



# FCC RF Test Report

**APPLICANT** : Xiaomi Communications Co., Ltd.  
**EQUIPMENT** : Mobile Phone  
**BRAND NAME** : MI  
**MODEL NAME** : M1903F11G  
**FCC ID** : 2AFZZ-XMSF11G  
**STANDARD** : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(M)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on May 24, 2019 and completely tested on Jun. 21, 2019. 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.

Reviewed by: Jason Jia / Supervisor

Approved by: James Huang / Manager



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People's Republic of China



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## REVISION HISTORY



## 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)	ERP < 7 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7) (Band 38)	EIRP < 2Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt	PASS	-
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(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5)	< 43+10log <sub>10</sub> (P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5)	< 43+10log <sub>10</sub> (P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38)	< 55+10log <sub>10</sub> (P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22H	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5)	< 43+10log <sub>10</sub> (P[Watts])	PASS	Under limit 18.82 dB at 12630.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38)	< 55+10log <sub>10</sub> (P[Watts])		



## 1 General Description

### 1.1 Applicant

Xiaomi Communications Co., Ltd.

The Rainbow City of China Resources, NO.68, Qinghe Middle Street, Haidian District, Beijing, China

### 1.2 Product Feature of Equipment Under Test

Product Feature	
<b>Equipment</b>	Mobile Phone
<b>Brand Name</b>	MI
<b>Model Name</b>	M1903F11G
<b>FCC ID</b>	2AFZZ-XMSF11G
<b>EUT supports Radios application</b>	GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+/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 FM Receiver / GNSS
<b>IMEI Code</b>	Conducted: 865110040182176/865110040182184 Radiation: 865110042998741/865110042999749 for LTE Band 2/4/5/7/38/38CA 865110042998774/865110042999772 for LTE Band 7CA
<b>HW Version</b>	P2.2
<b>SW Version</b>	MIUI 10
<b>EUT Stage</b>	Identical Prototype



### 1.3 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 38 : 2572.5MHz ~ 2617.5MHz
<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 38 : 2572.5MHz ~ 2617.5MHz
<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 38 : 5MHz / 10MHz / 15MHz / 20MHz
<b>Maximum Output Power to Antenna</b>	LTE Band 2 : 22.93 dBm LTE Band 4 : 22.93 dBm LTE Band 5 : 22.76 dBm LTE Band 7 : Top Antenna: 22.37 dBm; Bottom Antenna: 23.25 dBm LTE Band 7C_CA: 23.95 dBm LTE Band 38 : 23.51 dBm; Band 38C_CA: 23.69 dBm
<b>Antenna Gain</b>	<b>Top Antenna :</b> LTE Band 2 : -2.14 dBi LTE Band 4 : -1.65 dBi LTE Band 5 : -3.78 dBi LTE Band 7 : -0.23 dBi LTE Band 38 : 0.30 dBi <b>Bottom Antenna :</b> LTE Band 2 : -0.18 dBi LTE Band 4 : 0.50 dBi LTE Band 5 : -2.70 dBi LTE Band 7 : -0.60 dBi LTE Band 38 : -0.61 dBi
<b>Type of Modulation</b>	QPSK / 16QAM / 64QAM / 256QAM(Downlink only)

Note:

1. The Maximum ERP/EIRP is calculated from Max Output power and Max antenna gain.
2. For LTE band 7, the top antenna conducted power is less than the power of bottom antenna, but top antenna gain is higher than the bottom antenna gain, it will affect the maximum ERP calculation, so LTE B7 Conducted power and EIRP of Top&Bottom Antenna will show on the report.

### 1.4 Modification of EUT

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



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

LTE 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 ~ 1909.3	1M10G7D	-	0.1845	1M09W7D	-	0.1556
3	1851.5 ~ 1908.5	2M72G7D	-	0.1862	2M73W7D	-	0.1574
5	1852.5 ~ 1907.5	4M50G7D	-	0.1824	4M49W7D	-	0.1552
10	1855.0 ~ 1905.0	9M07G7D	0.0027	0.1782	9M11W7D	-	0.1528
15	1857.5 ~ 1902.5	13M5G7D	-	0.1702	13M5W7D	-	0.1442
20	1860.0 ~ 1900.0	18M5G7D	-	0.1884	18M3W7D	-	0.1592
LTE Band 2		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
1.4	1850.7 ~ 1909.3	1M09W7D		-		0.1208	
3	1851.5 ~ 1908.5	2M73W7D		-		0.1230	
5	1852.5 ~ 1907.5	4M49W7D		-		0.1199	
10	1855.0 ~ 1905.0	9M03W7D		-		0.1186	
15	1857.5 ~ 1902.5	13M4W7D		-		0.1130	
20	1860.0 ~ 1900.0	18M5W7D		-		0.1225	
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	-	0.2178	1M09W7D	-	0.1862
3	1711.5 ~ 1753.5	2M74G7D	-	0.2163	2M73W7D	-	0.1849
5	1712.5 ~ 1752.5	4M51G7D	-	0.2133	4M50W7D	-	0.1811
10	1715.0 ~ 1750.0	9M05G7D	0.0031	0.2128	9M03W7D	-	0.1799
15	1717.5 ~ 1747.5	13M5G7D	-	0.2168	13M5W7D	-	0.1854
20	1720.0 ~ 1745.0	18M4G7D	-	0.2203	18M4W7D	-	0.1871



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		-		0.1406			
3	1711.5 ~ 1753.5	2M72W7D		-		0.1390			
5	1712.5 ~ 1752.5	4M49W7D		-		0.1403			
10	1715.0 ~ 1750.0	8M99W7D		-		0.1400			
15	1717.5 ~ 1747.5	13M5W7D		-		0.1435			
20	1720.0 ~ 1745.0	18M4W7D		-		0.1445			
LTE 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	-	0.0604	1M10W7D	-	0.0508		
3	825.5 ~ 847.5	2M73G7D	-	0.0614	2M73W7D	-	0.0514		
5	826.5 ~ 846.5	4M50G7D	-	0.0615	4M51W7D	-	0.0516		
10	829.0 ~ 844.0	9M07G7D	0.0060	0.0618	9M07W7D	-	0.0516		
LTE Band 5		64QAM							
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)			
1.4	824.7 ~ 848.3	1M10W7D		-		0.0394			
3	825.5 ~ 847.5	2M73W7D		-		0.0399			
5	826.5 ~ 846.5	4M51W7D		-		0.0400			
10	829.0 ~ 844.0	9M03W7D		-		0.0397			
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)	
				Top	Bottom			Top	Bottom
5	2502.5 ~ 2567.5	4M52G7D	-	0.1637	0.1786	4M50W7D	-	0.1374	0.1507
10	2505.0 ~ 2565.0	9M03G7D	0.0060	0.1600	0.1774	9M05W7D	-	0.1361	0.1503
15	2507.5 ~ 2562.5	13M4G7D	-	0.1633	0.1824	13M5W7D	-	0.1400	0.1549
20	2510.0 ~ 2560.0	18M4G7D	-	0.1637	0.1841	18M5W7D	-	0.1400	0.1549



LTE Band 7		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
						Top	Bottom
5	2502.5 ~ 2567.5	4M49W7D		-		0.1067	0.1159
10	2505.0 ~ 2565.0	9M05W7D		-		0.1052	0.1169
15	2507.5 ~ 2562.5	13M5W7D		-		0.1089	0.1205
20	2510.0 ~ 2560.0	18M3W7D		-		0.1089	0.1205
LTE 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	2572.5 ~ 2617.5	4M50G7D	-	0.2317	4M48W7D	-	0.1875
10	2575.0 ~ 2615.0	9M05G7D	0.0060	0.2270	9M05W7D	-	0.1832
15	2577.5 ~ 2612.5	13M5G7D	-	0.2393	13M5W7D	-	0.1923
20	2580.0 ~ 2610.0	18M4G7D	-	0.2404	18M5W7D	-	0.1928
LTE Band 38		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
5	2572.5 ~ 2617.5	4M49W7D		-		0.1416	
10	2575.0 ~ 2615.0	8M99W7D		-		0.1365	
15	2577.5 ~ 2612.5	13M5W7D		-		0.1439	
20	2580.0 ~ 2610.0	18M5W7D		-		0.1452	



LTE Band 7_CA		QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	
10MHz+20MHz	27M9G7D	-	0.2371	28M2W7D	-	0.1982	
15MHz+15MHz	28M5G7D	-	0.2366	28M6W7D	-	0.1995	
15MHz+20MHz	32M7G7D	-	0.2275	32M9W7D	-	0.1858	
15MHz+10MHz	23M4G7D	-	0.2193	23M5W7D	-	0.1841	
20MHz+10MHz	28M3G7D	-	0.2350	28M3W7D	-	0.2014	
20MHz+15MHz	32M5G7D	-	0.2188	32M8W7D	-	0.1862	
20MHz+20MHz	37M6G7D	-	0.2355	37M6W7D	-	0.2163	
LTE Band 7C_CA		64QAM					
BW (MHz)	Emission Designator (99%OBW)			Frequency Tolerance (ppm)	Maximum EIRP(W)		
10MHz+20MHz	28M1W7D			-	0.1219		
15MHz+15MHz	28M6W7D			-	0.1213		
15MHz+20MHz	32M9W7D			-	0.1167		
15MHz+10MHz	23M5W7D			-	0.1161		
20MHz+10MHz	28M1W7D			-	0.1230		
20MHz+15MHz	32M9W7D			-	0.1159		
20MHz+20MHz	37M8W7D			-	0.2037		
LTE Band 38_CA		QPSK			16QAM		
BW (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	
15MHz+15MHz	28M7G7D	-	0.2399	28M6W7D	-	0.1854	
20MHz+20MHz	37M6G7D	-	0.2506	37M7W7D	-	0.2254	
LTE Band 38_CA		64QAM					
BW (MHz)	Emission Designator (99%OBW)			Frequency Tolerance (ppm)	Maximum EIRP(W)		
15MHz+15MHz	28M7W7D			-	0.1180		
20MHz+20MHz	37M9W7D			-	0.1493		



## 1.6 Testing Location

Sportun International (Kunshan) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.02.

<b>Test Firm</b>	Sportun International (Kunshan) Inc.		
<b>Test Site Location</b>	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
<b>Test Site No.</b>	<b>Sportun Site No.</b>	<b>FCC Designation No.</b>	<b>FCC Test Firm Registration No.</b>
	TH01-KS 03CH04-KS	CN1257	314309

## 1.7 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(M)
- ♦ 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
	4	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
	7	-	-	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
Peak-to-Average Ratio	2							v	v	v	v		v	v	v	v
	4							v	v	v	v		v	v	v	v
	5				v	-	-	v	v	v	v		v	v	v	v
	7	-	-					v	v	v	v		v	v	v	v
	38	-	-					v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	2	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
	5	v	v	v	v	-	-	v	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v	v
	38	-	-	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	2	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
	5	v	v	v	v	-	-	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v	v		v	v		v
	38	-	-	v	v	v	v	v	v	v	v		v	v		v

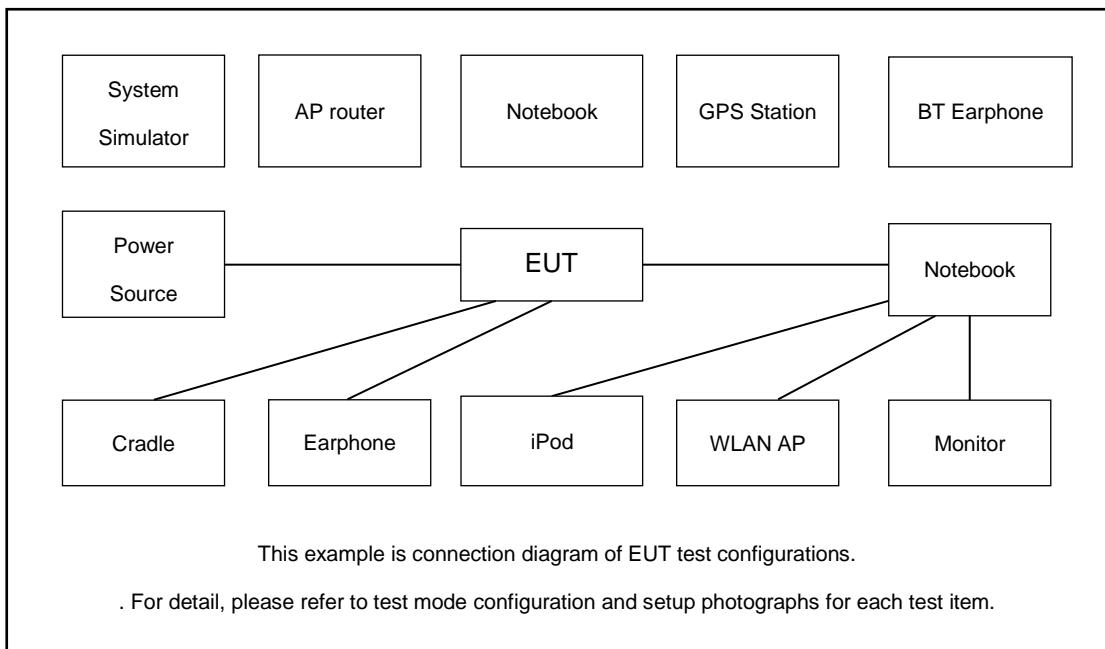


Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v				v	v	v
	4	v	v	v	v	v	v	v	v	v				v	v	v
	5	v	v	v	v	-	-	v	v	v				v	v	v
	7	-	-	v	v	v	v	v	v	v				v	v	v
	38	-	-	v	v	v	v	v	v	v				v	v	v
Frequency Stability	2				v			v						v		v
	4				v			v						v		v
	5				v	-	-	v						v		v
	7	-	-		v			v						v		v
	38	-	-		v			v						v		v
E.R.P / E.I.R.P	2	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
	5	v	v	v	v	-	-	v	v	v				v	v	v
	7	-	-	v	v	v	v	v	v	v				v	v	v
	38	-	-	v	v	v	v	v	v	v				v	v	v
Radiated Spurious Emission	2	Worst Case												v		
	4	Worst Case												v		
	5	Worst Case												v		
	7	Worst Case												v		
	38	Worst Case												v		
Note	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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.															



Test Items	Band	Bandwidth (MHz)												Modulation			RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	1	Half	Full	L	M	H		
Max. Output Power	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v		
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v		
26dB and 99% Bandwidth	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v		
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v		
Conducted Band Edge	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v		
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v		
Conducted Spurious Emission	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v		
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v		
E.I.R.P.	7C_CA	v	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v	v	v	v		
	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v	v	v	v	v		
Radiated Spurious Emission	7C_CA	Worst Case															v					
	38C_CA	Worst Case															v					
Note	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. 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.																					

## 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.	System Simulator	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
3.	Earphone	Lenovo	SH100	N/A	Unshielded, 1.2 m	N/A

## 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 4.9 dB.

Example :

$$\text{Offset(dB)} = \text{RF cable loss(dB)}.$$

$$= 4.9 \text{ (dB)}$$



## 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 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 7C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	20850	21001	21152
		Frequency	2510.0	2525.1	2540.2
	SCC	Channel	21048	21199	21350
		Frequency	2529.8	2544.9	2560.0
20 + 15	PCC	Channel	20850	21026	21201
		Frequency	2510.0	2527.6	2545.1
	SCC	Channel	21021	21197	21372
		Frequency	2527.1	2544.7	2562.2
15 + 20	PCC	Channel	20828	21003	21179
		Frequency	2507.8	2525.3	2542.9
	SCC	Channel	20999	21174	21350
		Frequency	2524.9	2542.4	2560.0
20 + 10	PCC	Channel	20850	21051	21251
		Frequency	2510.0	2530.1	2550.1
	SCC	Channel	20994	21195	21395
		Frequency	2524.4	2544.5	2564.5
10 + 20	PCC	Channel	20805	21006	21206
		Frequency	2505.5	2525.6	2545.6
	SCC	Channel	20949	21150	21350
		Frequency	2519.9	2540.0	2560.0
15 + 15	PCC	Channel	20825	21025	21225
		Frequency	2507.5	2527.5	2547.5
	SCC	Channel	20975	21175	21375
		Frequency	2522.5	2542.5	2562.5
15 + 10	PCC	Channel	20825	21051	21277
		Frequency	2507.5	2530.1	2552.7
	SCC	Channel	20945	21171	21397
		Frequency	2519.5	2542.1	2564.7



LTE Band 38C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	37850	37901	37952
		Frequency	2580.0	2585.1	2590.2
	SCC	Channel	38048	38099	38150
		Frequency	2599.8	2604.9	2610.0
15+ 15	PCC	Channel	37825	37925	38025
		Frequency	2577.5	2587.5	2597.5
	SCC	Channel	37975	38075	38175
		Frequency	2592.5	2602.5	2612.5

### 3 Conducted Test Items

#### 3.1 Measuring Instruments

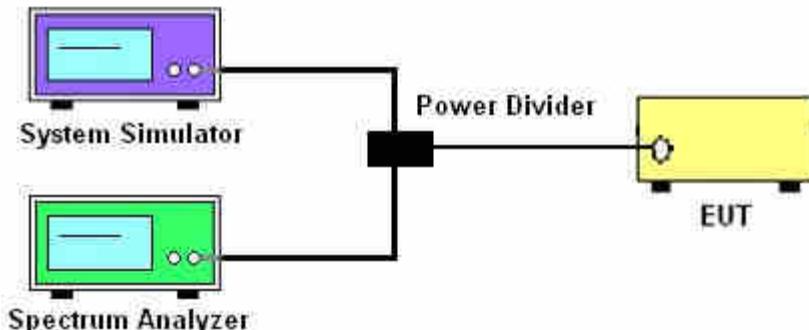
See list of measuring instruments of this test report.

#### 3.2 Test Setup

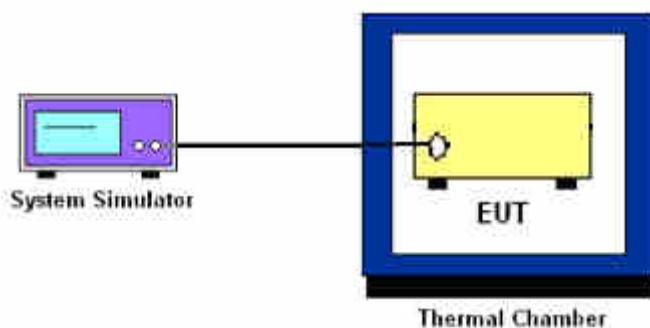
##### 3.2.1 Conducted Output Power



##### 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.

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

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

According to KDB 412172 D01 Power Approach,

$$\text{EIRP} = P_T + G_T - L_C, \text{ERP} = \text{EIRP} - 2.15, \text{where}$$

$P_T$  = 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(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(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 (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(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 than  $43 + 10 \log (P)$  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.
6. Set spectrum analyzer with RMS detector.
7. Offset has included the duty factor for LTE Band 38. Duty factor = $10 \log(1/x)$ , where x is the measured duty cycle.
8. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
9. Checked that all the results comply with the emission limit line.

Example:

The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)

$$\begin{aligned} &= P(W) - [43 + 10\log(P)] \text{ (dB)} \\ &= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)} = -13 \text{ dBm}. \end{aligned}$$

10. For LTE Band 7, 38, 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:

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. Offset has included the duty factor for LTE Band 38. Duty factor = $10 \log(1/x)$ , where x is the measured duty cycle.
9. Taking the record of maximum spurious emission.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
11. 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)  
 $= -13$  dBm.
12. For Band 7, 38  
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)  
 $= -25$  dBm.



