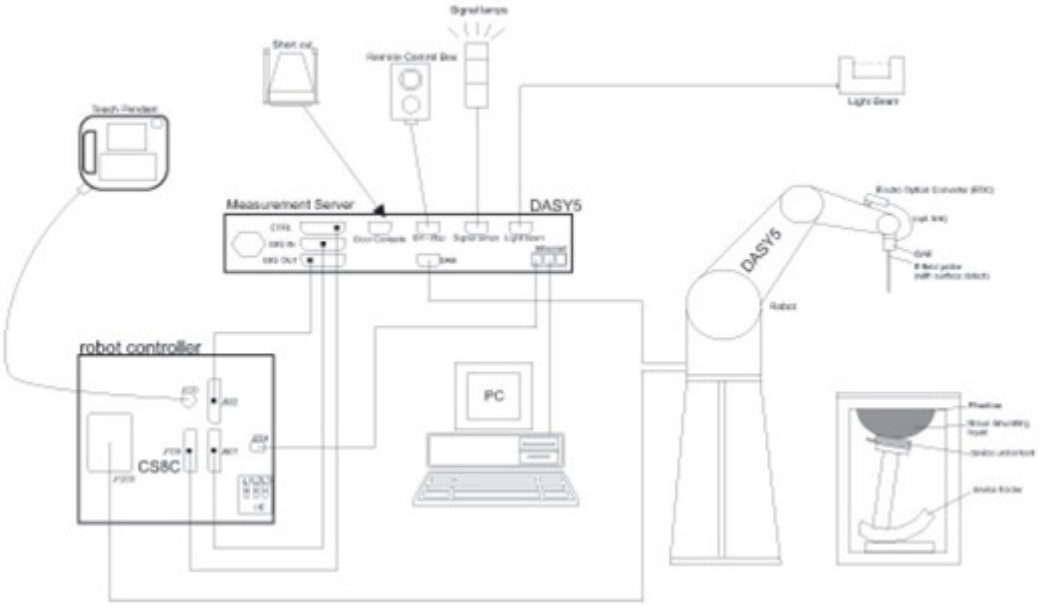
SAR is expressed in units of Watts per kilogram (W/kg)

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

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

7. System Description and Setup

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



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

7.1 E-Field Probe

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

<EX3DV4 Probe>

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

7.2 Data Acquisition Electronics (DAE)

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

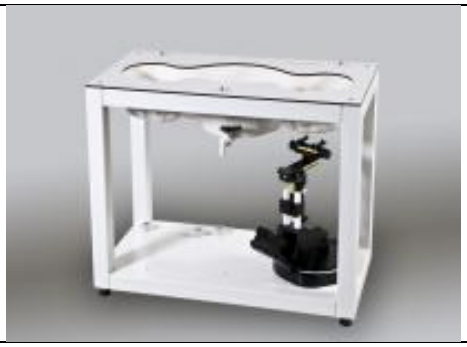
The input impedance of the DAE is 200 MOhm; the inputs are symmetrical and floating. Common mode rejection is above 80 dB.

Fig 5.1 Photo of DAE

7.3 Phantom

<SAM Twin Phantom>

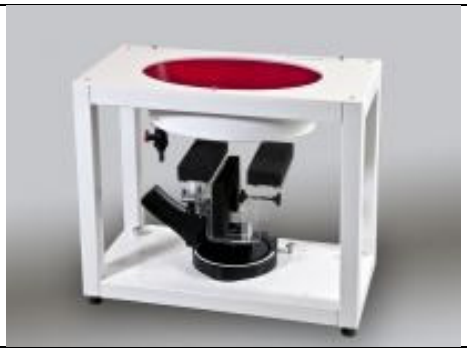
Shell Thickness	2 ± 0.2 mm; Center ear point: 6 ± 0.2 mm
Filling Volume	Approx. 25 liters
Dimensions	Length: 1000 mm; Width: 500 mm; Height: adjustable feet
Measurement Areas	Left Hand, Right Hand, Flat Phantom



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

<ELI Phantom>

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



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

7.4 Device Holder

<Mounting Device for Hand-Held Transmitter>

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

Mounting Device for Hand-Held Transmitters

Mounting Device Adaptor for Wide-Phones

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

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

Mounting Device for Laptops

8. Measurement Procedures

The measurement procedures are as follows:

<Conducted power measurement>

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

<SAR measurement>

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

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

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

8.1 Spatial Peak SAR Evaluation

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

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

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

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

8.2 Power Reference Measurement

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

8.3 Area Scan

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

Area scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

8.4 Zoom Scan

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

Zoom scan parameters extracted from FCC KDB 865664 D01v01r04 SAR measurement 100 MHz to 6 GHz.

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

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

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

8.5 Volume Scan Procedures

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

8.6 Power Drift Monitoring

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

9. Test Equipment List

Manufacturer	Name of Equipment	Type/Model	Serial Number	Calibration	
				Last Cal.	Due Date
SPEAG	750MHz System Validation Kit	D750V3	1065	2017/12/4	2018/12/3
SPEAG	835MHz System Validation Kit	D835V2	4d091	2017/12/5	2018/12/4
SPEAG	1750MHz System Validation Kit	D1750V2	1069	2017/12/5	2018/12/4
SPEAG	1900MHz System Validation Kit	D1900V2	5d118	2017/12/6	2018/12/5
SPEAG	2300MHz System Validation Kit	D2300V2	1055	2017/8/30	2018/8/29
SPEAG	2450MHz System Validation Kit	D2450V2	840	2017/12/7	2018/12/6
SPEAG	2600MHz System Validation Kit	D2600V2	1061	2017/12/7	2018/12/6
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	2017/7/26	2018/7/25
SPEAG	Data Acquisition Electronics	DAE4	1210	2017/5/25	2018/5/24
SPEAG	Data Acquisition Electronics	DAE4	1338	2017/12/4	2018/12/3
SPEAG	Dosimetric E-Field Probe	EX3DV4	3857	2017/5/26	2018/5/25
SPEAG	Dosimetric E-Field Probe	EX3DV4	3898	2017/6/27	2018/6/26
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1542	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1488	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1644	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1164	NCR	NCR
SPEAG	SAM Twin Phantom	QD 000 P40 CB	TP-1489	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300654	2017/8/7	2018/8/6
Anritsu	Radio communication analyzer	MT8821C	6201692204	2017/3/29	2018/3/28
Agilent	Wireless Communication Test Set	E5515C	MY52102706	2017/4/18	2018/4/17
Agilent	ENA Series Network Analyzer	E5071C	MY46111157	2017/4/18	2018/4/17
SPEAG	DAK Kit	DAK3.5	1146	2017/7/18	2018/7/17
R&S	Signal Generator	SMR20	102049	2017/8/17	2018/8/16
Anritsu	Power Meter	ML2495A	1419002	2017/5/15	2018/5/14
Anritsu	Power Sensor	MA2411B	1339124	2017/5/15	2018/5/14
Anritsu	Power Meter	ML2495A	1218006	2017/10/6	2018/10/5
Anritsu	Power Sensor	MA2411B	1207363	2017/10/6	2018/10/5
R&S	CBT BLUETOOTH TESTER	CBT	100783	2017/8/8	2018/8/7
EXA	Spectrum Analyzer	N9010A	MY55150244	2017/4/18	2018/4/17
WISEWIND	Hygrometer	WISEWIND 0905	0905	2017/4/20	2018/4/19
JM	DIGITAC THERMOMETER	JM222	AA1207166	2017/4/19	2018/4/18
ARRA	Power Divider	A3200-2	N/A	Note	
Agilent	Dual Directional Coupler	778D	50422	Note	
PASTERNACK	Dual Directional Coupler	PE2214-10	N/A	Note	
MCL	Attenuation1	BW-S10W5+	N/A	Note	
MCL	Attenuation2	BW-S10W5+	N/A	Note	
MCL	Attenuation3	BW-S10W5+	N/A	Note	
AR	Amplifier	5S1G4	333096	Note	
mini-circuits	Amplifier	ZVE-3W-83+	162601250	Note	

Note:
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

10. System Verification

10.1 Tissue Simulating Liquids

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

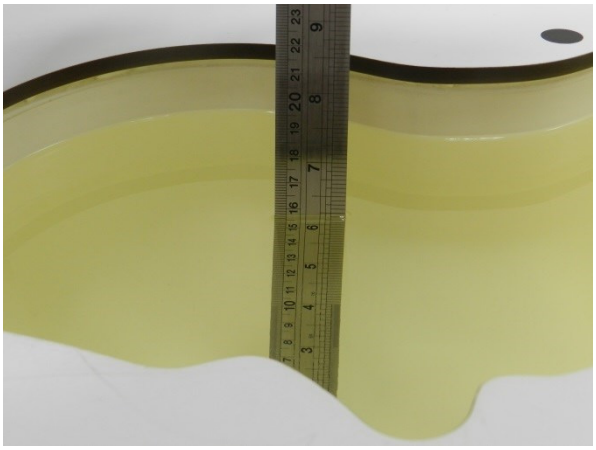


Fig 10.1Photo of Liquid Height for Head SAR

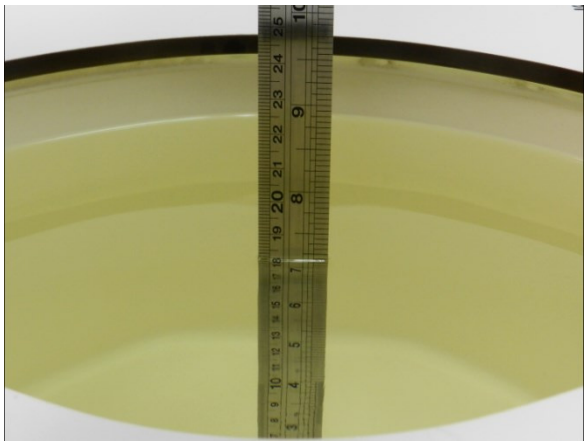


Fig 10.2 Photo of Liquid Height for Body SAR

10.2 Tissue Verification

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

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

Simulating Liquid for 5GHz, Manufactured by SPEAG

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

<Tissue Dielectric Parameter Check Results>

Frequency (MHz)	Tissue Type	Liquid Temp. (℃)	Conductivity (σ)	Permittivity (ε_r)	Conductivity Target (σ)	Permittivity Target (ε_r)	Delta (σ) (%)	Delta (ε_r) (%)	Limit (%)	Date
750	Head	22.7	0.911	42.285	0.89	41.90	2.36	0.92	±5	2018/1/7
835	Head	22.7	0.920	42.023	0.90	41.50	2.22	1.26	±5	2018/1/7
1750	Head	22.6	1.358	41.167	1.37	40.10	-0.88	2.66	±5	2018/1/11
1900	Head	22.6	1.412	38.721	1.40	40.00	0.86	-3.20	±5	2018/1/11
2300	Head	22.6	1.658	38.898	1.67	39.50	-0.72	-1.52	±5	2018/1/16
2450	Head	22.6	1.853	38.973	1.80	39.20	2.94	-0.58	±5	2018/1/17
2600	Head	22.6	2.021	37.775	1.96	39.00	3.11	-3.14	±5	2018/1/16
5250	Head	22.6	4.864	37.111	4.71	35.90	3.27	3.37	±5	2018/1/18
5600	Head	22.6	5.206	36.588	5.07	35.50	2.68	3.06	±5	2018/1/18
5750	Head	22.6	5.361	36.370	5.22	35.40	2.70	2.74	±5	2018/1/18
750	Body	22.7	0.975	56.449	0.96	55.50	1.56	1.71	±5	2018/1/8
835	Body	22.6	0.995	54.629	0.97	55.20	2.58	-1.03	±5	2018/1/9
1750	Body	22.6	1.464	53.589	1.49	53.40	-1.74	0.35	±5	2018/1/12
1900	Body	22.8	1.521	54.837	1.52	53.30	0.07	2.88	±5	2018/1/13
2300	Body	22.8	1.814	53.242	1.81	52.90	0.22	0.65	±5	2018/1/16
2450	Body	22.6	1.990	52.826	1.95	52.70	2.05	0.24	±5	2018/1/17
2600	Body	22.6	2.237	52.157	2.16	52.50	3.56	-0.65	±5	2018/1/15
5250	Body	22.7	5.506	47.953	5.36	48.90	2.72	-1.94	±5	2018/1/19
5600	Body	22.7	5.953	47.365	5.77	48.50	3.17	-2.34	±5	2018/1/19
5750	Body	22.8	6.154	47.115	5.94	48.30	3.60	-2.45	±5	2018/1/20

10.3 System Performance Check Results

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

<1g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 1g SAR (W/kg)	Targeted 1g SAR (W/kg)	Normalized 1g SAR (W/kg)	Deviation (%)
2018/1/7	750	Head	250	1065	3857	1210	2.13	8.33	8.52	2.28
2018/1/7	835	Head	250	4d091	3857	1210	2.47	9.48	9.88	4.22
2018/1/11	1750	Head	250	1069	3857	1210	8.95	37.00	35.80	-3.24
2018/1/11	1900	Head	250	5d118	3857	1210	9.58	39.70	38.32	-3.48
2018/1/16	2300	Head	250	1055	3857	1210	12.60	49.30	50.40	2.23
2018/1/17	2450	Head	250	840	3857	1210	12.70	52.60	50.80	-3.42
2018/1/16	2600	Head	250	1061	3857	1210	13.90	58.20	55.60	-4.47
2018/1/18	5250	Head	100	1167	3898	1338	8.31	79.90	83.10	4.01
2018/1/18	5600	Head	100	1167	3898	1338	8.50	83.80	85.00	1.43
2018/1/18	5750	Head	100	1167	3898	1338	8.20	80.60	82.00	1.74
2018/1/8	750	Body	250	1065	3857	1210	2.04	8.72	8.16	-6.42
2018/1/9	835	Body	250	4d091	3857	1210	2.42	9.72	9.68	-0.41
2018/1/12	1750	Body	250	1069	3857	1210	9.09	38.00	36.36	-4.32
2018/1/13	1900	Body	250	5d118	3857	1210	9.93	40.40	39.72	-1.68
2018/1/16	2300	Body	250	1055	3857	1210	11.40	48.90	45.60	-6.75
2018/1/17	2450	Body	250	840	3857	1210	13.30	51.90	53.20	2.50
2018/1/15	2600	Body	250	1061	3857	1210	14.10	56.40	56.40	0.00
2018/1/19	5250	Body	100	1167	3898	1338	7.38	76.90	73.80	-4.03
2018/1/19	5600	Body	100	1167	3898	1338	7.42	80.00	74.20	-7.25
2018/1/20	5750	Body	100	1167	3898	1338	7.64	77.50	76.40	-1.42

<10g SAR>

Date	Frequency (MHz)	Tissue Type	Input Power (mW)	Dipole S/N	Probe S/N	DAE S/N	Measured 10g SAR (W/kg)	Targeted 10g SAR (W/kg)	Normalized 10g SAR (W/kg)	Deviation (%)
2018/1/12	1750	Body	250	1069	3857	1210	4.87	20.30	19.48	-4.04
2018/1/13	1900	Body	250	5d118	3857	1210	5.15	21.10	20.60	-2.37
2018/1/19	5250	Body	100	1167	3898	1338	2.03	21.50	20.30	-5.58
2018/1/19	5600	Body	100	1167	3898	1338	2.21	22.40	22.10	-1.34

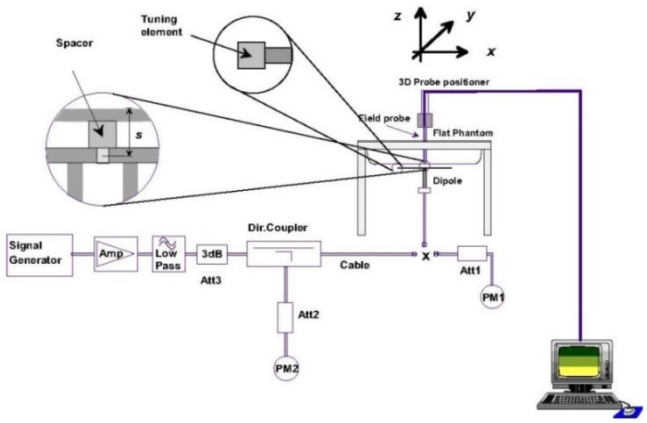


Fig 8.3.1 System Performance Check Setup

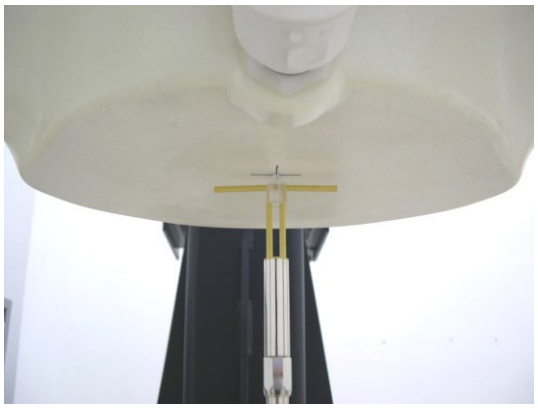


Fig 8.3.2 Setup Photo

11. RF Exposure Positions

11.1 Ear and handset reference point

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

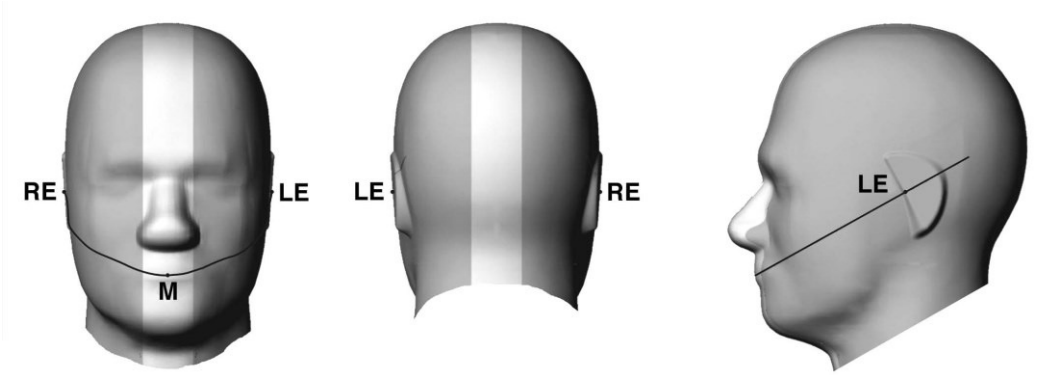


Fig 9.1.1 Front, back, and side views of SAM twin phantom

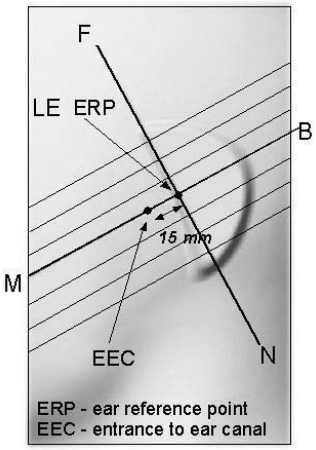


Fig 9.1.2 Close-up side view of phantom showing the ear region.

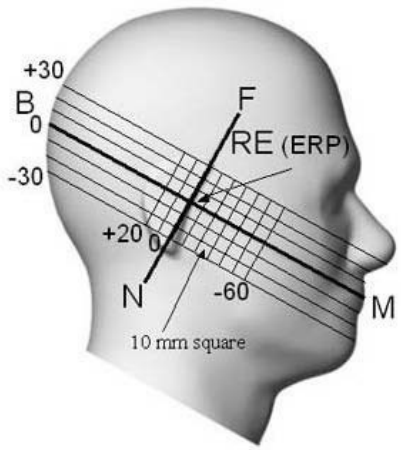


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

11.2 Definition of the cheek position

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

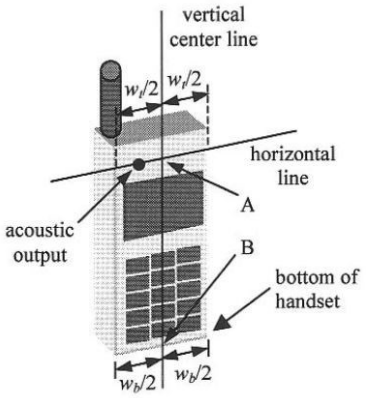


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

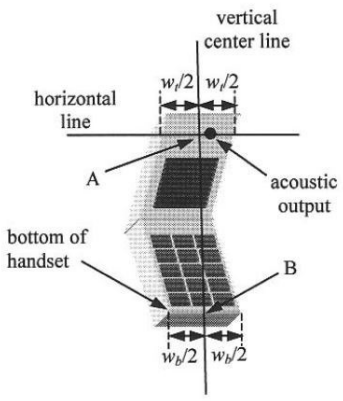


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

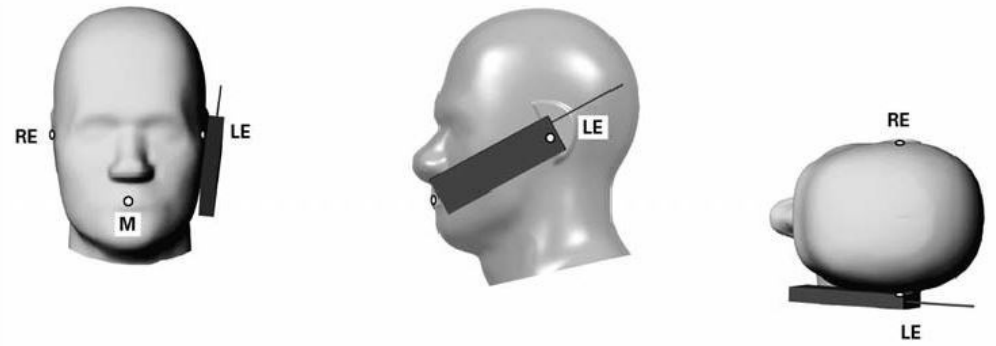


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

11.3 Definition of the tilt position

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

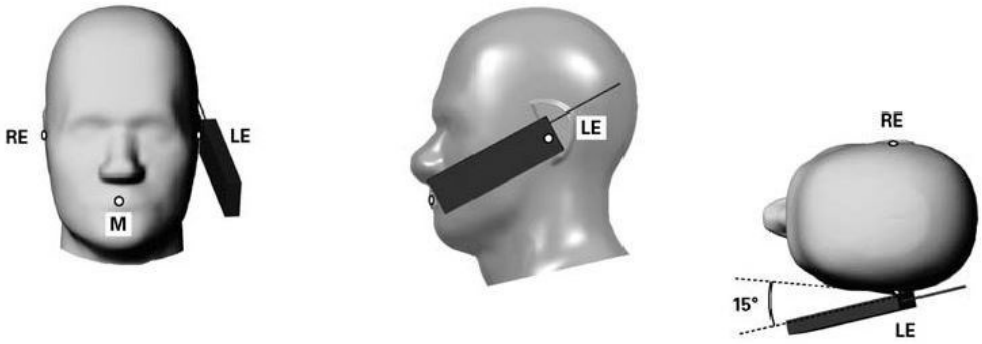


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

11.4 Body Worn Accessory

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

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

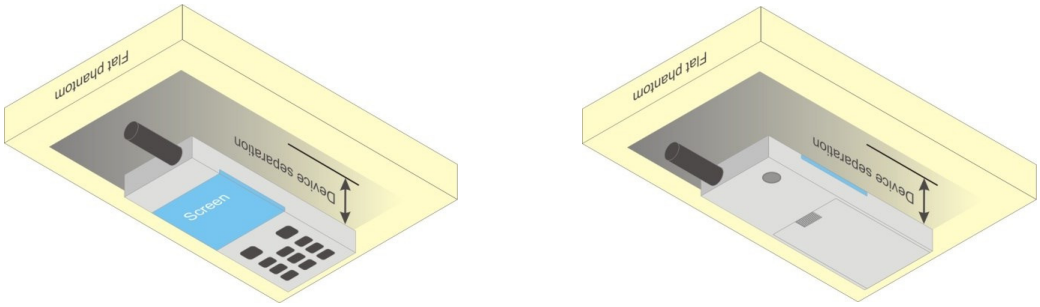


Fig 9.4 Body Worn Position

11.5 Product Specific 10g SAR Exposure

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

1. The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.

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

11.6 Wireless Router

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

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

12. Conducted RF Output Power (Unit: dBm)

<GSM Conducted Power>

1. Per KDB 447498 D01v06, the maximum output power channel is used for SAR testing and for further SAR test reduction.
2. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS (2Tx slots) for GSM850/GSM1900 are considered as the primary mode.
3. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
4. Power reduction which is triggered by hotspot mode/p-sensor on/handheld on is implemented in GSM1900 band, for SAR testing EUT was set in reduced power mode and GPRS 2 Tx slots due to its highest frame-average power.

<Full/Receiver On Power Mode>

GSM850	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	128	189	251		128	189	251	
Frequency (MHz)	824.2	836.4	848.8		824.2	836.4	848.8	
GSM 1 Tx slot	33.09	32.86	32.91	33.50	24.09	23.86	23.91	24.50
GPRS 1 Tx slot	33.07	32.84	32.89	33.50	24.07	23.84	23.89	24.50
GPRS 2 Tx slots	31.08	31.14	30.85	31.50	25.08	25.14	24.85	25.50
GPRS 3 Tx slots	28.73	28.85	28.61	29.50	24.47	24.59	24.35	25.24
GPRS 4 Tx slots	27.25	27.11	27.20	28.00	24.25	24.11	24.20	25.00
EDGE 1 Tx slot	26.76	26.81	26.72	27.00	17.76	17.81	17.72	18.00
EDGE 2 Tx slots	24.54	24.50	24.47	25.00	18.54	18.50	18.47	19.00
EDGE 3 Tx slots	22.59	22.68	22.61	23.00	18.33	18.42	18.35	18.74
EDGE 4 Tx slots	22.97	23.01	22.81	23.50	19.97	20.01	19.81	20.50
GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	29.51	29.82	29.91	30.50	20.51	20.82	20.91	21.50
GPRS 1 Tx slot	29.49	29.80	29.89	30.50	20.49	20.80	20.89	21.50
GPRS 2 Tx slots	27.98	28.28	28.36	29.00	21.98	22.28	22.36	23.00
GPRS 3 Tx slots	25.91	26.11	26.19	27.00	21.65	21.85	21.93	22.74
GPRS 4 Tx slots	24.46	24.86	24.70	25.50	21.46	21.86	21.70	22.50
EDGE 1 Tx slot	25.50	25.69	25.70	26.00	16.50	16.69	16.70	17.00
EDGE 2 Tx slots	23.26	23.42	23.40	24.00	17.26	17.42	17.40	18.00
EDGE 3 Tx slots	22.20	22.31	22.42	23.00	17.94	18.05	18.16	18.74
EDGE 4 Tx slots	20.66	20.80	20.82	21.00	17.66	17.80	17.82	18.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<Reduced Power Mode for Hotspot On/P-Sensor On>

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	24.14	24.17	24.32	24.50	15.14	15.17	15.32	15.50
GPRS 1 Tx slot	24.13	24.16	24.30	24.50	15.13	15.16	15.30	15.50
GPRS 2 Tx slots	23.93	23.99	24.13	24.50	17.93	17.99	18.13	18.50
GPRS 3 Tx slots	22.32	22.30	22.32	22.50	18.06	18.04	18.06	18.24
GPRS 4 Tx slots	20.51	20.49	20.64	21.00	17.51	17.49	17.64	18.00
EDGE 1 Tx slot	25.94	25.91	26.00	26.00	16.94	16.91	17.00	17.00
EDGE 2 Tx slots	22.77	22.83	22.78	23.00	16.77	16.83	16.78	17.00
EDGE 3 Tx slots	22.36	22.18	22.37	22.50	18.10	17.92	18.11	18.24
EDGE 4 Tx slots	18.34	18.38	18.53	19.00	15.34	15.38	15.53	16.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<Reduced Power Mode for Product Specific 10g SAR>

GSM1900	Burst Average Power (dBm)			Tune-up Limit (dBm)	Frame-Average Power (dBm)			Tune-up Limit (dBm)
Tx Channel	512	661	810		512	661	810	
Frequency (MHz)	1850.2	1880	1909.8		1850.2	1880	1909.8	
GSM 1 Tx slot	28.39	28.23	28.60	29.00	19.39	19.23	19.60	20.00
GPRS 1 Tx slot	28.38	28.22	28.59	29.00	19.38	19.22	19.59	20.00
GPRS 2 Tx slots	28.23	28.04	28.42	29.00	22.23	22.04	22.42	23.00
GPRS 3 Tx slots	26.23	26.38	26.72	27.00	21.97	22.12	22.46	22.74
GPRS 4 Tx slots	24.87	24.81	25.27	25.50	21.87	21.81	22.27	22.50
EDGE 1 Tx slot	25.50	25.69	25.70	26.00	16.50	16.69	16.70	17.00
EDGE 2 Tx slots	23.26	23.42	23.40	24.00	17.26	17.42	17.40	18.00
EDGE 3 Tx slots	22.20	22.31	22.42	23.00	17.94	18.05	18.16	18.74
EDGE 4 Tx slots	20.66	20.80	20.82	21.00	17.66	17.80	17.82	18.00

Remark: The frame-averaged power is linearly scaled the maximum burst averaged power over 8 time slots.
The calculated method are shown as below:
Frame-averaged power = Maximum burst averaged power (1 Tx Slot) - 9 dB
Frame-averaged power = Maximum burst averaged power (2 Tx Slots) - 6 dB
Frame-averaged power = Maximum burst averaged power (3 Tx Slots) - 4.26 dB
Frame-averaged power = Maximum burst averaged power (4 Tx Slots) - 3 dB

<WCDMA Conducted Power>

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

A summary of these settings are illustrated below:

HSDPA Setup Configuration:

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

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

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

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

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

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

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

Setup Configuration

HSUPA Setup Configuration:

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

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

Sub-test	β_c	β_d	β_d (SF)	β_c/β_d	β_{HS} (Note1)	β_{ec}	β_{ed} (Note 4) (Note 5)	β_{ed} (SF)	β_{ed} (Codes)	CM (dB) (Note 2)	MPR (dB) (Note 2) (Note 6)	AG Index (Note 5)	E-TFCI
1	11/15 (Note 3)	15/15 (Note 3)	64	11/15 (Note 3)	22/15	209/225	1309/225	4	1	1.0	0.0	20	75
2	6/15	15/15	64	6/15	12/15	12/15	94/75	4	1	3.0	2.0	12	67
3	15/15	9/15	64	15/9	30/15	30/15	$\beta_{ed}1$: 47/15 $\beta_{ed}2$: 47/15	4 4	2	2.0	1.0	15	92
4	2/15	15/15	64	2/15	4/15	2/15	56/75	4	1	3.0	2.0	17	71
5	15/15	0	-	-	5/15	5/15	47/15	4	1	1.0	0.0	12	67

Note 1: For sub-test 1 to 4, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 30/15 with β_{hs} = 30/15 * β_c . For sub-test 5, Δ_{ACK}, Δ_{NACK} and Δ_{CQI} = 5/15 with β_{hs} = 5/15 * β_c .

Note 2: CM = 1 for β_c/β_d =12/15, β_{hs}/β_c=24/15. For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the β_c/β_d ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signalled gain factors for the reference TFC (TF1, TF1) to β_c = 10/15 and β_d = 15/15.

Note 4: In case of testing by UE using E-DPDCH Physical Layer category 1, Sub-test 3 is omitted according to TS25.306 Table 5.1g.

Note 5: β_{ed} can not be set directly; it is set by Absolute Grant Value.

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

Setup Configuration

DC-HSDPA 3GPP release 8 Setup Configuration:

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

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

C.8.1.12 Fixed Reference Channel Definition H-Set 12

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

Parameter	Unit	Value
Nominal Avg. Inf. Bit Rate	kbps	60
Inter-TTI Distance	TTI's	1
Number of HARQ Processes	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.		

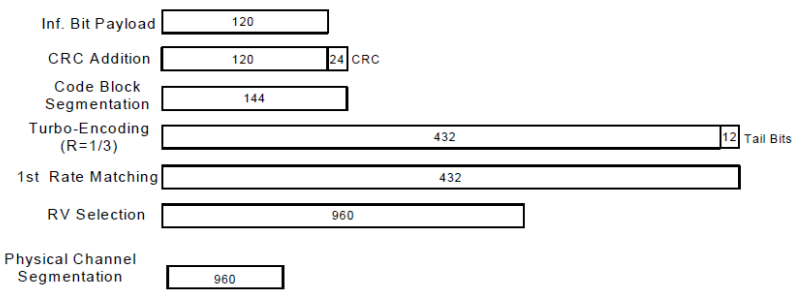


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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 ≤ ¼ dB higher than RMC 12.2Kbps or when the highest reported SAR of the RMC12.2Kbps is scaled by the ratio of specified maximum output power and tune-up tolerance of HSDPA / HSUPA / DC-HSDPA to RMC12.2Kbps and the adjusted SAR is ≤ 1.2 W/kg, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA, and according to the following RF output power, the output power results of the secondary modes (HSDPA / HSUPA / DC-HSDPA) are less than ¼ dB higher than the primary modes; therefore, SAR measurement is not required for HSDPA / HSUPA / DC-HSDPA.

<Full/Receiver On Power Mode>

Band		WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		4132	4182	4233	
Rx Channel		4357	4407	4458	
Frequency (MHz)		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	22.50	22.40	22.41	24.00
3GPP Rel 99	RMC 12.2Kbps	22.52	22.41	22.43	24.00
3GPP Rel 6	HSDPA Subtest-1	21.42	21.24	21.39	23.00
3GPP Rel 6	HSDPA Subtest-2	21.44	21.25	21.42	23.00
3GPP Rel 6	HSDPA Subtest-3	20.91	20.73	20.89	22.50
3GPP Rel 6	HSDPA Subtest-4	20.91	20.77	20.93	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.35	21.13	21.35	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.48	21.25	21.42	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	20.89	20.71	20.85	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	20.88	20.78	20.89	22.50
3GPP Rel 6	HSUPA Subtest-1	21.43	21.22	21.33	23.00
3GPP Rel 6	HSUPA Subtest-2	19.38	19.23	19.37	21.00
3GPP Rel 6	HSUPA Subtest-3	20.38	20.24	20.35	22.00
3GPP Rel 6	HSUPA Subtest-4	19.40	19.25	19.34	21.00
3GPP Rel 6	HSUPA Subtest-5	21.40	21.20	21.40	23.00

<Full Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	22.11	22.34	22.30	23.50	22.09	22.18	22.31	23.50
3GPP Rel 99	RMC 12.2Kbps	22.13	22.35	22.32	23.50	22.10	22.20	22.32	23.50
3GPP Rel 6	HSDPA Subtest-1	21.19	21.43	21.33	22.50	21.15	21.35	21.29	22.50
3GPP Rel 6	HSDPA Subtest-2	21.18	21.47	21.33	22.50	21.11	21.34	21.01	22.50
3GPP Rel 6	HSDPA Subtest-3	20.68	20.96	20.87	22.00	20.61	20.87	20.84	22.00
3GPP Rel 6	HSDPA Subtest-4	20.73	20.95	20.86	22.00	20.60	20.84	20.82	22.00
3GPP Rel 8	DC-HSDPA Subtest-1	21.15	21.41	21.33	22.50	21.14	21.25	21.23	22.50
3GPP Rel 8	DC-HSDPA Subtest-2	21.06	21.37	21.28	22.50	21.10	21.26	21.19	22.50
3GPP Rel 8	DC-HSDPA Subtest-3	20.67	20.94	20.82	22.00	20.59	20.85	20.83	22.00
3GPP Rel 8	DC-HSDPA Subtest-4	20.60	20.84	20.83	22.00	20.57	20.82	20.84	22.00
3GPP Rel 6	HSUPA Subtest-1	21.17	21.41	21.32	22.50	21.08	21.34	21.23	22.50
3GPP Rel 6	HSUPA Subtest-2	19.18	19.38	19.31	20.50	19.07	19.31	19.35	20.50
3GPP Rel 6	HSUPA Subtest-3	20.22	20.43	20.33	21.50	20.12	20.27	20.38	21.50
3GPP Rel 6	HSUPA Subtest-4	19.16	19.43	19.31	20.50	19.08	19.31	19.27	20.50
3GPP Rel 6	HSUPA Subtest-5	21.20	21.39	21.37	22.50	21.09	21.27	21.31	22.50

<Receiver On Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	22.31	22.55	22.53	24.00	22.30	22.41	22.50	24.00
3GPP Rel 99	RMC 12.2Kbps	22.33	22.56	22.55	24.00	22.31	22.43	22.51	24.00
3GPP Rel 6	HSDPA Subtest-1	21.39	21.64	21.56	23.00	21.36	21.58	21.48	23.00
3GPP Rel 6	HSDPA Subtest-2	21.38	21.68	21.56	23.00	21.32	21.57	21.20	23.00
3GPP Rel 6	HSDPA Subtest-3	20.88	21.17	21.10	22.50	20.82	21.10	21.03	22.50
3GPP Rel 6	HSDPA Subtest-4	20.93	21.16	21.09	22.50	20.81	21.07	21.01	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	21.35	21.62	21.56	23.00	21.35	21.48	21.42	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	21.26	21.58	21.51	23.00	21.31	21.49	21.38	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	20.87	21.15	21.05	22.50	20.80	21.08	21.02	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	20.80	21.05	21.06	22.50	20.78	21.05	21.03	22.50
3GPP Rel 6	HSUPA Subtest-1	21.37	21.62	21.55	23.00	21.29	21.57	21.42	23.00
3GPP Rel 6	HSUPA Subtest-2	19.38	19.59	19.54	21.00	19.28	19.54	19.54	21.00
3GPP Rel 6	HSUPA Subtest-3	20.42	20.64	20.56	22.00	20.33	20.50	20.57	22.00
3GPP Rel 6	HSUPA Subtest-4	19.36	19.64	19.54	21.00	19.29	19.54	19.46	21.00
3GPP Rel 6	HSUPA Subtest-5	21.40	21.60	21.60	23.00	21.30	21.50	21.50	23.00

<Reduced Power Mode for Hotspot On/P-Sensor On>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	16.04	16.09	16.08	16.50	15.89	16.15	16.19	16.50
3GPP Rel 99	RMC 12.2Kbps	16.05	16.13	16.10	16.50	15.90	16.17	16.21	16.50
3GPP Rel 6	HSDPA Subtest-1	15.19	15.36	15.24	15.50	15.12	15.42	15.38	15.50
3GPP Rel 6	HSDPA Subtest-2	15.18	15.37	15.21	15.50	15.10	15.34	15.06	15.50
3GPP Rel 6	HSDPA Subtest-3	14.68	14.85	14.81	15.00	14.63	14.87	14.95	15.00
3GPP Rel 6	HSDPA Subtest-4	14.73	14.88	14.77	15.00	14.57	14.91	14.91	15.00
3GPP Rel 8	DC-HSDPA Subtest-1	15.13	15.32	15.21	15.50	15.08	15.38	15.31	15.50
3GPP Rel 8	DC-HSDPA Subtest-2	15.08	15.31	15.25	15.50	15.05	15.34	15.24	15.50
3GPP Rel 8	DC-HSDPA Subtest-3	14.65	14.82	14.78	15.00	14.61	14.85	14.92	15.00
3GPP Rel 8	DC-HSDPA Subtest-4	14.68	14.82	14.65	15.00	14.56	14.90	14.88	15.00
3GPP Rel 6	HSUPA Subtest-1	15.17	15.30	15.26	15.50	15.10	15.34	15.34	15.50
3GPP Rel 6	HSUPA Subtest-2	13.18	13.31	13.22	13.50	13.04	13.38	13.44	13.50
3GPP Rel 6	HSUPA Subtest-3	14.22	14.33	14.21	14.50	14.11	14.27	14.43	14.50
3GPP Rel 6	HSUPA Subtest-4	13.16	13.32	13.25	13.50	13.10	13.31	13.38	13.50
3GPP Rel 6	HSUPA Subtest-5	15.20	15.32	15.28	15.50	15.06	15.34	15.40	15.50

<Reduced Power Mode for Product Specific 10g SAR>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513	
Rx Channel		9662	9800	9938		1537	1638	1738	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6	
3GPP Rel 99	AMR 12.2Kbps	19.78	19.65	19.83	21.50	18.91	19.15	19.27	20.50
3GPP Rel 99	RMC 12.2Kbps	19.79	19.67	19.85	21.50	18.96	19.16	19.30	20.50
3GPP Rel 6	HSDPA Subtest-1	18.59	18.61	18.71	19.00	18.11	18.41	18.31	19.50
3GPP Rel 6	HSDPA Subtest-2	18.61	18.77	18.68	19.00	18.08	18.32	18.26	19.50
3GPP Rel 6	HSDPA Subtest-3	18.21	18.31	18.21	18.50	17.62	17.77	17.91	19.00
3GPP Rel 6	HSDPA Subtest-4	18.18	18.35	18.25	18.50	17.52	17.78	17.92	19.00
3GPP Rel 8	DC-HSDPA Subtest-1	18.61	18.78	18.70	19.00	18.01	18.35	18.28	19.50
3GPP Rel 8	DC-HSDPA Subtest-2	18.52	18.65	18.61	19.00	18.01	18.31	18.21	19.50
3GPP Rel 8	DC-HSDPA Subtest-3	18.14	18.30	18.21	18.50	17.62	17.51	17.95	19.00
3GPP Rel 8	DC-HSDPA Subtest-4	18.13	18.28	18.15	18.50	17.56	17.78	17.85	19.00
3GPP Rel 6	HSUPA Subtest-1	18.62	18.78	18.71	19.00	18.06	18.15	18.31	19.50
3GPP Rel 6	HSUPA Subtest-2	16.61	16.70	16.80	17.00	16.01	16.38	16.41	17.50
3GPP Rel 6	HSUPA Subtest-3	17.68	17.81	17.75	18.00	17.08	17.21	17.42	18.50
3GPP Rel 6	HSUPA Subtest-4	16.68	16.81	16.71	17.00	16.08	16.38	16.42	17.50
3GPP Rel 6	HSUPA Subtest-5	17.65	17.78	17.72	19.00	18.01	18.31	18.42	19.50

<CDMA2000 Conducted Power>

General Note:

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

<Full/Receiver On Power Mode>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC10			Tune-up Limit (dBm)
Tx Channel	1013	384	777		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		817.9	820.5	823.1	
RC1 SO55	24.13	24.05	24.07	24.50	24.41	24.47	24.35	24.50
RC3 SO55	24.08	24.00	23.86	24.50	24.37	24.39	24.38	24.50
RC3 SO32 (F+SCH)	24.07	24.07	23.85	24.50	24.38	24.40	24.37	24.50
RC3 SO32 (+SCH)	24.02	23.98	23.77	24.50	24.31	24.34	24.29	24.50
RTAP 153.6Kbps	24.01	23.95	23.78	24.50	24.32	24.35	24.31	24.50
RETAP 4096Bits	24.05	24.01	23.98	24.50	24.25	24.41	24.28	24.50

<Full Power Mode>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	23.02	23.00	23.05	24.50
RC3 SO55	22.91	22.98	23.04	24.50
RC3 SO32 (F+SCH)	22.97	22.98	23.02	24.50
RC3 SO32 (+SCH)	22.88	22.94	22.99	24.50
RTAP 153.6Kbps	22.92	22.99	23.03	24.50
RETAP 4096Bits	22.90	22.97	22.99	24.50

<Receiver On Power Mode>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	23.52	23.50	23.55	24.50
RC3 SO55	23.41	23.48	23.54	24.50
RC3 SO32 (F+SCH)	23.47	23.48	23.52	24.50
RC3 SO32 (+SCH)	23.38	23.44	23.49	24.50
RTAP 153.6Kbps	23.42	23.49	23.53	24.50
RETAP 4096Bits	23.40	23.47	23.49	24.50

<Reduced Power Mode for Hotspot On/P-Sensor On>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	15.38	15.40	15.47	16.00
RC3 SO55	15.35	15.35	15.53	16.00
RC3 SO32 (F+SCH)	15.30	15.36	15.43	16.00
RC3 SO32 (+SCH)	15.37	15.34	15.41	16.00
RTAP 153.6Kbps	15.46	15.47	15.53	16.00
RETAP 4096Bits	15.36	15.38	15.47	16.00

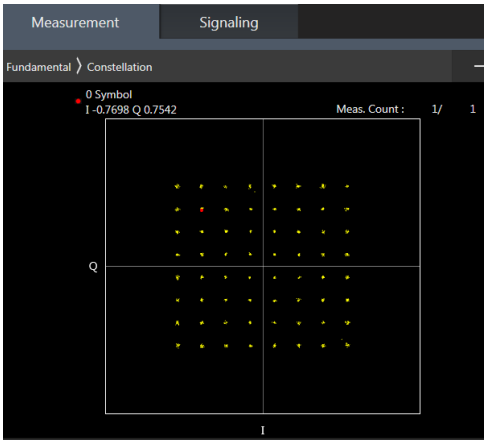
<Reduced Power Mode for Product Specific 10g SAR>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	20.37	20.28	20.43	20.50
RC3 SO55	20.35	20.25	20.40	20.50
RC3 SO32 (F+SCH)	20.35	20.26	20.42	20.50
RC3 SO32 (+SCH)	20.37	20.15	20.43	20.50
RTAP 153.6Kbps	19.97	19.88	19.77	20.50
RETAP 4096Bits	20.14	19.93	19.82	20.50

<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
7. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
8. For LTE B4 / B5 / B12 / B26 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 17 / 2 / 5 / 38 / 4 SAR test was covered by Band 12 / 25 / 26 / 41 / 66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. the maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion
   b. the channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band
10. According to 2017 TCB workshop, for 64QAM and 16QAM should be verified by checking the signal constellation with a call box to avoid incorrect maximum power levels due to MPR and other requirements associated with signal modulation, and the following figure is taken from the "Fundamental Measurement >> Modulation Analysis >> constellation" mode of the device connect to the MT8821C base station, therefore, the device 64QAM and 16QAM signal modulation are correct.



