FCC SAR Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1922-6, XT1922-7, XT1922-9
FCC ID	:	IHDT56XB1
STANDARD	:	FCC 47 CFR Part 2 (2.1093) ANSI/IEEE C95.1-1992 IEEE 1528-2013

We, Sporton International (Shenzhen) 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 (Shenzhen) Inc., the test report shall not be reproduced except in full.

Mark Qu

Approved by: Mark Qu / Manager

TESTING
NVLAP LAB CODE 600156-0

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Revision History

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FA7D1310	Rev. 01	Initial issue of report	Feb. 12, 2018

1. Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for Motorola Mobility LLC, Mobile Cellular Phone, XT1922-6, XT1922-7, XT1922-9, 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	0.26	1.07	1.07	1.57
		GSM1900	0.09	1.08	1.01	
	WCDMA	Band V	0.36	**1.11**	**1.11**	
		Band IV	0.21	0.70	0.65	
		Band II	0.19	0.77	0.75	
	CDMA2000	BC10	0.36	0.77	0.93	
		BC0	0.34	0.95	0.84	
		BC1	0.25	0.83	0.73	
	LTE	Band 12/Band 17	0.27	0.85	0.85	
		Band 13	0.24	1.09	1.09	
		Band 14	0.12	0.48	0.48	
		Band 26/Band 5	0.37	0.96	0.96	
		Band 66/Band 4	0.11	0.58	0.56	
		Band 25/Band 2	0.22	0.88	0.81	
		Band 30	0.26	0.49	0.33	
		Band 7	0.54	0.88	0.69	
		Band 41/Band 38	0.36	1.06	1.05	
DTS	WLAN	2.4GHz WLAN	0.71	0.60	0.60	1.35
NII		5GHz WLAN	**1.20**	0.80	0.72	1.57
DSS	Bluetooth	2.4GHz Bluetooth		0.12	0.12	1.18

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	3.23	3.99
	WCDMA	Band V	2.24	
		Band IV	2.79	
		Band II	2.85	
	CDMA2000	BC1	3.53	
	LTE	Band 26/Band 5	2.33	
		Band 66/Band 4	2.64	
		Band 25/Band 2	2.86	
		Band 30	**3.77**	
		Band 7	3.66	
		Band 41/Band 38	3.18	
NII	WLAN	5GHz WLAN	0.92	3.99
Date of Testing:			2017/12/31~2018/1/19	

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 (Shenzhen) Inc.
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan Shenzhen City Guangdong Province 518055 China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595

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	XT1922-6, XT1922-7, XT1922-9
FCC ID	IHDT56XB1
IMEI Code	351864090024260
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 14: 790.5 MHz ~ 795.5 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	DVT1B
SW Version	jeter_oem_userdebug_8.0.0_OPP27.34_970_intcfg-test-keys_oem
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. WLAN operation in 5600 MHz ~ 5650 MHz is notched.
2. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
4. 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).
5. This device does not support DTM operation and supports GRPS/EGRPS mode up to multi-slot class 12.
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/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66 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.)
7. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66.
8. P-sensor can detect handheld state, for product specific 10g SAR condition, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/66 reduced powers will be active. For GSM1900, WCDMA band V, LTE band 5/26/30/38/41, 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. The model names (XT1922-6, XT1922-7, XT1922-9) are the same product except model name different for carrier.
12. The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.
13. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the left side of bottom edge of the device and WWAN antenna 2 is located at the right side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V and LTE Band 2/4/5/12/13/14/17/25/26/66, and WWAN antenna 2 frequency bands include LTE Band 7/30/38/41. They can't transmit simultaneously.

4.2 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Acbel)	**Model Name**	C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
AC Adapter 2	**Brand Name**	Motorola (Salom)	**Model Name**	SSW-2919UMTJ C-P35 SPN5945A
	Power Rating	I/P: 100-240 Vac, 300mA, O/P: 5.2Vdc,2000mA		
Battery	**Brand Name**	Motorola (SCUD)	**Model Name**	BL270
	Power Rating	3.85Vdc,4000mAh	**Type**	Li-ion, ATL426580
USB Cable	**Brand Name**	Motorola (Saibao)	**Model Name**	SLQ-A077A
	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	IHDT56XB1
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 14: 790.5 MHz ~ 795.5 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 14: 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 25:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 26:1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz LTE Band 30: 5MHz, 10MHz LTE Band 38: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 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	R11, Cat7
CA Support	Yes, Uplink and Downlink
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 2/4/5/7/25/26/30/38/41/66 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 2/4/5/7/25/26/30/38/41/66. 3. P-sensor can detect handheld state, for product specific 10g SAR condition, LTE band 2/4/7/25/66 reduced powers will be active. For LTE band 5/26/30/38/41, the power levels are the same as the full power.
LTE Carrier Aggregation Combinations	Inter-Band and Intra-Band possible combinations and the detail power verification please referred to section 12.
LTE Carrier Aggregation Additional Information	(1) This device supports LTE Carrier Aggregation (CA) in the uplink for LTE B41 with two component carriers in the uplink. SAR Measurements and conducted powers were

	evaluated per FCC Guidance. (2) This device supports maximum of 2 carriers in the downlink and 2 carriers in the uplink. Additional following LTE Release features are not supported: Relay, HetNet, Enhanced MIMO, eICI, WiFi Offloading, MDH, eMBMA, Cross-Carrier Scheduling, Enhanced SC-FDMA.

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

LTE Band 2

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	18607	1850.7	18615	1851.5	18625	1852.5	18650	1855	18675	1857.5	18700	1860
M	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880	18900	1880
H	19193	1909.3	19185	1908.5	19175	1907.5	19150	1905	19125	1902.5	19100	1900

LTE Band 4

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	19957	1710.7	19965	1711.5	19975	1712.5	20000	1715	20025	1717.5	20050	1720
M	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5	20175	1732.5
H	20393	1754.3	20385	1753.5	20375	1752.5	20350	1750	20325	1747.5	20300	1745

LTE Band 5

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20407	824.7	20415	825.5	20425	826.5	20450	829
M	20525	836.5	20525	836.5	20525	836.5	20525	836.5
H	20643	848.3	20635	847.5	20625	846.5	20600	844

LTE Band 7

	Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	20775	2502.5	20800	2505	20825	2507.5	20850	2510
M	21100	2535	21100	2535	21100	2535	21100	2535
H	21425	2567.5	21400	2565	21375	2562.5	21350	2560

LTE Band 12

	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	23017	699.7	23025	700.5	23035	701.5	23060	704
M	23095	707.5	23095	707.5	23095	707.5	23095	707.5
H	23173	715.3	23165	714.5	23155	713.5	23130	711

LTE Band 13

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

LTE Band 14

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

LTE Band 17				
	Bandwidth 5 MHz		Bandwidth 10 MHz	
	Channel #	Freq.(MHz)	Channel #	Freq. (MHz)
L	23755	706.5	23780	709
M	23790	710	23790	710
H	23825	713.5	23800	711

LTE Band 25												
	Bandwidth 1.4 MHz		Bandwidth 3 MHz		Bandwidth 5 MHz		Bandwidth 10 MHz		Bandwidth 15 MHz		Bandwidth 20 MHz	
	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)	Ch. #	Freq. (MHz)
L	26047	1850.7	26055	1851.5	26065	1852.5	26090	1855	26115	1857.5	26140	1860
M	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880	26340	1880
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:

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

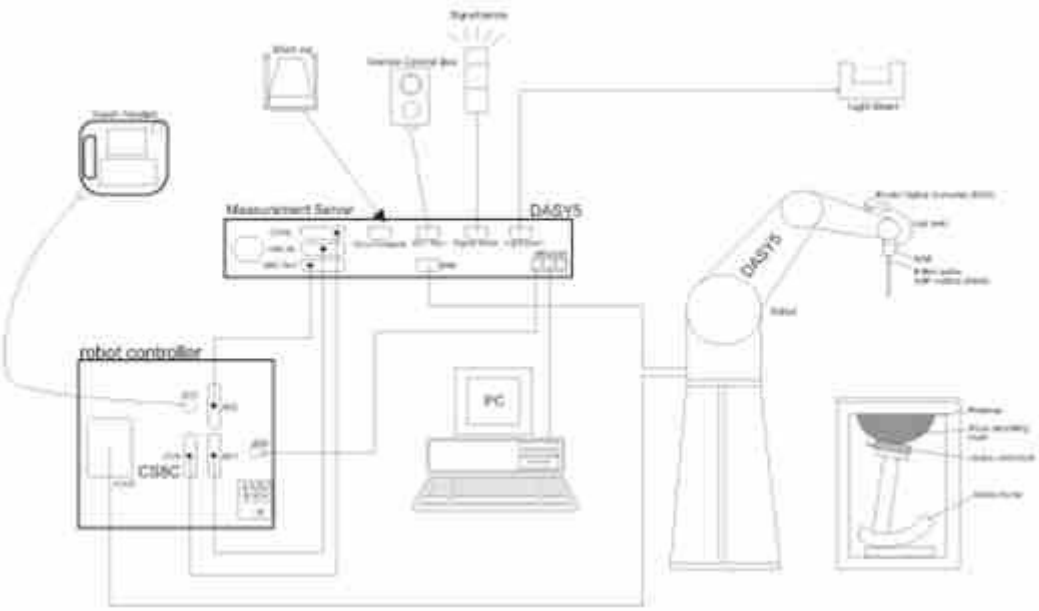
SAR is expressed in units of Watts per kilogram (W/kg)

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

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	1087	2017/3/20	2018/3/19
SPEAG	835MHz System Validation Kit	D835V2	4d151	2017/3/20	2018/3/19
SPEAG	1750MHz System Validation Kit	D1750V2	1137	2017/6/5	2018/6/4
SPEAG	1900MHz System Validation Kit	D1900V2	5d170	2017/3/22	2018/3/21
SPEAG	2300MHz System Validation Kit	D2300V2	1056	2017/9/18	2018/9/17
SPEAG	2450MHz System Validation Kit	D2450V2	924	2017/3/21	2018/3/20
SPEAG	2600MHz System Validation Kit	D2600V2	1008	2017/9/18	2018/9/17
SPEAG	5000MHz System Validation Kit	D5GHzV2	1167	2017/7/26	2018/7/25
SPEAG	Data Acquisition Electronics	DAE4	1386	2017/7/20	2018/7/19
SPEAG	Dosimetric E-Field Probe	EX3DV4	3911	2017/11/28	2018/11/27
SPEAG	Dosimetric E-Field Probe	EX3DV4	3642	2017/9/25	2018/9/24
SPEAG	SAM Twin Phantom	QD 000 P40 CD	TP-1671	NCR	NCR
SPEAG	Phone Positioner	N/A	N/A	NCR	NCR
Anritsu	Radio communication analyzer	MT8820C	6201300653	2017/7/19	2018/7/18
Anritsu	Radio communication analyzer	MT8821C	6201692204	2017/3/29	2018/3/28
Agilent	Wireless Communication Test Set	E5515C	MY50267224	2017/9/12	2018/9/11
Agilent	Network Analyzer	E5071C	MY46523671	2017/10/18	2018/10/17
SPEAG	Dielectric Assessment Kit	DAK-3.5	1146	2017/7/18	2018/7/17
Agilent	Signal Generator	N5181A	MY50145381	2017/12/26	2018/12/25
Anritsu	Power Senor	MA2411B	1306099	2017/8/21	2018/8/20
Anritsu	Power Meter	ML2495A	1349001	2017/7/19	2018/7/18
Anritsu	Power Meter	ML2495A	1419002	2017/5/15	2018/5/14
Anritsu	Power Sensor	MA2411B	1339124	2017/5/15	2018/5/14
R&S	CBT BLUETOOTH TESTER	CBT	100783	2017/8/8	2018/8/7
R&S	Spectrum Analyzer	FSP7	100818	2017/7/19	2018/7/18
LKM electronic	Hygrometer	DTM3000	3241	2017/7/21	2018/7/20
Anymetre	Thermo-Hygrometer	JR593	2015030904	2017/4/22	2018/4/21
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

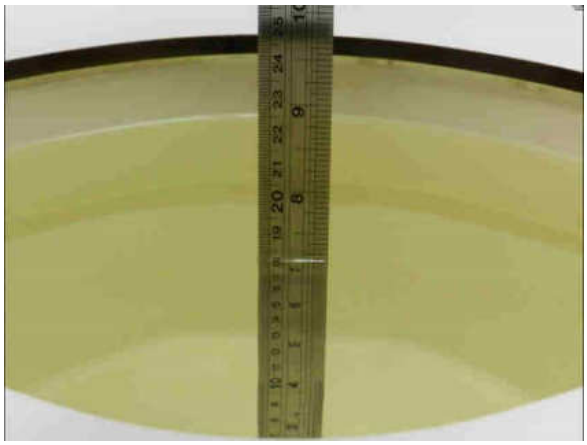


Fig 10.2 Photo of Liquid Height for Body SAR

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	22.9	0.886	41.534	0.89	41.90	-0.45	-0.87	±5	2018/1/2
835	Head	22.8	0.915	41.980	0.90	41.50	1.67	1.16	±5	2018/1/1
1750	Head	22.7	1.375	41.541	1.37	40.10	0.36	3.59	±5	2017/12/31
1900	Head	22.8	1.420	41.133	1.40	40.00	1.43	2.83	±5	2017/12/31
2300	Head	22.7	1.689	38.800	1.67	39.50	1.14	-1.77	±5	2018/1/7
2450	Head	22.7	1.857	37.670	1.80	39.20	3.17	-3.90	±5	2018/1/8
2600	Head	22.8	1.995	40.438	1.96	39.00	1.79	3.69	±5	2018/1/7
5250	Head	22.9	4.588	36.661	4.71	35.90	-2.59	2.12	±5	2018/1/15
5600	Head	22.6	4.954	35.793	5.07	35.50	-2.29	0.83	±5	2018/1/15
5750	Head	22.8	5.119	35.497	5.22	35.40	-1.93	0.27	±5	2018/1/16
750	Body	22.5	0.970	54.642	0.96	55.50	1.04	-1.55	±5	2018/1/4
835	Body	22.6	0.994	54.578	0.97	55.20	2.47	-1.13	±5	2018/1/4
1750	Body	22.4	1.527	52.023	1.49	53.40	2.48	-2.58	±5	2018/1/18
1900	Body	22.5	1.580	54.631	1.52	53.30	3.95	2.50	±5	2018/1/17
2300	Body	22.3	1.764	53.765	1.81	52.90	-2.54	1.64	±5	2018/1/19
2450	Body	22.4	1.949	51.667	1.95	52.70	-0.05	-1.96	±5	2018/1/8
2600	Body	22.6	2.184	50.734	2.16	52.50	1.11	-3.36	±5	2018/1/19
5250	Body	22.7	5.298	50.997	5.36	48.90	-1.16	4.29	±5	2018/1/11
5600	Body	22.8	5.789	47.929	5.77	48.50	0.33	-1.18	±5	2018/1/13
5750	Body	22.5	6.207	47.232	5.94	48.30	4.49	-2.21	±5	2018/1/14

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 (%)
2018/1/2	750	Head	250	1087	3911	1386	2.08	8.37	8.32	-0.60
2018/1/1	835	Head	250	4d151	3911	1386	2.44	9.73	9.76	0.31
2017/12/31	1750	Head	250	1137	3911	1386	9.13	36.60	36.52	-0.22
2017/12/31	1900	Head	250	5d170	3911	1386	9.47	40.00	37.88	-5.30
2018/1/7	2300	Head	250	1056	3642	1386	13.00	47.70	52.00	9.01
2018/1/8	2450	Head	250	924	3642	1386	13.90	52.40	55.60	6.11
2018/1/7	2600	Head	250	1008	3642	1386	14.70	56.80	58.80	3.52
2018/1/15	5250	Head	100	1167	3911	1386	7.42	79.90	74.20	-7.13
2018/1/15	5600	Head	100	1167	3911	1386	7.93	83.80	79.30	-5.37
2018/1/16	5750	Head	100	1167	3911	1386	7.48	80.60	74.80	-7.20
2018/1/4	750	Body	250	1087	3911	1386	2.10	8.73	8.40	-3.78
2018/1/4	835	Body	250	4d151	3911	1386	2.51	9.72	10.04	3.29
2018/1/18	1750	Body	250	1137	3642	1386	8.73	37.00	34.92	-5.62
2018/1/17	1900	Body	250	5d170	3642	1386	10.10	40.70	40.40	-0.74
2018/1/19	2300	Body	250	1056	3911	1386	11.40	47.90	45.60	-4.80
2018/1/8	2450	Body	250	924	3642	1386	13.50	50.50	54.00	6.93
2018/1/19	2600	Body	250	1008	3911	1386	13.70	55.00	54.80	-0.36
2018/1/11	5250	Body	100	1167	3911	1386	7.15	76.90	71.50	-7.02
2018/1/13	5600	Body	100	1167	3911	1386	8.32	80.00	83.20	4.00
2018/1/14	5750	Body	100	1167	3911	1386	7.71	77.50	77.10	-0.52

<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 (%)
2018/1/4	835	Body	250	4d151	3911	1386	1.64	6.44	6.56	1.86
2018/1/18	1750	Body	250	1137	3642	1386	4.61	19.70	18.44	-6.40
2018/1/17	1900	Body	250	5d170	3642	1386	5.16	21.40	20.64	-3.55
2018/1/19	2300	Body	250	1056	3911	1386	5.48	23.00	21.92	-4.70
2018/1/19	2600	Body	250	1008	3911	1386	6.01	24.50	24.04	-1.88
2018/1/11	5250	Body	100	1167	3911	1386	2.01	21.50	20.10	-6.51
2018/1/13	5600	Body	100	1167	3911	1386	2.23	22.40	22.30	-0.45

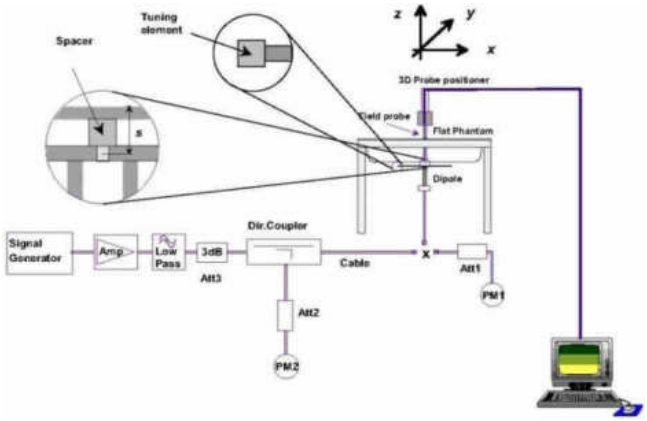


Fig 8.3.1 System Performance Check Setup

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.

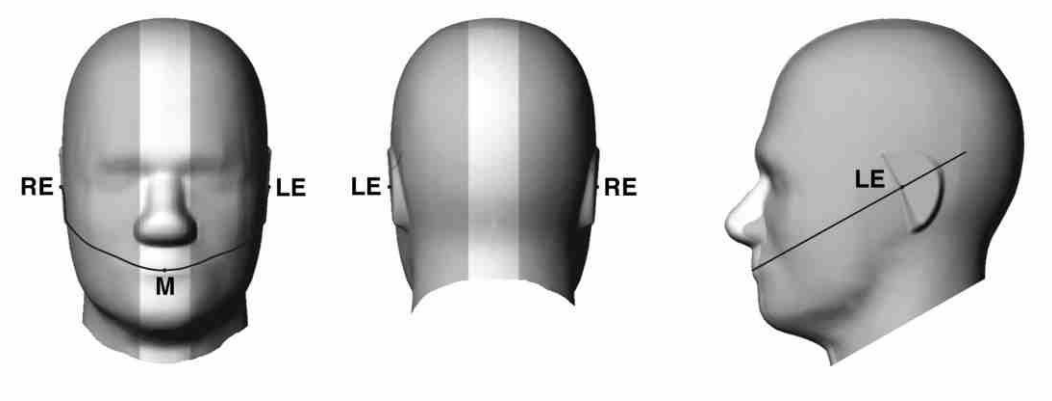


Fig 9.1.1 Front, back, and side views of SAM twin phantom

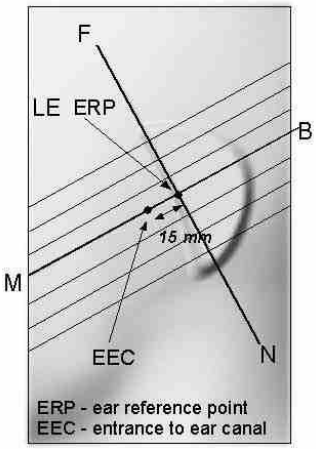


Fig 9.1.2 Close-up side view of phantom showing the ear region.

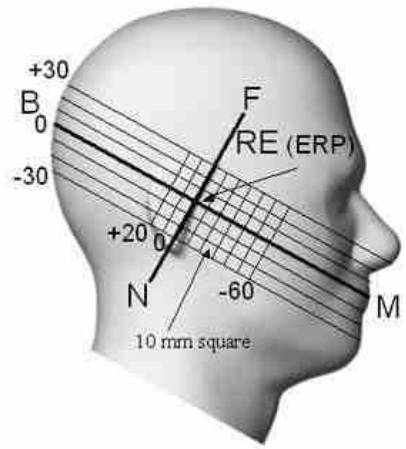


Fig 9.1.3 Side view of the phantom showing relevant markings and seven cross-sectional plane locations

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.

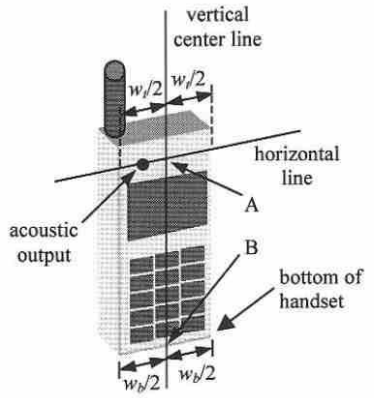


Fig 9.2.1 Handset vertical and horizontal reference lines—"fixed case

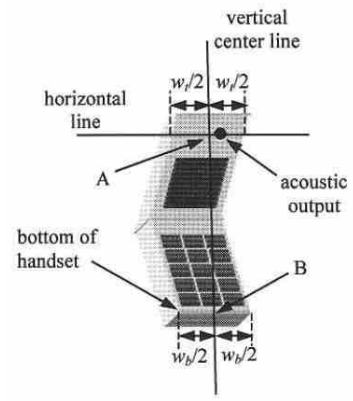


Fig 9.2.2 Handset vertical and horizontal reference lines—"clam-shell case"

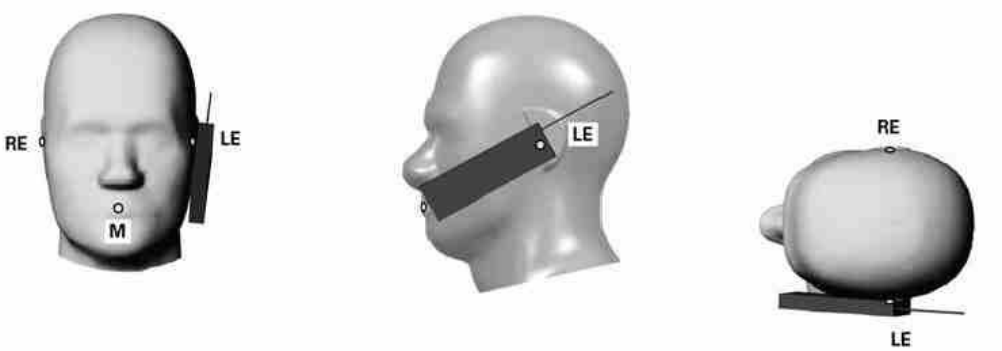


Fig 9.2.3 cheek or touch position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which establish the Reference Plane for handset positioning, are indicated.

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

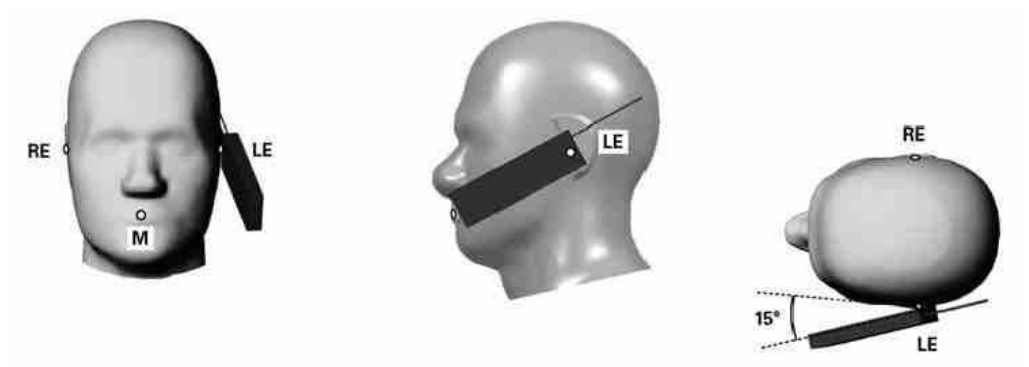


Fig 9.3.1 Tilt position. The reference points for the right ear (RE), left ear (LE), and mouth (M), which define the Reference Plane for handset positioning, are indicated.

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.

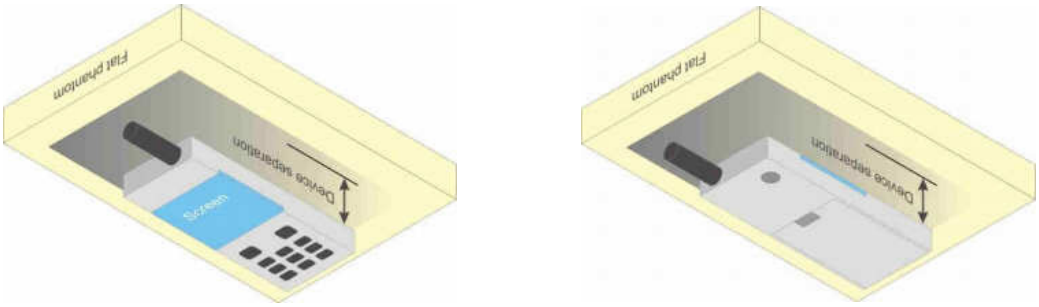


Fig 9.4 Body Worn Position

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 4Tx 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 is implemented in GSM1900 band, for SAR testing EUT was set in reduced power mode and GPRS 1 Tx slot due to its highest frame-average power.

<Full 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	32.33	32.36	32.34	32.50	23.33	23.36	23.34	23.50
GPRS 1 Tx slot	32.31	32.35	32.32	32.50	23.31	23.35	23.32	23.50
GPRS 2 Tx slots	29.23	29.26	29.21	29.50	23.23	23.26	23.21	23.50
GPRS 3 Tx slots	27.14	27.20	27.16	27.50	22.88	22.94	22.90	23.24
GPRS 4 Tx slots	26.68	26.76	26.75	27.00	23.68	23.76	23.75	24.00
EDGE 1 Tx slot	25.97	25.98	25.79	26.00	16.97	16.98	16.79	17.00
EDGE 2 Tx slots	25.89	25.83	25.72	26.00	19.89	19.83	19.72	20.00
EDGE 3 Tx slots	24.41	24.34	24.26	24.50	20.15	20.08	20.00	20.24
EDGE 4 Tx slots	23.08	23.01	22.92	23.50	20.08	20.01	19.92	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	29.36	29.40	29.43	29.50	20.36	20.40	20.43	20.50
GPRS 1 Tx slot	29.35	29.38	29.41	29.50	20.35	20.38	20.41	20.50
GPRS 2 Tx slots	26.28	26.36	26.42	26.50	20.28	20.36	20.42	20.50
GPRS 3 Tx slots	24.28	24.31	24.38	24.50	20.02	20.05	20.12	20.24
GPRS 4 Tx slots	23.77	23.75	23.78	24.00	20.77	20.75	20.78	21.00
EDGE 1 Tx slot	24.94	24.98	24.76	25.00	15.94	15.98	15.76	16.00
EDGE 2 Tx slots	24.61	24.60	24.51	25.00	18.61	18.60	18.51	19.00
EDGE 3 Tx slots	23.09	23.12	23.19	23.50	18.83	18.86	18.93	19.24
EDGE 4 Tx slots	21.79	21.70	21.71	22.00	18.79	18.70	18.71	19.00

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	25.36	25.46	25.53	26.00	16.36	16.46	16.53	17.00
GPRS 1 Tx slot	25.23	25.33	25.45	26.00	16.23	16.33	16.45	17.00
GPRS 2 Tx slots	22.10	22.03	22.10	22.50	16.10	16.03	16.10	16.50
GPRS 3 Tx slots	20.10	20.08	20.16	20.50	15.84	15.82	15.90	16.24
GPRS 4 Tx slots	18.59	18.58	18.70	19.00	15.59	15.58	15.70	16.00
EDGE 1 Tx slot	21.67	21.57	21.43	22.00	12.67	12.57	12.43	13.00
EDGE 2 Tx slots	21.54	21.51	21.26	22.00	15.54	15.51	15.26	16.00
EDGE 3 Tx slots	20.01	19.87	19.74	20.50	15.75	15.61	15.48	16.24
EDGE 4 Tx slots	18.57	18.41	18.36	19.00	15.57	15.41	15.36	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

<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.		

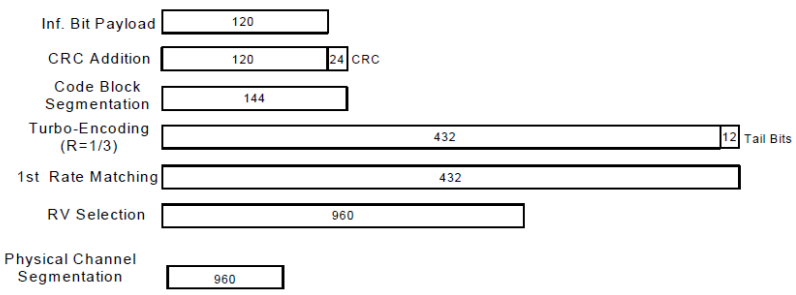


Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)

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 Power Mode>

Band		WCDMA Band II			Tune-up Limit (dBm)	WCDMA Band IV			Tune-up Limit (dBm)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	23.34	23.36	23.37	23.50	23.35	23.40	23.42	23.50	23.03	22.95	23.10	23.50
3GPP Rel 99	RMC 12.2Kbps	23.36	23.37	23.38	23.50	23.38	23.41	23.44	23.50	23.06	22.97	23.12	23.50
3GPP Rel 6	HSDPA Subtest-1	22.75	22.62	22.53	23.00	22.54	22.64	22.57	23.00	22.52	22.45	22.45	23.00
3GPP Rel 6	HSDPA Subtest-2	22.76	22.64	22.57	23.00	22.51	22.63	22.56	23.00	22.49	22.45	22.47	23.00
3GPP Rel 6	HSDPA Subtest-3	22.20	22.14	22.04	22.50	22.02	22.12	22.10	22.50	21.96	21.99	21.94	22.50
3GPP Rel 6	HSDPA Subtest-4	22.21	22.15	22.06	22.50	22.03	22.15	22.07	22.50	21.97	21.95	21.95	22.50
3GPP Rel 8	DC-HSDPA Subtest-1	22.66	22.55	22.49	23.00	22.50	22.55	22.56	23.00	22.45	22.42	22.43	23.00
3GPP Rel 8	DC-HSDPA Subtest-2	22.60	22.53	22.47	23.00	22.48	22.52	22.50	23.00	22.42	22.38	22.41	23.00
3GPP Rel 8	DC-HSDPA Subtest-3	22.15	22.05	21.99	22.50	22.00	22.02	22.03	22.50	21.92	21.89	21.90	22.50
3GPP Rel 8	DC-HSDPA Subtest-4	22.13	22.02	21.96	22.50	21.98	22.01	22.04	22.50	21.93	21.86	21.92	22.50
3GPP Rel 6	HSUPA Subtest-1	22.76	22.62	22.53	23.00	22.44	22.61	22.52	23.00	22.34	22.33	22.49	23.00
3GPP Rel 6	HSUPA Subtest-2	20.71	20.67	20.58	21.00	20.41	20.63	20.49	21.00	20.40	20.38	20.42	21.00
3GPP Rel 6	HSUPA Subtest-3	21.70	21.64	21.56	22.00	21.46	21.61	21.52	22.00	21.34	21.36	21.45	22.00
3GPP Rel 6	HSUPA Subtest-4	20.73	20.65	20.58	21.00	20.42	20.62	20.50	21.00	20.35	20.35	20.51	21.00
3GPP Rel 6	HSUPA Subtest-5	22.70	22.70	22.60	23.00	22.40	22.70	22.50	23.00	22.30	22.40	22.50	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)	WCDMA Band V			Tune-up Limit (dBm)
Tx Channel		9262	9400	9538		1312	1413	1513		4132	4182	4233	
Rx Channel		9662	9800	9938		1537	1638	1738		4357	4407	4458	
Frequency (MHz)		1852.4	1880	1907.6		1712.4	1732.6	1752.6		826.4	836.4	846.6	
3GPP Rel 99	AMR 12.2Kbps	15.08	15.01	15.10	15.50	15.97	15.98	15.99	16.50	20.96	20.75	21.06	21.50
3GPP Rel 99	RMC 12.2Kbps	15.11	15.02	15.13	15.50	15.99	16.01	16.03	16.50	20.97	20.79	21.08	21.50
3GPP Rel 6	HSDPA Subtest-1	14.13	14.09	14.17	14.50	14.88	15.02	14.88	15.50	19.98	19.90	19.95	20.50
3GPP Rel 6	HSDPA Subtest-2	14.15	14.07	14.16	14.50	14.89	15.03	14.87	15.50	20.00	19.90	19.88	20.50
3GPP Rel 6	HSDPA Subtest-3	13.66	13.57	13.66	14.00	14.39	14.53	14.37	15.00	19.59	19.39	19.44	20.00
3GPP Rel 6	HSDPA Subtest-4	13.63	13.57	13.66	14.00	14.39	14.53	14.36	15.00	19.58	19.37	19.44	20.00
3GPP Rel 8	DC-HSDPA Subtest-1	14.08	13.99	14.05	14.50	14.85	14.99	14.85	15.50	19.95	19.90	19.90	20.50
3GPP Rel 8	DC-HSDPA Subtest-2	14.06	13.95	14.03	14.50	14.80	14.95	14.83	15.50	19.91	19.88	19.88	20.50
3GPP Rel 8	DC-HSDPA Subtest-3	13.60	13.45	13.62	14.00	14.33	14.45	14.35	15.00	19.45	19.38	19.35	20.00
3GPP Rel 8	DC-HSDPA Subtest-4	13.55	13.48	13.60	14.00	14.31	14.43	14.31	15.00	19.41	19.36	19.33	20.00
3GPP Rel 6	HSUPA Subtest-1	14.05	14.00	14.08	14.50	14.97	14.98	14.88	15.50	19.98	19.86	19.97	20.50
3GPP Rel 6	HSUPA Subtest-2	12.14	12.04	12.17	12.50	12.88	13.01	12.92	13.50	18.04	17.87	17.94	18.50
3GPP Rel 6	HSUPA Subtest-3	13.06	13.05	13.07	13.50	13.89	13.99	13.90	14.50	19.03	18.88	18.95	19.50
3GPP Rel 6	HSUPA Subtest-4	12.12	12.05	12.16	12.50	12.89	13.06	12.90	13.50	18.05	17.89	17.90	18.50
3GPP Rel 6	HSUPA Subtest-5	14.10	14.10	14.10	14.50	14.90	15.10	14.90	15.50	20.10	19.90	20.00	20.50

<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	20.08	20.02	20.10	20.50	19.92	20.00	20.01	20.50
3GPP Rel 99	RMC 12.2Kbps	20.11	20.04	20.12	20.50	19.94	20.02	20.03	20.50
3GPP Rel 6	HSDPA Subtest-1	19.22	19.25	19.33	20.00	19.00	19.12	19.01	20.00
3GPP Rel 6	HSDPA Subtest-2	19.20	19.23	19.30	20.00	18.98	19.08	18.96	20.00
3GPP Rel 6	HSDPA Subtest-3	18.77	18.82	18.80	19.50	18.49	18.65	18.44	19.50
3GPP Rel 6	HSDPA Subtest-4	18.72	18.80	18.78	19.50	18.46	18.61	18.45	19.50
3GPP Rel 8	DC-HSDPA Subtest-1	19.18	19.08	19.25	20.00	18.95	18.90	19.03	20.00
3GPP Rel 8	DC-HSDPA Subtest-2	19.15	19.05	19.23	20.00	18.90	18.88	19.00	20.00
3GPP Rel 8	DC-HSDPA Subtest-3	18.72	18.59	18.73	19.50	18.44	18.38	18.45	19.50
3GPP Rel 8	DC-HSDPA Subtest-4	18.65	18.55	18.72	19.50	18.42	18.40	18.41	19.50
3GPP Rel 6	HSUPA Subtest-1	19.18	19.28	19.35	20.00	19.05	19.15	19.02	20.00
3GPP Rel 6	HSUPA Subtest-2	17.19	17.25	17.29	18.00	17.05	17.08	17.01	18.00
3GPP Rel 6	HSUPA Subtest-3	18.18	18.22	18.31	19.00	18.06	18.14	18.05	19.00
3GPP Rel 6	HSUPA Subtest-4	17.15	17.26	17.25	18.00	17.22	17.15	17.05	18.00
3GPP Rel 6	HSUPA Subtest-5	19.20	19.30	19.30	20.00	19.10	19.20	19.00	20.00

<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 Power Mode>

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)	CDMA2000 BC10			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	24.41	24.33	24.24	24.50	24.90	24.79	24.72	25.00	24.60	24.60	24.63	25.00
RC3 SO55	24.40	24.32	24.23	24.50	24.89	24.75	24.71	25.00	24.58	24.59	24.61	25.00
RC3 SO32 (F+SCH)	24.39	24.33	24.21	24.50	24.80	24.72	24.75	25.00	24.32	24.44	24.45	25.00
RC3 SO32 (+SCH)	24.38	24.32	24.20	24.50	24.78	24.71	24.72	25.00	24.31	24.42	24.43	25.00
RTAP 153.6Kbps	24.36	24.29	24.10	24.50	24.80	24.69	24.68	25.00	24.57	24.53	24.54	25.00
RETAP 4096Bits	24.27	24.20	24.01	24.50	24.65	24.52	24.52	25.00	24.52	24.51	24.52	25.00

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

Band	CDMA2000 BC0			Tune-up Limit (dBm)	CDMA2000 BC1			Tune-up Limit (dBm)	CDMA2000 BC10			Tune-up Limit (dBm)
Tx Channel	1013	384	777		25	600	1175		476	580	684	
Frequency (MHz)	824.7	836.52	848.31		1851.25	1880	1908.75		817.9	820.5	823.1	
RC1 SO55	22.98	22.92	22.73	23.50	14.81	14.73	14.78	15.00	22.88	22.98	22.90	23.50
RC3 SO55	22.96	22.85	22.70	23.50	14.80	14.72	14.76	15.00	22.86	22.95	22.68	23.50
RC3 SO32 (F+SCH)	22.95	22.91	22.72	23.50	14.63	14.39	14.43	15.00	22.76	22.91	22.87	23.50
RC3 SO32 (+SCH)	22.93	22.90	22.71	23.50	14.62	14.36	14.42	15.00	22.75	22.90	22.85	23.50
RTAP 153.6Kbps	22.92	22.89	22.83	23.50	14.72	14.42	14.56	15.00	22.87	22.85	22.79	23.50
RETAP 4096Bits	22.90	22.76	22.70	23.50	14.70	14.40	14.55	15.00	22.85	22.93	22.70	23.50

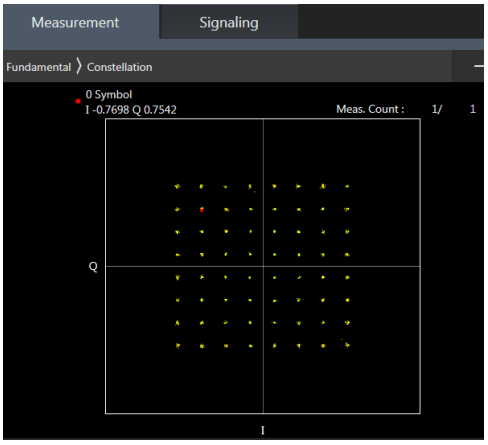
<Reduced Power Mode for Product Specific 10g SAR>

Band	CDMA2000 BC1			Tune-up Limit (dBm)
Tx Channel	25	600	1175	
Frequency (MHz)	1851.25	1880	1908.75	
RC1 SO55	17.52	17.28	17.48	18.00
RC3 SO55	17.46	17.20	17.45	18.00
RC3 SO32 (F+SCH)	17.46	17.26	17.45	18.00
RC3 SO32 (+SCH)	17.43	17.25	17.43	18.00
RTAP 153.6Kbps	17.50	17.28	17.47	18.00
RETAP 4096Bits	17.48	17.23	17.39	18.00

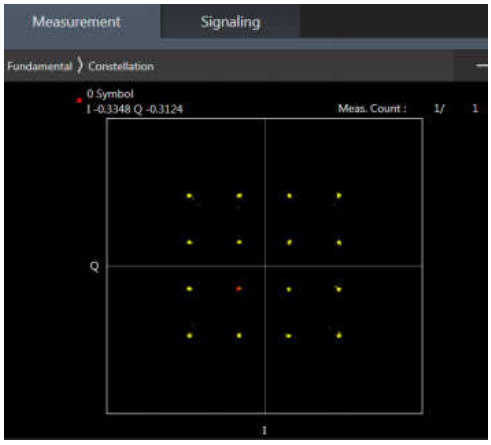
<LTE Conducted Power>

General Note:

1. Anritsu MT8820C base station simulator was used to setup the connection with EUT; the frequency band, channel bandwidth, RB allocation configuration, modulation type are set in the base station simulator to configure EUT transmitting at maximum power and at different configurations which are requested to be reported to FCC, for conducted power measurement and SAR testing.
2. Per KDB 941225 D05v02r05, when a properly configured base station simulator is used for the SAR and power measurements, spectrum plots for each RB allocation and offset configuration is not required.
3. Per KDB 941225 D05v02r05, start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel.
4. Per KDB 941225 D05v02r05, 50% RB allocation for QPSK SAR testing follows 1RB QPSK allocation procedure.
5. Per KDB 941225 D05v02r05, for QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are ≤ 0.8 W/kg. Otherwise, SAR is measured for the highest output power channel; and if the reported SAR is > 1.45 W/kg, the remaining required test channels must also be tested.
6. Per KDB 941225 D05v02r05, 16QAM/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 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 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	23.61	23.66	23.64	24	0
20	QPSK	1	49	23.52	23.31	23.40		
20	QPSK	1	99	23.49	23.48	23.59		
20	QPSK	50	0	22.46	22.60	22.53	23	1
20	QPSK	50	24	22.41	22.31	22.37		
20	QPSK	50	50	22.35	22.43	22.46		
20	QPSK	100	0	22.40	22.48	22.39		
20	16QAM	1	0	22.80	22.66	22.86	23	1
20	16QAM	1	49	22.61	22.50	22.75		
20	16QAM	1	99	22.75	22.88	22.74		
20	16QAM	50	0	21.45	21.46	21.47	22	2
20	16QAM	50	24	21.41	21.41	21.50		
20	16QAM	50	50	21.40	21.46	21.59		
20	16QAM	100	0	21.41	21.49	21.57		
20	64QAM	1	0	23.60	23.64	23.52	24	0
20	64QAM	1	49	23.52	23.59	23.48		
20	64QAM	1	99	23.49	23.60	23.56		
20	64QAM	50	0	23.57	23.62	23.60	24	0
20	64QAM	50	24	23.60	23.58	23.57		
20	64QAM	50	50	23.55	23.57	23.53		
20	64QAM	100	0	23.52	23.63	23.60		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	23.54	23.52	23.56	24	0
15	QPSK	1	37	23.12	23.33	23.36		
15	QPSK	1	74	23.56	23.57	23.58		
15	QPSK	36	0	22.37	22.42	22.48	23	1
15	QPSK	36	20	22.39	22.37	22.50		
15	QPSK	36	39	22.44	22.48	22.64		
15	QPSK	75	0	22.44	22.36	22.50		
15	16QAM	1	0	22.89	22.72	22.95	23	1
15	16QAM	1	37	22.61	22.65	22.61		
15	16QAM	1	74	22.86	22.91	22.95		
15	16QAM	36	0	21.41	21.46	21.46	22	2
15	16QAM	36	20	21.44	21.42	21.56		
15	16QAM	36	39	21.43	21.43	21.60		
15	16QAM	75	0	21.44	21.33	21.47		
15	64QAM	1	0	23.60	23.62	23.55	24	0
15	64QAM	1	37	23.51	23.45	23.53		
15	64QAM	1	74	23.54	23.55	23.57		
15	64QAM	36	0	23.49	23.50	23.44	24	0
15	64QAM	36	20	23.45	23.41	23.45		
15	64QAM	36	39	23.56	23.52	23.48		
15	64QAM	75	0	23.58	23.51	23.52		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	23.56	23.64	23.58	24	0
10	QPSK	1	25	23.35	23.39	23.59		
10	QPSK	1	49	23.57	23.60	23.58		
10	QPSK	25	0	22.47	22.51	22.55	23	1
10	QPSK	25	12	22.46	22.41	22.61		
10	QPSK	25	25	22.63	22.67	22.65		
10	QPSK	50	0	22.50	22.46	22.56		
10	16QAM	1	0	22.87	22.85	22.93	23	1
10	16QAM	1	25	22.71	22.48	22.70		
10	16QAM	1	49	22.81	22.85	22.94		
10	16QAM	25	0	21.41	21.53	21.54	22	2
10	16QAM	25	12	21.46	21.43	21.51		
10	16QAM	25	25	21.54	21.55	21.62		
10	16QAM	50	0	21.51	21.45	21.57		
10	64QAM	1	0	23.61	23.63	23.54	24	0
10	64QAM	1	25	23.56	23.57	23.51		
10	64QAM	1	49	23.47	23.49	23.58		
10	64QAM	25	0	23.50	23.56	23.47	24	0
10	64QAM	25	12	23.54	23.55	23.48		
10	64QAM	25	25	23.57	23.54	23.60		
10	64QAM	50	0	23.49	23.61	23.59		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	23.24	23.25	23.41	24	0
5	QPSK	1	12	23.16	23.29	23.52		
5	QPSK	1	24	23.33	23.39	23.41		
5	QPSK	12	0	22.43	22.40	22.56	23	1
5	QPSK	12	7	22.40	22.39	22.50		
5	QPSK	12	13	22.35	22.32	22.50		
5	QPSK	25	0	22.42	22.43	22.55		
5	16QAM	1	0	22.68	22.70	22.74	23	1
5	16QAM	1	12	22.48	22.60	22.69		
5	16QAM	1	24	22.54	22.77	22.70		
5	16QAM	12	0	21.46	21.48	21.64	22	2
5	16QAM	12	7	21.41	21.41	21.52		
5	16QAM	12	13	21.43	21.38	21.47		
5	16QAM	25	0	21.42	21.46	21.63		
5	64QAM	1	0	23.59	23.65	23.57	24	0
5	64QAM	1	12	23.57	23.62	23.60		
5	64QAM	1	24	23.50	23.52	23.57		
5	64QAM	12	0	23.54	23.59	23.54	24	0
5	64QAM	12	7	23.50	23.47	23.50		
5	64QAM	12	13	23.62	23.61	23.64		
5	64QAM	25	0	23.51	23.46	23.52		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	23.19	23.12	23.42	24	0
3	QPSK	1	8	23.31	23.33	23.49		
3	QPSK	1	14	23.23	23.30	23.40		
3	QPSK	8	0	22.37	22.39	22.52	23	1
3	QPSK	8	4	22.33	22.33	22.53		
3	QPSK	8	7	22.31	22.33	22.52		
3	QPSK	15	0	22.36	22.38	22.50		
3	16QAM	1	0	22.58	22.71	22.85	23	1
3	16QAM	1	8	22.58	22.53	22.78		
3	16QAM	1	14	22.55	22.86	22.73		
3	16QAM	8	0	21.43	21.46	21.61	22	2
3	16QAM	8	4	21.45	21.47	21.59		
3	16QAM	8	7	21.41	21.40	21.54		
3	16QAM	15	0	21.37	21.41	21.54		
3	64QAM	1	0	23.54	23.60	23.58	24	0
3	64QAM	1	8	23.47	23.52	23.50		
3	64QAM	1	14	23.55	23.59	23.57		
3	64QAM	8	0	23.40	23.45	23.42	24	0
3	64QAM	8	4	23.55	23.44	23.46		
3	64QAM	8	7	23.50	23.53	23.43		
3	64QAM	15	0	23.57	23.61	23.55		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	23.31	23.10	23.29	24	0
1.4	QPSK	1	3	23.32	23.32	23.41		
1.4	QPSK	1	5	23.21	23.27	23.38		
1.4	QPSK	3	0	23.23	23.26	23.39		
1.4	QPSK	3	1	23.30	23.28	23.47		
1.4	QPSK	3	3	23.28	23.33	23.50		
1.4	QPSK	6	0	22.29	22.33	22.47	23	1
1.4	16QAM	1	0	22.53	22.54	22.75	23	1
1.4	16QAM	1	3	22.70	22.59	22.70		
1.4	16QAM	1	5	22.53	22.56	22.62		
1.4	16QAM	3	0	22.29	22.38	22.53		
1.4	16QAM	3	1	22.38	22.34	22.47		
1.4	16QAM	3	3	22.30	22.30	22.46		
1.4	16QAM	6	0	21.39	21.36	21.53	22	2
1.4	64QAM	1	0	23.57	23.59	23.60	24	0
1.4	64QAM	1	3	23.49	23.56	23.51		
1.4	64QAM	1	5	23.52	23.47	23.43		
1.4	64QAM	3	0	23.53	23.57	23.58		
1.4	64QAM	3	1	23.48	23.43	23.49		
1.4	64QAM	3	3	23.52	23.56	23.56		
1.4	64QAM	6	0	23.46	23.55	23.54	24	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	23.10	23.12	23.04	23.5	0
20	QPSK	1	49	23.17	23.20	23.13		
20	QPSK	1	99	22.92	22.99	22.91		
20	QPSK	50	0	22.06	22.13	22.11	22.5	1
20	QPSK	50	24	22.10	22.04	22.02		
20	QPSK	50	50	22.07	22.00	21.95		
20	QPSK	100	0	22.10	22.12	21.94		
20	16QAM	1	0	22.38	22.20	22.29	22.5	1
20	16QAM	1	49	22.21	22.27	22.23		
20	16QAM	1	99	22.17	22.22	22.08		
20	16QAM	50	0	21.09	21.00	21.07	21.5	2
20	16QAM	50	24	21.10	21.02	21.04		
20	16QAM	50	50	21.03	21.00	21.10		
20	16QAM	100	0	21.06	20.97	20.98		
20	64QAM	1	0	23.17	23.19	23.13	23.5	0
20	64QAM	1	49	23.10	23.17	23.15		
20	64QAM	1	99	23.05	23.07	23.13		
20	64QAM	50	0	23.06	23.05	23.10	23.5	0
20	64QAM	50	24	23.10	23.08	23.16		
20	64QAM	50	50	23.15	23.17	23.15		
20	64QAM	100	0	23.11	23.18	23.19		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	23.11	23.12	23.02	23.5	0
15	QPSK	1	37	22.95	23.02	23.12		
15	QPSK	1	74	22.95	22.96	23.01		
15	QPSK	36	0	22.28	22.08	22.05	22.5	1
15	QPSK	36	20	22.19	22.10	22.12		
15	QPSK	36	39	22.10	22.03	21.99		
15	QPSK	75	0	22.16	22.04	22.12		
15	16QAM	1	0	22.45	22.42	22.47	22.5	1
15	16QAM	1	37	22.12	22.35	22.41		
15	16QAM	1	74	22.29	22.29	22.14		
15	16QAM	36	0	21.10	21.03	21.08	21.5	2
15	16QAM	36	20	21.16	21.07	21.17		
15	16QAM	36	39	21.08	21.01	21.03		
15	16QAM	75	0	21.01	21.05	21.10		
15	64QAM	1	0	23.14	23.11	23.16	23.5	0
15	64QAM	1	37	23.11	23.14	23.13		
15	64QAM	1	74	23.16	23.17	23.14		
15	64QAM	36	0	23.14	23.09	23.12	23.5	0
15	64QAM	36	20	23.10	23.13	23.15		
15	64QAM	36	39	23.18	23.18	23.16		
15	64QAM	75	0	23.19	23.15	23.17		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	23.19	23.14	23.10	23.5	0
10	QPSK	1	25	23.11	22.99	23.09		
10	QPSK	1	49	23.12	23.17	23.16		
10	QPSK	25	0	22.28	22.11	22.08	22.5	1
10	QPSK	25	12	22.16	22.13	22.10		
10	QPSK	25	25	22.31	22.12	22.16		
10	QPSK	50	0	22.28	22.14	22.19		
10	16QAM	1	0	22.47	22.48	22.49	22.5	1
10	16QAM	1	25	22.40	22.37	22.31		
10	16QAM	1	49	22.45	22.46	22.41		
10	16QAM	25	0	21.18	21.09	21.06	21.5	2
10	16QAM	25	12	21.18	21.12	21.08		
10	16QAM	25	25	21.25	21.14	21.20		
10	16QAM	50	0	21.30	21.11	21.13		
10	64QAM	1	0	23.15	23.16	23.17	23.5	0
10	64QAM	1	25	23.09	23.11	23.11		
10	64QAM	1	49	23.13	23.14	23.10		
10	64QAM	25	0	23.18	23.17	23.15	23.5	0
10	64QAM	25	12	23.13	23.10	23.09		
10	64QAM	25	25	23.14	23.11	23.14		
10	64QAM	50	0	23.18	23.17	23.09		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	23.10	23.04	23.08	23.5	0
5	QPSK	1	12	23.14	22.97	23.15		
5	QPSK	1	24	23.05	23.06	23.12		
5	QPSK	12	0	22.27	22.15	22.20	22.5	1
5	QPSK	12	7	22.11	22.05	22.12		
5	QPSK	12	13	22.16	22.03	22.13		
5	QPSK	25	0	22.18	22.07	22.13		
5	16QAM	1	0	22.46	22.48	22.44	22.5	1
5	16QAM	1	12	22.45	22.24	22.40		
5	16QAM	1	24	22.38	22.39	22.34		
5	16QAM	12	0	21.31	21.14	21.23	21.5	2
5	16QAM	12	7	21.12	21.05	21.15		
5	16QAM	12	13	21.21	21.03	21.13		
5	16QAM	25	0	21.14	20.93	21.14		
5	64QAM	1	0	23.12	23.14	23.12	23.5	0
5	64QAM	1	12	23.09	23.12	23.14		
5	64QAM	1	24	23.16	23.09	23.09		
5	64QAM	12	0	23.14	23.13	23.15	23.5	0
5	64QAM	12	7	23.14	23.15	23.10		
5	64QAM	12	13	23.16	23.08	23.14		
5	64QAM	25	0	23.08	23.14	23.05		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	23.13	23.08	23.05	23.5	0
3	QPSK	1	8	23.07	23.02	23.12		
3	QPSK	1	14	23.03	22.97	23.02		
3	QPSK	8	0	22.19	22.09	22.12	22.5	1
3	QPSK	8	4	22.11	22.06	22.14		
3	QPSK	8	7	22.09	22.00	22.11		
3	QPSK	15	0	22.09	22.03	22.11		
3	16QAM	1	0	22.42	22.30	22.40	22.5	1
3	16QAM	1	8	22.38	22.42	22.32		
3	16QAM	1	14	22.45	22.25	22.34		
3	16QAM	8	0	21.25	21.18	21.17	21.5	2
3	16QAM	8	4	21.23	21.07	21.18		
3	16QAM	8	7	21.17	21.08	21.14		
3	16QAM	15	0	21.13	21.00	21.14		
3	64QAM	1	0	23.10	23.11	23.15	23.5	0
3	64QAM	1	8	23.14	23.16	23.18		
3	64QAM	1	14	23.17	23.08	23.10		
3	64QAM	8	0	23.15	23.14	23.10	23.5	0
3	64QAM	8	4	23.13	23.15	23.12		
3	64QAM	8	7	23.15	23.18	23.11		
3	64QAM	15	0	23.12	23.13	23.12		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	23.14	23.03	23.02	23.5	0
1.4	QPSK	1	3	23.15	23.05	23.18		
1.4	QPSK	1	5	23.11	22.96	23.00		
1.4	QPSK	3	0	23.12	23.07	23.05		
1.4	QPSK	3	1	23.17	23.11	23.16		
1.4	QPSK	3	3	23.12	22.97	23.10		
1.4	QPSK	6	0	22.12	21.96	22.07	22.5	1
1.4	16QAM	1	0	22.50	22.39	22.38	22.5	1
1.4	16QAM	1	3	22.45	22.30	22.36		
1.4	16QAM	1	5	22.41	22.28	22.42		
1.4	16QAM	3	0	22.11	22.05	22.11		
1.4	16QAM	3	1	22.21	22.17	22.17		
1.4	16QAM	3	3	22.20	21.98	22.10		
1.4	16QAM	6	0	21.11	21.02	21.13	21.5	2
1.4	64QAM	1	0	23.15	23.18	23.12	23.5	0
1.4	64QAM	1	3	23.12	23.11	23.13		
1.4	64QAM	1	5	23.11	23.10	23.16		
1.4	64QAM	3	0	23.13	23.14	23.06		
1.4	64QAM	3	1	23.06	23.17	23.11		
1.4	64QAM	3	3	23.10	23.13	23.16		
1.4	64QAM	6	0	23.14	23.17	23.18	23.5	0

