FCC RF Test Report

APPLICANT	:	KonnectONE, LLC
EQUIPMENT	:	Wireless Home Phone
BRAND NAME	:	moxee
MODEL NAME	:	K500HPEL
FCC ID	:	2APQU-K500HPEL
STANDARD	:	47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(H), 27(M), 27(N)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)

The product was received on Jul. 19, 2019 and completely tested on Sep. 03, 2019. We, Sporton International (ShenZhen) 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 (ShenZhen) Inc., the test report shall not be reproduced except in full.

Derreck Chen

Reviewed by: Derreck Chen / Supervisor

Eric Shih

Approved by: Eric Shih / Manager

ACCREDITED
Cert #5145.01

Sporton International (ShenZhen) Inc.

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **6**

1.1 Applicant 6
1.2 Manufacturer 6
1.3 Product Feature of Equipment Under Test 6
1.4 Product Specification of Equipment Under Test 7
1.5 Modification of EUT 8
1.6 Maximum ERP/EIRP, Frequency Tolerance, and Emission Designator 8
1.7 Testing Location 11
1.8 Applicable Standards 11

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **12**

2.1 Test Mode 12
2.2 Connection Diagram of Test System 16
2.3 Support Unit used in test configuration and system 16
2.4 Measurement Results Explanation Example 16
2.5 Frequency List of Low/Middle/High Channels 17

3 CONDUCTED TEST ITEMS **22**

3.1 Measuring Instruments 22
3.2 Test Setup 22
3.3 Test Result of Conducted Test 22
3.4 Conducted Output Power and ERP/EIRP 23
3.5 Peak-to-Average Ratio 24
3.6 Occupied Bandwidth 25
3.7 Conducted Band Edge 26
3.8 Conducted Spurious Emission 28
3.9 Frequency Stability 29

4 RADIATED TEST ITEMS **30**

4.1 Measuring Instruments 30
4.2 Test Setup 30
4.3 Test Result of Radiated Test 30
4.4 Radiated Spurious Emission 31

5 LIST OF MEASURING EQUIPMENT **32**

6 UNCERTAINTY OF EVALUATION **33**

APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

APPENDIX C. TEST SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG971908-01	Rev. 01	Initial issue of report	Sep. 12, 2019

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt		
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 71)	ERP < 3 Watt		
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 41)	EIRP < 2Watt		
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt		
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2)(4) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 41)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		

Report Section	FCC Rule	Description	Limit	Result	Remark
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(c)(2) §27.53(f) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 25) (Band 26) (Band 66) (Band 71)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 18.41 dB at 3447.180 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 41)	< 55+10log$_{10}$(P[Watts])		

Declaration of Conformity:

The test results with all measurement uncertainty excluded are presented in accordance with the regulation limits or requirements declared by manufacturers.

Comments and Explanations:

The declared of product specification for EUT presented in the report are provided by the manufacturer, and the manufacturer takes all the responsibilities for the accuracy of product specification.

1 General Description

1.1 Applicant

KonnectONE, LLC
40 Lake Bellevue Drive, Suite 350, Bellevue, Washington 98005, U.S.A

1.2 Manufacturer

KonnectONE, LLC
40 Lake Bellevue Drive, Suite 350, Bellevue, Washington 98005, U.S.A

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Wireless Home Phone
Brand Name	moxee
Model Name	K500HPEL
FCC ID	2APQU-K500HPEL
EUT supports Radios application	LTE/GNSS
HW Version	EN_K500HPEL_MB_C
SW Version	EN_K500HPELV1.0.0B02
EUT Stage	Production Unit