64QAM

16QAM

<Full/Receiver On Power Mode>

<LTE Band 5>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20450	20525	20600		
Frequency (MHz)				829	836.5	844		
10	QPSK	1	0	23.02	22.98	22.98	24	0
10	QPSK	1	25	23.11	22.76	23.25		
10	QPSK	1	49	23.19	23.42	23.57		
10	QPSK	25	0	21.96	22.28	22.45	23	1
10	QPSK	25	12	21.93	22.17	22.39		
10	QPSK	25	25	21.92	22.26	22.43		
10	QPSK	50	0	21.98	22.25	22.5		
10	16QAM	1	0	22.25	22.54	22.71	23	1
10	16QAM	1	25	22.07	22.34	22.66		
10	16QAM	1	49	22.42	22.94	22.99		
10	16QAM	25	0	20.87	21.22	21.39	22	2
10	16QAM	25	12	20.93	21.15	21.41		
10	16QAM	25	25	20.92	21.25	21.33		
10	16QAM	50	0	20.92	21.22	21.44		
10	64QAM	1	0	21.15	21.5	21.62	22	2
10	64QAM	1	25	20.98	21.27	21.51		
10	64QAM	1	49	21.34	21.68	21.63		
10	64QAM	25	0	19.88	20.21	20.38	21	3
10	64QAM	25	12	19.94	20.13	20.33		
10	64QAM	25	25	19.97	20.26	20.37		
10	64QAM	50	0	19.98	20.13	20.45		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	22.85	22.71	22.69	24	0
5	QPSK	1	12	22.8	22.7	23.15		
5	QPSK	1	24	22.87	23.06	22.99		
5	QPSK	12	0	21.83	22.11	22.17	23	1
5	QPSK	12	7	21.77	22.06	22.15		
5	QPSK	12	13	21.82	22.08	22.23		
5	QPSK	25	0	21.85	22.08	22.2		
5	16QAM	1	0	22.02	22.33	22.51	23	1
5	16QAM	1	12	22.12	22.34	22.59		
5	16QAM	1	24	21.98	22.37	22.29		
5	16QAM	12	0	20.92	21.17	21.17	22	2
5	16QAM	12	7	20.8	21.09	21.24		
5	16QAM	12	13	20.83	21.1	21.22		
5	16QAM	25	0	20.89	21.04	21.19		
5	64QAM	1	0	21	21.29	21.38	22	2
5	64QAM	1	12	21.01	21.05	21.3		
5	64QAM	1	24	20.93	21.29	21.29		
5	64QAM	12	0	19.92	20.19	20.14	21	3
5	64QAM	12	7	19.84	20.09	20.21		
5	64QAM	12	13	19.86	20.05	20.12		
5	64QAM	25	0	19.82	20.04	20.22		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	22.77	22.71	22.54	24	0
3	QPSK	1	8	22.73	23.05	22.74		
3	QPSK	1	14	22.76	23	22.94		
3	QPSK	8	0	21.82	22.12	22.09	23	1
3	QPSK	8	4	21.9	22.07	22.1		
3	QPSK	8	7	21.79	22.03	22.02		
3	QPSK	15	0	21.81	21.99	22.04		
3	16QAM	1	0	22	22.15	22.3	23	1
3	16QAM	1	8	21.98	22.22	22		
3	16QAM	1	14	22.14	22.22	22.29		
3	16QAM	8	0	20.86	21.21	21.23	22	2
3	16QAM	8	4	20.88	21.19	21.25		
3	16QAM	8	7	20.85	21.19	21.27		
3	16QAM	15	0	20.83	21.06	21.08		
3	64QAM	1	0	20.95	21.15	21.26	22	2
3	64QAM	1	8	20.95	21.35	21.49		
3	64QAM	1	14	20.94	21.37	21.27		
3	64QAM	8	0	19.9	20.2	20.05	21	3
3	64QAM	8	4	19.83	20.11	20.1		
3	64QAM	8	7	19.81	20.06	20.06		
3	64QAM	15	0	19.85	19.99	20.04		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	22.76	22.71	22.84	24	0
1.4	QPSK	1	3	22.83	22.87	23.07		
1.4	QPSK	1	5	22.74	22.81	23.08		
1.4	QPSK	3	0	22.74	22.91	22.94		
1.4	QPSK	3	1	22.78	23.03	23.03		
1.4	QPSK	3	3	22.76	23	22.93		
1.4	QPSK	6	0	21.79	22.05	22.03	23	1
1.4	16QAM	1	0	21.98	22.1	22.14	23	1
1.4	16QAM	1	3	22.08	22.32	22.12		
1.4	16QAM	1	5	22.06	22.11	22.12		
1.4	16QAM	3	0	21.78	22.05	22.21		
1.4	16QAM	3	1	21.82	22.12	22.25		
1.4	16QAM	3	3	21.81	22.09	22.18		
1.4	16QAM	6	0	20.86	21.06	20.93	22	2
1.4	64QAM	1	0	20.91	21.07	21.02	22	2
1.4	64QAM	1	3	20.91	21.03	21.1		
1.4	64QAM	1	5	20.94	21.31	21.45		
1.4	64QAM	3	0	20.91	21.05	21.02		
1.4	64QAM	3	1	20.92	21.15	21.13		
1.4	64QAM	3	3	20.97	21.17	21.23		
1.4	64QAM	6	0	19.85	19.98	19.84	21	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.24	23.16	23.25	24	0
20	QPSK	1	49	22.99	23.09	23.07		
20	QPSK	1	99	23.17	23.08	23.22		
20	QPSK	50	0	22.2	22.26	22.32	23	1
20	QPSK	50	24	22.2	22.23	22.3		
20	QPSK	50	50	22.19	22.24	22.28		
20	QPSK	100	0	22.2	22.24	22.28		
20	16QAM	1	0	22.48	22.43	22.63	23	1
20	16QAM	1	49	22.37	22.55	22.6		
20	16QAM	1	99	22.41	22.45	22.5		
20	16QAM	50	0	21.2	21.22	21.3	22	2
20	16QAM	50	24	21.22	21.22	21.28		
20	16QAM	50	50	21.22	21.26	21.3		
20	16QAM	100	0	21.2	21.25	21.31		
20	64QAM	1	0	21.35	21.41	21.49	22	2
20	64QAM	1	49	21.25	21.28	21.23		
20	64QAM	1	99	21.36	21.35	21.36		
20	64QAM	50	0	20.19	20.28	20.29	21	3
20	64QAM	50	24	20.18	20.22	20.31		
20	64QAM	50	50	20.18	20.23	20.34		
20	64QAM	100	0	20.19	20.26	20.26		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.75	22.9	22.91	24	0
15	QPSK	1	37	22.95	23.12	23.56		
15	QPSK	1	74	23.12	23	23.11		
15	QPSK	36	0	22.17	22.2	22.21	23	1
15	QPSK	36	20	22.16	22.15	22.2		
15	QPSK	36	39	22.12	22.04	22.17		
15	QPSK	75	0	22.12	22.16	22.23		
15	16QAM	1	0	22.17	22.15	22.19	23	1
15	16QAM	1	37	22.03	22.42	22.33		
15	16QAM	1	74	22.3	22.37	22.42		
15	16QAM	36	0	21.13	21.17	21.16	22	2
15	16QAM	36	20	21.18	21.15	21.24		
15	16QAM	36	39	21.13	21.15	21.14		
15	16QAM	75	0	21.13	21.17	21.22		
15	64QAM	1	0	21.2	21.32	21.32	22	2
15	64QAM	1	37	21.36	20.94	21.13		
15	64QAM	1	74	21.15	21.06	21.25		
15	64QAM	36	0	20.17	20.2	20.22	21	3
15	64QAM	36	20	20.16	20.17	20.22		
15	64QAM	36	39	20.19	20.11	20.17		
15	64QAM	75	0	20.12	20.14	20.17		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.06	23.08	23.18	24	0
10	QPSK	1	25	22.95	22.84	22.95		
10	QPSK	1	49	23.18	23.05	23.22		
10	QPSK	25	0	22.15	22.05	22.17	23	1
10	QPSK	25	12	22.1	22.07	22.13		
10	QPSK	25	25	22.13	22.04	22.12		
10	QPSK	50	0	22.16	22.07	22.18		
10	16QAM	1	0	22.62	22.42	22.57	23	1
10	16QAM	1	25	22.2	22.1	22.3		
10	16QAM	1	49	22.52	22.37	22.52		
10	16QAM	25	0	21.2	21.1	21.22	22	2
10	16QAM	25	12	21.09	21.02	21.14		
10	16QAM	25	25	21.1	21.04	21.09		
10	16QAM	50	0	21.08	21	21.13		
10	64QAM	1	0	21.52	21.31	21.51	22	2
10	64QAM	1	25	21.13	21.17	21.27		
10	64QAM	1	49	21.36	21.28	21.39		
10	64QAM	25	0	20.2	20.06	20.25	21	3
10	64QAM	25	12	20.14	19.99	20.15		
10	64QAM	25	25	20.11	20.03	20.17		
10	64QAM	50	0	20.14	20.03	20.12		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.9	22.94	23	24	0
5	QPSK	1	12	22.97	22.85	23.03		
5	QPSK	1	24	23.03	22.91	23.05		
5	QPSK	12	0	22.21	22.09	22.19	23	1
5	QPSK	12	7	22.11	22.06	22.15		
5	QPSK	12	13	22.11	22.06	22.19		
5	QPSK	25	0	22.14	22.07	22.18		
5	16QAM	1	0	22.39	22.15	22.52	23	1
5	16QAM	1	12	22.29	21.64	22.33		
5	16QAM	1	24	22.29	22.24	22.27		
5	16QAM	12	0	21.12	21.09	21.2	22	2
5	16QAM	12	7	21.11	21.02	21.16		
5	16QAM	12	13	21.13	21.02	21.15		
5	16QAM	25	0	21.15	21.03	21.21		
5	64QAM	1	0	21.31	21.24	21.31	22	2
5	64QAM	1	12	21.12	21.35	21.16		
5	64QAM	1	24	21.17	21.11	21.21		
5	64QAM	12	0	20.2	20.13	20.22	21	3
5	64QAM	12	7	20.15	20.1	20.23		
5	64QAM	12	13	20.12	20.09	20.19		
5	64QAM	25	0	20.12	20.07	20.18		

<LTE Band 12>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23060	23095	23130		
Frequency (MHz)				704	707.5	711		
10	QPSK	1	0	23.17	23.05	23.1	24	0
10	QPSK	1	25	22.75	22.9	22.69		
10	QPSK	1	49	23.07	22.99	23.06		
10	QPSK	25	0	21.99	21.98	21.95	23	1
10	QPSK	25	12	21.94	21.88	21.9		
10	QPSK	25	25	21.98	21.9	21.94		
10	QPSK	50	0	22.04	21.89	21.96		
10	16QAM	1	0	22.32	22.4	22.34	23	1
10	16QAM	1	25	22.24	22.21	22.14		
10	16QAM	1	49	22.41	22.27	22.33		
10	16QAM	25	0	20.96	20.93	20.93	22	2
10	16QAM	25	12	20.99	21	20.97		
10	16QAM	25	25	20.99	20.91	20.91		
10	16QAM	50	0	21.15	20.92	20.89		
10	64QAM	1	0	21.19	21.35	21.37	22	2
10	64QAM	1	25	21.07	21.1	21.11		
10	64QAM	1	49	21.35	21.11	21.26		
10	64QAM	25	0	19.91	19.95	19.99	21	3
10	64QAM	25	12	19.97	19.98	19.94		
10	64QAM	25	25	19.97	19.94	19.95		
10	64QAM	50	0	20.03	19.92	19.95		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	22.87	22.78	22.91	24	0
5	QPSK	1	12	22.66	22.79	22.59		
5	QPSK	1	24	22.78	22.83	22.88		
5	QPSK	12	0	21.75	21.86	21.85	23	1
5	QPSK	12	7	21.78	21.91	21.92		
5	QPSK	12	13	21.76	21.86	21.88		
5	QPSK	25	0	21.82	21.87	21.92		
5	16QAM	1	0	22.05	22.15	22.15	23	1
5	16QAM	1	12	22.08	22.14	22.23		
5	16QAM	1	24	22.07	22.18	22.23		
5	16QAM	12	0	20.76	20.85	20.94	22	2
5	16QAM	12	7	20.8	21.01	20.93		
5	16QAM	12	13	20.8	20.89	20.89		
5	16QAM	25	0	20.83	20.86	20.95		
5	64QAM	1	0	20.97	21.08	21.05	22	2
5	64QAM	1	12	20.92	20.94	20.86		
5	64QAM	1	24	21.01	21.04	21.09		
5	64QAM	12	0	19.76	19.88	19.94	21	3
5	64QAM	12	7	19.82	20.02	19.93		
5	64QAM	12	13	19.8	19.91	19.94		
5	64QAM	25	0	19.74	19.91	19.93		

Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	22.78	22.9	22.68	24	0
3	QPSK	1	8	22.7	22.77	22.89		
3	QPSK	1	14	22.74	22.79	22.79		
3	QPSK	8	0	21.69	21.88	21.82	23	1
3	QPSK	8	4	21.78	21.87	21.85		
3	QPSK	8	7	21.67	21.86	21.86		
3	QPSK	15	0	21.76	21.83	21.9		
3	16QAM	1	0	21.94	22.23	21.96	23	1
3	16QAM	1	8	22.07	22.15	22.31		
3	16QAM	1	14	22.05	22.2	22.14		
3	16QAM	8	0	20.79	20.93	20.89	22	2
3	16QAM	8	4	20.85	20.91	20.98		
3	16QAM	8	7	20.83	20.93	21		
3	16QAM	15	0	20.78	20.86	20.92		
3	64QAM	1	0	20.83	21.09	21.05	22	2
3	64QAM	1	8	20.96	21.02	21.16		
3	64QAM	1	14	20.97	21.04	21.05		
3	64QAM	8	0	19.74	19.95	19.89	21	3
3	64QAM	8	4	19.84	19.89	19.82		
3	64QAM	8	7	19.76	19.89	19.88		
3	64QAM	15	0	19.77	19.82	19.86		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	22.78	22.83	22.85	24	0
1.4	QPSK	1	3	22.67	22.9	22.96		
1.4	QPSK	1	5	22.69	22.81	22.89		
1.4	QPSK	3	0	22.69	22.85	22.73		
1.4	QPSK	3	1	22.67	22.89	22.9		
1.4	QPSK	3	3	22.72	22.81	22.86		
1.4	QPSK	6	0	21.66	21.77	21.79	23	1
1.4	16QAM	1	0	21.9	22.1	22.05	23	1
1.4	16QAM	1	3	21.97	22.2	22.18		
1.4	16QAM	1	5	21.94	22.02	22.09		
1.4	16QAM	3	0	21.73	21.87	21.89		
1.4	16QAM	3	1	21.71	21.95	22.03		
1.4	16QAM	3	3	21.65	21.84	22.01		
1.4	16QAM	6	0	20.68	20.86	20.82	22	2
1.4	64QAM	1	0	20.84	21.04	21.02	22	2
1.4	64QAM	1	3	20.81	21.12	20.99		
1.4	64QAM	1	5	20.84	21.03	20.95		
1.4	64QAM	3	0	20.79	21.02	20.99		
1.4	64QAM	3	1	20.86	21.08	20.92		
1.4	64QAM	3	3	20.8	21.02	20.93		
1.4	64QAM	6	0	19.67	19.75	19.82	21	3

<LTE Band 13>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					23230			
Frequency (MHz)					782			
10	QPSK	1	0		23.09		24	0
10	QPSK	1	25		22.9			
10	QPSK	1	49		23.05			
10	QPSK	25	0		21.97		23	1
10	QPSK	25	12		21.93			
10	QPSK	25	25		21.92			
10	QPSK	50	0		22.1			
10	16QAM	1	0		22.29		23	1
10	16QAM	1	25		22.1			
10	16QAM	1	49		22.25			
10	16QAM	25	0		20.96		22	2
10	16QAM	25	12		20.92			
10	16QAM	25	25		20.98			
10	16QAM	50	0		21.11			
10	64QAM	1	0		21.31		22	2
10	64QAM	1	25		21.03			
10	64QAM	1	49		21.23			
10	64QAM	25	0		19.97		21	3
10	64QAM	25	12		19.89			
10	64QAM	25	25		19.95			
10	64QAM	50	0		20.12			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	22.71	22.85	22.89	24	0
5	QPSK	1	12	22.95	22.74	22.83		
5	QPSK	1	24	22.91	22.87	22.84		
5	QPSK	12	0	21.99	21.89	21.92	23	1
5	QPSK	12	7	22.02	21.88	21.88		
5	QPSK	12	13	22.04	21.9	21.73		
5	QPSK	25	0	22.06	21.94	21.79		
5	16QAM	1	0	22.2	22.25	22.2	23	1
5	16QAM	1	12	22.28	22.05	22.13		
5	16QAM	1	24	22.25	22.19	22		
5	16QAM	12	0	21.02	20.91	20.99	22	2
5	16QAM	12	7	21.06	20.88	20.95		
5	16QAM	12	13	21.06	20.86	20.83		
5	16QAM	25	0	21	20.86	20.88		
5	64QAM	1	0	21.06	21.11	21.16	22	2
5	64QAM	1	12	21.1	20.92	20.98		
5	64QAM	1	24	21.15	21.04	20.95		
5	64QAM	12	0	20.02	19.91	19.96	21	3
5	64QAM	12	7	20.07	19.92	19.97		
5	64QAM	12	13	20.09	19.99	19.82		
5	64QAM	25	0	20.01	19.87	19.78		

<LTE Band 17>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				23780	23790	23800		
Frequency (MHz)				709	710	711		
10	QPSK	1	0	23.16	23.11	23.11	24	0
10	QPSK	1	25	22.76	22.93	22.82		
10	QPSK	1	49	23.08	23.05	23.06		
10	QPSK	25	0	22.01	21.91	21.96	23	1
10	QPSK	25	12	21.93	21.88	21.95		
10	QPSK	25	25	21.89	21.88	21.92		
10	QPSK	50	0	22.04	21.95	21.89		
10	16QAM	1	0	22.52	22.32	22.41	23	1
10	16QAM	1	25	22.1	22.17	22.14		
10	16QAM	1	49	22.48	22.49	22.47		
10	16QAM	25	0	20.88	20.95	20.91	22	2
10	16QAM	25	12	20.96	20.89	20.95		
10	16QAM	25	25	20.99	20.96	20.93		
10	16QAM	50	0	20.93	21	21.05		
10	64QAM	1	0	21.4	21.36	21.28	22	2
10	64QAM	1	25	21.01	21.1	21.05		
10	64QAM	1	49	21.16	21.49	21.19		
10	64QAM	25	0	19.87	19.91	19.9	21	3
10	64QAM	25	12	20.01	19.9	19.95		
10	64QAM	25	25	20.08	19.95	19.95		
10	64QAM	50	0	19.98	20.02	20.03		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	22.88	22.78	22.88	24	0
5	QPSK	1	12	22.94	22.86	22.85		
5	QPSK	1	24	22.93	22.85	22.88		
5	QPSK	12	0	21.97	21.88	22.02	23	1
5	QPSK	12	7	21.94	21.91	22.1		
5	QPSK	12	13	22	21.89	22		
5	QPSK	25	0	22	21.94	21.99		
5	16QAM	1	0	22.27	22.14	22.31	23	1
5	16QAM	1	12	22.3	22.16	22.27		
5	16QAM	1	24	22.16	22.14	22.25		
5	16QAM	12	0	21.02	20.96	21.11	22	2
5	16QAM	12	7	21.04	21.01	21.1		
5	16QAM	12	13	21.02	20.91	21.06		
5	16QAM	25	0	21.02	20.89	21		
5	64QAM	1	0	21.18	21.01	21.13	22	2
5	64QAM	1	12	21.19	21.07	21.14		
5	64QAM	1	24	21.16	21.02	21.19		
5	64QAM	12	0	20.08	19.94	20.09	21	3
5	64QAM	12	7	20.07	19.99	20.18		
5	64QAM	12	13	20.05	19.94	20.06		
5	64QAM	25	0	20.01	19.93	19.99		

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	22.99	22.85	23.19	24	0
15	QPSK	1	37	22.82	22.77	23.58		
15	QPSK	1	74	23.1	23.82	23.82		
15	QPSK	36	0	22.01	22.79	22.79	23	1
15	QPSK	36	20	21.81	22.09	22.55		
15	QPSK	36	39	21.66	22.08	22.41		
15	QPSK	75	0	21.82	22.70	22.7		
15	16QAM	1	0	22.35	22.40	22.89	23	1
15	16QAM	1	37	22.02	22.07	22.82		
15	16QAM	1	74	22.21	22.91	22.91		
15	16QAM	36	0	21.08	21.31	21.82	22	2
15	16QAM	36	20	20.83	21.13	21.57		
15	16QAM	36	39	20.74	21.07	21.4		
15	16QAM	75	0	20.74	21.22	21.68		
15	64QAM	1	0	21.14	21.50	21.95	22	2
15	64QAM	1	37	20.88	21.20	21.81		
15	64QAM	1	74	21.28	21.79	21.94		
15	64QAM	36	0	20.17	20.27	20.83	21	3
15	64QAM	36	20	19.83	20.13	20.56		
15	64QAM	36	39	19.69	20.05	20.44		
15	64QAM	75	0	19.81	20.22	20.68		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.04	23.16	23.33	24	0
10	QPSK	1	25	22.66	23.15	23.51		
10	QPSK	1	49	23.15	23.4	23.79		
10	QPSK	25	0	21.94	22.09	22.72	23	1
10	QPSK	25	12	21.9	22.17	22.75		
10	QPSK	25	25	21.96	22.14	22.71		
10	QPSK	50	0	21.95	22.18	22.74		
10	16QAM	1	0	22.49	22.31	22.94	23	1
10	16QAM	1	25	22.08	22.27	22.84		
10	16QAM	1	49	22.28	22.69	22.93		
10	16QAM	25	0	21.02	21.13	21.67	22	2
10	16QAM	25	12	20.94	21.17	21.71		
10	16QAM	25	25	20.97	21.2	21.7		
10	16QAM	50	0	20.93	21.19	21.64		
10	64QAM	1	0	21.3	21.48	21.95	22	2
10	64QAM	1	25	20.95	21.25	21.63		
10	64QAM	1	49	21.33	21.53	21.98		
10	64QAM	25	0	19.97	20.11	20.65	21	3
10	64QAM	25	12	19.91	20.25	20.75		
10	64QAM	25	25	20.01	20.18	20.69		
10	64QAM	50	0	19.95	20.18	20.69		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	22.78	22.98	23.05	24	0
5	QPSK	1	12	22.64	23.11	23.42		
5	QPSK	1	24	22.75	22.99	23.29		
5	QPSK	12	0	21.9	22.08	22.54	23	1
5	QPSK	12	7	21.92	22.17	22.53		
5	QPSK	12	13	21.74	22.2	22.5		
5	QPSK	25	0	21.89	22.12	22.51		
5	16QAM	1	0	21.91	22.25	22.85	23	1
5	16QAM	1	12	22.08	22.18	22.92		
5	16QAM	1	24	22.06	22.3	22.92		
5	16QAM	12	0	20.99	21.11	21.57	22	2
5	16QAM	12	7	20.94	21.18	21.49		
5	16QAM	12	13	20.78	21.2	21.52		
5	16QAM	25	0	20.87	21.13	21.49		
5	64QAM	1	0	20.94	21.24	21.54	22	2
5	64QAM	1	12	21.06	21.25	21.77		
5	64QAM	1	24	20.95	21.22	21.39		
5	64QAM	12	0	19.97	20.13	20.52	21	3
5	64QAM	12	7	19.98	20.2	20.53		
5	64QAM	12	13	19.81	20.19	20.45		
5	64QAM	25	0	19.86	20.2	20.45		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	22.74	22.91	22.97	24	0
3	QPSK	1	8	22.81	23.02	23.24		
3	QPSK	1	14	22.71	23.02	23.14		
3	QPSK	8	0	21.82	22.12	22.53	23	1
3	QPSK	8	4	21.86	22.14	22.48		
3	QPSK	8	7	21.85	22.06	22.41		
3	QPSK	15	0	21.9	22.11	22.47		
3	16QAM	1	0	21.97	22.19	22.94	23	1
3	16QAM	1	8	22.05	22.23	22.87		
3	16QAM	1	14	21.92	22.22	22.49		
3	16QAM	8	0	20.9	21.12	21.63	22	2
3	16QAM	8	4	20.95	21.18	21.64		
3	16QAM	8	7	20.94	21.13	21.4		
3	16QAM	15	0	20.92	21.16	21.43		
3	64QAM	1	0	20.93	21.17	21.76	22	2
3	64QAM	1	8	20.95	21.19	21.64		
3	64QAM	1	14	20.88	21.18	21.82		
3	64QAM	8	0	19.82	20.13	20.52	21	3
3	64QAM	8	4	19.93	20.17	20.52		
3	64QAM	8	7	19.89	20.1	20.44		
3	64QAM	15	0	19.86	20.14	20.48		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	22.76	22.92	23.01	24	0
1.4	QPSK	1	3	22.9	23.02	23.36		
1.4	QPSK	1	5	22.78	23.02	23.35		
1.4	QPSK	3	0	22.72	23.11	23.56		
1.4	QPSK	3	1	22.82	23.08	23.53		
1.4	QPSK	3	3	22.77	23.08	23.51		
1.4	QPSK	6	0	21.86	22.06	22.43	23	1
1.4	16QAM	1	0	21.98	22.17	22.75	23	1
1.4	16QAM	1	3	22.06	22.42	22.82		
1.4	16QAM	1	5	22.03	22.27	22.93		
1.4	16QAM	3	0	21.73	22.03	22.56		
1.4	16QAM	3	1	21.83	22.08	22.52		
1.4	16QAM	3	3	21.71	22.05	22.43		
1.4	16QAM	6	0	20.86	21.21	21.42	22	2
1.4	64QAM	1	0	21.01	21.19	21.7	22	2
1.4	64QAM	1	3	20.91	21.26	21.72		
1.4	64QAM	1	5	20.98	21.18	21.49		
1.4	64QAM	3	0	20.93	21.24	21.6		
1.4	64QAM	3	1	20.98	21.24	21.66		
1.4	64QAM	3	3	20.92	21.23	21.61		
1.4	64QAM	6	0	19.89	20.14	20.49	21	3

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		23.22		24	0
10	QPSK	1	25		22.89			
10	QPSK	1	49		23.19			
10	QPSK	25	0		22.01		23	1
10	QPSK	25	12		21.95			
10	QPSK	25	25		21.97			
10	QPSK	50	0		22.01			
10	16QAM	1	0		22.38		23	1
10	16QAM	1	25		22.18			
10	16QAM	1	49		22.44			
10	16QAM	25	0		20.88		22	2
10	16QAM	25	12		21.04			
10	16QAM	25	25		21.03			
10	16QAM	50	0		20.97			
10	64QAM	1	0		21.19		22	2
10	64QAM	1	25		21.11			
10	64QAM	1	49		21.35			
10	64QAM	25	0		19.83		21	3
10	64QAM	25	12		20.02			
10	64QAM	25	25		20.06			
10	64QAM	50	0		19.96			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	22.78	22.86	23	24	0
5	QPSK	1	12	22.72	22.92	22.84		
5	QPSK	1	24	22.96	22.81	22.84		
5	QPSK	12	0	21.87	21.89	21.97	23	1
5	QPSK	12	7	21.87	21.95	21.96		
5	QPSK	12	13	21.86	21.96	21.94		
5	QPSK	25	0	21.95	22.03	21.97		
5	16QAM	1	0	22.19	22.16	22.31	23	1
5	16QAM	1	12	22.07	22.09	22.07		
5	16QAM	1	24	22.07	22.25	22.27		
5	16QAM	12	0	20.88	20.98	21	22	2
5	16QAM	12	7	20.89	21	21.01		
5	16QAM	12	13	20.84	21.01	20.96		
5	16QAM	25	0	20.94	20.99	21.05		
5	64QAM	1	0	21.06	21.04	21.26	22	2
5	64QAM	1	12	20.95	21.02	21.18		
5	64QAM	1	24	20.92	20.96	21.21		
5	64QAM	12	0	19.92	19.98	20.05	21	3
5	64QAM	12	7	19.92	19.97	20.03		
5	64QAM	12	13	19.87	19.96	19.98		
5	64QAM	25	0	19.94	20.03	20.03		

<Full Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	21.02	21.42	21.12	22.5	0
20	QPSK	1	49	21.35	21.21	21.41		
20	QPSK	1	99	21.22	21.29	21.33		
20	QPSK	50	0	21.69	21.77	21.73	22.5	0
20	QPSK	50	24	21.67	21.6	21.65		
20	QPSK	50	50	21.5	21.5	21.69		
20	QPSK	100	0	21.48	21.84	21.83		
20	16QAM	1	0	21.87	21.99	21.89	22.5	0
20	16QAM	1	49	21.76	21.62	21.82		
20	16QAM	1	99	21.52	21.78	21.7		
20	16QAM	50	0	20.7	20.86	20.72	21.5	1
20	16QAM	50	24	20.53	20.54	20.72		
20	16QAM	50	50	20.51	20.44	20.63		
20	16QAM	100	0	20.49	20.52	20.63		
20	64QAM	1	0	21.8	21.85	21.89	22.5	0
20	64QAM	1	49	21.39	21.5	21.73		
20	64QAM	1	99	21.42	21.48	21.69		
20	64QAM	50	0	20.59	20.68	20.7	21.5	1
20	64QAM	50	24	20.57	20.56	20.76		
20	64QAM	50	50	20.39	20.46	20.67		
20	64QAM	100	0	20.56	20.5	20.62		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	21.11	21.15	21.24	22.5	0
15	QPSK	1	37	21.11	21.24	21.67		
15	QPSK	1	74	21.58	21.79	21.91		
15	QPSK	36	0	21.6	21.65	21.68	22.5	0
15	QPSK	36	20	21.46	21.61	21.68		
15	QPSK	36	39	21.49	21.53	21.75		
15	QPSK	75	0	21.45	21.59	21.75		
15	16QAM	1	0	21.94	21.89	21.88	22.5	0
15	16QAM	1	37	21.61	21.62	21.96		
15	16QAM	1	74	21.54	21.52	21.24		
15	16QAM	36	0	20.61	20.61	20.66	21.5	1
15	16QAM	36	20	20.52	20.63	20.72		
15	16QAM	36	39	20.49	20.58	20.75		
15	16QAM	75	0	20.44	20.68	20.72		
15	64QAM	1	0	21.82	21.92	21.56	22.5	0
15	64QAM	1	37	21.39	21.52	21.97		
15	64QAM	1	74	21.71	21.92	21.89		
15	64QAM	36	0	20.59	20.54	20.66	21.5	1
15	64QAM	36	20	20.5	20.64	20.71		
15	64QAM	36	39	20.47	20.58	20.69		
15	64QAM	75	0	20.45	20.67	20.77		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	21.12	21.23	21.42	22.5	0
10	QPSK	1	25	21.36	21.43	21.73		
10	QPSK	1	49	21.51	21.64	21.83		
10	QPSK	25	0	21.49	21.57	21.75	22.5	0
10	QPSK	25	12	21.47	21.46	21.71		
10	QPSK	25	25	21.46	21.52	21.86		
10	QPSK	50	0	21.49	21.53	21.72		
10	16QAM	1	0	21.76	21.75	21.45	22.5	0
10	16QAM	1	25	21.7	21.68	21.48		
10	16QAM	1	49	21.95	21.82	21.56		
10	16QAM	25	0	20.41	20.58	20.78	21.5	1
10	16QAM	25	12	20.49	20.53	20.64		
10	16QAM	25	25	20.44	20.57	20.79		
10	16QAM	50	0	20.5	20.5	20.72		
10	64QAM	1	0	21.66	21.71	22	22.5	0
10	64QAM	1	25	21.66	21.58	21.88		
10	64QAM	1	49	21.78	21.95	21.56		
10	64QAM	25	0	20.4	20.56	20.69	21.5	1
10	64QAM	25	12	20.47	20.48	20.62		
10	64QAM	25	25	20.44	20.53	20.84		
10	64QAM	50	0	20.45	20.55	20.66		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	21.03	21.06	21.09	22.5	0
5	QPSK	1	12	21.33	21.38	21.74		
5	QPSK	1	24	21.4	21.5	21.78		
5	QPSK	12	0	21.52	21.57	21.84	22.5	0
5	QPSK	12	7	21.43	21.52	21.83		
5	QPSK	12	13	21.44	21.5	21.86		
5	QPSK	25	0	21.47	21.58	21.87		
5	16QAM	1	0	21.76	21.74	21.69	22.5	0
5	16QAM	1	12	21.59	21.69	21.56		
5	16QAM	1	24	21.82	21.8	21.65		
5	16QAM	12	0	20.55	20.59	20.83	21.5	1
5	16QAM	12	7	20.48	20.63	20.93		
5	16QAM	12	13	20.51	20.57	20.88		
5	16QAM	25	0	20.51	20.57	20.88		
5	64QAM	1	0	21.64	21.84	21.99	22.5	0
5	64QAM	1	12	21.47	21.55	22		
5	64QAM	1	24	21.71	21.7	21.93		
5	64QAM	12	0	20.52	20.58	20.81	21.5	1
5	64QAM	12	7	20.47	20.53	20.91		
5	64QAM	12	13	20.54	20.5	20.93		
5	64QAM	25	0	20.43	20.54	20.89		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	21.25	21.26	21.13	22.5	0
3	QPSK	1	8	21.34	21.28	21.85		
3	QPSK	1	14	21.39	21.46	21.7		
3	QPSK	8	0	21.45	21.53	21.79	22.5	0
3	QPSK	8	4	21.47	21.51	21.82		
3	QPSK	8	7	21.4	21.57	21.83		
3	QPSK	15	0	21.44	21.48	21.78		
3	16QAM	1	0	21.74	21.74	21.56	22.5	0
3	16QAM	1	8	21.63	21.74	21.67		
3	16QAM	1	14	21.6	21.71	21.87		
3	16QAM	8	0	20.48	20.61	20.93	21.5	1
3	16QAM	8	4	20.52	20.56	20.95		
3	16QAM	8	7	20.46	20.55	20.88		
3	16QAM	15	0	20.43	20.52	20.88		
3	64QAM	1	0	21.62	21.86	21.91	22.5	0
3	64QAM	1	8	21.76	21.65	21.81		
3	64QAM	1	14	21.57	21.58	21.87		
3	64QAM	8	0	20.48	20.56	20.82	21.5	1
3	64QAM	8	4	20.46	20.51	20.84		
3	64QAM	8	7	20.4	20.53	20.82		
3	64QAM	15	0	20.45	20.57	20.85		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	21.32	21.01	21.12	22.5	0
1.4	QPSK	1	3	21.35	21.43	21.93		
1.4	QPSK	1	5	21.31	21.41	21.82		
1.4	QPSK	3	0	21.3	21.46	21.72		
1.4	QPSK	3	1	21.37	21.41	21.73		
1.4	QPSK	3	3	21.4	21.42	21.8		
1.4	QPSK	6	0	21.38	21.44	21.8	22.5	0
1.4	16QAM	1	0	21.54	21.64	21.98	22.5	0
1.4	16QAM	1	3	21.67	21.75	21.97		
1.4	16QAM	1	5	21.58	21.77	21.99		
1.4	16QAM	3	0	21.33	21.49	21.89		
1.4	16QAM	3	1	21.37	21.45	21.85		
1.4	16QAM	3	3	21.4	21.46	21.87		
1.4	16QAM	6	0	20.47	20.56	20.86	21.5	1
1.4	64QAM	1	0	21.51	21.56	21.87	22.5	0
1.4	64QAM	1	3	21.7	21.63	21.92		
1.4	64QAM	1	5	21.67	21.67	21.75		
1.4	64QAM	3	0	21.45	21.51	21.82		
1.4	64QAM	3	1	21.46	21.48	21.94		
1.4	64QAM	3	3	21.45	21.46	21.89		
1.4	64QAM	6	0	20.42	20.5	20.8	21.5	1

