



# FCC RF Test Report

**APPLICANT** : Honeywell International Inc.  
Honeywell Safety and Productivity Solutions

**EQUIPMENT** : DOLPHIN CT40

**BRAND NAME** : Honeywell

**MODEL NAME** : CT40-L1N

**FCC ID** : HD5-CT40L1N

**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(M), 27(H)

**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on May 04, 2018 and completely tested on Oct. 31, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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



Approved by: James Huang / Manager

**Sporton International (Kunshan) Inc.**  
No. 1098, Pengxi North Road, Kunshan Economic Development Zone,  
Jiangsu Province 215335, China



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## SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt		
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 17)	ERP < 3 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 7) (Band 38) (Band 41)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2)(4) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26)	< 43+10log <sub>10</sub> (P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26)	< 43+10log <sub>10</sub> (P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log <sub>10</sub> (P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 17) (Band 25) (Band 26)	< 43+10log <sub>10</sub> (P[Watts])	PASS	Under limit 2.12 dB at 1560.00 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log <sub>10</sub> (P[Watts])		



# 1 General Description

## 1.1 Applicant

Honeywell International Inc.  
Honeywell Safety and Productivity Solutions  
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

## 1.2 Manufacturer

Honeywell International Inc.  
Honeywell Safety and Productivity Solutions  
9680 Old Bailes Rd. Fort Mill, SC 29707 United States

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	DOLPHIN CT40
Brand Name	Honeywell
Model Name	CT40-L1N
FCC ID	HD5-CT40L1N
EUT supports Radios application	CDMA/EV-DO/GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/ HSPA+(16QAM uplink is not supported)/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20/ WLAN 5GHz 802.11a/n HT20/HT40/ WLAN 5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth BR/EDR/LE
IMEI Code	Conducted: 990011960007085/990011960007001 Radiation: 990011960006541/990011960006502 for 27M 990011960006061/990011960006001 for 22H/27L/27H/24E 990011960019494/990011960019402 for 27F
HW Version	V1.0
SW Version	OS.01.010-HON.01.102
EUT Stage	Identical Prototype

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. There are two samples, the difference is the scanner that from different suppliers, the difference have no influence on RF features, only sample 1 is assessed to perform full test



### 1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
<b>Tx Frequency</b>	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 5 : 824.7 MHz ~ 848.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 25 : 1850.7 MHz ~ 1914.3 MHz LTE Band 26 : 824.7 MHz ~ 848.3 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Rx Frequency</b>	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 5 : 869.7 MHz ~ 893.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 25 : 1930.7 MHz ~ 1994.3 MHz LTE Band 26 : 869.7 MHz ~ 893.3 MHz LTE Band 29 : 717 MHz ~ 728 MHz LTE Band 38 : 2572.5 MHz ~ 2617.5 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz
<b>Bandwidth</b>	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
<b>Maximum Output Power to Antenna</b>	LTE Band 2 : 23.28 dBm LTE Band 4 : 22.36 dBm LTE Band 5 : 23.45 dBm LTE Band 7 : 21.26 dBm LTE Band 12 : 23.65 dBm LTE Band 13 : 22.60 dBm LTE Band 17 : 23.51 dBm LTE Band 25 : 22.28 dBm LTE Band 26 : 23.39 dBm LTE Band 38 : 22.41 dBm LTE Band 41 : 22.45 dBm
<b>Antenna Gain</b>	LTE Band 2 : 4.10 dBi LTE Band 4 : 3.90 dBi LTE Band 5 : 0.50 dBi LTE Band 7 : 3.30 dBi LTE Band 12 : 0.90 dBi



	LTE Band 13 : -0.40 dBi LTE Band 17 : 0.90 dBi LTE Band 25 : 4.10 dBi LTE Band 26 : 0.50 dBi LTE Band 38 : 2.10 dBi LTE Band 41 : 2.80 dBi
<b>Type of Modulation</b>	QPSK / 16QAM / 64QAM

**Note:** LTE Band 29 is restricted to E-UTRA operation when carrier aggregation is configured.

## 1.5 Modification of EUT

No modifications are made to the EUT during all test items.



### 1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator

LTE Band 25 (Band 2)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	1M09G7D	-	0.4178	1M09W7D	-	0.3508
3	1851.5 ~ 1913.5	2M73G7D	-	0.4188	2M74W7D	-	0.3508
5	1852.5 ~ 1912.5	4M51G7D	-	0.4178	4M52W7D	-	0.3540
10	1855.0 ~ 1910.0	9M09G7D	0.0032	0.4256	9M07W7D	-	0.3499
15	1857.5 ~ 1907.5	13M4G7D	-	0.4285	13M5W7D	-	0.3631
20	1860.0 ~ 1905.0	18M4G7D	-	0.4345	18M5W7D	-	0.3631
LTE Band 25 (Band 2)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum EIRP(W)		
1.4	1850.7 ~ 1914.3	1M09W7D	-		0.2547		
3	1851.5 ~ 1913.5	2M74W7D	-		0.2466		
5	1852.5 ~ 1912.5	4M52W7D	-		0.2472		
10	1855.0 ~ 1910.0	9M07W7D	-		0.2553		
15	1857.5 ~ 1907.5	13M5W7D	-		0.2624		
20	1860.0 ~ 1905.0	18M3W7D	-		0.2606		
LTE Band 12 (Band 17)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	1M10G7D	-	0.1694	1M10W7D	-	0.1406
3	700.5 ~ 714.5	2M72G7D	-	0.1718	2M74W7D	-	0.1462
5	701.5 ~ 713.5	4M51G7D	-	0.1698	4M51W7D	-	0.1426
10	704.0 ~ 711.0	9M03G7D	0.0040	0.1738	9M03W7D	-	0.1419
LTE Band 12 (Band 17)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum ERP(W)		
1.4	699.7 ~ 715.3	1M10W7D	-		0.1091		
3	700.5 ~ 714.5	2M72W7D	-		0.1094		
5	701.5 ~ 713.5	4M50W7D	-		0.1102		
10	704.0 ~ 711.0	9M05W7D	-		0.1096		





LTE Band 4		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	1M09G7D	-	0.4064	1M09W7D	-	0.3467
3	1711.5 ~ 1753.5	2M74G7D	-	0.4140	2M73W7D	-	0.3443
5	1712.5 ~ 1752.5	4M51G7D	-	0.4036	4M51W7D	-	0.3467
10	1715.0 ~ 1750.0	9M09G7D	0.0027	0.4121	9M01W7D	-	0.3467
15	1717.5 ~ 1747.5	13M4G7D	-	0.4217	13M5W7D	-	0.3467
20	1720.0 ~ 1745.0	18M4G7D	-	0.4227	18M5W7D	-	0.3467
LTE Band 4		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum EIRP(W)		
1.4	1710.7 ~ 1754.3	1M09W7D	-		0.2455		
3	1711.5 ~ 1753.5	2M72W7D	-		0.2500		
5	1712.5 ~ 1752.5	4M52W7D	-		0.2483		
10	1715.0 ~ 1750.0	9M07W7D	-		0.2518		
15	1717.5 ~ 1747.5	13M6W7D	-		0.2642		
20	1720.0 ~ 1745.0	18M5W7D	-		0.2612		
LTE Band 7		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M51G7D	-	0.2805	4M51W7D	-	0.2410
10	2505.0 ~ 2565.0	9M05G7D	0.0030	0.2825	9M03W7D	-	0.2399
15	2507.5 ~ 2562.5	13M5G7D	-	0.2812	13M5W7D	-	0.2455
20	2510.0 ~ 2560.0	18M3G7D	-	0.2858	18M5W7D	-	0.2427
LTE Band 7		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum EIRP(W)		
5	2502.5 ~ 2567.5	4M52W7D	-		0.1820		
10	2505.0 ~ 2565.0	9M05W7D	-		0.1811		
15	2507.5 ~ 2562.5	13M4W7D	-		0.1828		
20	2510.0 ~ 2560.0	18M4W7D	-		0.1803		



LTE Band 13		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	779.5 ~ 784.5	4M50G7D	-	0.1009	4M51W7D	-	0.0902
10	782.0	9M05G7D	0.0090	0.1012	9M01W7D	-	0.0893
LTE Band 13		16QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
5	779.5 ~ 784.5	4M50W7D		-		0.0676	
10	782.0	9M01W7D		-		0.0646	
LTE Band 26 (Band 5)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	824.7 ~ 848.3	1M09G7D	-	0.1486	1M10W7D	-	0.1262
3	825.5 ~ 847.5	2M73G7D	-	0.1462	2M73W7D	-	0.1265
5	826.5 ~ 846.5	4M51G7D	-	0.1476	4M51W7D	-	0.1262
10	829.0 ~ 844.0	9M07G7D	0.0092	0.1486	9M09W7D	-	0.1265
15	831.5 ~ 841.5	13M5G7D	-	0.1493	13M4W7D	-	0.1265
CH26765	821.5	13M4G7D	-	0.1503	13M3W7D	-	0.1274
LTE Band 26 (Band 5)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
1.4	824.7 ~ 848.3	1M10W7D		-		0.0923	
3	825.5 ~ 847.5	2M74W7D		-		0.0933	
5	826.5 ~ 846.5	4M49W7D		-		0.0933	
10	829.0 ~ 844.0	9M03W7D		-		0.0935	
15	831.5 ~ 841.5	13M5W7D		-		0.0957	
CH26765	821.5	13M4W7D		-		0.0964	



LTE Band 41 (Band 38)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2498.5 ~ 2687.5	4M49G7D	-	0.3741	4M50W7D	-	0.3258
10	2501.0 ~ 2685.0	9M01G7D	0.0026	0.3758	9M05W7D	-	0.3281
15	2503.5 ~ 2682.5	13M5G7D	-	0.3802	13M5W7D	-	0.3258
20	2506.0 ~ 2680.0	18M5G7D	-	0.3846	18M3W7D	-	0.3289
LTE Band 41 (Band 38)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum EIRP(W)		
5	2498.5 ~ 2687.5	4M51W7D	-		0.2466		
10	2501.0 ~ 2685.0	9M05W7D	-		0.2296		
15	2503.5 ~ 2682.5	13M4W7D	-		0.2323		
20	2506.0 ~ 2680.0	18M3W7D	-		0.2328		

**Note:**

1. LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.
2. LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2.
3. LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.
4. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.



### 1.7 Testing Location

Sporton Lab is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0).

<b>Test Site</b>	Sporton International (Kunshan) Inc.		
<b>Test Site Location</b>	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC designation No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-KS 03CH02-KS	CN5013	630927

<b>Test Site</b>	Sporton International (Kunshan) Inc.		
<b>Test Site Location</b>	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958		
<b>Test Site No.</b>	<b>Sporton Site No.</b>	<b>FCC designation No.</b>	<b>FCC Test Firm Registration No.</b>
	03CH06-KS	CN5013	630927



## 1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(M), 27(H)
- ♦ ANSI C63.26-2015
- ♦ FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01

**Remark:**

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.



## 2 Test Configuration of Equipment Under Test

### 2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas License Digital Systems v03r01 with maximum output power.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel			
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H	
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v
41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v	v	
Peak-to-Average Ratio	4						v	v	v	v	v		v	v	v	v	
	7	-	-				v	v	v	v	v		v	v	v	v	
	12				v	-	-	v	v	v	v		v	v	v	v	
	13	-	-		v	-	-	v	v	v	v		v	v	v	v	
	25						v	v	v	v	v		v	v	v	v	
	26				v		-	v	v	v	v		v	v	v	v	
41	-	-				v	v	v	v	v		v	v	v	v		



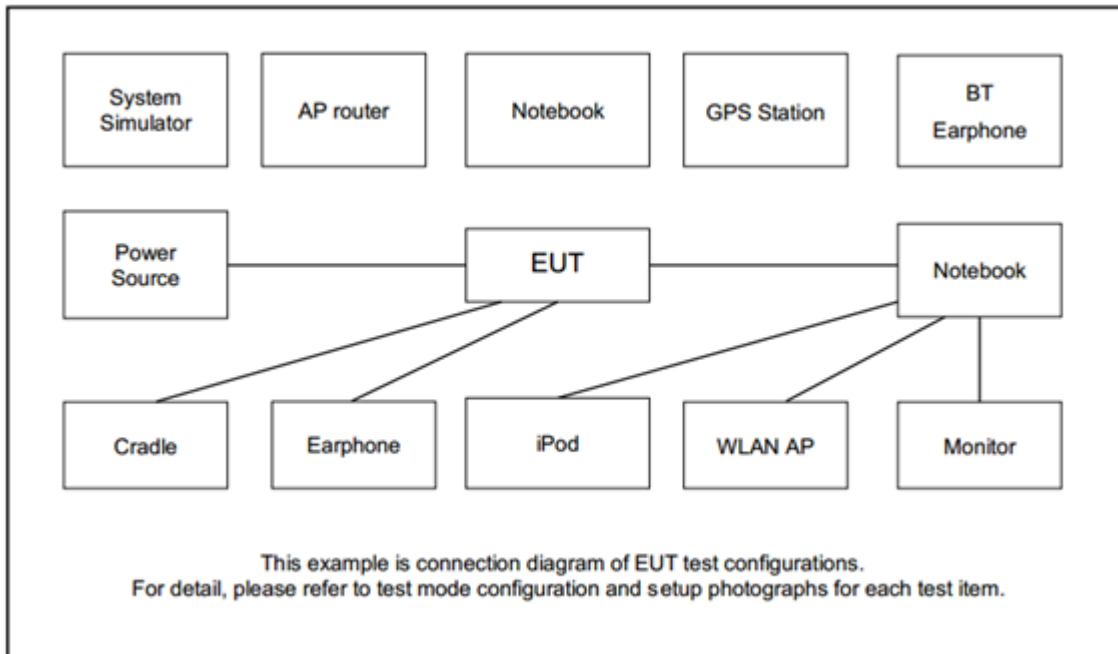
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
26dB and 99% Bandwidth	4	v	v	v	v	v	v	v	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v	v
	13	-	-	v	v	-	-	v	v	v			v	v	v	v
	25	v	v	v	v	v	v	v	v	v			v	v	v	v
	26	v	v	v	v	v	-	v	v	v			v	v	v	v
	41	-	-	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	4	v	v	v	v	v	v	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v	v		v	v		v
	13	-	-	v	v	-	-	v	v	v	v		v	v		v
	25	v	v	v	v	v	v	v	v	v	v		v	v		v
	26	v	v	v	v	v	-	v	v	v	v		v	v		v
	41	-	-	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	13	-	-	v	v	-	-	v	v	v	v			v	v	v
	25	v	v	v	v	v	v	v	v	v	v			v	v	v
	26	v	v	v	v	v	-	v	v	v	v			v	v	v
	41	-	-	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	4				v			v					v		v	
	7	-	-		v			v					v		v	
	12				v	-	-	v					v		v	
	13	-	-		v	-	-	v					v		v	
	25				v			v					v		v	
	26				v		-	v					v		v	
	41	-	-		v			v					v		v	



Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
E.R.P / E.I.R.P	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	13	-	-	v	v	-	-	v	v	v	v			v	v	v
	25	v	v	v	v	v	v	v	v	v	v			v	v	v
	26	v	v	v	v	v	-	v	v	v	v			v	v	v
	41	-	-	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	4	Worst Case											v	v	v	
	7	Worst Case											v	v	v	
	12	Worst Case											v	v	v	
	13	Worst Case											v	v	v	
	25	Worst Case											v	v	v	
	26	Worst Case											v	v	v	
	41	Worst Case											v	v	v	
Note	<ol style="list-style-type: none"> <li>The mark "v" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.</li> <li>LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.</li> <li>LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2.</li> <li>LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.</li> <li>LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.</li> </ol>															



## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m

## 2.4 Measurement Results Explanation Example

### For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

$Offset = RF\ cable\ loss.$

Following shows an offset computation example with cable loss 5.1 dB.

Example :

$Offset(dB) = RF\ cable\ loss(dB).$   
 $= 5.1\ (dB)$



### 2.5 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3

LTE Band 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5



LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 17 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23780	23790	23800
	Frequency	709	710	711
5	Channel	23755	23790	23825
	Frequency	706.5	710	713.5



LTE Band 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3

LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3



LTE Band 38 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	37850	38000	38150
	Frequency	2580	2595	2610
15	Channel	37825	38000	38175
	Frequency	2577.5	2595	2612.5
10	Channel	37800	38000	38200
	Frequency	2575	2595	2615
5	Channel	37775	38000	38225
	Frequency	2572.5	2595	2617.5

LTE Band 41 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	39750	40620	41490
	Frequency	2506	2593	2680
15	Channel	39725	40620	41515
	Frequency	2503.5	2593	2682.5
10	Channel	39700	40620	41540
	Frequency	2501	2593	2685
5	Channel	39675	40620	41565
	Frequency	2498.5	2593	2687.5

### 3 Conducted Test Items

#### 3.1 Measuring Instruments

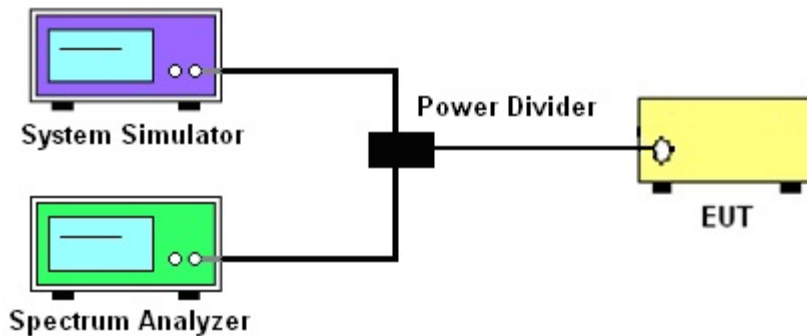
See list of measuring instruments of this test report.

#### 3.2 Test Setup

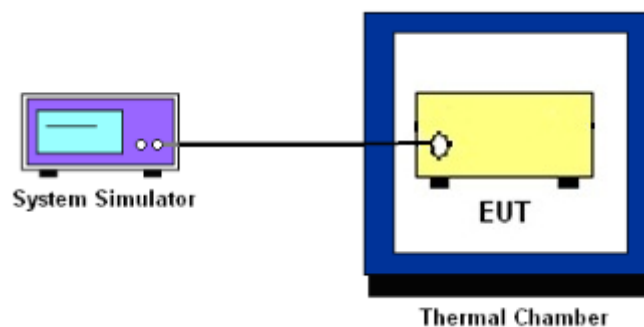
##### 3.2.1 Conducted Output Power



##### 3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



##### 3.2.3 Frequency Stability



### 3.3 Test Result of Conducted Test

Please refer to Appendix A.



### 3.4 Conducted Output Power and ERP/EIRP

#### 3.4.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5 and Band 26.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13 and Band 17 and Band 71.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25 and Band 7 and Band 38 and Band 41.

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4 and Band 66.

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$ ,  $ERP = EIRP - 2.15$ , where

$P_T$  = transmitter output power in dBm

$G_T$  = gain of the transmitting antenna in dBi

$L_C$  = signal attenuation in the connecting cable between the transmitter and antenna in dB

#### 3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.





## **3.5 Peak-to-Average Ratio**

### **3.5.1 Description of the PAR Measurement**

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### **3.5.2 Test Procedures**

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.



### 3.6 Occupied Bandwidth

#### 3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

#### 3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace.  
(this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “-X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.



### 3.7 Conducted Band Edge

#### 3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power,  $P$  (dBW), by at least  $65 + 10 \log_{10} p(\text{watts})$ , dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.