<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	23.35	23.39	23.34	24	0
10	QPSK	1	25	23.28	23.20	23.20		
10	QPSK	1	49	23.57	23.55	23.51		
10	QPSK	25	0	22.49	22.19	22.25	23	1
10	QPSK	25	12	22.43	22.37	22.32		
10	QPSK	25	25	22.45	22.50	22.40		
10	QPSK	50	0	22.42	22.43	22.35		
10	16QAM	1	0	22.81	22.52	22.60	23	1
10	16QAM	1	25	22.65	22.42	22.49		
10	16QAM	1	49	22.83	22.85	22.55		
10	16QAM	25	0	21.42	21.24	21.28	22	2
10	16QAM	25	12	21.42	21.31	21.28		
10	16QAM	25	25	21.44	21.36	21.37		
10	16QAM	50	0	21.42	21.43	21.33		
10	64QAM	1	0	23.49	23.52	23.55	24	0
10	64QAM	1	25	23.48	23.50	23.47		
10	64QAM	1	49	23.54	23.58	23.49		
10	64QAM	25	0	23.47	23.42	23.54	24	0
10	64QAM	25	12	23.54	23.47	23.51		
10	64QAM	25	25	23.53	23.55	23.48		
10	64QAM	50	0	23.50	23.48	23.43		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	23.09	23.13	23.15	24	0
5	QPSK	1	12	23.07	23.13	23.18		
5	QPSK	1	24	23.27	23.17	23.15		
5	QPSK	12	0	22.46	22.22	22.21	23	1
5	QPSK	12	7	22.35	22.27	22.28		
5	QPSK	12	13	22.43	22.25	22.26		
5	QPSK	25	0	22.39	22.34	22.26		
5	16QAM	1	0	22.70	22.39	22.48	23	1
5	16QAM	1	12	22.48	22.43	22.63		
5	16QAM	1	24	22.49	22.44	22.38		
5	16QAM	12	0	21.42	21.23	21.26	22	2
5	16QAM	12	7	21.40	21.28	21.34		
5	16QAM	12	13	21.45	21.25	21.17		
5	16QAM	25	0	21.39	21.29	21.29		
5	64QAM	1	0	23.50	23.51	23.45	24	0
5	64QAM	1	12	23.47	23.48	23.49		
5	64QAM	1	24	23.46	23.52	23.51		
5	64QAM	12	0	23.53	23.57	23.58	24	0
5	64QAM	12	7	23.52	23.51	23.51		
5	64QAM	12	13	23.49	23.51	23.46		
5	64QAM	25	0	23.55	23.49	23.49		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	23.11	23.21	23.11	24	0
3	QPSK	1	8	23.34	23.12	23.19		
3	QPSK	1	14	23.22	23.16	23.14		
3	QPSK	8	0	22.36	22.19	22.18	23	1
3	QPSK	8	4	22.42	22.28	22.26		
3	QPSK	8	7	22.32	22.33	22.23		
3	QPSK	15	0	22.42	22.24	22.24		
3	16QAM	1	0	22.48	22.32	22.44	23	1
3	16QAM	1	8	22.75	22.48	22.48		
3	16QAM	1	14	22.41	22.50	22.45		
3	16QAM	8	0	21.43	21.28	21.32	22	2
3	16QAM	8	4	21.53	21.29	21.29		
3	16QAM	8	7	21.38	21.32	21.35		
3	16QAM	15	0	21.41	21.23	21.28		
3	64QAM	1	0	23.51	23.53	23.56	24	0
3	64QAM	1	8	23.47	23.48	23.46		
3	64QAM	1	14	23.53	23.53	23.50		
3	64QAM	8	0	23.44	23.51	23.48	24	0
3	64QAM	8	4	23.48	23.42	23.55		
3	64QAM	8	7	23.51	23.44	23.50		
3	64QAM	15	0	23.50	23.49	23.52		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	23.18	23.12	23.14	24	0
1.4	QPSK	1	3	23.20	23.21	23.22		
1.4	QPSK	1	5	23.12	23.07	23.18		
1.4	QPSK	3	0	22.32	22.10	22.13		
1.4	QPSK	3	1	22.38	22.16	22.11		
1.4	QPSK	3	3	22.27	22.08	22.09		
1.4	QPSK	6	0	22.40	22.28	22.13	23	1
1.4	16QAM	1	0	22.55	22.30	22.39	23	1
1.4	16QAM	1	3	22.80	22.43	22.64		
1.4	16QAM	1	5	22.56	22.41	22.40		
1.4	16QAM	3	0	21.38	21.07	21.20		
1.4	16QAM	3	1	21.40	21.23	21.09		
1.4	16QAM	3	3	21.31	21.14	21.18		
1.4	16QAM	6	0	21.37	21.29	21.23	22	2
1.4	64QAM	1	0	23.49	23.54	23.52	24	0
1.4	64QAM	1	3	23.46	23.48	23.52		
1.4	64QAM	1	5	23.53	23.51	23.48		
1.4	64QAM	3	0	23.51	23.56	23.57		
1.4	64QAM	3	1	23.52	23.51	23.50		
1.4	64QAM	3	3	23.52	23.49	23.53		
1.4	64QAM	6	0	23.51	23.53	23.51	24	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	23.25	23.33	23.40	23.5	0
20	QPSK	1	49	23.01	23.19	23.07		
20	QPSK	1	99	23.21	23.06	22.98		
20	QPSK	50	0	22.04	22.02	22.09	22.5	1
20	QPSK	50	24	22.13	22.10	22.16		
20	QPSK	50	50	22.05	22.02	22.07		
20	QPSK	100	0	22.08	21.98	22.12		
20	16QAM	1	0	22.10	22.07	22.24	22.5	1
20	16QAM	1	49	22.25	22.08	22.20		
20	16QAM	1	99	22.16	22.24	22.28		
20	16QAM	50	0	21.05	21.04	21.12	21.5	2
20	16QAM	50	24	21.12	21.04	21.15		
20	16QAM	50	50	21.09	21.05	21.11		
20	16QAM	100	0	21.11	20.96	21.14		
20	64QAM	1	0	23.28	23.31	23.35	23.5	0
20	64QAM	1	49	23.29	23.34	23.30		
20	64QAM	1	99	23.34	23.36	23.11		
20	64QAM	50	0	23.32	23.37	23.39	23.5	0
20	64QAM	50	24	23.37	23.27	23.37		
20	64QAM	50	50	23.39	23.34	23.23		
20	64QAM	100	0	23.33	23.37	23.32		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	23.10	23.12	23.17	23.5	0
15	QPSK	1	37	23.03	23.06	23.11		
15	QPSK	1	74	22.96	22.98	22.93		
15	QPSK	36	0	22.08	22.02	22.09	22.5	1
15	QPSK	36	20	22.06	22.05	22.23		
15	QPSK	36	39	22.15	21.99	22.19		
15	QPSK	75	0	22.07	22.04	22.18		
15	16QAM	1	0	22.10	22.16	22.29	22.5	1
15	16QAM	1	37	21.96	22.09	22.25		
15	16QAM	1	74	22.22	22.12	22.26		
15	16QAM	36	0	21.04	21.03	21.10	21.5	2
15	16QAM	36	20	21.09	21.08	21.20		
15	16QAM	36	39	21.09	20.99	21.18		
15	16QAM	75	0	21.01	21.01	21.21		
15	64QAM	1	0	23.23	23.37	23.35	23.5	0
15	64QAM	1	37	23.15	23.18	23.08		
15	64QAM	1	74	23.11	23.33	23.33		
15	64QAM	36	0	23.24	23.09	23.09	23.5	0
15	64QAM	36	20	23.27	23.39	23.39		
15	64QAM	36	39	23.39	23.37	23.37		
15	64QAM	75	0	23.24	23.30	23.30		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	23.06	23.11	23.22	23.5	0
10	QPSK	1	25	23.09	23.11	23.18		
10	QPSK	1	49	23.12	23.13	23.18		
10	QPSK	25	0	22.07	22.16	22.30	22.5	1
10	QPSK	25	12	21.97	22.04	22.21		
10	QPSK	25	25	22.08	22.16	22.23		
10	QPSK	50	0	22.02	22.13	22.18		
10	16QAM	1	0	22.32	22.44	22.46	22.5	1
10	16QAM	1	25	22.12	22.20	22.36		
10	16QAM	1	49	22.36	22.31	22.45		
10	16QAM	25	0	21.08	21.16	21.30	21.5	2
10	16QAM	25	12	20.98	21.11	21.16		
10	16QAM	25	25	21.10	21.14	21.20		
10	16QAM	50	0	21.07	21.10	21.27		
10	64QAM	1	0	23.37	23.36	23.33	23.5	0
10	64QAM	1	25	23.23	23.34	23.30		
10	64QAM	1	49	23.38	23.36	23.28		
10	64QAM	25	0	23.26	23.31	23.31	23.5	0
10	64QAM	25	12	23.18	23.32	23.34		
10	64QAM	25	25	23.35	23.16	23.25		
10	64QAM	50	0	23.23	23.29	23.30		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	23.03	23.05	23.10	23.5	0
5	QPSK	1	12	22.92	22.93	23.15		
5	QPSK	1	24	22.91	23.14	23.11		
5	QPSK	12	0	22.07	22.09	22.23	22.5	1
5	QPSK	12	7	22.05	22.06	22.19		
5	QPSK	12	13	22.00	22.05	22.20		
5	QPSK	25	0	22.08	22.07	22.22		
5	16QAM	1	0	22.46	22.28	22.44	22.5	1
5	16QAM	1	12	22.20	22.25	22.45		
5	16QAM	1	24	22.09	22.25	22.44		
5	16QAM	12	0	21.04	21.14	21.28	21.5	2
5	16QAM	12	7	21.09	21.10	21.22		
5	16QAM	12	13	21.03	21.12	21.23		
5	16QAM	25	0	21.03	21.14	21.18		
5	64QAM	1	0	23.33	23.38	23.35	23.5	0
5	64QAM	1	12	23.31	23.24	23.20		
5	64QAM	1	24	23.36	23.23	23.25		
5	64QAM	12	0	23.23	23.26	23.28	23.5	0
5	64QAM	12	7	23.35	23.33	23.35		
5	64QAM	12	13	23.20	23.37	23.36		
5	64QAM	25	0	23.34	23.38	23.28		

<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	23.65	23.85	23.83	24	0
10	QPSK	1	25	23.42	23.60	23.56		
10	QPSK	1	49	23.70	23.86	23.65		
10	QPSK	25	0	22.55	22.61	22.51	23	1
10	QPSK	25	12	22.47	22.49	22.57		
10	QPSK	25	25	22.49	22.43	22.53		
10	QPSK	50	0	22.51	22.52	22.48		
10	16QAM	1	0	22.95	22.97	22.94	23	1
10	16QAM	1	25	22.67	22.65	22.66		
10	16QAM	1	49	22.88	22.90	22.83		
10	16QAM	25	0	21.65	21.42	21.51	22	2
10	16QAM	25	12	21.47	21.50	21.55		
10	16QAM	25	25	21.48	21.53	21.45		
10	16QAM	50	0	21.57	21.56	21.57		
10	64QAM	1	0	23.77	23.80	23.77	24	0
10	64QAM	1	25	23.70	23.71	23.81		
10	64QAM	1	49	23.78	23.74	23.80		
10	64QAM	25	0	23.81	23.77	23.75	24	0
10	64QAM	25	12	23.68	23.66	23.69		
10	64QAM	25	25	23.75	23.79	23.81		
10	64QAM	50	0	23.74	23.77	23.82		
Channel				23035	23095	23155	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				701.5	707.5	713.5		
5	QPSK	1	0	23.49	23.47	23.48	24	0
5	QPSK	1	12	23.48	23.42	23.52		
5	QPSK	1	24	23.46	23.49	23.48		
5	QPSK	12	0	22.40	22.39	22.53	23	1
5	QPSK	12	7	22.48	22.48	22.50		
5	QPSK	12	13	22.48	22.44	22.42		
5	QPSK	25	0	22.47	22.50	22.49		
5	16QAM	1	0	22.70	22.82	22.66	23	1
5	16QAM	1	12	22.63	22.73	22.70		
5	16QAM	1	24	22.75	22.68	22.85		
5	16QAM	12	0	21.42	21.45	21.54	22	2
5	16QAM	12	7	21.52	21.49	21.51		
5	16QAM	12	13	21.48	21.52	21.43		
5	16QAM	25	0	21.46	21.46	21.49		
5	64QAM	1	0	23.78	23.81	23.77	24	0
5	64QAM	1	12	23.80	23.84	23.81		
5	64QAM	1	24	23.69	23.77	23.80		
5	64QAM	12	0	23.71	23.68	23.72	24	0
5	64QAM	12	7	23.76	23.66	23.76		
5	64QAM	12	13	23.80	23.76	23.81		
5	64QAM	25	0	23.81	23.79	23.77		

Channel				23025	23095	23165	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				700.5	707.5	714.5		
3	QPSK	1	0	23.49	23.36	23.61	24	0
3	QPSK	1	8	23.46	23.37	23.52		
3	QPSK	1	14	23.44	23.38	23.40		
3	QPSK	8	0	22.43	22.44	22.44	23	1
3	QPSK	8	4	22.46	22.48	22.47		
3	QPSK	8	7	22.41	22.41	22.47		
3	QPSK	15	0	22.42	22.43	22.42		
3	16QAM	1	0	22.44	22.60	22.73	23	1
3	16QAM	1	8	22.39	22.66	22.74		
3	16QAM	1	14	22.70	22.62	22.79		
3	16QAM	8	0	21.44	21.51	21.48	22	2
3	16QAM	8	4	21.51	21.54	21.51		
3	16QAM	8	7	21.44	21.46	21.51		
3	16QAM	15	0	21.50	21.46	21.44		
3	64QAM	1	0	23.72	23.81	23.82	24	0
3	64QAM	1	8	23.76	23.75	23.77		
3	64QAM	1	14	23.81	23.78	23.80		
3	64QAM	8	0	23.69	23.74	23.77	24	0
3	64QAM	8	4	23.80	23.85	23.81		
3	64QAM	8	7	23.79	23.78	23.75		
3	64QAM	15	0	23.73	23.81	23.77		
Channel				23017	23095	23173	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				699.7	707.5	715.3		
1.4	QPSK	1	0	23.32	23.25	23.40	24	0
1.4	QPSK	1	3	23.56	23.43	23.36		
1.4	QPSK	1	5	23.38	23.34	23.63		
1.4	QPSK	3	0	23.40	23.39	23.36		
1.4	QPSK	3	1	23.43	23.44	23.43		
1.4	QPSK	3	3	23.44	23.38	23.46		
1.4	QPSK	6	0	22.39	22.43	22.38	23	1
1.4	16QAM	1	0	22.75	22.58	22.66	23	1
1.4	16QAM	1	3	22.76	22.78	22.68		
1.4	16QAM	1	5	22.89	22.65	22.78		
1.4	16QAM	3	0	22.29	22.40	22.43		
1.4	16QAM	3	1	22.35	22.43	22.47		
1.4	16QAM	3	3	22.37	22.35	22.43		
1.4	16QAM	6	0	21.46	21.51	21.43	22	2
1.4	64QAM	1	0	23.78	23.75	23.80	24	0
1.4	64QAM	1	3	23.80	23.74	23.77		
1.4	64QAM	1	5	23.69	23.80	23.70		
1.4	64QAM	3	0	23.72	23.69	23.71		
1.4	64QAM	3	1	23.74	23.81	23.75		
1.4	64QAM	3	3	23.76	23.71	23.67		
1.4	64QAM	6	0	23.69	23.74	23.77	24	0

<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		24.07		24.5	0
10	QPSK	1	25		24.02			
10	QPSK	1	49		23.75			
10	QPSK	25	0		23.10		23.5	1
10	QPSK	25	12		22.93			
10	QPSK	25	25		22.82			
10	QPSK	50	0		23.09			
10	16QAM	1	0		23.32		23.5	1
10	16QAM	1	25		23.25			
10	16QAM	1	49		23.08			
10	16QAM	25	0		22.09		22.5	2
10	16QAM	25	12		21.92			
10	16QAM	25	25		21.79			
10	16QAM	50	0		22.08			
10	64QAM	1	0		24.05		24.5	0
10	64QAM	1	25		24.03			
10	64QAM	1	49		24.04			
10	64QAM	25	0		23.99		24.5	0
10	64QAM	25	12		24.01			
10	64QAM	25	25		23.97			
10	64QAM	50	0		24.02			
Channel				23205	23230	23255	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				779.5	782	784.5		
5	QPSK	1	0	23.94	23.77	23.62	24.5	0
5	QPSK	1	12	23.87	23.91	24.06		
5	QPSK	1	24	23.77	24.02	23.56		
5	QPSK	12	0	22.89	22.79	22.83	23.5	1
5	QPSK	12	7	22.78	22.83	22.80		
5	QPSK	12	13	22.83	22.82	22.64		
5	QPSK	25	0	22.95	22.80	22.77		
5	16QAM	1	0	23.07	23.36	22.93	23.5	1
5	16QAM	1	12	23.07	23.02	22.97		
5	16QAM	1	24	23.35	23.01	23.04		
5	16QAM	12	0	21.89	21.90	21.84	22.5	2
5	16QAM	12	7	21.95	21.86	21.83		
5	16QAM	12	13	21.76	21.73	21.78		
5	16QAM	25	0	21.96	21.91	21.77		
5	64QAM	1	0	24.00	24.02	24.00	24.5	0
5	64QAM	1	12	24.01	23.98	23.98		
5	64QAM	1	24	23.98	23.93	23.96		
5	64QAM	12	0	24.03	24.05	24.01	24.5	0
5	64QAM	12	7	23.94	23.97	24.05		
5	64QAM	12	13	23.95	23.98	24.02		
5	64QAM	25	0	24.00	24.05	23.99		

<LTE Band 14>

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					23330			
Frequency (MHz)					793			
10	QPSK	1	0		23.90		24	0
10	QPSK	1	25		23.59			
10	QPSK	1	49		23.66			
10	QPSK	25	0		22.59		23	1
10	QPSK	25	12		22.44			
10	QPSK	25	25		22.47			
10	QPSK	50	0		22.48			
10	16QAM	1	0		22.95		23	1
10	16QAM	1	25		22.81			
10	16QAM	1	49		22.79			
10	16QAM	25	0		21.62		22	2
10	16QAM	25	12		21.48			
10	16QAM	25	25		21.44			
10	16QAM	50	0		21.45			
10	64QAM	1	0		23.80		24	0
10	64QAM	1	25		23.81			
10	64QAM	1	49		23.79			
10	64QAM	25	0		23.86		24	0
10	64QAM	25	12		23.83			
10	64QAM	25	25		23.86			
10	64QAM	50	0		23.81			
Channel				23305	23330	23355	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				790.5	793	795.5		
5	QPSK	1	0	23.45	23.46	23.33	24	0
5	QPSK	1	12	23.46	23.33	23.63		
5	QPSK	1	24	23.36	23.38	23.40		
5	QPSK	12	0	22.56	22.39	22.51	23	1
5	QPSK	12	7	22.52	22.35	22.50		
5	QPSK	12	13	22.44	22.43	22.51		
5	QPSK	25	0	22.45	22.35	22.49		
5	16QAM	1	0	22.62	22.82	22.77	23	1
5	16QAM	1	12	22.84	22.76	22.72		
5	16QAM	1	24	22.69	22.71	22.60		
5	16QAM	12	0	21.59	21.55	21.49	22	2
5	16QAM	12	7	21.57	21.47	21.56		
5	16QAM	12	13	21.48	21.46	21.52		
5	16QAM	25	0	21.55	21.53	21.47		
5	64QAM	1	0	23.81	23.85	23.84	24	0
5	64QAM	1	12	23.84	23.79	23.81		
5	64QAM	1	24	23.80	23.87	23.83		
5	64QAM	12	0	23.77	23.75	23.76	24	0
5	64QAM	12	7	23.82	23.86	23.81		
5	64QAM	12	13	23.86	23.78	23.84		
5	64QAM	25	0	23.79	23.85	23.81		

<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	23.66	23.74	23.69	24	0
10	QPSK	1	25	23.55	23.42	23.53		
10	QPSK	1	49	23.69	23.78	23.65		
10	QPSK	25	0	22.53	22.51	22.53	23	1
10	QPSK	25	12	22.52	22.43	22.45		
10	QPSK	25	25	22.64	22.54	22.47		
10	QPSK	50	0	22.51	22.44	22.48		
10	16QAM	1	0	22.92	22.91	22.87	23	1
10	16QAM	1	25	22.69	22.70	22.73		
10	16QAM	1	49	22.94	22.96	22.77		
10	16QAM	25	0	21.56	21.55	21.55	22	2
10	16QAM	25	12	21.54	21.42	21.49		
10	16QAM	25	25	21.62	21.55	21.44		
10	16QAM	50	0	21.55	21.48	21.51		
10	64QAM	1	0	23.72	23.75	23.63	24	0
10	64QAM	1	25	23.74	23.77	23.74		
10	64QAM	1	49	23.68	23.74	23.77		
10	64QAM	25	0	23.69	23.70	23.69	24	0
10	64QAM	25	12	23.67	23.69	23.72		
10	64QAM	25	25	23.74	23.75	23.65		
10	64QAM	50	0	23.70	23.71	23.77		
Channel				23755	23790	23825	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				706.5	710	713.5		
5	QPSK	1	0	23.14	23.21	23.24	24	0
5	QPSK	1	12	23.41	23.39	23.23		
5	QPSK	1	24	23.47	23.49	23.43		
5	QPSK	12	0	22.44	22.45	22.57	23	1
5	QPSK	12	7	22.49	22.51	22.46		
5	QPSK	12	13	22.48	22.45	22.47		
5	QPSK	25	0	22.42	22.40	22.60		
5	16QAM	1	0	22.72	22.67	22.67	23	1
5	16QAM	1	12	22.65	22.69	22.65		
5	16QAM	1	24	22.72	22.73	22.58		
5	16QAM	12	0	21.45	21.47	21.56	22	2
5	16QAM	12	7	21.51	21.49	21.45		
5	16QAM	12	13	21.48	21.54	21.46		
5	16QAM	25	0	21.42	21.40	21.58		
5	64QAM	1	0	23.67	23.75	23.71	24	0
5	64QAM	1	12	23.71	23.76	23.74		
5	64QAM	1	24	23.76	23.71	23.73		
5	64QAM	12	0	23.71	23.68	23.72	24	0
5	64QAM	12	7	23.68	23.74	23.37		
5	64QAM	12	13	23.72	23.77	23.64		
5	64QAM	25	0	23.75	23.73	23.74		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	23.36	23.42	23.35	24	0
20	QPSK	1	49	23.49	23.66	23.46		
20	QPSK	1	99	23.22	23.47	23.34		
20	QPSK	50	0	22.52	22.53	22.47	23	1
20	QPSK	50	24	22.43	22.37	22.38		
20	QPSK	50	50	22.34	22.33	22.42		
20	QPSK	100	0	22.44	22.55	22.50		
20	16QAM	1	0	22.61	22.50	22.69	23	1
20	16QAM	1	49	22.56	22.52	22.43		
20	16QAM	1	99	22.32	22.36	22.27		
20	16QAM	50	0	21.46	21.34	21.43	22	2
20	16QAM	50	24	21.51	21.33	21.52		
20	16QAM	50	50	21.38	21.34	21.47		
20	16QAM	100	0	21.39	21.32	21.51		
20	64QAM	1	0	23.55	23.54	23.53	24	0
20	64QAM	1	49	23.61	23.63	23.61		
20	64QAM	1	99	23.59	23.62	23.57		
20	64QAM	50	0	23.51	23.50	23.57	24	0
20	64QAM	50	24	23.56	23.54	23.55		
20	64QAM	50	50	23.60	23.56	23.63		
20	64QAM	100	0	23.61	23.58	23.62		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	23.20	23.34	23.15	24	0
15	QPSK	1	37	23.24	23.40	23.26		
15	QPSK	1	74	23.23	23.27	23.20		
15	QPSK	36	0	22.50	22.43	22.51	23	1
15	QPSK	36	20	22.51	22.42	22.59		
15	QPSK	36	39	22.52	22.48	22.57		
15	QPSK	75	0	22.44	22.42	22.45		
15	16QAM	1	0	22.56	22.52	22.64	23	1
15	16QAM	1	37	22.48	22.54	22.73		
15	16QAM	1	74	22.58	22.37	22.33		
15	16QAM	36	0	21.52	21.44	21.50	22	2
15	16QAM	36	20	21.47	21.42	21.61		
15	16QAM	36	39	21.48	21.52	21.60		
15	16QAM	75	0	21.52	21.47	21.62		
15	64QAM	1	0	23.60	23.63	23.61	24	0
15	64QAM	1	37	23.57	23.60	23.59		
15	64QAM	1	74	23.53	23.57	23.57		
15	64QAM	36	0	23.62	23.59	23.63	24	0
15	64QAM	36	20	23.60	23.57	23.60		
15	64QAM	36	39	23.59	23.60	23.62		
15	64QAM	75	0	23.61	23.62	23.64		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	23.45	23.40	23.47	24	0
10	QPSK	1	25	23.12	23.21	23.22		
10	QPSK	1	49	23.22	23.20	23.25		
10	QPSK	25	0	22.41	22.46	22.59	23	1
10	QPSK	25	12	22.41	22.49	22.58		
10	QPSK	25	25	22.45	22.45	22.64		
10	QPSK	50	0	22.39	22.53	22.65		
10	16QAM	1	0	22.67	22.92	22.86	23	1
10	16QAM	1	25	22.61	22.52	22.62		
10	16QAM	1	49	22.70	22.77	22.61		
10	16QAM	25	0	21.39	21.46	21.59	22	2
10	16QAM	25	12	21.41	21.50	21.58		
10	16QAM	25	25	21.42	21.55	21.57		
10	16QAM	50	0	21.39	21.53	21.60		
10	64QAM	1	0	23.51	23.50	23.54	24	0
10	64QAM	1	25	23.56	23.55	23.59		
10	64QAM	1	49	23.57	23.53	23.60		
10	64QAM	25	0	23.59	23.57	23.53	24	0
10	64QAM	25	12	23.64	23.62	23.61		
10	64QAM	25	25	23.61	23.60	23.58		
10	64QAM	50	0	23.57	23.54	23.56		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	23.29	23.36	23.17	24	0
5	QPSK	1	12	23.19	23.08	23.04		
5	QPSK	1	24	23.09	23.00	23.07		
5	QPSK	12	0	22.38	22.51	22.54	23	1
5	QPSK	12	7	22.36	22.46	22.56		
5	QPSK	12	13	22.32	22.42	22.47		
5	QPSK	25	0	22.41	22.53	22.58		
5	16QAM	1	0	22.73	22.65	22.76	23	1
5	16QAM	1	12	22.58	22.51	22.77		
5	16QAM	1	24	22.55	22.67	22.41		
5	16QAM	12	0	21.46	21.58	21.61	22	2
5	16QAM	12	7	21.41	21.51	21.57		
5	16QAM	12	13	21.34	21.45	21.54		
5	16QAM	25	0	21.39	21.51	21.55		
5	64QAM	1	0	23.55	23.52	23.58	24	0
5	64QAM	1	12	23.60	23.57	23.61		
5	64QAM	1	24	23.53	23.50	23.59		
5	64QAM	12	0	23.61	23.64	23.54	24	0
5	64QAM	12	7	23.57	23.61	23.63		
5	64QAM	12	13	23.59	23.55	23.58		
5	64QAM	25	0	23.60	23.61	23.58		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	22.81	22.82	22.92	24	0
3	QPSK	1	8	23.22	23.24	23.24		
3	QPSK	1	14	23.23	23.26	23.27		
3	QPSK	8	0	22.36	22.43	22.54	23	1
3	QPSK	8	4	22.34	22.50	22.55		
3	QPSK	8	7	22.36	22.42	22.53		
3	QPSK	15	0	22.40	22.48	22.54		
3	16QAM	1	0	22.71	22.86	22.65	23	1
3	16QAM	1	8	22.64	22.79	22.81		
3	16QAM	1	14	22.79	22.70	22.47		
3	16QAM	8	0	21.43	21.51	21.58	22	2
3	16QAM	8	4	21.45	21.53	21.59		
3	16QAM	8	7	21.41	21.46	21.54		
3	16QAM	15	0	21.43	21.46	21.60		
3	64QAM	1	0	23.60	23.56	23.59	24	0
3	64QAM	1	8	23.58	23.57	23.54		
3	64QAM	1	14	23.57	23.61	23.54		
3	64QAM	8	0	23.60	23.64	23.57	24	0
3	64QAM	8	4	23.54	23.60	23.62		
3	64QAM	8	7	23.63	23.58	23.59		
3	64QAM	15	0	23.61	23.59	23.61		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	23.12	23.16	23.31	24	0
1.4	QPSK	1	3	23.13	23.28	23.26		
1.4	QPSK	1	5	23.13	23.22	23.28		
1.4	QPSK	3	0	23.24	23.26	23.17		
1.4	QPSK	3	1	23.27	23.21	23.22		
1.4	QPSK	3	3	23.25	23.16	23.20		
1.4	QPSK	6	0	22.30	22.38	22.43	23	1
1.4	16QAM	1	0	22.50	22.63	22.80	23	1
1.4	16QAM	1	3	22.89	22.69	22.98		
1.4	16QAM	1	5	22.54	22.97	22.55		
1.4	16QAM	3	0	22.39	22.46	22.52		
1.4	16QAM	3	1	22.42	22.44	22.70		
1.4	16QAM	3	3	22.28	22.38	22.49		
1.4	16QAM	6	0	21.45	21.51	21.62	22	2
1.4	64QAM	1	0	23.61	23.59	23.60	24	0
1.4	64QAM	1	3	23.57	23.54	23.55		
1.4	64QAM	1	5	23.58	23.54	23.62		
1.4	64QAM	3	0	23.62	23.57	23.59		
1.4	64QAM	3	1	23.53	23.62	23.60		
1.4	64QAM	3	3	23.55	23.59	23.57		
1.4	64QAM	6	0	23.60	23.61	23.54	24	0

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	23.61	23.70	23.42	24	0
15	QPSK	1	37	23.33	23.38	23.55		
15	QPSK	1	74	23.75	23.78	23.72		
15	QPSK	36	0	22.57	22.58	22.54	23	1
15	QPSK	36	20	22.24	22.37	22.23		
15	QPSK	36	39	22.26	22.22	22.39		
15	QPSK	75	0	22.39	22.40	22.38		
15	16QAM	1	0	22.67	22.76	22.40	23	1
15	16QAM	1	37	22.40	22.41	22.43		
15	16QAM	1	74	22.84	22.85	22.87		
15	16QAM	36	0	21.52	21.54	21.53	22	2
15	16QAM	36	20	21.23	21.35	21.32		
15	16QAM	36	39	21.24	21.31	21.33		
15	16QAM	75	0	21.40	21.25	21.47		
15	64QAM	1	0	23.75	23.72	23.65	24	0
15	64QAM	1	37	23.70	23.63	23.70		
15	64QAM	1	74	23.71	23.68	23.66		
15	64QAM	36	0	23.67	23.75	23.72	24	0
15	64QAM	36	20	23.58	23.69	23.67		
15	64QAM	36	39	23.66	23.62	23.68		
15	64QAM	75	0	23.67	23.66	23.70		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	23.66	23.62	23.50	24	0
10	QPSK	1	25	23.51	23.47	23.37		
10	QPSK	1	49	23.50	23.61	23.55		
10	QPSK	25	0	22.36	22.31	22.28	23	1
10	QPSK	25	12	22.42	22.36	22.35		
10	QPSK	25	25	22.48	22.38	22.38		
10	QPSK	50	0	22.47	22.39	22.36		
10	16QAM	1	0	22.78	22.81	22.55	23	1
10	16QAM	1	25	22.57	22.53	22.45		
10	16QAM	1	49	22.93	22.72	22.68		
10	16QAM	25	0	21.49	21.35	21.29	22	2
10	16QAM	25	12	21.44	21.33	21.31		
10	16QAM	25	25	21.45	21.34	21.33		
10	16QAM	50	0	21.49	21.38	21.33		
10	64QAM	1	0	23.66	23.67	23.71	24	0
10	64QAM	1	25	23.67	23.70	23.73		
10	64QAM	1	49	23.70	23.66	23.68		
10	64QAM	25	0	23.68	23.71	23.70	24	0
10	64QAM	25	12	23.69	23.67	23.69		
10	64QAM	25	25	23.67	23.70	23.72		
10	64QAM	50	0	23.65	23.64	23.66		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	23.37	23.11	23.10	24	0
5	QPSK	1	12	23.32	23.36	23.20		
5	QPSK	1	24	23.39	23.30	23.20		
5	QPSK	12	0	22.44	22.31	22.26	23	1
5	QPSK	12	7	22.47	22.32	22.32		
5	QPSK	12	13	22.48	22.27	22.33		
5	QPSK	25	0	22.45	22.33	22.31		
5	16QAM	1	0	22.63	22.43	22.47	23	1
5	16QAM	1	12	22.65	22.43	22.56		
5	16QAM	1	24	22.66	22.39	22.52		
5	16QAM	12	0	21.49	21.29	21.30	22	2
5	16QAM	12	7	21.47	21.38	21.30		
5	16QAM	12	13	21.45	21.30	21.30		
5	16QAM	25	0	21.45	21.34	21.19		
5	64QAM	1	0	23.71	23.63	23.67	24	0
5	64QAM	1	12	23.68	23.71	23.67		
5	64QAM	1	24	23.66	23.74	23.70		
5	64QAM	12	0	23.65	23.68	23.64	24	0
5	64QAM	12	7	23.72	23.70	23.65		
5	64QAM	12	13	23.63	23.71	23.72		
5	64QAM	25	0	23.67	23.66	23.71		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	23.23	23.17	23.11	24	0
3	QPSK	1	8	23.30	23.23	23.24		
3	QPSK	1	14	23.29	23.20	23.20		
3	QPSK	8	0	22.41	22.24	22.29	23	1
3	QPSK	8	4	22.46	22.32	22.30		
3	QPSK	8	7	22.42	22.28	22.28		
3	QPSK	15	0	22.44	22.32	22.29		
3	16QAM	1	0	22.65	22.45	22.46	23	1
3	16QAM	1	8	22.53	22.44	22.50		
3	16QAM	1	14	22.45	22.19	22.53		
3	16QAM	8	0	21.39	21.30	21.29	22	2
3	16QAM	8	4	21.52	21.43	21.29		
3	16QAM	8	7	21.44	21.30	21.30		
3	16QAM	15	0	21.52	21.36	21.27		
3	64QAM	1	0	23.64	23.65	23.72	24	0
3	64QAM	1	8	23.67	23.69	23.66		
3	64QAM	1	14	23.72	23.70	23.67		
3	64QAM	8	0	23.68	23.67	23.70	24	0
3	64QAM	8	4	23.69	23.71	23.60		
3	64QAM	8	7	23.73	23.72	23.63		
3	64QAM	15	0	23.71	23.66	23.67		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	23.18	23.13	23.09	24	0
1.4	QPSK	1	3	23.26	23.28	23.15		
1.4	QPSK	1	5	23.32	23.12	23.12		
1.4	QPSK	3	0	23.36	23.26	23.08		
1.4	QPSK	3	1	23.29	23.25	23.18		
1.4	QPSK	3	3	23.30	23.26	23.18		
1.4	QPSK	6	0	22.30	22.31	22.27	23	1
1.4	16QAM	1	0	22.52	22.26	22.42	23	1
1.4	16QAM	1	3	22.60	22.48	22.43		
1.4	16QAM	1	5	22.55	22.45	22.54		
1.4	16QAM	3	0	22.36	22.25	22.13		
1.4	16QAM	3	1	22.34	22.26	22.24		
1.4	16QAM	3	3	22.34	22.18	22.18		
1.4	16QAM	6	0	21.43	21.39	21.26	22	2
1.4	64QAM	1	0	23.71	23.70	23.69	24	0
1.4	64QAM	1	3	23.70	23.67	23.68		
1.4	64QAM	1	5	23.74	23.63	23.65		
1.4	64QAM	3	0	23.67	23.70	23.69		
1.4	64QAM	3	1	23.66	23.67	23.72		
1.4	64QAM	3	3	23.70	23.71	23.71		
1.4	64QAM	6	0	23.72	23.68	23.66	24	0

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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					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		23.35		23.5	0
10	QPSK	1	25		22.99			
10	QPSK	1	49		23.12			
10	QPSK	25	0		22.00		22.5	1
10	QPSK	25	12		22.04			
10	QPSK	25	25		22.06			
10	QPSK	50	0		21.92			
10	16QAM	1	0		22.31		22.5	1
10	16QAM	1	25		22.15			
10	16QAM	1	49		22.39			
10	16QAM	25	0		20.94		21.5	2
10	16QAM	25	12		20.99			
10	16QAM	25	25		21.02			
10	16QAM	50	0		20.93			
10	64QAM	1	0		23.18		23.5	0
10	64QAM	1	25		23.16			
10	64QAM	1	49		23.10			
10	64QAM	25	0		23.14		23.5	0
10	64QAM	25	12		23.15			
10	64QAM	25	25		23.15			
10	64QAM	50	0		23.12			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	23.11	23.17	23.14	23.5	0
5	QPSK	1	12	23.08	23.05	23.06		
5	QPSK	1	24	23.04	22.96	22.92		
5	QPSK	12	0	21.91	21.85	22.04	22.5	1
5	QPSK	12	7	21.93	21.82	21.99		
5	QPSK	12	13	21.83	21.92	21.98		
5	QPSK	25	0	21.85	21.99	21.97		
5	16QAM	1	0	22.31	22.37	22.24	22.5	1
5	16QAM	1	12	22.19	22.27	22.21		
5	16QAM	1	24	22.33	22.15	22.25		
5	16QAM	12	0	20.94	21.02	21.03	21.5	2
5	16QAM	12	7	20.95	20.97	21.03		
5	16QAM	12	13	20.86	20.94	20.96		
5	16QAM	25	0	20.88	21.03	21.01		
5	64QAM	1	0	23.10	23.13	23.10	23.5	0
5	64QAM	1	12	23.09	23.14	23.12		
5	64QAM	1	24	23.08	23.12	23.16		
5	64QAM	12	0	23.11	23.07	23.08	23.5	0
5	64QAM	12	7	23.12	23.10	23.11		
5	64QAM	12	13	23.13	23.12	23.15		
5	64QAM	25	0	23.15	23.11	23.14		

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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	23.21	23.24	23.25	23.5	0
20	QPSK	1	49	23.14	22.95	22.94		
20	QPSK	1	99	23.35	23.36	23.33		
20	QPSK	50	0	22.13	21.99	21.98	22.5	1
20	QPSK	50	24	22.14	22.06	22.14		
20	QPSK	50	50	22.16	22.17	22.15		
20	QPSK	100	0	22.12	22.19	22.11		
20	16QAM	1	0	22.36	22.41	22.31	23	0.5
20	16QAM	1	49	22.25	22.21	22.42		
20	16QAM	1	99	22.67	22.53	22.56		
20	16QAM	50	0	21.12	20.98	21.02	21.5	2
20	16QAM	50	24	21.17	21.06	21.11		
20	16QAM	50	50	21.19	21.05	21.21		
20	16QAM	100	0	21.16	21.05	21.08		
20	64QAM	1	0	23.25	23.34	23.35	23.5	0
20	64QAM	1	49	23.29	23.29	23.32		
20	64QAM	1	99	23.24	23.27	23.25		
20	64QAM	50	0	23.28	23.27	23.27	23.5	0
20	64QAM	50	24	23.32	23.31	23.30		
20	64QAM	50	50	23.31	23.32	23.28		
20	64QAM	100	0	23.26	23.28	23.31		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	23.04	23.01	23.03	23.5	0
15	QPSK	1	37	22.87	23.11	23.10		
15	QPSK	1	74	23.09	23.21	23.27		
15	QPSK	36	0	22.29	22.09	22.10	22.5	1
15	QPSK	36	20	22.08	22.08	22.12		
15	QPSK	36	39	22.02	21.99	22.09		
15	QPSK	75	0	22.08	22.05	22.48		
15	16QAM	1	0	22.63	22.77	22.49	23	0.5
15	16QAM	1	37	22.37	22.59	22.36		
15	16QAM	1	74	22.48	22.48	22.42		
15	16QAM	36	0	21.10	21.00	21.02	21.5	2
15	16QAM	36	20	21.08	21.02	21.02		
15	16QAM	36	39	21.01	20.90	21.13		
15	16QAM	75	0	21.02	21.05	21.06		
15	64QAM	1	0	23.25	23.34	23.31	23.5	0
15	64QAM	1	37	23.27	23.31	23.30		
15	64QAM	1	74	23.25	23.21	23.20		
15	64QAM	36	0	23.26	23.24	23.26	23.5	0
15	64QAM	36	20	23.30	23.29	23.27		
15	64QAM	36	39	23.28	23.28	23.25		
15	64QAM	75	0	23.31	23.30	23.28		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	23.05	23.03	23.04	23.5	0
10	QPSK	1	25	23.09	23.16	23.08		
10	QPSK	1	49	23.26	23.27	23.26		
10	QPSK	25	0	22.08	22.02	22.11	22.5	1
10	QPSK	25	12	22.21	22.20	22.28		
10	QPSK	25	25	22.18	22.21	22.36		
10	QPSK	50	0	22.12	22.18	22.25		
10	16QAM	1	0	21.97	21.99	21.95	23	0.5
10	16QAM	1	25	22.34	22.43	22.41		
10	16QAM	1	49	22.35	22.40	22.44		
10	16QAM	25	0	21.05	21.03	21.06	21.5	2
10	16QAM	25	12	21.18	21.18	21.25		
10	16QAM	25	25	21.26	21.12	21.25		
10	16QAM	50	0	21.28	21.11	21.17		
10	64QAM	1	0	23.24	23.31	23.28	23.5	0
10	64QAM	1	25	23.25	23.29	23.31		
10	64QAM	1	49	23.26	23.24	23.30		
10	64QAM	25	0	23.27	23.25	23.28	23.5	0
10	64QAM	25	12	23.29	23.30	23.26		
10	64QAM	25	25	23.24	23.30	23.27		
10	64QAM	50	0	23.26	23.31	23.29		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	23.06	23.01	23.05	23.5	0
5	QPSK	1	12	23.12	23.08	23.14		
5	QPSK	1	24	23.09	23.14	23.11		
5	QPSK	12	0	22.21	22.06	22.20	22.5	1
5	QPSK	12	7	22.09	22.15	22.21		
5	QPSK	12	13	22.11	22.05	22.20		
5	QPSK	25	0	22.26	22.15	22.24		
5	16QAM	1	0	22.53	22.49	22.55	23	0.5
5	16QAM	1	12	22.42	22.36	22.35		
5	16QAM	1	24	22.47	22.42	22.32		
5	16QAM	12	0	21.18	21.15	21.27	21.5	2
5	16QAM	12	7	21.19	21.16	21.18		
5	16QAM	12	13	21.19	21.16	21.15		
5	16QAM	25	0	21.27	21.15	21.17		
5	64QAM	1	0	23.31	23.25	23.24	23.5	0
5	64QAM	1	12	23.24	23.28	23.31		
5	64QAM	1	24	23.26	23.24	23.29		
5	64QAM	12	0	23.28	23.27	23.27	23.5	0
5	64QAM	12	7	23.30	23.31	23.28		
5	64QAM	12	13	23.29	23.26	23.30		
5	64QAM	25	0	23.28	23.24	23.25		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	23.15	23.14	23.18	23.5	0
3	QPSK	1	8	23.15	23.18	23.13		
3	QPSK	1	14	22.97	23.01	23.07		
3	QPSK	8	0	22.20	22.17	22.22	22.5	1
3	QPSK	8	4	22.20	22.17	22.26		
3	QPSK	8	7	22.18	22.11	22.14		
3	QPSK	15	0	22.15	22.11	22.15		
3	16QAM	1	0	22.76	22.45	22.71	23	0.5
3	16QAM	1	8	22.45	22.63	22.39		
3	16QAM	1	14	22.44	22.41	22.68		
3	16QAM	8	0	21.29	21.21	21.27	21.5	2
3	16QAM	8	4	21.26	21.22	21.26		
3	16QAM	8	7	21.24	21.12	21.20		
3	16QAM	15	0	21.17	21.16	21.19		
3	64QAM	1	0	23.30	23.31	23.30	23.5	0
3	64QAM	1	8	23.28	23.24	23.26		
3	64QAM	1	14	23.31	23.26	23.28		
3	64QAM	8	0	23.25	23.28	23.32	23.5	0
3	64QAM	8	4	23.26	23.30	23.34		
3	64QAM	8	7	23.31	23.29	23.27		
3	64QAM	15	0	23.30	23.28	23.28		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	23.05	23.05	23.12	23.5	0
1.4	QPSK	1	3	23.10	23.25	23.05		
1.4	QPSK	1	5	23.09	23.11	23.10		
1.4	QPSK	3	0	23.05	23.15	23.21		
1.4	QPSK	3	1	23.12	23.16	23.10		
1.4	QPSK	3	3	23.06	23.07	23.09		
1.4	QPSK	6	0	22.09	22.09	22.31	22.5	1
1.4	16QAM	1	0	22.45	22.45	22.48	23	0.5
1.4	16QAM	1	3	22.49	22.47	22.41		
1.4	16QAM	1	5	22.43	22.50	22.12		
1.4	16QAM	3	0	22.13	22.10	22.19		
1.4	16QAM	3	1	22.21	22.19	22.21		
1.4	16QAM	3	3	22.06	22.07	22.10		
1.4	16QAM	6	0	21.13	21.12	21.06	21.5	2
1.4	64QAM	1	0	23.30	23.28	23.30	23.5	0
1.4	64QAM	1	3	23.28	23.31	23.29		
1.4	64QAM	1	5	23.24	23.30	23.28		
1.4	64QAM	3	0	23.31	23.25	23.24		
1.4	64QAM	3	1	23.28	23.26	23.29		
1.4	64QAM	3	3	23.33	23.32	23.27		
1.4	64QAM	6	0	23.25	23.34	23.31	23.5	0