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	21.12	21.03	21.05	22	0
20	QPSK	1	49	21.05	21.14	21.23		
20	QPSK	1	99	21.13	21.04	21.11		
20	QPSK	50	0	20.98	21.06	21.18	22	0
20	QPSK	50	24	21.02	21.17	21.12		
20	QPSK	50	50	20.95	20.93	21.2		
20	QPSK	100	0	21.06	20.95	21.43		
20	16QAM	1	0	21.33	21.72	21.36	22	0
20	16QAM	1	49	21.26	21.25	21.35		
20	16QAM	1	99	21.3	21.28	21.62		
20	16QAM	50	0	20.49	20.58	20.56	21	1
20	16QAM	50	24	20.52	20.59	20.73		
20	16QAM	50	50	20.4	20.49	20.61		
20	16QAM	100	0	20.51	20.45	20.72		
20	64QAM	1	0	21.08	21.35	21.23	22	0
20	64QAM	1	49	21.21	21.16	21.35		
20	64QAM	1	99	21.14	21.18	21.47		
20	64QAM	50	0	20.44	20.52	20.69	21	1
20	64QAM	50	24	20.45	20.55	20.64		
20	64QAM	50	50	20.46	20.37	20.67		
20	64QAM	100	0	20.49	20.52	20.82		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	21.06	21.02	21.06	22	0
15	QPSK	1	37	21.23	21.32	21.11		
15	QPSK	1	74	21.2	21.13	21.28		
15	QPSK	36	0	20.97	21.06	21.3	22	0
15	QPSK	36	20	21.08	21.11	21.23		
15	QPSK	36	39	20.98	20.97	21.16		
15	QPSK	75	0	20.94	20.99	21.27		
15	16QAM	1	0	21.39	21.67	21.45	22	0
15	16QAM	1	37	21.15	21.33	21.5		
15	16QAM	1	74	21.13	21.2	21.69		
15	16QAM	36	0	20.5	20.59	20.76	21	1
15	16QAM	36	20	20.56	20.67	20.72		
15	16QAM	36	39	20.45	20.51	20.72		
15	16QAM	75	0	20.49	20.47	20.83		
15	64QAM	1	0	21.24	21.65	21.38	22	0
15	64QAM	1	37	20.66	20.68	21.39		
15	64QAM	1	74	21.11	21.04	21.47		
15	64QAM	36	0	20.52	20.57	20.73	21	1
15	64QAM	36	20	20.54	20.64	20.76		
15	64QAM	36	39	20.4	20.5	20.74		
15	64QAM	75	0	20.41	20.51	20.8		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	21.23	21.23	21.35	22	0
10	QPSK	1	25	21.32	21.12	21.02		
10	QPSK	1	49	21.42	21.41	21.68		
10	QPSK	25	0	21.08	21.09	21.34	22	0
10	QPSK	25	12	21.05	21.14	21.26		
10	QPSK	25	25	21.18	21.18	21.42		
10	QPSK	50	0	21.13	21.12	21.41		
10	16QAM	1	0	21.61	21.59	21.56	22	0
10	16QAM	1	25	21.27	21.48	21.5		
10	16QAM	1	49	21.56	21.58	21.56		
10	16QAM	25	0	20.62	20.65	20.82	21	1
10	16QAM	25	12	20.62	20.57	20.73		
10	16QAM	25	25	20.57	20.71	20.9		
10	16QAM	50	0	20.63	20.6	20.15		
10	64QAM	1	0	21.59	21.67	21.64	22	0
10	64QAM	1	25	21.29	21.24	21.48		
10	64QAM	1	49	21.6	21.61	21.52		
10	64QAM	25	0	20.65	20.67	20.81	21	1
10	64QAM	25	12	20.62	20.62	20.81		
10	64QAM	25	25	20.64	20.71	20.96		
10	64QAM	50	0	20.67	20.62	20.87		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	21.02	21.21	21.06	22	0
5	QPSK	1	12	21.08	21.01	21.27		
5	QPSK	1	24	21.31	21.32	21.32		
5	QPSK	12	0	20.96	21	21.36	22	0
5	QPSK	12	7	21.05	21.07	21.3		
5	QPSK	12	13	20.92	21.01	21.33		
5	QPSK	25	0	21.04	20.99	21.3		
5	16QAM	1	0	21.52	21.59	21.35	22	0
5	16QAM	1	12	21.71	21.22	21.48		
5	16QAM	1	24	21.38	21.23	21.56		
5	16QAM	12	0	20.55	20.61	20.91	21	1
5	16QAM	12	7	20.54	20.68	20.87		
5	16QAM	12	13	20.5	20.6	20.82		
5	16QAM	25	0	20.57	20.54	20.88		
5	64QAM	1	0	21.25	21.44	21.65	22	0
5	64QAM	1	12	20.9	20.77	21.41		
5	64QAM	1	24	21.14	21.14	21.51		
5	64QAM	12	0	20.48	20.57	20.89	21	1
5	64QAM	12	7	20.53	20.61	20.82		
5	64QAM	12	13	20.44	20.47	20.81		
5	64QAM	25	0	20.52	20.5	20.82		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	21.25	21.25	21.26	22	0
3	QPSK	1	8	21.36	21.24	21.36		
3	QPSK	1	14	21.35	21.56	21.13		
3	QPSK	8	0	21.02	21.06	21.33	22	0
3	QPSK	8	4	20.98	20.97	21.4		
3	QPSK	8	7	20.97	20.95	21.28		
3	QPSK	15	0	20.94	21	21.26		
3	16QAM	1	0	21.28	21.31	21.62	22	0
3	16QAM	1	8	21.43	21.53	21.54		
3	16QAM	1	14	21.25	21.2	21.58		
3	16QAM	8	0	20.59	20.61	20.91	21	1
3	16QAM	8	4	20.53	20.56	20.98		
3	16QAM	8	7	20.51	20.52	20.83		
3	16QAM	15	0	20.44	20.5	20.78		
3	64QAM	1	0	21.26	21.25	21.52	22	0
3	64QAM	1	8	21.26	21.12	21.4		
3	64QAM	1	14	21.06	21.16	21.43		
3	64QAM	8	0	20.57	20.59	20.9	21	1
3	64QAM	8	4	20.48	20.54	20.95		
3	64QAM	8	7	20.48	20.5	20.78		
3	64QAM	15	0	20.44	20.48	20.73		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	21.25	21.01	21.3	22	0
1.4	QPSK	1	3	21.54	21.03	21.3		
1.4	QPSK	1	5	21.35	21	21.39		
1.4	QPSK	3	0	21.36	21.05	21.27		
1.4	QPSK	3	1	21.04	21.11	21.27		
1.4	QPSK	3	3	21.65	21.03	21.29		
1.4	QPSK	6	0	20.92	20.91	21.26	22	0
1.4	16QAM	1	0	21.23	21.28	21.49	22	0
1.4	16QAM	1	3	21.25	21.28	21.58		
1.4	16QAM	1	5	21.19	21.19	21.55		
1.4	16QAM	3	0	20.98	21.09	21.33		
1.4	16QAM	3	1	21.11	21.16	21.35		
1.4	16QAM	3	3	21.03	21.11	21.29		
1.4	16QAM	6	0	20.54	20.45	20.81	21	1
1.4	64QAM	1	0	21.08	21.12	21.42	22	0
1.4	64QAM	1	3	21.57	21.29	21.5		
1.4	64QAM	1	5	21.06	21.07	21.43		
1.4	64QAM	3	0	21.01	21.09	21.37		
1.4	64QAM	3	1	21.05	21.07	21.39		
1.4	64QAM	3	3	21.05	21.1	21.35		
1.4	64QAM	6	0	20.48	20.46	20.79	21	1

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	21.65	21.99	21.98	22.5	0
20	QPSK	1	49	21.48	21.56	21.59		
20	QPSK	1	99	21.38	21.49	21.53		
20	QPSK	50	0	21.42	21.6	21.18	22.5	0
20	QPSK	50	24	21.61	21.77	21.94		
20	QPSK	50	50	21.64	21.96	21.87		
20	QPSK	100	0	21.56	21.85	21.81		
20	16QAM	1	0	21.79	21.58	21.89	22.5	0
20	16QAM	1	49	21.92	21.81	21.54		
20	16QAM	1	99	21.51	21.92	21.82		
20	16QAM	50	0	20.67	20.72	20.9	21.5	1
20	16QAM	50	24	20.56	20.75	20.94		
20	16QAM	50	50	20.63	20.84	20.97		
20	16QAM	100	0	20.66	20.8	20.99		
20	64QAM	1	0	21.78	21.91	21.36	22.5	0
20	64QAM	1	49	21.71	21.76	21.89		
20	64QAM	1	99	21.52	21.71	21.72		
20	64QAM	50	0	20.63	20.85	20.89	21.5	1
20	64QAM	50	24	20.62	20.83	20.94		
20	64QAM	50	50	20.58	20.83	20.93		
20	64QAM	100	0	20.66	20.76	20.85		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	21.35	21.14	21.07	22.5	0
15	QPSK	1	37	21.44	21.01	21.43		
15	QPSK	1	74	21.76	21.94	21.92		
15	QPSK	36	0	21.66	21.74	21.98	22.5	0
15	QPSK	36	20	21.74	21.86	21.51		
15	QPSK	36	39	21.65	21.32	21.35		
15	QPSK	75	0	21.73	21.9	21.32		
15	16QAM	1	0	21.67	21.9	21.36	22.5	0
15	16QAM	1	37	21.75	21.7	21.35		
15	16QAM	1	74	21.5	21.36	21.84		
15	16QAM	36	0	20.73	20.89	20.98	21.5	1
15	16QAM	36	20	20.72	20.94	20.21		
15	16QAM	36	39	20.68	20.99	20.36		
15	16QAM	75	0	20.69	20.97	20.65		
15	64QAM	1	0	21.79	21.79	21.35	22.5	0
15	64QAM	1	37	21.09	21.63	21.6		
15	64QAM	1	74	21.92	21.88	21.95		
15	64QAM	36	0	20.67	20.89	20.99	21.5	1
15	64QAM	36	20	20.68	20.85	20.23		
15	64QAM	36	39	20.74	20.73	20.36		
15	64QAM	75	0	20.71	20.94	20.36		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	21.23	21.03	21.06	22.5	0
10	QPSK	1	25	21.54	22.01	21.87		
10	QPSK	1	49	21.81	22	22.21		
10	QPSK	25	0	21.67	21.87	21.92	22.5	0
10	QPSK	25	12	21.61	21.83	21.95		
10	QPSK	25	25	21.73	21.84	21.89		
10	QPSK	50	0	21.65	21.88	21.99		
10	16QAM	1	0	21.92	21.85	21.56	22.5	0
10	16QAM	1	25	21.72	21.8	21.85		
10	16QAM	1	49	22.05	22.14	22.22		
10	16QAM	25	0	20.67	20.83	20.93	21.5	1
10	16QAM	25	12	20.64	20.83	20.99		
10	16QAM	25	25	20.68	20.83	21.01		
10	16QAM	50	0	20.62	20.84	20.99		
10	64QAM	1	0	21.76	21.94	22.19	22.5	0
10	64QAM	1	25	21.62	21.6	22.03		
10	64QAM	1	49	21.93	22.03	22.13		
10	64QAM	25	0	20.68	20.79	20.93	21.5	1
10	64QAM	25	12	20.63	20.76	20.95		
10	64QAM	25	25	20.67	20.82	21.08		
10	64QAM	50	0	20.61	20.81	21.08		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	21.71	20.98	20.85	22.5	0
5	QPSK	1	12	21.6	21.67	21.83		
5	QPSK	1	24	21.5	21.69	21.94		
5	QPSK	12	0	21.59	21.75	21.93	22.5	0
5	QPSK	12	7	21.55	21.71	21.95		
5	QPSK	12	13	21.55	21.7	21.97		
5	QPSK	25	0	21.6	21.72	21.94		
5	16QAM	1	0	22.09	22.23	22.05	22.5	0
5	16QAM	1	12	21.83	21.69	22.16		
5	16QAM	1	24	21.9	22.05	21.78		
5	16QAM	12	0	20.64	20.74	20.93	21.5	1
5	16QAM	12	7	20.56	20.73	20.94		
5	16QAM	12	13	20.55	20.7	20.93		
5	16QAM	25	0	20.58	20.78	20.87		
5	64QAM	1	0	22.02	21.95	22.05	22.5	0
5	64QAM	1	12	21.65	21.81	21.9		
5	64QAM	1	24	21.71	21.95	21.83		
5	64QAM	12	0	20.63	20.75	20.95	21.5	1
5	64QAM	12	7	20.58	20.68	20.93		
5	64QAM	12	13	20.5	20.71	20.95		
5	64QAM	25	0	20.55	20.75	21.05		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	21.02	21.12	21.04	22.5	0
3	QPSK	1	8	21.55	21.7	21.82		
3	QPSK	1	14	21.51	21.62	22.11		
3	QPSK	8	0	21.59	21.74	21.9	22.5	0
3	QPSK	8	4	21.59	21.69	21.95		
3	QPSK	8	7	21.54	21.73	22.03		
3	QPSK	15	0	21.57	21.66	21.97		
3	16QAM	1	0	21.75	22.04	22.09	22.5	0
3	16QAM	1	8	21.79	21.85	22.05		
3	16QAM	1	14	21.85	21.95	21.96		
3	16QAM	8	0	20.62	20.77	20.92	21.5	1
3	16QAM	8	4	20.68	20.72	20.96		
3	16QAM	8	7	20.54	20.75	20.87		
3	16QAM	15	0	20.63	20.7	20.94		
3	64QAM	1	0	21.95	22.12	22.08	22.5	0
3	64QAM	1	8	22.15	21.62	21.85		
3	64QAM	1	14	22.01	22.1	21.98		
3	64QAM	8	0	20.62	20.7	20.94	21.5	1
3	64QAM	8	4	20.59	20.75	21		
3	64QAM	8	7	20.55	20.62	20.93		
3	64QAM	15	0	20.54	20.64	20.95		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	21.1	20.6	20.83	22.5	0
1.4	QPSK	1	3	21.64	21.66	21.78		
1.4	QPSK	1	5	21.47	21.62	22.03		
1.4	QPSK	3	0	21.52	21.67	22.09		
1.4	QPSK	3	1	21.56	21.69	21.92		
1.4	QPSK	3	3	21.56	21.71	21.9		
1.4	QPSK	6	0	21.49	21.64	21.84	22.5	0
1.4	16QAM	1	0	21.81	22.12	22.1	22.5	0
1.4	16QAM	1	3	21.97	22	21.98		
1.4	16QAM	1	5	21.65	22.01	22.16		
1.4	16QAM	3	0	21.52	21.68	21.92		
1.4	16QAM	3	1	21.55	21.69	21.87		
1.4	16QAM	3	3	21.54	21.77	21.82		
1.4	16QAM	6	0	20.67	20.64	21.05	21.5	1
1.4	64QAM	1	0	21.5	21.3	21.4	22.5	0
1.4	64QAM	1	3	21.6	21.92	22.14		
1.4	64QAM	1	5	21.67	22.2	21.93		
1.4	64QAM	3	0	21.6	21.78	21.9		
1.4	64QAM	3	1	21.62	21.8	21.86		
1.4	64QAM	3	3	21.62	21.65	21.94		
1.4	64QAM	6	0	20.52	20.74	20.91	21.5	1

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	21.01	21.02	21.11	22	0
20	QPSK	1	49	21.31	21.11	21.13		
20	QPSK	1	99	21.59	21.49	21.69		
20	QPSK	50	0	21.37	21.39	21.48	22	0
20	QPSK	50	24	21.43	21.44	21.45		
20	QPSK	50	50	21.33	21.36	21.47		
20	QPSK	100	0	21.5	21.54	21.53		
20	16QAM	1	0	21.92	21.85	21.84	22	0
20	16QAM	1	49	21.64	21.54	21.79		
20	16QAM	1	99	21.84	21.56	21.86		
20	16QAM	50	0	20.89	20.96	20.91	22	0
20	16QAM	50	24	20.86	21.06	20.9		
20	16QAM	50	50	20.95	21.1	21.04		
20	16QAM	100	0	20.88	20.85	20.94		
20	64QAM	1	0	21.73	21.9	21.59	22	0
20	64QAM	1	49	21.54	21.65	21.23		
20	64QAM	1	99	21.86	21.89	21.87		
20	64QAM	50	0	20.87	20.91	20.87	22	0
20	64QAM	50	24	20.85	20.97	20.85		
20	64QAM	50	50	20.86	20.78	20.87		
20	64QAM	100	0	20.83	20.84	20.83		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	21.17	21.22	21.2	22	0
15	QPSK	1	37	21.26	21.16	20.66		
15	QPSK	1	74	21.67	21.53	21.8		
15	QPSK	36	0	21.46	21.51	21.53	22	0
15	QPSK	36	20	21.36	21.36	21.4		
15	QPSK	36	39	21.3	21.35	21.3		
15	QPSK	75	0	21.33	21.38	21.5		
15	16QAM	1	0	21.98	21.87	21.85	22	0
15	16QAM	1	37	21.77	21.6	21.86		
15	16QAM	1	74	21.98	21.98	21.84		
15	16QAM	36	0	20.97	21.05	21.06	22	0
15	16QAM	36	20	20.84	20.84	20.88		
15	16QAM	36	39	20.76	20.83	20.87		
15	16QAM	75	0	20.94	20.89	20.95		
15	64QAM	1	0	21.85	21.85	21.65	22	0
15	64QAM	1	37	21.35	21.82	21.43		
15	64QAM	1	74	21.87	21.74	21.79		
15	64QAM	36	0	20.91	20.99	20.96	22	0
15	64QAM	36	20	20.82	20.87	20.95		
15	64QAM	36	39	20.83	20.93	20.85		
15	64QAM	75	0	20.87	20.94	21.02		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	21.12	20.98	20.99	22	0
10	QPSK	1	25	21.17	20.83	20.81		
10	QPSK	1	49	21.59	21.54	21.58		
10	QPSK	25	0	21.14	21.19	21.26	22	0
10	QPSK	25	12	21.26	21.25	21.31		
10	QPSK	25	25	21.18	21.24	21.33		
10	QPSK	50	0	21.24	21.26	21.31		
10	16QAM	1	0	20.98	21.12	21.05	22	0
10	16QAM	1	25	21.49	21.45	21.45		
10	16QAM	1	49	21.87	21.94	21.85		
10	16QAM	25	0	20.65	20.68	20.69	22	0
10	16QAM	25	12	20.79	20.76	20.71		
10	16QAM	25	25	20.77	20.69	20.71		
10	16QAM	50	0	20.66	20.64	20.8		
10	64QAM	1	0	20.94	20.96	21.12	22	0
10	64QAM	1	25	21.46	21.36	21.63		
10	64QAM	1	49	21.92	21.92	21.89		
10	64QAM	25	0	20.74	20.79	20.67	22	0
10	64QAM	25	12	20.7	20.71	20.78		
10	64QAM	25	25	20.73	20.8	20.79		
10	64QAM	50	0	20.67	20.76	20.74		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	21.03	20.81	20.7	22	0
5	QPSK	1	12	21.05	21.17	21.12		
5	QPSK	1	24	21.19	21.12	21.21		
5	QPSK	12	0	21.27	21.25	21.27	22	0
5	QPSK	12	7	21.2	21.19	21.22		
5	QPSK	12	13	21.23	21.23	21.19		
5	QPSK	25	0	21.18	21.25	21.29		
5	16QAM	1	0	21.75	21.62	21.82	22	0
5	16QAM	1	12	21.55	21.55	21.8		
5	16QAM	1	24	21.39	21.46	21.64		
5	16QAM	12	0	20.83	20.79	20.9	22	0
5	16QAM	12	7	20.73	20.72	20.8		
5	16QAM	12	13	20.74	20.77	20.77		
5	16QAM	25	0	20.71	20.73	20.7		
5	64QAM	1	0	21.48	21.58	21.56	22	0
5	64QAM	1	12	21.22	21.55	21.21		
5	64QAM	1	24	21.38	21.42	21.37		
5	64QAM	12	0	20.76	20.76	20.77	22	0
5	64QAM	12	7	20.71	20.71	20.69		
5	64QAM	12	13	20.66	20.75	20.75		
5	64QAM	25	0	20.64	20.74	20.68		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	20.63	20.61	20.59	22	0
3	QPSK	1	8	21.15	21.31	21.33		
3	QPSK	1	14	21.08	21.1	21.07		
3	QPSK	8	0	21.2	21.21	21.18	22	0
3	QPSK	8	4	21.18	21.21	21.25		
3	QPSK	8	7	21.17	21.19	21.21		
3	QPSK	15	0	21.14	21.17	21.24		
3	16QAM	1	0	21.47	21.62	21.65	22	0
3	16QAM	1	8	21.52	21.63	21.69		
3	16QAM	1	14	21.38	21.55	21.58		
3	16QAM	8	0	20.71	20.77	20.89	22	0
3	16QAM	8	4	20.74	20.82	20.83		
3	16QAM	8	7	20.7	20.71	20.94		
3	16QAM	15	0	20.66	20.71	20.81		
3	64QAM	1	0	21.32	21.41	21.11	22	0
3	64QAM	1	8	21.19	21.3	21.5		
3	64QAM	1	14	21.3	21.28	21.21		
3	64QAM	8	0	20.61	20.71	20.65	22	0
3	64QAM	8	4	20.65	20.69	20.84		
3	64QAM	8	7	20.63	20.67	20.67		
3	64QAM	15	0	20.66	20.65	20.72		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	20.76	20.77	20.65	22	0
1.4	QPSK	1	3	21.09	21.23	21		
1.4	QPSK	1	5	21.04	21.08	21.22		
1.4	QPSK	3	0	21.12	21.07	21.16		
1.4	QPSK	3	1	21.21	21.2	21.19		
1.4	QPSK	3	3	21.15	21.21	21.23		
1.4	QPSK	6	0	21.1	21.14	21.26	22	0
1.4	16QAM	1	0	21.36	21.42	21.17	22	0
1.4	16QAM	1	3	21.38	21.58	21.3		
1.4	16QAM	1	5	21.17	21.45	21.45		
1.4	16QAM	3	0	21.23	21.14	21.39		
1.4	16QAM	3	1	21.31	21.27	21.39		
1.4	16QAM	3	3	21.4	21.35	21.31		
1.4	16QAM	6	0	20.64	20.68	20.64	22	0
1.4	64QAM	1	0	21.33	21.23	21.24	22	0
1.4	64QAM	1	3	21.3	21.27	21.49		
1.4	64QAM	1	5	21.08	21.27	21.22		
1.4	64QAM	3	0	21.24	21.3	21.32		
1.4	64QAM	3	1	21.09	21.34	21.48		
1.4	64QAM	3	3	21.21	21.25	21.29		
1.4	64QAM	6	0	20.67	20.71	20.68	22	0

<Receiver On Power Mode>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	22.69	22.99	22.77	24	0
20	QPSK	1	49	22.5	22.38	22.59		
20	QPSK	1	99	22.36	22.39	22.56		
20	QPSK	50	0	21.62	21.83	21.89	23	1
20	QPSK	50	24	21.49	21.82	21.82		
20	QPSK	50	50	21.45	21.79	21.74		
20	QPSK	100	0	21.45	21.93	21.88		
20	16QAM	1	0	21.93	22.16	22.17	23	1
20	16QAM	1	49	21.68	22.02	22.08		
20	16QAM	1	99	21.77	21.81	21.87		
20	16QAM	50	0	20.55	20.85	20.92	22	2
20	16QAM	50	24	20.55	20.91	20.84		
20	16QAM	50	50	20.37	20.7	20.83		
20	16QAM	100	0	20.53	20.91	20.8		
20	64QAM	1	0	20.92	21.07	21.04	22	2
20	64QAM	1	49	20.51	20.92	20.91		
20	64QAM	1	99	20.58	20.61	20.9		
20	64QAM	50	0	19.6	19.82	19.86	21	3
20	64QAM	50	24	19.55	19.81	19.85		
20	64QAM	50	50	19.42	19.74	19.69		
20	64QAM	100	0	19.53	19.87	19.84		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	22.63	22.79	22.81	24	0
15	QPSK	1	37	22.05	22.7	22.26		
15	QPSK	1	74	22.67	22.86	22.89		
15	QPSK	36	0	21.59	21.68	21.82	23	1
15	QPSK	36	20	21.46	21.85	21.87		
15	QPSK	36	39	21.42	21.75	21.71		
15	QPSK	75	0	21.4	21.76	21.85		
15	16QAM	1	0	21.86	22.17	22.34	23	1
15	16QAM	1	37	21.66	21.89	22.27		
15	16QAM	1	74	21.97	22.25	22.22		
15	16QAM	36	0	20.61	20.71	20.77	22	2
15	16QAM	36	20	20.5	20.85	20.82		
15	16QAM	36	39	20.47	20.74	20.83		
15	16QAM	75	0	20.38	20.77	20.82		
15	64QAM	1	0	20.99	21.06	21.12	22	2
15	64QAM	1	37	20.91	20.84	20.99		
15	64QAM	1	74	21.04	21.04	21.08		
15	64QAM	36	0	19.61	19.83	19.79	21	3
15	64QAM	36	20	19.49	19.83	19.78		
15	64QAM	36	39	19.44	19.68	19.87		
15	64QAM	75	0	19.42	19.76	19.89		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	22.64	22.89	22.85	24	0
10	QPSK	1	25	22.39	22.68	22.72		
10	QPSK	1	49	22.42	22.81	22.94		
10	QPSK	25	0	21.45	21.66	21.8	23	1
10	QPSK	25	12	21.39	21.75	21.79		
10	QPSK	25	25	21.47	21.69	21.85		
10	QPSK	50	0	21.39	21.64	21.82		
10	16QAM	1	0	21.74	21.96	22.32	23	1
10	16QAM	1	25	21.56	21.94	22		
10	16QAM	1	49	21.71	21.96	22.22		
10	16QAM	25	0	20.4	20.71	20.82	22	2
10	16QAM	25	12	20.44	20.74	20.77		
10	16QAM	25	25	20.56	20.66	20.84		
10	16QAM	50	0	20.41	20.63	20.87		
10	64QAM	1	0	20.81	20.96	21.28	22	2
10	64QAM	1	25	20.64	20.96	20.91		
10	64QAM	1	49	20.73	20.92	21.22		
10	64QAM	25	0	19.39	19.71	19.83	21	3
10	64QAM	25	12	19.39	19.74	19.78		
10	64QAM	25	25	19.49	19.68	19.9		
10	64QAM	50	0	19.33	19.63	19.8		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	22.57	22.82	22.89	24	0
5	QPSK	1	12	22.42	22.71	22.81		
5	QPSK	1	24	22.36	22.72	22.8		
5	QPSK	12	0	21.46	21.74	21.89	23	1
5	QPSK	12	7	21.43	21.7	21.83		
5	QPSK	12	13	21.39	21.73	21.81		
5	QPSK	25	0	21.39	21.75	21.91		
5	16QAM	1	0	21.69	21.96	22.24	23	1
5	16QAM	1	12	21.52	21.84	21.96		
5	16QAM	1	24	21.62	21.93	22.07		
5	16QAM	12	0	20.52	20.81	20.94	22	2
5	16QAM	12	7	20.42	20.82	20.92		
5	16QAM	12	13	20.46	20.72	20.85		
5	16QAM	25	0	20.44	20.78	20.88		
5	64QAM	1	0	20.7	20.96	21.07	22	2
5	64QAM	1	12	20.48	20.86	20.96		
5	64QAM	1	24	20.54	20.82	20.96		
5	64QAM	12	0	19.54	19.82	19.94	21	3
5	64QAM	12	7	19.43	19.79	19.89		
5	64QAM	12	13	19.49	19.73	19.87		
5	64QAM	25	0	19.52	19.76	19.92		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	22.37	22.77	22.81	24	0
3	QPSK	1	8	22.4	22.7	22.85		
3	QPSK	1	14	22.33	22.66	22.75		
3	QPSK	8	0	21.42	21.72	21.81	23	1
3	QPSK	8	4	21.43	21.77	21.86		
3	QPSK	8	7	21.41	21.7	21.84		
3	QPSK	15	0	21.4	21.7	21.85		
3	16QAM	1	0	21.69	21.91	22.08	23	1
3	16QAM	1	8	21.57	21.81	21.92		
3	16QAM	1	14	21.74	21.91	22.13		
3	16QAM	8	0	20.48	20.78	20.93	22	2
3	16QAM	8	4	20.48	20.77	20.9		
3	16QAM	8	7	20.44	20.74	20.87		
3	16QAM	15	0	20.46	20.74	20.85		
3	64QAM	1	0	20.6	20.88	21.12	22	2
3	64QAM	1	8	20.58	20.98	20.94		
3	64QAM	1	14	20.53	20.83	21.1		
3	64QAM	8	0	19.49	19.76	19.9	21	3
3	64QAM	8	4	19.46	19.74	19.86		
3	64QAM	8	7	19.43	19.78	19.86		
3	64QAM	15	0	19.41	19.72	19.81		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	22.23	22.64	22.75	24	0
1.4	QPSK	1	3	22.29	22.71	22.8		
1.4	QPSK	1	5	22.28	22.67	22.69		
1.4	QPSK	3	0	22.32	22.68	22.7		
1.4	QPSK	3	1	22.36	22.68	22.76		
1.4	QPSK	3	3	22.36	22.66	22.78		
1.4	QPSK	6	0	21.36	21.68	21.78	23	1
1.4	16QAM	1	0	21.5	21.93	21.99	23	1
1.4	16QAM	1	3	21.5	21.92	22.07		
1.4	16QAM	1	5	21.51	21.85	21.93		
1.4	16QAM	3	0	21.29	21.74	21.74		
1.4	16QAM	3	1	21.33	21.72	21.87		
1.4	16QAM	3	3	21.34	21.74	21.84		
1.4	16QAM	6	0	20.48	20.81	20.86	22	2
1.4	64QAM	1	0	20.5	20.79	20.94	22	2
1.4	64QAM	1	3	20.61	20.89	20.95		
1.4	64QAM	1	5	20.53	20.78	20.83		
1.4	64QAM	3	0	20.56	20.85	20.94		
1.4	64QAM	3	1	20.56	20.86	20.95		
1.4	64QAM	3	3	20.57	20.81	20.94		
1.4	64QAM	6	0	19.37	19.66	19.78	21	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	22.64	22.63	22.87	24	0
20	QPSK	1	49	22.55	22.69	22.96		
20	QPSK	1	99	22.56	22.71	22.77		
20	QPSK	50	0	21.64	21.68	21.73	23	1
20	QPSK	50	24	21.69	21.65	21.83		
20	QPSK	50	50	21.65	21.61	21.69		
20	QPSK	100	0	21.65	21.66	21.84		
20	16QAM	1	0	21.88	21.92	22.01	23	1
20	16QAM	1	49	21.8	21.76	21.72		
20	16QAM	1	99	21.9	21.76	21.96		
20	16QAM	50	0	20.62	20.72	20.8	22	2
20	16QAM	50	24	20.66	20.66	20.81		
20	16QAM	50	50	20.7	20.66	20.68		
20	16QAM	100	0	20.67	20.72	20.79		
20	64QAM	1	0	20.68	20.79	20.98	22	2
20	64QAM	1	49	20.85	20.75	20.92		
20	64QAM	1	99	20.81	20.83	20.75		
20	64QAM	50	0	19.66	19.7	19.79	21	3
20	64QAM	50	24	19.62	19.65	19.82		
20	64QAM	50	50	19.56	19.63	19.72		
20	64QAM	100	0	19.65	19.7	19.79		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	22.73	22.79	22.98	24	0
15	QPSK	1	37	22.43	22.75	22.29		
15	QPSK	1	74	22.6	23.18	22.57		
15	QPSK	36	0	21.63	21.71	21.86	23	1
15	QPSK	36	20	21.54	21.66	21.75		
15	QPSK	36	39	21.58	21.71	21.73		
15	QPSK	75	0	21.62	21.65	21.76		
15	16QAM	1	0	21.93	22.12	22.16	23	1
15	16QAM	1	37	21.65	21.64	21.95		
15	16QAM	1	74	21.86	21.86	21.92		
15	16QAM	36	0	20.55	20.77	20.9	22	2
15	16QAM	36	20	20.63	20.7	20.66		
15	16QAM	36	39	20.56	20.73	20.77		
15	16QAM	75	0	20.59	20.68	20.8		
15	64QAM	1	0	20.86	20.97	21.19	22	2
15	64QAM	1	37	20.12	20.48	21.74		
15	64QAM	1	74	20.74	20.75	20.77		
15	64QAM	36	0	19.59	19.82	19.84	21	3
15	64QAM	36	20	19.64	19.71	19.74		
15	64QAM	36	39	19.61	19.73	19.69		
15	64QAM	75	0	19.63	19.65	19.81		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	22.99	23.11	23.34	24	0
10	QPSK	1	25	22.62	22.73	22.66		
10	QPSK	1	49	23.31	23.24	23.22		
10	QPSK	25	0	21.81	21.77	21.89	23	1
10	QPSK	25	12	21.8	21.84	21.88		
10	QPSK	25	25	21.9	21.93	21.86		
10	QPSK	50	0	21.94	21.89	21.87		
10	16QAM	1	0	22.38	22.33	22.32	23	1
10	16QAM	1	25	21.88	21.97	21.98		
10	16QAM	1	49	22.42	22.4	22.53		
10	16QAM	25	0	20.75	20.84	20.93	22	2
10	16QAM	25	12	20.74	20.78	20.84		
10	16QAM	25	25	20.79	20.89	20.8		
10	16QAM	50	0	20.87	21.01	20.92		
10	64QAM	1	0	21.27	21.31	21.39	22	2
10	64QAM	1	25	20.8	20.89	20.94		
10	64QAM	1	49	21.28	21.32	21.37		
10	64QAM	25	0	19.82	19.91	19.96	21	3
10	64QAM	25	12	19.85	19.84	19.84		
10	64QAM	25	25	19.85	19.93	20.02		
10	64QAM	50	0	19.9	19.88	19.94		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	22.71	22.82	23.06	24	0
5	QPSK	1	12	22.64	22.79	22.76		
5	QPSK	1	24	22.68	22.79	22.79		
5	QPSK	12	0	21.7	21.91	21.93	23	1
5	QPSK	12	7	21.73	21.83	21.88		
5	QPSK	12	13	21.73	21.83	21.86		
5	QPSK	25	0	21.76	21.83	21.88		
5	16QAM	1	0	22.37	22.19	22.39	23	1
5	16QAM	1	12	21.89	22.23	22.2		
5	16QAM	1	24	21.9	22.07	22.07		
5	16QAM	12	0	20.73	20.94	20.97	22	2
5	16QAM	12	7	20.75	20.86	20.88		
5	16QAM	12	13	20.76	20.86	20.84		
5	16QAM	25	0	20.72	20.89	20.88		
5	64QAM	1	0	20.97	21.12	21.16	22	2
5	64QAM	1	12	20.86	20.84	20.95		
5	64QAM	1	24	20.88	21	20.93		
5	64QAM	12	0	19.78	19.98	19.99	21	3
5	64QAM	12	7	19.75	19.86	19.93		
5	64QAM	12	13	19.84	19.9	19.88		
5	64QAM	25	0	19.76	19.89	19.9		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	22.59	22.76	22.85	24	0
3	QPSK	1	8	22.62	23.08	22.93		
3	QPSK	1	14	22.62	22.81	22.69		
3	QPSK	8	0	21.78	21.88	21.86	23	1
3	QPSK	8	4	21.68	21.84	21.87		
3	QPSK	8	7	21.67	21.81	21.75		
3	QPSK	15	0	21.68	21.8	21.8		
3	16QAM	1	0	21.93	22.18	22.31	23	1
3	16QAM	1	8	22.34	22.08	22.12		
3	16QAM	1	14	22.04	22.17	22.01		
3	16QAM	8	0	20.77	20.94	20.9	22	2
3	16QAM	8	4	20.76	20.91	20.89		
3	16QAM	8	7	20.73	20.92	20.78		
3	16QAM	15	0	20.69	20.84	20.83		
3	64QAM	1	0	20.86	21.07	21.04	22	2
3	64QAM	1	8	20.8	20.93	21.05		
3	64QAM	1	14	20.8	21.01	20.91		
3	64QAM	8	0	19.77	19.98	19.87	21	3
3	64QAM	8	4	19.74	19.91	19.94		
3	64QAM	8	7	19.73	19.94	19.77		
3	64QAM	15	0	19.72	19.81	19.83		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	22.66	22.65	22.64	24	0
1.4	QPSK	1	3	22.61	22.96	22.79		
1.4	QPSK	1	5	22.64	22.73	22.64		
1.4	QPSK	3	0	22.63	22.76	22.7		
1.4	QPSK	3	1	22.69	22.81	22.76		
1.4	QPSK	3	3	22.74	22.82	22.81		
1.4	QPSK	6	0	21.64	21.69	21.71	23	1
1.4	16QAM	1	0	22.09	22	22.06	23	1
1.4	16QAM	1	3	22.32	22.13	22.11		
1.4	16QAM	1	5	22.27	22	22.08		
1.4	16QAM	3	0	21.68	21.77	21.81		
1.4	16QAM	3	1	21.73	21.85	21.92		
1.4	16QAM	3	3	21.72	21.81	21.88		
1.4	16QAM	6	0	20.73	20.87	20.78	22	2
1.4	64QAM	1	0	20.82	20.93	20.9	22	2
1.4	64QAM	1	3	20.84	20.94	20.84		
1.4	64QAM	1	5	20.77	20.98	21		
1.4	64QAM	3	0	20.74	20.87	20.82		
1.4	64QAM	3	1	20.88	21.03	20.97		
1.4	64QAM	3	3	20.81	20.94	21.09		
1.4	64QAM	6	0	19.69	19.79	19.77	21	3

