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# SAR TEST REPORT

<b>Applicant Name:</b> <b>SAMSUNG Electronics Co., Ltd.</b> 129, Samsung-ro, Yeongtong-gu, Suwon-Si, Gyeonggi-do, 16677 Rep. of Korea	<b>Date of Issue:</b> Jul.09, 2020 <b>Test Report No.:</b> HCT-SR-2006-FC013-R2 <b>Test Site:</b> HCT CO., LTD.
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**FCC ID:**

**A3LSMA516U**

<b>Equipment Type:</b>	<b>Mobile Phone</b>
<b>Application Type</b>	<b>Certification</b>
<b>FCC Rule Part(s):</b>	<b>CFR §2.1093</b>
<b>Model Name:</b>	<b>SM-A516U</b>
<b>Additional Model Name:</b>	<b>SM-A516U1</b>
<b>Date of Test:</b>	<b>May. 07, 2020 ~ Jun. 26. 2020</b>

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in FCC KDB procedures and had been tested in accordance with the measurement procedures specified in FCC KDB procedures.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

Tested By

Min-Young Kim  
Test Engineer  
SAR Team  
Certification Division

Reviewed By

Yun-jeang, Heo  
Technical Manager  
SAR Team  
Certification Division

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**REVISION HISTORY**

The revision history for this test report is shown in table.

<b>Revision No.</b>	<b>Date of Issue</b>	<b>Description</b>
0	Jun. 26, 2020	Initial Release
R1	Jul. 01, 2020	Revised Sec 12.2 Appendix B.SAR Test Plots Revised
R2	Jul. 09, 2020	Revised Sec 4.7,18

This test results were applied only to the test methods required by the standard.

The above Test Report is not related to the accredited test result by (KS Q) ISO/IEC 17025 and KOLAS(Korea Laboratory Accreditation Scheme), which signed the ILAC-MRA.

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## 1. Test Regulations

The tests documented in this report were performed in accordance with FCC CFR § 2.1093, IEEE 1528-2013, ANSI C63.26-2015 the following FCC Published RF exposure KDB procedures:

- FCC KDB Publication 941225 D01 3G SAR Procedures v03r01
- FCC KDB Publication 941225 D06 Hot Spot SAR v02r01
- FCC KDB Publication 941225 D05 SAR for LTE Devices v02r05
- FCC KDB Publication 941225 D05A LTE Rel.10 KDB Inquiry sheet v01r02
- FCC KDB Publication 248227 D01 802.11 Wi-Fi SAR v02r02
- FCC KDB Publication 447498 D01 General SAR Guidance v06
- FCC KDB Publication 648474 D04 Handset SAR v01r03
- FCC KDB Publication 616217 D04 v01r02 (Proximity Sensor)
- FCC KDB Publication 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- FCC KDB Publication 865664 D02 SAR Reporting v01r02
- FCC KDB Publication 690783 D01 SAR Listings on Grants v01r03
- FCC KDB Publication 971168 D01 Power Meas License Digital Systems v03r01

In Addition to the above, the following information was used.

- October 2013 TCB Workshop Notes (GPRS testing criteria)
- October 2014 TCB Workshop Notes (Overlapping LTE Bands)
- April 2015 TCB Workshop Notes (Simultaneous transmission summation clarified)
- October 2016 TCB Workshop Notes (Bluetooth Duty Factor)
- November 2017 TCBC Workshop Notes (LTE Carrier Aggregation)
- May 2017 TCBC Workshop Notes (LTE Band 41 Power Class 2)
- April 2018 TCBC Workshop Notes (LTE DL CA SAR Test Exclusion)
- April 2019 TCBC Workshop Notes (Dynamic Antenna tuning)

## 2. Test Location

### 2.1 Test Laboratory

<b>Company Name</b>	HCT Co., Ltd.
<b>Address</b>	74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si, Gyeonggi-do, 17383 KOREA
<b>Telephone</b>	031-645-6300
<b>Fax.</b>	031-645-6401

### 2.2 Test Facilities

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

<b>Korea</b>	National Radio Research Agency (Designation No. KR0032)
	KOLAS (Testing No. KT197)

## 3. Information of the EUT

### 3.1 General Information of the EUT

<b>Model Name</b>	SM-A516U
<b>Additional Model Name</b>	SM-A516U1
<b>Equipment Type</b>	Mobile Phone
<b>FCC ID</b>	A3LSMA516U
<b>Application Type</b>	Certification
<b>Applicant</b>	SAMSUNG Electronics Co., Ltd.

### 3.2 Attestation of test result of device under test

The Highest Reported SAR						
Band	Tx. Frequency	Equipment Class	Reported SAR (W/kg)			
			1g Head	1g Body-Worn	1g Hotspot	10g Extremity
CDMA/EVDO BC10	817.90 MHz ~ 823.10 MHz	PCE	0.28	0.46	1.00	N/A
CDMA/EVDO BC0	824.70 MHz ~ 848.31 MHz	PCE	0.40	0.48	1.36	1.75
PCS CDMA/EVDO	1 851.25 MHz ~ 1 908.75 MHz	PCE	0.33	<b>1.20</b>	1.00	2.93
GSM/GPRS/EDGE 850	824.2 MHz ~ 848.8 MHz	PCE	0.30	0.55	1.00	N/A
GSM/GPRS/EDGE 1900	1 850.2 MHz ~ 1 909.8 MHz	PCE	0.14	0.61	1.24	1.41
UMTS 850	826.4 MHz ~ 846.6 MHz	PCE	0.20	0.34	0.60	N/A
UMTS 1700	1 712.4 MHz ~ 1 752.6 MHz	PCE	0.12	0.38	0.62	1.83
UMTS 1900	1 852.4 MHz ~ 1 907.6 MHz	PCE	0.30	0.57	1.13	2.31
LTE Band 2 (PCS)	1 850.7 MHz ~ 1 909.3 MHz	PCE	0.32	1.13	1.33	3.12
LTE Band 4 (AWS)	1 710.7 MHz ~ 1 754.3 MHz	PCE	N/A	N/A	N/A	N/A
LTE Band 5 (Cell)	824.7 MHz ~ 848.3 MHz	PCE	N/A	N/A	N/A	N/A
LTE Band 7	2 502.5 MHz ~ 2 567.5 MHz	PCE	0.11	0.38	1.20	2.13
LTE Band 12	699.7 MHz ~ 715.3 MHz	PCE	0.14	0.28	0.36	N/A
LTE Band 13	779.5 MHz ~ 784.5 MHz	PCE	0.24	0.47	0.61	N/A
LTE Band 14	790.5 MHz ~ 795.5 MHz	PCE	0.23	0.46	0.63	N/A
LTE Band 25 (PCS)	1 850.7 MHz ~ 1 914.3 MHz	PCE	0.30	0.90	1.17	3.00
LTE Band 26 (Cell)	814.7 MHz ~ 848.3 MHz	PCE	0.21	0.39	0.64	N/A
LTE Band 30	2 307.5 MHz ~ 2 312.5 MHz	PCE	0.13	0.38	1.20	2.33
LTE TDD Band 38	2 572.5 MHz ~ 2 617.5 MHz	PCE	N/A	N/A	N/A	N/A
LTE TDD Band 40	2 302.5 MHz ~ 2 397.5 MHz	PCE	<0.10	<0.10	<0.10	N/A
LTE TDD Band 41	2 498.5 MHz ~ 2 687.5 MHz	PCE	<0.10	0.30	0.56	N/A
LTE Band 66 (AWS)	1 710.7 MHz ~ 1 779.3 MHz	PCE	0.20	0.58	0.72	N/A
LTE Band 71	665.5 MHz ~ 695.5 MHz	PCE	0.21	0.41	0.58	2.84
NR Band n2 (PCS)	1 852.5 MHz ~ 1 907.5 MHz	PCE	0.30	1.18	<b>1.37</b>	3.12
NR Band n5 (Cell)	826.5 MHz ~ 846.5 MHz	PCE	0.30	0.46	0.91	N/A
NR Band n41	2 506.02 MHz ~ 2 679.99 MHz	PCE	<b>1.18</b>	0.21	0.70	N/A
NR Band n66	1 712.5 MHz ~ 1 777.5 MHz	PCE	0.11	0.48	0.72	<b>3.25</b>
NR Band n71	665.5 MHz - 695.5 MHz	PCE	0.17	0.29	0.53	N/A
802.11b	2 412 MHz ~ 2 472 MHz	DTS	0.24	0.20	0.90	N/A
U-NII-1	5 180 MHz ~ 5 240 MHz	NII	N/A	N/A	N/A	N/A
U-NII-2A	5 260 MHz ~ 5 320 MHz	NII	0.38	0.13	N/A	1.55
U-NII-2C	5 500 MHz ~ 5 720 MHz	NII	0.20	0.16	N/A	1.99
U-NII-3	5 745 MHz ~ 5 825 MHz	NII	0.22	0.13	0.28	N/A
Bluetooth	2 402 MHz ~ 2 480 MHz	DSS	0.11	<0.10	<0.10	N/A
Simultaneous SAR per KDB 690783 D01v01r03			<b>1.556</b>	1.397	1.499	3.796
Date(s) of Tests:	05/07/2020 ~ 06/26/2020					

## 4. Device Under Test Description

### 4.1 DUT specification

Device Wireless specification overview		
Band & Mode	Operating Mode	Tx Frequency
CDMA/EVDO BC10	Voice / Data	817.90 MHz ~ 823.10 MHz
CDMA/EVDO BC0	Voice / Data	824.70 MHz ~ 848.31 MHz
PCS CDMA/EVDO	Voice / Data	1 851.25 MHz ~ 1 908.75 MHz
GSM850	Voice / Data	824.2 MHz ~ 848.8 MHz
GSM1900	Voice / Data	1 850.2 MHz ~ 1 909.8 MHz
UMTS 850	Voice / Data	826.4 MHz ~ 846.6 MHz
UMTS 1700	Voice / Data	1 712.4 MHz ~ 1 752.6 MHz
UMTS 1900	Voice / Data	1 852.4 MHz ~ 1 907.6 MHz
LTE Band 2 (PCS)	Voice / Data	1 850.7 MHz ~ 1 909.3 MHz
LTE Band 4 (AWS)	Voice / Data	1 710.7 MHz ~ 1 754.3 MHz
LTE Band 5 (Cell)	Voice / Data	824.7 MHz ~ 848.3 MHz
LTE Band 7	Voice / Data	2 502.5 MHz ~ 2 567.5 MHz
LTE Band 12	Voice / Data	699.7 MHz ~ 715.3 MHz
LTE Band 13	Voice / Data	779.5 MHz ~ 784.5 MHz
LTE Band 14	Voice / Data	790.5 MHz ~ 795.5 MHz
LTE Band 25 (PCS)	Voice / Data	1 850.7 MHz ~ 1 914.3 MHz
LTE Band 26 (Cell)	Voice / Data	814.7 MHz ~ 848.3 MHz
LTE Band 29(RX Only)	Voice / Data	717 MHz ~ 728 MHz
LTE Band 30	Voice / Data	2 307.5 MHz ~ 2 312.5 MHz
LTE TDD Band 38	Voice / Data	2 572.5 MHz ~ 2 617.5 MHz
LTE TDD Band 40	Voice / Data	2 302.5 MHz ~ 2 397.5 MHz
LTE TDD Band 41	Voice / Data	2 498.5 MHz ~ 2 687.5 MHz
LTE Band 66 (AWS)	Voice / Data	1 710.7 MHz ~ 1 779.3 MHz
LTE Band 71	Voice / Data	665.5 MHz ~ 695.5 MHz
NR Band n2 (PCS)	Data	1 852.5 MHz ~ 1 907.5 MHz
NR Band n5 (Cell)	Data	826.5 MHz ~ 846.5 MHz
NR Band n41	Data	2 506.02 MHz ~ 2 679.99 MHz
NR Band n66	Data	1 712.5 MHz ~ 1 777.5 MHz
NR Band n71	Data	665.5 MHz - 695.5 MHz
U-NII-1	Voice / Data	5 180 MHz ~ 5 240 MHz
U-NII-2A	Voice / Data	5 260 MHz ~ 5 320 MHz
U-NII-2C	Voice / Data	5 500 MHz ~ 5 720 MHz
U-NII-3	Voice / Data	5 745 MHz ~ 5 825 MHz
2.4 GHz WLAN	Voice / Data	2 412 MHz ~ 2 472 MHz
Bluetooth / LE 5.0	Data	2 402 MHz ~ 2 480 MHz
ANT+	Data	2 402 MHz ~ 2 480 MHz
NFC	Data	13.56 MHz

Device Description													
Device Dimension	Overall (Length x Width): 159 mm x 74 mm Overall Diagonal: 169 mm Display Diagonal: 160 mm												
Battery Information	Standard (Li-ion Polymer Battery) Battery Model Name: EB-BA516ABY (ATL)												
Ear-jack	Model Name: EHS64AVFWE (CRESYN)												
HW version	REV0.4												
SW version	A516U.001												
Device Serial Numbers	<table border="1"> <thead> <tr> <th>Mode</th> <th>Serial Number</th> </tr> </thead> <tbody> <tr> <td>n66/n41/LTE7/LTE30</td> <td>TDM0609H</td> </tr> <tr> <td>BT/LTE40/LTE41/n41/GSM850</td> <td>TDM0558H</td> </tr> <tr> <td>n2/WLAN2G/LTE12/LTE13/LTE14 LTE26/LTE71</td> <td>TDM0524H</td> </tr> <tr> <td>CDMA BC0/CDMA BC10/CDMA PCS/GSM1900/UMTS B2/</td> <td>TDM0465H</td> </tr> <tr> <td>n5/n71/WLAN5G/LTE2/LTE25/LTE66 UMTS B4/UMTS B5</td> <td>TDM0203H</td> </tr> </tbody> </table>	Mode	Serial Number	n66/n41/LTE7/LTE30	TDM0609H	BT/LTE40/LTE41/n41/GSM850	TDM0558H	n2/WLAN2G/LTE12/LTE13/LTE14 LTE26/LTE71	TDM0524H	CDMA BC0/CDMA BC10/CDMA PCS/GSM1900/UMTS B2/	TDM0465H	n5/n71/WLAN5G/LTE2/LTE25/LTE66 UMTS B4/UMTS B5	TDM0203H
	Mode	Serial Number											
	n66/n41/LTE7/LTE30	TDM0609H											
	BT/LTE40/LTE41/n41/GSM850	TDM0558H											
	n2/WLAN2G/LTE12/LTE13/LTE14 LTE26/LTE71	TDM0524H											
	CDMA BC0/CDMA BC10/CDMA PCS/GSM1900/UMTS B2/	TDM0465H											
n5/n71/WLAN5G/LTE2/LTE25/LTE66 UMTS B4/UMTS B5	TDM0203H												
The manufacturer has confirmed that the devices tested have the same physical, mechanical and thermal characteristics are within operational tolerances expected for production units.													



## 4.2 Power Reduction for SAR

This device utilizes power reduction mechanisms for some wireless modes and bands for SAR compliance under hotspot conditions and under some conditions when the device is being used in close proximity to the user's hand. All hotspot SAR evaluations for this device were performed at the maximum allowed output power when Hotspot is enabled. FCC KDB Publication 616217 D04v01r02 Sec.6 was used as a guideline for selection SAR test distances for device when being used in phablet use conditions.

This device uses an independent fixed level power reduction mechanism for WLAN modes during held-to-ear scenarios. Per FCC Guidance, the held-to-ear exposure conditions were evaluated at reduced power according to the head SAR Positions described in IEEE1528-2013. Detailed descriptions of the power reduction mechanism are include in the operational description.

The reduced powers for the power reduction mechanisms were conformed via conducted power measurements at the RF Port .

### 4.3 Nominal and Maximum Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

#### 4.3.1 Maximum PCE Output Power

Mode / Band		Modulated Average (dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
CDMA BC0 (835 MHz)	Maximum	25.5	25.5	24.5
	Nominal	24.5	24.5	23.5
CDMA PCS (1900 MHz)	Maximum	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5
CDMA BC10 (815 MHz)	Maximum	25.5	25.5	25.5
	Nominal	24.5	24.5	24.5

Mode / Band		Voice	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE 850	Maximum	33.5	33.5	31.0	30.5	29.0	28.0	26.0	24.0	23.0
	Nominal	32.5	32.5	30.0	29.5	28.0	27.0	25.0	23.0	22.0
GSM/GPRS/EDGE1900	Maximum	31.5	31.5	29.0	27.5	26.0	26.5	24.5	23.5	22.0
	Nominal	30.5	30.5	28.0	26.5	25.0	25.5	23.5	22.5	21.0

Mode / Band		Modulated Average (dBm)			
		3GPP UMTS	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 5 (850 MHz)	Maximum	24.0	23.5	22.5	23.5
	Nominal	23.0	22.5	21.5	22.5
UMTS Band 4 (1700 MHz)	Maximum	24.0	23.5	21.5	23.5
	Nominal	23.0	22.5	20.5	22.5
UMTS Band 2 (1900 MHz)	Maximum	24.0	23.5	21.5	23.5
	Nominal	23.0	22.5	20.5	22.5

Mode / Band		Modulated Average (dBm)
LTE Band 2 (PCS)	Maximum	24.5
	Nominal	23.5
LTE Band 4 (AWS)	Maximum	24.5
	Nominal	23.5
LTE Band 5 (Cell)	Maximum	25.0
	Nominal	24.0
LTE Band 7	Maximum	24.0
	Nominal	23.0
LTE Band 12	Maximum	25.5
	Nominal	24.5
LTE Band 13	Maximum	25.0
	Nominal	24.0
LTE Band 14	Maximum	25.0
	Nominal	24.0
LTE Band 25 (PCS)	Maximum	24.5
	Nominal	23.5
LTE Band 26 (Cell)	Maximum	25.0
	Nominal	24.0
LTE Band 30	Maximum	23.5
	Nominal	22.5
LTE TDD Band 38	Maximum	24.0
	Nominal	23.0
LTE TDD Band 40	Maximum	12.0
	Nominal	11.0
LTE TDD Band 41	Maximum	24.0
	Nominal	23.0
LTE TDD Band 41 (HUPE)	Maximum	26.5
	Nominal	25.5
LTE Band 66 (AWS)	Maximum	25.0
	Nominal	24.0
LTE Band 71	Maximum	25.0
	Nominal	24.0

Mode / Band		Modulated Average (dBm)
NR Band n2 (PCS)	Maximum	25.0
	Nominal	24.0
NR Band n5 (Cell)	Maximum	25.0
	Nominal	24.0
NR Band n41	Maximum	24.5
	Nominal	23.5
NR Band n66	Maximum	25.0
	Nominal	24.0
NR Band n71	Maximum	25.0
	Nominal	24.0

**4.3.2 Reduced PCE Power (Hotspot Mode / Grip Sensor on / Ear jack)**

Mode / Band		Modulated Average (dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
CDMA PCS (1900 MHz) (Hotspot)	Maximum	18.5	18.5	18.5
	Nominal	17.5	17.5	17.5

Mode / Band		Modulated Average (dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
CDMA PCS (1900 MHz) (Grip Sensor on)	Maximum	21.5	21.5	21.5
	Nominal	20.5	20.5	20.5

Mode / Band		Modulated Average (dBm)		
		1x-RTT	EVDO Rev 0	EVDO Rev A
CDMA PCS (1900 MHz) (Ear jack)	Maximum	22.5	22.5	22.5
	Nominal	21.5	21.5	21.5

Mode / Band		Voice	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE 850 (Ear jack)	Maximum	32.0	32.0	29.5	28.5	27.0	26.5	24.5	23.5	22.0
	Nominal	31.0	31.0	28.5	27.5	26.0	25.5	23.5	22.5	21.0
GSM/GPRS/EDGE1900 (Ear jack)	Maximum	30.5	30.5	28.0	26.5	25.0	27.5	26.0	24.5	23.5
	Nominal	29.5	29.5	27.0	25.5	24.0	26.5	25.0	23.5	22.5

Mode / Band		Voice	Burst Average GMSK (dBm)				Burst Average 8-PSK (dBm)			
		1 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot	1 Tx Slot	2 Tx Slot	3 Tx Slot	4 Tx Slot
GSM/GPRS/EDGE1900 (Grip Sensor on, Hotspot)	Maximum	28.5	28.5	26.0	24.5	23.0	25.5	24.0	22.5	21.5
	Nominal	27.5	27.5	25.0	23.5	22.0	24.5	23.0	21.5	20.5

Mode / Band		Modulated Average (dBm)			
		3GPP UMTS	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 2 (1900 MHz) (Hotspot Mode)	Maximum	20.0	18.5	18.5	18.5
	Nominal	19.0	17.5	17.5	17.5

Mode / Band		Modulated Average (dBm)				
		UMTS RMC	UMTS AMR	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 2 (1900 MHz) (Ear jack)	Maximum	21.0	23.0	20.0	20.0	20.0
	Nominal	20.0	22.0	19.0	19.0	19.0

Mode / Band		Modulated Average (dBm)			
		3GPP UMTS	3GPP HSDPA	3GPP HSUPA	DC-HSDPA
UMTS Band 4 (1700 MHz) (Ear jack, Grip Sensor on, Hotspot Mode)	Maximum	21.0	20.5	20.0	20.5
	Nominal	20.0	19.5	19.0	19.5
UMTS Band 2 (1900 MHz) (Grip Sensor on)	Maximum	20.0	20.0	20.0	20.0
	Nominal	19.0	19.0	19.0	19.0

Mode / Band		Modulated Average (dBm)		
		Grip Sensor on	Hotspot Mode	Ear jack
LTE Band 2 (PCS)	Maximum	21.5	19.5	22.5
	Nominal	20.5	18.5	21.5
LTE Band 4 (AWS)	Maximum	21.5	20.5	21.5
	Nominal	20.5	19.5	20.5
LTE Band 7	Maximum	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0
LTE Band 25 (PCS)	Maximum	21.0	18.5	23.0
	Nominal	20.0	17.5	22.0
LTE Band 30	Maximum	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0
LTE TDD Band 38	Maximum	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0
LTE TDD Band 40	Maximum	12.0	12.0	12.0
	Nominal	11.0	11.0	11.0
LTE TDD Band 41	Maximum	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0
LTE TDD Band 41 (HUPE)	Maximum	22.0	22.0	22.0
	Nominal	21.0	21.0	21.0
LTE Band 66 (AWS)	Maximum	22.0	21.0	22.0
	Nominal	21.0	20.0	21.0

Mode / Band		Modulated Average (dBm)		
		Grip Sensor on	Hotspot Mode	Ear jack
NR Band n2 (PCS)	Maximum	22.0	20.0	22.0
	Nominal	21.0	19.0	21.0
NR Band n66	Maximum	22.0	20.0	22.0
	Nominal	21.0	19.0	21.0

**4.3.3 Maximum 2.4 GHz, 5 GHz WIFI output power**

IEEE 802.11(in dBm)											
Mode	Protocol	Sensor State	a		b	g		n		ac	
			6~36Mbps	48~54Mbps	1~11Mbps	6~36Mbps	48~54Mbps	MCS0~4	MCS5~7	MCS0~4	MCS5~8
2.4GHz Wi-Fi (Inactive)	Ch.1 ~ 11	Maximum	N/A		21	19	18	19	18	N/A	
		Nominal	N/A		20	18	17	18	17	N/A	
	Ch.12	Maximum	N/A		8	8	8	7	7	N/A	
		Nominal	N/A		7	7	7	6	6	N/A	
	Ch.13	Maximum	N/A		8	7	7	4	4	N/A	
		Nominal	N/A		7	6	6	3	3	N/A	
5GHz Wi-Fi (20 MHz BW) (Inactive)	UNII-1	Maximum	18	17	N/A	N/A		18	17	16	15
		Nominal	17	16	N/A	N/A		17	16	15	14
	UNII-2A	Maximum	18	17	N/A	N/A		18	17	16	15
		Nominal	17	16	N/A	N/A		17	16	15	14
	UNII-2C	Maximum	18	17	N/A	N/A		18	17	16	15
		Nominal	17	16	N/A	N/A		17	16	15	14
UNII-3	Maximum	18	17	N/A	N/A		18	17	16	15	
	Nominal	17	16	N/A	N/A		17	16	15	14	
5GHz Wi-Fi (40 MHz BW) (Inactive)	UNII-1	Maximum	N/A		N/A	N/A		17	16	16	15
		Nominal	N/A		N/A	N/A		16	15	15	14
	UNII-2A	Maximum	N/A		N/A	N/A		17	16	16	15
		Nominal	N/A		N/A	N/A		16	15	15	14
	UNII-2C	Maximum	N/A		N/A	N/A		17	16	16	15
		Nominal	N/A		N/A	N/A		16	15	15	14
UNII-3	Maximum	N/A		N/A	N/A		17	16	16	15	
	Nominal	N/A		N/A	N/A		16	15	15	14	
5GHz Wi-Fi (80 MHz BW) (Inactive)	UNII-1	Maximum	N/A		N/A	N/A		N/A		14	13
		Nominal	N/A		N/A	N/A		N/A		13	12
	UNII-2A	Maximum	N/A		N/A	N/A		N/A		14	13
		Nominal	N/A		N/A	N/A		N/A		13	12
	UNII-2C	Maximum	N/A		N/A	N/A		N/A		14	13
		Nominal	N/A		N/A	N/A		N/A		13	12
UNII-3	Maximum	N/A		N/A	N/A		N/A		14	13	
	Nominal	N/A		N/A	N/A		N/A		13	12	

### 4.3.4 Reduced WLAN Power (Held to ear)

Mode	Protocol	Sensor State	IEEE 802.11(in dBm)								
			a		b	g		n		ac	
			6-36Mbps	48-54Mbps	1-11Mbps	6-36Mbps	48-54Mbps	MCS0-4	MCS5-7	MCS0-4	MCS5-8
2.4GHz Wi-Fi (Active)	Ch.1 ~ 11	Maximum	N/A		12		12		12		N/A
		Nominal	N/A		11		11		11		N/A
	Ch.12	Maximum	N/A		8		8		7		N/A
		Nominal	N/A		7		7		6		N/A
	Ch.13	Maximum	N/A		8		8		7		
		Nominal	N/A		7		7		6		
5GHz Wi-Fi (20 MHz BW) (Active)	UNII-1	Maximum	12		N/A		N/A		12		12
		Nominal	11		N/A		N/A		11		11
	UNII-2A	Maximum	12		N/A		N/A		12		12
		Nominal	11		N/A		N/A		11		11
	UNII-2C	Maximum	12		N/A		N/A		12		12
		Nominal	11		N/A		N/A		11		11
	UNII-3	Maximum	12		N/A		N/A		12		12
		Nominal	11		N/A		N/A		11		11
5GHz Wi-Fi (40 MHz BW) (Active)	UNII-1	Maximum	N/A		N/A		N/A		12		12
		Nominal	N/A		N/A		N/A		11		11
	UNII-2A	Maximum	N/A		N/A		N/A		12		12
		Nominal	N/A		N/A		N/A		11		11
	UNII-2C	Maximum	N/A		N/A		N/A		12		12
		Nominal	N/A		N/A		N/A		11		11
	UNII-3	Maximum	N/A		N/A		N/A		12		12
		Nominal	N/A		N/A		N/A		11		11
5GHz Wi-Fi (80 MHz BW) (Active)	UNII-1	Maximum	N/A		N/A		N/A		N/A		12
		Nominal	N/A		N/A		N/A		N/A		11
	UNII-2A	Maximum	N/A		N/A		N/A		N/A		12
		Nominal	N/A		N/A		N/A		N/A		11
	UNII-2C	Maximum	N/A		N/A		N/A		N/A		12
		Nominal	N/A		N/A		N/A		N/A		11
	UNII-3	Maximum	N/A		N/A		N/A		N/A		12
		Nominal	N/A		N/A		N/A		N/A		11



#### 4.3.5 Maximum Bluetooth Power

Mode / Band		Modulated Average (dBm)	
Bluetooth	DH5	Maximum	9.5
		Nominal	8.5
	2-DH5	Maximum	8.0
		Nominal	7.0
	3-DH5	Maximum	8.0
		Nominal	7.0
9.0Bluetooth LE	1M	Maximum	6.5
		Nominal	5.5
	2M	Maximum	10.5
		Nominal	9.5

### 4.4 LTE Information

Item.	Description
Frequency Range	LTE Band 2 (PCS) 1 850.7 MHz ~ 1 909.3 MHz
	LTE Band 4 (AWS) 1 710.7 MHz ~ 1 754.3 MHz
	LTE Band 5 (Cell) 824.7 MHz ~ 848.3 MHz
	LTE Band 7 2 502.5 MHz ~ 2 567.5 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 25 (PCS) 1 850.7 MHz ~ 1 914.3 MHz
	LTE Band 26 (Cell) 814.7 MHz ~ 848.3 MHz
	LTE Band 30 2 307.5 MHz ~ 2 312.5 MHz
	LTE TDD Band 38 2 572.5 MHz ~ 2 617.5 MHz
	LTE TDD Band 40 2 302.5 MHz ~ 2 397.5 MHz
	LTE TDD Band 41 2 498.5 MHz ~ 2 687.5 MHz
	LTE Band 66 (AWS) 1 710.7 MHz ~ 1 779.3 MHz
	LTE Band 71 665.5 MHz ~ 695.5 MHz
Channel Bandwidths	LTE Band 2 (PCS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 4 (AWS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 5 (Cell) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE Band 7 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 12 1.4 MHz, 3 MHz, 5 MHz, 10 MHz
	LTE Band 13 5 MHz, 10 MHz
	LTE Band 14 5 MHz, 10 MHz
	LTE Band 25 (PCS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 26 (Cell) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz
	LTE Band 30 5 MHz, 10 MHz
	LTE TDD Band 38 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE TDD Band 40 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE TDD Band 41 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 66 (AWS) 1.4 MHz, 3 MHz, 5 MHz, 10 MHz, 15 MHz, 20 MHz
	LTE Band 71 5 MHz, 10 MHz, 15 MHz, 20 MHz

Ch. No.& Freq.(MHz)	Low	Mid	High	
LTE Band 2 (PCS)	1.4 MHz	1 850.7 (18607)	1 880.0 (18900)	1 909.3 (19193)
	3 MHz	1 851.5 (18615)	1 880.0 (18900)	1 908.5 (19185)
	5 MHz	1 852.5 (18625)	1 880.0 (18900)	1 907.5 (19175)
	10 MHz	1 855.0 (18650)	1 880.0 (18900)	1 905.0 (19150)
	15 MHz	1 857.5 (18675)	1 880.0 (18900)	1 902.5 (19125)
	20 MHz	1 860.0 (18700)	1 880.0 (18900)	1 900.0 (19100)
LTE Band 4 (AWS)	1.4 MHz	1 710.7 (19957)	1 732.5 (20175)	1 754.3 (20393)
	3 MHz	1 711.5 (19965)	1 732.5 (20175)	1 753.5 (20385)
	5 MHz	1 712.5 (19975)	1 732.5 (20175)	1 752.5 (20375)
	10 MHz	1 715.0 (20000)	1 732.5 (20175)	1 750.0 (20350)
	15 MHz	1 717.5 (20025)	1 732.5 (20175)	1 747.5 (20325)
	20 MHz	1 720.0 (20050)	1 732.5 (20175)	1 745.0 (20300)
LTE Band 5 (Cell)	1.4 MHz	824.7 (20407)	836.5 (20525)	848.3 (20643)
	3 MHz	825.5 (20415)	836.5 (20525)	847.5 (20635)
	5 MHz	826.5 (20425)	836.5 (20525)	846.5 (20625)
	10 MHz	829.0 (20450)	836.5 (20525)	844.0 (20600)
LTE Band 7	5 MHz	2502.5 (20775)	2535 (21100)	2567.5 (21425)
	10 MHz	2505 (20800)	2535 (21100)	2565 (21400)
	15 MHz	2507.5 (20825)	2535 (21100)	2562.5 (21375)
	20 MHz	2510 (20850)	2535 (21100)	2560 (21350)
LTE Band 12	1.4 MHz	699.7 (23017)	707.5 (23095)	715.3 (23173)
	3 MHz	700.5 (23025)	707.5 (23095)	714.5 (23165)
	5 MHz	701.5 (23035)	707.5 (23095)	713.5 (23155)
	10 MHz	704.0 (23060)	707.5 (23095)	711.0 (23130)
LTE Band 13	5 MHz	779.5 (23205)	782 (23230)	784.5 (23255)
	10 MHz		782 (23230)	
LTE Band 14	5 MHz	790.5 ( 23305)	793 (23330)	795.5 (23355)
	10 MHz		793 (23330)	
LTE Band 25(PCS)	1.4 MHz	1 850.7 (26047)	1 882.5 (26365)	1 914.3 (26683)
	3 MHz	1 851.5 (26055)	1 882.5 (26365)	1 913.5 (26675)
	5 MHz	1 852.5 (26065)	1 882.5 (26365)	1 912.5 (26665)
	10 MHz	1 855 (26090)	1 882.5 (26365)	1 910 (26640)
	15 MHz	1 857.5 (26115)	1 882.5 (26365)	1 907.5 (26615)
	20 MHz	1 860 (26140)	1 882.5 (26365)	1 905 (26590)
LTE Band 26 (Cell)	1.4 MHz	814.7 (26697)	831.5 (26865)	848.3 (27033)
	3 MHz	815.5 (26705)	831.5 (26865)	847.5 (27025)
	5 MHz	816.5 (26715)	831.5 (26865)	846.5 (27015)
	10 MHz	819.0 (26740)	831.5 (26865)	844.0 (26990)
	15 MHz	821.5 (26765)	831.5 (26865)	841.5 (26965)
LTE Band 30	5 MHz	2 307.5 (27685)	2 310 (27710)	2 312.5 (27735)
	10 MHz		2 310 (27710)	
LTE TDD Band 38	5 MHz	2 572.5 (37775)	2 595 (38000)	2 617.5 (38225)
	10 MHz	2 575 (37800)	2 595 (38000)	2 615 (38200)
	15 MHz	2 577.5 (37825)	2 595 (38000)	2 612.5 (38175)
	20 MHz	2 580 (37850)	2 595 (38000)	2 610 (38150)
LTE TDD Band 40	5 MHz	2 302.5 (38675)	2 350 (39150)	2 397.5 (39625)
	10 MHz	2 305 (38700)	2 350 (39150)	2 395 (39600)
	15 MHz	2 307.5 (38725)	2 350 (39150)	2 392.5 (39575)
	20 MHz	2 310 (38750)	2 350 (39150)	2 390 (39550)

Ch. No. & Freq.(MHz)	Low		Mid		High	
LTE Band 66 (AWS)	1.4 MHz	1 710.7 (131979)	1 745 (132322)		1 779.3 (132665)	
	3 MHz	1 711.5 (131987)	1 745 (132322)		1 778.5 (132657)	
	5 MHz	1 712.5 (131997)	1 745 (132322)		1 777.5 (132647)	
	10 MHz	1 715.0 (132022)	1 745 (132322)		1 775.0 (132622)	
	15 MHz	1 717.5 (132047)	1 745 (132322)		1 772.5 (132597)	
	20 MHz	1 720.0 (132072)	1 745 (132322)		1 770.0 (132572)	
LTE Band 71	5 MHz	665.5 (133147)	680.5 (133297)		695.5 (133447)	
	10 MHz	668 (133172)	680.5 (133297)		693 (133422)	
	15 MHz	670.5 (133197)	680.5 (133297)		690.5 (133397)	
	20 MHz	673 (133222)	680.5 (133297)		688 (133372)	
LTE TDD Band 41	5 MHz	2498.5(39675)	2545.8(40148)	2593.0(40620)	2640.3(41093)	2687.5(41565)
	10 MHz	2501.0(39700)	2547.0(40160)	2593.0(40620)	2639.0(41080)	2685.0(41540)
	15 MHz	2503.5(39725)	2548.3(41073)	2593.0(40620)	2637.8(41068)	2682.5(41515)
	20 MHz	2506.0(39750)	2549.5(40185)	2593.0(40620)	2636.5(41055)	2680.0(41490)
UE Category	LTE Rel. 15, DL: Category 16, UL: Category 13(SPR) / UL: Category 5					
HPUE Power Class	TDD 41 Power Class 3 :(Duty: 63.3%) Power Class 2 : (Duty:43.3%)					
Modulations Supported in UL	QPSK, 16QAM, 64QAM					
LTE MPR Permanently implemented per 3GPP TS 36.101 section 6.2.3	Yes					
A-MPR disabled for SAR Testing.	Yes					
LTE Carrier Aggregation	Up-Link CA	This device support Up-Link Carrier aggregation.in US.				
	Down-Link CA	This device supports Inter-band & Intra-band DL DL-link Carrier aggregations only. Detailed information of Down-Link CA are included in the Attachment 8				
LTE Release information	This device does not support full CA features on 3GPP Release 15. It supports carrieraggregation, downlink MIMO. All other uplink communications are identical to te release 8 specifications. The following LTE Release 15 Features are not supported: Relay, Hetnet, Enhanced eICI, MDH, cross-carrier Scheduling, Enhanced SC-FDMA.					

Item.	Description	
Frequency Range	NR Band n2 (PCS)	1 852.5 MHz ~ 1 907.5 MHz
	NR Band n5 (Cell)	826.5 MHz ~ 846.5 MHz
	NR Band n41	2 506.02 MHz ~ 2 679.99 MHz
	NR Band n66 (AWS)	1 712.5 MHz ~ 1 777.5 MHz
	NR Band n71	665.5 MHz - 695.5 MHz
Channel Bandwidths	NR Band n2 (PCS)	5 MHz, 10 MHz, 15 MHz, 20 MHz
	NR Band n5 (Cell)	5 MHz, 10 MHz, 15 MHz, 20 MHz
	NR Band n41	20 MHz, 40 MHz, 50 MHz, 60 MHz, 80 MHz, 90 MHz, 100 MHz
	NR Band n66(AWS)	5 MHz, 10 MHz, 15 MHz, 20 MHz
	NR Band n71	5 MHz, 10 MHz, 15 MHz, 20 MHz

Ch. No. & Freq. (MHz)	Low	Mid	High
NR Band n2 (PCS)	5 MHz	1852.5 (370500)	1907.5 (381500)
	10 MHz	1855 (371000)	1905 (381000)
	15 MHz	1857.5 (371500)	1902.5 (380500)
	20 MHz	1860 (372000)	1900 (380000)
NR Band n5 (Cell)	5 MHz	826.5 (165300)	846.5 (169300)
	10 MHz	829 (165800)	844 (168800)
	15 MHz	831.5 (166300)	841.5 (168300)
	20 MHz	834 (166800)	839 (167800)
NR Band n71	5 MHz	665.5 (133100)	695.5 (139100)
	10 MHz	668 (133600)	693 (138600)
	15 MHz	670.5 (134100)	690.5 (138100)
	20 MHz	673 (134600)	688 (137600)
NR Band n66 (AWS)	5 MHz	1712.5 (342500) 1734.1 (346820)	1755.8 (351160) 1777.5 (355500)
	10 MHz	1715 (343000) 1735 (347000)	1755 (351000) 1775 (355000)
	15 MHz	1717.5 (343500) 1735.8 (347160)	1754.1 (350820) 1772.5 (354500)
	20 MHz	1720 (344000) 1745 (349000)	1770 (354000)
LTE TDD Band 41	20 MHz	2506.02 (501204) 2549.49 (509898) 2592.99 (518598)	2636.49 (527298) 2679.99 (535998)
	40 MHz	2516.01 (503202) 2567.34 (513468)	2618.67 (523734) 2670 (534000)
	50 MHz	2521.02 (504204)	2664.99 (532998)
	60 MHz	2526 (505200)	2659.98 (531996)
	80 MHz	2536.02 (507204)	2649.99 (529998)
	90 MHz	2541 (508200)	2644.98 (528996)
	100 MHz	2592.99 (518598)	
NR Band n71/n5/n2/n66 SCS	15 kHz		
NR Band n41 SCS	30 kHz		
A-MPR disabled for SAR Testing.	Yes		
Modulations Supported in UL	DFT-s-OFDM: QPSK, 16QAM, 64QAM, 256QAM CP-OFDM: QPSK, 16QAM, 64QAM, 256QAM		
EN-DC Carrier Aggregation Possible Combinations	The technical description includes all the possible carrier aggregation combinations		
LTE Anchor Bands for NR Band n71	LTE Band 2/66		
LTE Anchor Bands for NR Band n5	LTE Band 2/30/66		
LTE Anchor Bands for NR Band n66	LTE Band 5/12		
LTE Anchor Bands for NR Band n2	LTE Band 5/12		
LTE Anchor Bands for NR Band n41	LTE Band 2/25/41/66		

### 4.5 DUT Antenna Locations

The overall dimensions of this device are > 9 X 5 cm. A diagram showing device antenna can be found in SAR\_setup\_photos. Since the diagonal dimension of this device is > 160 mm and < 200 mm, it is considered a “phablet”.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering. Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth Tethering SAR were evaluated for BT BR tethering applications.

Mode	Rear	Front	Left	Right	Bottom	Top
EVDO BC10 (§90S)	Yes	Yes	Yes	Yes	Yes	No
EVDO BC0 (§22H)	Yes	Yes	Yes	Yes	Yes	No
PCS EVDO	Yes	Yes	Yes	Yes	Yes	No
GSM/GPRS/EDGE 850	Yes	Yes	Yes	Yes	Yes	No
GSM/GPRS/EDGE 1900	Yes	Yes	Yes	Yes	Yes	No
UMTS 850	Yes	Yes	Yes	Yes	Yes	No
UMTS 1700	Yes	Yes	Yes	Yes	Yes	No
UMTS 1900	Yes	Yes	Yes	Yes	Yes	No
LTE Band 2 (PCS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 4 (AWS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 5 (Cell)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 7	Yes	Yes	Yes	Yes	Yes	No
LTE Band 12	Yes	Yes	Yes	Yes	Yes	No
LTE Band 13	Yes	Yes	Yes	Yes	Yes	No
LTE Band 14	Yes	Yes	Yes	Yes	Yes	No
LTE Band 25 (PCS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 26 (Cell)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 30	Yes	Yes	Yes	Yes	Yes	No
LTE TDD Band 38	Yes	Yes	Yes	Yes	Yes	No
LTE TDD Band 40	Yes	Yes	Yes	Yes	Yes	No
LTE TDD Band 41	Yes	Yes	Yes	Yes	Yes	No
NR Band n2 (PCS)	Yes	Yes	Yes	Yes	Yes	No
NR Band n5 (Cell)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 66 (AWS)	Yes	Yes	Yes	Yes	Yes	No
LTE Band 71	Yes	Yes	Yes	Yes	Yes	No
NR Band n41	Yes	Yes	Yes	No	Yes	No
NR Band n66(AWS)	Yes	Yes	Yes	Yes	Yes	No
NR Band n71	Yes	Yes	Yes	Yes	Yes	No
2.4 GHz WLAN	Yes	Yes	Yes	No	No	Yes
5 GHz WLAN	Yes	Yes	Yes	No	No	Yes
Bluetooth	Yes	Yes	Yes	No	No	Yes

Particular EUT edges were not required to be evaluated for Bluetooth Tethering and Hotspot SAR if the edges were > 25 mm from the transmitting antenna according to FCC KDB 941225 D06v02r01 on page 2.

The distance between the transmit antennas and the edges of the device are included in the filing.

- Note: All test configurations are based on front view position.

#### **4.6 Near Field Communications (NFC) Antenna**

This EUT has NFC operations. The NFC antenna is integrated into the device for this model. Therefore, all SAR tests were performed with the device which already incorporates the NFC antenna. A diagram showing the location of the NFC antenna can be found in SAR \_ Setup\_ photos.

### 4.7 SAR Summation Scenario

According to FCC KDB 447498 D01v06, transmitters are considered to be transmitting simultaneously when there is overlapping transmission, with the exception of transmissions during network hand-offs with maximum hand-off duration less than 30 seconds. Possible transmission paths for the EUT are shown below paths and are mode in same rectangle to indicate communication modes which share the same path. Modes which share the same transmission path cannot transmit simultaneously with one another.

This device contains multiple transmitters that may operate simultaneously, and therefore requires a simultaneous transmission analysis according to FCC KDB 447498 D01v06.

Simultaneous Transmission Scenarios				
Applicable Combination	Head	Body-Worn	Hotspot	Extremity
1xCDMA Voice + 2.4 GHz WiFi	Yes	Yes	N/A	Yes
1xCDMA Voice + 5 GHz WiFi	Yes	Yes	N/A	Yes
1xCDMA Voice + Bluetooth	Yes#	Yes	N/A	Yes
GSM Voice + 2.4 GHz WiFi	Yes	Yes	N/A	Yes
GSM Voice + 5 GHz WiFi	Yes	Yes	N/A	Yes
GSM Voice + Bluetooth	Yes#	Yes	N/A	Yes
CDMA/EVDO + 2.4 GHz WiFi	Yes	Yes	Yes	Yes
CDMA/EVDO + 5 GHz WiFi	Yes	Yes	Yes	Yes
CDMA/EVDO + Bluetooth	Yes	Yes	Yes#	Yes
CDMA/EVDO + Bluetooth	Yes	Yes	Yes#	Yes
GPRS + 2.4 GHz WiFi	Yes	Yes	Yes	Yes
GPRS + 5 GHz WiFi	Yes	Yes	Yes	Yes
GPRS + Bluetooth	Yes	Yes	Yes#	Yes
UMTS + 2.4 GHz WiFi	Yes	Yes	Yes	Yes
UMTS + 5 GHz WiFi	Yes	Yes	Yes	Yes
UMTS + Bluetooth	Yes#	Yes	Yes#	Yes
LTE + 2.4 GHz WiFi	Yes	Yes	Yes	Yes
LTE + 5 GHz WiFi	Yes	Yes	Yes	Yes
LTE+ Bluetooth	Yes#	Yes	Yes#	Yes
LTE + 5G NR	Yes	Yes	N/A	Yes
LTE +2.4 GHz WiFi + 5G NR	Yes	Yes	Yes	Yes
LTE + 5 GHz WI-FI + 5G NR	Yes	Yes	Yes	Yes
LTE+ Bluetooth + 5G NR	Yes#	Yes	Yes#	Yes

1. Bluetooth cannot transmit simultaneously with WLAN.
2. The device does not support licensed bands simultaneously transmitting.
3. UMTS +WLAN scenario also represents the UMTS Voice/DATA + WLAN hotspot scenario.
4. VoIP is supported in GPRS/EDGE and EVDA RevA
5. The highest reported SAR for each exposure condition is used for SAR summation purpose.
6. Wi-Fi Hotspot is supported for 2.4 GHz/ UNII-3 of 5 GHz WLAN.
7. This device supports # Bluetooth tethering.
8. 5 GHz Wireless Router is only supported for the UNII-3 by SW, therefore U-NII-1,U-NII2A and U-NII2C were not evaluated for wireless router conditions.
9. LTE + 5G NR FR1 Scenarios are limited to LTE Anchor Bands, LTE Band 2/66/5/12/25/30/41.



## 4.8 SAR Test Considerations

### 4.8.1 WiFi

Since wireless router operations are not allowed by the chipset firmware using U-NII-1, U-NII-2A & U-NII-2C WiFi, WiFi Hotspot SAR test and combinations are considered only 2.4 GHz and U-NII-3 for SAR with respected to wireless router configurations according to FCC KDB 941225 D06v02r01.

Since U-NII-1 and U-NII-2A bands have the same maximum output power and the highest reported SAR for U-NII-2A is less than 1.2 W/kg for 1g SAR and is less than 3.0 W/kg for 10g SAR, SAR is not required for U-NII-1 band according to FCC KDB 248227D01v02r02.

This device supports IEEE 802.11 ac with the following features:

- a) Up to 80 MHz Bandwidth only
- b) No aggregate channel configurations
- c) 1Tx Antenna output
- d) 256 QAM is supported
- e) TDWR channels are supported.
- f) Straddle channels are supported
- g) Band gap channels are supported

### 4.8.2 Licensed Transmitter(s)

GSM/GPRS/EDGE DTM is not supported for US bands. Therefore, the GSM Voice modes in this report do not transmit simultaneously with GPRS/EDGE Data.