27.53(m)(4)

For mobile digital stations, the attenuation factor shall be not less than  $40 + 10 \log (P)$  dB on all frequencies between the channel edge and 5 megahertz from the channel edge,  $43 + 10 \log (P)$  dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and  $55 + 10 \log (P)$  dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that  $43 + 10 \log (P)$  dB on all frequencies between 2490.5 MHz and 2496 MHz and  $55 + 10 \log (P)$  dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

**3.7.2 Test Procedures**

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used or a narrower RBW was used and the measured power was integrated over the full required measurement bandwidth of 1 MHz.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

Example:

$$\begin{aligned} &\text{The limit line is derived from } 43 + 10\log(P)\text{dB below the transmitter power } P(\text{Watts}) \\ &= P(\text{W}) - [43 + 10\log(P)] \text{ (dB)} \\ &= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13\text{dBm}. \end{aligned}$$

9. For LTE Band 7, 38, 41, the other 40 dB, and 55 dB have additionally applied same calculation above.



### 3.8 Conducted Spurious Emission

#### 3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7,38,41:

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10<sup>th</sup> harmonic.

#### 3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [43 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
= -13dBm.
11. For Band 7, 38, 41  
The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [55 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
= -25dBm.



## 3.9 Frequency Stability

### 3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

### 3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### 3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at  $20\pm 5^{\circ}\text{C}$  and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

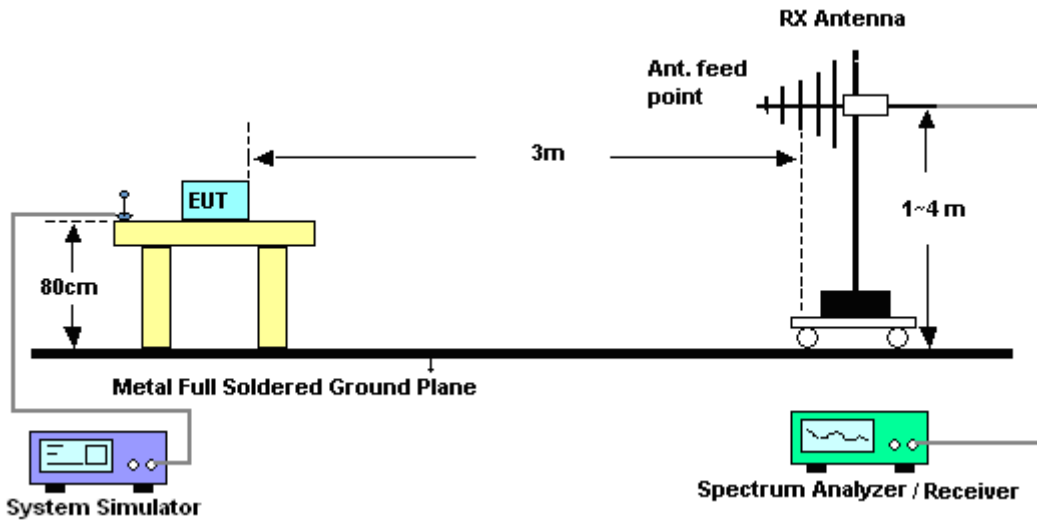
## 4 Radiated Test Items

### 4.1 Measuring Instruments

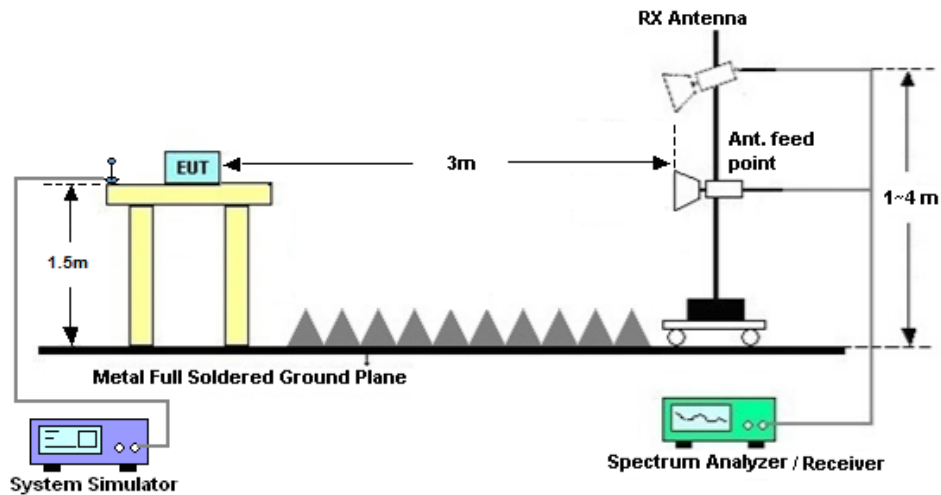
See list of measuring instruments of this test report.

### 4.2 Test Setup

#### 4.2.1 For radiated test from 30MHz to 1GHz



#### 4.2.2 For radiated test above 1GHz



### 4.3 Test Result of Radiated Test

Please refer to Appendix B.



## 4.4 Radiated Spurious Emission

### 4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For Band 7, 38, 41

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $55 + 10 \log (P)$  dB.

For LTE Band 13

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to  $-70$  dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10.  $EIRP (dBm) = S.G. Power - Tx Cable Loss + Tx Antenna Gain$
11.  $ERP (dBm) = EIRP - 2.15$
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.  
The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)] (dB)$   
 $= [30 + 10\log(P)] (dBm) - [43 + 10\log(P)] (dB)$   
 $= -13dBm.$
13. For Band 7, 38, 41:  
The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)





## 5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Oct. 12, 2017	Jun. 01, 2018~Jun. 07, 2018	Oct. 11, 2018	Conducted (TH01-KS)
Spectrum Analyzer	R&S	FSV30	101338	10Hz~30GHz	Apr. 19, 2018	Jun. 01, 2018~Jun. 07, 2018	Apr. 18, 2019	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct.12, 2017	Jun. 01, 2018~Jun. 07, 2018	Oct. 11, 2018	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44G,MAX 30dB	Apr.17, 2018	Jun. 16, 2018	Apr. 16, 2019	Radiation (03CH02-KS)
Bilog Antenna	TeseQ	CBL6112D	23182	30MHz-2GHz	Jan. 29, 2018	Jun. 16, 2018	Jan. 28, 2019	Radiation (03CH02-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 21, 2017	Jun. 16, 2018	Oct. 20, 2018	Radiation (03CH02-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Jun. 16, 2018	Feb.06, 2019	Radiation (03CH02-KS)
Amplifier	Burgeon	BPA-530	102220	0.01MHz~1GHz	Dec. 16, 2017	Jun. 16, 2018	Dec. 15, 2018	Radiation (03CH02-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	100MHz-18GHz	Apr.17,2018	Jun. 16, 2018	Apr.16,2019	Radiation (03CH02-KS)
Amplifier	Agilent	8449B	3008A02384	1-26.5GHz Gain 30dB	Oct. 12, 2017	Jun. 16, 2018	Oct. 11, 2018	Radiation (03CH02-KS)
Amplifier	MITEQ	TTA1840-35 -HG	1887435	18~40GHz	Oct. 12, 2017	Jun. 16, 2018	Oct. 11, 2018	Radiation (03CH02-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX 104	03CH01KS005	30Mhz-18Ghz	Jun. 20, 2018	Jun. 16, 2018	Jun. 19, 2019	Radiation (03CH02-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX 104	03CH01KS006	30Mhz-18Ghz	Jun. 20, 2018	Jun. 16, 2018	Jun. 19, 2019	Radiation (03CH02-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Jun. 16, 2018	NCR	Radiation (03CH02-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz-44GHz	Jun. 25, 2018	Oct. 31, 2018	Jun. 24, 2019	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Jan. 29, 2018	Oct. 31, 2018	Jan. 28, 2019	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 20, 2018	Oct. 31, 2018	Oct. 19, 2019	Radiation (03CH06-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Oct. 31, 2018	Feb. 06, 2019	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Aug. 06, 2018	Oct. 31, 2018	Aug. 05, 2019	Radiation (03CH06-KS)
Amplifier	MITEQ	TTA1840-35 -HG	2014749	18~40GHz	Feb. 08, 2018	Oct. 31, 2018	Feb. 07, 2019	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Apr.17, 2018	Oct. 31, 2018	Apr.16, 2019	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Dec. 16, 2017	Oct. 31, 2018	Dec. 15, 2018	Radiation (03CH06-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX 126E	03CH06KS001	30Mhz-18Ghz	Jul. 10, 2018	Oct. 31, 2018	Jul. 09, 2019	Radiation (03CH06-KS)
RF Cable	HUBER+SUHNER	SUCOFLEX 126E	03CH06KS002	30Mhz-18Ghz	Jul. 10, 2018	Oct. 31, 2018	Jul. 09, 2019	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 31, 2018	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 31, 2018	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Oct. 31, 2018	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required



## 6 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.3 dB
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8 dB
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz) for 03CH02-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8 dB
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### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz) for 03CH06-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.5 dB
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### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz) for 03CH06KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.0 dB
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### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz) for 03CH06-KS

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.0 dB
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### Appendix A. Test Results of Conducted Test

#### Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.24	23.25	23.28
20	1	49		23.05	23.12	22.99
20	1	99		22.85	23.06	23.06
20	50	0		22.19	22.26	22.28
20	50	24		22.14	22.23	22.15
20	50	50		22.12	22.13	22.09
20	100	0		22.16	22.24	22.25
20	1	0	16-QAM	22.49	22.50	22.48
20	1	49		22.34	22.48	22.36
20	1	99		22.28	22.39	22.39
20	50	0		21.19	21.25	21.15
20	50	24		21.13	21.20	21.17
20	50	50		21.11	21.12	21.11
20	100	0		21.16	21.17	21.16
20	1	0	64-QAM	21.50	21.45	21.47
20	1	49		21.55	21.51	21.47
20	1	99		21.30	21.47	21.49
20	50	0		20.42	20.45	20.44
20	50	24		20.38	20.40	20.38
20	50	50		20.37	20.38	20.38
20	100	0		20.43	20.40	20.41
15	1	0	QPSK	23.11	23.18	23.18
15	1	37		22.96	23.12	23.01
15	1	74		23.00	23.13	23.11
15	36	0		22.10	22.21	22.17
15	36	20		22.12	22.20	22.14
15	36	39		22.04	22.13	22.09
15	75	0		22.11	22.15	22.12



15	1	0	16-QAM	22.49	22.50	22.42
15	1	37		22.24	22.46	22.38
15	1	74		22.35	22.47	22.47
15	36	0		21.13	21.23	21.17
15	36	20		21.10	21.18	21.15
15	36	39		21.04	21.17	21.12
15	75	0		21.07	21.20	21.12
15	1	0	64-QAM	21.48	21.13	20.87
15	1	37		21.40	20.95	20.80
15	1	74		21.35	20.95	20.99
15	36	0		20.50	20.45	20.47
15	36	20		20.50	20.50	20.47
15	36	39		20.37	20.48	20.32
15	75	0		20.33	20.37	20.44



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.03	23.15	23.08
10	1	25		23.07	23.13	23.09
10	1	49		22.98	23.11	23.03
10	25	0		22.07	22.18	22.13
10	25	12		22.07	22.14	22.13
10	25	25		22.04	22.12	22.13
10	50	0		22.03	22.17	22.13
10	1	0	16-QAM	22.34	22.50	22.44
10	1	25		22.27	22.42	22.36
10	1	49		22.30	22.35	22.41
10	25	0		21.11	21.18	21.12
10	25	12		21.06	21.15	21.14
10	25	25		21.00	21.12	21.11
10	50	0		21.10	21.15	21.12
10	1	0	64-QAM	21.21	21.42	21.22
10	1	25		21.17	21.28	21.25
10	1	49		21.19	21.31	21.32
10	25	0		20.06	20.16	20.13
10	25	12		20.06	20.12	20.14
10	25	25		20.02	20.15	20.10
10	50	0		20.06	20.10	20.13
5	1	0	QPSK	23.04	23.12	23.11
5	1	12		23.08	23.06	23.10
5	1	24		22.99	23.11	23.00
5	12	0		22.05	22.14	22.13
5	12	7		22.02	22.15	22.13
5	12	13		22.00	22.15	22.09
5	25	0		22.00	22.12	22.11
5	1	0	16-QAM	22.32	22.48	22.42
5	1	12		22.24	22.48	22.47
5	1	24		22.23	22.39	22.39
5	12	0		21.03	21.12	21.13
5	12	7		21.02	21.20	21.17



5	12	13	64-QAM	21.02	21.14	21.18
5	25	0		21.03	21.12	21.10
5	1	0		21.15	21.32	21.28
5	1	12		21.12	21.33	21.27
5	1	24		21.16	21.50	21.26
5	12	0		20.07	20.13	20.16
5	12	7		20.07	20.20	20.16
5	12	13		20.07	20.15	20.10
5	25	0		20.01	20.12	20.10



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.99	23.09	23.10
3	1	8		23.13	23.22	23.24
3	1	14		23.00	23.05	23.12
3	8	0		22.02	22.10	22.11
3	8	4		22.01	22.14	22.12
3	8	7		21.97	22.08	22.08
3	15	0		22.00	22.11	22.12
3	1	0	16-QAM	22.29	22.43	22.42
3	1	8		22.32	22.50	22.50
3	1	14		22.21	22.40	22.31
3	8	0		21.04	21.17	21.17
3	8	4		21.06	21.18	21.17
3	8	7		21.02	21.14	21.17
3	15	0		21.02	21.13	21.16
3	1	0	64-QAM	21.08	21.32	21.23
3	1	8		21.12	21.16	21.27
3	1	14		21.07	21.18	21.26
3	8	0		20.04	20.09	20.16
3	8	4		20.06	20.15	20.17
3	8	7		19.98	20.11	20.14
3	15	0		20.02	20.14	20.08
1.4	1	0	QPSK	22.90	23.02	22.99
1.4	1	3		22.95	23.10	23.08
1.4	1	5		22.86	23.02	22.96
1.4	3	0		23.01	23.07	23.05
1.4	3	1		23.03	23.12	23.11
1.4	3	3		23.00	23.10	23.10
1.4	6	0		21.95	22.04	22.08
1.4	1	0	16-QAM	22.23	22.36	22.33
1.4	1	3		22.26	22.42	22.42
1.4	1	5		22.22	22.38	22.22
1.4	3	0		21.94	22.16	22.04
1.4	3	1		22.02	22.14	22.13



1.4	3	3	64-QAM	21.97	22.13	22.11
1.4	6	0		20.99	21.11	21.10
1.4	1	0		21.10	21.21	21.22
1.4	1	3		21.13	21.24	21.24
1.4	1	5		21.09	21.14	21.12
1.4	3	0		21.05	21.20	21.16
1.4	3	1		21.06	21.26	21.23
1.4	3	3		21.09	21.15	21.18
1.4	6	0		19.97	20.06	20.00





LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.26	22.28	22.24
20	1	49		22.07	22.12	22.09
20	1	99		22.04	22.10	22.10
20	50	0		21.23	21.26	21.20
20	50	24		21.13	21.21	21.12
20	50	50		21.10	21.20	21.07
20	100	0		21.16	21.22	21.21
20	1	0	16-QAM	21.50	21.50	21.41
20	1	49		21.34	21.40	21.27
20	1	99		21.35	21.42	21.36
20	50	0		20.24	20.26	20.18
20	50	24		20.20	20.26	20.10
20	50	50		20.10	20.19	20.07
20	100	0		20.13	20.22	20.21
20	1	0	64-QAM	20.06	20.02	19.99
20	1	49		19.82	19.96	19.84
20	1	99		19.75	19.88	19.63
20	50	0		18.79	18.86	18.73
20	50	24		18.71	18.84	18.70
20	50	50		18.69	18.80	18.69
20	100	0		18.73	18.81	18.72
15	1	0	QPSK	22.17	22.11	22.22
15	1	37		21.92	21.96	22.05
15	1	74		21.93	22.04	22.09
15	36	0		21.07	21.16	21.23
15	36	20		21.01	21.08	21.22
15	36	39		20.96	21.07	21.20
15	75	0		21.04	21.10	21.22
15	1	0	16-QAM	21.39	21.43	21.50
15	1	37		21.24	21.31	21.33
15	1	74		21.25	21.38	21.32
15	36	0		20.09	20.10	20.23
15	36	20		20.03	20.12	20.17



15	36	39	64-QAM	19.99	20.09	20.16
15	75	0		20.00	20.11	20.16
15	1	0		20.00	20.08	20.09
15	1	37		19.80	19.88	19.74
15	1	74		19.84	19.93	19.74
15	36	0		18.80	18.83	18.70
15	36	20		18.71	18.84	18.69
15	36	39		18.67	18.77	18.77
15	75	0		18.71	18.81	18.72



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.02	22.04	22.19
10	1	25		21.96	21.98	21.97
10	1	49		21.85	21.98	22.06
10	25	0		21.02	21.06	21.13
10	25	12		20.99	21.06	21.11
10	25	25		20.94	21.03	21.10
10	50	0		20.99	21.05	21.09
10	1	0	16-QAM	21.26	21.33	21.34
10	1	25		21.19	21.28	21.27
10	1	49		21.14	21.24	21.27
10	25	0		19.99	20.10	20.11
10	25	12		19.97	20.10	20.13
10	25	25		19.93	20.09	20.07
10	50	0		19.95	20.10	20.08
10	1	0	64-QAM	19.92	19.97	19.83
10	1	25		19.75	19.92	19.73
10	1	49		19.71	19.91	19.79
10	25	0		18.63	18.79	18.66
10	25	12		18.63	18.82	18.66
10	25	25		18.59	18.67	18.62
10	50	0		18.60	18.76	18.65
5	1	0	QPSK	22.01	22.01	22.02
5	1	12		21.92	21.98	22.11
5	1	24		21.98	21.99	22.04
5	12	0		20.99	21.07	21.06
5	12	7		20.96	21.06	21.07
5	12	13		20.97	21.06	21.05
5	25	0		20.98	21.08	21.09
5	1	0	16-QAM	21.23	21.39	21.33
5	1	12		21.19	21.37	21.30
5	1	24		21.18	21.35	21.27
5	12	0		19.96	20.08	20.10
5	12	7		20.02	20.13	20.10



5	12	13		19.95	20.06	20.09
5	25	0		19.94	20.07	20.06
5	1	0	64-QAM	19.83	19.83	19.79
5	1	12		19.71	19.78	19.72
5	1	24		19.74	19.80	19.77
5	12	0		18.67	18.73	18.69
5	12	7		18.66	18.72	18.67
5	12	13		18.62	18.69	18.68
5	25	0		18.61	18.64	18.62



LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	21.92	22.00	22.07
3	1	8		22.00	22.12	22.10
3	1	14		21.85	22.01	21.96
3	8	0		20.96	20.95	21.11
3	8	4		20.95	20.99	21.14
3	8	7		20.96	21.01	21.08
3	15	0		20.97	21.04	21.06
3	1	0	16-QAM	21.14	21.26	21.16
3	1	8		21.25	21.35	21.24
3	1	14		21.13	21.23	21.15
3	8	0		20.02	20.13	20.11
3	8	4		20.04	20.14	20.15
3	8	7		19.99	20.10	20.13
3	15	0		19.97	20.10	20.11
3	1	0	64-QAM	19.75	19.82	19.75
3	1	8		19.75	19.80	19.78
3	1	14		19.75	19.82	19.77
3	8	0		18.63	18.68	18.67
3	8	4		18.67	18.70	18.68
3	8	7		18.64	18.68	18.67
3	15	0		18.61	18.66	18.63
1.4	1	0	QPSK	21.86	21.99	21.94
1.4	1	3		21.94	22.02	22.03
1.4	1	5		21.85	21.95	21.96
1.4	3	0		21.88	22.02	22.04
1.4	3	1		21.98	22.08	22.11
1.4	3	3		21.96	22.04	22.06
1.4	6	0		20.89	21.03	21.05
1.4	1	0	16-QAM	21.14	21.27	21.21
1.4	1	3		21.23	21.35	21.33
1.4	1	5		21.14	21.18	21.27
1.4	3	0		20.92	21.07	21.00
1.4	3	1		20.96	21.08	21.10