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	22.91	23.19	23.13	24	0
20	QPSK	1	49	22.75	22.92	22.75		
20	QPSK	1	99	22.63	22.72	22.69		
20	QPSK	50	0	21.83	22.08	22.08	23	1
20	QPSK	50	24	21.88	22.03	21.98		
20	QPSK	50	50	21.83	22.06	21.91		
20	QPSK	100	0	21.74	22.12	22.02		
20	16QAM	1	0	22.08	22.36	22.58	23	1
20	16QAM	1	49	22.11	22.23	22.17		
20	16QAM	1	99	21.99	22.11	22		
20	16QAM	50	0	20.86	21.12	21.08	22	2
20	16QAM	50	24	20.87	21.17	21		
20	16QAM	50	50	20.84	20.98	20.94		
20	16QAM	100	0	20.75	21.02	20.98		
20	64QAM	1	0	21.11	21.23	21.45	22	2
20	64QAM	1	49	20.94	21.01	21.01		
20	64QAM	1	99	20.81	20.92	20.99		
20	64QAM	50	0	19.79	20.09	20.05	21	3
20	64QAM	50	24	19.87	20.06	19.92		
20	64QAM	50	50	19.77	20.06	19.88		
20	64QAM	100	0	19.75	20.13	19.94		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.17	23.14	23.12	24	0
15	QPSK	1	37	22.66	23.46	22.74		
15	QPSK	1	74	22.94	23.08	23.01		
15	QPSK	36	0	21.88	22.15	22.03	23	1
15	QPSK	36	20	21.86	22	21.99		
15	QPSK	36	39	21.97	22.12	22.17		
15	QPSK	75	0	21.84	22.09	22.18		
15	16QAM	1	0	22.03	22.43	22.42	23	1
15	16QAM	1	37	21.93	22.22	22.18		
15	16QAM	1	74	22.31	22.42	22.19		
15	16QAM	36	0	20.84	21.11	21.02	22	2
15	16QAM	36	20	20.82	21.06	20.97		
15	16QAM	36	39	21.01	21.22	21.11		
15	16QAM	75	0	20.86	21.22	21.06		
15	64QAM	1	0	21.04	21.45	21.34	22	2
15	64QAM	1	37	20.87	21.12	21.48		
15	64QAM	1	74	20.95	21.42	21.17		
15	64QAM	36	0	19.86	20.12	20.03	21	3
15	64QAM	36	20	19.81	20.14	20.04		
15	64QAM	36	39	19.99	20.18	20.13		
15	64QAM	75	0	19.84	20.18	20.02		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.2	23.34	23.45	24	0
10	QPSK	1	25	22.86	23.04	22.91		
10	QPSK	1	49	23.07	23.17	23.79		
10	QPSK	25	0	21.83	21.95	22.06	23	1
10	QPSK	25	12	21.77	21.94	22.09		
10	QPSK	25	25	21.84	22.07	22.12		
10	QPSK	50	0	21.78	22.02	22.13		
10	16QAM	1	0	22.14	22.38	22.41	23	1
10	16QAM	1	25	21.9	22.1	22.21		
10	16QAM	1	49	22.34	22.39	22.4		
10	16QAM	25	0	20.81	21	21.02	22	2
10	16QAM	25	12	20.75	20.95	21.03		
10	16QAM	25	25	20.7	20.98	21.07		
10	16QAM	50	0	20.84	20.99	21.1		
10	64QAM	1	0	21.07	21.38	21.43	22	2
10	64QAM	1	25	20.88	20.98	21.2		
10	64QAM	1	49	21.22	21.21	21.36		
10	64QAM	25	0	19.8	19.99	19.99	21	3
10	64QAM	25	12	19.81	19.99	20.02		
10	64QAM	25	25	19.76	19.97	20.1		
10	64QAM	50	0	19.79	19.94	20.06		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.14	23.09	23.18	24	0
5	QPSK	1	12	22.99	23.06	23.05		
5	QPSK	1	24	22.72	22.91	23.04		
5	QPSK	12	0	21.79	22.03	22.07	23	1
5	QPSK	12	7	21.74	21.93	22.09		
5	QPSK	12	13	21.78	21.94	21.99		
5	QPSK	25	0	21.83	21.93	22.17		
5	16QAM	1	0	22.05	22.57	22.44	23	1
5	16QAM	1	12	21.89	22	22.31		
5	16QAM	1	24	22.11	22.26	22.47		
5	16QAM	12	0	20.88	21.03	21.1	22	2
5	16QAM	12	7	20.78	20.95	21.1		
5	16QAM	12	13	20.79	20.97	21.08		
5	16QAM	25	0	20.78	20.93	21.06		
5	64QAM	1	0	20.99	21.24	21.26	22	2
5	64QAM	1	12	20.84	21.06	21.12		
5	64QAM	1	24	20.88	21.2	21.18		
5	64QAM	12	0	19.84	19.99	20.13	21	3
5	64QAM	12	7	19.77	19.97	20.07		
5	64QAM	12	13	19.74	19.94	20.02		
5	64QAM	25	0	19.83	19.92	20.15		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.68	23.06	23.19	24	0
3	QPSK	1	8	22.82	22.93	23.1		
3	QPSK	1	14	22.71	22.92	23.02		
3	QPSK	8	0	21.83	21.99	22.08	23	1
3	QPSK	8	4	21.82	22.07	22.13		
3	QPSK	8	7	21.8	22.02	22.13		
3	QPSK	15	0	21.77	21.97	22.12		
3	16QAM	1	0	21.96	22.2	22.56	23	1
3	16QAM	1	8	22.21	22.29	22.3		
3	16QAM	1	14	22.63	22.64	22.42		
3	16QAM	8	0	20.85	21	21.17	22	2
3	16QAM	8	4	20.85	21.07	21.13		
3	16QAM	8	7	20.81	20.99	21.14		
3	16QAM	15	0	20.83	21.01	21.12		
3	64QAM	1	0	20.88	21.08	21.31	22	2
3	64QAM	1	8	20.98	21.25	21.3		
3	64QAM	1	14	20.89	21.06	21.2		
3	64QAM	8	0	19.78	20.05	20.19	21	3
3	64QAM	8	4	19.82	20.05	20.15		
3	64QAM	8	7	19.84	20	20.15		
3	64QAM	15	0	19.79	20	20.08		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	22.6	22.96	23	24	0
1.4	QPSK	1	3	22.79	22.85	23.51		
1.4	QPSK	1	5	22.61	22.96	23.07		
1.4	QPSK	3	0	22.75	22.95	23.02		
1.4	QPSK	3	1	22.73	22.93	23.1		
1.4	QPSK	3	3	22.92	22.99	23.13		
1.4	QPSK	6	0	21.77	21.92	22.06	23	1
1.4	16QAM	1	0	21.92	22.37	22.97	23	1
1.4	16QAM	1	3	22.59	22.19	22.71		
1.4	16QAM	1	5	21.86	22.15	22.16		
1.4	16QAM	3	0	21.72	21.99	22.11		
1.4	16QAM	3	1	21.7	22.03	22.07		
1.4	16QAM	3	3	21.71	22.04	22.08		
1.4	16QAM	6	0	20.82	21.01	21.13	22	2
1.4	64QAM	1	0	20.92	21.07	21.18	22	2
1.4	64QAM	1	3	20.91	21.15	21.19		
1.4	64QAM	1	5	20.77	21.1	21.2		
1.4	64QAM	3	0	20.85	21.14	21.24		
1.4	64QAM	3	1	20.88	21.21	21.2		
1.4	64QAM	3	3	20.91	21.15	21.24		
1.4	64QAM	6	0	19.75	19.94	20.07	21	3

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	23.12	23.16	23.11	24	0
20	QPSK	1	49	22.93	23.19	23.03		
20	QPSK	1	99	23.27	23.52	23.65		
20	QPSK	50	0	22.03	22.07	22.13	23	1
20	QPSK	50	24	22	22.05	22.09		
20	QPSK	50	50	22.07	22.1	22.04		
20	QPSK	100	0	22.12	22.13	22.23		
20	16QAM	1	0	22.51	22.62	22.6	23	1
20	16QAM	1	49	22.29	22.16	22.36		
20	16QAM	1	99	22.65	22.78	22.8		
20	16QAM	50	0	21.05	21.14	21.16	22	2
20	16QAM	50	24	21.09	21.15	21.2		
20	16QAM	50	50	21.01	21.22	21.09		
20	16QAM	100	0	21.06	21.06	21.13		
20	64QAM	1	0	21.24	21.42	21.58	22	2
20	64QAM	1	49	21.25	21.14	21.23		
20	64QAM	1	99	21.81	21.6	21.61		
20	64QAM	50	0	20.08	20.13	20.11	21	3
20	64QAM	50	24	20.07	20.1	20.11		
20	64QAM	50	50	20.06	20.15	20.17		
20	64QAM	100	0	20.13	20.2	20.12		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.38	23.55	23.62	24	0
15	QPSK	1	37	22.87	22.74	22.44		
15	QPSK	1	74	23.21	23.32	23.16		
15	QPSK	36	0	22.12	22.15	22.17	23	1
15	QPSK	36	20	22	22.09	22.01		
15	QPSK	36	39	21.95	22.02	21.87		
15	QPSK	75	0	22.03	22.11	22.13		
15	16QAM	1	0	22.8	22.62	22.81	23	1
15	16QAM	1	37	22.26	22.22	22.29		
15	16QAM	1	74	22.56	22.51	22.63		
15	16QAM	36	0	21.15	21.22	21.23	22	2
15	16QAM	36	20	21.06	21.08	21.09		
15	16QAM	36	39	20.98	21.04	21.05		
15	16QAM	75	0	21.08	21.14	21.22		
15	64QAM	1	0	21.67	21.65	21.75	22	2
15	64QAM	1	37	21.23	20.89	21.6		
15	64QAM	1	74	21.41	21.38	21.8		
15	64QAM	36	0	20.14	20.19	20.26	21	3
15	64QAM	36	20	20.07	20.11	20.12		
15	64QAM	36	39	20.05	20.04	20.09		
15	64QAM	75	0	20.11	20.11	20.18		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	22.42	22.43	22.48	24	0
10	QPSK	1	25	22.97	23.29	23.01		
10	QPSK	1	49	23.51	23.49	23.64		
10	QPSK	25	0	21.99	22.07	22.04	23	1
10	QPSK	25	12	22.12	22.13	22.19		
10	QPSK	25	25	22.11	22.17	22.2		
10	QPSK	50	0	22.11	22.09	22.18		
10	16QAM	1	0	21.85	21.8	21.87	23	1
10	16QAM	1	25	22.24	22.19	22.46		
10	16QAM	1	49	22.69	22.68	22.94		
10	16QAM	25	0	21.04	21.04	21.15	22	2
10	16QAM	25	12	21.1	21.13	21.16		
10	16QAM	25	25	21.08	21.2	21.21		
10	16QAM	50	0	21.15	21.24	21.11		
10	64QAM	1	0	20.73	20.73	20.79	22	2
10	64QAM	1	25	21.19	21.25	21.28		
10	64QAM	1	49	21.44	21.57	21.87		
10	64QAM	25	0	20.05	20.05	20.07	21	3
10	64QAM	25	12	20.12	20.11	20.18		
10	64QAM	25	25	20.17	20.14	20.17		
10	64QAM	50	0	20.12	20.1	20.16		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	22.97	23.06	23.04	24	0
5	QPSK	1	12	23.06	22.95	23.07		
5	QPSK	1	24	22.99	23.05	22.93		
5	QPSK	12	0	22.08	22.1	22.21	23	1
5	QPSK	12	7	22.03	22.05	22.1		
5	QPSK	12	13	22.01	22.12	22.13		
5	QPSK	25	0	22.12	22.13	22.14		
5	16QAM	1	0	22.54	22.45	22.57	23	1
5	16QAM	1	12	22.19	22.32	22.44		
5	16QAM	1	24	22.44	22.57	22.35		
5	16QAM	12	0	21.12	21.13	21.21	22	2
5	16QAM	12	7	21.05	21.06	21.23		
5	16QAM	12	13	21.09	21.12	21.1		
5	16QAM	25	0	21.01	21.04	21.19		
5	64QAM	1	0	21.35	21.35	21.4	22	2
5	64QAM	1	12	21.16	21.16	21.16		
5	64QAM	1	24	21.08	21.17	21.19		
5	64QAM	12	0	20.12	20.17	20.19	21	3
5	64QAM	12	7	20.07	20.11	20.11		
5	64QAM	12	13	20.05	20.1	20.12		
5	64QAM	25	0	20.04	20.11	20.12		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	22.87	22.96	22.97	24	0
3	QPSK	1	8	23.15	22.99	23.24		
3	QPSK	1	14	22.89	23	22.99		
3	QPSK	8	0	22.03	22.09	22.14	23	1
3	QPSK	8	4	22.01	22.09	22.11		
3	QPSK	8	7	22	22.05	22.09		
3	QPSK	15	0	21.96	22.04	22.11		
3	16QAM	1	0	22.3	22.45	22.59	23	1
3	16QAM	1	8	22.29	22.45	22.4		
3	16QAM	1	14	22.53	22.15	22.32		
3	16QAM	8	0	21.16	21.1	21.23	22	2
3	16QAM	8	4	21.17	21.1	21.21		
3	16QAM	8	7	21	21.1	21.13		
3	16QAM	15	0	21.02	21.09	21.14		
3	64QAM	1	0	21.35	21.21	21.74	22	2
3	64QAM	1	8	21.33	21.16	21.63		
3	64QAM	1	14	21.1	21.15	21.25		
3	64QAM	8	0	20.07	20.09	20.24	21	3
3	64QAM	8	4	20.07	20.1	20.2		
3	64QAM	8	7	20.12	20.11	20.06		
3	64QAM	15	0	20.05	20.08	20.08		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23	22.99	23.02	24	0
1.4	QPSK	1	3	23.08	23.02	23.01		
1.4	QPSK	1	5	22.89	22.91	23.04		
1.4	QPSK	3	0	22.95	23.07	23.01		
1.4	QPSK	3	1	23	22.99	23.06		
1.4	QPSK	3	3	23.01	23.02	23.2		
1.4	QPSK	6	0	21.95	21.93	22.09	23	1
1.4	16QAM	1	0	22.55	22.19	22.34	23	1
1.4	16QAM	1	3	22.58	22.68	22.46		
1.4	16QAM	1	5	22.35	22.13	22.35		
1.4	16QAM	3	0	22.04	22.1	22.23		
1.4	16QAM	3	1	22.11	22.05	22.1		
1.4	16QAM	3	3	22.02	22.01	22.19		
1.4	16QAM	6	0	20.97	21.1	21.08	22	2
1.4	64QAM	1	0	21.16	21.2	21.25	22	2
1.4	64QAM	1	3	21.1	21.18	21.08		
1.4	64QAM	1	5	21.18	21.11	21.16		
1.4	64QAM	3	0	21.12	21.13	21.14		
1.4	64QAM	3	1	21.18	21.16	21.29		
1.4	64QAM	3	3	21.21	21.16	21.24		
1.4	64QAM	6	0	20.04	20.05	20.15	21	3

<Reduced Power Mode for Hotspot On/P-Sensor On>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	15.35	15.26	15.56	16	0
20	QPSK	1	49	15.26	15.21	15.65		
20	QPSK	1	99	15.29	15.34	15.48		
20	QPSK	50	0	13.22	13.15	13.39	15	1
20	QPSK	50	24	13.32	13.25	13.37		
20	QPSK	50	50	13.06	13.07	13.24		
20	QPSK	100	0	13.03	13.18	13.26		
20	16QAM	1	0	13.00	13.30	13.20	15	1
20	16QAM	1	49	13.06	13.04	13.49		
20	16QAM	1	99	13.02	13.08	13.00		
20	16QAM	50	0	12.19	12.27	12.34	14	2
20	16QAM	50	24	12.29	12.21	12.36		
20	16QAM	50	50	12.08	12.07	12.24		
20	16QAM	100	0	12.13	12.23	12.28		
20	64QAM	1	0	12.87	12.88	13.05	14	2
20	64QAM	1	49	12.98	12.96	13.07		
20	64QAM	1	99	12.56	12.49	13.00		
20	64QAM	50	0	11.94	11.88	12.11	13	3
20	64QAM	50	24	11.99	11.96	12.14		
20	64QAM	50	50	11.77	11.80	11.93		
20	64QAM	100	0	13.00	13.30	13.20		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.28	15.27	15.56	16	0
15	QPSK	1	37	15.35	15.42	15.52		
15	QPSK	1	74	15.56	15.59	15.90		
15	QPSK	36	0	13.11	13.17	13.33	15	1
15	QPSK	36	20	13.10	13.21	13.36		
15	QPSK	36	39	13.13	13.13	13.28		
15	QPSK	75	0	13.12	13.15	13.31		
15	16QAM	1	0	13.21	13.31	13.64	15	1
15	16QAM	1	37	13.08	13.53	13.01		
15	16QAM	1	74	13.27	13.40	13.47		
15	16QAM	36	0	12.07	12.20	12.35	14	2
15	16QAM	36	20	12.12	12.24	12.44		
15	16QAM	36	39	12.16	12.22	12.22		
15	16QAM	75	0	12.12	12.20	12.32		
15	64QAM	1	0	12.72	12.94	13.20	14	2
15	64QAM	1	37	12.82	13.05	12.87		
15	64QAM	1	74	13.02	13.12	13.03		
15	64QAM	36	0	11.81	11.94	11.97	13	3
15	64QAM	36	20	11.86	11.82	12.07		
15	64QAM	36	39	11.83	11.89	11.91		
15	64QAM	75	0	11.74	11.78	12.01		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.89	15.24	15.44	16	0
10	QPSK	1	25	15.46	15.60	15.65		
10	QPSK	1	49	15.64	15.73	15.93		
10	QPSK	25	0	13.09	13.29	13.43	15	1
10	QPSK	25	12	13.19	13.28	13.38		
10	QPSK	25	25	13.15	13.18	13.38		
10	QPSK	50	0	13.18	13.24	13.39		
10	16QAM	1	0	13.41	13.53	13.54	15	1
10	16QAM	1	25	13.15	13.42	13.59		
10	16QAM	1	49	13.34	13.25	13.72		
10	16QAM	25	0	12.09	12.31	12.41	14	2
10	16QAM	25	12	12.19	12.29	12.39		
10	16QAM	25	25	12.11	12.23	12.40		
10	16QAM	50	0	12.24	12.25	12.44		
10	64QAM	1	0	13.13	13.42	13.24	14	2
10	64QAM	1	25	13.17	13.14	13.01		
10	64QAM	1	49	13.07	13.47	13.18		
10	64QAM	25	0	12.00	12.35	12.14	13	3
10	64QAM	25	12	12.11	12.38	12.06		
10	64QAM	25	25	12.05	12.37	12.17		
10	64QAM	50	0	12.10	12.42	12.12		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.36	15.72	15.74	16	0
5	QPSK	1	12	15.38	15.70	15.68		
5	QPSK	1	24	15.43	15.57	15.72		
5	QPSK	12	0	13.14	13.32	13.47	15	1
5	QPSK	12	7	13.06	13.28	13.40		
5	QPSK	12	13	13.14	13.19	13.40		
5	QPSK	25	0	13.06	13.30	13.46		
5	16QAM	1	0	13.40	13.49	13.63	15	1
5	16QAM	1	12	13.21	13.60	13.58		
5	16QAM	1	24	13.25	13.31	13.58		
5	16QAM	12	0	12.15	12.41	12.50	14	2
5	16QAM	12	7	12.14	12.31	12.44		
5	16QAM	12	13	12.18	12.22	12.38		
5	16QAM	25	0	12.10	12.35	12.46		
5	64QAM	1	0	13.20	13.33	13.41	14	2
5	64QAM	1	12	13.35	13.09	13.05		
5	64QAM	1	24	13.18	13.05	13.16		
5	64QAM	12	0	12.54	12.36	12.22	13	3
5	64QAM	12	7	12.44	12.00	12.08		
5	64QAM	12	13	12.38	12.07	12.09		
5	64QAM	25	0	12.42	12.06	12.15		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.51	15.81	15.83	16	0
3	QPSK	1	8	15.48	15.84	15.52		
3	QPSK	1	14	15.34	15.55	15.73		
3	QPSK	8	0	13.04	13.33	13.43	15	1
3	QPSK	8	4	13.10	13.28	13.46		
3	QPSK	8	7	13.04	13.19	13.42		
3	QPSK	15	0	13.07	13.27	13.38		
3	16QAM	1	0	13.20	13.05	13.77	15	1
3	16QAM	1	8	13.31	13.18	13.16		
3	16QAM	1	14	13.21	13.47	13.52		
3	16QAM	8	0	12.09	12.41	12.48	14	2
3	16QAM	8	4	12.11	12.32	12.47		
3	16QAM	8	7	12.14	12.20	12.43		
3	16QAM	15	0	12.07	12.29	12.42		
3	64QAM	1	0	13.18	13.03	13.75	14	2
3	64QAM	1	8	13.27	13.14	13.12		
3	64QAM	1	14	13.23	13.49	13.54		
3	64QAM	8	0	12.07	12.39	12.46	13	3
3	64QAM	8	4	12.07	12.28	12.43		
3	64QAM	8	7	12.16	12.22	12.45		
3	64QAM	15	0	12.05	12.27	12.40		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	15.40	15.71	15.80	16	0
1.4	QPSK	1	3	15.32	15.57	15.74		
1.4	QPSK	1	5	15.31	15.44	15.54		
1.4	QPSK	3	0	15.34	15.62	15.68		
1.4	QPSK	3	1	15.35	15.59	15.75		
1.4	QPSK	3	3	15.38	15.60	15.72		
1.4	QPSK	6	0	13.05	13.21	13.36	15	1
1.4	16QAM	1	0	13.14	13.53	13.08	15	1
1.4	16QAM	1	3	13.28	13.52	13.56		
1.4	16QAM	1	5	13.12	13.31	13.64		
1.4	16QAM	3	0	13.07	13.19	13.31		
1.4	16QAM	3	1	13.04	13.21	13.35		
1.4	16QAM	3	3	13.08	13.19	13.41		
1.4	16QAM	6	0	12.20	12.40	12.53	14	2
1.4	64QAM	1	0	13.16	13.55	13.10	14	2
1.4	64QAM	1	3	13.24	13.48	13.52		
1.4	64QAM	1	5	13.17	13.36	13.69		
1.4	64QAM	3	0	13.09	13.21	13.33		
1.4	64QAM	3	1	13.00	13.17	13.31		
1.4	64QAM	3	3	13.13	13.24	13.46		
1.4	64QAM	6	0	12.22	12.42	12.55	13	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	14.37	14.50	14.76	15	0
20	QPSK	1	49	14.27	14.23	14.39		
20	QPSK	1	99	14.30	14.34	14.54		
20	QPSK	50	0	12.22	12.19	12.17	14	1
20	QPSK	50	24	12.12	12.18	12.23		
20	QPSK	50	50	12.12	12.06	12.19		
20	QPSK	100	0	12.16	12.03	12.36		
20	16QAM	1	0	12.45	12.27	12.25	14	1
20	16QAM	1	49	12.35	12.42	12.35		
20	16QAM	1	99	12.24	12.13	12.52		
20	16QAM	50	0	11.25	11.15	11.23	13	2
20	16QAM	50	24	11.12	11.09	11.21		
20	16QAM	50	50	11.15	11.02	11.23		
20	16QAM	100	0	11.19	11.06	11.29		
20	64QAM	1	0	12.47	12.29	12.27	13	2
20	64QAM	1	49	12.31	12.38	12.31		
20	64QAM	1	99	12.27	12.16	12.55		
20	64QAM	50	0	11.27	11.17	11.25	12	3
20	64QAM	50	24	11.08	11.05	11.17		
20	64QAM	50	50	11.18	11.05	11.26		
20	64QAM	100	0	11.21	11.08	11.31		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	14.42	14.37	14.66	15	0
15	QPSK	1	37	14.20	14.10	14.43		
15	QPSK	1	74	14.29	14.26	14.45		
15	QPSK	36	0	12.09	12.08	12.09	14	1
15	QPSK	36	20	12.07	12.00	12.15		
15	QPSK	36	39	12.08	12.01	12.17		
15	QPSK	75	0	12.09	12.05	12.18		
15	16QAM	1	0	12.37	12.32	12.17	14	1
15	16QAM	1	37	12.17	12.10	12.05		
15	16QAM	1	74	12.11	12.01	12.30		
15	16QAM	36	0	11.12	11.03	11.18	13	2
15	16QAM	36	20	11.00	11.01	11.08		
15	16QAM	36	39	11.06	11.03	11.14		
15	16QAM	75	0	11.09	11.05	11.19		
15	64QAM	1	0	12.39	12.34	12.19	13	2
15	64QAM	1	37	12.13	12.06	12.01		
15	64QAM	1	74	12.14	12.04	12.33		
15	64QAM	36	0	11.14	11.05	11.20	12	3
15	64QAM	36	20	11.25	11.06	11.04		
15	64QAM	36	39	11.09	11.06	11.17		
15	64QAM	75	0	11.11	11.07	11.21		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	14.98	14.97	14.05	15	0
10	QPSK	1	25	14.39	14.37	14.70		
10	QPSK	1	49	14.89	14.81	14.82		
10	QPSK	25	0	12.15	12.08	12.24	14	1
10	QPSK	25	12	12.10	12.00	12.23		
10	QPSK	25	25	12.15	12.07	12.40		
10	QPSK	50	0	12.14	12.10	12.42		
10	16QAM	1	0	12.62	12.49	12.53	14	1
10	16QAM	1	25	12.20	12.23	12.38		
10	16QAM	1	49	12.71	12.57	12.91		
10	16QAM	25	0	11.10	11.12	11.22	13	2
10	16QAM	25	12	11.08	11.02	11.20		
10	16QAM	25	25	11.13	11.09	11.39		
10	16QAM	50	0	11.19	11.13	11.37		
10	64QAM	1	0	12.64	12.51	12.55	13	2
10	64QAM	1	25	12.16	12.19	12.34		
10	64QAM	1	49	12.74	12.60	12.94		
10	64QAM	25	0	11.12	11.14	11.24	12	3
10	64QAM	25	12	11.04	11.42	11.16		
10	64QAM	25	25	11.16	11.12	11.42		
10	64QAM	50	0	11.21	11.15	11.39		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	14.56	14.88	14.89	15	0
5	QPSK	1	12	14.33	14.35	14.67		
5	QPSK	1	24	14.41	14.41	14.69		
5	QPSK	12	0	12.17	12.02	12.30	14	1
5	QPSK	12	7	12.07	12.04	12.30		
5	QPSK	12	13	12.09	12.04	12.27		
5	QPSK	25	0	12.11	12.08	12.29		
5	16QAM	1	0	12.47	12.44	12.62	14	1
5	16QAM	1	12	12.26	12.23	12.44		
5	16QAM	1	24	12.27	12.22	12.51		
5	16QAM	12	0	11.21	11.09	11.35	13	2
5	16QAM	12	7	11.08	11.05	11.27		
5	16QAM	12	13	11.11	11.08	11.29		
5	16QAM	25	0	11.12	11.07	11.27		
5	64QAM	1	0	12.49	12.46	12.64	13	2
5	64QAM	1	12	12.22	12.19	12.40		
5	64QAM	1	24	12.30	12.25	12.54		
5	64QAM	12	0	11.23	11.11	11.37	12	3
5	64QAM	12	7	11.04	11.01	11.23		
5	64QAM	12	13	11.14	11.11	11.32		
5	64QAM	25	0	11.14	11.09	11.29		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	14.56	14.71	14.86	15	0
3	QPSK	1	8	14.30	14.38	14.54		
3	QPSK	1	14	14.40	14.32	14.60		
3	QPSK	8	0	12.12	12.03	12.30	14	1
3	QPSK	8	4	12.04	12.05	12.35		
3	QPSK	8	7	12.09	12.00	12.25		
3	QPSK	15	0	12.01	12.02	12.20		
3	16QAM	1	0	12.33	12.27	12.45	14	1
3	16QAM	1	8	12.30	12.23	12.43		
3	16QAM	1	14	12.26	12.16	12.56		
3	16QAM	8	0	11.15	11.09	11.38	13	2
3	16QAM	8	4	11.06	11.10	11.40		
3	16QAM	8	7	11.08	11.09	11.29		
3	16QAM	15	0	11.04	11.06	11.27		
3	64QAM	1	0	12.35	12.29	12.47	13	2
3	64QAM	1	8	12.26	12.19	12.39		
3	64QAM	1	14	12.29	12.19	12.59		
3	64QAM	8	0	11.17	11.11	11.40	12	3
3	64QAM	8	4	11.02	11.06	11.36		
3	64QAM	8	7	11.11	11.12	11.32		
3	64QAM	15	0	11.06	11.08	11.29		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	14.73	14.66	14.94	15	0
1.4	QPSK	1	3	14.41	14.33	14.44		
1.4	QPSK	1	5	14.39	14.38	14.59		
1.4	QPSK	3	0	14.44	14.39	14.59		
1.4	QPSK	3	1	14.49	14.46	14.66		
1.4	QPSK	3	3	14.47	14.41	14.59		
1.4	QPSK	6	0	12.03	12.06	12.23	14	1
1.4	16QAM	1	0	12.29	12.20	12.47	14	1
1.4	16QAM	1	3	12.36	12.32	12.64		
1.4	16QAM	1	5	12.24	12.17	12.52		
1.4	16QAM	3	0	12.04	12.09	12.29		
1.4	16QAM	3	1	12.11	12.00	12.32		
1.4	16QAM	3	3	12.10	12.01	12.23		
1.4	16QAM	6	0	11.09	11.08	11.31	13	2
1.4	64QAM	1	0	12.31	12.22	12.49	13	2
1.4	64QAM	1	3	12.32	12.28	12.60		
1.4	64QAM	1	5	12.27	12.20	12.55		
1.4	64QAM	3	0	11.75	11.79	11.76		
1.4	64QAM	3	1	11.86	11.96	11.53		
1.4	64QAM	3	3	11.74	11.86	11.52		
1.4	64QAM	6	0	11.11	11.10	11.33	12	3

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	18.25	18.10	18.45	18.5	0
20	QPSK	1	49	17.95	17.85	18.06		
20	QPSK	1	99	18.01	17.95	18.02		
20	QPSK	50	0	15.62	15.58	15.75	17.5	1
20	QPSK	50	24	15.60	15.50	15.69		
20	QPSK	50	50	15.57	15.54	15.74		
20	QPSK	100	0	15.55	15.59	15.74		
20	16QAM	1	0	15.67	15.58	15.51	17.5	1
20	16QAM	1	49	15.60	15.61	15.81		
20	16QAM	1	99	15.57	15.57	15.64		
20	16QAM	50	0	14.59	14.55	14.73	16.5	2
20	16QAM	50	24	14.60	15.58	14.79		
20	16QAM	50	50	14.58	14.53	14.67		
20	16QAM	100	0	14.61	14.59	14.74		
20	64QAM	1	0	15.65	15.56	15.49	16.5	2
20	64QAM	1	49	15.61	15.62	15.82		
20	64QAM	1	99	15.53	15.53	15.60		
20	64QAM	50	0	14.57	14.53	14.71	15.5	3
20	64QAM	50	24	14.61	14.56	14.80		
20	64QAM	50	50	14.54	14.69	14.63		
20	64QAM	100	0	14.59	14.57	14.72		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	18.47	18.47	18.43	18.5	0
15	QPSK	1	37	18.19	18.32	18.31		
15	QPSK	1	74	18.25	18.11	18.23		
15	QPSK	36	0	15.72	15.67	15.79	17.5	1
15	QPSK	36	20	15.73	15.59	15.89		
15	QPSK	36	39	15.55	15.57	15.82		
15	QPSK	75	0	15.70	15.58	15.84		
15	16QAM	1	0	15.70	15.74	15.72	17.5	1
15	16QAM	1	37	15.77	15.64	16.03		
15	16QAM	1	74	15.63	15.66	15.77		
15	16QAM	36	0	14.72	14.69	14.80	16.5	2
15	16QAM	36	20	14.73	14.62	14.89		
15	16QAM	36	39	14.59	14.58	14.85		
15	16QAM	75	0	14.73	14.58	14.84		
15	64QAM	1	0	15.68	15.72	15.70	16.5	2
15	64QAM	1	37	15.73	15.60	15.99		
15	64QAM	1	74	15.58	15.61	15.72		
15	64QAM	36	0	14.70	14.67	14.78	15.5	3
15	64QAM	36	20	14.69	14.58	14.85		
15	64QAM	36	39	14.54	14.53	14.80		
15	64QAM	75	0	14.71	14.56	14.82		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	18.35	18.39	18.46	18.5	0
10	QPSK	1	25	18.14	17.95	18.41		
10	QPSK	1	49	18.18	18.06	18.42		
10	QPSK	25	0	15.70	15.68	15.83	17.5	1
10	QPSK	25	12	15.73	15.61	15.91		
10	QPSK	25	25	15.70	15.57	15.97		
10	QPSK	50	0	15.65	15.56	15.91		
10	16QAM	1	0	15.68	15.76	15.88	17.5	1
10	16QAM	1	25	15.77	15.59	15.83		
10	16QAM	1	49	15.69	15.52	16.07		
10	16QAM	25	0	14.75	14.69	14.89	16.5	2
10	16QAM	25	12	14.75	14.62	14.89		
10	16QAM	25	25	14.73	14.58	14.91		
10	16QAM	50	0	14.72	14.63	14.91		
10	64QAM	1	0	15.66	15.74	15.86	16.5	2
10	64QAM	1	25	15.74	15.56	15.80		
10	64QAM	1	49	15.72	15.55	16.10		
10	64QAM	25	0	14.73	14.67	14.87	15.5	3
10	64QAM	25	12	14.72	14.59	14.86		
10	64QAM	25	25	14.76	14.61	14.94		
10	64QAM	50	0	14.70	14.61	14.89		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	18.47	18.46	18.42	18.5	0
5	QPSK	1	12	18.43	18.37	18.50		
5	QPSK	1	24	18.44	18.41	18.44		
5	QPSK	12	0	15.88	15.79	15.87	17.5	1
5	QPSK	12	7	15.80	15.72	15.87		
5	QPSK	12	13	15.82	15.63	15.89		
5	QPSK	25	0	15.83	15.77	15.87		
5	16QAM	1	0	16.10	16.19	16.22	17.5	1
5	16QAM	1	12	15.80	15.87	16.01		
5	16QAM	1	24	15.98	15.80	16.03		
5	16QAM	12	0	14.91	14.82	14.94	16.5	2
5	16QAM	12	7	14.85	14.74	14.85		
5	16QAM	12	13	14.82	14.70	14.87		
5	16QAM	25	0	14.86	14.80	14.96		
5	64QAM	1	0	16.12	16.21	16.24	16.5	2
5	64QAM	1	12	15.81	15.88	16.02		
5	64QAM	1	24	15.96	15.78	16.01		
5	64QAM	12	0	14.93	14.84	14.96	15.5	3
5	64QAM	12	7	14.86	14.75	14.86		
5	64QAM	12	13	14.80	14.68	14.85		
5	64QAM	25	0	14.88	14.82	14.98		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	15.55	15.90	15.78	16	0
20	QPSK	1	49	15.52	15.77	15.69		
20	QPSK	1	99	15.53	15.45	15.66		
20	QPSK	50	0	13.26	13.52	13.46	15	1
20	QPSK	50	24	13.25	13.38	13.42		
20	QPSK	50	50	13.22	13.37	13.40		
20	QPSK	100	0	13.11	13.49	13.41		
20	16QAM	1	0	13.48	13.45	13.74	15	1
20	16QAM	1	49	13.25	13.58	13.75		
20	16QAM	1	99	13.00	13.27	13.03		
20	16QAM	50	0	12.26	12.47	12.48	14	2
20	16QAM	50	24	12.20	12.57	12.50		
20	16QAM	50	50	12.18	12.46	12.55		
20	16QAM	100	0	12.22	12.45	12.50		
20	64QAM	1	0	13.46	13.43	13.72	14	2
20	64QAM	1	49	13.28	13.61	13.78		
20	64QAM	1	99	12.95	13.22	12.98		
20	64QAM	50	0	12.24	12.45	12.46	13	3
20	64QAM	50	24	12.23	12.60	12.53		
20	64QAM	50	50	12.13	12.41	12.50		
20	64QAM	100	0	12.20	12.43	12.48		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	15.56	15.75	15.86	16	0
15	QPSK	1	37	15.35	15.54	15.90		
15	QPSK	1	74	15.56	15.84	15.91		
15	QPSK	36	0	13.20	13.45	13.64	15	1
15	QPSK	36	20	13.30	13.55	13.60		
15	QPSK	36	39	13.38	13.60	13.68		
15	QPSK	75	0	13.32	13.51	13.61		
15	16QAM	1	0	13.34	13.52	13.66	15	1
15	16QAM	1	37	13.07	13.17	13.92		
15	16QAM	1	74	13.39	13.47	13.15		
15	16QAM	36	0	12.25	12.41	12.65	14	2
15	16QAM	36	20	12.29	12.46	12.55		
15	16QAM	36	39	12.43	12.56	12.64		
15	16QAM	75	0	12.27	12.59	12.67		
15	64QAM	1	0	13.32	13.50	13.64	14	2
15	64QAM	1	37	13.10	13.20	13.95		
15	64QAM	1	74	13.34	13.42	13.10		
15	64QAM	36	0	12.23	12.39	12.63	13	3
15	64QAM	36	20	12.32	12.49	12.58		
15	64QAM	36	39	12.38	12.51	12.59		
15	64QAM	75	0	12.25	12.57	12.65		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	15.75	15.89	15.90	16	0
10	QPSK	1	25	15.72	15.86	15.92		
10	QPSK	1	49	15.91	15.87	15.84		
10	QPSK	25	0	13.29	13.62	13.53	15	1
10	QPSK	25	12	13.35	13.57	13.62		
10	QPSK	25	25	13.33	13.61	13.58		
10	QPSK	50	0	13.37	13.62	13.60		
10	16QAM	1	0	13.50	13.81	13.70	15	1
10	16QAM	1	25	13.49	13.64	13.68		
10	16QAM	1	49	13.61	13.88	13.90		
10	16QAM	25	0	12.35	12.63	12.62	14	2
10	16QAM	25	12	12.38	12.63	12.65		
10	16QAM	25	25	12.34	12.66	12.64		
10	16QAM	50	0	12.43	12.61	12.62		
10	64QAM	1	0	13.48	13.79	13.68	14	2
10	64QAM	1	25	13.52	13.67	13.71		
10	64QAM	1	49	13.56	13.83	13.85		
10	64QAM	25	0	12.33	12.61	12.60	13	3
10	64QAM	25	12	12.41	12.66	12.68		
10	64QAM	25	25	12.29	12.61	12.59		
10	64QAM	50	0	12.41	12.59	12.60		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	15.55	15.69	15.86	16	0
5	QPSK	1	12	15.51	15.83	15.93		
5	QPSK	1	24	15.58	15.99	15.93		
5	QPSK	12	0	13.30	13.61	13.63	15	1
5	QPSK	12	7	13.22	13.57	13.66		
5	QPSK	12	13	13.22	13.53	13.59		
5	QPSK	25	0	13.24	13.53	13.67		
5	16QAM	1	0	13.28	14.07	13.91	15	1
5	16QAM	1	12	13.14	13.58	13.68		
5	16QAM	1	24	13.37	13.74	13.72		
5	16QAM	12	0	12.34	12.65	12.65	14	2
5	16QAM	12	7	12.25	12.55	12.63		
5	16QAM	12	13	12.23	12.54	12.69		
5	16QAM	25	0	12.29	12.56	12.59		
5	64QAM	1	0	13.26	13.52	13.89	14	2
5	64QAM	1	12	13.17	13.61	13.71		
5	64QAM	1	24	13.32	13.69	13.67		
5	64QAM	12	0	12.32	12.63	12.63	13	3
5	64QAM	12	7	12.28	12.58	12.66		
5	64QAM	12	13	12.18	12.49	12.64		
5	64QAM	25	0	12.27	12.54	12.57		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	15.78	15.90	15.86	16	0
3	QPSK	1	8	15.81	15.78	15.81		
3	QPSK	1	14	15.64	15.92	16.00		
3	QPSK	8	0	13.23	13.52	13.58	15	1
3	QPSK	8	4	13.26	13.54	13.57		
3	QPSK	8	7	13.15	13.52	13.61		
3	QPSK	15	0	13.24	13.53	13.56		
3	16QAM	1	0	13.52	13.97	13.89	15	1
3	16QAM	1	8	13.29	13.59	13.68		
3	16QAM	1	14	13.50	13.64	13.82		
3	16QAM	8	0	12.28	12.62	12.66	14	2
3	16QAM	8	4	12.40	12.59	12.73		
3	16QAM	8	7	12.26	12.63	12.63		
3	16QAM	15	0	12.31	12.59	12.62		
3	64QAM	1	0	13.50	13.95	13.87	14	2
3	64QAM	1	8	13.32	13.62	13.71		
3	64QAM	1	14	13.45	13.59	13.77		
3	64QAM	8	0	12.26	12.60	12.64	13	3
3	64QAM	8	4	12.43	12.62	12.76		
3	64QAM	8	7	12.21	12.58	12.58		
3	64QAM	15	0	12.29	12.57	12.60		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	15.89	15.89	15.88	16	0
1.4	QPSK	1	3	15.50	15.87	15.85		
1.4	QPSK	1	5	15.52	15.85	15.95		
1.4	QPSK	3	0	15.60	15.88	15.96		
1.4	QPSK	3	1	15.60	15.95	15.99		
1.4	QPSK	3	3	15.66	15.94	15.92		
1.4	QPSK	6	0	13.18	13.52	13.56	15	1
1.4	16QAM	1	0	13.41	13.57	13.82	15	1
1.4	16QAM	1	3	13.13	13.79	13.98		
1.4	16QAM	1	5	13.56	13.59	13.80		
1.4	16QAM	3	0	13.20	13.45	13.57		
1.4	16QAM	3	1	13.25	13.53	13.67		
1.4	16QAM	3	3	13.20	13.42	13.58		
1.4	16QAM	6	0	12.43	12.65	12.71	14	2
1.4	64QAM	1	0	13.39	13.55	13.80	14	2
1.4	64QAM	1	3	13.16	13.82	13.96		
1.4	64QAM	1	5	13.51	13.54	13.75		
1.4	64QAM	3	0	12.69	12.58	12.62		
1.4	64QAM	3	1	12.58	12.56	12.70		
1.4	64QAM	3	3	12.78	12.56	12.56		
1.4	64QAM	6	0	12.54	12.51	12.54	13	3

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		19.48		19.5	0
10	QPSK	1	25		19.38			
10	QPSK	1	49		19.47			
10	QPSK	25	0		16.92		18.5	1
10	QPSK	25	12		16.79			
10	QPSK	25	25		16.82			
10	QPSK	50	0		16.83			
10	16QAM	1	0		17.29		18.5	1
10	16QAM	1	25		16.81			
10	16QAM	1	49		16.99			
10	16QAM	25	0		15.84		17.5	2
10	16QAM	25	12		15.78			
10	16QAM	25	25		15.75			
10	16QAM	50	0		15.81			
10	64QAM	1	0		17.27		17.5	2
10	64QAM	1	25		16.84			
10	64QAM	1	49		16.94			
10	64QAM	25	0		15.82		16.5	3
10	64QAM	25	12		15.81			
10	64QAM	25	25		15.70			
10	64QAM	50	0		15.79			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	18.93	18.90	18.80	19.5	0
5	QPSK	1	12	19.17	18.65	18.71		
5	QPSK	1	24	19.36	19.36	19.23		
5	QPSK	12	0	16.91	16.74	16.80	18.5	1
5	QPSK	12	7	16.85	16.78	16.78		
5	QPSK	12	13	16.78	16.79	16.74		
5	QPSK	25	0	16.71	16.88	16.76		
5	16QAM	1	0	17.18	17.09	17.11	18.5	1
5	16QAM	1	12	16.93	16.87	16.93		
5	16QAM	1	24	16.97	16.91	16.90		
5	16QAM	12	0	15.86	15.81	15.79	17.5	2
5	16QAM	12	7	15.90	15.82	15.74		
5	16QAM	12	13	15.71	15.82	15.72		
5	16QAM	25	0	15.73	15.70	15.73		
5	64QAM	1	0	17.16	17.07	17.09	17.5	2
5	64QAM	1	12	16.96	16.90	16.96		
5	64QAM	1	24	16.92	16.86	16.85		
5	64QAM	12	0	15.84	15.79	15.77	16.5	3
5	64QAM	12	7	15.93	15.85	15.77		
5	64QAM	12	13	15.66	15.77	15.67		
5	64QAM	25	0	15.71	15.68	15.71		