LTE SAR for the higher modulations and lower bandwidths were not tested since the maximum average output power of all required channels and configurations was not more than 0.5 dB higher than the highest bandwidth; and the reported LTE SAR for the highest bandwidth was less than 1.45 W/kg for all configurations according to FCC KDB 941225 D05v02r05.

Per FCC KDB 648474 D04v01r03, this device is considered a "Phablet" since the diagonal dimension is greater than 160 mm and less than 200 mm. Therefore, extremity SAR tests are required when wireless router mode does not apply or if wireless router 1g SAR >1.2 W/kg. When hotspot mode applies, 10g SAR required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1g SAR > 1.2 W/kg.

This Device supports 64QAM on the uplink for LTE Operations. Conducted powers for 64QAM uplink configurations were measured per section 5.1 of FCC KDB 941225 D05v02r05. SAR was not required for 64QAM since the highest maximum output power for 64QAM is  $\leq 0.5$ dB higher than the same configuration in QPSK and the reported SAR for QPSK configuration is  $\leq 1.45$  W/Kg, per section 5.2.4 for FCC KDB941225 D05v02r05.

This device supports LTE capabilities with overlapping transmission frequency ranges. When the supported frequency range of LTE Band falls completely within an LTE Band with a larger transmission frequency range, both LTE bands have the same target power or the band with the larger transmission frequency range has a higher target power and both LTE bands share the same transmission path and signal characteristics, SAR was only tested for the band with the larger transmission frequency range.

This device support both Power class 2(PC2) and Power Class 3 (PC3) for LTE band 41. Per May 2017 TCB workshop Notes, SAR test were performed with Power Class 3(given the specific UL/DL Limitations for Power Class 2). Additionally, SAR testing for the power class condition was evaluated for the highest configuration in Power class 3 for each test configuration to confirm he results were scalable linearly.

This device supports LTE Carrier Aggregation(CA) in Uplink for LTE 41 with two component carriers in the uplink. SAR measurements and conducted powers were evaluated per Fall 2017 TCBC Workshop notes (LTE Carrier aggregation).

Because the maximum output for UL CA of LTE 41 is  $\leq$  standalone LTE mode (without CA),

SAR for LTE B41 Up link CA was performed at the highest standalone SAR configuration without CA and also UL CA SAR is not required for all required test channels, Because the reported SAR for UL CA configuration is  $> 1.2$  W/kg, .

This device supports LTE Carrier Aggregation (CA) in the downlink. All uplink communications are identical to Release 8 specifications. Per FCC KDB publication 941225 D05A v01r02, SAR for LTE DL CA operations was not needed since the maximum average output power in LTE CA mode was not  $>0.25$  dB higher than the maximum output power when downlink carrier aggregation was inactive.

This device supports downlink 4x4 MIMO operations for some LTE bands. Per Ma 2017 TCB Workshop Notes, SAR for 4x4 DL MIMO was not needed since the maximum output power with 4x4 DL MIMO inactive. Additionally, SAR for 4x4 MIMO Downlink Carrier Aggregation mode was not more than 0.25dB higher than the maximum output power with 4x4 MIMO Downlink and downlink carrier aggregation inactive.

This device supports Power Class 2 and Power Class 3 operations for LTE Band 41. The Highest available duty cycle for Power Class 2 operations is 43.3% using UL-DL configuration 1. Per May TCB Workshop notes, all SAR tests were performed using Power Class 3. SAR with power class 2 at the available duty factor was additionally performed for the power class 3 configuration with the highest SAR configuration for each exposure conditions.

NR implementation of n71, n5, n66, n2, and n41 is limited to EN-DC operations only, with LTE Band 2/66/5/12/ acting as the anchor band. Per FCC Guidance, SAR tests were performed separately for NR Bands and LTE Anchor Bands. Please see Section 11 for more details.

This device is only capable of QPSK HSUPA in the uplink. Therefore, no additional SAR tests are required beyond that described for devices with HSUPA in KDB 941225 D01v03r01.

Per FCC KDB 941225 D01v03r01, 12.2 kbps RMC is the primary mode and HSPA (HSUPA/HSDPA with RMC) is the secondary mode.

Per FCC KDB 941225 D01v03r01, The SAR test exclusion is applied to the secondary mode by the following equation.

$$\text{Adjusted SAR} = \text{Highest Reported SAR} \times \frac{\text{Secondary Max tune-up (mW)}}{\text{Primary Max tune-up (mW)}} \leq 1.2 \text{ W/kg.}$$

Based on the highest Reported SAR, the secondary mode is not required.

Per FCC KDB 690783 1 D01 SAR Listings on Grants v01r03 and KDB 447498 D01 General RF Exposure Guidance v06 The SAR numbers listed must be consistent with the highest reported test results required by the published RF exposure KDB procedures. When the measured SAR is not at the maximum tune-up tolerance limit or maximum output power allowed for production units, the measured results are scaled to the maximum conditions to determine compliance; the scaled results are referred to as the reported SAR.

The Reported SAR = The Measured SAR  $\times \frac{\text{Maximum tune-up (mW)}}{\text{Measured Conducted Power (mW)}}$

The Reported SAR for WLAN and Bluetooth

The Reported SAR = The Measured SAR  $\times \frac{\text{Maximum tune-up (mW)}}{\text{Measured Conducted Power (mW)}}$  x Duty factor

FCC KDB 447498 D01v06 General RF Exposure Guidance introduces a new formula for calculating the SAR a Peak Location Separation Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR_i = (SAR_1 + SAR_2)^{1.5} / R_i$$

Where:

$SAR_1$  is the highest measured or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

$SAR_2$  is the highest measured or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

$R_i$  is the separation distance between the pair of simultaneous transmitting antennas, When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of  $[(X_1 - X_2)^2 + (Y_1 - Y_2)^2 + (Z_1 - Z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum 1-g of SAR > 1.6 W/kg and with the sum 10-g of SAR > 4W/Kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / R_i \leq 0.04 \text{ for 1g SAR and } (SAR_1 + SAR_2)^{1.5} / R_i \leq 0.1 \text{ for 10g SAR.}$$

## 5. Introduction

The FCC has adopted the guidelines for evaluating the environmental effects of radio frequency radiation in ET Docket 93-62 on Aug. 6, 1996 to protect the public and workers from the potential hazards of RF emissions due to FCC-regulated portable devices.

The safety limits used for the environmental evaluation measurements are based on the criteria published by the American National Standards Institute (ANSI) for localized specific absorption rate (SAR) in IEEE/ANSI C95.1-1992 Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz. 1992 by the Institute of Electrical and Electronics Engineers, Inc., New York 10017. The measurement procedure described in IEEE/ANSI C95.3-1992 Recommended Practice for the Measurement of Potentially Hazardous Electromagnetic Fields - RF and Microwave is used for guidance in measuring SAR due to the RF radiation exposure from the Equipment Under Test (EUT). These criteria for SAR evaluation are similar to those recommended by the National Council on Radiation Protection and Measurements (NCRP) in Biological Effects and Exposure Criteria for Radio Frequency Electromagnetic Fields," NCRP Report No. 86 NCRP, 1986, Bethesda, MD 20814. SAR is a measure of the rate of energy absorption due to exposure to an RF transmitting source. SAR values have been related to threshold levels for potential biological hazards.

### SAR Definition

Specific Absorption Rate (SAR) is defined as the time derivative of the incremental electromagnetic energy ( $dW$ ) absorbed by (dissipated in) an incremental mass ( $dm$ ) contained in a volume element ( $dV$ ) of a given density ( $\rho$ ). It is also defined as the rate of RF energy absorption per unit mass at a point in an absorbing body.

$$SAR = \frac{d}{dt} \left( \frac{dU}{dm} \right)$$

Figure 1. SAR Mathematical Equation  
*SAR is expressed in units of Watts per Kilogram (W/kg)*

$$SAR = \sigma E^2 / \rho$$

Where:

- $\sigma$  = conductivity of the tissue-simulant material (S/m)
- $\rho$  = mass density of the tissue-simulant material (kg/m<sup>3</sup>)
- $E$  = Total RMS electric field strength (V/m)

NOTE: The primary factors that control rate of energy absorption were found to be the wavelength of the incident field in relations to the dimensions and geometry of the irradiated organism, the orientation of the organism in relation to the polarity of field vectors, the presence of reflecting surfaces, and whether conductive contact is made by the organism with a ground plane.

## 6. Description of test equipment

### 6.1 SAR MEASUREMENT SETUP

These measurements are performed using the DASY4 automated dosimetric assessment system. It is made by Schmid & Partner Engineering AG (SPEAG) in Zurich, Switzerland. It consists of high precision robotics system (Staubli), robot controller, Pentium III computer, near-field probe, probe alignment sensor, and the generic twin phantom containing the brain equivalent material. The robot is a six-axis industrial robot performing precise movements to position the probe to the location (points) of maximum electromagnetic field (EMF) (see Figure.2).

A cell controller system contains the power supply, robot controller, teach pendant (Joystick), and remote control, is used to drive the robot motors. The PC with Windows XP or Windows 7 is working with SAR Measurement system DASY4 & DASY5, A/D interface card, monitor, mouse, and keyboard. The Staubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card.

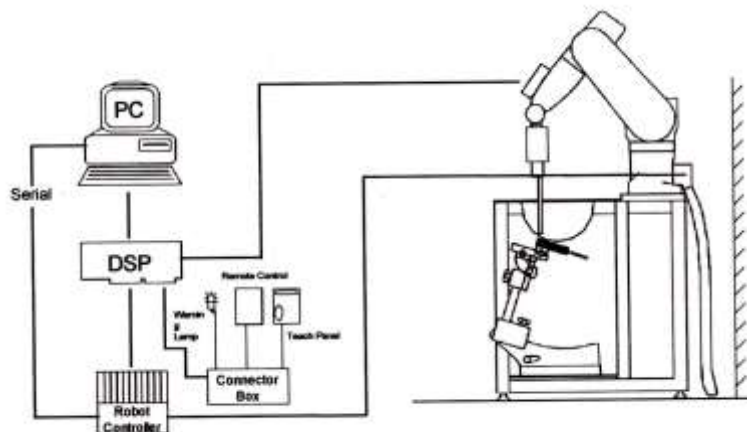


Figure 2. HCT SAR Lab. Test Measurement Set-up

The 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 PC-card is accomplished through an optical downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer. The system is described in detail in.

## 7. SAR Measurement Procedure

The evaluation was performed using the following procedure compliant to FCC KDB Publication 865664 D01v01r04 and IEEE 1528-2013.

1. The SAR distribution at the exposed side of the head or body was measured at a distance no more than 5.0 mm from the inner surface of the shell. The area covered the entire dimension of the DUT's head and body area and the horizontal grid resolution was depending on the FCC KDB 865664 D01v01r04 table 4-1 & IEEE 1528-2013.
2. Based on step, the area of the maximum absorption was determined by sophisticated interpolations routines implemented in DASY software. When an Area Scan has measured all reachable point. DASY system computes the field maximal found in the scanned are, within a range of the maximum. SAR at this fixed point was measured and used as a reference value.
3. Around this point, a volume was assessed according to the measurement resolution and volume size requirements of FCC KDB 865664 D01v01r04 table 4-1 and IEEE 1528-2013. On the basis of this data set, the spatial peak SAR value was evaluated with the following procedure (reference from the DASY manual.)
  - a. The data at the surface were extrapolated, since the center of the dipoles is no more than 2.7 mm away from the tip of the probe (it is different from the probe type) and the distance between the surface and the lowest measuring point is 1.2 mm. The extrapolation was based on a least square algorithm. A polynomial of the fourth order was calculated through the points in z-axes. This polynomial was then used to evaluate the points between the surface and the probe tip.
  - b. The maximum interpolated value was searched with a straight-forward algorithm. Around this maximum the SAR values averaged over the spatial volumes (1 g or 10 g) were computed using the 3D-Spline interpolation algorithm. The 3D-spline is composed of three one-dimensional splines with the "Not a knot" condition (in x, y, and z directions. The volume was integrated with the trapezoidal algorithm. One thousand points (10 x 10 x 10) were interpolated to calculate the average.
  - c. All neighboring volumes were evaluated until no neighboring volume with a higher average value was found.
4. The SAR reference value, at the same location as step 2, was re-measured after the zoom scan. If the value changed by more than 5 %, the SAR evaluation and drift measurements were repeated.

Area scan and zoom scan resolution setting follow KDB 865664 D01v01r04 quoted below.

		≤ 3 GHz	> 3 GHz	
Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface		5±1 mm	$\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm	
Maximum probe angle from probe axis to phantom surface normal at the measurement location		30°±1°	20°±1°	
Maximum area scan Spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$		≤ 2 GHz: ≤15 mm 2-3 GHz: ≤12 mm	3-4 GHz: ≤12 mm 4-6 GHz: ≤10 mm	
		When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be ≤ the corresponding x or y dimension of the test device with at least one measurement point on the test device.		
Maximum zoom scan Spatial resolution: $\Delta x_{zoom}, \Delta y_{zoom}$		≤ 2 GHz: ≤8mm 2-3 GHz: ≤5mm*	3-4 GHz: ≤5 mm* 4-6 GHz: ≤4 mm*	
Maximum zoom scan Spatial resolution normal to phantom surface	uniform grid: $\Delta z_{zoom}(n)$	≤ 5 mm	3-4 GHz: ≤4 mm 4-5 GHz: ≤3 mm 5-6 GHz: ≤2 mm	
	graded grid	$\Delta z_{zoom}(1)$ : between 1 <sup>st</sup> 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	≤1.5· $\Delta z_{zoom}(n-1)$	
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:  $\delta$  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. Description of Test Position

### 8.1 EAR REFERENCE POINT

Figure 8-2 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 on the B-M (back-mouth) line located 15 mm behind the entrance-to-ear-canal (EEC) point, as shown in Figure 6-1. The Reference Plane is defined as passing through the two ear reference point and point M. The line N-F (Neck-Front), also called the Reference Pivoting Line, is not perpendicular to the reference plane (See Figure 5-1), Line B-M is perpendicular to the N-F line. Both N-F and B-M lines are marked on the external phantom shell to facilitate handset positioning.

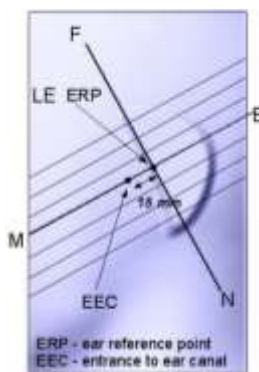


Figure 8-1  
Close-up side view of ERP

### 8.2 HANDSET REFERENCE POINTS

Two imaginary lines on the handset were established: the vertical centerline and the horizontal line. The device under test was placed in a normal operating position with the acoustic output located along the “vertical centerline” on the front of the device aligned to the “ear reference point”(see Figure 8-3). The acoustic output was then located at the same level as the center of the ear reference point. The device under test was positioned so that the “vertical centerline” was bisecting the front surface of the handset at its top and bottom edges, positioning the “ear reference point” on the outer surface of the both the left and right head phantoms on the ear reference point.



Figure 8-2  
Front, back and side views of SAM Twin Phantom



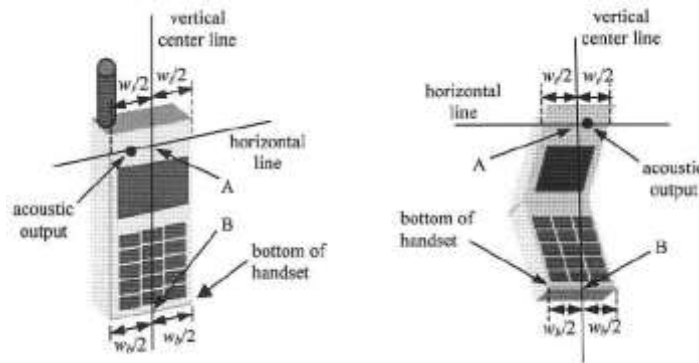


Figure 6-3. Handset vertical and horizontal reference lines

**8.3 Device Holder**

The device holder is made out of low-loss POM material having the following dielectric parameter; relative permittivity  $\epsilon=3$  and loss tangent  $\sigma =0.02$ .

**8.4 Position for cheek**

Figure 6.4. shows 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.

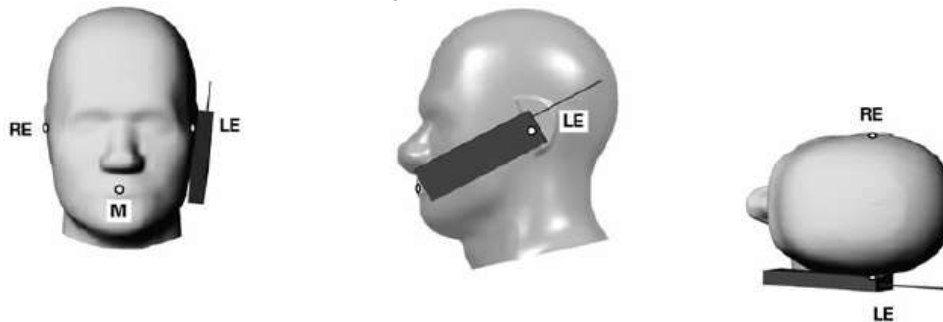


Figure 8.4 Cheek/ Touch position of the wireless device

**8.5 Definition of the “tilted” position**

Figure 6.5. shows tilted position. Place the device in the cheek position. Then while maintaining the orientation of the device, retract the device parallel to the reference plane far enough away from the phantom to enable a rotation of the device by 15°.



Figure 8.5. Tilt 15° position of the wireless device

**8.6 Body-Worn Accessory Configurations**

Body-worn operating configurations are tested with the belt-dips and holsters attached to the device and positioned against a flat phantom in a normal use configuration (see Figure 6-6). Per FCC KDB Publication 648474 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 Publication 447498 D01v06 should be used to test for Body-worn accessory SAR compliance, without a headset connected to it.. When the reported SAR for a body- worn accessory, measured without a headset connected to the handset, is > 1.2 W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.



Figure 8-6 Sample Body-Worn Diagram

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

## 8.7 Wireless Router Configurations

Some battery-operated handsets have the capability to transmit and receive user data through simultaneous transmission of WIFI simultaneously with a separate licensed transmitter. The FCC has provided guidance in FCC KDB Publication 941225 D06v02r01 where SAR test considerations for handsets (L x W $\geq$ 9cmx5 cm) are based on a composite test separation distance of 10 mm from the front back and edges of the device containing transmitting antennas within 2.5 cm of their edges, determined from general mixed use conditions for this type of devices. Since the hotspot SAR results may overlap with the Body-worn accessory SAR requirements, the more conservative configurations can be considered, thus excluding some Body-worn accessory SAR tests.

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

## 8.8 Extremity Exposure Configurations

Devices that are designed or intended for use on extremities or mainly operated in extremity only exposure conditions: i.e., hands, wrists, feet and ankles, may require extremity SAR evaluation. When the device also operates in close proximity to the user's body, SAR compliance for the body is also required. The 1-g body and 10-g extremity SAR Exclusion Thresholds found in KDB Publication 447498 D01v06 should be applied to determine SAR test requirements.

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. the phablets procedures outlined in KDB Publication 648474 D04 v01r03 should be applied to evaluate SAR compliance. A device marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance. In addition to the normally required head and body-worn accessory SAR test procedures required for handsets, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna  $\leq$ 25 mm from that surface or edge, in direct contact with the phantom, for 10-g SAR. The UMPC mini-tablet 1-g SAR at 5 mm is not required. When hotspot mode applies, 10-g SAR is required only for the surfaces and edges with hotspot mode scaled to the maximum output power (including tolerance) is 1-g SAR > 1.2 W/kg.

### 8.9 Additional Test Positions due to Proximity Conditions

This device uses a sensor to reduce output powers in extremity (hand-held) use conditions.

When the sensor detects a user is touching the device on or near to the antenna the device reduces the maximum allowed output power. However, the proximity sensor is not active when the device is moved beyond the sensor triggering distance and the maximum output power is no longer limited. Therefore, an additional exposure condition is needed in the vicinity of the triggering distance to ensure SAR is compliant when the device is allowed to operate at a non-reduced output power level.

FCC KDB 616217 D04 v01r02 Section 6 was used as a guideline for selecting SAR test distances for this device at these additional exposure conditions. The smallest separation distance determined by the sensor triggering and sensor coverage for each applicable edge, minus 1 mm. was used as the test separation distance for SAR testing. Sensor triggering distance summary data is included in below table.

Wireless technologies		Position	§6.2 Triggering Distance	§6.3 Coverage	§6.4 Tilt Angle	Worst case distance for Phablet SAR
ANT.1	WWAN (GSM 1900/CDMA PCS/UMTS B2/B4 LTE B2/B4/B25/B66/n2/n66)	Rear	9	N/A	N/A	8
		Front	7	N/A	N/A	6
		Bottom	13	N/A	N/A	12
ANT.2	WWAN LTE B7/B30/B38/B40/B41/B41(HUPE)	Rear	9	N/A	N/A	8
		Front	7	N/A	N/A	6
		Bottom	13	N/A	N/A	12

### 8.10 Bluetooth tethering Configurations

Per May 2017 TCBC Workshop documents When Bluetooth tethering applies ,simultaneous transmission SAR needs consideration.

This model allows users to exchange data or media files with other Bluetooth enabled devices using Bluetooth, which means they can connect to other Bluetooth enabled devices via Bluetooth tethering.

Therefore, SAR test was performed for additional simultaneous transmissions.

Head and Bluetooth tethering SAR were evaluated for BT BR tethering applications.

## 9. RF Exposure Limits

HUMAN EXPOSURE	UNCONTROLLED ENVIRONMENT General Population (W/kg) or (mW/g)	CONTROLLED ENVIRONMENT Occupational (W/kg) or (mW/g)
SPATIAL PEAK SAR * (Partial Body)	1.6	8.0
SPATIAL AVERAGE SAR ** (Whole Body)	0.08	0.4
SPATIAL PEAK SAR *** (Hands / Feet / Ankle / Wrist)	4.0	20.0

**NOTES:**

- \* The Spatial Peak value of the SAR averaged over any 1 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.
- \*\* The Spatial Average value of the SAR averaged over the whole-body.
- \*\*\* The Spatial Peak value of the SAR averaged over any 10 g of tissue (defined as a tissue volume in the shape of a cube) and over the appropriate averaging time.

**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 mad 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.

**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. This 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.

## 10. FCC SAR General Measurement Procedures

Power Measurements for licensed transmitters are performed using a base simulator under digital average power.

### 10.1 Measured and Reported SAR

Per FCC KDB Publication 447498 D01v06, when SAR is not measured at the maximum power level allowed for production units, the results must be scaled to the maximum tune-up tolerance limit according to the power applied to the individual channels tested to determine compliance. For simultaneous transmission, the measured aggregate SAR must be scaled according to the sum of the differences between the maximum tune-up tolerance and actual power used to test each transmitter. When SAR is measured at or scaled to the maximum tune-up tolerance limit, the results are referred to as Reported SAR. The highest reported SAR results are identified on the grant of equipment authorization according to procedures in KDB 690783 D01v01r03.

### 10.2 3G SAR Test Reduction Procedure

#### 10.2.1 GSM, GPRS AND EDGE

The following procedures may be considered for each frequency band to determine SAR test reduction for devices operating in GSM/GPRS/EDGE modes to demonstrate RF exposure compliance. GSM voice mode transmits with 1 time-slot. GPRS and EDGE may transmit up to 4 time slots in the 8 time-slot frame according to the multi-slot class implemented in a device.

#### 10.2.2 SAR Test Reduction

In FCC KDB 941225 D01v03r01, certain transmission modes within a frequency band and wireless mode evaluated for SAR are defined as primary modes. The equivalent modes considered for SAR test reduction are denoted as secondary modes. When the maximum output power including tune-up tolerance specified for production units in a secondary mode is  $\leq 0.25$  dB higher than the primary mode or when the highest reported SAR of the primary mode, scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode, is  $\leq 1.2$  W/kg, SAR measurements are not required for the secondary mode. These criteria are referred to as the 3G SAR test reduction procedure. When the 3G SAR test reduction procedure is not satisfied, SAR measurements are additionally required for the secondary mode.

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data 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

#### 10.2.3 Procedures Used to Establish RF Signal for SAR

The following procedures are according to FCC KDB 941225 D01v03r01-3G SAR Measurement Procedures. The handset was placed into a simulated call using a base station simulator in a shielded chamber. Such test signals offer a consistent means for testing SAR and are recommended for evaluation SAR measurements were taken with a fully charged battery. In order to verify that the device was tested and maintained at full power, this was configured with the base station simulator. The SAR measurement Software calculates a reference point at the start and end of the test to Check for power drifts. If conducted Power deviations of more than 5 % occurred, the tests were repeated.

### 10.3 SAR Measurement Conditions for CDMA2000

The following procedures were performed according to FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.”

#### 10.3.1 Output Power Verification

See 3GPP2 C.S0011/TIA-98-E as recommended by FCC KDB Publication 941225 D01v03r01 “3G SAR Measurement Procedures.” Maximum output power is verified on the High, Middle and Low channels according to procedures in section 4.4.5.2 of 3GPP2 C.S0011/TIA-98-E. SO55 tests were measured with power control bits in the “All Up” condition.

1. If the mobile station (MS) supports Reverse TCH RC 1 and Forward TCH RC 1, set up a call using Fundamental Channel Test Mode 1 (RC=1/1) with 9600 bps data rate only.
2. Under RC1, C.S0011 Table 4.4.5.2-1, Table 8-1 parameters were applied.
3. If the MS supports the RC 3 Reverse FCH, RC3 Reverse SCH<sub>0</sub> and demodulation of RC 3,4, or 5, set up a call using Supplemental Channel Test Mode 3 (RC 3/3) with 9600 bps Fundamental Channel and 9600 bps SCH<sub>0</sub> data rate.
4. Under RC3, C.S0011 Table 4.4.5.2-2, Table 8-2 was applied.
5. FCHs were configured at full rate for maximum SAR with “All Up” power control bits.

**Parameters for Max. Power for RC1**

Parameter	Units	Value
$I_{or}$	dBm/1.23 MHz	-104
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	dB	-7.4

**Parameters for Max. Power for RC3**

Parameter	Units	Value
$I_{or}$	dBm/1.23 MHz	-86
$\frac{Pilot E_c}{I_{or}}$	dB	-7
$\frac{Traffic E_c}{I_{or}}$	dB	-7.4

#### 10.3.2 Head SAR Measurements

SAR for next to the ear head exposure is measured in RC3 with the handset configured to transmit at fullrate in SO55. The 3G SAR test reduction procedure is applied to RC1 with RC3 as the primary mode; otherwise, SAR is required for the channel with maximum measured output in RC1 using the head exposure configuration that results in the highest reported SAR in RC3.

Head SAR is additionally evaluated using EVDO Rev. A to support compliance for VoIP operations. See Section 8.4.5 for EVDO Rev. A configuration parameters

#### 10.3.3 Body-worn SAR Measurements

SAR for body-worn exposure configurations is measured in RC3 with the DUT configured to transmit at full rate on FCH with all other code channels disabled using TDSO / SO32. The 3G SAR test reduction procedure is applied to the multiple code channel configuration (FCH+SCH<sub>n</sub>), with FCH only as the primary mode. Otherwise, SAR is required for multiple code channel configuration (FCH + SCH<sub>n</sub>), with FCH at full rate and SCH<sub>0</sub> enabled at 9600 bps, using the highest reported SAR configuration for FCH only. When multiple code channels are enabled, the transmitter output can shift by more than 0.5 dB and may lead to higher SAR drifts and SCH dropouts.

The 3G SAR test reduction procedure is applied to body-worn accessory SAR in RC1 with RC3 as the primary mode. Otherwise, SAR is required for RC1, with SO55 and full rate, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

#### 10.3.4 Body-worn SAR Measurements for EVDO Devices

For handsets with EVDO capabilities, the 3G SAR test reduction procedure is applied to EVDO Rev. 0 with 1x RTT RC3 as the primary mode to determine body-worn accessory test requirements. Otherwise, body-worn accessory SAR is required for Rev. 0, at 153.6 kbps, using the highest reported SAR configuration for body-worn accessory exposure in RC3.

The 3G SAR test reduction procedure is applied to Rev. A, with Rev. 0 as the primary mode to determine body-worn accessory SAR test requirements. When SAR is not required for Rev. 0, the 3G SAR test reduction is applied with 1x RTT RC3 as the primary mode.

When SAR is required for EVDO Rev. A, SAR is measured with a Reverse Data Channel payload size of 4096 bits and a Termination Target of 16 slots defined for Subtype 2 Physical Layer configurations, using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0 or 1x RTT RC3, as appropriate.

#### **10.3.4 Body SAR Measurements for EVDO Hotspot**

Hotspot Body SAR is measured using Subtype 0/1 Physical Layer configurations for Rev. 0. The 3G SAR test reduction procedure is applied to Rev. A, Subtype 2 Physical layer configuration, with Rev. 0 as the primary mode; otherwise, SAR is measured for Rev. A using the highest reported SAR configuration for body-worn accessory exposure in Rev. 0. The AT is tested with a Reverse Data Channel rate of 153.6 kbps in Subtype 0/1 Physical Layer configurations; and a Reverse Data Channel payload size of 4096 bits and Termination Target of 16 slots in Subtype 2 Physical Layer configurations.

For EVDO data devices that also support 1x RTT voice and/or data operations, the 3G SAR test reduction procedure is applied to 1x RTT RC3 and RC1 with EVDO Rev. 0 and Rev. A as the respective primary modes. Otherwise, the 'Body-Worn Accessory SAR' procedures in the '3GPP2 CDMA 2000 1x Handsets' section are applied.

#### **10.3.5 CDMA2000 1x Advanced**

This device additionally supports 1x Advanced. Conducted powers are measured using SO75 with RC8 on the uplink and RC11 on the downlink per FCC KDB Publication 941225 D01v03r01. Smart blanking is disabled for all measurements. The EUT is configured with forward power control Mode 000 and reverse power control at 400 bps. Conducted powers are measured on an Agilent 8960 Series 10 Wireless Communications Test Set, Model E5515C using the CDMA2000 1x Advanced application, Option E1962B-410.

The 3G SAR test reduction procedure is applied to the 1x-Advanced transmission mode with 1x RTT RC3 as the primary mode. When SAR measurement is required, the 1x-Advanced power measurement configurations are used. The 1x Advanced SAR procedures are applied separately to head, body-worn accessory and other exposure conditions.



## 10.4 SAR Measurement Conditions for UMTS

### 10.4.1 Output Power Verification

Maximum output power is verified on the High, Middle and Low channels according to the general descriptions in sec. 5.2 of 3GPP TS 34.121, using the appropriate RMC with TPC (transmit power control) set to all “1s” or applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HS-DPCCH etc) are tabulated in this test report. All configurations that are not supported by the DUT or cannot be measured due to technical or equipment limitations are identified.

### 10.4.2 Body SAR measurements

SAR for body exposure configurations is measured using the 12.2 kbps RMC with the TPC bits all “1s”. the 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using and applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported SAR configuration in 12.2 kbps RMC.

### 10.4.3 SAR Measurements with Rel. 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSDPA is measured using and FRC with H-SET 1 in Sub-test and a 12.2 kbps RMC without HSDPA. Handsets with both HSDPA and HSUPA are tested according to release 6 HSPA test procedures. 8.4.5 SAR Measurement with Rel.6 HSUPA The 3G SAR test Reduction Procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, Using H-Set 1 and QPSK for FRC and a 12.2kbps RMC configured in Test Loop Mode 1 and Power Control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA. When VOIP applies to head exposure, the 3G SAR test reduction procedure is applied with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body SAR measurements are applied to head exposure testing.

### 10.4.4 SAR Measurements with Rel. 6 HSUPA

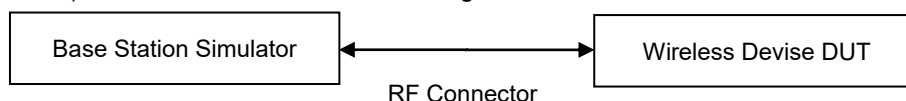
The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body configurations with 12.2 kbps RMC as the primary mode. Otherwise, Body SAR for HSPA is measured with E-DCH Sub-test 5, using H-Set1 and QPSK for FRC and a 12.2 kbps RMC configured in Test Loop Mode 1 and power control algorithm 2, according to the highest reported body SAR configuration in 12.2 kbps RMC without HSPA.

### 10.4.5 DC-HSDPA

SAR is required for Rel.8 DC-HSDPA when SAR is required for Rel.5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in table C.8.1.12 of 3GPP TS34.121-1 to determine SAR test reduction. Primary and secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.

#### DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK)was conformed to be used during DC-HSDPA measurements.



## 10.5 SAR Measurement Conditions for LTE

LTE modes are tested according to FCC KDB 941225 D05v02r05 publication. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluation SAR [4]. The R&S CMW500 or Anritsu MT8820C simulators are used for LTE output power measurements and SAR testing. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. SAR tests were performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

### 10.5.1 Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.

### 10.5.2 MPR

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36. 101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

### 10.5.3 A-MPR

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

### 10.5.4 Required RB Size and RB offsets for SAR testing

According to FCC KDB 941225 D05v02r05

- a. Per sec 4.2.1, SAR is required for QPSK 1 RB Allocation for the largest bandwidth
  - i. The required channel and offset combination with the highest maximum output power is required for SAR.
  - ii. When the reported SAR is  $\leq 0.8$  W/Kg, testing of the remaining RB offset configurations and required test channels is not required. Otherwise, SAR is required for the remaining required test channels using the RB offset configuration with highest output power for that channel.
  - iii. When the reported SAR for a required test channel is  $> 1.45$  W/kg, SAR is required for all RB offset configurations for that channel.
- b. Per Sec 4.2.2, SAR is required for 50% RB allocation using the largest bandwidth following the same procedures outlined in Sec 4.2.1.
- c. Per Sec. 4.2.3, QPSK SAR is not required for the 100% allocation when the highest maximum output power for the 100% allocation is less than the highest maximum output power of the 1 RB and 50% RB allocations and the reported SAR for the 1 RB and 50% RB allocations is  $< 0.8$  W/kg.
- d. Per Sec. 4.2.4 and 4.3, SAR test for higher order modulations and lower bandwidths configurations are not required when the conducted power of the required test configurations determined by Sec. 4.2.1 through 4.2.3 is less than or equal to 1/2 dB higher than the equivalent configuration using QPSK modulation and when the QPSK SAR for those configurations is  $< 1.45$  W/Kg.

### 10.5.5 Downlink Carrier Aggregation

Conducted power measurements with LTE Carrier aggregation (CA) downlink only active are made in accordance to KDB publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier (SCC) on the downlink only. All uplink communications and acknowledgements remain identical to specifications when downlink carrier aggregation is inactive on the PCC. For every supported combination of downlink only carrier aggregation, additional conducted output Powers are measured with downlink carrier aggregation active for the configuration with highest measured maximum conducted power with the downlink carrier aggregation inactive measured among the channel bandwidth, modulation and RB combinations in each frequency band. Per FCC KDB Publication 941225 D05Av01r02, no SAR measurements are required for carrier aggregation configurations when the

average output power with downlink only carrier aggregation active is not more than 0.25dB higher than the average output power with downlink only carrier aggregation inactive.

### 10.5.6 LTE Uplink Carrier Aggregation SAR Measurement Procedure

This device is specified with the same maximum output power and Tune-up tolerances for intra-band contiguous up-link LTE CA\_41C and the single carrier LTE 41. Both Uplink carrier aggregation and single carrier are operating with Power class 3.

This device support intra-band contiguous UL CA: LTE CA\_41C with a maximum of 20 MHz component carriers. For intra-band contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that aggregate maximum allowed output power is equivalent to the single carrier scenario.

This device does not have any operating restrictions, Power reduction or variations among the different LTE operating mode configurations on single carrier LTE 41 and intra-band contiguous up-link LTE CA\_41C operations.

The measured power results of single carrier LTE41 and intra-band contiguous up-link LTE CA\_41C satisfy Maximum output power and Tune-up tolerances.

Per Fall 2017 TCB Workshop Notes, the output Power with uplink CA active was measured for the configuration with the Highest Reported SAR with standalone condition.

Because the maximum output for UL CA of LTE 41 is  $\leq$  standalone LTE mode (without CA), SAR for LTE B41 Up link CA was performed at the highest standalone SAR configuration without CA and also UL CA SAR is not required for all required test channels, Because the reported SAR for UL CA configuration is  $> 1.2$  W/kg

### 10.5.7 LTE(TDD) Considerations

According to KDB 941225 D05v02r05, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

SAR was tested with the highest transmission duty factor (63.33 %) using Uplink-downlink configuration 0 and Special subframe configuration 6. LTE TDD Band 41 supports 3GPP TS 36.211 section 4.2 for Type 2 Frame and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special sub frame configurations.

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

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

Calculated Duty Cycle – Extended cyclic prefix in uplink x (Ts) x no of S + no of U

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

Example for calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle =  $(5120 \times (1/(15000 \times 2048))) \times 2 + 0.006)/0.01 = 63.33 \%$

Where

$T_s = 1/(15000 \times 2048)$  seconds

HPUE :

Calculated Duty Cycle for Uplink-Downlink Configuration 1:

Calculated Duty Cycle =  $5120 \times (1/(15000 \times 2048)) \times 2 + 0.004)/0.01 = 43.33 \%$

### 10.5.6 The Call Box Setup for LTE(TDD)

When you Want to Test for LTE TDD, Please Change Frame Structure TDD and TDD Uplink Downlink Configuration 0 and Special Subframe Configuration 6.

## 10.6 SAR Testing with 802.11 Transmitters

The normal network operating configurations of 802.11 transmitters are not suitable for SAR measurements. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure the results are consistent and reliable. See KDB Publication 248227 D01v02r02 for more details.

### 10.6.1 General Device Setup

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters.

A periodic duty factor is required for current generation SAR system to measure SAR. When 802.11 frame gaps are accounted for in the transmission, a maximum transmission duty factor of 92-96% is typically achievable in most test mode configurations. A minimum transmission duty factor of 85% is required to avoid certain hardware and device implementation issues related to wide range SAR scaling. The reported SAR is scaled to 100% transmission duty factor to determine compliance at the maximum tune-up tolerance limit.

### 10.6.2 U-NII-1 and U-NII-2A

For devices that operate in both U-NII-1 and U-NII-2A bands, when the same maximum output power is specified for both bands, SAR measurement using OFDM SAR test procedures is not required for U-NII-1 unless the highest reported SAR for U-NII-2A is  $> 1.2$  W/kg for 1g SAR or  $> 3.0$  W/kg for 10g SAR. When different maximum output powers are specified for the bands, SAR measurement for the U-NII band with the lower maximum output power is not required unless the highest reported SAR for the U-NII band with the higher maximum output power, adjusted by the ratio of lower to higher specified maximum output power for the two bands, is  $> 1.2$  W/kg for 1g SAR or  $> 3.0$  W/kg for 10g SAR.

### 10.6.3 U-NII-2C and U-NII-3

The frequency range covered by U-NII-2C and U-NII-3 is 380 MHz (5.47 GHz – 5.85 GHz), which requires a minimum of at least two SAR probe calibration frequency points to support SAR measurements. When Terminal Doppler Weather Radar (TDWR) restriction applies, the channels at 5.60 GHz – 5.65 GHz in U-NII-2C band must be disabled with acceptable mechanisms and documented in the equipment certification.

Unless band gap channels are permanently disabled, SAR must be considered for these channels.

### 10.6.4 Initial Test Position Procedure

For exposure conditions with multiple test positions, such as handset operating next to the ear, devices with hotspot mode or UMPC mini-tablet, procedures for initial test position can be applied. Using the transmission mode determined by the DSSS procedure or initial test configuration, area scans are measured for all positions in an exposure condition. The test position with the highest extrapolated (peak) SAR is used as the initial test position. When reported SAR for the initial test position is  $\leq 0.4$  W/kg for 1g SAR and  $\leq 1.0$  W/kg for 10g SAR, no additional testing for the remaining test position is required. Otherwise, SAR is evaluated at the subsequent highest peak SAR positions until the reported SAR result is  $\leq 0.8$  W/kg for 1g SAR and  $\leq 2.0$  W/kg for 10g SAR or all test positions are measured.

#### 10.6.5 2.4 GHz SAR test Requirements

SAR is measured for 2.4 GHz 802.11b DSSS using either the fixed test position or, when applicable, the initial test position procedure. SAR test reduction is determined according to the following:

- 1) When the reported SAR of the highest measured maximum output power channel for the exposure configuration is  $\leq 0.8$  W/kg, no further SAR testing is required for 802.11b DSSS is that exposure configuration.
- 2) When the reported SAR is  $> 0.8$  W/kg, SAR is required for that position using the next highest measured output power channel. When any reported SAR is  $> 1.2$  W/kg, SAR is required for the third channel; i.e., all channels require testing.

2.4 GHz 802.11 g/n OFDM are additionally evaluated for SAR if the highest reported SAR for 802.11b, adjusted by the ratio of the OFDM to DSSS specified maximum output power, is  $> 1.2$  W/kg. When SAR is required for OFDM modes in 2.4 GHz band, the Initial Test Configuration Procedures should be followed.

#### 10.6.6 OFDM Transmission Mode and SAR Test Channel Selection

For the 2.4 GHz and 5 GHz bands, when the same maximum output power was specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration with the largest channel bandwidth, lowest order modulation and lowest data rate and lowest order 802.11 a/g/n/ac mode. When the maximum output power of a channel is the same for equivalent OFDM configurations; for example, 802.11a, 802.11n and 802.11 ac or 802.11g and 802.11n with the same channel bandwidth, modulation and data rate etc., the lower order 802.11 mode i.e., 802.11a, then 802.11n and 802.11ac or 802.11g then 802.11n, is used for SAR measurement. When the maximum output power are the same for multiple test channels, either according to the default or additional power measurement requirements, SAR is measured using the channel closest to the middle of the frequency band or aggregated band. When there are multiple channels with the same maximum output power, SAR is measured using the higher number channel.

#### 10.6.7 Initial Test Configuration Procedure

For OFDM, in both 2.4 GHz and 5 GHz bands, an initial test configuration is determined for each frequency band and aggregated band, according to the transmission mode with the highest maximum output power specified for SAR measurements. When the same maximum output power is specified for multiple OFDM transmission mode configurations in a frequency band or aggregated band, SAR is measured using the configuration(s) with the largest channel bandwidth, lowest order modulation, and lowest data rate. If the average RF output powers of the highest identical transmission modes are within 0.25 dB of each other, mid channel of the transmission mode with highest average RF output power is the initial test channel. Otherwise, the channel of the transmission mode with the highest average RF output conducted power will be the initial test configuration.

When the reported SAR is  $\leq 0.8$  W/kg, no additional measurements on other test channels are required. Otherwise, SAR is evaluated using the subsequent highest average RF output channel until the reported SAR result is 1.2 W/kg or all channels are measured. When there are multiple untested channels having the same subsequent highest average RF output power, the channel with higher frequency from the lowest 802.11 mode is considered for SAR measurements.

#### 10.6.8 Subsequent Test Configuration Procedures

For OFDM configurations in each frequency band and aggregated band, SAR is evaluated for initial test configuration using the fixed test position or the initial test position on procedure. When the highest reported SAR (for the initial test configuration), adjusted by the ratio of the specified maximum output power of the subsequent test configuration to initial test configuration, is  $\leq 1.2$  W/kg for 1g SAR and  $\leq 3.0$  W/kg for 10g SAR, no additional SAR tests for the subsequent test configurations are required.

## 11. Output Power Specifications

This device operates using the following maximum output power specifications. SAR values were scaled to the maximum allowed power to determine compliance per KDB publication 447498 D01v06.

### Licensed bands

Test Description	Test Procedure Used
Conducted Output Power	- KDB 971168 D01 v03r01 - Section 5.2.4 - ANSI C63.26-2015 - Section 5.2.1 & 5.2.4.2

### Test Overview

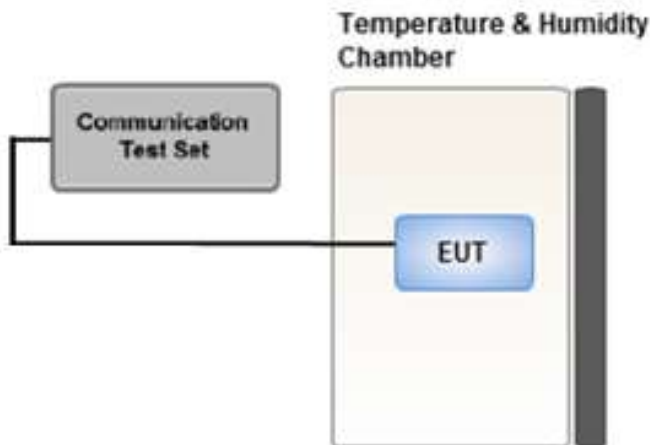
According to ANSI C63.26-2015 Section 5.2.1 when measuring the maximum RF output power from such devices, control over the EUT must be provided either through special test software (provided by manufacturer specifically for compliance testing, but not accessible by an end user) or through use of a base station emulator, communications test set, call box, or similar instrumentation that is capable of establishing a communications link with the EUT to enable control over variable parameters (e.g., output power, OBW, etc.).

In some cases, these instruments also include basic digital spectrum analyzer and/or power meter capabilities that can be utilized to measure the RF output power if the specified detectors and requirements can be realized and the measurement functions have been calibrated.

### Test Procedure

1. The RF port of the EUT was connected to the Communication Tester via an RF cable.
2. Conducted average power was measured using a calibrated Radio Communication Tester.