<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	15.53	15.63	15.46	16	0
20	QPSK	1	49	15.03	14.87	14.83		
20	QPSK	1	99	15.32	15.21	15.18		
20	QPSK	50	0	15.26	15.30	15.19	16	0
20	QPSK	50	24	15.13	14.91	15.13		
20	QPSK	50	50	15.25	15.04	15.17		
20	QPSK	100	0	15.23	15.30	15.29		
20	16QAM	1	0	15.46	15.29	15.46	16	0
20	16QAM	1	49	15.13	14.96	15.17		
20	16QAM	1	99	15.42	15.15	15.45		
20	16QAM	50	0	15.21	15.11	15.11	16	0
20	16QAM	50	24	15.13	15.05	15.16		
20	16QAM	50	50	15.30	15.21	15.19		
20	16QAM	100	0	15.23	15.19	15.18		
20	64QAM	1	0	15.13	15.15	15.08	16	0
20	64QAM	1	49	15.09	15.05	15.04		
20	64QAM	1	99	15.26	15.22	15.17		
20	64QAM	50	0	14.92	14.89	14.78	16	0
20	64QAM	50	24	14.72	14.84	14.77		
20	64QAM	50	50	14.87	14.88	15.01		
20	64QAM	100	0	14.83	14.84	14.96		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	15.40	15.32	15.42	16	0
15	QPSK	1	37	14.93	14.74	14.69		
15	QPSK	1	74	15.22	15.41	15.55		
15	QPSK	36	0	15.10	15.10	15.10	16	0
15	QPSK	36	20	14.95	14.97	15.11		
15	QPSK	36	39	15.18	15.02	15.21		
15	QPSK	75	0	15.16	15.08	15.13		
15	16QAM	1	0	15.41	15.59	15.55	16	0
15	16QAM	1	37	15.44	15.02	15.50		
15	16QAM	1	74	15.43	15.42	15.47		
15	16QAM	36	0	15.13	15.11	15.17	16	0
15	16QAM	36	20	15.04	14.99	15.14		
15	16QAM	36	39	15.19	15.09	15.22		
15	16QAM	75	0	15.23	15.06	15.00		
15	64QAM	1	0	15.33	15.22	15.15	16	0
15	64QAM	1	37	15.28	15.21	15.14		
15	64QAM	1	74	15.35	15.33	15.28		
15	64QAM	36	0	15.15	15.08	15.06	16	0
15	64QAM	36	20	15.26	15.21	15.18		
15	64QAM	36	39	15.22	15.17	15.09		
15	64QAM	75	0	15.05	14.96	14.91		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	15.24	15.32	15.25	16	0
10	QPSK	1	25	14.87	15.13	15.07		
10	QPSK	1	49	15.43	15.20	15.39		
10	QPSK	25	0	15.14	15.03	15.31	16	0
10	QPSK	25	12	15.08	15.10	15.31		
10	QPSK	25	25	15.19	15.19	15.37		
10	QPSK	50	0	15.24	15.17	15.26		
10	16QAM	1	0	15.59	15.16	15.48	16	0
10	16QAM	1	25	15.52	15.62	15.22		
10	16QAM	1	49	15.40	15.44	15.08		
10	16QAM	25	0	15.08	15.09	15.22	16	0
10	16QAM	25	12	15.01	15.09	15.18		
10	16QAM	25	25	15.08	15.13	15.27		
10	16QAM	50	0	15.11	15.11	15.22		
10	64QAM	1	0	15.30	15.33	15.43	16	0
10	64QAM	1	25	15.28	15.40	15.41		
10	64QAM	1	49	15.16	15.22	15.25		
10	64QAM	25	0	15.15	15.28	15.31	16	0
10	64QAM	25	12	15.09	15.17	15.20		
10	64QAM	25	25	15.04	15.09	15.19		
10	64QAM	50	0	14.88	14.96	15.06		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	15.11	14.99	15.22	16	0
5	QPSK	1	12	14.85	15.10	15.27		
5	QPSK	1	24	14.99	14.84	15.07		
5	QPSK	12	0	15.09	15.19	15.26	16	0
5	QPSK	12	7	15.07	15.04	15.25		
5	QPSK	12	13	15.04	15.07	15.21		
5	QPSK	25	0	15.11	15.06	15.30		
5	16QAM	1	0	15.57	15.11	15.52	16	0
5	16QAM	1	12	15.12	14.95	15.30		
5	16QAM	1	24	15.09	15.45	15.23		
5	16QAM	12	0	15.06	15.01	15.35	16	0
5	16QAM	12	7	15.07	15.17	15.32		
5	16QAM	12	13	15.01	15.04	15.21		
5	16QAM	25	0	15.13	15.02	15.21		
5	64QAM	1	0	15.30	15.32	15.28	16	0
5	64QAM	1	12	15.28	15.30	15.21		
5	64QAM	1	24	15.21	15.25	15.18		
5	64QAM	12	0	15.26	15.22	15.26	16	0
5	64QAM	12	7	15.07	15.19	15.17		
5	64QAM	12	13	14.96	15.07	15.05		
5	64QAM	25	0	15.22	14.95	14.91		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	15.12	14.97	15.23	16	0
3	QPSK	1	8	14.92	15.05	14.97		
3	QPSK	1	14	14.86	14.86	15.04		
3	QPSK	8	0	15.03	15.08	15.17	16	0
3	QPSK	8	4	15.00	15.05	15.18		
3	QPSK	8	7	14.96	15.06	15.07		
3	QPSK	15	0	15.05	15.00	15.15		
3	16QAM	1	0	15.12	15.54	15.40	16	0
3	16QAM	1	8	14.93	15.15	15.39		
3	16QAM	1	14	15.00	15.13	15.59		
3	16QAM	8	0	15.02	15.13	15.24	16	0
3	16QAM	8	4	15.14	14.97	15.16		
3	16QAM	8	7	15.54	15.02	15.31		
3	16QAM	15	0	15.04	15.06	15.31		
3	64QAM	1	0	15.31	15.36	15.32	16	0
3	64QAM	1	8	15.22	15.28	15.21		
3	64QAM	1	14	15.31	15.34	15.30		
3	64QAM	8	0	15.05	15.11	15.06	16	0
3	64QAM	8	4	15.23	15.28	15.20		
3	64QAM	8	7	15.09	15.21	15.16		
3	64QAM	15	0	15.21	15.28	15.21		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	14.96	14.99	14.99	16	0
1.4	QPSK	1	3	15.05	15.06	15.11		
1.4	QPSK	1	5	14.83	14.81	15.02		
1.4	QPSK	3	0	14.98	14.96	15.03		
1.4	QPSK	3	1	14.97	14.97	15.16		
1.4	QPSK	3	3	14.89	14.85	15.05		
1.4	QPSK	6	0	14.89	14.99	15.07	16	0
1.4	16QAM	1	0	15.14	15.00	15.11	16	0
1.4	16QAM	1	3	14.89	15.20	15.61		
1.4	16QAM	1	5	15.23	14.96	14.94		
1.4	16QAM	3	0	15.03	15.01	15.14		
1.4	16QAM	3	1	14.93	15.01	15.14		
1.4	16QAM	3	3	14.97	15.04	15.03		
1.4	16QAM	6	0	15.01	15.07	15.21	16	0
1.4	64QAM	1	0	15.06	14.90	15.11	16	0
1.4	64QAM	1	3	15.01	14.97	15.07		
1.4	64QAM	1	5	14.96	14.94	15.00		
1.4	64QAM	3	0	14.88	14.79	15.06		
1.4	64QAM	3	1	14.96	14.87	14.99		
1.4	64QAM	3	3	14.91	14.77	14.95		
1.4	64QAM	6	0	14.88	14.74	15.00	16	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	15.62	15.45	15.58	16	0
20	QPSK	1	49	15.66	15.88	15.82		
20	QPSK	1	99	15.60	15.63	15.77		
20	QPSK	50	0	15.77	15.78	15.67	16	0
20	QPSK	50	24	15.57	15.65	15.65		
20	QPSK	50	50	15.56	15.70	15.63		
20	QPSK	100	0	15.67	15.76	15.69		
20	16QAM	1	0	15.64	15.65	15.78	16	0
20	16QAM	1	49	15.57	15.75	15.82		
20	16QAM	1	99	15.57	15.85	15.80		
20	16QAM	50	0	15.71	15.65	15.68	16	0
20	16QAM	50	24	15.66	15.62	15.67		
20	16QAM	50	50	15.60	15.70	15.66		
20	16QAM	100	0	15.59	15.63	15.68		
20	64QAM	1	0	15.66	15.75	15.76	16	0
20	64QAM	1	49	15.61	15.73	15.70		
20	64QAM	1	99	15.59	15.76	15.68		
20	64QAM	50	0	15.80	15.81	15.55	16	0
20	64QAM	50	24	15.76	15.77	15.68		
20	64QAM	50	50	15.77	15.80	15.60		
20	64QAM	100	0	15.69	15.76	15.77		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	15.78	15.82	15.73	16	0
15	QPSK	1	37	15.48	15.83	15.74		
15	QPSK	1	74	15.54	15.58	15.72		
15	QPSK	36	0	15.79	15.72	15.74	16	0
15	QPSK	36	20	15.71	15.75	15.81		
15	QPSK	36	39	15.56	15.58	15.71		
15	QPSK	75	0	15.68	15.67	15.73		
15	16QAM	1	0	15.83	15.82	15.85	16	0
15	16QAM	1	37	15.74	15.84	15.79		
15	16QAM	1	74	15.77	15.79	15.42		
15	16QAM	36	0	15.75	15.70	15.70	16	0
15	16QAM	36	20	15.69	15.77	15.76		
15	16QAM	36	39	15.66	15.69	15.66		
15	16QAM	75	0	15.63	15.65	15.78		
15	64QAM	1	0	15.81	15.86	15.80	16	0
15	64QAM	1	37	15.80	15.85	15.83		
15	64QAM	1	74	15.61	15.63	15.66		
15	64QAM	36	0	15.77	15.81	15.80	16	0
15	64QAM	36	20	15.68	15.83	15.77		
15	64QAM	36	39	15.70	15.75	15.63		
15	64QAM	75	0	15.82	15.86	15.77		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	15.66	15.76	15.72	16	0
10	QPSK	1	25	15.26	15.33	15.33		
10	QPSK	1	49	15.83	15.86	15.77		
10	QPSK	25	0	15.46	15.63	15.51	16	0
10	QPSK	25	12	15.60	15.50	15.54		
10	QPSK	25	25	15.57	15.76	15.61		
10	QPSK	50	0	15.64	15.53	15.57		
10	16QAM	1	0	15.49	15.55	15.53	16	0
10	16QAM	1	25	15.82	15.59	15.58		
10	16QAM	1	49	15.58	15.60	15.80		
10	16QAM	25	0	15.58	15.59	15.62	16	0
10	16QAM	25	12	15.61	15.51	15.50		
10	16QAM	25	25	15.66	15.65	15.49		
10	16QAM	50	0	15.62	15.68	15.59		
10	64QAM	1	0	15.78	15.87	15.66	16	0
10	64QAM	1	25	15.70	15.81	15.72		
10	64QAM	1	49	15.55	15.49	15.38		
10	64QAM	25	0	15.80	15.79	15.82	16	0
10	64QAM	25	12	15.75	15.83	15.81		
10	64QAM	25	25	15.72	15.83	15.77		
10	64QAM	50	0	15.71	15.77	15.69		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	15.84	15.78	15.83	16	0
5	QPSK	1	12	15.84	15.57	15.82		
5	QPSK	1	24	15.84	15.74	15.75		
5	QPSK	12	0	15.79	15.83	15.83	16	0
5	QPSK	12	7	15.84	15.80	15.78		
5	QPSK	12	13	15.86	15.83	15.72		
5	QPSK	25	0	15.81	15.83	15.79		
5	16QAM	1	0	15.80	15.85	15.80	16	0
5	16QAM	1	12	15.75	15.81	15.78		
5	16QAM	1	24	15.79	15.86	15.86		
5	16QAM	12	0	15.83	15.81	15.81	16	0
5	16QAM	12	7	15.82	15.85	15.77		
5	16QAM	12	13	15.81	15.75	15.80		
5	16QAM	25	0	15.81	15.78	15.80		
5	64QAM	1	0	15.77	15.82	15.81	16	0
5	64QAM	1	12	15.82	15.83	15.75		
5	64QAM	1	24	15.77	15.81	15.69		
5	64QAM	12	0	15.75	15.77	15.73	16	0
5	64QAM	12	7	15.73	15.75	15.82		
5	64QAM	12	13	15.75	15.71	15.80		
5	64QAM	25	0	15.66	15.33	15.80		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	15.78	15.75	15.66	16	0
3	QPSK	1	8	15.57	15.68	15.67		
3	QPSK	1	14	15.75	15.78	15.72		
3	QPSK	8	0	15.85	15.70	15.81	16	0
3	QPSK	8	4	15.80	15.79	15.74		
3	QPSK	8	7	15.83	15.77	15.72		
3	QPSK	15	0	15.81	15.68	15.80		
3	16QAM	1	0	15.78	15.82	15.84	16	0
3	16QAM	1	8	15.86	15.72	15.81		
3	16QAM	1	14	15.84	15.82	15.86		
3	16QAM	8	0	15.79	15.79	15.85	16	0
3	16QAM	8	4	15.84	15.78	15.78		
3	16QAM	8	7	15.77	15.87	15.83		
3	16QAM	15	0	15.83	15.72	15.83		
3	64QAM	1	0	15.77	15.82	15.79	16	0
3	64QAM	1	8	15.79	15.81	15.81		
3	64QAM	1	14	15.82	15.78	15.73		
3	64QAM	8	0	15.76	15.71	15.75	16	0
3	64QAM	8	4	15.79	15.73	15.79		
3	64QAM	8	7	15.72	15.69	15.72		
3	64QAM	15	0	15.77	15.70	15.75		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	15.74	15.62	15.62	16	0
1.4	QPSK	1	3	15.69	15.62	15.62		
1.4	QPSK	1	5	15.73	15.64	15.59		
1.4	QPSK	3	0	15.75	15.73	15.76		
1.4	QPSK	3	1	15.86	15.74	15.82		
1.4	QPSK	3	3	15.85	15.70	15.76		
1.4	QPSK	6	0	15.81	15.71	15.75	16	0
1.4	16QAM	1	0	15.71	15.76	15.79	16	0
1.4	16QAM	1	3	15.74	15.77	15.84		
1.4	16QAM	1	5	15.85	15.61	15.79		
1.4	16QAM	3	0	15.86	15.78	15.84		
1.4	16QAM	3	1	15.80	15.82	15.86		
1.4	16QAM	3	3	15.79	15.77	15.65		
1.4	16QAM	6	0	15.68	15.79	15.82	16	0
1.4	64QAM	1	0	15.81	15.77	15.81	16	0
1.4	64QAM	1	3	15.73	15.72	15.75		
1.4	64QAM	1	5	15.82	15.81	15.82		
1.4	64QAM	3	0	15.82	15.73	15.66		
1.4	64QAM	3	1	15.72	15.69	15.79		
1.4	64QAM	3	3	15.85	15.82	15.85		
1.4	64QAM	6	0	15.70	15.72	15.78	16	0

<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	20.67	20.88	20.82	22	0
10	QPSK	1	25	20.71	20.75	20.41		
10	QPSK	1	49	20.71	20.75	21.03		
10	QPSK	25	0	20.93	20.85	20.75	22	0
10	QPSK	25	12	20.90	20.84	20.80		
10	QPSK	25	25	20.87	20.80	20.66		
10	QPSK	50	0	20.90	20.94	20.81		
10	16QAM	1	0	21.19	21.13	20.98	22	0
10	16QAM	1	25	21.12	20.80	21.03		
10	16QAM	1	49	21.28	21.24	21.28		
10	16QAM	25	0	20.96	20.89	20.78	22	0
10	16QAM	25	12	20.98	20.83	20.76		
10	16QAM	25	25	20.97	20.83	20.55		
10	16QAM	50	0	20.99	20.91	20.86		
10	64QAM	1	0	21.12	21.22	20.96	22	0
10	64QAM	1	25	20.96	20.88	20.91		
10	64QAM	1	49	21.15	21.18	21.06		
10	64QAM	25	0	20.66	20.55	20.65	22	0
10	64QAM	25	12	20.49	20.57	20.51		
10	64QAM	25	25	20.44	20.62	20.55		
10	64QAM	50	0	20.50	20.53	20.59		
Channel				20425	20525	20625	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				826.5	836.5	846.5		
5	QPSK	1	0	20.74	20.75	20.53	22	0
5	QPSK	1	12	20.71	20.69	20.43		
5	QPSK	1	24	20.70	20.65	20.63		
5	QPSK	12	0	20.86	20.83	20.64	22	0
5	QPSK	12	7	20.81	20.88	20.53		
5	QPSK	12	13	20.82	20.81	20.64		
5	QPSK	25	0	20.89	20.87	20.64		
5	16QAM	1	0	21.01	20.93	20.75	22	0
5	16QAM	1	12	20.93	21.21	21.01		
5	16QAM	1	24	21.17	20.92	20.80		
5	16QAM	12	0	20.78	20.81	20.70	22	0
5	16QAM	12	7	20.77	20.96	20.60		
5	16QAM	12	13	20.79	20.83	20.67		
5	16QAM	25	0	20.85	20.86	20.57		
5	64QAM	1	0	21.15	21.22	21.28	22	0
5	64QAM	1	12	21.09	21.16	21.09		
5	64QAM	1	24	21.09	21.19	21.21		
5	64QAM	12	0	20.51	20.56	20.66	22	0
5	64QAM	12	7	20.69	20.62	20.51		
5	64QAM	12	13	20.55	20.42	20.45		
5	64QAM	25	0	20.56	20.42	20.45		

Channel				20415	20525	20635	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				825.5	836.5	847.5		
3	QPSK	1	0	20.61	20.62	20.45	22	0
3	QPSK	1	8	20.70	20.73	20.46		
3	QPSK	1	14	20.57	20.63	20.55		
3	QPSK	8	0	20.77	20.80	20.52	22	0
3	QPSK	8	4	20.78	20.75	20.60		
3	QPSK	8	7	20.81	20.73	20.62		
3	QPSK	15	0	20.70	20.86	20.61		
3	16QAM	1	0	21.32	20.76	20.97	22	0
3	16QAM	1	8	21.14	20.96	20.44		
3	16QAM	1	14	21.02	20.76	20.80		
3	16QAM	8	0	20.84	20.87	20.42	22	0
3	16QAM	8	4	20.92	20.71	20.60		
3	16QAM	8	7	20.66	20.88	20.78		
3	16QAM	15	0	20.78	20.81	20.65		
3	64QAM	1	0	21.09	21.27	21.15	22	0
3	64QAM	1	8	21.15	21.22	21.19		
3	64QAM	1	14	21.21	21.25	21.22		
3	64QAM	8	0	20.65	20.56	20.62	22	0
3	64QAM	8	4	20.85	20.51	20.48		
3	64QAM	8	7	20.32	20.38	20.41		
3	64QAM	15	0	20.48	20.50	20.48		
Channel				20407	20525	20643	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				824.7	836.5	848.3		
1.4	QPSK	1	0	20.49	20.66	20.21	22	0
1.4	QPSK	1	3	20.55	20.86	20.64		
1.4	QPSK	1	5	20.55	20.62	20.31		
1.4	QPSK	3	0	20.55	20.58	20.56		
1.4	QPSK	3	1	20.61	20.65	20.52		
1.4	QPSK	3	3	20.54	20.66	20.61		
1.4	QPSK	6	0	20.72	20.78	20.65	22	0
1.4	16QAM	1	0	21.20	21.13	20.34	22	0
1.4	16QAM	1	3	21.09	20.90	20.86		
1.4	16QAM	1	5	20.56	20.76	20.46		
1.4	16QAM	3	0	20.76	20.67	20.73		
1.4	16QAM	3	1	20.75	20.83	20.56		
1.4	16QAM	3	3	20.66	20.68	20.39		
1.4	16QAM	6	0	20.63	20.86	20.56	22	0
1.4	64QAM	1	0	21.12	21.26	21.31	22	0
1.4	64QAM	1	3	21.18	21.21	21.08		
1.4	64QAM	1	5	21.11	21.16	21.09		
1.4	64QAM	3	0	21.08	21.17	21.09		
1.4	64QAM	3	1	21.17	21.14	21.08		
1.4	64QAM	3	3	21.09	21.15	21.16		
1.4	64QAM	6	0	20.49	20.47	20.51	22	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	17.55	17.57	17.77	18	0
20	QPSK	1	49	17.39	17.22	17.36		
20	QPSK	1	99	17.53	17.56	17.47		
20	QPSK	50	0	17.51	17.52	17.46	18	0
20	QPSK	50	24	17.56	17.53	17.57		
20	QPSK	50	50	17.54	17.51	17.48		
20	QPSK	100	0	17.64	17.50	17.65		
20	16QAM	1	0	17.71	17.72	17.65	18	0
20	16QAM	1	49	17.54	17.61	17.71		
20	16QAM	1	99	17.65	17.43	17.70		
20	16QAM	50	0	17.54	17.51	17.53	18	0
20	16QAM	50	24	17.61	17.49	17.53		
20	16QAM	50	50	17.62	17.59	17.56		
20	16QAM	100	0	17.72	17.48	17.59		
20	64QAM	1	0	17.05	17.00	17.15	18	0
20	64QAM	1	49	16.00	16.76	17.09		
20	64QAM	1	99	16.82	16.65	17.01		
20	64QAM	50	0	17.02	16.78	17.05	18	0
20	64QAM	50	24	16.88	16.71	17.02		
20	64QAM	50	50	16.75	16.70	16.99		
20	64QAM	100	0	16.77	16.81	16.92		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	17.24	17.24	17.26	18	0
15	QPSK	1	37	17.36	17.33	16.87		
15	QPSK	1	74	17.65	17.43	17.40		
15	QPSK	36	0	17.51	17.52	17.47	18	0
15	QPSK	36	20	17.46	17.44	17.43		
15	QPSK	36	39	17.62	17.48	17.48		
15	QPSK	75	0	17.54	17.48	17.48		
15	16QAM	1	0	17.76	17.66	17.65	18	0
15	16QAM	1	37	17.34	17.22	17.67		
15	16QAM	1	74	17.66	17.73	17.57		
15	16QAM	36	0	17.49	17.44	17.53	18	0
15	16QAM	36	20	17.56	17.51	17.46		
15	16QAM	36	39	17.58	17.51	17.42		
15	16QAM	75	0	17.52	17.44	17.37		
15	64QAM	1	0	17.12	17.08	17.05	18	0
15	64QAM	1	37	16.88	16.72	16.82		
15	64QAM	1	74	16.85	16.81	16.91		
15	64QAM	36	0	16.79	16.77	16.85	18	0
15	64QAM	36	20	16.79	16.73	16.90		
15	64QAM	36	39	16.80	16.70	16.75		
15	64QAM	75	0	16.81	16.84	16.88		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	17.24	17.49	17.58	18	0
10	QPSK	1	25	16.94	17.22	17.16		
10	QPSK	1	49	17.48	17.54	17.55		
10	QPSK	25	0	17.33	17.40	17.39	18	0
10	QPSK	25	12	17.28	17.36	17.39		
10	QPSK	25	25	17.51	17.44	17.46		
10	QPSK	50	0	17.34	17.45	17.47		
10	16QAM	1	0	17.76	17.74	17.56	18	0
10	16QAM	1	25	17.72	17.23	17.41		
10	16QAM	1	49	17.75	17.53	17.66		
10	16QAM	25	0	17.36	17.54	17.49	18	0
10	16QAM	25	12	17.38	17.34	17.40		
10	16QAM	25	25	17.44	17.51	17.39		
10	16QAM	50	0	17.34	17.40	17.42		
10	64QAM	1	0	17.22	17.30	17.32	18	0
10	64QAM	1	25	16.82	16.88	16.81		
10	64QAM	1	49	16.77	16.75	16.75		
10	64QAM	25	0	16.95	16.84	16.88	18	0
10	64QAM	25	12	16.86	16.83	16.81		
10	64QAM	25	25	16.83	16.53	16.66		
10	64QAM	50	0	16.76	16.66	16.78		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	17.04	17.20	17.26	18	0
5	QPSK	1	12	17.10	16.98	17.14		
5	QPSK	1	24	17.32	17.28	17.42		
5	QPSK	12	0	17.31	17.43	17.43	18	0
5	QPSK	12	7	17.37	17.37	17.44		
5	QPSK	12	13	17.36	17.33	17.35		
5	QPSK	25	0	17.42	17.43	17.47		
5	16QAM	1	0	17.75	17.33	17.65	18	0
5	16QAM	1	12	17.76	17.22	17.25		
5	16QAM	1	24	17.70	17.50	17.49		
5	16QAM	12	0	17.42	17.53	17.45	18	0
5	16QAM	12	7	17.35	17.39	17.46		
5	16QAM	12	13	17.35	17.43	17.34		
5	16QAM	25	0	17.32	17.38	17.39		
5	64QAM	1	0	17.06	16.84	16.91	18	0
5	64QAM	1	12	16.92	16.83	16.80		
5	64QAM	1	24	16.82	16.68	16.72		
5	64QAM	12	0	16.85	16.71	16.75	18	0
5	64QAM	12	7	16.72	16.65	16.61		
5	64QAM	12	13	16.72	16.62	16.55		
5	64QAM	25	0	16.70	16.60	16.52		

<LTE Band 25>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26140	26340	26590		
Frequency (MHz)				1860	1880	1905		
20	QPSK	1	0	14.14	14.30	14.12	16	0
20	QPSK	1	49	14.16	14.39	14.26		
20	QPSK	1	99	14.09	14.06	14.00		
20	QPSK	50	0	14.17	14.21	14.20	16	0
20	QPSK	50	24	14.11	14.15	14.18		
20	QPSK	50	50	14.06	14.15	14.09		
20	QPSK	100	0	14.10	14.21	14.20		
20	16QAM	1	0	14.31	14.35	14.35	16	0
20	16QAM	1	49	14.27	14.27	14.30		
20	16QAM	1	99	14.31	14.12	14.38		
20	16QAM	50	0	14.15	14.18	14.19	16	0
20	16QAM	50	24	14.12	14.18	14.17		
20	16QAM	50	50	14.12	14.15	14.04		
20	16QAM	100	0	14.11	14.22	14.25		
20	64QAM	1	0	14.11	14.05	14.10	16	0
20	64QAM	1	49	14.08	14.03	14.05		
20	64QAM	1	99	14.02	14.06	14.09		
20	64QAM	50	0	14.00	14.02	14.11	16	0
20	64QAM	50	24	14.02	14.05	14.06		
20	64QAM	50	50	14.09	14.08	14.05		
20	64QAM	100	0	14.11	14.09	14.02		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	14.17	14.19	14.05	16	0
15	QPSK	1	37	14.17	14.14	14.08		
15	QPSK	1	74	14.03	14.20	14.03		
15	QPSK	36	0	14.14	14.25	14.14	16	0
15	QPSK	36	20	14.10	14.13	14.18		
15	QPSK	36	39	14.23	14.19	14.24		
15	QPSK	75	0	14.17	14.31	14.21		
15	16QAM	1	0	14.07	14.18	14.10	16	0
15	16QAM	1	37	14.06	14.29	14.04		
15	16QAM	1	74	14.22	14.34	14.06		
15	16QAM	36	0	14.14	14.23	14.15	16	0
15	16QAM	36	20	14.09	14.13	14.22		
15	16QAM	36	39	14.18	14.33	14.27		
15	16QAM	75	0	14.19	14.24	14.32		
15	64QAM	1	0	14.06	14.09	14.05	16	0
15	64QAM	1	37	14.02	14.05	14.01		
15	64QAM	1	74	14.06	14.02	14.05		
15	64QAM	36	0	14.01	14.00	14.05	16	0
15	64QAM	36	20	14.09	14.16	14.08		
15	64QAM	36	39	14.03	14.05	14.03		
15	64QAM	75	0	14.02	14.09	14.02		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	14.35	14.24	14.32	16	0
10	QPSK	1	25	14.14	14.07	14.16		
10	QPSK	1	49	14.32	14.32	14.32		
10	QPSK	25	0	14.14	14.06	14.18	16	0
10	QPSK	25	12	14.16	14.03	14.15		
10	QPSK	25	25	14.28	14.10	14.14		
10	QPSK	50	0	14.20	14.09	14.03		
10	16QAM	1	0	14.22	14.22	14.35	16	0
10	16QAM	1	25	14.30	14.19	14.34		
10	16QAM	1	49	14.28	14.25	14.07		
10	16QAM	25	0	14.15	14.07	14.08	16	0
10	16QAM	25	12	14.18	14.09	14.04		
10	16QAM	25	25	14.19	14.13	14.15		
10	16QAM	50	0	14.25	14.15	14.24		
10	64QAM	1	0	14.06	14.01	14.11	16	0
10	64QAM	1	25	14.08	14.06	14.09		
10	64QAM	1	49	14.28	14.13	14.28		
10	64QAM	25	0	14.05	14.04	14.03	16	0
10	64QAM	25	12	14.02	14.02	14.06		
10	64QAM	25	25	14.03	14.06	14.05		
10	64QAM	50	0	14.07	14.02	14.09		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	14.36	14.32	14.28	16	0
5	QPSK	1	12	14.07	14.08	14.08		
5	QPSK	1	24	14.04	14.08	14.04		
5	QPSK	12	0	14.18	14.10	14.12	16	0
5	QPSK	12	7	14.17	14.04	14.01		
5	QPSK	12	13	14.14	14.01	14.05		
5	QPSK	25	0	14.08	14.11	14.05		
5	16QAM	1	0	14.15	14.20	14.11	16	0
5	16QAM	1	12	14.23	14.07	14.32		
5	16QAM	1	24	14.18	14.12	14.15		
5	16QAM	12	0	14.18	14.11	14.08	16	0
5	16QAM	12	7	14.19	14.10	14.08		
5	16QAM	12	13	14.12	14.05	14.03		
5	16QAM	25	0	14.18	14.06	14.12		
5	64QAM	1	0	14.01	14.06	14.05	16	0
5	64QAM	1	12	14.00	14.01	14.08		
5	64QAM	1	24	14.07	14.08	14.07		
5	64QAM	12	0	14.06	14.05	14.06	16	0
5	64QAM	12	7	14.11	14.05	14.01		
5	64QAM	12	13	14.02	14.08	14.02		
5	64QAM	25	0	14.03	14.07	14.00		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	14.13	14.12	14.26	16	0
3	QPSK	1	8	14.04	14.06	14.15		
3	QPSK	1	14	14.07	14.00	14.02		
3	QPSK	8	0	14.10	14.05	14.11	16	0
3	QPSK	8	4	14.15	14.02	14.00		
3	QPSK	8	7	14.07	14.02	14.04		
3	QPSK	15	0	14.10	14.01	14.00		
3	16QAM	1	0	14.13	14.25	14.33	16	0
3	16QAM	1	8	14.13	14.35	14.33		
3	16QAM	1	14	14.05	14.02	14.06		
3	16QAM	8	0	14.16	14.12	14.06	16	0
3	16QAM	8	4	14.01	14.11	14.05		
3	16QAM	8	7	14.21	14.04	14.13		
3	16QAM	15	0	14.19	14.05	14.14		
3	64QAM	1	0	14.01	14.07	14.02	16	0
3	64QAM	1	8	14.03	14.05	14.05		
3	64QAM	1	14	14.06	14.04	14.08		
3	64QAM	8	0	14.02	14.09	14.07	16	0
3	64QAM	8	4	14.05	14.03	14.02		
3	64QAM	8	7	14.08	14.02	14.03		
3	64QAM	15	0	14.01	14.05	14.03		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	14.06	14.09	14.05	16	0
1.4	QPSK	1	3	14.07	14.25	14.19		
1.4	QPSK	1	5	14.09	14.02	14.02		
1.4	QPSK	3	0	14.06	14.03	14.07		
1.4	QPSK	3	1	14.07	14.07	14.07		
1.4	QPSK	3	3	14.11	14.06	14.04		
1.4	QPSK	6	0	14.01	14.02	14.01	16	0
1.4	16QAM	1	0	14.24	14.31	14.05	16	0
1.4	16QAM	1	3	14.29	14.24	14.26		
1.4	16QAM	1	5	14.29	14.05	14.38		
1.4	16QAM	3	0	14.03	14.00	14.04		
1.4	16QAM	3	1	14.06	14.01	14.05		
1.4	16QAM	3	3	14.05	14.00	14.01		
1.4	16QAM	6	0	14.10	14.06	14.05	16	0
1.4	64QAM	1	0	14.02	14.08	14.01	16	0
1.4	64QAM	1	3	14.09	14.15	14.05		
1.4	64QAM	1	5	14.07	14.09	14.08		
1.4	64QAM	3	0	14.06	14.02	14.01		
1.4	64QAM	3	1	14.11	14.03	14.09		
1.4	64QAM	3	3	14.05	14.07	14.01		
1.4	64QAM	6	0	14.02	14.03	14.08	16	0

<LTE Band 26>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				26765	26865	26965		
Frequency (MHz)				821.5	831.5	841.5		
15	QPSK	1	0	20.87	21.07	20.79	22	0
15	QPSK	1	37	20.63	20.45	21.11		
15	QPSK	1	74	21.36	21.38	21.15		
15	QPSK	36	0	21.24	21.25	20.94	22	0
15	QPSK	36	20	20.96	20.91	20.56		
15	QPSK	36	39	20.92	20.76	20.51		
15	QPSK	75	0	21.01	21.08	20.81		
15	16QAM	1	0	21.17	21.33	20.70	22	0
15	16QAM	1	37	21.12	20.95	20.41		
15	16QAM	1	74	21.37	21.04	20.57		
15	16QAM	36	0	21.16	21.21	20.96	22	0
15	16QAM	36	20	20.94	20.96	20.56		
15	16QAM	36	39	20.85	20.70	20.40		
15	16QAM	75	0	20.98	20.97	20.72		
15	64QAM	1	0	21.22	21.31	21.26	22	0
15	64QAM	1	37	21.26	21.32	21.28		
15	64QAM	1	74	21.22	21.30	21.27		
15	64QAM	36	0	21.09	21.01	21.06	22	0
15	64QAM	36	20	20.55	20.62	20.65		
15	64QAM	36	39	20.47	20.51	20.53		
15	64QAM	75	0	20.61	20.68	20.62		
Channel				26740	26865	26990	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				819	831.5	844		
10	QPSK	1	0	21.13	21.06	20.81	22	0
10	QPSK	1	25	20.77	20.67	20.42		
10	QPSK	1	49	21.11	20.79	20.61		
10	QPSK	25	0	20.89	20.82	20.69	22	0
10	QPSK	25	12	20.85	20.79	20.68		
10	QPSK	25	25	21.17	20.96	20.60		
10	QPSK	50	0	20.92	20.80	20.71		
10	16QAM	1	0	21.33	21.22	21.02	22	0
10	16QAM	1	25	20.94	20.88	20.69		
10	16QAM	1	49	21.36	20.84	20.57		
10	16QAM	25	0	21.02	20.91	20.72	22	0
10	16QAM	25	12	20.95	20.81	20.68		
10	16QAM	25	25	21.13	20.94	20.66		
10	16QAM	50	0	20.92	20.88	20.76		
10	64QAM	1	0	21.18	21.24	21.17	22	0
10	64QAM	1	25	21.19	21.26	21.16		
10	64QAM	1	49	21.16	21.19	21.15		
10	64QAM	25	0	20.55	20.63	20.60	22	0
10	64QAM	25	12	20.48	20.51	20.45		
10	64QAM	25	25	20.61	20.64	20.61		
10	64QAM	50	0	20.51	20.60	20.54		

Channel				26715	26865	27015	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				816.5	831.5	846.5		
5	QPSK	1	0	20.73	20.71	20.50	22	0
5	QPSK	1	12	20.79	20.61	20.38		
5	QPSK	1	24	20.88	20.78	20.53		
5	QPSK	12	0	20.78	20.77	20.64	22	0
5	QPSK	12	7	20.84	20.86	20.59		
5	QPSK	12	13	20.79	20.78	20.59		
5	QPSK	25	0	20.86	20.76	20.58		
5	16QAM	1	0	20.77	21.08	21.00	22	0
5	16QAM	1	12	20.55	20.91	20.67		
5	16QAM	1	24	21.26	20.43	20.41		
5	16QAM	12	0	20.75	20.83	20.67	22	0
5	16QAM	12	7	20.88	20.84	20.74		
5	16QAM	12	13	20.93	20.77	20.60		
5	16QAM	25	0	20.76	20.78	20.75		
5	64QAM	1	0	21.15	21.24	21.22	22	0
5	64QAM	1	12	21.09	21.16	21.13		
5	64QAM	1	24	21.15	21.19	21.14		
5	64QAM	12	0	20.48	20.52	20.47	22	0
5	64QAM	12	7	20.51	20.57	20.51		
5	64QAM	12	13	20.41	20.46	20.45		
5	64QAM	25	0	20.46	20.49	20.42		
Channel				26705	26865	27025	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				815.5	831.5	847.5		
3	QPSK	1	0	20.82	20.75	20.51	22	0
3	QPSK	1	8	20.77	20.76	20.52		
3	QPSK	1	14	20.71	20.74	20.46		
3	QPSK	8	0	20.81	20.80	20.55	22	0
3	QPSK	8	4	20.84	20.76	20.63		
3	QPSK	8	7	20.81	20.82	20.53		
3	QPSK	15	0	20.74	20.70	20.65		
3	16QAM	1	0	20.87	20.64	20.77	22	0
3	16QAM	1	8	20.71	21.23	20.96		
3	16QAM	1	14	21.16	20.91	20.45		
3	16QAM	8	0	20.92	20.87	20.60	22	0
3	16QAM	8	4	20.81	20.88	20.56		
3	16QAM	8	7	20.94	20.73	20.65		
3	16QAM	15	0	20.75	20.81	20.58		
3	64QAM	1	0	21.26	21.28	21.06	22	0
3	64QAM	1	8	21.15	21.12	21.07		
3	64QAM	1	14	21.09	21.16	21.11		
3	64QAM	8	0	20.32	20.40	20.35	22	0
3	64QAM	8	4	20.51	20.56	20.53		
3	64QAM	8	7	20.43	20.45	20.41		
3	64QAM	15	0	20.32	20.35	20.29		

Channel				26697	26865	27033	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				814.7	831.5	848.3		
1.4	QPSK	1	0	20.66	20.60	20.41	22	0
1.4	QPSK	1	3	20.71	20.76	20.47		
1.4	QPSK	1	5	20.65	20.66	20.49		
1.4	QPSK	3	0	20.72	20.59	20.39		
1.4	QPSK	3	1	20.84	20.59	20.46		
1.4	QPSK	3	3	20.69	20.68	20.39		
1.4	QPSK	6	0	20.70	20.63	20.61	22	0
1.4	16QAM	1	0	20.79	21.05	20.92	22	0
1.4	16QAM	1	3	21.17	20.95	20.66		
1.4	16QAM	1	5	20.85	20.82	20.97		
1.4	16QAM	3	0	20.67	20.68	20.56		
1.4	16QAM	3	1	20.66	20.65	20.54		
1.4	16QAM	3	3	20.64	20.52	20.47		
1.4	16QAM	6	0	20.71	20.80	20.66	22	0
1.4	64QAM	1	0	21.18	21.22	21.11	22	0
1.4	64QAM	1	3	21.06	21.18	21.16		
1.4	64QAM	1	5	21.10	21.25	21.21		
1.4	64QAM	3	0	21.05	21.08	21.06		
1.4	64QAM	3	1	21.06	21.11	21.05		
1.4	64QAM	3	3	21.18	21.23	21.18		
1.4	64QAM	6	0	20.51	20.53	20.48	22	0

<LTE Band 30>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel					27710			
Frequency (MHz)					2310			
10	QPSK	1	0		17.38		17.5	0
10	QPSK	1	25		16.91			
10	QPSK	1	49		17.24			
10	QPSK	25	0		16.99		17.5	0
10	QPSK	25	12		16.99			
10	QPSK	25	25		17.18			
10	QPSK	50	0		17.09			
10	16QAM	1	0		17.16		17.5	0
10	16QAM	1	25		17.21			
10	16QAM	1	49		17.29			
10	16QAM	25	0		17.11		17.5	0
10	16QAM	25	12		16.99			
10	16QAM	25	25		17.21			
10	16QAM	50	0		17.12			
10	64QAM	1	0		16.89		17.5	0
10	64QAM	1	25		17.02			
10	64QAM	1	49		17.16			
10	64QAM	25	0		17.09		17.5	0
10	64QAM	25	12		16.84			
10	64QAM	25	25		16.80			
10	64QAM	50	0		16.85			
Channel				27685	27710	27735	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2307.5	2310	2312.5		
5	QPSK	1	0	17.05	17.09	17.09	17.5	0
5	QPSK	1	12	17.04	17.02	16.96		
5	QPSK	1	24	17.12	16.97	16.95		
5	QPSK	12	0	17.15	17.03	17.06	17.5	0
5	QPSK	12	7	17.02	17.05	17.02		
5	QPSK	12	13	16.95	17.06	17.13		
5	QPSK	25	0	17.07	16.92	17.14		
5	16QAM	1	0	17.31	17.35	17.26	17.5	0
5	16QAM	1	12	17.12	17.35	16.99		
5	16QAM	1	24	16.96	17.30	17.33		
5	16QAM	12	0	17.12	17.09	17.16	17.5	0
5	16QAM	12	7	16.97	17.10	17.03		
5	16QAM	12	13	17.02	17.13	17.10		
5	16QAM	25	0	17.00	16.93	17.03		
5	64QAM	1	0	17.06	17.12	17.06	17.5	0
5	64QAM	1	12	16.91	16.96	16.93		
5	64QAM	1	24	16.80	16.78	16.72		
5	64QAM	12	0	16.70	16.72	16.66	17.5	0
5	64QAM	12	7	16.82	16.87	16.81		
5	64QAM	12	13	16.81	16.84	16.82		
5	64QAM	25	0	16.71	16.75	16.69		

<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	15.26	15.43	15.36	16	0
20	QPSK	1	49	15.02	15.40	15.65		
20	QPSK	1	99	15.78	15.85	15.72		
20	QPSK	50	0	15.19	15.31	15.28	16	0
20	QPSK	50	24	15.32	15.30	15.35		
20	QPSK	50	50	15.44	15.45	15.42		
20	QPSK	100	0	15.37	15.45	15.44		
20	16QAM	1	0	15.30	15.13	15.47	16	0
20	16QAM	1	49	15.09	15.20	15.82		
20	16QAM	1	99	15.75	15.76	15.49		
20	16QAM	50	0	15.32	15.36	15.31	16	0
20	16QAM	50	24	15.34	15.36	15.37		
20	16QAM	50	50	15.49	15.48	15.48		
20	16QAM	100	0	15.26	15.32	15.47		
20	64QAM	1	0	15.32	15.29	15.31	16	0
20	64QAM	1	49	15.59	15.62	15.69		
20	64QAM	1	99	15.78	15.74	15.75		
20	64QAM	50	0	15.32	15.29	15.35	16	0
20	64QAM	50	24	15.36	15.34	15.37		
20	64QAM	50	50	15.38	15.36	15.42		
20	64QAM	100	0	15.42	15.40	15.45		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	15.64	15.66	15.62	16	0
15	QPSK	1	37	15.43	15.81	15.39		
15	QPSK	1	74	15.53	15.48	15.51		
15	QPSK	36	0	15.37	15.27	15.34	16	0
15	QPSK	36	20	15.27	15.25	15.31		
15	QPSK	36	39	15.15	15.25	15.42		
15	QPSK	75	0	15.36	15.32	15.40		
15	16QAM	1	0	15.82	15.70	15.65	16	0
15	16QAM	1	37	15.76	15.45	15.69		
15	16QAM	1	74	15.59	15.45	15.78		
15	16QAM	36	0	15.33	15.27	15.45	16	0
15	16QAM	36	20	15.22	15.29	15.40		
15	16QAM	36	39	15.23	15.33	15.29		
15	16QAM	75	0	15.32	15.38	15.43		
15	64QAM	1	0	15.72	15.78	15.82	16	0
15	64QAM	1	37	15.66	15.57	15.51		
15	64QAM	1	74	15.52	15.46	15.52		
15	64QAM	36	0	15.42	15.35	15.37	16	0
15	64QAM	36	20	15.53	15.52	15.62		
15	64QAM	36	39	15.32	15.27	15.31		
15	64QAM	75	0	15.36	15.33	15.42		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	15.20	15.21	15.22	16	0
10	QPSK	1	25	15.20	15.28	15.32		
10	QPSK	1	49	15.79	15.83	15.48		
10	QPSK	25	0	15.37	15.41	15.36	16	0
10	QPSK	25	12	15.47	15.53	15.51		
10	QPSK	25	25	15.44	15.36	15.67		
10	QPSK	50	0	15.44	15.39	15.50		
10	16QAM	1	0	15.06	15.12	15.44	16	0
10	16QAM	1	25	15.27	15.12	15.66		
10	16QAM	1	49	15.84	15.71	15.35		
10	16QAM	25	0	15.48	15.41	15.43	16	0
10	16QAM	25	12	15.44	15.35	15.56		
10	16QAM	25	25	15.58	15.50	15.61		
10	16QAM	50	0	15.42	15.46	15.50		
10	64QAM	1	0	15.11	14.92	15.00	16	0
10	64QAM	1	25	15.32	15.38	15.40		
10	64QAM	1	49	15.78	15.76	15.75		
10	64QAM	25	0	15.62	15.64	15.59	16	0
10	64QAM	25	12	15.51	15.55	15.48		
10	64QAM	25	25	15.42	15.36	15.39		
10	64QAM	50	0	15.56	15.51	15.49		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	15.40	15.55	15.44	16	0
5	QPSK	1	12	15.23	15.34	15.30		
5	QPSK	1	24	15.44	15.35	15.53		
5	QPSK	12	0	15.44	15.41	15.61	16	0
5	QPSK	12	7	15.49	15.39	15.52		
5	QPSK	12	13	15.39	15.37	15.46		
5	QPSK	25	0	15.46	15.39	15.53		
5	16QAM	1	0	15.84	15.79	15.74	16	0
5	16QAM	1	12	15.56	15.20	15.59		
5	16QAM	1	24	15.49	15.74	15.46		
5	16QAM	12	0	15.57	15.50	15.60	16	0
5	16QAM	12	7	15.50	15.40	15.48		
5	16QAM	12	13	15.42	15.34	15.41		
5	16QAM	25	0	15.52	15.53	15.51		
5	64QAM	1	0	15.72	15.71	15.75	16	0
5	64QAM	1	12	15.42	15.48	15.42		
5	64QAM	1	24	15.53	15.52	15.56		
5	64QAM	12	0	15.65	15.61	15.57	16	0
5	64QAM	12	7	15.51	15.54	15.51		
5	64QAM	12	13	15.32	15.39	15.33		
5	64QAM	25	0	15.48	15.51	15.45		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	15.29	15.25	15.46	16	0
3	QPSK	1	8	15.27	15.28	15.48		
3	QPSK	1	14	15.43	15.26	15.35		
3	QPSK	8	0	15.50	15.46	15.45	16	0
3	QPSK	8	4	15.52	15.42	15.46		
3	QPSK	8	7	15.42	15.35	15.45		
3	QPSK	15	0	15.46	15.36	15.43		
3	16QAM	1	0	15.59	15.61	15.54	16	0
3	16QAM	1	8	15.59	15.35	15.65		
3	16QAM	1	14	15.30	15.60	15.80		
3	16QAM	8	0	15.55	15.57	15.48	16	0
3	16QAM	8	4	15.47	15.49	15.50		
3	16QAM	8	7	15.38	15.46	15.38		
3	16QAM	15	0	15.38	15.43	15.59		
3	64QAM	1	0	15.62	15.68	15.71	16	0
3	64QAM	1	8	15.55	15.60	15.65		
3	64QAM	1	14	15.62	15.67	15.62		
3	64QAM	8	0	15.46	15.45	15.48	16	0
3	64QAM	8	4	15.56	15.46	15.52		
3	64QAM	8	7	15.38	15.36	15.42		
3	64QAM	15	0	15.49	15.46	15.51		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	15.33	15.22	15.19	16	0
1.4	QPSK	1	3	15.44	15.22	15.35		
1.4	QPSK	1	5	15.32	15.28	15.38		
1.4	QPSK	3	0	15.45	15.37	15.41		
1.4	QPSK	3	1	15.50	15.33	15.45		
1.4	QPSK	3	3	15.41	15.29	15.43		
1.4	QPSK	6	0	15.45	15.32	15.40	16	0
1.4	16QAM	1	0	15.75	15.83	15.50	16	0
1.4	16QAM	1	3	15.79	15.75	15.81		
1.4	16QAM	1	5	15.56	15.62	15.42		
1.4	16QAM	3	0	15.46	15.44	15.45		
1.4	16QAM	3	1	15.49	15.46	15.31		
1.4	16QAM	3	3	15.47	15.40	15.42		
1.4	16QAM	6	0	15.39	15.43	15.49	16	0
1.4	64QAM	1	0	15.50	15.54	15.52	16	0
1.4	64QAM	1	3	15.60	15.56	15.62		
1.4	64QAM	1	5	15.60	15.62	15.55		
1.4	64QAM	3	0	15.51	15.43	15.49		
1.4	64QAM	3	1	15.35	15.41	15.43		
1.4	64QAM	3	3	15.36	15.40	15.45		
1.4	64QAM	6	0	15.32	15.37	15.42	16	0

<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	19.55	19.72	19.54	20.5	0
20	QPSK	1	49	19.15	18.98	19.32		
20	QPSK	1	99	19.51	19.23	19.45		
20	QPSK	50	0	19.37	19.39	19.25	20.5	0
20	QPSK	50	24	19.26	19.15	19.38		
20	QPSK	50	50	19.35	19.21	19.37		
20	QPSK	100	0	19.46	19.53	19.51		
20	16QAM	1	0	19.52	19.49	19.56	20.5	0
20	16QAM	1	49	19.36	19.36	19.52		
20	16QAM	1	99	19.69	19.67	19.53		
20	16QAM	50	0	19.38	19.22	19.35	20.5	0
20	16QAM	50	24	19.26	19.19	19.37		
20	16QAM	50	50	19.33	19.29	19.40		
20	16QAM	100	0	19.43	19.28	19.33		
20	64QAM	1	0	19.61	19.65	19.62	20.5	0
20	64QAM	1	49	19.22	19.27	19.31		
20	64QAM	1	99	19.48	19.53	19.55		
20	64QAM	50	0	19.45	19.44	19.40	20.5	0
20	64QAM	50	24	19.27	19.34	19.32		
20	64QAM	50	50	19.28	19.35	19.27		
20	64QAM	100	0	19.36	19.42	19.45		
Channel				18675	18900	19125	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1902.5		
15	QPSK	1	0	19.56	19.33	19.49	20.5	0
15	QPSK	1	37	19.26	18.96	19.09		
15	QPSK	1	74	19.58	19.61	19.59		
15	QPSK	36	0	19.38	19.24	19.41	20.5	0
15	QPSK	36	20	19.24	19.16	19.42		
15	QPSK	36	39	19.34	19.28	19.42		
15	QPSK	75	0	19.37	19.25	19.38		
15	16QAM	1	0	19.70	19.54	19.56	20.5	0
15	16QAM	1	37	19.49	19.34	19.41		
15	16QAM	1	74	19.56	19.54	19.55		
15	16QAM	36	0	19.40	19.21	19.43	20.5	0
15	16QAM	36	20	19.23	19.18	19.41		
15	16QAM	36	39	19.39	19.21	19.37		
15	16QAM	75	0	19.36	19.33	19.39		
15	64QAM	1	0	19.61	19.68	19.63	20.5	0
15	64QAM	1	37	19.48	19.44	19.48		
15	64QAM	1	74	19.62	19.68	19.63		
15	64QAM	36	0	19.51	19.57	19.44	20.5	0
15	64QAM	36	20	19.45	19.40	19.49		
15	64QAM	36	39	19.52	19.50	19.55		
15	64QAM	75	0	19.43	19.45	19.47		