## 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.

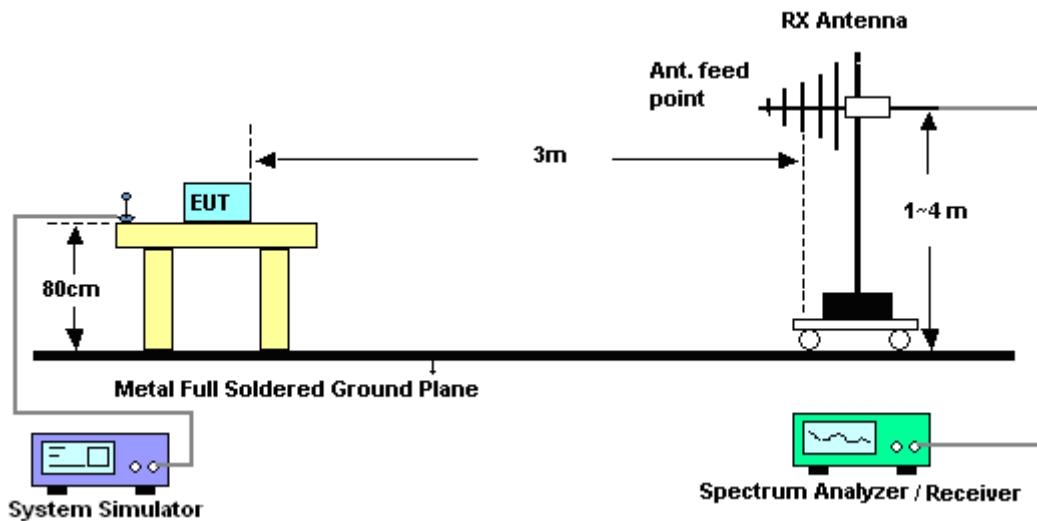
## 4 Radiated Test Items

### 4.1 Measuring Instruments

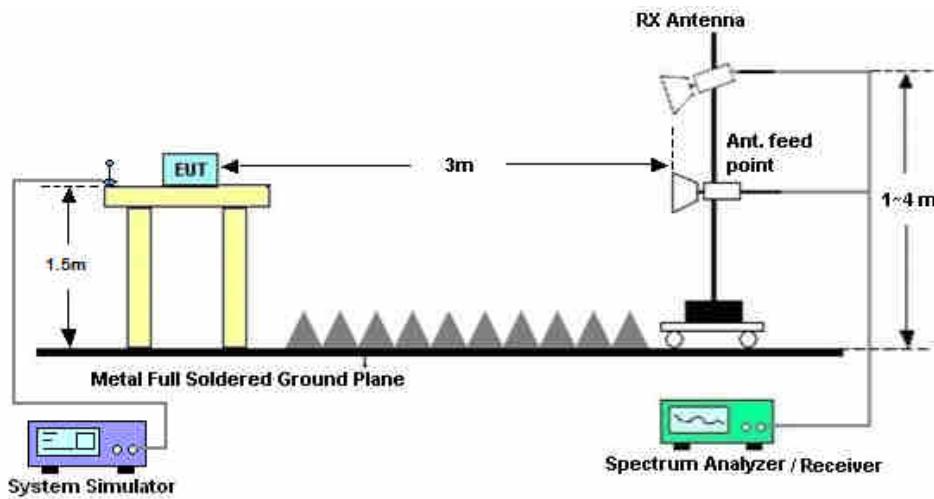
See list of measuring instruments of this test report.

### 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

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.

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.  $EIRP (\text{dBm}) = S.G. \text{ Power} - \text{Tx Cable Loss} + \text{Tx Antenna Gain}$
11.  $ERP (\text{dBm}) = EIRP - 2.15$
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)

$$= P(\text{W}) - [43 + 10\log(P)] \text{ (dB)}$$

$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13 \text{ dBm.}$$

13. For Band 7, 38:

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	FSV40	101040	10Hz~40GHz	Aug. 07, 2018	Jun. 07, 2019~Jun. 21, 2019	Aug. 06, 2019	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Nov. 19, 2018	Jun. 07, 2019~Jun. 21, 2019	Nov. 18, 2019	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44G, MAX 30dB	Apr. 16, 2019	May 31, 2019~Jun. 18, 2019	Apr. 15, 2020	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Dec. 28, 2018	May 31, 2019~Jun. 18, 2019	Dec. 27, 2019	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1648	1GHz~18GHz	Jan. 27, 2019	May 31, 2019~Jun. 18, 2019	Jan. 26, 2020	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2019	May 31, 2019~Jun. 18, 2019	Jan. 04, 2020	Radiation (03CH04-KS)
Amplifier	Burgeon	BPA-530	102219	0.01MHz ~3000MHz	Dec. 16, 2017	May 31, 2019~Jun. 18, 2019	Dec. 15, 2018	Radiation (03CH04-KS)
Amplifier	MITEQ	TTA1840-35-HG	2014749	18~40GHz	Jan. 14, 2019	May 31, 2019~Jun. 18, 2019	Jan. 13, 2020	Radiation (03CH04-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Apr. 15, 2019	May 31, 2019~Jun. 18, 2019	Apr. 14, 2020	Radiation (03CH04-KS)
Amplifier	Keysight	83017A	MY53270319	500MHz~26.5GHz	Oct. 12, 2018	May 31, 2019~Jun. 18, 2019	Oct. 11, 2019	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 31, 2019~Jun. 18, 2019	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 31, 2019~Jun. 18, 2019	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 31, 2019~Jun. 18, 2019	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required



## 6 Uncertainty of Evaluation

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{c(y)}</math>)</b>	<b>3.3dB</b>
--	--------------

### Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{c(y)}</math>)</b>	<b>2.8dB</b>
--	--------------

### Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_{c(y)}</math>)</b>	<b>2.8dB</b>
--	--------------



## 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	22.89	22.93	22.83
	1	49		22.76	22.84	22.79
	1	99		22.82	22.83	22.72
	50	0		21.89	22.00	21.97
	50	24		21.95	22.00	21.97
	50	50		22.00	22.05	21.96
	100	0		21.95	22.03	21.96
20	1	0	16-QAM	22.16	22.20	22.06
	1	49		22.06	22.09	22.10
	1	99		22.02	22.10	22.06
	50	0		20.90	21.04	20.99
	50	24		20.96	21.00	20.99
	50	50		21.01	21.03	20.98
	100	0		20.93	21.00	20.97
20	1	0	64-QAM	21.04	21.06	21.05
	1	49		20.94	21.02	21.02
	1	99		20.96	20.97	20.92
	50	0		19.87	20.00	19.95
	50	24		19.93	19.98	19.96
	50	50		19.99	20.01	19.92
	100	0		19.92	19.98	19.96
15	1	0	QPSK	22.39	22.42	22.48
	1	37		22.37	22.37	22.37
	1	74		22.49	22.49	22.32
	36	0		21.46	21.52	21.50
	36	20		21.53	21.56	21.53
	36	39		21.57	21.57	21.52
	75	0		21.51	21.53	21.50



15	1	0	16-QAM	21.66	21.71	21.75
15	1	37		21.61	21.64	21.66
15	1	74		21.77	21.73	21.67
15	36	0		20.48	20.54	20.58
15	36	20		20.52	20.55	20.60
15	36	39		20.58	20.56	20.57
15	75	0		20.51	20.56	20.57
15	1	0		20.56	20.59	20.69
15	1	37	64-QAM	20.58	20.54	20.63
15	1	74		20.71	20.63	20.57
15	36	0		19.45	19.49	19.54
15	36	20		19.50	19.53	19.56
15	36	39		19.52	19.51	19.53
15	75	0		19.50	19.52	19.54



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.35	22.69	22.41
	1	25		22.43	22.69	22.35
	1	49		22.36	22.42	22.26
	25	0		21.52	21.48	21.60
	25	12		21.55	21.51	21.74
	25	25		21.49	21.45	21.68
	50	0		21.52	21.58	21.73
10	1	0	16-QAM	21.59	21.59	22.02
	1	25		21.67	21.62	21.94
	1	49		21.61	21.61	21.91
	25	0		20.51	20.49	20.79
	25	12		20.52	20.51	20.79
	25	25		20.46	20.45	20.73
	50	0		20.49	20.46	20.76
10	1	0	64-QAM	20.50	20.52	20.92
	1	25		20.60	20.52	20.88
	1	49		20.50	20.56	20.77
	25	0		19.48	19.47	19.79
	25	12		19.49	19.47	19.77
	25	25		19.44	19.42	19.72
	50	0		19.43	19.44	19.74
5	1	0	QPSK	22.77	22.69	22.66
	1	12		22.79	22.79	22.67
	1	24		22.75	22.76	22.70
	12	0		21.86	21.75	21.74
	12	7		21.94	21.90	21.80
	12	13		21.91	21.85	21.81
	25	0		21.89	21.83	21.76
5	1	0	16-QAM	22.09	21.95	21.96
	1	12		22.06	22.05	21.98
	1	24		21.94	22.03	21.93
	12	0		20.89	20.80	20.80
	12	7		20.91	20.89	20.87



5	12	13	64-QAM	20.89	20.91	20.82
5	25	0		20.90	20.87	20.84
5	1	0		20.91	20.79	20.87
5	1	12		20.97	20.92	20.89
5	1	24		20.89	20.85	20.83
5	12	0		19.81	19.77	19.76
5	12	7		19.90	19.85	19.84
5	12	13		19.87	19.82	19.79
5	25	0		19.83	19.83	19.81



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.80	22.71	22.63
	1	8		22.88	22.86	22.76
	1	14		22.75	22.82	22.72
	8	0		21.85	21.78	21.76
	8	4		21.97	21.88	21.78
	8	7		21.93	21.92	21.78
	15	0		21.96	21.89	21.82
3	1	0	16-QAM	21.99	21.91	21.94
	1	8		22.15	22.08	22.08
	1	14		22.02	22.03	21.97
	8	0		20.93	20.80	20.85
	8	4		20.96	20.96	20.90
	8	7		20.94	20.90	20.83
	15	0		20.92	20.88	20.83
3	1	0	64-QAM	20.95	20.78	20.82
	1	8		21.08	20.99	20.95
	1	14		20.92	20.93	20.88
	8	0		19.84	19.74	19.73
	8	4		19.88	19.90	19.83
	8	7		19.88	19.85	19.80
	15	0		19.88	19.85	19.77
1.4	1	0	QPSK	22.73	22.60	22.57
	1	3		22.84	22.80	22.69
	1	5		22.75	22.72	22.61
	3	0		22.75	22.69	22.61
	3	1		22.81	22.75	22.69
	3	3		22.79	22.74	22.63
	6	0		21.85	21.80	21.69
1.4	1	0	16-QAM	22.00	21.88	21.82
	1	3		22.10	22.02	21.96
	1	5		22.01	21.97	21.89
	3	0		21.79	21.71	21.69
	3	1		21.84	21.80	21.76



1.4	3	3	64-QAM	21.84	21.74	21.69
1.4	6	0		20.90	20.86	20.79
1.4	1	0		20.87	20.73	20.72
1.4	1	3		21.00	20.94	20.89
1.4	1	5		20.87	20.86	20.80
1.4	3	0		20.80	20.76	20.70
1.4	3	1		20.92	20.81	20.78
1.4	3	3		20.79	20.75	20.73
1.4	6	0		19.82	19.74	19.72



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.90	22.93	22.84
	1	49		22.81	22.77	22.81
	1	99		22.80	22.78	22.69
	50	0		21.97	21.93	21.95
	50	24		21.98	21.99	21.92
	50	50		21.97	21.94	21.89
	100	0		21.95	21.94	21.93
20	1	0	16-QAM	22.16	22.22	22.14
	1	49		22.11	22.05	22.00
	1	99		22.08	22.04	21.93
	50	0		20.99	20.98	20.93
	50	24		21.00	20.98	20.95
	50	50		20.93	20.93	20.90
	100	0		20.96	20.92	20.91
20	1	0	64-QAM	21.06	21.10	21.10
	1	49		21.01	21.00	20.97
	1	99		21.00	20.99	20.90
	50	0		19.95	19.96	19.88
	50	24		19.94	19.97	19.88
	50	50		19.89	19.91	19.86
	100	0		19.94	19.96	19.90
15	1	0	QPSK	22.82	22.86	22.83
	1	37		22.76	22.81	22.79
	1	74		22.83	22.85	22.80
	36	0		21.90	21.94	21.89
	36	20		21.96	21.98	21.92
	36	39		21.89	21.95	21.85
	75	0		21.93	21.94	21.90
15	1	0	16-QAM	22.09	22.18	22.09
	1	37		22.08	22.13	22.01
	1	74		22.12	22.14	22.07
	36	0		20.92	20.96	20.89
	36	20		20.97	20.97	20.92



15	36	39	64-QAM	20.92	20.93	20.88
15	75	0		20.95	20.97	20.88
15	1	0		21.03	21.06	21.01
15	1	37		21.01	21.01	20.91
15	1	74		21.07	21.00	20.97
15	36	0		19.90	19.95	19.85
15	36	20		19.92	19.94	19.88
15	36	39		19.89	19.89	19.85
15	75	0		19.93	19.94	19.85



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.73	22.72	22.70
	1	25		22.71	22.78	22.66
	1	49		22.67	22.65	22.59
	25	0		21.84	21.86	21.79
	25	12		21.83	21.86	21.79
	25	25		21.77	21.79	21.70
	50	0		21.83	21.82	21.75
10	1	0	16-QAM	22.05	22.04	21.92
	1	25		22.03	22.01	21.96
	1	49		22.00	21.98	21.84
	25	0		20.84	20.86	20.78
	25	12		20.86	20.87	20.78
	25	25		20.78	20.77	20.71
	50	0		20.83	20.85	20.75
10	1	0	64-QAM	20.90	20.88	20.81
	1	25		20.92	20.96	20.87
	1	49		20.81	20.83	20.75
	25	0		19.82	19.82	19.77
	25	12		19.82	19.86	19.77
	25	25		19.75	19.76	19.70
	50	0		19.76	19.78	19.72
5	1	0	QPSK	22.79	22.68	22.67
	1	12		22.78	22.79	22.72
	1	24		22.65	22.69	22.60
	12	0		21.84	21.85	21.72
	12	7		21.91	21.89	21.79
	12	13		21.83	21.84	21.75
	25	0		21.83	21.82	21.79
5	1	0	16-QAM	22.05	21.93	21.96
	1	12		22.08	22.05	22.00
	1	24		21.93	21.97	21.88
	12	0		20.89	20.91	20.76
	12	7		20.94	20.89	20.82



5	12	13	64-QAM	20.85	20.81	20.78
5	25	0		20.86	20.87	20.75
5	1	0		20.97	20.87	20.83
5	1	12		20.94	20.97	20.90
5	1	24		20.85	20.88	20.80
5	12	0		19.86	19.86	19.69
5	12	7		19.88	19.85	19.79
5	12	13		19.82	19.78	19.72
5	25	0		19.80	19.84	19.74



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.64	22.68	22.61
	1	8		22.83	22.85	22.82
	1	14		22.60	22.73	22.64
	8	0		21.83	21.82	21.73
	8	4		21.89	21.88	21.78
	8	7		21.78	21.90	21.83
	15	0		21.87	21.89	21.80
3	1	0	16-QAM	21.98	21.93	21.90
	1	8		22.15	22.17	22.11
	1	14		21.89	22.02	21.89
	8	0		20.91	20.88	20.81
	8	4		21.00	20.95	20.87
	8	7		20.88	20.94	20.84
	15	0		20.91	20.89	20.79
3	1	0	64-QAM	20.92	20.88	20.77
	1	8		20.92	20.88	20.93
	1	14		20.78	20.91	20.82
	8	0		19.90	19.83	19.72
	8	4		19.90	19.90	19.81
	8	7		19.78	19.89	19.77
	15	0		19.84	19.83	19.72
1.4	1	0	QPSK	22.72	22.78	22.68
	1	3		22.83	22.88	22.80
	1	5		22.73	22.82	22.72
	3	0		22.78	22.77	22.71
	3	1		22.82	22.88	22.76
	3	3		22.80	22.84	22.72
	6	0		21.87	21.88	21.82
1.4	1	0	16-QAM	22.03	22.07	21.99
	1	3		22.20	22.19	22.06
	1	5		22.00	22.12	21.96
	3	0		21.89	21.88	21.78
	3	1		21.96	21.88	21.86



1.4	3	3	64-QAM	21.90	21.85	21.79
1.4	6	0		20.96	20.98	20.83
1.4	1	0		20.88	20.98	20.81
1.4	1	3		20.78	20.89	20.87
1.4	1	5		20.93	20.95	20.87
1.4	3	0		20.93	20.87	20.80
1.4	3	1		20.98	20.93	20.86
1.4	3	3		20.97	20.91	20.80
1.4	6	0		19.94	19.89	19.80



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.70	22.61	22.72
	1	25		22.69	22.76	22.62
	1	49		22.63	22.62	22.57
	25	0		21.78	21.81	21.75
	25	12		21.78	21.80	21.75
	25	25		21.72	21.77	21.70
	50	0		21.74	21.79	21.74
10	1	0	16-QAM	21.94	21.92	21.98
	1	25		21.92	21.96	21.85
	1	49		21.92	21.87	21.83
	25	0		20.76	20.78	20.74
	25	12		20.73	20.76	20.74
	25	25		20.72	20.73	20.67
	50	0		20.75	20.77	20.73
10	1	0	64-QAM	20.84	20.80	20.79
	1	25		20.80	20.84	20.81
	1	49		20.81	20.79	20.74
	25	0		19.73	19.75	19.72
	25	12		19.75	19.75	19.71
	25	25		19.70	19.71	19.65
	50	0		19.72	19.70	19.69
5	1	0	QPSK	22.61	22.57	22.58
	1	12		22.65	22.74	22.66
	1	24		22.64	22.70	22.64
	12	0		21.66	21.69	21.69
	12	7		21.81	21.82	21.74
	12	13		21.80	21.83	21.79
	25	0		21.76	21.79	21.68
5	1	0	16-QAM	21.82	21.79	21.84
	1	12		21.92	21.95	21.95
	1	24		21.92	21.98	21.88
	12	0		20.65	20.71	20.71
	12	7		20.79	20.82	20.72



5	12	13	64-QAM	20.80	20.84	20.75
5	25	0		20.75	20.80	20.67
5	1	0		20.72	20.68	20.75
5	1	12		20.85	20.86	20.86
5	1	24		20.82	20.87	20.83
5	12	0		19.60	19.68	19.65
5	12	7		19.75	19.82	19.73
5	12	13		19.78	19.82	19.77
5	25	0		19.72	19.77	19.70



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.50	22.53	22.45
	1	8		22.71	22.73	22.64
	1	14		22.59	22.68	22.56
	8	0		21.56	21.59	21.56
	8	4		21.72	21.77	21.70
	8	7		21.71	21.77	21.67
	15	0		21.71	21.78	21.68
3	1	0	16-QAM	21.75	21.71	21.76
	1	8		21.95	21.96	21.87
	1	14		21.91	21.90	21.86
	8	0		20.64	20.66	20.60
	8	4		20.77	20.76	20.78
	8	7		20.77	20.77	20.70
	15	0		20.71	20.75	20.73
3	1	0	64-QAM	20.61	20.61	20.61
	1	8		20.86	20.86	20.79
	1	14		20.82	20.84	20.78
	8	0		19.55	19.60	19.55
	8	4		19.69	19.70	19.72
	8	7		19.67	19.71	19.65
	15	0		19.65	19.69	19.63
1.4	1	0	QPSK	22.47	22.47	22.50
	1	3		22.64	22.66	22.61
	1	5		22.61	22.59	22.53
	3	0		22.56	22.57	22.50
	3	1		22.63	22.63	22.57
	3	3		22.57	22.59	22.58
	6	0		21.66	21.66	21.61
1.4	1	0	16-QAM	21.75	21.76	21.75
	1	3		21.86	21.91	21.89
	1	5		21.83	21.88	21.83
	3	0		21.61	21.61	21.55
	3	1		21.62	21.66	21.58