### Test setup





## 11.1 CDMA

### 11.1.1 CDMA Maximum Conducted Output Power

Band	Ch.	SO2	SO2	SO55	SO55	TDSO	1xEvDO	1xEvDO	1xEvDO	1xEvDO
		RC1/1	RC3/3	RC1/1	RC3/3	SO32	Rev.0	Rev.0	Rev.A	Rev.A
		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
CDMA(BC0)	1013	23.66	23.75	23.71	23.74	23.86	23.42	23.64	22.54	23.29
	384	24.38	24.39	24.39	24.40	24.36	24.37	24.35	23.63	24.33
	777	23.52	23.57	23.52	23.55	23.73	23.37	23.51	22.53	23.40
PCS(BC1)	25	25.14	25.16	25.16	25.16	25.02	24.98	25.04	24.17	25.18
	600	25.15	25.15	25.15	25.16	25.00	24.90	25.19	24.18	25.15
	1175	25.02	25.17	25.00	25.17	25.10	24.91	25.01	24.07	25.10
Secondary (BC10)	450	24.61	24.63	24.63	24.64	24.58	24.35	24.62	23.81	24.59
	560	24.62	24.64	24.64	24.66	24.57	24.38	24.63	23.70	24.55
	670	24.62	24.65	24.65	24.66	24.58	24.24	24.50	23.60	24.43

CDMA Average Conducted output powers (dBm)

### 11.2.2 CDMA Reduced Conducted Output Power (Hotspot mode activated)

Band	Ch.	SO2	SO2	SO55	SO55	TDSO	1xEvDO	1xEvDO	1xEvDO	1xEvDO
		RC1/1	RC3/3	RC1/1	RC3/3	SO32	Rev.0	Rev.0	Rev.A	Rev.A
		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
PCS(BC1)	25	18.07	18.05	17.04	18.04	17.96	18.40	18.11	17.29	18.09
	600	18.04	18.02	18.03	18.02	17.89	18.31	18.05	17.17	18.04
	1175	18.11	18.10	18.12	18.09	18.01	18.32	18.08	17.27	18.00

CDMA Average Conducted output powers (dBm)

### 11.2.3 CDMA Reduced Conducted Output Power (Grip Sensor on)

Band	Ch.	SO2	SO2	SO55	SO55	TDSO	1xEvDO	1xEvDO	1xEvDO	1xEvDO
		RC1/1	RC3/3	RC1/1	RC3/3	SO32	Rev.0	Rev.0	Rev.A	Rev.A
		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
PCS(BC1)	25	21.20	21.12	21.18	21.11	20.98	21.35	21.19	20.40	21.12
	600	21.16	21.08	21.15	21.09	20.93	21.36	21.13	20.21	21.09
	1175	21.22	21.18	21.23	21.17	21.01	21.14	21.11	20.34	21.02

CDMA Average Conducted output powers (dBm)

### 11.2.3 CDMA Reduced Conducted Output Power (Ear jack activated)

Band	Ch.	SO2	SO2	SO55	SO55	TDSO	1xEvDO	1xEvDO	1xEvDO	1xEvDO
		RC1/1	RC3/3	RC1/1	RC3/3	SO32	Rev.0	Rev.0	Rev.A	Rev.A
		(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)	(dBm)
PCS(BC1)	25	22.02	22.02	22.04	22.02	22.01	22.00	21.97	21.16	21.94
	600	21.97	21.96	21.99	22.00	21.99	21.96	21.95	21.14	21.94
	1175	21.99	22.00	22.02	21.98	21.98	21.98	21.95	21.20	21.92

CDMA Average Conducted output powers (dBm)

## 11.2 GSM

### 11.2.1 GSM Maximum Conducted Output Power

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		33.5	33.5	31.0	30.5	29.0	28.0	26.0	24.0	23.0
Nominal		32.5	32.5	30.0	29.5	28.0	27.0	25.0	23.0	22.0
GSM 850	32.56	32.56	32.57	30.72	29.00	27.63	26.90	24.91	23.51	22.35
	32.42	32.42	32.42	30.61	28.88	27.58	26.82	24.84	23.52	22.03
	32.55	32.55	32.56	30.54	29.06	27.50	26.75	25.03	23.42	22.25
Maximum		31.5	31.5	29.0	27.5	26.0	26.5	24.5	23.5	22.0
Nominal		30.5	30.5	28.0	26.5	25.0	25.5	23.5	22.5	21.0
GSM 1900	30.40	30.40	30.40	27.50	26.03	24.54	25.81	23.75	22.65	21.41
	30.34	30.34	30.35	27.61	26.15	24.67	25.92	23.84	22.71	21.56
	30.52	30.52	30.53	27.83	26.14	24.53	26.11	24.02	22.93	21.74

GSM Conducted output powers (Burst-Average)

Mode / Band		Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)			
		GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot
Maximum		24.47	24.47	24.98	26.24	25.99	18.97	19.98	19.74	19.99
Nominal		23.47	23.47	23.98	25.24	24.99	17.97	18.98	18.74	18.99
GSM 850	128	23.53	23.54	24.70	24.74	24.62	17.87	18.89	19.25	19.34
	190	23.39	23.39	24.59	24.62	24.57	17.79	18.82	19.26	19.02
	251	23.52	23.53	24.52	24.80	24.49	17.72	19.01	19.16	19.24
Maximum		22.47	22.47	22.98	23.24	22.99	17.47	18.48	19.24	18.99
Nominal		21.47	21.47	21.98	22.24	21.99	16.47	17.48	18.24	17.99
GSM 1900	512	21.37	21.37	21.48	21.77	21.53	16.78	17.73	18.39	18.40
	661	21.31	21.32	21.59	21.89	21.66	16.89	17.82	18.45	18.55
	810	21.49	21.50	21.81	21.88	21.52	17.08	18.00	18.67	18.73

GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

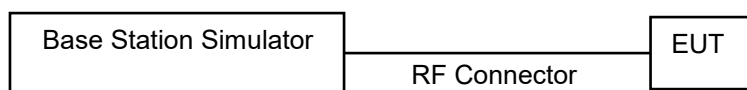
- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 12 with CS 1 (GMSK)



**11.2.2 GSM Reduced Conducted Output Power (Hotspot mode activated)**

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	28.5	28.5	26.0	24.5	23.0	25.5	24.0	22.5	21.5	
Nominal	27.5	27.5	25.0	23.5	22.0	24.5	23.0	21.5	20.5	
GSM 1900	512	27.25	27.25	24.68	23.14	21.56	24.88	22.81	21.60	20.41
	661	27.43	27.43	24.84	23.04	21.66	24.98	22.90	21.71	20.52
	810	27.69	27.69	25.10	23.30	21.68	25.14	23.20	21.94	20.82

GSM Conducted output powers (Burst-Average)

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	19.47	19.47	19.98	20.24	19.99	16.47	17.98	18.24	18.49	
Nominal	18.47	18.47	18.98	19.24	18.99	15.47	16.98	17.24	17.49	
GSM 1900	512	18.22	18.22	18.66	18.88	18.55	15.85	16.79	17.34	17.40
	661	18.40	18.40	18.82	18.78	18.65	15.95	16.88	17.45	17.51
	810	18.66	18.66	19.08	19.04	18.67	16.11	17.18	17.68	17.81

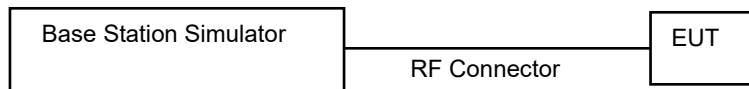
GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B  
 GSM voice/GPRS VOIP: Head SAR , Body worn SAR  
 GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE  
 Multi-slot Class 12 with CS 1 (GMSK)



**11.2.3 GSM Reduced Conducted Output Power (Grip back Activated)**

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	28.5	28.5	26.0	24.5	23.0	25.5	24.0	22.5	21.5	
Nominal	27.5	27.5	25.0	23.5	22.0	24.5	23.0	21.5	20.5	
GSM 1900	512	27.20	27.21	24.67	22.91	21.60	24.77	23.00	21.62	20.22
	661	27.38	27.39	24.84	23.10	21.79	25.12	23.09	21.74	20.59
	810	27.64	27.65	25.11	23.34	21.78	25.09	23.30	21.96	20.84

GSM Conducted output powers (Burst-Average)

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	19.47	19.47	19.98	20.24	19.99	16.47	17.98	18.24	18.49	
Nominal	18.47	18.47	18.98	19.24	18.99	15.47	16.98	17.24	17.49	
GSM 1900	512	27.20	27.21	24.67	22.91	21.60	24.77	23.00	21.62	20.22
	661	27.38	27.39	24.84	23.10	21.79	25.12	23.09	21.74	20.59
	810	27.64	27.65	25.11	23.34	21.78	25.09	23.30	21.96	20.84

GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

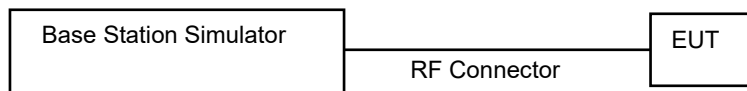
- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B

GSM voice/GPRS VOIP: Head SAR , Body worn SAR

GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE

Multi-slot Class 12 with CS 1 (GMSK)



**11.2.4 GSM Reduced Conducted Output Power (Ear jack Activated)**

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	32.0	32.0	29.5	28.5	27.0	26.5	24.5	23.5	22.0	
Nominal	31.0	31.0	28.5	27.5	26.0	25.5	23.5	22.5	21.0	
GSM 850	128	31.00	31.01	28.56	26.94	26.14	25.90	24.03	22.66	21.30
	190	30.93	30.94	28.47	26.87	26.06	25.89	23.84	22.41	21.23
	251	30.83	30.83	28.38	27.04	25.97	25.83	23.78	22.56	21.18
Maximum	30.5	30.5	28.0	26.5	25.0	27.5	26.0	24.5	23.5	
Nominal	29.5	29.5	27.0	25.5	24.0	26.5	25.0	23.5	22.5	
GSM 1900	512	29.46	29.46	26.84	25.44	23.55	27.11	25.07	23.71	22.61
	661	29.52	29.52	26.77	25.60	23.73	27.10	25.08	23.76	22.68
	810	29.45	29.45	26.80	25.30	23.45	26.82	25.01	23.66	22.60

GSM Conducted output powers (Burst-Average)

Mode / Band	Voice	GPRS(GMSK) Data – CS1(dBm)				EDGE Data (dBm)				
	GSM	GPRS 1 TX Slot	GPRS 2 TX Slot	GPRS 3 TX Slot	GPRS 4 TX Slot	EDGE 1 TX Slot	EDGE 2 TX Slot	EDGE 3 TX Slot	EDGE 4 TX Slot	
Maximum	22.97	22.97	23.48	24.24	23.99	17.47	18.48	19.24	18.99	
Nominal	21.97	21.97	22.48	23.24	22.99	16.47	17.48	18.24	17.99	
GSM 850	128	21.97	21.98	22.54	22.68	23.13	16.87	18.01	18.40	18.29
	190	21.90	21.91	22.45	22.61	23.05	16.86	17.82	18.15	18.22
	251	21.80	21.80	22.36	22.78	22.96	16.80	17.76	18.30	18.17
Maximum	21.47	21.47	21.98	22.24	21.99	18.47	19.98	20.24	20.49	
Nominal	20.47	20.47	20.98	21.24	20.99	17.47	18.98	19.24	19.49	
GSM 1900	512	20.43	20.43	20.82	21.18	20.54	18.08	19.05	19.45	19.60
	661	20.49	20.49	20.75	21.34	20.72	18.07	19.06	19.50	19.67
	810	20.42	20.42	20.78	21.04	20.44	17.79	18.99	19.40	19.59

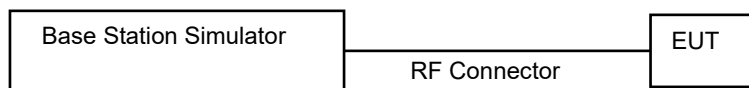
GSM Conducted output powers (Frame-Average)

**Note:**

Time slot average factor is as follows:

- 1 Tx slot = 9.03 dB, Frame-Average output power = Burst-Average output power – 9.03 dB
- 2 Tx slot = 6.02 dB, Frame-Average output power = Burst-Average output power – 6.02 dB
- 3 Tx slot = 4.26 dB, Frame-Average output power = Burst-Average output power – 4.26 dB
- 4 Tx slot = 3.01 dB, Frame-Average output power = Burst-Average output power – 3.01 dB

GSM Class : B  
 GSM voice/GPRS VOIP: Head SAR , Body worn SAR  
 GPRS/EDGE Multi-slots 12 : Hotspot SAR with GPRS/EDGE  
 Multi-slot Class 12 with CS 1 (GMSK)



### 11.3 UMTS

#### HSPA+

This DUT is only capable of QPSK HSPA+ in uplink. Therefore, the RF conducted power is not measured according to 941225 D01v03r01 3G SAR.

#### 11.3.1 UMTS Maximum Conducted Output Power

##### UMTS Band 5 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 5 [dBm]			3GPP MPR
		Subtest	UL 4132 DL 4357	UL 4183 DL 4408	UL 4233 DL 4458	
99	UMTS	12.2 kbps RMC	22.58	22.56	22.56	-
99		12.2 kbps AMR	22.60	22.56	22.56	-
5	HSDPA	Subtest 1	22.43	22.41	22.43	0
5		Subtest 2	22.00	21.99	21.99	0
5		Subtest 3	21.47	21.51	21.51	0.5
5		Subtest 4	21.48	21.50	21.51	0.5
6	HSUPA	Subtest 1	21.48	21.47	21.52	0
6		Subtest 2	19.91	19.92	19.95	2
6		Subtest 3	19.95	19.94	19.97	1
6		Subtest 4	19.92	19.92	19.94	2
6		Subtest 5	21.48	21.49	21.52	0
8	DC-HSDPA	Subtest 1	22.27	22.28	22.15	0
8		Subtest 2	22.20	22.20	22.24	0
8		Subtest 3	21.29	21.29	21.25	0.5
8		Subtest 4	21.35	21.33	21.21	0.5

UMTS Average Conducted output powers

##### UMTS Band 4 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 5 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	22.93	22.91	23.13	-
99		12.2 kbps AMR	22.92	22.92	23.12	-
5	HSDPA	Subtest 1	22.85	22.86	23.08	0
5		Subtest 2	21.88	21.89	22.14	0
5		Subtest 3	21.89	21.91	22.13	0.5
5		Subtest 4	21.88	21.89	22.10	0.5
6	HSUPA	Subtest 1	20.64	20.68	20.87	0
6		Subtest 2	18.84	18.96	19.26	2
6		Subtest 3	19.62	19.76	20.03	1
6		Subtest 4	18.77	18.89	19.22	2
6		Subtest 5	20.57	20.62	20.88	0
8	DC-HSDPA	Subtest 1	22.87	22.98	23.04	0
8		Subtest 2	22.88	22.02	23.07	0
8		Subtest 3	21.87	21.99	22.12	0.5
8		Subtest 4	21.82	21.95	22.17	0.5

UMTS Average Conducted output powers

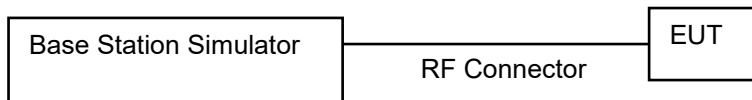
UMTS Band 2 Maximum Conducted Output Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	
99	UMTS	12.2 kbps RMC	22.56	22.64	22.69	-
99		12.2 kbps AMR	22.54	22.64	22.68	-
5	HSDPA	Subtest 1	22.09	22.13	22.18	0
5		Subtest 2	21.65	21.95	21.81	0
5		Subtest 3	21.20	21.23	21.25	0.5
5		Subtest 4	20.69	20.74	20.81	0.5
6	HSUPA	Subtest 1	20.34	20.30	20.40	0
6		Subtest 2	18.81	18.57	18.83	2
6		Subtest 3	19.47	19.44	19.42	1
6		Subtest 4	18.68	18.45	18.70	2
6		Subtest 5	20.28	20.31	20.40	0
8	DC-HSDPA	Subtest 1	22.76	22.68	22.81	0
8		Subtest 2	22.26	22.18	22.32	0
8		Subtest 3	21.19	21.16	21.35	0.5
8		Subtest 4	21.24	21.12	21.32	0.5

UMTS Average Conducted output powers

DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK)was conformed to be used during DC-HSDPA measurements.



**11.3.2 UMTS Reduced Conducted Output Power (Hotspot mode activated)**

When Power reduction is applied , MPR set to 0  
UMTS Band 4 Hotspot Back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	19.90	19.87	20.07	-
99		12.2 kbps AMR	19.86	19.84	20.04	
5	HSDPA	Subtest 1	19.87	19.92	20.17	0
5		Subtest 2	19.88	19.94	20.19	0
5		Subtest 3	19.93	19.99	20.21	0
5		Subtest 4	19.89	19.96	20.20	0
6	HSUPA	Subtest 1	18.91	19.05	19.30	0
6		Subtest 2	18.63	18.74	19.07	0
6		Subtest 3	18.99	19.13	19.37	0
6		Subtest 4	18.65	18.74	19.08	0
6		Subtest 5	18.99	19.09	19.36	0
8	DC-HSDPA	Subtest 1	19.73	19.95	19.85	0
8		Subtest 2	19.75	19.99	19.90	0
8		Subtest 3	19.73	19.98	19.88	0
8		Subtest 4	19.76	20.01	19.92	0

UMTS Average Conducted output powers

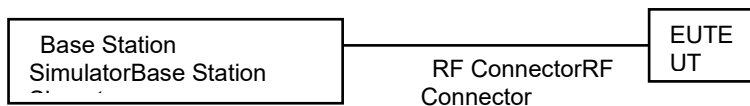
When Power reduction is applied , MPR set to 0  
UMTS Band 2 Hotspot Back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	
99	UMTS	12.2 kbps RMC	17.58	17.64	17.61	-
99		12.2 kbps AMR	17.55	17.64	17.60	
5	HSDPA	Subtest 1	18.26	18.00	18.32	0
5		Subtest 2	18.25	18.00	18.30	0
5		Subtest 3	18.26	17.99	18.31	0
5		Subtest 4	18.24	17.95	18.28	0
6	HSUPA	Subtest 1	17.79	17.55	17.86	0
6		Subtest 2	17.71	17.45	17.80	0
6		Subtest 3	17.66	17.41	17.77	0
6		Subtest 4	17.63	17.33	17.70	0
6		Subtest 5	17.72	17.44	17.80	0
8	DC-HSDPA	Subtest 1	18.30	17.93	17.74	0
8		Subtest 2	18.31	17.92	17.73	0
8		Subtest 3	18.26	17.84	17.67	0
8		Subtest 4	18.30	17.90	17.70	0

UMTS Average Conducted output powers

DC-HSDPA Configurations

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK) was conformed to be used during DC-HSDPA measurements.





**11.3.3 UMTS Reduced Conducted Output Power – (Grip back Activated/ Ear jack Activated)**

When Power reduction is applied , MPR set to 0  
UMTS Band 4 Grip Back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 1312 DL 1537	UL 1412 DL 1637	UL 1513 DL 1738	
99	UMTS	12.2 kbps RMC	19.86	19.83	20.04	-
99		12.2 kbps AMR	19.86	19.84	20.04	
5	HSDPA	Subtest 1	19.85	19.91	20.18	0
5		Subtest 2	19.82	19.94	20.19	0
5		Subtest 3	19.89	19.96	20.20	0
5		Subtest 4	19.88	19.95	20.23	0
6	HSUPA	Subtest 1	18.98	19.09	19.90	0
6		Subtest 2	18.66	18.76	19.09	0
6		Subtest 3	18.97	19.11	19.33	0
6		Subtest 4	18.60	18.72	19.06	0
6		Subtest 5	18.94	19.06	19.34	0
8	DC-HSDPA	Subtest 1	19.81	19.94	19.87	0
8		Subtest 2	19.85	19.99	19.89	0
8		Subtest 3	19.82	19.97	19.90	0
8		Subtest 4	19.86	20.02	19.93	0

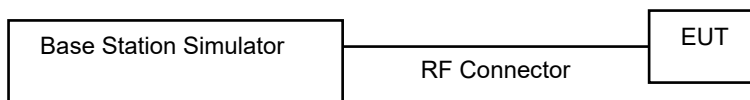
UMTS Average Conducted output powers

**11.3.3 UMTS Reduced Conducted Output Power – (Grip back Activated)**

When Power reduction is applied , MPR set to 0  
UMTS Band 2 Grip back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	
99	UMTS	12.2 kbps RMC	19.65	19.77	19.83	-
99		12.2 kbps AMR	19.64	19.73	19.81	
5	HSDPA	Subtest 1	19.64	19.72	19.85	0
5		Subtest 2	19.67	19.70	19.82	0
5		Subtest 3	19.64	19.76	19.86	0
5		Subtest 4	19.65	19.75	19.84	0
6	HSUPA	Subtest 1	18.82	18.80	18.87	0
6		Subtest 2	18.67	18.40	18.71	0
6		Subtest 3	18.81	18.79	18.83	0
6		Subtest 4	18.61	18.30	18.61	0
6		Subtest 5	18.82	18.81	18.83	0
8	DC-HSDPA	Subtest 1	19.28	19.41	19.60	0
8		Subtest 2	19.27	19.39	19.58	0
8		Subtest 3	19.23	19.36	19.52	0
8		Subtest 4	19.28	19.39	19.56	0

- ◆ 3GPP specification TS 34.121-1 Release 8. was used for used for DC-HSDPA guidance.
- ◆ H-set 12(QPSK) was conformed to be used during DC-HSDPA measurements.



**11.3.3 UMTS Reduced Conducted Output Power – (Ear jack Activated)**

When Power reduction is applied , MPR set to 0  
UMTS Band 2 Grip back-off Power

3GPP Release Version	Mode	3GPP 34.121	UMTS Band 2 [dBm]			3GPP MPR
		Subtest	UL 9262 DL 9662	UL 9400 DL 9800	UL 9538 DL 9938	
99	UMTS	12.2 kbps RMC	19.67	19.80	19.90	-
99		12.2 kbps AMR	21.65	21.82	21.88	
5	HSDPA	Subtest 1	19.54	19.64	19.87	0
5		Subtest 2	19.53	19.68	19.82	0
5		Subtest 3	19.53	19.68	19.81	0
5		Subtest 4	19.51	19.66	19.82	0
6	HSUPA	Subtest 1	18.62	18.72	18.80	0
6		Subtest 2	18.45	18.30	18.60	0
6		Subtest 3	18.63	18.71	18.80	0
6		Subtest 4	18.37	18.21	18.54	0
6		Subtest 5	18.65	18.72	18.80	0
8	DC-HSDPA	Subtest 1	19.54	19.68	19.65	0
8		Subtest 2	19.55	19.65	19.62	0
8		Subtest 3	19.50	19.59	19.56	0
8		Subtest 4	19.54	19.62	19.59	0

## 11.4 LTE Maximum Output Power

LTE B2/4/5/7/12/13/14/25/26/30/40 at 20 MHz 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 mid channel of the group of overlapping channels should be selected for testing.

### 11.4.1 LTE Maximum Conducted Power

#### [ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	23.03	23.56	23.16	0	0
		1	3	23.04	23.60	23.19	0	0
		1	5	23.05	23.59	23.16	0	0
		3	0	23.01	23.54	23.09	0	0
		3	1	23.17	23.69	23.25	0	0
		3	3	23.06	23.63	23.20	0	0
	16QAM	6	0	22.07	22.57	22.17	0-1	1
		1	0	22.33	22.75	22.42	0-1	1
		1	3	22.17	22.69	22.32	0-1	1
		1	5	22.37	22.83	22.40	0-1	1
		3	0	22.08	22.60	22.19	0-1	1
		3	1	22.23	22.71	22.23	0-1	1
	64QAM	3	3	22.17	22.68	22.27	0-1	1
		6	0	21.21	21.70	21.29	0-2	2
		1	0	21.31	21.61	21.46	0-2	2
		1	3	21.28	21.58	21.30	0-2	2
		1	5	21.35	21.54	21.38	0-2	2
		3	0	21.27	21.48	21.23	0-2	2
	3	1	21.34	21.49	21.41	0-2	2	
	3	3	21.20	21.52	21.26	0-2	2	
	6	0	20.31	20.66	20.41	0-3	3	

LTE Band 2 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	23.05	23.56	23.14	0	0
		1	7	23.03	23.58	23.15	0	0
		1	14	23.07	23.59	23.17	0	0
		8	0	22.13	22.67	22.30	0-1	1
		8	3	22.15	22.67	22.25	0-1	1
		8	7	22.15	22.67	22.30	0-1	1
		15	0	22.19	22.72	22.28	0-1	1
	16QAM	1	0	22.30	22.81	22.41	0-1	1
		1	7	22.39	22.84	22.42	0-1	1
		1	14	22.28	22.87	22.47	0-1	1
		8	0	21.19	21.67	21.32	0-2	2
		8	3	21.16	21.65	21.28	0-2	2
		8	7	21.22	21.71	21.32	0-2	2
		15	0	21.19	21.76	21.31	0-2	2
	64QAM	1	0	21.26	21.86	21.39	0-2	2
		1	7	21.17	21.81	21.30	0-2	2
		1	14	21.30	21.70	21.31	0-2	2
		8	0	20.15	20.68	20.31	0-3	3
		8	3	20.14	20.68	20.29	0-3	3
		8	7	20.20	20.72	20.29	0-3	3
		15	0	20.22	20.71	20.33	0-3	3

LTE Band 2 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz		
5 MHz	QPSK	1	0	23.07	23.65	23.21	0	0
		1	12	23.09	23.60	23.17	0	0
		1	24	23.09	23.60	23.20	0	0
		12	0	22.19	22.74	22.29	0-1	1
		12	6	22.19	22.71	22.32	0-1	1
		12	11	22.23	22.74	22.32	0-1	1
	16QAM	25	0	22.17	22.70	22.28	0-1	1
		1	0	22.21	22.85	22.43	0-1	1
		1	12	22.29	22.77	22.42	0-1	1
		1	24	22.33	22.91	22.40	0-1	1
		12	0	21.22	21.72	21.31	0-2	2
		12	6	21.20	21.74	21.26	0-2	2
	64QAM	12	11	21.21	21.73	21.32	0-2	2
		25	0	21.21	21.70	21.29	0-2	2
		1	0	21.22	21.85	21.32	0-2	2
		1	12	21.18	21.73	21.38	0-2	2
		1	24	21.31	21.81	21.34	0-2	2
		12	0	20.22	20.75	20.31	0-3	3
	12	6	20.21	20.71	20.31	0-3	3	
	12	11	20.19	20.71	20.31	0-3	3	
	25	0	20.21	20.72	20.31	0-3	3	

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	23.57	23.60	23.73	0	0
		1	24	23.58	23.59	23.71	0	0
		1	49	23.64	23.66	23.74	0	0
		25	0	22.68	22.74	22.78	0-1	1
		25	12	22.67	22.71	22.75	0-1	1
		25	24	22.68	22.73	22.76	0-1	1
		50	0	22.74	22.73	22.90	0-1	1
	16QAM	1	0	22.77	22.92	23.00	0-1	1
		1	24	22.66	22.80	22.78	0-1	1
		1	49	22.78	22.89	22.95	0-1	1
		25	0	21.66	21.76	21.81	0-2	2
		25	12	21.64	21.67	21.77	0-2	2
		25	24	21.67	21.69	21.75	0-2	2
		50	0	21.69	21.72	21.80	0-2	2
	64QAM	1	0	21.80	21.78	21.90	0-2	2
		1	24	21.72	21.61	21.81	0-2	2
		1	49	21.82	21.71	21.83	0-2	2
		25	0	20.69	20.71	20.82	0-3	3
		25	12	20.65	20.67	20.81	0-3	3
		25	24	20.68	20.68	20.79	0-3	3
		50	0	20.72	20.74	20.88	0-3	3

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz			
15 MHz	QPSK	1	0	23.56	23.63	23.71	0	0	
		1	36	23.52	23.62	23.67	0	0	
		1	74	23.62	23.67	23.66	0	0	
		36	0	22.70	22.74	22.78	0-1	1	
		36	18	22.69	22.67	22.81	0-1	1	
		36	39	22.70	22.74	22.78	0-1	1	
	16QAM	75	0	22.70	22.73	22.81	0-1	1	
		1	0	22.76	22.94	22.83	0-1	1	
		1	36	22.77	22.93	22.89	0-1	1	
		1	74	22.85	22.83	22.82	0-1	1	
		36	0	21.67	21.69	21.79	0-2	2	
		36	18	21.69	21.70	21.77	0-2	2	
	64QAM	36	39	21.69	21.71	21.78	0-2	2	
		75	0	21.65	21.72	21.75	0-2	2	
		1	0	21.87	21.86	21.85	0-2	2	
		1	36	21.75	21.82	21.90	0-2	2	
		1	74	21.84	21.98	21.92	0-2	2	
		36	0	20.68	20.68	20.79	0-3	3	
			36	18	20.68	20.71	20.78	0-3	3
			36	39	20.69	20.73	20.75	0-3	3
			75	0	20.71	20.66	20.79	0-3	3

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz			
20 MHz	QPSK	1	0	23.62	23.63	23.75	0	0	
		1	49	23.60	23.59	23.64	0	0	
		1	99	23.68	23.65	23.69	0	0	
		50	0	22.73	22.74	22.83	0-1	1	
		50	25	22.74	22.73	22.76	0-1	1	
		50	49	22.76	22.72	22.82	0-1	1	
	16QAM	100	0	22.76	22.73	22.81	0-1	1	
		1	0	22.77	22.87	23.00	0-1	1	
		1	49	22.70	22.73	22.83	0-1	1	
		1	99	22.86	22.98	22.93	0-1	1	
		50	0	21.72	21.68	21.81	0-2	2	
		50	25	21.73	21.69	21.80	0-2	2	
	64QAM	50	49	21.72	21.70	21.76	0-2	2	
		100	0	21.72	21.70	21.80	0-2	2	
		1	0	21.86	21.81	22.02	0-2	2	
		1	49	21.79	21.84	21.87	0-2	2	
		1	99	21.92	21.92	21.98	0-2	2	
		50	0	20.71	20.69	20.77	0-3	3	
			50	25	20.74	20.68	20.78	0-3	3
			50	49	20.71	20.70	20.75	0-3	3
			100	0	20.70	20.71	20.76	0-3	3

[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz		
1.4 MHz	QPSK	1	0	22.88	23.39	23.20	0	0
		1	3	22.91	23.42	23.23	0	0
		1	5	22.90	23.39	23.15	0	0
		3	0	22.84	23.35	23.16	0	0
		3	1	23.01	23.47	23.32	0	0
		3	3	22.96	23.42	23.24	0	0
	16QAM	6	0	21.93	22.38	22.25	0-1	1
		1	0	22.11	22.73	22.51	0-1	1
		1	3	21.80	22.52	22.11	0-1	1
		1	5	22.10	22.71	22.47	0-1	1
		3	0	21.90	22.41	22.21	0-1	1
		3	1	21.98	22.56	22.37	0-1	1
	64QAM	3	3	22.10	22.51	22.37	0-1	1
		6	0	21.05	21.53	21.31	0-2	2
		1	0	21.11	21.54	21.48	0-2	2
		1	3	21.10	21.51	21.37	0-2	2
		1	5	21.08	21.59	21.38	0-2	2
		3	0	21.01	21.56	21.32	0-2	2
		3	1	21.19	21.55	21.45	0-2	2
		3	3	21.15	21.65	21.45	0-2	2
		6	0	20.09	20.59	20.39	0-3	3

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	22.89	23.41	23.17	0	0
		1	7	22.90	23.45	23.23	0	0
		1	14	22.91	23.44	23.22	0	0
		8	0	22.04	22.52	22.27	0-1	1
		8	3	21.96	22.48	22.28	0-1	1
		8	7	22.02	22.50	22.27	0-1	1
		15	0	22.03	22.57	22.30	0-1	1
	16QAM	1	0	22.28	22.70	22.44	0-1	1
		1	7	22.20	22.61	22.30	0-1	1
		1	14	22.15	22.58	22.40	0-1	1
		8	0	21.05	21.60	21.35	0-2	2
		8	3	21.02	21.59	21.33	0-2	2
		8	7	21.10	21.57	21.40	0-2	2
		15	0	21.09	21.58	21.37	0-2	2
	64QAM	1	0	21.06	21.65	21.60	0-2	2
		1	7	21.05	21.74	21.36	0-2	2
		1	14	21.20	21.62	21.42	0-2	2
		8	0	20.10	20.62	20.34	0-3	3
		8	3	20.04	20.58	20.31	0-3	3
		8	7	20.10	20.60	20.38	0-3	3
		15	0	20.04	20.56	20.36	0-3	3

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz		
5 MHz	QPSK	1	0	22.97	23.47	23.29	0	0
		1	12	22.97	23.44	23.21	0	0
		1	24	22.96	23.47	23.24	0	0
		12	0	22.05	22.55	22.35	0-1	1
		12	6	22.07	22.57	22.35	0-1	1
		12	11	22.10	22.58	22.38	0-1	1
	16QAM	25	0	22.05	22.53	22.36	0-1	1
		1	0	22.19	22.75	22.59	0-1	1
		1	12	22.16	22.76	22.52	0-1	1
		1	24	22.26	22.69	22.55	0-1	1
		12	0	21.06	21.63	21.38	0-2	2
		12	6	21.10	21.59	21.45	0-2	2
	64QAM	12	11	21.12	21.68	21.41	0-2	2
		25	0	21.07	21.58	21.37	0-2	2
		1	0	21.15	21.67	21.48	0-2	2
		1	12	21.20	21.57	21.48	0-2	2
		1	24	21.18	21.72	21.51	0-2	2
		12	0	20.11	20.61	20.36	0-3	3
		12	6	20.08	20.59	20.40	0-3	3
	12	11	20.12	20.56	20.40	0-3	3	
	25	0	20.09	20.58	20.36	0-3	3	

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	23.44	23.50	23.65	0	0
		1	24	23.44	23.48	23.69	0	0
		1	49	23.51	23.53	23.78	0	0
		25	0	22.56	22.60	22.77	0-1	1
		25	12	22.56	22.57	22.71	0-1	1
		25	24	22.59	22.58	22.78	0-1	1
		50	0	22.61	22.61	22.80	0-1	1
	16QAM	1	0	22.67	22.86	22.95	0-1	1
		1	24	22.57	22.66	22.93	0-1	1
		1	49	22.81	22.70	22.94	0-1	1
		25	0	21.56	21.59	21.76	0-2	2
		25	12	21.59	21.56	21.81	0-2	2
		25	24	21.58	21.57	21.80	0-2	2
	64QAM	50	0	21.61	21.63	21.79	0-2	2
		1	0	21.62	21.70	21.81	0-2	2
		1	24	21.62	21.55	21.89	0-2	2
		1	49	21.76	21.66	21.84	0-2	2
		25	0	20.60	20.59	20.80	0-3	3
		25	12	20.61	20.63	20.78	0-3	3
		25	24	20.59	20.55	20.81	0-3	3
	50	0	20.59	20.56	20.83	0-3	3	



LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	23.44	23.56	23.74	0	0
		1	36	23.40	23.42	23.69	0	0
		1	74	23.46	23.54	23.79	0	0
		36	0	22.60	22.61	22.87	0-1	1
		36	18	22.59	22.64	22.88	0-1	1
		36	39	22.58	22.67	22.87	0-1	1
		75	0	22.60	22.66	22.89	0-1	1
	16QAM	1	0	22.63	22.83	22.94	0-1	1
		1	36	22.66	22.75	23.00	0-1	1
		1	74	22.81	22.76	23.05	0-1	1
		36	0	21.59	21.56	21.83	0-2	2
		36	18	21.59	21.62	21.87	0-2	2
		36	39	21.59	21.62	21.88	0-2	2
		75	0	21.63	21.61	21.84	0-2	2
	64QAM	1	0	21.68	21.80	21.94	0-2	2
		1	36	21.60	21.58	21.81	0-2	2
		1	74	21.74	21.71	22.03	0-2	2
		36	0	20.60	20.57	20.86	0-3	3
		36	18	20.56	20.59	20.86	0-3	3
		36	39	20.62	20.58	20.88	0-3	3
		75	0	20.58	20.64	20.85	0-3	3

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 MHz		
20 MHz	QPSK	1	0	23.51	0	0
		1	49	23.49	0	0
		1	99	23.54	0	0
		50	0	22.57	0-1	1
		50	25	22.60	0-1	1
		50	49	22.61	0-1	1
		100	0	22.62	0-1	1
	16QAM	1	0	22.81	0-1	1
		1	49	22.61	0-1	1
		1	99	22.84	0-1	1
		50	0	21.59	0-2	2
		50	25	21.58	0-2	2
		50	49	21.64	0-2	2
		100	0	21.58	0-2	2
	64QAM	1	0	21.80	0-2	2
		1	49	21.70	0-2	2
		1	99	21.74	0-2	2
		50	0	20.61	0-3	3
		50	25	20.60	0-3	3
		50	49	20.60	0-3	3
		100	0	20.61	0-3	3

[ LTE Band 5 Conducted Power ]

LTE Band 5 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20407 Ch. 824.7 MHz	20525 Ch. 836.5 MHz	20643 Ch. 848.3 MHz		
1.4 MHz	QPSK	1	0	23.72	23.76	23.18	0	0
		1	3	23.72	23.76	23.19	0	0
		1	5	23.73	23.77	23.22	0	0
		3	0	23.68	23.71	23.16	0	0
		3	1	23.84	23.82	23.28	0	0
		3	3	23.74	23.71	23.23	0	0
	16QAM	6	0	22.72	22.71	22.19	0-1	1
		1	0	22.93	23.03	22.46	0-1	1
		1	3	22.81	22.81	22.26	0-1	1
		1	5	22.93	22.96	22.45	0-1	1
		3	0	22.75	22.76	22.20	0-1	1
		3	1	22.83	22.76	22.34	0-1	1
	64QAM	3	3	22.79	22.79	22.31	0-1	1
		6	0	21.84	21.82	21.23	0-2	2
		1	0	21.92	21.91	21.37	0-2	2
		1	3	21.88	21.85	21.33	0-2	2
		1	5	21.91	21.86	21.44	0-2	2
		3	0	21.76	21.71	21.29	0-2	2
		3	1	21.88	21.82	21.43	0-2	2
		3	3	21.81	21.78	21.36	0-2	2
		6	0	20.78	20.71	20.26	0-3	3

LTE Band 5 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20415 Ch. 825.5 MHz	20525 Ch. 836.5 MHz	20635 Ch. 847.5 MHz		
3 MHz	QPSK	1	0	23.13	23.69	23.19	0	0
		1	7	23.11	23.67	23.12	0	0
		1	14	23.16	23.74	23.25	0	0
		8	0	22.23	22.83	22.30	0-1	1
		8	3	22.21	22.75	22.27	0-1	1
		8	7	22.25	22.83	22.29	0-1	1
		15	0	22.30	22.85	22.35	0-1	1
	16QAM	1	0	22.40	22.99	22.56	0-1	1
		1	7	22.36	22.91	22.50	0-1	1
		1	14	22.39	23.06	22.41	0-1	1
		8	0	21.34	21.83	21.34	0-2	2
		8	3	21.31	21.80	21.29	0-2	2
		8	7	21.37	21.82	21.36	0-2	2
		15	0	21.32	21.83	21.29	0-2	2
	64QAM	1	0	21.36	21.88	21.39	0-2	2
		1	7	21.21	21.83	21.27	0-2	2
		1	14	21.47	21.82	21.29	0-2	2
		8	0	20.35	20.80	20.25	0-3	3
		8	3	20.30	20.77	20.28	0-3	3
		8	7	20.34	20.80	20.25	0-3	3
		15	0	20.29	20.79	20.30	0-3	3

LTE Band 5\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20425 Ch. 826.5 MHz	20525 Ch. 836.5 MHz	20625 Ch. 846.5 MHz		
5 MHz	QPSK	1	0	23.23	23.82	23.29	0	0
		1	12	23.18	23.74	23.20	0	0
		1	24	23.24	23.73	23.26	0	0
		12	0	22.35	22.90	22.41	0-1	1
		12	6	22.33	22.83	22.39	0-1	1
		12	11	22.31	22.85	22.36	0-1	1
		25	0	22.31	22.84	22.36	0-1	1
	16QAM	1	0	22.50	23.07	22.51	0-1	1
		1	12	22.54	23.07	22.51	0-1	1
		1	24	22.50	23.02	22.50	0-1	1
		12	0	21.30	21.87	21.38	0-2	2
		12	6	21.35	21.82	21.28	0-2	2
		12	11	21.38	21.78	21.34	0-2	2
		25	0	21.34	21.79	21.31	0-2	2
	64QAM	1	0	21.41	21.81	21.50	0-2	2
		1	12	21.39	21.80	21.35	0-2	2
		1	24	21.44	21.80	21.47	0-2	2
		12	0	20.36	20.83	20.35	0-3	3
		12	6	20.38	20.79	20.34	0-3	3
		12	11	20.35	20.82	20.33	0-3	3
		25	0	20.30	20.76	20.29	0-3	3

LTE Band 5\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20525 Ch. 836.5 MHz		
10 MHz	QPSK	1	0	23.79	0	0
		1	24	23.75	0	0
		1	49	23.84	0	0
		25	0	22.86	0-1	1
		25	12	22.85	0-1	1
		25	24	22.81	0-1	1
		50	0	22.94	0-1	1
	16QAM	1	0	22.98	0-1	1
		1	24	22.90	0-1	1
		1	49	23.02	0-1	1
		25	0	21.83	0-2	2
		25	12	21.76	0-2	2
		25	24	21.76	0-2	2
		50	0	21.84	0-2	2
	64QAM	1	0	21.92	0-2	2
		1	24	21.82	0-2	2
		1	49	21.84	0-2	2
		25	0	20.83	0-3	3
		25	12	20.81	0-3	3
		25	24	20.77	0-3	3
		50	0	20.84	0-3	3

**[LTE Band 7 Conducted Power]**

LTE Band 7\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20775 Ch. 2502.5 MHz	21100 Ch. 2535 MHz	21425 Ch. 2567.5 MHz		
5 MHz	QPSK	1	0	22.86	22.61	22.58	0	0
		1	12	22.87	22.60	22.61	0	0
		1	24	22.81	22.52	22.58	0	0
		12	0	21.90	21.68	21.71	0-1	1
		12	6	21.97	21.65	21.71	0-1	1
		12	11	21.96	21.65	21.71	0-1	1
	16QAM	25	0	21.96	21.60	21.67	0-1	1
		1	0	22.01	21.90	21.72	0-1	1
		1	12	22.11	21.84	21.82	0-1	1
		1	24	22.11	21.85	21.81	0-1	1
		12	0	20.96	20.68	20.62	0-2	2
		12	6	20.95	20.66	20.65	0-2	2
	64QAM	12	11	20.96	20.62	20.70	0-2	2
		25	0	20.95	20.62	20.62	0-2	2
		1	0	20.95	20.84	20.71	0-2	2
		1	12	21.09	20.75	20.71	0-2	2
		1	24	21.02	20.80	20.68	0-2	2
		12	0	19.95	19.66	19.65	0-3	3
	12	6	20.01	19.58	19.66	0-3	3	
	12	11	19.94	19.61	19.66	0-3	3	
	25	0	19.91	19.62	19.66	0-3	3	

LTE Band 7\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20800 Ch. 2505 MHz	21100 Ch. 2535 MHz	21400 Ch. 2565 MHz		
10 MHz	QPSK	1	0	22.88	22.67	22.65	0	0
		1	24	22.86	22.55	22.64	0	0
		1	49	22.87	22.57	22.68	0	0
		25	0	21.93	21.68	21.71	0-1	1
		25	12	21.95	21.61	21.69	0-1	1
		25	24	21.91	21.61	21.70	0-1	1
	16QAM	50	0	21.93	21.74	21.84	0-1	1
		1	0	22.13	21.95	21.88	0-1	1
		1	24	22.02	21.66	21.71	0-1	1
		1	49	22.10	21.76	21.82	0-1	1
		25	0	20.95	20.64	20.63	0-2	2
		25	12	20.97	20.62	20.63	0-2	2
	64QAM	25	24	20.89	20.58	20.62	0-2	2
		50	0	20.96	20.67	20.75	0-2	2
		1	0	21.01	20.77	20.81	0-2	2
		1	24	21.05	20.53	20.67	0-2	2
		1	49	20.99	20.58	20.83	0-2	2
		25	0	19.93	19.65	19.67	0-3	3
	25	12	19.89	19.64	19.67	0-3	3	
	25	24	19.92	19.60	19.65	0-3	3	
	50	0	20.00	19.69	19.75	0-3	3	

LTE Band 7 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20825 Ch. 2507.5 MHz	21100 Ch. 2535 MHz	21375 Ch. 2562.5 MHz		
15 MHz	QPSK	1	0	22.93	22.74	22.75	0	0
		1	36	22.88	22.61	22.76	0	0
		1	74	22.85	22.56	22.70	0	0
		36	0	21.97	21.79	21.85	0-1	1
		36	18	21.96	21.72	21.80	0-1	1
		36	39	21.91	21.65	21.85	0-1	1
		75	0	21.95	21.73	21.83	0-1	1
	16QAM	1	0	22.06	22.03	22.00	0-1	1
		1	36	22.08	21.77	21.91	0-1	1
		1	74	22.02	21.77	21.94	0-1	1
		36	0	20.95	20.74	20.77	0-2	2
		36	18	20.95	20.65	20.79	0-2	2
		36	39	20.94	20.62	20.75	0-2	2
		75	0	20.97	20.68	20.77	0-2	2
	64QAM	1	0	21.15	20.91	20.96	0-2	2
		1	36	21.01	20.64	20.77	0-2	2
		1	74	21.05	20.80	20.90	0-2	2
		36	0	19.96	19.73	19.80	0-3	3
		36	18	19.93	19.70	19.79	0-3	3
		36	39	19.93	19.65	19.75	0-3	3
		75	0	19.95	19.68	19.75	0-3	3

LTE Band 7 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20850 Ch. 2510 MHz	21100 Ch. 2535 MHz	21350 Ch. 2560 MHz		
20 MHz	QPSK	1	0	<b>23.01</b>	22.78	22.81	0	0
		1	49	22.89	22.61	22.71	0	0
		1	99	22.82	22.56	22.74	0	0
		50	0	<b>22.03</b>	21.79	21.87	0-1	1
		50	25	21.97	21.70	21.85	0-1	1
		50	49	21.91	21.68	21.84	0-1	1
		100	0	21.99	21.73	21.89	0-1	1
	16QAM	1	0	22.27	21.99	22.12	0-1	1
		1	49	21.97	21.74	21.74	0-1	1
		1	99	22.04	21.76	21.94	0-1	1
		50	0	21.00	20.74	20.85	0-2	2
		50	25	20.98	20.67	20.78	0-2	2
		50	49	20.90	20.62	20.78	0-2	2
		100	0	20.94	20.69	20.79	0-2	2
	64QAM	1	0	21.20	20.95	21.09	0-2	2
		1	49	21.04	20.62	20.71	0-2	2
		1	99	21.14	20.66	20.94	0-2	2
		50	0	20.00	19.77	19.84	0-3	3
		50	25	19.96	19.69	19.83	0-3	3
		50	49	19.90	19.63	19.77	0-3	3
		100	0	19.96	19.68	19.83	0-3	3

**[LTE Band 12 Conducted Power]**

LTE Band 12 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23017 Ch. 699.7 MHz	23095 Ch. 707.5 MHz	23173 Ch. 715.3 MHz		
1.4 MHz	QPSK	1	0	23.66	24.24	23.59	0	0
		1	3	23.67	24.24	23.55	0	0
		1	5	23.68	24.22	23.60	0	0
		3	0	23.63	24.20	23.53	0	0
		3	1	23.78	24.32	23.72	0	0
		3	3	23.68	24.23	23.57	0	0
	16QAM	6	0	22.69	23.23	22.55	0-1	1
		1	0	22.86	23.41	22.85	0-1	1
		1	3	22.83	23.40	22.74	0-1	1
		1	5	22.88	23.51	22.81	0-1	1
		3	0	22.71	23.26	22.57	0-1	1
		3	1	22.81	23.28	22.75	0-1	1
	64QAM	3	3	22.85	23.25	22.62	0-1	1
		6	0	21.73	22.30	21.67	0-2	2
		1	0	21.92	22.44	21.73	0-2	2
		1	3	21.82	22.39	21.73	0-2	2
		1	5	21.95	22.41	21.72	0-2	2
		3	0	21.80	22.34	21.69	0-2	2
	64QAM	3	1	21.90	22.44	21.77	0-2	2
		3	3	21.76	22.31	21.60	0-2	2
		6	0	20.71	21.28	20.60	0-3	3

LTE Band 12 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23025 Ch. 700.5 MHz	23095 Ch. 707.5 MHz	23165 Ch. 714.5 MHz		
3 MHz	QPSK	1	0	23.60	24.25	23.60	0	0
		1	7	23.60	24.20	23.54	0	0
		1	14	23.69	24.31	23.61	0	0
		8	0	22.77	23.39	22.68	0-1	1
		8	3	22.74	23.36	22.66	0-1	1
		8	7	22.80	23.35	22.68	0-1	1
		15	0	22.80	23.35	22.76	0-1	1
	16QAM	1	0	22.82	23.55	22.87	0-1	1
		1	7	22.82	23.55	22.97	0-1	1
		1	14	22.90	23.43	22.92	0-1	1
		8	0	21.79	22.38	21.77	0-2	2
		8	3	21.77	22.34	21.72	0-2	2
		8	7	21.81	22.41	21.77	0-2	2
		15	0	21.76	22.38	21.76	0-2	2
	64QAM	1	0	21.84	22.40	21.83	0-2	2
		1	7	21.80	22.37	21.78	0-2	2
		1	14	21.95	22.45	21.85	0-2	2
		8	0	20.71	21.30	20.69	0-3	3
		8	3	20.74	21.36	20.69	0-3	3
		8	7	20.72	21.35	20.71	0-3	3
		15	0	20.74	21.33	20.71	0-3	3

LTE Band 12 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23035 Ch. 701.5 MHz	23095 Ch. 707.5 MHz	23155 Ch. 713.5 MHz		
5 MHz	QPSK	1	0	23.73	24.32	23.74	0	0
		1	12	23.67	24.24	23.63	0	0
		1	24	23.78	24.28	23.67	0	0
		12	0	22.88	23.45	22.82	0-1	1
		12	6	22.87	23.43	22.79	0-1	1
		12	11	22.88	23.44	22.84	0-1	1
		25	0	22.84	23.40	22.80	0-1	1
	16QAM	1	0	22.98	23.62	23.02	0-1	1
		1	12	23.04	23.52	23.03	0-1	1
		1	24	23.12	23.57	22.98	0-1	1
		12	0	21.84	22.45	21.77	0-2	2
		12	6	21.85	22.41	21.79	0-2	2
		12	11	21.87	22.40	21.80	0-2	2
		25	0	21.80	22.34	21.76	0-2	2
	64QAM	1	0	21.88	22.58	21.76	0-2	2
		1	12	21.70	22.30	21.79	0-2	2
		1	24	21.97	22.43	21.82	0-2	2
		12	0	20.79	21.36	20.78	0-3	3
		12	6	20.80	21.32	20.75	0-3	3
		12	11	20.81	21.37	20.78	0-3	3
		25	0	20.76	21.36	20.73	0-3	3