1.4	3	3	64-QAM	20.96	21.09	21.05
1.4	6	0		19.98	20.09	20.12
1.4	1	0		19.90	19.84	19.82
1.4	1	3		19.96	19.92	19.89
1.4	1	5		19.87	19.86	19.81
1.4	3	0		19.92	19.84	19.76
1.4	3	1		19.94	19.88	19.80
1.4	3	3		19.78	19.83	19.76
1.4	6	0		18.67	18.69	18.64



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.29	22.34	22.36
20	1	49		22.19	22.22	22.09
20	1	99		22.07	22.13	22.04
20	50	0		21.30	21.34	21.35
20	50	24		21.28	21.27	21.30
20	50	50		21.24	21.20	21.21
20	100	0		21.25	21.26	21.27
20	1	0	16-QAM	21.46	21.48	21.49
20	1	49		21.48	21.50	21.48
20	1	99		21.45	21.43	21.50
20	50	0		20.28	20.32	20.37
20	50	24		20.24	20.27	20.24
20	50	50		20.18	20.24	20.14
20	100	0		20.21	20.28	20.15
20	1	0	64-QAM	20.13	20.25	20.27
20	1	49		19.97	20.03	19.97
20	1	99		20.03	20.03	19.92
20	50	0		18.91	18.99	19.02
20	50	24		18.85	18.95	18.88
20	50	50		18.84	18.92	18.85
20	100	0		18.88	18.98	18.90
15	1	0	QPSK	22.22	22.35	22.35
15	1	37		22.14	22.16	22.08
15	1	74		22.17	22.21	22.10
15	36	0		21.22	21.28	21.21
15	36	20		21.23	21.29	21.16
15	36	39		21.18	21.20	21.11
15	75	0		21.23	21.25	21.16
15	1	0	16-QAM	21.50	21.50	21.49
15	1	37		21.48	21.46	21.40
15	1	74		21.45	21.49	21.43
15	36	0		20.24	20.26	20.21
15	36	20		20.19	20.24	20.17



15	36	39	64-QAM	20.15	20.19	20.11
15	75	0		20.18	20.21	20.16
15	1	0		20.13	20.26	20.32
15	1	37		19.92	20.07	19.98
15	1	74		19.96	20.08	20.01
15	36	0		18.87	19.01	18.90
15	36	20		18.86	18.97	18.86
15	36	39		18.83	18.91	18.85
15	75	0		18.83	18.93	18.86





LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.23	22.25	22.14
10	1	25		22.17	22.13	22.14
10	1	49		22.15	22.15	22.04
10	25	0		21.20	21.25	21.17
10	25	12		21.18	21.23	21.15
10	25	25		21.14	21.22	21.11
10	50	0		21.17	21.22	21.15
10	1	0	16-QAM	21.48	21.50	21.49
10	1	25		21.44	21.44	21.49
10	1	49		21.40	21.45	21.43
10	25	0		20.16	20.21	20.13
10	25	12		20.16	20.21	20.14
10	25	25		20.11	20.18	20.11
10	50	0		20.19	20.22	20.16
10	1	0	64-QAM	20.01	20.11	20.06
10	1	25		19.96	20.05	19.98
10	1	49		19.95	20.02	19.94
10	25	0		18.80	18.93	18.85
10	25	12		18.84	18.88	18.83
10	25	25		18.78	18.87	18.80
10	50	0		18.78	18.92	18.85
5	1	0	QPSK	22.15	22.16	22.13
5	1	12		22.08	22.14	22.10
5	1	24		22.13	22.13	22.02
5	12	0		21.14	21.19	21.14
5	12	7		21.13	21.22	21.15
5	12	13		21.15	21.20	21.09
5	25	0		21.09	21.19	21.15
5	1	0	16-QAM	21.50	21.49	21.48
5	1	12		21.44	21.48	21.46
5	1	24		21.42	21.48	21.42
5	12	0		20.18	20.17	20.09
5	12	7		20.17	20.27	20.14



5	12	13	64-QAM	20.18	20.20	20.13
5	25	0		20.17	20.18	20.10
5	1	0		19.91	20.05	19.96
5	1	12		19.90	20.05	19.88
5	1	24		19.92	19.99	19.90
5	12	0		18.78	18.93	18.82
5	12	7		18.82	18.93	18.82
5	12	13		18.76	18.89	18.78
5	25	0		18.74	18.88	18.74



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.10	22.15	22.10
3	1	8		22.25	22.27	22.22
3	1	14		22.11	22.11	22.06
3	8	0		21.13	21.19	21.09
3	8	4		21.15	21.21	21.12
3	8	7		21.09	21.16	21.06
3	15	0		21.09	21.21	21.07
3	1	0	16-QAM	21.47	21.42	21.41
3	1	8		21.45	21.46	21.44
3	1	14		21.37	21.47	21.42
3	8	0		20.21	20.28	20.15
3	8	4		20.23	20.27	20.17
3	8	7		20.19	20.26	20.13
3	15	0		20.17	20.17	20.09
3	1	0	64-QAM	19.84	20.04	19.88
3	1	8		19.90	20.08	19.87
3	1	14		19.84	19.94	19.90
3	8	0		18.75	18.88	18.79
3	8	4		18.76	18.89	18.81
3	8	7		18.73	18.85	18.77
3	15	0		18.71	18.86	18.75
1.4	1	0	QPSK	22.01	22.08	22.02
1.4	1	3		22.09	22.16	22.09
1.4	1	5		22.06	22.06	22.00
1.4	3	0		22.07	22.15	22.05
1.4	3	1		22.13	22.18	22.08
1.4	3	3		22.12	22.19	22.12
1.4	6	0		21.05	21.12	21.03
1.4	1	0	16-QAM	21.39	21.48	21.37
1.4	1	3		21.49	21.50	21.39
1.4	1	5		21.37	21.45	21.37
1.4	3	0		21.14	21.19	21.12
1.4	3	1		21.21	21.20	21.20



1.4	3	3	64-QAM	21.13	21.19	21.20
1.4	6	0		20.15	20.20	20.07
1.4	1	0		19.87	19.87	19.81
1.4	1	3		19.85	19.98	19.88
1.4	1	5		19.81	19.89	19.77
1.4	3	0		19.82	19.97	19.84
1.4	3	1		19.83	20.00	19.87
1.4	3	3		19.81	19.96	19.81
1.4	6	0		18.65	18.81	18.69



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.45	23.30	23.37
10	1	25		23.39	23.22	23.30
10	1	49		23.25	23.25	23.32
10	25	0		22.41	22.31	22.38
10	25	12		22.41	22.29	22.39
10	25	25		22.47	22.32	22.46
10	50	0		22.48	22.26	22.47
10	1	0	16-QAM	22.67	22.63	22.68
10	1	25		22.59	22.60	22.55
10	1	49		22.60	22.58	22.59
10	25	0		21.36	21.27	21.36
10	25	12		21.40	21.35	21.35
10	25	25		21.33	21.35	21.41
10	50	0		21.36	21.30	21.46
10	1	0	64-QAM	21.37	21.39	21.39
10	1	25		21.32	21.28	21.36
10	1	49		21.32	21.37	21.36
10	25	0		20.20	20.13	20.18
10	25	12		20.17	20.15	20.19
10	25	25		20.13	20.21	20.26
10	50	0		20.17	20.13	20.30
5	1	0	QPSK	23.42	23.27	23.25
5	1	12		23.41	23.21	23.29
5	1	24		23.27	23.34	23.36
5	12	0		22.40	22.30	22.40
5	12	7		22.38	22.29	22.40
5	12	13		22.36	22.29	22.42
5	25	0		22.40	22.26	22.40
5	1	0	16-QAM	22.62	22.63	22.55
5	1	12		22.60	22.47	22.60
5	1	24		22.60	22.61	22.58
5	12	0		21.40	21.31	21.42
5	12	7		21.40	21.32	21.42



5	12	13	64-QAM	21.41	21.30	21.42
5	25	0		21.39	21.27	21.40
5	1	0		21.35	21.27	21.34
5	1	12		21.29	21.37	21.44
5	1	24		21.30	21.37	21.34
5	12	0		20.24	20.14	20.34
5	12	7		20.24	20.12	20.32
5	12	13		20.18	20.15	20.29
5	25	0		20.14	20.10	20.24



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.32	23.23	23.39
3	1	8		23.33	23.36	23.35
3	1	14		23.39	23.26	23.27
3	8	0		22.36	22.25	22.38
3	8	4		22.41	22.27	22.38
3	8	7		22.38	22.21	22.35
3	15	0		22.37	22.25	22.38
3	1	0	16-QAM	22.64	22.65	22.55
3	1	8		22.69	22.55	22.68
3	1	14		22.60	22.50	22.50
3	8	0		21.48	21.34	21.43
3	8	4		21.43	21.33	21.43
3	8	7		21.43	21.25	21.39
3	15	0		21.38	21.27	21.40
3	1	0	64-QAM	21.34	21.24	21.36
3	1	8		21.32	21.21	21.32
3	1	14		21.29	21.26	21.36
3	8	0		20.20	20.08	20.23
3	8	4		20.20	20.12	20.30
3	8	7		20.16	20.07	20.24
3	15	0		20.17	20.09	20.26
1.4	1	0	QPSK	23.28	23.17	23.22
1.4	1	3		23.36	23.23	23.31
1.4	1	5		23.27	23.16	23.20
1.4	3	0		23.38	23.22	23.30
1.4	3	1		23.41	23.24	23.32
1.4	3	3		23.42	23.25	23.37
1.4	6	0		22.32	22.16	22.31
1.4	1	0	16-QAM	22.53	22.44	22.55
1.4	1	3		22.62	22.52	22.57
1.4	1	5		22.51	22.42	22.51
1.4	3	0		22.35	22.24	22.30
1.4	3	1		22.44	22.29	22.28



1.4	3	3	64-QAM	22.43	22.26	22.28
1.4	6	0		21.41	21.24	21.33
1.4	1	0		21.25	21.18	21.29
1.4	1	3		21.30	21.27	21.37
1.4	1	5		21.27	21.17	21.32
1.4	3	0		21.24	21.18	21.33
1.4	3	1		21.27	21.21	21.32
1.4	3	3		21.23	21.16	21.25
1.4	6	0		20.10	20.02	20.18





LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.39	23.26	23.22
15	1	37		23.32	23.21	23.17
15	1	74		23.17	23.18	23.17
15	36	0		22.38	22.32	22.30
15	36	20		22.36	22.29	22.28
15	36	39		22.30	22.24	22.28
15	75	0		22.38	22.37	22.32
15	1	0	16-QAM	22.67	22.61	22.52
15	1	37		22.66	22.58	22.52
15	1	74		22.56	22.60	22.53
15	36	0		21.42	21.29	21.31
15	36	20		21.43	21.27	21.28
15	36	39		21.33	21.30	21.31
15	75	0		21.37	21.25	21.34
15	1	0	64-QAM	21.40	21.31	21.25
15	1	37		21.46	21.24	21.31
15	1	74		21.30	21.27	21.38
15	36	0		20.28	20.12	20.16
15	36	20		20.29	20.11	20.20
15	36	39		20.23	20.11	20.22
15	75	0		20.25	20.04	20.20
10	1	0	QPSK	23.37	23.13	23.11
10	1	25		23.32	23.12	23.18
10	1	49		23.30	23.13	23.14
10	25	0		22.41	22.11	22.15
10	25	12		22.39	22.19	22.23
10	25	25		22.29	22.15	22.20
10	50	0		22.35	22.16	22.23
10	1	0	16-QAM	22.67	22.42	22.45
10	1	25		22.67	22.45	22.42
10	1	49		22.58	22.39	22.37
10	25	0		21.38	21.10	21.12
10	25	12		21.41	21.21	21.24
10	25	25		21.30	21.14	21.17



10	50	0		21.35	21.18	21.23
10	1	0	64-QAM	21.36	21.14	21.15
10	1	25		21.36	21.22	21.24
10	1	49		21.31	21.18	21.17
10	25	0		20.17	19.94	20.00
10	25	12		20.19	20.04	20.14
10	25	25		20.15	20.02	20.05
10	50	0		20.15	20.04	20.12



LTE Band 26 Maximum Average Power [dBm]							
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	
5	1	0	QPSK	23.34	23.05	23.18	
5	1	12		23.28	23.10	23.24	
5	1	24		23.28	23.08	23.13	
5	12	0		22.37	22.18	22.21	
5	12	7		22.38	22.16	22.24	
5	12	13		22.37	22.15	22.20	
5	25	0		22.36	22.12	22.22	
5	1	0		22.66	22.39	22.50	
5	1	12	16-QAM	22.60	22.51	22.52	
5	1	24		22.62	22.54	22.44	
5	12	0		21.36	21.22	21.19	
5	12	7		21.40	21.25	21.23	
5	12	13		21.36	21.17	21.23	
5	25	0		21.39	21.14	21.20	
5	1	0		21.35	21.09	21.29	
5	1	12		64-QAM	21.32	21.19	21.23
5	1	24	21.33		21.14	21.24	
5	12	0	20.18		20.05	20.14	
5	12	7	20.22		20.03	20.13	
5	12	13	20.19		19.99	20.11	
5	25	0	20.15		20.00	20.06	
3	1	0	QPSK		23.27	23.14	23.13
3	1	8			23.29	23.18	23.21
3	1	14		23.30	23.04	23.07	
3	8	0		22.35	22.15	22.18	
3	8	4		22.36	22.19	22.20	
3	8	7		22.34	22.12	22.14	
3	15	0		22.39	22.14	22.17	
3	1	0		16-QAM	22.62	22.53	22.37
3	1	8	22.67		22.55	22.50	
3	1	14	22.65		22.54	22.33	
3	8	0	21.39		21.19	21.21	
3	8	4	21.41		21.24	21.23	
3	8	7	21.38		21.20	21.20	



3	15	0		21.40	21.17	21.17
3	1	0	64-QAM	21.31	21.14	21.16
3	1	8		21.34	21.17	21.18
3	1	14		21.35	21.16	21.21
3	8	0		20.19	20.03	20.10
3	8	4		20.18	20.06	20.11
3	8	7		20.18	19.98	20.05
3	15	0		20.16	19.99	20.03



LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.29	23.11	23.03
1.4	1	3		23.35	23.15	23.10
1.4	1	5		23.29	23.10	23.02
1.4	3	0		23.34	23.14	23.09
1.4	3	1		23.37	23.19	23.13
1.4	3	3		23.37	23.17	23.18
1.4	6	0		22.32	22.11	22.06
1.4	1	0	16-QAM	22.58	22.33	22.26
1.4	1	3		22.66	22.44	22.33
1.4	1	5		22.55	22.36	22.28
1.4	3	0		22.34	22.21	22.11
1.4	3	1		22.38	22.27	22.18
1.4	3	3		22.38	22.22	22.15
1.4	6	0		21.37	21.19	21.13
1.4	1	0	64-QAM	21.22	21.06	21.08
1.4	1	3		21.30	21.14	21.09
1.4	1	5		21.22	21.09	21.14
1.4	3	0		21.24	21.05	21.12
1.4	3	1		21.27	21.10	21.14
1.4	3	3		21.24	21.10	21.09
1.4	6	0		20.08	19.93	19.98



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	21.12	20.99	21.09
20	1	49		21.26	21.19	21.14
20	1	99		21.22	21.19	21.06
20	50	0		20.24	20.14	20.11
20	50	24		20.36	20.22	20.15
20	50	50		20.41	20.30	20.25
20	100	0		20.26	20.25	20.15
20	1	0	16-QAM	20.44	20.26	20.39
20	1	49		20.55	20.52	20.46
20	1	99		20.50	20.51	20.30
20	50	0		19.16	19.25	19.15
20	50	24		19.29	19.25	19.20
20	50	50		19.27	19.21	19.18
20	100	0		19.22	19.18	19.30
20	1	0	64-QAM	19.15	19.06	19.14
20	1	49		19.21	19.26	19.22
20	1	99		19.21	19.24	18.70
20	50	0		17.86	18.11	18.08
20	50	24		18.05	18.16	18.12
20	50	50		18.04	18.14	18.12
20	100	0		18.02	18.12	17.99
15	1	0	QPSK	21.06	21.10	21.06
15	1	37		21.13	21.19	21.12
15	1	74		21.19	21.14	20.70
15	36	0		20.14	20.20	20.21
15	36	20		20.21	20.26	20.27
15	36	39		20.29	20.20	20.23
15	75	0		20.16	20.30	20.20
15	1	0	16-QAM	20.45	20.47	20.45
15	1	37		20.55	20.47	20.45
15	1	74		20.53	20.47	20.60
15	36	0		19.14	19.15	19.16
15	36	20		19.19	19.26	19.21



15	36	39	64-QAM	19.26	19.23	19.22
15	75	0		19.14	19.23	19.21
15	1	0		19.00	19.21	19.14
15	1	37		19.08	19.27	19.13
15	1	74		19.17	19.32	18.70
15	36	0		17.84	18.13	18.04
15	36	20		17.95	18.18	18.06
15	36	39		17.99	18.17	18.02
15	75	0		17.83	18.11	17.94



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	21.06	21.12	21.11
10	1	25		21.13	21.15	20.94
10	1	49		21.21	21.11	20.70
10	25	0		20.16	20.18	20.08
10	25	12		20.20	20.22	20.20
10	25	25		20.14	20.15	20.19
10	50	0		20.15	20.21	20.20
10	1	0	16-QAM	20.43	20.38	20.25
10	1	25		20.44	20.47	20.26
10	1	49		20.50	20.43	19.85
10	25	0		19.13	19.17	19.06
10	25	12		19.21	19.22	19.12
10	25	25		19.15	19.20	19.20
10	50	0		19.18	19.22	19.18
10	1	0	64-QAM	19.01	19.20	19.13
10	1	25		19.06	19.28	19.21
10	1	49		19.17	19.28	18.93
10	25	0		17.82	18.09	17.97
10	25	12		17.88	18.15	18.01
10	25	25		17.83	18.09	17.97
10	50	0		17.84	18.12	17.97
5	1	0	QPSK	21.07	21.10	21.13
5	1	12		21.15	21.18	20.72
5	1	24		21.10	21.13	20.94
5	12	0		20.16	20.16	20.04
5	12	7		20.23	20.23	20.13
5	12	13		20.19	20.10	20.10
5	25	0		20.18	20.10	20.11
5	1	0	16-QAM	20.41	20.37	20.20
5	1	12		20.48	20.40	20.04
5	1	24		20.41	20.52	20.20
5	12	0		19.19	19.11	19.07
5	12	7		19.25	19.15	19.12





5	12	13	64-QAM	19.20	19.21	19.11
5	25	0		19.16	19.21	19.08
5	1	0		19.05	19.18	19.11
5	1	12		18.99	19.30	19.20
5	1	24		18.92	19.24	19.19
5	12	0		17.82	18.12	18.07
5	12	7		17.88	18.16	18.03
5	12	13		17.84	18.13	18.01
5	25	0		17.82	18.08	17.94