1.4	3	3	64-QAM	21.65	21.64	21.56
1.4	6	0		20.70	20.71	20.72
1.4	1	0		20.62	20.64	20.67
1.4	1	3		20.77	20.81	20.77
1.4	1	5		20.75	20.77	20.70
1.4	3	0		20.62	20.62	20.59
1.4	3	1		20.68	20.67	20.62
1.4	3	3		20.66	20.65	20.57
1.4	6	0		19.60	19.64	19.59



## Top Antenna:

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.25	22.17	22.32
	1	49		22.20	22.29	22.29
	1	99		22.36	22.37	22.31
	50	0		21.35	21.40	21.49
	50	24		21.41	21.49	21.50
	50	50		21.42	21.51	21.45
	100	0		21.35	21.48	21.43
20	1	0	16-QAM	21.57	21.43	21.69
	1	49		21.52	21.54	21.59
	1	99		21.67	21.58	21.56
	50	0		20.34	20.42	20.55
	50	24		20.40	20.49	20.52
	50	50		20.40	20.45	20.43
	100	0		20.36	20.41	20.45
20	1	0	64-QAM	20.46	20.34	20.60
	1	49		20.39	20.45	20.51
	1	99		20.58	20.52	20.50
	50	0		19.32	19.39	19.53
	50	24		19.40	19.45	19.51
	50	50		19.41	19.48	19.39
	100	0		19.36	19.40	19.45
15	1	0	QPSK	22.24	22.22	22.34
	1	37		22.23	22.29	22.29
	1	74		22.25	22.35	22.36
	36	0		21.35	21.43	21.48
	36	20		21.39	21.51	21.52
	36	39		21.41	21.49	21.47
	75	0		21.40	21.47	21.52
15	1	0	16-QAM	21.58	21.51	21.69
	1	37		21.49	21.54	21.57
	1	74		21.57	21.58	21.60
	36	0		20.32	20.43	20.55
	36	20		20.41	20.49	20.51



15	36	39	64-QAM	20.38	20.43	20.45
15	75	0		20.39	20.42	20.47
15	1	0		20.48	20.46	20.60
15	1	37		20.48	20.53	20.46
15	1	74		20.49	20.52	20.53
15	36	0		19.32	19.39	19.52
15	36	20		19.40	19.47	19.51
15	36	39		19.39	19.41	19.45
15	75	0		19.39	19.44	19.48



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.07	22.15	22.19
	1	25		22.07	22.27	22.23
	1	49		22.04	22.27	22.24
	25	0		21.21	21.30	21.32
	25	12		21.21	21.36	21.32
	25	25		21.17	21.35	21.33
	50	0		21.21	21.34	21.33
10	1	0	16-QAM	21.36	21.49	21.54
	1	25		21.37	21.53	21.51
	1	49		21.34	21.57	21.55
	25	0		20.22	20.33	20.31
	25	12		20.23	20.36	20.33
	25	25		20.16	20.34	20.31
	50	0		20.19	20.34	20.31
10	1	0	64-QAM	20.28	20.37	20.38
	1	25		20.27	20.45	20.44
	1	49		20.26	20.40	20.45
	25	0		19.19	19.29	19.31
	25	12		19.22	19.35	19.30
	25	25		19.17	19.31	19.30
	50	0		19.19	19.29	19.29
5	1	0	QPSK	22.18	22.29	22.22
	1	12		22.19	22.37	22.29
	1	24		22.11	22.26	22.32
	12	0		21.29	21.39	21.23
	12	7		21.36	21.46	21.42
	12	13		21.31	21.41	21.38
	25	0		21.28	21.39	21.29
5	1	0	16-QAM	21.51	21.51	21.49
	1	12		21.50	21.61	21.58
	1	24		21.40	21.55	21.52
	12	0		20.35	20.39	20.28
	12	7		20.42	20.46	20.44



5	12	13	64-QAM	20.28	20.36	20.38
5	25	0		20.35	20.39	20.27
5	1	0		20.47	20.46	20.39
5	1	12		20.40	20.49	20.51
5	1	24		20.34	20.44	20.46
5	12	0		19.32	19.30	19.27
5	12	7		19.39	19.46	19.43
5	12	13		19.28	19.33	19.37
5	25	0		19.35	19.39	19.28



## Bottom Antenna:

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.14	23.11	23.16
	1	49		23.10	23.10	23.10
	1	99		23.21	23.25	23.15
	50	0		22.23	22.22	22.32
	50	24		22.28	22.30	22.32
	50	50		22.27	22.35	22.27
	100	0		22.25	22.29	22.27
20	1	0	16-QAM	22.47	22.32	22.46
	1	49		22.38	22.37	22.37
	1	99		22.50	22.45	22.43
	50	0		21.24	21.23	21.32
	50	24		21.27	21.33	21.31
	50	50		21.27	21.34	21.23
	100	0		21.26	21.26	21.23
20	1	0	64-QAM	21.33	21.15	21.38
	1	49		21.27	21.26	21.25
	1	99		21.41	21.39	21.31
	50	0		20.22	20.17	20.29
	50	24		20.23	20.27	20.29
	50	50		20.22	20.32	20.21
	100	0		20.24	20.25	20.22
15	1	0	QPSK	23.14	23.00	23.14
	1	37		23.07	23.10	23.11
	1	74		23.10	23.21	23.13
	36	0		22.22	22.22	22.30
	36	20		22.26	22.31	22.30
	36	39		22.23	22.31	22.29
	75	0		22.25	22.26	22.29
15	1	0	16-QAM	22.42	22.31	22.44
	1	37		22.35	22.37	22.38
	1	74		22.43	22.50	22.42
	36	0		21.21	21.20	21.28
	36	20		21.26	21.30	21.31



15	36	39	64-QAM	21.26	21.30	21.25
15	75	0		21.23	21.28	21.29
15	1	0		21.37	21.21	21.31
15	1	37		21.31	21.27	21.28
15	1	74		21.31	21.41	21.34
15	36	0		20.18	20.19	20.27
15	36	20		20.22	20.28	20.26
15	36	39		20.24	20.25	20.23
15	75	0		20.19	20.25	20.26



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.97	23.00	23.01
	1	25		22.91	23.07	23.03
	1	49		22.95	23.09	23.02
	25	0		22.06	22.08	22.09
	25	12		22.07	22.14	22.10
	25	25		22.04	22.19	22.07
	50	0		22.07	22.15	22.11
10	1	0	16-QAM	22.21	22.19	22.23
	1	25		22.19	22.33	22.30
	1	49		22.18	22.37	22.28
	25	0		21.08	21.11	21.11
	25	12		21.08	21.16	21.11
	25	25		21.02	21.17	21.08
	50	0		21.04	21.12	21.11
10	1	0	64-QAM	21.11	21.12	21.17
	1	25		21.09	21.27	21.17
	1	49		21.10	21.28	21.19
	25	0		20.04	20.08	20.09
	25	12		20.04	20.14	20.09
	25	25		19.99	20.15	20.04
	50	0		20.00	20.10	20.06
5	1	0	QPSK	22.97	23.06	22.97
	1	12		23.00	23.12	23.04
	1	24		22.87	23.12	23.09
	12	0		22.10	22.12	22.05
	12	7		22.14	22.24	22.17
	12	13		22.08	22.18	22.13
	25	0		22.10	22.21	22.08
5	1	0	16-QAM	22.27	22.29	22.27
	1	12		22.30	22.38	22.38
	1	24		22.21	22.36	22.34
	12	0		21.15	21.15	21.08
	12	7		21.16	21.23	21.20



5	12	13	64-QAM	21.14	21.19	21.18
5	25	0		21.13	21.21	21.12
5	1	0		21.13	21.22	21.13
5	1	12		21.19	21.24	21.23
5	1	24		21.11	21.21	21.24
5	12	0		20.10	20.09	20.05
5	12	7		20.17	20.19	20.17
5	12	13		20.07	20.16	20.13
5	25	0		20.13	20.16	20.10



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.37	23.33	23.36
	1	49		23.36	23.51	23.28
	1	99		23.40	23.36	23.25
	50	0		22.51	22.59	22.39
	50	24		22.57	22.63	22.42
	50	50		22.57	22.48	22.41
	100	0		22.54	22.56	22.40
20	1	0	16-QAM	22.41	22.44	22.34
	1	49		22.49	22.46	22.36
	1	99		22.55	22.38	22.34
	50	0		21.47	21.49	21.40
	50	24		21.57	21.52	21.43
	50	50		21.59	21.51	21.44
	100	0		21.52	21.49	21.39
20	1	0	64-QAM	21.15	21.20	21.10
	1	49		21.22	21.17	21.07
	1	99		21.32	21.16	21.10
	50	0		20.42	20.41	20.33
	50	24		20.49	20.45	20.36
	50	50		20.52	20.43	20.35
	100	0		20.54	20.51	20.37
15	1	0	QPSK	23.49	23.40	23.28
	1	37		23.49	23.40	23.30
	1	74		23.40	23.33	23.28
	36	0		22.53	22.45	22.36
	36	20		22.55	22.48	22.38
	36	39		22.48	22.44	22.34
	75	0		22.54	22.48	22.39
15	1	0	16-QAM	22.54	22.48	22.37
	1	37		22.46	22.47	22.34
	1	74		22.47	22.44	22.38
	36	0		21.43	21.39	21.31
	36	20		21.48	21.45	21.38



15	36	39	64-QAM	21.42	21.43	21.33
15	75	0		21.51	21.48	21.41
15	1	0		21.28	21.19	21.13
15	1	37		21.18	21.11	21.08
15	1	74		21.17	21.17	21.10
15	36	0		20.44	20.41	20.34
15	36	20		20.48	20.46	20.38
15	36	39		20.44	20.44	20.35
15	75	0		20.50	20.46	20.39



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.14	23.14	23.05
	1	25		23.26	23.23	23.14
	1	49		23.17	23.19	23.15
	25	0		22.37	22.31	22.19
	25	12		22.40	22.36	22.27
	25	25		22.38	22.33	22.27
	50	0		22.44	22.37	22.29
10	1	0	16-QAM	22.24	22.25	22.16
	1	25		22.33	22.27	22.22
	1	49		22.25	22.22	22.17
	25	0		21.36	21.33	21.26
	25	12		21.38	21.37	21.29
	25	25		21.36	21.32	21.29
	50	0		21.40	21.38	21.30
10	1	0	64-QAM	21.04	21.04	20.98
	1	25		21.05	21.01	20.97
	1	49		21.04	21.02	21.01
	25	0		20.27	20.25	20.18
	25	12		20.30	20.30	20.23
	25	25		20.28	20.26	20.21
	50	0		20.32	20.29	20.20
5	1	0	QPSK	23.33	23.14	23.06
	1	12		23.35	23.28	23.17
	1	24		23.35	23.31	23.15
	12	0		22.39	22.23	22.15
	12	7		22.50	22.43	22.32
	12	13		22.46	22.40	22.31
	25	0		22.44	22.35	22.29
5	1	0	16-QAM	22.40	22.22	22.17
	1	12		22.40	22.38	22.30
	1	24		22.43	22.41	22.30
	12	0		21.32	21.18	21.19
	12	7		21.39	21.33	21.30



5	12	13	64-QAM	21.41	21.39	21.29
5	25	0		21.42	21.38	21.29
5	1	0		21.12	21.01	20.95
5	1	12		21.15	21.07	21.02
5	1	24		21.21	21.12	21.03
5	12	0		20.36	20.20	20.12
5	12	7		20.42	20.33	20.29
5	12	13		20.40	20.37	20.23
5	25	0		20.37	20.29	20.20

**CA Power**

CA_7C							
Combination 20MHz+20MHz (100RB+100RB)							
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset	
20850	21048	QPSK	0	0	1	99	1 23.29
			1	0	0	0	1 23.49
			100	0	0	0	100 22.51
			100	0	100	0	200 22.29
			1	0	1	99	2 15.59
			1	0	1	0	2 18.27
			1	99	1	0	2 23.39
			100	0	1	99	101 20.75
		16QAM	0	0	1	99	1 23.37
			1	0	0	0	1 22.88
			100	0	0	0	100 21.53
			100	0	100	0	200 21.31
			1	0	1	99	2 16.04
			1	0	1	0	2 18.64
			1	99	1	0	2 23.57
			100	0	1	99	101 20.81
		64QAM	0	0	1	99	1 20.78
			1	0	0	0	1 22.63
			100	0	0	0	100 21.43
			100	0	100	0	200 20.80
			1	0	1	99	2 15.81
			1	0	1	0	2 18.39
			1	99	1	0	2 21.39
			100	0	1	99	101 20.83



21001	21199	QPSK	0	0	1	99	1	23.95		
			1	0	0	0	1	23.28		
			100	0	0	0	100	22.42		
			100	0	100	0	200	22.20		
			1	0	1	99	2	15.74		
			1	0	1	0	2	18.18		
			1	99	1	0	2	23.37		
			100	0	1	99	101	20.71		
16QAM			0	0	1	99	1	23.45		
			1	23	0	0	1	22.74		
			100	0	0	0	100	21.37		
			100	0	100	0	200	21.18		
			1	0	1	99	2	16.10		
			1	0	1	0	2	18.62		
			1	99	1	0	2	23.46		
			100	0	1	99	101	20.70		
64QAM			0	0	1	99	1	23.01		
			1	0	0	0	1	22.58		
			100	0	0	0	100	21.41		
			100	0	100	0	200	21.22		
			1	0	1	99	2	15.89		
			1	0	1	0	2	18.41		
			1	99	1	0	2	23.32		
			100	0	1	99	101	20.73		



21152	21350	QPSK	0	0	1	99	1	21.93
			1	0	0	0	1	23.49
			100	0	0	0	100	22.57
			100	0	100	0	200	22.37
			1	0	1	99	2	15.69
			1	0	1	0	2	18.30
			1	99	1	0	2	23.28
			100	0	1	99	101	20.78
21152	21350	16QAM	0	0	1	99	1	21.25
			1	0	0	0	1	22.90
			100	0	0	0	100	21.59
			100	0	100	0	200	21.32
			1	0	1	99	2	16.09
			1	0	1	0	2	18.86
			1	99	1	0	2	23.58
			100	0	1	99	101	20.83
21152	21350	64QAM	0	0	1	99	1	20.45
			1	0	0	0	1	22.74
			100	0	0	0	100	21.56
			100	0	100	0	200	21.23
			1	0	1	99	2	15.98
			1	0	1	0	2	18.51
			1	99	1	0	2	21.49
			100	0	1	99	101	20.74



CA_7C								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)	
			RB Size	RB offset	RB Size	RB offset		
20850	21021	QPSK	100	0	75	0	175	21.57
		QPSK	1	0	1	74	2	14.99
		QPSK	1	99	1	0	2	23.59
		16QAM	100	0	75	0	175	20.54
		16QAM	1	0	1	74	2	15.38
		16QAM	1	99	1	0	2	22.86
		64QAM	100	0	75	0	175	20.36
		64QAM	1	0	1	74	2	15.33
		64QAM	1	99	1	0	2	20.63
21026	21197	QPSK	100	0	75	0	175	21.55
		QPSK	1	0	1	74	2	15.01
		QPSK	1	99	1	0	2	23.61
		16QAM	100	0	75	0	175	20.55
		16QAM	1	0	1	74	2	15.47
		16QAM	1	99	1	0	2	22.86
		64QAM	100	0	75	0	175	20.54
		64QAM	1	0	1	74	2	15.33
		64QAM	1	99	1	0	2	20.75
21201	21372	QPSK	100	0	75	0	175	21.59
		QPSK	1	0	1	74	2	15.12
		QPSK	1	99	1	0	2	23.63
		16QAM	100	0	75	0	175	20.60
		16QAM	1	0	1	74	2	15.59
		16QAM	1	99	1	0	2	22.93
		64QAM	100	0	75	0	175	20.47
		64QAM	1	0	1	74	2	15.39
		64QAM	1	99	1	0	2	20.87



Combination 15MHz+20MHz (75RB+100RB)								
PCC Channel	SCC Channel	Modulation	PCC		SCC		Total RB Size	Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset		
20828	20999	QPSK	75	0	100	0	175	21.62
		QPSK	1	0	1	99	2	15.14
		QPSK	1	74	1	0	2	23.80
		16QAM	75	0	100	0	175	20.70
		16QAM	1	0	1	99	2	15.57
		16QAM	1	74	1	0	2	22.92
		64QAM	75	0	100	0	175	20.18
		64QAM	1	0	1	99	2	15.47
		64QAM	1	74	1	0	2	20.83
21003	21174	QPSK	75	0	100	0	175	21.74
		QPSK	1	0	1	99	2	15.11
		QPSK	1	74	1	0	2	23.78
		16QAM	75	0	100	0	175	20.63
		16QAM	1	0	1	99	2	15.60
		16QAM	1	74	1	0	2	22.85
		64QAM	75	0	100	0	175	20.67
		64QAM	1	0	1	99	2	15.34
		64QAM	1	74	1	0	2	20.70
21179	21350	QPSK	75	0	100	0	175	21.70
		QPSK	1	0	1	99	2	15.24
		QPSK	1	74	1	0	2	23.74
		16QAM	75	0	100	0	175	20.64
		16QAM	1	0	1	99	2	15.74
		16QAM	1	74	1	0	2	22.50
		64QAM	75	0	100	0	175	20.36
		64QAM	1	0	1	99	2	15.55
		64QAM	1	74	1	0	2	20.90



Combination 20MHz+10MHz (100RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20850	20994	QPSK	100	0	50	0	150	21.84
		QPSK	1	0	1	49	2	15.27
		QPSK	1	99	1	0	2	23.84
		16QAM	100	0	50	0	150	20.84
		16QAM	1	0	1	49	2	15.68
		16QAM	1	99	1	0	2	22.97
		64QAM	100	0	50	0	150	20.61
		64QAM	1	0	1	49	2	15.37
		64QAM	1	99	1	0	2	20.96
21051	21195	QPSK	100	0	50	0	150	21.80
		QPSK	1	0	1	49	2	15.24
		QPSK	1	99	1	0	2	23.84
		16QAM	100	0	50	0	150	20.86
		16QAM	1	0	1	49	2	15.70
		16QAM	1	99	1	0	2	23.14
		64QAM	100	0	50	0	150	20.86
		64QAM	1	0	1	49	2	15.59
		64QAM	1	99	1	0	2	20.99
21251	21395	QPSK	100	0	50	0	150	21.94
		QPSK	1	0	1	49	2	15.42
		QPSK	1	99	1	0	2	23.90
		16QAM	100	0	50	0	150	20.97
		16QAM	1	0	1	49	2	16.00
		16QAM	1	99	1	0	2	23.27
		64QAM	100	0	50	0	150	20.91
		64QAM	1	0	1	49	2	15.76
		64QAM	1	99	1	0	2	21.13



Combination 10MHz+20MHz (50RB+100RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20805	20949	QPSK	50	0	100	0	150	21.74
		QPSK	1	0	1	99	2	15.29
		QPSK	1	49	1	0	2	23.82
		16QAM	50	0	100	0	150	20.85
		16QAM	1	0	1	99	2	15.74
		16QAM	1	49	1	0	2	23.16
		64QAM	50	0	100	0	150	20.09
		64QAM	1	0	1	99	2	15.51
		64QAM	1	49	1	0	2	21.01
21006	21150	QPSK	50	0	100	0	150	21.86
		QPSK	1	0	1	99	2	15.32
		QPSK	1	49	1	0	2	23.79
		16QAM	50	0	100	0	150	20.84
		16QAM	1	0	1	99	2	15.77
		16QAM	1	49	1	0	2	22.95
		64QAM	50	0	100	0	150	20.82
		64QAM	1	0	1	99	2	15.51
		64QAM	1	49	1	0	2	20.99
21206	21350	QPSK	50	0	100	0	150	21.88
		QPSK	1	0	1	99	2	15.37
		QPSK	1	49	1	0	2	23.88
		16QAM	50	0	100	0	150	20.88
		16QAM	1	0	1	99	2	15.91
		16QAM	1	49	1	0	2	23.20
		64QAM	50	0	100	0	150	20.54
		64QAM	1	0	1	99	2	15.64
		64QAM	1	49	1	0	2	21.09



Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20825	20975	QPSK	75	0	75	0	150	21.80
		QPSK	1	0	1	74	2	15.26
		QPSK	1	74	1	0	2	23.90
		16QAM	75	0	75	0	150	20.11
		16QAM	1	0	1	74	2	15.32
		16QAM	1	74	1	0	2	21.47
		64QAM	75	0	75	0	150	20.44
		64QAM	1	0	1	74	2	15.61
		64QAM	1	74	1	0	2	21.02
21025	21175	QPSK	75	0	75	0	150	21.85
		QPSK	1	0	1	74	2	15.32
		QPSK	1	74	1	0	2	23.88
		16QAM	75	0	75	0	150	20.87
		16QAM	1	0	1	74	2	15.72
		16QAM	1	74	1	0	2	23.23
		64QAM	75	0	75	0	150	20.85
		64QAM	1	0	1	74	2	15.59
		64QAM	1	74	1	0	2	21.07
21225	21375	QPSK	75	0	75	0	150	21.87
		QPSK	1	0	1	74	2	15.42
		QPSK	1	74	1	0	2	23.87
		16QAM	75	0	75	0	150	20.88
		16QAM	1	0	1	74	2	15.89
		16QAM	1	74	1	0	2	23.12
		64QAM	75	0	75	0	150	20.69
		64QAM	1	0	1	74	2	15.77
		64QAM	1	74	1	0	2	21.06



Combination 15MHz+10MHz (75RB+50RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
20825	20945	QPSK	75	0	50	0	125	21.57
		QPSK	1	0	1	49	2	14.90
		QPSK	1	74	1	0	2	23.63
		16QAM	75	0	50	0	125	20.54
		16QAM	1	0	1	49	2	15.51
		16QAM	1	74	1	0	2	22.51
		64QAM	75	0	50	0	125	19.73
		64QAM	1	0	1	49	2	13.63
		64QAM	1	74	1	0	2	20.69
21051	21171	QPSK	75	0	50	0	125	21.62
		QPSK	1	0	1	49	2	15.00
		QPSK	1	74	1	0	2	23.64
		16QAM	75	0	50	0	125	20.57
		16QAM	1	0	1	49	2	15.44
		16QAM	1	74	1	0	2	22.85
		64QAM	75	0	50	0	125	20.61
		64QAM	1	0	1	49	2	15.27
		64QAM	1	74	1	0	2	20.88
21277	21397	QPSK	75	0	50	0	125	21.64
		QPSK	1	0	1	49	2	15.10
		QPSK	1	74	1	0	2	23.61
		16QAM	75	0	50	0	125	20.69
		16QAM	1	0	1	49	2	15.62
		16QAM	1	74	1	0	2	22.88
		64QAM	75	0	50	0	125	20.62
		64QAM	1	0	1	49	2	15.45
		64QAM	1	74	1	0	2	20.87



CA_38C							
Combination 20MHz+20MHz (100RB+100RB)							
PCC Channel	SCC Channel	Modulation	PCC		SCC		Measured Power (dBm)
			RB Size	RB offset	RB Size	RB offset	
37850	38048	QPSK	0	0	1	99	1 23.69
			1	0	0	0	1 23.46
			100	0	0	0	100 22.29
			100	0	100	0	200 22.15
			1	0	1	99	2 15.66
			1	0	1	0	2 18.18
			1	99	1	0	2 23.20
			100	0	1	99	101 20.46
		16QAM	0	0	1	99	1 20.58
			1	0	0	0	1 22.62
			100	0	0	0	100 21.36
			100	0	100	0	200 21.16
			1	0	1	99	2 15.35
			1	0	1	0	2 18.24
			1	99	1	0	2 23.23
			100	0	1	99	101 20.47
		64QAM	0	0	1	99	1 19.38
			1	0	0	0	1 21.22
			100	0	0	0	100 20.41
			100	0	100	0	200 21.14
			1	0	1	99	2 14.97
			1	0	1	0	2 17.85
			1	99	1	0	2 20.96
			100	0	1	99	101 20.29



37901	38099	QPSK	0	0	1	99	1	23.46
			1	0	0	0	1	23.43
			100	0	0	0	100	22.26
			100	0	100	0	200	22.15
			1	0	1	99	2	15.63
			1	0	1	0	2	18.08
			1	99	1	0	2	23.17
			100	0	1	99	101	20.46
		16QAM	0	0	1	99	1	22.90
			1	0	0	0	1	22.59
			100	0	0	0	100	21.28
			100	0	100	0	200	21.13
			1	0	1	99	2	15.54
			1	0	1	0	2	18.25
			1	99	1	0	2	23.18
			100	0	1	99	101	20.53
		64QAM	0	0	1	99	1	21.44
			1	0	0	0	1	21.15
			100	0	0	0	100	20.30
			100	0	100	0	200	21.17
			1	0	1	99	2	15.18
			1	0	1	0	2	17.86
			1	99	1	0	2	20.94
			100	0	1	99	101	20.30



37952	38150	QPSK	0	0	1	99	1	22.19
			1	0	0	0	1	23.45
			100	0	0	0	100	22.23
			100	0	100	0	200	22.07
			1	0	1	99	2	15.66
			1	0	1	0	2	18.03
			1	99	1	0	2	23.15
			100	0	1	99	101	20.34
		16QAM	0	0	1	99	1	20.77
			1	0	0	0	1	22.65
			100	0	0	0	100	21.39
			100	0	100	0	200	21.07
			1	0	1	99	2	15.35
			1	0	1	0	2	18.20
			1	99	1	0	2	23.16
			100	0	1	99	101	20.43
		64QAM	0	0	1	99	1	19.40
			1	0	0	0	1	21.26
			100	0	0	0	100	20.41
			100	0	100	0	200	21.07
			1	0	1	99	2	14.96
			1	0	1	0	2	17.82
			1	99	1	0	2	20.91
			100	0	1	99	101	21.04



CA_38C								
Combination 15MHz+15MHz (75RB+75RB)								
PCC	SCC	Modulation	PCC		SCC		Measured Power (dBm)	
Channel	Channel		RB Size	RB offset	RB Size	RB offset		
37825	37975	QPSK	75	0	75	0	150	21.47
		QPSK	1	0	1	74	2	14.98
		QPSK	1	74	1	0	2	23.50
		16QAM	75	0	75	0	150	20.46
		16QAM	1	0	1	74	2	14.79
		16QAM	1	74	1	0	2	22.38
		64QAM	75	0	75	0	150	20.42
		64QAM	1	0	1	74	2	14.35
		64QAM	1	74	1	0	2	20.14
37925	38075	QPSK	75	0	75	0	150	21.33
		QPSK	1	0	1	74	2	14.73
		QPSK	1	74	1	0	2	23.27
		16QAM	75	0	75	0	150	20.40
		16QAM	1	0	1	74	2	14.82
		16QAM	1	74	1	0	2	22.34
		64QAM	75	0	75	0	150	20.38
		64QAM	1	0	1	74	2	14.42
		64QAM	1	74	1	0	2	20.14
38025	38175	QPSK	75	0	75	0	150	21.29
		QPSK	1	0	1	74	2	14.87
		QPSK	1	74	1	0	2	23.19
		16QAM	75	0	75	0	150	20.34
		16QAM	1	0	1	74	2	14.80
		16QAM	1	74	1	0	2	22.29
		64QAM	75	0	75	0	150	20.36
		64QAM	1	0	1	74	2	14.43
		64QAM	1	74	1	0	2	20.06

**ERP/EIRP**

LTE Band 2 (GT - LC = -0.18 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
Conducted Power (dBm)	22.84	22.80	22.69	22.88	22.86	22.76	22.79	22.79	22.67
Conducted Power (Watts)	0.1923	0.1905	0.1858	0.1941	0.1932	0.1888	0.1901	0.1901	0.1849
EIRP(dBm)	22.66	22.62	22.51	22.70	22.68	22.58	22.61	22.61	22.49
EIRP(Watts)	0.1845	0.1828	0.1782	0.1862	0.1854	0.1811	0.1824	0.1824	0.1774

LTE Band 2 (GT - LC = -0.18 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
Conducted Power (dBm)	22.43	22.69	22.35	22.49	22.49	22.32	22.89	22.93	22.83
Conducted Power (Watts)	0.1750	0.1858	0.1718	0.1774	0.1774	0.1706	0.1945	0.1963	0.1919
EIRP(dBm)	22.25	22.51	22.17	22.31	22.31	22.14	22.71	22.75	22.65
EIRP(Watts)	0.1679	0.1782	0.1648	0.1702	0.1702	0.1637	0.1866	0.1884	0.1841



LTE Band 2 (GT - LC = -0.18 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607 (Low)	18900 (Mid)	19193 (High)	18615 (Low)	18900 (Mid)	19185 (High)	18625 (Low)	18900 (Mid)	19175 (High)
	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
Conducted Power (dBm)	22.10	22.02	21.96	22.15	22.08	22.08	22.09	21.95	21.96
Conducted Power (Watts)	0.1622	0.1592	0.1570	0.1641	0.1614	0.1614	0.1618	0.1567	0.1570
EIRP(dBm)	21.92	21.84	21.78	21.97	21.90	21.90	21.91	21.77	21.78
EIRP(Watts)	0.1556	0.1528	0.1507	0.1574	0.1549	0.1549	0.1552	0.1503	0.1507

LTE Band 2 (GT - LC = -0.18 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	18650 (Low)	18900 (Mid)	19150 (High)	18675 (Low)	18900 (Mid)	19125 (High)	18650 (Low)	18900 (Mid)	19100 (High)
	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
Conducted Power (dBm)	21.59	21.59	22.02	21.77	21.73	21.67	22.16	22.20	22.06
Conducted Power (Watts)	0.1442	0.1442	0.1592	0.1503	0.1489	0.1469	0.1644	0.1660	0.1607
EIRP(dBm)	21.41	21.41	21.84	21.59	21.55	21.49	21.98	22.02	21.88
EIRP(Watts)	0.1384	0.1384	0.1528	0.1442	0.1429	0.1409	0.1578	0.1592	0.1542



LTE Band 2 (GT - LC = -0.18 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
	Conducted Power (dBm)	21.00	20.94	20.89	21.08	20.99	20.95	20.97	20.92
Conducted Power (Watts)	0.1259	0.1242	0.1227	0.1282	0.1256	0.1245	0.1250	0.1236	0.1227
EIRP(dBm)	20.82	20.76	20.71	20.90	20.81	20.77	20.79	20.74	20.71
EIRP(Watts)	0.1208	0.1191	0.1178	0.1230	0.1205	0.1194	0.1199	0.1186	0.1178

LTE Band 2 (GT - LC = -0.18 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
	Conducted Power (dBm)	20.50	20.52	20.92	20.71	20.63	20.57	21.04	21.06
Conducted Power (Watts)	0.1122	0.1127	0.1236	0.1178	0.1156	0.1140	0.1271	0.1276	0.1274
EIRP(dBm)	20.32	20.34	20.74	20.53	20.45	20.39	20.86	20.88	20.87
EIRP(Watts)	0.1076	0.1081	0.1186	0.1130	0.1109	0.1094	0.1219	0.1225	0.1222



LTE Band 4 (GT - LC = 0.50 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)	22.83	22.88	22.80	22.83	22.85	22.82	22.78	22.79	22.72
Conducted Power (Watts)	0.1919	0.1941	0.1905	0.1919	0.1928	0.1914	0.1897	0.1901	0.1871
EIRP(dBm)	23.33	23.38	23.30	23.33	23.35	23.32	23.28	23.29	23.22
EIRP(Watts)	0.2153	0.2178	0.2138	0.2153	0.2163	0.2148	0.2128	0.2133	0.2099

LTE Band 4 (GT - LC = 0.50 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)	22.71	22.78	22.66	22.82	22.86	22.83	22.90	22.93	22.84
Conducted Power (Watts)	0.1866	0.1897	0.1845	0.1914	0.1932	0.1919	0.1950	0.1963	0.1923
EIRP(dBm)	23.21	23.28	23.16	23.32	23.36	23.33	23.40	23.43	23.34
EIRP(Watts)	0.2094	0.2128	0.2070	0.2148	0.2168	0.2153	0.2188	0.2203	0.2158



LTE Band 4 (GT - LC = 0.50 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)	22.20	22.19	22.06	22.15	22.17	22.11	22.08	22.05	22.00
Conducted Power (Watts)	0.1660	0.1656	0.1607	0.1641	0.1648	0.1626	0.1614	0.1603	0.1585
EIRP(dBm)	22.70	22.69	22.56	22.65	22.67	22.61	22.58	22.55	22.50
EIRP(Watts)	0.1862	0.1858	0.1803	0.1841	0.1849	0.1824	0.1811	0.1799	0.1778

LTE Band 4 (GT - LC = 0.50 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)	22.05	22.04	21.92	22.09	22.18	22.09	22.16	22.22	22.14
Conducted Power (Watts)	0.1603	0.1600	0.1556	0.1618	0.1652	0.1618	0.1644	0.1667	0.1637
EIRP(dBm)	22.55	22.54	22.42	22.59	22.68	22.59	22.66	22.72	22.64
EIRP(Watts)	0.1799	0.1795	0.1746	0.1816	0.1854	0.1816	0.1845	0.1871	0.1837



LTE Band 4 (GT - LC = 0.50 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957 (Low)	20175 (Mid)	20393 (High)	19965 (Low)	20175 (Mid)	20385 (High)	19975 (Low)	20175 (Mid)	20375 (High)
	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	20.98	20.93	20.86	20.92	20.88	20.93	20.94	20.97	20.90
Conducted Power (Watts)	0.1253	0.1239	0.1219	0.1236	0.1225	0.1239	0.1242	0.1250	0.1230
EIRP(dBm)	21.48	21.43	21.36	21.42	21.38	21.43	21.44	21.47	21.40
EIRP(Watts)	0.1406	0.1390	0.1368	0.1387	0.1374	0.1390	0.1393	0.1403	0.1380

LTE Band 4 (GT - LC = 0.50 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20000 (Low)	20175 (Mid)	20350 (High)	20025 (Low)	20175 (Mid)	20325 (High)	20050 (Low)	20175 (Mid)	20300 (High)
	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	20.92	20.96	20.87	21.07	21.00	20.97	21.06	21.10	21.10
Conducted Power (Watts)	0.1236	0.1247	0.1222	0.1279	0.1259	0.1250	0.1276	0.1288	0.1288
EIRP(dBm)	21.42	21.46	21.37	21.57	21.50	21.47	21.56	21.60	21.60
EIRP(Watts)	0.1387	0.1400	0.1371	0.1435	0.1413	0.1403	0.1432	0.1445	0.1445



LTE Band 5 (GT - LC = -2.70 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(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)	22.64	22.66	22.61	22.71	22.73	22.64	22.65	22.74	22.66
Conducted Power (Watts)	0.1837	0.1845	0.1824	0.1866	0.1875	0.1837	0.1841	0.1879	0.1845
ERP(dBm)	17.79	17.81	17.76	17.86	17.88	17.79	17.80	17.89	17.81
ERP(Watts)	0.0601	0.0604	0.0597	0.0611	0.0614	0.0601	0.0603	0.0615	0.0604

LTE Band 5 (GT - LC = -2.70 dB) QPSK			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	22.69	22.76	22.62
Conducted Power (Watts)	0.1858	0.1888	0.1828
ERP(dBm)	17.84	17.91	17.77
ERP(Watts)	0.0608	0.0618	0.0598



LTE Band 5 (GT - LC = -2.70 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(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)	21.86	21.91	21.89	21.95	21.96	21.87	21.92	21.98	21.88
Conducted Power (Watts)	0.1535	0.1552	0.1545	0.1567	0.1570	0.1538	0.1556	0.1578	0.1542
ERP(dBm)	17.01	17.06	17.04	17.10	17.11	17.02	17.07	17.13	17.03
ERP(Watts)	0.0502	0.0508	0.0506	0.0513	0.0514	0.0504	0.0509	0.0516	0.0505

LTE Band 5 (GT - LC = -2.70 dB) 16QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	21.94	21.92	21.98
Conducted Power (Watts)	0.1563	0.1556	0.1578
ERP(dBm)	17.09	17.07	17.13
ERP(Watts)	0.0512	0.0509	0.0516



LTE Band 5 (GT - LC = -2.70 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(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)	20.77	20.81	20.77	20.86	20.86	20.79	20.82	20.87	20.83
Conducted Power (Watts)	0.1194	0.1205	0.1194	0.1219	0.1219	0.1199	0.1208	0.1222	0.1211
ERP(dBm)	15.92	15.96	15.92	16.01	16.01	15.94	15.97	16.02	15.98
ERP(Watts)	0.0391	0.0394	0.0391	0.0399	0.0399	0.0393	0.0395	0.0400	0.0396

LTE Band 5 (GT - LC = -2.70 dB) 64QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	20.80	20.84	20.81
Conducted Power (Watts)	0.1202	0.1213	0.1205
ERP(dBm)	15.95	15.99	15.96
ERP(Watts)	0.0394	0.0397	0.0394



## Top Antenna:

LTE Band 7 (GT - LC = -0.23 dB) QPSK			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Frequency (MHz)	22.19	22.37	22.29
Conducted Power (dBm)	0.1656	0.1726	0.1694
EIRP(dBm)	21.96	22.14	22.06
EIRP(Watts)	0.1570	0.1637	0.1607

LTE Band 7 (GT - LC = -0.23 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Frequency (MHz)	22.04	22.27	22.24	22.25	22.35	22.36	22.36	22.37	22.31
Conducted Power (dBm)	0.1600	0.1687	0.1675	0.1679	0.1718	0.1722	0.1722	0.1726	0.1702
EIRP(dBm)	21.81	22.04	22.01	22.02	22.12	22.13	22.13	22.14	22.08
EIRP(Watts)	0.1517	0.1600	0.1589	0.1592	0.1629	0.1633	0.1633	0.1637	0.1614



LTE Band 7 (GT - LC = -0.23 dB) 16QAM			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Frequency (MHz)	21.50	21.61	21.58
Conducted Power (dBm)	0.1413	0.1449	0.1439
EIRP(dBm)	21.27	21.38	21.35
EIRP(Watts)	0.1340	0.1374	0.1365

LTE Band 7 (GT - LC = -0.23 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Frequency (MHz)	21.34	21.57	21.55	21.58	21.51	21.69	21.57	21.43	21.69
Conducted Power (dBm)	0.1361	0.1435	0.1429	0.1439	0.1416	0.1476	0.1435	0.1390	0.1476
EIRP(dBm)	21.11	21.34	21.32	21.35	21.28	21.46	21.34	21.20	21.46
EIRP(Watts)	0.1291	0.1361	0.1355	0.1365	0.1343	0.1400	0.1361	0.1318	0.1400



LTE Band 7 (GT - LC = -0.23 dB) 64QAM			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Conducted Power (dBm)	20.40	20.49	20.51
Conducted Power (Watts)	0.1096	0.1119	0.1125
EIRP(dBm)	20.17	20.26	20.28
EIRP(Watts)	0.1040	0.1062	0.1067

LTE Band 7 (GT - LC = -0.23 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Conducted Power (dBm)	20.26	20.40	20.45	20.48	20.46	20.60	20.46	20.34	20.60
Conducted Power (Watts)	0.1062	0.1096	0.1109	0.1117	0.1112	0.1148	0.1112	0.1081	0.1148
EIRP(dBm)	20.03	20.17	20.22	20.25	20.23	20.37	20.23	20.11	20.37
EIRP(Watts)	0.1007	0.1040	0.1052	0.1059	0.1054	0.1089	0.1054	0.1026	0.1089