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. This is a change ID report for K500HPEL, all the test results are leveraged from original report FG971908.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	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 12 : 699.7 MHz ~ 715.3 MHz LTE Band 13 : 779.5 MHz ~ 784.5 MHz LTE Band 25 : 1850.7MHz ~ 1914.3 MHz LTE Band 26 : 824.7MHz ~ 848.3 MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz LTE Band 66 : 1710.7 MHz ~ 1779.3 MHz LTE Band 71: 665.5 MHz ~ 695.5MHz
Rx Frequency	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 12 : 729.7 MHz ~ 745.3 MHz LTE Band 13 : 748.5 MHz ~ 753.5 MHz LTE Band 25 : 1930.7MHz ~ 1994.3 MHz LTE Band 26 : 869.7MHz ~ 893.3MHz LTE Band 41 : 2498.5 MHz ~ 2687.5 MHz LTE Band 66 : 2110.7 MHz~ 2179.3 MHz LTE Band 71: 619.5 MHz ~ 649.5MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.58 dBm LTE Band 4 : 24.25 dBm LTE Band 5 : 23.13 dBm LTE Band 12 : 23.48 dBm LTE Band 13 : 23.01 dBm LTE Band 25 : 23.80 dBm LTE Band 26 : 23.06 dBm LTE Band 41 : 23.69 dBm LTE Band 66 : 24.04 dBm LTE Band 71 : 22.72 dBm
Antenna Gain	LTE Band 2 : 1.00 dBi LTE Band 4 : 1.20 dBi LTE Band 5 : 0.00 dBi LTE Band 12 : -0.70 dBi LTE Band 13 : -0.50 dBi LTE Band 25 : 1.00 dBi LTE Band 26 : 0.00 dBi LTE Band 41 : 1.80 dBi LTE Band 66 : 1.20 dBi LTE Band 71 : -1.00 dBi
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP, 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	1M09G7D	-	0.2844	1M10W7D	-	0.2421
3	1851.5 ~ 1908.5	2M72G7D	-	0.2844	2M74W7D	-	0.2328
5	1852.5 ~ 1907.5	4M51G7D	-	0.2767	4M50W7D	-	0.2270
10	1855.0 ~ 1905.0	8M97G7D	0.0018	0.2799	9M01W7D	-	0.2301
15	1857.5 ~ 1902.5	13M5G7D	-	0.2773	13M5W7D	-	0.2296
20	1860.0 ~ 1900.0	18M4G7D	-	0.2871	18M3W7D	-	0.2208
LTE Band 25		**QPSK**			**16QAM**		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1850.7 ~ 1914.3	1M09G7D	-	0.2938	1M10W7D	-	0.2472
3	1851.5 ~ 1913.5	2M72G7D	-	0.2958	2M72W7D	-	0.2280
5	1852.5 ~ 1912.5	4M50G7D	-	0.2972	4M50W7D	-	0.2239
10	1855.0 ~ 1910.0	9M03G7D	0.0015	0.2999	9M05W7D	-	0.2455
15	1857.5 ~ 1907.5	13M4G7D	-	0.2938	13M4W7D	-	0.2366
20	1860.0 ~ 1905.0	18M3G7D	-	0.3020	18M4W7D	-	0.2270
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	1M10G7D	-	0.3141	1M10W7D	-	0.2559
3	1711.5 ~ 1753.5	2M72G7D	-	0.3296	2M74W7D	-	0.2506
5	1712.5 ~ 1752.5	4M52G7D	-	0.3251	4M50W7D	-	0.2443
10	1715.0 ~ 1750.0	9M03G7D	0.0017	0.3334	9M01W7D	-	0.2495
15	1717.5 ~ 1747.5	13M5G7D	-	0.3483	13M5W7D	-	0.2518
20	1720.0 ~ 1745.0	18M3G7D	-	0.3508	18M5W7D	-	0.2844