LTE Band 12 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23095 Ch. 707.5 MHz		
10 MHz	QPSK	1	0	24.29	0	0
		1	24	24.23	0	0
		1	49	24.28	0	0
		25	0	23.38	0-1	1
		25	12	23.35	0-1	1
		25	24	23.35	0-1	1
		50	0	23.41	0-1	1
	16QAM	1	0	23.60	0-1	1
		1	24	23.44	0-1	1
		1	49	23.43	0-1	1
		25	0	22.32	0-2	2
		25	12	22.34	0-2	2
		25	24	22.30	0-2	2
		50	0	22.39	0-2	2
	64QAM	1	0	22.48	0-2	2
		1	24	22.30	0-2	2
		1	49	22.42	0-2	2
		25	0	21.34	0-3	3
		25	12	21.33	0-3	3
		25	24	21.33	0-3	3
		50	0	21.37	0-3	3

**[LTE Band 13 Conducted Power ]**

LTE Band 13 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23205 Ch. 779.5 MHz	23230 Ch. 782 MHz	23255 Ch. 784.5 MHz		
5 MHz	QPSK	1	0	23.38	23.37	23.42	0	0
		1	12	23.29	23.25	23.26	0	0
		1	24	23.38	23.34	23.28	0	0
		12	0	22.50	22.48	22.50	0-1	1
		12	6	22.49	22.50	22.47	0-1	1
		12	11	22.52	22.47	22.43	0-1	1
		25	0	22.43	22.42	22.43	0-1	1
	16QAM	1	0	22.55	22.58	22.64	0-1	1
		1	12	22.48	22.63	22.63	0-1	1
		1	24	22.62	22.68	22.58	0-1	1
		12	0	21.44	21.45	21.49	0-2	2
		12	6	21.48	21.46	21.43	0-2	2
		12	11	21.53	21.45	21.45	0-2	2
		25	0	21.48	21.45	21.42	0-2	2
	64QAM	1	0	21.48	21.50	21.62	0-2	2
		1	12	21.39	21.42	21.50	0-2	2
		1	24	21.61	21.59	21.49	0-2	2
		12	0	20.52	20.49	20.47	0-3	3
		12	6	20.46	20.45	20.51	0-3	3
		12	11	20.48	20.45	20.46	0-3	3
25		0	20.48	20.46	20.45	0-3	3	

LTE Band 13 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23230 Ch. 782 MHz		
10 MHz	QPSK	1	0	23.39	0	0
		1	24	23.39	0	0
		1	49	23.32	0	0
		25	0	22.47	0-1	1
		25	12	22.44	0-1	1
		25	24	22.44	0-1	1
		50	0	22.50	0-1	1
	16QAM	1	0	22.59	0-1	1
		1	24	22.48	0-1	1
		1	49	22.52	0-1	1
		25	0	21.43	0-2	2
		25	12	21.46	0-2	2
		25	24	21.40	0-2	2
		50	0	21.46	0-2	2
	64QAM	1	0	21.60	0-2	2
		1	24	21.61	0-2	2
		1	49	21.49	0-2	2
		25	0	20.44	0-3	3
		25	12	20.40	0-3	3
		25	24	20.42	0-3	3
50		0	20.47	0-3	3	



[ LTE Band 14 Conducted Power ]

LTE Band 14 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				23305 Ch. 790.5 MHz	23330 Ch. 793 MHz	23355 Ch. 795.5 MHz		
5 MHz	QPSK	1	0	23.43	23.42	23.35	0	0
		1	12	23.35	23.25	23.18	0	0
		1	24	23.28	23.28	23.20	0	0
		12	0	22.52	22.52	22.41	0-1	1
		12	6	22.51	22.47	22.39	0-1	1
		12	11	22.48	22.43	22.39	0-1	1
		25	0	22.42	22.41	22.34	0-1	1
	16QAM	1	0	22.60	22.64	22.43	0-1	1
		1	12	22.58	22.53	22.36	0-1	1
		1	24	22.65	22.44	22.47	0-1	1
		12	0	21.50	21.47	21.41	0-2	2
		12	6	21.47	21.42	21.35	0-2	2
		12	11	21.48	21.42	21.38	0-2	2
		25	0	21.44	21.40	21.34	0-2	2
	64QAM	1	0	21.65	21.68	21.51	0-2	2
		1	12	21.43	21.37	21.33	0-2	2
		1	24	21.54	21.47	21.48	0-2	2
		12	0	20.53	20.48	20.40	0-3	3
		12	6	20.46	20.43	20.35	0-3	3
		12	11	20.46	20.41	20.32	0-3	3
25		0	20.45	20.41	20.33	0-3	3	

LTE Band 14 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				23330 Ch. 793 MHz		
10 MHz	QPSK	1	0	23.51	0	0
		1	24	23.37	0	0
		1	49	23.27	0	0
		25	0	22.47	0-1	1
		25	12	22.42	0-1	1
		25	24	22.37	0-1	1
		50	0	22.56	0-1	1
	16QAM	1	0	22.73	0-1	1
		1	24	22.28	0-1	1
		1	49	22.34	0-1	1
		25	0	21.49	0-2	2
		25	12	21.36	0-2	2
		25	24	21.30	0-2	2
		50	0	21.44	0-2	2
	64QAM	1	0	21.74	0-2	2
		1	24	21.39	0-2	2
		1	49	21.34	0-2	2
		25	0	20.48	0-3	3
		25	12	20.39	0-3	3
		25	24	20.36	0-3	3
50		0	20.48	0-3	3	

[ LTE Band 25 Conducted Power ]

LTE Band 25 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	22.91	23.55	22.50	0	0
		1	3	22.95	23.62	22.57	0	0
		1	5	22.94	23.55	22.55	0	0
		3	0	22.87	23.51	22.46	0	0
		3	1	22.98	23.66	22.63	0	0
		3	3	22.97	23.59	22.56	0	0
	16QAM	6	0	21.97	22.59	21.51	0-1	1
		1	0	22.22	22.80	21.69	0-1	1
		1	3	22.00	22.59	21.51	0-1	1
		1	5	22.18	22.77	21.70	0-1	1
		3	0	21.99	22.58	21.56	0-1	1
		3	1	22.03	22.68	21.59	0-1	1
	64QAM	3	3	22.06	22.68	21.65	0-1	1
		6	0	21.08	21.64	20.58	0-2	2
		1	0	21.12	21.87	20.83	0-2	2
		1	3	21.17	21.87	20.76	0-2	2
		1	5	21.26	21.78	20.69	0-2	2
		3	0	20.99	21.66	20.59	0-2	2
	3	1	21.21	21.77	20.71	0-2	2	
	3	3	21.16	21.75	20.69	0-2	2	
	6	0	19.99	20.69	19.64	0-3	3	

LTE Band 25 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675 Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	22.90	23.54	22.52	0	0
		1	7	22.81	23.57	22.55	0	0
		1	14	22.95	23.58	22.55	0	0
		8	0	22.06	22.66	21.63	0-1	1
		8	3	22.09	22.64	21.60	0-1	1
		8	7	22.06	22.67	21.67	0-1	1
		15	0	22.08	22.69	21.67	0-1	1
	16QAM	1	0	22.14	22.91	21.71	0-1	1
		1	7	22.06	22.71	21.62	0-1	1
		1	14	22.09	22.73	21.74	0-1	1
		8	0	21.13	21.69	20.72	0-2	2
		8	3	21.14	21.69	20.68	0-2	2
		8	7	21.14	21.72	20.74	0-2	2
		15	0	21.12	21.70	20.67	0-2	2
	64QAM	1	0	21.24	21.89	20.76	0-2	2
		1	7	21.12	21.75	20.69	0-2	2
		1	14	21.08	21.76	20.70	0-2	2
		8	0	20.06	20.64	19.67	0-3	3
		8	3	20.08	20.65	19.65	0-3	3
		8	7	20.17	20.69	19.65	0-3	3
		15	0	20.10	20.71	19.68	0-3	3

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	22.96	23.61	22.56	0	0
		1	12	22.97	23.60	22.53	0	0
		1	24	22.99	23.57	22.58	0	0
		12	0	22.07	22.70	21.68	0-1	1
		12	6	22.10	22.71	21.65	0-1	1
		12	11	22.12	22.74	21.72	0-1	1
		25	0	22.07	22.65	21.71	0-1	1
	16QAM	1	0	22.07	22.85	21.75	0-1	1
		1	12	22.18	22.86	21.82	0-1	1
		1	24	22.21	22.90	21.81	0-1	1
		12	0	21.08	21.68	20.70	0-2	2
		12	6	21.08	21.67	20.66	0-2	2
		12	11	21.10	21.72	20.69	0-2	2
		25	0	21.12	21.71	20.67	0-2	2
	64QAM	1	0	21.27	21.74	20.78	0-2	2
		1	12	21.23	21.69	20.66	0-2	2
		1	24	21.26	21.80	20.77	0-2	2
		12	0	20.13	20.69	19.68	0-3	3
		12	6	20.10	20.69	19.65	0-3	3
		12	11	20.08	20.70	19.65	0-3	3
		25	0	20.11	20.67	19.70	0-3	3

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	22.98	23.65	22.64	0	0
		1	24	23.01	23.62	22.63	0	0
		1	49	23.09	23.64	22.63	0	0
		25	0	22.10	22.72	21.75	0-1	1
		25	12	22.12	22.72	21.74	0-1	1
		25	24	22.13	22.71	21.75	0-1	1
		50	0	22.15	22.77	21.76	0-1	1
	16QAM	1	0	22.39	22.94	21.95	0-1	1
		1	24	22.26	22.80	21.84	0-1	1
		1	49	22.33	22.85	21.90	0-1	1
		25	0	21.13	21.72	20.75	0-2	2
		25	12	21.10	21.71	20.75	0-2	2
		25	24	21.13	21.74	20.70	0-2	2
		50	0	21.19	21.75	20.79	0-2	2
	64QAM	1	0	21.19	21.94	20.82	0-2	2
		1	24	21.21	21.78	20.85	0-2	2
		1	49	21.20	21.77	20.72	0-2	2
		25	0	20.15	20.75	19.77	0-3	3
		25	12	20.15	20.71	19.74	0-3	3
		25	24	20.17	20.71	19.74	0-3	3
		50	0	20.15	20.73	19.73	0-3	3

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15	QPSK	1	0	23.11	23.72	22.71	0	0
		1	36	23.08	23.63	22.62	0	0
		1	74	23.13	23.69	22.69	0	0
		36	0	22.24	22.79	21.81	0-1	1
		36	18	22.21	22.81	21.83	0-1	1
		36	39	22.23	22.83	21.78	0-1	1
		75	0	22.23	22.80	21.80	0-1	1
	16QAM	1	0	22.34	22.93	22.03	0-1	1
		1	36	22.29	22.93	21.87	0-1	1
		1	74	22.30	22.92	21.92	0-1	1
		36	0	21.21	21.76	20.77	0-2	2
		36	18	21.19	21.77	20.79	0-2	2
		36	39	21.21	21.76	20.77	0-2	2
		75	0	21.16	21.79	20.76	0-2	2
	64QAM	1	0	21.29	21.85	20.96	0-2	2
		1	36	21.33	21.84	20.86	0-2	2
		1	74	21.43	21.93	20.86	0-2	2
		36	0	20.17	20.77	19.79	0-3	3
		36	18	20.20	20.76	19.81	0-3	3
		36	39	20.22	20.76	19.77	0-3	3
		75	0	20.17	20.75	19.73	0-3	3

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	23.15	23.68	22.78	0	0
		1	49	23.05	23.66	22.68	0	0
		1	99	23.22	23.69	22.74	0	0
		50	0	22.25	22.80	21.78	0-1	1
		50	25	22.20	22.77	21.82	0-1	1
		50	49	22.25	22.78	21.82	0-1	1
		100	0	22.28	22.81	21.81	0-1	1
	16QAM	1	0	22.40	23.01	22.00	0-1	1
		1	49	22.22	22.77	21.89	0-1	1
		1	99	22.40	22.94	21.82	0-1	1
		50	0	21.23	21.77	20.81	0-2	2
		50	25	21.20	21.75	20.76	0-2	2
		50	49	21.23	21.77	20.81	0-2	2
		100	0	21.22	21.76	20.76	0-2	2
	64QAM	1	0	21.36	21.88	21.08	0-2	2
		1	49	21.43	21.80	20.85	0-2	2
		1	99	21.38	21.90	21.00	0-2	2
		50	0	20.24	20.80	19.83	0-3	3
		50	25	20.22	20.76	19.80	0-3	3
		50	49	20.24	20.75	19.81	0-3	3
		100	0	20.22	20.74	19.78	0-3	3

[ LTE Band 26 Conducted Power ]

LTE Band 26 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26697 Ch. 814.7 MHz	26865 Ch. 831.5 MHz	27033 Ch. 848.3 MHz		
1.4 MHz	QPSK	1	0	23.19	23.78	23.09	0	0
		1	3	23.17	23.76	23.08	0	0
		1	5	23.16	23.79	23.13	0	0
		3	0	23.11	23.75	23.07	0	0
		3	1	23.29	23.85	23.20	0	0
		3	3	23.22	23.77	23.09	0	0
		6	0	22.20	22.69	22.05	0-1	1
	16QAM	1	0	22.44	22.97	22.32	0-1	1
		1	3	22.30	22.90	22.25	0-1	1
		1	5	22.41	22.99	22.29	0-1	1
		3	0	22.22	22.80	22.06	0-1	1
		3	1	22.29	22.91	22.15	0-1	1
		3	3	22.32	22.88	22.18	0-1	1
		6	0	21.28	21.87	21.09	0-2	2
	64QAM	1	0	21.38	22.04	21.29	0-2	2
		1	3	21.37	21.94	21.22	0-2	2
		1	5	21.51	22.01	21.31	0-2	2
		3	0	21.31	21.78	21.07	0-2	2
		3	1	21.45	21.95	21.19	0-2	2
		3	3	21.31	21.84	21.05	0-2	2
		6	0	20.33	20.80	20.15	0-3	3

LTE Band 26 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26705 Ch. 815.5 MHz	26865 Ch. 831.5 MHz	27025 Ch. 847.5 MHz		
3 MHz	QPSK	1	0	23.08	23.73	23.08	0	0
		1	7	23.07	23.74	23.01	0	0
		1	14	23.18	23.83	23.13	0	0
		8	0	22.22	22.88	22.19	0-1	1
		8	3	22.21	22.84	22.12	0-1	1
		8	7	22.22	22.84	22.21	0-1	1
		15	0	22.28	22.91	22.22	0-1	1
	16QAM	1	0	22.41	23.09	22.38	0-1	1
		1	7	22.47	23.04	22.35	0-1	1
		1	14	22.39	23.00	22.28	0-1	1
		8	0	21.29	21.88	21.23	0-2	2
		8	3	21.25	21.87	21.22	0-2	2
		8	7	21.27	21.90	21.19	0-2	2
		15	0	21.28	21.87	21.23	0-2	2
	64QAM	1	0	21.41	22.03	21.33	0-2	2
		1	7	21.15	21.75	21.12	0-2	2
		1	14	21.32	21.92	21.27	0-2	2
		8	0	20.22	20.82	20.14	0-3	3
		8	3	20.25	20.87	20.16	0-3	3
		8	7	20.24	20.83	20.12	0-3	3
		15	0	20.24	20.85	20.17	0-3	3

LTE Band 26 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26715 Ch. 816.5 MHz	26865 Ch. 831.5 MHz	27015 Ch. 846.5 MHz		
5 MHz	QPSK	1	0	23.17	23.80	23.17	0	0
		1	12	23.12	23.74	23.14	0	0
		1	24	23.15	23.77	23.16	0	0
		12	0	22.30	22.93	22.25	0-1	1
		12	6	22.31	22.94	22.28	0-1	1
		12	11	22.27	22.95	22.28	0-1	1
		25	0	22.24	22.90	22.26	0-1	1
	16QAM	1	0	22.35	23.00	22.44	0-1	1
		1	12	22.43	23.15	22.44	0-1	1
		1	24	22.48	23.19	22.37	0-1	1
		12	0	21.26	21.93	21.28	0-2	2
		12	6	21.26	21.91	21.29	0-2	2
		12	11	21.25	21.87	21.32	0-2	2
		25	0	21.22	21.85	21.23	0-2	2
	64QAM	1	0	21.38	21.98	21.30	0-2	2
		1	12	21.23	21.80	21.23	0-2	2
		1	24	21.37	21.93	21.40	0-2	2
		12	0	20.21	20.85	20.30	0-3	3
		12	6	20.22	20.87	20.25	0-3	3
		12	11	20.20	20.86	20.19	0-3	3
25		0	20.21	20.79	20.26	0-3	3	

LTE Band 26 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26740 Ch. 819 MHz	26865 Ch. 831.5 MHz	26990 Ch. 844 MHz		
10 MHz	QPSK	1	0	23.68	23.85	23.75	0	0
		1	24	23.61	23.79	23.77	0	0
		1	49	23.72	23.86	23.75	0	0
		25	0	22.74	22.92	22.82	0-1	1
		25	12	22.71	22.86	22.84	0-1	1
		25	24	22.74	22.89	22.83	0-1	1
		50	0	22.83	22.97	22.94	0-1	1
	16QAM	1	0	23.04	23.12	23.07	0-1	1
		1	24	22.75	22.97	22.91	0-1	1
		1	49	22.82	22.95	23.06	0-1	1
		25	0	21.70	21.91	21.82	0-2	2
		25	12	21.69	21.85	21.80	0-2	2
		25	24	21.71	21.85	21.76	0-2	2
		50	0	21.77	21.88	21.88	0-2	2
	64QAM	1	0	21.84	22.11	22.06	0-2	2
		1	24	21.73	21.96	21.85	0-2	2
		1	49	21.80	21.92	21.89	0-2	2
		25	0	20.76	20.91	20.81	0-3	3
		25	12	20.71	20.87	20.77	0-3	3
		25	24	20.68	20.88	20.75	0-3	3
50		0	20.77	20.86	20.81	0-3	3	

LTE Band 26 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26765 Ch. 821.5 MHz	26865 Ch. 831.5 MHz	26965 Ch. 841.5 MHz		
10 MHz	QPSK	1	0	23.80	23.91	23.83	0	0
		1	24	23.74	23.78	23.75	0	0
		1	49	23.86	23.88	23.67	0	0
		25	0	22.98	22.96	22.97	0-1	1
		25	12	22.96	23.01	22.92	0-1	1
		25	24	22.95	22.99	22.94	0-1	1
		50	0	22.94	22.96	22.95	0-1	1
	16QAM	1	0	22.87	23.13	23.01	0-1	1
		1	24	22.86	23.05	22.98	0-1	1
		1	49	23.00	23.09	22.97	0-1	1
		25	0	21.85	21.91	21.90	0-2	2
		25	12	21.86	21.89	21.89	0-2	2
		25	24	21.86	21.93	21.88	0-2	2
		50	0	21.89	21.91	21.91	0-2	2
	64QAM	1	0	21.90	22.04	21.98	0-2	2
		1	24	21.86	21.84	21.94	0-2	2
		1	49	21.99	21.92	21.84	0-2	2
		25	0	20.86	20.94	20.87	0-3	3
		25	12	20.87	20.90	20.85	0-3	3
		25	24	20.88	20.87	20.82	0-3	3
		50	0	20.85	20.83	20.83	0-3	3

[ LTE Band 30 Conducted Power ]

LTE Band 30 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				27685 Ch. 2307.5 MHz	27710 Ch. 2310 MHz	27735 Ch. 2312.5 MHz		
5 MHz	QPSK	1	0	22.12	22.44	22.12	0	0
		1	12	22.16	22.40	22.02	0	0
		1	24	22.11	22.37	22.01	0	0
		12	0	21.24	21.54	21.19	0-1	1
		12	6	21.28	21.54	21.17	0-1	1
		12	11	21.23	21.52	21.23	0-1	1
		25	0	21.18	21.46	21.18	0-1	1
	16QAM	1	0	21.37	21.62	21.31	0-1	1
		1	12	21.24	21.55	21.31	0-1	1
		1	24	21.24	21.51	21.17	0-1	1
		12	0	20.22	20.49	20.15	0-2	2
		12	6	20.26	20.47	20.07	0-2	2
		12	11	20.20	20.47	20.10	0-2	2
		25	0	20.12	20.41	20.10	0-2	2
	64QAM	1	0	20.31	20.60	20.19	0-2	2
		1	12	20.21	20.44	20.19	0-2	2
		1	24	20.25	20.49	20.17	0-2	2
		12	0	19.17	19.45	19.10	0-3	3
		12	6	19.15	19.46	19.10	0-3	3
		12	11	19.13	19.40	19.06	0-3	3
25		0	19.16	19.40	19.02	0-3	3	

LTE Band 30 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				27710 Ch. 2310 MHz		
10 MHz	QPSK	1	0	<b>22.45</b>	0	0
		1	24	22.42	0	0
		1	49	22.42	0	0
		25	0	<b>21.53</b>	0-1	1
		25	12	21.49	0-1	1
		25	24	21.47	0-1	1
		50	0	21.58	0-1	1
	16QAM	1	0	21.70	0-1	1
		1	24	21.45	0-1	1
		1	49	21.54	0-1	1
		25	0	20.48	0-2	2
		25	12	20.42	0-2	2
		25	24	20.40	0-2	2
		50	0	20.47	0-2	2
	64QAM	1	0	20.61	0-2	2
		1	24	20.35	0-2	2
		1	49	20.41	0-2	2
		25	0	19.39	0-3	3
		25	12	19.41	0-3	3
		25	24	19.34	0-3	3
50		0	19.50	0-3	3	



**[LTE TDD Band 38 Conducted Power]**

LTE Band 38\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				3775 Ch. 2572.5 MHz	3800 Ch. 2595 MHz	38225 Ch. 2617.5 MHz		
5 MHz	QPSK	1	0	23.09	23.19	23.00	0	0
		1	12	23.17	23.22	22.91	0	0
		1	24	23.14	23.23	23.02	0	0
		12	0	22.18	22.27	22.08	0-1	1
		12	6	22.15	22.23	22.12	0-1	1
		12	11	22.17	22.25	22.12	0-1	1
		25	0	22.20	22.31	22.10	0-1	1
	16QAM	1	0	22.18	22.35	22.16	0-1	1
		1	12	22.19	22.34	21.98	0-1	1
		1	24	22.21	22.37	22.15	0-1	1
		12	0	21.16	21.28	21.06	0-2	2
		12	6	21.14	21.25	21.09	0-2	2
		12	11	21.18	21.26	21.10	0-2	2
		25	0	21.21	21.34	21.14	0-2	2
	64QAM	1	0	20.94	21.04	20.87	0-2	2
		1	12	20.88	20.98	20.69	0-2	2
		1	24	20.93	21.04	20.82	0-2	2
		12	0	20.19	20.29	20.07	0-3	3
		12	6	20.16	20.24	20.10	0-3	3
		12	11	20.17	20.29	20.11	0-3	3
		25	0	20.20	20.29	20.10	0-3	3

LTE Band 38\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37800 Ch. 2575 MHz	38000 Ch. 2595 MHz	38200 Ch. 2615 MHz		
10 MHz	QPSK	1	0	23.23	23.30	23.15	0	0
		1	24	23.11	23.16	22.98	0	0
		1	49	23.15	23.18	22.99	0	0
		25	0	22.27	22.33	22.15	0-1	1
		25	12	22.27	22.31	22.11	0-1	1
		25	24	22.26	22.29	22.10	0-1	1
		50	0	22.31	22.34	22.13	0-1	1
	16QAM	1	0	22.27	22.36	22.15	0-1	1
		1	24	22.14	22.24	22.03	0-1	1
		1	49	22.21	22.24	22.10	0-1	1
		25	0	21.31	21.38	21.18	0-2	2
		25	12	21.30	21.35	21.13	0-2	2
		25	24	21.28	21.31	21.12	0-2	2
		50	0	21.30	21.33	21.12	0-2	2
	64QAM	1	0	21.00	21.09	20.81	0-2	2
		1	24	20.89	20.93	20.71	0-2	2
		1	49	20.94	20.96	20.83	0-2	2
		25	0	20.27	20.30	20.15	0-3	3
		25	12	20.26	20.27	20.09	0-3	3
		25	24	20.25	20.27	20.11	0-3	3
		50	0	20.29	20.32	20.10	0-3	3

LTE Band 38 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37825 Ch. 2507.5 MHz	38000 Ch. 2595 MHz	38175 Ch. 2612.5 MHz		
15 MHz	QPSK	1	0	23.22	23.31	23.16	0	0
		1	36	23.26	23.25	22.97	0	0
		1	74	23.19	23.21	23.02	0	0
		36	0	22.28	22.35	22.19	0-1	1
		36	18	22.23	22.30	22.15	0-1	1
		36	39	22.24	22.28	22.10	0-1	1
		75	0	22.25	22.30	22.12	0-1	1
	16QAM	1	0	22.31	22.36	22.26	0-1	1
		1	36	22.24	22.21	21.94	0-1	1
		1	74	22.26	22.27	22.10	0-1	1
		36	0	21.26	21.33	21.18	0-2	2
		36	18	21.20	21.28	21.13	0-2	2
		36	39	21.22	21.26	21.08	0-2	2
		75	0	21.25	21.31	21.12	0-2	2
	64QAM	1	0	21.09	21.14	20.94	0-2	2
		1	36	21.05	21.03	20.68	0-2	2
		1	74	21.06	21.02	20.77	0-2	2
		36	0	20.30	20.36	20.19	0-3	3
		36	18	20.24	20.30	20.16	0-3	3
		36	39	20.27	20.29	20.11	0-3	3
		75	0	20.26	20.30	20.12	0-3	3

LTE Band 38 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37850 Ch. 2580 MHz	38000 Ch. 2595 MHz	38150 Ch. 2610 MHz		
20 MHz	QPSK	1	0		23.37		0	0
		1	49		23.18		0	0
		1	99		23.17		0	0
		50	0		22.40		0-1	1
		50	25		22.36		0-1	1
		50	49		22.32		0-1	1
		100	0		22.34		0-1	1
	16QAM	1	0		22.45		0-1	1
		1	49		22.26		0-1	1
		1	99		22.25		0-1	1
		50	0		21.39		0-2	2
		50	25		21.34		0-2	2
		50	49		21.31		0-2	2
		100	0		21.33		0-2	2
	64QAM	1	0		21.39		0-2	2
		1	49		21.24		0-2	2
		1	99		21.23		0-2	2
		50	0		20.36		0-3	3
		50	25		20.31		0-3	3
		50	49		20.27		0-3	3
		100	0		20.32		0-3	3

[LTE Band 40 Low Side (MCC310) Conducted Power]  
 LTE Band 40 Low Side (MCC310) 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				38725 Ch. 2307.5 MHz	38750 Ch. 2310 MHz	38775 Ch. 2312.5 MHz		
5 MHz	QPSK	1	0	10.89	10.92	10.93	0	0
		1	12	10.99	11.00	11.00	0	0
		1	24	10.91	10.93	10.96	0	0
		12	0	10.93	10.96	10.97	0-1	0
		12	6	10.88	10.90	10.91	0-1	0
		12	11	10.91	10.92	10.94	0-1	0
	25	0	10.83	10.86	10.89	0-1	0	
	16QAM	1	0	11.09	11.02	11.05	0-1	0
		1	12	11.05	11.00	11.00	0-1	0
		1	24	11.01	11.01	10.97	0-1	0
		12	0	10.95	11.01	10.99	0-2	0
		12	6	10.90	10.95	10.94	0-2	0
		12	11	10.93	10.99	10.96	0-2	0
	64QAM	25	0	10.95	10.96	10.98	0-2	0
		1	0	10.97	11.09	11.07	0-2	0
		1	12	10.94	11.05	11.01	0-2	0
		1	24	10.96	11.04	11.04	0-2	0
		12	0	10.93	10.94	10.96	0-3	0
12		6	10.88	10.89	10.91	0-3	0	
		12	11	10.91	10.92	10.94	0-3	0
		25	0	10.87	10.96	10.91	0-3	0

LTE Band 40 Low Side (MCC310) 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				38750 Ch. 2310 MHz		
10 MHz	QPSK	1	0	11.01	0	0
		1	24	10.85	0	0
		1	49	10.89	0	0
		25	0	10.89	0-1	0
		25	12	10.88	0-1	0
		25	24	10.87	0-1	0
	16QAM	50	0	10.87	0-1	0
		1	0	11.13	0-1	0
		1	24	10.98	0-1	0
		1	49	11.04	0-1	0
		25	0	11.00	0-2	0
		25	12	10.99	0-2	0
	64QAM	25	24	10.95	0-2	0
		50	0	10.95	0-2	0
		1	0	11.02	0-2	0
		1	24	10.90	0-2	0
		1	49	10.99	0-2	0
		25	0	10.98	0-3	0
		25	12	10.95	0-3	0
		25	24	10.95	0-3	0
		50	0	10.95	0-3	0

[LTE Band 40 Upper Side (MCC310) Conducted Power]  
 LTE Band 40 Upper Side (MCC310) 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				39175 Ch. 2352.5 MHz	39200 Ch. 2355 MHz	39225 Ch. 2357.5 MHz		
5 MHz	QPSK	1	0	10.92	10.95	10.96	0	0
		1	12	10.93	10.99	10.94	0	0
		1	24	10.96	11.00	11.00	0	0
		12	0	10.98	11.02	11.01	0-1	0
		12	6	10.94	10.96	10.99	0-1	0
		12	11	10.95	10.96	11.00	0-1	0
		25	0	10.92	10.96	10.96	0-1	0
	16QAM	1	0	11.00	11.06	11.08	0-1	0
		1	12	10.98	11.02	11.00	0-1	0
		1	24	10.94	11.05	10.96	0-1	0
		12	0	11.03	11.06	11.06	0-2	0
		12	6	10.97	11.01	11.01	0-2	0
		12	11	11.03	11.05	11.05	0-2	0
		25	0	11.00	11.04	11.05	0-2	0
	64QAM	1	0	10.94	10.78	10.82	0-2	0
		1	12	10.95	10.69	10.73	0-2	0
		1	24	10.92	10.72	10.92	0-2	0
		12	0	11.02	11.05	11.05	0-3	0
		12	6	10.98	10.99	11.03	0-3	0
		12	11	11.00	11.04	11.05	0-3	0
		25	0	11.00	11.02	11.02	0-3	0

LTE Band 40 Upper Side (MCC310) 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				39200 Ch. 2355 MHz		
10 MHz	QPSK	1	0	11.03	0	0
		1	24	10.90	0	0
		1	49	10.94	0	0
		25	0	10.95	0-1	0
		25	12	10.94	0-1	0
		25	24	10.93	0-1	0
		50	0	10.93	0-1	0
	16QAM	1	0	11.02	0-1	0
		1	24	10.92	0-1	0
		1	49	11.06	0-1	0
		25	0	11.06	0-2	0
		25	12	11.06	0-2	0
		25	24	11.04	0-2	0
		50	0	10.99	0-2	0
	64QAM	1	0	10.96	0-2	0
		1	24	10.84	0-2	0
		1	49	10.87	0-2	0
		25	0	11.03	0-3	0
		25	12	10.99	0-3	0
		25	24	11.01	0-3	0
		50	0	10.99	0-3	0

[ LTE Band 41 Conducted Power ] - Power Class 3

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz		
5 MHz	QPSK	1	0	22.31	22.29	22.45	22.27	22.11	0	0
		1	12	22.24	22.22	22.47	22.34	22.17	0	0
		1	24	22.35	22.33	22.51	22.31	22.13	0	0
		12	0	21.39	21.38	21.54	21.31	21.16	0-1	1
		12	6	21.40	21.41	21.48	21.25	21.09	0-1	1
		12	11	21.41	21.41	21.49	21.27	21.11	0-1	1
		25	0	21.59	21.61	21.62	21.47	21.30	0-1	1
	16QAM	1	0	21.35	21.24	21.50	21.40	21.17	0-1	1
		1	12	21.25	21.13	21.44	21.37	21.15	0-1	1
		1	24	21.36	21.21	21.44	21.38	21.09	0-1	1
		12	0	20.27	20.24	20.44	20.18	20.04	0-2	2
		12	6	20.27	20.28	20.39	20.09	19.96	0-2	2
		12	11	20.29	20.28	20.42	20.15	19.99	0-2	2
		25	0	20.49	20.46	20.59	20.41	20.26	0-2	2
	64QAM	1	0	20.11	20.08	20.28	20.06	19.81	0-2	2
		1	12	19.99	19.92	20.21	20.02	19.80	0-2	2
		1	24	20.08	19.98	20.27	19.99	19.71	0-2	2
		12	0	19.25	19.19	19.45	19.22	19.07	0-3	3
		12	6	19.27	19.24	19.39	19.15	18.99	0-3	3
		12	11	19.28	19.25	19.42	19.19	19.00	0-3	3
		25	0	19.42	19.40	19.54	19.33	19.17	0-3	3

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz		
10 MHz	QPSK	1	0	22.38	22.38	22.56	22.40	22.25	0	0
		1	24	22.23	22.21	22.42	22.24	22.08	0	0
		1	49	22.26	22.25	22.43	22.25	22.06	0	0
		25	0	21.57	21.62	21.62	21.51	21.33	0-1	1
		25	12	21.53	21.57	21.60	21.50	21.32	0-1	1
		25	24	21.55	21.57	21.59	21.46	21.28	0-1	1
		50	0	21.61	21.64	21.67	21.58	21.40	0-1	1
	16QAM	1	0	21.35	21.26	21.51	21.23	21.15	0-1	1
		1	24	21.20	21.10	21.39	21.11	21.03	0-1	1
		1	49	21.24	21.19	21.37	21.18	21.00	0-1	1
		25	0	20.48	20.46	20.60	20.47	20.32	0-2	2
		25	12	20.45	20.43	20.58	20.45	20.29	0-2	2
		25	24	20.43	20.44	20.55	20.41	20.25	0-2	2
		50	0	20.48	20.47	20.63	20.48	20.33	0-2	2
	64QAM	1	0	20.11	19.93	20.27	20.02	19.97	0-2	2
		1	24	20.01	19.84	20.16	19.86	19.84	0-2	2
		1	49	20.07	19.88	20.18	19.94	19.84	0-2	2
		25	0	19.40	19.41	19.56	19.39	19.24	0-3	3
		25	12	19.36	19.35	19.52	19.36	19.21	0-3	3
		25	24	19.38	19.38	19.52	19.34	19.18	0-3	3
		50	0	19.45	19.44	19.59	19.45	19.30	0-3	3

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	22.36	22.37	22.55	22.37	22.25	0	0
		1	36	22.23	22.22	22.48	22.37	22.23	0	0
		1	74	22.27	22.28	22.47	22.29	22.11	0	0
		36	0	21.49	21.52	21.62	21.46	21.33	0-1	1
		36	18	21.48	21.49	21.58	21.41	21.26	0-1	1
		36	39	21.44	21.44	21.56	21.41	21.25	0-1	1
		75	0	21.54	21.58	21.59	21.46	21.30	0-1	1
	16QAM	1	0	21.28	21.35	21.61	21.39	21.25	0-1	1
		1	36	21.10	21.17	21.44	21.36	21.19	0-1	1
		1	74	21.16	21.30	21.50	21.37	21.07	0-1	1
		36	0	20.35	20.34	20.53	20.35	20.22	0-2	2
		36	18	20.34	20.33	20.49	20.29	20.15	0-2	2
		36	39	20.29	20.30	20.47	20.29	20.13	0-2	2
		75	0	20.42	20.42	20.55	20.39	20.24	0-2	2
	64QAM	1	0	20.16	20.07	20.20	20.09	19.99	0-2	2
		1	36	19.96	19.86	20.07	19.95	19.89	0-2	2
		1	74	20.04	19.97	20.06	19.95	19.81	0-2	2
		36	0	19.36	19.34	19.53	19.33	19.22	0-3	3
		36	18	19.34	19.32	19.49	19.29	19.15	0-3	3
		36	39	19.30	19.27	19.47	19.28	19.13	0-3	3
		75	0	19.39	19.39	19.53	19.35	19.22	0-3	3

LTE Band 41\_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	22.70	22.40	22.57	22.45	22.61	0	0
		1	49	22.50	22.18	22.40	22.24	22.40	0	0
		1	99	22.50	22.24	22.42	22.25	22.37	0	0
		50	0	21.96	21.68	21.70	21.60	21.77	0-1	1
		50	25	21.92	21.61	21.64	21.56	21.72	0-1	1
		50	49	21.89	21.57	21.62	21.52	21.67	0-1	1
		100	0	21.89	21.59	21.63	21.50	21.66	0-1	1
	16QAM	1	0	21.68	21.35	21.53	21.55	21.74	0-1	1
		1	49	21.50	21.12	21.34	21.32	21.49	0-1	1
		1	99	21.51	21.21	21.36	21.35	21.41	0-1	1
		50	0	20.81	20.52	20.66	20.52	20.71	0-2	2
		50	25	20.76	20.46	20.60	20.48	20.66	0-2	2
		50	49	20.73	20.44	20.57	20.45	20.59	0-2	2
		100	0	20.75	20.46	20.60	20.44	20.60	0-2	2
	64QAM	1	0	20.28	19.98	20.29	20.21	20.32	0-2	2
		1	49	20.11	19.79	20.12	19.97	20.12	0-2	2
		1	99	20.08	19.87	20.16	19.98	20.00	0-2	2
		50	0	19.78	19.47	19.63	19.48	19.66	0-3	3
		50	25	19.73	19.42	19.57	19.44	19.62	0-3	3
		50	49	19.70	19.40	19.55	19.39	19.55	0-3	3
		100	0	19.69	19.39	19.56	19.40	19.56	0-3	3

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[ LTE Band 41 Conducted Power ] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz		
5 MHz	QPSK	1	0	25.36	25.43	25.42	25.16	25.05	0	0
		1	12	25.33	25.38	25.51	25.24	25.12	0	0
		1	24	25.34	25.40	25.38	25.11	24.99	0	0
		12	0	24.43	24.50	24.52	24.20	24.13	0-1	1
		12	6	24.47	24.56	24.45	24.13	24.10	0-1	1
		12	11	24.42	24.48	24.51	24.20	24.10	0-1	1
		25	0	24.35	24.41	24.49	24.17	24.10	0-1	1
	16QAM	1	0	24.55	24.80	24.70	24.43	24.23	0-1	1
		1	12	24.51	24.70	24.77	24.51	24.25	0-1	1
		1	24	24.55	24.79	24.67	24.40	24.17	0-1	1
		12	0	23.43	23.45	23.51	23.09	23.07	0-2	2
		12	6	23.46	23.48	23.53	23.03	23.01	0-2	2
		12	11	23.41	23.42	23.57	23.08	23.01	0-2	2
		25	0	23.30	23.36	23.54	23.12	23.09	0-2	2
	64QAM	1	0	23.12	23.27	22.82	23.32	23.15	0-2	2
		1	12	22.90	23.21	22.80	23.35	23.13	0-2	2
		1	24	23.14	23.26	22.81	23.32	23.09	0-2	2
		12	0	22.35	22.30	22.50	22.20	22.13	0-3	3
		12	6	22.38	22.35	22.47	22.15	22.09	0-3	3
		12	11	22.30	22.29	22.50	22.17	22.07	0-3	3
		25	0	22.19	22.27	22.45	22.10	22.09	0-3	3

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz		
10 MHz	QPSK	1	0	25.33	25.44	25.44	25.17	25.13	0	0
		1	24	25.28	25.35	25.37	25.08	25.03	0	0
		1	49	25.29	25.33	25.33	25.12	25.01	0	0
		25	0	24.31	24.39	24.44	24.16	24.11	0-1	1
		25	12	24.29	24.37	24.43	24.13	24.07	0-1	1
		25	24	24.29	24.36	24.39	24.12	24.06	0-1	1
		50	0	24.51	24.65	24.49	24.29	24.24	0-1	1
	16QAM	1	0	24.64	24.60	24.75	24.35	24.27	0-1	1
		1	24	24.51	24.53	24.66	24.24	24.17	0-1	1
		1	49	24.55	24.48	24.64	24.25	24.16	0-1	1
		25	0	23.32	23.36	23.51	23.10	23.06	0-2	2
		25	12	23.29	23.33	23.49	23.07	23.02	0-2	2
		25	24	23.29	23.35	23.46	23.06	23.00	0-2	2
		50	0	23.46	23.56	23.47	23.22	23.18	0-2	2
	64QAM	1	0	22.98	23.29	23.30	23.29	23.26	0-2	2
		1	24	22.91	23.18	23.17	23.17	23.13	0-2	2
		1	49	22.90	23.22	23.15	23.17	23.10	0-2	2
		25	0	22.26	22.27	22.45	22.10	22.07	0-3	3
		25	12	22.22	22.24	22.42	22.08	22.04	0-3	3
		25	24	22.23	22.24	22.38	22.07	22.01	0-3	3
		50	0	22.40	22.50	22.45	22.23	22.20	0-3	3

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	25.33	25.47	25.47	25.22	25.19	0	0
		1	36	25.32	25.38	25.40	25.23	25.13	0	0
		1	74	25.27	25.36	25.32	25.11	25.03	0	0
		36	0	24.46	24.60	24.55	24.28	24.25	0-1	1
		36	18	24.41	24.52	24.53	24.23	24.19	0-1	1
		36	39	24.42	24.51	24.45	24.25	24.19	0-1	1
		75	0	24.41	24.53	24.50	24.27	24.22	0-1	1
	16QAM	1	0	24.34	24.73	24.52	24.52	24.44	0-1	1
		1	36	24.28	24.63	24.43	24.46	24.51	0-1	1
		1	74	24.23	24.63	24.33	24.39	24.41	0-1	1
		36	0	23.38	23.47	23.49	23.21	23.22	0-2	2
		36	18	23.34	23.41	23.47	23.16	23.13	0-2	2
		36	39	23.36	23.40	23.39	23.17	23.12	0-2	2
		75	0	23.35	23.44	23.47	23.21	23.18	0-2	2
	64QAM	1	0	23.23	23.38	23.47	23.15	23.41	0-2	2
		1	36	23.20	23.46	23.40	23.04	23.19	0-2	2
		1	74	23.13	23.43	23.31	23.03	23.23	0-2	2
		36	0	22.31	22.44	22.49	22.25	22.22	0-3	3
		36	18	22.27	22.41	22.47	22.19	22.16	0-3	3
		36	39	22.27	22.40	22.40	22.19	22.16	0-3	3
		75	0	22.30	22.42	22.46	22.18	22.15	0-3	3

LTE Band 41\_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Max. Average Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	25.64	25.47	25.49	25.27	25.52	0	0
		1	49	25.52	25.30	25.33	25.10	25.35	0	0
		1	99	25.49	25.32	25.26	25.10	25.30	0	0
		50	0	24.79	24.63	24.54	24.32	24.59	0-1	1
		50	25	24.76	24.57	24.47	24.27	24.56	0-1	1
		50	49	24.74	24.51	24.42	24.24	24.51	0-1	1
		100	0	24.79	24.57	24.50	24.30	24.58	0-1	1
	16QAM	1	0	24.87	24.61	24.74	24.26	24.69	0-1	1
		1	49	24.58	24.37	24.56	24.06	24.49	0-1	1
		1	99	24.56	24.40	24.52	24.11	24.47	0-1	1
		50	0	23.72	23.53	23.52	23.30	23.56	0-2	2
		50	25	23.69	23.48	23.44	23.24	23.54	0-2	2
		50	49	23.66	23.43	23.39	23.21	23.46	0-2	2
		100	0	23.70	23.50	23.48	23.26	23.53	0-2	2
	64QAM	1	0	23.66	23.63	23.78	23.20	23.54	0-2	2
		1	49	23.50	23.44	23.57	23.00	23.37	0-2	2
		1	99	23.50	23.50	23.55	23.00	23.32	0-2	2
		50	0	22.66	22.49	22.48	22.25	22.54	0-3	3
		50	25	22.62	22.45	22.40	22.21	22.50	0-3	3
		50	49	22.60	22.39	22.36	22.19	22.44	0-3	3
		100	0	22.65	22.44	22.45	22.24	22.50	0-3	3

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.