## Bottom Antenna:

LTE Band 7 (GT - LC = -0.60 dB) QPSK			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Frequency (MHz)	22.87	23.12	23.09
Conducted Power (dBm)	0.1936	0.2051	0.2037
EIRP(dBm)	22.27	22.52	22.49
EIRP(Watts)	0.1687	0.1786	0.1774

LTE Band 7 (GT - LC = -0.60 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Frequency (MHz)	22.95	23.09	23.02	23.10	23.21	23.13	23.21	23.25	23.15
Conducted Power (dBm)	0.1972	0.2037	0.2004	0.2042	0.2094	0.2056	0.2094	0.2113	0.2065
EIRP(dBm)	22.35	22.49	22.42	22.50	22.61	22.53	22.61	22.65	22.55
EIRP(Watts)	0.1718	0.1774	0.1746	0.1778	0.1824	0.1791	0.1824	0.1841	0.1799



LTE Band 7 (GT - LC = -0.60 dB) 16QAM			
Bandwidth	5M		
Channel	20775 (Low)	21100 (Mid)	21425 (High)
	2502.5	2535	2567.5
Conducted Power (dBm)	22.30	22.38	22.38
Conducted Power (Watts)	0.1698	0.1730	0.1730
EIRP(dBm)	21.70	21.78	21.78
EIRP(Watts)	0.1479	0.1507	0.1507

LTE Band 7 (GT - LC = -0.60 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Conducted Power (dBm)	22.18	22.37	22.28	22.43	22.50	22.42	22.50	22.45	22.43
Conducted Power (Watts)	0.1652	0.1726	0.1690	0.1750	0.1778	0.1746	0.1778	0.1758	0.1750
EIRP(dBm)	21.58	21.77	21.68	21.83	21.90	21.82	21.90	21.85	21.83
EIRP(Watts)	0.1439	0.1503	0.1472	0.1524	0.1549	0.1521	0.1549	0.1531	0.1524



LTE Band 7 (GT - LC = -0.60 dB) 64QAM				
Bandwidth	5M			
Channel	20775 (Low)	21100 (Mid)	21425 (High)	
	2502.5	2535	2567.5	
Frequency (MHz)				
Conducted Power (dBm)	21.19	21.24	21.23	
Conducted Power (Watts)	0.1315	0.1330	0.1327	
EIRP(dBm)	20.59	20.64	20.63	
EIRP(Watts)	0.1146	0.1159	0.1156	

LTE Band 7 (GT - LC = -0.60 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800 (Low)	21100 (Mid)	21400 (High)	20825 (Low)	21100 (Mid)	21375 (High)	20850 (Low)	21100 (Mid)	21350 (High)
	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
Frequency (MHz)	21.10	21.28	21.19	21.31	21.41	21.34	21.41	21.39	21.31
Conducted Power (dBm)	21.10	21.28	21.19	21.31	21.41	21.34	21.41	21.39	21.31
Conducted Power (Watts)	0.1288	0.1343	0.1315	0.1352	0.1384	0.1361	0.1384	0.1377	0.1352
EIRP(dBm)	20.50	20.68	20.59	20.71	20.81	20.74	20.81	20.79	20.71
EIRP(Watts)	0.1122	0.1169	0.1146	0.1178	0.1205	0.1186	0.1205	0.1199	0.1178



LTE Band 38 (GT - LC = 0.30 dB) QPSK			
Bandwidth	5M		
Channel	37775 (Low)	38000 (Mid)	38225 (High)
	2572.5	2595	2617.5
Conducted Power (dBm)	23.35	23.31	23.15
Conducted Power (Watts)	0.2163	0.2143	0.2065
EIRP(dBm)	23.65	23.61	23.45
EIRP(Watts)	0.2317	0.2296	0.2213

LTE Band 38 (GT - LC = 0.30 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	37800 (Low)	38000 (Mid)	38200 (High)	37825 (Low)	38000 (Mid)	38175 (High)	37850 (Low)	38000 (Mid)	38150 (Mid)
	2575	2595	2615	2577.5	2595	2612.5	2580	2595	2610
Conducted Power (dBm)	23.26	23.23	23.14	23.49	23.40	23.30	23.36	23.51	23.28
Conducted Power (Watts)	0.2118	0.2104	0.2061	0.2234	0.2188	0.2138	0.2168	0.2244	0.2128
EIRP(dBm)	23.56	23.53	23.44	23.79	23.70	23.60	23.66	23.81	23.58
EIRP(Watts)	0.2270	0.2254	0.2208	0.2393	0.2344	0.2291	0.2323	0.2404	0.2280



LTE Band 38 (GT - LC = 0.30 dB) 16QAM				
Bandwidth	5M			
Channel	37775 (Low)	38000 (Mid)	38225 (High)	
	2572.5	2595	2617.5	
Frequency (MHz)				
Conducted Power (dBm)	22.43	22.41	22.30	
Conducted Power (Watts)	0.1750	0.1742	0.1698	
EIRP(dBm)	22.73	22.71	22.60	
EIRP(Watts)	0.1875	0.1866	0.1820	

LTE Band 38 (GT - LC = 0.30 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	37800 (Low)	38000 (Mid)	38200 (High)	37825 (Low)	38000 (Mid)	38175 (High)	37850 (Low)	38000 (Mid)	38150 (Mid)
	2575	2595	2615	2577.5	2595	2612.5	2580	2595	2610
Frequency (MHz)	22.33	22.27	22.22	22.54	22.48	22.37	22.55	22.38	22.34
Conducted Power (dBm)	0.1710	0.1687	0.1667	0.1795	0.1770	0.1726	0.1799	0.1730	0.1714
Conducted Power (Watts)	0.1832	0.1807	0.1786	0.1923	0.1897	0.1849	0.1928	0.1854	0.1837
EIRP(dBm)	22.63	22.57	22.52	22.84	22.78	22.67	22.85	22.68	22.64
EIRP(Watts)	0.1832	0.1807	0.1786	0.1923	0.1897	0.1849	0.1928	0.1854	0.1837



LTE Band 38 (GT - LC = 0.30 dB) 64QAM					
Bandwidth	5M				
Channel	37775 (Low)		38000 (Mid)		38225 (High)
	2572.5		2595		2617.5
Frequency (MHz)					
Conducted Power (dBm)	21.21		21.12		21.03
Conducted Power (Watts)	0.1321		0.1294		0.1268
EIRP(dBm)	21.51		21.42		21.33
EIRP(Watts)	0.1416		0.1387		0.1358

LTE Band 38 (GT - LC = 0.30 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	37800 (Low)	38000 (Mid)	38200 (High)	37825 (Low)	38000 (Mid)	38175 (High)	37850 (Low)	38000 (Mid)	38150 (Mid)
	2575	2595	2615	2577.5	2595	2612.5	2580	2595	2610
Frequency (MHz)	21.05	21.01	20.97	21.28	21.19	21.13	21.32	21.16	21.10
Conducted Power (dBm)	21.05	21.01	20.97	21.28	21.19	21.13	21.32	21.16	21.10
Conducted Power (Watts)	0.1274	0.1262	0.1250	0.1343	0.1315	0.1297	0.1355	0.1306	0.1288
EIRP(dBm)	21.35	21.31	21.27	21.58	21.49	21.43	21.62	21.46	21.40
EIRP(Watts)	0.1365	0.1352	0.1340	0.1439	0.1409	0.1390	0.1452	0.1400	0.1380

**CA EIRP**

LTE Band 7 CA (GT - LC = -0.23 dB) QPSK									
Bandwidth	15M + 15M			10M + 20M			20M+10M		
Channel PCC	20825 (Low)	21025 (Mid)	21225 (High)	20805 (Low)	21006 (Mid)	21206 (High)	20850 (Low)	21051 (Mid)	21251 (High)
	20975 (Low)	21175 (Mid)	21375 (High)	20949 (Low)	21150 (Mid)	21350 (High)	20994 (Low)	21195 (Mid)	21395 (High)
Conducted Power (dBm)	23.90	23.88	23.97	23.82	23.79	23.98	23.93	23.84	23.94
Conducted Power (Watts)	0.2455	0.2443	0.2495	0.2410	0.2393	0.2500	0.2472	0.2421	0.2477
EIRP(dBm)	23.67	23.65	23.74	23.59	23.56	23.75	23.70	23.61	23.71
EIRP(Watts)	0.2328	0.2317	0.2366	0.2286	0.2270	0.2371	0.2344	0.2296	0.2350

LTE Band 7 CA (GT - LC = -0.23 dB) QPSK									
Bandwidth	15M+20M			20M+15M			20M + 20M		
Channel PCC	20828 (Low)	21003 (Mid)	21179 (High)	20850 (Low)	21026 (Mid)	21201 (High)	20850 (Low)	21001 (Mid)	21152 (High)
	20999 (Low)	21174 (Mid)	21350 (High)	21021 (Low)	21197 (Mid)	21372 (High)	21048 (Low)	21199 (Mid)	21350 (High)
Conducted Power (dBm)	23.80	23.78	23.74	23.59	23.61	23.63	23.49	23.95	23.49
Conducted Power (Watts)	0.2399	0.2388	0.2366	0.2286	0.2296	0.2307	0.2234	0.2483	0.2234
EIRP(dBm)	23.57	23.55	23.51	23.36	23.38	23.40	23.26	23.72	23.26
EIRP(Watts)	0.2275	0.2265	0.2244	0.2168	0.2178	0.2188	0.2118	0.2355	0.2118



LTE Band 7 CA (GT - LC = -0.23 dB) 16QAM									
Bandwidth	15M + 15M			10M + 20M			20M+10M		
Channel PCC	20825	21025	21225	20805	21006	21206	20850	21051	21251
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	20975	21175	21375	20949	21150	21350	20994	21195	21395
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	21.47	23.23	23.12	23.16	22.95	23.20	22.97	23.14	23.27
Conducted Power (Watts)	0.1403	0.2104	0.2051	0.2070	0.1972	0.2089	0.1982	0.2061	0.2123
EIRP(dBm)	21.24	23.00	22.89	22.93	22.72	22.97	22.74	22.91	23.04
EIRP(Watts)	0.1330	0.1995	0.1945	0.1963	0.1871	0.1982	0.1879	0.1954	0.2014

LTE Band 7 CA (GT - LC = -0.23 dB) 16QAM									
Bandwidth	15M+20M			20M+15M			20M + 20M		
Channel PCC	20828	21003	21179	20850	21026	21201	20850	21001	21152
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	20999	21174	21350	21021	21197	21372	21048	21199	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.92	22.85	22.5	22.86	22.86	22.93	23.57	23.46	23.58
Conducted Power (Watts)	0.1959	0.1928	0.1778	0.1932	0.1932	0.1963	0.2275	0.2218	0.2280
EIRP(dBm)	22.69	22.62	22.27	22.63	22.63	22.70	23.34	23.23	23.35
EIRP(Watts)	0.1858	0.1828	0.1687	0.1832	0.1832	0.1862	0.2158	0.2104	0.2163



LTE Band 7 CA (GT - LC = -0.23 dB) 64QAM									
Bandwidth	15M + 15M			10M + 20M			20M+10M		
Channel PCC	20825 (Low)	21025 (Mid)	21225 (High)	20805 (Low)	21006 (Mid)	21206 (High)	20850 (Low)	21051 (Mid)	21251 (High)
	20975 (Low)	21175 (Mid)	21375 (High)	20949 (Low)	21150 (Mid)	21350 (High)	20994 (Low)	21195 (Mid)	21395 (High)
Conducted Power (dBm)	21.02	21.07	21.06	21.01	20.99	21.09	20.96	20.99	21.13
Conducted Power (Watts)	0.1265	0.1279	0.1276	0.1262	0.1256	0.1285	0.1247	0.1256	0.1297
EIRP(dBm)	20.79	20.84	20.83	20.78	20.76	20.86	20.73	20.76	20.90
EIRP(Watts)	0.1199	0.1213	0.1211	0.1197	0.1191	0.1219	0.1183	0.1191	0.1230

LTE Band 7 CA (GT - LC = -0.23 dB) 64QAM									
Bandwidth	15M+20M			20M+15M			20M + 20M		
Channel PCC	20828 (Low)	21003 (Mid)	21179 (High)	20850 (Low)	21026 (Mid)	21201 (High)	20850 (Low)	21001 (Mid)	21152 (High)
	20999 (Low)	21174 (Mid)	21350 (High)	21021 (Low)	21197 (Mid)	21372 (High)	21048 (Low)	21199 (Mid)	21350 (High)
Conducted Power (dBm)	20.83	20.70	20.90	20.63	20.75	20.87	22.63	23.32	22.74
Conducted Power (Watts)	0.1211	0.1175	0.1230	0.1156	0.1189	0.1222	0.1832	0.2148	0.1879
EIRP(dBm)	20.60	20.47	20.67	20.40	20.52	20.64	22.40	23.09	22.51
EIRP(Watts)	0.1148	0.1114	0.1167	0.1096	0.1127	0.1159	0.1738	0.2037	0.1782



LTE Band 7 CA (GT - LC = -0.23 dB) QPSK			
Bandwidth	15M + 10M		
Channel PCC	20825	21025	21225
	(Low)	(Mid)	(High)
Channel SCC	20975	21175	21375
	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.63	23.64	23.61
Conducted Power (Watts)	0.2307	0.2312	0.2296
EIRP(dBm)	23.40	23.41	23.38
EIRP(Watts)	0.2188	0.2193	0.2178

LTE Band 7 CA (GT - LC = -0.23 dB) 16QAM			
Bandwidth	15M + 10M		
Channel PCC	20825	21025	21225
	(Low)	(Mid)	(High)
Channel SCC	20975	21175	21375
	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.51	22.85	22.88
Conducted Power (Watts)	0.1782	0.1928	0.1941
EIRP(dBm)	22.28	22.62	22.65
EIRP(Watts)	0.1690	0.1828	0.1841

LTE Band 7 CA (GT - LC = -0.23 dB) 64QAM			
Bandwidth	15M + 10M		
Channel PCC	20825	21025	21225
	(Low)	(Mid)	(High)
Channel SCC	20975	21175	21375
	(Low)	(Mid)	(High)
Conducted Power (dBm)	20.69	20.88	20.87
Conducted Power (Watts)	0.1172	0.1225	0.1222
EIRP(dBm)	20.46	20.65	20.64
EIRP(Watts)	0.1112	0.1161	0.1159



LTE Band 38 CA (GT - LC = 0.30 dB) QPSK						
Bandwidth	15M + 15M			20M+20M		
Channel PCC	37825	37925	38025	37850	37901	37952
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	37975	38075	38175	38048	38099	38150
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	23.50	23.27	23.19	23.69	23.46	23.45
Conducted Power (Watts)	0.2239	0.2123	0.2084	0.2339	0.2218	0.2213
EIRP(dBm)	23.80	23.57	23.49	23.99	23.76	23.75
EIRP(Watts)	0.2399	0.2275	0.2234	0.2506	0.2377	0.2371

LTE Band 38 CA (GT - LC = 0.30 dB) 16QAM						
Bandwidth	15M + 15M			20M+20M		
Channel PCC	37825	37925	38025	37850	37901	37952
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	37975	38075	38175	38048	38099	38150
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	22.38	22.34	22.29	23.23	23.18	23.16
Conducted Power (Watts)	0.1730	0.1714	0.1694	0.2104	0.2080	0.2070
EIRP(dBm)	22.68	22.64	22.59	23.53	23.48	23.46
EIRP(Watts)	0.1854	0.1837	0.1816	0.2254	0.2228	0.2218

LTE Band 38 CA (GT - LC = 0.30 dB) 64QAM						
Bandwidth	15M + 15M			20M+20M		
Channel PCC	37825	37925	38025	37850	37901	37952
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Channel SCC	37975	38075	38175	38048	38099	38150
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Conducted Power (dBm)	20.42	20.38	20.36	21.22	21.44	21.26
Conducted Power (Watts)	0.1102	0.1091	0.1086	0.1324	0.1393	0.1337
EIRP(dBm)	20.72	20.68	20.66	21.52	21.74	21.56
EIRP(Watts)	0.1180	0.1169	0.1164	0.1419	0.1493	0.1432

**Peak-to-Average Ratio**

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.36	4.43	3.86	5.57	PASS
Middle CH	3.45	4.41	4.14	5.36	
Highest CH	3.42	4.49	4.14	5.59	

Mode	LTE Band 2 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4	5.59			PASS
Middle CH	4.23	5.42			
Highest CH	4.32	5.62			

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.51	4.43	4.43	5.51	PASS
Middle CH	3.45	4.38	4.17	5.48	
Highest CH	3.59	4.38	4.2	5.39	

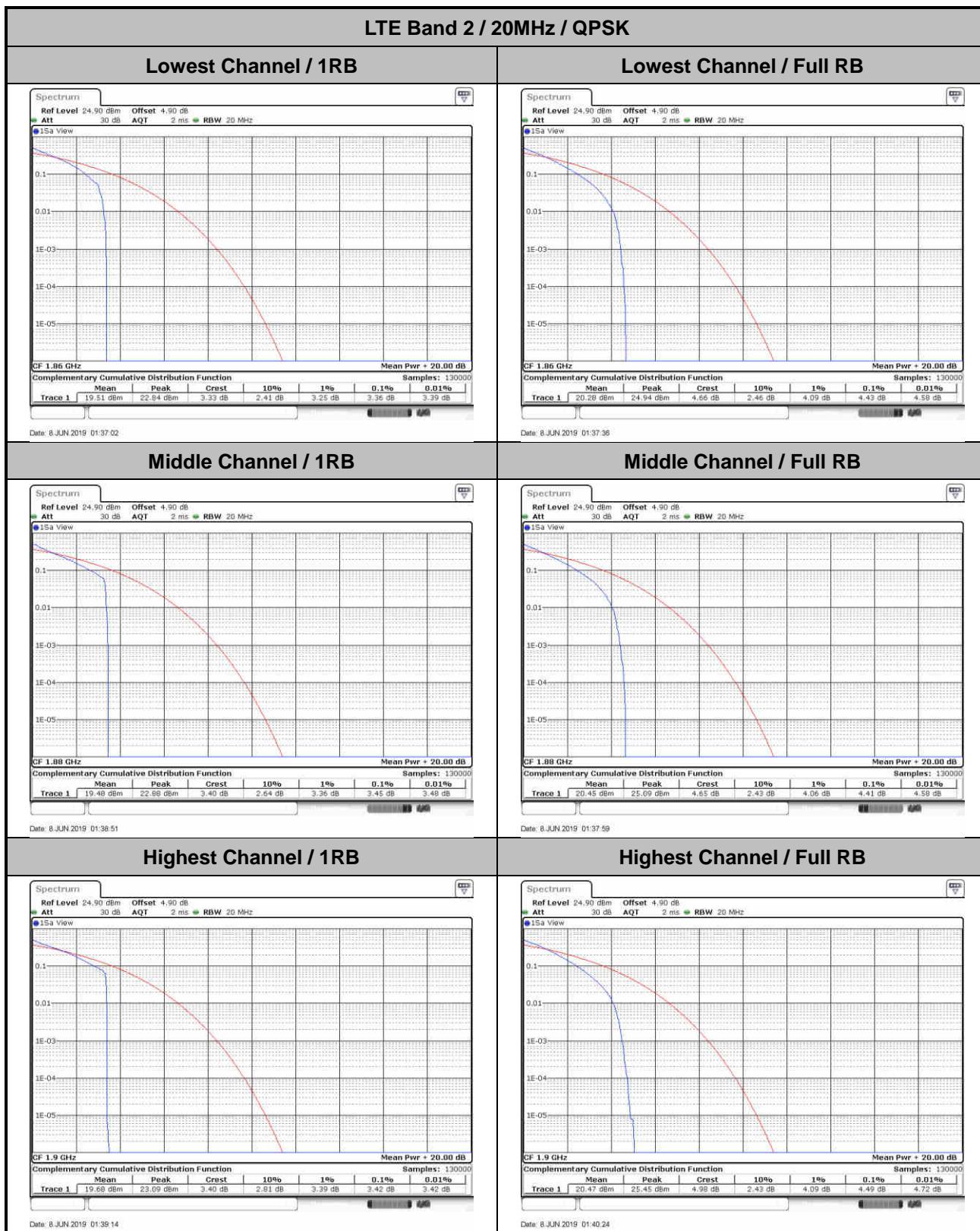
Mode	LTE Band 4 / 20MHz				
Mod.	64QAM		16QAM		Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4.32	5.48			PASS
Middle CH	4.29	5.45			
Highest CH	4.32	5.42			