Channel				18650	18900	19150	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1905		
10	QPSK	1	0	19.49	19.46	19.47	20.5	0
10	QPSK	1	25	19.22	19.10	19.23		
10	QPSK	1	49	19.56	19.47	19.54		
10	QPSK	25	0	19.36	19.24	19.35	20.5	0
10	QPSK	25	12	19.34	19.23	19.31		
10	QPSK	25	25	19.31	19.36	19.44		
10	QPSK	50	0	19.37	19.24	19.33		
10	16QAM	1	0	19.58	19.62	19.70	20.5	0
10	16QAM	1	25	19.47	19.42	19.56		
10	16QAM	1	49	19.53	19.59	19.54		
10	16QAM	25	0	19.37	19.28	19.34	20.5	0
10	16QAM	25	12	19.32	19.21	19.34		
10	16QAM	25	25	19.42	19.39	19.34		
10	16QAM	50	0	19.38	19.22	19.40		
10	64QAM	1	0	19.68	19.71	19.65	20.5	0
10	64QAM	1	25	19.62	19.63	19.57		
10	64QAM	1	49	19.49	19.59	19.55		
10	64QAM	25	0	19.52	19.58	19.56	20.5	0
10	64QAM	25	12	19.38	19.41	19.32		
10	64QAM	25	25	19.25	19.40	19.38		
10	64QAM	50	0	19.42	19.48	19.42		
Channel				18625	18900	19175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1907.5		
5	QPSK	1	0	19.30	19.28	19.33	20.5	0
5	QPSK	1	12	19.20	19.12	19.13		
5	QPSK	1	24	19.20	19.15	19.21		
5	QPSK	12	0	19.33	19.24	19.29	20.5	0
5	QPSK	12	7	19.30	19.17	19.30		
5	QPSK	12	13	19.25	19.09	19.25		
5	QPSK	25	0	19.31	19.19	19.31		
5	16QAM	1	0	19.55	19.47	19.49	20.5	0
5	16QAM	1	12	19.54	19.22	19.46		
5	16QAM	1	24	19.48	19.42	19.44		
5	16QAM	12	0	19.35	19.25	19.38	20.5	0
5	16QAM	12	7	19.35	19.20	19.29		
5	16QAM	12	13	19.27	19.15	19.28		
5	16QAM	25	0	19.29	19.18	19.34		
5	64QAM	1	0	19.42	19.55	19.50	20.5	0
5	64QAM	1	12	19.41	19.48	19.42		
5	64QAM	1	24	19.38	19.41	19.43		
5	64QAM	12	0	19.44	19.50	19.48	20.5	0
5	64QAM	12	7	19.42	19.46	19.41		
5	64QAM	12	13	19.31	19.37	19.34		
5	64QAM	25	0	19.42	19.46	19.41		

Channel				18615	18900	19185	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1908.5		
3	QPSK	1	0	19.20	19.21	19.26	20.5	0
3	QPSK	1	8	19.18	19.08	19.21		
3	QPSK	1	14	19.15	19.15	19.13		
3	QPSK	8	0	19.26	19.16	19.26	20.5	0
3	QPSK	8	4	19.29	19.17	19.29		
3	QPSK	8	7	19.25	19.15	19.25		
3	QPSK	15	0	19.23	19.16	19.24		
3	16QAM	1	0	19.50	19.43	19.53	20.5	0
3	16QAM	1	8	19.50	19.35	19.51		
3	16QAM	1	14	19.45	19.37	19.46		
3	16QAM	8	0	19.32	19.23	19.31	20.5	0
3	16QAM	8	4	19.33	19.23	19.33		
3	16QAM	8	7	19.28	19.15	19.31		
3	16QAM	15	0	19.29	19.16	19.27		
3	64QAM	1	0	19.48	19.51	19.42	20.5	0
3	64QAM	1	8	19.56	19.59	19.53		
3	64QAM	1	14	19.50	19.52	19.42		
3	64QAM	8	0	19.32	19.39	19.31	20.5	0
3	64QAM	8	4	19.27	19.33	19.28		
3	64QAM	8	7	19.28	19.31	19.29		
3	64QAM	15	0	19.35	19.42	19.35		
Channel				18607	18900	19193	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1909.3		
1.4	QPSK	1	0	19.16	19.09	19.13	20.5	0
1.4	QPSK	1	3	19.18	19.16	19.19		
1.4	QPSK	1	5	19.21	19.02	19.11		
1.4	QPSK	3	0	19.19	19.04	19.10		
1.4	QPSK	3	1	19.25	19.10	19.15		
1.4	QPSK	3	3	19.16	19.05	19.15		
1.4	QPSK	6	0	19.22	19.07	19.20	20.5	0
1.4	16QAM	1	0	19.46	19.32	19.39	20.5	0
1.4	16QAM	1	3	19.44	19.39	19.45		
1.4	16QAM	1	5	19.43	19.30	19.40		
1.4	16QAM	3	0	19.21	19.07	19.21		
1.4	16QAM	3	1	19.28	19.08	19.23		
1.4	16QAM	3	3	19.16	19.07	19.12		
1.4	16QAM	6	0	19.41	19.25	19.35	20.5	0
1.4	64QAM	1	0	19.38	19.55	19.57	20.5	0
1.4	64QAM	1	3	19.44	19.56	19.51		
1.4	64QAM	1	5	19.50	19.56	19.53		
1.4	64QAM	3	0	19.30	19.36	19.42		
1.4	64QAM	3	1	19.31	19.39	19.35		
1.4	64QAM	3	3	19.40	19.32	19.38		
1.4	64QAM	6	0	19.35	19.37	19.32	20.5	0

<LTE Band 4>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20050	20175	20300		
Frequency (MHz)				1720	1732.5	1745		
20	QPSK	1	0	19.32	19.38	19.10	20	0
20	QPSK	1	49	19.54	19.71	19.35		
20	QPSK	1	99	18.96	18.95	19.12		
20	QPSK	50	0	19.09	19.06	19.21	20	0
20	QPSK	50	24	18.98	18.98	19.11		
20	QPSK	50	50	18.92	18.95	19.06		
20	QPSK	100	0	18.95	18.89	19.06		
20	16QAM	1	0	19.41	19.20	19.36	20	0
20	16QAM	1	49	19.28	19.41	19.49		
20	16QAM	1	99	19.35	19.12	19.49		
20	16QAM	50	0	19.10	18.98	19.04	20	0
20	16QAM	50	24	19.04	18.96	19.11		
20	16QAM	50	50	18.89	18.88	19.15		
20	16QAM	100	0	18.98	18.93	19.09		
20	64QAM	1	0	19.25	19.27	19.18	20	0
20	64QAM	1	49	19.63	19.65	19.59		
20	64QAM	1	99	19.40	19.44	19.37		
20	64QAM	50	0	19.32	19.35	19.28	20	0
20	64QAM	50	24	19.35	19.41	19.39		
20	64QAM	50	50	19.39	19.41	19.35		
20	64QAM	100	0	19.28	19.33	19.32		
Channel				20025	20175	20325	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1732.5	1747.5		
15	QPSK	1	0	19.30	19.29	19.26	20	0
15	QPSK	1	37	18.99	18.96	19.14		
15	QPSK	1	74	19.15	19.13	19.21		
15	QPSK	36	0	19.10	19.15	19.18	20	0
15	QPSK	36	20	19.11	19.05	19.18		
15	QPSK	36	39	19.03	19.06	19.10		
15	QPSK	75	0	19.08	19.06	19.22		
15	16QAM	1	0	19.51	19.66	19.58	20	0
15	16QAM	1	37	19.31	19.31	19.24		
15	16QAM	1	74	19.39	19.42	19.48		
15	16QAM	36	0	19.07	19.14	19.20	20	0
15	16QAM	36	20	19.06	19.09	19.16		
15	16QAM	36	39	19.14	19.01	19.11		
15	16QAM	75	0	19.08	19.12	19.19		
15	64QAM	1	0	19.58	19.61	19.56	20	0
15	64QAM	1	37	19.41	19.44	19.50		
15	64QAM	1	74	19.48	19.47	19.42		
15	64QAM	36	0	19.41	19.43	19.38	20	0
15	64QAM	36	20	19.38	19.42	19.36		
15	64QAM	36	39	19.30	19.34	19.28		
15	64QAM	75	0	19.35	19.41	19.29		

Channel				20000	20175	20350	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1732.5	1750		
10	QPSK	1	0	18.13	18.71	18.53	20	0
10	QPSK	1	25	19.04	18.15	18.18		
10	QPSK	1	49	18.29	18.56	18.19		
10	QPSK	25	0	19.28	19.22	19.28	20	0
10	QPSK	25	12	19.36	19.21	19.21		
10	QPSK	25	25	19.44	19.36	19.29		
10	QPSK	50	0	19.33	19.26	19.26		
10	16QAM	1	0	19.42	19.51	19.42	20	0
10	16QAM	1	25	19.43	19.58	19.51		
10	16QAM	1	49	19.48	19.41	19.66		
10	16QAM	25	0	19.40	19.25	19.30	20	0
10	16QAM	25	12	19.33	19.22	19.27		
10	16QAM	25	25	19.39	19.35	19.25		
10	16QAM	50	0	19.23	19.26	19.29		
10	64QAM	1	0	19.62	19.67	19.63	20	0
10	64QAM	1	25	19.52	19.62	19.50		
10	64QAM	1	49	19.61	19.69	19.65		
10	64QAM	25	0	19.48	19.53	19.52	20	0
10	64QAM	25	12	19.38	19.41	19.36		
10	64QAM	25	25	19.32	19.36	19.28		
10	64QAM	50	0	19.55	19.62	19.59		
Channel				19975	20175	20375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1732.5	1752.5		
5	QPSK	1	0	19.28	19.17	19.05	20	0
5	QPSK	1	12	19.16	19.08	19.14		
5	QPSK	1	24	19.30	19.20	19.07		
5	QPSK	12	0	19.37	19.31	19.21	20	0
5	QPSK	12	7	19.29	19.19	19.25		
5	QPSK	12	13	19.26	19.16	19.22		
5	QPSK	25	0	19.27	19.17	19.27		
5	16QAM	1	0	19.62	19.39	19.68	20	0
5	16QAM	1	12	19.52	19.45	19.49		
5	16QAM	1	24	19.59	19.59	19.51		
5	16QAM	12	0	19.37	19.34	19.23	20	0
5	16QAM	12	7	19.27	19.21	19.24		
5	16QAM	12	13	19.30	19.22	19.19		
5	16QAM	25	0	19.19	19.22	19.26		
5	64QAM	1	0	19.58	19.63	19.61	20	0
5	64QAM	1	12	19.50	19.54	19.58		
5	64QAM	1	24	19.30	19.37	19.38		
5	64QAM	12	0	19.38	19.41	19.35	20	0
5	64QAM	12	7	19.31	19.39	19.35		
5	64QAM	12	13	19.20	19.27	19.25		
5	64QAM	25	0	19.30	19.36	19.31		

Channel				19965	20175	20385	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1732.5	1753.5		
3	QPSK	1	0	19.11	19.15	18.99	20	0
3	QPSK	1	8	19.16	19.15	19.17		
3	QPSK	1	14	19.17	19.10	19.13		
3	QPSK	8	0	19.33	19.16	19.19	20	0
3	QPSK	8	4	19.35	19.20	19.24		
3	QPSK	8	7	19.16	19.16	19.12		
3	QPSK	15	0	19.29	19.16	19.16		
3	16QAM	1	0	19.58	19.60	19.42	20	0
3	16QAM	1	8	19.49	19.49	19.54		
3	16QAM	1	14	19.59	19.44	19.22		
3	16QAM	8	0	19.37	19.28	19.26	20	0
3	16QAM	8	4	19.43	19.26	19.28		
3	16QAM	8	7	19.29	19.18	19.23		
3	16QAM	15	0	19.28	19.18	19.20		
3	64QAM	1	0	19.58	19.61	19.51	20	0
3	64QAM	1	8	19.48	19.51	19.42		
3	64QAM	1	14	19.40	19.44	19.42		
3	64QAM	8	0	19.28	19.31	19.38	20	0
3	64QAM	8	4	19.25	19.31	19.26		
3	64QAM	8	7	19.26	19.32	19.28		
3	64QAM	15	0	19.27	19.34	19.30		
Channel				19957	20175	20393	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1732.5	1754.3		
1.4	QPSK	1	0	19.22	19.02	19.00	20	0
1.4	QPSK	1	3	19.30	19.22	19.11		
1.4	QPSK	1	5	19.21	19.13	19.10		
1.4	QPSK	3	0	19.23	19.06	19.13		
1.4	QPSK	3	1	19.31	19.17	19.17		
1.4	QPSK	3	3	19.31	19.13	19.12		
1.4	QPSK	6	0	19.27	19.14	19.14	20	0
1.4	16QAM	1	0	19.36	19.26	19.43	20	0
1.4	16QAM	1	3	19.47	19.45	19.50		
1.4	16QAM	1	5	19.31	19.22	19.18		
1.4	16QAM	3	0	19.30	19.19	19.18		
1.4	16QAM	3	1	19.31	19.25	19.24		
1.4	16QAM	3	3	19.26	19.11	19.19		
1.4	16QAM	6	0	19.26	19.14	19.18	20	0
1.4	64QAM	1	0	19.20	19.44	19.42	20	0
1.4	64QAM	1	3	19.50	19.52	19.55		
1.4	64QAM	1	5	19.38	19.43	19.41		
1.4	64QAM	3	0	19.20	19.29	19.25		
1.4	64QAM	3	1	19.35	19.40	19.42		
1.4	64QAM	3	3	19.18	19.32	19.25		
1.4	64QAM	6	0	19.26	19.33	19.30	20	0

<LTE Band 7>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				20850	21100	21350		
Frequency (MHz)				2510	2535	2560		
20	QPSK	1	0	22.68	22.59	22.61	23	0
20	QPSK	1	49	22.85	22.52	22.90		
20	QPSK	1	99	22.86	22.83	22.96		
20	QPSK	50	0	20.99	20.86	20.97	22	1
20	QPSK	50	24	21.06	20.90	21.10		
20	QPSK	50	50	21.03	20.87	21.01		
20	QPSK	100	0	21.02	20.87	21.07		
20	16QAM	1	0	21.33	21.14	21.16	22	1
20	16QAM	1	49	21.30	21.01	21.18		
20	16QAM	1	99	21.11	21.18	21.24		
20	16QAM	50	0	20.13	19.91	19.89	21	2
20	16QAM	50	24	20.10	19.90	20.00		
20	16QAM	50	50	20.02	19.84	20.02		
20	16QAM	100	0	20.08	19.82	20.00		
20	64QAM	1	0	22.78	22.81	22.85	23	0
20	64QAM	1	49	22.79	22.84	22.80		
20	64QAM	1	99	22.84	22.86	22.61		
20	64QAM	50	0	22.82	22.87	22.89	23	0
20	64QAM	50	24	22.87	22.77	22.87		
20	64QAM	50	50	22.89	22.84	22.73		
20	64QAM	100	0	22.83	22.87	22.82		
Channel				20825	21100	21375	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2507.5	2535	2562.5		
15	QPSK	1	0	22.57	22.49	22.60	23	0
15	QPSK	1	37	22.74	22.86	22.80		
15	QPSK	1	74	22.74	22.65	22.93		
15	QPSK	36	0	20.99	20.78	20.95	22	1
15	QPSK	36	20	20.96	20.81	21.05		
15	QPSK	36	39	20.90	20.74	21.04		
15	QPSK	75	0	20.97	20.76	20.97		
15	16QAM	1	0	21.16	20.97	21.18	22	1
15	16QAM	1	37	21.07	20.86	21.21		
15	16QAM	1	74	21.09	20.97	21.23		
15	16QAM	36	0	19.99	19.77	19.96	21	2
15	16QAM	36	20	19.99	19.76	20.01		
15	16QAM	36	39	19.93	19.77	20.00		
15	16QAM	75	0	19.93	19.74	19.99		
15	64QAM	1	0	22.73	22.87	22.85	23	0
15	64QAM	1	37	22.65	22.68	22.58		
15	64QAM	1	74	22.61	22.83	22.83		
15	64QAM	36	0	22.74	22.59	22.59	23	0
15	64QAM	36	20	22.77	22.89	22.89		
15	64QAM	36	39	22.89	22.87	22.87		
15	64QAM	75	0	22.74	22.80	22.80		

Channel				20800	21100	21400	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2505	2535	2565		
10	QPSK	1	0	22.93	22.77	22.94	23	0
10	QPSK	1	25	22.92	22.54	22.88		
10	QPSK	1	49	22.85	22.83	22.89		
10	QPSK	25	0	20.97	20.74	21.00	22	1
10	QPSK	25	12	20.92	20.68	20.98		
10	QPSK	25	25	20.89	20.69	20.99		
10	QPSK	50	0	20.94	20.68	21.00		
10	16QAM	1	0	21.28	21.16	21.39	22	1
10	16QAM	1	25	21.10	20.89	21.15		
10	16QAM	1	49	21.19	21.04	21.30		
10	16QAM	25	0	19.94	19.78	20.00	21	2
10	16QAM	25	12	19.89	19.69	19.94		
10	16QAM	25	25	19.86	19.77	19.97		
10	16QAM	50	0	19.92	19.68	20.00		
10	64QAM	1	0	22.87	22.86	22.83	23	0
10	64QAM	1	25	22.73	22.84	22.80		
10	64QAM	1	49	22.88	22.86	22.78		
10	64QAM	25	0	22.76	22.81	22.81	23	0
10	64QAM	25	12	22.68	22.82	22.84		
10	64QAM	25	25	22.85	22.66	22.75		
10	64QAM	50	0	22.73	22.79	22.80		
Channel				20775	21100	21425	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2502.5	2535	2567.5		
5	QPSK	1	0	22.80	22.59	22.86	23	0
5	QPSK	1	12	22.86	22.68	22.89		
5	QPSK	1	24	22.78	22.62	22.88		
5	QPSK	12	0	20.96	20.78	21.04	22	1
5	QPSK	12	7	20.92	20.70	21.01		
5	QPSK	12	13	20.89	20.68	21.02		
5	QPSK	25	0	20.93	20.74	21.03		
5	16QAM	1	0	21.14	20.97	21.27	22	1
5	16QAM	1	12	21.00	20.87	21.12		
5	16QAM	1	24	21.02	20.88	21.20		
5	16QAM	12	0	19.98	19.72	20.02	21	2
5	16QAM	12	7	19.91	19.73	19.99		
5	16QAM	12	13	19.90	19.73	19.93		
5	16QAM	25	0	19.95	19.69	20.03		
5	64QAM	1	0	22.83	22.88	22.85	23	0
5	64QAM	1	12	22.81	22.74	22.70		
5	64QAM	1	24	22.86	22.73	22.75		
5	64QAM	12	0	22.73	22.76	22.78	23	0
5	64QAM	12	7	22.85	22.83	22.85		
5	64QAM	12	13	22.70	22.87	22.86		
5	64QAM	25	0	22.84	22.88	22.78		

<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	19.54	19.67	19.68	20.5	0
20	QPSK	1	49	19.35	19.93	19.65		
20	QPSK	1	99	19.45	19.47	19.28		
20	QPSK	50	0	19.57	19.68	19.65	20.5	0
20	QPSK	50	24	19.53	19.57	19.63		
20	QPSK	50	50	19.53	19.64	19.55		
20	QPSK	100	0	19.54	19.65	19.61		
20	16QAM	1	0	19.75	19.71	19.81	20.5	0
20	16QAM	1	49	19.77	19.73	19.82		
20	16QAM	1	99	19.65	19.58	19.66		
20	16QAM	50	0	19.54	19.61	19.58	20.5	0
20	16QAM	50	24	19.58	19.61	19.55		
20	16QAM	50	50	19.46	19.58	19.61		
20	16QAM	100	0	19.47	19.58	19.61		
20	64QAM	1	0	19.60	19.65	19.61	20.5	0
20	64QAM	1	49	19.55	19.63	19.81		
20	64QAM	1	99	19.08	19.12	19.20		
20	64QAM	50	0	19.37	19.45	19.42	20.5	0
20	64QAM	50	24	19.35	19.45	19.40		
20	64QAM	50	50	19.38	19.42	19.38		
20	64QAM	100	0	19.38	19.50	19.42		
Channel				26115	26340	26615	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1857.5	1880	1907.5		
15	QPSK	1	0	19.59	19.72	19.64	20.5	0
15	QPSK	1	37	19.23	19.31	18.91		
15	QPSK	1	74	19.40	19.77	19.65		
15	QPSK	36	0	19.52	19.63	19.60	20.5	0
15	QPSK	36	20	19.51	19.65	19.61		
15	QPSK	36	39	19.66	19.76	19.69		
15	QPSK	75	0	19.58	19.74	19.67		
15	16QAM	1	0	19.88	19.89	19.82	20.5	0
15	16QAM	1	37	19.83	19.75	19.62		
15	16QAM	1	74	19.75	19.74	19.75		
15	16QAM	36	0	19.58	19.62	19.61	20.5	0
15	16QAM	36	20	19.51	19.67	19.60		
15	16QAM	36	39	19.62	19.76	19.64		
15	16QAM	75	0	19.57	19.77	19.76		
15	64QAM	1	0	19.71	19.75	19.76	20.5	0
15	64QAM	1	37	19.20	19.22	19.25		
15	64QAM	1	74	19.65	19.61	19.63		
15	64QAM	36	0	19.55	19.51	19.55	20.5	0
15	64QAM	36	20	19.43	19.49	19.56		
15	64QAM	36	39	19.52	19.55	19.26		
15	64QAM	75	0	19.55	19.58	19.66		

Channel				26090	26340	26640	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1855	1880	1910		
10	QPSK	1	0	19.73	19.74	19.72	20.5	0
10	QPSK	1	25	19.51	19.35	19.50		
10	QPSK	1	49	19.80	19.75	19.77		
10	QPSK	25	0	19.58	19.50	19.61	20.5	0
10	QPSK	25	12	19.58	19.54	19.55		
10	QPSK	25	25	19.67	19.51	19.66		
10	QPSK	50	0	19.64	19.54	19.62		
10	16QAM	1	0	19.89	19.84	19.88	20.5	0
10	16QAM	1	25	19.86	19.65	19.72		
10	16QAM	1	49	19.91	19.79	19.84		
10	16QAM	25	0	19.60	19.49	19.61	20.5	0
10	16QAM	25	12	19.53	19.54	19.59		
10	16QAM	25	25	19.58	19.57	19.55		
10	16QAM	50	0	19.59	19.57	19.55		
10	64QAM	1	0	19.77	19.80	19.82	20.5	0
10	64QAM	1	25	19.58	19.55	19.43		
10	64QAM	1	49	19.79	19.75	19.60		
10	64QAM	25	0	19.55	19.43	19.35	20.5	0
10	64QAM	25	12	19.57	19.42	19.34		
10	64QAM	25	25	19.48	19.40	19.38		
10	64QAM	50	0	19.49	19.46	19.41		
Channel				26065	26340	26665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1852.5	1880	1912.5		
5	QPSK	1	0	19.60	19.63	19.65	20.5	0
5	QPSK	1	12	19.41	19.35	19.35		
5	QPSK	1	24	19.51	19.35	19.43		
5	QPSK	12	0	19.64	19.51	19.55	20.5	0
5	QPSK	12	7	19.55	19.48	19.48		
5	QPSK	12	13	19.54	19.45	19.47		
5	QPSK	25	0	19.57	19.51	19.50		
5	16QAM	1	0	19.84	19.83	19.92	20.5	0
5	16QAM	1	12	19.74	19.76	19.61		
5	16QAM	1	24	19.83	19.73	19.82		
5	16QAM	12	0	19.63	19.53	19.59	20.5	0
5	16QAM	12	7	19.57	19.48	19.59		
5	16QAM	12	13	19.58	19.45	19.52		
5	16QAM	25	0	19.55	19.49	19.49		
5	64QAM	1	0	19.61	19.68	19.61	20.5	0
5	64QAM	1	12	19.48	19.50	19.48		
5	64QAM	1	24	19.40	19.45	19.42		
5	64QAM	12	0	19.32	19.39	19.35	20.5	0
5	64QAM	12	7	19.40	19.44	19.40		
5	64QAM	12	13	19.30	19.34	19.31		
5	64QAM	25	0	19.42	19.45	19.40		

Channel				26055	26340	26675	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1851.5	1880	1913.5		
3	QPSK	1	0	19.46	19.55	19.56	20.5	0
3	QPSK	1	8	19.47	19.42	19.38		
3	QPSK	1	14	19.47	19.32	19.34		
3	QPSK	8	0	19.54	19.47	19.49	20.5	0
3	QPSK	8	4	19.52	19.51	19.48		
3	QPSK	8	7	19.51	19.42	19.46		
3	QPSK	15	0	19.54	19.49	19.51		
3	16QAM	1	0	19.76	19.65	19.73	20.5	0
3	16QAM	1	8	19.83	19.83	19.76		
3	16QAM	1	14	19.86	19.63	19.61		
3	16QAM	8	0	19.65	19.56	19.52	20.5	0
3	16QAM	8	4	19.58	19.55	19.56		
3	16QAM	8	7	19.58	19.48	19.54		
3	16QAM	15	0	19.53	19.45	19.57		
3	64QAM	1	0	19.51	19.56	19.42	20.5	0
3	64QAM	1	8	19.48	19.54	19.52		
3	64QAM	1	14	19.49	19.53	19.51		
3	64QAM	8	0	19.32	19.39	19.42	20.5	0
3	64QAM	8	4	19.30	19.34	19.32		
3	64QAM	8	7	19.30	19.32	19.18		
3	64QAM	15	0	19.31	19.36	19.32		
Channel				26047	26340	26683	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1850.7	1880	1914.3		
1.4	QPSK	1	0	19.61	19.59	19.55	20.5	0
1.4	QPSK	1	3	19.59	19.40	19.61		
1.4	QPSK	1	5	19.52	19.34	19.36		
1.4	QPSK	3	0	19.51	19.43	19.44		
1.4	QPSK	3	1	19.52	19.47	19.46		
1.4	QPSK	3	3	19.47	19.36	19.45		
1.4	QPSK	6	0	19.57	19.43	19.42	20.5	0
1.4	16QAM	1	0	19.76	19.69	19.67	20.5	0
1.4	16QAM	1	3	19.77	19.82	19.72		
1.4	16QAM	1	5	19.75	19.70	19.71		
1.4	16QAM	3	0	19.55	19.51	19.46		
1.4	16QAM	3	1	19.59	19.53	19.44		
1.4	16QAM	3	3	19.57	19.47	19.44		
1.4	16QAM	6	0	19.56	19.43	19.46	20.5	0
1.4	64QAM	1	0	19.38	19.51	19.55	20.5	0
1.4	64QAM	1	3	19.44	19.59	19.60		
1.4	64QAM	1	5	19.42	19.47	19.42		
1.4	64QAM	3	0	19.30	19.33	19.30		
1.4	64QAM	3	1	19.40	19.49	19.40		
1.4	64QAM	3	3	19.40	19.35	19.32		
1.4	64QAM	6	0	19.42	19.38	19.50	20.5	0

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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	19.13	19.12	19.24	20	0
20	QPSK	1	49	19.26	19.23	19.32		
20	QPSK	1	99	19.81	19.83	19.36		
20	QPSK	50	0	19.08	19.07	18.89	20	0
20	QPSK	50	24	19.05	19.06	18.95		
20	QPSK	50	50	19.16	19.18	18.98		
20	QPSK	100	0	19.07	19.09	18.98		
20	16QAM	1	0	19.42	19.56	19.29	20	0
20	16QAM	1	49	19.34	19.35	19.20		
20	16QAM	1	99	19.66	19.61	19.63		
20	16QAM	50	0	19.05	19.04	18.85	20	0
20	16QAM	50	24	19.03	19.10	18.94		
20	16QAM	50	50	19.14	19.09	19.00		
20	16QAM	100	0	19.03	19.04	18.91		
20	64QAM	1	0	19.42	19.45	19.42	20	0
20	64QAM	1	49	19.48	19.51	19.42		
20	64QAM	1	99	19.78	19.81	19.75		
20	64QAM	50	0	19.20	19.27	19.22	20	0
20	64QAM	50	24	19.27	19.28	19.21		
20	64QAM	50	50	19.50	19.31	19.32		
20	64QAM	100	0	19.32	19.34	19.36		
Channel				132047	132322	132597	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1717.5	1745	1772.5		
15	QPSK	1	0	19.59	19.46	19.19	20	0
15	QPSK	1	37	18.67	19.15	18.89		
15	QPSK	1	74	19.17	19.13	19.06		
15	QPSK	36	0	19.03	19.09	18.98	20	0
15	QPSK	36	20	18.93	18.98	18.87		
15	QPSK	36	39	18.99	18.98	18.85		
15	QPSK	75	0	18.92	19.01	18.92		
15	16QAM	1	0	19.81	19.70	19.55	20	0
15	16QAM	1	37	19.20	19.32	18.89		
15	16QAM	1	74	19.47	19.50	19.42		
15	16QAM	36	0	19.02	19.13	19.00	20	0
15	16QAM	36	20	18.94	19.01	18.88		
15	16QAM	36	39	18.94	18.94	18.85		
15	16QAM	75	0	18.99	19.02	18.94		
15	64QAM	1	0	19.70	19.72	19.65	20	0
15	64QAM	1	37	19.38	19.42	19.45		
15	64QAM	1	74	19.65	19.66	19.59		
15	64QAM	36	0	19.41	19.43	19.38	20	0
15	64QAM	36	20	19.35	19.28	19.36		
15	64QAM	36	39	19.36	19.34	19.39		
15	64QAM	75	0	19.30	19.32	19.35		

Channel				132022	132322	132622	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1715	1745	1775		
10	QPSK	1	0	18.59	18.52	18.95	20	0
10	QPSK	1	25	18.93	18.90	18.67		
10	QPSK	1	49	19.44	19.41	19.21		
10	QPSK	25	0	19.06	19.06	18.83	20	0
10	QPSK	25	12	19.09	19.10	18.91		
10	QPSK	25	25	19.11	19.12	19.01		
10	QPSK	50	0	19.10	19.06	18.90		
10	16QAM	1	0	18.89	18.83	18.85	20	0
10	16QAM	1	25	19.36	19.44	19.03		
10	16QAM	1	49	19.80	19.64	19.56		
10	16QAM	25	0	19.11	19.05	18.86	20	0
10	16QAM	25	12	19.07	19.09	18.89		
10	16QAM	25	25	19.06	19.10	18.99		
10	16QAM	50	0	19.07	19.07	18.84		
10	64QAM	1	0	19.22	19.08	19.11	20	0
10	64QAM	1	25	19.45	19.53	19.49		
10	64QAM	1	49	19.71	19.75	19.72		
10	64QAM	25	0	19.45	19.40	19.43	20	0
10	64QAM	25	12	19.41	19.46	19.38		
10	64QAM	25	25	19.53	19.63	19.55		
10	64QAM	50	0	19.22	19.47	19.40		
Channel				131997	132322	132647	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1712.5	1745	1777.5		
5	QPSK	1	0	19.01	19.09	18.83	20	0
5	QPSK	1	12	19.01	18.91	18.76		
5	QPSK	1	24	18.97	18.90	18.78		
5	QPSK	12	0	19.10	19.08	18.94	20	0
5	QPSK	12	7	19.09	19.01	18.86		
5	QPSK	12	13	19.00	19.00	18.82		
5	QPSK	25	0	19.09	19.03	18.87		
5	16QAM	1	0	19.38	19.52	19.15	20	0
5	16QAM	1	12	19.24	19.30	19.13		
5	16QAM	1	24	19.32	19.21	19.09		
5	16QAM	12	0	19.11	19.16	18.92	20	0
5	16QAM	12	7	19.06	19.05	18.89		
5	16QAM	12	13	18.95	18.99	18.80		
5	16QAM	25	0	19.10	19.03	18.85		
5	64QAM	1	0	19.72	19.79	19.81	20	0
5	64QAM	1	12	19.62	19.67	19.70		
5	64QAM	1	24	19.42	19.58	19.65		
5	64QAM	12	0	19.52	19.56	19.61	20	0
5	64QAM	12	7	19.52	19.47	19.44		
5	64QAM	12	13	19.42	19.40	19.35		
5	64QAM	25	0	19.45	19.42	19.40		

Channel				131987	132322	132657	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1711.5	1745	1778.5		
3	QPSK	1	0	19.02	18.98	18.75	20	0
3	QPSK	1	8	18.96	18.90	18.74		
3	QPSK	1	14	18.94	18.83	18.73		
3	QPSK	8	0	18.99	19.02	18.82	20	0
3	QPSK	8	4	19.03	19.00	18.84		
3	QPSK	8	7	19.00	18.95	18.79		
3	QPSK	15	0	18.99	18.95	18.83		
3	16QAM	1	0	19.29	19.36	19.08	20	0
3	16QAM	1	8	19.21	19.24	19.10		
3	16QAM	1	14	19.20	19.21	19.08		
3	16QAM	8	0	19.09	19.06	18.87	20	0
3	16QAM	8	4	19.04	19.07	18.89		
3	16QAM	8	7	19.02	19.00	18.83		
3	16QAM	15	0	19.01	18.99	18.78		
3	64QAM	1	0	19.55	19.64	19.61	20	0
3	64QAM	1	8	19.61	19.69	19.65		
3	64QAM	1	14	19.52	19.56	19.50		
3	64QAM	8	0	19.42	19.43	19.45	20	0
3	64QAM	8	4	19.32	19.37	19.33		
3	64QAM	8	7	19.41	19.44	19.35		
3	64QAM	15	0	19.35	19.42	19.35		
Channel				131979	132322	132665	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				1710.7	1745	1779.3		
1.4	QPSK	1	0	18.84	18.89	18.69	20	0
1.4	QPSK	1	3	19.02	18.97	18.81		
1.4	QPSK	1	5	18.94	18.91	18.74		
1.4	QPSK	3	0	18.94	18.92	18.75		
1.4	QPSK	3	1	18.99	18.97	18.80		
1.4	QPSK	3	3	18.94	18.90	18.72		
1.4	QPSK	6	0	18.93	18.86	18.81	20	0
1.4	16QAM	1	0	19.12	19.16	19.03	20	0
1.4	16QAM	1	3	19.18	19.35	19.09		
1.4	16QAM	1	5	19.23	19.13	18.92		
1.4	16QAM	3	0	18.99	19.00	18.85		
1.4	16QAM	3	1	19.05	19.06	18.88		
1.4	16QAM	3	3	18.96	18.97	18.78		
1.4	16QAM	6	0	18.91	18.94	18.78	20	0
1.4	64QAM	1	0	19.58	19.61	19.55	20	0
1.4	64QAM	1	3	19.65	19.71	19.62		
1.4	64QAM	1	5	19.51	19.53	19.58		
1.4	64QAM	3	0	19.32	19.37	19.39		
1.4	64QAM	3	1	19.40	19.43	19.47		
1.4	64QAM	3	3	19.40	19.41	19.45		
1.4	64QAM	6	0	19.32	19.37	19.35	20	0

<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.

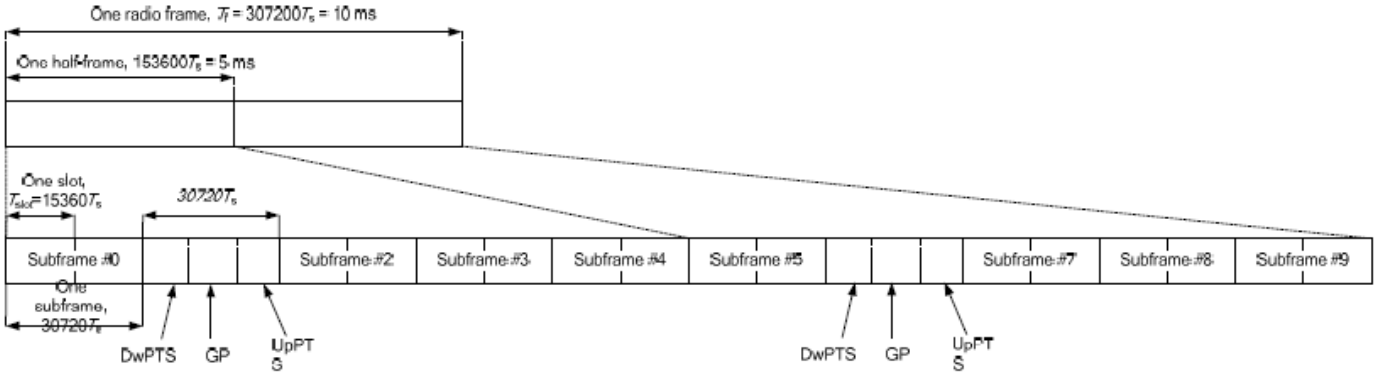


Figure 4.2-1: Frame structure type 2 (for 5 ms switch-point periodicity).

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:

For LTE Band 41 Power class 2

i. Uplink-downlink configuration: 1. In a half-frame consisted of 5 subfames, uplink operation is in 2 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: (2+0.167)/5 = 43.3%
iv. for special subframe with normal cyclic prefix in uplink, the total uplink duty factor in one half-frame is: (2+0.143)/5 = 42.9%
v. For TDD LTE SAR measurement, the duty cycle 1:2.33 (42.9 %) was used perform testing and considering the theoretical duty cycle of 43.3% for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 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.

For LTE Band 41 Power class 3

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.

The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.

<Full Power Mode>

<LTE Band 38>

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	Tune-up limit (dBm)	MPR (dB)
Channel				37850	38000	38150		
Frequency (MHz)				2580	2595	2610		
20	QPSK	1	0	22.90	23.00	22.96	24.5	0
20	QPSK	1	49	22.91	22.96	23.07		
20	QPSK	1	99	23.10	23.13	23.15		
20	QPSK	50	0	21.70	21.80	21.83	23.5	1
20	QPSK	50	24	21.76	21.81	21.86		
20	QPSK	50	50	21.74	21.75	21.92		
20	QPSK	100	0	21.64	21.75	21.87		
20	16QAM	1	0	21.90	21.94	22.21	23.5	1
20	16QAM	1	49	21.90	22.01	22.17		
20	16QAM	1	99	22.37	22.10	22.21		
20	16QAM	50	0	20.56	20.94	20.85	22.5	2
20	16QAM	50	24	20.71	20.87	20.74		
20	16QAM	50	50	20.87	20.86	20.89		
20	16QAM	100	0	20.63	20.84	20.82		
20	64QAM	1	0	23.12	23.13	23.07	24.5	0
20	64QAM	1	49	23.14	23.13	23.06		
20	64QAM	1	99	23.12	23.13	23.13		
20	64QAM	50	0	23.13	23.05	23.01	24.5	0
20	64QAM	50	24	22.93	23.07	22.96		
20	64QAM	50	50	23.06	22.95	23.08		
20	64QAM	100	0	22.92	22.99	22.97		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	22.90	22.96	22.91	24.5	0
15	QPSK	1	37	23.01	23.14	23.04		
15	QPSK	1	74	22.92	23.03	23.01		
15	QPSK	36	0	21.88	21.65	21.69	23.5	1
15	QPSK	36	20	21.97	21.71	21.66		
15	QPSK	36	39	21.89	21.69	21.70		
15	QPSK	75	0	21.79	21.67	21.68		
15	16QAM	1	0	22.03	22.03	21.94	23.5	1
15	16QAM	1	37	22.06	21.99	21.92		
15	16QAM	1	74	21.89	22.16	22.20		
15	16QAM	36	0	20.58	20.82	20.95	22.5	2
15	16QAM	36	20	20.73	20.76	20.94		
15	16QAM	36	39	20.64	20.80	20.97		
15	16QAM	75	0	20.59	20.92	20.97		
15	64QAM	1	0	23.10	23.03	23.08	24.5	0
15	64QAM	1	37	23.13	23.11	23.09		
15	64QAM	1	74	23.09	23.14	22.99		
15	64QAM	36	0	22.84	23.10	22.87	24.5	0
15	64QAM	36	20	22.88	23.12	22.92		
15	64QAM	36	39	22.81	23.11	22.91		
15	64QAM	75	0	23.01	23.07	23.02		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	22.98	22.96	22.97	24.5	0
10	QPSK	1	25	22.91	23.07	23.11		
10	QPSK	1	49	23.05	23.10	23.06		
10	QPSK	25	0	21.62	21.56	22.06	23.5	1
10	QPSK	25	12	21.68	21.90	21.81		
10	QPSK	25	25	21.74	21.91	21.82		
10	QPSK	50	0	21.70	21.97	21.84		
10	16QAM	1	0	22.11	22.29	22.11	23.5	1
10	16QAM	1	25	21.93	22.15	21.92		
10	16QAM	1	49	22.18	22.42	22.15		
10	16QAM	25	0	20.75	20.92	20.78	22.5	2
10	16QAM	25	12	20.76	20.99	20.74		
10	16QAM	25	25	20.84	20.70	20.76		
10	16QAM	50	0	20.89	20.97	20.77		
10	64QAM	1	0	23.10	23.12	23.07	24.5	0
10	64QAM	1	25	22.96	22.95	22.94		
10	64QAM	1	49	23.02	23.12	22.91		
10	64QAM	25	0	22.93	23.02	22.96	24.5	0
10	64QAM	25	12	23.09	23.08	22.94		
10	64QAM	25	25	23.03	23.06	23.12		
10	64QAM	50	0	22.87	22.85	22.95		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	22.88	22.95	22.94	24.5	0
5	QPSK	1	12	22.92	23.01	23.05		
5	QPSK	1	24	23.01	23.05	23.00		
5	QPSK	12	0	21.94	21.87	21.96	23.5	1
5	QPSK	12	7	21.85	21.98	21.70		
5	QPSK	12	13	22.00	21.76	21.93		
5	QPSK	25	0	21.93	21.72	22.01		
5	16QAM	1	0	22.24	21.97	22.21	23.5	1
5	16QAM	1	12	22.08	21.83	22.21		
5	16QAM	1	24	22.17	21.88	22.13		
5	16QAM	12	0	21.07	20.82	21.01	22.5	2
5	16QAM	12	7	20.90	20.77	21.10		
5	16QAM	12	13	20.88	20.99	20.98		
5	16QAM	25	0	20.91	21.00	21.04		
5	64QAM	1	0	23.14	23.11	23.13	24.5	0
5	64QAM	1	12	23.06	23.12	23.00		
5	64QAM	1	24	22.96	23.02	23.06		
5	64QAM	12	0	22.89	22.96	23.04	24.5	0
5	64QAM	12	7	23.04	23.13	23.02		
5	64QAM	12	13	22.84	23.08	23.03		
5	64QAM	25	0	23.03	23.06	23.13		

<LTE Band 41 Power Class 2>

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	24.94	24.90	24.88	25.02	25.11	25.5	0
20	QPSK	1	49	24.81	25.09	24.84	24.79	25.08		
20	QPSK	1	99	25.38	25.39	25.20	24.97	24.97		
20	QPSK	50	0	24.39	24.22	24.32	24.22	23.77	24.5	1
20	QPSK	50	24	24.17	24.38	24.24	23.89	23.72		
20	QPSK	50	50	24.13	24.15	24.22	23.93	23.90		
20	QPSK	100	0	24.31	24.30	24.00	24.09	24.18		
20	16QAM	1	0	22.70	23.89	23.98	23.87	23.99	24.5	1
20	16QAM	1	49	24.26	23.99	24.04	24.13	23.94		
20	16QAM	1	99	24.41	24.44	24.29	24.18	23.20		
20	16QAM	50	0	23.24	23.29	23.03	23.04	23.06	24	1.5
20	16QAM	50	24	23.20	23.22	23.21	22.99	23.05		
20	16QAM	50	50	23.30	23.39	23.47	23.02	23.20		
20	16QAM	100	0	23.28	23.33	23.36	22.93	22.92		
20	64QAM	1	0	25.17	25.16	25.30	25.23	25.20	25.5	0
20	64QAM	1	49	25.03	25.10	24.94	24.97	25.08		
20	64QAM	1	99	25.14	25.08	25.28	25.21	25.10		
20	64QAM	50	0	25.10	24.99	25.10	25.20	25.16	25.5	0
20	64QAM	50	24	25.02	25.01	24.96	25.12	25.14		
20	64QAM	50	50	25.00	25.03	24.92	25.11	25.05		
20	64QAM	100	0	24.96	25.03	25.06	25.13	24.72		
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	25.24	25.27	25.02	25.23	25.31	25.5	0
15	QPSK	1	37	25.03	25.13	25.15	25.06	25.29		
15	QPSK	1	74	24.98	25.25	25.14	24.94	25.27		
15	QPSK	36	0	24.02	24.24	24.13	23.92	24.27	24.5	1
15	QPSK	36	20	24.34	24.29	24.37	24.09	24.36		
15	QPSK	36	39	24.27	24.36	24.18	24.02	24.31		
15	QPSK	75	0	24.24	24.39	24.19	24.36	24.24		
15	16QAM	1	0	22.92	24.13	24.42	24.15	24.25	24.5	1
15	16QAM	1	37	24.15	24.04	24.46	23.94	24.24		
15	16QAM	1	74	24.20	24.30	24.34	24.28	23.50		
15	16QAM	36	0	23.08	22.94	22.97	22.79	23.19	24	1.5
15	16QAM	36	20	22.98	23.05	22.94	22.75	23.05		
15	16QAM	36	39	23.12	23.29	23.18	23.19	23.13		
15	16QAM	75	0	23.06	23.29	23.42	22.90	23.18		
15	64QAM	1	0	25.12	25.06	25.20	25.13	25.20	25.5	0
15	64QAM	1	37	25.03	25.10	24.94	25.00	25.08		
15	64QAM	1	74	25.02	25.01	25.27	25.21	25.07		
15	64QAM	36	0	25.17	25.04	25.10	25.20	25.21	25.5	0
15	64QAM	36	20	25.13	25.12	25.00	25.14	25.18		
15	64QAM	36	39	25.01	25.07	24.92	25.19	25.08		
15	64QAM	75	0	25.03	25.05	25.06	25.14	24.92		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	25.24	25.31	25.19	25.29	25.34	25.5	0
10	QPSK	1	25	25.29	24.96	25.25	25.34	25.29		
10	QPSK	1	49	25.26	25.31	25.22	25.31	25.35		
10	QPSK	25	0	24.23	24.00	24.11	24.43	24.50	24.5	1
10	QPSK	25	12	24.22	24.07	24.21	24.43	24.32		
10	QPSK	25	25	24.29	24.21	24.42	24.35	24.45		
10	QPSK	50	0	24.27	24.05	24.20	24.47	24.44		
10	16QAM	1	0	23.43	24.40	24.49	24.47	24.49	24.5	1
10	16QAM	1	25	24.19	24.18	24.47	24.41	24.47		
10	16QAM	1	49	24.43	24.49	24.42	24.42	23.90		
10	16QAM	25	0	23.47	23.13	23.23	23.45	23.30	24	1.5
10	16QAM	25	12	23.42	23.42	23.26	23.54	23.00		
10	16QAM	25	25	23.51	23.55	23.20	23.50	23.22		
10	16QAM	50	0	23.49	23.47	23.22	23.58	23.14		
10	64QAM	1	0	25.13	25.04	25.16	25.17	25.08	25.5	0
10	64QAM	1	25	25.05	25.03	24.98	25.00	25.06		
10	64QAM	1	49	25.14	25.08	25.28	25.21	25.03		
10	64QAM	25	0	25.10	25.00	25.10	25.20	25.14	25.5	0
10	64QAM	25	12	24.99	25.06	25.03	25.13	25.07		
10	64QAM	25	25	25.01	25.07	24.95	25.01	25.05		
10	64QAM	50	0	25.03	25.15	25.13	25.17	24.99		
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	25.25	25.16	25.14	25.28	25.27	25.5	0
5	QPSK	1	12	24.85	25.18	25.32	25.28	24.77		
5	QPSK	1	24	24.96	25.06	25.00	25.27	24.98		
5	QPSK	12	0	23.00	24.41	24.12	24.42	23.90	24.5	1
5	QPSK	12	7	23.05	24.40	24.48	24.35	23.21		
5	QPSK	12	13	24.18	24.31	24.15	24.36	23.18		
5	QPSK	25	0	24.22	24.33	24.13	24.37	24.23		
5	16QAM	1	0	24.28	24.19	24.34	24.49	24.49	24.5	1
5	16QAM	1	12	22.80	24.14	24.49	24.37	23.49		
5	16QAM	1	24	24.43	24.44	24.45	24.49	23.40		
5	16QAM	12	0	22.14	23.45	23.58	23.51	22.98	24	1.5
5	16QAM	12	7	22.22	23.27	23.53	23.45	22.20		
5	16QAM	12	13	23.34	23.42	23.48	23.46	22.18		
5	16QAM	25	0	23.40	23.46	23.58	23.50	22.96		
5	64QAM	1	0	25.11	25.10	25.13	25.03	25.10	25.5	0
5	64QAM	1	12	25.15	25.09	25.00	25.02	25.10		
5	64QAM	1	24	25.12	24.98	25.20	25.04	25.04		
5	64QAM	12	0	25.20	25.13	25.08	25.13	25.16	25.5	0
5	64QAM	12	7	25.14	25.17	24.95	25.16	25.15		
5	64QAM	12	13	25.08	24.99	24.92	25.09	25.07		
5	64QAM	25	0	25.16	25.00	25.08	25.10	24.93		

<LTE Band 41 Power Class 3>

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	24.23	24.37	24.13	24.21	23.94	24.5	0
20	QPSK	1	49	24.35	24.18	24.22	24.20	24.23		
20	QPSK	1	99	24.45	24.46	24.23	24.26	24.28		
20	QPSK	50	0	22.19	22.20	22.05	22.02	22.08	23.5	1
20	QPSK	50	24	22.12	21.97	22.08	21.91	22.07		
20	QPSK	50	50	21.86	22.04	22.02	21.95	22.03		
20	QPSK	100	0	22.05	22.06	21.99	22.03	21.91		
20	16QAM	1	0	21.61	21.97	22.08	22.32	21.81	23.5	1
20	16QAM	1	49	22.13	22.05	21.96	21.84	22.23		
20	16QAM	1	99	22.07	22.17	22.15	22.14	21.66		
20	16QAM	50	0	21.15	21.12	21.00	20.99	20.85	22.5	2
20	16QAM	50	24	21.02	20.95	21.26	21.14	21.21		
20	16QAM	50	50	21.12	21.27	21.20	20.79	20.99		
20	16QAM	100	0	20.96	21.16	21.17	21.19	21.07		
20	64QAM	1	0	24.04	24.44	24.20	24.06	24.35	24.5	0
20	64QAM	1	49	24.02	24.26	24.21	24.35	24.25		
20	64QAM	1	99	24.32	24.24	24.13	23.96	24.20		
20	64QAM	50	0	24.40	24.40	24.13	24.21	24.41	24.5	0
20	64QAM	50	24	24.13	24.32	23.98	23.95	24.40		
20	64QAM	50	50	24.05	24.36	23.95	24.02	24.25		
20	64QAM	100	0	24.20	23.70	24.07	24.10	24.04		
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	23.03	24.40	24.42	24.43	24.34	24.5	0
15	QPSK	1	37	24.04	24.24	24.33	24.16	24.25		
15	QPSK	1	74	24.32	24.38	24.40	24.41	23.04		
15	QPSK	36	0	21.87	22.12	22.14	22.16	21.86	23.5	1
15	QPSK	36	20	22.06	21.95	22.18	21.79	21.95		
15	QPSK	36	39	21.87	22.00	22.00	21.81	21.81		
15	QPSK	75	0	21.98	22.10	22.07	21.99	22.16		
15	16QAM	1	0	21.89	22.46	22.37	22.13	22.00	23.5	1
15	16QAM	1	37	22.03	21.67	21.76	21.57	21.64		
15	16QAM	1	74	22.16	22.28	22.47	22.43	21.88		
15	16QAM	36	0	21.17	20.90	21.09	20.93	21.24	22.5	2
15	16QAM	36	20	20.93	21.13	21.18	21.01	20.78		
15	16QAM	36	39	20.96	20.98	21.09	20.81	21.12		
15	16QAM	75	0	20.91	21.09	21.31	21.13	21.02		
15	64QAM	1	0	23.14	24.31	24.40	24.29	23.98	24.5	0
15	64QAM	1	37	23.87	24.36	24.21	24.13	24.02		
15	64QAM	1	74	24.00	24.39	24.39	24.13	23.82		
15	64QAM	36	0	24.06	24.04	24.35	24.16	24.42	24.5	0
15	64QAM	36	20	24.14	24.06	23.90	24.21	24.39		
15	64QAM	36	39	24.08	24.35	23.99	24.20	24.12		
15	64QAM	75	0	23.72	24.36	23.97	24.03	24.38		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	23.13	24.37	24.41	24.37	24.41	24.5	0
10	QPSK	1	25	24.15	24.42	24.01	23.99	23.83		
10	QPSK	1	49	24.37	24.39	24.43	24.33	23.10		
10	QPSK	25	0	22.02	22.07	22.42	22.39	22.29	23.5	1
10	QPSK	25	12	22.16	22.28	22.24	22.16	22.30		
10	QPSK	25	25	22.28	22.39	22.50	22.20	22.37		
10	QPSK	50	0	22.18	22.20	22.20	22.08	22.38		
10	16QAM	1	0	21.85	22.41	22.58	22.47	22.55	23.5	1
10	16QAM	1	25	22.24	22.23	22.44	22.33	22.23		
10	16QAM	1	49	22.41	22.48	22.58	22.66	21.69		
10	16QAM	25	0	21.16	21.15	21.52	21.07	21.39	22.5	2
10	16QAM	25	12	21.29	21.18	21.25	21.24	21.34		
10	16QAM	25	25	21.16	21.47	21.26	21.23	20.96		
10	16QAM	50	0	21.32	21.26	21.26	21.47	21.20		
10	64QAM	1	0	24.28	24.40	24.39	24.40	24.30	24.5	0
10	64QAM	1	25	24.21	24.37	24.43	24.36	24.24		
10	64QAM	1	49	24.39	24.40	24.16	24.04	24.35		
10	64QAM	25	0	24.34	24.18	24.21	24.27	23.71	24.5	0
10	64QAM	25	12	24.28	24.22	24.40	24.32	24.32		
10	64QAM	25	25	24.39	24.19	24.26	24.24	24.04		
10	64QAM	50	0	24.30	24.30	24.14	24.26	24.21		
Channel				39675	40148	40620	41093	41565	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2498.5	2545.8	2593	2640.30	2687.5		
5	QPSK	1	0	22.94	24.41	24.31	24.38	24.32	24.5	0
5	QPSK	1	12	22.99	24.34	24.11	24.35	23.21		
5	QPSK	1	24	24.23	24.28	24.39	24.42	23.16		
5	QPSK	12	0	21.65	22.02	22.20	21.96	22.09	23.5	1
5	QPSK	12	7	21.57	22.03	22.45	22.27	21.67		
5	QPSK	12	13	22.05	22.04	22.37	22.28	21.79		
5	QPSK	25	0	22.31	22.29	22.28	22.06	22.12		
5	16QAM	1	0	21.96	22.45	22.82	22.39	22.36	23.5	1
5	16QAM	1	12	21.80	22.21	22.44	22.26	21.74		
5	16QAM	1	24	22.27	22.30	22.29	22.13	21.70		
5	16QAM	12	0	20.85	21.12	21.44	21.49	21.45	22.5	2
5	16QAM	12	7	20.74	21.05	21.44	21.40	20.64		
5	16QAM	12	13	21.05	21.15	21.34	21.34	20.84		
5	16QAM	25	0	21.33	21.26	21.29	21.24	21.38		
5	64QAM	1	0	23.30	24.35	24.40	24.41	24.15	24.5	0
5	64QAM	1	12	23.18	24.25	24.33	24.32	23.10		
5	64QAM	1	24	24.28	24.39	24.40	24.40	23.35		
5	64QAM	12	0	23.07	24.12	24.12	24.16	24.26	24.5	0
5	64QAM	12	7	23.03	24.19	24.11	24.17	23.15		
5	64QAM	12	13	24.07	24.07	24.41	24.11	23.04		
5	64QAM	25	0	24.40	24.17	24.12	24.21	24.22		