**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979 Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	23.46	24.17	23.62	0	0
		1	3	23.53	24.24	23.69	0	0
		1	5	23.52	24.18	23.63	0	0
		3	0	23.46	24.14	23.56	0	0
		3	1	23.60	24.31	23.74	0	0
		3	3	23.56	24.24	23.66	0	0
	16QAM	6	0	22.56	23.24	22.68	0-1	1
		1	0	22.74	23.44	22.87	0-1	1
		1	3	22.55	23.30	22.64	0-1	1
		1	5	22.71	23.47	22.84	0-1	1
		3	0	22.56	23.28	22.62	0-1	1
		3	1	22.63	23.38	22.86	0-1	1
	64QAM	3	3	22.67	23.30	22.73	0-1	1
		6	0	21.72	22.38	21.81	0-2	2
		1	0	21.82	22.40	21.90	0-2	2
		1	3	21.75	22.40	21.86	0-2	2
		1	5	21.72	22.32	21.82	0-2	2
		3	0	21.66	22.33	21.77	0-2	2
	64QAM	3	1	21.77	22.46	21.95	0-2	2
		3	3	21.69	22.37	21.84	0-2	2
		6	0	20.69	21.34	20.80	0-3	3

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz		
3 MHz	QPSK	1	0	23.54	24.13	23.64	0	0
		1	7	23.44	24.16	23.65	0	0
		1	14	23.56	24.23	23.65	0	0
		8	0	22.65	23.30	22.78	0-1	1
		8	3	22.65	23.29	22.76	0-1	1
		8	7	22.64	23.28	22.78	0-1	1
		15	0	22.67	23.38	22.79	0-1	1
	16QAM	1	0	22.73	23.56	22.86	0-1	1
		1	7	22.71	23.51	22.85	0-1	1
		1	14	22.66	23.37	22.92	0-1	1
		8	0	21.68	22.34	21.82	0-2	2
		8	3	21.70	22.33	21.75	0-2	2
		8	7	21.68	22.34	21.82	0-2	2
		15	0	21.70	22.38	21.83	0-2	2
	64QAM	1	0	21.77	22.41	21.87	0-2	2
		1	7	21.83	22.46	21.84	0-2	2
		1	14	21.73	22.37	21.91	0-2	2
		8	0	20.76	21.36	20.78	0-3	3
		8	3	20.70	21.38	20.78	0-3	3
		8	7	20.76	21.40	20.85	0-3	3
		15	0	20.72	21.35	20.78	0-3	3

LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 MHz	132322 Ch. 1745 MHz	132647 Ch. 1777.5 MHz		
5 MHz	QPSK	1	0	23.56	24.24	23.71	0	0
		1	12	23.60	24.21	23.66	0	0
		1	24	23.59	24.22	23.65	0	0
		12	0	22.68	23.35	22.79	0-1	1
		12	6	22.65	23.33	22.77	0-1	1
		12	11	22.69	23.31	22.80	0-1	1
	16QAM	25	0	22.64	23.30	22.77	0-1	1
		1	0	22.76	23.43	22.99	0-1	1
		1	12	22.70	23.51	22.88	0-1	1
		1	24	22.92	23.55	22.97	0-1	1
		12	0	21.73	22.37	21.82	0-2	2
		12	6	21.65	22.33	21.82	0-2	2
	64QAM	12	11	21.72	22.33	21.76	0-2	2
		25	0	21.73	22.36	21.80	0-2	2
		1	0	21.75	22.34	21.86	0-2	2
		1	12	21.79	22.41	21.90	0-2	2
		1	24	21.92	22.56	21.91	0-2	2
		12	0	20.73	21.35	20.86	0-3	3
		12	6	20.71	21.37	20.79	0-3	3
		12	11	20.72	21.39	20.82	0-3	3
		25	0	20.71	21.38	20.81	0-3	3

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz			
10 MHz	QPSK	1	0	24.00	24.20	24.22	0	0	
		1	24	24.03	24.24	24.19	0	0	
		1	49	24.10	24.29	24.19	0	0	
		25	0	23.13	23.28	23.26	0-1	1	
		25	12	23.14	23.32	23.28	0-1	1	
		25	24	23.13	23.34	23.26	0-1	1	
		50	0	23.21	23.39	23.27	0-1	1	
	16QAM	1	0	23.16	23.40	23.37	0-1	1	
		1	24	23.08	23.31	23.29	0-1	1	
		1	49	23.38	23.53	23.36	0-1	1	
		25	0	22.13	22.30	22.28	0-2	2	
		25	12	22.14	22.32	22.30	0-2	2	
		25	24	22.18	22.34	22.25	0-2	2	
		50	0	22.16	22.30	22.31	0-2	2	
	64QAM	1	0	22.25	22.38	22.44	0-2	2	
		1	24	22.20	22.30	22.36	0-2	2	
		1	49	22.23	22.36	22.30	0-2	2	
		25	0	21.23	21.32	21.28	0-3	3	
		25	12	21.18	21.31	21.32	0-3	3	
		25	24	21.22	21.35	21.30	0-3	3	
			50	0	21.19	21.38	21.29	0-3	3

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	24.12	24.25	24.26	0	0
		1	36	24.06	24.21	24.22	0	0
		1	74	24.19	24.29	24.26	0	0
		36	0	23.26	23.38	23.43	0-1	1
		36	18	23.27	23.38	23.38	0-1	1
		36	39	23.29	23.41	23.38	0-1	1
	16QAM	75	0	23.27	23.39	23.39	0-1	1
		1	0	23.26	23.48	23.53	0-1	1
		1	36	23.29	23.52	23.51	0-1	1
		1	74	23.44	23.67	23.51	0-1	1
		36	0	22.25	22.37	22.38	0-2	2
		36	18	22.24	22.38	22.38	0-2	2
	64QAM	36	39	22.24	22.42	22.39	0-2	2
		75	0	22.30	22.37	22.41	0-2	2
		1	0	22.26	22.33	22.56	0-2	2
		1	36	22.21	22.38	22.33	0-2	2
		1	74	22.35	22.44	22.46	0-2	2
		36	0	21.27	21.36	21.35	0-3	3
		36	18	21.26	21.38	21.37	0-3	3
		36	39	21.24	21.39	21.36	0-3	3
		75	0	21.26	21.36	21.36	0-3	3

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	24.07	24.19	24.32	0	0
		1	49	24.04	24.20	24.23	0	0
		1	99	24.12	24.33	24.27	0	0
		50	0	23.20	23.40	23.37	0-1	1
		50	25	23.17	23.38	23.41	0-1	1
		50	49	23.19	23.34	23.37	0-1	1
		100	0	23.23	23.37	23.40	0-1	1
	16QAM	1	0	23.26	23.34	23.55	0-1	1
		1	49	23.10	23.37	23.31	0-1	1
		1	99	23.43	23.56	23.44	0-1	1
		50	0	22.17	22.35	22.32	0-2	2
		50	25	22.17	22.31	22.31	0-2	2
		50	49	22.15	22.31	22.31	0-2	2
		100	0	22.21	22.32	22.33	0-2	2
	64QAM	1	0	22.21	22.48	22.51	0-2	2
		1	49	22.25	22.41	22.35	0-2	2
		1	99	22.40	22.49	22.43	0-2	2
		50	0	21.17	21.32	21.37	0-3	3
		50	25	21.17	21.36	21.32	0-3	3
		50	49	21.18	21.37	21.31	0-3	3
		100	0	21.17	21.31	21.31	0-3	3

[ LTE Band 71 Conducted Power ]

LTE Band 71 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133147 Ch. 665.5 MHz	133297 Ch. 680.5 MHz	133447 Ch. 695.5 MHz		
5 MHz	QPSK	1	0	23.41	24.28	24.07	0	0
		1	12	23.30	24.19	23.97	0	0
		1	24	23.40	24.27	24.03	0	0
		12	0	22.50	23.37	23.13	0-1	1
		12	6	22.50	23.37	23.16	0-1	1
		12	11	22.52	23.37	23.20	0-1	1
	16QAM	25	0	22.48	23.34	23.15	0-1	1
		1	0	22.65	23.50	23.35	0-1	1
		1	12	22.78	23.43	23.27	0-1	1
		1	24	22.68	23.56	23.28	0-1	1
		12	0	21.54	22.35	22.14	0-2	2
		12	6	21.50	22.38	22.15	0-2	2
	64QAM	12	11	21.53	22.34	22.09	0-2	2
		25	0	21.49	22.29	22.09	0-2	2
		1	0	21.67	22.37	22.21	0-2	2
		1	12	21.50	22.17	21.88	0-2	2
		1	24	21.60	22.38	22.13	0-2	2
		12	0	20.48	21.31	21.09	0-3	3
	12	6	20.50	21.35	21.12	0-3	3	
		11	20.48	21.30	21.15	0-3	3	
	25	0	20.49	21.32	21.09	0-3	3	

LTE Band 71 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133172 Ch. 668 MHz	133297 Ch. 680.5 MHz	133422 Ch. 693 MHz		
10 MHz	QPSK	1	0	23.89	24.22	24.06	0	0
		1	24	23.92	24.21	24.00	0	0
		1	49	23.96	24.27	24.04	0	0
		25	0	22.99	23.26	23.08	0-1	1
		25	12	23.00	23.24	23.04	0-1	1
		25	24	22.94	23.28	23.04	0-1	1
		50	0	23.02	23.39	23.08	0-1	1
	16QAM	1	0	23.17	23.49	23.35	0-1	1
		1	24	22.99	23.32	23.23	0-1	1
		1	49	23.17	23.49	23.24	0-1	1
		25	0	22.00	22.26	22.04	0-2	2
		25	12	21.96	22.30	22.07	0-2	2
		25	24	21.94	22.26	22.05	0-2	2
		50	0	22.00	22.32	22.09	0-2	2
	64QAM	1	0	22.16	22.31	22.15	0-2	2
		1	24	21.99	22.22	22.14	0-2	2
		1	49	22.11	22.41	22.09	0-2	2
		25	0	21.00	21.29	21.07	0-3	3
		25	12	21.01	21.30	21.07	0-3	3
		25	24	20.97	21.28	21.03	0-3	3
		50	0	21.00	21.26	21.09	0-3	3

LTE Band 71 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133197 Ch. 670.5 MHz	133297 Ch. 680.5 MHz	133397 Ch. 690.5 MHz		
15 MHz	QPSK	1	0		24.23		0	0
		1	36		24.10		0	0
		1	74		24.27		0	0
		36	0		23.35		0-1	1
		36	18		23.35		0-1	1
		36	39		23.33		0-1	1
		75	0		23.38		0-1	1
	16QAM	1	0		23.45		0-1	1
		1	36		23.37		0-1	1
		1	74		23.58		0-1	1
		36	0		22.30		0-2	2
		36	18		22.32		0-2	2
		36	39		22.27		0-2	2
		75	0		22.28		0-2	2
	64QAM	1	0		22.37		0-2	2
		1	36		22.17		0-2	2
		1	74		22.49		0-2	2
		36	0		21.29		0-3	3
		36	18		21.28		0-3	3
		36	39		21.30		0-3	3
		75	0		21.22		0-3	3

LTE Band 71 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Max. Average Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				133222 Ch. 673 MHz	133297 Ch. 680.5 MHz	133372 Ch. 688 MHz		
20 MHz	QPSK	1	0		24.27		0	0
		1	49		24.23		0	0
		1	99		24.36		0	0
		50	0		23.44		0-1	1
		50	25		23.42		0-1	1
		50	49		23.45		0-1	1
		100	0		23.43		0-1	1
	16QAM	1	0		23.55		0-1	1
		1	49		23.43		0-1	1
		1	99		23.60		0-1	1
		50	0		22.38		0-2	2
		50	25		22.39		0-2	2
		50	49		22.40		0-2	2
		100	0		22.36		0-2	2
	64QAM	1	0		22.50		0-2	2
		1	49		22.39		0-2	2
		1	99		22.55		0-2	2
		50	0		21.33		0-3	3
		50	25		21.34		0-3	3
		50	49		21.35		0-3	3
		100	0		21.31		0-3	3

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

### 11.4.2 LTE Reduced Conducted Power (Hotspot activated)

[ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	18.54	18.82	18.48	0	0
		1	3	18.65	18.90	18.54	0	0
		1	5	18.62	18.83	18.52	0	0
		3	0	18.56	18.76	18.48	0	0
		3	1	18.70	18.97	18.62	0	0
		3	3	18.64	18.92	18.59	0	0
	16QAM	6	0	18.57	18.80	18.47	0-1	0
		1	0	18.94	19.21	18.77	0-1	0
		1	3	18.86	19.01	18.59	0-1	0
		1	5	18.97	19.23	18.75	0-1	0
		3	0	18.72	18.88	18.55	0-1	0
		3	1	18.69	18.98	18.63	0-1	0
	64QAM	3	3	18.76	18.94	18.67	0-1	0
		6	0	18.65	18.93	18.60	0-2	0
		1	0	18.80	19.02	18.57	0-2	0
		1	3	18.73	18.90	18.60	0-2	0
		1	5	18.72	18.98	18.74	0-2	0
		3	0	18.67	18.84	18.57	0-2	0
		3	1	18.76	19.01	18.70	0-2	0
		3	3	18.61	18.95	18.59	0-2	0
		6	0	18.58	18.87	18.56	0-3	0

LTE Band 2 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	18.53	18.80	18.48	0	0
		1	7	18.61	18.86	18.48	0	0
		1	14	18.58	18.82	18.47	0	0
		8	0	18.62	18.90	18.54	0-1	0
		8	3	18.58	18.83	18.52	0-1	0
		8	7	18.63	18.90	18.58	0-1	0
		15	0	18.63	18.89	18.60	0-1	0
	16QAM	1	0	19.00	19.18	18.81	0-1	0
		1	7	18.89	19.07	18.81	0-1	0
		1	14	18.95	19.12	18.79	0-1	0
		8	0	18.64	18.92	18.61	0-2	0
		8	3	18.65	18.87	18.58	0-2	0
		8	7	18.68	19.00	18.68	0-2	0
		15	0	18.66	18.92	18.62	0-2	0
	64QAM	1	0	18.74	18.92	18.65	0-2	0
		1	7	18.58	18.91	18.45	0-2	0
		1	14	18.76	18.97	18.70	0-2	0
		8	0	18.70	18.91	18.60	0-3	0
		8	3	18.58	18.85	18.59	0-3	0
		8	7	18.70	18.90	18.59	0-3	0
		15	0	18.66	18.88	18.60	0-3	0

LTE Band 2 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz		
5 MHz	QPSK	1	0	18.54	18.85	18.56	0	0
		1	12	18.57	18.81	18.46	0	0
		1	24	18.53	18.80	18.54	0	0
		12	0	18.63	18.91	18.58	0-1	0
		12	6	18.64	18.91	18.61	0-1	0
		12	11	18.64	18.94	18.60	0-1	0
	16QAM	25	0	18.58	18.93	18.59	0-1	0
		1	0	18.91	19.07	18.79	0-1	0
		1	12	18.88	19.11	18.72	0-1	0
		1	24	18.90	19.09	18.81	0-1	0
		12	0	18.65	18.86	18.63	0-2	0
		12	6	18.67	18.89	18.59	0-2	0
	64QAM	12	11	18.66	18.93	18.59	0-2	0
		25	0	18.60	18.90	18.59	0-2	0
		1	0	18.72	19.01	18.64	0-2	0
		1	12	18.79	18.86	18.68	0-2	0
		1	24	18.79	18.99	18.73	0-2	0
		12	0	18.63	18.92	18.58	0-3	0
		12	6	18.60	18.93	18.61	0-3	0
	12	11	18.62	18.90	18.65	0-3	0	
	25	0	18.65	18.89	18.59	0-3	0	

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	18.92	18.82	18.98	0	0
		1	24	18.86	18.84	19.00	0	0
		1	49	18.93	18.89	19.08	0	0
		25	0	18.95	18.88	19.06	0-1	0
		25	12	18.93	18.87	19.07	0-1	0
		25	24	18.96	18.85	19.07	0-1	0
		50	0	18.88	18.88	19.06	0-1	0
	16QAM	1	0	19.19	19.07	19.35	0-1	0
		1	24	19.01	18.96	19.10	0-1	0
		1	49	19.08	19.02	19.22	0-1	0
		25	0	18.94	18.89	19.03	0-2	0
		25	12	18.90	18.86	19.06	0-2	0
		25	24	18.91	18.86	19.06	0-2	0
	64QAM	50	0	18.94	18.90	19.11	0-2	0
		1	0	19.16	19.05	19.28	0-2	0
		1	24	18.92	18.94	19.20	0-2	0
		1	49	19.06	19.07	19.24	0-2	0
		25	0	18.95	18.89	19.03	0-3	0
		25	12	18.92	18.87	19.04	0-3	0
		25	24	18.93	18.89	19.05	0-3	0
	50	0	18.91	18.90	19.11	0-3	0	

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	18.92	18.86	18.97	0	0
		1	36	18.84	18.82	18.97	0	0
		1	74	18.87	18.83	19.01	0	0
		36	0	18.89	18.83	19.01	0-1	0
		36	18	18.90	18.83	19.01	0-1	0
		36	39	18.91	18.89	19.03	0-1	0
		75	0	18.91	18.89	19.00	0-1	0
	16QAM	1	0	19.20	19.05	19.25	0-1	0
		1	36	19.07	19.04	19.16	0-1	0
		1	74	19.25	19.27	19.27	0-1	0
		36	0	18.89	18.86	18.99	0-2	0
		36	18	18.89	18.86	19.01	0-2	0
		36	39	18.87	18.84	19.02	0-2	0
		75	0	18.87	18.85	19.01	0-2	0
	64QAM	1	0	19.15	18.97	19.23	0-2	0
		1	36	18.94	18.96	19.08	0-2	0
		1	74	19.11	19.17	19.21	0-2	0
		36	0	18.91	18.88	19.00	0-3	0
		36	18	18.91	18.85	19.03	0-3	0
		36	39	18.92	18.85	19.03	0-3	0
		75	0	18.89	18.82	19.00	0-3	0

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	18.94	18.84	18.94	0	0
		1	49	18.85	18.79	18.93	0	0
		1	99	18.92	18.88	19.01	0	0
		50	0	18.93	18.83	18.98	0-1	0
		50	25	18.91	18.84	18.97	0-1	0
		50	49	18.90	18.86	18.99	0-1	0
		100	0	18.93	18.85	18.99	0-1	0
	16QAM	1	0	19.25	19.22	19.29	0-1	0
		1	49	18.99	19.09	19.11	0-1	0
		1	99	19.20	19.17	19.34	0-1	0
		50	0	18.93	18.82	18.99	0-2	0
		50	25	18.92	18.83	18.98	0-2	0
		50	49	18.90	18.86	19.00	0-2	0
		100	0	18.93	18.85	18.99	0-2	0
	64QAM	1	0	19.10	19.04	19.13	0-2	0
		1	49	18.98	18.93	19.11	0-2	0
		1	99	19.20	19.06	19.17	0-2	0
		50	0	18.94	18.87	19.00	0-3	0
		50	25	18.86	18.83	18.99	0-3	0
		50	49	18.92	18.86	19.02	0-3	0
		100	0	18.90	18.85	18.99	0-3	0



[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz		
1.4 MHz	QPSK	1	0	18.97	19.51	19.24	0	0
		1	3	19.03	19.54	19.27	0	0
		1	5	18.99	19.47	19.20	0	0
		3	0	18.98	19.43	19.17	0	0
		3	1	19.11	19.59	19.36	0	0
		3	3	19.06	19.54	19.31	0	0
	16QAM	6	0	18.98	19.45	19.23	0-1	0
		1	0	19.21	19.72	19.46	0-1	0
		1	3	19.07	19.52	19.38	0-1	0
		1	5	19.32	19.69	19.40	0-1	0
		3	0	19.08	19.61	19.28	0-1	0
		3	1	19.18	19.59	19.31	0-1	0
	64QAM	3	3	19.17	19.66	19.43	0-1	0
		6	0	19.08	19.60	19.32	0-2	0
		1	0	19.14	19.55	19.30	0-2	0
		1	3	19.06	19.58	19.35	0-2	0
		1	5	19.24	19.65	19.37	0-2	0
		3	0	19.10	19.54	19.30	0-2	0
	64QAM	3	1	19.20	19.75	19.53	0-2	0
		3	3	19.06	19.63	19.44	0-2	0
		6	0	19.11	19.55	19.32	0-3	0

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	19.00	19.50	19.23	0	0
		1	7	18.98	19.46	19.21	0	0
		1	14	19.03	19.46	19.24	0	0
		8	0	19.06	19.54	19.26	0-1	0
		8	3	19.06	19.45	19.28	0-1	0
		8	7	19.06	19.55	19.31	0-1	0
		15	0	19.12	19.53	19.29	0-1	0
	16QAM	1	0	19.44	19.76	19.62	0-1	0
		1	7	19.33	19.67	19.52	0-1	0
		1	14	19.32	19.74	19.44	0-1	0
		8	0	19.14	19.63	19.39	0-2	0
		8	3	19.13	19.56	19.33	0-2	0
		8	7	19.11	19.60	19.34	0-2	0
		15	0	19.14	19.61	19.32	0-2	0
	64QAM	1	0	19.22	19.75	19.50	0-2	0
		1	7	19.19	19.71	19.52	0-2	0
		1	14	19.32	19.70	19.36	0-2	0
		8	0	19.08	19.62	19.33	0-3	0
		8	3	19.12	19.60	19.37	0-3	0
		8	7	19.12	19.58	19.35	0-3	0
		15	0	19.07	19.57	19.38	0-3	0

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz			
5 MHz	QPSK	1	0	19.04	19.52	19.27	0	0	
		1	12	19.00	19.50	19.25	0	0	
		1	24	19.02	19.48	19.29	0	0	
		12	0	19.09	19.59	19.35	0-1	0	
		12	6	19.10	19.55	19.36	0-1	0	
		12	11	19.10	19.58	19.35	0-1	0	
	16QAM	25	0	19.10	19.58	19.32	0-1	0	
		1	0	19.29	19.75	19.58	0-1	0	
		1	12	19.28	19.72	19.58	0-1	0	
		1	24	19.30	19.76	19.60	0-1	0	
		12	0	19.13	19.61	19.39	0-2	0	
		12	6	19.15	19.57	19.39	0-2	0	
	64QAM	12	11	19.15	19.64	19.44	0-2	0	
		25	0	19.11	19.57	19.39	0-2	0	
		1	0	19.16	19.75	19.54	0-2	0	
		1	12	19.18	19.62	19.22	0-2	0	
		1	24	19.18	19.67	19.43	0-2	0	
		12	0	19.10	19.57	19.36	0-3	0	
		64QAM	12	6	19.11	19.58	19.34	0-3	0
			12	11	19.12	19.54	19.33	0-3	0
		25	0	19.12	19.58	19.35	0-3	0	

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	19.08	19.59	19.68	0	0
		1	24	19.04	19.55	19.70	0	0
		1	49	19.09	19.55	19.73	0	0
		25	0	19.09	19.59	19.74	0-1	0
		25	12	19.09	19.58	19.76	0-1	0
		25	24	19.10	19.60	19.77	0-1	0
		50	0	19.06	19.60	19.74	0-1	0
	16QAM	1	0	19.28	19.85	19.95	0-1	0
		1	24	19.16	19.77	19.76	0-1	0
		1	49	19.23	19.72	20.03	0-1	0
		25	0	19.12	19.60	19.76	0-2	0
		25	12	19.08	19.59	19.80	0-2	0
		25	24	19.14	19.55	19.78	0-2	0
		50	0	19.08	19.57	19.73	0-2	0
	64QAM	1	0	19.31	19.78	19.96	0-2	0
		1	24	19.16	19.60	19.87	0-2	0
		1	49	19.34	19.65	19.93	0-2	0
		25	0	19.11	19.59	19.80	0-3	0
		25	12	19.14	19.59	19.78	0-3	0
		25	24	19.12	19.57	19.83	0-3	0
		50	0	19.10	19.60	19.79	0-3	0

LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	19.04	19.57	19.78	0	0
		1	36	18.96	19.53	19.71	0	0
		1	74	19.07	19.57	19.78	0	0
		36	0	19.09	19.59	19.79	0-1	0
		36	18	19.07	19.57	19.77	0-1	0
		36	39	19.04	19.59	19.80	0-1	0
		75	0	19.06	19.55	19.82	0-1	0
	16QAM	1	0	19.29	19.89	20.09	0-1	0
		1	36	19.24	19.76	19.93	0-1	0
		1	74	19.31	19.80	20.14	0-1	0
		36	0	19.10	19.62	19.82	0-2	0
		36	18	19.09	19.59	19.85	0-2	0
		36	39	19.10	19.59	19.78	0-2	0
		75	0	19.06	19.62	19.81	0-2	0
	64QAM	1	0	19.28	19.81	19.98	0-2	0
		1	36	19.26	19.72	19.88	0-2	0
		1	74	19.22	19.75	19.99	0-2	0
		36	0	19.11	19.61	19.82	0-3	0
		36	18	19.10	19.60	19.82	0-3	0
		36	39	19.11	19.60	19.79	0-3	0
		75	0	19.11	19.60	19.76	0-3	0

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 MHz		
20 MHz	QPSK	1	0	19.56	0	0
		1	49	19.55	0	0
		1	99	19.57	0	0
		50	0	19.55	0-1	0
		50	25	19.54	0-1	0
		50	49	19.57	0-1	0
		100	0	19.55	0-1	0
	16QAM	1	0	19.99	0-1	0
		1	49	19.69	0-1	0
		1	99	19.85	0-1	0
		50	0	19.58	0-2	0
		50	25	19.63	0-2	0
		50	49	19.59	0-2	0
		100	0	19.57	0-2	0
	64QAM	1	0	19.71	0-2	0
		1	49	19.76	0-2	0
		1	99	19.85	0-2	0
		50	0	19.59	0-3	0
		50	25	19.55	0-3	0
		50	49	19.60	0-3	0
		100	0	19.62	0-3	0

**[LTE Band 7 Conducted Power]**

LTE Band 7\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20775 Ch. 2502.5 MHz	21100 Ch. 2535 MHz	21425 Ch. 2567.5 MHz		
5 MHz	QPSK	1	0	20.90	20.70	20.70	0	0
		1	12	20.89	20.68	20.69	0	0
		1	24	20.85	20.62	20.65	0	0
		12	0	20.96	20.78	20.78	0-1	0
		12	6	20.91	20.75	20.77	0-1	0
		12	11	20.94	20.74	20.74	0-1	0
		25	0	20.92	20.73	20.74	0-1	0
	16QAM	1	0	21.08	20.86	20.78	0-1	0
		1	12	21.10	20.85	20.87	0-1	0
		1	24	21.16	20.89	20.86	0-1	0
		12	0	20.91	20.75	20.72	0-2	0
		12	6	20.96	20.70	20.71	0-2	0
		12	11	20.93	20.70	20.77	0-2	0
		25	0	20.92	20.72	20.66	0-2	0
	64QAM	1	0	20.98	20.79	20.77	0-2	0
		1	12	21.01	20.80	20.75	0-2	0
		1	24	21.05	20.83	20.74	0-2	0
		12	0	19.94	19.74	19.68	0-3	0
		12	6	19.93	19.71	19.77	0-3	0
		12	11	19.88	19.69	19.68	0-3	0
		25	0	19.94	19.73	19.71	0-3	0

LTE Band 7\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20800 Ch. 2505 MHz	21100 Ch. 2535 MHz	21400 Ch. 2565 MHz		
10 MHz	QPSK	1	0	20.88	20.72	20.81	0	0
		1	24	20.84	20.64	20.74	0	0
		1	49	20.93	20.67	20.75	0	0
		25	0	20.91	20.77	20.82	0-1	0
		25	12	20.96	20.74	20.76	0-1	0
		25	24	20.89	20.73	20.77	0-1	0
		50	0	20.93	20.79	20.84	0-1	0
	16QAM	1	0	21.17	21.06	20.95	0-1	0
		1	24	20.94	20.73	20.73	0-1	0
		1	49	21.05	20.87	20.97	0-1	0
		25	0	20.94	20.74	20.74	0-2	0
		25	12	20.92	20.67	20.72	0-2	0
		25	24	20.91	20.66	20.69	0-2	0
		50	0	20.95	20.76	20.79	0-2	0
	64QAM	1	0	21.09	20.85	20.85	0-2	0
		1	24	20.96	20.85	20.68	0-2	0
		1	49	21.12	20.77	20.70	0-2	0
		25	0	19.93	19.75	19.77	0-3	0
		25	12	19.93	19.71	19.76	0-3	0
		25	24	19.94	19.69	19.73	0-3	0
		50	0	19.99	19.77	19.83	0-3	0

LTE Band 7 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20825 Ch. 2507.5 MHz	21100 Ch. 2535 MHz	21375 Ch. 2562.5 MHz		
15 MHz	QPSK	1	0	20.99	20.84	20.86	0	0
		1	36	20.88	20.74	20.82	0	0
		1	74	20.87	20.69	20.77	0	0
		36	0	20.99	20.86	20.93	0-1	0
		36	18	20.98	20.76	20.89	0-1	0
		36	39	20.93	20.75	20.91	0-1	0
		75	0	20.98	20.83	20.88	0-1	0
	16QAM	1	0	21.08	21.00	21.12	0-1	0
		1	36	21.04	20.89	20.97	0-1	0
		1	74	21.23	20.86	21.01	0-1	0
		36	0	20.96	20.83	20.85	0-2	0
		36	18	20.97	20.79	20.85	0-2	0
		36	39	20.97	20.73	20.82	0-2	0
		75	0	20.98	20.78	20.83	0-2	0
	64QAM	1	0	21.11	20.88	20.99	0-2	0
		1	36	20.93	20.75	20.87	0-2	0
		1	74	21.04	20.83	20.91	0-2	0
		36	0	19.99	19.83	19.90	0-3	0
		36	18	20.01	19.80	19.84	0-3	0
		36	39	20.01	19.76	19.87	0-3	0
		75	0	19.94	19.79	19.86	0-3	0

LTE Band 7 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20850 Ch. 2510 MHz	21100 Ch. 2535 MHz	21350 Ch. 2560 MHz		
20 MHz	QPSK	1	0	21.01	20.90	20.96	0	0
		1	49	20.92	20.67	20.80	0	0
		1	99	20.89	20.67	20.85	0	0
		50	0	21.01	20.87	20.93	0-1	0
		50	25	20.96	20.78	20.88	0-1	0
		50	49	20.97	20.73	20.91	0-1	0
		100	0	21.00	20.79	20.97	0-1	0
	16QAM	1	0	21.26	21.20	21.31	0-1	0
		1	49	21.12	20.84	20.85	0-1	0
		1	99	21.20	20.88	20.95	0-1	0
		50	0	21.03	20.85	20.92	0-2	0
		50	25	20.98	20.73	20.85	0-2	0
		50	49	20.97	20.72	20.85	0-2	0
		100	0	20.98	20.75	20.90	0-2	0
	64QAM	1	0	21.19	21.00	21.06	0-2	0
		1	49	21.06	20.83	20.88	0-2	0
		1	99	21.07	20.82	20.95	0-2	0
		50	0	20.04	19.87	19.92	0-3	0
		50	25	19.98	19.76	19.83	0-3	0
		50	49	19.99	19.73	19.82	0-3	0
		100	0	20.01	19.75	19.89	0-3	0

[ LTE Band 25 Conducted Power ]

LTE Band 25\_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	17.02	17.60	17.08	0	0
		1	3	17.03	17.69	17.16	0	0
		1	5	17.05	17.62	17.10	0	0
		3	0	17.01	17.55	17.03	0	0
		3	1	17.15	17.73	17.24	0	0
		3	3	17.07	17.69	17.13	0	0
		6	0	17.00	17.57	17.07	0-1	0
	16QAM	1	0	17.29	17.97	17.40	0-1	0
		1	3	17.15	17.69	17.18	0-1	0
		1	5	17.20	17.94	17.36	0-1	0
		3	0	17.06	17.64	17.17	0-1	0
		3	1	17.07	17.73	17.22	0-1	0
		3	3	17.06	17.73	17.30	0-1	0
		6	0	17.03	17.67	17.22	0-2	0
	64QAM	1	0	17.16	17.78	17.31	0-2	0
		1	3	17.15	17.83	17.34	0-2	0
		1	5	17.19	17.71	17.21	0-2	0
		3	0	17.06	17.66	17.24	0-2	0
		3	1	17.19	17.77	17.33	0-2	0
		3	3	17.09	17.78	17.20	0-2	0
		6	0	17.11	17.69	17.22	0-3	0

LTE Band 25\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675 Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	17.02	17.58	17.07	0	0
		1	7	17.00	17.58	17.15	0	0
		1	14	17.04	17.61	17.14	0	0
		8	0	17.09	17.69	17.16	0-1	0
		8	3	17.03	17.63	17.14	0-1	0
		8	7	17.01	17.66	17.20	0-1	0
		15	0	17.00	17.68	17.18	0-1	0
	16QAM	1	0	17.36	17.86	17.41	0-1	0
		1	7	17.21	18.00	17.36	0-1	0
		1	14	17.26	17.84	17.49	0-1	0
		8	0	17.03	17.72	17.26	0-2	0
		8	3	17.03	17.72	17.26	0-2	0
		8	7	17.07	17.79	17.23	0-2	0
		15	0	17.10	17.72	17.24	0-2	0
	64QAM	1	0	17.14	17.81	17.38	0-2	0
		1	7	17.02	17.67	17.24	0-2	0
		1	14	17.09	17.76	17.30	0-2	0
		8	0	17.04	17.72	17.21	0-3	0
		8	3	17.02	17.65	17.18	0-3	0
		8	7	17.05	17.67	17.22	0-3	0
		15	0	17.00	17.69	17.19	0-3	0

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	17.02	17.65	17.19	0	0
		1	12	17.02	17.62	17.16	0	0
		1	24	17.03	17.62	17.18	0	0
		12	0	17.04	17.71	17.25	0-1	0
		12	6	17.03	17.69	17.22	0-1	0
		12	11	17.06	17.67	17.27	0-1	0
		25	0	17.03	17.69	17.21	0-1	0
	16QAM	1	0	17.27	17.79	17.39	0-1	0
		1	12	17.23	17.89	17.44	0-1	0
		1	24	17.34	18.00	17.41	0-1	0
		12	0	17.07	17.72	17.29	0-2	0
		12	6	17.06	17.73	17.25	0-2	0
		12	11	17.10	17.77	17.25	0-2	0
		25	0	17.07	17.72	17.25	0-2	0
	64QAM	1	0	17.20	17.90	17.38	0-2	0
		1	12	17.10	17.76	17.16	0-2	0
		1	24	17.16	17.87	17.34	0-2	0
		12	0	17.07	17.74	17.22	0-3	0
		12	6	17.02	17.70	17.27	0-3	0
		12	11	17.03	17.70	17.25	0-3	0
		25	0	17.04	17.69	17.26	0-3	0

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	17.01	17.64	17.20	0	0
		1	24	17.03	17.64	17.19	0	0
		1	49	17.05	17.72	17.24	0	0
		25	0	17.08	17.69	17.27	0-1	0
		25	12	17.06	17.71	17.26	0-1	0
		25	24	17.10	17.69	17.23	0-1	0
		50	0	17.05	17.71	17.28	0-1	0
	16QAM	1	0	17.25	18.06	17.52	0-1	0
		1	24	17.15	17.95	17.44	0-1	0
		1	49	17.32	17.85	17.42	0-1	0
		25	0	17.09	17.70	17.25	0-2	0
		25	12	17.08	17.67	17.26	0-2	0
		25	24	17.07	17.71	17.27	0-2	0
		50	0	17.07	17.71	17.26	0-2	0
	64QAM	1	0	17.06	17.67	17.27	0-2	0
		1	24	17.10	17.79	17.30	0-2	0
		1	49	17.21	17.68	17.32	0-2	0
		25	0	17.09	17.68	17.21	0-3	0
		25	12	17.05	17.73	17.25	0-3	0
		25	24	17.10	17.67	17.24	0-3	0
		50	0	17.11	17.73	17.27	0-3	0

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15	QPSK	1	0	17.05	17.65	17.24	0	0
		1	36	17.02	17.64	17.18	0	0
		1	74	17.11	17.69	17.21	0	0
		36	0	17.08	17.68	17.24	0-1	0
		36	18	17.06	17.72	17.26	0-1	0
		36	39	17.13	17.75	17.27	0-1	0
		75	0	17.08	17.68	17.22	0-1	0
	16QAM	1	0	17.41	18.10	17.48	0-1	0
		1	36	17.31	17.95	17.55	0-1	0
		1	74	17.36	18.02	17.53	0-1	0
		36	0	17.09	17.69	17.26	0-2	0
		36	18	17.11	17.70	17.24	0-2	0
		36	39	17.12	17.71	17.27	0-2	0
		75	0	17.10	17.69	17.23	0-2	0
	64QAM	1	0	17.28	17.85	17.42	0-2	0
		1	36	17.13	17.70	17.24	0-2	0
		1	74	17.31	17.90	17.37	0-2	0
		36	0	17.10	17.73	17.24	0-3	0
		36	18	17.13	17.71	17.24	0-3	0
		36	39	17.10	17.72	17.25	0-3	0
		75	0	17.11	17.68	17.23	0-3	0

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	17.11	17.69	17.21	0	0
		1	49	17.07	17.66	17.20	0	0
		1	99	17.13	17.72	17.27	0	0
		50	0	17.10	17.70	17.26	0-1	0
		50	25	17.12	17.69	17.27	0-1	0
		50	49	17.11	17.72	17.28	0-1	0
		100	0	17.13	17.72	17.30	0-1	0
	16QAM	1	0	17.39	17.96	17.60	0-1	0
		1	49	17.29	17.81	17.42	0-1	0
		1	99	17.45	17.99	17.56	0-1	0
		50	0	17.11	17.68	17.24	0-2	0
		50	25	17.14	17.71	17.25	0-2	0
		50	49	17.12	17.70	17.24	0-2	0
		100	0	17.13	17.70	17.27	0-2	0
	64QAM	1	0	17.28	17.89	17.37	0-2	0
		1	49	17.14	17.70	17.34	0-2	0
		1	99	17.29	17.83	17.28	0-2	0
		50	0	17.12	17.69	17.29	0-3	0
		50	25	17.14	17.70	17.26	0-3	0
		50	49	17.16	17.71	17.25	0-3	0
		100	0	17.10	17.69	17.21	0-3	0



[ LTE Band 30 Conducted Power ]

LTE Band 30\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				27685 Ch. 2307.5 MHz	27710 Ch. 2310 MHz	27735 Ch. 2312.5 MHz		
5 MHz	QPSK	1	0	20.25	20.54	20.20	0	0
		1	12	20.23	20.50	20.17	0	0
		1	24	20.19	20.47	20.13	0	0
		12	0	20.31	20.63	20.26	0-1	0
		12	6	20.32	20.59	20.27	0-1	0
		12	11	20.30	20.59	20.25	0-1	0
	16QAM	25	0	20.28	20.58	20.21	0-1	0
		1	0	20.29	20.68	20.34	0-1	0
		1	12	20.43	20.67	20.26	0-1	0
		1	24	20.32	20.70	20.23	0-1	0
		12	0	20.21	20.55	20.19	0-2	0
		12	6	20.20	20.54	20.19	0-2	0
	64QAM	12	11	20.27	20.53	20.16	0-2	0
		25	0	20.20	20.46	20.15	0-2	0
		1	0	20.35	20.60	20.33	0-2	0
		1	12	20.26	20.59	20.18	0-2	0
		1	24	20.34	20.58	20.21	0-2	0
		12	0	19.27	19.54	19.22	0-3	0
12	6	19.19	19.49	19.18	0-3	0		
12	11	19.22	19.49	19.10	0-3	0		
25	0	19.21	19.46	19.13	0-3	0		

LTE Band 30\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				27710 Ch. 2310 MHz		
10 MHz	QPSK	1	0	20.51	0	0
		1	24	20.47	0	0
		1	49	20.48	0	0
		25	0	20.57	0-1	0
		25	12	20.53	0-1	0
		25	24	20.51	0-1	0
		50	0	20.66	0-1	0
	16QAM	1	0	20.79	0-1	0
		1	24	20.49	0-1	0
		1	49	20.52	0-1	0
		25	0	20.51	0-2	0
		25	12	20.43	0-2	0
		25	24	20.44	0-2	0
	64QAM	50	0	20.61	0-2	0
		1	0	20.67	0-2	0
		1	24	20.57	0-2	0
		1	49	20.54	0-2	0
		25	0	19.49	0-3	0
		25	12	19.47	0-3	0
		25	24	19.39	0-3	0
	50	0	19.59	0-3	0	

**[LTE TDD Band 38 Conducted Power]**

LTE Band 38\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				3775 Ch. 2572.5 MHz	3800 Ch. 2595 MHz	38225 Ch. 2617.5 MHz		
5 MHz	QPSK	1	0	21.02	21.08	20.89	0	0
		1	12	21.09	21.15	20.82	0	0
		1	24	21.07	21.11	20.92	0	0
		12	0	21.09	21.14	20.95	0-1	0
		12	6	21.09	21.07	20.95	0-1	0
		12	11	21.10	21.09	20.96	0-1	0
		25	0	21.10	21.15	20.95	0-1	0
	16QAM	1	0	21.16	21.28	21.05	0-1	0
		1	12	21.08	21.30	20.94	0-1	0
		1	24	21.09	21.22	20.98	0-1	0
		12	0	21.07	21.15	20.93	0-2	0
		12	6	21.08	21.08	20.93	0-2	0
		12	11	21.10	21.10	20.95	0-2	0
		25	0	21.14	21.19	21.00	0-2	0
	64QAM	1	0	20.93	21.07	20.82	0-2	0
		1	12	20.88	21.00	20.64	0-2	0
		1	24	20.88	21.01	20.74	0-2	0
		12	0	20.11	20.16	19.96	0-3	0
		12	6	20.11	20.08	19.94	0-3	0
		12	11	20.13	20.11	19.96	0-3	0
		25	0	20.12	20.16	19.97	0-3	0

LTE Band 38\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37800 Ch. 2575 MHz	38000 Ch. 2595 MHz	38200 Ch. 2615 MHz		
10 MHz	QPSK	1	0	21.21	21.23	21.06	0	0
		1	24	21.13	21.06	20.88	0	0
		1	49	21.18	21.06	20.90	0	0
		25	0	21.21	21.21	21.01	0-1	0
		25	12	21.20	21.19	20.99	0-1	0
		25	24	21.20	21.15	20.98	0-1	0
		50	0	21.23	21.23	21.02	0-1	0
	16QAM	1	0	21.34	21.28	21.08	0-1	0
		1	24	21.21	21.13	20.93	0-1	0
		1	49	21.26	21.15	20.93	0-1	0
		25	0	21.27	21.25	21.06	0-2	0
		25	12	21.25	21.23	21.04	0-2	0
		25	24	21.24	21.19	21.01	0-2	0
		50	0	21.22	21.23	21.04	0-2	0
	64QAM	1	0	21.06	21.00	20.89	0-2	0
		1	24	20.94	20.73	20.69	0-2	0
		1	49	20.95	20.77	20.72	0-2	0
		25	0	20.22	20.24	20.04	0-3	0
		25	12	20.20	20.22	20.01	0-3	0
		25	24	20.21	20.19	20.01	0-3	0
		50	0	20.22	20.23	20.02	0-3	0

LTE Band 38 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37825 Ch. 2507.5 MHz	38000 Ch. 2595 MHz	38175 Ch. 2612.5 MHz		
15 MHz	QPSK	1	0	21.21	21.25	21.08	0	0
		1	36	21.16	21.24	20.98	0	0
		1	74	21.16	21.11	20.95	0	0
		36	0	21.23	21.25	21.08	0-1	0
		36	18	21.19	21.18	21.02	0-1	0
		36	39	21.17	21.17	20.99	0-1	0
		75	0	21.19	21.19	21.00	0-1	0
	16QAM	1	0	21.29	21.32	21.06	0-1	0
		1	36	21.13	21.24	20.92	0-1	0
		1	74	21.21	21.17	20.92	0-1	0
		36	0	21.20	21.24	21.05	0-2	0
		36	18	21.18	21.16	20.99	0-2	0
		36	39	21.15	21.15	20.96	0-2	0
		75	0	21.20	21.21	21.01	0-2	0
	64QAM	1	0	20.97	20.99	20.78	0-2	0
		1	36	20.87	20.96	20.64	0-2	0
		1	74	20.95	20.82	20.64	0-2	0
		36	0	20.24	20.26	20.09	0-3	0
		36	18	20.21	20.19	20.03	0-3	0
		36	39	20.19	20.18	20.01	0-3	0
		75	0	20.21	20.21	20.03	0-3	0

LTE Band 38 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37850 Ch. 2580 MHz	38000 Ch. 2595 MHz	38150 Ch. 2610 MHz		
20 MHz	QPSK	1	0		<b>21.20</b>		0	0
		1	49		21.10		0	0
		1	99		21.10		0	0
		50	0		<b>21.27</b>		0-1	0
		50	25		21.23		0-1	0
		50	49		21.17		0-1	0
		100	0		21.19		0-1	0
	16QAM	1	0		21.45		0-1	0
		1	49		21.20		0-1	0
		1	99		21.22		0-1	0
		50	0		21.30		0-2	0
		50	25		21.24		0-2	0
		50	49		21.19		0-2	0
		100	0		21.22		0-2	0
	64QAM	1	0		21.15		0-2	0
		1	49		20.93		0-2	0
		1	99		20.92		0-2	0
		50	0		20.29		0-3	0
		50	25		20.23		0-3	0
		50	49		20.18		0-3	0
		100	0		20.20		0-3	0

**[ LTE Band 41 Conducted Power ] - Power Class 3**

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz		
5 MHz	QPSK	1	0	20.30	20.29	20.36	20.21	20.11	0	0
		1	12	20.31	20.26	20.44	20.18	20.08	0	0
		1	24	20.32	20.31	20.37	20.25	20.12	0	0
		12	0	20.38	20.35	20.43	20.29	20.18	0-1	0
		12	6	20.33	20.33	20.38	20.32	20.22	0-1	0
		12	11	20.32	20.32	20.37	20.34	20.22	0-1	0
	16QAM	25	0	20.55	20.58	20.50	20.46	20.35	0-1	0
		1	0	20.35	20.33	20.42	20.33	20.09	0-1	0
		1	12	20.22	20.23	20.44	20.27	19.99	0-1	0
		1	24	20.30	20.29	20.42	20.30	20.07	0-1	0
		12	0	20.22	20.22	20.39	20.19	20.10	0-2	0
		12	6	20.17	20.20	20.33	20.22	20.12	0-2	0
	64QAM	12	11	20.20	20.21	20.35	20.24	20.12	0-2	0
		25	0	20.46	20.44	20.46	20.41	20.27	0-2	0
		1	0	20.00	19.95	20.08	20.12	19.99	0-2	0
		1	12	19.95	19.83	20.09	20.01	19.79	0-2	0
		1	24	20.02	19.87	20.01	20.06	19.90	0-2	0
		12	0	19.24	19.18	19.40	19.18	19.04	0-3	0
		12	6	19.20	19.15	19.34	19.21	19.06	0-3	0
		12	11	19.20	19.19	19.36	19.21	19.09	0-3	0
		25	0	19.40	19.40	19.43	19.36	19.23	0-3	0

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz		
10 MHz	QPSK	1	0	20.41	20.39	20.48	20.39	20.24	0	0
		1	24	20.24	20.23	20.32	20.28	20.08	0	0
		1	49	20.24	20.24	20.32	20.35	20.08	0	0
		25	0	20.59	20.61	20.58	20.51	20.39	0-1	0
		25	12	20.56	20.58	20.57	20.51	20.36	0-1	0
		25	24	20.55	20.58	20.53	20.50	20.37	0-1	0
	16QAM	50	0	20.62	20.65	20.64	20.57	20.44	0-1	0
		1	0	20.32	20.25	20.51	20.31	20.22	0-1	0
		1	24	20.22	20.14	20.37	20.19	20.04	0-1	0
		1	49	20.22	20.20	20.37	20.24	20.03	0-1	0
		25	0	20.49	20.49	20.57	20.41	20.32	0-2	0
		25	12	20.47	20.47	20.55	20.40	20.29	0-2	0
	64QAM	25	24	20.43	20.45	20.51	20.40	20.28	0-2	0
		50	0	20.50	20.49	20.58	20.46	20.32	0-2	0
		1	0	20.17	20.00	20.18	20.12	20.07	0-2	0
		1	24	20.04	19.87	20.05	19.95	19.93	0-2	0
		1	49	20.08	19.92	20.09	20.04	19.93	0-2	0
		25	0	19.44	19.43	19.53	19.38	19.28	0-3	0
		25	12	19.40	19.40	19.50	19.36	19.23	0-3	0
		25	24	19.39	19.39	19.44	19.38	19.24	0-3	0
		50	0	19.48	19.45	19.56	19.43	19.31	0-3	0

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	20.37	20.36	20.48	20.33	20.28	0	0
		1	36	20.22	20.23	20.47	20.22	20.10	0	0
		1	74	20.24	20.30	20.36	20.26	20.12	0	0
		36	0	20.49	20.52	20.57	20.45	20.37	0-1	0
		36	18	20.46	20.49	20.49	20.43	20.35	0-1	0
		36	39	20.42	20.45	20.48	20.40	20.30	0-1	0
		75	0	20.53	20.58	20.55	20.50	20.38	0-1	0
	16QAM	1	0	20.38	20.33	20.55	20.34	20.35	0-1	0
		1	36	20.15	20.18	20.44	20.22	20.11	0-1	0
		1	74	20.24	20.25	20.40	20.27	20.12	0-1	0
		36	0	20.35	20.34	20.48	20.34	20.26	0-2	0
		36	18	20.33	20.32	20.41	20.33	20.24	0-2	0
		36	39	20.28	20.32	20.40	20.29	20.17	0-2	0
		75	0	20.42	20.44	20.50	20.39	20.29	0-2	0
	64QAM	1	0	20.05	20.05	20.28	20.15	20.13	0-2	0
		1	36	19.91	19.90	20.27	19.97	19.94	0-2	0
		1	74	19.91	19.99	20.14	20.09	19.94	0-2	0
		36	0	19.37	19.33	19.51	19.34	19.30	0-3	0
		36	18	19.34	19.31	19.45	19.32	19.27	0-3	0
		36	39	19.30	19.30	19.43	19.30	19.20	0-3	0
		75	0	19.38	19.40	19.49	19.37	19.28	0-3	0

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	20.69	20.51	20.56	20.31	20.56	0	0
		1	49	20.51	20.29	20.34	20.09	20.36	0	0
		1	99	20.54	20.32	20.32	20.12	20.36	0	0
		50	0	20.96	20.77	20.68	20.50	20.76	0-1	0
		50	25	20.93	20.70	20.59	20.47	20.72	0-1	0
		50	49	20.91	20.66	20.56	20.44	20.70	0-1	0
		100	0	20.90	20.66	20.60	20.42	20.67	0-1	0
	16QAM	1	0	20.61	20.43	20.59	20.39	20.60	0-1	0
		1	49	20.43	20.25	20.38	20.18	20.41	0-1	0
		1	99	20.44	20.32	20.36	20.23	20.38	0-1	0
		50	0	20.82	20.62	20.64	20.42	20.69	0-2	0
		50	25	20.78	20.57	20.56	20.37	20.66	0-2	0
		50	49	20.76	20.54	20.53	20.33	20.60	0-2	0
		100	0	20.76	20.55	20.57	20.34	20.60	0-2	0
	64QAM	1	0	20.27	20.06	20.26	20.05	20.29	0-2	0
		1	49	20.10	19.88	19.99	19.80	20.08	0-2	0
		1	99	20.18	19.93	20.07	19.87	20.09	0-2	0
		50	0	19.79	19.59	19.62	19.39	19.66	0-3	0
		50	25	19.77	19.55	19.53	19.35	19.61	0-3	0
		50	49	19.73	19.51	19.50	19.31	19.57	0-3	0
		100	0	19.71	19.49	19.54	19.31	19.55	0-3	0