<LTE Band 66>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	14.56	14.85	14.85	15	0
20	QPSK	1	49	14.44	14.57	14.49		
20	QPSK	1	99	14.90	14.93	14.93		
20	QPSK	50	0	12.19	12.25	12.27	14	1
20	QPSK	50	24	12.26	12.21	12.20		
20	QPSK	50	50	12.23	12.20	12.24		
20	QPSK	100	0	12.25	12.26	12.27		
20	16QAM	1	0	12.35	12.40	12.37	14	1
20	16QAM	1	49	12.50	12.39	12.38		
20	16QAM	1	99	12.64	12.45	12.62		
20	16QAM	50	0	11.21	11.24	11.22	13	2
20	16QAM	50	24	11.26	11.23	11.27		
20	16QAM	50	50	11.26	11.28	11.27		
20	16QAM	100	0	11.26	11.20	11.24		
20	64QAM	1	0	12.33	12.38	12.35	13	2
20	64QAM	1	49	12.55	12.44	12.43		
20	64QAM	1	99	12.55	12.36	12.53		
20	64QAM	50	0	11.19	11.22	11.20	12	3
20	64QAM	50	24	11.31	11.28	11.32		
20	64QAM	50	50	11.17	11.19	11.18		
20	64QAM	100	0	11.24	11.18	11.22		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	14.50	14.49	14.37	15	0
15	QPSK	1	37	14.52	14.31	14.49		
15	QPSK	1	74	14.76	14.69	14.63		
15	QPSK	36	0	12.43	12.34	12.36	14	1
15	QPSK	36	20	12.32	12.28	12.28		
15	QPSK	36	39	12.23	12.15	12.08		
15	QPSK	75	0	12.28	12.31	12.23		
15	16QAM	1	0	12.77	12.67	12.59	14	1
15	16QAM	1	37	12.33	12.31	12.27		
15	16QAM	1	74	12.57	12.32	12.44		
15	16QAM	36	0	11.39	11.32	11.33	13	2
15	16QAM	36	20	11.27	11.22	11.20		
15	16QAM	36	39	11.20	11.18	11.14		
15	16QAM	75	0	11.28	11.28	11.24		
15	64QAM	1	0	12.75	12.65	12.57	13	2
15	64QAM	1	37	12.38	12.36	12.32		
15	64QAM	1	74	12.48	12.23	12.35		
15	64QAM	36	0	11.37	11.30	11.31	12	3
15	64QAM	36	20	11.32	11.27	11.25		
15	64QAM	36	39	11.11	11.09	11.05		
15	64QAM	75	0	11.26	11.26	11.22		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	14.86	14.76	14.85	15	0
10	QPSK	1	25	14.63	14.68	14.62		
10	QPSK	1	49	14.92	14.84	14.85		
10	QPSK	25	0	12.27	12.17	12.20	14	1
10	QPSK	25	12	12.34	12.30	12.32		
10	QPSK	25	25	12.37	12.40	12.33		
10	QPSK	50	0	12.34	12.33	12.27		
10	16QAM	1	0	12.00	12.06	12.05	14	1
10	16QAM	1	25	12.41	12.31	12.42		
10	16QAM	1	49	12.89	12.76	12.86		
10	16QAM	25	0	11.25	11.25	11.20	13	2
10	16QAM	25	12	11.30	11.28	11.32		
10	16QAM	25	25	11.33	11.27	11.28		
10	16QAM	50	0	11.36	11.35	11.25		
10	64QAM	1	0	11.98	12.04	12.03	13	2
10	64QAM	1	25	12.46	12.36	12.47		
10	64QAM	1	49	12.80	12.67	12.77		
10	64QAM	25	0	11.23	11.23	11.18	12	3
10	64QAM	25	12	11.35	11.33	11.37		
10	64QAM	25	25	11.24	11.18	11.19		
10	64QAM	50	0	11.34	11.33	11.23		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	14.76	14.68	14.59	15	0
5	QPSK	1	12	14.65	14.76	14.73		
5	QPSK	1	24	14.69	14.67	14.62		
5	QPSK	12	0	12.35	12.31	12.31	14	1
5	QPSK	12	7	12.28	12.26	12.25		
5	QPSK	12	13	12.26	12.34	12.24		
5	QPSK	25	0	12.32	12.29	12.26		
5	16QAM	1	0	12.65	12.62	12.74	14	1
5	16QAM	1	12	12.51	12.44	12.37		
5	16QAM	1	24	12.38	12.50	12.38		
5	16QAM	12	0	11.38	11.29	11.29	13	2
5	16QAM	12	7	11.29	11.29	11.25		
5	16QAM	12	13	11.25	11.23	11.22		
5	16QAM	25	0	11.31	11.25	11.23		
5	64QAM	1	0	12.63	12.60	12.72	13	2
5	64QAM	1	12	12.56	12.49	12.42		
5	64QAM	1	24	12.29	12.41	12.29		
5	64QAM	12	0	11.36	11.27	11.27	12	3
5	64QAM	12	7	11.34	11.34	11.30		
5	64QAM	12	13	11.16	11.14	11.13		
5	64QAM	25	0	11.29	11.23	11.21		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	14.76	14.60	14.59	15	0
3	QPSK	1	8	14.68	14.54	14.64		
3	QPSK	1	14	14.65	14.61	14.62		
3	QPSK	8	0	12.34	12.26	12.29	14	1
3	QPSK	8	4	12.29	12.26	12.28		
3	QPSK	8	7	12.30	12.23	12.20		
3	QPSK	15	0	12.28	12.27	12.23		
3	16QAM	1	0	12.48	12.47	12.55	14	1
3	16QAM	1	8	12.46	12.46	12.36		
3	16QAM	1	14	12.47	12.60	12.38		
3	16QAM	8	0	11.37	11.33	11.29	13	2
3	16QAM	8	4	11.29	11.26	11.25		
3	16QAM	8	7	11.31	11.28	11.26		
3	16QAM	15	0	11.31	11.28	11.25		
3	64QAM	1	0	12.46	12.45	12.53	13	2
3	64QAM	1	8	12.51	12.51	12.41		
3	64QAM	1	14	12.38	12.51	12.29		
3	64QAM	8	0	11.35	11.31	11.27	12	3
3	64QAM	8	4	11.34	11.31	11.30		
3	64QAM	8	7	11.22	11.19	11.17		
3	64QAM	15	0	11.29	11.26	11.23		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	14.86	14.46	14.56	15	0
1.4	QPSK	1	3	14.60	14.67	14.57		
1.4	QPSK	1	5	14.59	14.59	14.56		
1.4	QPSK	3	0	14.65	14.64	14.65		
1.4	QPSK	3	1	14.69	14.70	14.70		
1.4	QPSK	3	3	14.69	14.69	14.70		
1.4	QPSK	6	0	12.23	12.18	12.19	14	1
1.4	16QAM	1	0	12.49	12.59	12.42	14	1
1.4	16QAM	1	3	12.58	12.40	12.54		
1.4	16QAM	1	5	12.48	12.56	12.42		
1.4	16QAM	3	0	12.25	12.25	12.28		
1.4	16QAM	3	1	12.29	12.29	12.26		
1.4	16QAM	3	3	12.25	12.25	12.19		
1.4	16QAM	6	0	11.33	11.31	11.30	13	2
1.4	64QAM	1	0	12.47	12.57	12.40	13	2
1.4	64QAM	1	3	12.63	12.45	12.59		
1.4	64QAM	1	5	12.39	12.47	12.33		
1.4	64QAM	3	0	12.23	12.23	12.26		
1.4	64QAM	3	1	12.34	12.34	12.31		
1.4	64QAM	3	3	12.16	12.16	12.10		
1.4	64QAM	6	0	11.31	11.29	11.28	12	3

<Reduced Power Mode for Product Specific 10g SAR>

<LTE Band 2>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				18700	18900	19100		
Frequency (MHz)				1860	1880	1900		
20	QPSK	1	0	19.73	19.67	19.52	21.5	0
20	QPSK	1	49	20.54	20.83	20.82		
20	QPSK	1	99	20.87	21.03	21.49		
20	QPSK	50	0	18.69	18.8	18.82	20.5	1
20	QPSK	50	24	18.66	18.67	18.8		
20	QPSK	50	50	18.58	18.61	18.73		
20	QPSK	100	0	18.54	18.78	18.73		
20	16QAM	1	0	18.82	19.01	19.12	20.5	1
20	16QAM	1	49	18.97	18.8	18.57		
20	16QAM	1	99	18.53	18.68	18.57		
20	16QAM	50	0	17.69	17.61	17.81	19.5	2
20	16QAM	50	24	17.6	17.54	17.81		
20	16QAM	50	50	17.53	17.54	17.77		
20	16QAM	100	0	17.58	17.61	17.73		
20	64QAM	1	0	19.04	18.94	19.05	19.5	2
20	64QAM	1	49	18.79	18.72	19.1		
20	64QAM	1	99	18.37	18.64	18.63		
20	64QAM	50	0	17.66	17.61	17.76	18.5	3
20	64QAM	50	24	17.51	17.56	17.84		
20	64QAM	50	50	17.45	17.5	17.76		
20	64QAM	100	0	17.61	17.68	17.76		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.88	19.87	19.92	21.5	0
15	QPSK	1	37	20.53	20.44	19.67		
15	QPSK	1	74	21.46	21.41	21.46		
15	QPSK	36	0	18.54	18.66	18.66	20.5	1
15	QPSK	36	20	18.51	18.71	18.79		
15	QPSK	36	39	18.58	18.58	18.83		
15	QPSK	75	0	18.52	18.69	18.91		
15	16QAM	1	0	19.12	19.19	19.42	20.5	1
15	16QAM	1	37	18.86	18.52	19.06		
15	16QAM	1	74	18.96	19.01	19.5		
15	16QAM	36	0	17.63	17.65	17.69	19.5	2
15	16QAM	36	20	17.56	17.62	17.76		
15	16QAM	36	39	17.53	17.58	17.83		
15	16QAM	75	0	17.56	17.73	17.8		
15	64QAM	1	0	19.15	19.04	19.09	19.5	2
15	64QAM	1	37	18.69	18.58	19.06		
15	64QAM	1	74	18.91	18.82	19.27		
15	64QAM	36	0	17.65	17.59	17.68	18.5	3
15	64QAM	36	20	17.57	17.6	17.67		
15	64QAM	36	39	17.57	17.58	17.78		
15	64QAM	75	0	17.53	17.73	17.98		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	19.54	19.65	19.86	21.5	0
10	QPSK	1	25	20.25	20.25	21.31		
10	QPSK	1	49	21.29	21.41	21.43		
10	QPSK	25	0	18.57	18.6	18.77	20.5	1
10	QPSK	25	12	18.52	18.57	18.73		
10	QPSK	25	25	18.55	18.65	18.93		
10	QPSK	50	0	18.53	18.56	18.82		
10	16QAM	1	0	18.98	18.87	19.13	20.5	1
10	16QAM	1	25	18.78	18.7	19.12		
10	16QAM	1	49	18.78	18.93	19.29		
10	16QAM	25	0	17.54	17.57	17.8	19.5	2
10	16QAM	25	12	17.52	17.53	17.8		
10	16QAM	25	25	17.56	17.54	17.83		
10	16QAM	50	0	17.59	17.57	17.76		
10	64QAM	1	0	18.69	18.85	19.08	19.5	2
10	64QAM	1	25	18.65	18.66	19		
10	64QAM	1	49	18.74	18.94	19.19		
10	64QAM	25	0	17.46	17.55	17.76	18.5	3
10	64QAM	25	12	17.51	17.53	17.78		
10	64QAM	25	25	17.41	17.53	17.88		
10	64QAM	50	0	17.47	17.49	17.76		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.51	19.59	19.84	21.5	0
5	QPSK	1	12	19.78	20.09	20.21		
5	QPSK	1	24	21.14	21.13	21.46		
5	QPSK	12	0	18.59	18.63	18.97	20.5	1
5	QPSK	12	7	18.51	18.63	18.97		
5	QPSK	12	13	18.58	18.62	18.9		
5	QPSK	25	0	18.54	18.66	18.95		
5	16QAM	1	0	18.85	18.89	19.14	20.5	1
5	16QAM	1	12	18.7	18.86	19.14		
5	16QAM	1	24	18.74	18.92	18.92		
5	16QAM	12	0	17.6	17.72	17.89	19.5	2
5	16QAM	12	7	17.5	17.64	17.96		
5	16QAM	12	13	17.59	17.69	17.94		
5	16QAM	25	0	17.53	17.55	17.91		
5	64QAM	1	0	18.8	18.82	19.02	19.5	2
5	64QAM	1	12	18.71	18.94	18.87		
5	64QAM	1	24	18.71	18.76	18.96		
5	64QAM	12	0	17.49	17.56	17.87	18.5	3
5	64QAM	12	7	17.42	17.57	17.91		
5	64QAM	12	13	17.51	17.58	17.91		
5	64QAM	25	0	17.44	17.56	17.95		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	21.07	19.51	19.81	21.5	0
3	QPSK	1	8	20.85	20.21	20.11		
3	QPSK	1	14	20.78	21.01	21.12		
3	QPSK	8	0	18.51	18.65	18.98	20.5	1
3	QPSK	8	4	18.53	18.68	18.68		
3	QPSK	8	7	18.58	18.61	18.65		
3	QPSK	15	0	18.58	18.68	18.58		
3	16QAM	1	0	18.78	18.51	19.12	20.5	1
3	16QAM	1	8	18.65	18.82	19.15		
3	16QAM	1	14	18.75	18.91	19.02		
3	16QAM	8	0	17.68	17.68	17.78	19.5	2
3	16QAM	8	4	17.51	17.65	17.89		
3	16QAM	8	7	17.59	17.58	17.91		
3	16QAM	15	0	17.51	17.51	17.9		
3	64QAM	1	0	18.7	18.78	19.01	19.5	2
3	64QAM	1	8	18.65	18.89	18.98		
3	64QAM	1	14	18.65	18.71	18.68		
3	64QAM	8	0	17.41	17.51	17.82	18.5	3
3	64QAM	8	4	17.48	17.55	17.89		
3	64QAM	8	7	17.42	17.51	17.92		
3	64QAM	15	0	17.41	17.52	17.75		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	21.01	21.11	19.82	21.5	0
1.4	QPSK	1	3	20.99	21.13	20.25		
1.4	QPSK	1	5	21.01	21.11	21.41		
1.4	QPSK	3	0	21.02	21.16	21.48		
1.4	QPSK	3	1	21.05	21.19	21.46		
1.4	QPSK	3	3	21.06	21.11	21.43		
1.4	QPSK	6	0	18.51	18.57	18.83	20.5	1
1.4	16QAM	1	0	18.73	18.53	19.06	20.5	1
1.4	16QAM	1	3	18.61	18.75	19.25		
1.4	16QAM	1	5	18.53	18.75	18.84		
1.4	16QAM	3	0	18.51	18.56	18.9		
1.4	16QAM	3	1	18.55	18.62	18.92		
1.4	16QAM	3	3	18.57	18.5	18.95		
1.4	16QAM	6	0	17.58	17.65	17.78	19.5	2
1.4	64QAM	1	0	18.71	18.61	18.47	19.5	2
1.4	64QAM	1	3	18.73	18.68	18.68		
1.4	64QAM	1	5	18.53	18.71	18.61		
1.4	64QAM	3	0	18.31	17.51	18.8		
1.4	64QAM	3	1	18.38	17.58	18.89		
1.4	64QAM	3	3	18.56	18.5	18.85		
1.4	64QAM	6	0	17.45	17.41	17.78	18.5	3

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	18.57	18.55	18.6	20.5	0
20	QPSK	1	49	20.16	19.72	19.94		
20	QPSK	1	99	20.17	20.15	20.49		
20	QPSK	50	0	17.52	17.57	17.67	19.5	1
20	QPSK	50	24	17.52	17.64	17.65		
20	QPSK	50	50	17.54	17.53	17.6		
20	QPSK	100	0	17.61	17.52	17.72		
20	16QAM	1	0	17.8	18.36	18.11	19.5	1
20	16QAM	1	49	17.87	18.04	18.18		
20	16QAM	1	99	18.07	17.93	18.24		
20	16QAM	50	0	16.65	16.56	16.67	18.5	2
20	16QAM	50	24	16.65	16.58	16.67		
20	16QAM	50	50	16.51	16.58	16.83		
20	16QAM	100	0	16.52	16.54	16.69		
20	64QAM	1	0	17.61	17.96	17.97	18.5	2
20	64QAM	1	49	17.76	17.81	17.91		
20	64QAM	1	99	17.86	17.83	18.01		
20	64QAM	50	0	16.45	16.49	16.71	17.5	3
20	64QAM	50	24	16.59	16.58	16.59		
20	64QAM	50	50	16.45	16.45	16.55		
20	64QAM	100	0	16.55	16.51	16.67		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	18.84	18.84	18.9	20.5	0
15	QPSK	1	37	19.71	19.27	19.96		
15	QPSK	1	74	20.2	20.02	20.26		
15	QPSK	36	0	17.56	17.61	17.8	19.5	1
15	QPSK	36	20	17.59	17.65	17.7		
15	QPSK	36	39	17.51	17.52	17.61		
15	QPSK	75	0	17.52	17.56	17.85		
15	16QAM	1	0	18.15	18.04	18.25	19.5	1
15	16QAM	1	37	17.78	18.29	18.07		
15	16QAM	1	74	18.06	17.95	18.28		
15	16QAM	36	0	16.52	16.67	16.76	18.5	2
15	16QAM	36	20	16.65	16.74	16.76		
15	16QAM	36	39	16.56	16.58	16.77		
15	16QAM	75	0	16.57	16.52	16.92		
15	64QAM	1	0	18.12	18.16	18.17	18.5	2
15	64QAM	1	37	17.63	17.84	17.67		
15	64QAM	1	74	17.94	17.86	18.02		
15	64QAM	36	0	16.53	16.67	16.73	17.5	3
15	64QAM	36	20	16.56	16.73	16.76		
15	64QAM	36	39	16.52	16.47	16.81		
15	64QAM	75	0	16.57	16.56	16.82		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	18.83	18.73	19	20.5	0
10	QPSK	1	25	19.02	19.36	19.6		
10	QPSK	1	49	20.46	20.41	20.4		
10	QPSK	25	0	17.75	17.69	17.83	19.5	1
10	QPSK	25	12	17.61	17.62	17.83		
10	QPSK	25	25	17.75	17.68	17.99		
10	QPSK	50	0	17.59	17.55	17.92		
10	16QAM	1	0	18.26	18.39	18.44	19.5	1
10	16QAM	1	25	17.62	18.09	18.12		
10	16QAM	1	49	18.33	18.47	18.74		
10	16QAM	25	0	16.63	16.6	16.89	18.5	2
10	16QAM	25	12	16.63	16.62	16.77		
10	16QAM	25	25	16.77	16.62	17.03		
10	16QAM	50	0	16.64	16.58	16.89		
10	64QAM	1	0	18.21	18.23	18.12	18.5	2
10	64QAM	1	25	17.86	17.93	17.8		
10	64QAM	1	49	18.33	18.17	18.48		
10	64QAM	25	0	16.62	16.65	16.89	17.5	3
10	64QAM	25	12	16.59	16.65	16.76		
10	64QAM	25	25	16.74	16.71	17.01		
10	64QAM	50	0	16.72	16.56	16.97		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	18.56	18.65	18.82	20.5	0
5	QPSK	1	12	19	18.93	19.19		
5	QPSK	1	24	20.25	20.2	20.43		
5	QPSK	12	0	18.57	17.56	17.9	19.5	1
5	QPSK	12	7	17.54	17.66	17.85		
5	QPSK	12	13	17.54	17.59	17.85		
5	QPSK	25	0	17.53	17.56	17.87		
5	16QAM	1	0	17.84	17.83	18.43	19.5	1
5	16QAM	1	12	17.63	17.97	18.56		
5	16QAM	1	24	17.95	17.82	18.45		
5	16QAM	12	0	16.69	16.71	16.95	18.5	2
5	16QAM	12	7	16.68	16.69	16.89		
5	16QAM	12	13	16.56	16.57	16.86		
5	16QAM	25	0	16.56	16.5	16.85		
5	64QAM	1	0	17.85	18.08	18.17	18.5	2
5	64QAM	1	12	17.82	17.89	18		
5	64QAM	1	24	17.71	17.56	18.06		
5	64QAM	12	0	16.57	16.6	16.84	17.5	3
5	64QAM	12	7	16.56	16.66	16.83		
5	64QAM	12	13	16.45	16.54	16.86		
5	64QAM	25	0	16.55	16.51	16.83		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	18.51	18.59	18.93	20.5	0
3	QPSK	1	8	19.04	19.07	19.16		
3	QPSK	1	14	20.01	20.21	20.39		
3	QPSK	8	0	17.56	17.64	17.87	19.5	1
3	QPSK	8	4	17.58	17.55	17.87		
3	QPSK	8	7	17.58	17.51	17.82		
3	QPSK	15	0	17.56	17.51	17.79		
3	16QAM	1	0	18.12	17.93	18.22	19.5	1
3	16QAM	1	8	17.79	17.61	17.99		
3	16QAM	1	14	17.67	17.9	18.2		
3	16QAM	8	0	16.65	16.64	17.02	18.5	2
3	16QAM	8	4	16.6	16.6	17.06		
3	16QAM	8	7	16.65	16.57	16.99		
3	16QAM	15	0	16.59	16.51	16.9		
3	64QAM	1	0	18.05	17.53	17.9	18.5	2
3	64QAM	1	8	17.33	17.68	18.05		
3	64QAM	1	14	17.31	17.98	18.13		
3	64QAM	8	0	16.51	16.57	17	17.5	3
3	64QAM	8	4	16.51	16.52	16.93		
3	64QAM	8	7	16.52	16.52	16.72		
3	64QAM	15	0	16.46	16.45	16.81		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	18.65	18.69	18.71	20.5	0
1.4	QPSK	1	3	18.84	19.46	19.12		
1.4	QPSK	1	5	20.19	20.28	20.41		
1.4	QPSK	3	0	20.21	20.28	20.46		
1.4	QPSK	3	1	20.25	20.34	20.39		
1.4	QPSK	3	3	20.32	20.24	20.41		
1.4	QPSK	6	0	17.51	17.59	17.82	19.5	1
1.4	16QAM	1	0	17.88	17.95	18.18	19.5	1
1.4	16QAM	1	3	17.76	18.11	17.94		
1.4	16QAM	1	5	17.72	17.81	18.11		
1.4	16QAM	3	0	17.65	17.67	17.92		
1.4	16QAM	3	1	17.72	17.78	17.86		
1.4	16QAM	3	3	17.6	17.57	17.99		
1.4	16QAM	6	0	16.53	16.55	16.85	18.5	2
1.4	64QAM	1	0	17.71	17.66	17.82	18.5	2
1.4	64QAM	1	3	17.72	17.63	18.3		
1.4	64QAM	1	5	17.72	17.58	17.99		
1.4	64QAM	3	0	17.61	17.75	17.89		
1.4	64QAM	3	1	17.73	17.79	18.05		
1.4	64QAM	3	3	17.69	17.57	17.9		
1.4	64QAM	6	0	16.59	16.5	16.81	17.5	3

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	19.78	19.92	19.98	21.5	0
20	QPSK	1	49	21.07	20.99	21.24		
20	QPSK	1	99	21.24	21.39	21.49		
20	QPSK	50	0	18.73	18.93	19.07	20.5	1
20	QPSK	50	24	18.7	18.86	18.93		
20	QPSK	50	50	18.68	18.9	19.06		
20	QPSK	100	0	18.71	19.06	19.09		
20	16QAM	1	0	19.27	19.29	19.47	20.5	1
20	16QAM	1	49	19.29	18.84	19.18		
20	16QAM	1	99	18.79	18.84	19.25		
20	16QAM	50	0	17.7	17.98	18.08	19.5	2
20	16QAM	50	24	17.73	17.78	18.03		
20	16QAM	50	50	17.71	17.98	18.04		
20	16QAM	100	0	17.72	17.86	18.03		
20	64QAM	1	0	19.01	18.98	19.38	19.5	2
20	64QAM	1	49	18.79	18.61	19.34		
20	64QAM	1	99	18.67	18.96	19.06		
20	64QAM	50	0	17.69	17.89	18.1	18.5	3
20	64QAM	50	24	17.68	17.87	17.91		
20	64QAM	50	50	17.73	17.82	18.03		
20	64QAM	100	0	17.69	17.96	18.03		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	19.8	20.04	19.91	21.5	0
15	QPSK	1	37	20.69	20.89	19.91		
15	QPSK	1	74	21.43	21.47	21.48		
15	QPSK	36	0	18.8	18.94	19.08	20.5	1
15	QPSK	36	20	18.79	18.99	19.14		
15	QPSK	36	39	18.77	18.94	19.23		
15	QPSK	75	0	18.86	18.95	19.19		
15	16QAM	1	0	19.23	19.29	19.52	20.5	1
15	16QAM	1	37	18.77	19.08	19.56		
15	16QAM	1	74	19	19.37	19.27		
15	16QAM	36	0	17.7	17.92	18.03	19.5	2
15	16QAM	36	20	17.75	17.82	18.17		
15	16QAM	36	39	17.86	18.04	18.33		
15	16QAM	75	0	17.78	18.06	18.19		
15	64QAM	1	0	19.12	19.05	19.46	19.5	2
15	64QAM	1	37	19.07	18.58	18.87		
15	64QAM	1	74	19.11	19.39	19.38		
15	64QAM	36	0	17.68	17.85	18.08	18.5	3
15	64QAM	36	20	17.86	17.89	18.07		
15	64QAM	36	39	17.76	18	18.2		
15	64QAM	75	0	17.84	17.94	18.11		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	19.89	19.88	20.12	21.5	0
10	QPSK	1	25	20.08	20.69	20.92		
10	QPSK	1	49	21.5	21.47	21.46		
10	QPSK	25	0	18.78	18.91	19.05	20.5	1
10	QPSK	25	12	18.71	18.92	19.08		
10	QPSK	25	25	18.71	19	19.1		
10	QPSK	50	0	18.77	18.92	19.09		
10	16QAM	1	0	19.2	19.31	19.58	20.5	1
10	16QAM	1	25	19.03	19.28	19.4		
10	16QAM	1	49	19.16	19.51	19.54		
10	16QAM	25	0	17.76	17.88	18.03	19.5	2
10	16QAM	25	12	17.69	17.86	18.05		
10	16QAM	25	25	17.78	17.88	18.15		
10	16QAM	50	0	17.69	17.82	17.98		
10	64QAM	1	0	19.12	19.13	19.44	19.5	2
10	64QAM	1	25	18.86	18.99	19.15		
10	64QAM	1	49	19.25	19.33	19.45		
10	64QAM	25	0	17.75	17.91	18.04	18.5	3
10	64QAM	25	12	17.71	17.86	18.06		
10	64QAM	25	25	17.71	17.84	18.12		
10	64QAM	50	0	17.68	17.91	17.97		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	19.78	19.95	20.08	21.5	0
5	QPSK	1	12	20.19	20.56	20.27		
5	QPSK	1	24	21.32	21.46	21.47		
5	QPSK	12	0	18.78	18.9	19.14	20.5	1
5	QPSK	12	7	18.75	18.79	18.99		
5	QPSK	12	13	18.73	18.81	18.94		
5	QPSK	25	0	18.8	18.8	19.03		
5	16QAM	1	0	19.17	19.31	19.6	20.5	1
5	16QAM	1	12	19.12	19.23	19.4		
5	16QAM	1	24	19.06	19.2	19.29		
5	16QAM	12	0	17.76	17.9	18.16	19.5	2
5	16QAM	12	7	17.76	17.84	18.13		
5	16QAM	12	13	17.71	17.83	18.14		
5	16QAM	25	0	17.8	17.79	18.07		
5	64QAM	1	0	19.01	19	19.29	19.5	2
5	64QAM	1	12	18.74	19.02	19.2		
5	64QAM	1	24	18.81	19	19.01		
5	64QAM	12	0	17.75	17.83	18.15	18.5	3
5	64QAM	12	7	17.75	17.73	17.92		
5	64QAM	12	13	17.7	17.72	18.05		
5	64QAM	25	0	17.78	17.76	18.15		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	19.72	21.46	21.49	21.5	0
3	QPSK	1	8	20.24	19.56	19.51		
3	QPSK	1	14	21.29	19.67	19.57		
3	QPSK	8	0	18.73	18.84	19.02	20.5	1
3	QPSK	8	4	18.68	18.87	19.05		
3	QPSK	8	7	18.69	19.12	19.47		
3	QPSK	15	0	18.67	19.17	19.25		
3	16QAM	1	0	18.99	19.14	19.35	20.5	1
3	16QAM	1	8	18.84	18.53	18.56		
3	16QAM	1	14	18.8	18.58	18.51		
3	16QAM	8	0	17.79	17.89	18.1	19.5	2
3	16QAM	8	4	17.79	17.84	18.01		
3	16QAM	8	7	17.75	19	19.29		
3	16QAM	15	0	17.71	19.22	19.29		
3	64QAM	1	0	18.85	19.05	19.14	19.5	2
3	64QAM	1	8	18.98	17.79	18.05		
3	64QAM	1	14	18.71	17.84	18.13		
3	64QAM	8	0	17.64	17.74	17.99	18.5	3
3	64QAM	8	4	17.73	17.8	18		
3	64QAM	8	7	17.71	17.68	17.82		
3	64QAM	15	0	17.71	17.65	17.91		
Channel				19.81	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				20.49	1880	1914.3		
1.4	QPSK	1	0	19.62	19.74	19.98	21.5	0
1.4	QPSK	1	3	20.03	20.33	20.43		
1.4	QPSK	1	5	21.31	21.41	21.48		
1.4	QPSK	3	0	21.31	21.46	21.4		
1.4	QPSK	3	1	21.38	21.46	21.42		
1.4	QPSK	3	3	21.41	21.41	21.49		
1.4	QPSK	6	0	18.58	18.8	19.11	20.5	1
1.4	16QAM	1	0	18.95	19.11	19.24	20.5	1
1.4	16QAM	1	3	18.99	19.21	19.29		
1.4	16QAM	1	5	18.93	19.19	19.31		
1.4	16QAM	3	0	18.7	18.92	19.16		
1.4	16QAM	3	1	18.78	18.88	19.08		
1.4	16QAM	3	3	18.76	18.87	19.15		
1.4	16QAM	6	0	17.68	17.78	18.04	19.5	2
1.4	64QAM	1	0	18.79	18.92	19.27	19.5	2
1.4	64QAM	1	3	18.85	18.99	19.31		
1.4	64QAM	1	5	18.83	18.9	19.08		
1.4	64QAM	3	0	18.77	18.93	19.02		
1.4	64QAM	3	1	18.84	19	19.1		
1.4	64QAM	3	3	18.82	19	19.11		
1.4	64QAM	6	0	17.59	17.72	17.93	18.5	3

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BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				132072	132322	132572		
Frequency (MHz)				1720	1745	1770		
20	QPSK	1	0	18.75	18.75	18.74	20.5	0
20	QPSK	1	49	19.97	19.89	19.71		
20	QPSK	1	99	20.47	20.44	20.49		
20	QPSK	50	0	17.92	18.01	18.03	19.5	1
20	QPSK	50	24	17.99	18	17.95		
20	QPSK	50	50	17.99	18.02	17.88		
20	QPSK	100	0	18.05	17.98	18.17		
20	16QAM	1	0	18.54	18.43	18.72	19.5	1
20	16QAM	1	49	18.29	18.25	18.45		
20	16QAM	1	99	18.46	18.5	18.69		
20	16QAM	50	0	16.92	16.85	16.96	18.5	2
20	16QAM	50	24	16.85	16.81	17.01		
20	16QAM	50	50	16.95	16.94	17.07		
20	16QAM	100	0	16.85	16.89	16.92		
20	64QAM	1	0	18.27	18.18	18.5	18.5	2
20	64QAM	1	49	18.41	18.36	18.23		
20	64QAM	1	99	18.23	18.35	18.39		
20	64QAM	50	0	16.82	16.85	16.96	17.5	3
20	64QAM	50	24	16.83	16.9	16.91		
20	64QAM	50	50	16.88	16.93	16.92		
20	64QAM	100	0	16.93	16.96	17		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	19.43	19.48	19.31	20.5	0
15	QPSK	1	37	19.62	20.03	19.84		
15	QPSK	1	74	20.45	20.46	20.47		
15	QPSK	36	0	18	18	18.11	19.5	1
15	QPSK	36	20	17.88	17.95	17.97		
15	QPSK	36	39	17.9	17.92	17.92		
15	QPSK	75	0	18.02	18.01	17.98		
15	16QAM	1	0	18.93	18.81	18.94	19.5	1
15	16QAM	1	37	18.13	17.84	18.49		
15	16QAM	1	74	18.32	18.58	18.43		
15	16QAM	36	0	17.02	17.04	16.99	18.5	2
15	16QAM	36	20	16.96	16.97	16.92		
15	16QAM	36	39	16.88	16.78	16.82		
15	16QAM	75	0	16.98	17.06	17.1		
15	64QAM	1	0	18.44	18.49	18.43	18.5	2
15	64QAM	1	37	17.52	17.83	18.5		
15	64QAM	1	74	18.44	18.36	18.43		
15	64QAM	36	0	16.92	17.05	16.97	17.5	3
15	64QAM	36	20	16.88	16.91	16.92		
15	64QAM	36	39	16.95	16.82	16.81		
15	64QAM	75	0	16.92	16.98	17.03		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	18.58	18.57	18.51	20.5	0
10	QPSK	1	25	19.92	19.73	19.59		
10	QPSK	1	49	20.41	20.42	20.48		
10	QPSK	25	0	17.69	17.69	17.78	19.5	1
10	QPSK	25	12	17.77	17.87	17.87		
10	QPSK	25	25	17.92	17.82	17.77		
10	QPSK	50	0	17.84	17.82	17.81		
10	16QAM	1	0	17.65	17.65	17.75	19.5	1
10	16QAM	1	25	18.09	18.21	18.16		
10	16QAM	1	49	18.26	18.21	18.56		
10	16QAM	25	0	16.72	16.74	16.77	18.5	2
10	16QAM	25	12	16.79	16.73	16.84		
10	16QAM	25	25	16.76	16.86	16.87		
10	16QAM	50	0	16.83	16.65	16.86		
10	64QAM	1	0	17.62	17.53	17.63	18.5	2
10	64QAM	1	25	17.93	18.03	18.07		
10	64QAM	1	49	18.4	18.11	18.2		
10	64QAM	25	0	16.77	16.64	16.67	17.5	3
10	64QAM	25	12	16.72	16.8	16.77		
10	64QAM	25	25	16.65	16.75	16.82		
10	64QAM	50	0	16.76	16.78	16.8		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	18.87	18.8	18.9	20.5	0
5	QPSK	1	12	19.29	19.17	19.4		
5	QPSK	1	24	20.22	20.45	20.43		
5	QPSK	12	0	17.78	17.82	17.9	19.5	1
5	QPSK	12	7	17.74	17.8	17.83		
5	QPSK	12	13	17.74	17.83	17.74		
5	QPSK	25	0	17.76	17.79	17.85		
5	16QAM	1	0	18.31	18.13	18.57	19.5	1
5	16QAM	1	12	18.35	17.93	18.3		
5	16QAM	1	24	18.15	18.18	17.99		
5	16QAM	12	0	16.77	16.89	16.9	18.5	2
5	16QAM	12	7	16.8	16.76	16.79		
5	16QAM	12	13	16.71	16.76	16.78		
5	16QAM	25	0	16.76	16.74	16.85		
5	64QAM	1	0	17.89	18.1	17.98	18.5	2
5	64QAM	1	12	17.77	18.05	17.83		
5	64QAM	1	24	18.27	17.72	17.74		
5	64QAM	12	0	16.83	16.87	16.84	17.5	3
5	64QAM	12	7	16.68	16.81	16.78		
5	64QAM	12	13	16.7	16.71	16.82		
5	64QAM	25	0	16.71	16.84	16.82		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	18.63	18.66	18.77	20.5	0
3	QPSK	1	8	19.33	19.35	19.47		
3	QPSK	1	14	20.35	20.37	20.45		
3	QPSK	8	0	17.79	17.79	17.84	19.5	1
3	QPSK	8	4	17.74	17.85	17.82		
3	QPSK	8	7	17.69	17.72	17.75		
3	QPSK	15	0	17.73	17.75	17.81		
3	16QAM	1	0	17.99	18.29	18.31	19.5	1
3	16QAM	1	8	17.64	17.93	18.28		
3	16QAM	1	14	17.58	17.69	18.18		
3	16QAM	8	0	16.86	16.86	17.05	18.5	2
3	16QAM	8	4	16.7	16.86	16.83		
3	16QAM	8	7	16.69	16.77	16.83		
3	16QAM	15	0	16.63	16.74	16.77		
3	64QAM	1	0	17.5	17.84	18.17	18.5	2
3	64QAM	1	8	18.2	17.68	17.89		
3	64QAM	1	14	17.67	17.89	17.91		
3	64QAM	8	0	16.75	16.66	16.68	17.5	3
3	64QAM	8	4	16.76	16.7	16.73		
3	64QAM	8	7	16.69	16.69	16.71		
3	64QAM	15	0	16.7	16.76	16.74		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	18.79	18.58	18.92	20.5	0
1.4	QPSK	1	3	19.38	19.32	19.53		
1.4	QPSK	1	5	20.38	20.28	20.48		
1.4	QPSK	3	0	20.44	20.37	20.44		
1.4	QPSK	3	1	20.41	20.46	20.36		
1.4	QPSK	3	3	20.44	20.44	20.41		
1.4	QPSK	6	0	17.7	17.73	17.83	19.5	1
1.4	16QAM	1	0	17.61	18.14	17.63	19.5	1
1.4	16QAM	1	3	17.72	18.3	18.38		
1.4	16QAM	1	5	17.94	18.18	18.18		
1.4	16QAM	3	0	17.9	17.9	18		
1.4	16QAM	3	1	18.03	17.96	17.79		
1.4	16QAM	3	3	18	17.83	18.04		
1.4	16QAM	6	0	16.59	16.65	16.76	18.5	2
1.4	64QAM	1	0	17.83	17.5	17.85	18.5	2
1.4	64QAM	1	3	17.71	17.43	18.02		
1.4	64QAM	1	5	17.34	17.84	17.58		
1.4	64QAM	3	0	17.83	17.91	17.98		
1.4	64QAM	3	1	17.63	17.85	18.04		
1.4	64QAM	3	3	17.8	17.8	18.01		
1.4	64QAM	6	0	16.6	16.58	16.74	17.5	3

<TDD LTE SAR Measurement>

TDD LTE configuration setup for SAR measurement

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

a. 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations
b. "special subframe S" contains both uplink and downlink transmissions, it has been taken into consideration to determine the transmission duty factor according to the worst case uplink and downlink cyclic prefix requirements for UpPTS
c. Establishing connections with base station simulators ensure a consistent means for testing SAR and recommended for evaluating SAR. The Anritsu MT8820C (firmware: #22.52#004) was used for LTE output power measurements and SAR testing.

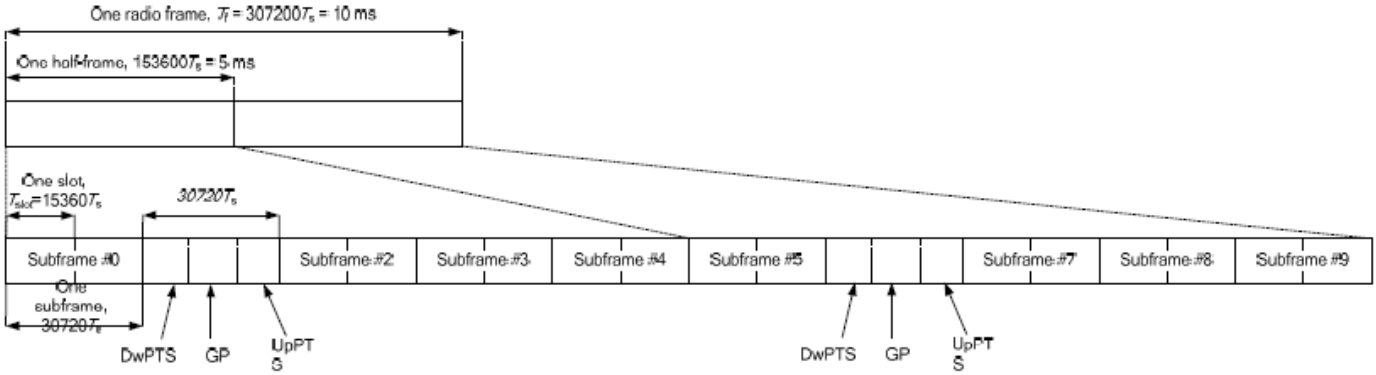


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

Table 4.2-2: Uplink-downlink configurations.