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.30	23.45	23.44
10	1	25		23.58	23.65	23.43
10	1	49		23.43	23.52	23.51
10	25	0		22.40	22.57	22.32
10	25	12		22.57	22.61	22.43
10	25	25		22.53	22.52	22.41
10	50	0		22.46	22.53	22.50
10	1	0	16-QAM	22.50	22.62	22.67
10	1	25		22.69	22.77	22.65
10	1	49		22.64	22.74	22.73
10	25	0		21.42	21.57	21.45
10	25	12		21.55	21.58	21.47
10	25	25		21.54	21.55	21.49
10	50	0		21.55	21.54	21.47
10	1	0	64-QAM	21.41	21.53	21.47
10	1	25		21.58	21.64	21.55
10	1	49		21.56	21.65	21.61
10	25	0		20.31	20.48	20.38
10	25	12		20.46	20.50	20.39
10	25	25		20.42	20.49	20.48
10	50	0		20.45	20.52	20.38
5	1	0	QPSK	23.40	23.53	23.45
5	1	12		23.44	23.49	23.37
5	1	24		23.55	23.53	23.46
5	12	0		22.52	22.54	22.48
5	12	7		22.54	22.57	22.50
5	12	13		22.53	22.54	22.50
5	25	0		22.50	22.55	22.51
5	1	0	16-QAM	22.66	22.76	22.55
5	1	12		22.68	22.74	22.69
5	1	24		22.79	22.77	22.69
5	12	0		21.59	21.53	21.52
5	12	7		21.59	21.55	21.54



5	12	13	64-QAM	21.49	21.55	21.48
5	25	0		21.52	21.50	21.47
5	1	0		21.58	21.64	21.44
5	1	12		21.52	21.63	21.59
5	1	24		21.66	21.67	21.61
5	12	0		20.46	20.54	20.56
5	12	7		20.49	20.55	20.45
5	12	13		20.45	20.49	20.54
5	25	0		20.43	20.47	20.51



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.32	23.48	23.44
3	1	8		23.38	23.59	23.60
3	1	14		23.30	23.51	23.40
3	8	0		22.35	22.52	22.45
3	8	4		22.37	22.51	22.49
3	8	7		22.35	22.54	22.46
3	15	0		22.37	22.50	22.46
3	1	0	16-QAM	22.51	22.76	22.57
3	1	8		22.60	22.90	22.69
3	1	14		22.53	22.72	22.68
3	8	0		21.43	21.59	21.47
3	8	4		21.41	21.60	21.51
3	8	7		21.41	21.54	21.46
3	15	0		21.43	21.54	21.48
3	1	0	64-QAM	21.44	21.60	21.54
3	1	8		21.47	21.61	21.51
3	1	14		21.45	21.64	21.53
3	8	0		20.31	20.48	20.51
3	8	4		20.32	20.51	20.40
3	8	7		20.30	20.47	20.46
3	15	0		20.30	20.44	20.50
1.4	1	0	QPSK	23.30	23.43	23.34
1.4	1	3		23.30	23.44	23.32
1.4	1	5		23.30	23.39	23.30
1.4	3	0		23.40	23.46	23.33
1.4	3	1		23.45	23.52	23.42
1.4	3	3		23.44	23.54	23.41
1.4	6	0		22.30	22.45	22.34
1.4	1	0	16-QAM	22.47	22.62	22.50
1.4	1	3		22.58	22.73	22.62
1.4	1	5		22.50	22.64	22.58
1.4	3	0		22.30	22.50	22.40
1.4	3	1		22.30	22.57	22.43



1.4	3	3	64-QAM	22.31	22.54	22.45
1.4	6	0		21.31	21.51	21.46
1.4	1	0		21.42	21.54	21.49
1.4	1	3		21.44	21.63	21.59
1.4	1	5		21.37	21.55	21.51
1.4	3	0		21.34	21.51	21.40
1.4	3	1		21.41	21.55	21.45
1.4	3	3		21.32	21.53	21.47
1.4	6	0		20.30	20.37	20.38



LTE Band 13 Maximum Average Power [dBm]							
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	
10	1	0	QPSK		22.30		
10	1	25			22.60		
10	1	49			22.43		
10	25	0			21.46		
10	25	12			21.55		
10	25	25			21.68		
10	50	0			21.49		
10	1	0	16-QAM		21.88		
10	1	25			22.06		
10	1	49			21.69		
10	25	0			20.36		
10	25	12			20.59		
10	25	25			20.53		
10	50	0			20.45		
10	1	0	64-QAM		20.29		
10	1	25			20.65		
10	1	49			20.44		
10	25	0			19.46		
10	25	12			19.56		
10	25	25			19.32		
10	50	0			19.40		
5	1	0	QPSK	22.29	22.42	22.50	
5	1	12			22.38	22.45	22.39
5	1	24			22.34	22.59	22.36
5	12	0			21.48	21.61	21.53
5	12	7			21.45	21.59	21.42
5	12	13			21.56	21.62	21.43
5	25	0			21.46	21.68	21.48
5	1	0	16-QAM	21.67	22.10	22.07	
5	1	12			21.64	22.08	22.01
5	1	24			21.81	22.06	21.98
5	12	0			20.51	20.65	20.54
5	12	7			20.55	20.63	20.54



5	12	13	64-QAM	20.57	20.57	20.44
5	25	0		20.44	20.70	20.48
5	1	0		20.67	20.67	20.76
5	1	12		20.68	20.82	20.56
5	1	24		20.85	20.78	20.51
5	12	0		19.50	19.56	19.61
5	12	7		19.51	19.64	19.54
5	12	13		19.63	19.62	19.51
5	25	0		19.46	19.51	19.43



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.37	23.38	23.35
10	1	25		23.38	23.38	23.30
10	1	49		23.44	23.51	23.38
10	25	0		22.42	22.51	22.35
10	25	12		22.40	22.48	22.37
10	25	25		22.37	22.36	22.45
10	50	0		22.36	22.41	22.30
10	1	0	16-QAM	22.61	22.67	22.63
10	1	25		22.63	22.65	22.58
10	1	49		22.59	22.61	22.65
10	25	0		21.42	21.39	21.38
10	25	12		21.40	21.38	21.36
10	25	25		21.39	21.36	21.46
10	50	0		21.39	21.38	21.39
10	1	0	64-QAM	21.47	21.44	21.44
10	1	25		21.48	21.49	21.47
10	1	49		21.53	21.52	21.51
10	25	0		20.33	20.33	20.32
10	25	12		20.37	20.37	20.37
10	25	25		20.34	20.34	20.41
10	50	0		20.33	20.34	20.32
5	1	0	QPSK	23.42	23.37	23.30
5	1	12		23.39	23.31	23.48
5	1	24		23.34	23.49	23.39
5	12	0		22.37	22.36	22.45
5	12	7		22.41	22.39	22.49
5	12	13		22.41	22.38	22.43
5	25	0		22.41	22.35	22.45
5	1	0	16-QAM	22.63	22.58	22.46
5	1	12		22.60	22.58	22.50
5	1	24		22.56	22.48	22.53
5	12	0		21.42	21.39	21.48
5	12	7		21.41	21.41	21.47





5	12	13	64-QAM	21.40	21.40	21.45
5	25	0		21.42	21.38	21.45
5	1	0		21.47	21.50	21.46
5	1	12		21.48	21.47	21.50
5	1	24		21.51	21.48	21.48
5	12	0		20.35	20.34	20.39
5	12	7		20.40	20.36	20.43
5	12	13		20.38	20.33	20.43
5	25	0		20.31	20.31	20.39



LTE Band 38 Maximum Average Power [dBm]							
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	
20	1	0	QPSK	22.00	22.00	22.01	
20	1	49		22.23	22.14	22.23	
20	1	99		22.41	22.16	22.23	
20	50	0		21.33	21.32	21.31	
20	50	24		21.45	21.36	21.43	
20	50	50		21.44	21.33	21.34	
20	100	0		21.44	21.28	21.43	
20	1	0		21.41	21.19	21.42	
20	1	49	16-QAM	21.61	21.48	21.64	
20	1	99		21.67	21.59	21.55	
20	50	0		20.24	20.33	20.30	
20	50	24		20.39	20.40	20.57	
20	50	50		20.40	20.49	20.44	
20	100	0		20.39	20.35	20.49	
20	1	0		64-QAM	20.11	20.00	20.00
20	1	49			20.29	20.07	20.21
20	1	99	20.28		20.07	20.24	
20	50	0	19.16		19.05	19.10	
20	50	24	19.29		19.03	19.20	
20	50	50	19.25		19.10	19.16	
20	100	0	19.20		19.03	19.15	
15	1	0	QPSK		22.15	22.17	22.08
15	1	37		22.30	22.23	22.28	
15	1	74		22.25	22.29	22.32	
15	36	0		21.25	21.32	21.41	
15	36	20		21.45	21.39	21.46	
15	36	39		21.39	21.48	21.47	
15	75	0		21.39	21.37	21.41	
15	1	0		16-QAM	21.42	21.53	21.37
15	1	37	21.59		21.56	21.57	
15	1	74	21.51		21.60	21.63	
15	36	0	20.30		20.32	20.43	
15	36	20	20.39		20.37	20.46	
15	36	39	20.40		20.50	20.51	



15	75	0		20.40	20.39	20.47
15	1	0	64-QAM	20.24	20.06	20.04
15	1	37		20.38	20.10	20.20
15	1	74		20.25	20.10	20.27
15	36	0		19.16	19.00	19.18
15	36	20		19.27	19.03	19.17
15	36	39		19.27	19.08	19.25
15	75	0		19.27	19.05	19.16



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.05	22.10	22.17
10	1	25		22.13	22.16	22.22
10	1	49		22.22	22.23	22.28
10	25	0		21.38	21.31	21.34
10	25	12		21.39	21.43	21.41
10	25	25		21.38	21.40	21.47
10	50	0		21.25	21.32	21.39
10	1	0	16-QAM	21.49	21.43	21.42
10	1	25		21.48	21.59	21.53
10	1	49		21.48	21.67	21.61
10	25	0		20.31	20.33	20.39
10	25	12		20.36	20.39	20.48
10	25	25		20.45	20.37	20.52
10	50	0		20.37	20.43	20.42
10	1	0	64-QAM	20.25	20.03	20.22
10	1	25		20.23	20.05	20.19
10	1	49		20.29	20.07	20.32
10	25	0		19.28	19.06	19.26
10	25	12		19.32	19.09	19.28
10	25	25		19.39	19.07	19.33
10	50	0		19.24	19.04	19.21
5	1	0	QPSK	22.12	22.14	22.25
5	1	12		22.11	22.19	22.35
5	1	24		22.12	22.15	22.26
5	12	0		21.31	21.33	21.44
5	12	7		21.37	21.41	21.56
5	12	13		21.32	21.42	21.53
5	25	0		21.39	21.38	21.46
5	1	0	16-QAM	21.52	21.41	21.55
5	1	12		21.51	21.48	21.55
5	1	24		21.51	21.54	21.66
5	12	0		20.36	20.43	20.52
5	12	7		20.46	20.45	20.61



5	12	13	64-QAM	20.45	20.42	20.56
5	25	0		20.38	20.41	20.53
5	1	0		20.25	20.02	20.27
5	1	12		20.31	20.05	20.27
5	1	24		20.31	20.02	20.34
5	12	0		19.33	19.06	19.32
5	12	7		19.36	19.06	19.34
5	12	13		19.31	19.05	19.30
5	25	0		19.31	19.05	19.33



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.19	22.02	22.00
20	1	49		22.45	22.36	22.19
20	1	99		22.27	22.26	22.00
20	50	0		21.46	21.42	21.23
20	50	24		21.50	21.48	21.21
20	50	50		21.45	21.43	21.11
20	100	0		21.41	21.27	21.21
20	1	0	16-QAM	21.47	21.53	21.28
20	1	49		21.77	21.71	21.35
20	1	99		21.56	21.58	21.19
20	50	0		20.46	20.40	20.25
20	50	24		20.52	20.42	20.25
20	50	50		20.56	20.52	20.20
20	100	0		20.53	20.38	20.24
20	1	0	64-QAM	20.19	20.07	20.27
20	1	49		20.21	20.04	20.24
20	1	99		20.19	20.05	20.06
20	50	0		19.23	19.04	19.18
20	50	24		19.24	19.08	19.20
20	50	50		19.24	19.15	19.11
20	100	0		19.20	19.05	19.14
15	1	0	QPSK	22.30	22.18	22.00
15	1	37		22.40	22.31	22.04
15	1	74		22.36	22.37	22.01
15	36	0		21.49	21.32	21.18
15	36	20		21.55	21.36	21.22
15	36	39		21.45	21.47	21.15
15	75	0		21.46	21.31	21.19
15	1	0	16-QAM	21.59	21.43	21.29
15	1	37		21.73	21.53	21.36
15	1	74		21.66	21.65	21.22
15	36	0		20.43	20.30	20.17
15	36	20		20.49	20.36	20.22



15	36	39	64-QAM	20.43	20.46	20.12
15	75	0		20.49	20.39	20.19
15	1	0		20.20	20.04	20.15
15	1	37		20.26	20.08	20.14
15	1	74		20.24	20.15	20.04
15	36	0		19.17	19.00	19.10
15	36	20		19.18	19.19	19.11
15	36	39		19.13	19.13	19.01
15	75	0		19.20	19.05	19.11



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.26	22.16	22.00
10	1	25		22.35	22.21	22.00
10	1	49		22.24	22.24	22.00
10	25	0		21.52	21.45	21.17
10	25	12		21.48	21.42	21.20
10	25	25		21.54	21.42	21.18
10	50	0		21.53	21.30	21.17
10	1	0	16-QAM	21.62	21.62	21.32
10	1	25		21.75	21.62	21.37
10	1	49		21.76	21.70	21.16
10	25	0		20.46	20.46	20.17
10	25	12		20.56	20.51	20.23
10	25	25		20.47	20.49	20.14
10	50	0		20.48	20.47	20.16
10	1	0	64-QAM	20.20	20.07	20.13
10	1	25		20.21	20.21	20.12
10	1	49		20.18	20.15	20.00
10	25	0		19.24	19.10	19.14
10	25	12		19.27	19.12	19.19
10	25	25		19.23	19.20	19.08
10	50	0		19.19	19.04	19.07
5	1	0	QPSK	22.27	22.14	22.00
5	1	12		22.33	22.18	22.03
5	1	24		22.31	22.25	22.00
5	12	0		21.49	21.32	21.11
5	12	7		21.51	21.38	21.13
5	12	13		21.53	21.48	21.12
5	25	0		21.51	21.33	21.13
5	1	0	16-QAM	21.65	21.49	21.27
5	1	12		21.73	21.54	21.35
5	1	24		21.57	21.62	21.28
5	12	0		20.54	20.42	20.17
5	12	7		20.59	20.53	20.24





5	12	13	64-QAM	20.58	20.54	20.18
5	25	0		20.56	20.45	20.15
5	1	0		20.19	20.06	20.26
5	1	12		20.19	20.10	20.52
5	1	24		20.21	20.20	20.34
5	12	0		19.22	19.10	19.39
5	12	7		19.24	19.23	19.44
5	12	13		19.22	19.21	19.42
5	25	0		19.23	19.07	19.43



**ERP/EIRP**

LTE Band 4 (GT - LC = 3.90 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	22.12	22.19	22.12	22.25	22.27	22.22	22.15	22.16	22.13
Conducted Power (Watts)	0.1629	0.1656	0.1629	0.1679	0.1687	0.1667	0.1641	0.1644	0.1633
EIRP(dBm)	26.02	26.09	26.02	26.15	26.17	26.12	26.05	26.06	26.03
EIRP(Watts)	0.3999	0.4064	0.3999	0.4121	0.4140	0.4093	0.4027	0.4036	0.4009

LTE Band 4 (GT - LC = 3.90 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	22.23	22.25	22.14	22.22	22.35	22.35	22.29	22.34	22.36
Conducted Power (Watts)	0.1671	0.1679	0.1637	0.1667	0.1718	0.1718	0.1694	0.1714	0.1722
EIRP(dBm)	26.13	26.15	26.04	26.12	26.25	26.25	26.19	26.24	26.26
EIRP(Watts)	0.4102	0.4121	0.4018	0.4093	0.4217	0.4217	0.4159	0.4207	0.4227



LTE Band 4 (GT - LC = 3.90 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	21.49	21.50	21.39	21.37	21.47	21.42	21.50	21.49	21.48
Conducted Power (Watts)	0.1409	0.1413	0.1377	0.1371	0.1403	0.1387	0.1413	0.1409	0.1406
EIRP(dBm)	25.39	25.40	25.29	25.27	25.37	25.32	25.40	25.39	25.38
EIRP(Watts)	0.3459	0.3467	0.3381	0.3365	0.3443	0.3404	0.3467	0.3459	0.3451

LTE Band 4 (GT - LC = 3.90 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	21.48	21.50	21.49	21.50	21.50	21.49	21.48	21.50	21.48
Conducted Power (Watts)	0.1406	0.1413	0.1409	0.1413	0.1413	0.1409	0.1406	0.1413	0.1406
EIRP(dBm)	25.38	25.40	25.39	25.40	25.40	25.39	25.38	25.40	25.38
EIRP(Watts)	0.3451	0.3467	0.3459	0.3467	0.3467	0.3459	0.3451	0.3467	0.3451



LTE Band 4 (GT - LC = 3.90 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	19.83	20.00	19.87	19.90	20.08	19.87	19.91	20.05	19.96
Conducted Power (Watts)	0.0962	0.1000	0.0971	0.0977	0.1019	0.0971	0.0979	0.1012	0.0991
EIRP(dBm)	23.73	23.90	23.77	23.80	23.98	23.77	23.81	23.95	23.86
EIRP(Watts)	0.2360	0.2455	0.2382	0.2399	0.2500	0.2382	0.2404	0.2483	0.2432

LTE Band 4 (GT - LC = 3.90 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	20.01	20.11	20.06	20.13	20.26	20.32	20.13	20.25	20.27
Conducted Power (Watts)	0.1002	0.1026	0.1014	0.1030	0.1062	0.1076	0.1030	0.1059	0.1064
EIRP(dBm)	23.91	24.01	23.96	24.03	24.16	24.22	24.03	24.15	24.17
EIRP(Watts)	0.2460	0.2518	0.2489	0.2529	0.2606	0.2642	0.2529	0.2600	0.2612



LTE Band 7 (GT - LC = 3.30 dB) QPSK			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	21.15	21.18	20.72
Conducted Power (Watts)	0.1303	0.1312	0.1180
EIRP(dBm)	24.45	24.48	24.02
EIRP(Watts)	0.2786	0.2805	0.2523

LTE Band 7 (GT - LC = 3.30 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	21.21	21.11	20.70	21.13	21.19	21.12	21.26	21.19	21.14
Conducted Power (Watts)	0.1321	0.1291	0.1175	0.1297	0.1315	0.1294	0.1337	0.1315	0.1300
EIRP(dBm)	24.51	24.41	24.00	24.43	24.49	24.42	24.56	24.49	24.44
EIRP(Watts)	0.2825	0.2761	0.2512	0.2773	0.2812	0.2767	0.2858	0.2812	0.2780



LTE Band 7 (GT - LC = 3.30 dB) 16QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	20.41	20.52	20.20
Conducted Power (Watts)	0.1099	0.1127	0.1047
EIRP(dBm)	23.71	23.82	23.50
EIRP(Watts)	0.2350	0.2410	0.2239

LTE Band 7 (GT - LC = 3.30 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	20.50	20.43	19.85	20.53	20.47	20.60	20.55	20.52	20.46
Conducted Power (Watts)	0.1122	0.1104	0.0966	0.1130	0.1114	0.1148	0.1135	0.1127	0.1112
EIRP(dBm)	23.80	23.73	23.15	23.83	23.77	23.90	23.85	23.82	23.76
EIRP(Watts)	0.2399	0.2360	0.2065	0.2415	0.2382	0.2455	0.2427	0.2410	0.2377



LTE Band 7 (GT - LC = 3.30 dB) 64QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency (MHz)	2502.5	2535	2567.5
	Conducted Power (dBm)	18.99	19.30
Conducted Power (Watts)	0.0793	0.0851	0.0832
EIRP(dBm)	22.29	22.60	22.50
EIRP(Watts)	0.1694	0.1820	0.1778