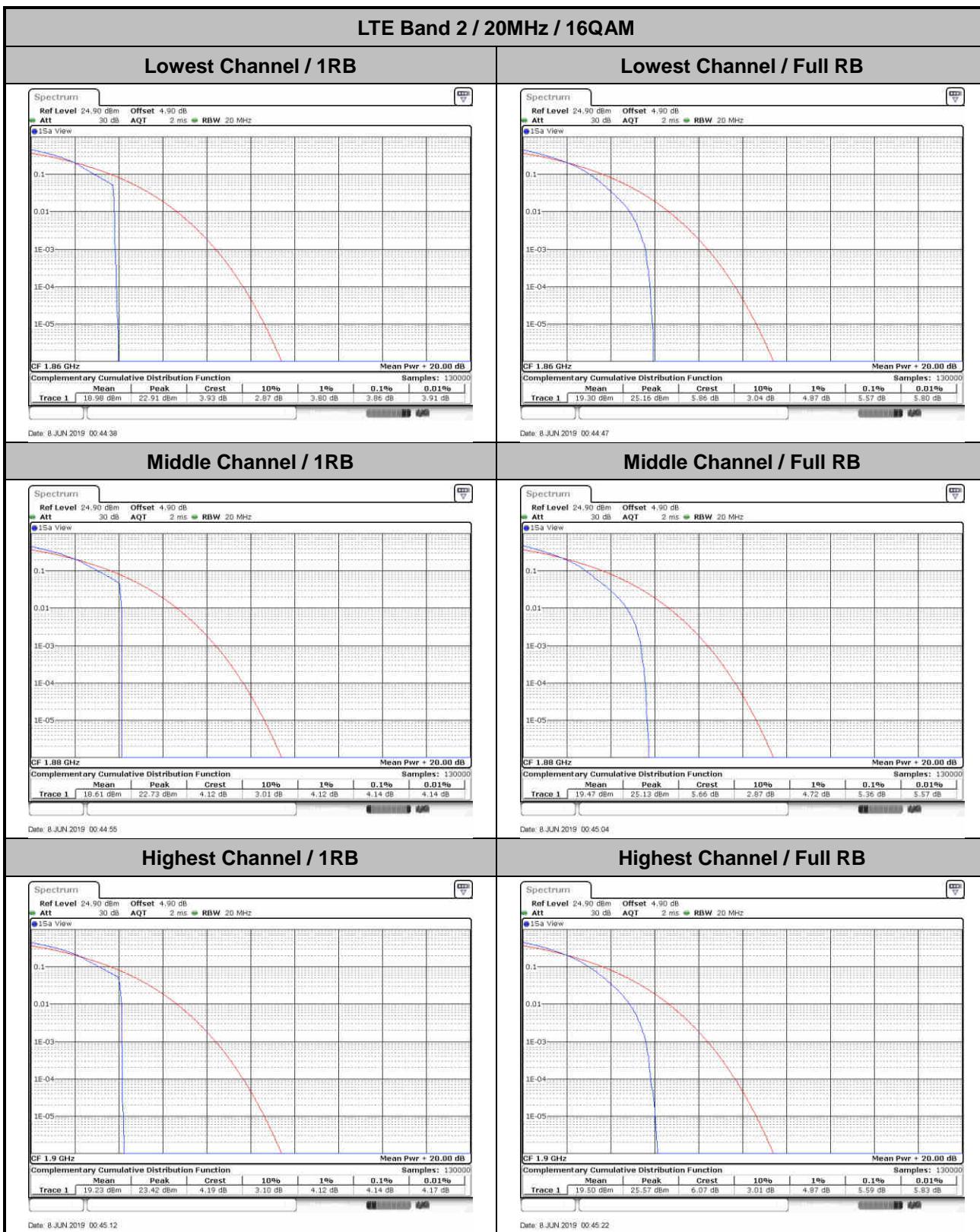


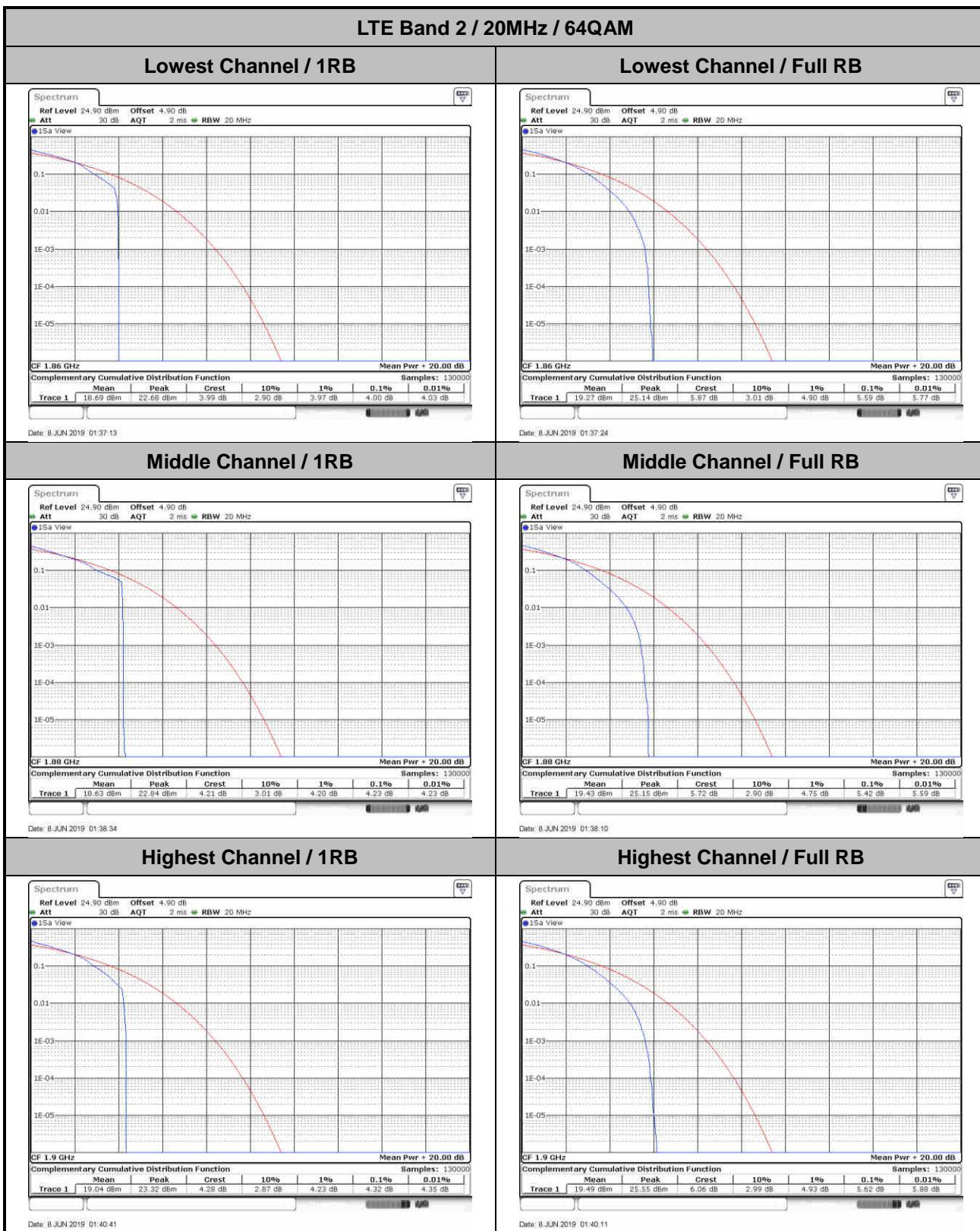
Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.39	4.38	3.97	5.42	PASS
Middle CH	3.36	4.35	3.8	5.39	
Highest CH	3.45	4.38	3.94	5.45	
Mode	LTE Band 5 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4.32	5.36			PASS
Middle CH	4.14	5.42			
Highest CH	4.26	5.45			

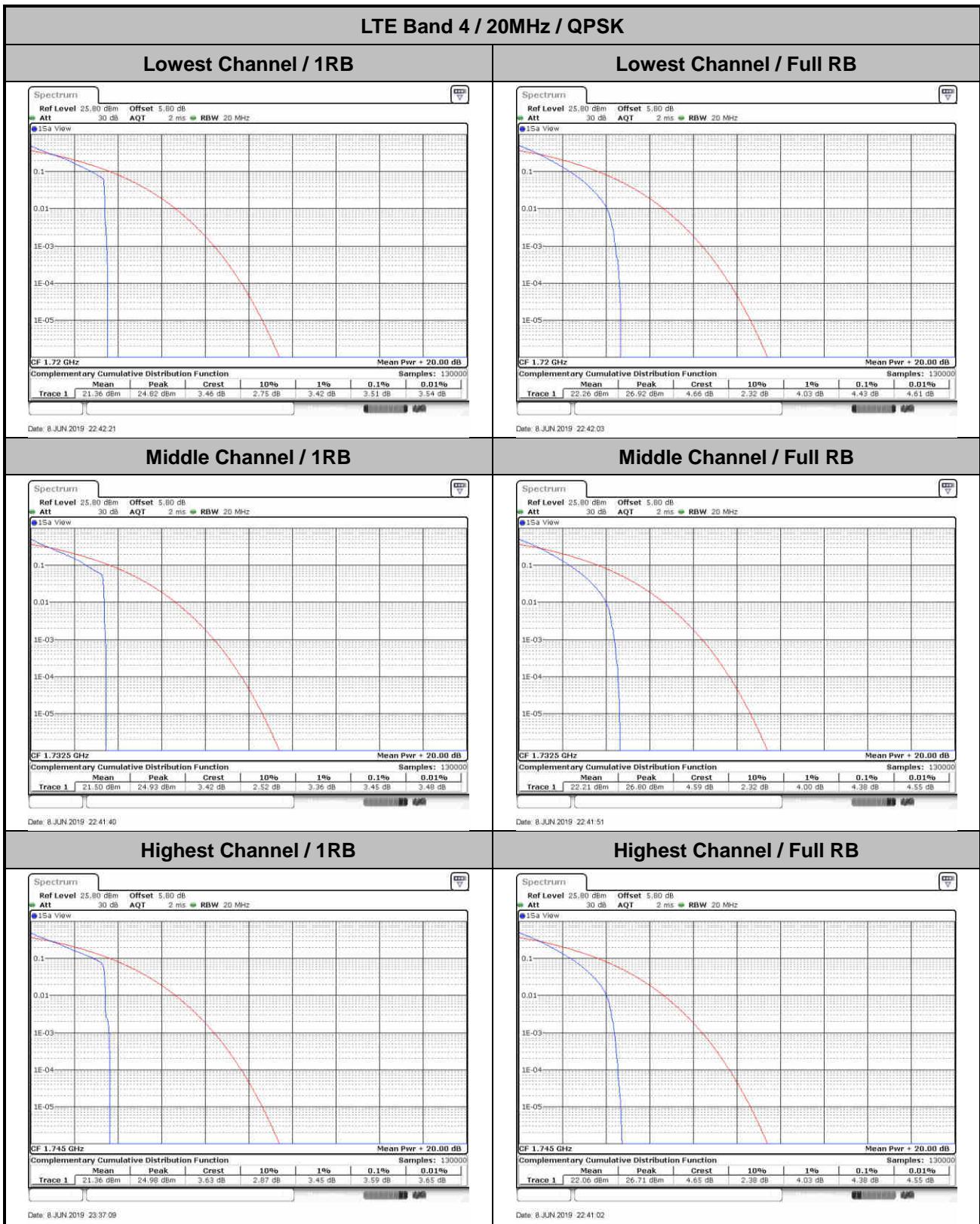
Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.36	4.49	4.17	5.57	PASS
Middle CH	3.54	4.38	4.43	5.42	
Highest CH	3.54	4.38	4.09	5.42	
Mode	LTE Band 7 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4.03	5.54			PASS
Middle CH	4.35	5.42			
Highest CH	4.46	5.45			

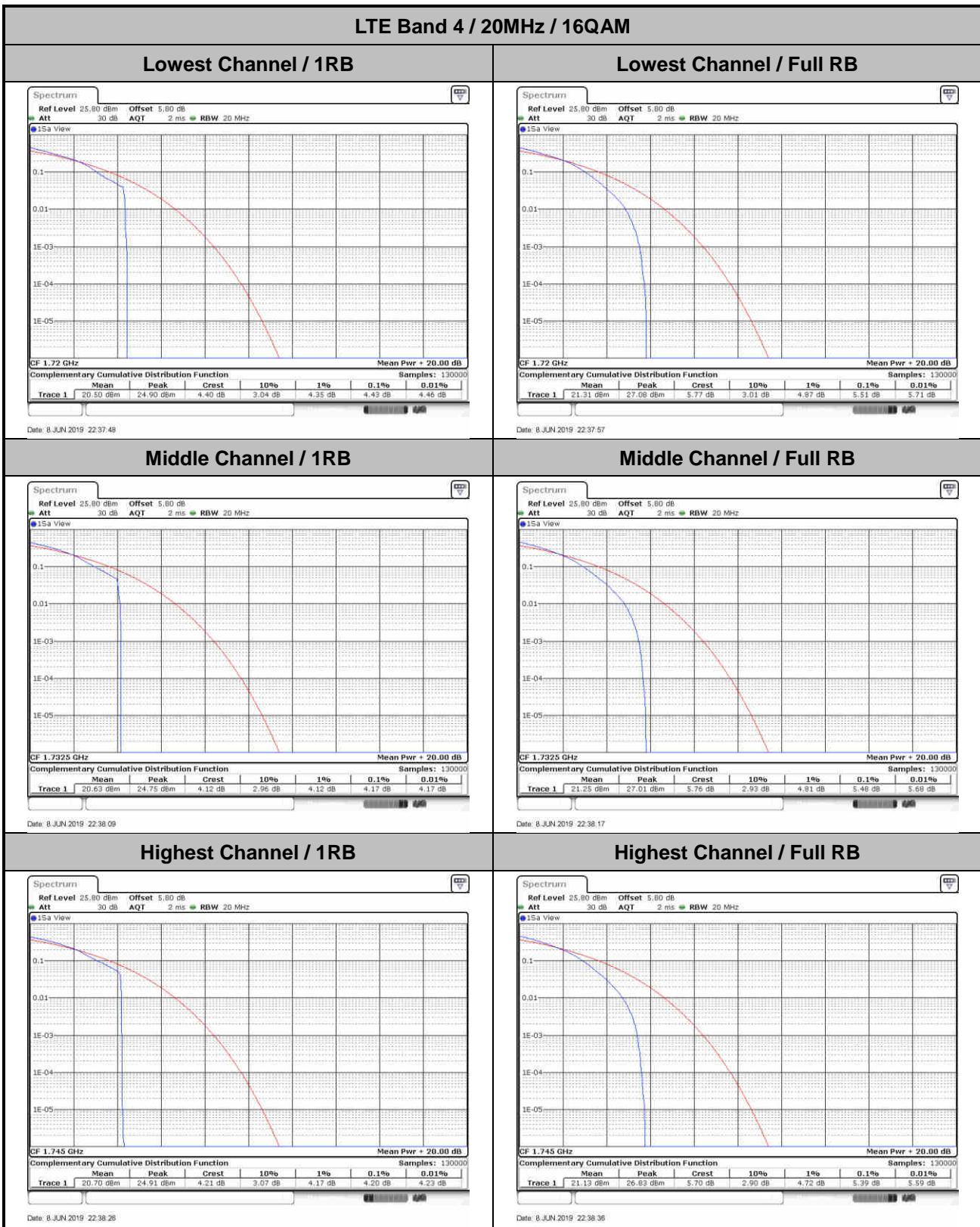
Mode	LTE Band 38 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.68	6.46	3.88	6.06	PASS
Middle CH	3.33	4.90	4.93	5.97	
Highest CH	4.64	5.54	5.25	5.62	
Mode	LTE Band 38 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.45	6.26			PASS
Middle CH	4.84	6.32			
Highest CH	5.33	5.68			