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[LTE Band 41 Conducted Power] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz		
5 MHz	QPSK	1	0	20.22	20.31	20.35	20.21	20.04	0	0
		1	12	20.26	20.35	20.33	20.27	20.12	0	0
		1	24	20.21	20.28	20.30	20.19	19.97	0	0
		12	0	20.29	20.40	20.37	20.29	20.09	0-1	0
		12	6	20.29	20.42	20.41	20.24	20.01	0-1	0
		12	11	20.27	20.37	20.37	20.28	20.06	0-1	0
		25	0	20.21	20.30	20.33	20.21	20.04	0-1	0
	16QAM	1	0	20.30	20.65	20.31	20.57	20.31	0-1	0
		1	12	20.37	20.65	20.24	20.62	20.33	0-1	0
		1	24	20.32	20.64	20.29	20.57	20.23	0-1	0
		12	0	20.19	20.29	20.31	20.24	19.95	0-2	0
		12	6	20.17	20.27	20.34	20.17	19.88	0-2	0
		12	11	20.15	20.25	20.30	20.18	19.93	0-2	0
		25	0	20.21	20.23	20.33	20.15	20.00	0-2	0
	64QAM	1	0	20.11	20.11	20.14	20.18	19.96	0-2	0
		1	12	20.14	20.07	20.08	20.21	19.96	0-2	0
		1	24	20.12	20.12	20.23	20.20	19.93	0-2	0
		12	0	19.18	19.28	19.40	19.17	19.08	0-3	0
		12	6	19.18	19.17	19.42	19.14	18.96	0-3	0
		12	11	19.17	19.15	19.38	19.14	18.94	0-3	0
		25	0	19.15	19.19	19.30	19.16	18.98	0-3	0

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz		
10 MHz	QPSK	1	0	20.25	20.35	20.41	20.25	20.11	0	0
		1	24	20.19	20.26	20.33	20.19	20.00	0	0
		1	49	20.20	20.28	20.30	20.19	19.97	0	0
		25	0	20.22	20.32	20.36	20.22	20.05	0-1	0
		25	12	20.20	20.29	20.33	20.20	20.01	0-1	0
		25	24	20.20	20.29	20.30	20.20	20.00	0-1	0
		50	0	20.44	20.58	20.44	20.42	20.17	0-1	0
	16QAM	1	0	20.49	20.61	20.70	20.25	20.08	0-1	0
		1	24	20.40	20.57	20.57	20.12	19.97	0-1	0
		1	49	20.45	20.63	20.59	20.13	19.91	0-1	0
		25	0	20.15	20.26	20.35	20.14	20.02	0-2	0
		25	12	20.13	20.22	20.32	20.12	19.96	0-2	0
		25	24	20.13	20.22	20.28	20.12	19.94	0-2	0
		50	0	20.38	20.49	20.44	20.37	20.16	0-2	0
	64QAM	1	0	20.26	20.50	20.46	19.97	19.85	0-2	0
		1	24	20.17	20.27	20.33	19.91	19.72	0-2	0
		1	49	20.17	20.29	20.29	19.91	19.69	0-2	0
		25	0	19.12	19.19	19.34	19.09	18.97	0-3	0
		25	12	19.10	19.16	19.30	19.07	18.94	0-3	0
		25	24	19.10	19.16	19.26	19.08	18.91	0-3	0
		50	0	19.30	19.45	19.39	19.32	19.12	0-3	0

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	20.36	20.38	20.45	20.18	20.16	0	0
		1	36	20.30	20.36	20.31	20.20	20.15	0	0
		1	74	20.19	20.28	20.30	20.07	20.01	0	0
		36	0	20.39	20.52	20.46	20.27	20.22	0-1	0
		36	18	20.35	20.44	20.45	20.21	20.15	0-1	0
		36	39	20.36	20.44	20.37	20.20	20.14	0-1	0
		75	0	20.35	20.48	20.42	20.21	20.18	0-1	0
	16QAM	1	0	20.55	20.63	20.75	20.19	20.29	0-1	0
		1	36	20.56	20.62	20.66	20.09	20.14	0-1	0
		1	74	20.47	20.59	20.66	20.06	20.00	0-1	0
		36	0	20.28	20.38	20.40	20.21	20.19	0-2	0
		36	18	20.22	20.32	20.39	20.16	20.12	0-2	0
		36	39	20.23	20.33	20.32	20.15	20.11	0-2	0
		75	0	20.26	20.36	20.38	20.15	20.11	0-2	0
	64QAM	1	0	20.17	20.14	20.50	20.26	20.08	0-2	0
		1	36	20.20	20.39	20.26	20.16	20.08	0-2	0
		1	74	20.10	20.36	20.25	20.03	19.97	0-2	0
		36	0	19.28	19.38	19.42	19.18	19.16	0-3	0
		36	18	19.24	19.32	19.41	19.14	19.09	0-3	0
		36	39	19.24	19.32	19.35	19.12	19.08	0-3	0
		75	0	19.25	19.33	19.40	19.13	19.10	0-3	0

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	20.59	20.41	20.51	20.20	20.50	0	0
		1	49	20.47	20.25	20.33	20.04	20.33	0	0
		1	99	20.43	20.26	20.27	20.07	20.24	0	0
		50	0	20.77	20.61	20.49	20.29	20.55	0-1	0
		50	25	20.71	20.53	20.42	20.24	20.51	0-1	0
		50	49	20.72	20.48	20.35	20.22	20.48	0-1	0
		100	0	20.75	20.55	20.45	20.28	20.54	0-1	0
	16QAM	1	0	20.68	20.57	20.48	20.39	20.58	0-1	0
		1	49	20.54	20.31	20.29	20.19	20.43	0-1	0
		1	99	20.51	20.38	20.25	20.17	20.36	0-1	0
		50	0	20.69	20.48	20.48	20.23	20.49	0-2	0
		50	25	20.63	20.42	20.42	20.18	20.45	0-2	0
		50	49	20.63	20.40	20.36	20.14	20.41	0-2	0
		100	0	20.64	20.44	20.43	20.21	20.50	0-2	0
	64QAM	1	0	20.39	20.37	20.30	20.09	20.41	0-2	0
		1	49	20.24	20.08	20.12	19.89	20.23	0-2	0
		1	99	20.24	20.13	20.07	19.90	20.17	0-2	0
		50	0	19.62	19.46	19.47	19.27	19.52	0-3	0
		50	25	19.60	19.41	19.40	19.16	19.50	0-3	0
		50	49	19.59	19.37	19.34	19.12	19.42	0-3	0
		100	0	19.62	19.41	19.41	19.18	19.45	0-3	0

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979 Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	18.96	19.42	19.49	0	0
		1	3	19.03	19.48	19.69	0	0
		1	5	18.98	19.44	19.51	0	0
		3	0	19.04	19.33	19.53	0	0
		3	1	19.05	19.44	19.58	0	0
		3	3	18.93	19.35	19.53	0	0
	16QAM	6	0	19.12	19.48	19.63	0-1	0
		1	0	19.25	19.77	19.97	0-1	0
		1	3	19.45	19.73	19.95	0-1	0
		1	5	19.35	19.72	19.85	0-1	0
		3	0	19.17	19.43	19.64	0-1	0
		3	1	19.09	19.47	19.79	0-1	0
	64QAM	3	3	19.13	19.40	19.73	0-1	0
		6	0	19.18	19.52	19.81	0-2	0
		1	0	19.21	19.70	19.79	0-2	0
		1	3	19.37	19.74	19.94	0-2	0
		1	5	19.30	19.57	19.86	0-2	0
		3	0	19.16	19.50	19.74	0-2	0
	64QAM	3	1	19.31	19.72	19.89	0-2	0
		3	3	19.16	19.61	19.80	0-2	0
		6	0	19.12	19.55	19.66	0-3	0

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz		
3 MHz	QPSK	1	0	19.06	19.46	19.68	0	0
		1	7	19.28	19.59	19.63	0	0
		1	14	18.99	19.40	19.56	0	0
		8	0	19.11	19.60	19.69	0-1	0
		8	3	19.22	19.55	19.78	0-1	0
		8	7	19.16	19.53	19.75	0-1	0
		15	0	19.20	19.52	19.73	0-1	0
	16QAM	1	0	19.32	19.81	19.97	0-1	0
		1	7	19.47	19.81	19.83	0-1	0
		1	14	19.39	19.71	19.95	0-1	0
		8	0	19.22	19.60	19.77	0-2	0
		8	3	19.29	19.62	19.87	0-2	0
		8	7	19.20	19.64	19.74	0-2	0
		15	0	19.27	19.56	19.77	0-2	0
	64QAM	1	0	19.28	19.70	19.85	0-2	0
		1	7	19.34	19.70	19.85	0-2	0
		1	14	19.36	19.73	19.80	0-2	0
		8	0	19.19	19.62	19.85	0-3	0
		8	3	19.26	19.60	19.93	0-3	0
		8	7	19.15	19.56	19.81	0-3	0
		15	0	19.27	19.53	19.74	0-3	0



LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131997 Ch. 1712.5 MHz	132322 Ch. 1745 MHz	132647 Ch. 1777.5 MHz		
5 MHz	QPSK	1	0	19.07	19.36	19.54	0	0
		1	12	19.02	19.49	19.64	0	0
		1	24	19.06	19.42	19.59	0	0
		12	0	19.23	19.55	19.70	0-1	0
		12	6	19.21	19.54	19.84	0-1	0
		12	11	19.15	19.53	19.73	0-1	0
	16QAM	25	0	19.24	19.55	19.73	0-1	0
		1	0	19.53	19.74	19.97	0-1	0
		1	12	19.37	19.85	19.94	0-1	0
		1	24	19.40	19.81	19.82	0-1	0
		12	0	19.20	19.60	19.85	0-2	0
		12	6	19.29	19.57	19.80	0-2	0
	64QAM	12	11	19.21	19.57	19.78	0-2	0
		25	0	19.22	19.52	19.70	0-2	0
		1	0	19.26	19.64	19.91	0-2	0
		1	12	19.47	19.74	19.96	0-2	0
		1	24	19.37	19.83	19.83	0-2	0
		12	0	19.22	19.61	19.86	0-3	0
	64QAM	12	6	19.32	19.59	19.90	0-3	0
		12	11	19.25	19.58	19.80	0-3	0
		25	0	19.22	19.48	19.79	0-3	0

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz		
10 MHz	QPSK	1	0	18.85	19.27	19.31	0	0
		1	24	19.20	19.48	19.60	0	0
		1	49	18.94	19.40	19.41	0	0
		25	0	19.09	19.50	19.62	0-1	0
		25	12	19.24	19.48	19.67	0-1	0
		25	24	19.17	19.52	19.66	0-1	0
		50	0	19.24	19.45	19.70	0-1	0
	16QAM	1	0	19.19	19.58	19.70	0-1	0
		1	24	19.25	19.71	19.96	0-1	0
		1	49	19.30	19.54	19.94	0-1	0
		25	0	19.18	19.46	19.62	0-2	0
		25	12	19.34	19.55	19.65	0-2	0
		25	24	19.22	19.61	19.70	0-2	0
	64QAM	50	0	19.11	19.46	19.67	0-2	0
		1	0	19.00	19.34	19.49	0-2	0
		1	24	19.31	19.68	19.79	0-2	0
		1	49	19.27	19.51	19.80	0-2	0
		25	0	19.13	19.49	19.68	0-3	0
		25	12	19.23	19.51	19.64	0-3	0
		25	24	19.14	19.57	19.74	0-3	0
		50	0	19.21	19.44	19.67	0-3	0

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	19.01	19.20	19.60	0	0
		1	36	19.03	19.43	19.62	0	0
		1	74	19.05	19.17	19.51	0	0
		36	0	19.19	19.52	19.72	0-1	1
		36	18	19.18	19.54	19.69	0-1	1
		36	39	19.25	19.46	19.67	0-1	1
		75	0	19.27	19.50	19.66	0-1	1
	16QAM	1	0	19.26	19.54	19.99	0-1	1
		1	36	19.47	19.73	19.90	0-1	1
		1	74	19.34	19.54	19.82	0-1	1
		36	0	19.21	19.43	19.67	0-2	2
		36	18	19.18	19.49	19.73	0-2	2
		36	39	19.31	19.53	19.64	0-2	2
		75	0	19.26	19.47	19.55	0-2	2
	64QAM	1	0	19.02	19.44	19.82	0-2	2
		1	36	19.28	19.73	19.91	0-2	2
		1	74	19.34	19.48	19.92	0-2	2
		36	0	19.20	19.51	19.70	0-3	3
		36	18	19.24	19.51	19.66	0-3	3
		36	39	19.30	19.49	19.72	0-3	3
		75	0	19.31	19.51	19.70	0-3	3

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	18.81	19.04	19.57	0	0
		1	49	19.14	19.37	19.43	0	0
		1	99	19.04	19.19	19.54	0	0
		50	0	19.18	19.44	19.68	0-1	1
		50	25	19.37	19.51	19.80	0-1	1
		50	49	19.22	19.48	19.64	0-1	1
		100	0	19.23	19.48	19.70	0-1	1
	16QAM	1	0	19.20	19.47	19.92	0-1	1
		1	49	19.48	19.72	19.98	0-1	1
		1	99	19.28	19.55	19.90	0-1	1
		50	0	19.25	19.51	19.63	0-2	2
		50	25	19.32	19.55	19.76	0-2	2
		50	49	19.36	19.63	19.62	0-2	2
		100	0	19.20	19.39	19.65	0-2	2
	64QAM	1	0	19.01	19.32	19.79	0-2	2
		1	49	19.36	19.71	19.76	0-2	2
		1	99	19.27	19.51	19.75	0-2	2
		50	0	19.19	19.49	19.71	0-3	3
		50	25	19.35	19.45	19.77	0-3	3
		50	49	19.20	19.54	19.64	0-3	3
		100	0	19.19	19.45	19.70	0-3	3

### 11.3.3 LTE Reduced Conducted Power (Grip Sensor-on)

[ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	19.15	19.61	19.24	0	0
		1	3	19.21	19.66	19.31	0	0
		1	5	19.14	19.58	19.25	0	0
		3	0	19.12	19.56	19.24	0	0
		3	1	19.25	19.73	19.38	0	0
		3	3	19.21	19.64	19.30	0	0
	16QAM	6	0	19.07	19.53	19.16	0-1	0
		1	0	19.12	19.89	19.43	0-1	0
		1	3	19.13	19.70	19.23	0-1	0
		1	5	19.44	19.81	19.42	0-1	0
		3	0	19.26	19.66	19.34	0-1	0
		3	1	19.25	19.76	19.38	0-1	0
	64QAM	3	3	19.28	19.90	19.46	0-1	0
		6	0	19.27	19.71	19.38	0-2	0
		1	0	19.28	19.79	19.54	0-2	0
		1	3	19.38	19.84	19.38	0-2	0
		1	5	19.28	19.80	19.45	0-2	0
		3	0	19.20	19.70	19.30	0-2	0
		3	1	19.37	19.82	19.42	0-2	0
		3	3	19.29	19.81	19.36	0-2	0
		6	0	19.20	19.73	19.35	0-3	0

LTE Band 2 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	19.08	19.67	19.25	0	0
		1	7	19.05	19.71	19.33	0	0
		1	14	19.13	19.69	19.30	0	0
		8	0	19.19	19.73	19.38	0-1	0
		8	3	19.18	19.72	19.33	0-1	0
		8	7	19.20	19.73	19.39	0-1	0
		15	0	19.22	19.76	19.45	0-1	0
	16QAM	1	0	19.41	19.89	19.56	0-1	0
		1	7	19.29	19.94	19.65	0-1	0
		1	14	19.44	19.81	19.47	0-1	0
		8	0	19.27	19.77	19.45	0-2	0
		8	3	19.24	19.75	19.40	0-2	0
		8	7	19.24	19.78	19.43	0-2	0
	64QAM	15	0	19.24	19.80	19.44	0-2	0
		1	0	19.33	19.89	19.52	0-2	0
		1	7	19.26	19.89	19.56	0-2	0
		1	14	19.18	19.94	19.46	0-2	0
		8	0	19.24	19.78	19.43	0-3	0
		8	3	19.22	19.76	19.40	0-3	0
		8	7	19.23	19.80	19.44	0-3	0
	15	0	19.19	19.74	19.41	0-3	0	

LTE Band 2 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz			
5 MHz	QPSK	1	0	19.15	19.70	19.33	0	0	
		1	12	19.13	19.65	19.32	0	0	
		1	24	19.16	19.64	19.35	0	0	
		12	0	19.23	19.76	19.40	0-1	0	
		12	6	19.23	19.76	19.43	0-1	0	
		12	11	19.25	19.74	19.41	0-1	0	
	16QAM	25	0	19.22	19.75	19.38	0-1	0	
		1	0	19.45	19.96	19.62	0-1	0	
		1	12	19.43	19.88	19.62	0-1	0	
		1	24	19.37	19.95	19.57	0-1	0	
		12	0	19.22	19.74	19.42	0-2	0	
		12	6	19.19	19.74	19.39	0-2	0	
	64QAM	12	11	19.23	19.77	19.41	0-2	0	
		25	0	19.20	19.75	19.41	0-2	0	
		1	0	19.36	19.87	19.52	0-2	0	
		1	12	19.21	19.68	19.39	0-2	0	
		1	24	19.37	19.90	19.56	0-2	0	
		12	0	19.22	19.77	19.37	0-3	0	
			12	6	19.24	19.79	19.38	0-3	0
			12	11	19.21	19.74	19.42	0-3	0
			25	0	19.23	19.74	19.42	0-3	0

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	19.67	19.67	19.84	0	0
		1	24	19.66	19.66	19.80	0	0
		1	49	19.71	19.72	19.86	0	0
		25	0	19.73	19.74	19.90	0-1	0
		25	12	19.72	19.70	19.90	0-1	0
		25	24	19.74	19.75	19.91	0-1	0
		50	0	19.71	19.70	19.88	0-1	0
	16QAM	1	0	20.01	19.90	20.09	0-1	0
		1	24	19.86	19.71	20.06	0-1	0
		1	49	20.00	19.89	19.99	0-1	0
		25	0	19.73	19.69	19.85	0-2	0
		25	12	19.73	19.72	19.86	0-2	0
		25	24	19.77	19.71	19.92	0-2	0
	64QAM	50	0	19.68	19.70	19.88	0-2	0
		1	0	19.79	19.86	20.01	0-2	0
		1	24	19.78	19.79	19.95	0-2	0
		1	49	19.89	19.80	19.91	0-2	0
		25	0	19.71	19.72	19.88	0-3	0
		25	12	19.73	19.73	19.85	0-3	0
		25	24	19.75	19.71	19.88	0-3	0
			50	0	19.74	19.76	19.88	0-3

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	19.67	19.74	19.85	0	0
		1	36	19.61	19.70	19.84	0	0
		1	74	19.67	19.80	19.85	0	0
		36	0	19.71	19.76	19.90	0-1	0
		36	18	19.75	19.77	19.89	0-1	0
		36	39	19.69	19.79	19.88	0-1	0
		75	0	19.73	19.80	19.88	0-1	0
	16QAM	1	0	19.94	20.01	20.13	0-1	0
		1	36	19.82	19.96	20.10	0-1	0
		1	74	19.92	20.19	20.21	0-1	0
		36	0	19.71	19.77	19.91	0-2	0
		36	18	19.73	19.81	19.91	0-2	0
		36	39	19.75	19.80	19.87	0-2	0
		75	0	19.71	19.79	19.86	0-2	0
	64QAM	1	0	19.86	19.82	20.06	0-2	0
		1	36	19.70	19.74	19.90	0-2	0
		1	74	19.90	19.93	19.99	0-2	0
		36	0	19.70	19.79	19.87	0-3	0
		36	18	19.75	19.83	19.88	0-3	0
		36	39	19.73	19.81	19.88	0-3	0
		75	0	19.77	19.78	19.89	0-3	0

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	19.76	19.73	19.88	0	0
		1	49	19.74	19.70	19.87	0	0
		1	99	19.84	19.80	19.91	0	0
		50	0	19.79	19.76	19.90	0-1	0
		50	25	19.83	19.76	19.89	0-1	0
		50	49	19.81	19.79	19.89	0-1	0
		100	0	19.81	19.79	19.92	0-1	0
	16QAM	1	0	20.04	20.03	20.10	0-1	0
		1	49	19.81	19.84	19.91	0-1	0
		1	99	20.07	20.03	20.12	0-1	0
		50	0	19.78	19.76	19.91	0-2	0
		50	25	19.77	19.78	19.88	0-2	0
		50	49	19.82	19.78	19.91	0-2	0
		100	0	19.80	19.77	19.87	0-2	0
	64QAM	1	0	19.98	19.98	20.13	0-2	0
		1	49	19.91	19.83	20.06	0-2	0
		1	99	20.03	20.00	20.08	0-2	0
		50	0	19.80	19.78	19.92	0-3	0
		50	25	19.80	19.78	19.91	0-3	0
		50	49	19.83	19.80	19.90	0-3	0
		100	0	19.79	19.75	19.93	0-3	0

[ LTE Band 4 Conducted Power ]

LTE Band 4 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				19957 Ch. 1710.7 MHz	20175 Ch. 1732.5 MHz	20393 Ch. 1754.3 MHz			
1.4 MHz	QPSK	1	0	19.59	20.14	19.85	0	0	
		1	3	19.67	20.16	19.90	0	0	
		1	5	19.64	20.13	19.86	0	0	
		3	0	19.59	20.09	19.80	0	0	
		3	1	19.75	20.22	19.98	0	0	
		3	3	19.71	20.15	19.91	0	0	
	16QAM	6	0	19.65	20.17	19.84	0-1	0	
		1	0	19.94	20.38	20.02	0-1	0	
		1	3	19.80	20.26	19.98	0-1	0	
		1	5	19.84	20.40	20.10	0-1	0	
		3	0	19.72	20.18	19.94	0-1	0	
		3	1	19.78	20.25	19.99	0-1	0	
	64QAM	3	3	19.85	20.25	20.03	0-1	0	
		6	0	19.71	20.26	19.97	0-2	0	
		1	0	19.77	20.42	20.06	0-2	0	
		1	3	19.83	20.20	19.91	0-2	0	
		1	5	19.91	20.29	20.09	0-2	0	
		3	0	19.77	20.16	20.00	0-2	0	
		64QAM	3	1	19.86	20.32	20.11	0-2	0
			3	3	19.83	20.20	19.90	0-2	0
		6	0	19.76	20.21	19.97	0-3	0	

LTE Band 4 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19965 Ch. 1711.5 MHz	20175 Ch. 1732.5 MHz	20385 Ch. 1753.5 MHz		
3 MHz	QPSK	1	0	19.61	20.09	19.85	0	0
		1	7	19.61	20.06	19.83	0	0
		1	14	19.65	20.17	19.86	0	0
		8	0	19.69	20.14	19.91	0-1	0
		8	3	19.70	20.11	19.89	0-1	0
		8	7	19.71	20.19	19.94	0-1	0
		15	0	19.72	20.27	19.91	0-1	0
	16QAM	1	0	19.99	20.49	20.15	0-1	0
		1	7	19.99	20.49	20.07	0-1	0
		1	14	19.96	20.44	20.10	0-1	0
		8	0	19.74	20.29	19.97	0-2	0
		8	3	19.70	20.20	20.02	0-2	0
		8	7	19.74	20.26	19.96	0-2	0
	64QAM	15	0	19.80	20.26	19.99	0-2	0
		1	0	19.95	20.32	20.12	0-2	0
		1	7	19.87	20.29	19.83	0-2	0
		1	14	19.89	20.39	20.06	0-2	0
		8	0	19.74	20.19	19.95	0-3	0
		8	3	19.73	20.14	19.95	0-3	0
		8	7	19.77	20.21	20.01	0-3	0
		15	0	19.79	20.21	20.02	0-3	0

LTE Band 4 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				19975 Ch. 1712.5 MHz	20175 Ch. 1732.5 MHz	20375 Ch. 1752.5 MHz		
5 MHz	QPSK	1	0	19.62	20.22	19.96	0	0
		1	12	19.64	20.09	19.88	0	0
		1	24	19.66	20.16	19.93	0	0
		12	0	19.74	20.23	19.96	0-1	0
		12	6	19.75	20.22	20.02	0-1	0
		12	11	19.78	20.24	20.00	0-1	0
	16QAM	25	0	19.73	20.25	19.98	0-1	0
		1	0	19.94	20.44	20.10	0-1	0
		1	12	20.01	20.50	20.15	0-1	0
		1	24	20.05	20.39	20.26	0-1	0
		12	0	19.75	20.21	20.02	0-2	0
		12	6	19.78	20.28	19.98	0-2	0
	64QAM	12	11	19.77	20.26	20.05	0-2	0
		25	0	19.75	20.27	20.01	0-2	0
		1	0	19.88	20.35	20.10	0-2	0
		1	12	19.71	20.14	19.93	0-2	0
		1	24	19.88	20.29	20.08	0-2	0
		12	0	19.71	20.19	20.04	0-3	0
	64QAM	12	6	19.76	20.21	19.99	0-3	0
		12	11	19.74	20.19	19.98	0-3	0
		25	0	19.78	20.26	20.01	0-3	0

LTE Band 4 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20000 Ch. 1715 MHz	20175 Ch. 1732.5 MHz	20350 Ch. 1750 MHz		
10 MHz	QPSK	1	0	20.19	20.19	20.41	0	0
		1	24	20.17	20.15	20.40	0	0
		1	49	20.24	20.25	20.41	0	0
		25	0	20.27	20.23	20.44	0-1	0
		25	12	20.27	20.22	20.46	0-1	0
		25	24	20.28	20.21	20.40	0-1	0
	16QAM	50	0	20.22	20.21	20.35	0-1	0
		1	0	20.44	20.56	20.72	0-1	0
		1	24	20.39	20.31	20.57	0-1	0
		1	49	20.39	20.39	20.67	0-1	0
		25	0	20.23	20.26	20.43	0-2	0
		25	12	20.23	20.23	20.45	0-2	0
	64QAM	25	24	20.25	20.28	20.39	0-2	0
		50	0	20.24	20.23	20.39	0-2	0
		1	0	20.36	20.33	20.59	0-2	0
		1	24	20.37	20.34	20.47	0-2	0
		1	49	20.44	20.38	20.50	0-2	0
		25	0	20.28	20.24	20.44	0-3	0
	64QAM	25	12	20.23	20.22	20.42	0-3	0
		25	24	20.27	20.26	20.46	0-3	0
		50	0	20.28	20.26	20.44	0-3	0

LTE Band 4 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20025 Ch. 1717.5 MHz	20175 Ch. 1732.5 MHz	20325 Ch. 1747.5 MHz		
15 MHz	QPSK	1	0	20.14	20.27	20.44	0	0
		1	36	20.17	20.15	20.33	0	0
		1	74	20.17	20.24	20.43	0	0
		36	0	20.22	20.23	20.47	0-1	0
		36	18	20.19	20.22	20.45	0-1	0
		36	39	20.21	20.24	20.47	0-1	0
		75	0	20.23	20.25	20.45	0-1	0
	16QAM	1	0	20.43	20.49	20.59	0-1	0
		1	36	20.41	20.45	20.61	0-1	0
		1	74	20.39	20.44	20.83	0-1	0
		36	0	20.23	20.23	20.47	0-2	0
		36	18	20.22	20.18	20.45	0-2	0
		36	39	20.23	20.23	20.49	0-2	0
		75	0	20.23	20.23	20.51	0-2	0
	64QAM	1	0	20.31	20.41	20.65	0-2	0
		1	36	20.30	20.20	20.43	0-2	0
		1	74	20.41	20.44	20.51	0-2	0
		36	0	20.21	20.25	20.49	0-3	0
		36	18	20.24	20.26	20.48	0-3	0
		36	39	20.24	20.27	20.48	0-3	0
		75	0	20.23	20.27	20.46	0-3	0

LTE Band 4 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				20175 Ch. 1732.5 MHz		
20 MHz	QPSK	1	0	20.18	0	0
		1	49	20.09	0	0
		1	99	20.20	0	0
		50	0	20.20	0-1	0
		50	25	20.17	0-1	0
		50	49	20.17	0-1	0
		100	0	20.20	0-1	0
	16QAM	1	0	20.45	0-1	0
		1	49	20.39	0-1	0
		1	99	20.55	0-1	0
		50	0	20.22	0-2	0
		50	25	20.19	0-2	0
		50	49	20.21	0-2	0
		100	0	20.20	0-2	0
	64QAM	1	0	20.45	0-2	0
		1	49	20.39	0-2	0
		1	99	20.46	0-2	0
		50	0	20.23	0-3	0
		50	25	20.25	0-3	0
		50	49	20.21	0-3	0
		100	0	20.25	0-3	0



**[LTE Band 7 Conducted Power]**

LTE Band 7\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20775 Ch. 2502.5 MHz	21100 Ch. 2535 MHz	21425 Ch. 2567.5 MHz		
5 MHz	QPSK	1	0	20.86	20.76	20.69	0	0
		1	12	20.93	20.69	20.73	0	0
		1	24	20.86	20.64	20.68	0	0
		12	0	20.93	20.76	20.75	0-1	0
		12	6	20.95	20.71	20.78	0-1	0
		12	11	20.95	20.73	20.78	0-1	0
		25	0	20.94	20.74	20.74	0-1	0
	16QAM	1	0	21.05	20.86	20.80	0-1	0
		1	12	21.10	20.85	20.86	0-1	0
		1	24	21.07	20.74	20.81	0-1	0
		12	0	20.91	20.73	20.73	0-2	0
		12	6	20.91	20.71	20.74	0-2	0
		12	11	20.97	20.71	20.76	0-2	0
		25	0	20.91	20.74	20.67	0-2	0
	64QAM	1	0	21.06	20.76	20.75	0-2	0
		1	12	20.97	20.72	20.81	0-2	0
		1	24	21.04	20.88	20.82	0-2	0
		12	0	19.86	19.68	19.67	0-3	0
		12	6	19.93	19.73	19.75	0-3	0
		12	11	19.94	19.66	19.67	0-3	0
		25	0	19.95	19.74	19.66	0-3	0

LTE Band 7\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20800 Ch. 2505 MHz	21100 Ch. 2535 MHz	21400 Ch. 2565 MHz		
10 MHz	QPSK	1	0	20.91	20.75	20.75	0	0
		1	24	20.87	20.66	20.71	0	0
		1	49	20.89	20.67	20.76	0	0
		25	0	20.94	20.77	20.78	0-1	0
		25	12	20.91	20.71	20.76	0-1	0
		25	24	20.93	20.72	20.77	0-1	0
		50	0	20.94	20.77	20.87	0-1	0
	16QAM	1	0	21.07	20.89	20.99	0-1	0
		1	24	20.91	20.75	20.76	0-1	0
		1	49	20.96	20.84	20.93	0-1	0
		25	0	20.92	20.73	20.72	0-2	0
		25	12	20.93	20.69	20.69	0-2	0
		25	24	20.93	20.69	20.72	0-2	0
		50	0	20.95	20.75	20.79	0-2	0
	64QAM	1	0	21.01	20.82	20.78	0-2	0
		1	24	20.90	20.75	20.77	0-2	0
		1	49	20.90	20.66	20.79	0-2	0
		25	0	19.93	19.77	19.76	0-3	0
		25	12	19.92	19.72	19.74	0-3	0
		25	24	19.94	19.65	19.74	0-3	0
		50	0	19.96	19.79	19.79	0-3	0

LTE Band 7 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20825 Ch. 2507.5 MHz	21100 Ch. 2535 MHz	21375 Ch. 2562.5 MHz		
15 MHz	QPSK	1	0	20.93	20.83	20.87	0	0
		1	36	20.92	20.69	20.77	0	0
		1	74	20.88	20.62	20.77	0	0
		36	0	21.00	20.84	20.89	0-1	0
		36	18	20.99	20.76	20.84	0-1	0
		36	39	20.93	20.71	20.88	0-1	0
		75	0	20.98	20.80	20.88	0-1	0
	16QAM	1	0	21.20	20.97	21.12	0-1	0
		1	36	21.09	20.91	21.02	0-1	0
		1	74	21.18	20.89	20.99	0-1	0
		36	0	20.98	20.84	20.88	0-2	0
		36	18	20.98	20.76	20.86	0-2	0
		36	39	20.92	20.72	20.81	0-2	0
		75	0	20.92	20.73	20.82	0-2	0
	64QAM	1	0	21.12	20.91	21.10	0-2	0
		1	36	20.98	20.81	20.81	0-2	0
		1	74	21.13	20.82	20.82	0-2	0
		36	0	19.99	19.81	19.89	0-3	0
		36	18	19.96	19.81	19.80	0-3	0
		36	39	19.94	19.70	19.82	0-3	0
		75	0	19.94	19.75	19.81	0-3	0

LTE Band 7 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				20850 Ch. 2510 MHz	21100 Ch. 2535 MHz	21350 Ch. 2560 MHz		
20 MHz	QPSK	1	0	21.00	20.86	20.92	0	0
		1	49	20.89	20.70	20.77	0	0
		1	99	20.87	20.64	20.81	0	0
		50	0	21.01	20.87	20.94	0-1	0
		50	25	20.94	20.78	20.91	0-1	0
		50	49	20.95	20.69	20.92	0-1	0
		100	0	20.95	20.78	20.93	0-1	0
	16QAM	1	0	21.31	21.14	21.30	0-1	0
		1	49	21.00	20.78	20.97	0-1	0
		1	99	21.08	20.85	20.97	0-1	0
		50	0	21.00	20.82	20.92	0-2	0
		50	25	20.98	20.76	20.83	0-2	0
		50	49	20.95	20.67	20.84	0-2	0
		100	0	20.98	20.76	20.89	0-2	0
	64QAM	1	0	21.22	21.04	21.26	0-2	0
		1	49	21.10	20.73	20.89	0-2	0
		1	99	21.02	20.68	20.81	0-2	0
		50	0	19.99	19.83	19.91	0-3	0
		50	25	19.96	19.74	19.86	0-3	0
		50	49	19.91	19.69	19.84	0-3	0
		100	0	19.95	19.73	19.89	0-3	0

[ LTE Band 25 Conducted Power ]

LTE Band 25\_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	18.99	19.66	18.63	0	0
		1	3	19.00	19.71	18.67	0	0
		1	5	18.99	19.66	18.63	0	0
		3	0	18.99	19.64	18.59	0	0
		3	1	19.15	19.76	18.77	0	0
		3	3	19.12	19.65	18.70	0	0
		6	0	19.02	19.67	18.65	0-1	0
	16QAM	1	0	19.31	19.97	18.87	0-1	0
		1	3	19.11	19.68	18.71	0-1	0
		1	5	19.25	19.93	18.86	0-1	0
		3	0	19.13	19.74	18.69	0-1	0
		3	1	19.25	19.77	18.80	0-1	0
		3	3	19.20	19.78	18.89	0-1	0
		6	0	19.09	19.70	18.75	0-2	0
	64QAM	1	0	19.25	19.72	18.93	0-2	0
		1	3	19.21	19.70	18.72	0-2	0
		1	5	19.31	19.85	18.81	0-2	0
		3	0	19.13	19.72	18.71	0-2	0
		3	1	19.21	19.84	18.91	0-2	0
		3	3	19.14	19.86	18.80	0-2	0
		6	0	19.13	19.71	18.72	0-3	0

LTE Band 25\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675 Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	18.99	19.67	18.70	0	0
		1	7	18.97	19.66	18.69	0	0
		1	14	19.05	19.70	18.72	0	0
		8	0	19.12	19.73	18.75	0-1	0
		8	3	19.08	19.71	18.75	0-1	0
		8	7	19.13	19.76	18.76	0-1	0
		15	0	19.14	19.77	18.76	0-1	0
	16QAM	1	0	19.41	19.98	18.99	0-1	0
		1	7	19.32	19.87	19.01	0-1	0
		1	14	19.23	19.90	18.98	0-1	0
		8	0	19.18	19.78	18.81	0-2	0
		8	3	19.13	19.76	18.79	0-2	0
		8	7	19.18	19.80	18.82	0-2	0
		15	0	19.18	19.78	18.84	0-2	0
	64QAM	1	0	19.32	19.91	18.89	0-2	0
		1	7	19.15	19.86	18.80	0-2	0
		1	14	19.30	19.75	18.87	0-2	0
		8	0	19.15	19.77	18.78	0-3	0
		8	3	19.17	19.75	18.79	0-3	0
		8	7	19.19	19.77	18.86	0-3	0
		15	0	19.11	19.78	18.81	0-3	0

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	19.09	19.73	18.72	0	0
		1	12	19.11	19.69	18.71	0	0
		1	24	19.08	19.67	18.74	0	0
		12	0	19.11	19.76	18.83	0-1	0
		12	6	19.15	19.75	18.83	0-1	0
		12	11	19.18	19.78	18.86	0-1	0
		25	0	19.15	19.76	18.81	0-1	0
	16QAM	1	0	19.37	20.08	18.95	0-1	0
		1	12	19.25	19.90	18.99	0-1	0
		1	24	19.33	20.00	18.96	0-1	0
		12	0	19.17	19.81	18.81	0-2	0
		12	6	19.18	19.78	18.85	0-2	0
		12	11	19.18	19.81	18.80	0-2	0
		25	0	19.16	19.76	18.82	0-2	0
	64QAM	1	0	19.30	19.80	18.86	0-2	0
		1	12	19.29	19.80	18.79	0-2	0
		1	24	19.28	19.94	18.85	0-2	0
		12	0	19.18	19.78	18.83	0-3	0
		12	6	19.16	19.80	18.84	0-3	0
		12	11	19.16	19.81	18.82	0-3	0
		25	0	19.17	19.78	18.84	0-3	0

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	19.09	19.72	18.74	0	0
		1	24	19.04	19.73	18.76	0	0
		1	49	19.17	19.73	18.79	0	0
		25	0	19.19	19.73	18.83	0-1	0
		25	12	19.20	19.75	18.80	0-1	0
		25	24	19.16	19.75	18.83	0-1	0
		50	0	19.15	19.79	18.83	0-1	0
	16QAM	1	0	19.44	20.08	19.09	0-1	0
		1	24	19.17	19.83	18.93	0-1	0
		1	49	19.33	19.92	18.95	0-1	0
		25	0	19.17	19.73	18.83	0-2	0
		25	12	19.14	19.76	18.81	0-2	0
		25	24	19.19	19.78	18.82	0-2	0
		50	0	19.19	19.77	18.83	0-2	0
	64QAM	1	0	19.28	19.89	19.01	0-2	0
		1	24	19.16	19.79	18.86	0-2	0
		1	49	19.32	19.90	18.93	0-2	0
		25	0	19.21	19.81	18.82	0-3	0
		25	12	19.18	19.75	18.79	0-3	0
		25	24	19.21	19.75	18.82	0-3	0
		50	0	19.20	19.75	18.84	0-3	0

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15	QPSK	1	0	19.16	19.76	18.78	0	0
		1	36	19.09	19.71	18.74	0	0
		1	74	19.17	19.74	18.80	0	0
		36	0	19.17	19.78	18.84	0-1	0
		36	18	19.22	19.76	18.83	0-1	0
		36	39	19.21	19.77	18.82	0-1	0
		75	0	19.18	19.76	18.79	0-1	0
	16QAM	1	0	19.43	20.06	19.08	0-1	0
		1	36	19.33	19.97	18.93	0-1	0
		1	74	19.42	20.13	19.02	0-1	0
		36	0	19.22	19.77	18.84	0-2	0
		36	18	19.24	19.79	18.83	0-2	0
		36	39	19.22	19.76	18.83	0-2	0
		75	0	19.24	19.75	18.83	0-2	0
	64QAM	1	0	19.37	19.85	18.92	0-2	0
		1	36	19.28	19.76	18.86	0-2	0
		1	74	19.32	19.94	19.09	0-2	0
		36	0	19.22	19.76	18.85	0-3	0
		36	18	19.23	19.79	18.84	0-3	0
		36	39	19.21	19.79	18.81	0-3	0
		75	0	19.18	19.77	18.83	0-3	0

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	19.18	19.76	18.82	0	0
		1	49	19.15	19.70	18.77	0	0
		1	99	19.46	19.77	18.83	0	0
		50	0	19.21	19.77	18.81	0-1	0
		50	25	19.24	19.76	18.81	0-1	0
		50	49	19.36	19.78	18.83	0-1	0
		100	0	19.23	19.76	18.82	0-1	0
	16QAM	1	0	19.51	20.05	19.09	0-1	0
		1	49	19.37	19.82	18.97	0-1	0
		1	99	19.44	19.96	19.05	0-1	0
		50	0	19.22	19.73	18.86	0-2	0
		50	25	19.20	19.77	18.84	0-2	0
		50	49	19.24	19.80	18.83	0-2	0
		100	0	19.23	19.80	18.82	0-2	0
	64QAM	1	0	19.41	19.96	19.02	0-2	0
		1	49	19.25	19.88	18.82	0-2	0
		1	99	19.40	20.01	19.01	0-2	0
		50	0	19.21	19.79	18.90	0-3	0
		50	25	19.20	19.78	18.88	0-3	0
		50	49	19.28	19.79	18.84	0-3	0
		100	0	19.25	19.81	18.85	0-3	0

[ LTE Band 30 Conducted Power ]

LTE Band 30\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				27685 Ch. 2307.5 MHz	27710 Ch. 2310 MHz	27735 Ch. 2312.5 MHz		
5 MHz	QPSK	1	0	20.18	20.44	20.12	0	0
		1	12	20.16	20.41	20.12	0	0
		1	24	20.10	20.39	20.05	0	0
		12	0	20.19	20.53	20.17	0-1	0
		12	6	20.25	20.53	20.15	0-1	0
		12	11	20.24	20.53	20.19	0-1	0
	16QAM	25	0	20.18	20.47	20.12	0-1	0
		1	0	20.33	20.57	20.26	0-1	0
		1	12	20.32	20.56	20.26	0-1	0
		1	24	20.33	20.54	20.22	0-1	0
		12	0	20.20	20.45	20.12	0-2	0
		12	6	20.12	20.43	20.10	0-2	0
	64QAM	12	11	20.14	20.43	20.08	0-2	0
		25	0	20.12	20.41	20.08	0-2	0
		1	0	20.16	20.48	20.17	0-2	0
		1	12	20.23	20.51	20.22	0-2	0
		1	24	20.21	20.52	20.15	0-2	0
		12	0	19.14	19.45	19.15	0-3	0
	12	6	19.18	19.42	19.12	0-3	0	
	12	11	19.17	19.42	19.09	0-3	0	
	25	0	19.13	19.38	19.07	0-3	0	

LTE Band 30\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]	MPR Allowed Per 3GPP [dB]	MPR [dB]
				27710 Ch. 2310 MHz		
10 MHz	QPSK	1	0	<b>20.48</b>	0	0
		1	24	20.41	0	0
		1	49	20.39	0	0
		25	0	<b>20.50</b>	0-1	0
		25	12	20.45	0-1	0
		25	24	20.43	0-1	0
		50	0	20.56	0-1	0
	16QAM	1	0	20.61	0-1	0
		1	24	20.47	0-1	0
		1	49	20.40	0-1	0
		25	0	20.46	0-2	0
		25	12	20.41	0-2	0
		25	24	20.36	0-2	0
		50	0	20.52	0-2	0
	64QAM	1	0	20.60	0-2	0
		1	24	20.43	0-2	0
		1	49	20.30	0-2	0
		25	0	19.40	0-3	0
		25	12	19.39	0-3	0
		25	24	19.31	0-3	0
		50	0	19.51	0-3	0

**[LTE TDD Band 38 Conducted Power]**

LTE Band 38\_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37775 Ch. 2572.5 MHz	38000 Ch. 2595 MHz	38225 Ch. 2617.5 MHz		
5 MHz	QPSK	1	0	21.14	21.15	20.91	0	0
		1	12	21.24	21.10	20.87	0	0
		1	24	21.18	21.17	20.92	0	0
		12	0	21.20	21.21	20.96	0-1	0
		12	6	21.13	21.19	20.99	0-1	0
		12	11	21.17	21.21	21.01	0-1	0
	16QAM	25	0	21.20	21.23	20.97	0-1	0
		1	0	21.20	21.31	20.93	0-1	0
		1	12	21.21	21.13	20.80	0-1	0
		1	24	21.20	21.27	20.85	0-1	0
		12	0	21.17	21.21	20.93	0-2	0
		12	6	21.11	21.18	20.95	0-2	0
	64QAM	12	11	21.14	21.19	20.97	0-2	0
		25	0	21.24	21.25	21.01	0-2	0
		1	0	20.91	21.03	20.86	0-2	0
		1	12	20.95	20.87	20.67	0-2	0
		1	24	20.90	20.96	20.80	0-2	0
		12	0	20.19	20.22	19.98	0-3	0
	12	6	20.10	20.20	20.01	0-3	0	
		11	20.12	20.20	20.04	0-3	0	
	25	0	20.21	20.24	19.99	0-3	0	

LTE Band 38\_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37800 Ch. 2575 MHz	38000 Ch. 2595 MHz	38200 Ch. 2615 MHz		
10 MHz	QPSK	1	0	21.29	21.27	21.07	0	0
		1	24	21.21	21.10	20.89	0	0
		1	49	21.26	21.10	20.89	0	0
		25	0	21.27	21.25	21.01	0-1	0
		25	12	21.27	21.21	20.98	0-1	0
		25	24	21.24	21.20	20.97	0-1	0
	16QAM	50	0	21.30	21.21	21.00	0-1	0
		1	0	21.30	21.23	21.13	0-1	0
		1	24	21.20	21.09	20.95	0-1	0
		1	49	21.20	21.05	20.95	0-1	0
		25	0	21.30	21.24	21.08	0-2	0
		25	12	21.29	21.21	21.03	0-2	0
	64QAM	25	24	21.26	21.19	21.02	0-2	0
		50	0	21.31	21.23	21.01	0-2	0
		1	0	21.15	20.97	20.89	0-2	0
		1	24	21.00	20.86	20.70	0-2	0
		1	49	21.06	20.93	20.72	0-2	0
		25	0	20.26	20.26	20.04	0-3	0
		25	12	20.25	20.20	19.97	0-3	0
		25	24	20.24	20.20	19.99	0-3	0
		50	0	20.30	20.21	20.00	0-3	0

LTE Band 38 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37825 Ch. 2507.5 MHz	38000 Ch. 2595 MHz	38175 Ch. 2612.5 MHz		
15 MHz	QPSK	1	0	21.28	21.28	21.09	0	0
		1	36	21.27	21.11	20.92	0	0
		1	74	21.18	21.12	20.91	0	0
		36	0	21.29	21.28	21.07	0-1	0
		36	18	21.23	21.24	21.03	0-1	0
		36	39	21.22	21.18	20.97	0-1	0
		75	0	21.24	21.21	21.00	0-1	0
	16QAM	1	0	21.37	21.33	21.18	0-1	0
		1	36	21.24	21.14	20.94	0-1	0
		1	74	21.22	21.23	20.97	0-1	0
		36	0	21.25	21.27	21.04	0-2	0
		36	18	21.19	21.23	21.00	0-2	0
		36	39	21.19	21.18	20.94	0-2	0
		75	0	21.23	21.22	21.01	0-2	0
	64QAM	1	0	21.29	20.97	21.03	0-2	0
		1	36	21.20	20.73	20.80	0-2	0
		1	74	21.17	20.82	20.81	0-2	0
		36	0	20.30	20.29	20.09	0-3	0
		36	18	20.24	20.25	20.05	0-3	0
		36	39	20.23	20.19	19.98	0-3	0
		75	0	20.25	20.22	20.02	0-3	0