LTE Band 7 (GT - LC = 3.30 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
	Conducted Power (dBm)	19.06	19.28	19.21	19.17	19.32	18.70	19.21	19.26
Conducted Power (Watts)	0.0805	0.0847	0.0834	0.0826	0.0855	0.0741	0.0834	0.0843	0.0836
EIRP(dBm)	22.36	22.58	22.51	22.47	22.62	22.00	22.51	22.56	22.52
EIRP(Watts)	0.1722	0.1811	0.1782	0.1766	0.1828	0.1585	0.1782	0.1803	0.1786



LTE Band 12 (GT - LC = 0.90 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	23.44	23.54	23.41	23.38	23.59	23.60	23.55	23.53	23.46
Conducted Power (Watts)	0.2208	0.2259	0.2193	0.2178	0.2286	0.2291	0.2265	0.2254	0.2218
ERP(dBm)	22.19	22.29	22.16	22.13	22.34	22.35	22.30	22.28	22.21
ERP(Watts)	0.1656	0.1694	0.1644	0.1633	0.1714	0.1718	0.1698	0.1690	0.1663

LTE Band 12 (GT - LC = 0.90 dB) QPSK			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	23.58	23.65	23.43
Conducted Power (Watts)	0.2280	0.2317	0.2203
ERP(dBm)	22.33	22.40	22.18
ERP(Watts)	0.1710	0.1738	0.1652





LTE Band 12 (GT - LC = 0.90 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	22.58	22.73	22.62	22.60	22.90	22.69	22.79	22.77	22.69
Conducted Power (Watts)	0.1811	0.1875	0.1828	0.1820	0.1950	0.1858	0.1901	0.1892	0.1858
ERP(dBm)	21.33	21.48	21.37	21.35	21.65	21.44	21.54	21.52	21.44
ERP(Watts)	0.1358	0.1406	0.1371	0.1365	0.1462	0.1393	0.1426	0.1419	0.1393

LTE Band 12 (GT - LC = 0.90 dB) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	22.69	22.77	22.65
Conducted Power (Watts)	0.1858	0.1892	0.1841
ERP(dBm)	21.44	21.52	21.40
ERP(Watts)	0.1393	0.1419	0.1380



LTE Band 12 (GT - LC = 0.90 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	21.44	21.63	21.59	21.45	21.64	21.53	21.66	21.67	21.61
Conducted Power (Watts)	0.1393	0.1455	0.1442	0.1396	0.1459	0.1422	0.1466	0.1469	0.1449
ERP(dBm)	20.19	20.38	20.34	20.20	20.39	20.28	20.41	20.42	20.36
ERP(Watts)	0.1045	0.1091	0.1081	0.1047	0.1094	0.1067	0.1099	0.1102	0.1086

LTE Band 12 (GT - LC = 0.90 dB) 64QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	21.56	21.65	21.61
Conducted Power (Watts)	0.1432	0.1462	0.1449
ERP(dBm)	20.31	20.40	20.36
ERP(Watts)	0.1074	0.1096	0.1086



LTE Band 13 (GT - LC = -0.40 dB) QPSK						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	22.34	22.59	22.36		22.60	-
Conducted Power (Watts)	0.1714	0.1816	0.1722		0.1820	-
ERP(dBm)	19.79	20.04	19.81		20.05	-
ERP(Watts)	0.0953	0.1009	0.0957		0.1012	-

LTE Band 13 (GT - LC = -0.40 dB) 16QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	21.67	22.10	22.07		22.06	-
Conducted Power (Watts)	0.1469	0.1622	0.1611		0.1607	-
ERP(dBm)	19.12	19.55	19.52		19.51	-
ERP(Watts)	0.0817	0.0902	0.0895		0.0893	-

LTE Band 13 (GT - LC = -0.40 dB) 64QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	20.85	20.78	20.51		20.65	-
Conducted Power (Watts)	0.1216	0.1197	0.1125		0.1161	-
ERP(dBm)	18.30	18.23	17.96		18.10	-
ERP(Watts)	0.0676	0.0665	0.0625		0.0646	-



LTE Band 25 (GT - LC = 4.10 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	21.98	22.08	22.11	22.00	22.12	22.10	21.92	21.98	22.11
Conducted Power (Watts)	0.1578	0.1614	0.1626	0.1585	0.1629	0.1622	0.1556	0.1578	0.1626
EIRP(dBm)	26.08	26.18	26.21	26.10	26.22	26.20	26.02	26.08	26.21
EIRP(Watts)	0.4055	0.4150	0.4178	0.4074	0.4188	0.4169	0.3999	0.4055	0.4178

LTE Band 25 (GT - LC = 4.10 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	22.02	22.04	22.19	22.17	22.11	22.22	22.26	22.28	22.24
Conducted Power (Watts)	0.1592	0.1600	0.1656	0.1648	0.1626	0.1667	0.1683	0.1690	0.1675
EIRP(dBm)	26.12	26.14	26.29	26.27	26.21	26.32	26.36	26.38	26.34
EIRP(Watts)	0.4093	0.4111	0.4256	0.4236	0.4178	0.4285	0.4325	0.4345	0.4305



LTE Band 25 (GT - LC = 4.10 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	21.23	21.35	21.33	21.25	21.35	21.24	21.23	21.39	21.33
Conducted Power (Watts)	0.1327	0.1365	0.1358	0.1334	0.1365	0.1330	0.1327	0.1377	0.1358
EIRP(dBm)	25.33	25.45	25.43	25.35	25.45	25.34	25.33	25.49	25.43
EIRP(Watts)	0.3412	0.3508	0.3491	0.3428	0.3508	0.3420	0.3412	0.3540	0.3491

LTE Band 25 (GT - LC = 4.10 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	21.26	21.33	21.34	21.39	21.43	21.50	21.50	21.50	21.41
Conducted Power (Watts)	0.1337	0.1358	0.1361	0.1377	0.1390	0.1413	0.1413	0.1413	0.1384
EIRP(dBm)	25.36	25.43	25.44	25.49	25.53	25.60	25.60	25.60	25.51
EIRP(Watts)	0.3436	0.3491	0.3499	0.3540	0.3573	0.3631	0.3631	0.3631	0.3556



LTE Band 25 (GT - LC = 4.10 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	19.96	19.92	19.89	19.75	19.82	19.75	19.83	19.83	19.79
Conducted Power (Watts)	0.0991	0.0982	0.0975	0.0944	0.0959	0.0944	0.0962	0.0962	0.0953
EIRP(dBm)	24.06	24.02	23.99	23.85	23.92	23.85	23.93	23.93	23.89
EIRP(Watts)	0.2547	0.2523	0.2506	0.2427	0.2466	0.2427	0.2472	0.2472	0.2449

LTE Band 25 (GT - LC = 4.10 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	19.92	19.97	19.83	20.00	20.08	20.09	20.06	20.02	19.99
Conducted Power (Watts)	0.0982	0.0993	0.0962	0.1000	0.1019	0.1021	0.1014	0.1005	0.0998
EIRP(dBm)	24.02	24.07	23.93	24.10	24.18	24.19	24.16	24.12	24.09
EIRP(Watts)	0.2523	0.2553	0.2472	0.2570	0.2618	0.2624	0.2606	0.2582	0.2564



LTE Band 26 (GT - LC = 0.50 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	23.37	23.19	23.13	23.30	23.04	23.07	23.34	23.05	23.15
Conducted Power (Watts)	0.2173	0.2084	0.2056	0.2138	0.2014	0.2028	0.2158	0.2018	0.2065
ERP(dBm)	21.72	21.54	21.48	21.65	21.39	21.42	21.69	21.40	21.50
ERP(Watts)	0.1486	0.1426	0.1406	0.1462	0.1377	0.1387	0.1476	0.1380	0.1413

LTE Band 26 (GT - LC = 0.50 dB) QPSK							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	23.37	23.13	23.11	23.39	23.26	23.22	23.42
Conducted Power (Watts)	0.2173	0.2056	0.2046	0.2183	0.2118	0.2099	0.2198
ERP(dBm)	21.72	21.48	21.46	21.74	21.61	21.57	21.77
ERP(Watts)	0.1486	0.1406	0.1400	0.1493	0.1449	0.1435	0.1503



LTE Band 26 (GT - LC = 0.50 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	22.66	22.44	22.33	22.67	22.55	22.50	22.66	22.39	22.47
Conducted Power (Watts)	0.1845	0.1754	0.1710	0.1849	0.1799	0.1778	0.1845	0.1734	0.1766
ERP(dBm)	21.01	20.79	20.68	21.02	20.90	20.85	21.01	20.74	20.82
ERP(Watts)	0.1262	0.1199	0.1169	0.1265	0.1230	0.1216	0.1262	0.1186	0.1208

LTE Band 26 (GT - LC = 0.50 dB) 16QAM							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	22.67	22.42	22.45	22.67	22.61	22.52	22.70
Conducted Power (Watts)	0.1849	0.1746	0.1758	0.1849	0.1824	0.1786	0.1862
ERP(dBm)	21.02	20.77	20.80	21.02	20.96	20.87	21.05
ERP(Watts)	0.1265	0.1194	0.1202	0.1265	0.1247	0.1222	0.1274





LTE Band 26 (GT - LC = 0.50 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	21.30	21.14	21.09	21.35	21.16	21.21	21.35	21.09	21.26
Conducted Power (Watts)	0.1349	0.1300	0.1285	0.1365	0.1306	0.1321	0.1365	0.1285	0.1337
ERP(dBm)	19.65	19.49	19.44	19.70	19.51	19.56	19.70	19.44	19.61
ERP(Watts)	0.0923	0.0889	0.0879	0.0933	0.0893	0.0904	0.0933	0.0879	0.0914

LTE Band 26 (GT - LC = 0.50 dB) 64QAM							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	21.36	21.14	21.15	21.46	21.24	21.31	21.49
Conducted Power (Watts)	0.1368	0.1300	0.1303	0.1400	0.1330	0.1352	0.1409
ERP(dBm)	19.71	19.49	19.50	19.81	19.59	19.66	19.84
ERP(Watts)	0.0935	0.0889	0.0891	0.0957	0.0910	0.0925	0.0964



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40 dB) QPSK									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	22.33	22.18	22.03	22.35	22.21	22.00	22.40	22.31	22.04
Conducted Power (Watts)	0.1710	0.1652	0.1596	0.1718	0.1663	0.1585	0.1738	0.1702	0.1600
EIRP(dBm)	25.73	25.58	25.43	25.75	25.61	25.40	25.80	25.71	25.44
EIRP(Watts)	0.3741	0.3614	0.3491	0.3758	0.3639	0.3467	0.3802	0.3724	0.3499

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40dB) QPSK			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	22.45	22.36	22.19
Conducted Power (Watts)	0.1758	0.1722	0.1656
EIRP(dBm)	25.85	25.76	25.59
EIRP(Watts)	0.3846	0.3767	0.3622



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40 dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	21.73	21.54	21.35	21.76	21.70	21.16	21.73	21.53	21.36
Conducted Power (Watts)	0.1489	0.1426	0.1365	0.1500	0.1479	0.1306	0.1489	0.1422	0.1368
EIRP(dBm)	25.13	24.94	24.75	25.16	25.10	24.56	25.13	24.93	24.76
EIRP(Watts)	0.3258	0.3119	0.2985	0.3281	0.3236	0.2858	0.3258	0.3112	0.2992

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40 dB) 16QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	21.77	21.71	21.35
Conducted Power (Watts)	0.1503	0.1483	0.1365
EIRP(dBm)	25.17	25.11	24.75
EIRP(Watts)	0.3289	0.3243	0.2985



LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40 dB) 64QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	20.19	20.10	20.52	20.21	20.21	20.12	20.26	20.08	20.14
Conducted Power (Watts)	0.1045	0.1023	0.1127	0.1050	0.1050	0.1028	0.1062	0.1019	0.1033
EIRP(dBm)	23.59	23.50	23.92	23.61	23.61	23.52	23.66	23.48	23.54
EIRP(Watts)	0.2286	0.2239	0.2466	0.2296	0.2296	0.2249	0.2323	0.2228	0.2259

LTE Band 41 (G <sub>T</sub> - L <sub>C</sub> = 3.40 dB) 64QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	20.19	20.07	20.27
Conducted Power (Watts)	0.1045	0.1016	0.1064
EIRP(dBm)	23.59	23.47	23.67
EIRP(Watts)	0.2286	0.2223	0.2328



**Peak-to-Average Ratio**

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.41	5.04	5.25	6.00	<b>PASS</b>
Middle CH	4.96	5.07	5.62	5.94	
Highest CH	4.55	4.99	5.22	5.97	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	5.28	6.00	<b>PASS</b>		
Middle CH	5.77	5.94			
Highest CH	5.22	5.97			

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.14	5.04	5.25	6.06	<b>PASS</b>
Middle CH	4.61	5.10	5.42	6.06	
Highest CH	4.41	4.72	5.51	5.74	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	4.32	6.03	<b>PASS</b>		
Middle CH	5.19	6.26			
Highest CH	5.10	5.74			

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.77	4.9	4.75	5.88	<b>PASS</b>
Middle CH	4.12	5.22	4.81	6.12	
Highest CH	4.7	5.22	5.48	6.14	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	4.55	5.88	<b>PASS</b>		
Middle CH	4.9	6.12			
Highest CH	5.77	6.12			



Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.68	5.22	4.7	6.12	
Highest CH	-	-	-	-	
Mod.	64QAM		Limit: 13dB		PASS
RB Size	1RB	Full RB	Result		
Lowest CH					
Middle CH	4.23	6.17			
Highest CH					

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.38	4.64	4.99	5.68	PASS
Middle CH	4.43	4.75	5.16	5.80	
Highest CH	4.55	4.55	5.19	5.71	
Mod.	64QAM		Limit: 13dB		PASS
RB Size	1RB	Full RB	Result		
Lowest CH	5.28	5.68			
Middle CH	5.13	5.77			
Highest CH	5.25	5.65			

Mode	LTE Band 26 / 15MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.04	5.25	5.62	6.23	PASS
Middle CH	5.19	5.51	5.77	6.38	
Highest CH	4.81	5.19	5.62	6.12	
Mod.	64QAM		Limit: 13dB		PASS
RB Size	1RB	Full RB	Result		
Lowest CH	5.57	6.26			
Middle CH	5.88	6.38			
Highest CH	5.59	6.06			

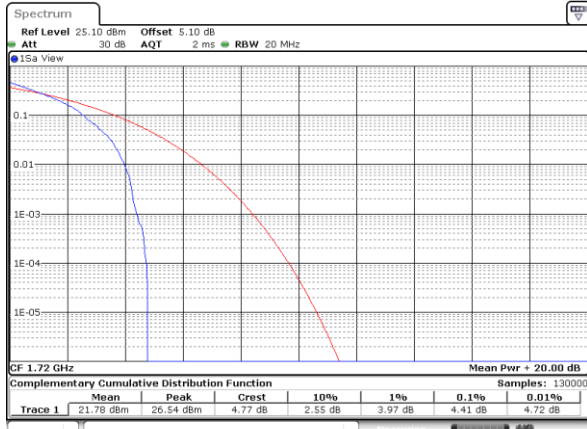


Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.48	5.33	5.22	6.61	PASS
Middle CH	4.00	5.74	5.01	6.67	
Highest CH	3.77	4.49	4.32	5.68	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	4.58	6.09	PASS		
Middle CH	4.67	7.16			
Highest CH	5.36	5.83			



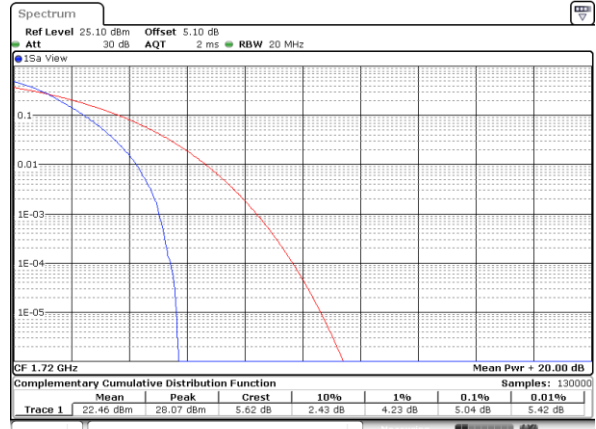
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



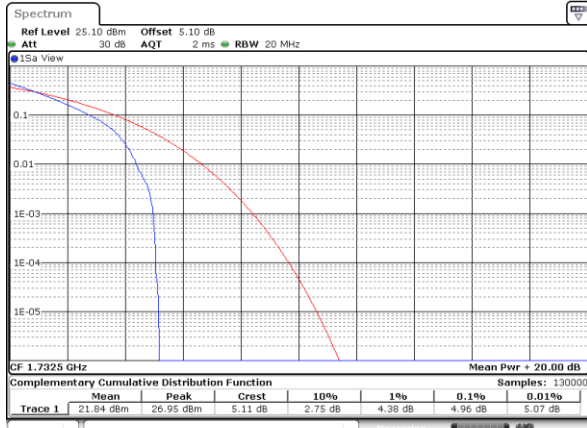
Date: 1 JUN 2018 19:27:20

Lowest Channel / Full RB



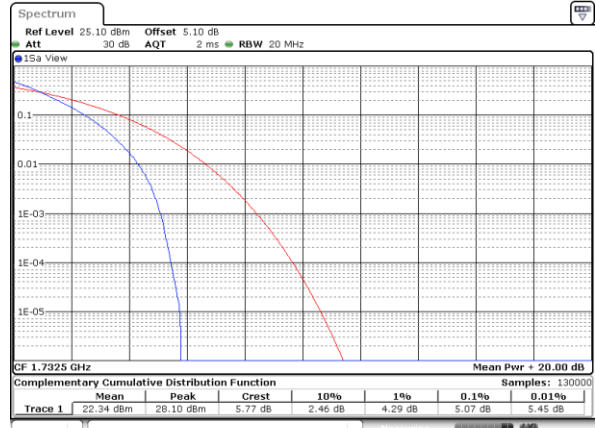
Date: 1 JUN 2018 19:27:33

Middle Channel / 1RB



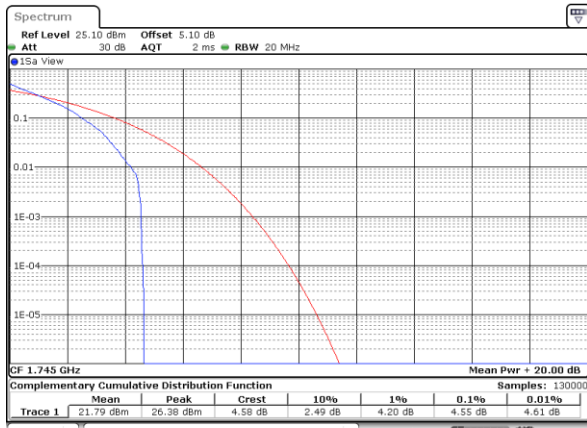
Date: 1 JUN 2018 19:28:03

Middle Channel / Full RB



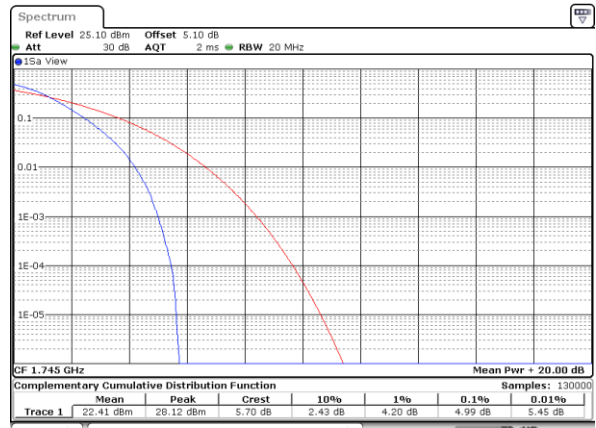
Date: 1 JUN 2018 19:27:51

Highest Channel / 1RB



Date: 1 JUN 2018 19:28:18

Highest Channel / Full RB



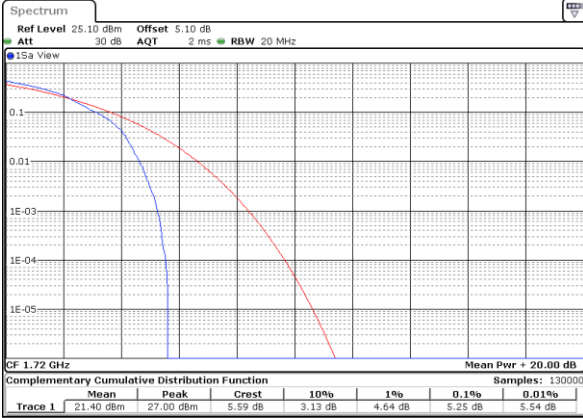
Date: 1 JUN 2018 19:29:06





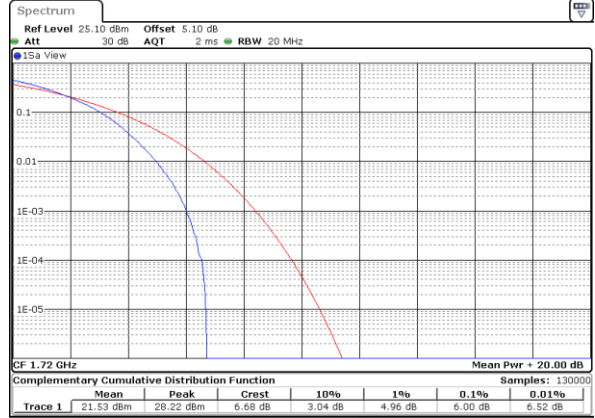
LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