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

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

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

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

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

The highest duty factor is resulted from:

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

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

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

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

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

<Full/Receiver On Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	23.52	23.43	23.57	24	0
20	QPSK	1	49	23.32	23.41	23.45		
20	QPSK	1	99	23.4	23.29	23.49		
20	QPSK	50	0	22.51	22.42	22.55	23	1
20	QPSK	50	24	22.5	22.37	21.99		
20	QPSK	50	50	22.6	22.37	22.38		
20	QPSK	100	0	22.12	22.37	22.39		
20	16QAM	1	0	22.66	22.49	22.51	23	1
20	16QAM	1	49	22.53	22.12	22.35		
20	16QAM	1	99	22.61	22.88	22.5		
20	16QAM	50	0	21.58	21.51	21.43	22	2
20	16QAM	50	24	21.56	21.53	21.42		
20	16QAM	50	50	21.6	21.5	21.42		
20	16QAM	100	0	21.52	21.51	21.43		
20	64QAM	1	0	21.54	21.31	21.4	22	2
20	64QAM	1	49	21.31	21.19	21.23		
20	64QAM	1	99	21.6	21.36	21.33		
20	64QAM	50	0	20.6	20.12	20.43	21	3
20	64QAM	50	24	20.63	20.38	20.4		
20	64QAM	50	50	20.69	20.33	20.37		
20	64QAM	100	0	20.39	20.34	20.37		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	23.55	23.27	23.32	24	0
15	QPSK	1	37	23.61	23.25	23.71		
15	QPSK	1	74	23.53	23.19	23.1		
15	QPSK	36	0	22.38	22.36	22.1	23	1
15	QPSK	36	20	22.56	22.39	22.2		
15	QPSK	36	39	22.52	22.44	22.41		
15	QPSK	75	0	22.52	22.21	22.41		
15	16QAM	1	0	22.96	22.42	22.44	23	1
15	16QAM	1	37	22.89	22.12	22.18		
15	16QAM	1	74	22.79	22.39	22.46		
15	16QAM	36	0	21.54	21.34	21.35	22	2
15	16QAM	36	20	21.64	21.37	21.31		
15	16QAM	36	39	21.68	21.38	21.39		
15	16QAM	75	0	21.61	21.43	21.38		
15	64QAM	1	0	21.26	21.33	21.35	22	2
15	64QAM	1	37	21.4	21.3	21.26		
15	64QAM	1	74	21.47	21.06	21.27		
15	64QAM	36	0	20.49	19.98	20.3	21	3
15	64QAM	36	20	20.48	20.31	20.36		
15	64QAM	36	39	20.49	20.34	20.38		
15	64QAM	75	0	20.5	20.37	20.4		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	23.67	23.13	23.46	24	0
10	QPSK	1	25	23.61	23.46	23.42		
10	QPSK	1	49	23.61	23.67	23.32		
10	QPSK	25	0	22.59	22.43	22.45	23	1
10	QPSK	25	12	22.52	22.41	22.44		
10	QPSK	25	25	22.51	22.46	22.54		
10	QPSK	50	0	22.57	22.47	22.48		
10	16QAM	1	0	22.72	22.89	22.91	23	1
10	16QAM	1	25	22.55	22.77	22.81		
10	16QAM	1	49	22.81	22.22	22.99		
10	16QAM	25	0	21.58	21.46	21.72	22	2
10	16QAM	25	12	21.53	21.43	21.56		
10	16QAM	25	25	21.57	21.49	21.59		
10	16QAM	50	0	21.61	21.5	21.61		
10	64QAM	1	0	21.61	21.53	21.54	22	2
10	64QAM	1	25	21.43	21.36	21.26		
10	64QAM	1	49	21.65	21.55	21.49		
10	64QAM	25	0	20.53	20.47	20.64	21	3
10	64QAM	25	12	20.48	20.47	20.42		
10	64QAM	25	25	20.62	20.51	20.55		
10	64QAM	50	0	20.5	20.48	20.54		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	23.48	23	23.6	24	0
5	QPSK	1	12	23.44	22.95	23.66		
5	QPSK	1	24	23.48	23.41	23.15		
5	QPSK	12	0	22.57	22.59	22.5	23	1
5	QPSK	12	7	22.55	22.43	22.42		
5	QPSK	12	13	22.64	22.48	22.39		
5	QPSK	25	0	22.13	22.45	22.5		
5	16QAM	1	0	22.93	22.4	22.88	23	1
5	16QAM	1	12	22.99	22.93	23		
5	16QAM	1	24	22.77	22.81	22.69		
5	16QAM	12	0	21.58	21.54	21.49	22	2
5	16QAM	12	7	21.59	21.47	21.5		
5	16QAM	12	13	21.59	21.55	21.42		
5	16QAM	25	0	21.57	21.47	21.49		
5	64QAM	1	0	21.39	21.42	21.39	22	2
5	64QAM	1	12	21.28	21.18	21.18		
5	64QAM	1	24	21.24	21.1	21.21		
5	64QAM	12	0	20.51	20.56	20.51	21	3
5	64QAM	12	7	20.43	20.45	20.49		
5	64QAM	12	13	20.46	20.42	20.4		
5	64QAM	25	0	20.53	20.5	20.53		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	23.43	23.11	23.38	23.11	23.43	24	0
20	QPSK	1	49	23.38	23.47	23.38	23.34	23.38		
20	QPSK	1	99	23.45	23.61	23.69	23.67	23.45		
20	QPSK	50	0	22.57	22.6	22.62	22.59	22.57	23	1
20	QPSK	50	24	22.44	22.47	22.54	22.61	22.44		
20	QPSK	50	50	22.42	22.55	22.61	22.51	22.42		
20	QPSK	100	0	22.42	22.62	22.64	22.53	22.42		
20	16QAM	1	0	22.57	22.5	22.97	22.39	22.57	23	1
20	16QAM	1	49	22.44	22.62	22.71	22.51	22.44		
20	16QAM	1	99	22.66	22.96	22.81	22.95	22.66		
20	16QAM	50	0	21.57	21.62	21.58	21.27	21.57	22	2
20	16QAM	50	24	21.47	21.38	21.54	21.37	21.47		
20	16QAM	50	50	21.6	21.6	21.64	21.62	21.6		
20	16QAM	100	0	21.48	21.64	21.37	21.67	21.48		
20	64QAM	1	0	21.23	21.11	20.86	21.41	21.23	22	2
20	64QAM	1	49	21.1	21.25	21.32	21.24	21.1		
20	64QAM	1	99	21.17	21.5	21.56	21.42	21.17		
20	64QAM	50	0	20.35	20.63	20.64	20.62	20.35	21	3
20	64QAM	50	24	20.12	20.44	20.63	20.5	20.12		
20	64QAM	50	50	20.38	20.58	20.63	20.62	20.38		
20	64QAM	100	0	20.34	20.6	20.53	20.69	20.34		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	23.6	23.65	23.46	23.47	23.61	24	0
15	QPSK	1	37	23.6	23.64	23.43	23.58	23.68		
15	QPSK	1	74	23.6	23.44	23.08	23.33	23.66		
15	QPSK	36	0	22.87	22.79	22.52	22.56	22.78	23	1
15	QPSK	36	20	22.93	22.81	22.57	22.64	22.7		
15	QPSK	36	39	22.79	22.65	22.4	22.45	22.71		
15	QPSK	75	0	22.89	22.73	22.47	22.45	22.68		
15	16QAM	1	0	22.87	22.85	22.57	22.7	22.81	23	1
15	16QAM	1	37	22.92	22.91	22.62	22.8	22.79		
15	16QAM	1	74	22.73	22.67	22.29	22.53	22.79		
15	16QAM	36	0	21.93	21.94	21.66	21.71	21.57	22	2
15	16QAM	36	20	21.98	21.95	21.72	21.78	21.57		
15	16QAM	36	39	21.85	21.81	21.57	21.6	21.73		
15	16QAM	75	0	21.89	21.92	21.68	21.65	21.83		
15	64QAM	1	0	21.68	21.74	21.44	21.55	21.72	22	2
15	64QAM	1	37	21.7	21.78	21.5	21.64	21.44		
15	64QAM	1	74	21.52	21.52	21.16	21.37	21.69		
15	64QAM	36	0	20.99	20.89	20.79	20.83	20.76	21	3
15	64QAM	36	20	20.87	20.79	20.85	20.9	20.58		
15	64QAM	36	39	20.92	20.93	20.69	20.72	20.61		
15	64QAM	75	0	20.73	20.71	20.79	20.74	20.7		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.57	23.56	23.59	23.61	23.61	24	0
10	QPSK	1	25	23.41	23.41	23.46	23.61	23.55		
10	QPSK	1	49	23.63	23.51	23.61	23.62	23.49		
10	QPSK	25	0	22.65	22.54	22.5	22.71	22.79	23	1
10	QPSK	25	12	22.55	22.42	22.52	22.66	22.58		
10	QPSK	25	25	22.45	22.27	22.56	22.54	22.52		
10	QPSK	50	0	22.55	22.26	22.58	22.71	22.64		
10	16QAM	1	0	22.7	22.58	22.91	22.96	22.97	23	1
10	16QAM	1	25	22.5	22.27	22.53	22.71	22.81		
10	16QAM	1	49	22.8	22.51	22.81	22.93	22.95		
10	16QAM	25	0	21.56	21.31	21.55	21.71	21.55	22	2
10	16QAM	25	12	21.46	21.31	21.52	21.65	21.58		
10	16QAM	25	25	21.51	21.34	21.53	21.62	21.48		
10	16QAM	50	0	21.57	21.28	21.55	21.68	21.64		
10	64QAM	1	0	21.47	21.28	21.68	21.66	21.69	22	2
10	64QAM	1	25	21.17	20.98	21.39	21.45	21.37		
10	64QAM	1	49	21.54	21.2	21.68	21.55	21.59		
10	64QAM	25	0	20.3	20.35	20.49	20.62	20.75	21	3
10	64QAM	25	12	20.48	20.38	20.54	20.67	20.64		
10	64QAM	25	25	20.51	20.38	20.58	20.7	20.75		
10	64QAM	50	0	20.48	20.29	20.56	20.76	20.65		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	23.5	23.35	23.67	23.16	23.52	24	0
5	QPSK	1	12	23.32	23.35	23.63	23.54	23.65		
5	QPSK	1	24	23.39	23.47	23.42	23.51	23.39		
5	QPSK	12	0	22.64	22.53	22.55	22.65	22.76	23	1
5	QPSK	12	7	22.56	22.48	22.52	22.58	22.76		
5	QPSK	12	13	22.58	22.46	22.49	22.55	22.72		
5	QPSK	25	0	22.49	22.42	22.54	22.6	22.76		
5	16QAM	1	0	22.89	22.79	22.6	22.73	22.71	23	1
5	16QAM	1	12	22.62	22.96	22.47	22.54	22.74		
5	16QAM	1	24	22.34	22.63	22.47	22.64	22.66		
5	16QAM	12	0	21.57	21.46	21.57	21.69	21.66	22	2
5	16QAM	12	7	21.51	21.42	21.4	21.5	21.64		
5	16QAM	12	13	21.43	21.43	21.54	21.58	21.52		
5	16QAM	25	0	21.4	21.49	21.55	21.67	21.63		
5	64QAM	1	0	21.38	21.32	21.35	21.06	21.63	22	2
5	64QAM	1	12	21.1	21.11	21.2	20.84	21.46		
5	64QAM	1	24	21.23	21.04	21.24	20.94	21.36		
5	64QAM	12	0	20.64	20.46	20.66	20.7	20.76	21	3
5	64QAM	12	7	20.57	20.42	20.3	20.59	20.74		
5	64QAM	12	13	20.5	20.45	20.17	20.54	20.61		
5	64QAM	25	0	20.44	20.45	20.2	20.6	20.69		

<Reduced Power Mode for Hotspot On/P-Sensor On>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	19.76	19.88	19.62	20	0
20	QPSK	1	49	19.57	19.73	19.59		
20	QPSK	1	99	19.51	19.59	19.13		
20	QPSK	50	0	17.19	17.31	17.28	19	1
20	QPSK	50	24	17.20	17.31	17.04		
20	QPSK	50	50	17.16	17.20	17.14		
20	QPSK	100	0	17.14	17.23	17.13		
20	16QAM	1	0	17.22	17.37	17.40	19	1
20	16QAM	1	49	17.52	17.48	17.25		
20	16QAM	1	99	17.19	17.16	17.10		
20	16QAM	50	0	16.21	16.37	16.36	18	2
20	16QAM	50	24	16.22	16.33	16.16		
20	16QAM	50	50	16.23	16.30	16.03		
20	16QAM	100	0	16.20	16.28	16.02		
20	64QAM	1	0	17.21	17.36	17.39	18	2
20	64QAM	1	49	17.54	17.50	17.27		
20	64QAM	1	99	17.16	17.13	17.07		
20	64QAM	50	0	16.20	16.36	16.35	17	3
20	64QAM	50	24	16.24	16.35	16.18		
20	64QAM	50	50	16.20	16.27	16.00		
20	64QAM	100	0	16.19	16.27	16.01		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	19.32	19.41	19.52	20	0
15	QPSK	1	37	19.39	19.49	19.42		
15	QPSK	1	74	19.28	19.29	18.94		
15	QPSK	36	0	17.08	17.06	17.15	19	1
15	QPSK	36	20	17.08	17.15	17.12		
15	QPSK	36	39	17.05	17.05	17.03		
15	QPSK	75	0	17.04	17.06	17.06		
15	16QAM	1	0	17.12	17.28	17.26	19	1
15	16QAM	1	37	17.15	17.36	17.21		
15	16QAM	1	74	17.07	17.06	17.03		
15	16QAM	36	0	16.13	16.14	16.18	18	2
15	16QAM	36	20	16.16	16.26	16.06		
15	16QAM	36	39	16.08	16.12	16.12		
15	16QAM	75	0	16.12	16.23	16.18		
15	64QAM	1	0	17.11	17.27	17.25	18	2
15	64QAM	1	37	17.17	17.38	17.23		
15	64QAM	1	74	17.04	17.03	17.00		
15	64QAM	36	0	16.12	16.13	16.17	17	3
15	64QAM	36	20	16.18	16.28	16.08		
15	64QAM	36	39	16.05	16.09	16.09		
15	64QAM	75	0	16.11	16.22	16.17		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	19.08	19.14	19.28	20	0
10	QPSK	1	25	19.28	19.12	19.57		
10	QPSK	1	49	19.40	19.52	19.25		
10	QPSK	25	0	17.29	17.39	17.13	19	1
10	QPSK	25	12	17.62	17.71	17.07		
10	QPSK	25	25	17.20	17.33	17.07		
10	QPSK	50	0	17.14	17.09	17.08		
10	16QAM	1	0	17.09	17.12	17.24	19	1
10	16QAM	1	25	17.15	17.10	17.10		
10	16QAM	1	49	17.32	17.51	17.20		
10	16QAM	25	0	16.81	16.88	16.53	18	2
10	16QAM	25	12	16.19	16.22	16.07		
10	16QAM	25	25	16.25	16.36	16.15		
10	16QAM	50	0	16.10	16.12	16.12		
10	64QAM	1	0	17.08	17.11	17.23	18	2
10	64QAM	1	25	17.17	17.12	17.12		
10	64QAM	1	49	17.29	17.48	17.17		
10	64QAM	25	0	16.80	16.87	16.52	17	3
10	64QAM	25	12	16.21	16.24	16.09		
10	64QAM	25	25	16.22	16.33	16.12		
10	64QAM	50	0	16.09	16.11	16.11		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	19.68	19.81	19.81	20	0
5	QPSK	1	12	19.49	19.83	19.80		
5	QPSK	1	24	19.29	19.61	19.53		
5	QPSK	12	0	17.06	17.12	17.44	19	1
5	QPSK	12	7	17.39	17.61	17.43		
5	QPSK	12	13	17.38	17.67	17.37		
5	QPSK	25	0	17.29	17.56	17.35		
5	16QAM	1	0	17.43	17.64	17.36	19	1
5	16QAM	1	12	17.40	17.79	17.53		
5	16QAM	1	24	17.18	17.46	17.16		
5	16QAM	12	0	16.29	16.58	16.47	18	2
5	16QAM	12	7	16.30	16.64	16.51		
5	16QAM	12	13	16.42	16.62	16.35		
5	16QAM	25	0	16.55	16.64	16.44		
5	64QAM	1	0	17.40	17.61	17.33	18	2
5	64QAM	1	12	17.42	17.81	17.55		
5	64QAM	1	24	17.15	17.43	17.13		
5	64QAM	12	0	16.26	16.55	16.44	17	3
5	64QAM	12	7	16.32	16.66	16.53		
5	64QAM	12	13	16.39	16.59	16.32		
5	64QAM	25	0	16.52	16.61	16.41		

<LTE Band 41>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Middle Ch. / Freq.	Power Middle Ch. / Freq.	Power High Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				39750	40185	40620	41055	41490		
Frequency (MHz)				2506	2549.5	2593	2636.5	2680		
20	QPSK	1	0	19.77	19.64	19.89	19.64	19.54	20	0
20	QPSK	1	49	19.49	19.48	19.75	19.60	19.31		
20	QPSK	1	99	19.76	19.20	19.58	19.12	19.10		
20	QPSK	50	0	17.12	17.13	17.33	17.30	17.05	19	1
20	QPSK	50	24	17.12	17.17	17.32	17.05	17.02		
20	QPSK	50	50	17.25	17.01	17.22	17.13	17.03		
20	QPSK	100	0	17.10	17.10	17.22	17.01	17.03		
20	16QAM	1	0	17.08	17.20	17.39	17.41	17.03	19	1
20	16QAM	1	49	17.66	17.41	17.49	17.24	17.04		
20	16QAM	1	99	17.35	17.06	17.18	17.12	17.03		
20	16QAM	50	0	16.05	16.23	16.36	16.37	16.10	18	2
20	16QAM	50	24	16.14	16.19	16.35	16.15	16.00		
20	16QAM	50	50	16.30	16.09	16.31	16.05	16.05		
20	16QAM	100	0	16.15	16.16	16.30	16.03	16.03		
20	64QAM	1	0	17.11	17.23	17.42	17.44	17.06	18	2
20	64QAM	1	49	17.64	17.39	17.47	17.22	17.02		
20	64QAM	1	99	17.42	17.13	17.25	17.19	17.10		
20	64QAM	50	0	16.08	16.26	16.39	16.40	16.13	17	3
20	64QAM	50	24	16.12	16.17	16.33	16.13	16.11		
20	64QAM	50	50	16.37	16.16	16.38	16.12	16.12		
20	64QAM	100	0	16.18	16.19	16.33	16.06	16.06		
Channel				39725	40173	40620	41068	41515	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2503.5	2548.3	2593	2637.8	2682.5		
15	QPSK	1	0	19.27	19.26	19.43	19.51	19.14	20	0
15	QPSK	1	37	19.40	19.29	19.50	19.44	19.23		
15	QPSK	1	74	19.50	19.05	19.31	18.95	18.89		
15	QPSK	36	0	17.11	17.08	17.05	17.14	17.08	19	1
15	QPSK	36	20	17.04	17.04	17.17	17.00	17.11		
15	QPSK	36	39	17.05	17.05	17.06	17.04	17.10		
15	QPSK	75	0	17.00	17.05	17.08	17.05	17.18		
15	16QAM	1	0	17.01	17.08	17.27	17.28	17.27	19	1
15	16QAM	1	37	17.03	17.05	17.38	17.22	17.24		
15	16QAM	1	74	17.14	17.01	17.07	17.02	17.05		
15	16QAM	36	0	16.12	16.11	16.16	16.20	16.20	18	2
15	16QAM	36	20	16.05	16.11	16.25	16.07	16.18		
15	16QAM	36	39	16.05	16.05	16.14	16.11	16.20		
15	16QAM	75	0	16.03	16.09	16.24	16.20	16.33		
15	64QAM	1	0	17.04	17.11	17.30	17.31	17.30	18	2
15	64QAM	1	37	17.01	17.03	17.36	17.20	17.22		
15	64QAM	1	74	17.21	17.08	17.14	17.09	17.12		
15	64QAM	36	0	16.15	16.14	16.19	16.23	16.23	17	3
15	64QAM	36	20	16.03	16.09	16.23	16.05	16.16		
15	64QAM	36	39	16.12	16.12	16.21	16.18	16.27		
15	64QAM	75	0	16.06	16.12	16.27	16.23	16.36		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	18.98	19.13	19.13	19.29	19.15	20	0
10	QPSK	1	25	19.26	19.36	19.14	19.56	19.44		
10	QPSK	1	49	19.18	19.49	19.53	19.27	19.19		
10	QPSK	25	0	17.36	17.25	17.41	17.14	17.00	19	1
10	QPSK	25	12	17.65	17.54	17.70	17.06	17.11		
10	QPSK	25	25	17.17	17.09	17.35	17.09	17.14		
10	QPSK	50	0	17.11	17.23	17.10	17.09	17.11		
10	16QAM	1	0	17.08	17.06	17.14	17.23	17.20	19	1
10	16QAM	1	25	17.26	17.10	17.09	17.12	17.19		
10	16QAM	1	49	17.25	17.18	17.53	17.21	17.17		
10	16QAM	25	0	17.02	16.61	16.89	16.52	16.43	18	2
10	16QAM	25	12	16.08	16.11	16.24	16.09	16.12		
10	16QAM	25	25	16.19	16.16	16.35	16.16	16.12		
10	16QAM	50	0	16.16	16.00	16.14	16.11	16.04		
10	64QAM	1	0	17.11	17.09	17.17	17.26	17.23	18	2
10	64QAM	1	25	17.24	17.08	17.07	17.10	17.17		
10	64QAM	1	49	17.32	17.25	17.60	17.28	17.24		
10	64QAM	25	0	16.99	16.64	16.92	16.55	16.46	17	3
10	64QAM	25	12	16.06	16.09	16.22	16.07	16.10		
10	64QAM	25	25	16.26	16.23	16.42	16.23	16.19		
10	64QAM	50	0	16.19	16.03	16.17	16.14	16.07		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	19.42	19.79	19.83	19.83	19.64	20	0
5	QPSK	1	12	19.32	19.35	19.82	19.81	19.68		
5	QPSK	1	24	19.06	19.20	19.63	19.52	19.31		
5	QPSK	12	0	17.05	17.00	17.13	17.46	17.25	19	1
5	QPSK	12	7	17.26	17.30	17.63	17.44	17.26		
5	QPSK	12	13	17.14	17.25	17.66	17.36	17.20		
5	QPSK	25	0	17.11	17.20	17.58	17.37	17.22		
5	16QAM	1	0	17.39	17.23	17.65	17.37	17.26	19	1
5	16QAM	1	12	17.22	17.18	17.81	17.52	17.34		
5	16QAM	1	24	17.06	17.05	17.45	17.18	17.02		
5	16QAM	12	0	16.37	16.09	16.60	16.48	16.32	18	2
5	16QAM	12	7	16.27	16.00	16.65	16.50	16.33		
5	16QAM	12	13	16.19	16.40	16.64	16.37	16.32		
5	16QAM	25	0	16.18	16.53	16.63	16.45	16.33		
5	64QAM	1	0	17.42	17.26	17.68	17.40	17.29	18	2
5	64QAM	1	12	17.20	17.16	17.79	17.50	17.32		
5	64QAM	1	24	17.13	17.12	17.52	17.25	17.09		
5	64QAM	12	0	16.40	16.12	16.63	16.51	16.35	17	3
5	64QAM	12	7	16.25	16.28	16.63	16.48	16.31		
5	64QAM	12	13	16.26	16.47	16.71	16.44	16.39		
5	64QAM	25	0	16.21	16.56	16.66	16.48	16.36		

<LTE Carrier Aggregation>

General Note:

This device supports Carrier Aggregation on downlink for inter and intra band, uplink CA is not supported. For the device supports bands and bandwidths and configurations are provided as follow table was according to 3GPP.

<Inter-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E- UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_2A-4A	-	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		4			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		4			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		4			Yes	Yes	Yes	Yes		
CA_2A-5A	-	2			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
		2			Yes	Yes			20	1
		5			Yes	Yes				
CA_2A-12A	-	2			Yes	Yes	Yes	Yes	30	0
		12			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	1
		12		Yes	Yes	Yes				
		2			Yes	Yes			20	2
		12			Yes	Yes				
CA_2A-13A	-	2			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		2			Yes	Yes			20	1
		13				Yes				
CA_2A-29A	-	2			Yes	Yes			20	0
		29		Yes	Yes	Yes				
		2			Yes	Yes			20	1
		29			Yes	Yes				
		2			Yes	Yes	Yes	Yes	30	2
		29			Yes	Yes				
CA_2A-30A	-	2			Yes	Yes	Yes	Yes	30	0
		30			Yes	Yes				
CA_2A-66A	-	2	Yes	Yes	Yes	Yes	Yes	Yes	40	0
		66			Yes	Yes	Yes	Yes		
		2			Yes	Yes			20	1
		66			Yes	Yes				
		2			Yes	Yes	Yes	Yes	40	2
		66			Yes	Yes	Yes	Yes		
CA_4A-5A	-	4			Yes	Yes			20	0
		5			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	0
		5			Yes	Yes				
CA_4A-7A	-	4			Yes	Yes			30	0
		7			Yes	Yes	Yes	Yes		
		4			Yes	Yes	Yes	Yes	40	1
		7			Yes	Yes	Yes	Yes		

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E- UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_4A-12A	-	4	Yes	Yes	Yes	Yes			20	0
		12			Yes	Yes				
		4	Yes	Yes	Yes	Yes	Yes	Yes	30	1
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		12		Yes	Yes	Yes				
		4			Yes	Yes			20	3
		12			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	4
		12			Yes	Yes				
		4			Yes	Yes	Yes		20	5
		12			Yes					
CA_4A-13A	-	4			Yes	Yes	Yes	Yes	30	0
		13				Yes				
		4			Yes	Yes			20	1
		13				Yes				
CA_4A-29A	-	4			Yes	Yes			20	0
		29		Yes	Yes	Yes				
		4			Yes	Yes			20	1
		29			Yes	Yes				
		4			Yes	Yes	Yes	Yes	30	2
		29			Yes	Yes				
CA_4A-30A	-	4			Yes	Yes	Yes	Yes	30	0
		30			Yes	Yes				
CA_5A-30A	-	5			Yes	Yes			20	0
		30			Yes	Yes				
CA_5A-66A	-	5			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_12A-30A	-	12			Yes	Yes			20	0
		30			Yes	Yes				
CA_12A-66A	-	12			Yes	Yes			20	0
		66	Yes	Yes	Yes	Yes				
		12			Yes	Yes			30	1
		66	Yes	Yes	Yes	Yes	Yes	Yes		
		12		Yes	Yes	Yes			30	2
		66			Yes	Yes	Yes	Yes		
		12			Yes	Yes			20	3
		66			Yes	Yes				
		12			Yes	Yes			30	4
		66			Yes	Yes	Yes	Yes		
		12			Yes				20	5
		66			Yes	Yes	Yes			

E-UTRA CA configuration / Bandwidth combination set										
E-UTRA CA Configuration	Uplink CA configurations	E- UTRA Bands	1.4 MHz	3 MHz	5 MHz	10 MHz	15 MHz	20 MHz	Maximum aggregated bandwidth [MHz]	Bandwidth combination set
CA_13A-66A	-	13			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_25A-26A	-	25		Yes	Yes	Yes	Yes	Yes	35	0
		26	Yes	Yes	Yes	Yes	Yes			
		25		Yes	Yes	Yes			20	1
		26		Yes	Yes	Yes				
		25			Yes	Yes			20	2
		26			Yes	Yes				
CA_25A-41A	-	25			Yes	Yes	Yes	Yes	40	0
		41			Yes	Yes	Yes	Yes		
CA_26A-41A	-	26			Yes	Yes	Yes		35	0
		41			Yes	Yes	Yes	Yes		
CA_29A-30A	-	29			Yes	Yes			20	0
		30			Yes	Yes				

<Intra-Band Carrier Combination>

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_41C	-	10	20			40	0
		15	15, 20				
		20	10, 15, 20				
		5, 10	20			40	1
		15	15, 20				
		20	5, 10, 15, 20				
		10	15, 20			40	2
		15	10, 15, 20				
		20	10, 15, 20				
		10	20			40	3
		20	20				
CA_66B	-	5	5, 10, 15			20	0
		10	5, 10				
		15	5				
CA_66C	-	5	20			40	0
		10	15, 20				
		15	10, 15, 20				
		20	5, 10, 15, 20				

E-UTRA CA configuration / Bandwidth combination set							
E-UTRA CA configuration	Uplink CA configurations	Component carriers in order of increasing carrier frequency				Maximum aggregated bandwidth [MHz]	Bandwidth combination set
		Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]	Channel bandwidths for carrier [MHz]		
CA_2A-2A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
CA_4A-4A	-	5, 10, 15, 20	5, 10, 15, 20			40	0
		5, 10	5, 10			20	1
CA_7A-7A	-	5	15			40	0
		10	10, 15				
		15	15, 20				
		20	20				
		5, 10, 15, 20	5, 10, 15, 20			40	1
		5, 10, 15, 20	5, 10			30	2
		10, 15, 20	10, 15, 20			40	3
CA_25A-25A	-	5, 10	5, 10			20	0
		5, 10, 15, 20	5, 10, 15, 20			40	1
CA_41A-41A	-	10, 15, 20	10, 15, 20			40	0
		5, 10, 15, 20	5, 10, 15, 20			40	1
CA_66A-66A	-	5, 10, 15, 20	5, 10, 15, 20			40	0

LTE Carrier Aggregation Conducted Power (Downlink)

General Note:

i. According to KDB941225 D05A v01r02, Uplink maximum output power measurement with downlink carrier aggregation active should be measured, using the highest output channel measured without downlink carrier aggregation, to confirm that uplink maximum output power with downlink carrier aggregation active remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output measured without downlink carrier aggregation active.

ii. Uplink maximum output power with downlink carrier aggregation active does not show more than ¼ dB higher than the maximum output power without downlink carrier aggregation active, therefore SAR evaluation with downlink carrier aggregation active can be excluded.

iii. The device supports downlink carrier aggregation only. Uplink carrier aggregation is not supported. For power measurement were control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.

iv. Selected highest measured power when downlink carrier aggregation is inactive for conducted power comparison with downlink carrier aggregation is active, to confirm that when downlink carrier aggregation is active uplink maximum output power remains within the specified tune-up tolerance limits and not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

v. For inter-band CA, the SCC selected highest bandwidth and near the middle of its transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vi. For non-contiguous intra-band CA, the SCC selected to provide maximum separation from the PCC and must remain fully within the downlink transmission band. For SCC DL RB size and offset will base on the PCC corresponding RB allocation.

vii. For Intra-band, contiguous CA, the downlink channels selected to perform the uplink power measurement must satisfy 3GPP channel spacing (5.4.1A of 3GPP TS 36.521 or equivalent) and channel bandwidth (5.4.2A) requirements.

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

<Full/Receiver On Power Mode>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	22.93	22.99
		Band 4	20M	1745	20300	QPSK	1	49	Band 2	20M	1960	900	22.91	22.96
		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	22.98	22.99
		Band 5	10M	844	20600	QPSK	1	49	Band 2	20M	1960	900	23.56	23.57
		Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	22.96	22.99
		Band 12	10M	704	23060	QPSK	1	0	Band 2	20M	1960	900	23.15	23.17
		Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	22.97	22.99
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	23.06	23.09
		Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	22.98	22.99
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	22.97	22.99
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.21	23.22
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	22.97	22.99
		Band 66	20M	1770	132572	QPSK	1	99	Band 2	20M	1960	900	23.63	23.65
		Band 4	20M	1745	20300	QPSK	1	49	Band 5	10M	881.5	2525	22.91	22.96
		Band 5	10M	844	20600	QPSK	1	49	Band 4	20M	2132.5	2175	23.54	23.57
		Band 4	20M	1745	20300	QPSK	1	49	Band 7	20M	2655	3100	22.93	22.96
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	23.24	23.25
		Band 4	20M	1745	20300	QPSK	1	49	Band 12	10M	737.5	5095	22.90	22.96
		Band 12	10M	704	23060	QPSK	1	0	Band 4	20M	2132.5	2175	23.15	23.17
		Band 4	20M	1745	20300	QPSK	1	49	Band 13	10M	751	5230	22.88	22.96
		Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	23.01	23.09
		Band 4	20M	1745	20300	QPSK	1	49	Band 29	10M	722.5	9715	22.85	22.96
		Band 4	20M	1745	20300	QPSK	1	49	Band 30	10M	2355	9820	22.92	22.96
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.21	23.22
		Band 5	10M	844	20600	QPSK	1	49	Band 30	10M	2355	9820	23.56	23.57
		Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.20	23.22
		Band 5	10M	844	20600	QPSK	1	49	Band 66	20M	2155	66886	23.54	23.57
		Band 66	20M	1770	132572	QPSK	1	99	Band 5	10M	881.5	2525	23.64	23.65
		Band 12	10M	704	23060	QPSK	1	0	Band 30	10M	2355	9820	23.16	23.17
		Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	23.21	23.22
		Band 12	10M	704	23060	QPSK	1	0	Band 66	20M	2155	66886	23.14	23.17
		Band 66	20M	1770	132572	QPSK	1	99	Band 12	10M	737.5	5095	23.64	23.65
		Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	23.04	23.09
		Band 66	20M	1770	132572	QPSK	1	99	Band 13	10M	751	5230	23.63	23.65
		Band 25	20M	1880	26340	QPSK	1	0	Band 26	15M	876.5	8865	23.14	23.19
		Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.81	23.82
		Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	23.15	23.19
		Band 41	20M	2593	40620	QPSK	1	99	Band 25	20M	1962.5	8365	23.62	23.69
		Band 26	15M	831.5	26865	QPSK	1	74	Band 41	20M	2593	40620	23.80	23.82
		Band 41	20M	2593	40620	QPSK	1	99	Band 26	15M	876.5	8865	23.65	23.69
		Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.20	23.22
Intra-Band	Contiguous	Band 41	20M	2593	40620	QPSK	1	99	Band 41	20M	2612.8	40818	23.65	23.69
		Band 66	15M	1772.5	132597	QPSK	1	0	Band 66	5M	2188.2	67218	23.60	23.65
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	20M	2170.2	67038	23.64	23.65
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	22.93	22.99
		Band 4	20M	1745	20300	QPSK	1	49	Band 4	5M	2112.5	1975	22.82	22.96
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	23.23	23.25
		Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	23.78	23.79
		Band 41	20M	2593	40620	QPSK	1	99	Band 41	5M	2687.5	41565	23.62	23.69
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	5M	2112.5	66461	23.62	23.65

<Full Power Mode>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		Band 2	20M	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	21.41	21.42
		Band 4	20M	1745	20300	QPSK	1	49	Band 2	20M	1960	900	21.20	21.23
		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	21.40	21.42
		Band 5	10M	844	20600	QPSK	1	49	Band 2	20M	1960	900	23.56	23.57
		Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	21.35	21.42
		Band 12	10M	704	23060	QPSK	1	0	Band 2	20M	1960	900	23.15	23.17
		Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	21.33	21.42
		Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	23.06	23.09
		Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	21.36	21.42
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	21.32	21.42
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.21	23.22
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	21.37	21.42
		Band 66	20M	1770	132572	QPSK	1	99	Band 2	20M	1960	900	21.63	21.69
		Band 4	20M	1745	20300	QPSK	1	49	Band 5	10M	881.5	2525	21.21	21.23
		Band 5	10M	844	20600	QPSK	1	49	Band 4	20M	2132.5	2175	23.54	23.57
		Band 4	20M	1745	20300	QPSK	1	49	Band 7	20M	2655	3100	21.22	21.23
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	23.24	23.25
		Band 4	20M	1745	20300	QPSK	1	49	Band 12	10M	737.5	5095	21.19	21.23
		Band 12	10M	704	23060	QPSK	1	0	Band 4	20M	2132.5	2175	23.15	23.17
		Band 4	20M	1745	20300	QPSK	1	49	Band 13	10M	751	5230	21.20	21.23
		Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	23.01	23.09
		Band 4	20M	1745	20300	QPSK	1	49	Band 29	10M	722.5	9715	21.15	21.23
		Band 4	20M	1745	20300	QPSK	1	49	Band 30	10M	2355	9820	21.18	21.23
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.21	23.22
		Band 5	10M	844	20600	QPSK	1	49	Band 30	10M	2355	9820	23.56	23.57
		Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.20	23.22
		Band 5	10M	844	20600	QPSK	1	49	Band 66	20M	2155	66886	23.54	23.57
		Band 66	20M	1770	132572	QPSK	1	99	Band 5	10M	881.5	2525	21.64	21.69
		Band 12	10M	704	23060	QPSK	1	0	Band 30	10M	2355	9820	23.16	23.17
		Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	23.21	23.22
		Band 12	10M	704	23060	QPSK	1	0	Band 66	20M	2155	66886	23.14	23.17
		Band 66	20M	1770	132572	QPSK	1	99	Band 12	10M	737.5	5095	21.64	21.69
		Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	23.04	23.09
		Band 66	20M	1770	132572	QPSK	1	99	Band 13	10M	751	5230	21.63	21.69
		Band 25	20M	1880	26340	QPSK	1	0	Band 26	15M	876.5	8865	21.95	21.99
		Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.81	23.82
		Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	21.85	21.99
		Band 41	20M	2593	40620	QPSK	1	99	Band 25	20M	1962.5	8365	23.62	23.69
		Band 26	15M	831.5	26865	QPSK	1	74	Band 41	20M	2593	40620	23.80	23.82
		Band 41	20M	2593	40620	QPSK	1	99	Band 26	15M	876.5	8865	23.65	23.69
		Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.20	23.22
Intra-Band	Contiguous	Band 41	20M	2593	40620	QPSK	1	99	Band 41	20M	2612.8	40818	23.65	23.69
		Band 66	15M	1772.5	132597	QPSK	1	74	Band 66	5M	2188.2	67218	21.70	21.80
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	20M	2170.2	67038	21.64	21.69
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	21.33	21.42
		Band 4	20M	1745	20300	QPSK	1	49	Band 4	5M	2112.5	1975	21.18	21.23
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	23.23	23.25
		Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	21.89	21.99
		Band 41	20M	2593	40620	QPSK	1	99	Band 41	5M	2687.5	41565	23.62	23.69
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	5M	2112.5	66461	21.62	21.69

<Reduced Power Mode for Hotspot On/P-Sensor On>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		Band 2	20M	1900	19100	QPSK	1	49	Band 4	20M	2132.5	2175	15.59	15.65
		Band 4	20M	1745	20300	QPSK	1	0	Band 2	20M	1960	900	14.71	14.76
		Band 2	20M	1900	19100	QPSK	1	49	Band 30	10M	2355	9820	15.61	15.65
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	19.40	19.48
		Band 2	20M	1900	19100	QPSK	1	49	Band 66	20M	2155	66886	15.62	15.65
		Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	14.83	14.93
		Band 4	20M	1745	20300	QPSK	1	0	Band 7	20M	2655	3100	14.68	14.76
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	18.40	18.45
		Band 4	20M	1745	20300	QPSK	1	0	Band 30	10M	2355	9820	14.69	14.76
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	19.39	19.48
		Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	15.73	15.90
		Band 41	20M	2593	40620	QPSK	1	0	Band 25	20M	1962.5	8365	19.85	19.89
Intra-Band	Contiguous	Band 41	20M	2593	40620	QPSK	1	0	Band 41	20M	2612.8	40818	19.81	19.89
		Band 66	15M	1717.5	132047	QPSK	1	74	Band 66	5M	2121.8	66554	14.71	14.76
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	14.83	14.93
	Non-Contiguous	Band 2	20M	1900	19100	QPSK	1	49	Band 2	5M	1932.5	625	15.63	15.65
		Band 4	20M	1745	20300	QPSK	1	0	Band 4	5M	2112.5	1975	14.72	14.76
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	18.41	18.45
		Band 25	20M	1880	26340	QPSK	1	0	Band 25	5M	1992.5	8665	15.72	15.90
		Band 41	20M	2593	40620	QPSK	1	0	Band 41	5M	2687.5	41565	19.84	19.89
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	14.91	14.93

<Reduced Power Mode for Product Specific 10g SAR>

Configure		PCC							SCC				Power	
		LTE Band	BW (MHz)	UL Freq. (MHz)	UL Channel	Mod.	UL# RB	UL RB Offset	LTE Band	BW (MHz)	DL Freq. (MHz)	DL Channel	With CA Tx. Power (dBm)	Without CA Tx. Power (dBm)
Inter-Band		Band 2	20M	1900	19100	QPSK	1	99	Band 4	20M	2132.5	2175	21.48	21.49
		Band 4	20M	1745	20300	QPSK	1	99	Band 2	20M	1960	900	20.45	20.49
		Band 2	20M	1900	19100	QPSK	1	99	Band 30	10M	2355	9820	21.45	21.49
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.21	23.22
		Band 2	20M	1900	19100	QPSK	1	99	Band 66	20M	2155	66886	21.47	21.49
		Band 66	20M	1770	132572	QPSK	1	99	Band 2	20M	1960	900	20.45	20.49
		Band 4	20M	1745	20300	QPSK	1	99	Band 7	20M	2655	3100	20.41	20.49
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	23.24	23.25
		Band 4	20M	1745	20300	QPSK	1	99	Band 30	10M	2355	9820	20.41	20.49
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.32	23.22
		Band 25	20M	1880	26340	QPSK	1	0	Band 41	20M	2593	40620	23.15	23.19
		Band 41	20M	2593	40620	QPSK	1	99	Band 25	20M	1962.5	8365	23.62	23.69
Intra-Band	Contiguous	Band 41	20M	2593	40620	QPSK	1	99	Band 41	20M	2612.8	40818	23.65	23.69
		Band 66	15M	1772.5	132597	QPSK	1	74	Band 66	5M	2188.2	67218	20.43	20.47
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	20M	2139.8	66734	20.45	20.49
	Non-Contiguous	Band 2	20M	1900	19100	QPSK	1	99	Band 2	5M	1932.5	625	21.42	21.49
		Band 4	20M	1745	20300	QPSK	1	99	Band 4	5M	2112.5	1975	20.45	20.49
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	23.31	23.25
		Band 25	20M	1905	26590	QPSK	1	99	Band 25	5M	1992.5	8665	21.45	21.49
		Band 41	20M	2593	40620	QPSK	1	99	Band 41	5M	2687.5	41565	23.70	23.69
		Band 66	20M	1770	132572	QPSK	1	99	Band 66	5M	2197.5	67311	20.42	20.49

<WLAN Conducted Power>

General Note:

1. Per KDB 248227 D01v02r02, SAR test reduction is determined according to 802.11 transmission mode configurations and certain exposure conditions with multiple test positions. In the 2.4 GHz band, separate SAR procedures are applied to DSSS and OFDM configurations to simplify DSSS test requirements. For OFDM, in both 2.4 and 5 GHz bands, an initial test configuration must be determined for each standalone and aggregated frequency band, according to the transmission mode configuration with the highest maximum output power specified for production units to perform SAR measurements. If the same highest maximum output power applies to different combinations of channel bandwidths, modulations and data rates, additional procedures are applied to determine which test configurations require SAR measurement. When applicable, an initial test position may be applied to reduce the number of SAR measurements required for next to the ear, UMPC mini-tablet or hotspot mode configurations with multiple test positions.
2. For 2.4 GHz 802.11b DSSS, either the initial test position procedure for multiple exposure test positions or the DSSS procedure for fixed exposure position is applied; these are mutually exclusive. For 2.4 GHz and 5 GHz OFDM configurations, the initial test configuration is applied to measure SAR using either the initial test position procedure for multiple exposure test position configurations or the initial test configuration procedures for fixed exposure test conditions. Based on the reported SAR of the measured configurations and maximum output power of the transmission mode configurations that are not included in the initial test configuration, the subsequent test configuration and initial test position procedures are applied to determine if SAR measurements are required for the remaining OFDM transmission configurations. In general, the number of test channels that require SAR measurement is minimized based on maximum output power measured for the test sample(s).
3. For OFDM transmission configurations in the 2.4 GHz and 5 GHz bands, When the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel for each frequency band.
4. DSSS and OFDM configurations are considered separately according to the required SAR procedures. SAR is measured in the initial test position using the 802.11 transmission mode configuration required by the DSSS procedure or initial test configuration and subsequent test configuration(s) according to the OFDM procedures.18 The initial test position procedure is described in the following:
   a. When the reported SAR of the initial test position is ≤ 0.4 W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and 802.11 transmission mode combinations within the frequency band or aggregated band.
   b. When the reported SAR of the test position is > 0.4 W/kg, SAR is repeated for the 802.11 transmission mode configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position on the highest maximum output power channel, until the report SAR is ≤ 0.8 W/kg or all required test position are tested.
   c. For all positions/configurations, when the reported SAR is > 0.8 W/kg, SAR is measured for these test positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is ≤ 1.2 W/kg or all required channels are tested.