LTE Band 38 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				37850 Ch. 2580 MHz	38000 Ch. 2595 MHz	38150 Ch. 2610 MHz		
20 MHz	QPSK	1	0		21.33		0	0
		1	49		21.11		0	0
		1	99		21.08		0	0
		50	0		21.31		0-1	0
		50	25		21.22		0-1	0
		50	49		21.18		0-1	0
		100	0		21.24		0-1	0
	16QAM	1	0		21.40		0-1	0
		1	49		21.19		0-1	0
		1	99		21.12		0-1	0
		50	0		21.31		0-2	0
		50	25		21.22		0-2	0
		50	49		21.20		0-2	0
		100	0		21.27		0-2	0
	64QAM	1	0		21.14		0-2	0
		1	49		20.94		0-2	0
		1	99		20.93		0-2	0
		50	0		20.30		0-3	0
		50	25		20.21		0-3	0
		50	49		20.18		0-3	0
		100	0		20.24		0-3	0



**[ LTE Band 41 Conducted Power ] - Power Class 3**

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]	
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz			
5 MHz	QPSK	1	0	20.25	20.35	20.36	20.10	20.04	0	0	
		1	12	20.19	20.34	20.29	20.13	20.03	0	0	
		1	24	20.29	20.37	20.38	20.14	20.05	0	0	
		12	0	20.33	20.41	20.43	20.19	20.11	0-1	0	
		12	6	20.36	20.44	20.42	20.14	20.07	0-1	0	
		12	11	20.37	20.44	20.43	20.16	20.08	0-1	0	
	16QAM	25	0	20.53	20.64	20.53	20.37	20.29	0-1	0	
		1	0	20.27	20.38	20.50	20.15	20.08	0-1	0	
		1	12	20.16	20.34	20.34	20.06	19.95	0-1	0	
		1	24	20.25	20.32	20.40	20.18	20.00	0-1	0	
		12	0	20.15	20.22	20.35	20.02	19.98	0-2	0	
		12	6	20.19	20.24	20.35	19.97	19.92	0-2	0	
	64QAM	12	11	20.20	20.26	20.35	20.01	19.95	0-2	0	
		25	0	20.42	20.52	20.50	20.28	20.23	0-2	0	
		1	0	20.15	20.05	20.25	19.85	19.72	0-2	0	
		1	12	20.06	19.97	20.16	19.76	19.59	0-2	0	
		1	24	20.12	20.01	20.20	19.82	19.59	0-2	0	
		12	0	19.17	19.25	19.37	19.10	19.02	0-3	0	
			12	6	19.21	19.25	19.37	19.06	18.97	0-3	0
			12	11	19.24	19.26	19.37	19.08	18.99	0-3	0
			25	0	19.36	19.45	19.46	19.22	19.14	0-3	0

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]	
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz			
10 MHz	QPSK	1	0	20.31	20.43	20.45	20.20	20.16	0	0	
		1	24	20.18	20.27	20.29	20.06	20.01	0	0	
		1	49	20.22	20.30	20.30	20.08	20.01	0	0	
		25	0	20.50	20.65	20.53	20.36	20.28	0-1	0	
		25	12	20.49	20.63	20.49	20.35	20.27	0-1	0	
		25	24	20.49	20.59	20.48	20.32	20.26	0-1	0	
	16QAM	50	0	20.56	20.69	20.54	20.41	20.35	0-1	0	
		1	0	20.30	20.45	20.58	20.15	20.24	0-1	0	
		1	24	20.20	20.30	20.40	20.00	20.09	0-1	0	
		1	49	20.25	20.34	20.41	20.04	20.07	0-1	0	
		25	0	20.40	20.53	20.50	20.28	20.24	0-2	0	
		25	12	20.39	20.51	20.46	20.26	20.21	0-2	0	
	64QAM	25	24	20.38	20.48	20.45	20.23	20.19	0-2	0	
		50	0	20.45	20.55	20.50	20.32	20.28	0-2	0	
		1	0	19.96	20.19	20.20	20.01	19.97	0-2	0	
		1	24	19.84	20.02	20.07	19.89	19.81	0-2	0	
		1	49	19.91	20.14	20.12	19.94	19.77	0-2	0	
		25	0	19.36	19.47	19.48	19.24	19.19	0-3	0	
			25	12	19.34	19.45	19.44	19.21	19.17	0-3	0
			25	24	19.35	19.43	19.44	19.20	19.15	0-3	0
			50	0	19.42	19.51	19.47	19.29	19.25	0-3	0

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	20.30	20.43	20.46	20.32	20.18	0	0
		1	36	20.28	20.38	20.29	20.22	20.14	0	0
		1	74	20.23	20.32	20.31	20.21	20.05	0	0
		36	0	20.43	20.57	20.52	20.31	20.26	0-1	0
		36	18	20.39	20.50	20.49	20.26	20.20	0-1	0
		36	39	20.39	20.49	20.43	20.26	20.19	0-1	0
	16QAM	75	0	20.47	20.61	20.50	20.32	20.26	0-1	0
		1	0	20.35	20.48	20.45	20.21	20.29	0-1	0
		1	36	20.28	20.36	20.19	20.08	20.20	0-1	0
		1	74	20.22	20.38	20.29	20.12	20.11	0-1	0
		36	0	20.29	20.40	20.46	20.20	20.19	0-2	0
		36	18	20.26	20.35	20.44	20.16	20.13	0-2	0
	64QAM	36	39	20.25	20.35	20.38	20.15	20.11	0-2	0
		75	0	20.38	20.48	20.46	20.24	20.20	0-2	0
		1	0	19.98	20.07	20.19	20.00	19.96	0-2	0
		1	36	19.87	19.96	19.99	19.89	19.90	0-2	0
		1	74	19.81	19.96	20.02	19.81	19.76	0-2	0
		36	0	19.30	19.40	19.47	19.20	19.19	0-3	0
	36	18	19.26	19.35	19.43	19.15	19.12	0-3	0	
	36	39	19.26	19.34	19.38	19.14	19.10	0-3	0	
	75	0	19.34	19.46	19.45	19.21	19.18	0-3	0	

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 3

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	<b>20.63</b>	20.47	20.51	20.26	20.50	0	0
		1	49	20.46	20.26	20.29	20.16	20.32	0	0
		1	99	20.48	20.29	20.28	20.20	20.31	0	0
		50	0	<b>20.90</b>	20.73	20.63	20.45	20.71	0-1	0
		50	25	20.88	20.68	20.55	20.42	20.67	0-1	0
		50	49	20.85	20.63	20.52	20.38	20.64	0-1	0
		100	0	20.83	20.63	20.55	20.37	20.62	0-1	0
	16QAM	1	0	20.59	20.30	20.49	20.25	20.54	0-1	0
		1	49	20.37	20.12	20.29	20.04	20.33	0-1	0
		1	99	20.41	20.19	20.25	20.11	20.32	0-1	0
		50	0	20.76	20.59	20.59	20.37	20.64	0-2	0
		50	25	20.74	20.55	20.51	20.32	20.60	0-2	0
		50	49	20.70	20.51	20.49	20.30	20.56	0-2	0
	64QAM	100	0	20.70	20.52	20.53	20.30	20.55	0-2	0
		1	0	20.22	20.06	20.20	19.90	20.21	0-2	0
		1	49	20.06	19.86	20.00	19.70	20.01	0-2	0
		1	99	20.09	19.92	19.98	19.72	19.99	0-2	0
		50	0	19.73	19.56	19.58	19.35	19.60	0-3	0
		50	25	19.71	19.52	19.50	19.30	19.56	0-3	0
		50	49	19.67	19.47	19.46	19.27	19.52	0-3	0
	100	0	19.66	19.46	19.49	19.25	19.51	0-3	0	

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

[ LTE Band 41 Conducted Power ] - Power Class 2

LTE Band 41 \_ 5 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per GPP [dB]	MPR [dB]
				39675 Ch. 2498.5 MHz	40148 Ch. 2545.8 MHz	40620 Ch. 2593.0 MHz	41093 Ch. 2640.3 MHz	41565 Ch. 2687.5 MHz		
5 MHz	QPSK	1	0	20.21	20.31	20.36	20.07	20.04	0	0
		1	12	20.27	20.36	20.31	20.21	20.13	0	0
		1	24	20.20	20.27	20.30	20.08	19.97	0	0
		12	0	20.30	20.40	20.38	20.16	20.09	0-1	0
		12	6	20.26	20.36	20.41	20.12	20.03	0-1	0
		12	11	20.28	20.38	20.37	20.14	20.08	0-1	0
		25	0	20.23	20.31	20.34	20.11	20.03	0-1	0
	16QAM	1	0	20.33	20.56	20.65	20.47	20.32	0-1	0
		1	12	20.37	20.68	20.56	20.56	20.39	0-1	0
		1	24	20.32	20.63	20.60	20.45	20.24	0-1	0
		12	0	20.27	20.33	20.28	20.06	20.05	0-2	0
		12	6	20.25	20.30	20.45	20.00	19.97	0-2	0
		12	11	20.23	20.30	20.38	20.05	20.01	0-2	0
		25	0	20.18	20.22	20.30	20.06	19.94	0-2	0
	64QAM	1	0	20.24	20.36	20.55	20.16	19.97	0-2	0
		1	12	20.12	20.21	20.31	20.06	19.82	0-2	0
		1	24	20.27	20.48	20.32	20.07	19.94	0-2	0
		12	0	19.17	19.28	19.36	19.16	18.97	0-3	0
		12	6	19.14	19.21	19.37	19.11	18.91	0-3	0
		12	11	19.15	19.19	19.31	19.15	18.92	0-3	0
		25	0	19.16	19.18	19.30	19.07	18.99	0-3	0

LTE Band 41 \_ 10 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39700 Ch. 2501 MHz	40160 Ch. 2547 MHz	40620 Ch. 2593 MHz	41080 Ch. 2639 MHz	41540 Ch. 2685 MHz		
10 MHz	QPSK	1	0	20.25	20.35	20.41	20.16	20.12	0	0
		1	24	20.19	20.27	20.33	20.10	20.02	0	0
		1	49	20.20	20.28	20.30	20.10	19.99	0	0
		25	0	20.23	20.34	20.37	20.13	20.07	0-1	0
		25	12	20.22	20.30	20.35	20.10	20.03	0-1	0
		25	24	20.22	20.30	20.32	20.08	20.02	0-1	0
		50	0	20.44	20.58	20.45	20.28	20.22	0-1	0
	16QAM	1	0	20.49	20.64	20.70	20.39	20.41	0-1	0
		1	24	20.32	20.53	20.48	20.36	20.20	0-1	0
		1	49	20.44	20.63	20.59	20.41	20.22	0-1	0
		25	0	20.16	20.27	20.34	20.07	20.01	0-2	0
		25	12	20.13	20.23	20.30	20.09	20.00	0-2	0
		25	24	20.13	20.23	20.28	20.07	19.97	0-2	0
		50	0	20.32	20.51	20.38	20.20	20.18	0-2	0
	64QAM	1	0	20.03	20.31	20.41	20.21	19.95	0-2	0
		1	24	20.12	20.21	20.30	20.03	19.81	0-2	0
		1	49	20.13	20.23	20.27	20.03	19.77	0-2	0
		25	0	19.11	19.22	19.32	19.05	18.99	0-3	0
		25	12	19.09	19.18	19.28	19.05	18.95	0-3	0
		25	24	19.10	19.19	19.26	19.03	18.93	0-3	0
		50	0	19.32	19.43	19.39	19.16	19.16	0-3	0

LTE Band 41 \_ 15 MHz Bandwidth- Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39725 Ch. 2503.5 MHz	40173 Ch. 2548.3 MHz	40620 Ch. 2593.0 MHz	41068 Ch. 2637.8 MHz	41515 Ch. 2682.5 MHz		
15 MHz	QPSK	1	0	20.30	20.38	20.46	20.22	20.17	0	0
		1	36	20.34	20.37	20.32	20.22	20.15	0	0
		1	74	20.21	20.28	20.31	20.09	20.02	0	0
		36	0	20.40	20.55	20.48	20.27	20.22	0-1	0
		36	18	20.34	20.45	20.44	20.23	20.15	0-1	0
		36	39	20.36	20.46	20.39	20.22	20.16	0-1	0
		75	0	20.36	20.47	20.42	20.24	20.19	0-1	0
	16QAM	1	0	20.39	20.72	20.65	20.51	20.31	0-1	0
		1	36	20.43	20.69	20.51	20.40	20.28	0-1	0
		1	74	20.29	20.64	20.46	20.38	20.14	0-1	0
		36	0	20.29	20.41	20.42	20.18	20.12	0-2	0
		36	18	20.25	20.34	20.41	20.11	20.05	0-2	0
		36	39	20.25	20.34	20.33	20.10	20.05	0-2	0
		75	0	20.27	20.35	20.39	20.16	20.14	0-2	0
	64QAM	1	0	20.26	20.20	20.55	19.97	20.04	0-2	0
		1	36	20.26	20.34	20.27	19.95	19.97	0-2	0
		1	74	20.24	20.27	20.39	19.85	19.85	0-2	0
		36	0	19.28	19.38	19.42	19.18	19.16	0-3	0
		36	18	19.26	19.33	19.42	19.14	19.09	0-3	0
		36	39	19.25	19.33	19.35	19.13	19.08	0-3	0
		75	0	19.24	19.33	19.38	19.15	19.14	0-3	0

LTE Band 41 \_ 20 MHz Bandwidth - Power Class 2

Band width	Modulation	RB Size	RB Offset	Reduced Power [dBm]					MPR Allowed Per 3GPP [dB]	MPR [dB]
				39750 Ch. 2506.0 MHz	40185 Ch. 2549.5 MHz	40620 Ch. 2593.0 MHz	41055 Ch. 2636.5 MHz	41490 Ch. 2680.0 MHz		
20 MHz	QPSK	1	0	<b>20.59</b>	20.42	20.51	20.26	20.50	0	0
		1	49	20.47	20.26	20.33	20.08	20.33	0	0
		1	99	20.46	20.27	20.28	20.09	20.29	0	0
		50	0	<b>20.76</b>	20.61	20.49	20.29	20.56	0-1	0
		50	25	20.73	20.53	20.44	20.24	20.52	0-1	0
		50	49	20.72	20.48	20.36	20.25	20.48	0-1	0
		100	0	20.76	20.55	20.45	20.30	20.55	0-1	0
	16QAM	1	0	20.85	20.50	20.48	20.57	20.71	0-1	0
		1	49	20.73	20.33	20.30	20.17	20.27	0-1	0
		1	99	20.69	20.37	20.25	20.17	20.21	0-1	0
		50	0	20.65	20.50	20.48	20.26	20.52	0-2	0
		50	25	20.60	20.43	20.47	20.19	20.48	0-2	0
		50	49	20.59	20.39	20.40	20.18	20.43	0-2	0
		100	0	20.65	20.45	20.46	20.24	20.49	0-2	0
	64QAM	1	0	20.59	20.39	20.39	19.90	20.31	0-2	0
		1	49	20.42	20.22	20.21	19.68	20.14	0-2	0
		1	99	20.38	20.29	20.17	19.70	20.08	0-2	0
		50	0	19.65	19.47	19.47	19.23	19.51	0-3	0
		50	25	19.59	19.40	19.42	19.15	19.47	0-3	0
		50	49	19.58	19.37	19.35	19.14	19.42	0-3	0
		100	0	19.61	19.39	19.40	19.19	19.46	0-3	0

Note; LTE Band 41 has 5 required test channels per FCC KDB 447498 D01v06.

**[LTE Band 66 Conducted Power]**

LTE Band 66 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				131979Ch. 1710.7 MHz	132322 Ch. 1745 MHz	132665 Ch. 1779.3 MHz		
1.4 MHz	QPSK	1	0	20.66	21.33	20.72	0	0
		1	3	20.74	21.37	20.74	0	0
		1	5	20.65	21.32	20.70	0	0
		3	0	20.64	21.29	20.65	0	0
		3	1	20.82	21.40	20.75	0	0
		3	3	20.75	21.37	20.73	0	0
	16QAM	6	0	20.66	21.31	20.68	0-1	0
		1	0	20.89	21.57	20.93	0-1	0
		1	3	20.77	21.49	20.79	0-1	0
		1	5	20.86	21.61	20.97	0-1	0
		3	0	20.80	21.36	20.84	0-1	0
		3	1	20.88	21.52	20.91	0-1	0
	64QAM	3	3	20.89	21.51	20.89	0-1	0
		6	0	20.80	21.46	20.76	0-2	0
		1	0	20.93	21.53	20.93	0-2	0
		1	3	20.78	21.57	20.75	0-2	0
		1	5	20.84	21.55	20.86	0-2	0
		3	0	20.82	21.42	20.80	0-2	0
		3	1	20.89	21.54	20.90	0-2	0
		3	3	20.86	21.49	20.81	0-2	0
		6	0	20.81	21.37	20.81	0-3	0

LTE Band 66 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				131987 Ch. 1711.5 MHz	132322 Ch. 1745 MHz	132657 Ch. 1778.5 MHz			
3 MHz	QPSK	1	0	20.63	21.33	20.72	0	0	
		1	7	20.64	21.34	20.68	0	0	
		1	14	20.69	21.36	20.71	0	0	
		8	0	20.79	21.37	20.75	0-1	0	
		8	3	20.70	21.40	20.74	0-1	0	
		8	7	20.76	21.41	20.78	0-1	0	
		15	0	20.78	21.44	20.81	0-1	0	
	16QAM	1	0	20.97	21.69	21.07	0-1	0	
		1	7	20.98	21.71	20.96	0-1	0	
		1	14	20.89	21.49	20.94	0-1	0	
		8	0	20.82	21.45	20.82	0-2	0	
		8	3	20.81	21.40	20.76	0-2	0	
		8	7	20.82	21.46	20.85	0-2	0	
	64QAM	15	0	20.84	21.47	20.81	0-2	0	
		1	0	20.89	21.50	20.95	0-2	0	
		1	7	20.89	21.45	20.92	0-2	0	
		1	14	20.95	21.52	20.88	0-2	0	
		8	0	20.78	21.45	20.81	0-3	0	
		8	3	20.78	21.36	20.79	0-3	0	
		8	7	20.81	21.44	20.83	0-3	0	
			15	0	20.81	21.46	20.81	0-3	0

LTE Band 66 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				131997 Ch. 1712.5 MHz	132322 Ch. 1745 MHz	132647 Ch. 1777.5 MHz			
5 MHz	QPSK	1	0	20.73	21.39	20.78	0	0	
		1	12	20.73	21.33	20.75	0	0	
		1	24	20.69	21.40	20.76	0	0	
		12	0	20.80	21.42	20.84	0-1	0	
		12	6	20.81	21.43	20.81	0-1	0	
		12	11	20.84	21.47	20.79	0-1	0	
	16QAM	25	0	20.79	21.45	20.83	0-1	0	
		1	0	20.95	21.74	21.07	0-1	0	
		1	12	20.91	21.67	21.03	0-1	0	
		1	24	21.00	21.60	20.99	0-1	0	
		12	0	20.77	21.42	20.83	0-2	0	
		12	6	20.82	21.42	20.80	0-2	0	
	64QAM	12	11	20.78	21.46	20.83	0-2	0	
		25	0	20.81	21.46	20.81	0-2	0	
		1	0	20.86	21.57	21.05	0-2	0	
		1	12	20.93	21.56	20.94	0-2	0	
		1	24	21.03	21.70	20.88	0-2	0	
		12	0	20.85	21.42	20.78	0-3	0	
			12	6	20.79	21.44	20.77	0-3	0
			12	11	20.79	21.45	20.86	0-3	0
			25	0	20.79	21.46	20.81	0-3	0

LTE Band 66 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				132022 Ch. 1715 MHz	132322 Ch. 1745 MHz	132622 Ch. 1775 MHz			
10 MHz	QPSK	1	0	21.22	21.41	21.32	0	0	
		1	24	21.23	21.41	21.32	0	0	
		1	49	21.28	21.48	21.33	0	0	
		25	0	21.31	21.46	21.38	0-1	0	
		25	12	21.29	21.44	21.38	0-1	0	
		25	24	21.31	21.47	21.34	0-1	0	
	16QAM	50	0	21.30	21.46	21.37	0-1	0	
		1	0	21.52	21.75	21.61	0-1	0	
		1	24	21.45	21.43	21.31	0-1	0	
		1	49	21.54	21.61	21.54	0-1	0	
		25	0	21.31	21.49	21.33	0-2	0	
		25	12	21.33	21.46	21.40	0-2	0	
	64QAM	25	24	21.32	21.46	21.34	0-2	0	
		50	0	21.33	21.44	21.37	0-2	0	
		1	0	21.46	21.59	21.54	0-2	0	
		1	24	21.40	21.51	21.50	0-2	0	
		1	49	21.49	21.54	21.40	0-2	0	
		25	0	21.33	21.47	21.39	0-3	0	
			25	12	21.32	21.49	21.36	0-3	0
			25	24	21.35	21.48	21.37	0-3	0
			50	0	21.34	21.50	21.38	0-3	0

LTE Band 66 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132047 Ch. 1717.5 MHz	132322 Ch. 1745 MHz	132597 Ch. 1772.5 MHz		
15 MHz	QPSK	1	0	21.31	21.45	21.42	0	0
		1	36	21.18	21.40	21.43	0	0
		1	74	21.32	21.47	21.40	0	0
		36	0	21.36	21.48	21.47	0-1	1
		36	18	21.35	21.45	21.44	0-1	1
		36	39	21.37	21.49	21.41	0-1	1
		75	0	21.38	21.50	21.42	0-1	1
	16QAM	1	0	21.57	21.71	21.66	0-1	1
		1	36	21.47	21.69	21.62	0-1	1
		1	74	21.58	21.77	21.67	0-1	1
		36	0	21.36	21.47	21.41	0-2	2
		36	18	21.33	21.45	21.43	0-2	2
		36	39	21.35	21.50	21.44	0-2	2
		75	0	21.38	21.50	21.44	0-2	2
	64QAM	1	0	21.49	21.63	21.53	0-2	2
		1	36	21.34	21.39	21.39	0-2	2
		1	74	21.49	21.69	21.56	0-2	2
		36	0	21.35	21.52	21.48	0-3	3
		36	18	21.39	21.51	21.41	0-3	3
		36	39	21.35	21.51	21.46	0-3	3
		75	0	21.37	21.46	21.40	0-3	3

LTE Band 66 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				132072 Ch. 1720 MHz	132322 Ch. 1745 MHz	132572 Ch. 1770 MHz		
20 MHz	QPSK	1	0	21.28	21.44	21.48	0	0
		1	49	21.23	21.39	21.37	0	0
		1	99	21.35	21.49	21.44	0	0
		50	0	21.31	21.46	21.48	0-1	1
		50	25	21.28	21.45	21.41	0-1	1
		50	49	21.29	21.47	21.40	0-1	1
		100	0	21.30	21.52	21.44	0-1	1
	16QAM	1	0	21.61	21.74	21.62	0-1	1
		1	49	21.54	21.56	21.55	0-1	1
		1	99	21.55	21.85	21.67	0-1	1
		50	0	21.30	21.47	21.44	0-2	2
		50	25	21.30	21.48	21.44	0-2	2
		50	49	21.32	21.49	21.41	0-2	2
		100	0	21.31	21.48	21.44	0-2	2
	64QAM	1	0	21.44	21.67	21.66	0-2	2
		1	49	21.58	21.63	21.68	0-2	2
		1	99	21.64	21.73	21.60	0-2	2
		50	0	21.34	21.48	21.45	0-3	3
		50	25	21.36	21.43	21.44	0-3	3
		50	49	21.31	21.47	21.42	0-3	3
		100	0	21.32	21.46	21.42	0-3	3

The EUT enables maximum power reduction in accordance with 3GPP 36.101. The MPR settings are configured during the manufacture process and are not configurable by the network, carrier, or end user.

### 11.3.4 LTE Reduced Conducted Power (Ear jack activated)

#### [ LTE Band 2 Conducted Power ]

LTE Band 2 \_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18607 Ch. 1850.7 MHz	18900 Ch. 1880 MHz	19193 Ch. 1909.3 MHz		
1.4 MHz	QPSK	1	0	21.45	21.65	21.36	0	0
		1	3	21.52	21.74	21.36	0	0
		1	5	21.46	21.63	21.35	0	0
		3	0	21.32	21.59	21.29	0	0
		3	1	21.58	21.79	21.46	0	0
		3	3	21.41	21.69	21.43	0	0
	16QAM	6	0	21.47	21.68	21.34	0-1	0
		1	0	21.41	21.88	21.54	0-1	0
		1	3	21.27	21.82	21.32	0-1	0
		1	5	21.88	21.49	21.35	0-1	0
		3	0	21.37	21.73	21.41	0-1	0
		3	1	21.61	21.89	21.33	0-1	0
	64QAM	3	3	21.68	21.86	21.48	0-1	0
		6	0	21.54	21.78	21.43	0-2	0
		1	0	21.85	21.57	21.60	0-2	0
		1	3	21.60	21.77	21.38	0-2	0
		1	5	21.52	21.98	21.33	0-2	0
		3	0	21.64	21.76	21.32	0-2	0
	3	1	21.50	21.88	21.37	0-2	0	
	3	3	21.64	21.73	21.53	0-2	0	
	6	0	20.65	20.84	20.21	0-3	0	

LTE Band 2 \_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18615 Ch. 1851.5 MHz	18900 Ch. 1880 MHz	19185 Ch. 1908.5 MHz		
3 MHz	QPSK	1	0	21.43	21.66	21.37	0	0
		1	7	21.50	21.75	21.37	0	0
		1	14	21.45	21.71	21.31	0	0
		8	0	21.56	21.85	21.41	0-1	0
		8	3	21.41	21.77	21.34	0-1	0
		8	7	21.55	21.74	21.44	0-1	0
		15	0	21.59	21.83	21.42	0-1	0
	16QAM	1	0	21.57	21.46	21.67	0-1	0
		1	7	21.61	21.93	21.42	0-1	0
		1	14	21.49	21.96	21.55	0-1	0
		8	0	21.45	21.83	21.44	0-2	0
		8	3	21.50	21.81	21.41	0-2	0
		8	7	21.53	21.84	21.47	0-2	0
	64QAM	15	0	21.42	21.79	21.46	0-2	0
		1	0	21.52	21.94	21.64	0-2	0
		1	7	21.70	21.54	21.56	0-2	0
		1	14	21.55	21.70	21.37	0-2	0
		8	0	20.58	20.77	20.58	0-3	0
		8	3	20.55	20.72	20.49	0-3	0
		8	7	20.61	20.87	20.40	0-3	0
	15	0	20.49	20.75	20.38	0-3	0	



LTE Band 2 \_ 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]	
				18625 Ch. 1852.5 MHz	18900 Ch. 1880 MHz	19175 Ch. 1907.5 MHz			
5 MHz	QPSK	1	0	21.41	21.86	21.38	0	0	
		1	12	21.29	21.81	21.35	0	0	
		1	24	21.42	21.71	21.37	0	0	
		12	0	21.58	21.84	21.48	0-1	0	
		12	6	21.57	21.77	21.49	0-1	0	
		12	11	21.56	21.82	21.45	0-1	0	
	16QAM	25	0	21.49	21.82	21.47	0-1	0	
		1	0	21.82	21.84	21.77	0-1	0	
		1	12	21.72	22.00	21.33	0-1	0	
		1	24	21.70	21.68	21.22	0-1	0	
		12	0	21.57	21.89	21.51	0-2	0	
		12	6	21.57	21.77	21.57	0-2	0	
	64QAM	12	11	21.51	21.67	21.38	0-2	0	
		25	0	21.46	21.84	21.40	0-2	0	
		1	0	21.79	22.18	21.85	0-2	0	
		1	12	21.74	21.71	21.49	0-2	0	
		1	24	20.53	22.04	21.16	0-2	0	
		12	0	20.39	20.86	20.51	0-3	0	
			12	6	20.66	20.81	20.48	0-3	0
			12	11	20.42	20.91	20.32	0-3	0
			25	0	20.47	20.79	20.51	0-3	0

LTE Band 2 \_ 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18650 Ch. 1855 MHz	18900 Ch. 1880 MHz	19150 Ch. 1905 MHz		
10 MHz	QPSK	1	0	21.88	21.66	21.95	0	0
		1	24	21.76	21.76	21.82	0	0
		1	49	21.75	21.71	21.91	0	0
		25	0	21.87	21.88	21.92	0-1	0
		25	12	21.93	21.78	21.92	0-1	0
		25	24	21.86	21.78	21.84	0-1	0
		50	0	21.87	21.79	21.91	0-1	0
	16QAM	1	0	21.77	22.16	21.84	0-1	0
		1	24	21.73	21.95	21.86	0-1	0
		1	49	22.07	22.18	21.82	0-1	0
		25	0	21.81	21.79	21.83	0-2	0
		25	12	21.71	21.82	21.86	0-2	0
		25	24	21.76	21.72	21.88	0-2	0
		50	0	21.84	21.75	21.93	0-2	0
	64QAM	1	0	21.98	21.97	21.85	0-2	0
		1	24	22.07	21.77	22.11	0-2	0
		1	49	21.99	21.94	21.89	0-2	0
		25	0	20.90	20.83	20.93	0-3	0
		25	12	20.83	20.77	20.89	0-3	0
		25	24	20.77	20.87	20.92	0-3	0
		50	0	20.94	20.88	20.92	0-3	0

LTE Band 2 \_ 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18675 Ch. 1857.5 MHz	18900 Ch. 1880 MHz	19125 Ch. 1902.5 MHz		
15 MHz	QPSK	1	0	21.95	21.71	21.91	0	0
		1	36	21.70	21.61	21.81	0	0
		1	74	21.74	21.81	21.91	0	0
		36	0	21.89	21.83	21.97	0-1	0
		36	18	21.87	21.78	22.00	0-1	0
		36	39	21.83	21.79	21.88	0-1	0
		75	0	21.87	21.81	22.00	0-1	0
	16QAM	1	0	22.14	21.80	21.97	0-1	0
		1	36	22.02	21.69	21.56	0-1	0
		1	74	22.16	21.77	22.18	0-1	0
		36	0	21.99	21.82	22.01	0-2	0
		36	18	21.88	21.87	21.90	0-2	0
		36	39	21.92	21.78	21.93	0-2	0
		75	0	21.82	21.81	21.96	0-2	0
	64QAM	1	0	21.70	22.06	21.85	0-2	0
		1	36	21.74	21.67	22.06	0-2	0
		1	74	21.72	21.93	22.07	0-2	0
		36	0	20.93	20.87	20.99	0-3	0
		36	18	20.84	20.83	20.98	0-3	0
		36	39	20.85	20.82	20.88	0-3	0
		75	0	20.88	20.83	20.90	0-3	0

LTE Band 2 \_ 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				18700 Ch. 1860 MHz	18900 Ch. 1880 MHz	19100 Ch. 1900 MHz		
20 MHz	QPSK	1	0	21.93	21.76	21.89	0	0
		1	49	21.84	21.68	21.80	0	0
		1	99	21.79	21.69	21.82	0	0
		50	0	21.92	21.81	21.92	0-1	0
		50	25	21.90	21.79	21.89	0-1	0
		50	49	21.85	21.76	21.89	0-1	0
		100	0	21.91	21.80	21.91	0-1	0
	16QAM	1	0	22.16	22.05	22.05	0-1	0
		1	49	21.94	21.91	21.00	0-1	0
		1	99	21.99	21.96	22.05	0-1	0
		50	0	21.93	21.84	21.93	0-2	0
		50	25	21.90	21.80	21.88	0-2	0
		50	49	21.84	21.77	21.87	0-2	0
		100	0	21.91	21.81	21.89	0-2	0
	64QAM	1	0	22.04	21.93	21.99	0-2	0
		1	49	21.92	21.84	21.89	0-2	0
		1	99	21.83	21.80	21.90	0-2	0
		50	0	20.91	20.84	20.90	0-3	0
		50	25	20.89	21.81	20.87	0-3	0
		50	49	20.85	20.79	20.88	0-3	0
		100	0	20.88	20.80	20.90	0-3	0

[ LTE Band 25 Conducted Power ]

LTE Band 25\_ 1.4 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26047 Ch. 1850.7 MHz	26365 Ch. 1882.5 MHz	26683 Ch. 1914.3 MHz		
1.4 MHz	QPSK	1	0	21.99	21.89	21.93	0	0
		1	3	22.03	21.91	21.97	0	0
		1	5	22.00	21.89	21.92	0	0
		3	0	21.99	21.84	21.85	0	0
		3	1	22.16	22.00	22.02	0	0
		3	3	22.08	21.96	21.97	0	0
		6	0	22.05	21.89	21.87	0-1	0
	16QAM	1	0	22.26	22.14	22.13	0-1	0
		1	3	21.97	21.96	21.90	0-1	0
		1	5	22.28	22.10	22.09	0-1	0
		3	0	22.05	21.89	21.90	0-1	0
		3	1	22.12	21.98	21.99	0-1	0
		3	3	22.09	21.96	21.98	0-1	0
		6	0	21.15	20.97	21.02	0-2	0
	64QAM	1	0	21.30	21.05	21.06	0-2	0
		1	3	21.13	20.99	20.97	0-2	0
		1	5	21.23	21.08	21.02	0-2	0
		3	0	21.12	20.97	20.96	0-2	0
		3	1	21.27	21.13	21.07	0-2	0
		3	3	21.16	20.99	20.97	0-2	0
		6	0	20.15	19.97	20.01	0-3	0

LTE Band 25\_ 3 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26055 Ch. 1851.5 MHz	26365 Ch. 1882.5 MHz	26675 Ch. 1913.5 MHz		
3 MHz	QPSK	1	0	22.07	21.88	21.93	0	0
		1	7	22.07	21.87	21.93	0	0
		1	14	22.08	21.85	21.95	0	0
		8	0	22.15	21.94	22.03	0-1	0
		8	3	22.10	21.91	21.97	0-1	0
		8	7	22.13	21.95	22.03	0-1	0
		15	0	22.18	22.00	22.05	0-1	0
	16QAM	1	0	22.30	22.18	22.06	0-1	0
		1	7	22.29	22.13	22.15	0-1	0
		1	14	22.23	22.15	22.06	0-1	0
		8	0	21.20	20.98	21.06	0-2	0
		8	3	21.17	20.93	20.98	0-2	0
		8	7	21.23	20.99	21.03	0-2	0
		15	0	21.21	20.98	21.05	0-2	0
	64QAM	1	0	21.27	21.15	21.08	0-2	0
		1	7	21.23	21.11	21.00	0-2	0
		1	14	21.22	21.11	21.02	0-2	0
		8	0	20.18	19.97	20.05	0-3	0
		8	3	20.14	19.98	19.98	0-3	0
		8	7	20.25	20.02	20.04	0-3	0
		15	0	20.19	19.98	20.02	0-3	0

LTE Band 25 5 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26065 Ch. 1852.5 MHz	26365 Ch. 1882.5 MHz	26665 Ch. 1912.5 MHz		
5 MHz	QPSK	1	0	22.12	21.96	21.98	0	0
		1	12	22.08	21.93	21.96	0	0
		1	24	22.06	21.91	21.97	0	0
		12	0	22.19	22.00	22.08	0-1	0
		12	6	22.19	22.03	22.06	0-1	0
		12	11	22.18	22.01	22.11	0-1	0
		25	0	22.15	22.01	22.04	0-1	0
	16QAM	1	0	22.29	22.17	22.20	0-1	0
		1	12	22.27	22.15	22.21	0-1	0
		1	24	22.30	22.16	22.16	0-1	0
		12	0	21.20	21.02	21.11	0-2	0
		12	6	21.16	21.01	21.10	0-2	0
		12	11	21.17	21.03	21.08	0-2	0
		25	0	21.16	21.01	21.04	0-2	0
	64QAM	1	0	21.24	21.06	21.17	0-2	0
		1	12	21.17	21.08	21.07	0-2	0
		1	24	20.17	21.12	21.16	0-2	0
		12	0	20.21	20.03	20.09	0-3	0
		12	6	20.21	20.02	20.07	0-3	0
		12	11	20.23	20.01	20.08	0-3	0
		25	0	20.19	20.04	20.10	0-3	0

LTE Band 25 10 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26090 Ch. 1855 MHz	26365 Ch. 1882.5 MHz	26640 Ch. 1910 MHz		
10 MHz	QPSK	1	0	22.45	21.98	22.03	0	0
		1	24	22.43	21.90	22.01	0	0
		1	49	22.40	21.92	22.07	0	0
		25	0	22.47	22.01	22.10	0-1	0
		25	12	22.47	22.00	22.08	0-1	0
		25	24	22.46	21.99	22.07	0-1	0
		50	0	22.54	22.04	22.18	0-1	0
	16QAM	1	0	22.63	22.26	22.24	0-1	0
		1	24	22.54	22.13	22.17	0-1	0
		1	49	22.54	22.13	22.20	0-1	0
		25	0	21.50	21.03	21.11	0-2	0
		25	12	21.48	21.01	21.11	0-2	0
		25	24	21.47	20.98	21.05	0-2	0
		50	0	21.52	21.03	21.14	0-2	0
	64QAM	1	0	21.64	21.16	21.25	0-2	0
		1	24	21.55	21.09	21.12	0-2	0
		1	49	21.53	21.18	21.08	0-2	0
		25	0	20.49	20.03	20.21	0-3	0
		25	12	20.49	20.02	20.10	0-3	0
		25	24	20.48	20.01	20.10	0-3	0
		50	0	20.53	20.03	20.16	0-3	0

LTE Band 25 15 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26115 Ch. 1857.5 MHz	26365 Ch. 1882.5 MHz	26615 Ch. 1907.5 MHz		
15	QPSK	1	0	22.04	22.03	22.05	0	0
		1	36	21.98	21.92	21.95	0	0
		1	74	21.93	21.97	22.01	0	0
		36	0	22.11	22.10	22.15	0-1	0
		36	18	22.08	22.04	22.11	0-1	0
		36	39	22.04	22.03	22.11	0-1	0
		75	0	22.09	22.09	22.11	0-1	0
	16QAM	1	0	22.24	22.26	22.27	0-1	0
		1	36	22.19	22.14	22.13	0-1	0
		1	74	22.13	22.12	22.15	0-1	0
		36	0	21.09	21.08	21.22	0-2	0
		36	18	21.07	21.05	21.09	0-2	0
		36	39	21.04	21.04	21.05	0-2	0
		75	0	21.04	21.04	21.12	0-2	0
	64QAM	1	0	21.20	21.22	21.20	0-2	0
		1	36	21.16	21.09	21.08	0-2	0
		1	74	21.15	21.13	21.17	0-2	0
		36	0	20.07	20.10	20.25	0-3	0
		36	18	20.07	20.00	20.09	0-3	0
		36	39	20.02	20.02	20.03	0-3	0
		75	0	20.04	20.00	20.09	0-3	0

LTE Band 25 20 MHz Bandwidth

Bandwidth	Modulation	RB Size	RB Offset	Reduced Power [dBm]			MPR Allowed Per 3GPP [dB]	MPR [dB]
				26140 Ch. 1860 MHz	26365 Ch. 1882.5 MHz	26590 Ch. 1905 MHz		
20 MHz	QPSK	1	0	22.18	22.05	22.09	0	0
		1	49	21.15	21.97	22.01	0	0
		1	99	22.08	21.96	22.03	0	0
		50	0	22.12	22.05	22.13	0-1	0
		50	25	22.09	22.04	22.13	0-1	0
		50	49	22.04	22.03	22.12	0-1	0
		100	0	22.08	22.07	22.15	0-1	0
	16QAM	1	0	22.29	22.26	22.40	0-1	0
		1	49	22.15	22.12	22.22	0-1	0
		1	99	22.14	22.18	22.20	0-1	0
		50	0	21.08	21.07	21.13	0-2	0
		50	25	21.06	21.04	21.10	0-2	0
		50	49	21.03	21.01	21.09	0-2	0
		100	0	21.06	21.04	21.12	0-2	0
	64QAM	1	0	21.30	21.29	21.36	0-2	0
		1	49	21.15	21.15	21.20	0-2	0
		1	99	21.19	21.16	21.27	0-2	0
		50	0	20.10	20.07	20.27	0-3	0
		50	25	20.05	20.04	20.09	0-3	0
		50	49	20.03	20.01	20.05	0-3	0
		100	0	20.05	20.02	20.09	0-3	0

#### 11.4.4 LTE Down-link Carrier Aggregation Conducted Powers

SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number component carriers (CCs) supported by test product implementation. For those configurations required by April 2018 TCBC Workshop notes, conducted power measurements with LTE Carrier Aggregation (CA) (downlink only) active are made in accordance to KDB Publication 941225 D05Av01r02. The RRC connection is only handled by one cell, the primary component carrier (PCC) for downlink and uplink communications. After making a data connection to the PCC, the UE device adds secondary component carrier(s) (SCC) on the downlink only.

##### **Downlink Carrier aggregation:**

1. This device only supports downlink carrier aggregation. For every supported combination of downlink carrier aggregation, power measurements were performed with the downlink carrier aggregation active for the configuration with highest measured maximum conducted power with downlink carrier aggregation inactive measured among the channel bandwidth, modulation, and RB combinations in each frequency band.
2. All control and acknowledge data is sent on uplink channels that operate identical to specifications when downlink carrier aggregation is inactive.
3. Per FCC KDB publication 941225 D05A v01r02, Section C)3)b)ii), PCC uplink channel was selected at downlink carrier aggregation combinations. The downlink PCC channel was paired with the selected PCC uplink channel according to normal configurations without carrier aggregation.
4. For continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to multiple of 300kHz less than the nominal channel spacing defined in section 5.4.1A of 3GPP TS 36.521.
5. For non-continuous intra-band carrier aggregation, the downlink channel spacing between the component carriers was set to be larger than the nominal channel spacing and provided maximum separation between the component carriers.
6. All selected downlink channels remained fully within the downlink transmission band of the respective component carrier.

##### **Uplink Carrier aggregation :**

1. This device supports uplink carrier aggregation for LTE CA\_41C with a maximum of 20 MHz component carriers. For intra-band contiguous carrier aggregation scenarios, 3GPP 36.101 Table 6.2.2A-1 specifies that aggregate maximum allowed output power is equivalent to the single carrier scenario. 3GPP 36.101 6.2.3A allows for several dB of MPR to be applied when non-contiguous RB allocation is implemented. The conducted Powers and MPR setting in this device are permanently implemented per the above 3GPP requirements.
2. Per Fall 2017 TCBC Workshop Notes, the output power with uplink CA active was measured for the configuration with the highest reported SAR with single carrier for each exposure condition. The power was measured with wideband signal integration over both component carriers.



Power Measurement setup

### LTE Down Link 2CA Call Setup

PCC Setting : Channel/ RB/ BW/ Modulation

### SCC Setting : Channel/ RB/ BW/ Modulation and call Connection

## 2CA Downlink Carrier aggregation conducted Powers

LTE Downlink 2CA Maximum Conducted Power

Combination	PCC									SCC				Tx Power		Deviation (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)	
2A-2A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	23.75	23.84	0.09
2A-4A(0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	23.75	23.94	0.19
2A-4A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	4	10	2175	2132.5	23.74	23.79	0.05
4A-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	23.79	23.74	-0.05
2A-5A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	23.75	23.83	0.08
2A-5A(1)	2	10	19150	1905	1150	1985	QPSK	1	24	5	10	2525	881.5	23.74	23.84	0.1
5A-2A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	23.84	24.05	0.21
2A-13A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	13	10	5230	751	23.75	23.88	0.13
2A-13A(1)	2	10	19150	1905	1150	1985	QPSK	1	24	13	10	5230	751	23.74	23.87	0.13
13A-2A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	23.42	23.66	0.24
2A-29A(0,1)	2	10	19150	1905	1150	1985	QPSK	1	49	29	10	9715	722.5	23.74	23.89	0.15
2A-29A(2)	2	20	19100	1900	1100	1980	QPSK	1	0	29	10	9715	722.5	23.75	23.86	0.11
2A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	30	10	9820	2355	23.75	23.92	0.17
30A-2A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	22.45	22.6	0.15
2A-66A(0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	23.75	23.95	0.2
2A-66A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	66	10	66786	2145	23.74	23.88	0.14
66A-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	24.33	24.23	-0.1
4A-4A(0)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	23.79	23.73	-0.06
4A-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	49	4	10	2000	2115	23.78	23.7	-0.08
4A-5A(0)	4	10	20350	1750	2350	2150	QPSK	1	49	5	10	2525	881.5	23.78	23.63	-0.15
4A-5A(1)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	5	10	2525	881.5	23.79	23.68	-0.11
5A-4A	5	10	20525	836.5	2525	881.5	QPSK	1	49	4	20	2175	2132.5	23.84	24.07	0.23
4A-12A(1,2,4)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	12	10	5095	737.5	23.79	23.66	-0.13
4A-12A(0,3)	4	10	20350	1750	2350	2150	QPSK	1	49	12	10	5095	737.5	23.78	23.63	-0.15
4A-12A(5)	4	10	20350	1750	2350	2150	QPSK	1	49	12	5	5095	737.5	23.78	23.62	-0.16
12A-4A	12	5	23095	707.5	5095	737.5	QPSK	1	0	4	20	2175	2132.5	24.32	24.35	0.03
5A-30A	5	10	20525	836.5	2525	881.5	QPSK	1	49	30	10	9820	2355	23.48	23.73	0.25
30A-5A	30	10	27710	2310	9820	2355	QPSK	1	0	5	10	2525	881.5	22.45	22.67	0.22
5A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	66	20	66786	2145	23.48	23.66	0.18
66A-5A	66	20	132322	1745	66786	2145	QPSK	1	99	5	10	2525	881.5	24.33	24.2	-0.13
5A-5A(0)	5	10	20450	829	2450	874	QPSK	1	0	5	10	2600	889	24.18	24.04	-0.14
5A-5A(1)	5	3	20525	836.5	2525	881.5	QPSK	1	49	5	5	2625	891.5	23.74	24.14	0.4
5B	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	23.84	24.05	0.21
12A-30A	12	5	23095	707.5	5095	737.5	QPSK	1	0	30	10	9820	2355	24.32	24.38	0.06
30A-12A	30	10	27710	2310	9820	2355	QPSK	1	0	12	10	5095	737.5	22.45	22.63	0.18
13A-66A	13	5	23255	784.5	5255	753.5	QPSK	1	0	66	20	66786	2145	23.42	23.63	0.21
66A-13A	66	20	132322	1745	66786	2145	QPSK	1	99	13	10	5230	751	24.33	24.31	-0.02
25A-25A(0)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	25	10	8640	1990	23.65	23.31	-0.34
25A-25A(1)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	23.72	23.33	-0.39
25A-26A(0)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	26	15	8865	876.5	23.72	23.12	-0.6
25A-26A(1,2)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	26	10	8865	876.5	23.65	23.59	-0.06
26A-25A	26	15	26865	831.5	8865	876.5	QPSK	1	0	25	20	8365	1962.5	23.91	23.84	-0.07
25A-41A	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	41	20	40620	2593	23.72	23.24	-0.48
26A-41A	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	40620	2593	23.91	24.13	0.22
30A-29A	30	10	27710	2310	9820	2355	QPSK	1	0	29	10	9715	722.5	22.45	22.62	0.17
30A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	66	20	66786	2145	22.45	22.68	0.23
66A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	30	10	9820	2355	24.33	24.15	-0.18
41A-41A(0,1)	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	41490	2680	22.7	22.67	-0.03
41C(0,1,2,3)	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	40383	2569.3	22.7	22.71	0.01
66A-66A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	24.33	24.17	-0.16
66B	66	15	132322	1745	66786	2145	QPSK	1	74	66	5	66879	2154.3	24.3	24.18	-0.12
66C	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	24.33	24.16	-0.17



Combination HPUE	PCC									SCC				Tx Power		Deviaion (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)	
41A-41A(0,1)	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	41490	2680	25.64	25.52	-0.12
41C(0,1,2,3)	41	20	39750	2506	39750	2506	QPSK	1	0	41	20	40383	2569.3	25.64	25.52	-0.12

**ULCA**

Combination	PCC									SCC						Tx Power		Deviaion (2)-(1)	
	Band	BW	PCC UL/DL Channel	PCC UL/DL Frequency	PCC UL/DL Channel	PCC UL/DL Frequency	Modulation	RB	offset	Band	BW	SCC UL Channel	SCC UL Frequency	Modulation	RB	offset	LTE Single Carrier Tx Power (dBm)		LTE Tx Power with UL CA Enabled(dBm)
CA_41C MAX	41	20	39750	2506	39750	2506	QPSK	1	99	41	20	39948	2525.8	QPSK	1	0	22.50	23.23	0.73
CA_41C Hotspot	41	20	39750	2506	39750	2506	QPSK	1	99	41	20	39948	2525.8	QPSK	1	0	20.54	21.24	0.7

### LTE Down Link 3CA Call Setup

#### 1) PCC Setting: Channel /RB/BW/Modulation

Phone2 SCC for Phone1

Phone1 LTE 30.705#005

DL Channel 2175 ch

TPC Pattern All +3dB

Input Level 30.0 dBm

Channel Bandwidth 5 MHz

Output Level -60.2 dBm

Channel Bandwidth BANDWIDTH

Measurement

Occupied Bandwidth

Spectrum Emission Mask

Numeric

TX Power \*\*\*\*\* dBm

Freq. Err -7.48 ppm

EVM 111.69 %(rms)

Adjacent Channel Power

In-Band Emission

Spectrum Flatness

EVM 111.69 %(rms)

Phase Error

Magnitude Error

Constellation

Throughput

UE Power : -21.5 dBm

MT8821C 2019/03/18 13:36 RF Output : On DL 3CCs

#### 2) SCC1 Setting : Channel /RB/BW/Modulation

Phone2 SCC for Phone1

Phone1 LTE 30.705#005

DL Channel 5035 ch

Activation On

Output On

Channel Bandwidth 5 MHz

Output Level -60.2 dBm

SCC-1/2/3/4/5 - Channel Bandwidth [21C only] BANDWIDTH\_SCC1

Measurement

Occupied Bandwidth

Spectrum Emission Mask

Numeric

TX Power \*\*\*\*\* dBm

Freq. Err \*\*\*\*\* ppm

EVM \*\*\*\*\* %(rms)

Adjacent Channel Power

In-Band Emission

Spectrum Flatness

EVM \*\*\*\*\* %(rms)

Phase Error

Magnitude Error

Constellation

Throughput

UE Power : -21.5 dBm

MT8821C 2019/03/18 13:37 RF Output : On DL 3CCs

### 3) SCC2 Setting (Channel /RB/BW/Modulation )and call Connection

The screenshot displays the configuration and measurement interface for a mobile device. Key elements include:

- Top Bar:** Shows 'Phone1' with LTE mode and channel 30.70S#005. A red dashed box highlights the 'DL Channel' (5154 ch), 'Operation Band' (12), and 'Channel Bandwidth' (5 MHz).
- Configuration:** 'DL Channel' is set to 5154 ch, 'Operation Band' to 12, and 'Channel Bandwidth' to 5 MHz. 'Activation' and 'Output' are both 'On'. 'Output Level' is -60.2 dBm.
- Measurement Section:**
  - Numeric:** TX Power: 21.81 dBm, Freq. Err: 0.01 ppm, EVM: 4.07 %(rms).
  - Occupied Bandwidth:** On
  - Spectrum Emission Mask:** On
  - Adjacent Channel Power:** On
  - In-Band Emission:** Graph showing signal spectrum.
  - Spectrum Flatness:** Graph showing signal flatness.
  - EVM:** Graph showing Error Vector Magnitude with a value of 4.07 %(rms).
  - Phase Error:** Graph showing phase error.
  - Magnitude Error:** Graph showing magnitude error.
  - Constellation:** Graph showing a 4-point QPSK constellation.
  - Throughput:** On
- Right Panel:** Shows 'MT8821C' carrier on LTE-A, RF Output: On, and DL 3CCs. A 'Connected' status is shown with a blue button.
- Bottom Bar:** Includes 'Home', 'Preset', 'Measuring...', Tx/Rx level indicators, 'Single'/'Continuous' modes, 'Start Call', 'End Call', and 'Menu' buttons.