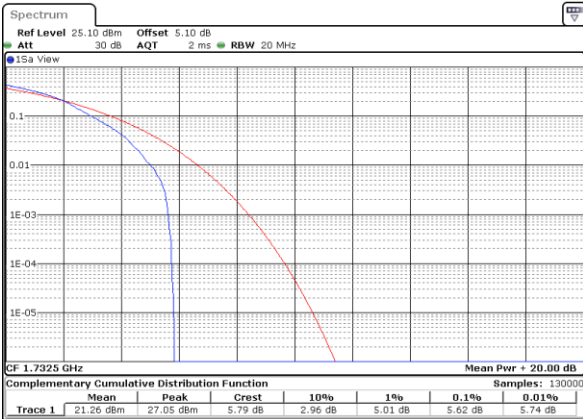
Date: 1 JUN 2018 19:18:39

Lowest Channel / Full RB



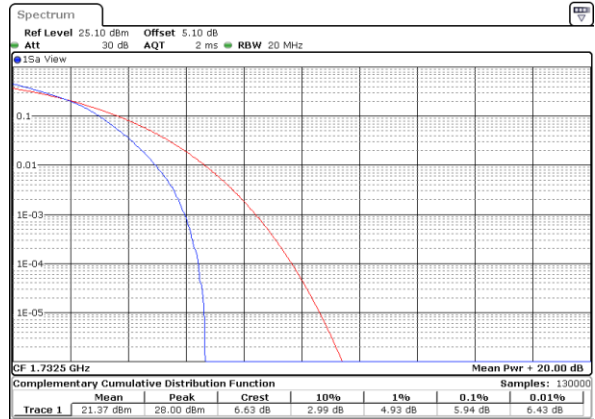
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Middle Channel / 1RB



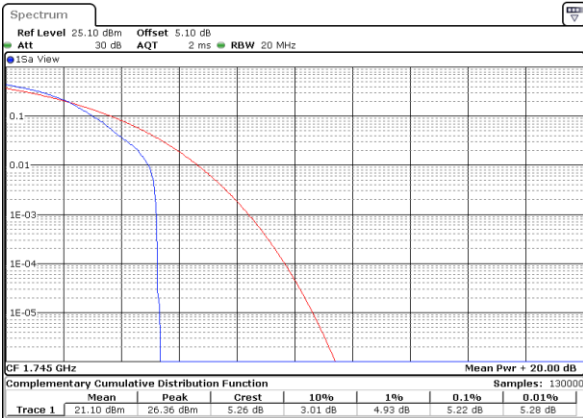
Date: 1 JUN 2018 19:19:07

Middle Channel / Full RB



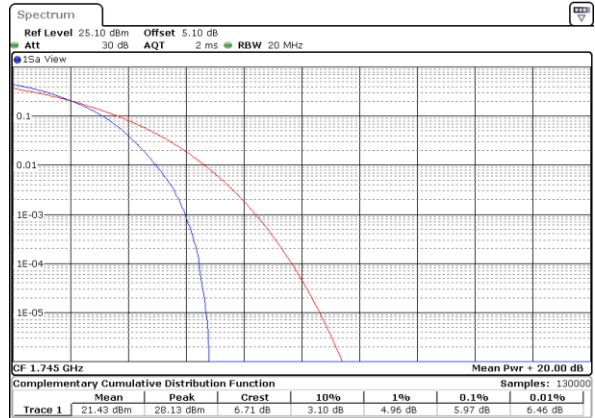
Date: 1 JUN 2018 19:19:32

Highest Channel / 1RB



Date: 1 JUN 2018 19:19:52

Highest Channel / Full RB

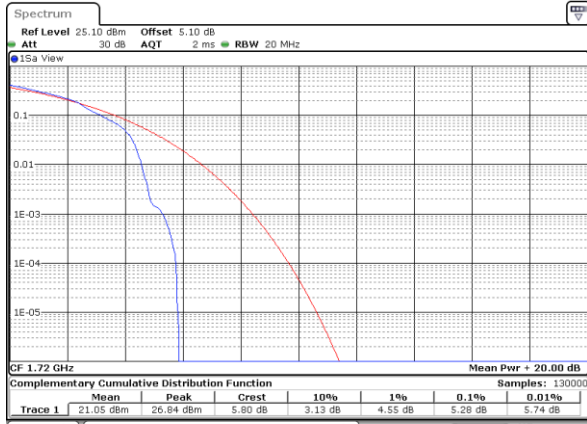


Date: 1 JUN 2018 19:20:33



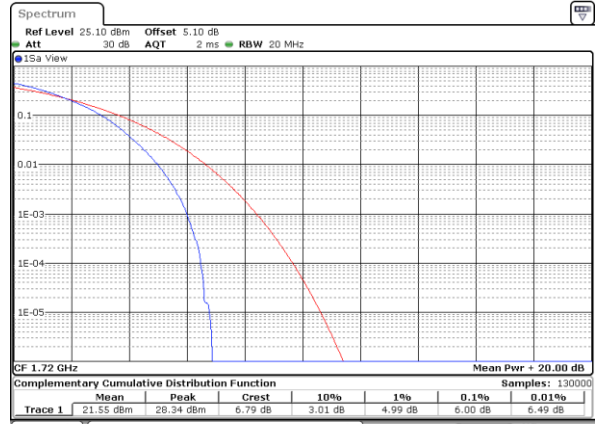
LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



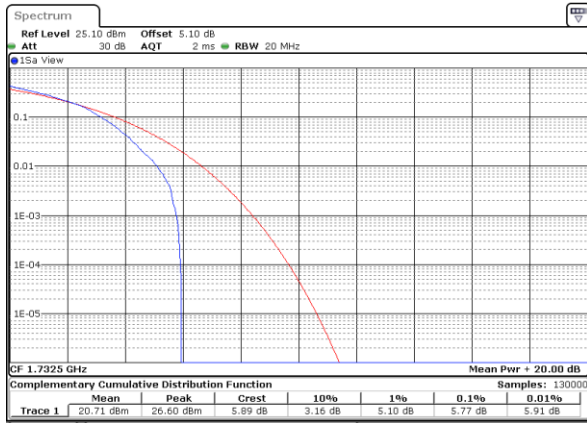
Date: 1 JUN 2018 19:30:45

Lowest Channel / Full RB



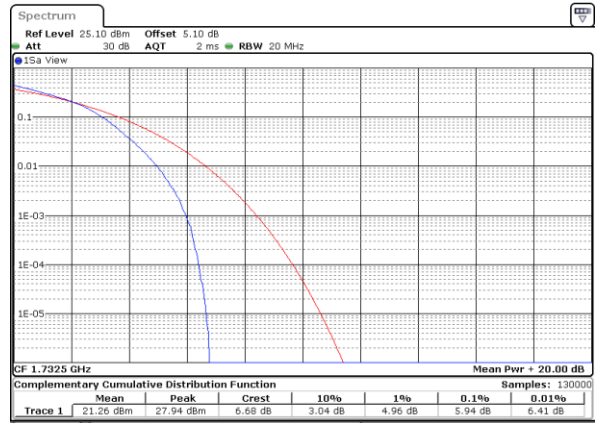
Date: 1 JUN 2018 19:30:32

Middle Channel / 1RB



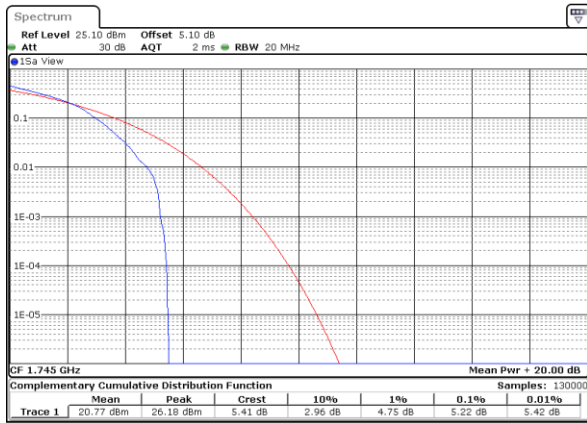
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Middle Channel / Full RB



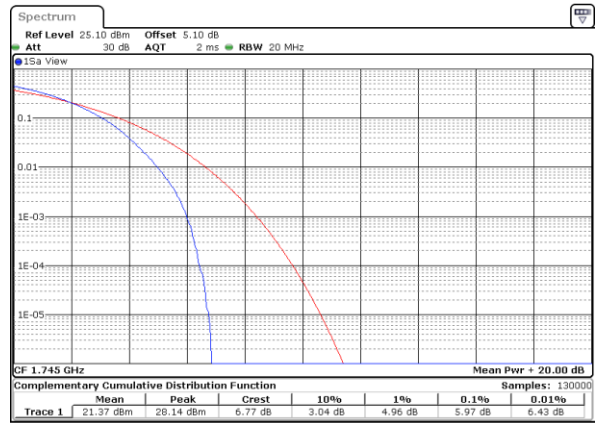
Date: 1 JUN 2018 19:30:20

Highest Channel / 1RB



Date: 1 JUN 2018 19:29:54

Highest Channel / Full RB

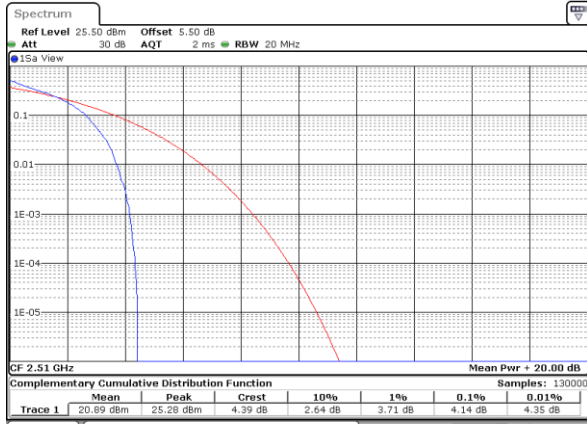


Date: 1 JUN 2018 19:34:54



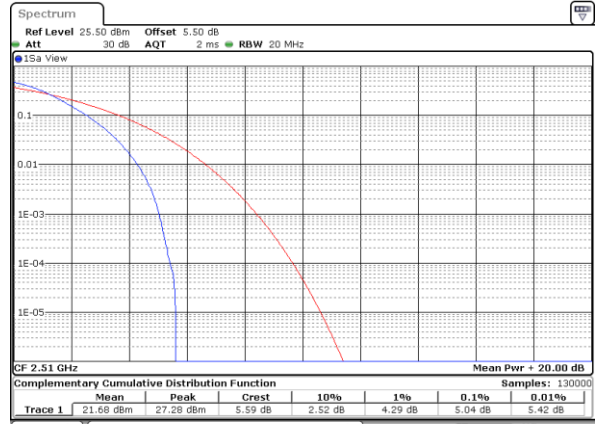
LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



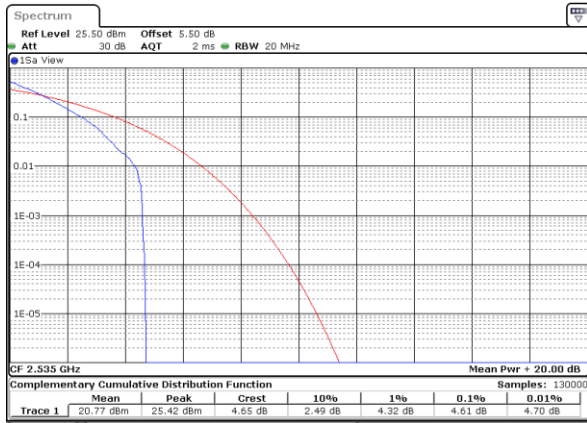
Date: 4 JUN 2018 10:41:54

Lowest Channel / Full RB



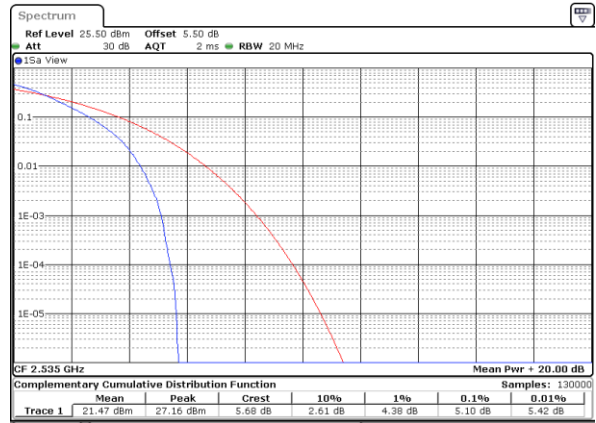
Date: 4 JUN 2018 10:42:30

Middle Channel / 1RB



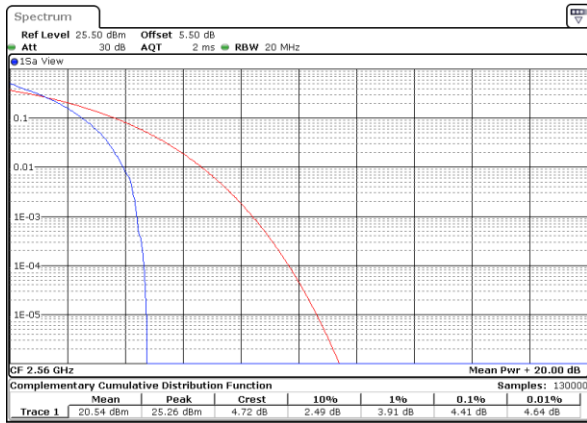
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Middle Channel / Full RB



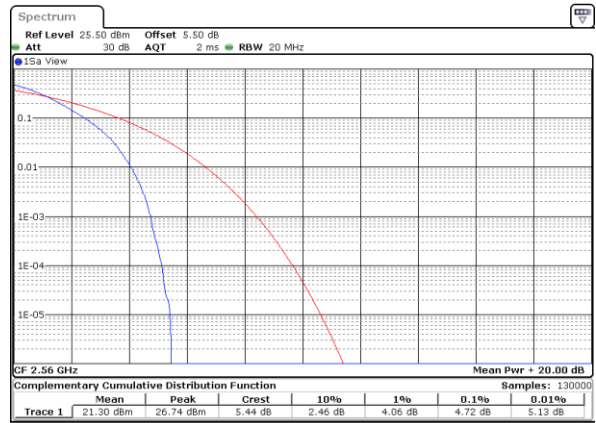
Date: 4 JUN 2018 10:42:40

Highest Channel / 1RB



Date: 4 JUN 2018 10:43:17

Highest Channel / Full RB

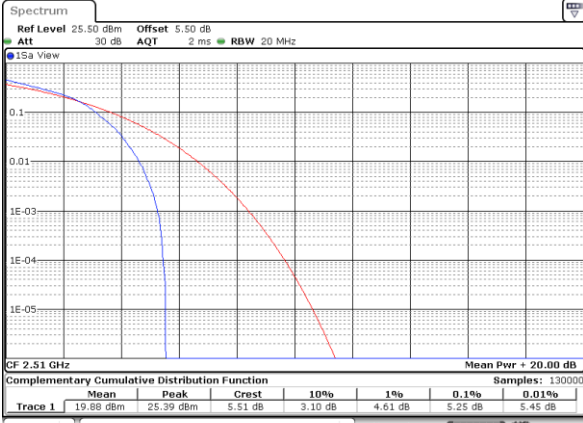


Date: 4 JUN 2018 10:43:52



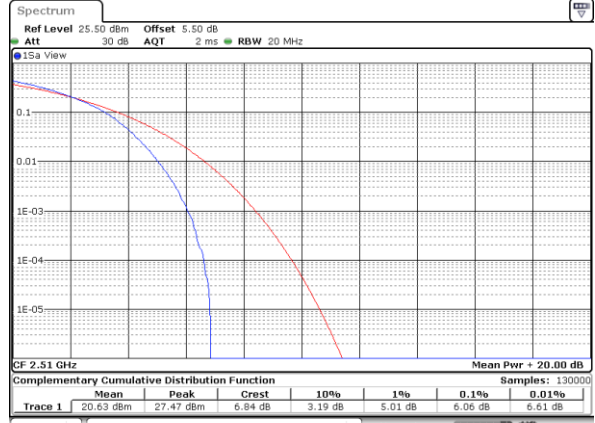
LTE Band 7 / 20MHz / 16QAM

Lowest Channel / 1RB



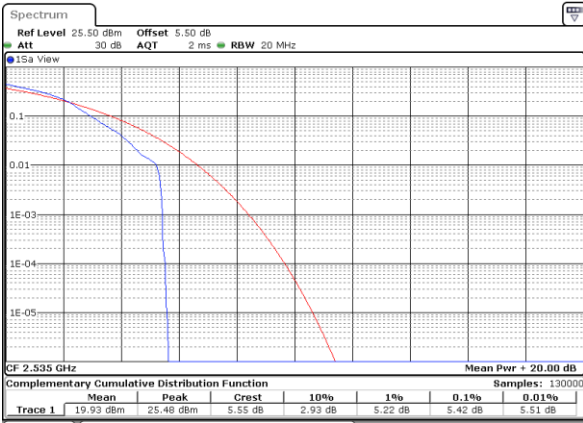
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Lowest Channel / Full RB



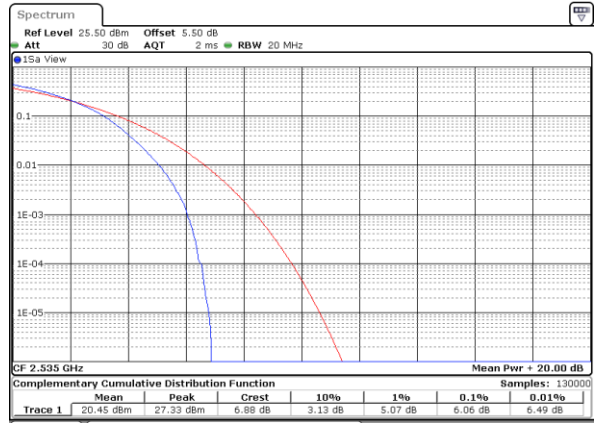
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Middle Channel / 1RB