<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	20.22	20.09	19.96	21	0
20	QPSK	1	49	20.08	19.98	19.98		
20	QPSK	1	99	20.53	20.50	20.63		
20	QPSK	50	0	20.42	20.28	20.22	21	0
20	QPSK	50	24	20.37	20.18	20.36		
20	QPSK	50	50	20.47	20.36	20.37		
20	QPSK	100	0	20.27	20.30	20.31		
20	16QAM	1	0	20.57	20.40	20.38	21	0
20	16QAM	1	49	20.49	20.51	20.32		
20	16QAM	1	99	20.52	20.54	20.47		
20	16QAM	50	0	20.24	20.29	20.05	21	0
20	16QAM	50	24	20.46	20.30	20.41		
20	16QAM	50	50	20.37	20.20	20.34		
20	16QAM	100	0	20.46	20.33	20.31		
20	64QAM	1	0	19.88	19.79	19.81	20.5	0.5
20	64QAM	1	49	19.61	19.56	19.66		
20	64QAM	1	99	19.45	19.35	19.65		
20	64QAM	50	0	19.55	19.54	19.75	20.5	0.5
20	64QAM	50	24	19.38	19.34	19.55		
20	64QAM	50	50	19.42	19.38	19.55		
20	64QAM	100	0	19.31	19.32	19.49		
Channel				37825	38000	38175	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2577.5	2595	2612.5		
15	QPSK	1	0	20.12	19.88	20.23	21	0
15	QPSK	1	37	20.20	20.00	19.11		
15	QPSK	1	74	20.36	20.15	19.49		
15	QPSK	36	0	20.27	20.01	20.04	21	0
15	QPSK	36	20	20.37	20.35	20.29		
15	QPSK	36	39	20.23	20.35	20.09		
15	QPSK	75	0	20.48	20.10	20.01		
15	16QAM	1	0	20.47	20.46	20.45	21	0
15	16QAM	1	37	20.09	20.35	20.20		
15	16QAM	1	74	20.56	20.45	20.31		
15	16QAM	36	0	20.27	20.30	20.20	21	0
15	16QAM	36	20	20.24	20.32	20.24		
15	16QAM	36	39	20.38	20.14	20.34		
15	16QAM	75	0	20.46	20.09	20.20		
15	64QAM	1	0	20.01	19.80	19.88	20.5	0.5
15	64QAM	1	37	19.75	19.53	19.57		
15	64QAM	1	74	19.77	19.56	19.66		
15	64QAM	36	0	19.55	19.36	19.48	20.5	0.5
15	64QAM	36	20	19.62	19.42	19.57		
15	64QAM	36	39	19.66	19.42	19.66		
15	64QAM	75	0	19.77	19.46	19.63		

Channel				37800	38000	38200	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2575	2595	2615		
10	QPSK	1	0	20.09	20.33	20.26	21	0
10	QPSK	1	25	19.90	20.10	20.09		
10	QPSK	1	49	20.58	20.32	20.25		
10	QPSK	25	0	20.07	20.34	20.22	21	0
10	QPSK	25	12	20.39	20.16	20.25		
10	QPSK	25	25	20.28	20.13	20.32		
10	QPSK	50	0	20.43	20.33	20.21		
10	16QAM	1	0	20.54	20.55	20.46	21	0
10	16QAM	1	25	20.54	20.33	20.25		
10	16QAM	1	49	20.60	20.60	20.48		
10	16QAM	25	0	20.34	20.26	20.24	21	0
10	16QAM	25	12	20.37	20.17	20.27		
10	16QAM	25	25	20.46	20.34	20.33		
10	16QAM	50	0	20.24	20.15	20.04		
10	64QAM	1	0	19.92	19.99	20.06	20.5	0.5
10	64QAM	1	25	19.91	19.96	20.01		
10	64QAM	1	49	19.93	19.94	20.08		
10	64QAM	25	0	19.78	19.76	20.04	20.5	0.5
10	64QAM	25	12	19.88	19.83	20.06		
10	64QAM	25	25	19.74	19.85	19.88		
10	64QAM	50	0	19.77	19.80	19.89		
Channel				37775	38000	38225	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2572.5	2595	2617.5		
5	QPSK	1	0	20.15	19.99	19.92	21	0
5	QPSK	1	12	19.71	20.07	19.72		
5	QPSK	1	24	20.28	19.89	19.85		
5	QPSK	12	0	20.13	20.27	20.03	21	0
5	QPSK	12	7	20.16	20.17	20.32		
5	QPSK	12	13	20.19	20.05	20.31		
5	QPSK	25	0	20.08	20.31	19.96		
5	16QAM	1	0	20.40	20.45	20.55	21	0
5	16QAM	1	12	20.54	20.29	20.47		
5	16QAM	1	24	20.38	20.34	20.22		
5	16QAM	12	0	20.19	20.09	20.36	21	0
5	16QAM	12	7	20.35	20.38	20.05		
5	16QAM	12	13	20.32	20.27	20.04		
5	16QAM	25	0	20.36	20.13	20.00		
5	64QAM	1	0	20.11	19.94	20.05	20.5	0.5
5	64QAM	1	12	20.12	19.79	19.85		
5	64QAM	1	24	20.01	19.81	19.95		
5	64QAM	12	0	19.66	19.59	19.65	20.5	0.5
5	64QAM	12	7	19.78	19.64	19.72		
5	64QAM	12	13	19.71	19.57	19.66		
5	64QAM	25	0	19.88	19.78	19.83		

<LTE Band 41 Power Class 2/3>

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	20.05	19.96	19.91	20.04	19.94	21	0
20	QPSK	1	49	19.89	20.08	20.02	20.03	20.13		
20	QPSK	1	99	20.57	20.58	20.13	20.44	20.15		
20	QPSK	50	0	20.33	20.34	20.27	20.27	20.24	21	0
20	QPSK	50	24	20.20	20.31	20.25	20.01	20.17		
20	QPSK	50	50	20.17	20.31	20.17	20.13	20.22		
20	QPSK	100	0	20.40	20.42	20.39	20.31	20.35		
20	16QAM	1	0	20.24	20.37	20.31	20.05	20.25	21	0
20	16QAM	1	49	20.12	20.27	20.35	20.19	20.27		
20	16QAM	1	99	20.32	20.45	20.07	20.45	19.95		
20	16QAM	50	0	20.10	20.35	20.40	20.28	20.39	21	0
20	16QAM	50	24	20.19	20.13	20.33	20.21	20.05		
20	16QAM	50	50	20.18	20.42	20.20	20.31	20.07		
20	16QAM	100	0	20.26	20.27	20.24	20.34	20.14		
20	64QAM	1	0	19.99	19.93	19.77	19.65	19.72	20.5	0.5
20	64QAM	1	49	19.91	19.87	19.81	19.53	19.66		
20	64QAM	1	99	19.85	19.73	19.75	19.51	19.57		
20	64QAM	50	0	19.88	19.96	19.66	19.58	19.62	20.5	0.5
20	64QAM	50	24	19.78	19.84	19.85	19.40	19.56		
20	64QAM	50	50	19.81	19.88	19.45	19.36	19.38		
20	64QAM	100	0	19.82	19.77	19.45	19.40	19.47		
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	20.29	20.14	20.32	20.36	20.27	21	0
15	QPSK	1	37	19.95	19.59	19.22	19.74	20.14		
15	QPSK	1	74	20.12	20.32	18.50	20.59	20.23		
15	QPSK	36	0	20.06	20.17	20.20	20.35	20.32	21	0
15	QPSK	36	20	20.00	20.30	20.30	19.89	20.09		
15	QPSK	36	39	20.03	20.18	20.19	20.28	20.27		
15	QPSK	75	0	20.27	20.08	20.14	20.24	20.11		
15	16QAM	1	0	20.39	20.36	20.47	20.46	20.33	21	0
15	16QAM	1	37	20.20	20.21	20.31	20.13	20.05		
15	16QAM	1	74	20.45	20.50	20.61	20.54	20.22		
15	16QAM	36	0	20.01	20.08	20.34	20.29	20.05	21	0
15	16QAM	36	20	19.97	20.28	20.10	20.14	20.27		
15	16QAM	36	39	20.18	20.35	20.35	20.27	20.09		
15	16QAM	75	0	20.27	20.44	20.43	20.30	20.23		
15	64QAM	1	0	19.85	19.91	19.99	19.89	19.92	20.5	0.5
15	64QAM	1	37	19.89	19.90	20.02	19.53	19.64		
15	64QAM	1	74	19.95	20.01	19.99	19.86	19.92		
15	64QAM	36	0	19.88	19.85	19.95	19.48	19.62	20.5	0.5
15	64QAM	36	20	19.87	19.93	19.65	19.45	19.65		
15	64QAM	36	39	19.71	19.64	19.61	19.39	19.72		
15	64QAM	75	0	19.82	19.86	19.65	19.55	19.88		

Channel				39700	40160	40620	41080	41540	Tune-up limit (dBm)	MPR (dB)
Frequency (MHz)				2501	2547	2593	2639	2685		
10	QPSK	1	0	20.02	20.26	20.33	20.05	20.42	21	0
10	QPSK	1	25	19.99	20.07	20.14	19.73	20.05		
10	QPSK	1	49	20.28	20.30	20.39	20.39	20.05		
10	QPSK	25	0	20.06	20.08	20.37	20.26	20.12	21	0
10	QPSK	25	12	20.09	20.14	20.19	20.29	20.09		
10	QPSK	25	25	20.22	20.29	20.25	20.11	20.18		
10	QPSK	50	0	20.34	20.34	20.15	20.32	20.32		
10	16QAM	1	0	20.36	20.37	20.37	20.35	20.33	21	0
10	16QAM	1	25	20.37	20.25	20.37	20.34	20.37		
10	16QAM	1	49	20.39	20.23	20.26	20.26	20.41		
10	16QAM	25	0	20.14	20.18	20.41	19.98	20.10	21	0
10	16QAM	25	12	20.27	20.31	20.42	20.04	20.08		
10	16QAM	25	25	20.30	20.32	20.18	20.11	20.34		
10	16QAM	50	0	20.21	20.19	20.30	20.16	20.19		
10	64QAM	1	0	20.15	20.07	19.99	19.83	19.77	20.5	0.5
10	64QAM	1	25	20.19	20.16	19.85	19.80	19.85		
10	64QAM	1	49	20.01	19.94	19.78	19.81	19.75		
10	64QAM	25	0	19.85	19.80	19.88	19.46	19.65	20.5	0.5
10	64QAM	25	12	19.92	19.97	19.89	19.44	19.61		
10	64QAM	25	25	19.85	19.81	19.81	19.48	19.55		
10	64QAM	50	0	19.88	19.87	19.65	19.56	19.57		
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	20.10	19.94	20.26	20.21	20.28	21	0
5	QPSK	1	12	20.05	19.87	19.94	20.03	20.01		
5	QPSK	1	24	20.11	20.07	20.25	20.00	19.95		
5	QPSK	12	0	20.07	20.05	20.17	20.01	20.35	21	0
5	QPSK	12	7	20.23	20.34	20.35	20.03	20.38		
5	QPSK	12	13	20.19	20.08	20.33	20.25	20.04		
5	QPSK	25	0	20.24	20.12	20.19	20.28	20.13		
5	16QAM	1	0	20.50	20.37	20.44	20.35	20.36	21	0
5	16QAM	1	12	20.21	20.26	20.50	20.17	20.45		
5	16QAM	1	24	20.22	20.51	20.48	20.29	20.30		
5	16QAM	12	0	20.25	20.35	20.20	20.05	20.03	21	0
5	16QAM	12	7	20.29	20.34	20.18	20.07	20.13		
5	16QAM	12	13	20.27	20.04	20.15	19.96	20.09		
5	16QAM	25	0	20.15	20.31	20.14	20.03	20.49		
5	64QAM	1	0	20.08	20.17	19.95	19.80	19.85	20.5	0.5
5	64QAM	1	12	20.06	20.11	19.85	19.63	19.81		
5	64QAM	1	24	20.01	19.92	19.66	19.69	19.62		
5	64QAM	12	0	19.88	19.81	19.71	19.48	19.55	20.5	0.5
5	64QAM	12	7	19.89	19.85	19.65	19.54	19.62		
5	64QAM	12	13	19.96	19.93	19.73	19.52	19.63		
5	64QAM	25	0	19.91	19.98	19.66	19.50	19.55		

<LTE Carrier Aggregation>

General Note:

This device supports Carrier Aggregation on downlink for inter and intra band, on uplink for intra band. 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-14A	-	2			Yes	Yes	Yes	Yes	30	0
		14			Yes	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		

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-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		
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_14A-66A	-	14			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_14A-30A	-	14			Yes	Yes			20	0
		30			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_29A-30A	-	29			Yes	Yes			20	0
		30			Yes	Yes				
CA_29A-66A	-	29			Yes	Yes			30	0
		66			Yes	Yes	Yes	Yes		
CA_30A-66A	-	30			Yes	Yes			30	0
		66			Yes	Yes	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_2C	-	5	20			40	0
		10	15, 20				
		15	10, 15, 20				
		20	5, 10, 15, 20				
CA_5B	-	5, 10	10			20	0
		10	5				
		3	5			8	1
		5	3				
CA_41C	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 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	23.41	23.66
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	23.30	23.20
	Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	23.39	23.66
	Band 5	10M	829	20450	QPSK	1	49	Band 2	20M	1960	900	23.72	23.57
	Band 2	20M	1880	18900	QPSK	1	0	Band 12	10M	737.5	5095	23.40	23.66
	Band 12	10M	707.5	23095	QPSK	1	49	Band 2	20M	1960	900	23.75	23.86
	Band 2	20M	1880	18900	QPSK	1	0	Band 13	10M	751	5230	23.49	23.66
	Band 13	10M	782	23230	QPSK	1	0	Band 2	20M	1960	900	23.93	24.07
	Band 2	20M	1880	18900	QPSK	1	0	Band 14	10M	763	5330	23.38	23.66
	Band 14	10M	793	23330	QPSK	1	0	Band 2	20M	1960	900	23.89	23.90
	Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	23.50	23.66
	Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	23.36	23.66
	Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.32	23.20
	Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	23.43	23.66
	Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	23.52	23.36
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	23.43	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 4	20M	2132.5	2175	23.74	23.57
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	23.30	23.20
	Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	22.85	23.40
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 12	10M	737.5	5095	23.41	23.20
	Band 12	10M	707.5	23095	QPSK	1	49	Band 4	20M	2132.5	2175	23.63	23.86
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 13	10M	751	5230	23.40	23.20
	Band 13	10M	782	23230	QPSK	1	0	Band 4	20M	2132.5	2175	24.04	24.07
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	23.25	23.20
	Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	23.38	23.20
	Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.37	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 30	10M	2355	9820	23.76	23.57
	Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.32	23.20
	Band 5	10M	829	20450	QPSK	1	49	Band 66	20M	2155	66886	23.71	23.57
	Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	23.55	23.36
	Band 12	10M	707.5	23095	QPSK	1	49	Band 30	10M	2355	9820	23.88	23.86
	Band 30	10M	2310	27710	QPSK	1	0	Band 12	10M	737.5	5095	23.33	23.20
	Band 12	10M	707.5	23095	QPSK	1	49	Band 66	20M	2155	66886	23.86	23.86
	Band 66	20M	1745	132322	QPSK	1	99	Band 12	10M	737.5	5095	23.54	23.36
	Band 13	10M	782	23230	QPSK	1	0	Band 66	20M	2155	66886	23.92	24.07
	Band 66	20M	1745	132322	QPSK	1	99	Band 13	10M	751	5230	23.52	23.36
	Band 14	10M	793	23330	QPSK	1	0	Band 66	20M	2155	66886	23.82	23.90
	Band 66	20M	1745	132322	QPSK	1	99	Band 14	10M	763	5330	23.42	23.36
	Band 14	10M	793	23330	QPSK	1	0	Band 30	10M	2355	9820	23.81	23.90
	Band 30	10M	2310	27710	QPSK	1	0	Band 14	10M	763	5330	23.41	23.20
	Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	23.28	23.66
	Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.55	23.78
	Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.29	23.20
	Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	23.24	23.36
	Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	23.31	23.20
	Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	23.43	23.36

Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	23.43	23.66
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	23.39	23.57
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	24.60	24.46
		Band 66	15M	1772.5	132597	QPSK	1	74	Band 66	5M	2188.2	67218	23.50	23.27
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	23.39	23.36
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	23.39	23.66
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	23.41	23.20
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	22.95	23.40
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	23.22	23.66
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	24.65	24.46
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	23.53	23.36

<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	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	15.75	15.63
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	15.89	15.88
		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	15.77	15.63
		Band 5	10M	829	20450	16QAM	1	49	Band 2	20M	1960	900	21.27	21.28
		Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	15.58	15.63
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	15.45	15.63
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	17.42	17.38
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	15.77	15.63
		Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	15.89	15.85
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	15.81	15.88
		Band 5	10M	829	20450	16QAM	1	49	Band 4	20M	2132.5	2175	21.22	21.28
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	15.66	15.88
		Band 7	20M	2560	21350	QPSK	1	0	Band 4	20M	2132.5	2175	17.61	17.77
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	15.80	15.88
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	15.81	15.88
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	17.44	17.38
		Band 5	10M	829	20450	16QAM	1	49	Band 30	10M	2355	9820	21.32	21.28
		Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	17.35	17.38
		Band 5	10M	829	20450	16QAM	1	49	Band 66	20M	2155	66886	21.33	21.28
		Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	15.66	15.85
		Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	14.44	14.39
		Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	21.45	21.38
		Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	17.39	17.38
		Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	15.84	15.85
		Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	17.31	17.38
		Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	15.75	15.85
Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	15.66	15.63
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	21.29	21.28
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	20.65	20.58
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	20.60	20.58
		Band 66	15M	1745	132322	QPSK	1	37	Band 66	5M	2164.3	66979	15.83	15.81
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	15.92	15.85
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	15.65	15.63
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	15.71	15.88
		Band 7	20M	2560	21350	QPSK	1	0	Band 7	5M	2622.5	2775	17.68	17.77
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	14.21	14.39
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	20.66	20.58
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	20.55	20.58
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	15.80	15.85

<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	1880	18900	QPSK	1	0	Band 4	20M	2132.5	2175	19.88	19.72
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 2	20M	1960	900	19.65	19.71
		Band 2	20M	1880	18900	QPSK	1	0	Band 5	10M	881.5	2525	19.69	19.72
		Band 5	10M	829	20450	QPSK	1	49	Band 2	20M	1960	900	23.72	23.57
		Band 2	20M	1880	18900	QPSK	1	0	Band 29	10M	722.5	9715	19.50	19.72
		Band 2	20M	1880	18900	QPSK	1	0	Band 30	10M	2355	9820	19.66	19.72
		Band 30	10M	2310	27710	QPSK	1	0	Band 2	20M	1960	900	23.32	23.20
		Band 2	20M	1880	18900	QPSK	1	0	Band 66	20M	2155	66886	19.73	19.72
		Band 66	20M	1745	132322	QPSK	1	99	Band 2	20M	1960	900	19.92	19.83
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 5	10M	881.5	2525	19.63	19.71
		Band 5	10M	829	20450	QPSK	1	49	Band 4	20M	2132.5	2175	23.74	23.57
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 7	20M	2655	3100	19.80	19.71
		Band 7	20M	2560	21350	QPSK	1	99	Band 4	20M	2132.5	2175	22.85	22.96
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 29	10M	722.5	9715	19.75	19.71
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 30	10M	2355	9820	19.68	19.71
		Band 30	10M	2310	27710	QPSK	1	0	Band 4	20M	2132.5	2175	23.37	23.20
		Band 5	10M	829	20450	QPSK	1	49	Band 30	10M	2355	9820	23.76	23.57
		Band 30	10M	2310	27710	QPSK	1	0	Band 5	10M	881.5	2525	23.32	23.20
		Band 5	10M	829	20450	QPSK	1	49	Band 66	20M	2155	66886	23.71	23.57
		Band 66	20M	1745	132322	QPSK	1	99	Band 5	10M	881.5	2525	19.75	19.83
		Band 25	20M	1880	26340	QPSK	1	49	Band 26	15M	876.5	8865	19.88	19.93
		Band 26	15M	831.5	26865	QPSK	1	74	Band 25	20M	1962.5	8365	23.55	23.78
		Band 30	10M	2310	27710	QPSK	1	0	Band 29	10M	722.5	9715	23.29	23.20
		Band 66	20M	1745	132322	QPSK	1	99	Band 29	10M	722.5	9715	19.84	19.83
		Band 30	10M	2310	27710	QPSK	1	0	Band 66	20M	2155	66886	23.31	23.20
		Band 66	20M	1745	132322	QPSK	1	99	Band 30	10M	2355	9820	19.93	19.83
Intra-Band	Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	20M	1979.8	1098	19.74	19.72
		Band 5	10M	829	20450	QPSK	1	49	Band 5	10M	883.9	2549	23.39	23.57
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	20M	2569.3	40383	24.60	24.46
		Band 66	15M	1717.5	132047	QPSK	1	0	Band 66	5M	2121.8	66554	19.50	19.59
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	20M	2174.8	67084	19.79	19.83
	Non-Contiguous	Band 2	20M	1880	18900	QPSK	1	0	Band 2	5M	1987.5	1175	19.69	19.72
		Band 4	20M	1732.5	20175	QPSK	1	49	Band 4	5M	2152.5	2375	19.74	19.71
		Band 7	20M	2560	21350	QPSK	1	99	Band 7	5M	2622.5	2775	22.95	22.96
		Band 25	20M	1880	26340	QPSK	1	49	Band 25	5M	1992.5	8665	19.82	19.93
		Band 41 Power Class 2	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	25.32	25.39
		Band 41 Power Class 3	20M	2549.5	40185	QPSK	1	99	Band 41	5M	2687.5	41565	24.65	24.46
		Band 66	20M	1745	132322	QPSK	1	99	Band 66	5M	2197.5	67311	19.93	19.83

LTE Carrier Aggregation Conducted Power (Uplink)

1. This device supports uplink carrier aggregation for LTE CA_41C with a maximum of two 20MHz component carriers. For intra band contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that the aggregate maximum allowed output power is equivalent to the single carrier scenario. For the non-contiguously allocated resource blocks which the MPR level is determined by various RB separation and RB sizes requirement, and the allowed MPR levels, settings and the conducted powers are permanently implemented in this device per the 3GPP 36.36.101 section 6.2.3A.1.3 requirements.
2. According to FCC guidance, the output power with uplink CA active was measured for the high / middle / low channel configuration with the highest reported SAR for each exposure condition, the power was measured with wideband signal integration over both component carriers.
3. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs
4. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC.

<Power Measurement Setup>

<Full Power>

<LTE Band 41 Power Class 2>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	0	0	1	0	23.67	25.50
40185	40383	QPSK	1	99	0	0	1	0	23.61	25.50
40620	40818	QPSK	1	99	0	0	1	0	23.55	25.50
41055	41253	QPSK	1	99	0	0	1	0	23.64	25.50
41490	41292	QPSK	1	99	0	0	1	0	23.71	25.50

<LTE Band 41 Power Class 3>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	1	99	0	0	1	0	22.86	24.50
40185	40383	QPSK	1	99	0	0	1	0	22.53	24.50
40620	40818	QPSK	1	99	0	0	1	0	22.65	24.50
41055	41253	QPSK	1	99	0	0	1	0	22.96	24.50
41490	41292	QPSK	1	99	0	0	1	0	22.75	24.50

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

<LTE Band 41 Power Class 2/3>

CA_41C										
Combination 20MHz+20MHz (100RB+100RB)										
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Target MPR Level (dB)	Measured Power (dBm)	Tune up Power (dBm)
			RB Size	RB offset	RB Size	RB offset				
39750	39948	QPSK	50	0	0	0	50	0	19.83	21.00
40185	40383	QPSK	50	0	0	0	50	0	19.35	21.00
40620	40818	QPSK	50	0	0	0	50	0	19.24	21.00
41055	41253	QPSK	50	0	0	0	50	0	19.66	21.00
41490	41292	QPSK	50	0	0	0	50	0	19.31	21.00

<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	19.38	19.50	97.68
		6	2437	19.29	19.50	
		11	2462	19.20	19.50	
	802.11g 6Mbps	1	2412	14.80	15.00	87.41
		6	2437	19.22	19.50	
		11	2462	15.20	15.50	
	802.11n-HT20 MCS0	1	2412	14.70	15.00	86.67
		6	2437	18.03	18.50	
		11	2462	13.90	14.00	

<5GHz WLAN>

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.2GHz WLAN	802.11a 6Mbps	36	5180	18.17	18.50	87.44
		40	5200	18.03	18.50	
		44	5220	18.08	18.50	
		48	5240	18.10	18.50	
	802.11n-HT20 MCS0	36	5180	18.04	18.50	86.76
		40	5200	18.06	18.50	
		44	5220	18.11	18.50	
		48	5240	18.16	18.50	
	802.11n-HT40 MCS0	38	5190	17.20	17.50	75.99
		46	5230	17.36	17.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	18.12	18.50	87.44
		56	5280	18.08	18.50	
		60	5300	18.15	18.50	
		64	5320	18.22	18.50	
	802.11n-HT20 MCS0	52	5260	18.21	18.50	86.76
		56	5280	18.18	18.50	
		60	5300	18.17	18.50	
		64	5320	18.19	18.50	
	802.11n-HT40 MCS0	54	5270	17.48	17.50	75.99
		62	5310	17.43	17.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	17.95	18.50	87.44
		116	5580	17.84	18.50	
		132	5660	18.16	18.50	
		140	5700	18.19	18.50	
	802.11n-HT20 MCS0	100	5500	17.85	18.50	86.76
		116	5580	17.82	18.50	
		132	5660	18.11	18.50	
		140	5700	18.26	18.50	
	802.11n-HT40 MCS0	102	5510	16.77	17.50	75.99
		110	5550	16.80	17.50	
		134	5670	17.24	17.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	17.87	18.50	87.44
		157	5785	17.16	17.50	
		165	5825	16.53	17.00	
	802.11n-HT20 MCS0	149	5745	17.83	18.00	86.76
		157	5785	17.17	17.50	
		165	5825	16.53	17.00	
	802.11n-HT40 MCS0	151	5755	17.59	18.00	75.99
		159	5795	17.04	17.50	

<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	16.82	17.00	87.44
		40	5200	16.11	16.50	
		44	5220	16.78	17.00	
		48	5240	17.02	17.50	
	802.11n-HT20 MCS0	36	5180	16.47	17.00	86.76
		40	5200	16.71	17.00	
		44	5220	16.66	17.00	
		48	5240	16.85	17.00	
	802.11n-HT40 MCS0	38	5190	16.11	16.50	75.99
		46	5230	16.26	16.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.3GHz WLAN	802.11a 6Mbps	52	5260	16.52	17.00	87.44
		56	5280	16.21	16.50	
		60	5300	16.36	16.50	
		64	5320	16.29	16.50	
	802.11n-HT20 MCS0	52	5260	16.40	17.00	86.76
		56	5280	16.32	17.00	
		60	5300	16.35	17.00	
		64	5320	16.50	17.00	
	802.11n-HT40 MCS0	54	5270	15.86	16.50	75.99
		62	5310	15.80	16.50	

	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.5GHz WLAN	802.11a 6Mbps	100	5500	16.66	17.00	87.44
		116	5580	16.79	17.00	
		132	5660	16.64	17.00	
		140	5700	16.35	17.00	
	802.11n-HT20 MCS0	100	5500	16.55	17.00	86.76
		116	5580	16.69	17.00	
		132	5660	16.49	17.00	
		140	5700	16.68	17.00	
	802.11n-HT40 MCS0	102	5510	14.81	15.50	75.99
		110	5550	15.01	15.50	
		134	5670	15.08	15.50	

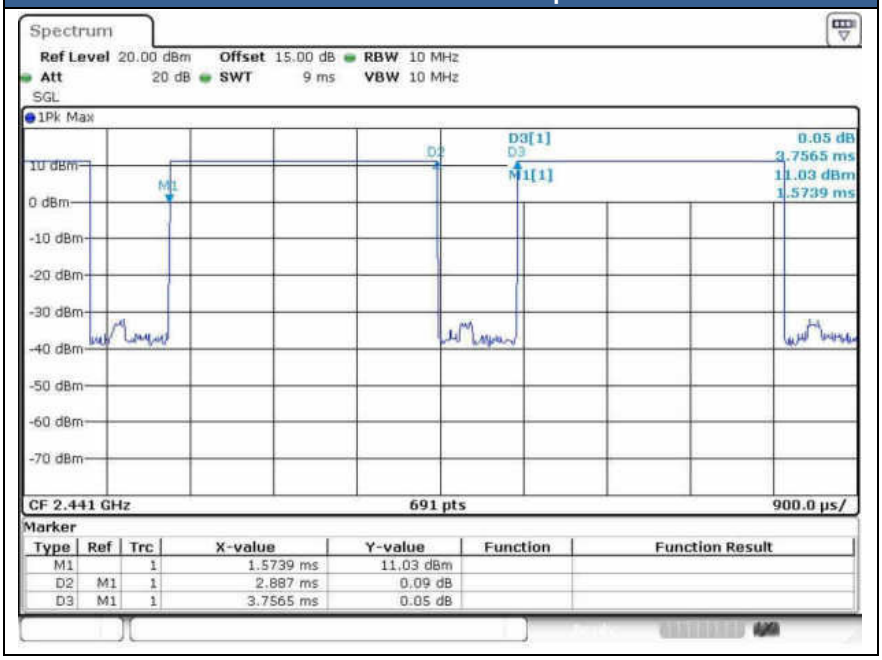
	Mode	Channel	Frequency (MHz)	Average power (dBm)	Tune-Up Limit	Duty Cycle %
5.8GHz WLAN	802.11a 6Mbps	149	5745	15.93	16.00	87.44
		157	5785	15.45	16.00	
		165	5825	14.79	15.00	
	802.11n-HT20 MCS0	149	5745	15.87	16.00	86.76
		157	5785	15.36	16.00	
		165	5825	14.69	15.00	
	802.11n-HT40 MCS0	151	5755	15.62	16.00	75.99
		159	5795	15.04	15.50	

<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 76.85 % 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

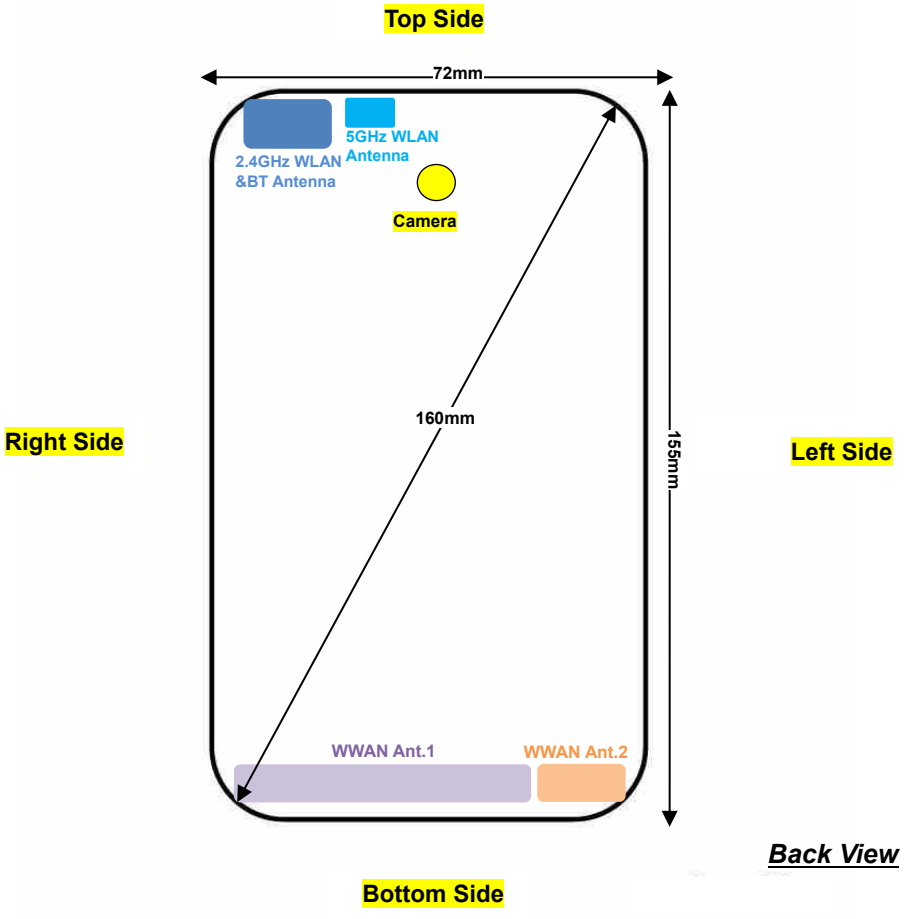
Bluetooth time-domain plot



Mode	Channel	Frequency (MHz)	Average power (dBm)
			1Mbps
v3.0 with EDR	CH 00	2402	11.23
	CH 39	2441	11.32
	CH 78	2480	10.67
Tune-up limit (dBm)			11.50

Mode	Channel	Frequency (MHz)	Average power (dBm)
			GFSK
v4.0/4.1/4.2 with LE	CH 00	2402	1.54
	CH 19	2440	1.60
	CH 39	2480	1.01
Tune-up Limit			2.00

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
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
2.4GHz WLAN & BT	Yes	Yes	Yes	No	Yes	No
5GHz WLAN	Yes	Yes	Yes	No	Yes	No

General Note:

1. This device has two WWAN transmitter antennas. WWAN antenna 1 is located at the left side of bottom edge of the device and WWAN antenna 2 is located at the right side of bottom edge of the device which can refer to antenna location chapter. WWAN antenna 1 frequency bands include GSM850/1900, WCDMA Band II/IV/V and LTE Band 2/4/5/12/13/14/17/25/26/66, and WWAN antenna 2 frequency bands include LTE Band 7/30/38/41. They can't transmit simultaneously.
2. 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 1:2.33 (42.9 %) for power class 2 and 1:1.59 (62.9 %) for power class 3 were used perform testing and considering the theoretical duty cycle of 43.3% for power class 2 and 63.3% for power class 3 for extended cyclic prefix in the uplink, and the theoretical duty cycle of 42.9% for power class 2 and 62.9% for power class 3 for normal cyclic prefix in uplink, a scaling factor of extended cyclic prefix 43.3%/42.9% = 1.009 for power class 2 and 63.3%/62.9% = 1.006 for power class 3 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. Per KDB 648474 D04v01r03, when the reported SAR for a body-worn accessory measured without a headset connected to the handset is ≤ 1.2 W/kg, SAR testing with a headset connected to the handset is not required.
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/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66 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.)
6. When hotspot mode is enabled, power reduction will be activated to limit the maximum power of GSM1900, WCDMA band II/IV/V, CDMA2000 BC0/1/10 and LTE band 2/4/5/7/25/26/30/38/41/66.
7. P-sensor can detect handheld state, for product specific 10g SAR condition, WCDMA band II/IV, CDMA2000 BC1, LTE band 2/4/7/25/66 reduced powers will be active. For GSM1900, WCDMA band V, LTE band 5/26/30/38/41, 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. 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/V, CDMA2000 BC1, LTE band 2/4/5/7/25/26/30/38/41/66, 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 4Tx 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 1 Tx slot 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. Per FCC KDB inquiry guidance, the following applied to intra-band contiguous UL CA only;
   a. Maximum output power measurement is required for each UL CA configuration for the required test channels described in KDB 941225 D05. The required test channel should be associated with the UL PCC. For channels at the ends of a frequency band, the SCC and subsequent CCs are added to the side within the transmission band. Otherwise, the CCs should be added alternatively to either side of the PCC
   b. UL CA SAR is measured for each exposure condition in each frequency band using the highest SAR configuration tested in standalone LTE mode to establish the UL CA PCC. The SCC and subsequent CC must use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions.
   c. When the SAR configuration tested in step b) has a maximum output power specification more than ¼ dB lower than the highest maximum output power conditions measured in the power measurements in step a) above and the reported SAR in step b) is larger than 1.2 W/kg, SAR measurement is also required for the configuration in step a)
   d. All standalone SAR configurations with SAR > 1.2 W/kg must also be tested by applying the procedures in step b)
7. For LTE B4 / B5 / B12 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.
8. 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.

14.1 Head SAR

<GSM SAR>

Plot No.	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)
	GSM850	GPRS 4 Tx slots	Right Cheek	Full	189	836.4	26.76	27.00	1.057	0.01	0.244	0.258
	GSM850	GPRS 4 Tx slots	Right Tilted	Full	189	836.4	26.76	27.00	1.057	0.04	0.111	0.117
	GSM850	GPRS 4 Tx slots	Left Cheek	Full	189	836.4	26.76	27.00	1.057	0.04	0.190	0.201
	GSM850	GPRS 4 Tx slots	Left Tilted	Full	189	836.4	26.76	27.00	1.057	0.04	0.119	0.126
01	GSM850	GPRS 4 Tx slots	Right Cheek	Full	128	824.2	26.68	27.00	1.076	0.05	0.245	**0.264**
	GSM850	GPRS 4 Tx slots	Right Cheek	Full	251	848.8	26.75	27.00	1.059	0.08	0.216	0.229
	GSM1900	GPRS 4 Tx slots	Right Cheek	Full	810	1909.8	23.78	24.00	1.052	-0.09	0.078	0.082
	GSM1900	GPRS 4 Tx slots	Right Tilted	Full	810	1909.8	23.78	24.00	1.052	0.02	0.009	0.010
	GSM1900	GPRS 4 Tx slots	Left Cheek	Full	810	1909.8	23.78	24.00	1.052	0.05	0.026	0.027
	GSM1900	GPRS 4 Tx slots	Left Tilted	Full	810	1909.8	23.78	24.00	1.052	-0.06	0.050	0.053
02	GSM1900	GPRS 4 Tx slots	Right Cheek	Full	512	1850.2	23.77	24.00	1.054	0.05	0.086	**0.091**
	GSM1900	GPRS 4 Tx slots	Right Cheek	Full	661	1880	23.75	24.00	1.059	0.01	0.085	0.090

<WCDMA SAR>

Plot No.	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)
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4233	846.6	23.12	23.50	1.091	0.07	0.264	0.288
	WCDMA Band V	RMC 12.2Kbps	Right Tilted	Full	4233	846.6	23.12	23.50	1.091	0.05	0.131	0.143
	WCDMA Band V	RMC 12.2Kbps	Left Cheek	Full	4233	846.6	23.12	23.50	1.091	0.08	0.221	0.241
	WCDMA Band V	RMC 12.2Kbps	Left Tilted	Full	4233	846.6	23.12	23.50	1.091	0.06	0.133	0.145
	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4132	826.4	23.06	23.50	1.107	0.05	0.306	0.339
03	WCDMA Band V	RMC 12.2Kbps	Right Cheek	Full	4182	836.4	22.97	23.50	1.130	-0.06	0.321	**0.363**
04	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Full	1513	1752.6	23.44	23.50	1.014	0.05	0.207	**0.210**
	WCDMA Band IV	RMC 12.2Kbps	Right Tilted	Full	1513	1752.6	23.44	23.50	1.014	0.04	0.074	0.075
	WCDMA Band IV	RMC 12.2Kbps	Left Cheek	Full	1513	1752.6	23.44	23.50	1.014	-0.07	0.183	0.186
	WCDMA Band IV	RMC 12.2Kbps	Left Tilted	Full	1513	1752.6	23.44	23.50	1.014	-0.01	0.086	0.087
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Full	1312	1712.4	23.38	23.50	1.028	-0.02	0.161	0.166
	WCDMA Band IV	RMC 12.2Kbps	Right Cheek	Full	1413	1732.6	23.41	23.50	1.021	0.01	0.190	0.194
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9538	1907.6	23.38	23.50	1.028	-0.02	0.157	0.161
	WCDMA Band II	RMC 12.2Kbps	Right Tilted	Full	9538	1907.6	23.38	23.50	1.028	0.03	0.067	0.069
	WCDMA Band II	RMC 12.2Kbps	Left Cheek	Full	9538	1907.6	23.38	23.50	1.028	0.01	0.154	0.158
	WCDMA Band II	RMC 12.2Kbps	Left Tilted	Full	9538	1907.6	23.38	23.50	1.028	0.05	0.105	0.108
05	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9262	1852.4	23.36	23.50	1.033	0.06	0.179	**0.185**
	WCDMA Band II	RMC 12.2Kbps	Right Cheek	Full	9400	1880	23.37	23.50	1.030	-0.01	0.177	0.182

<CDMA2000 SAR>

Plot No.	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)
	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	684	823.1	24.61	25.00	1.094	0.06	0.324	0.354
	CDMA2000 BC10	RC3 SO55	Right Tilted	Full	684	823.1	24.61	25.00	1.094	0.07	0.148	0.162
	CDMA2000 BC10	RC3 SO55	Left Cheek	Full	684	823.1	24.61	25.00	1.094	0.06	0.256	0.280
	CDMA2000 BC10	RC3 SO55	Left Tilted	Full	684	823.1	24.61	25.00	1.094	0.05	0.166	0.182
06	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	476	823.1	24.58	25.00	1.102	0.04	0.324	**0.357**
	CDMA2000 BC10	RC3 SO55	Right Cheek	Full	580	820.5	24.59	25.00	1.099	0.08	0.320	0.352
07	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	1013	824.7	24.40	24.50	1.023	0.08	0.330	**0.338**
	CDMA2000 BC0	RC3 SO55	Right Tilted	Full	1013	824.7	24.40	24.50	1.023	0.06	0.153	0.157
	CDMA2000 BC0	RC3 SO55	Left Cheek	Full	1013	824.7	24.40	24.50	1.023	0.01	0.260	0.266
	CDMA2000 BC0	RC3 SO55	Left Tilted	Full	1013	824.7	24.40	24.50	1.023	0.06	0.166	0.170
	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	384	836.52	24.32	24.50	1.042	0.02	0.315	0.328
	CDMA2000 BC0	RC3 SO55	Right Cheek	Full	777	848.31	24.23	24.50	1.064	0.03	0.298	0.317
	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	25	1851.25	24.89	25.00	1.026	0.05	0.231	0.237
	CDMA2000 BC1	RC3 SO55	Right Tilted	Full	25	1851.25	24.89	25.00	1.026	-0.08	0.128	0.131
	CDMA2000 BC1	RC3 SO55	Left Cheek	Full	25	1851.25	24.89	25.00	1.026	0.02	0.204	0.209
	CDMA2000 BC1	RC3 SO55	Left Tilted	Full	25	1851.25	24.89	25.00	1.026	0.02	0.117	0.120
08	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	600	1880	24.75	25.00	1.059	0.08	0.232	**0.246**
	CDMA2000 BC1	RC3 SO55	Right Cheek	Full	1175	1908.75	24.71	25.00	1.069	0.01	0.209	0.223

<FDD LTE SAR>

Plot No.	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	LTE Band 12	10M	QPSK	1	49	Right Cheek	Full	23095	707.5	23.86	24.00	1.033	0.08	0.263	**0.272**
	LTE Band 12	10M	QPSK	1	49	Right Tilted	Full	23095	707.5	23.86	24.00	1.033	0.08	0.086	0.089
	LTE Band 12	10M	QPSK	1	49	Left Cheek	Full	23095	707.5	23.86	24.00	1.033	0.16	0.197	0.203
	LTE Band 12	10M	QPSK	1	49	Left Tilted	Full	23095	707.5	23.86	24.00	1.033	-0.08	0.106	0.109
	LTE Band 12	10M	QPSK	25	0	Right Cheek	Full	23095	707.5	22.61	23.00	1.094	0.17	0.175	0.191
	LTE Band 12	10M	QPSK	25	0	Right Tilted	Full	23095	707.5	22.61	23.00	1.094	0.08	0.075	0.082
	LTE Band 12	10M	QPSK	25	0	Left Cheek	Full	23095	707.5	22.61	23.00	1.094	0.04	0.090	0.098
	LTE Band 12	10M	QPSK	25	0	Left Tilted	Full	23095	707.5	22.61	23.00	1.094	0.06	0.044	0.048
10	LTE Band 13	10M	QPSK	1	0	Right Cheek	Full	23230	782	24.07	24.50	1.104	0.19	0.220	**0.243**
	LTE Band 13	10M	QPSK	1	0	Right Tilted	Full	23230	782	24.07	24.50	1.104	0.07	0.095	0.105
	LTE Band 13	10M	QPSK	1	0	Left Cheek	Full	23230	782	24.07	24.50	1.104	0.01	0.165	0.182
	LTE Band 13	10M	QPSK	1	0	Left Tilted	Full	23230	782	24.07	24.50	1.104	-0.08	0.133	0.147
	LTE Band 13	10M	QPSK	25	0	Right Cheek	Full	23230	782	23.10	23.50	1.096	0.17	0.175	0.192
	LTE Band 13	10M	QPSK	25	0	Right Tilted	Full	23230	782	23.10	23.50	1.096	0.08	0.075	0.082
	LTE Band 13	10M	QPSK	25	0	Left Cheek	Full	23230	782	23.10	23.50	1.096	0.03	0.130	0.143
	LTE Band 13	10M	QPSK	25	0	Left Tilted	Full	23230	782	23.10	23.50	1.096	0.05	0.092	0.101
11	LTE Band 14	10M	QPSK	1	0	Right Cheek	Full	23330	793	23.90	24.00	1.023	0.01	0.116	**0.119**
	LTE Band 14	10M	QPSK	1	0	Right Tilted	Full	23330	793	23.90	24.00	1.023	0.05	0.055	0.056
	LTE Band 14	10M	QPSK	1	0	Left Cheek	Full	23330	793	23.90	24.00	1.023	0.02	0.094	0.096
	LTE Band 14	10M	QPSK	1	0	Left Tilted	Full	23330	793	23.90	24.00	1.023	0.01	0.064	0.065
	LTE Band 14	10M	QPSK	25	0	Right Cheek	Full	23330	793	22.59	23.00	1.099	0.02	0.056	0.062
	LTE Band 14	10M	QPSK	25	0	Right Tilted	Full	23330	793	22.59	23.00	1.099	0.01	0.026	0.029
	LTE Band 14	10M	QPSK	25	0	Left Cheek	Full	23330	793	22.59	23.00	1.099	0.06	0.045	0.049
	LTE Band 14	10M	QPSK	25	0	Left Tilted	Full	23330	793	22.59	23.00	1.099	0.09	0.024	0.026
	LTE Band 26	15M	QPSK	1	74	Right Cheek	Full	26865	831.5	23.78	24.00	1.052	0.02	0.348	0.366
	LTE Band 26	15M	QPSK	1	74	Right Tilted	Full	26865	831.5	23.78	24.00	1.052	0.04	0.160	0.168
	LTE Band 26	15M	QPSK	1	74	Left Cheek	Full	26865	831.5	23.78	24.00	1.052	0.08	0.284	0.299
	LTE Band 26	15M	QPSK	1	74	Left Tilted	Full	26865	831.5	23.78	24.00	1.052	0.08	0.166	0.175
12	LTE Band 26	15M	QPSK	1	74	Right Cheek	Full	26765	821.5	23.75	24.00	1.059	0.06	0.347	**0.368**
	LTE Band 26	15M	QPSK	1	74	Right Cheek	Full	26965	841.5	23.72	24.00	1.067	0.01	0.320	0.341
	LTE Band 26	15M	QPSK	36	0	Right Cheek	Full	26865	831.5	22.58	23.00	1.102	0.08	0.180	0.198
	LTE Band 26	15M	QPSK	36	0	Right Tilted	Full	26865	831.5	22.58	23.00	1.102	0.04	0.079	0.087
	LTE Band 26	15M	QPSK	36	0	Left Cheek	Full	26865	831.5	22.58	23.00	1.102	0.09	0.146	0.161
	LTE Band 26	15M	QPSK	36	0	Left Tilted	Full	26865	831.5	22.58	23.00	1.102	0.07	0.084	0.093
13	LTE Band 66	20M	QPSK	1	99	Right Cheek	Full	132322	1745	23.36	23.50	1.033	0.02	0.109	**0.113**
	LTE Band 66	20M	QPSK	1	99	Right Tilted	Full	132322	1745	23.36	23.50	1.033	0.01	0.028	0.029
	LTE Band 66	20M	QPSK	1	99	Left Cheek	Full	132322	1745	23.36	23.50	1.033	0.03	0.076	0.078
	LTE Band 66	20M	QPSK	1	99	Left Tilted	Full	132322	1745	23.36	23.50	1.033	0.04	0.040	0.041
	LTE Band 66	20M	QPSK	1	99	Right Cheek	Full	132072	1720	23.35	23.50	1.035	-0.07	0.093	0.096
	LTE Band 66	20M	QPSK	1	99	Right Cheek	Full	132572	1770	23.33	23.50	1.040	0.13	0.107	0.111
	LTE Band 66	20M	QPSK	50	50	Right Cheek	Full	132322	1745	22.17	22.50	1.079	0.04	0.103	0.111
	LTE Band 66	20M	QPSK	50	50	Right Tilted	Full	132322	1745	22.17	22.50	1.079	0.07	0.027	0.029
	LTE Band 66	20M	QPSK	50	50	Left Cheek	Full	132322	1745	22.17	22.50	1.079	0.03	0.068	0.073
	LTE Band 66	20M	QPSK	50	50	Left Tilted	Full	132322	1745	22.17	22.50	1.079	-0.01	0.037	0.040