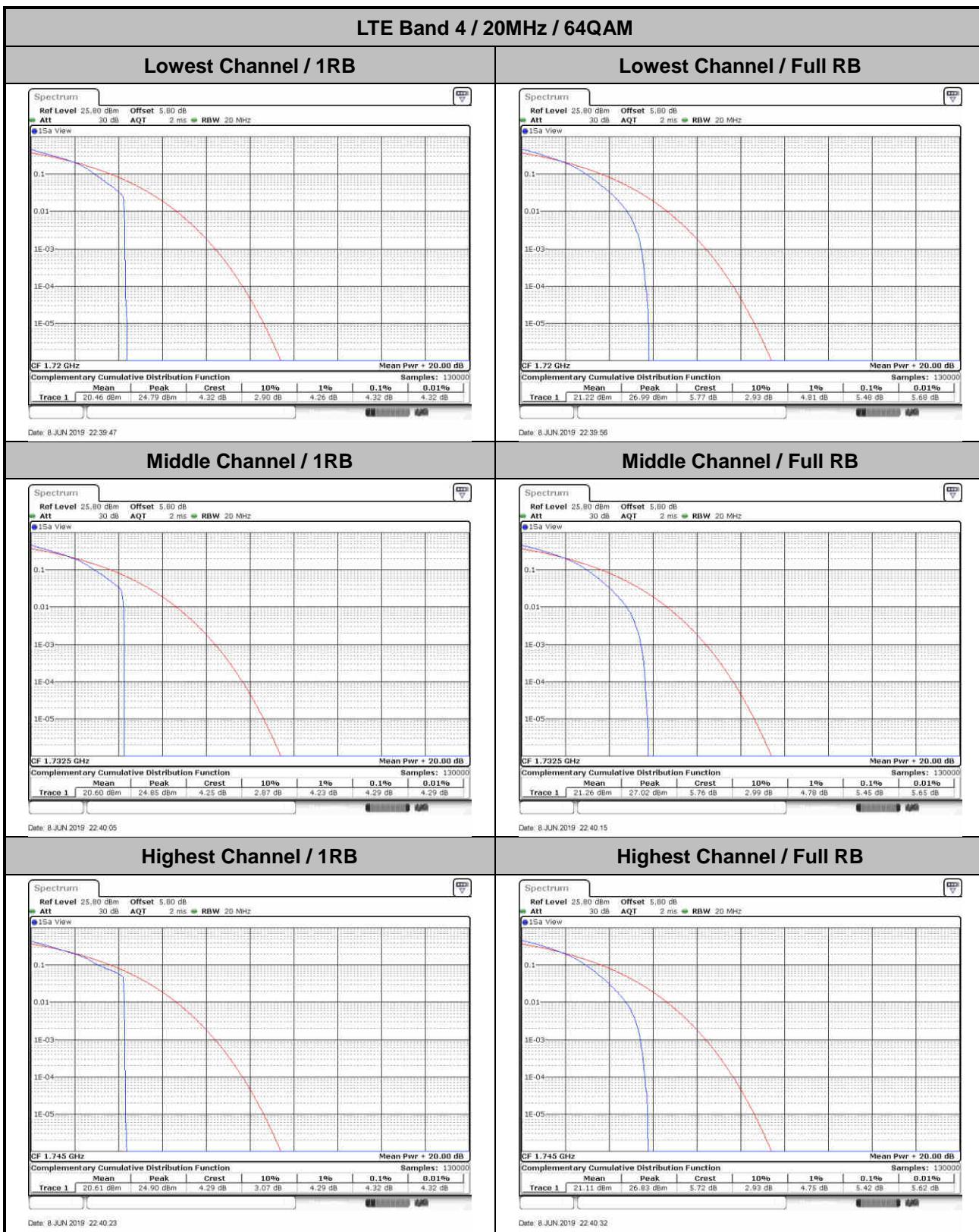


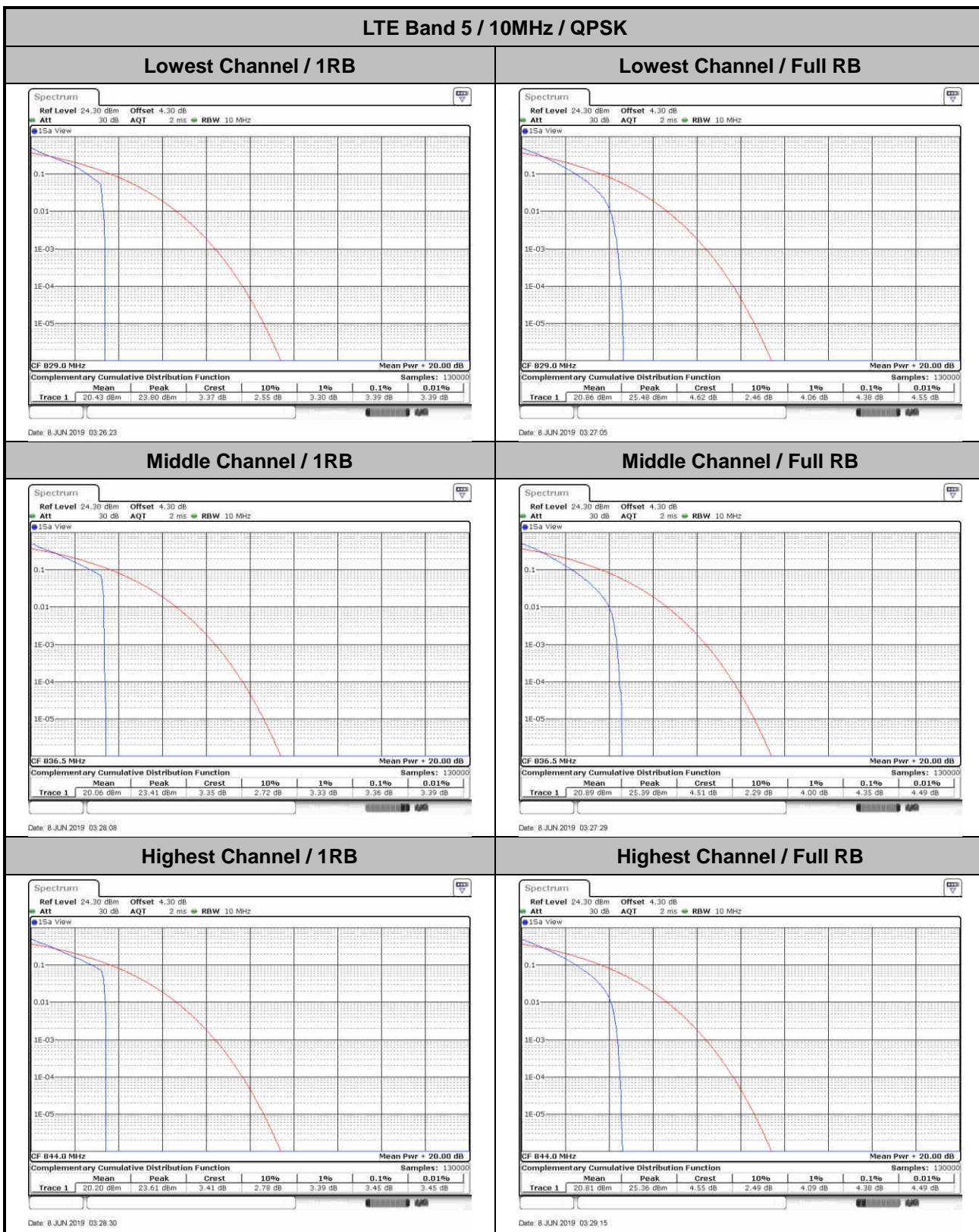


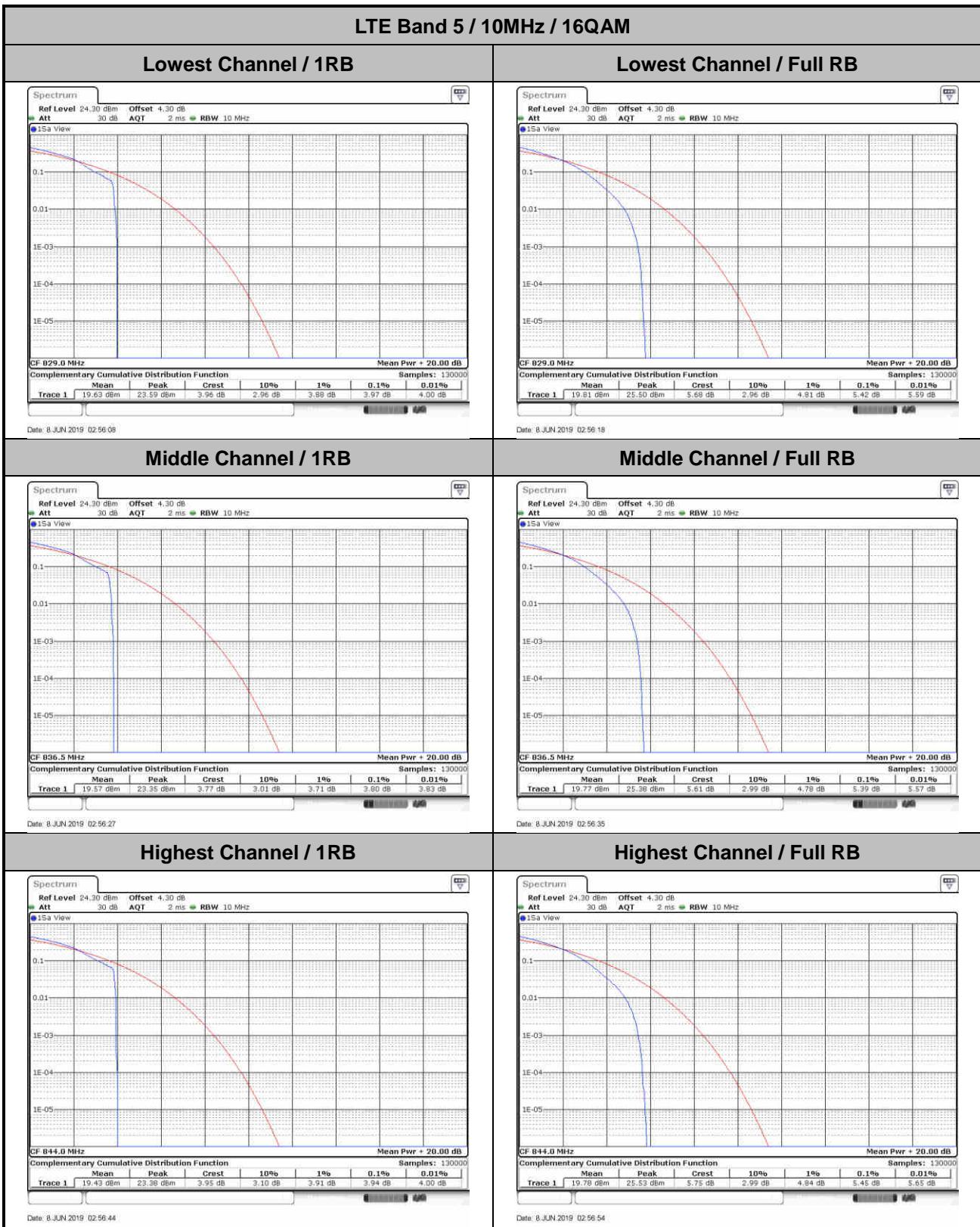


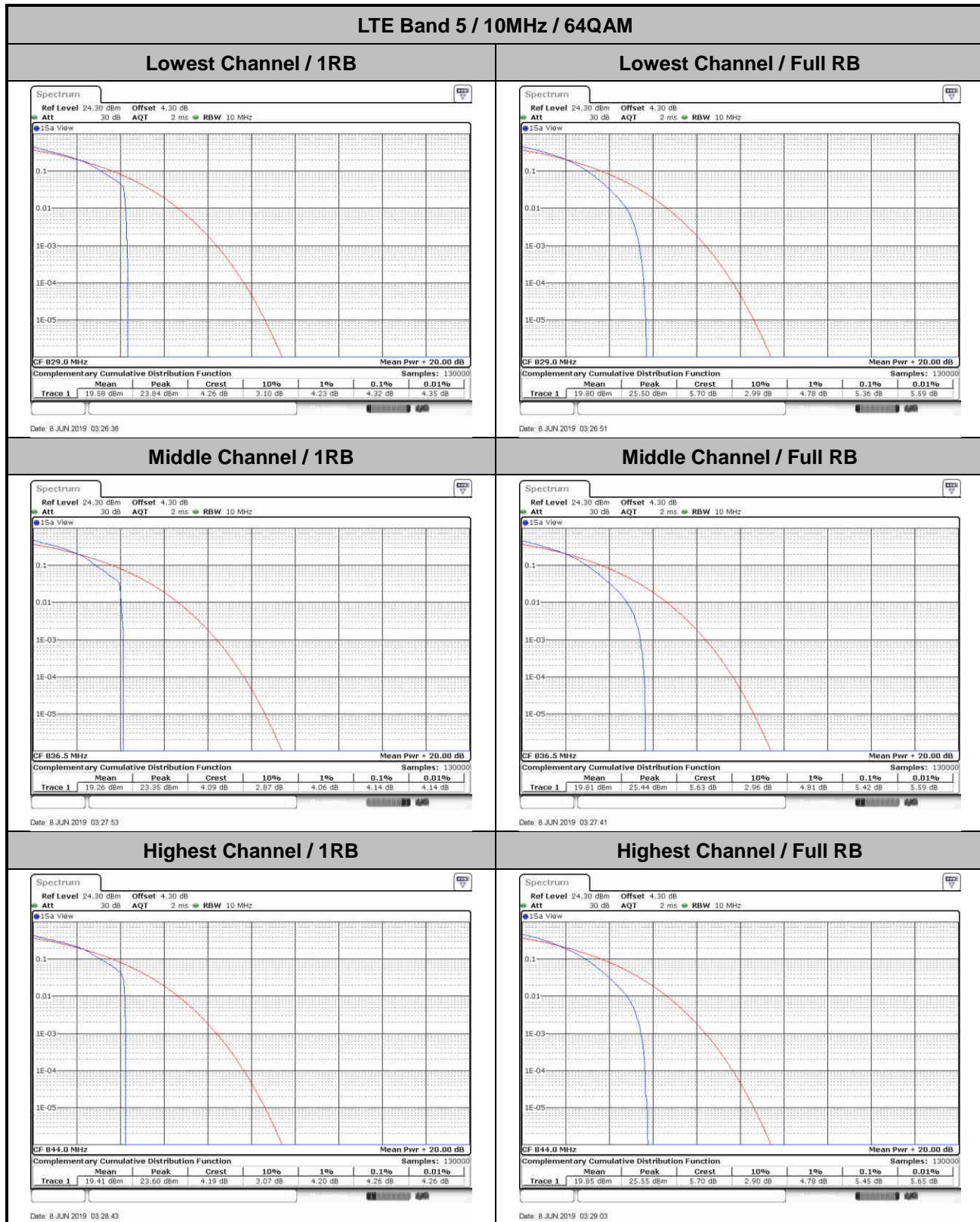


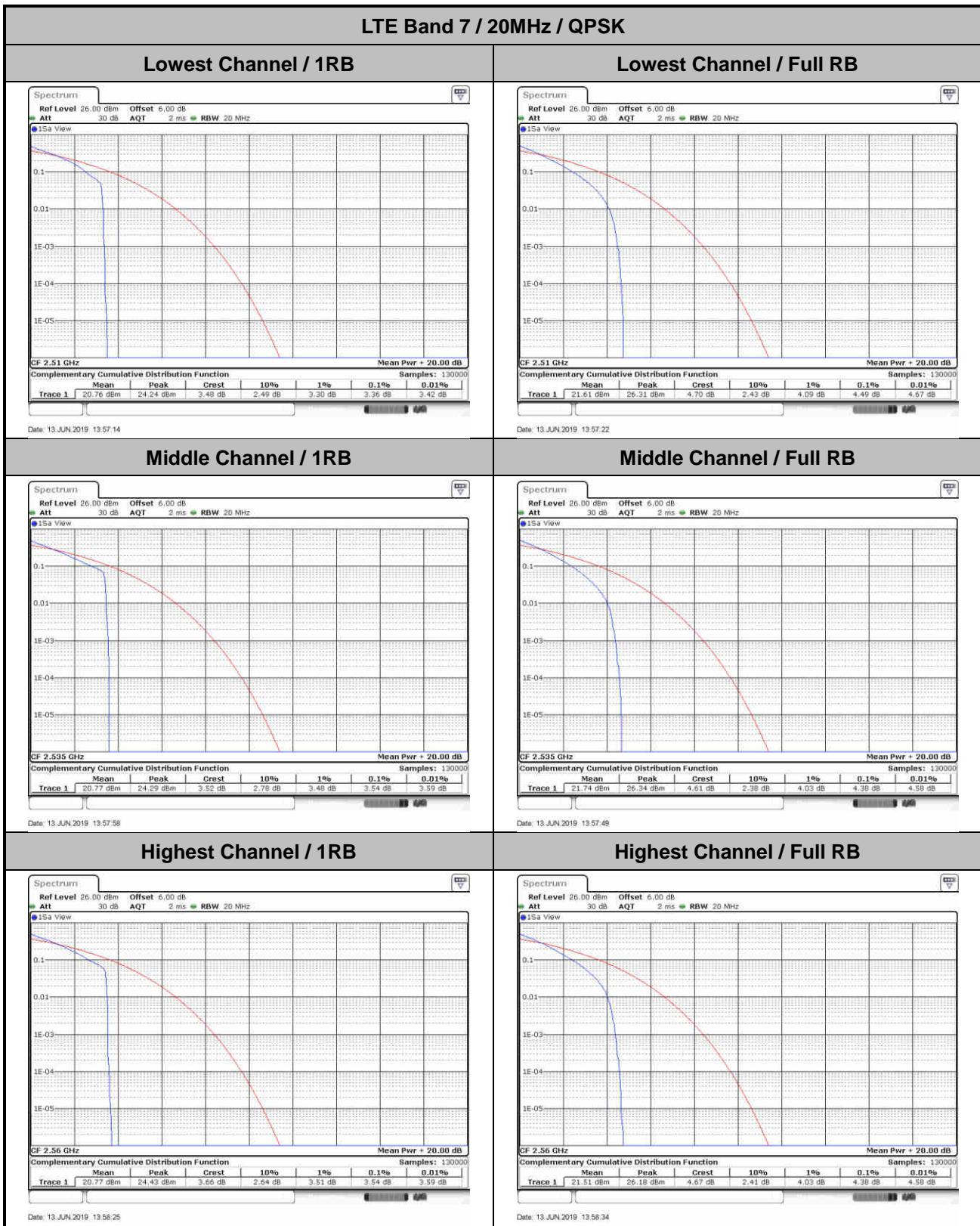


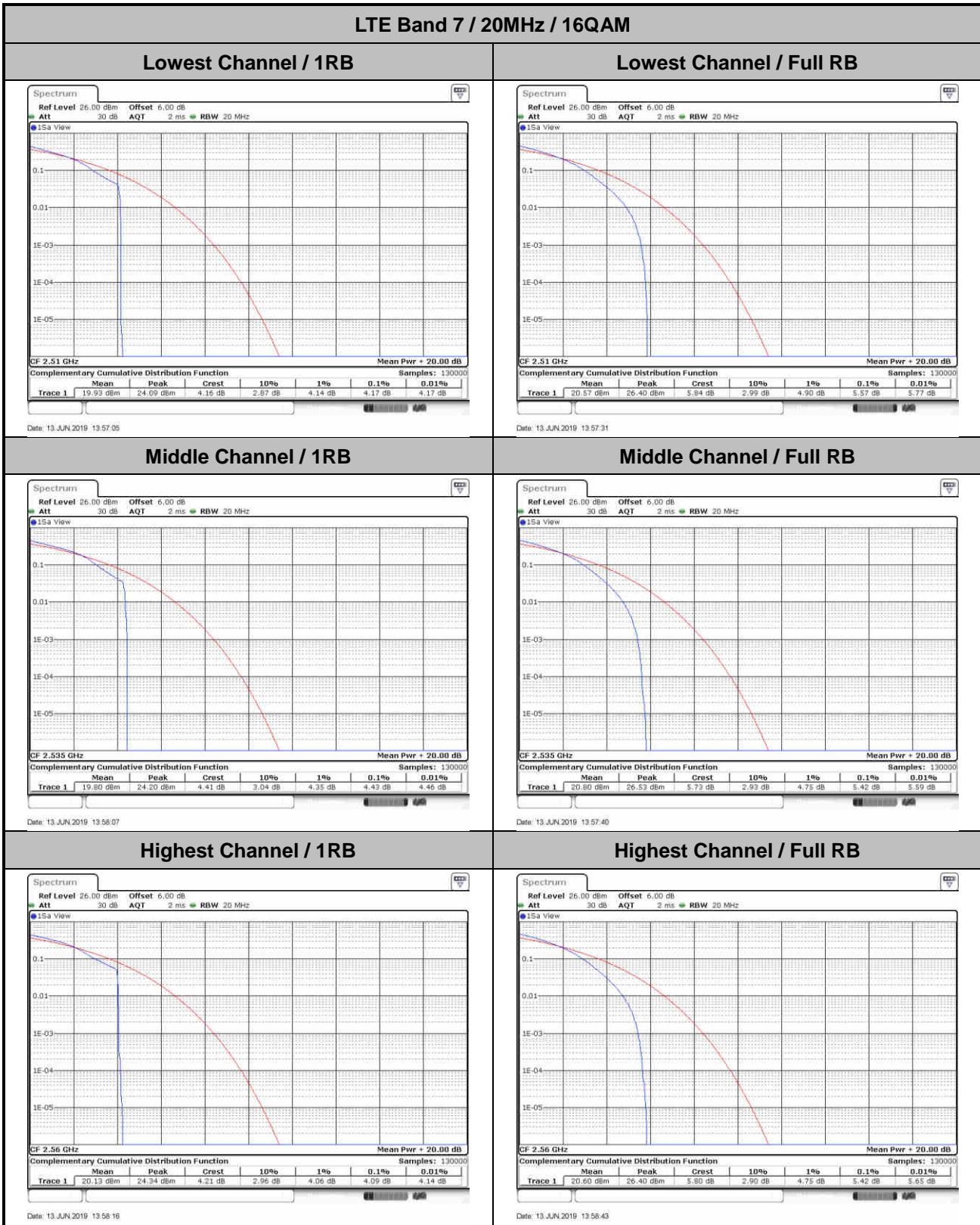


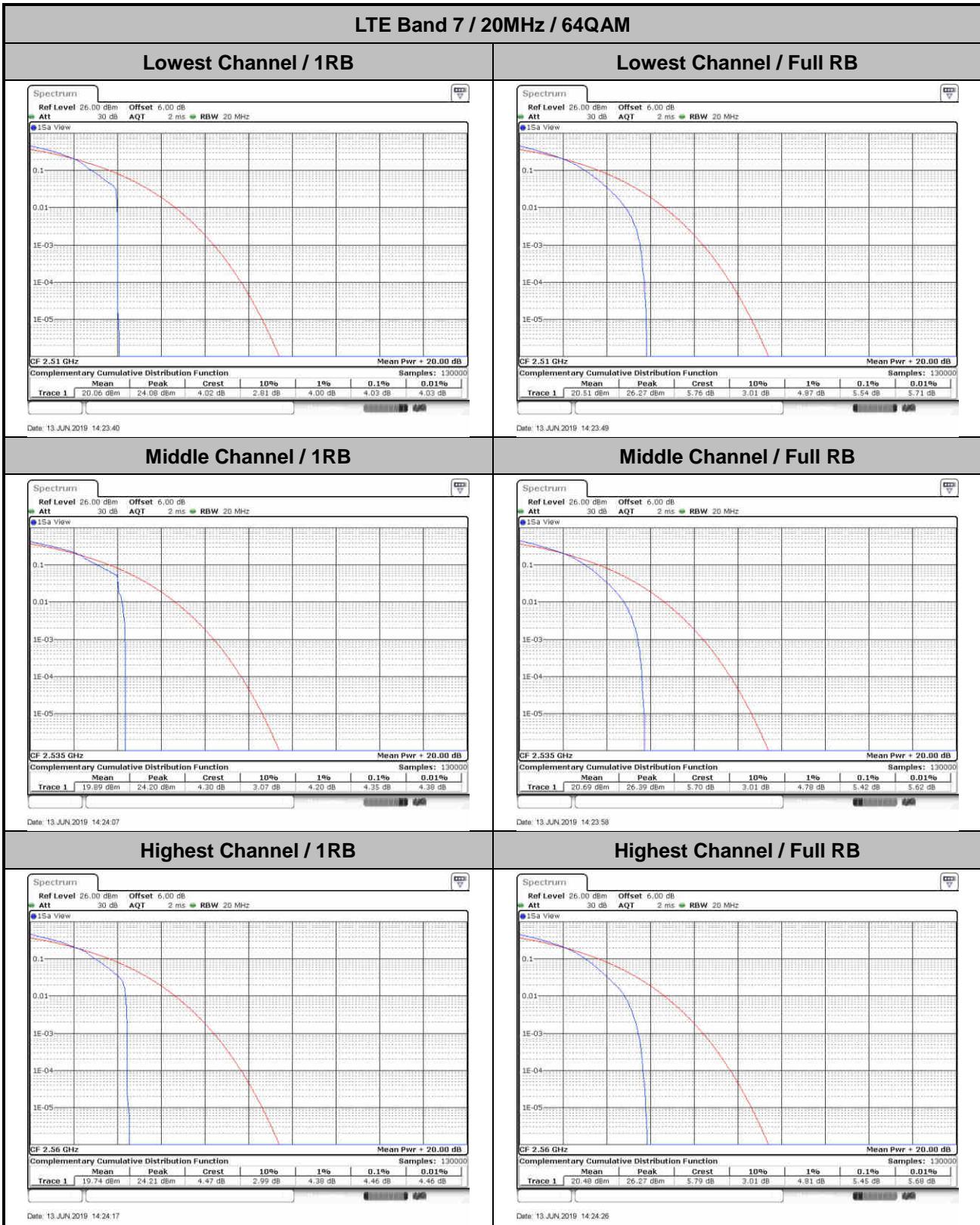


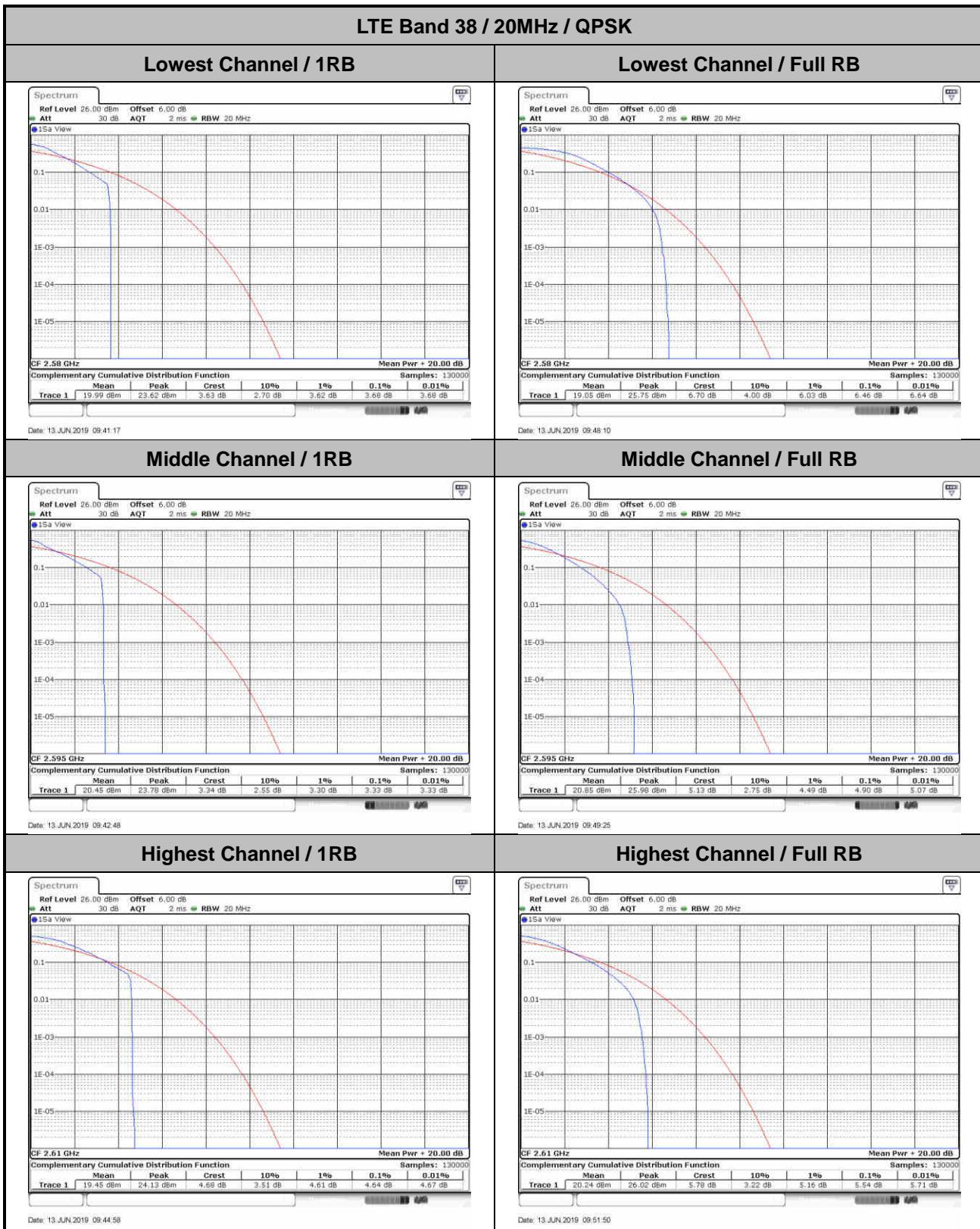


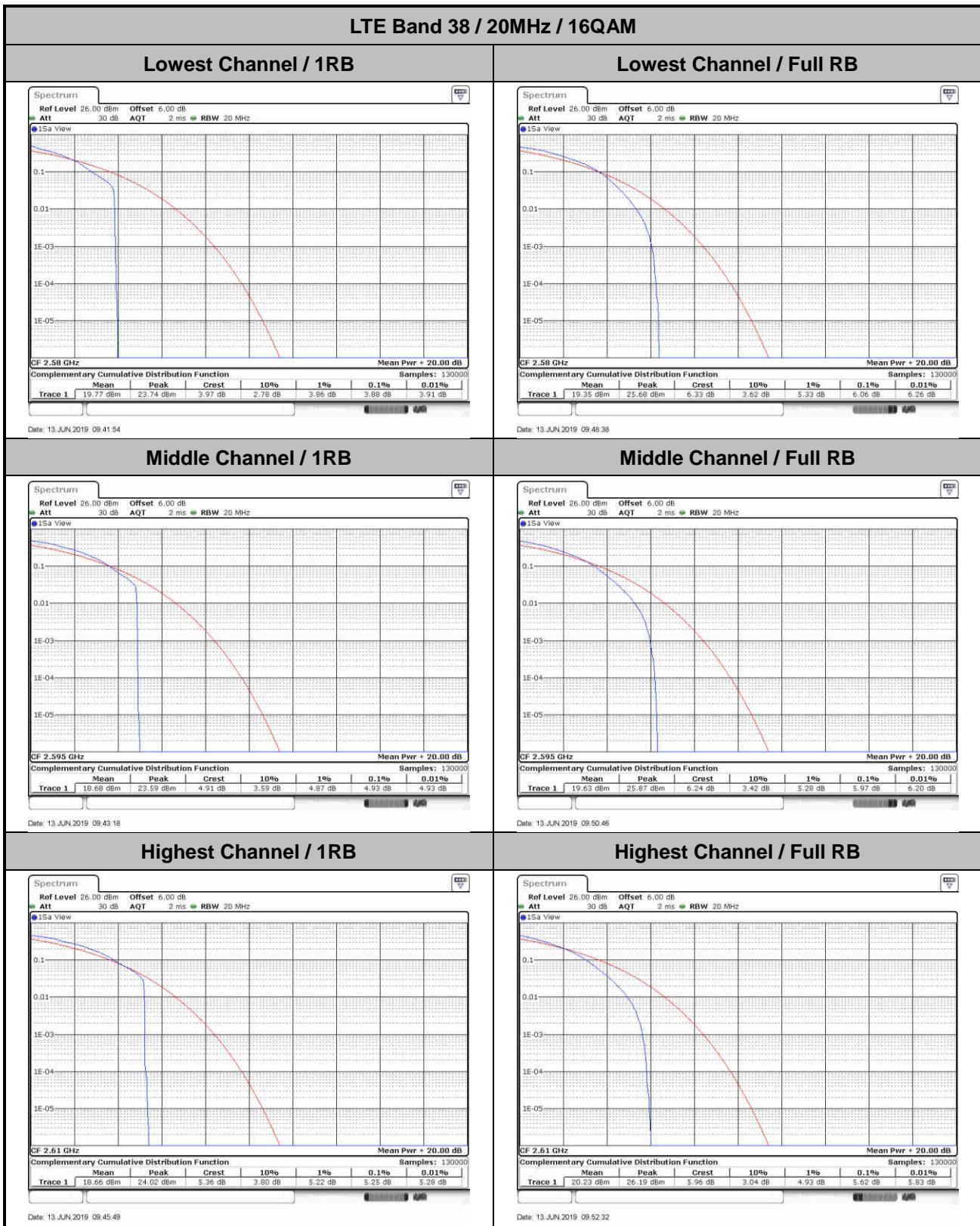


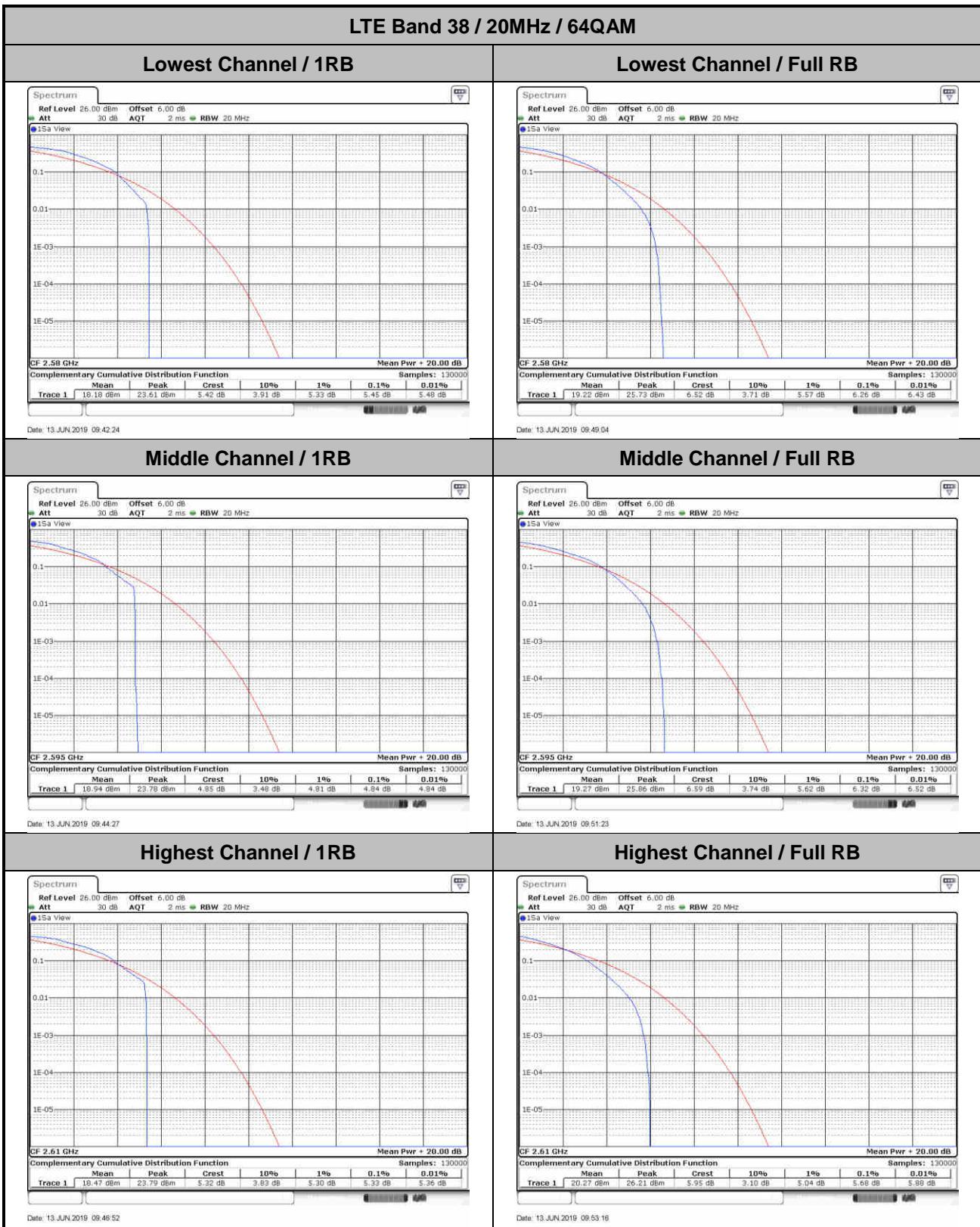














## 26dB Bandwidth

Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.222	1.228	2.991	3.015	4.855	4.915	9.73	9.99	14.446	14.236	20.14	20.18
Middle CH	1.239	1.211	3.063	3.033	4.915	4.875	9.79	9.77	14.206	14.236	20.30	20.14
Highest CH	1.217	1.214	3.009	2.997	4.925	4.825	9.75	9.81	14.446	14.386	20.18	20.38
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.245		3.009		4.885		9.79		14.505		20.18	
Middle CH	1.234		3.009		4.915		9.75		14.266		20.14	
Highest CH	1.225		2.991		4.895		9.95		14.206		20.14	

Mode	LTE Band 4 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.225	1.228	3.063	3.003	4.825	4.785	9.87	9.69	14.476	14.446	20.18	20.14
Middle CH	1.222	1.236	3.033	3.039	4.785	4.855	9.85	9.77	14.236	14.476	20.34	20.14
Highest CH	1.222	1.234	3.039	3.051	4.905	4.835	9.83	9.73	14.296	14.266	20.22	20.14
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.228		3.033		4.945		9.69		14.236		20.06	
Middle CH	1.228		3.003		4.925		9.73		14.416		20.1	
Highest CH	1.236		3.015		4.955		9.73		14.416		20.1	



Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM				
Lowest CH	1.225	1.231	3.027	3.009	4.965	4.845	9.89	9.89				
Middle CH	1.22	1.228	3.015	3.027	5.025	4.975	9.89	9.87				
Highest CH	1.222	1.222	3.033	2.985	4.855	4.915	9.77	9.63				

Mode	LTE Band 5 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz					
Mod.	64QAM		64QAM		64QAM		64QAM					
Lowest CH	1.236		3.051		4.945		9.81					
Middle CH	1.22		3.051		4.945		9.71					
Highest CH	1.234		2.961		4.835		9.67					

Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.885	4.855	9.71	9.77	14.236	14.595	20.3	20.26
Middle CH	-	-	-	-	4.895	4.975	9.85	9.87	14.416	14.446	20.22	20.22