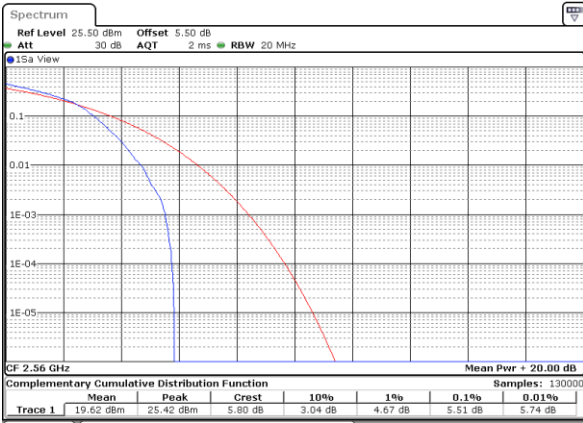
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Middle Channel / Full RB



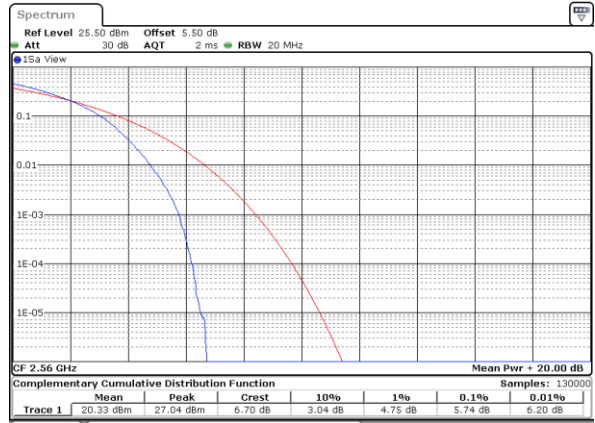
Date: 4 JUN 2018 10:42:48

Highest Channel / 1RB



Date: 4 JUN 2018 10:43:30

Highest Channel / Full RB

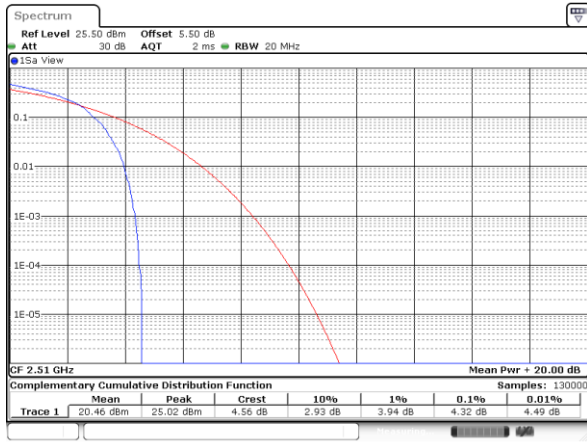


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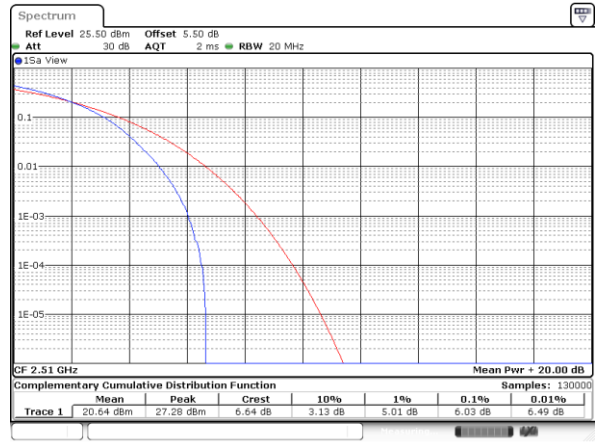
LTE Band 7 / 20MHz / 64QAM

Lowest Channel / 1RB



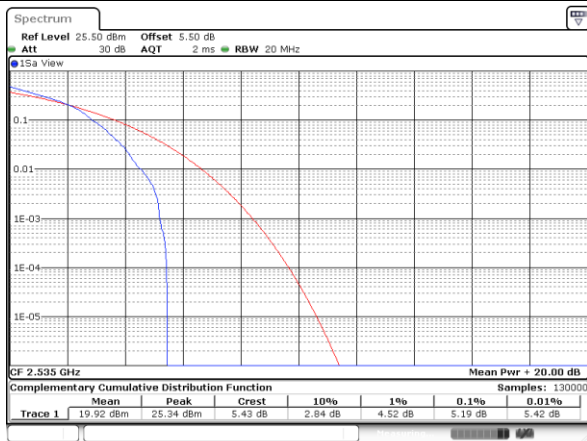
Date: 4 JUN 2018 11:17:53

Lowest Channel / Full RB



Date: 4 JUN 2018 11:18:18

Middle Channel / 1RB



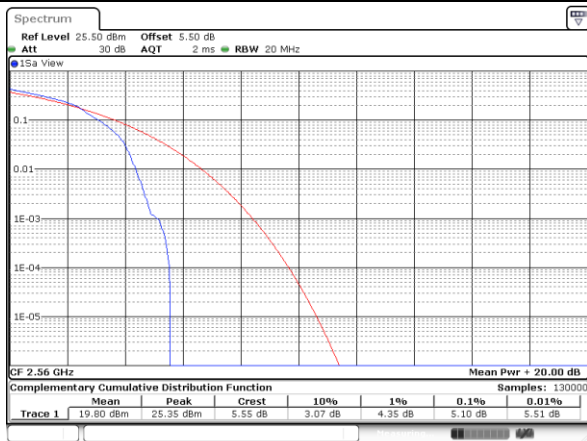
Date: 4 JUN 2018 11:18:59

Middle Channel / Full RB



Date: 4 JUN 2018 11:18:47

Highest Channel / 1RB



Date: 4 JUN 2018 11:19:35

Highest Channel / Full RB

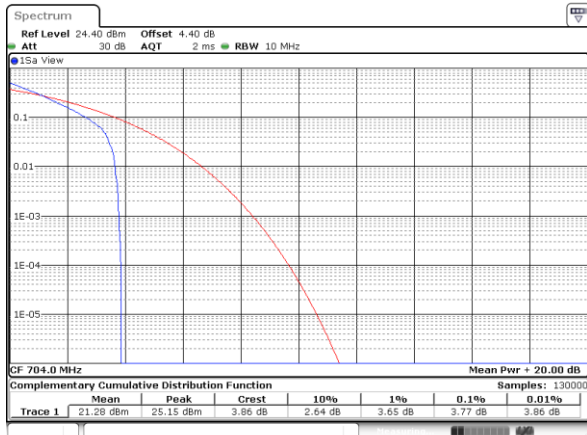


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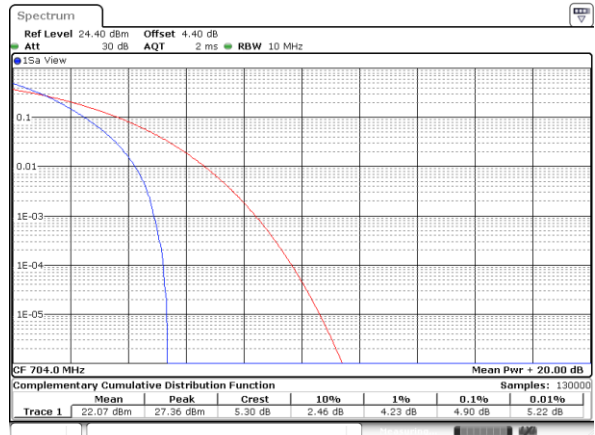
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



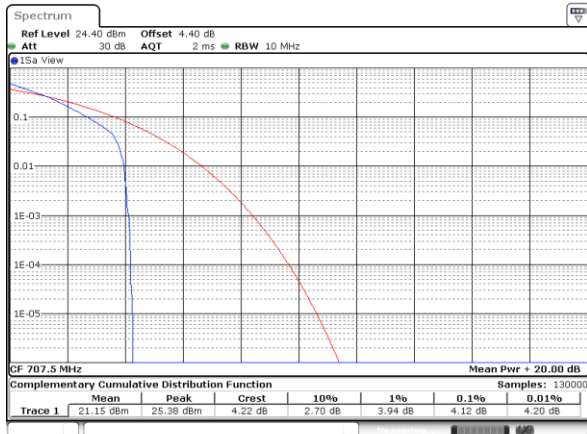
Date: 1 JUN 2018 23:10:07

Lowest Channel / Full RB



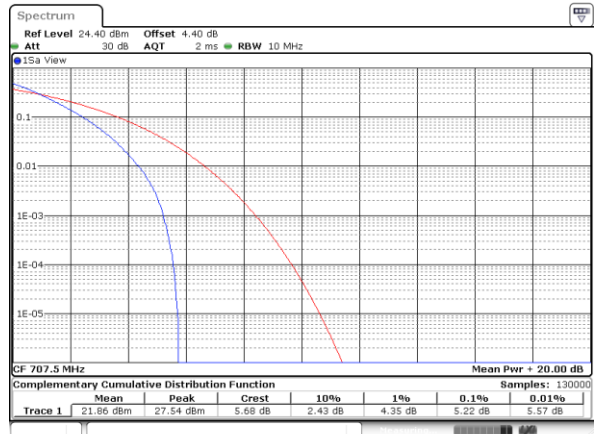
Date: 1 JUN 2018 23:10:17

Middle Channel / 1RB



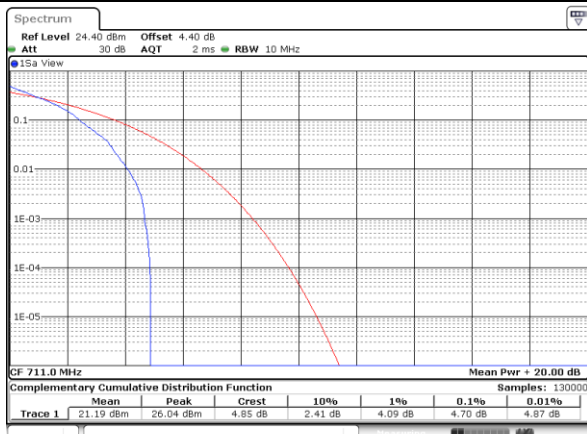
Date: 1 JUN 2018 23:10:52

Middle Channel / Full RB



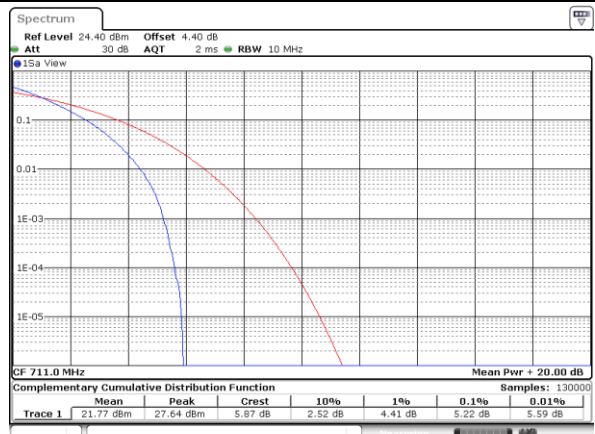
Date: 1 JUN 2018 23:10:44

Highest Channel / 1RB



Date: 1 JUN 2018 23:11:24

Highest Channel / Full RB

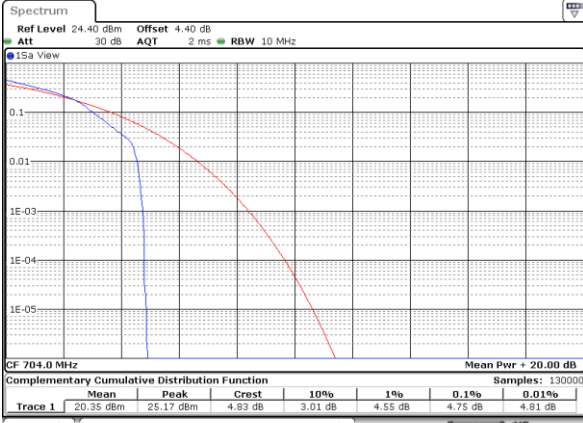


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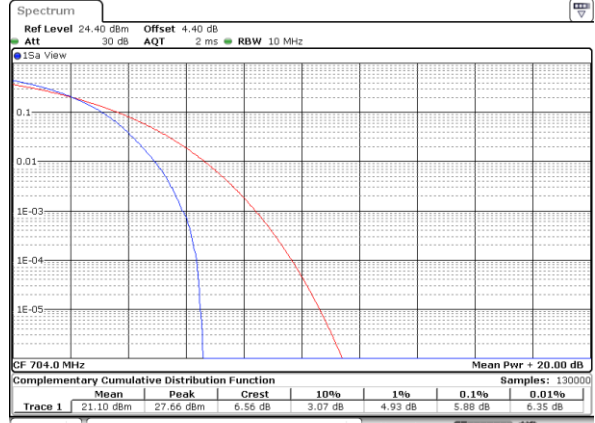
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



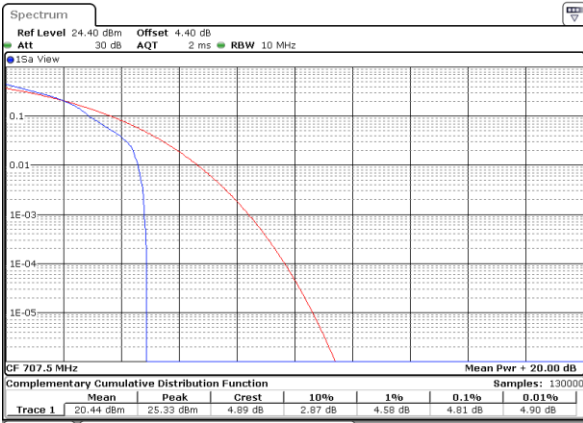
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Lowest Channel / Full RB