### 3CA Downlink Carrier aggregation conducted Powers

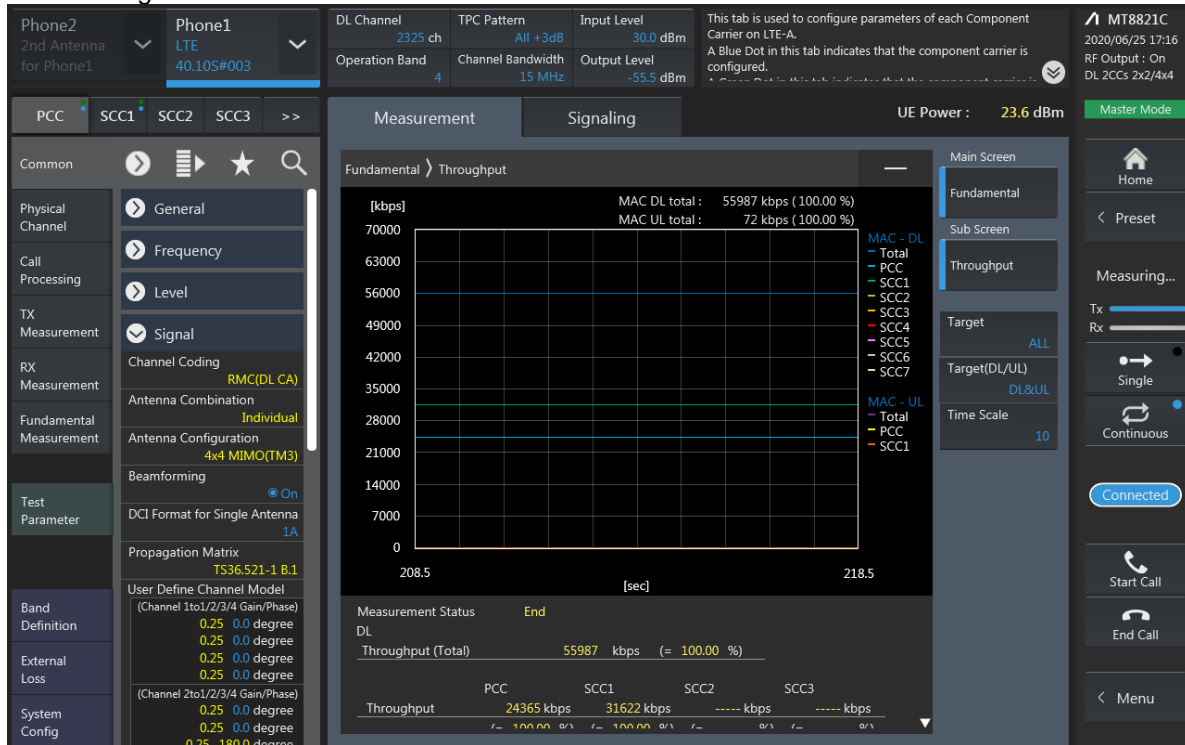
LTE Downlink 3CA Maximum Conducted Power

Combination	PCC									SCC				SCC				Tx Power		Deviation (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled (dBm)	
2A-2A-4A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.75	23.66	-0.09
4A-2A-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	2	20	1100	1980	23.79	23.83	0.04
2A-2A-5A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	23.75	24.15	0.4
5A-2A-2A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	2	20	1100	1980	23.84	23.92	0.08
2A-2A-12A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	12	10	5095	737.5	23.75	23.67	-0.08
12A-2A-2A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	24.32	24.3	-0.02
2A-2A-13A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	13	10	5230	751	23.75	23.64	-0.11
13A-2A-2A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.42	23.44	0.02
2A-2A-14A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	14	10	5330	763	23.75	23.71	-0.04
14A-2A-2A	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.51	23.55	0.04
2A-2A-29A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.75	23.72	-0.03
2A-2A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	30	10	9820	2355	23.75	23.69	-0.06
30A-2A-2A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	2	20	1100	1980	22.45	22.44	-0.01
2A-2A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	24.25	0.5
66A-2A-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.37	0.04
2C-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	902	1960.2	66	20	67036	2170	23.75	23.77	0.02
66A-2C	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1098	1979.8	24.33	24.4	0.07
2A-2A-71A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	71	20	68786	637	23.75	23.76	0.01
71A-2A-2A	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.36	24.48	0.12
2A-4A-4A	2	20	19100	1900	1100	1980	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.75	23.74	-0.01
4A-4A-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	2	20	900	1960	23.79	23.88	0.09
2A-4A-5A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	23.75	23.71	-0.04
4A-2A-5A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	5	10	2525	881.5	23.79	23.85	0.06
5A-2A-4A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	4	20	2175	2132.5	23.84	24.34	0.5
2A-4A-12A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	12	10	5095	737.5	23.75	23.74	-0.01
4A-2A-12A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	12	10	5095	737.5	23.79	23.61	-0.18
12A-2A-4A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	24.32	24.38	0.06
2A-4A-13A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	23.75	23.73	-0.02
4A-2A-13A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	13	10	5230	751	23.79	23.82	0.03
13A-2A-4A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.42	23.44	0.02
2A-4A-71A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	71	20	68786	637	23.75	23.68	-0.07
4A-2A-71A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	71	20	68786	637	23.79	23.84	0.05
71A-2A-4A	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	4	20	2175	2132.5	24.36	24.56	0.2
2A-5A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	30	10	9820	2355	23.75	23.58	-0.17
5A-2A-30A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	30	10	9820	2355	23.84	23.86	0.02
30A-2A-5A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	22.45	22.46	0.01
2A-5A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	66	20	67036	2170	23.75	23.73	-0.02
5A-2A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	66	20	67036	2170	23.84	23.91	0.07
66A-2A-5A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	5	10	2525	881.5	24.33	24.36	0.03
2A-5B	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	5	10	2426	871.6	23.75	23.67	-0.08
5B-2A	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	2	20	900	1960	23.84	23.88	0.04
2A-12B	2	20	19100	1900	1100	1980	QPSK	1	0	12	5	5095	737.5	12	10	5167	744.7	23.75	23.62	-0.13
12B-2A	12	5	23095	707.5	5095	737.5	QPSK	1	0	12	10	5167	744.7	2	20	900	1960	24.32	24.27	-0.05
2A-12A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	30	10	9820	2355	23.75	23.54	-0.21
12A-2A-30A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	30	10	9820	2355	24.32	24.28	-0.04
30A-2A-12A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	12	10	5095	737.5	22.45	22.49	0.04
2A-12A-66A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	66	20	67036	2170	23.75	23.77	0.02
2A-12A-66A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	12	10	5095	737.5	66	20	67036	2170	23.74	23.89	0.15
12A-2A-66A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	66	20	67036	2170	24.32	24.35	0.03
66A-2A-12A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	12	10	5095	737.5	24.33	24.43	0.1
2A-13A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	13	10	5230	751	66	20	67036	2170	23.75	23.71	-0.04
13A-2A-66A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.42	23.47	0.05
66A-2A-13A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	13	10	5230	751	24.33	24.45	0.12
2A-14A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	14	10	5330	763	30	10	9820	2355	23.75	23.59	-0.16
14A-2A-30A	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	30	10	9820	2355	23.51	23.58	0.07
30A-2A-14A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	14	10	5330	763	22.45	22.48	0.03
2A-14A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	14	10	5330	763	66	20	67036	2170	23.75	24.25	0.5
14A-2A-66A	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.51	23.56	0.05
66A-2A-14A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	14	10	5330	763	24.33	24.43	0.1
2A-29A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	29	10	9715	722.5	30	10	9820	2355	23.75	23.62	-0.13
30A-2A-29A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	22.45	22.48	0.03
2A-29A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	29	10	9715	722.5	66	20	67036	2170	23.75	23.74	-0.01
66A-2A-29A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	29	10	9715	722.5	24.33	24.47	0.14

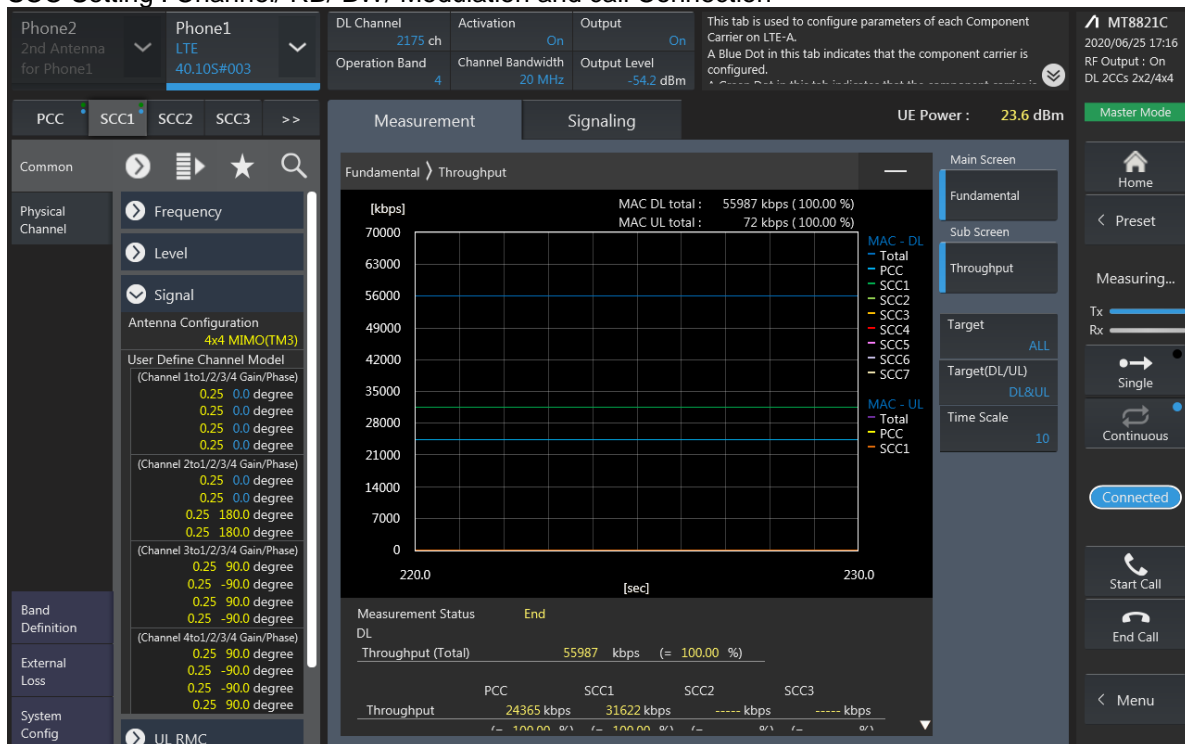
2A-66B	2	20	19100	1900	1100	1980	QPSK	1	0	66	15	66786	2145	66	5	66879	2154.3	23.75	23.83	0.08
66B-2A	66	15	132322	1745	66786	2145	QPSK	1	74	66	5	66879	2154.3	2	20	900	1960	24.33	24.46	0.13
2A-66C	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	66	20	66984	2164.8	23.75	23.86	0.11
66C-2A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	2	20	900	1960	24.33	24.4	0.07
2A-66A-71A	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	71	20	68786	637	23.75	23.81	0.06
66A-2A-71A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	71	20	68786	637	24.33	24.42	0.09
71A-2A-66A	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	66	20	67036	2170	24.36	24.5	0.14
4A-4A-5A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	5	10	2525	881.5	23.79	23.89	0.1
5A-4A-4A	5	10	20525	836.5	2525	881.5	QPSK	1	49	4	15	2325	2147.5	4	20	2175	2132.5	23.84	23.94	0.1
4A-4A-12A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	12	10	5167	744.7	23.79	23.91	0.12
12A-4A-4A	12	5	23095	707.5	5095	737.5	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	24.32	24.42	0.1
4A-4A-13A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	13	10	5230	751	23.79	23.92	0.13
13A-4A-4A	13	5	23255	784.5	5255	753.5	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.42	23.55	0.13
4A-4A-71A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	71	20	68786	637	23.79	23.88	0.09
71A-4A-4A	71	20	133322	683	68786	2145	QPSK	1	99	4	15	2325	2147.5	4	20	2175	2132.5	24.36	24.6	0.24
4A-5B	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	5	10	2525	881.5	5	10	2426	871.6	23.79	23.92	0.13
5B-4A	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	4	20	2175	2132.5	23.84	24.01	0.17
4A-12B	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	12	5	5095	737.5	12	10	5167	744.7	23.79	23.87	0.08
12B-4A	12	5	23095	707.5	5095	737.5	QPSK	1	0	12	10	5167	744.7	4	20	2175	2132.5	24.32	24.4	0.08
5A-5A-66A	5	10	20450	829	2450	874	QPSK	1	0	5	10	2600	889	66	20	66786	2145	23.84	23.89	0.05
66A-5A-5A	66	20	132322	1745	66786	2145	QPSK	1	99	5	10	2450	874	5	10	2600	889	24.33	24.44	0.11
5A-30A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	30	10	9820	2355	66	20	66786	2145	23.84	23.99	0.15
30A-5A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	5	10	2525	881.5	66	20	66786	2145	22.45	22.59	0.14
66A-5A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	5	10	2525	881.5	30	10	9820	2355	24.33	24.47	0.14
5A-66A-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	66	20	66786	2145	66	20	67036	2170	23.84	24.02	0.18
66A-66A-5A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	5	10	2525	881.5	24.33	24.45	0.12
5A-66B	5	10	20525	836.5	2525	881.5	QPSK	1	49	66	15	66786	2145	66	5	66879	2154.3	23.84	24.02	0.18
66B-5A	66	15	132322	1745	66786	2145	QPSK	1	74	66	5	66879	2154.3	5	10	2525	881.5	24.3	24.48	0.18
5A-66C	5	10	20525	836.5	2525	881.5	QPSK	1	49	66	20	66786	2145	66	20	66984	2164.8	23.84	23.98	0.14
66C-5A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	5	10	2525	881.5	24.33	24.45	0.12
5B-30A	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	30	10	9820	2355	23.84	23.93	0.09
30A-5B	30	10	27710	2310	9820	2355	QPSK	1	0	5	10	2525	881.5	5	10	2426	871.6	22.45	22.51	0.06
5B-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	66	20	67036	2170	23.84	23.93	0.09
66A-5B	66	20	132322	1745	66786	2145	QPSK	1	99	5	10	2525	881.5	5	10	2426	871.6	24.33	24.47	0.14
12A-30A-66A	12	5	23095	707.5	5095	737.5	QPSK	1	0	30	10	9820	2355	66	20	66786	2145	24.32	24.52	0.2
30A-12A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	12	10	5095	737.5	66	20	66786	2145	22.45	22.52	0.07
66A-12A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	12	10	5095	737.5	30	10	9820	2355	24.33	24.46	0.13
12A-66A-66A	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	20	66786	2145	66	20	67036	2170	24.32	24.39	0.07
66A-66A-12A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	12	10	5167	744.7	24.33	24.49	0.16
12A-66C	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	20	66786	2145	66	20	66984	2164.8	24.32	24.55	0.23
66C-12A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	12	10	5167	744.7	24.33	24.46	0.13
12B-66A	12	5	23095	707.5	5095	5095	737.5	1	0	12	10	744.7	5167	66	20	66786	2145	24.32	24.38	0.06
66A-12B	66	20	132322	1745	66786	2145	QPSK	1	99	12	5	5095	737.5	12	10	5167	744.7	24.33	24.49	0.16
13A-66A-66A	13	5	23255	784.5	5255	753.5	QPSK	1	0	66	20	66786	2145	66	20	67036	2170	23.42	23.46	0.04
66A-66A-13A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	13	10	5230	751	24.33	24.48	0.15
13A-66B	13	5	23255	784.5	5255	753.5	QPSK	1	0	66	15	66786	2145	66	5	66879	2154.3	23.42	23.46	0.04
66B-13A	66	15	132322	1745	66786	2145	QPSK	1	74	66	5	66879	2154.3	13	10	5230	751	24.3	24.47	0.17
13A-66C	13	5	23255	784.5	5255	753.5	QPSK	1	0	66	20	66786	2145	66	20	66984	2164.8	23.42	23.62	0.2
66C-13A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	13	10	5230	751	24.33	24.42	0.09
14A-30A-66A	14	10	23330	793	5330	763	QPSK	1	0	30	10	9820	2355	66	20	66786	2145	23.51	23.58	0.07
30A-14A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	14	10	5330	763	66	20	66786	2145	22.45	22.63	0.18
66A-14A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	14	10	5330	763	30	10	9820	2355	24.33	24.48	0.15
14A-66A-66A	14	10	23330	793	5330	763	QPSK	1	0	66	20	66786	2145	66	20	67036	2170	23.51	23.55	0.04
66A-66A-14A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	14	10	5330	763	24.33	24.49	0.16
25A-25A-26A	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	26	15	8865	876.5	23.72	23.12	-0.6
26A-25A-25A	26	15	26865	831.5	8865	876.5	QPSK	1	0	25	10	8365	1962.5	25	10	8640	1990	23.91	24.14	0.23
25A-25A-41A	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	41	20	40620	2593	23.72	23.21	-0.51
41A-25A-25A	41	20	39750	2506	39750	2506	QPSK	1	0	25	20	8365	1962.5	25	20	8615	1987.5	22.7	22.85	0.15
25A-41C	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	41	20	39750	2506	41	20	40383	2569.3	23.72	23.2	-0.52
26A-41C	26	15	26865	831.5	8865	876.5	QPSK	1	0	41	20	39750	2506	41	20	40383	2569.3	23.91	24.13	0.22
30A-29A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	29	10	9715	722.5	66	20	66786	2145	22.45	22.52	0.07
66A-29A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	29	10	9715	722.5	30	10	9820	2355	24.33	24.49	0.16
30A-66A-66A	30	10	27710	2310	9820	2355	QPSK	1	0	66	20	66786	2145	66	20	67036	2170	22.45	22.54	0.09
66A-66A-30A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	30	10	9820	2355	24.33	24.5	0.17
66A-66C	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67038	2170.2	66	20	67236	2190	24.33	24.48	0.15
66C-66A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	66						

### LTE Down Link 2CA 4x4 MIMO Call Setup

#### PCC Setting : Channel/ RB/ BW/ Modulation



#### SCC Setting : Channel/ RB/ BW/ Modulation and call Connection

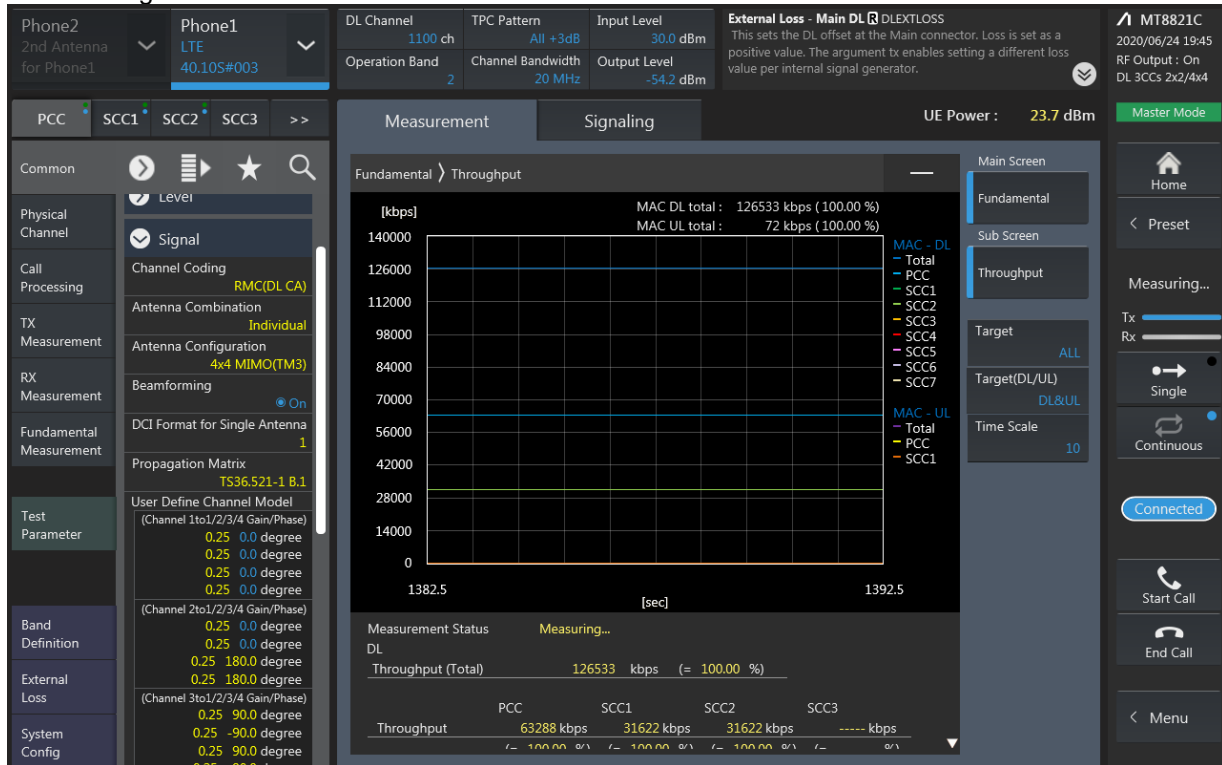


LTE Downlink 2CA 4X4 MIMO **Maximum** Conducted Power

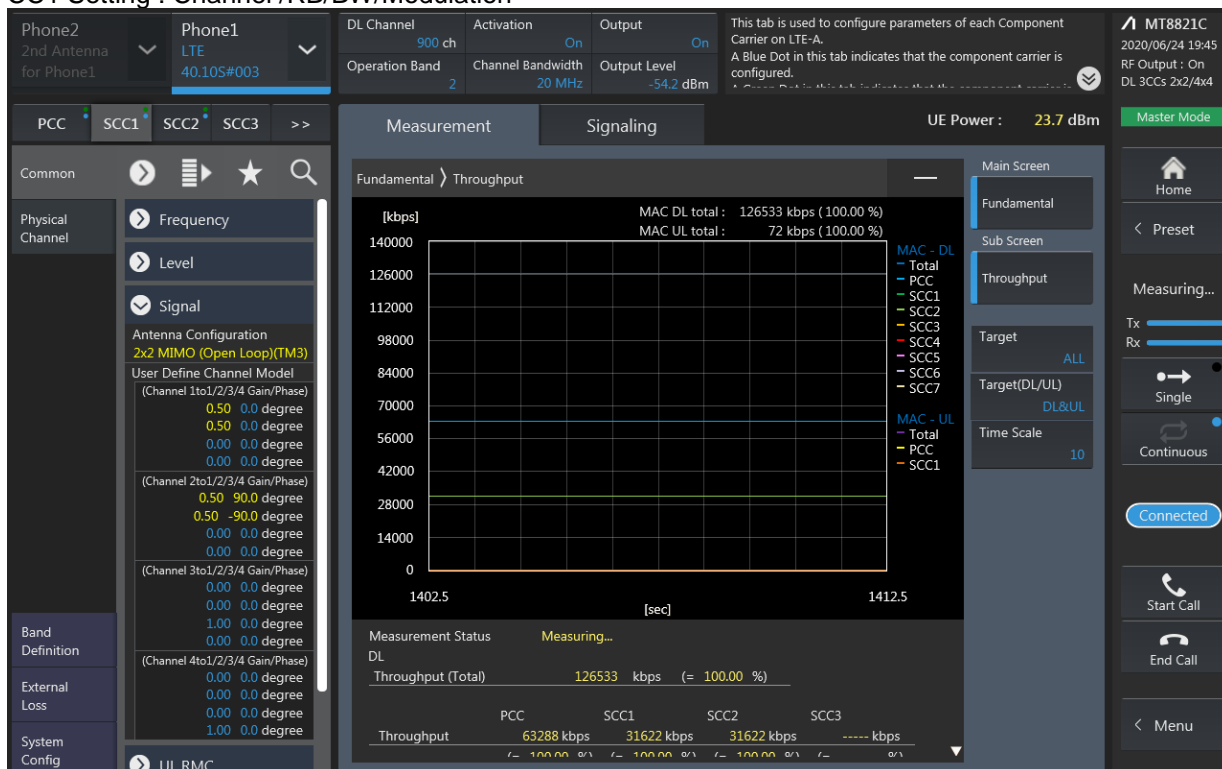
Combination	PCC									SCC				Tx Power		Deviaion (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled (dBm)	
2A-[2A](0)	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	23.75	23.77	0.02
[2A]-2A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	23.75	23.8	0.05
[2A]-[2A](0)	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	23.75	23.78	0.03
[2A]-4A(0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	23.75	23.79	0.04
2A-[4A](0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	23.75	23.81	0.06
[2A]-[4A](0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	23.75	23.77	0.02
[2A]-4A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	4	10	2175	2132.5	23.74	23.83	0.09
2A-[4A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	4	10	2175	2132.5	23.74	23.9	0.16
[2A]-[4A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	4	10	2175	2132.5	23.74	23.78	0.04
4A-[2A]	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	23.79	23.84	0.05
[4A]-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	23.79	23.82	0.03
[4A]-[2A]	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	23.79	23.8	0.01
[2A]-5A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	23.75	23.86	0.11
[2A]-5A(1)	2	10	19150	1905	1150	1985	QPSK	1	24	5	10	2525	881.5	23.74	23.84	0.1
5A-[2A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	23.84	23.88	0.04
[2A]-13A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	13	10	5230	751	23.75	23.85	0.1
[2A]-13A(1)	2	10	19150	1905	1150	1985	QPSK	1	24	13	10	5230	751	23.74	23.91	0.17
13A-[2A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	23.42	23.47	0.05
[2A]-29A(0,1)	2	10	19150	1905	1150	1985	QPSK	1	49	29	10	9715	722.5	23.74	23.86	0.12
[2A]-29A(2)	2	20	19100	1900	1100	1980	QPSK	1	0	29	10	9715	722.5	23.75	23.85	0.1
[2A]-30A	2	20	19100	1900	1100	1980	QPSK	1	0	30	10	9820	2355	23.75	23.84	0.09
30A-[2A]	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	22.45	22.56	0.11
[2A]-66A(0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	23.75	23.83	0.08
2A-[66A](0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	23.75	23.87	0.12
[2A]-[66A](0,2)	2	20	19100	1900	1100	1980	QPSK	1	0	66	20	66786	2145	23.75	23.87	0.12
[2A]-66A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	66	10	66786	2145	23.74	23.82	0.08
2A-[66A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	66	10	66786	2145	23.74	23.91	0.17
[2A]-[66A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	66	10	66786	2145	23.74	23.8	0.06
66A-[2A]	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	24.33	24.41	0.08
[66A]-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	24.33	24.33	0
[66A]-[2A]	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	24.33	24.35	0.02
[4A]-4A(0)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	23.79	23.84	0.05
4A-[4A](0)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	23.79	23.82	0.03
[4A]-[4A](0)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175	2132.5	23.79	23.89	0.1
[4A]-4A(1)	4	10	20350	1750	2350	2150	QPSK	1	49	4	10	2000	2115	23.78	23.88	0.1
4A-[4A](1)	4	10	20350	1750	2350	2150	QPSK	1	49	4	10	2000	2115	23.78	23.91	0.13
[4A]-[4A](1)	4	10	20350	1750	2350	2150	QPSK	1	49	4	10	2000	2115	23.78	23.85	0.07
[4A]-5A(0)	4	10	20350	1750	2350	2150	QPSK	1	49	5	10	2525	881.5	23.78	23.84	0.06
[4A]-5A(1)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	5	10	2525	881.5	23.79	23.78	-0.01
5A-[4A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	4	20	2175	2132.5	23.84	23.88	0.04
[4A]-12A(1,2,4)	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	12	10	5095	737.5	23.79	23.86	0.07
[4A]-12A(0,3)	4	10	20350	1750	2350	2150	QPSK	1	49	12	10	5095	737.5	23.78	23.81	0.03
[4A]-12A(5)	4	10	20350	1750	2350	2150	QPSK	1	49	12	5	5095	737.5	23.78	23.83	0.05
12A-[4A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	4	20	2175	2132.5	24.32	24.48	0.16
5A-[66A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	66	20	66786	2145	23.79	23.84	0.05
[66A]-5A	66	20	132322	1745	66786	2145	QPSK	1	99	5	10	2525	881.5	24.33	24.32	-0.01
12A-[66A](0,1,3)	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	20	66786	2145	23.48	23.49	0.01
12A-[66A](4)	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	15	66786	2145	23.48	23.54	0.06
12A-[66A](2)	12	5	23095	707.5	5095	737.5	QPSK	1	0	66	10	66786	2145	23.48	23.48	0
13A-[66A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	66	20	66786	2145	23.42	23.37	-0.05
[66A]-13A	66	20	132322	1745	66786	2145	QPSK	1	99	13	10	5230	751	24.33	24.32	-0.01
25A-[25A](0)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	25	10	8640	1990	23.65	23.71	0.06
[25A]-25A(0)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	25	10	8640	1990	23.65	23.78	0.13
[25A]-[25A](0)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	25	10	8640	1990	23.65	23.76	0.11
25A-[25A](1)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	23.72	23.73	0.01
[25A]-25A(1)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	23.72	23.81	0.09
[25A]-[25A](1)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	25	20	8590	1985	23.72	23.7	-0.02
[25A]-26A(0)	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	26	15	8865	876.5	23.72	23.74	0.02
[25A]-26A(1,2)	25	10	26365	1882.5	8365	1962.5	QPSK	1	0	26	10	8865	876.5	23.65	23.69	0.04
26A-[25A]	26	15	26865	831.5	8865	876.5	QPSK	1	0	25	20	8365	1962.5	23.91	23.94	0.03
[25A]-41A	25	15	26365	1882.5	8365	1962.5	QPSK	1	0	41	20	40620	2593	23.72	23.79	0.07
[66A]-29A	66	20	132322	1745	66786	2145	QPSK	1	99	29	10	9715	722.5	24.33	24.38	0.05
30A-[66A]	30	10	27710	2310	9820	2355	QPSK	1	0	66	20	66786	2145	22.45	22.5	0.05
[66A]-30A	66	20	132322	1745	66786	2145	QPSK	1	99	30	10	9820	2355	24.33	24.37	0.04
66A-[66A]	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	24.33	24.38	0.05
[66A]-66A	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	24.33	24.35	0.02
[66A]-[66A]	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	67036	2170	24.33	24.33	0
[66B]	66	15	132322	1745	66786	2145	QPSK	1	74	66	5	66879	2154.3	24.3	24.38	0.08
[66C]	66	20	132322	1745	66786	2145	QPSK	1	99	66	20	66984	2164.8	24.33	24.34	0.01
[66A]-71A	66	20	132322	1745	66786	2145	QPSK	1	99	71	20	68786	637	24.33	24.34	0.01

### LTE Down Link 3CA 4x4 MIMO Call Setup

#### PCC Setting: Channel /RB/BW/Modulation



#### CC1 Setting : Channel /RB/BW/Modulation





SCC2 Setting (Channel /RB/BW/Modulation )and call Connection

The screenshot displays the configuration and measurement interface for an LTE test. The top section shows the carrier configuration for Phone1 (LTE, 40.10S#003) and Phone2 (2nd Antenna for Phone1). The DL Channel is set to 2175 ch, Operation Band to 4, Channel Bandwidth to 20 MHz, and Output Level to -54.2 dBm. The UE Power is 23.7 dBm.

The central part of the interface shows the 'Measurement' tab with a 'Throughput' graph. The graph plots throughput in kbps over time (1420.0 to 1430.0 seconds). The MAC DL total is 126533 kbps (100.00%) and the MAC UL total is 72 kbps (100.00%). The graph shows multiple lines for Total, PCC, SCC1, SCC2, SCC3, SCC4, SCC5, and SCC7.

Below the graph, the 'Measurement Status' is 'Measuring...'. The DL Throughput (Total) is 126533 kbps (= 100.00%). A summary table shows the throughput for each component carrier:

Throughput	PCC	SCC1	SCC2	SCC3
	63288 kbps	31622 kbps	31622 kbps	----- kbps
	100.00 %	100.00 %	100.00 %	0 %

The left sidebar contains configuration options for Physical Channel (Frequency, Level, Signal), Antenna Configuration (2x2 MIMO (Open Loop)(TM3)), User Define Channel Model (Gain/Phase for Channels 1-4), Band Definition, External Loss, and System Config (DL RMC).

The right sidebar shows the 'Master Mode' and 'Connected' status, along with buttons for Home, Preset, Measuring..., Single, Continuous, Start Call, End Call, and Menu.

LTE Downlink 3CA 4X4 MIMO **Maximum** Conducted Power

Combination	PCC									SCC				SCC				Tx Power		Deviation (2)-(1)
	Band	BW	PCC UL Channel	PCC UL Frequency	PCC DL Channel	PCC DL Frequency	Modulation	RB	offset	Band	BW	SCC DL Channel	SCC DL Frequency	Band	BW	SCC DL Channel	SCC DL Frequency	LTE Single Carrier Tx Power (dBm)	LTE Tx Power with DL CA Enabled(dBm)	
[2A]-2A-4A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.75	23.86	0.11
2A-2A-[4A]	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.75	23.88	0.13
[2A]-2A-[4A]	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.75	23.83	0.08
[2A]-[2A]-4A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	4	20	2175	2132.5	23.75	23.81	0.06
4A-[2A]-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	2	20	1100	1980	23.79	23.81	0.02
[4A]-2A-2A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	2	20	1100	1980	23.79	23.78	-0.01
[4A]-2A-[2A]	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	2	20	1100	1980	23.79	23.78	-0.01
4A-[2A]-[2A]	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	1960	2	20	1100	1980	23.79	23.81	0.02
2A-[2A]-5A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	23.75	23.78	0.03
[2A]-2A-5A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	23.75	23.82	0.07
[2A]-[2A]-5A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	5	10	2525	881.5	23.75	23.81	0.06
5A-2A-[2A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	2	20	1100	1980	23.84	23.88	0.04
5A-[2A]-2A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	2	20	1100	1980	23.84	24.01	0.17
5A-[2A]-[2A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	1960	2	20	1100	1980	23.84	23.91	0.07
2A-[2A]-12A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	12	10	5095	737.5	23.75	23.83	0.08
[2A]-2A-12A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	12	10	5095	737.5	23.75	23.78	0.03
[2A]-[2A]-12A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	12	10	5095	737.5	23.75	23.81	0.06
12A-2A-[2A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	24.32	24.4	0.08
12A-[2A]-2A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	24.32	24.38	0.06
12A-[2A]-[2A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	24.32	24.38	0.06
2A-[2A]-13A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	13	10	5230	751	23.75	23.84	0.09
[2A]-2A-13A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	13	10	5230	751	23.75	23.82	0.07
[2A]-[2A]-13A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	13	10	5230	751	23.75	23.86	0.11
13A-[2A]-2A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.42	23.51	0.09
13A-2A-[2A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.42	23.48	0.06
13A-[2A]-[2A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.42	23.51	0.09
2A-[2A]-14A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	14	10	5330	763	23.75	23.85	0.1
[2A]-2A-14A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	14	10	5330	763	23.75	23.81	0.06
[2A]-[2A]-14A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	14	10	5330	763	23.75	23.79	0.04
14A-2A-[2A]	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.51	23.6	0.09
14A-[2A]-2A	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.51	23.54	0.03
14A-[2A]-[2A]	14	10	23330	793	5330	763	QPSK	1	0	2	20	900	1960	2	20	1100	1980	23.51	23.61	0.1
2A-[2A]-29A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.75	23.83	0.08
[2A]-2A-29A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.75	23.79	0.04
[2A]-[2A]-29A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	29	10	9715	722.5	23.75	23.76	0.01
2A-[2A]-30A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	30	10	9820	2355	23.75	23.77	0.02
[2A]-2A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	30	10	9820	2355	23.75	23.82	0.07
[2A]-[2A]-30A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	30	10	9820	2355	23.75	23.74	-0.01
30A-2A-[2A]	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	2	20	1100	1980	22.45	22.49	0.04
30A-[2A]-2A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	2	20	1100	1980	22.45	22.46	0.01
30A-[2A]-[2A]	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	1960	2	20	1100	1980	22.45	22.48	0.03
2A-[2A]-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	23.79	0.04
[2A]-2A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	23.76	0.01
2A-2A-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	23.74	-0.01
[2A]-2A-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	23.81	0.06
[2A]-[2A]-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	66	20	67036	2170	23.75	23.83	0.08
66A-2A-[2A]	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.35	0.02
66A-[2A]-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.37	0.04
[66A]-2A-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.31	-0.02
[66A]-[2A]-2A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.36	0.03
66A-[2A]-[2A]	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.33	24.36	0.03
[2C]-66A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	902	1960.2	66	20	67036	2170	23.75	23.75	0
2C-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	902	1960.2	66	20	67036	2170	23.75	23.79	0.04
66A-[2C]	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1098	1979.8	24.33	24.37	0.04
[66A]-2C	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	1960	2	20	1098	1979.8	24.33	24.36	0.03
2A-[2A]-71A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	71	20	68786	637	23.75	23.87	0.12
[2A]-2A-71A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	71	20	68786	637	23.75	23.84	0.09
[2A]-[2A]-71A	2	20	19100	1900	1100	1980	QPSK	1	0	2	20	900	1960	71	20	68786	637	23.75	23.9	0.15
71A-2A-[2A]	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.36	24.38	0.02
71A-[2A]-2A	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.36	24.33	-0.03
71A-[2A]-[2A]	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	1960	2	20	1100	1980	24.36	24.35	-0.01
[2A]-4A-4A	2	20	19100	1900	1100	1980	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.75	23.91	0.16
2A-[4A]-4A	2	20	19100	1900	1100	1980	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.75	23.86	0.11
2A-[4A]-[4A]	2	20	19100	1900	1100	1980	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.75	23.92	0.17
[2A]-[4A]-4A	2	20	19100	1900	1100	1980	QPSK	1	0	4	15	2325	2147.5	4	20	2175	2132.5	23.75	23.87	0.12
4A-4A-[2A]	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	4	20	2175								

[2A]-4A-5A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	23.75	23.89	0.14
2A-[4A]-5A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	23.75	23.88	0.13
[2A]-[4A]-5A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	5	10	2525	881.5	23.75	23.92	0.17
4A-[2A]-5A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	5	10	2525	881.5	23.79	23.8	0.01
[4A]-2A-5A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	5	10	2525	881.5	23.79	23.79	0
[4A]-[2A]-5A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	5	10	2525	881.5	23.79	23.82	0.03
5A-[2A]-4A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	4	20	2175	2132.5	23.84	23.95	0.11
5A-2A-[4A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	4	20	2175	2132.5	23.84	23.99	0.15
5A-[2A]-[4A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	4	20	2175	2132.5	23.84	23.89	0.05
[2A]-4A-12A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	12	10	5095	737.5	23.75	23.86	0.11
2A-[4A]-12A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	12	10	5095	737.5	23.75	23.89	0.14
[2A]-[4A]-12A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	12	10	5095	737.5	23.75	23.84	0.09
4A-[2A]-12A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	12	10	5095	737.5	23.79	23.76	-0.03
[4A]-2A-12A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	12	10	5095	737.5	23.79	23.79	0
[4A]-[2A]-12A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	12	10	5095	737.5	23.79	23.75	-0.04
12A-[2A]-4A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	24.32	24.26	-0.06
12A-2A-[4A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	24.32	24.06	-0.26
12A-[2A]-[4A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	24.32	24.29	-0.03
[2A]-4A-13A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	23.75	23.86	0.11
2A-[4A]-13A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	23.75	23.89	0.14
[2A]-[4A]-13A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	13	10	5230	751	23.75	23.92	0.17
4A-[2A]-13A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	13	10	5230	751	23.79	23.8	0.01
[4A]-2A-13A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	13	10	5230	751	23.79	23.79	0
[4A]-[2A]-13A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	13	10	5230	751	23.79	23.77	-0.02
13A-[2A]-4A	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	23.42	23.48	0.06
13A-2A-[4A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	23.42	23.52	0.1
13A-[2A]-[4A]	13	5	23255	784.5	5255	753.5	QPSK	1	0	2	20	900	960	4	20	2175	2132.5	23.42	23.47	0.05
[2A]-4A-71A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	71	20	68786	637	23.75	23.92	0.17
2A-[4A]-71A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	71	20	68786	637	23.75	23.93	0.18
[2A]-[4A]-71A	2	20	19100	1900	1100	1980	QPSK	1	0	4	20	2175	2132.5	71	20	68786	637	23.75	23.82	0.07
4A-[2A]-71A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	71	20	68786	637	23.79	23.82	0.03
[4A]-2A-71A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	71	20	68786	637	23.79	23.8	0.01
[4A]-[2A]-71A	4	15	20325	1747.5	2325	2147.5	QPSK	1	74	2	20	900	960	71	20	68786	637	23.79	23.79	0
71A-[2A]-4A	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	960	4	20	2175	2132.5	24.36	24.38	0.02
71A-2A-[4A]	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	960	4	20	2175	2132.5	24.36	24.39	0.03
71A-[2A]-[4A]	71	20	133322	683	68786	2145	QPSK	1	99	2	20	900	960	4	20	2175	2132.5	24.36	24.38	0.02
[2A]-5A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	30	10	9820	2355	23.75	23.92	0.17
5A-[2A]-30A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	30	10	9820	2355	23.84	23.9	0.06
30A-[2A]-5A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	960	5	10	2525	881.5	22.45	22.41	-0.04
[2A]-5A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	66	20	67036	2170	23.75	23.93	0.18
2A-5A-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	66	20	67036	2170	23.75	23.94	0.19
[2A]-5A-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	66	20	67036	2170	23.75	23.86	0.11
5A-[2A]-66A	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	66	20	67036	2170	23.84	24.03	0.19
5A-2A-[66A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	66	20	67036	2170	23.84	24.01	0.17
5A-[2A]-[66A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	2	20	900	960	66	20	67036	2170	23.84	23.88	0.04
66A-[2A]-5A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	5	10	2525	881.5	24.33	24.35	0.02
[66A]-2A-5A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	5	10	2525	881.5	24.33	24.36	0.03
[66A]-[2A]-5A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	5	10	2525	881.5	24.33	24.35	0.02
[2A]-5B	2	20	19100	1900	1100	1980	QPSK	1	0	5	10	2525	881.5	5	10	2426	871.6	23.75	23.92	0.17
5B-[2A]	5	10	20525	836.5	2525	881.5	QPSK	1	49	5	10	2426	871.6	2	20	900	960	23.84	23.75	-0.09
[2A]-12A-30A	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	30	10	9820	2355	23.75	23.87	0.12
12A-[2A]-30A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	30	10	9820	2355	24.32	24.42	0.1
30A-[2A]-12A	30	10	27710	2310	9820	2355	QPSK	1	0	2	20	900	960	12	10	5095	737.5	22.45	22.47	0.02
[2A]-12A-66A(0)	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	66	20	67036	2170	23.75	23.88	0.13
2A-12A-[66A](0)	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	66	20	67036	2170	23.75	23.84	0.09
[2A]-12A-[66A](0)	2	20	19100	1900	1100	1980	QPSK	1	0	12	10	5095	737.5	66	20	67036	2170	23.75	23.89	0.14
[2A]-12A-66A(1)	2	10	19150	1905	1150	1985	QPSK	1	49	12	10	5095	737.5	66	20	67036	2170	23.74	23.82	0.08
2A-12A-[66A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	12	10	5095	737.5	66	20	67036	2170	23.74	23.79	0.05
[2A]-12A-[66A](1)	2	10	19150	1905	1150	1985	QPSK	1	49	12	10	5095	737.5	66	20	67036	2170	23.74	23.77	0.03
12A-[2A]-66A	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	66	20	67036	2170	24.32	24.5	0.18
12A-2A-[66A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	66	20	67036	2170	24.32	24.48	0.16
12A-[2A]-[66A]	12	5	23095	707.5	5095	737.5	QPSK	1	0	2	20	900	960	66	20	67036	2170	24.32	24.39	0.07
66A-[2A]-12A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	12	10	5095	737.5	24.33	24.32	-0.01
[66A]-2A-12A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	12	10	5095	737.5	24.33	24.35	0.02
[66A]-[2A]-12A	66	20	132322	1745	66786	2145	QPSK	1	99	2	20	900	960	12	10	5095	737.5	24.33	24.34	0.01
[2A]-13A-66A	2	20	19100	1900	1100	1980	QPSK	1	0	13	10	5230	751	66	20	67036	2170	23.75	23.84	0.09
2A-13A-[66A]	2	20	19100	1900	1100	1980	QPSK	1	0	13	10	5230	751							