Highest CH	-	-	-	-	4.905	4.985	9.65	9.83	14.266	14.535	20.22	20.06

Mode	LTE Band 7 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.775		9.75		14.356		20.26	
Middle CH	-	-	-	-	4.875		9.89		14.535		20.34	
Highest CH	-	-	-	-	4.925		9.75		14.446		20.42	

Mode	LTE Band 38 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH					4.935	4.755	9.73	9.83	14.416	14.146	20.34	20.38
Middle CH					4.925	4.825	9.71	9.65	14.266	14.236	20.18	20.3
Highest CH					4.885	4.795	9.67	9.59	14.176	14.146	20.18	20.06

Mode	LTE Band 38 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH					4.715		9.71		14.176		20.14	
Middle CH					4.835		9.67		14.146		20.14	
Highest CH					5.025		9.61		14.176		20.14	



## For CA

Mode	LTE Band 7 : 26dB BW(MHz)			
QPSK				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	29.85		25.275	30.569
Middle CH	29.85		25.275	30.45
Highest CH	29.85		25.325	30.689
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	34.895	29.97	34.895	39.8
Middle CH	34.895	30.15	35.105	39.88
Highest CH	34.825	29.91	34.755	39.64

Mode	LTE Band 7 : 26dB BW(MHz)			
16QAM				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	29.85		25.175	30.39
Middle CH	29.91		25.175	30.45
Highest CH	29.91		25.375	30.569
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	34.755	30.03	34.965	39.88
Middle CH	35.105	30.09	34.895	39.72
Highest CH	34.825	30.33	34.825	39.56

Mode	LTE Band 7 : 26dB BW(MHz)			
64QAM				
BW	10MHz+20MHz	15MHz+5MHz	15MHz+10MHz	15MHz+15MHz
Lowest CH	30.03		25.275	30.569
Middle CH	29.73		25.325	30.509
Highest CH	29.85		25.325	30.509
BW	15MHz+20MHz	20MHz+10MHz	20MHz+15MHz	20MHz+20MHz
Lowest CH	37.762	30.989	35.944	39.96
Middle CH	34.825	30.03	34.825	40.04
Highest CH	34.755	31.169	35.035	39.72



Mode	LTE Band 38 : 26dB BW(MHz)			
Mod.	QPSK		16QAM	
BW	15MHz+15MHz	20MHz+20MHz	15MHz+15MHz	20MHz+20MHz
Lowest CH	30.45	39.8	30.45	39.72
Middle CH	30.569	39.8	30.569	39.8
Highest CH	30.509	39.8	30.509	40.12

Mode	LTE Band 38 : 26dB BW(MHz)			
Mod.	64QAM		-	
BW	15MHz+15MHz	20MHz+20MHz	-	-
Lowest CH	30.45	39.64	-	-
Middle CH	30.27	39.72	-	-
Highest CH	30.509	39.88	-	-