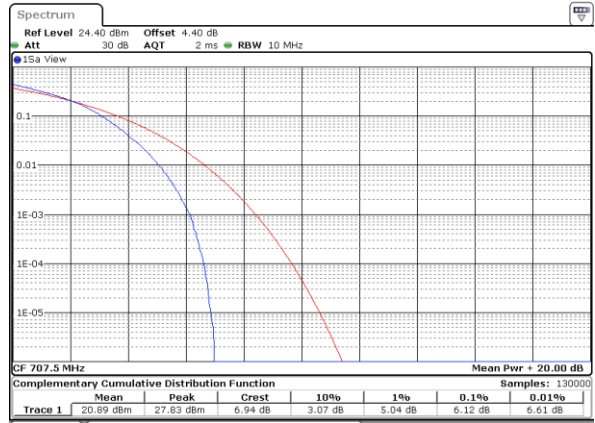
Date: 1 JUN 2018 23:10:27

Middle Channel / 1RB



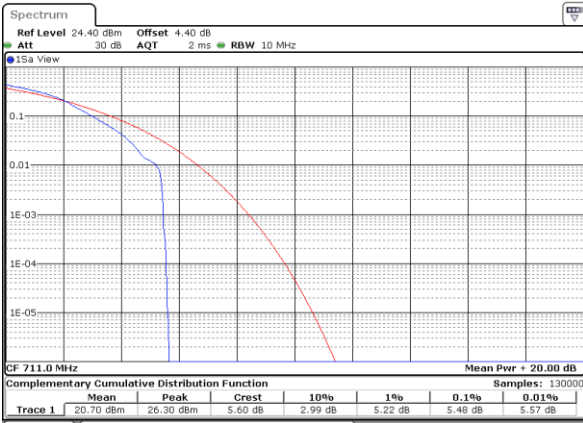
Date: 1 JUN 2018 23:11:01

Middle Channel / Full RB



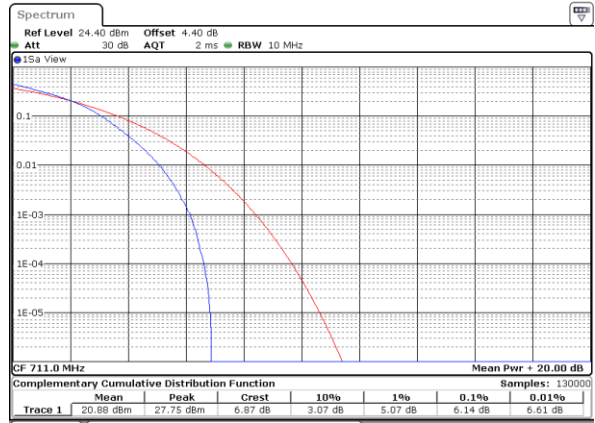
Date: 1 JUN 2018 23:10:35

Highest Channel / 1RB



Date: 1 JUN 2018 23:11:11

Highest Channel / Full RB

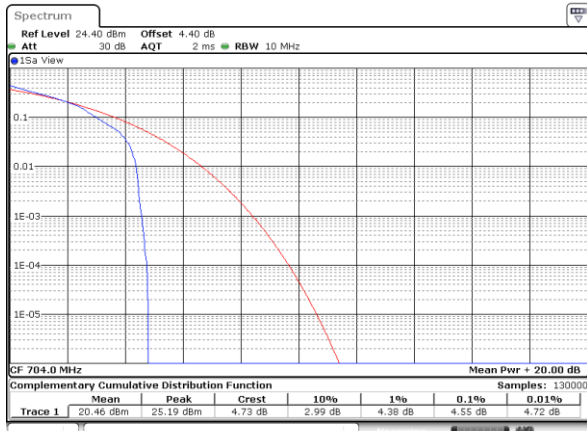


Date: 1 JUN 2018 23:11:55



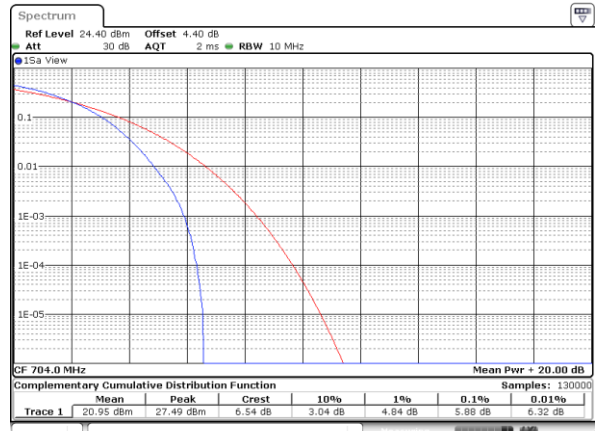
LTE Band 12 / 10MHz / 64QAM

Lowest Channel / 1RB



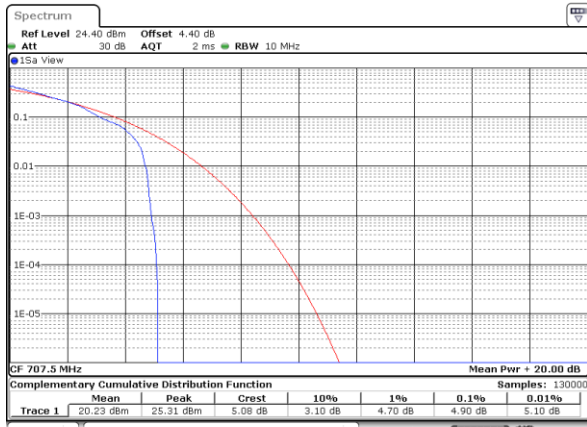
Date: 1 JUN 2018 23:45:12

Lowest Channel / Full RB



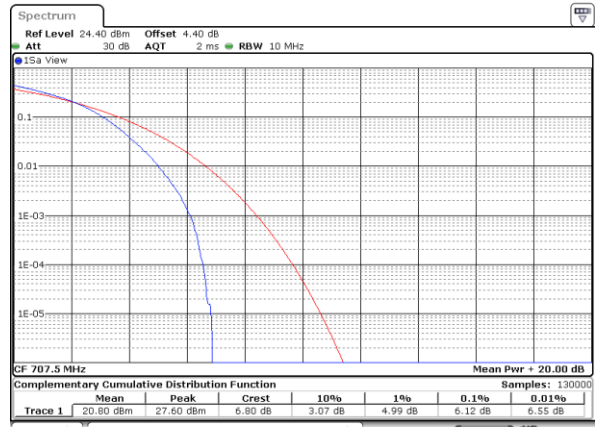
Date: 1 JUN 2018 23:45:22

Middle Channel / 1RB



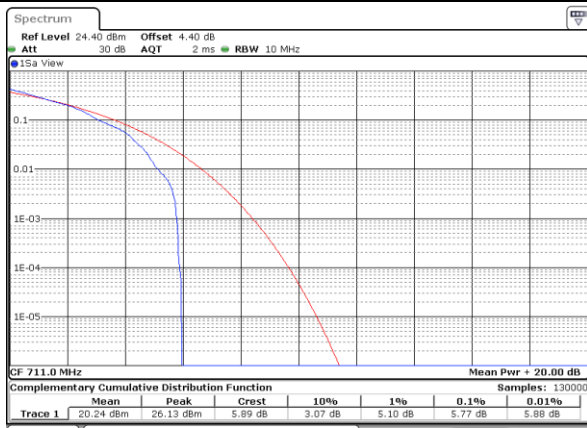
Date: 1 JUN 2018 23:45:42

Middle Channel / Full RB



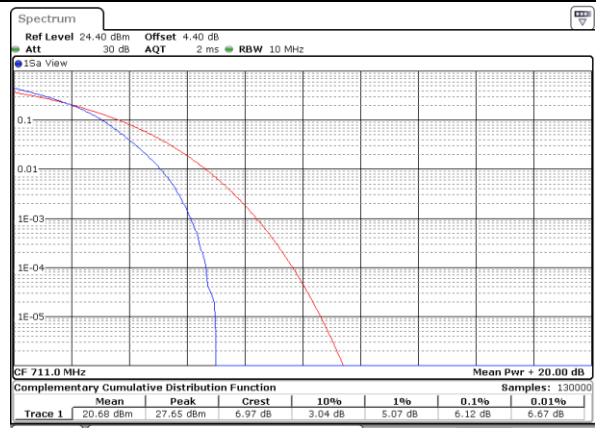
Date: 1 JUN 2018 23:45:31

Highest Channel / 1RB



Date: 1 JUN 2018 23:45:50

Highest Channel / Full RB



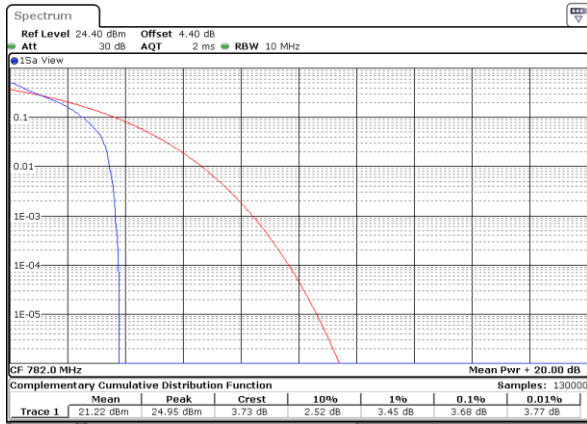
Date: 1 JUN 2018 23:46:01





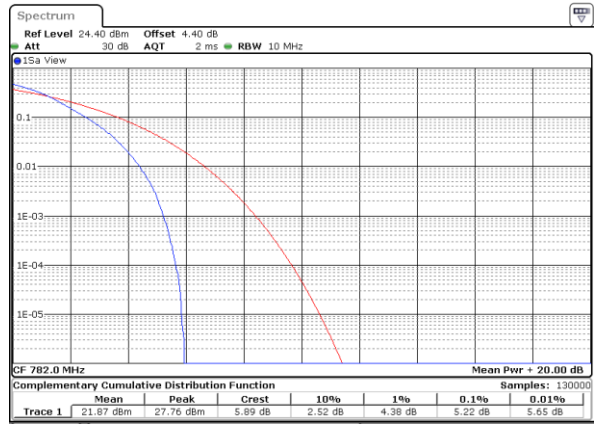
LTE Band 13 / 10MHz / QPSK

Middle Channel/ 1RB



Date: 2 JUN 2018 00:45:28

Middle Channel / Full RB



Date: 2 JUN 2018 00:46:01

LTE Band 13 / 10MHz / 16QAM

Middle Channel/ 1RB



Date: 2 JUN 2018 00:45:36

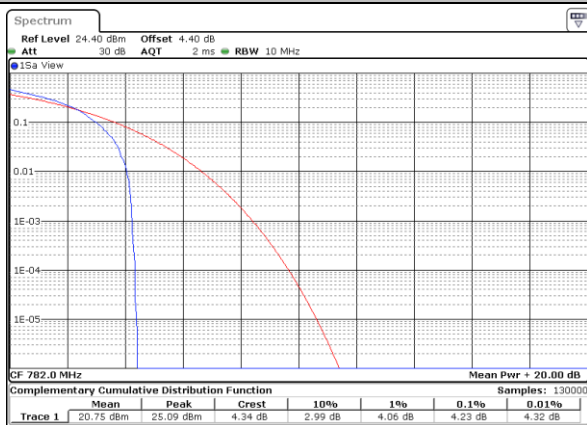
Middle Channel / Full RB



Date: 2 JUN 2018 00:45:46

LTE Band 13 / 10MHz / 64QAM

Middle Channel/ 1RB



Date: 2 JUN 2018 01:09:53

Middle Channel / Full RB

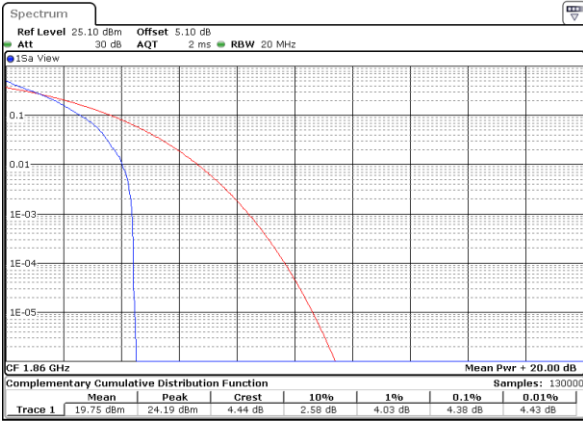


Date: 2 JUN 2018 01:10:06



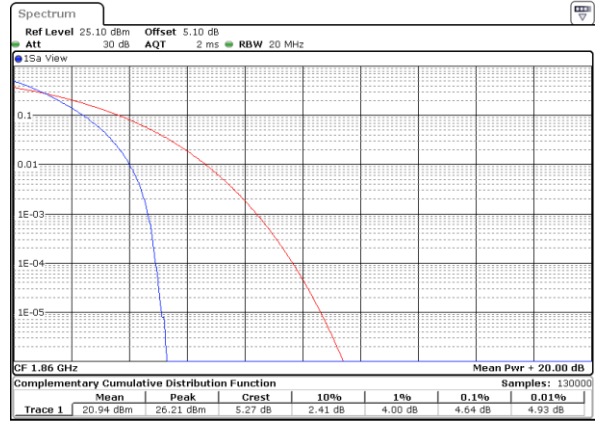
LTE Band 25 / 20MHz / QPSK

Lowest Channel / 1RB



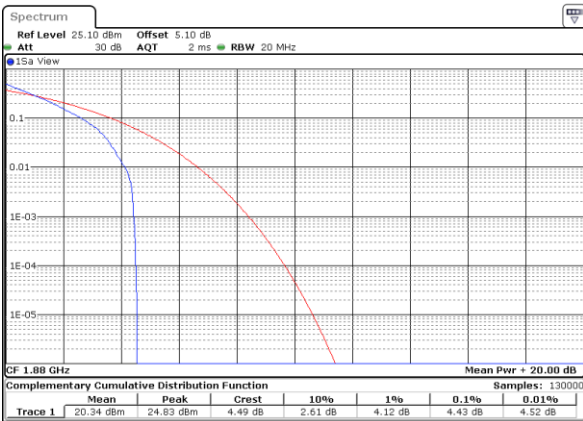
Date: 4 JUN 2018 17:29:16

Lowest Channel / Full RB



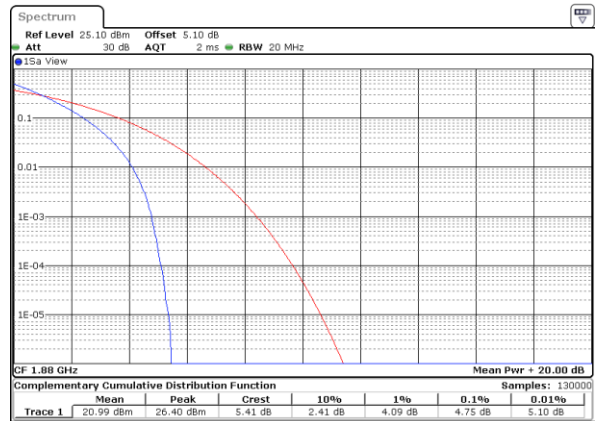
Date: 4 JUN 2018 17:29:26

Middle Channel / 1RB



Date: 4 JUN 2018 17:30:35

Middle Channel / Full RB



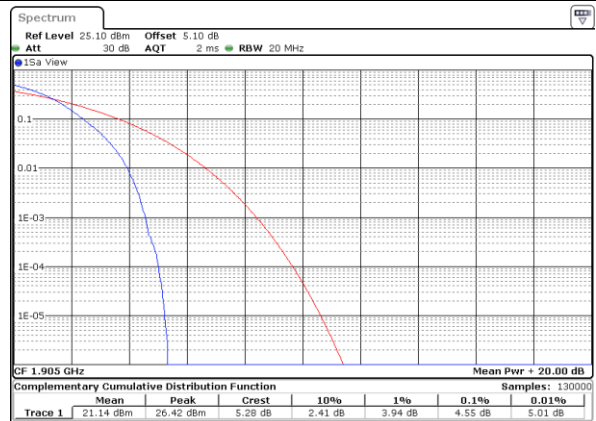
Date: 4 JUN 2018 17:30:44

Highest Channel / 1RB



Date: 4 JUN 2018 17:31:20

Highest Channel / Full RB



Date: 4 JUN 2018 17:31:29



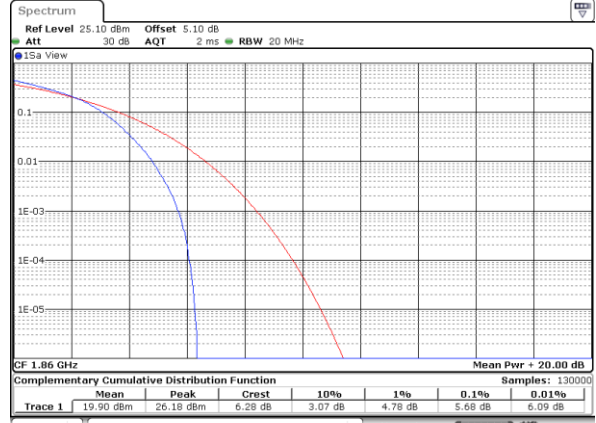
LTE Band 25 / 20MHz / 16QAM

Lowest Channel / 1RB



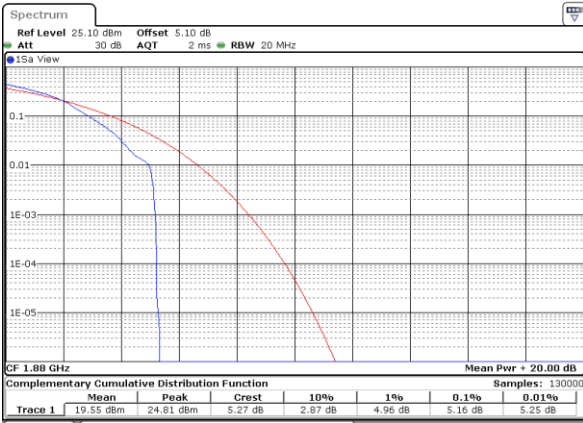
Date: 4 JUN 2018 17:28:38

Lowest Channel / Full RB



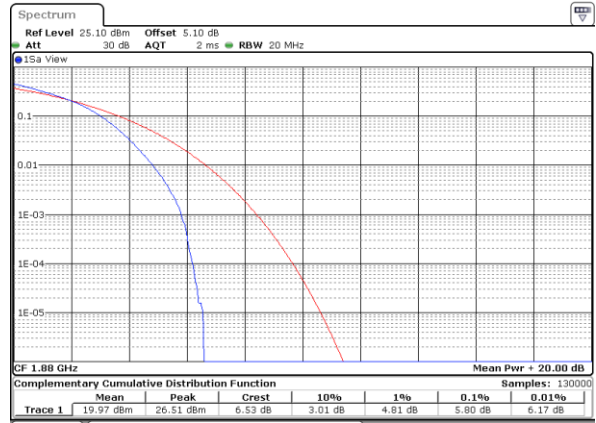
Date: 4 JUN 2018 17:28:47

Middle Channel / 1RB



Date: 4 JUN 2018 17:29:35

Middle Channel / Full RB



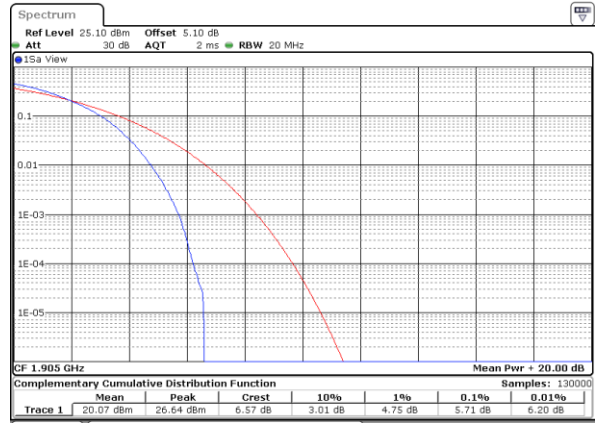
Date: 4 JUN 2018 17:29:49

Highest Channel / 1RB



Date: 4 JUN 2018 17:30:53

Highest Channel / Full RB

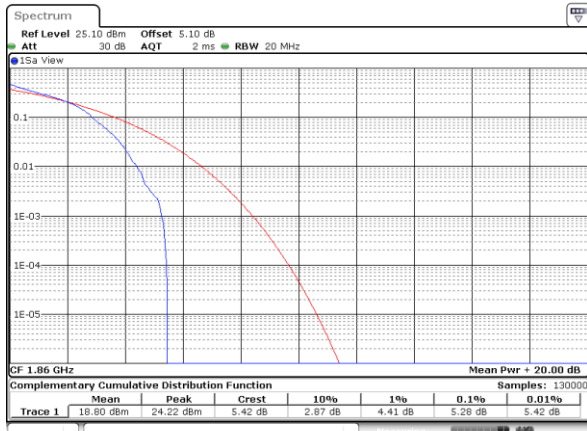


Date: 4 JUN 2018 17:31:01



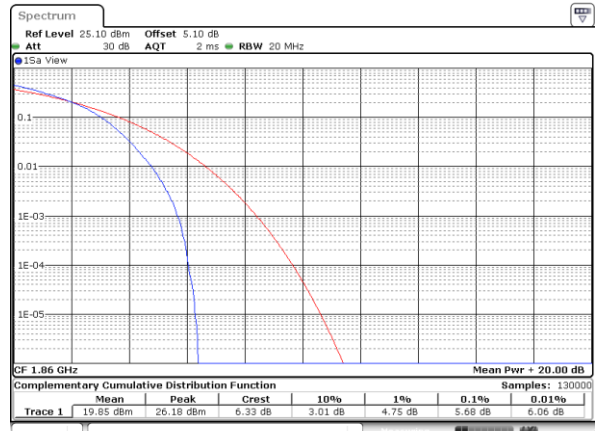
LTE Band 25 / 20MHz / 64QAM

Lowest Channel / 1RB



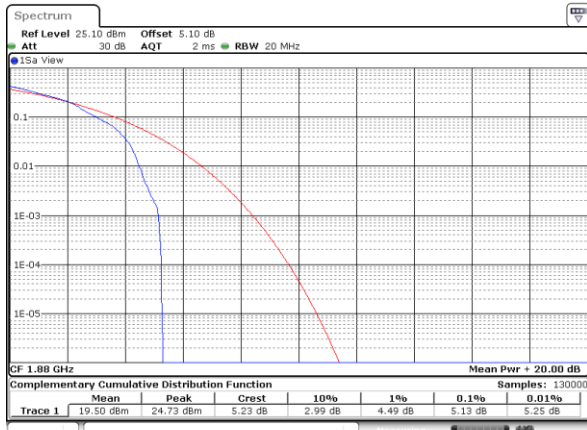
Date: 4 JUN 2018 17:28:55

Lowest Channel / Full RB



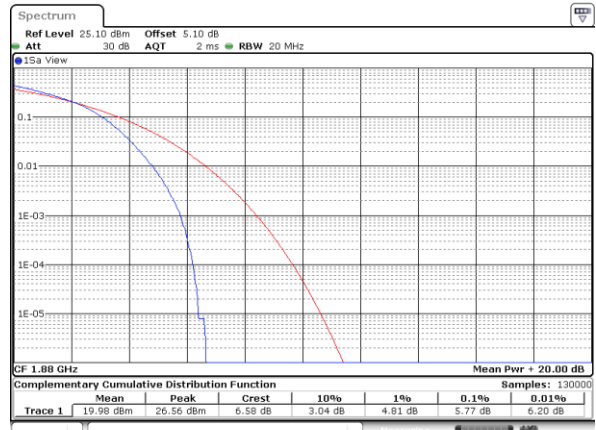
Date: 4 JUN 2018 17:29:05

Middle Channel / 1RB



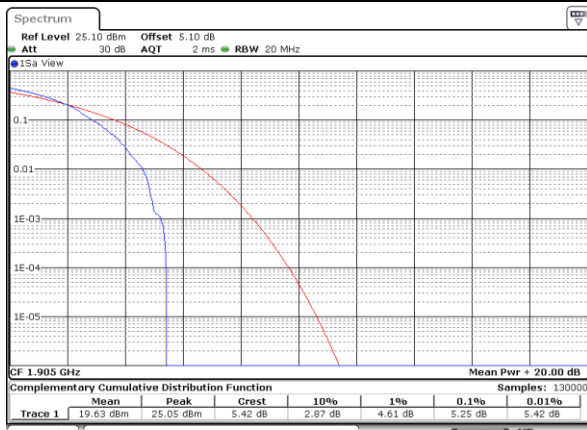
Date: 4 JUN 2018 17:30:03

Middle Channel / Full RB



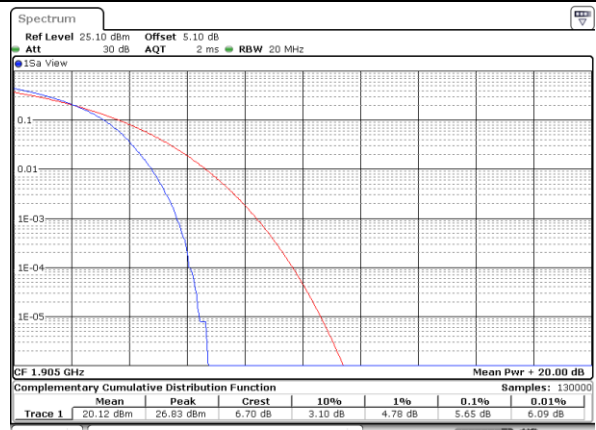
Date: 4 JUN 2018 17:30:16

Highest Channel / 1RB



Date: 4 JUN 2018 17:32:50

Highest Channel / Full RB



Date: 4 JUN 2018 17:31:56