Plot No.	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)
	LTE Band 25	20M	QPSK	1	49	Right Cheek	Full	26340	1880	23.66	24.00	1.081	0.02	0.202	0.218
	LTE Band 25	20M	QPSK	1	49	Right Tilted	Full	26340	1880	23.66	24.00	1.081	0.06	0.060	0.065
	LTE Band 25	20M	QPSK	1	49	Left Cheek	Full	26340	1880	23.66	24.00	1.081	0.04	0.197	0.213
	LTE Band 25	20M	QPSK	1	49	Left Tilted	Full	26340	1880	23.66	24.00	1.081	0.04	0.106	0.115
14	LTE Band 25	20M	QPSK	1	49	Right Cheek	Full	26140	1860	23.49	24.00	1.125	0.01	0.199	**0.224**
	LTE Band 25	20M	QPSK	1	49	Right Cheek	Full	26590	1905	23.46	24.00	1.132	-0.03	0.185	0.209
	LTE Band 25	20M	QPSK	50	0	Right Cheek	Full	26340	1880	22.53	23.00	1.114	0.06	0.121	0.135
	LTE Band 25	20M	QPSK	50	0	Right Tilted	Full	26340	1880	22.53	23.00	1.114	0.07	0.033	0.037
	LTE Band 25	20M	QPSK	50	0	Left Cheek	Full	26340	1880	22.53	23.00	1.114	0.03	0.134	0.149
	LTE Band 25	20M	QPSK	50	0	Left Tilted	Full	26340	1880	22.53	23.00	1.114	0.07	0.058	0.065
	LTE Band 30	10M	QPSK	1	0	Right Cheek	Full	27710	2310	23.35	23.50	1.035	0.06	0.171	0.177
	LTE Band 30	10M	QPSK	1	0	Right Tilted	Full	27710	2310	23.35	23.50	1.035	-0.01	0.154	0.159
15	LTE Band 30	10M	QPSK	1	0	Left Cheek	Full	27710	2310	23.35	23.50	1.035	0.02	0.251	**0.260**
	LTE Band 30	10M	QPSK	1	0	Left Tilted	Full	27710	2310	23.35	23.50	1.035	0.03	0.086	0.089
	LTE Band 30	10M	QPSK	25	25	Right Cheek	Full	27710	2310	22.06	22.50	1.107	0.09	0.112	0.124
	LTE Band 30	10M	QPSK	25	25	Right Tilted	Full	27710	2310	22.06	22.50	1.107	0.02	0.102	0.113
	LTE Band 30	10M	QPSK	25	25	Left Cheek	Full	27710	2310	22.06	22.50	1.107	0.03	0.162	0.179
	LTE Band 30	10M	QPSK	25	25	Left Tilted	Full	27710	2310	22.06	22.50	1.107	0.03	0.055	0.061
	LTE Band 7	20M	QPSK	1	0	Right Cheek	Full	21350	2560	23.40	23.50	1.023	0.06	0.414	0.424
	LTE Band 7	20M	QPSK	1	0	Right Tilted	Full	21350	2560	23.40	23.50	1.023	0.02	0.281	0.288
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	21350	2560	23.40	23.50	1.023	0.01	0.489	0.500
	LTE Band 7	20M	QPSK	1	0	Left Tilted	Full	21350	2560	23.40	23.50	1.023	0.06	0.181	0.185
16	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	20850	2510	23.25	23.50	1.059	0.03	0.508	**0.538**
	LTE Band 7	20M	QPSK	1	0	Left Cheek	Full	21100	2535	23.33	23.50	1.040	-0.01	0.483	0.502
	LTE Band 7	20M	QPSK	50	24	Right Cheek	Full	21350	2560	22.16	22.50	1.081	0.08	0.227	0.245
	LTE Band 7	20M	QPSK	50	24	Right Tilted	Full	21350	2560	22.16	22.50	1.081	0.07	0.168	0.182
	LTE Band 7	20M	QPSK	50	24	Left Cheek	Full	21350	2560	22.16	22.50	1.081	0.02	0.285	0.308
	LTE Band 7	20M	QPSK	50	24	Left Tilted	Full	21350	2560	22.16	22.50	1.081	0.01	0.107	0.116

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	99	Right Cheek	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.07	0.273	0.277
	LTE Band 41	20M	QPSK	1	99	Right Tilted	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.03	0.197	0.200
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.09	0.293	0.297
	LTE Band 41	20M	QPSK	1	99	Left Tilted	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.04	0.110	0.112
17	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.04	0.353	**0.359**
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.04	0.297	0.318
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	0.06	0.284	0.302
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	-0.02	0.189	0.200
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	2	39750	2506	25.38	25.50	1.028	42.9	1.009	0.09	0.321	0.333
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	22.86	24.50	1.459	62.9	1.009	0.07	0.212	0.312
	LTE Band 41	20M	QPSK	1	99	Left Cheek	Full	2	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	23.67	25.50	1.524	42.9	1.009	0.01	0.201	0.309
	LTE Band 41	20M	QPSK	50	0	Right Cheek	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.06	0.149	0.202
	LTE Band 41	20M	QPSK	50	0	Right Tilted	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.01	0.071	0.096
	LTE Band 41	20M	QPSK	50	0	Left Cheek	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.03	0.176	0.239
	LTE Band 41	20M	QPSK	50	0	Left Tilted	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.02	0.054	0.073

<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)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Right Cheek	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.02	0.336	0.354
	WLAN2.4GHz	802.11b 1Mbps	Right Tilted	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.04	0.420	0.442
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.01	0.561	0.591
	WLAN2.4GHz	802.11b 1Mbps	Left Tilted	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.07	0.413	0.435
18	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Full	6	2437	19.29	19.50	1.049	97.68	1.024	0.09	0.664	**0.713**
	WLAN2.4GHz	802.11b 1Mbps	Left Cheek	Full	11	2462	19.20	19.50	1.072	97.68	1.024	0.07	0.403	0.442

<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)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	0.02	0.689	0.880
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	-0.03	0.707	0.903
19	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	0.04	0.938	**1.198**
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	0.02	0.797	1.018
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Receiver On	56	5280	16.21	16.50	1.069	87.44	1.144	0.09	0.684	0.837
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Receiver On	60	5300	16.36	16.50	1.032	87.44	1.144	-0.09	0.649	0.766
	WLAN5.3GHz	802.11a 6Mbps	Right Cheek	Receiver On	64	5320	16.29	16.50	1.049	87.44	1.144	0.06	0.653	0.784
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Receiver On	56	5280	16.21	16.50	1.069	87.44	1.144	0.02	0.629	0.769
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Receiver On	60	5300	16.36	16.50	1.032	87.44	1.144	0.09	0.539	0.636
	WLAN5.3GHz	802.11a 6Mbps	Right Tilted	Receiver On	64	5320	16.29	16.50	1.049	87.44	1.144	0.06	0.593	0.712
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	56	5280	16.21	16.50	1.069	87.44	1.144	-0.06	0.828	1.013
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	60	5300	16.36	16.50	1.032	87.44	1.144	0.06	0.825	0.974
	WLAN5.3GHz	802.11a 6Mbps	Left Cheek	Receiver On	64	5320	16.29	16.50	1.049	87.44	1.144	-0.04	0.808	0.970
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	56	5280	16.21	16.50	1.069	87.44	1.144	0.05	0.860	1.052
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	60	5300	16.36	16.50	1.032	87.44	1.144	0.01	0.821	0.969
	WLAN5.3GHz	802.11a 6Mbps	Left Tilted	Receiver On	64	5320	16.29	16.50	1.049	87.44	1.144	0.03	0.891	1.069
	WLAN5.5GHz	802.11a 6Mbps	Right Cheek	Receiver On	116	5580	16.79	17.00	1.049	87.44	1.144	0.03	0.348	0.418
	WLAN5.5GHz	802.11a 6Mbps	Right Tilted	Receiver On	116	5580	16.79	17.00	1.049	87.44	1.144	0.06	0.310	0.372
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	116	5580	16.79	17.00	1.049	87.44	1.144	0.04	0.669	0.803
	WLAN5.5GHz	802.11a 6Mbps	Left Tilted	Receiver On	116	5580	16.79	17.00	1.049	87.44	1.144	0.05	0.637	0.764
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	100	5500	16.66	17.00	1.081	87.44	1.144	-0.04	0.593	0.733
	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	132	5660	16.64	17.00	1.086	87.44	1.144	-0.04	0.703	0.874
20	WLAN5.5GHz	802.11a 6Mbps	Left Cheek	Receiver On	140	5700	16.35	17.00	1.161	87.44	1.144	0.09	0.775	**1.029**
	WLAN 5.8GHz	802.11a 6Mbps	Right Cheek	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.01	0.446	0.519
	WLAN 5.8GHz	802.11a 6Mbps	Right Tilted	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.09	0.497	0.578
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.08	0.943	1.096
21	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.09	1.010	**1.174**
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Receiver On	157	5785	15.45	16.00	1.135	87.44	1.144	0.02	0.860	1.117
	WLAN 5.8GHz	802.11a 6Mbps	Left Cheek	Receiver On	165	5825	14.79	15.00	1.050	87.44	1.144	0.07	0.841	1.010
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	157	5785	15.45	16.00	1.135	87.44	1.144	0.07	0.845	1.097
	WLAN 5.8GHz	802.11a 6Mbps	Left Tilted	Receiver On	165	5825	14.79	15.00	1.050	87.44	1.144	0.08	0.841	1.010

14.2 Hotspot SAR

<GSM 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 4 Tx slots	Front	5	Full	189	836.4	26.76	27.00	1.057	-0.02	0.941	0.994
	GSM850	GPRS 4 Tx slots	Back	5	Full	189	836.4	26.76	27.00	1.057	0.07	0.578	0.611
	GSM850	GPRS 4 Tx slots	Left Side	5	Full	189	836.4	26.76	27.00	1.057	0.06	0.217	0.229
	GSM850	GPRS 4 Tx slots	Right Side	5	Full	189	836.4	26.76	27.00	1.057	0.05	0.468	0.495
	GSM850	GPRS 4 Tx slots	Bottom Side	5	Full	189	836.4	26.76	27.00	1.057	0.11	0.513	0.542
22	GSM850	GPRS 4 Tx slots	Front	5	Full	128	824.2	26.68	27.00	1.076	-0.19	0.991	**1.067**
	GSM850	GPRS 4 Tx slots	Front	5	Full	251	848.8	26.75	27.00	1.059	-0.05	0.798	0.845
	GSM1900	GPRS 1 Tx slot	Front	5	Hotspot On	810	1909.8	25.45	26.00	1.135	-0.09	0.839	0.952
	GSM1900	GPRS 1 Tx slot	Back	5	Hotspot On	810	1909.8	25.45	26.00	1.135	0.02	0.536	0.608
	GSM1900	GPRS 1 Tx slot	Left Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	-0.17	0.040	0.045
	GSM1900	GPRS 1 Tx slot	Right Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	0.07	0.041	0.046
	GSM1900	GPRS 1 Tx slot	Bottom Side	5	Hotspot On	810	1909.8	25.45	26.00	1.135	-0.06	0.884	1.003
	GSM1900	GPRS 1 Tx slot	Front	5	Hotspot On	512	1850.2	25.23	26.00	1.194	0.07	0.744	0.888
	GSM1900	GPRS 1 Tx slot	Front	5	Hotspot On	661	1880	25.33	26.00	1.167	0.05	0.861	1.005
	GSM1900	GPRS 1 Tx slot	Bottom Side	5	Hotspot On	512	1850.2	25.23	26.00	1.194	0.06	0.765	0.913
23	GSM1900	GPRS 1 Tx slot	Bottom Side	5	Hotspot On	661	1880	25.33	26.00	1.167	-0.06	0.925	**1.079**

<WCDMA 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4233	846.6	21.08	21.50	1.102	0.09	0.635	0.699
	WCDMA Band V	RMC 12.2Kbps	Back	5	Hotspot On	4233	846.6	21.08	21.50	1.102	0.12	0.343	0.378
	WCDMA Band V	RMC 12.2Kbps	Left Side	5	Hotspot On	4233	846.6	21.08	21.50	1.102	-0.07	0.129	0.142
	WCDMA Band V	RMC 12.2Kbps	Right Side	5	Hotspot On	4233	846.6	21.08	21.50	1.102	0.06	0.472	0.520
	WCDMA Band V	RMC 12.2Kbps	Bottom Side	5	Hotspot On	4233	846.6	21.08	21.50	1.102	-0.03	0.500	0.551
	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4132	826.4	20.97	21.50	1.130	-0.07	0.923	1.043
24	WCDMA Band V	RMC 12.2Kbps	Front	5	Hotspot On	4182	836.4	20.79	21.50	1.178	-0.08	0.944	**1.112**
	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.06	0.463	0.516
	WCDMA Band IV	RMC 12.2Kbps	Back	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.01	0.381	0.425
	WCDMA Band IV	RMC 12.2Kbps	Left Side	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	-0.05	0.027	0.030
	WCDMA Band IV	RMC 12.2Kbps	Right Side	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.12	0.053	0.059
25	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1513	1752.6	16.03	16.50	1.114	0.06	0.624	**0.695**
	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1312	1712.4	15.99	16.50	1.125	0.07	0.496	0.558
	WCDMA Band IV	RMC 12.2Kbps	Front	5	Hotspot On	1413	1732.6	16.01	16.50	1.119	-0.08	0.580	0.649
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1312	1712.4	15.99	16.50	1.125	0.05	0.435	0.489
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	5	Hotspot On	1413	1732.6	16.01	16.50	1.119	-0.08	0.533	0.597
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9538	1907.6	15.13	15.50	1.089	0.1	0.665	0.724
	WCDMA Band II	RMC 12.2Kbps	Back	5	Hotspot On	9538	1907.6	15.13	15.50	1.089	0.07	0.393	0.428
	WCDMA Band II	RMC 12.2Kbps	Left Side	5	Hotspot On	9538	1907.6	15.13	15.50	1.089	0.05	0.033	0.036
	WCDMA Band II	RMC 12.2Kbps	Right Side	5	Hotspot On	9538	1907.6	15.13	15.50	1.089	0.1	0.034	0.037
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9538	1907.6	15.13	15.50	1.089	0.04	0.690	0.751
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9262	1852.4	15.11	15.50	1.094	-0.04	0.585	0.640
	WCDMA Band II	RMC 12.2Kbps	Front	5	Hotspot On	9400	1880	15.02	15.50	1.117	-0.06	0.675	0.754
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9262	1852.4	15.11	15.50	1.094	0.07	0.587	0.642
26	WCDMA Band II	RMC 12.2Kbps	Bottom Side	5	Hotspot On	9400	1880	15.02	15.50	1.117	0.09	0.693	**0.774**

<CDMA2000 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Hotspot On	476	817.9	22.87	23.50	1.156	0.05	0.642	0.742
	CDMA2000 BC10	RTAP 153.6Kbps	Back	5	Hotspot On	476	817.9	22.87	23.50	1.156	0.04	0.309	0.357
	CDMA2000 BC10	RTAP 153.6Kbps	Left Side	5	Hotspot On	476	817.9	22.87	23.50	1.156	0.09	0.168	0.194
	CDMA2000 BC10	RTAP 153.6Kbps	Right Side	5	Hotspot On	476	817.9	22.87	23.50	1.156	0.04	0.285	0.329
	CDMA2000 BC10	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	476	817.9	22.87	23.50	1.156	0.06	0.582	0.673
27	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Hotspot On	580	820.5	22.85	23.50	1.161	0.04	0.659	**0.765**
	CDMA2000 BC10	RTAP 153.6Kbps	Front	5	Hotspot On	684	823.1	22.79	23.50	1.178	0.05	0.648	0.763
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.06	0.807	0.922
	CDMA2000 BC0	RTAP 153.6Kbps	Back	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.02	0.359	0.410
	CDMA2000 BC0	RTAP 153.6Kbps	Left Side	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.03	0.103	0.118
	CDMA2000 BC0	RTAP 153.6Kbps	Right Side	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.05	0.315	0.360
	CDMA2000 BC0	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1013	824.7	22.92	23.50	1.143	0.02	0.793	0.906
	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	384	836.52	22.89	23.50	1.151	0.09	0.798	0.918
28	CDMA2000 BC0	RTAP 153.6Kbps	Front	5	Hotspot On	777	848.31	22.83	23.50	1.167	0.05	0.812	**0.947**
	CDMA2000 BC1	RTAP 153.6Kbps	Front	5	Hotspot On	25	1851.25	14.72	15.00	1.067	0.11	0.475	0.507
	CDMA2000 BC1	RTAP 153.6Kbps	Back	5	Hotspot On	25	1851.25	14.72	15.00	1.067	-0.02	0.285	0.304
	CDMA2000 BC1	RTAP 153.6Kbps	Left Side	5	Hotspot On	25	1851.25	14.72	15.00	1.067	0.08	0.030	0.032
	CDMA2000 BC1	RTAP 153.6Kbps	Right Side	5	Hotspot On	25	1851.25	14.72	15.00	1.067	0.05	0.037	0.039
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	25	1851.25	14.72	15.00	1.067	-0.02	0.642	0.685
	CDMA2000 BC1	RTAP 153.6Kbps	Front	5	Hotspot On	600	1880	14.42	15.00	1.143	0.06	0.562	0.642
	CDMA2000 BC1	RTAP 153.6Kbps	Front	5	Hotspot On	1175	1908.75	14.56	15.00	1.107	0.09	0.598	0.662
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	600	1880	14.42	15.00	1.143	0.04	0.687	0.785
29	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	5	Hotspot On	1175	1908.75	14.56	15.00	1.107	0.05	0.749	**0.829**

<FDD LTE SAR>

Plot No.	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)
30	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.16	0.824	**0.851**
	LTE Band 12	10M	QPSK	1	49	Back	5	Full	23095	707.5	23.86	24.00	1.033	0.15	0.479	0.495
	LTE Band 12	10M	QPSK	1	49	Left Side	5	Full	23095	707.5	23.86	24.00	1.033	0.05	0.350	0.361
	LTE Band 12	10M	QPSK	1	49	Right Side	5	Full	23095	707.5	23.86	24.00	1.033	0.02	0.686	0.708
	LTE Band 12	10M	QPSK	1	49	Bottom Side	5	Full	23095	707.5	23.86	24.00	1.033	-0.04	0.403	0.416
	LTE Band 12	10M	QPSK	25	0	Front	5	Full	23095	707.5	22.61	23.00	1.094	0.05	0.384	0.420
	LTE Band 12	10M	QPSK	25	0	Back	5	Full	23095	707.5	22.61	23.00	1.094	0.02	0.225	0.246
	LTE Band 12	10M	QPSK	25	0	Left Side	5	Full	23095	707.5	22.61	23.00	1.094	0.06	0.158	0.173
	LTE Band 12	10M	QPSK	25	0	Right Side	5	Full	23095	707.5	22.61	23.00	1.094	-0.03	0.333	0.364
	LTE Band 12	10M	QPSK	25	0	Bottom Side	5	Full	23095	707.5	22.61	23.00	1.094	0.02	0.210	0.230
	LTE Band 12	10M	QPSK	50	0	Front	5	Full	23095	707.5	22.52	23.00	1.117	0.08	0.403	0.450
31	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-0.06	0.983	**1.085**
	LTE Band 13	10M	QPSK	1	0	Back	5	Full	23230	782	24.07	24.50	1.104	-0.04	0.579	0.639
	LTE Band 13	10M	QPSK	1	0	Left Side	5	Full	23230	782	24.07	24.50	1.104	0.04	0.214	0.236
	LTE Band 13	10M	QPSK	1	0	Right Side	5	Full	23230	782	24.07	24.50	1.104	0.02	0.471	0.520
	LTE Band 13	10M	QPSK	1	0	Bottom Side	5	Full	23230	782	24.07	24.50	1.104	0.06	0.391	0.432
	LTE Band 13	10M	QPSK	25	0	Front	5	Full	23230	782	23.10	23.50	1.096	0.02	0.573	0.628
	LTE Band 13	10M	QPSK	25	0	Back	5	Full	23230	782	23.10	23.50	1.096	0.09	0.390	0.428
	LTE Band 13	10M	QPSK	25	0	Left Side	5	Full	23230	782	23.10	23.50	1.096	0.05	0.144	0.158
	LTE Band 13	10M	QPSK	25	0	Right Side	5	Full	23230	782	23.10	23.50	1.096	0.01	0.359	0.394
	LTE Band 13	10M	QPSK	25	0	Bottom Side	5	Full	23230	782	23.10	23.50	1.096	0.05	0.304	0.333
	LTE Band 12	10M	QPSK	50	0	Front	5	Full	23230	782	23.09	23.50	1.099	0.04	0.586	0.644
32	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.04	0.470	**0.481**
	LTE Band 14	10M	QPSK	1	0	Back	5	Full	23330	793	23.90	24.00	1.023	0.05	0.266	0.272
	LTE Band 14	10M	QPSK	1	0	Left Side	5	Full	23330	793	23.90	24.00	1.023	0.02	0.097	0.099
	LTE Band 14	10M	QPSK	1	0	Right Side	5	Full	23330	793	23.90	24.00	1.023	0.09	0.263	0.269
	LTE Band 14	10M	QPSK	1	0	Bottom Side	5	Full	23330	793	23.90	24.00	1.023	0.03	0.262	0.268
	LTE Band 14	10M	QPSK	25	0	Front	5	Full	23330	793	22.59	23.00	1.099	0.03	0.234	0.257
	LTE Band 14	10M	QPSK	25	0	Back	5	Full	23330	793	22.59	23.00	1.099	-0.02	0.132	0.145
	LTE Band 14	10M	QPSK	25	0	Left Side	5	Full	23330	793	22.59	23.00	1.099	0.01	0.040	0.044
	LTE Band 14	10M	QPSK	25	0	Right Side	5	Full	23330	793	22.59	23.00	1.099	0.04	0.123	0.135
	LTE Band 14	10M	QPSK	25	0	Bottom Side	5	Full	23330	793	22.59	23.00	1.099	0.07	0.116	0.127
	LTE Band 26	15M	QPSK	1	74	Front	5	Hotspot On	26865	831.5	21.38	22.00	1.153	-0.12	0.702	0.810
	LTE Band 26	15M	QPSK	1	74	Back	5	Hotspot On	26865	831.5	21.38	22.00	1.153	-0.07	0.387	0.446
	LTE Band 26	15M	QPSK	1	74	Left Side	5	Hotspot On	26865	831.5	21.38	22.00	1.153	-0.03	0.133	0.153
	LTE Band 26	15M	QPSK	1	74	Right Side	5	Hotspot On	26865	831.5	21.38	22.00	1.153	-0.08	0.160	0.185
	LTE Band 26	15M	QPSK	1	74	Bottom Side	5	Hotspot On	26865	831.5	21.38	22.00	1.153	-0.04	0.356	0.411
	LTE Band 26	15M	QPSK	1	74	Front	5	Hotspot On	26765	821.5	21.36	22.00	1.159	-0.14	0.703	0.815
33	LTE Band 26	15M	QPSK	1	74	Front	5	Hotspot On	26965	841.5	21.15	22.00	1.216	-0.05	0.785	**0.955**
	LTE Band 26	15M	QPSK	36	0	Front	5	Hotspot On	26865	831.5	21.25	22.00	1.189	0.03	0.698	0.830
	LTE Band 26	15M	QPSK	36	0	Back	5	Hotspot On	26865	831.5	21.25	22.00	1.189	0.08	0.378	0.449
	LTE Band 26	15M	QPSK	36	0	Left Side	5	Hotspot On	26865	831.5	21.25	22.00	1.189	-0.06	0.140	0.166
	LTE Band 26	15M	QPSK	36	0	Right Side	5	Hotspot On	26865	831.5	21.25	22.00	1.189	0.04	0.166	0.197
	LTE Band 26	15M	QPSK	36	0	Bottom Side	5	Hotspot On	26865	831.5	21.25	22.00	1.189	-0.06	0.349	0.415
	LTE Band 26	15M	QPSK	36	0	Front	5	Hotspot On	26765	821.5	21.24	22.00	1.191	-0.02	0.657	0.783
	LTE Band 26	15M	QPSK	36	0	Front	5	Hotspot On	26965	841.5	20.94	22.00	1.276	-0.06	0.720	0.919
	LTE Band 26	15M	QPSK	75	0	Front	5	Hotspot On	26865	831.5	21.08	22.00	1.236	0.01	0.699	0.864

Plot No.	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)
	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132322	1745	15.85	16.00	1.035	-0.09	0.493	0.510
	LTE Band 66	20M	QPSK	1	99	Back	5	Hotspot On	132322	1745	15.85	16.00	1.035	-0.09	0.301	0.312
	LTE Band 66	20M	QPSK	1	99	Left Side	5	Hotspot On	132322	1745	15.85	16.00	1.035	0.03	0.019	0.020
	LTE Band 66	20M	QPSK	1	99	Right Side	5	Hotspot On	132322	1745	15.85	16.00	1.035	-0.08	0.043	0.045
	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132322	1745	15.85	16.00	1.035	0.01	0.514	0.532
	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132072	1720	15.78	16.00	1.052	0.05	0.436	0.459
34	LTE Band 66	20M	QPSK	1	99	Bottom Side	5	Hotspot On	132572	1770	15.72	16.00	1.067	-0.01	0.547	**0.583**
	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132072	1720	15.78	16.00	1.052	0.03	0.419	0.441
	LTE Band 66	20M	QPSK	1	99	Front	5	Hotspot On	132572	1770	15.72	16.00	1.067	-0.1	0.520	0.555
	LTE Band 66	20M	QPSK	50	50	Front	5	Hotspot On	132322	1745	15.45	16.00	1.135	0.02	0.439	0.498
	LTE Band 66	20M	QPSK	50	50	Back	5	Hotspot On	132322	1745	15.45	16.00	1.135	0.02	0.261	0.296
	LTE Band 66	20M	QPSK	50	50	Left Side	5	Hotspot On	132322	1745	15.45	16.00	1.135	0.06	0.016	0.018
	LTE Band 66	20M	QPSK	50	50	Right Side	5	Hotspot On	132322	1745	15.45	16.00	1.135	0.01	0.037	0.042
	LTE Band 66	20M	QPSK	50	50	Bottom Side	5	Hotspot On	132322	1745	15.45	16.00	1.135	0.09	0.443	0.503
	LTE Band 25	20M	QPSK	1	49	Front	5	Hotspot On	26340	1880	14.39	16.00	1.449	-0.04	0.503	0.729
	LTE Band 25	20M	QPSK	1	49	Back	5	Hotspot On	26340	1880	14.39	16.00	1.449	0.05	0.328	0.475
	LTE Band 25	20M	QPSK	1	49	Left Side	5	Hotspot On	26340	1880	14.39	16.00	1.449	0.08	0.024	0.035
	LTE Band 25	20M	QPSK	1	49	Right Side	5	Hotspot On	26340	1880	14.39	16.00	1.449	0.02	0.026	0.038
	LTE Band 25	20M	QPSK	1	49	Bottom Side	5	Hotspot On	26340	1880	14.39	16.00	1.449	0.01	0.514	0.745
	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26340	1880	14.21	16.00	1.510	-0.02	0.507	0.766
	LTE Band 25	20M	QPSK	50	0	Back	5	Hotspot On	26340	1880	14.21	16.00	1.510	-0.06	0.327	0.494
	LTE Band 25	20M	QPSK	50	0	Left Side	5	Hotspot On	26340	1880	14.21	16.00	1.510	0.01	0.026	0.039
	LTE Band 25	20M	QPSK	50	0	Right Side	5	Hotspot On	26340	1880	14.21	16.00	1.510	-0.02	0.030	0.045
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26340	1880	14.21	16.00	1.510	0.08	0.522	0.788
	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26140	1860	14.17	16.00	1.524	-0.03	0.447	0.681
	LTE Band 25	20M	QPSK	50	0	Front	5	Hotspot On	26590	1905	14.20	16.00	1.514	-0.03	0.534	0.808
	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26140	1860	14.17	16.00	1.524	-0.02	0.485	0.739
35	LTE Band 25	20M	QPSK	50	0	Bottom Side	5	Hotspot On	26590	1905	14.20	16.00	1.514	0.03	0.578	**0.875**
	LTE Band 25	20M	QPSK	100	0	Front	5	Hotspot On	26340	1860	14.21	16.00	1.510	-0.11	0.501	0.757
	LTE Band 25	20M	QPSK	100	0	Bottom Side	5	Hotspot On	26340	1860	14.21	16.00	1.510	0.05	0.555	0.838
	LTE Band 30	10M	QPSK	1	0	Front	5	Hotspot On	27710	2310	17.38	17.50	1.028	0.03	0.309	0.318
	LTE Band 30	10M	QPSK	1	0	Back	5	Hotspot On	27710	2310	17.38	17.50	1.028	0.04	0.260	0.267
	LTE Band 30	10M	QPSK	1	0	Left Side	5	Hotspot On	27710	2310	17.38	17.50	1.028	0.03	0.218	0.224
	LTE Band 30	10M	QPSK	1	0	Right Side	5	Hotspot On	27710	2310	17.38	17.50	1.028	0.01	0.045	0.046
	LTE Band 30	10M	QPSK	1	0	Bottom Side	5	Hotspot On	27710	2310	17.38	17.50	1.028	0.09	0.456	0.469
	LTE Band 30	10M	QPSK	25	25	Front	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.03	0.303	0.326
	LTE Band 30	10M	QPSK	25	25	Back	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.03	0.229	0.247
	LTE Band 30	10M	QPSK	25	25	Left Side	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.06	0.218	0.235
	LTE Band 30	10M	QPSK	25	25	Right Side	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.06	0.043	0.046
36	LTE Band 30	10M	QPSK	25	25	Bottom Side	5	Hotspot On	27710	2310	17.18	17.50	1.076	0.07	0.451	**0.485**

Plot No.	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)
	LTE Band 7	20M	QPSK	1	0	Front	5	Hotspot On	21350	2560	17.77	18.00	1.054	0.05	0.580	0.612
	LTE Band 7	20M	QPSK	1	0	Back	5	Hotspot On	21350	2560	17.77	18.00	1.054	0.02	0.511	0.539
	LTE Band 7	20M	QPSK	1	0	Left Side	5	Hotspot On	21350	2560	17.77	18.00	1.054	0.13	0.374	0.394
	LTE Band 7	20M	QPSK	1	0	Right Side	5	Hotspot On	21350	2560	17.77	18.00	1.054	0.01	0.071	0.075
	LTE Band 7	20M	QPSK	1	0	Bottom Side	5	Hotspot On	21350	2560	17.77	18.00	1.054	-0.02	0.656	0.692
	LTE Band 7	20M	QPSK	50	24	Front	5	Hotspot On	21350	2560	17.57	18.00	1.104	0.05	0.567	0.626
	LTE Band 7	20M	QPSK	50	24	Back	5	Hotspot On	21350	2560	17.57	18.00	1.104	0.02	0.502	0.554
	LTE Band 7	20M	QPSK	50	24	Left Side	5	Hotspot On	21350	2560	17.57	18.00	1.104	0.03	0.365	0.403
	LTE Band 7	20M	QPSK	50	24	Right Side	5	Hotspot On	21350	2560	17.57	18.00	1.104	0.08	0.066	0.073
	LTE Band 7	20M	QPSK	50	24	Bottom Side	5	Hotspot On	21350	2560	17.57	18.00	1.104	-0.04	0.636	0.702
	LTE Band 7	20M	QPSK	50	24	Front	5	Hotspot On	20850	2510	17.56	18.00	1.107	0.06	0.611	0.676
	LTE Band 7	20M	QPSK	50	24	Front	5	Hotspot On	21100	2535	17.53	18.00	1.114	-0.06	0.618	0.689
37	LTE Band 7	20M	QPSK	50	24	Bottom Side	5	Hotspot On	20850	2510	17.56	18.00	1.107	0.19	0.792	**0.876**
	LTE Band 7	20M	QPSK	50	24	Bottom Side	5	Hotspot On	21100	2535	17.53	18.00	1.114	0.16	0.700	0.780
	LTE Band 7	20M	QPSK	100	0	Bottom Side	5	Hotspot On	21350	2560	17.65	18.00	1.084	0.01	0.692	0.750

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	99	Front	5	Hotspot On	3	40185	2549.5	20.58	21.00	1.102	62.9	0.689	0.07	0.510	0.387
	LTE Band 41	20M	QPSK	1	99	Back	5	Hotspot On	3	40185	2549.5	20.58	21.00	1.102	62.9	1.006	0.12	0.487	0.540
	LTE Band 41	20M	QPSK	1	99	Left Side	5	Hotspot On	3	40185	2549.5	20.58	21.00	1.102	62.9	1.006	-0.06	0.384	0.426
	LTE Band 41	20M	QPSK	1	99	Right Side	5	Hotspot On	3	40185	2549.5	20.58	21.00	1.102	62.9	1.006	0.04	0.071	0.078
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5	Hotspot On	3	40185	2549.5	20.58	21.00	1.102	62.9	1.006	0.01	0.798	0.884
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5	Hotspot On	3	39750	2506	20.57	21.00	1.104	62.9	1.006	-0.12	0.898	0.997
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5	Hotspot On	3	40620	2593	20.13	21.00	1.222	62.9	1.006	0.03	0.602	0.740
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5	Hotspot On	3	41055	2636.5	20.44	21.00	1.138	62.9	1.006	0.03	0.400	0.458
	LTE Band 41	20M	QPSK	1	99	Bottom Side	5	Hotspot On	3	41490	2680	20.15	21.00	1.216	62.9	1.006	0.09	0.362	0.443
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.04	0.698	0.817
	LTE Band 41	20M	QPSK	50	0	Back	5	Hotspot On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.03	0.470	0.550
	LTE Band 41	20M	QPSK	50	0	Left Side	5	Hotspot On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.11	0.369	0.432
	LTE Band 41	20M	QPSK	50	0	Right Side	5	Hotspot On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	-0.05	0.067	0.079
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	-0.18	0.812	0.951
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	39750	2506	20.33	21.00	1.167	62.9	1.006	0.01	0.539	0.633
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40620	2593	20.27	21.00	1.183	62.9	1.006	-0.18	0.717	0.853
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41055	2636.5	20.27	21.00	1.183	62.9	1.006	0.05	0.725	0.863
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41490	2680	20.24	21.00	1.191	62.9	1.006	0.05	0.725	0.869
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	41490	2680	20.24	21.00	1.191	42.9	1.009	0.08	0.475	0.571
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	39750	2506	20.33	21.00	1.167	62.9	1.006	0.04	0.882	1.035
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	39750	2506	20.33	21.00	1.167	42.9	1.009	0.01	0.600	0.706
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	40620	2593	20.27	21.00	1.183	42.9	1.009	-0.01	0.411	0.491
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41055	2636.5	20.27	21.00	1.183	42.9	1.009	0.03	0.301	0.359
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41490	2680	20.24	21.00	1.191	42.9	1.009	0.1	0.322	0.387
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40620	2593	20.27	21.00	1.183	62.9	1.006	-0.01	0.667	0.794
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	41055	2636.5	20.27	21.00	1.183	62.9	1.006	0.05	0.462	0.550
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	41490	2680	20.24	21.00	1.191	62.9	1.006	0.07	0.343	0.411
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.06	0.484	0.637
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.11	0.364	0.535
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	-0.06	0.477	0.720
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	0.05	0.448	0.614
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.02	0.710	1.054
38	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.12	0.802	**1.056**
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	-0.05	0.464	0.683
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	0.02	0.390	0.588
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	-0.06	0.286	0.392
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.07	0.372	0.552
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	42.9	1.009	0.06	0.456	0.602

	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	42.9	1.009	0.05	0.433	0.639
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	42.9	1.009	0.11	0.474	0.717
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	42.9	1.009	0.07	0.447	0.614
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	42.9	1.009	0.01	0.425	0.633
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	42.9	1.009	0.02	0.549	0.725
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	42.9	1.009	0.03	0.303	0.447
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	42.9	1.009	0.08	0.456	0.690
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	42.9	1.009	0.04	0.320	0.440
	LTE Band 41	20M	QPSK	50	0	Bottom Side	5	Hotspot On	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	42.9	1.009	0.01	0.280	0.417
	LTE Band 41	20M	QPSK	100	0	Front	5	Hotspot On	3	40185	2549.5	20.42	21.00	1.143	62.9	1.006	0.05	0.628	0.722
	LTE Band 41	20M	QPSK	100	0	Bottom Side	5	Hotspot On	3	40185	2549.5	20.42	21.00	1.143	62.9	1.006	-0.1	0.833	0.958

<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)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.04	0.223	0.235
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	-0.07	0.481	0.506
	WLAN2.4GHz	802.11b 1Mbps	Right Side	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.02	0.153	0.161
	WLAN2.4GHz	802.11b 1Mbps	Top Side	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.06	0.294	0.309
39	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	6	2437	19.29	19.50	1.049	97.68	1.024	-0.02	0.560	**0.602**
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	11	2462	19.20	19.50	1.072	97.68	1.024	0.07	0.392	0.430

<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	Full	36	5180	18.17	18.50	1.078	87.44	1.144	0.09	0.540	0.666
	WLAN5.2GHz	802.11a 6Mbps	Back	5	Full	36	5180	18.17	18.50	1.078	87.44	1.144	-0.04	0.508	0.627
	WLAN5.2GHz	802.11a 6Mbps	Right Side	5	Full	36	5180	18.17	18.50	1.078	87.44	1.144	-0.04	0.207	0.255
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Full	36	5180	18.17	18.50	1.078	87.44	1.144	-0.08	0.553	0.682
	WLAN5.2GHz	802.11a 6Mbps	Front	5	Full	40	5200	18.03	18.50	1.114	87.44	1.144	0.02	0.535	0.682
	WLAN5.2GHz	802.11a 6Mbps	Front	5	Full	44	5220	18.08	18.50	1.101	87.44	1.144	0.03	0.560	0.705
40	WLAN5.2GHz	802.11a 6Mbps	Front	5	Full	48	5240	18.10	18.50	1.096	87.44	1.144	0.01	0.636	**0.797**
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Full	40	5200	18.03	18.50	1.114	87.44	1.144	-0.01	0.558	0.711
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Full	44	5220	18.08	18.50	1.101	87.44	1.144	0.07	0.554	0.698
	WLAN5.2GHz	802.11a 6Mbps	Top Side	5	Full	48	5240	18.10	18.50	1.096	87.44	1.144	0.12	0.600	0.752
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.02	0.364	0.481
	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.04	0.298	0.394
	WLAN 5.8GHz	802.11a 6Mbps	Right Side	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.03	0.042	0.056
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.08	0.502	0.664
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	157	5785	17.16	17.50	1.081	87.44	1.144	0.04	0.390	0.482
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	165	5825	16.53	17.00	1.114	87.44	1.144	0.07	0.312	0.397
	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	Full	157	5785	17.16	17.50	1.081	87.44	1.144	0.02	0.560	0.692
41	WLAN 5.8GHz	802.11a 6Mbps	Top Side	5	Full	165	5825	16.53	17.00	1.114	87.44	1.144	0.02	0.569	**0.725**

<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	11.32	11.50	1.042	76.85	1.084	0.04	0.064	0.072
42	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	-0.07	0.104	**0.117**
	Bluetooth	1Mbps	Right Side	5	39	2441	11.32	11.50	1.042	76.85	1.084	0.01	0.039	0.044
	Bluetooth	1Mbps	Top Side	5	39	2441	11.32	11.50	1.042	76.85	1.084	0.02	0.057	0.065
	Bluetooth	1Mbps	Back	5	0	2402	11.23	11.50	1.063	76.85	1.084	0.03	0.093	0.107
	Bluetooth	1Mbps	Back	5	78	2480	10.67	11.50	1.210	76.85	1.084	0.02	0.081	0.106

14.3 Body Worn Accessory SAR

<GSM 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	GSM850	GPRS 4 Tx slots	Front	5	Full	189	836.4	26.76	27.00	1.057	-0.02	0.941	0.994
	GSM850	GPRS 4 Tx slots	Back	5	Full	189	836.4	26.76	27.00	1.057	0.07	0.578	0.611
43	GSM850	GPRS 4 Tx slots	Front	5	Full	128	824.2	26.68	27.00	1.076	-0.19	0.991	**1.067**
	GSM850	GPRS 4 Tx slots	Front	5	Full	251	848.8	26.75	27.00	1.059	-0.05	0.798	0.845
	GSM1900	GPRS 1 Tx slot	Front	5	P-Sensor On	810	1909.8	25.45	26.00	1.135	-0.09	0.839	0.952
	GSM1900	GPRS 1 Tx slot	Back	5	P-Sensor On	810	1909.8	25.45	26.00	1.135	0.02	0.536	0.608
	GSM1900	GPRS 1 Tx slot	Front	5	P-Sensor On	512	1850.2	25.23	26.00	1.194	0.07	0.744	0.888
44	GSM1900	GPRS 1 Tx slot	Front	5	P-Sensor On	661	1880	25.33	26.00	1.167	0.05	0.861	**1.005**

<WCDMA 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	5	P-Sensor On	4233	846.6	21.08	21.50	1.102	0.09	0.635	0.699
	WCDMA Band V	RMC 12.2Kbps	Back	5	P-Sensor On	4233	846.6	21.08	21.50	1.102	0.12	0.343	0.378
	WCDMA Band V	RMC 12.2Kbps	Front	5	P-Sensor On	4132	826.4	20.97	21.50	1.130	-0.07	0.923	1.043
45	WCDMA Band V	RMC 12.2Kbps	Front	5	P-Sensor On	4182	836.4	20.79	21.50	1.178	-0.08	0.944	**1.112**
	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1513	1752.6	16.03	16.50	1.114	0.06	0.463	0.516
	WCDMA Band IV	RMC 12.2Kbps	Back	5	P-Sensor On	1513	1752.6	16.03	16.50	1.114	0.01	0.381	0.425
	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1312	1712.4	15.99	16.50	1.125	0.07	0.496	0.558
46	WCDMA Band IV	RMC 12.2Kbps	Front	5	P-Sensor On	1413	1732.6	16.01	16.50	1.119	-0.08	0.580	**0.649**
	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9538	1907.6	15.13	15.50	1.089	0.1	0.665	0.724
	WCDMA Band II	RMC 12.2Kbps	Back	5	P-Sensor On	9538	1907.6	15.13	15.50	1.089	0.07	0.393	0.428
	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9262	1852.4	15.11	15.50	1.094	-0.04	0.585	0.640
47	WCDMA Band II	RMC 12.2Kbps	Front	5	P-Sensor On	9400	1880	15.02	15.50	1.117	-0.06	0.675	**0.754**

<CDMA2000 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	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	580	820.5	22.91	23.50	1.146	0.02	0.796	0.912
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Back	5	P-Sensor On	580	820.5	22.91	23.50	1.146	-0.05	0.431	0.494
48	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	476	817.9	22.76	23.50	1.186	0.09	0.787	**0.933**
	CDMA2000 BC10	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	684	823.1	22.87	23.50	1.156	0.03	0.801	0.926
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1013	824.7	22.95	23.50	1.135	-0.08	0.610	0.692
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Back	5	P-Sensor On	1013	824.7	22.95	23.50	1.135	-0.01	0.320	0.363
49	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	384	836.52	22.91	23.50	1.146	-0.01	0.733	**0.840**
	CDMA2000 BC0	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	777	848.31	22.72	23.50	1.197	-0.07	0.667	0.798
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	25	1851.25	14.63	15.00	1.089	-0.01	0.558	0.608
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Back	5	P-Sensor On	25	1851.25	14.63	15.00	1.089	-0.02	0.313	0.341
	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	600	1880	14.39	15.00	1.151	-0.09	0.581	0.669
50	CDMA2000 BC1	RC3 SO32 (F+SCH)	Front	5	P-Sensor On	1175	1908.75	14.43	15.00	1.140	-0.1	0.638	**0.727**

<FDD LTE SAR>

Plot No.	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)
51	LTE Band 12	10M	QPSK	1	49	Front	5	Full	23095	707.5	23.86	24.00	1.033	0.16	0.824	**0.851**
	LTE Band 12	10M	QPSK	1	49	Back	5	Full	23095	707.5	23.86	24.00	1.033	0.15	0.479	0.495
	LTE Band 12	10M	QPSK	25	0	Front	5	Full	23095	707.5	22.61	23.00	1.094	0.05	0.384	0.420
	LTE Band 12	10M	QPSK	25	0	Back	5	Full	23095	707.5	22.61	23.00	1.094	0.02	0.225	0.246
	LTE Band 12	10M	QPSK	50	0	Front	5	Full	23095	707.5	22.52	23.00	1.117	0.08	0.403	0.450
52	LTE Band 13	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-0.06	0.983	**1.085**
	LTE Band 13	10M	QPSK	1	0	Back	5	Full	23230	782	24.07	24.50	1.104	-0.04	0.579	0.639
	LTE Band 13	10M	QPSK	25	0	Front	5	Full	23230	782	23.10	23.50	1.096	0.02	0.573	0.628
	LTE Band 13	10M	QPSK	25	0	Back	5	Full	23230	782	23.10	23.50	1.096	0.09	0.390	0.428
	LTE Band 12	10M	QPSK	50	0	Front	5	Full	23230	782	23.09	23.50	1.099	0.04	0.586	0.644
53	LTE Band 14	10M	QPSK	1	0	Front	5	Full	23330	793	23.90	24.00	1.023	0.04	0.470	**0.481**
	LTE Band 14	10M	QPSK	1	0	Back	5	Full	23330	793	23.90	24.00	1.023	0.05	0.266	0.272
	LTE Band 14	10M	QPSK	25	0	Front	5	Full	23330	793	22.59	23.00	1.099	0.03	0.234	0.257
	LTE Band 14	10M	QPSK	25	0	Back	5	Full	23330	793	22.59	23.00	1.099	-0.02	0.132	0.145
	LTE Band 26	15M	QPSK	1	74	Front	5	P-Sensor On	26865	831.5	21.38	22.00	1.153	-0.12	0.702	0.810
	LTE Band 26	15M	QPSK	1	74	Back	5	P-Sensor On	26865	831.5	21.38	22.00	1.153	-0.07	0.387	0.446
	LTE Band 26	15M	QPSK	1	74	Front	5	P-Sensor On	26765	821.5	21.36	22.00	1.159	-0.14	0.703	0.815
54	LTE Band 26	15M	QPSK	1	74	Front	5	P-Sensor On	26965	841.5	21.15	22.00	1.216	-0.05	0.785	**0.955**
	LTE Band 26	15M	QPSK	36	0	Front	5	P-Sensor On	26865	831.5	21.25	22.00	1.189	0.03	0.698	0.830
	LTE Band 26	15M	QPSK	36	0	Back	5	P-Sensor On	26865	831.5	21.25	22.00	1.189	0.08	0.378	0.449
	LTE Band 26	15M	QPSK	36	0	Front	5	P-Sensor On	26765	821.5	21.24	22.00	1.191	-0.02	0.657	0.783
	LTE Band 26	15M	QPSK	36	0	Front	5	P-Sensor On	26965	841.5	20.94	22.00	1.276	-0.06	0.720	0.919
	LTE Band 26	15M	QPSK	75	0	Front	5	P-Sensor On	26865	831.5	21.08	22.00	1.236	0.01	0.699	0.864

Plot No.	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)
	LTE Band 66	20M	QPSK	1	99	Front	5	P-Sensor On	132322	1745	15.85	16.00	1.035	-0.09	0.493	0.510
	LTE Band 66	20M	QPSK	1	99	Back	5	P-Sensor On	132322	1745	15.85	16.00	1.035	-0.09	0.301	0.312
	LTE Band 66	20M	QPSK	1	99	Front	5	P-Sensor On	132072	1720	15.78	16.00	1.052	0.03	0.419	0.441
55	LTE Band 66	20M	QPSK	1	99	Front	5	P-Sensor On	132572	1770	15.72	16.00	1.067	-0.1	0.520	**0.555**
	LTE Band 66	20M	QPSK	50	50	Front	5	P-Sensor On	132322	1745	15.45	16.00	1.135	0.02	0.439	0.498
	LTE Band 66	20M	QPSK	50	50	Back	5	P-Sensor On	132322	1745	15.45	16.00	1.135	0.02	0.261	0.296
	LTE Band 25	20M	QPSK	1	49	Front	5	P-Sensor On	26340	1880	14.39	16.00	1.449	-0.04	0.503	0.729
	LTE Band 25	20M	QPSK	1	49	Back	5	P-Sensor On	26340	1880	14.39	16.00	1.449	0.05	0.328	0.475
	LTE Band 25	20M	QPSK	50	0	Front	5	P-Sensor On	26340	1880	14.21	16.00	1.510	-0.02	0.507	0.766
	LTE Band 25	20M	QPSK	50	0	Back	5	P-Sensor On	26340	1880	14.21	16.00	1.510	-0.06	0.327	0.494
	LTE Band 25	20M	QPSK	50	0	Front	5	P-Sensor On	26140	1860	14.17	16.00	1.524	-0.03	0.447	0.681
56	LTE Band 25	20M	QPSK	50	0	Front	5	P-Sensor On	26590	1905	14.20	16.00	1.514	-0.03	0.534	**0.808**
	LTE Band 25	20M	QPSK	100	0	Front	5	P-Sensor On	26340	1860	14.21	16.00	1.510	-0.11	0.501	0.757
	LTE Band 30	10M	QPSK	1	0	Front	5	P-Sensor On	27710	2310	17.38	17.50	1.028	0.03	0.309	0.318
	LTE Band 30	10M	QPSK	1	0	Back	5	P-Sensor On	27710	2310	17.38	17.50	1.028	0.04	0.260	0.267
57	LTE Band 30	10M	QPSK	25	25	Front	5	P-Sensor On	27710	2310	17.18	17.50	1.076	0.03	0.303	**0.326**
	LTE Band 30	10M	QPSK	25	25	Back	5	P-Sensor On	27710	2310	17.18	17.50	1.076	0.03	0.229	0.247
	LTE Band 7	20M	QPSK	1	0	Front	5	P-Sensor On	21350	2560	17.77	18.00	1.054	0.05	0.580	0.612
	LTE Band 7	20M	QPSK	1	0	Back	5	P-Sensor On	21350	2560	17.77	18.00	1.054	0.02	0.511	0.539
	LTE Band 7	20M	QPSK	50	24	Front	5	P-Sensor On	21350	2560	17.57	18.00	1.104	0.05	0.567	0.626
	LTE Band 7	20M	QPSK	50	24	Back	5	P-Sensor On	21350	2560	17.57	18.00	1.104	0.02	0.502	0.554
	LTE Band 7	20M	QPSK	50	24	Front	5	P-Sensor On	20850	2510	17.56	18.00	1.107	0.06	0.611	0.676
58	LTE Band 7	20M	QPSK	50	24	Front	5	P-Sensor On	21100	2535	17.53	18.00	1.114	-0.06	0.618	**0.689**

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	99	Front	5	P-Sensor On	3	40185	2549.5	20.58	21.00	1.102	62.9	0.689	0.07	0.510	0.387
	LTE Band 41	20M	QPSK	1	99	Back	5	P-Sensor On	3	40185	2549.5	20.58	21.00	1.102	62.9	1.006	0.12	0.487	0.540
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.04	0.698	0.817
	LTE Band 41	20M	QPSK	50	0	Back	5	P-Sensor On	3	40185	2549.5	20.34	21.00	1.164	62.9	1.006	0.03	0.470	0.550
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	39750	2506	20.33	21.00	1.167	62.9	1.006	0.01	0.539	0.633
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40620	2593	20.27	21.00	1.183	62.9	1.006	-0.18	0.717	0.853
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41055	2636.5	20.27	21.00	1.183	62.9	1.006	0.05	0.725	0.863
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41490	2680	20.24	21.00	1.191	62.9	1.006	0.05	0.725	0.869
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	2	41490	2680	20.24	21.00	1.191	42.9	1.009	0.08	0.475	0.571
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	62.9	1.006	0.06	0.484	0.637
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	62.9	1.006	0.11	0.364	0.535
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	62.9	1.006	-0.06	0.477	0.720
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	62.9	1.006	0.05	0.448	0.614
59	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	62.9	1.006	0.02	0.710	**1.054**
	LTE Band 41	20M	QPSK	50	0	Front	5	P-Sensor On	2	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	19.83	21.00	1.309	42.9	1.009	0.06	0.456	0.602
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	19.35	21.00	1.462	42.9	1.009	0.05	0.433	0.639
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	19.24	21.00	1.500	42.9	1.009	0.11	0.474	0.717
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	19.66	21.00	1.361	42.9	1.009	0.07	0.447	0.614
	LTE Band 41	20M	QPSK	50	0	Front	5	Hotspot On	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	19.31	21.00	1.476	42.9	1.009	0.01	0.425	0.633
	LTE Band 41	20M	QPSK	100	0	Front	5	P-Sensor On	3	40185	2549.5	20.42	21.00	1.143	62.9	1.006	0.05	0.628	0.722

<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)	Measured 1g SAR (W/kg)	Reported 1g SAR (W/kg)
	WLAN2.4GHz	802.11b 1Mbps	Front	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	0.04	0.223	0.235
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	1	2412	19.38	19.50	1.028	97.68	1.024	-0.07	0.481	0.506
60	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	6	2437	19.29	19.50	1.049	97.68	1.024	-0.02	0.560	**0.602**
	WLAN2.4GHz	802.11b 1Mbps	Back	5	Full	11	2462	19.20	19.50	1.072	97.68	1.024	0.07	0.392	0.430