<Full Power Mode>

<2.4GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
2.4GHz WLAN	802.11b 1Mbps	1	2412	16.62	18.00	97.94
		6	2437	17.44	18.00	
		11	2462	**17.56**	18.00	
	802.11g 6Mbps	1	2412	14.39	15.50	87.50
		6	2437	15.31	15.50	
		11	2462	12.13	14.00	
	802.11n-HT20 MCS0	1	2412	12.90	14.50	87.43
		6	2437	13.73	15.00	
		11	2462	13.70	15.00	

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	16.51	17.50	87.96
		40	5200	16.39	17.50	
		44	5220	16.38	17.50	
		48	5240	**17.14**	17.50	
	802.11n-HT20 MCS0	36	5180	16.68	17.50	85.84
		40	5200	16.48	17.50	
		44	5220	16.47	17.50	
		48	5240	17.11	17.50	
	802.11n-HT40 MCS0	38	5190	11.65	13.50	86.28
		46	5230	16.16	17.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.84	17.50	87.96
		56	5280	17.08	17.50	
		60	5300	16.89	17.50	
		64	5320	**17.27**	17.50	
	802.11n-HT20 MCS0	52	5260	16.61	17.50	85.84
		56	5280	16.74	17.50	
		60	5300	16.67	17.50	
		64	5320	16.99	17.50	
	802.11n-HT40 MCS0	54	5270	15.98	17.00	86.28
		62	5310	16.03	17.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	16.54	17.50	87.96
		116	5580	**17.11**	17.50	
		124	5620	16.68	17.50	
		132	5660	16.29	17.50	
		140	5700	15.84	16.00	
	802.11n-HT20 MCS0	100	5500	16.61	17.50	85.84
		116	5580	17.07	17.50	
		124	5620	16.59	17.50	
		132	5660	16.49	17.50	
		140	5700	15.78	16.00	
	802.11n-HT40 MCS0	102	5510	16.18	16.50	86.28
		110	5550	16.10	16.50	
		126	5630	16.15	16.50	
		134	5670	15.96	16.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	16.97	17.50	87.96
		157	5785	15.86	17.50	
		165	5825	15.12	16.50	
	802.11n-HT20 MCS0	149	5745	17.21	17.50	85.84
		157	5785	16.09	17.50	
		165	5825	15.31	17.00	
	802.11n-HT40 MCS0	151	5755	16.42	16.50	86.28
		159	5795	15.91	16.50	

<Reduced Power Mode for Receiver On>

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	8.99	10.50	87.96
		40	5200	9.22	10.50	
		44	5220	9.31	10.50	
		48	5240	**10.19**	10.50	
	802.11n-HT20 MCS0	36	5180	8.65	10.50	85.84
		40	5200	8.93	10.50	
		44	5220	9.02	10.50	
		48	5240	10.05	10.50	
	802.11n-HT40 MCS0	38	5190	9.19	10.00	86.28
		46	5230	9.58	10.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	10.27	11.00	87.96
		56	5280	10.41	11.00	
		60	5300	10.35	11.00	
		64	5320	**10.53**	11.00	
	802.11n-HT20 MCS0	52	5260	9.94	10.50	85.84
		56	5280	10.11	10.50	
		60	5300	10.00	10.50	
		64	5320	10.15	10.50	
	802.11n-HT40 MCS0	54	5270	9.95	10.50	86.28
		62	5310	10.05	10.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	13.53	14.50	87.96
		116	5580	**14.05**	14.50	
		124	5620	13.73	14.50	
		132	5660	13.18	14.50	
		140	5700	12.80	14.50	
	802.11n-HT20 MCS0	100	5500	13.43	14.50	85.84
		116	5580	13.68	14.50	
		124	5620	13.40	14.50	
		132	5660	12.99	14.50	
		140	5700	12.58	14.50	
	802.11n-HT40 MCS0	102	5510	13.15	14.00	86.28
		110	5550	13.02	14.00	
		126	5630	13.37	14.00	
		134	5670	12.93	14.00	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	**15.72**	16.00	87.96
		157	5785	15.33	16.00	
		165	5825	14.53	16.00	
	802.11n-HT20 MCS0	149	5745	15.61	16.00	85.84
		157	5785	15.23	16.00	
		165	5825	14.84	16.00	
	802.11n-HT40 MCS0	151	5755	15.32	15.50	86.28
		159	5795	15.38	15.50	

<Reduced Power Mode for Hotspot On/P-Sensor On>

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	13.94	15.00	87.96
		40	5200	13.75	15.00	
		44	5220	14.04	15.00	
		48	5240	**14.90**	15.00	
	802.11n-HT20 MCS0	36	5180	13.23	15.00	85.84
		40	5200	13.43	15.00	
		44	5220	13.58	15.00	
		48	5240	14.68	15.00	
	802.11n-HT40 MCS0	38	5190	11.65	13.50	86.28
		46	5230	14.22	14.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	15.85	16.50	87.96
		56	5280	16.00	16.50	
		60	5300	15.89	16.50	
		64	5320	**16.12**	16.50	
	802.11n-HT20 MCS0	52	5260	15.54	16.50	85.84
		56	5280	15.79	16.50	
		60	5300	15.68	16.50	
		64	5320	15.90	16.50	
	802.11n-HT40 MCS0	54	5270	15.67	16.00	86.28
		62	5310	15.56	16.00	

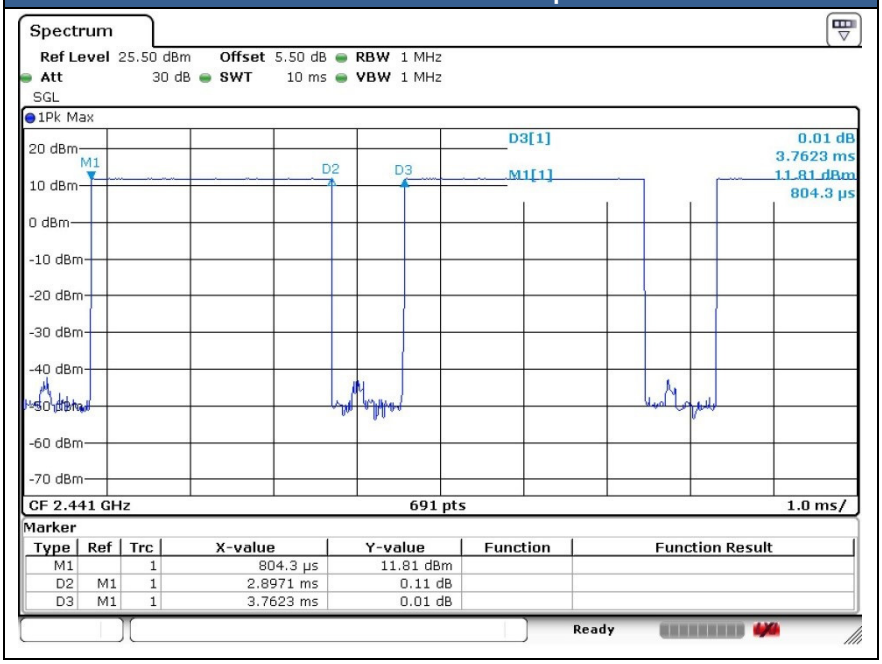
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	**15.17**	15.50	87.96
		157	5785	14.51	15.50	
		165	5825	13.73	15.50	
	802.11n-HT20 MCS0	149	5745	14.90	15.50	85.84
		157	5785	14.34	15.50	
		165	5825	13.51	15.50	
	802.11n-HT40 MCS0	151	5755	14.69	15.00	86.28
		159	5795	14.09	15.00	

<2.4GHz Bluetooth>

General Note:

1. For 2.4GHz Bluetooth SAR testing was selected 1Mbps, due to its highest average power.
2. The Bluetooth duty cycle is 77 % as following figure, according to 2016 Oct. TCB workshop for Bluetooth SAR scaling need further consideration and the theoretical duty cycle is 83.3%, therefore the actual duty cycle will be scaled up to the theoretical value of Bluetooth reported SAR calculation

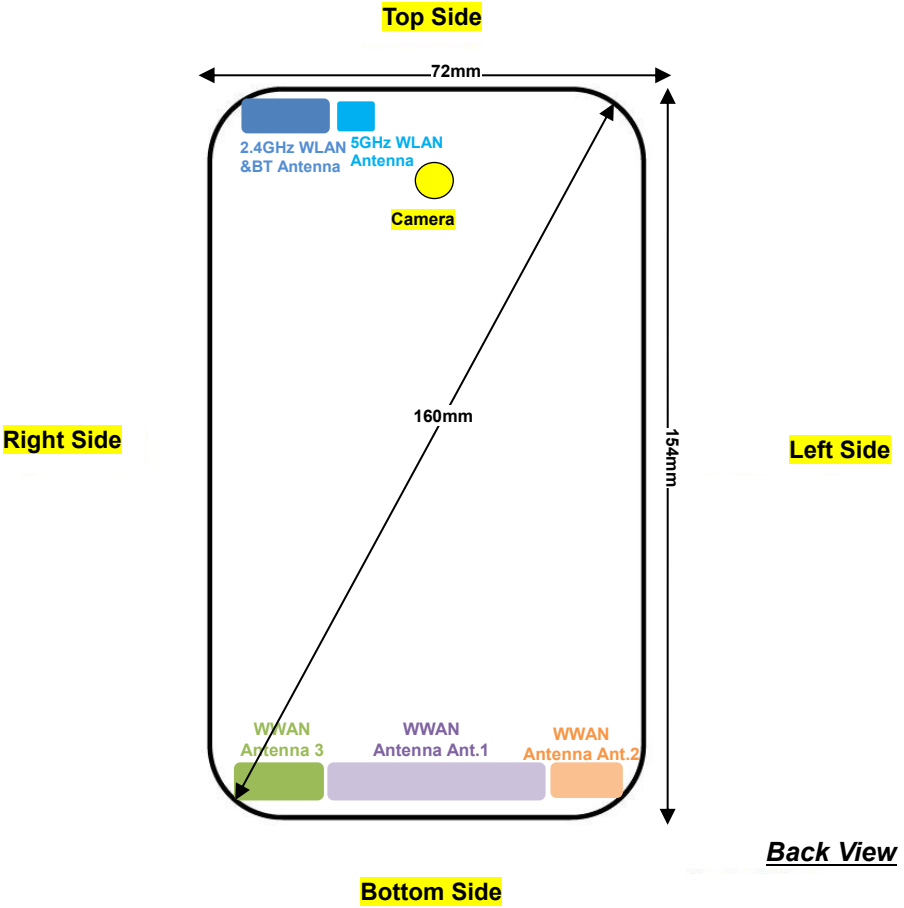
Bluetooth time-domain plot



Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
v3.0 with EDR	CH 00	2402	11.02
	CH 39	2441	**11.63**
	CH 78	2480	11.07
Tune-up limit (dBm)			12.00

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0/4.1/4.2 with LE	CH 00	2402	1.88
	CH 19	2440	**2.43**
	CH 39	2480	2.17
Tune-up Limit			3.00

13. Antenna Location



Distance of the Antenna to the EUT surface/edge						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Antenna 1	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	≤ 25mm
WWAN Antenna 2	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm	≤ 25mm
WWAN Antenna 3	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	≤ 25mm	>25mm
2.4GHz WLAN & BT	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm
5GHz WLAN	≤ 25mm	≤ 25mm	≤ 25mm	>25mm	≤ 25mm	>25mm

Positions for SAR tests; Hotspot mode						
Antennas	Back	Front	Top Side	Bottom Side	Right Side	Left Side
WWAN Antenna 1	Yes	Yes	No	Yes	Yes	Yes
WWAN Antenna 2	Yes	Yes	No	Yes	No	Yes
WWAN Antenna 3	Yes	Yes	No	Yes	Yes	No
2.4GHz WLAN & BT	Yes	Yes	Yes	No	Yes	No
5GHz WLAN	Yes	Yes	Yes	No	Yes	No

General Note:

1. This device has three WWAN transmitter antennas. WWAN antenna 1 is located at the middle of bottom edge of the device, WWAN antenna 2 is located at the right side of bottom edge of the device, and WWAN antenna 3 is located at the left side of bottom edge of the device which can refer to antenna location. WWAN antenna 1 frequency bands include GSM850/1900, CDMA2000 BC0/1/10, WCDMA Band II/IV/V, LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency bands include LTE Band 7/30/38/41and WWAN antenna 3 frequency bands include LTE 7/30/38/41.
2. The device is capable of switching between the WWAN antenna 2 and WWAN antenna 3 based on signal strength. When WWAN antenna 2 acted as a transmitter, then WWAN antenna 3 acted as a receiver. The same as the reversed.
3. Referring to KDB 941225 D06 v02r01, when the overall device length and width are ≥ 9cm*5cm, the test distance is 10 mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

14. SAR Test Results

General Note:

1. Per KDB 447498 D01v06, the reported SAR is the measured SAR value adjusted for maximum tune-up tolerance.
   a. Tune-up scaling Factor = tune-up limit power (mW) / EUT RF power (mW), where tune-up limit is the maximum rated power among all production units.
   b. For SAR testing of WLAN signal with non-100% duty cycle, the measured SAR is scaled-up by the duty cycle scaling factor which is equal to "1/(duty cycle)"
   c. For WWAN: Reported SAR(W/kg)= Measured SAR(W/kg)*Tune-up Scaling Factor
   d. For BT/WLAN: Reported SAR(W/kg)= Measured SAR(W/kg)* Duty Cycle scaling factor * Tune-up scaling factor
   e. For TDD LTE SAR measurement, the duty cycle 1:1.59 (62.9 %) was used perform testing and considering the theoretical duty cycle of 63.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 62.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 63.3%/62.9% = 1.006 is applied to scale-up the measured SAR result. The Reported TDD LTE SAR = measured SAR (W/kg)* Tune-up Scaling Factor* scaling factor for extended cyclic prefix.
2. Per KDB 447498 D01v06, for each exposure position, testing of other required channels within the operating mode of a frequency band is not required when the *reported* 1-g or 10-g SAR for the mid-band or highest output power channel is:
   - ≤ 0.8 W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≤ 100 MHz
   - ≤ 0.6 W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
   - ≤ 0.4 W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is ≥ 200 MHz
3. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required when the measured SAR is ≥ 0.8W/kg. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. Pre KDB648474 D04v01r03, when the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.
5. The device employs proximity sensors that detect the presence of the user's body at the front or back faces of the device. When front or back body worn condition is detected, GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/30/38/41/66 and WLAN5.2/5.3/5.8GHz reduced power will be active. (P-sensor can't work at detecting presence of the user's body at the four edges of the device.)
6. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/30/38/41/66 and WLAN5.2/5.3/5.8GHz.
7. P-sensor can detect handheld state, for product specific 10g SAR condition, GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/25/66 reduced powers will be active, and WLAN 5.3GHz at front or back faces reduced powers will be active. For LTE band 7/30/38/41 and WLAN 5.5GHz, the power levels are the same as the full power.
8. This device hotspot reduced power and P-sensor reduced power level are the same. So only show one reduced power level for hotspot reduced power and P-sensor reduced power for this application.
9. When the phone is in talking mode and receiver worked, then power reduction will be implemented immediately at WLAN5.2/5.3/5.5/5.8GHz.
10. This device has three WWAN transmitter antennas. WWAN antenna 1 is located at the middle of bottom edge of the device, WWAN antenna 2 is located at the right side of bottom edge of the device, and WWAN antenna 3 is located at the left side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, CDMA2000 BC0/1/10, WCDMA Band II/IV/V, LTE Band 2/4/5/12/13/17/25/26/66, WWAN antenna 2 frequency bands include LTE Band 7/30/38/41and WWAN antenna 3 frequency bands include LTE 7/30/38/41.
11. The device is capable of switching between the WWAN antenna 2 and WWAN antenna 3 based on signal strength. When WWAN antenna 2 acted as a transmitter, then WWAN antenna 3 acted as a receiver. The same as the reversed.
12. Per KDB648474 D04v01r03, for smart phones with a display diagonal dimension > 15.0 cm or an overall diagonal dimension > 16.0 cm, when hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR > 1.2 W/kg, however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold.
    a. For this device for WWAN transmitter scaled to reduced power mode for product specific 10g SAR is higher than 1.2W/kg of GSM1900, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/30/38/41/66, therefore product specific SAR is necessary.

b. WLAN 5.3/5.5GHz tested the product specific 10g SAR since it has no hotspot mode. P-sensor can detect handheld state, for front and back of product specific 10g SAR condition, WLAN 5.3GHz reduced powers will be active.
c. When 10-g product specific 10g SAR is considered, SAR thresholds is specified in the procedures for SAR test reduction and exclusion should be multiplied by 2.5.

GSM Note:

1. Per KDB 941225 D01v03r01, for SAR test reduction for GSM / GPRS / EDGE modes is determined by the source-based time-averaged output power including tune-up tolerance. The mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested. Therefore, the GPRS 2Tx slots for GSM850/GSM1900 are considered as the primary mode.
2. Other configurations of GSM / GPRS / EDGE are considered as secondary modes. The 3G SAR test reduction procedure is applied, when the maximum output power and tune-up tolerance specified for production units in a secondary mode is ≤ ¼ dB higher than the primary mode, SAR measurement is not required for the secondary mode.
3. Power reduction which is triggered by hotspot mode/p-sensor on/handheld on is implemented in GSM1900 band, for SAR testing EUT was set in reduced power mode and GPRS 2 Tx slots due to its highest frame-average power.

WCDMA Note:

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

CDMA Note:

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

LTE Note:

1. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
2. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
3. Per KDB 941225 D05v02r05, For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
4. Per KDB 941225 D05v02r05, 16QAM/64QAM output power for each RB allocation configuration is > not ½ dB higher than the same configuration in QPSK and the reported SAR for the QPSK configuration is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, 16QAM/64QAM SAR testing is not required.
5. Per KDB 941225 D05v02r05, smaller bandwidth output power for each RB allocation configuration is > not ½ dB higher than the same configuration in the largest supported bandwidth, and the reported SAR for the largest supported bandwidth is ≤ 1.45 W/kg; Per KDB 941225 D05v02r05, smaller bandwidth SAR testing is not required.
6. For LTE B4 / B5 / B12 / B26 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 B17 / B2 / B5 / B38 / B4 SAR test was covered by B12 / B25 / B26 / B41 / B66; according to April 2015 TCB workshop, SAR test for overlapping LTE bands can be reduced if
   a. The maximum output power, including tolerance, for the smaller band is ≤ the larger band to qualify for the SAR test exclusion.
   b. The channel bandwidth and other operating parameters for the smaller band are fully supported by the larger band.

WLAN Note:

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

14.1 Head SAR

<GSM SAR>

Plot No.	Ant.	Band	Mode	Test Position	Power Mode	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)
01	1	GSM850	GPRS 2 Tx slots	Right Cheek	Receiver On	189	836.4	31.14	31.50	1.086	-0.04	0.385	**0.418**
	1	GSM850	GPRS 2 Tx slots	Right Tilted	Receiver On	189	836.4	31.14	31.50	1.086	0.01	0.242	0.263
	1	GSM850	GPRS 2 Tx slots	Left Cheek	Receiver On	189	836.4	31.14	31.50	1.086	0.02	0.301	0.327
	1	GSM850	GPRS 2 Tx slots	Left Tilted	Receiver On	189	836.4	31.14	31.50	1.086	0.03	0.205	0.223
	1	GSM850	GPRS 2 Tx slots	Right Cheek	Receiver On	128	824.2	31.08	31.50	1.102	0.03	0.316	0.348
	1	GSM850	GPRS 2 Tx slots	Right Cheek	Receiver On	251	848.8	30.85	31.50	1.161	0.03	0.218	0.253
02	1	GSM1900	GPRS 2 Tx slots	Right Cheek	Receiver On	810	1909.8	28.36	29.00	1.159	0.05	0.130	**0.151**
	1	GSM1900	GPRS 2 Tx slots	Right Tilted	Receiver On	810	1909.8	28.36	29.00	1.159	-0.14	0.059	0.068
	1	GSM1900	GPRS 2 Tx slots	Left Cheek	Receiver On	810	1909.8	28.36	29.00	1.159	0.16	0.116	0.134
	1	GSM1900	GPRS 2 Tx slots	Left Tilted	Receiver On	810	1909.8	28.36	29.00	1.159	0.02	0.054	0.063
	1	GSM1900	GPRS 2 Tx slots	Right Cheek	Receiver On	512	1850.2	27.98	29.00	1.265	0.04	0.117	0.148
	1	GSM1900	GPRS 2 Tx slots	Right Cheek	Receiver On	661	1880	28.28	29.00	1.180	0.12	0.126	0.149

<WCDMA SAR>

Plot No.	Ant.	Band	Mode	Test Position	Power Mode	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)
03	1	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Receiver On	4132	826.4	22.52	24.00	1.406	0.02	0.313	**0.440**
	1	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Receiver On	4132	826.4	22.52	24.00	1.406	0.05	0.220	0.309
	1	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Receiver On	4132	826.4	22.52	24.00	1.406	0.12	0.245	0.344
	1	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Receiver On	4132	826.4	22.52	24.00	1.406	0.09	0.189	0.266
	1	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Receiver On	4182	836.4	22.41	24.00	1.442	0.05	0.163	0.235
	1	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Receiver On	4233	846.6	22.43	24.00	1.435	0.04	0.266	0.382
	1	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Receiver On	1513	1752.6	22.51	24.00	1.409	0.06	0.294	0.414
	1	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Receiver On	1513	1752.6	22.51	24.00	1.409	-0.08	0.175	0.247
04	1	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Receiver On	1513	1752.6	22.51	24.00	1.409	0.19	0.346	**0.488**
	1	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Receiver On	1513	1752.6	22.51	24.00	1.409	0.04	0.127	0.179
	1	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Receiver On	1312	1712.4	22.31	24.00	1.476	0.19	0.320	0.472
	1	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Receiver On	1413	1732.6	22.43	24.00	1.435	0.19	0.310	0.445
	1	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Receiver On	9400	1880	22.56	24.00	1.393	0.13	0.221	0.308
	1	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Receiver On	9400	1880	22.56	24.00	1.393	0.06	0.112	0.156
05	1	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Receiver On	9400	1880	22.56	24.00	1.393	0.02	0.229	**0.319**
	1	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Receiver On	9400	1880	22.56	24.00	1.393	0.04	0.100	0.139
	1	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Receiver On	9262	1852.4	22.33	24.00	1.469	0.05	0.205	0.301
	1	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Receiver On	9538	1907.6	22.55	24.00	1.396	0.07	0.201	0.281

<CDMA2000 SAR>

Plot No.	Ant.	Band	Mode	Test Position	Power Mode	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)
06	1	CDMA2000 BC10	RC3 SO55	Right Cheek	Receiver On	580	820.5	24.39	24.50	1.026	0.02	0.425	**0.436**
	1	CDMA2000 BC10	RC3 SO55	Right Tilted	Receiver On	580	820.5	24.39	24.50	1.026	0.1	0.219	0.225
	1	CDMA2000 BC10	RC3 SO55	Left Cheek	Receiver On	580	820.5	24.39	24.50	1.026	0.01	0.301	0.309
	1	CDMA2000 BC10	RC3 SO55	Left Tilted	Receiver On	580	820.5	24.39	24.50	1.026	0.05	0.202	0.207
	1	CDMA2000 BC10	RC3 SO55	Right Cheek	Receiver On	476	817.9	24.37	24.50	1.030	0.16	0.399	0.411
	1	CDMA2000 BC10	RC3 SO55	Right Cheek	Receiver On	684	823.1	24.38	24.50	1.028	0.07	0.403	0.414
07	1	CDMA2000 BC0	RC3 SO55	Right Cheek	Receiver On	1013	824.7	24.08	24.50	1.102	0.08	0.361	**0.398**
	1	CDMA2000 BC0	RC3 SO55	Right Tilted	Receiver On	1013	824.7	24.08	24.50	1.102	-0.08	0.201	0.221
	1	CDMA2000 BC0	RC3 SO55	Left Cheek	Receiver On	1013	824.7	24.08	24.50	1.102	0.03	0.286	0.315
	1	CDMA2000 BC0	RC3 SO55	Left Tilted	Receiver On	1013	824.7	24.08	24.50	1.102	0.04	0.183	0.202
	1	CDMA2000 BC0	RC3 SO55	Right Cheek	Receiver On	384	836.52	24.00	24.50	1.122	0.04	0.348	0.390
	1	CDMA2000 BC0	RC3 SO55	Right Cheek	Receiver On	777	848.31	23.86	24.50	1.159	0.08	0.098	0.114
08	1	CDMA2000 BC1	RC3 SO55	Right Cheek	Receiver On	1175	1908.75	23.54	24.50	1.247	0.06	0.192	**0.239**
	1	CDMA2000 BC1	RC3 SO55	Right Tilted	Receiver On	1175	1908.75	23.54	24.50	1.247	0.06	0.103	0.128
	1	CDMA2000 BC1	RC3 SO55	Left Cheek	Receiver On	1175	1908.75	23.54	24.50	1.247	0.02	0.188	0.235
	1	CDMA2000 BC1	RC3 SO55	Left Tilted	Receiver On	1175	1908.75	23.54	24.50	1.247	0.04	0.078	0.097
	1	CDMA2000 BC1	RC3 SO55	Right Cheek	Receiver On	25	1851.25	23.41	24.50	1.285	0.09	0.104	0.134
	1	CDMA2000 BC1	RC3 SO55	Right Cheek	Receiver On	600	1880	23.48	24.50	1.265	-0.02	0.092	0.116

<FDD LTE SAR>

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	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)
09	1	LTE Band 12	10M	QPSK	1	0	Right Cheek	Receiver On	23095	707.5	23.05	24.00	1.245	-0.15	0.271	**0.337**
	1	LTE Band 12	10M	QPSK	25	0	Right Cheek	Receiver On	23095	707.5	21.98	23.00	1.265	0.12	0.136	0.172
	1	LTE Band 12	10M	QPSK	1	0	Right Tilted	Receiver On	23095	707.5	23.05	24.00	1.245	0.06	0.188	0.234
	1	LTE Band 12	10M	QPSK	25	0	Right Tilted	Receiver On	23095	707.5	21.98	23.00	1.265	0.13	0.092	0.116
	1	LTE Band 12	10M	QPSK	1	0	Left Cheek	Receiver On	23095	707.5	23.05	24.00	1.245	0.19	0.251	0.312
	1	LTE Band 12	10M	QPSK	25	0	Left Cheek	Receiver On	23095	707.5	21.98	23.00	1.265	0.06	0.129	0.163
	1	LTE Band 12	10M	QPSK	1	0	Left Tilted	Receiver On	23095	707.5	23.05	24.00	1.245	-0.15	0.156	0.194
	1	LTE Band 12	10M	QPSK	25	0	Left Tilted	Receiver On	23095	707.5	21.98	23.00	1.265	0.12	0.080	0.101
10	1	LTE Band 13	10M	QPSK	1	0	Right Cheek	Receiver On	23230	782	23.09	24.00	1.233	-0.13	0.289	**0.356**
	1	LTE Band 13	10M	QPSK	25	0	Right Cheek	Receiver On	23230	782	21.97	23.00	1.268	0.08	0.152	0.193
	1	LTE Band 13	10M	QPSK	1	0	Right Tilted	Receiver On	23230	782	23.09	24.00	1.233	0.16	0.193	0.238
	1	LTE Band 13	10M	QPSK	25	0	Right Tilted	Receiver On	23230	782	21.97	23.00	1.268	0.09	0.096	0.122
	1	LTE Band 13	10M	QPSK	1	0	Left Cheek	Receiver On	23230	782	23.09	24.00	1.233	0.03	0.234	0.289
	1	LTE Band 13	10M	QPSK	25	0	Left Cheek	Receiver On	23230	782	21.97	23.00	1.268	0.1	0.129	0.164
	1	LTE Band 13	10M	QPSK	1	0	Left Tilted	Receiver On	23230	782	23.09	24.00	1.233	-0.04	0.156	0.192
	1	LTE Band 13	10M	QPSK	25	0	Left Tilted	Receiver On	23230	782	21.97	23.00	1.268	0.09	0.082	0.104
11	1	LTE Band 26	15M	QPSK	1	74	Right Cheek	Receiver On	26865	831.5	23.82	24.00	1.042	-0.06	0.345	**0.360**
	1	LTE Band 26	15M	QPSK	36	0	Right Cheek	Receiver On	26865	831.5	22.79	23.00	1.050	-0.09	0.170	0.178
	1	LTE Band 26	15M	QPSK	1	74	Right Tilted	Receiver On	26865	831.5	23.82	24.00	1.042	-0.04	0.190	0.198
	1	LTE Band 26	15M	QPSK	36	0	Right Tilted	Receiver On	26865	831.5	22.79	23.00	1.050	0.17	0.099	0.104
	1	LTE Band 26	15M	QPSK	1	74	Left Cheek	Receiver On	26865	831.5	23.82	24.00	1.042	0.02	0.264	0.275
	1	LTE Band 26	15M	QPSK	36	0	Left Cheek	Receiver On	26865	831.5	22.79	23.00	1.050	0.08	0.131	0.137
	1	LTE Band 26	15M	QPSK	1	74	Left Tilted	Receiver On	26865	831.5	23.82	24.00	1.042	-0.01	0.181	0.189
	1	LTE Band 26	15M	QPSK	36	0	Left Tilted	Receiver On	26865	831.5	22.79	23.00	1.050	0.03	0.108	0.113
	1	LTE Band 66	20M	QPSK	1	99	Right Cheek	Receiver On	132572	1770	23.65	24.00	1.084	0.01	0.248	0.269
	1	LTE Band 66	20M	QPSK	50	0	Right Cheek	Receiver On	132572	1770	22.13	23.00	1.222	0.02	0.120	0.147
	1	LTE Band 66	20M	QPSK	1	99	Right Tilted	Receiver On	132572	1770	23.65	24.00	1.084	0.02	0.110	0.119
	1	LTE Band 66	20M	QPSK	50	0	Right Tilted	Receiver On	132572	1770	22.13	23.00	1.222	0.19	0.054	0.066
	1	LTE Band 66	20M	QPSK	1	99	Left Cheek	Receiver On	132572	1770	23.65	24.00	1.084	0.02	0.266	0.288
	1	LTE Band 66	20M	QPSK	50	0	Left Cheek	Receiver On	132572	1770	22.13	23.00	1.222	0.07	0.129	0.158
	1	LTE Band 66	20M	QPSK	1	99	Left Tilted	Receiver On	132572	1770	23.65	24.00	1.084	0.06	0.127	0.138
	1	LTE Band 66	20M	QPSK	50	0	Left Tilted	Receiver On	132572	1770	22.13	23.00	1.222	0.09	0.058	0.071
	1	LTE Band 66	20M	QPSK	1	99	Left Cheek	Receiver On	132072	1720	23.27	24.00	1.183	0.11	0.267	0.316
12	1	LTE Band 66	20M	QPSK	1	99	Left Cheek	Receiver On	132322	1745	23.52	24.00	1.117	0.03	0.284	**0.317**
13	1	LTE Band 25	20M	QPSK	1	0	Right Cheek	Receiver On	26340	1880	23.19	24.00	1.205	0.08	0.205	**0.247**
	1	LTE Band 25	20M	QPSK	50	0	Right Cheek	Receiver On	26340	1880	22.08	23.00	1.236	0.02	0.095	0.117
	1	LTE Band 25	20M	QPSK	1	0	Right Tilted	Receiver On	26340	1880	23.19	24.00	1.205	0.03	0.103	0.124
	1	LTE Band 25	20M	QPSK	50	0	Right Tilted	Receiver On	26340	1880	22.08	23.00	1.236	0.02	0.036	0.044
	1	LTE Band 25	20M	QPSK	1	0	Left Cheek	Receiver On	26340	1880	23.19	24.00	1.205	0.07	0.165	0.199
	1	LTE Band 25	20M	QPSK	50	0	Left Cheek	Receiver On	26340	1880	22.08	23.00	1.236	0.01	0.083	0.103
	1	LTE Band 25	20M	QPSK	1	0	Left Tilted	Receiver On	26340	1880	23.19	24.00	1.205	0.15	0.104	0.125
	1	LTE Band 25	20M	QPSK	50	0	Left Tilted	Receiver On	26340	1880	22.08	23.00	1.236	0.13	0.044	0.054
	1	LTE Band 25	20M	QPSK	1	0	Right Cheek	Receiver On	26140	1860	22.91	24.00	1.285	0.02	0.169	0.217
	1	LTE Band 25	20M	QPSK	1	0	Right Cheek	Receiver On	26590	1905	23.13	24.00	1.222	0.04	0.178	0.217

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	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)
	2	LTE Band 30	10M	QPSK	1	0	Right Cheek	Receiver On	27710	2310	23.22	24.00	1.197	-0.16	0.230	0.275
	2	LTE Band 30	10M	QPSK	25	0	Right Cheek	Receiver On	27710	2310	22.01	23.00	1.256	-0.07	0.106	0.133
	2	LTE Band 30	10M	QPSK	1	0	Right Tilted	Receiver On	27710	2310	23.22	24.00	1.197	-0.08	0.238	0.285
	2	LTE Band 30	10M	QPSK	25	0	Right Tilted	Receiver On	27710	2310	22.01	23.00	1.256	0.09	0.115	0.144
14	2	LTE Band 30	10M	QPSK	1	0	Left Cheek	Receiver On	27710	2310	23.22	24.00	1.197	0.05	0.388	**0.464**
	2	LTE Band 30	10M	QPSK	25	0	Left Cheek	Receiver On	27710	2310	22.01	23.00	1.256	0.09	0.195	0.245
	2	LTE Band 30	10M	QPSK	1	0	Left Tilted	Receiver On	27710	2310	23.22	24.00	1.197	0.01	0.121	0.145
	2	LTE Band 30	10M	QPSK	25	0	Left Tilted	Receiver On	27710	2310	22.01	23.00	1.256	0.01	0.058	0.073
	3	LTE Band 30	10M	QPSK	1	0	Right Cheek	Receiver On	27710	2310	23.22	24.00	1.197	0.09	0.309	0.370
	3	LTE Band 30	10M	QPSK	25	0	Right Cheek	Receiver On	27710	2310	22.01	23.00	1.256	0.02	0.159	0.200
	3	LTE Band 30	10M	QPSK	1	0	Right Tilted	Receiver On	27710	2310	23.22	24.00	1.197	0.16	0.084	0.100
	3	LTE Band 30	10M	QPSK	25	0	Right Tilted	Receiver On	27710	2310	22.01	23.00	1.256	-0.01	0.038	0.048
	3	LTE Band 30	10M	QPSK	1	0	Left Cheek	Receiver On	27710	2310	23.22	24.00	1.197	0.01	0.145	0.174
	3	LTE Band 30	10M	QPSK	25	0	Left Cheek	Receiver On	27710	2310	22.01	23.00	1.256	0.01	0.072	0.091
	3	LTE Band 30	10M	QPSK	1	0	Left Tilted	Receiver On	27710	2310	23.22	24.00	1.197	0.1	0.109	0.130
	3	LTE Band 30	10M	QPSK	25	0	Left Tilted	Receiver On	27710	2310	22.01	23.00	1.256	0.05	0.054	0.068
	2	LTE Band 7	20M	QPSK	1	0	Right Cheek	Receiver On	21350	2560	23.25	24.00	1.189	-0.07	0.359	0.427
	2	LTE Band 7	20M	QPSK	50	0	Right Cheek	Receiver On	21350	2560	22.32	23.00	1.169	0.02	0.186	0.218
	2	LTE Band 7	20M	QPSK	1	0	Right Tilted	Receiver On	21350	2560	23.25	24.00	1.189	0.09	0.262	0.311
	2	LTE Band 7	20M	QPSK	50	0	Right Tilted	Receiver On	21350	2560	22.32	23.00	1.169	-0.04	0.136	0.159
	2	LTE Band 7	20M	QPSK	1	0	Left Cheek	Receiver On	21350	2560	23.25	24.00	1.189	0.19	0.703	0.836
15	2	LTE Band 7	20M	QPSK	1	0	Left Cheek	Receiver On	20850	2510	23.24	24.00	1.191	0.03	0.725	**0.864**
	2	LTE Band 7	20M	QPSK	1	0	Left Cheek	Receiver On	21100	2535	23.16	24.00	1.213	0.09	0.705	0.855
	2	LTE Band 7	20M	QPSK	50	0	Left Cheek	Receiver On	21350	2560	22.32	23.00	1.169	0.08	0.369	0.432
	2	LTE Band 7	20M	QPSK	100	0	Left Cheek	Receiver On	21350	2560	22.28	23.00	1.180	0.03	0.366	0.432
	2	LTE Band 7	20M	QPSK	1	0	Left Tilted	Receiver On	21350	2560	23.25	24.00	1.189	0.17	0.164	0.195
	2	LTE Band 7	20M	QPSK	50	0	Left Tilted	Receiver On	21350	2560	22.32	23.00	1.169	0.03	0.088	0.103
	3	LTE Band 7	20M	QPSK	1	0	Right Cheek	Receiver On	21350	2560	23.25	24.00	1.189	0.02	0.609	0.724
	3	LTE Band 7	20M	QPSK	1	0	Right Cheek	Receiver On	20850	2510	23.24	24.00	1.191	0.04	0.541	0.644
	3	LTE Band 7	20M	QPSK	1	0	Right Cheek	Receiver On	21100	2535	23.16	24.00	1.213	0.09	0.587	0.712
	3	LTE Band 7	20M	QPSK	50	0	Right Cheek	Receiver On	21350	2560	22.32	23.00	1.169	-0.05	0.332	0.388
	3	LTE Band 7	20M	QPSK	1	0	Right Tilted	Receiver On	21350	2560	23.25	24.00	1.189	0.01	0.157	0.187
	3	LTE Band 7	20M	QPSK	50	0	Right Tilted	Receiver On	21350	2560	22.32	23.00	1.169	0.03	0.085	0.099
	3	LTE Band 7	20M	QPSK	1	0	Left Cheek	Receiver On	21350	2560	23.25	24.00	1.189	0.06	0.286	0.340
	3	LTE Band 7	20M	QPSK	50	0	Left Cheek	Receiver On	21350	2560	22.32	23.00	1.169	-0.08	0.154	0.180
	3	LTE Band 7	20M	QPSK	1	0	Left Tilted	Receiver On	21350	2560	23.25	24.00	1.189	0.02	0.203	0.241
	3	LTE Band 7	20M	QPSK	50	0	Left Tilted	Receiver On	21350	2560	22.32	23.00	1.169	0.17	0.109	0.127