<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)
	WLAN5.3GHz	802.11a 6Mbps	Front	5	Full	64	5320	18.22	18.5	1.066	87.44	1.144	0.02	0.466	0.568
61	WLAN5.3GHz	802.11a 6Mbps	Back	5	Full	64	5320	18.22	18.5	1.066	87.44	1.144	0.02	0.592	**0.722**
	WLAN5.3GHz	802.11a 6Mbps	Back	5	Full	52	5260	18.12	18.5	1.091	87.44	1.144	0.06	0.527	0.658
	WLAN5.3GHz	802.11a 6Mbps	Back	5	Full	56	5280	18.08	18.5	1.102	87.44	1.144	0.03	0.539	0.679
	WLAN5.3GHz	802.11a 6Mbps	Back	5	Full	60	5300	18.15	18.5	1.083	87.44	1.144	0.01	0.556	0.689
	WLAN5.5GHz	802.11a 6Mbps	Front	5	Full	140	5700	18.19	18.5	1.073	87.44	1.144	-0.04	0.336	0.413
	WLAN5.5GHz	802.11a 6Mbps	Back	5	Full	140	5700	18.19	18.5	1.073	87.44	1.144	0.08	0.264	0.324
62	WLAN5.5GHz	802.11a 6Mbps	Front	5	Full	100	5500	17.95	18.5	1.134	87.44	1.144	0.04	0.391	**0.507**
	WLAN5.5GHz	802.11a 6Mbps	Front	5	Full	116	5580	17.84	18.5	1.163	87.44	1.144	0.03	0.298	0.397
	WLAN5.5GHz	802.11a 6Mbps	Front	5	Full	132	5660	18.16	18.5	1.081	87.44	1.144	0.03	0.326	0.403
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.02	0.364	0.481
	WLAN 5.8GHz	802.11a 6Mbps	Back	5	Full	149	5745	17.87	18.50	1.155	87.44	1.144	0.04	0.298	0.394
63	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	157	5785	17.16	17.50	1.081	87.44	1.144	0.04	0.390	**0.482**
	WLAN 5.8GHz	802.11a 6Mbps	Front	5	Full	165	5825	16.53	17.00	1.114	87.44	1.144	0.07	0.312	0.397

<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	11.32	11.50	1.042	76.85	1.084	0.04	0.064	0.072
64	Bluetooth	1Mbps	Back	5	39	2441	11.32	11.50	1.042	76.85	1.084	-0.07	0.104	**0.117**
	Bluetooth	1Mbps	Back	5	0	2402	11.23	11.50	1.063	76.85	1.084	0.03	0.093	0.107
	Bluetooth	1Mbps	Back	5	78	2480	10.67	11.50	1.210	76.85	1.084	0.02	0.081	0.106

14.4 Product specific 10g SAR

<GSM 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	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	GSM1900	GPRS 4 Tx slots	Front	0	Full	810	1909.8	23.78	24.00	1.052	0.05	2.700	2.840
	GSM1900	GPRS 4 Tx slots	Front	0	Full	512	1850.2	23.77	24.00	1.054	0.05	2.520	2.657
	GSM1900	GPRS 4 Tx slots	Front	0	Full	661	1880	23.75	24.00	1.059	0.03	2.780	2.945
	GSM1900	GPRS 4 Tx slots	Back	0	Full	810	1909.8	23.78	24.00	1.052	-0.01	1.610	1.694
	GSM1900	GPRS 4 Tx slots	Bottom Side	0	Full	810	1909.8	23.78	24.00	1.052	-0.02	2.450	2.577
	GSM1900	GPRS 4 Tx slots	Bottom Side	0	Full	512	1850.2	23.77	24.00	1.054	-0.13	2.490	2.625
65	GSM1900	GPRS 4 Tx slots	Bottom Side	0	Full	661	1880	23.75	24.00	1.059	-0.09	3.050	**3.231**

<WCDMA 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	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WCDMA Band V	RMC 12.2Kbps	Front	0	Full	4233	846.6	23.12	23.50	1.091	-0.09	1.380	1.506
	WCDMA Band V	RMC 12.2Kbps	Front	0	Full	4132	826.4	23.06	23.50	1.107	-0.02	1.650	1.826
66	WCDMA Band V	RMC 12.2Kbps	Front	0	Full	4182	836.4	22.97	23.50	1.130	-0.03	1.980	**2.237**
	WCDMA Band IV	RMC 12.2Kbps	Front	0	Handheld On	1513	1752.6	20.03	20.50	1.114	0.15	1.550	1.727
	WCDMA Band IV	RMC 12.2Kbps	Back	0	Handheld On	1513	1752.6	20.03	20.50	1.114	0.11	0.797	0.888
67	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1513	1752.6	20.03	20.50	1.114	-0.02	2.500	**2.786**
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1312	1712.4	19.94	20.50	1.138	-0.02	2.110	2.400
	WCDMA Band IV	RMC 12.2Kbps	Bottom Side	0	Handheld On	1413	1732.6	20.02	20.50	1.117	-0.09	2.400	2.680
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9538	1907.6	20.12	20.50	1.091	0.05	2.300	2.510
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9262	1852.4	20.11	20.50	1.094	0.08	2.200	2.407
	WCDMA Band II	RMC 12.2Kbps	Front	0	Handheld On	9400	1880	20.04	20.50	1.112	0.09	2.310	2.568
	WCDMA Band II	RMC 12.2Kbps	Back	0	Handheld On	9538	1907.6	20.12	20.50	1.091	0.01	1.370	1.495
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9538	1907.6	20.12	20.50	1.091	-0.08	2.550	2.783
	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9262	1852.4	20.11	20.50	1.094	-0.08	2.490	2.724
68	WCDMA Band II	RMC 12.2Kbps	Bottom Side	0	Handheld On	9400	1880	20.04	20.50	1.112	-0.17	2.560	**2.846**

<CDMA2000 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	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	25	1851.25	17.50	18.00	1.122	0.04	2.640	2.962
	CDMA2000 BC1	RTAP 153.6Kbps	Back	0	Handheld On	25	1851.25	17.50	18.00	1.122	0.05	1.490	1.672
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	25	1851.25	17.50	18.00	1.122	-0.05	2.840	3.187
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	600	1880	17.28	18.00	1.180	0.03	2.600	3.069
	CDMA2000 BC1	RTAP 153.6Kbps	Front	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.11	2.700	3.050
69	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	600	1880	17.28	18.00	1.180	-0.13	2.990	**3.529**
	CDMA2000 BC1	RTAP 153.6Kbps	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	-0.09	3.060	3.457

<FDD LTE SAR>

Plot No.	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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 26	15M	QPSK	1	74	Front	0	Full	26865	831.5	23.78	24.00	1.052	0.05	2.180	2.293
70	LTE Band 26	15M	QPSK	1	74	Front	0	Full	26765	821.5	23.75	24.00	1.059	0.02	2.200	**2.330**
	LTE Band 26	15M	QPSK	1	74	Front	0	Full	26965	841.5	23.72	24.00	1.067	-0.04	2.000	2.133
	LTE Band 26	15M	QPSK	36	0	Front	0	Full	26865	831.5	22.58	23.00	1.102	0.04	1.200	1.322
	LTE Band 26	15M	QPSK	75	0	Front	0	Full	26865	831.5	22.40	23.00	1.148	-0.1	1.050	1.206
	LTE Band 66	20M	QPSK	1	99	Front	0	Handheld On	132322	1745	19.83	20.00	1.040	0.09	1.910	1.986
	LTE Band 66	20M	QPSK	1	99	Back	0	Handheld On	132322	1745	19.83	20.00	1.040	0.05	0.769	0.800
	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132322	1745	19.83	20.00	1.040	-0.07	2.220	2.309
	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132072	1720	19.81	20.00	1.045	-0.01	2.000	2.089
71	LTE Band 66	20M	QPSK	1	99	Bottom Side	0	Handheld On	132572	1770	19.36	20.00	1.159	0.04	2.280	**2.642**
	LTE Band 66	20M	QPSK	50	0	Front	0	Handheld On	132322	1745	19.18	19.50	1.076	0.15	1.560	1.679
	LTE Band 66	20M	QPSK	50	0	Back	0	Handheld On	132322	1745	19.18	19.50	1.076	-0.1	0.695	0.748
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132322	1745	19.18	19.50	1.076	-0.06	1.990	2.142
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132072	1720	19.16	19.50	1.081	-0.02	1.800	1.947
	LTE Band 66	20M	QPSK	50	0	Bottom Side	0	Handheld On	132572	1770	18.98	19.50	1.127	-0.05	2.100	2.367
	LTE Band 66	20M	QPSK	100	0	Bottom Side	0	Handheld On	132322	1745	19.09	19.05	0.991	0.03	1.970	1.952
	LTE Band 25	20M	QPSK	1	49	Front	0	Handheld On	26340	1880	19.93	20.50	1.140	0.06	2.110	2.406
	LTE Band 25	20M	QPSK	1	49	Front	0	Handheld On	26140	1860	19.35	20.50	1.303	0.05	2.120	2.763
	LTE Band 25	20M	QPSK	1	49	Front	0	Handheld On	26590	1905	19.65	20.50	1.216	0.13	2.200	2.676
	LTE Band 25	20M	QPSK	1	49	Back	0	Handheld On	26340	1880	19.93	20.50	1.140	0.01	1.280	1.460
	LTE Band 25	20M	QPSK	1	49	Bottom Side	0	Handheld On	26340	1880	19.93	20.50	1.140	0.09	2.150	2.452
	LTE Band 25	20M	QPSK	1	49	Bottom Side	0	Handheld On	26140	1860	19.35	20.50	1.303	-0.09	1.960	2.554
	LTE Band 25	20M	QPSK	1	49	Bottom Side	0	Handheld On	26590	1905	19.65	20.50	1.216	-0.02	2.220	2.700
	LTE Band 25	20M	QPSK	50	0	Front	0	Handheld On	26340	1880	19.68	20.50	1.208	-0.1	2.100	2.536
	LTE Band 25	20M	QPSK	50	0	Front	0	Handheld On	26140	1860	19.57	20.50	1.239	0.02	2.010	2.490
	LTE Band 25	20M	QPSK	50	0	Front	0	Handheld On	26590	1905	19.65	20.50	1.216	0.08	2.170	2.639
	LTE Band 25	20M	QPSK	50	0	Back	0	Handheld On	26340	1880	19.68	20.50	1.208	0.05	1.210	1.461
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26340	1880	19.68	20.50	1.208	-0.01	2.280	2.754
	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26140	1860	19.57	20.50	1.239	-0.06	2.170	2.688
72	LTE Band 25	20M	QPSK	50	0	Bottom Side	0	Handheld On	26590	1905	19.65	20.50	1.216	-0.08	2.350	**2.858**
	LTE Band 25	20M	QPSK	100	0	Front	0	Handheld On	26340	1880	19.65	20.50	1.216	0.08	2.020	2.457
	LTE Band 25	20M	QPSK	100	0	Bottom Side	0	Handheld On	26340	1880	19.65	20.50	1.216	0.07	2.280	2.773
73	LTE Band 30	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.10	3.640	**3.768**
	LTE Band 30	10M	QPSK	1	0	Back	0	Full	27710	2310	23.35	23.50	1.035	0.05	2.570	2.660
	LTE Band 30	10M	QPSK	1	0	Bottom Side	0	Full	27710	2310	23.35	23.50	1.035	0.03	1.840	1.905
	LTE Band 30	10M	QPSK	25	25	Front	0	Full	27710	2310	22.06	22.50	1.107	0.08	2.620	2.899
	LTE Band 30	10M	QPSK	25	25	Back	0	Full	27710	2310	22.06	22.50	1.107	0.01	1.850	2.047
	LTE Band 30	10M	QPSK	25	25	Bottom Side	0	Full	27710	2310	22.06	22.50	1.107	0.09	1.210	1.339
	LTE Band 30	10M	QPSK	50	0	Front	0	Full	27710	2310	21.92	22.50	1.143	0.06	2.480	2.834
	LTE Band 30	10M	QPSK	50	0	Back	0	Full	27710	2310	21.92	22.50	1.143	0.04	1.700	1.943

<FDD LTE SAR>

Plot No.	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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
74	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.01	3.630	**3.664**
	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	20850	2510	22.86	23.00	1.033	-0.01	3.370	3.480
	LTE Band 7	20M	QPSK	1	99	Front	0	Handheld On	21100	2535	22.83	23.00	1.040	0.02	3.400	3.536
	LTE Band 7	20M	QPSK	1	99	Back	0	Handheld On	21350	2560	22.96	23.00	1.009	0.05	2.830	2.856
	LTE Band 7	20M	QPSK	1	99	Back	0	Handheld On	20850	2510	22.86	23.00	1.033	-0.05	3.070	3.171
	LTE Band 7	20M	QPSK	1	99	Back	0	Handheld On	21100	2535	22.83	23.00	1.040	0.1	3.080	3.203
	LTE Band 7	20M	QPSK	1	99	Left Side	0	Handheld On	21350	2560	22.96	23.00	1.009	0.01	1.680	1.696
	LTE Band 7	20M	QPSK	1	99	Bottom Side	0	Handheld On	21350	2560	22.96	23.00	1.009	0.06	1.570	1.585
	LTE Band 7	20M	QPSK	50	24	Front	0	Handheld On	21350	2560	21.10	22.00	1.230	-0.05	2.310	2.842
	LTE Band 7	20M	QPSK	50	24	Front	0	Handheld On	20850	2510	21.06	22.00	1.242	-0.01	2.300	2.856
	LTE Band 7	20M	QPSK	50	24	Front	0	Handheld On	21100	2535	20.90	22.00	1.288	0.06	2.280	2.937
	LTE Band 7	20M	QPSK	50	24	Back	0	Handheld On	21350	2560	21.10	22.00	1.230	0.03	1.790	2.202
	LTE Band 7	20M	QPSK	50	24	Back	0	Handheld On	20850	2510	21.06	22.00	1.242	0.04	1.680	2.086
	LTE Band 7	20M	QPSK	50	24	Back	0	Handheld On	21100	2535	20.90	22.00	1.288	0.03	1.660	2.138
	LTE Band 7	20M	QPSK	50	24	Left Side	0	Handheld On	21350	2560	21.10	22.00	1.230	0.12	1.090	1.341
	LTE Band 7	20M	QPSK	50	24	Bottom Side	0	Handheld On	21350	2560	21.10	22.00	1.230	0.01	1.040	1.279
	LTE Band 7	20M	QPSK	100	0	Front	0	Handheld On	21350	2560	21.07	22.00	1.239	0.07	2.110	2.614
	LTE Band 7	20M	QPSK	100	0	Back	0	Handheld On	21350	2560	21.07	22.00	1.239	0.08	1.410	1.747

<TDD LTE SAR>

Plot No.	Band	BW (MHz)	Modulation	RB Size	RB Offset	Test Position	Gap (mm)	Power Mode	Power Class	Ch.	Freq. (MHz)	Average Power (dBm)	Tune-Up Limit (dBm)	Tune-up Scaling Factor	Duty Cycle %	Duty Cycle Scaling Factor	Power Drift (dB)	Measured 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.06	2.910	2.955
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.05	2.920	2.972
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.09	2.780	2.976
75	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	0.13	2.990	3.179
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	0.12	2.120	2.244
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	41055	2636.5	24.97	25.50	1.130	42.9	1.009	0.02	2.610	2.975
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	39750	2506	25.01	25.50	1.119	42.9	1.009	0.08	2.630	2.971
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	40620	2593	25.20	25.50	1.072	42.9	1.009	0.01	2.720	2.941
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	40185	2549.5	25.39	25.50	1.026	42.9	1.009	0.1	2.580	2.670
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	41490	2680	24.97	25.50	1.130	42.9	1.009	-0.05	2.170	2.474
	LTE Band 41	20M	QPSK	1	99	Back	0	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	0.07	1.900	1.929
	LTE Band 41	20M	QPSK	1	99	Back	0	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.17	2.120	2.157
	LTE Band 41	20M	QPSK	1	99	Back	0	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.04	2.210	2.366
	LTE Band 41	20M	QPSK	1	99	Back	0	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	0.09	2.260	2.403
	LTE Band 41	20M	QPSK	1	99	Back	0	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	0.14	1.320	1.397
	LTE Band 41	20M	QPSK	1	99	Bottom Side	0	Full	3	40185	2549.5	24.46	24.50	1.009	62.9	1.006	-0.04	1.250	1.269
	LTE Band 41	20M	QPSK	1	99	Bottom Side	0	Full	3	39750	2506	24.45	24.50	1.012	62.9	1.006	0.06	1.370	1.394
	LTE Band 41	20M	QPSK	1	99	Bottom Side	0	Full	3	40620	2593	24.23	24.50	1.064	62.9	1.006	0.08	0.940	1.006
	LTE Band 41	20M	QPSK	1	99	Bottom Side	0	Full	3	41055	2636.5	24.26	24.50	1.057	62.9	1.006	-0.04	1.120	1.191
	LTE Band 41	20M	QPSK	1	99	Bottom Side	0	Full	3	41490	2680	24.28	24.50	1.052	62.9	1.006	0.07	0.745	0.788
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	22.86	24.50	1.459	62.9	1.006	0.08	1.890	2.774
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	22.53	24.50	1.574	62.9	1.006	-0.05	1.580	2.502
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	22.65	24.50	1.531	62.9	1.006	0.12	0.855	1.317
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	22.96	24.50	1.426	62.9	1.006	0.03	1.960	2.811
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	3	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	22.75	24.50	1.496	62.9	1.006	0.11	0.872	1.313
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	39750(PCC) + 39948(SCC)	2506(PCC) + 2525.8(SCC)	23.67	25.50	1.524	42.9	1.009	0.04	1.390	2.137
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	40185(PCC) + 40383(SCC)	2549.5(PCC) + 2569.3(SCC)	23.61	25.50	1.545	42.9	1.009	-0.05	1.470	2.292
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	40620(PCC) + 40818(SCC)	2593(PCC) + 2612.8(SCC)	23.55	25.50	1.567	42.9	1.009	-0.13	1.280	2.023
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	41055(PCC) + 41253(SCC)	2636.5(PCC) + 2656.3(SCC)	23.64	25.50	1.535	42.9	1.009	0.06	1.410	2.183
	LTE Band 41	20M	QPSK	1	99	Front	0	Full	2	41292(PCC) + 41490(SCC)	2660.2(PCC) + 2680(SCC)	23.71	25.50	1.510	42.9	1.009	0.06	1.450	2.209
	LTE Band 41	20M	QPSK	50	0	Front	0	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.08	1.590	2.158
	LTE Band 41	20M	QPSK	50	0	Front	0	Full	3	39750	2506	22.19	23.50	1.352	62.9	1.006	0.05	1.300	1.768
	LTE Band 41	20M	QPSK	50	0	Front	0	Full	3	40620	2593	22.05	23.50	1.396	62.9	1.006	0.06	1.580	2.219
	LTE Band 41	20M	QPSK	50	0	Front	0	Full	3	41055	2636.5	22.02	23.50	1.406	62.9	1.006	0.03	1.570	2.221
	LTE Band 41	20M	QPSK	50	0	Front	0	Full	3	41490	2680	22.08	23.50	1.387	62.9	1.006	0.07	1.770	2.469
	LTE Band 41	20M	QPSK	50	0	Back	0	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	0.07	1.100	1.493
	LTE Band 41	20M	QPSK	50	0	Bottom Side	0	Full	3	40185	2549.5	22.20	23.50	1.349	62.9	1.006	-0.04	0.804	1.091
	LTE Band 41	20M	QPSK	100	0	Front	0	Full	3	40185	2549.5	22.06	23.50	1.393	62.9	1.006	0.01	1.410	1.976
	LTE Band 41	20M	QPSK	100	0	Back	0	Full	3	40185	2549.5	22.06	23.50	1.393	62.9	1.006	0.06	1.200	1.682

<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 10g SAR (W/kg)	Reported 10g SAR (W/kg)
	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	64	5320	18.22	18.50	1.066	87.44	1.144	0.02	0.613	0.747
	WLAN5.3GHz	802.11a 6Mbps	Back	0	Full	64	5320	18.22	18.50	1.066	87.44	1.144	0.05	0.605	0.738
	WLAN5.3GHz	802.11a 6Mbps	Right Side	0	Full	64	5320	18.22	18.50	1.066	87.44	1.144	0.04	0.093	0.113
	WLAN5.3GHz	802.11a 6Mbps	Top Side	0	Full	64	5320	18.22	18.50	1.066	87.44	1.144	0.01	0.384	0.468
76	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	52	5260	18.12	18.50	1.091	87.44	1.144	0.08	0.734	**0.916**
	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	56	5280	18.08	18.50	1.102	87.44	1.144	0.08	0.658	0.829
	WLAN5.3GHz	802.11a 6Mbps	Front	0	Full	60	5300	18.15	18.50	1.083	87.44	1.144	0.06	0.679	0.841
77	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	140	5700	18.19	18.50	1.073	87.44	1.144	0.07	0.600	**0.737**
	WLAN 5.5GHz	802.11a 6Mbps	Back	0	Full	140	5700	18.19	18.50	1.073	87.44	1.144	0.01	0.352	0.432
	WLAN 5.5GHz	802.11a 6Mbps	Right Side	0	Full	140	5700	18.19	18.50	1.073	87.44	1.144	0.09	0.033	0.041
	WLAN 5.5GHz	802.11a 6Mbps	Top Side	0	Full	140	5700	18.19	18.50	1.073	87.44	1.144	0.04	0.554	0.680
	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	100	5500	17.95	18.50	1.134	87.44	1.144	0.04	0.466	0.605
	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	116	5580	17.84	18.50	1.163	87.44	1.144	0.05	0.435	0.579
	WLAN 5.5GHz	802.11a 6Mbps	Front	0	Full	132	5660	18.16	18.50	1.081	87.44	1.144	-0.02	0.542	0.671

14.5 TDD LTE Band 41(HPUE) Linearity Data Analysis

LTE Band 41(HPUE)-Linearity Data for Head		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	24.50	25.50
Reported 1g SAR (W/kg)	0.359	0.333
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	178.40	153.63
Linearity SAR (W/kg)	0.309	
% deviation from expected linearity		7.71%

LTE Band 41(HPUE)-Linearity Data for Hotspot		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	21.00	21.00
Reported 1g SAR (W/kg)	1.056	0.725
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	79.69	54.51
Linearity SAR (W/kg)	0.722	
% deviation from expected linearity		0.37%

LTE Band 41(HPUE)-Linearity Data for Body-worn		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	21.00	21.00
Reported 1g SAR (W/kg)	1.054	0.717
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	79.69	54.51
Linearity SAR (W/kg)	0.721	
% deviation from expected linearity		-0.55%

LTE Band 41(HPUE)-Linearity Data for Product specific 10g SAR		
	LTE Band 41 (Power Class 3)	LTE Band 41 (Power Class 2)
Maximum Tune up Power (dBm)	24.50	25.50
Reported 10g SAR (W/kg)	3.179	2.975
Duty Cycle	63.30%	43.30%
Frame Averaged (mW)	178.40	153.63
Linearity SAR (W/kg)	2.738	
% deviation from expected linearity		8.67%

General Note:

1. The device can adjust uplink/downlink configuration automatically according to the transmitting power class level for LTE band 41.
2. According to TCB Workshop May 2017, Rel. 14 has introduced HPUE Power Class 2 for Band 41. HPUE Power Class 2 does not support uplink downlink configurations 0 and 6.
3. Power class 3 is expected to be the dominant use configuration; therefore, SAR should be tested as normally required.
4. Power class 2 is tested using the highest SAR test configuration in power class 3 of each LTE configuration and exposure condition combination, according to the highest time averaged power for all applicable uplink-downlink configurations in power class 2.
5. Separate SAR testing for Power Class 2 is not required when
   – the reported SAR vs. output power can be linearly scaled with < 10%
   – discrepancy between power classes and all *reported* 1g SAR are < 1.4 W/kg (The same procedures should be adapted for measurements according to extremity limits by applying a factor of 2.5 for extremity exposure.)

14.6 Repeated SAR Measurement

<1g SAR>

No.	Band	Mode	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)	Ratio	Reported 1g SAR (W/kg)
1st	GSM1900	GPRS 1 Tx slot	-	-	-	-	Bottom Side	5	Hotspot On	661	1880	25.33	26.00	1.167	-	-	-0.06	0.925	1	1.079
2nd	GSM1900	GPRS 1 Tx slot	-	-	-	-	Bottom Side	5	Hotspot On	661	1880	25.33	26.00	1.167	-	-	-0.06	0.858	1.078	1.001
1st	GSM850	GPRS 4 Tx slots	-	-	-	-	Front	5	Full	128	824.2	26.68	27.00	1.076	-	-	-0.19	0.991	1	1.067
2nd	GSM850	GPRS 4 Tx slots	-	-	-	-	Front	5	Full	128	824.2	26.68	27.00	1.076	-	-	0.03	0.895	1.107	0.963
1st	LTE Band 13	-	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-	-	-0.06	0.983	1	1.085
2nd	LTE Band 13	-	10M	QPSK	1	0	Front	5	Full	23230	782	24.07	24.50	1.104	-	-	0.02	0.981	1.002	1.083
1st	LTE Band 41	-	20M	QPSK	1	99	Bottom Side	5	Hotspot On	39750	2506	20.57	21.00	1.104	62.9	1.006	-0.12	0.898	1	0.997
2nd	LTE Band 41	-	20M	QPSK	1	99	Bottom Side	5	Hotspot On	39750	2506	20.57	21.00	1.104	62.9	1.006	0.01	0.812	1.106	0.902
1st	WLAN5.3GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	0.04	0.938	1	1.198
2nd	WLAN5.3GHz	802.11a 6Mbps	-	-	-	-	Left Cheek	0	Receiver On	52	5260	16.52	17.00	1.116	87.44	1.144	0.05	0.845	1.110	1.079
1st	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Left Tilted	0	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.09	1.010	1	1.174
2nd	WLAN5.8GHz	802.11a 6Mbps	-	-	-	-	Left Tilted	0	Receiver On	149	5745	15.93	16.00	1.016	87.44	1.144	0.01	1.000	1.010	1.163

<10g SAR>

No.	Band	Mode	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 10g SAR (W/kg)	Ratio	Reported 10g SAR (W/kg)
1st	WCDMA Band IV	RMC 12.2Kbps	-	-	-	-	Bottom Side	0	Handheld On	1513	1752.6	20.03	20.50	1.114	-0.02	2.500	1	2.786
2nd	WCDMA Band IV	RMC 12.2Kbps	-	-	-	-	Bottom Side	0	Handheld On	1513	1752.6	20.03	20.50	1.114	-0.01	2.350	1.064	2.619
1st	CDMA2000 BC1	RTAP 153.6Kbps	-	-	-	-	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	-0.09	3.060	1	3.457
2nd	CDMA2000 BC1	RTAP 153.6Kbps	-	-	-	-	Bottom Side	0	Handheld On	1175	1908.75	17.47	18.00	1.130	0.08	2.950	1.037	3.333
1st	LTE Band 26	-	15M	QPSK	1	74	Front	0	Full	26765	821.5	23.75	24.00	1.059	0.02	2.200	1	2.330
2nd	LTE Band 26	-	15M	QPSK	1	74	Front	0	Full	26765	821.5	23.75	24.00	1.059	0.05	2.110	1.043	2.235
1st	LTE Band 30	-	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.1	3.640	1	3.768
2nd	LTE Band 30	-	10M	QPSK	1	0	Front	0	Full	27710	2310	23.35	23.50	1.035	0.06	3.590	1.014	3.716
1st	LTE Band 7	-	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.01	3.630	1	3.664
2nd	LTE Band 7	-	20M	QPSK	1	99	Front	0	Handheld On	21350	2560	22.96	23.00	1.009	0.08	3.590	1.011	3.623

General Note:

1. Per KDB 865664 D01v01r04, for each frequency band, repeated SAR measurement is required only when the measured SAR is ≥0.8W/kg.
2. Per KDB 865664 D01v01r04, if the ratio among the repeated measurement is ≤ 1.2 and the measured SAR <1.45W/kg, only one repeated measurement is required.
3. Per KDB 865664 D01v01r04, if the extremity repeated SAR is necessary, the same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.
4. The ratio is the difference in percentage between original and repeated *measured SAR*.
5. All measurement SAR result is scaled-up to account for tune-up tolerance and is compliant.

15. Simultaneous Transmission Analysis

No.	Simultaneous Transmission Configurations	Portable Handset				Note
		Head	Body-worn	Hotspot	Product specific 10g SAR	
1.	GSM Voice + WLAN2.4GHz	Yes	Yes			
2.	GPRS/EDGE + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
3.	WCDMA + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
4.	CDMA + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
5.	LTE + WLAN2.4GHz	Yes	Yes	Yes	Yes	WLAN Hotspot
6.	GSM Voice + WLAN5.3/5.5GHz	Yes	Yes			
7.	GPRS/EDGE + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
8.	WCDMA + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
9.	CDMA + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
10.	LTE + WLAN5.3/5.5GHz	Yes	Yes		Yes	WLAN Direct (GC only)
11.	GSM Voice + WLAN5.2/5.8GHz	Yes	Yes			
12.	GPRS/EDGE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
13.	WCDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
14.	CDMA + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
15.	LTE + WLAN5.2/5.8GHz	Yes	Yes	Yes	Yes	WLAN Hotspot/Direct(GC/GO)
16.	GSM Voice + Bluetooth		Yes			
17.	GPRS/EDGE + Bluetooth		Yes	Yes	Yes	BT Tethering
18.	WCDMA + Bluetooth		Yes	Yes	Yes	BT Tethering
19.	CDMA + Bluetooth		Yes	Yes	Yes	BT Tethering
20.	LTE + Bluetooth		Yes	Yes	Yes	BT Tethering

General Note:

1. This device supports VoIP in GPRS, EGPRS, CDMA, WCDMA and LTE (e.g. for 3rd-party VoIP), LTE supports VoLTE operation.
2. EUT will choose each GSM, WCDMA, CDMA and LTE according to the network signal condition; therefore, they will not operate simultaneously at any moment.
3. This device 2.4GHz WLAN support hotspot operation and Bluetooth support tethering applications.
4. This device 2.4GHz WLAN/ 5.2GHz WLAN/5.8GHz WLAN support hotspot operation, and 5.2GHz WLAN/5.8GHz WLAN supports WLAN Direct (GC/GO), and 5.3GHz / 5.5GHz supports WLAN Direct (GC only).
5. EUT will choose either WLAN 2.4GHz or WLAN 5GHz according to the network signal condition; therefore, 2.4GHz WLAN and 5GHz WLAN will not operate simultaneously at any moment though they have independent antenna.
6. WLAN 2.4GHz and Bluetooth share the same antenna so can't transmit simultaneously.
7. According to the EUT character, WLAN 5GHz and Bluetooth can't transmit simultaneously.
8. Chose the worst zoom scan SAR of WLAN correspondingly for co-located with WWAN analysis.
9. The reported SAR summation is calculated based on the same configuration and test position.
10. Per KDB 447498 D01v06, simultaneous transmission SAR is compliant if,
    i) 1g Scalar SAR summation < 1.6W/kg and 10g Scalar SAR summation < 4.0W/kg.
    ii) SPLSR = (SAR1 + SAR2)^1.5 / (min. separation distance, mm), and the peak separation distance is determined from the square root of [(x1-x2)2 + (y1-y2)2 + (z1-z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
    iii) If SPLSR ≤ 0.04 for 1g SAR, SPLSR ≤ 0.10 for 10g SAR simultaneously transmission SAR measurement is not necessary.
    iv) Simultaneously transmission SAR measurement, and the reported multi-band 1g SAR < 1.6W/kg and 10g SAR < 4.0W/kg.
    v) The SPLSR calculated results please refer to section 15.5.

15.1 Head Exposure Conditions

WWAN Band		Exposure Position	1	2	3	1+2			1+3		
			WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	5GHz WLAN 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Right Cheek	0.264	0.354	0.880	0.62			1.14		
		Right Tilted	0.117	0.442	0.903	0.56			1.02		
		Left Cheek	0.201	0.713	1.198	0.91			1.40		
		Left Tilted	0.126	0.435	1.174	0.56			1.30		
	GSM1900	Right Cheek	0.091	0.354	0.880	0.45			0.97		
		Right Tilted	0.010	0.442	0.903	0.45			0.91		
		Left Cheek	0.027	0.713	1.198	0.74			1.23		
		Left Tilted	0.053	0.435	1.174	0.49			1.23		
WCDMA	Band V	Right Cheek	0.363	0.354	0.880	0.72			1.24		
		Right Tilted	0.143	0.442	0.903	0.59			1.05		
		Left Cheek	0.241	0.713	1.198	0.95			1.44		
		Left Tilted	0.145	0.435	1.174	0.58			1.32		
	Band IV	Right Cheek	0.210	0.354	0.880	0.56			1.09		
		Right Tilted	0.075	0.442	0.903	0.52			0.98		
		Left Cheek	0.186	0.713	1.198	0.90			1.38		
		Left Tilted	0.087	0.435	1.174	0.52			1.26		
	Band II	Right Cheek	0.185	0.354	0.880	0.54			1.07		
		Right Tilted	0.069	0.442	0.903	0.51			0.97		
		Left Cheek	0.158	0.713	1.198	0.87			1.36		
		Left Tilted	0.108	0.435	1.174	0.54			1.28		
CDMA2000	BC10	Right Cheek	0.357	0.354	0.880	0.71			1.24		
		Right Tilted	0.162	0.442	0.903	0.60			1.07		
		Left Cheek	0.280	0.713	1.198	0.99			1.48		
		Left Tilted	0.182	0.435	1.174	0.62			1.36		
	BC0	Right Cheek	0.338	0.354	0.880	0.69			1.22		
		Right Tilted	0.157	0.442	0.903	0.60			1.06		
		Left Cheek	0.266	0.713	1.198	0.98			1.46		
		Left Tilted	0.170	0.435	1.174	0.61			1.34		
	BC1	Right Cheek	0.246	0.354	0.880	0.60			1.13		
		Right Tilted	0.131	0.442	0.903	0.57			1.03		
		Left Cheek	0.209	0.713	1.198	0.92			1.41		
		Left Tilted	0.120	0.435	1.174	0.56			1.29		

WWAN Band		Exposure Position	1	2	3	1+2			1+3		
			WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	5GHz WLAN 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
LTE	Band 12	Right Cheek	0.272	0.354	0.88	0.63			1.15		
		Right Tilted	0.089	0.442	0.903	0.53			0.99		
		Left Cheek	0.203	0.713	1.198	0.92			1.40		
		Left Tilted	0.109	0.435	1.174	0.54			1.28		
	Band 13	Right Cheek	0.243	0.354	0.88	0.60			1.12		
		Right Tilted	0.105	0.442	0.903	0.55			1.01		
		Left Cheek	0.182	0.713	1.198	0.90			1.38		
		Left Tilted	0.147	0.435	1.174	0.58			1.32		
	Band 14	Right Cheek	0.119	0.354	0.88	0.47			1.00		
		Right Tilted	0.056	0.442	0.903	0.50			0.96		
		Left Cheek	0.096	0.713	1.198	0.81			1.29		
		Left Tilted	0.065	0.435	1.174	0.50			1.24		
	Band 26	Right Cheek	0.368	0.354	0.880	0.72			1.25		
		Right Tilted	0.168	0.713	0.903	0.88			1.07		
		Left Cheek	0.299	0.435	1.198	0.73			1.50		
		Left Tilted	0.175	0.354	1.174	0.53			1.35		
	Band 66	Right Cheek	0.113	0.442	0.880	0.56			0.99		
		Right Tilted	0.029	0.713	0.903	0.74			0.93		
		Left Cheek	0.078	0.435	1.198	0.51			1.28		
		Left Tilted	0.041	0.354	1.174	0.40			1.22		
	Band 25	Right Cheek	0.224	0.442	0.880	0.67			1.10		
		Right Tilted	0.065	0.713	0.903	0.78			0.97		
		Left Cheek	0.213	0.435	1.198	0.65			1.41		
		Left Tilted	0.115	0.354	1.174	0.47			1.29		
	Band 30	Right Cheek	0.177	0.442	0.880	0.62			1.06		
		Right Tilted	0.159	0.713	0.903	0.87			1.06		
		Left Cheek	0.260	0.435	1.198	0.70			1.46		
		Left Tilted	0.089	0.354	1.174	0.44			1.26		
	Band 7	Right Cheek	0.424	0.442	0.880	0.87			1.30		
		Right Tilted	0.288	0.713	0.903	1.00			1.19		
		Left Cheek	0.538	0.435	1.198	0.97			**1.74**	**0.03**	**#1**
		Left Tilted	0.185	0.354	1.174	0.54			1.36		
	Band 41	Right Cheek	0.277	0.442	0.880	0.72			1.16		
		Right Tilted	0.200	0.713	0.903	0.91			1.10		
		Left Cheek	0.359	0.435	1.198	0.79			1.56		
		Left Tilted	0.112	0.354	1.174	0.47			1.29		

15.2 Hotspot Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN 1g SAR (W/kg)	2.4GHz WLAN 1g SAR (W/kg)	5GHz WLAN 1g SAR (W/kg)	Bluetooth 1g SAR (W/kg)	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
GSM	GSM850	Front	1.067	0.235	0.797	0.072	1.30			**1.86**	**0.02**	**#2**	1.14		
		Back	0.611	0.602	0.627	0.117	1.21			1.24			0.73		
		Left Side	0.229				0.23			0.23			0.23		
		Right Side	0.495	0.161	0.255	0.044	0.66			0.75			0.54		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.542				0.54			0.54			0.54		
	GSM1900	Front	1.005	0.235	0.797	0.072	1.24			**1.80**	**0.02**	**#3**	1.08		
		Back	0.608	0.602	0.627	0.117	1.21			1.24			0.73		
		Left Side	0.045				0.05			0.05			0.05		
		Right Side	0.046	0.161	0.255	0.044	0.21			0.30			0.09		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	1.079				1.08			1.08			1.08		
WCDMA	Band V	Front	1.112	0.235	0.797	0.072	**1.35**			**1.91**	**0.02**	**#4**	**1.18**		
		Back	0.378	0.602	0.627	0.117	0.98			1.01			0.50		
		Left Side	0.142				0.14			0.14			0.14		
		Right Side	0.520	0.161	0.255	0.044	0.68			0.78			0.56		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.551				0.55			0.55			0.55		
	Band IV	Front	0.649	0.235	0.797	0.072	0.88			1.45			0.72		
		Back	0.425	0.602	0.627	0.117	1.03			1.05			0.54		
		Left Side	0.030				0.03			0.03			0.03		
		Right Side	0.059	0.161	0.255	0.044	0.22			0.31			0.10		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.695				0.70			0.70			0.70		
	Band II	Front	0.754	0.235	0.797	0.072	0.99			1.55			0.83		
		Back	0.428	0.602	0.627	0.117	1.03			1.06			0.55		
		Left Side	0.036				0.04			0.04			0.04		
		Right Side	0.037	0.161	0.255	0.044	0.20			0.29			0.08		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.774				0.77			0.77			0.77		
CDMA2000	BC10	Front	0.765	0.235	0.797	0.072	1.00			1.56			0.84		
		Back	0.357	0.602	0.627	0.117	0.96			0.98			0.47		
		Left Side	0.194				0.19			0.19			0.19		
		Right Side	0.329	0.161	0.255	0.044	0.49			0.58			0.37		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.673				0.67			0.67			0.67		
	BC0	Front	0.947	0.235	0.797	0.072	1.18			**1.74**	**0.02**	**#6**	1.02		
		Back	0.410	0.602	0.627	0.117	1.01			1.04			0.53		
		Left Side	0.118				0.12			0.12			0.12		
		Right Side	0.360	0.161	0.255	0.044	0.52			0.62			0.40		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.906				0.91			0.91			0.91		
	BC1	Front	0.662	0.235	0.797	0.072	0.90			1.46			0.73		
		Back	0.304	0.602	0.627	0.117	0.91			0.93			0.42		
		Left Side	0.032				0.03			0.03			0.03		
		Right Side	0.039	0.161	0.255	0.044	0.20			0.29			0.08		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.829				0.83			0.83			0.83		

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
LTE	Band 12	Front	0.851	0.235	0.797	0.072	1.09			**1.65**	**0.02**	**#7**	0.92		
		Back	0.495	0.602	0.627	0.117	1.10			1.12			0.61		
		Left Side	0.361				0.36			0.36			0.36		
		Right Side	0.708	0.161	0.255	0.044	0.87			0.96			0.75		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.416				0.42			0.42			0.42		
	Band 13	Front	1.085	0.235	0.797	0.072	1.32			**1.88**	**0.02**	**#8**	1.16		
		Back	0.639	0.602	0.627	0.117	1.24			1.27			0.76		
		Left Side	0.236				0.24			0.24			0.24		
		Right Side	0.520	0.161	0.255	0.044	0.68			0.78			0.56		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.432				0.43			0.43			0.43		
	Band 14	Front	0.481	0.235	0.797	0.072	0.72			1.28			0.55		
		Back	0.272	0.602	0.627	0.117	0.87			0.90			0.39		
		Left Side	0.099				0.10			0.10			0.10		
		Right Side	0.269	0.161	0.255	0.044	0.43			0.52			0.31		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.268				0.27			0.27			0.27		
	Band 26	Front	0.955	0.235	0.797	0.072	1.19			**1.75**	**0.02**	**#9**	1.03		
		Back	0.449	0.602	0.627	0.117	1.05			1.08			0.57		
		Left Side	0.166				0.17			0.17			0.17		
		Right Side	0.197	0.161	0.255	0.044	0.36			0.45			0.24		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.415				0.42			0.42			0.42		
	Band 66	Front	0.555	0.235	0.797	0.072	0.79			1.35			0.63		
		Back	0.312	0.602	0.627	0.117	0.91			0.94			0.43		
		Left Side	0.020				0.02			0.02			0.02		
		Right Side	0.045	0.161	0.255	0.044	0.21			0.30			0.09		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.583				0.58			0.58			0.58		
	Band 25	Front	0.808	0.235	0.797	0.072	1.04			**1.61**	**0.03**	**#10**	0.88		
		Back	0.494	0.602	0.627	0.117	1.10			1.12			0.61		
		Left Side	0.039				0.04			0.04			0.04		
		Right Side	0.045	0.161	0.255	0.044	0.21			0.30			0.09		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.875				0.88			0.88			0.88		

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
LTE	Band 30	Front	0.326	0.235	0.797	0.072	0.56			1.12			0.40		
		Back	0.267	0.602	0.627	0.117	0.87			0.89			0.38		
		Left Side	0.235				0.24			0.24			0.24		
		Right Side	0.046	0.161	0.255	0.044	0.21			0.30			0.09		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.485				0.49			0.49			0.49		
	Band 7	Front	0.689	0.235	0.797	0.072	0.92			1.49			0.76		
		Back	0.554	0.602	0.627	0.117	1.16			1.18			0.67		
		Left Side	0.403				0.40			0.40			0.40		
		Right Side	0.075	0.161	0.255	0.044	0.24			0.33			0.12		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	0.876				0.88			0.88			0.88		
	Band 41	Front	1.054	0.235	0.797	0.072	1.29			**1.85**	**0.02**	**#11**	1.13		
		Back	0.550	0.602	0.627	0.117	1.15			1.18			0.67		
		Left Side	0.432				0.43			0.43			0.43		
		Right Side	0.079	0.161	0.255	0.044	0.24			0.33			0.12		
		Top Side		0.309	0.752	0.065	0.31			0.75			0.07		
		Bottom Side	1.056				1.06			1.06			1.06		

15.3 Body-Worn Accessory Exposure Conditions

WWAN Band		Exposure Position	1	2	3	4	1+2			1+3			1+4		
			WWAN	2.4GHz WLAN	5GHz WLAN	Bluetooth	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No	Summed 1g SAR (W/kg)	SPLSR	Case No
			1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)	1g SAR (W/kg)									
GSM	GSM850	Front	1.067	0.235	0.568	0.072	1.30			**1.64**	**0.01**	**#12**	1.14		
		Back	0.611	0.602	0.722	0.117	1.21			1.33			0.73		
	GSM1900	Front	1.005	0.235	0.568	0.072	1.24			**1.57**			1.08		
		Back	0.608	0.602	0.722	0.117	1.21			1.33			0.73		
WCDMA	Band V	Front	1.112	0.235	0.568	0.072	1.35			**1.68**	**0.02**	**#13**	1.18		
		Back	0.378	0.602	0.722	0.117	0.98			1.10			0.50		
	Band IV	Front	0.649	0.235	0.568	0.072	0.88			1.22			0.72		
		Back	0.425	0.602	0.722	0.117	1.03			1.15			0.54		
	Band II	Front	0.754	0.235	0.568	0.072	0.99			1.32			0.83		
		Back	0.428	0.602	0.722	0.117	1.03			1.15			0.55		
CDMA2000	BC10	Front	0.933	0.235	0.568	0.072	1.17			1.50			1.01		
		Back	0.494	0.602	0.722	0.117	1.10			1.22			0.61		
	BC0	Front	0.840	0.235	0.568	0.072	1.08			1.41			0.91		
		Back	0.363	0.602	0.722	0.117	0.97			1.09			0.48		
	BC1	Front	0.727	0.235	0.568	0.072	0.96			1.30			0.80		
		Back	0.341	0.602	0.722	0.117	0.94			1.06			0.46		
LTE	Band 12	Front	0.851	0.235	0.568	0.072	1.09			1.42			0.92		
		Back	0.495	0.602	0.722	0.117	1.10			1.22			0.61		
	Band 13	Front	1.085	0.235	0.568	0.072	1.32			**1.65**	**0.02**	**#14**	1.16		
		Back	0.639	0.602	0.722	0.117	1.24			1.36			0.76		
	Band 14	Front	0.481	0.235	0.568	0.072	0.72			1.05			0.55		
		Back	0.272	0.602	0.722	0.117	0.87			0.99			0.39		
	Band 26	Front	0.955	0.235	0.568	0.072	1.19			1.52			1.03		
		Back	0.449	0.602	0.722	0.117	1.05			1.17			0.57		
	Band 66	Front	0.555	0.235	0.568	0.072	0.79			1.12			0.63		
		Back	0.312	0.602	0.722	0.117	0.91			1.03			0.43		
	Band 25	Front	0.808	0.235	0.568	0.072	1.04			1.38			0.88		
		Back	0.494	0.602	0.722	0.117	1.10			1.22			0.61		
	Band 30	Front	0.326	0.235	0.568	0.072	0.56			0.89			0.40		
		Back	0.267	0.602	0.722	0.117	0.87			0.99			0.38		
	Band 7	Front	0.689	0.235	0.568	0.072	0.92			1.26			0.76		
		Back	0.554	0.602	0.722	0.117	1.16			1.28			0.67		
	Band 41	Front	1.054	0.235	0.568	0.072	1.29			**1.62**	**0.02**	**#15**	1.13		
		Back	0.550	0.602	0.722	0.117	1.15			1.27			0.67		

15.4 Product specific 10g SAR Exposure Conditions

WWAN Band		Exposure Position	1	2	1+2		
			WWAN Bottom	5GHz WLAN			
			10g SAR (W/kg)	10g SAR (W/kg)	Summed 10g SAR (W/kg)	SPLSR	Case No
GSM	GSM1900	Front	2.945	0.916	3.86		
		Back	1.694	0.738	2.43		
		Bottom Side	3.231		3.23		
WCDMA	Band V	Front	2.237	0.916	3.15		
	Band IV	Front	1.727	0.916	2.64		
		Back	0.888	0.738	1.63		
		Bottom Side	2.786		2.79		
	Band II	Front	2.568	0.916	3.48		
		Back	1.495	0.738	2.23		
		Bottom Side	2.846		2.85		
CDMA2000	BC1	Front	3.069	0.916	3.99		
		Back	1.672	0.738	2.41		
		Bottom Side	3.529		3.53		
LTE	Band 26	Front	2.330	0.916	3.25		
	Band 66	Front	1.986	0.916	2.90		
		Back	0.800	0.738	1.54		
		Bottom Side	2.642		2.64		
	Band 25	Front	2.763	0.916	3.68		
		Back	1.461	0.738	2.20		
		Bottom Side	2.858		2.86		
	Band 30	Front	3.768	0.916	**4.68**	**0.07**	**#16**
		Back	2.660	0.738	3.40		
		Bottom Side	1.905		1.91		
	Band 7	Front	3.664	0.916	**4.58**	**0.07**	**#17**
		Back	3.203	0.738	3.94		
		Left Side	1.696		1.70		
		Bottom Side	1.585		1.59		
	Band 41	Front	3.179	0.916	**4.10**	**0.06**	**#18**
		Back	2.403	0.738	3.14		
		Bottom Side	1.394		1.39		

Remark:

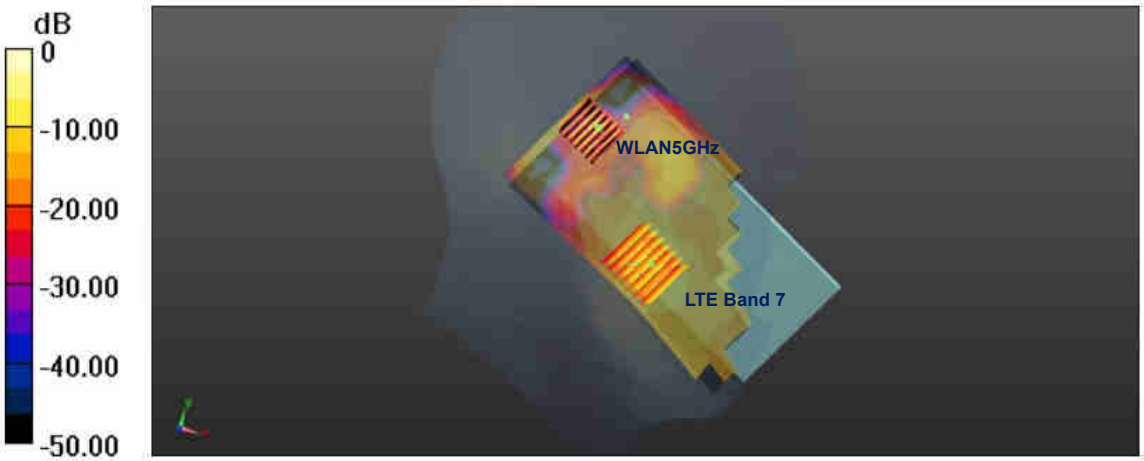
1. For Bluetooth/WLAN 2.4GHz Product specific 10g stand-alone SAR is not required for a transmitter or antenna, due to 1g hotspot SAR is <1.2W/kg.
2. SPLSR ≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.

15.5 SPLSR Evaluation and Analysis

General Note:

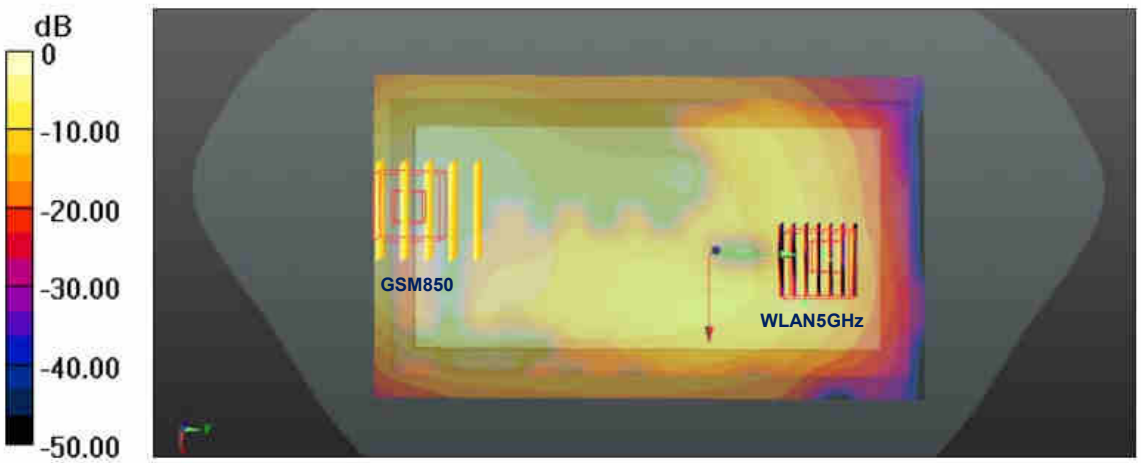
1. When standalone SAR is measured for both antennas in the pair, the peak location separation distance is computed by the square root of [(x1−x2)2 + (y1−y2)2 + (z1−z2)2], where (x1, y1, z1) and (x2, y2, z2) are the coordinates in the area scans or extrapolated peak SAR locations in the zoom scans, as appropriate.
2. SPLSR = $(SAR_1 + SAR_2)^{1.5}$ / (*min. separation distance, mm*). If SPLSR ≤ 0.04 for 1g SAR and SPLSR ≤ 0.10 for 10g SAR, simultaneously transmission SAR measurement is not necessary.

Case #1	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Left Cheek	0.538	0	0.056	0.251	-0.172	75.8	1.74	0.03	Not required
	WLAN5GHz		1.198	0	0.017	0.316	-0.171				



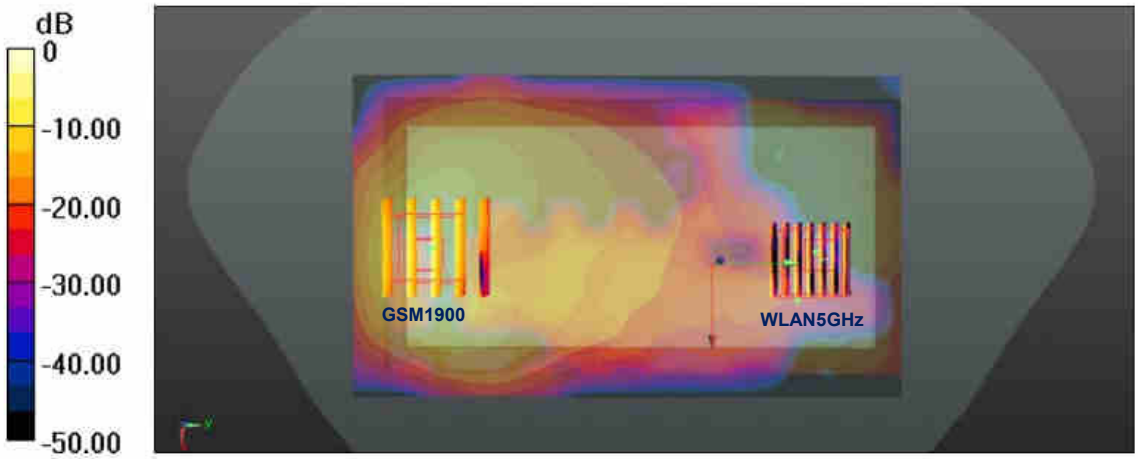
0 dB = 2.54 W/kg = 4.05 dBW/kg

Case #2	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Front	1.067	5	-0.0245	-0.0815	-0.205	140.4	1.86	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



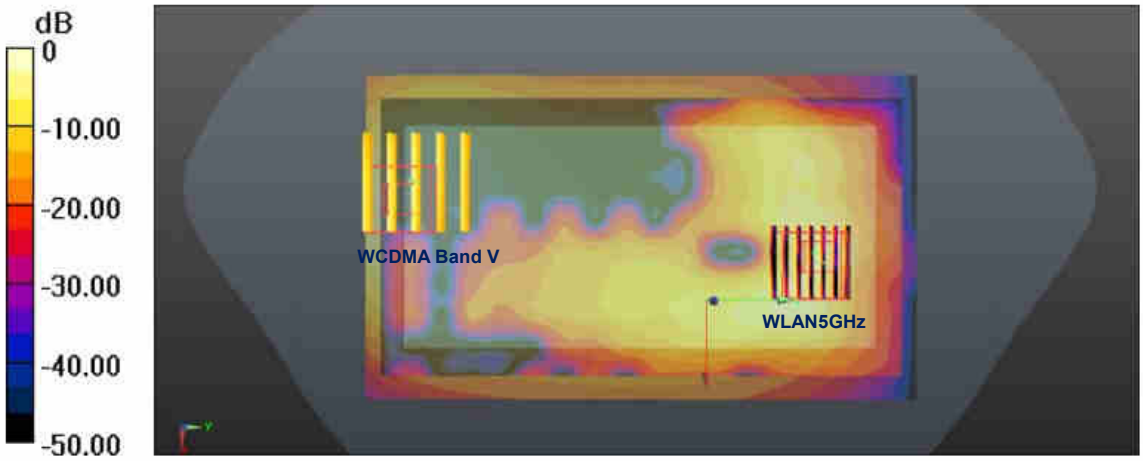
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #3	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM1900	Front	1.005	5	-0.0125	-0.0695	-0.205	127.5	1.80	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



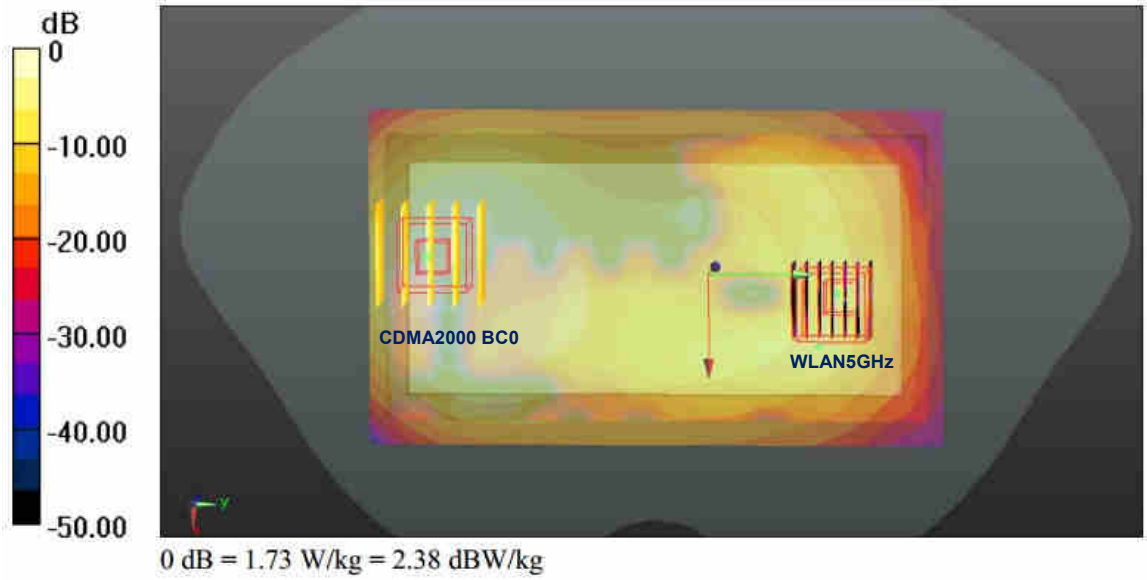
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #4	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA Band V	Front	1.112	5	-0.035	-0.075	-0.205	135.5	1.91	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				

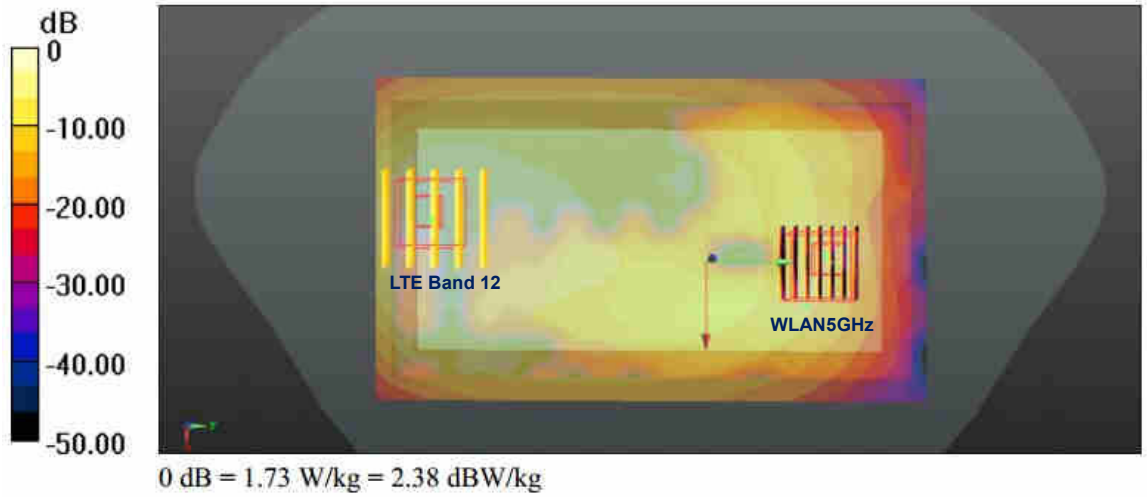


0 dB = 1.73 W/kg = 2.38 dBW/kg

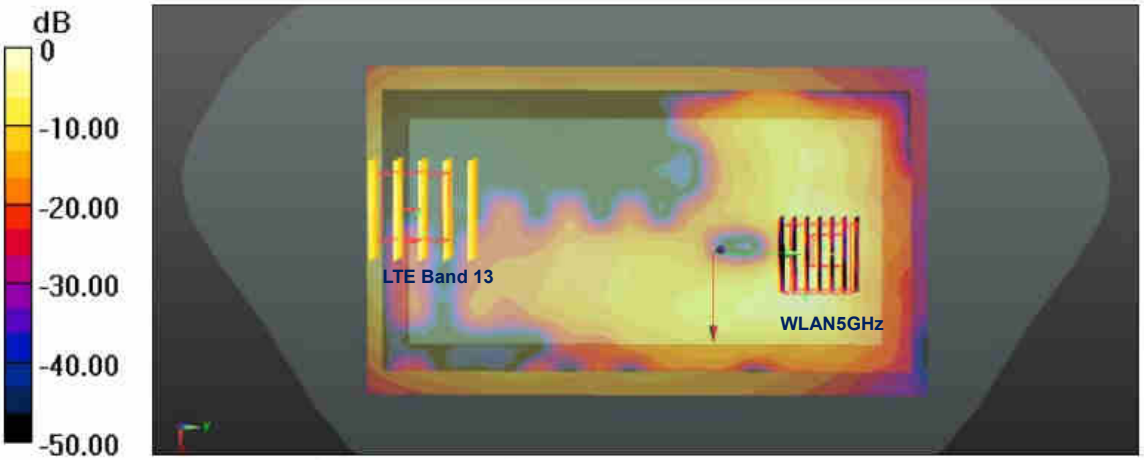
Case #6	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	CDMA2000 BC0	Front	0.947	5	-0.023	-0.072	-0.205	130.8	1.74	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



Case #7	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 12	Front	0.851	5	-0.031	-0.072	-0.205	131.8	1.65	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				

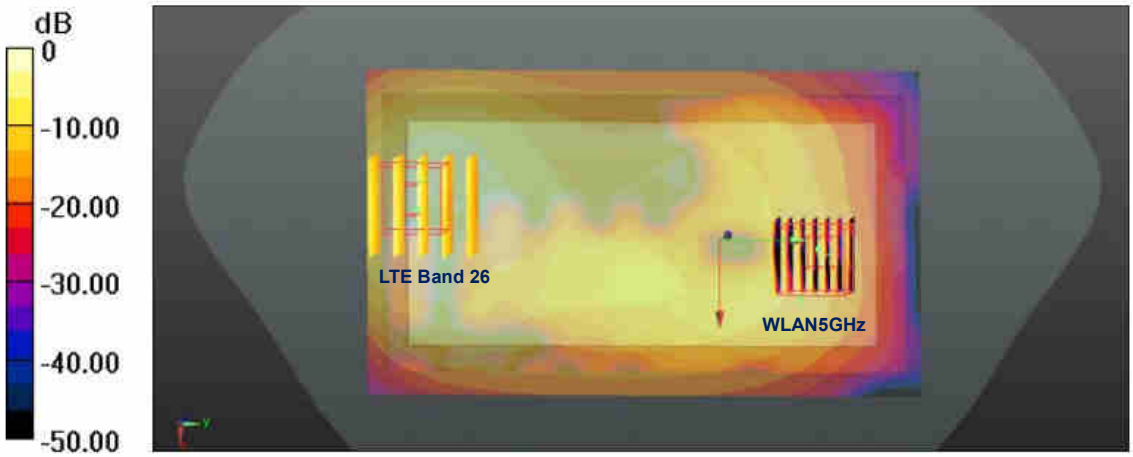


Case #8	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Front	1.085	5	-0.015	-0.0735	-0.205	131.6	1.88	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



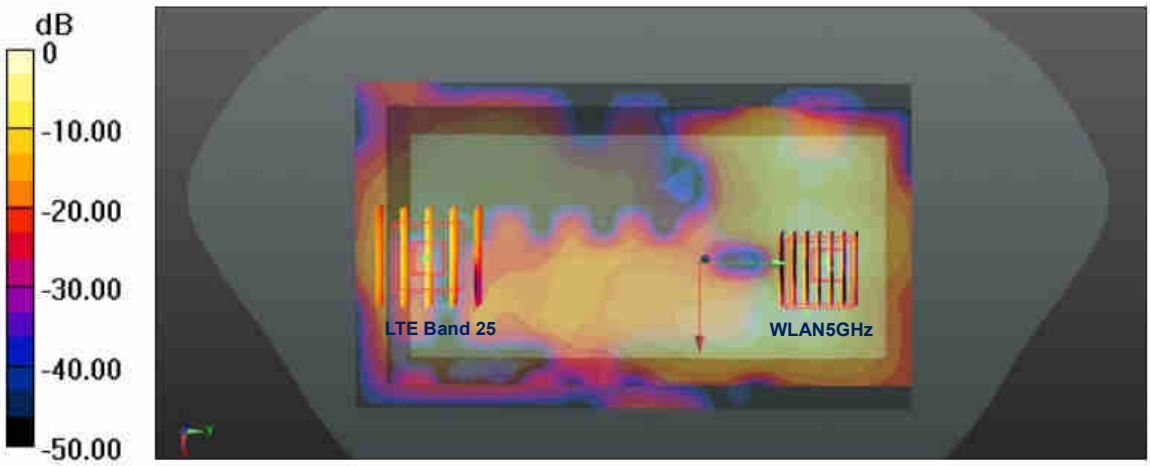
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #9	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 26	Front	0.955	5	-0.0325	-0.0735	-0.205	133.6	1.75	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



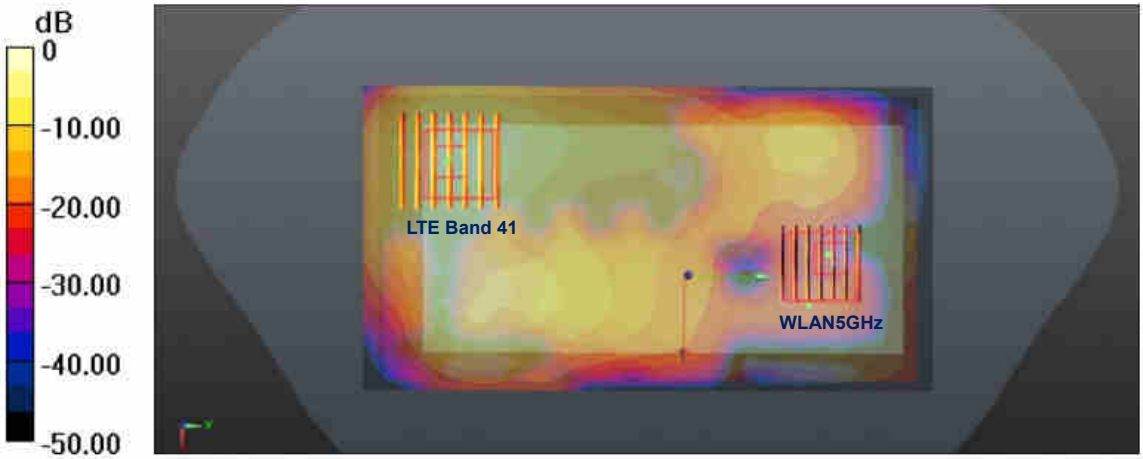
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #10	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 25	Front	0.808	5	-0.0206	-0.0082	-0.205	67.2	1.61	0.03	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



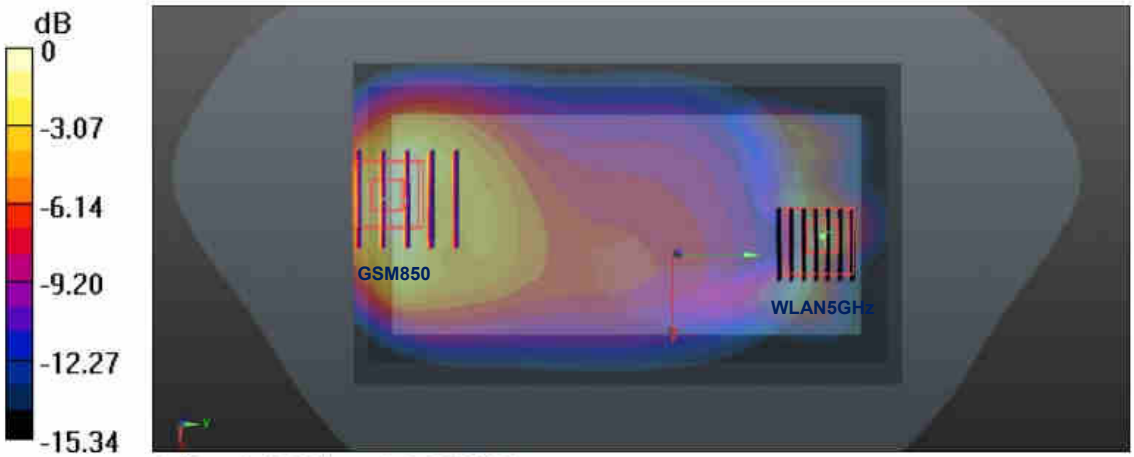
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #11	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Front	1.054	5	-0.041	-0.0636	-0.205	125.7	1.85	0.02	Not required
	WLAN5GHz		0.797	5	-0.009	0.058	-0.205				



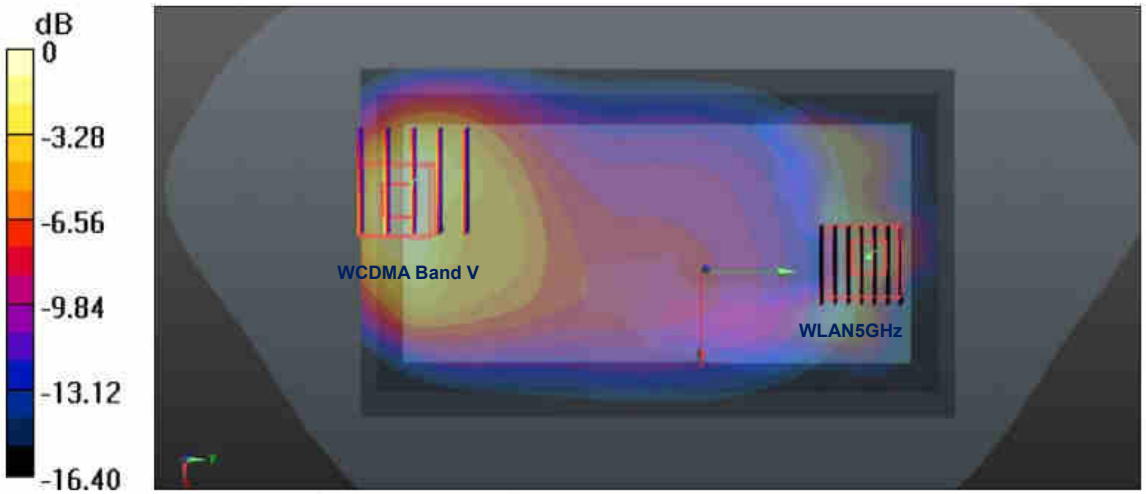
0 dB = 1.73 W/kg = 2.38 dBW/kg

Case #12	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	GSM850	Front	1.067	5	-0.0245	-0.0815	-0.205	146.9	1.64	0.01	Not required
	WLAN5GHz		0.568	5	-0.014	0.065	-0.205				



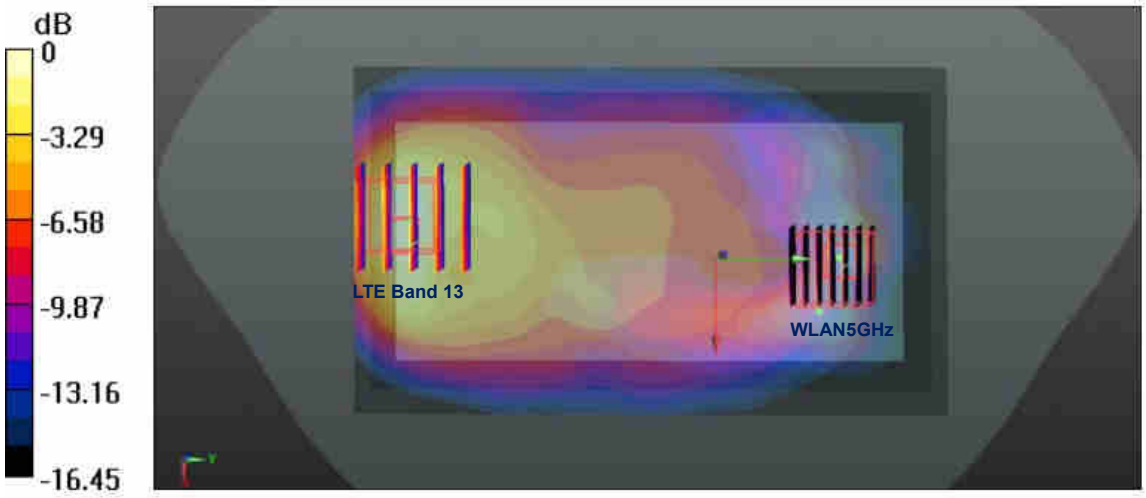
0 dB = 1.40 W/kg = 1.46 dBW/kg

Case #13	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	WCDMA Band V	Front	1.112	5	-0.035	-0.075	-0.205	141.6	1.68	0.02	Not required
	WLAN5GHz		0.568	5	-0.014	0.065	-0.205				



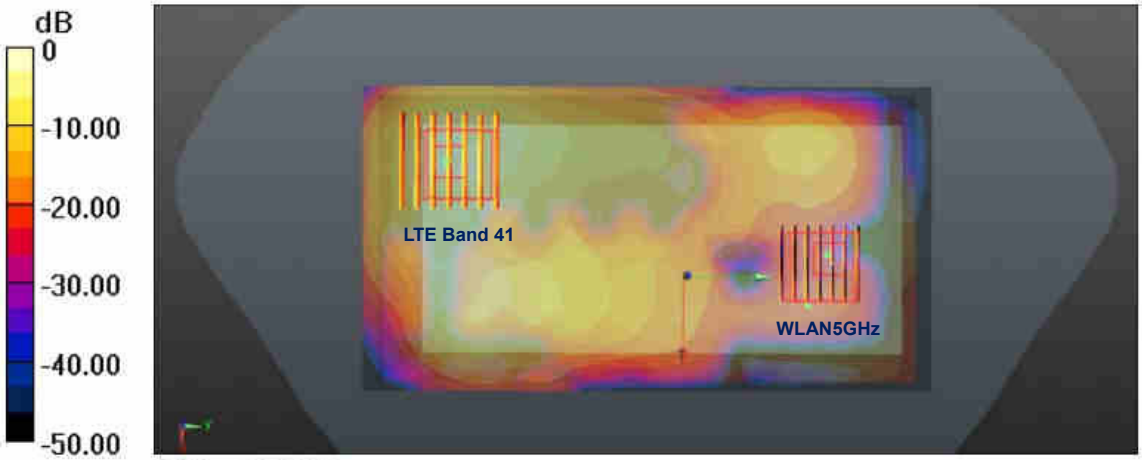
0 dB = 1.34 W/kg = 1.28 dBW/kg

Case #14	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 13	Front	1.085	5	-0.015	-0.0735	-0.205	138.5	1.65	0.02	Not required
	WLAN5GHz		0.568	5	-0.014	0.065	-0.205				



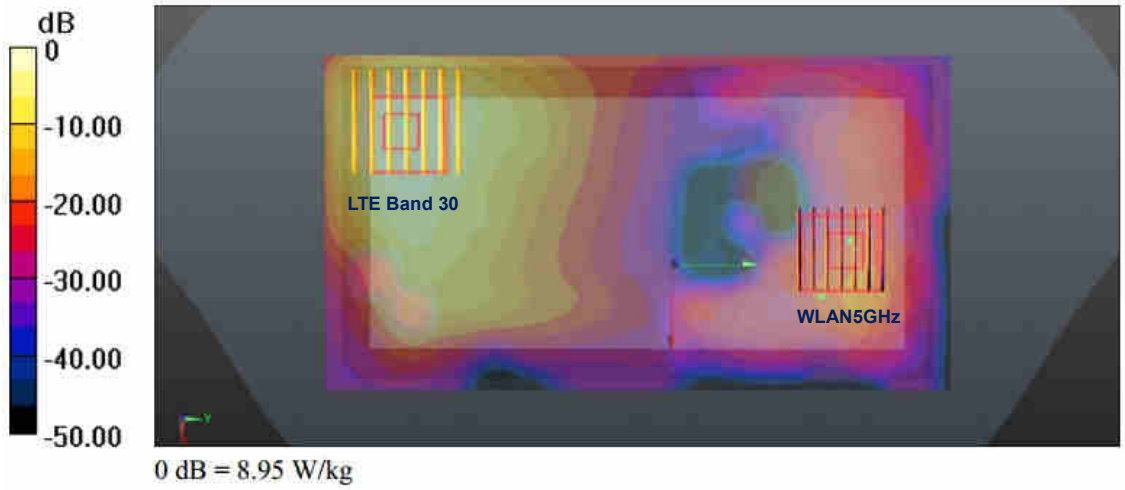
0 dB = 1.48 W/kg = 1.70 dBW/kg

Case #15	Band	Position	1g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 1g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Front	1.054	5	-0.041	-0.0636	-0.205	131.4	1.62	0.02	Not required
	WLAN5GHz		0.568	5	-0.014	0.065	-0.205				

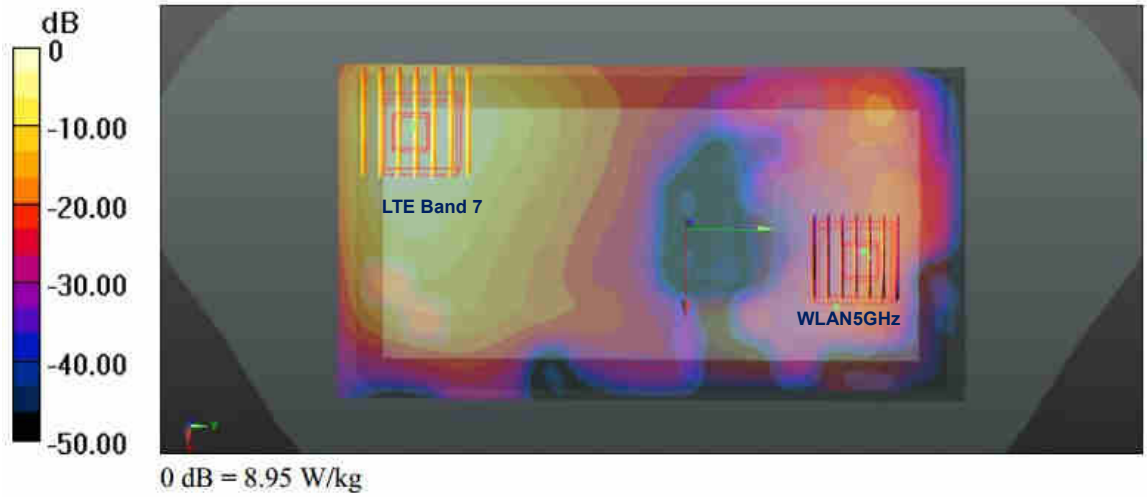


0 dB = 1.13 W/kg

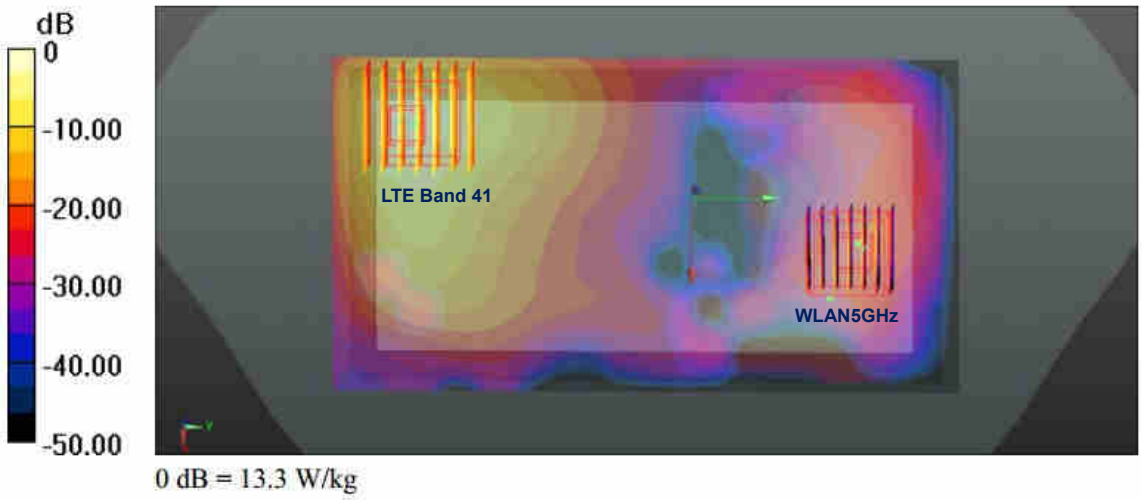
Case #16	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 10g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 30	Front	3.768	0	-0.0408	-0.0722	-0.205	137.9	4.68	0.07	Not required
	WLAN5GHz		0.916	0	-0.009	0.062	-0.205				



Case #17	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 10g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 7	Front	3.664	0	-0.047	-0.0684	-0.205	135.8	4.58	0.07	Not required
	WLAN5GHz		0.916	0	-0.009	0.062	-0.205				



Case #18	Band	Position	10g SAR (W/kg)	Gap (mm)	SAR peak location (m) X	Y	Z	3D distance (mm)	Summed 10g SAR (W/kg)	SPLSR Results	Simultaneous SAR
	LTE Band 41	Front	3.179	0	-0.0458	-0.071	-0.205	138.0	4.10	0.06	Not required
	WLAN5GHz		0.916	0	-0.009	0.062	-0.205				



Test Engineer: Weilong Chen

16. Uncertainty Assessment

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

17. References

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

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

[3] IEEE Std. 1528-2013, “IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques”, Sep 2013

[4] SPEAG DASY System Handbook

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

[6] FCC KDB 865664 D02 v01r02, “RF Exposure Compliance Reporting and Documentation Considerations” Oct 2015.

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

[8] FCC KDB 648474 D04 v01r03, “SAR Evaluation Considerations for Wireless Handsets”, Oct 2015.

[9] FCC KDB 248227 D01 v02r02, “SAR Guidance for IEEE 802.11 (WiFi) Transmitters”, Oct 2015.

[10] FCC KDB 941225 D01 v03r01, “3G SAR MEAUREMENT PROCEDURES”, Oct 2015

[11] FCC KDB 941225 D05 v02r05, “SAR Evaluation Considerations for LTE Devices”, Dec 2015

[12] FCC KDB 941225 D05A v01r02, “Rel. 10 LTE SAR Test Guidance and KDB Inquiries”, Oct 2015

[13] FCC KDB 941225 D06 v02r01, "SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities", Oct 2015.

Appendix A. Plots of System Performance Check

The plots are shown as follows.

System Check_Head_750MHz_180102

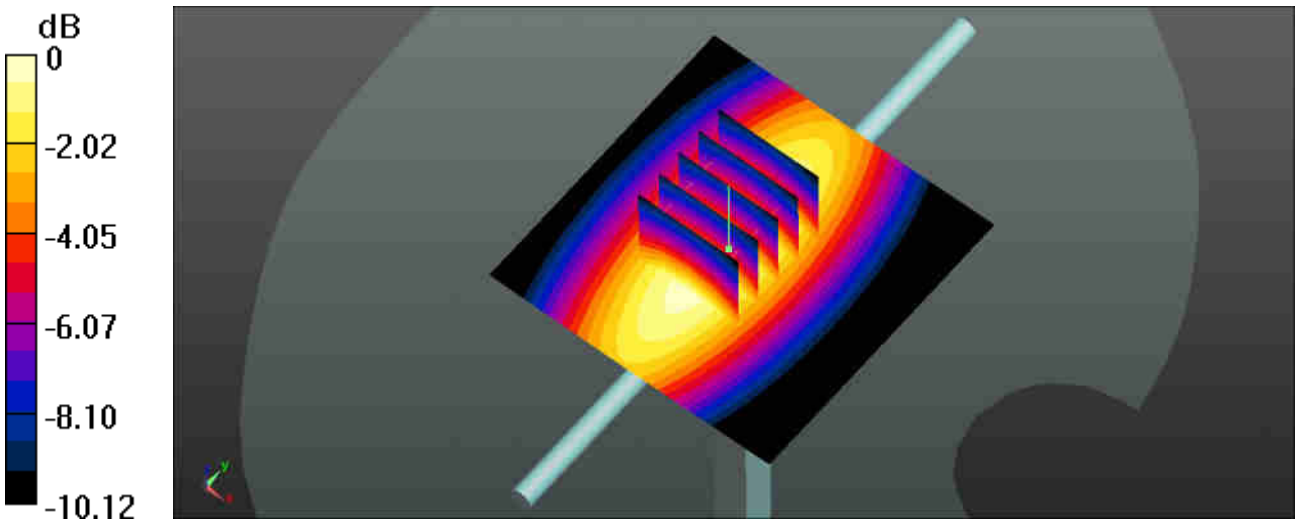
DUT: D750V3-SN:1087

Communication System: UID 0, CW (0); Frequency: 750 MHz;Duty Cycle: 1:1
Medium: HSL_750_180102 Medium parameters used: f = 750 MHz; σ = 0.886 S/m; ε_r = 41.534; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.9 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3911; ConvF(11.04, 11.04, 11.04); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.60 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 54.09 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 3.10 W/kg
SAR(1 g) = 2.08 W/kg; SAR(10 g) = 1.38 W/kg
Maximum value of SAR (measured) = 2.62 W/kg



0 dB = 2.62 W/kg

System Check_Head_835MHz_180101

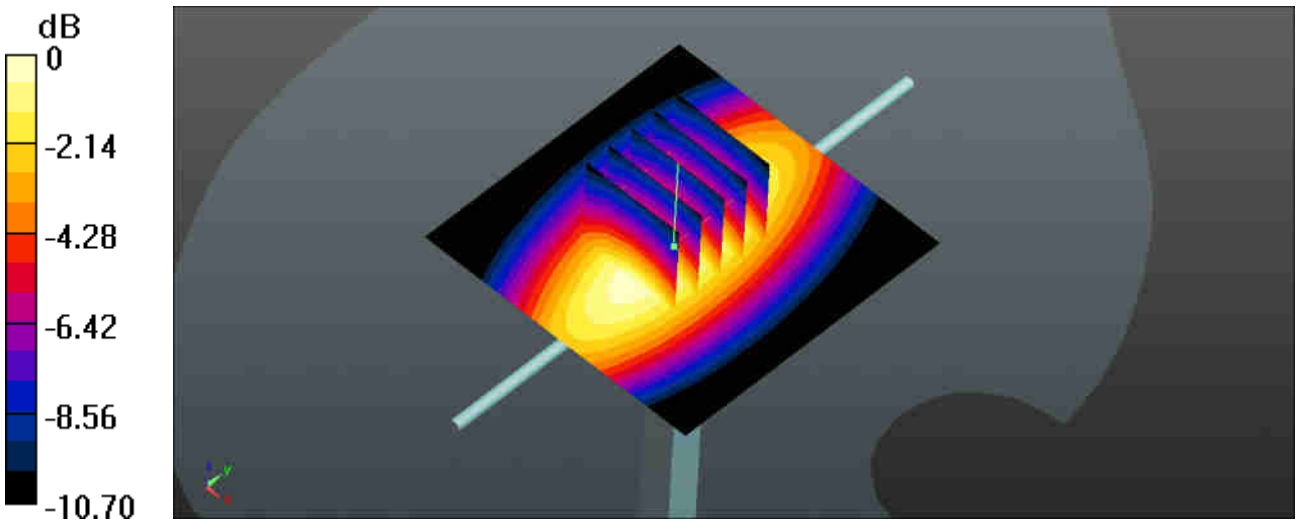
DUT: D835V2-SN:4d151

Communication System: UID 0, CW (0); Frequency: 835 MHz;Duty Cycle: 1:1
Medium: HSL_835_180101 Medium parameters used: f = 835 MHz; σ = 0.915 S/m; ε_r = 41.98; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3911; ConvF(10.3, 10.3, 10.3); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 2.34 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 51.51 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 2.75 W/kg
SAR(1 g) = 2.44 W/kg; SAR(10 g) = 1.61 W/kg
Maximum value of SAR (measured) = 2.33 W/kg



0 dB = 2.33 W/kg

System Check_Head_1750MHz_171231

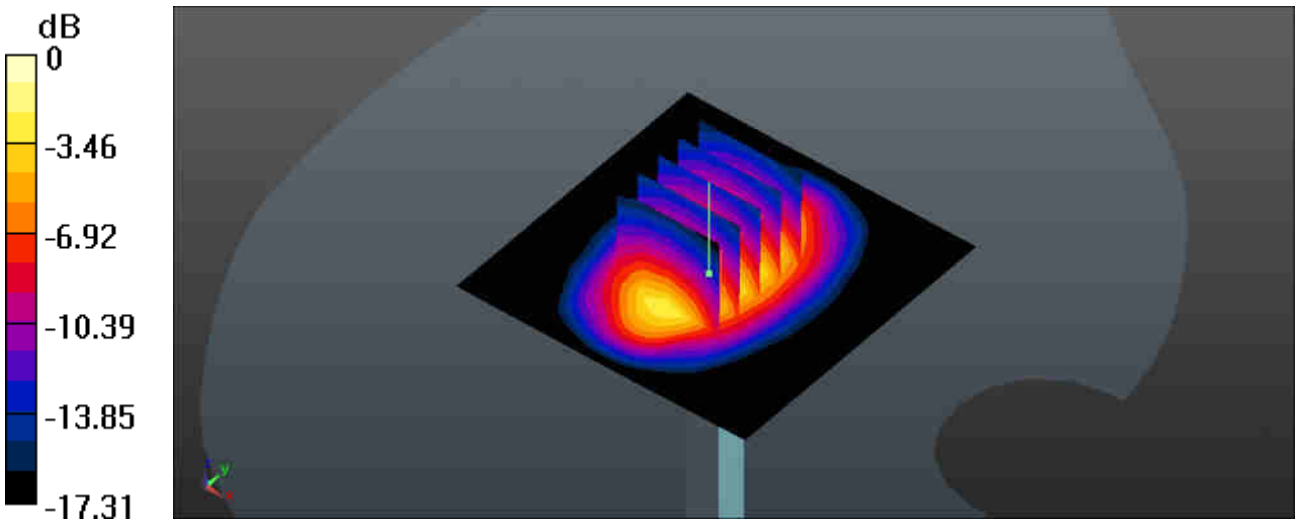
DUT: D1750V2-SN:1137

Communication System: UID 0, CW (0); Frequency: 1750 MHz;Duty Cycle: 1:1
Medium: HSL_1750_171231 Medium parameters used: f = 1750 MHz; σ = 1.375 S/m; ε_r = 41.541; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃； Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3911; ConvF(8.61, 8.61, 8.61); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.0 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 98.24 V/m; Power Drift = -0.03 dB
Peak SAR (extrapolated) = 16.4 W/kg
SAR(1 g) = 9.13 W/kg; SAR(10 g) = 4.85 W/kg
Maximum value of SAR (measured) = 13.0 W/kg



0 dB = 13.0 W/kg

System Check_Head_1900MHz_171231

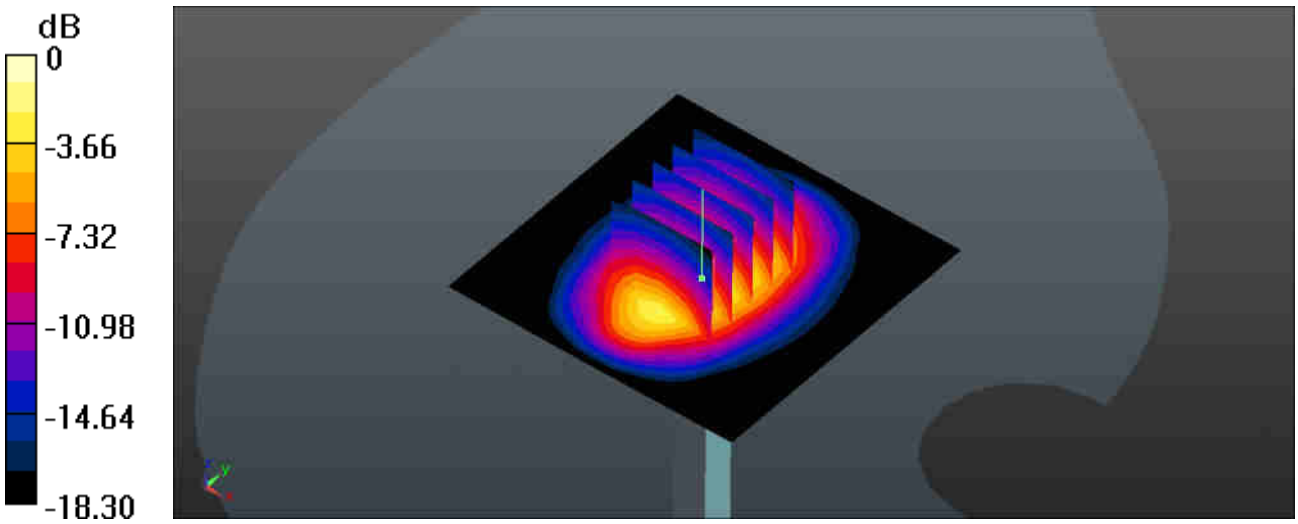
DUT: D1900V2-SN:5d170

Communication System: UID 0, CW; Frequency: 1900 MHz;Duty Cycle: 1:1
Medium: HSL_1900_171231 Medium parameters used: f = 1900 MHz; σ = 1.42 S/m; ε_r = 41.133; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3911; ConvF(8.31, 8.31, 8.31); Calibrated: 2017.11.28;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (61x61x1): Interpolated grid: dx=15mm, dy=15mm
Maximum value of SAR (interpolated) = 13.8 W/kg

Pin=250mW/Zoom Scan (5x5x7)/Cube 0: Measurement grid: dx=8mm, dy=8mm, dz=5mm
Reference Value = 99.30 V/m; Power Drift = -0.04 dB
Peak SAR (extrapolated) = 17.4 W/kg
SAR(1 g) = 9.47 W/kg; SAR(10 g) = 4.91 W/kg
Maximum value of SAR (measured) = 13.7 W/kg



0 dB = 13.7 W/kg

System Check_Head_2300MHz_180107

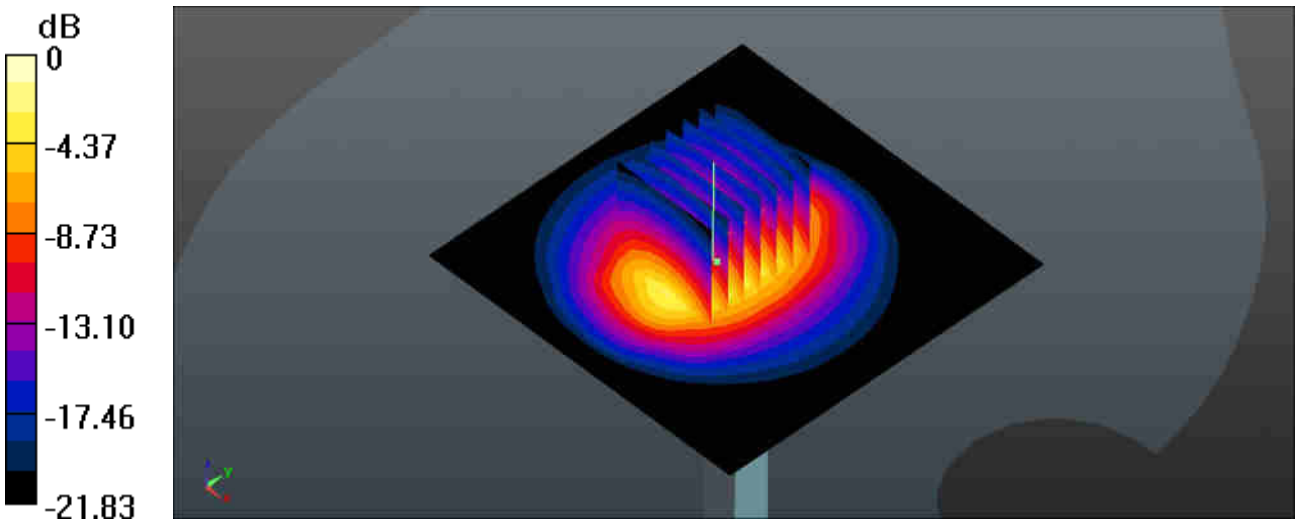
DUT: D2300V2-SN:1056

Communication System: UID 0, CW (0); Frequency: 2300 MHz;Duty Cycle: 1:1
Medium: HSL_2300_180107 Medium parameters used: f = 2300 MHz; σ = 1.689 S/m; ε_r = 38.8; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3642; ConvF(7.35, 7.35, 7.35); Calibrated: 2017.09.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 19.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 104.4 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 27.5 W/kg
SAR(1 g) = 13 W/kg; SAR(10 g) = 6.08 W/kg
Maximum value of SAR (measured) = 20.1 W/kg



0 dB = 20.1 W/kg

Test Laboratory: Sporton International Inc. SAR/HAC Testing Lab Date: 2018.01.08

System Check_Head_2450MHz_180108

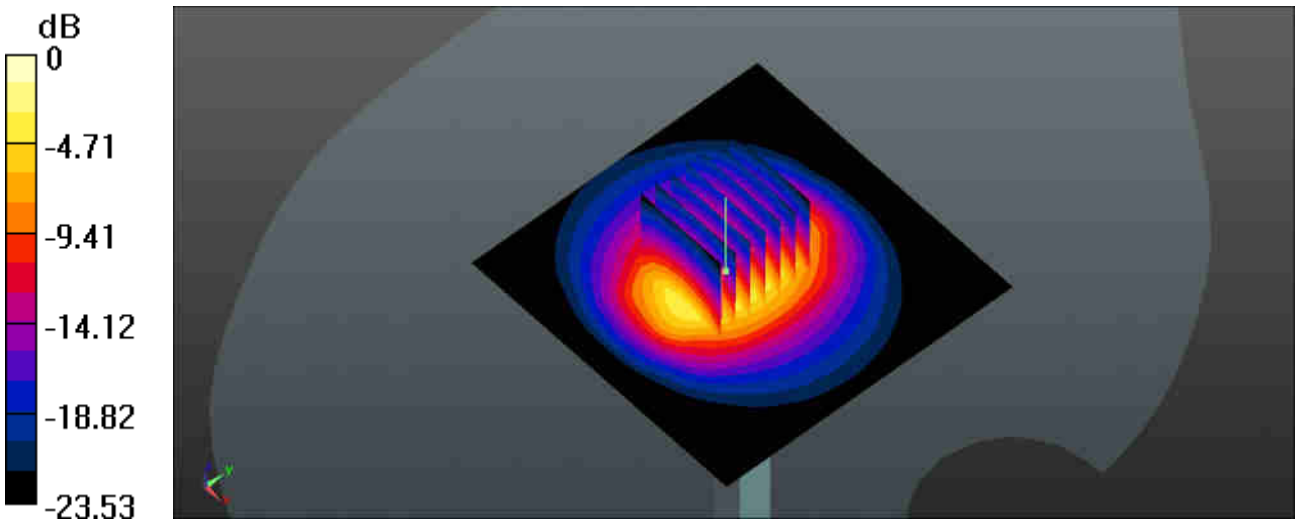
DUT: D2450V2-SN:924

Communication System: UID 0, CW; Frequency: 2450 MHz;Duty Cycle: 1:1
Medium: HSL_2450_180108 Medium parameters used: f = 2450 MHz; σ = 1.857 S/m; ε_r = 37.67; ρ = 1000 kg/m^3
Ambient Temperature：23.4 ℃； Liquid Temperature：22.7 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3642; ConvF(7.25, 7.25, 7.25); Calibrated: 2017.09.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (81x81x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 21.7 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 88.33 V/m; Power Drift = 0.08 dB
Peak SAR (extrapolated) = 30.8 W/kg
SAR(1 g) = 13.9 W/kg; SAR(10 g) = 6.27 W/kg
Maximum value of SAR (measured) = 22.0 W/kg



0 dB = 22.0 W/kg

System Check_Head_2600MHz_180107

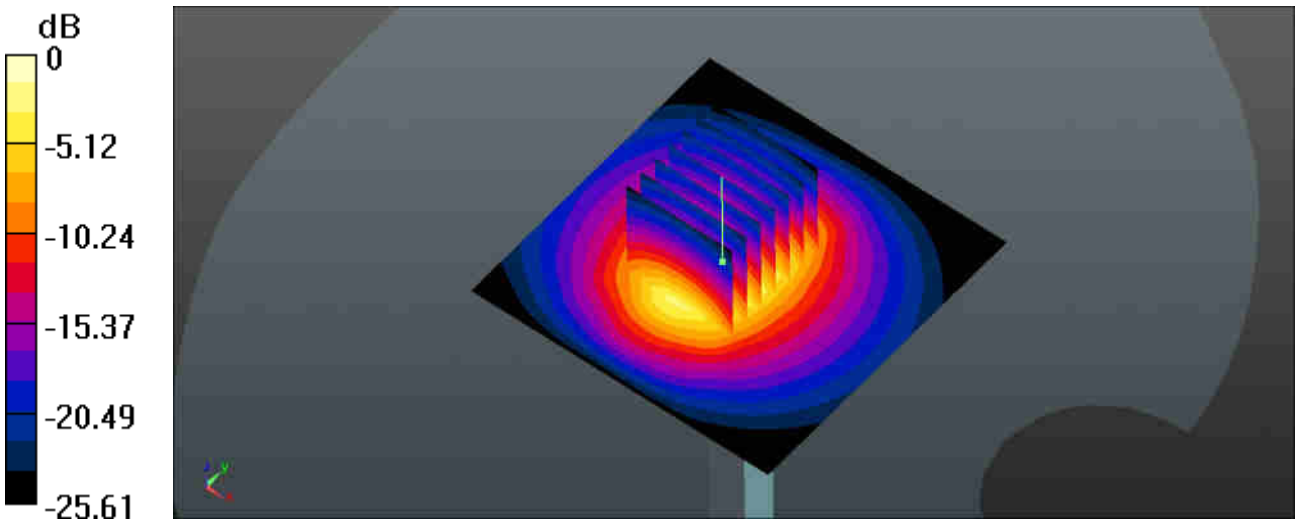
DUT: D2600V2-SN:1008

Communication System: UID 0, CW (0); Frequency: 2600 MHz;Duty Cycle: 1:1
Medium: HSL_2600_180107 Medium parameters used: f = 2600 MHz; σ = 1.995 S/m; ε_r = 40.438; ρ = 1000 kg/m^3
Ambient Temperature：23.5 ℃; Liquid Temperature：22.8 ℃

DASY5 Configuration:
- Probe: EX3DV4 - SN3642; ConvF(6.9, 6.9, 6.9); Calibrated: 2017.09.25;
- Sensor-Surface: 2mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1386; Calibrated: 2017.07.20
- Phantom: SAM2; Type: QD000P40CD; Serial: TP:1671
- Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

Pin=250mW/Area Scan (71x71x1): Interpolated grid: dx=12mm, dy=12mm
Maximum value of SAR (interpolated) = 23.9 W/kg

Pin=250mW/Zoom Scan (7x7x7)/Cube 0: Measurement grid: dx=5mm, dy=5mm, dz=5mm
Reference Value = 104.1 V/m; Power Drift = 0.02 dB
Peak SAR (extrapolated) = 34.2 W/kg
SAR(1 g) = 14.7 W/kg; SAR(10 g) = 6.36 W/kg
Maximum value of SAR (measured) = 23.7 W/kg



0 dB = 23.7 W/kg