<TDD LTE SAR>

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	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)
	2	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.08	0.239	0.258
	2	LTE Band 41	20M	QPSK	50	0	Right Cheek	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.17	0.138	0.152
	2	LTE Band 41	20M	QPSK	1	99	Right Tilted	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.03	0.178	0.192
	2	LTE Band 41	20M	QPSK	50	0	Right Tilted	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.03	0.101	0.111
	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.09	0.468	0.506
	2	LTE Band 41	20M	QPSK	50	0	Left Cheek	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.09	0.262	0.288
	2	LTE Band 41	20M	QPSK	1	99	Left Tilted	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	-0.04	0.116	0.125
	2	LTE Band 41	20M	QPSK	50	0	Left Tilted	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.19	0.066	0.073
	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	39750	2506	23.45	24.00	1.135	62.9	1.006	-0.03	0.459	0.524
	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	40185	2549.5	23.61	24.00	1.094	62.9	1.006	0.09	0.225	0.248
	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	41055	2636.5	23.67	24.00	1.079	62.9	1.006	0.01	0.237	0.257
	2	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	41490	2680	23.45	24.00	1.135	62.9	1.006	0.19	0.334	0.381
	3	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.02	0.420	0.454
	3	LTE Band 41	20M	QPSK	50	0	Right Cheek	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.03	0.223	0.245
	3	LTE Band 41	20M	QPSK	1	99	Right Tilted	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.02	0.125	0.135
	3	LTE Band 41	20M	QPSK	50	0	Right Tilted	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.05	0.066	0.072
	3	LTE Band 41	20M	QPSK	1	99	Left Cheek	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.07	0.200	0.216
	3	LTE Band 41	20M	QPSK	50	0	Left Cheek	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	-0.01	0.115	0.126
	3	LTE Band 41	20M	QPSK	1	99	Left Tilted	Receiver On	40620	2593	23.69	24.00	1.074	62.9	1.006	0.11	0.140	0.151
	3	LTE Band 41	20M	QPSK	50	0	Left Tilted	Receiver On	40620	2593	22.62	23.00	1.091	62.9	1.006	0.06	0.086	0.094
	3	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	39750	2506	23.45	24.00	1.135	62.9	1.006	0.08	0.350	0.400
	3	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	40185	2549.5	23.61	24.00	1.094	62.9	1.006	-0.08	0.318	0.350
16	3	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	41055	2636.5	23.67	24.00	1.079	62.9	1.006	0.02	0.532	**0.577**
	3	LTE Band 41	20M	QPSK	1	99	Right Cheek	Receiver On	41490	2680	23.45	24.00	1.135	62.9	1.006	-0.15	0.501	0.572

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Full	11	2462	17.56	18.00	1.107	97.94	1.021		0.328		
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Full	11	2462	17.56	18.00	1.107	97.94	1.021		0.377		
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Full	11	2462	17.56	18.00	1.107	97.94	1.021	0.02	0.734	0.418	0.472
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Full	11	2462	17.56	18.00	1.107	97.94	1.021	0.05	0.772	0.475	0.537
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Full	1	2412	16.62	18.00	1.374	97.94	1.021	0.07		0.390	0.547
17	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Full	6	2437	17.44	18.00	1.138	97.94	1.021	-0.01		0.637	**0.740**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Receiver On	64	5320	10.53	11.00	1.114	87.96	1.137	-0.15	1.34	0.623	0.789
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Receiver On	64	5320	10.53	11.00	1.114	87.96	1.137		1.34		
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	64	5320	10.53	11.00	1.114	87.96	1.137	0.11	1.87	0.861	1.091
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	64	5320	10.53	11.00	1.114	87.96	1.137	0.06	1.62	0.783	0.992
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	56	5280	10.41	11.00	1.146	87.96	1.137	0.08		0.839	1.093
18	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	52	5260	10.27	11.00	1.183	87.96	1.137	-0.08		0.818	**1.100**
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	56	5280	10.41	11.00	1.146	87.96	1.137	-0.06		0.747	0.973
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Receiver On	116	5580	14.05	14.50	1.110	87.96	1.137	0.04	1.22	0.598	0.755
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Receiver On	116	5580	14.05	14.50	1.110	87.96	1.137		1.18		
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	116	5580	14.05	14.50	1.110	87.96	1.137	0.11	1.42	0.695	0.877
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Receiver On	116	5580	14.05	14.50	1.110	87.96	1.137	-0.03	1.20	0.586	0.740
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	124	5620	13.73	14.50	1.194	87.96	1.137	0.03		0.546	0.741
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	140	5700	12.80	14.50	1.479	87.96	1.137	0.03		0.546	0.918
19	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	100	5500	13.53	14.50	1.250	87.96	1.137	0.01		0.688	**0.978**
	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Receiver On	149	5745	15.72	16.00	1.067	87.96	1.137		0.975		
	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Receiver On	149	5745	15.72	16.00	1.067	87.96	1.137	0.12	1.075	0.523	0.634
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Receiver On	149	5745	15.72	16.00	1.067	87.96	1.137	0.01	1.432	0.710	0.861
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	149	5745	15.72	16.00	1.067	87.96	1.137	0.01	1.587	0.718	0.871
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	157	5785	15.33	16.00	1.168	87.96	1.137	0.05		0.607	0.806
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	165	5825	14.53	16.00	1.404	87.96	1.137	0.05		0.538	0.859
20	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Receiver On	157	5825	15.33	16.00	1.168	87.96	1.137	0.15		0.618	**0.820**

14.2 Hotspot SAR

<GSM SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	GSM850	GPRS 2 Tx slots	Front	5	Full	189	836.4	31.14	31.50	1.086	0.02	0.996	1.082
	1	GSM850	GPRS 2 Tx slots	Front	5	Full	128	824.2	31.08	31.50	1.102	0.02	1.030	1.135
21	1	GSM850	GPRS 2 Tx slots	Front	5	Full	251	848.8	30.85	31.50	1.161	-0.05	0.983	**1.142**
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	189	836.4	31.14	31.50	1.086	-0.1	0.811	0.881
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	128	824.2	31.08	31.50	1.102	-0.01	0.805	0.887
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	251	848.8	30.85	31.50	1.161	-0.02	0.800	0.929
	1	GSM850	GPRS 2 Tx slots	Left Side	5	Full	189	836.4	31.14	31.50	1.086	0.08	0.368	0.400
	1	GSM850	GPRS 2 Tx slots	Right Side	5	Full	189	836.4	31.14	31.50	1.086	0.07	0.595	0.646
	1	GSM850	GPRS 2 Tx slots	Bottom Side	5	Full	189	836.4	31.14	31.50	1.086	0.08	0.509	0.553
	1	GSM1900	GPRS 2 Tx slots	Front	5	Hotspot On	810	1909.8	24.13	24.50	1.089	0.09	0.700	0.762
	1	GSM1900	GPRS 2 Tx slots	Front	5	Hotspot On	512	1850.2	23.93	24.50	1.140	-0.09	0.651	0.742
	1	GSM1900	GPRS 2 Tx slots	Front	5	Hotspot On	661	1880	23.99	24.50	1.125	0.02	0.698	0.785
	1	GSM1900	GPRS 2 Tx slots	Back	5	Hotspot On	810	1909.8	24.13	24.50	1.089	0.11	0.592	0.645
	1	GSM1900	GPRS 2 Tx slots	Left Side	5	Hotspot On	810	1909.8	24.13	24.50	1.089	0.03	0.101	0.110
	1	GSM1900	GPRS 2 Tx slots	Right Side	5	Hotspot On	810	1909.8	24.13	24.50	1.089	0.12	0.029	0.032
22	1	GSM1900	GPRS 2 Tx slots	Bottom Side	5	Hotspot On	810	1909.8	24.13	24.50	1.089	0.08	0.985	**1.073**
	1	GSM1900	GPRS 2 Tx slots	Bottom Side	5	Hotspot On	512	1850.2	23.93	24.50	1.140	0.15	0.792	0.903
	1	GSM1900	GPRS 2 Tx slots	Bottom Side	5	Hotspot On	661	1880	23.99	24.50	1.125	0.19	0.887	0.998

<WCDMA SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4132	826.4	22.52	24.00	1.406	-0.01	0.507	0.713
	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4182	836.4	22.41	24.00	1.442	0.07	0.585	0.844
23	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4233	846.6	22.43	24.00	1.435	-0.11	0.655	**0.940**
	1	WCDMA Band V	RMC 12.2Kbps	Back	5	Full	4132	826.4	22.52	24.00	1.406	-0.03	0.393	0.553
	1	WCDMA Band V	RMC 12.2Kbps	Left Side	5	Full	4132	826.4	22.52	24.00	1.406	0.14	0.186	0.262
	1	WCDMA Band V	RMC 12.2Kbps	Right Side	5	Full	4132	826.4	22.52	24.00	1.406	0.03	0.383	0.539
	1	WCDMA Band V	RMC 12.2Kbps	Bottom Side	5	Full	4132	826.4	22.52	24.00	1.406	0.04	0.330	0.464
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1513	1752.6	16.21	16.50	1.069	0.04	0.693	0.741
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1312	1712.4	15.90	16.50	1.148	0.04	0.675	0.775
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1413	1732.6	16.17	16.50	1.079	0.03	0.694	0.749
	1	WCDMA Band IV	RMC 12.2Kbps	Back	5	Hotspot On	1513	1752.6	16.21	16.50	1.069	-0.08	0.400	0.428
	1	WCDMA Band IV	RMC 12.2Kbps	Left Side	5	Hotspot On	1513	1752.6	16.21	16.50	1.069	0.06	0.082	0.088
	1	WCDMA Band IV	RMC 12.2Kbps	Right Side	5	Hotspot On	1513	1752.6	16.21	16.50	1.069	0.05	0.041	0.044
24	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1513	1752.6	16.21	16.50	1.069	0.03	0.964	**1.031**
	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1312	1712.4	15.90	16.50	1.148	0.03	0.812	0.932
	1	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1413	1732.6	16.17	16.50	1.079	0.02	0.943	1.017
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9400	1880	16.13	16.50	1.089	-0.02	0.620	0.675
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9262	1852.4	16.05	16.50	1.109	0.03	0.602	0.668
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9538	1907.6	16.10	16.50	1.096	-0.15	0.555	0.609
	1	WCDMA Band II	RMC 12.2Kbps	Back	5	Hotspot On	9400	1880	16.13	16.50	1.089	-0.05	0.504	0.549
	1	WCDMA Band II	RMC 12.2Kbps	Left Side	5	Hotspot On	9400	1880	16.13	16.50	1.089	0.19	0.092	0.100
	1	WCDMA Band II	RMC 12.2Kbps	Right Side	5	Hotspot On	9400	1880	16.13	16.50	1.089	0.03	0.027	0.029
	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9400	1880	16.13	16.50	1.089	0.18	0.899	0.979
	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9262	1852.4	16.05	16.50	1.109	0.02	0.817	0.906
25	1	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9538	1907.6	16.10	16.50	1.096	0.02	0.967	**1.060**

<CDMA2000 SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Full	580	820.5	24.35	24.50	1.035	0.03	0.814	0.843
	1	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Full	476	817.9	24.32	24.50	1.042	-0.02	0.836	0.871
26	1	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Full	684	823.1	24.31	24.50	1.045	-0.12	0.884	**0.924**
	1	CDMA2000 BC10	RTAP 153.6Kbps	Back	5	Full	580	820.5	24.35	24.50	1.035	0.01	0.777	0.804
	1	CDMA2000 BC10	RTAP 153.6Kbps	Back	5	Full	476	817.9	24.32	24.50	1.042	0.07	0.758	0.790
	1	CDMA2000 BC10	RTAP 153.6Kbps	Back	5	Full	684	823.1	24.31	24.50	1.045	-0.11	0.777	0.812
	1	CDMA2000 BC10	RTAP 153.6Kbps	Left Side	5	Full	580	820.5	24.35	24.50	1.035	0.12	0.238	0.246
	1	CDMA2000 BC10	RTAP 153.6Kbps	Right Side	5	Full	580	820.5	24.35	24.50	1.035	0.04	0.441	0.456
	1	CDMA2000 BC10	RTAP 153.6Kbps	Bottom Side	5	Full	580	820.5	24.35	24.50	1.035	0.06	0.451	0.467
	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Full	1013	824.7	24.01	24.50	1.119	0.02	0.826	0.925
	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Full	384	836.52	23.95	24.50	1.135	0.03	0.764	0.867
27	1	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Full	777	848.31	23.78	24.50	1.180	-0.01	0.816	**0.963**
	1	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Full	1013	824.7	24.01	24.50	1.119	0.04	0.758	0.849
	1	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Full	384	836.52	23.95	24.50	1.135	0.05	0.740	0.840
	1	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Full	777	848.31	23.78	24.50	1.180	0.04	0.792	0.935
	1	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	5	Full	1013	824.7	24.01	24.50	1.119	0.09	0.216	0.242
	1	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	5	Full	1013	824.7	24.01	24.50	1.119	0.16	0.433	0.485
	1	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5	Full	1013	824.7	24.01	24.50	1.119	0.11	0.416	0.466
	1	CDMA2000 BC1	RTAP 153.6Kbps	Front	5	Hotspot On	1175	1908.75	15.53	16.00	1.114	0.05	0.657	0.732
	1	CDMA2000 BC1	RTAP 153.6Kbps	Back	5	Hotspot On	1175	1908.75	15.53	16.00	1.114	-0.11	0.461	0.514
	1	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	5	Hotspot On	1175	1908.75	15.53	16.00	1.114	-0.01	0.032	0.036
	1	CDMA2000 BC1	RTAP 153.6Kbps	Right Side	5	Hotspot On	1175	1908.75	15.53	16.00	1.114	-0.06	0.014	0.016
28	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1175	1908.75	15.53	16.00	1.114	0.03	0.977	**1.089**
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	25	1851.25	15.46	16.00	1.132	0.07	0.818	0.926
	1	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	600	1880	15.47	16.00	1.130	0.04	0.880	0.994

<FDD LTE SAR>

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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)
29	1	LTE Band 12	10M	QPSK	1	0	Front	5	Full	23095	707.5	23.05	24.00	1.245	-0.13	0.531	**0.661**
	1	LTE Band 12	10M	QPSK	25	0	Front	5	Full	23095	707.5	21.98	23.00	1.265	0.12	0.282	0.357
	1	LTE Band 12	10M	QPSK	1	0	Back	5	Full	23095	707.5	23.05	24.00	1.245	0.06	0.463	0.576
	1	LTE Band 12	10M	QPSK	25	0	Back	5	Full	23095	707.5	21.98	23.00	1.265	0.05	0.246	0.311
	1	LTE Band 12	10M	QPSK	1	0	Left Side	5	Full	23095	707.5	23.05	24.00	1.245	-0.12	0.317	0.395
	1	LTE Band 12	10M	QPSK	25	0	Left Side	5	Full	23095	707.5	21.98	23.00	1.265	0.15	0.161	0.204
	1	LTE Band 12	10M	QPSK	1	0	Right Side	5	Full	23095	707.5	23.05	24.00	1.245	-0.03	0.445	0.554
	1	LTE Band 12	10M	QPSK	25	0	Right Side	5	Full	23095	707.5	21.98	23.00	1.265	0.12	0.230	0.291
	1	LTE Band 12	10M	QPSK	1	0	Bottom Side	5	Full	23095	707.5	23.05	24.00	1.245	0.19	0.301	0.375
	1	LTE Band 12	10M	QPSK	25	0	Bottom Side	5	Full	23095	707.5	21.98	23.00	1.265	0.04	0.156	0.197
30	1	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	23.09	24.00	1.233	0.09	0.831	**1.025**
	1	LTE Band 13	10M	QPSK	25	0	Front	5	Full	23230	782	21.97	23.00	1.268	0.02	0.405	0.513
	1	LTE Band 13	10M	QPSK	50	0	Front	5	Full	23230	782	22.10	23.00	1.230	-0.01	0.408	0.502
	1	LTE Band 13	10M	QPSK	1	0	Back	5	Full	23230	782	23.09	24.00	1.233	0.17	0.774	0.954
	1	LTE Band 13	10M	QPSK	25	0	Back	5	Full	23230	782	21.97	23.00	1.268	0.03	0.429	0.544
	1	LTE Band 13	10M	QPSK	50	0	Back	5	Full	23230	782	22.10	23.00	1.230	0.05	0.427	0.525
	1	LTE Band 13	10M	QPSK	1	0	Left Side	5	Full	23230	782	23.09	24.00	1.233	-0.15	0.344	0.424
	1	LTE Band 13	10M	QPSK	25	0	Left Side	5	Full	23230	782	21.97	23.00	1.268	0.17	0.189	0.240
	1	LTE Band 13	10M	QPSK	1	0	Right Side	5	Full	23230	782	23.09	24.00	1.233	-0.02	0.486	0.599
	1	LTE Band 13	10M	QPSK	25	0	Right Side	5	Full	23230	782	21.97	23.00	1.268	0.1	0.272	0.345
	1	LTE Band 13	10M	QPSK	1	0	Bottom Side	5	Full	23230	782	23.09	24.00	1.233	-0.15	0.468	0.577
	1	LTE Band 13	10M	QPSK	25	0	Bottom Side	5	Full	23230	782	21.97	23.00	1.268	0.08	0.225	0.285
31	1	LTE Band 26	15M	QPSK	1	74	Front	5	Full	26865	831.5	23.82	24.00	1.042	-0.01	1.010	**1.053**
	1	LTE Band 26	15M	QPSK	36	0	Front	5	Full	26865	831.5	22.79	23.00	1.050	-0.11	0.515	0.541
	1	LTE Band 26	15M	QPSK	75	0	Front	5	Full	26865	831.5	22.70	23.00	1.072	0.1	0.528	0.566
	1	LTE Band 26	15M	QPSK	1	74	Back	5	Full	26865	831.5	23.82	24.00	1.042	-0.15	1.000	1.042
	1	LTE Band 26	15M	QPSK	36	0	Back	5	Full	26865	831.5	22.79	23.00	1.050	0.04	0.451	0.473
	1	LTE Band 26	15M	QPSK	75	0	Back	5	Full	26865	831.5	22.70	23.00	1.072	0.03	0.438	0.469
	1	LTE Band 26	15M	QPSK	1	74	Left Side	5	Full	26865	831.5	23.82	24.00	1.042	0.14	0.249	0.260
	1	LTE Band 26	15M	QPSK	36	0	Left Side	5	Full	26865	831.5	22.79	23.00	1.050	0.09	0.155	0.163
	1	LTE Band 26	15M	QPSK	1	74	Right Side	5	Full	26865	831.5	23.82	24.00	1.042	0.11	0.625	0.651
	1	LTE Band 26	15M	QPSK	36	0	Right Side	5	Full	26865	831.5	22.79	23.00	1.050	0.09	0.334	0.351
	1	LTE Band 26	15M	QPSK	1	74	Bottom Side	5	Full	26865	831.5	23.82	24.00	1.042	0.1	0.669	0.697
	1	LTE Band 26	15M	QPSK	36	0	Bottom Side	5	Full	26865	831.5	22.79	23.00	1.050	0.13	0.300	0.315

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132572	1770	14.93	15.00	1.016	0.09	0.593	0.603
	1	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132072	1720	14.90	15.00	1.023	0.04	0.499	0.511
	1	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132322	1745	14.93	15.00	1.016	0.17	0.558	0.567
	1	LTE Band 66	20M	QPSK	50	0	Front	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.09	0.276	0.411
	1	LTE Band 66	20M	QPSK	1	99	Back	5	Hotspot On	132572	1770	14.93	15.00	1.016	0.11	0.393	0.399
	1	LTE Band 66	20M	QPSK	50	0	Back	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.09	0.183	0.273
	1	LTE Band 66	20M	QPSK	1	99	Left Side	5	Hotspot On	132572	1770	14.93	15.00	1.016	0.17	0.075	0.076
	1	LTE Band 66	20M	QPSK	50	0	Left Side	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.1	0.033	0.049
	1	LTE Band 66	20M	QPSK	1	99	Right Side	5	Hotspot On	132572	1770	14.93	15.00	1.016	0.08	0.034	0.035
	1	LTE Band 66	20M	QPSK	50	0	Right Side	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.04	0.015	0.022
32	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132572	1770	14.93	15.00	1.016	0.05	0.913	**0.928**
	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132072	1720	14.90	15.00	1.023	0.07	0.821	0.840
	1	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132322	1745	14.93	15.00	1.016	0.12	0.863	0.877
	1	LTE Band 66	20M	QPSK	50	0	Bottom Side	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.1	0.415	0.618
	1	LTE Band 66	20M	QPSK	100	0	Bottom Side	5	Hotspot On	132572	1770	12.27	14.00	1.489	0.03	0.420	0.626
	1	LTE Band 25	20M	QPSK	1	0	Front	5	Hotspot On	26340	1880	15.90	16.00	1.023	0.01	0.676	0.692
	1	LTE Band 25	20M	QPSK	1	0	Front	5	Hotspot On	26140	1860	15.55	16.00	1.109	0.17	0.633	0.702
	1	LTE Band 25	20M	QPSK	1	0	Front	5	Hotspot On	26590	1905	15.78	16.00	1.052	-0.05	0.654	0.688
	1	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26340	1880	13.52	15.00	1.406	0.01	0.364	0.512
	1	LTE Band 25	20M	QPSK	1	0	Back	5	Hotspot On	26340	1880	15.90	16.00	1.023	0.16	0.492	0.503
	1	LTE Band 25	20M	QPSK	50	0	Back	5	Hotspot On	26340	1880	13.52	15.00	1.406	0.1	0.264	0.371
	1	LTE Band 25	20M	QPSK	1	0	Left Side	5	Hotspot On	26340	1880	15.90	16.00	1.023	0.06	0.089	0.091
	1	LTE Band 25	20M	QPSK	50	0	Left Side	5	Hotspot On	26340	1880	13.52	15.00	1.406	0.09	0.047	0.066
	1	LTE Band 25	20M	QPSK	1	0	Right Side	5	Hotspot On	26340	1880	15.90	16.00	1.023	0.09	0.028	0.029
	1	LTE Band 25	20M	QPSK	50	0	Right Side	5	Hotspot On	26340	1880	13.52	15.00	1.406	-0.03	0.013	0.019
	1	LTE Band 25	20M	QPSK	1	0	Bottom Side	5	Hotspot On	26340	1880	15.90	16.00	1.023	0.16	0.956	0.978
	1	LTE Band 25	20M	QPSK	1	0	Bottom Side	5	Hotspot On	26140	1860	15.55	16.00	1.109	0.1	0.896	0.994
33	1	LTE Band 25	20M	QPSK	1	0	Bottom Side	5	Hotspot On	26590	1905	15.78	16.00	1.052	0.01	1.030	**1.084**
	1	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26340	1880	13.52	15.00	1.406	0.04	0.512	0.720
	1	LTE Band 25	20M	QPSK	100	0	Bottom Side	5	Hotspot On	26340	1880	13.49	15.00	1.416	0.01	0.513	0.726

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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)
	2	LTE Band 30	10M	QPSK	1	0	Front	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.05	0.701	0.704
	2	LTE Band 30	10M	QPSK	25	0	Front	5	Hotspot On	27710	2310	16.92	18.50	1.439	0.03	0.355	0.511
	2	LTE Band 30	10M	QPSK	1	0	Back	5	Hotspot On	27710	2310	19.48	19.50	1.005	-0.07	0.732	0.735
	2	LTE Band 30	10M	QPSK	25	0	Back	5	Hotspot On	27710	2310	16.92	18.50	1.439	0.05	0.400	0.576
	2	LTE Band 30	10M	QPSK	1	0	Left Side	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.07	0.459	0.461
	2	LTE Band 30	10M	QPSK	25	0	Left Side	5	Hotspot On	27710	2310	16.92	18.50	1.439	-0.01	0.229	0.329
	2	LTE Band 30	10M	QPSK	1	0	Bottom Side	5	Hotspot On	27710	2310	19.48	19.50	1.005	-0.15	0.095	0.095
	2	LTE Band 30	10M	QPSK	25	0	Bottom Side	5	Hotspot On	27710	2310	16.92	18.50	1.439	0.08	0.061	0.088
34	3	LTE Band 30	10M	QPSK	1	0	Front	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.13	0.777	**0.781**
	3	LTE Band 30	10M	QPSK	25	0	Front	5	Hotspot On	27710	2310	16.92	18.50	1.439	-0.03	0.395	0.568
	3	LTE Band 30	10M	QPSK	1	0	Back	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.15	0.634	0.637
	3	LTE Band 30	10M	QPSK	25	0	Back	5	Hotspot On	27710	2310	16.92	18.50	1.439	-0.06	0.317	0.456
	3	LTE Band 30	10M	QPSK	1	0	Right Side	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.03	0.451	0.453
	3	LTE Band 30	10M	QPSK	25	0	Right Side	5	Hotspot On	27710	2310	16.92	18.50	1.439	-0.05	0.230	0.331
	3	LTE Band 30	10M	QPSK	1	0	Bottom Side	5	Hotspot On	27710	2310	19.48	19.50	1.005	0.12	0.108	0.108
	3	LTE Band 30	10M	QPSK	25	0	Bottom Side	5	Hotspot On	27710	2310	16.92	18.50	1.439	-0.04	0.053	0.076
	2	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	21350	2560	18.45	18.50	1.012	-0.09	0.733	0.741
	2	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	20850	2510	18.25	18.50	1.059	-0.07	0.758	0.803
	2	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	21100	2535	18.10	18.50	1.096	0.02	0.760	0.833
	2	LTE Band 7	20M	QPSK	50	0	Front	5	Hotspot On	21350	2560	15.75	17.50	1.496	0.17	0.386	0.578
	2	LTE Band 7	20M	QPSK	100	0	Front	5	Hotspot On	21350	2560	15.74	17.50	1.500	0.02	0.374	0.561
	2	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.04	0.614	0.621
	2	LTE Band 7	20M	QPSK	50	0	Back	5	Hotspot On	21350	2560	15.75	17.50	1.496	-0.17	0.322	0.482
	2	LTE Band 7	20M	QPSK	1	0	Left Side	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.02	0.520	0.526
	2	LTE Band 7	20M	QPSK	50	0	Left Side	5	Hotspot On	21350	2560	15.75	17.50	1.496	0.13	0.289	0.432
	2	LTE Band 7	20M	QPSK	1	0	Bottom Side	5	Hotspot On	21350	2560	18.45	18.50	1.012	-0.17	0.099	0.100
	2	LTE Band 7	20M	QPSK	50	0	Bottom Side	5	Hotspot On	21350	2560	15.75	17.50	1.496	-0.05	0.051	0.076
	3	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.01	0.819	0.828
35	3	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	20850	2510	18.25	18.50	1.059	-0.15	0.907	**0.961**
	3	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	21100	2535	18.10	18.50	1.096	0.01	0.869	0.953
	3	LTE Band 7	20M	QPSK	50	0	Front	5	Hotspot On	21350	2560	15.75	17.50	1.496	0.04	0.467	0.699
	3	LTE Band 7	20M	QPSK	100	0	Front	5	Hotspot On	21350	2560	15.74	17.50	1.500	0.02	0.386	0.579
	3	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.01	0.656	0.664
	3	LTE Band 7	20M	QPSK	50	0	Back	5	Hotspot On	21350	2560	15.75	17.50	1.496	0.02	0.346	0.518
	3	LTE Band 7	20M	QPSK	1	0	Right Side	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.07	0.556	0.562
	3	LTE Band 7	20M	QPSK	50	0	Right Side	5	Hotspot On	21350	2560	15.75	17.50	1.496	-0.16	0.299	0.447
	3	LTE Band 7	20M	QPSK	1	0	Bottom Side	5	Hotspot On	21350	2560	18.45	18.50	1.012	0.09	0.068	0.069
	3	LTE Band 7	20M	QPSK	50	0	Bottom Side	5	Hotspot On	21350	2560	15.75	17.50	1.496	0.07	0.035	0.053

<TDD LTE SAR>

Plot No.	Ant.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	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)
	2	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	0.06	0.501	0.517
	2	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	39750	2506	19.77	20.00	1.054	62.9	1.006	0.04	0.901	0.956
	2	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	40185	2549.5	19.64	20.00	1.086	62.9	1.006	0.07	0.436	0.477
	2	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	41055	2636.5	19.64	20.00	1.086	62.9	1.006	0.07	0.309	0.338
	2	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	41490	2680	19.54	20.00	1.112	62.9	1.006	0.12	0.485	0.542
	2	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	0.18	0.332	0.491
	2	LTE Band 41	20M	QPSK	100	0	Front	5	Hotspot On	40620	2593	17.22	19.00	1.507	62.9	1.006	0.05	0.339	0.514
	2	LTE Band 41	20M	QPSK	1	0	Back	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	0.14	0.531	0.548
	2	LTE Band 41	20M	QPSK	50	0	Back	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	0.01	0.290	0.429
	2	LTE Band 41	20M	QPSK	1	0	Left Side	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	-0.19	0.419	0.432
	2	LTE Band 41	20M	QPSK	50	0	Left Side	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	-0.05	0.228	0.337
	2	LTE Band 41	20M	QPSK	1	0	Bottom Side	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	-0.09	0.104	0.107
	2	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.590	-0.15	0.079	0.185
	3	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	0.08	0.467	0.482
36	3	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	39750	2506	19.77	20.00	1.054	62.9	1.006	-0.04	1.020	**1.082**
	3	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	40185	2549.5	19.64	20.00	1.086	62.9	1.006	-0.09	0.828	0.905
	3	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	41055	2636.5	19.64	20.00	1.086	62.9	1.006	0.17	0.624	0.682
	3	LTE Band 41	20M	QPSK	1	0	Front	5	Hotspot On	41490	2680	19.54	20.00	1.112	62.9	1.006	-0.02	0.722	0.807
	3	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	40620	2680	17.33	19.00	1.469	62.9	1.006	0.13	0.377	0.557
	3	LTE Band 41	20M	QPSK	100	0	Front	5	Hotspot On	40620	2593	17.22	19.00	1.507	62.9	1.006	0.14	0.211	0.320
	3	LTE Band 41	20M	QPSK	1	0	Back	5	Hotspot On	40620	2680	19.89	20.00	1.026	62.9	1.006	0.17	0.439	0.453
	3	LTE Band 41	20M	QPSK	50	0	Back	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	0.16	0.215	0.318
	3	LTE Band 41	20M	QPSK	1	0	Right Side	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	0.04	0.261	0.269
	3	LTE Band 41	20M	QPSK	50	0	Right Side	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	0.07	0.174	0.257
	3	LTE Band 41	20M	QPSK	1	0	Bottom Side	5	Hotspot On	40620	2593	19.89	20.00	1.026	62.9	1.006	0.03	0.019	0.020
	3	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	40620	2593	17.33	19.00	1.469	62.9	1.006	0.06	0.016	0.024

<WLAN 2.4GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Max Area Scan SAR	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5	Full	11	2462	17.56	18.00	1.107	97.94	1.021	-0.05	0.294	0.151	0.171
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	11	2462	17.56	18.00	1.107	97.94	1.021	-0.08	0.367	0.266	0.301
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5	Full	11	2462	17.56	18.00	1.107	97.94	1.021		0.0884		
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5	Full	11	2462	17.56	18.00	1.107	97.94	1.021		0.278		
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	1	2412	16.62	18.00	1.374	97.94	1.021	-0.12		0.249	0.349
37	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	6	2437	17.44	18.00	1.138	97.94	1.021	0.08		0.368	**0.427**

<WLAN 5GHz SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Power Mode	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)
	WLAN5.2GHz	802.11a 6Mbps	Front	5	Hotspot On	48	5240	14.90	15.00	1.024	87.96	1.137	0.12	0.441	0.513
	WLAN5.2GHz	802.11a 6Mbps	Back	5	Hotspot On	48	5240	14.90	15.00	1.024	87.96	1.137	0.02	0.755	0.879
	WLAN5.2GHz	802.11a 6Mbps	Right Side	5	Hotspot On	48	5240	14.90	15.00	1.024	87.96	1.137	0.01	0.099	0.115
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Hotspot On	48	5240	14.90	15.00	1.024	87.96	1.137	0.08	0.448	0.522
38	WLAN5.2GHz	802.11a 6Mbps	Back	5	Hotspot On	36	5180	13.94	15.00	1.276	87.96	1.137	0.02	0.810	**1.176**
	WLAN5.2GHz	802.11a 6Mbps	Back	5	Hotspot On	44	5220	14.04	15.00	1.247	87.96	1.137	0.02	0.771	1.093
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Hotspot On	149	5745	15.17	15.50	1.080	87.96	1.137	0.06	0.510	0.626
39	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Hotspot On	149	5745	15.17	15.50	1.080	87.96	1.137	0.01	0.801	**0.983**
	WLAN 5.8GHz	802.11a 6Mbps	Right Side	5	Hotspot On	149	5745	15.17	15.50	1.080	87.96	1.137	0.17	0.293	0.360
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	Hotspot On	149	5745	15.17	15.50	1.080	87.96	1.137	0.09	0.374	0.459
	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Hotspot On	157	5785	14.51	15.50	1.257	87.96	1.137	0.01	0.681	0.973
	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Hotspot On	165	5825	13.73	15.50	1.504	87.96	1.137	0.01	0.571	0.977

<Bluetooth SAR>

Plot No.	Band	Mode	Test Position	Gap (mm)	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	Bluetooth	1Mbps	Front	5	39	2441	11.63	12.00	1.089	77.00	1.082	0.04	0.066	0.078
40	Bluetooth	1Mbps	Back	5	39	2441	11.63	12.00	1.089	77.00	1.082	-0.17	0.093	**0.110**
	Bluetooth	1Mbps	Right Side	5	39	2441	11.63	12.00	1.089	77.00	1.082	0.08	0.015	0.018
	Bluetooth	1Mbps	Top Side	5	39	2441	11.63	12.00	1.089	77.00	1.082	0.01	0.061	0.072
	Bluetooth	1Mbps	Back	5	0	2402	11.02	12.00	1.253	77.00	1.082	0.05	0.077	0.105
	Bluetooth	1Mbps	Back	5	78	2480	11.07	12.00	1.239	77.00	1.082	-0.18	0.054	0.072

14.3 Body Worn Accessory SAR

<GSM SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	GSM850	GPRS 2 Tx slots	Front	5	Full	189	836.4	31.14	31.50	1.086	0.02	0.996	1.082
	1	GSM850	GPRS 2 Tx slots	Front	5	Full	128	824.2	31.08	31.50	1.102	0.02	1.030	1.135
41	1	GSM850	GPRS 2 Tx slots	Front	5	Full	251	848.8	30.85	31.50	1.161	-0.05	0.983	**1.142**
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	189	836.4	31.14	31.50	1.086	-0.1	0.811	0.881
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	128	824.2	31.08	31.50	1.102	-0.01	0.805	0.887
	1	GSM850	GPRS 2 Tx slots	Back	5	Full	251	848.8	30.85	31.50	1.161	-0.02	0.800	0.929
	1	GSM1900	GPRS 2 Tx slots	Front	5	P-Sensor	810	1909.8	24.13	24.50	1.089	0.09	0.700	0.762
	1	GSM1900	GPRS 2 Tx slots	Front	5	P-Sensor	512	1850.2	23.93	24.50	1.140	-0.09	0.651	0.742
42	1	GSM1900	GPRS 2 Tx slots	Front	5	P-Sensor	661	1880	23.99	24.50	1.125	0.02	0.698	**0.785**
	1	GSM1900	GPRS 2 Tx slots	Back	5	P-Sensor	810	1909.8	24.13	24.50	1.089	0.11	0.592	0.645

<WCDMA SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4132	826.4	22.52	24.00	1.406	-0.01	0.507	0.713
	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4182	836.4	22.41	24.00	1.442	0.07	0.585	0.844
43	1	WCDMA Band V	RMC 12.2Kbps	Front	5	Full	4233	846.6	22.43	24.00	1.435	-0.11	0.655	**0.940**
	1	WCDMA Band V	RMC 12.2Kbps	Back	5	Full	4132	826.4	22.52	24.00	1.406	-0.03	0.393	0.553
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1513	1752.6	16.21	16.50	1.069	0.04	0.693	0.741
44	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1312	1712.4	15.90	16.50	1.148	0.04	0.675	**0.775**
	1	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1413	1732.6	16.17	16.50	1.079	0.03	0.694	0.749
	1	WCDMA Band IV	RMC 12.2Kbps	Back	5	P-Sensor On	1513	1752.6	16.21	16.50	1.069	-0.08	0.400	0.428
45	1	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9400	1880	16.13	16.50	1.089	-0.02	0.620	**0.675**
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9262	1852.4	16.05	16.50	1.109	0.03	0.602	0.668
	1	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9538	1907.6	16.10	16.50	1.096	-0.15	0.555	0.609
	1	WCDMA Band II	RMC 12.2Kbps	Back	5	P-Sensor On	9400	1880	16.13	16.50	1.089	-0.05	0.504	0.549

<CDMA2000 SAR>

Plot No.	Ant.	Band	Mode	Test Position	Gap (mm)	Power Mode	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	1	CDMA2000 BC10	RC3 SO32	Front	5	Full	580	820.5	24.40	24.50	1.023	-0.02	1.230	1.259
46	1	CDMA2000 BC10	RC3 SO32	Front	5	Full	476	817.9	24.38	24.50	1.028	-0.10	1.230	**1.264**
	1	CDMA2000 BC10	RC3 SO32	Front	5	Full	684	823.1	24.37	24.50	1.030	0.06	1.210	1.247
	1	CDMA2000 BC10	RC3 SO32	Back	5	Full	580	820.5	24.40	24.50	1.023	0.15	1.090	1.115
	1	CDMA2000 BC10	RC3 SO32	Back	5	Full	476	817.9	24.38	24.50	1.028	0.1	0.828	0.851
	1	CDMA2000 BC10	RC3 SO32	Back	5	Full	684	823.1	24.37	24.50	1.030	0.06	0.897	0.924
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 1	5	Full	476	817.9	24.38	24.50	1.028	0.06	0.924	0.950
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 1	5	Full	580	820.5	24.40	24.50	1.023	0.14	0.912	0.933
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 1	5	Full	684	823.1	24.37	24.50	1.030	0.01	0.924	0.952
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 2	5	Full	476	817.9	24.38	24.50	1.028	0.06	0.918	0.944
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 2	5	Full	580	820.5	24.40	24.50	1.023	0.14	0.908	0.929
	1	CDMA2000 BC10	RC3 SO32	Front with Headset 2	5	Full	684	823.1	24.37	24.50	1.030	0.01	0.912	0.940
	1	CDMA2000 BC0	RC3 SO32	Front	5	Full	1013	824.7	24.07	24.50	1.104	-0.01	1.160	1.281
	1	CDMA2000 BC0	RC3 SO32	Front	5	Full	384	836.52	24.07	24.50	1.104	0.01	1.190	1.314
47	1	CDMA2000 BC0	RC3 SO32	Front	5	Full	777	848.31	23.85	24.50	1.161	0.07	1.210	**1.405**
	1	CDMA2000 BC0	RC3 SO32	Back	5	Full	1013	824.7	24.07	24.50	1.104	-0.01	0.845	0.933
	1	CDMA2000 BC0	RC3 SO32	Back	5	Full	384	836.52	24.07	24.50	1.104	0.01	0.825	0.911
	1	CDMA2000 BC0	RC3 SO32	Back	5	Full	777	848.31	23.85	24.50	1.161	0.01	0.873	1.014
	1	CDMA2000 BC0	RC3 SO32	Front with Headset 1	5	Full	777	848.31	23.85	24.50	1.161	0.05	0.661	0.768
	1	CDMA2000 BC0	RC3 SO32	Front with Headset 2	5	Full	777	848.31	23.85	24.50	1.161	0.05	0.643	0.747
48	1	CDMA2000 BC1	RC3 SO32	Front	5	P-Sensor On	1175	1908.75	15.43	16.00	1.140	-0.14	0.642	**0.732**
	1	CDMA2000 BC1	RC3 SO32	Front	5	P-Sensor On	25	1851.25	15.30	16.00	1.175	0.02	0.510	0.599
	1	CDMA2000 BC1	RC3 SO32	Front	5	P-Sensor On	600	1880	15.36	16.00	1.159	-0.05	0.569	0.659
	1	CDMA2000 BC1	RC3 SO32	Back	5	P-Sensor On	1175	1908.75	15.43	16.00	1.140	0.04	0.489	0.558