LTE Band 5		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	824.7 ~ 848.3	1M11G7D	-	0.1242	1M10W7D	-	0.1045
3	825.5 ~ 847.5	2M72G7D	-	0.1245	2M73W7D	-	0.0933
5	826.5 ~ 846.5	4M50G7D	-	0.1250	4M50W7D	-	0.0993
10	829.0 ~ 844.0	9M01G7D	0.0043	0.1253	9M01W7D	-	0.0940
LTE Band 12		**QPSK**			**16QAM**		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**
1.4	699.7 ~ 715.3	1M10G7D	-	0.1096	1M09W7D	-	0.0906
3	700.5 ~ 714.5	2M73G7D	-	0.1091	2M72W7D	-	0.0826
5	701.5 ~ 713.5	4M50G7D	-	0.1153	4M51W7D	-	0.0828
10	704.0 ~ 711.0	9M07G7D	0.0035	0.1156	9M09W7D	-	0.0940
LTE Band 13		**QPSK**			**16QAM**		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**
5	779.5 ~ 784.5	4M51G7D	-	0.1084	4M51W7D	-	0.0787
10	782.0	9M07G7D	0.0043	0.1086	8M97W7D	-	0.0818
LTE Band 26		**QPSK**			**16QAM**		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**
1.4	824.7 ~ 848.3	1M10G7D	-	0.1169	1M10W7D	-	0.0982
3	825.5 ~ 847.5	2M75G7D	-	0.1167	2M74W7D	-	0.0973
5	826.5 ~ 846.5	4M50G7D	-	0.1211	4M49W7D	-	0.0982
10	829.0 ~ 844.0	9M03G7D	0.0020	0.1135	9M03W7D	-	0.0968
15	831.5 ~ 841.5	13M5G7D	-	0.1233	13M5W7D	-	0.0925
CH26765	821.5	13M4G7D	-	0.1167	13M4W7D	-	0.0904
LTE Band 41		**QPSK**			**16QAM**		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum EIRP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum EIRP(W)**
5	2498.5 ~ 2687.5	4M50G7D	-	0.3524	4M51W7D	-	0.2864
10	2501.0 ~ 2685.0	9M03G7D	0.0011	0.3475	9M07W7D	-	0.2735
15	2503.5 ~ 2682.5	13M5G7D	-	0.3357	13M5W7D	-	0.2685
20	2506.0 ~ 2680.0	18M4G7D	-	0.3540	18M3W7D	-	0.2612

LTE Band 66		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 ~ 1779.3	1M09G7D	-	0.3034	1M10W7D	-	0.2541
3	1711.5 ~ 1778.5	2M74G7D	-	0.3076	2M72W7D	-	0.2518
5	1712.5 ~ 1777.5	4M49G7D	-	0.3006	4M50W7D	-	0.2443
10	1715.0 ~ 1775.0	9M07G7D	0.0190	0.3126	9M01W7D	-	0.2630
15	1717.5 ~ 1772.5	13M4G7D	-	0.3243	13M5W7D	-	0.2630
20	1720.0 ~ 1770.0	18M4G7D	-	0.3342	18M3W7D	-	0.2455
LTE Band 71		**QPSK**			**16QAM**		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**
5	665.5 ~ 695.5	4M51G7D	-	0.0885	4M50W7D	-	0.0675
10	668.0 ~ 693.0	9M03G7D	0.0050	0.0885	8M99W7D	-	0.0670
15	670.5 ~ 690.5	13M4G7D	-	0.0897	13M5W7D	-	0.0668
20	673.0 ~ 688.0	18M3G7D	-	0.0906	18M1W7D	-	0.0684

1.7 Testing Location

Sporton International (Shenzhen) Inc. is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International (Shenzhen) Inc.		
Test Site Location	No. 3 Bldg the third floor of south, Shahe River west, Fengzeyuan Warehouse, Nanshan Shenzhen, 518055 People's Republic of China TEL: +86-755-33202398		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

1.8 Applicable Standards

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

- 47 CFR Part 2, 22(H), 24(E), 27(L), 27(F), 27(H), 27(M), 27(N)
- 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.

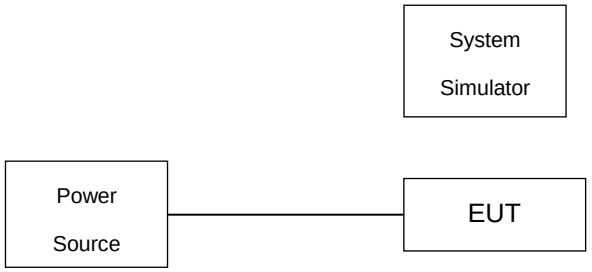
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v		v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v		v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v		v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v		v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v		v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v		v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v		v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v		v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v		v	v	v	v	v	v
	71	-	-	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
	12				v	-	-	v	v		v		v	v	v	v
	13	-	-		v	-	-	v	v		v		v	v	v	v
	25						v	v	v		v		v	v	v	v
	26				v		-	v	v		v		v	v	v	v
	41	-	-				v	v	v		v		v	v	v	v
	66						v	v	v		v		v	v	v	v
	71	-	-				v	v	v		v		v	v	v	v

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
26dB and 99% Bandwidth	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
	12	v	v	v	v	-	-	v	v				v	v	v	v
	13	-	-	v	v	-	-	v	v				v	v	v	v
	25	v	v	v	v	v	v	v	v				v	v	v	v
	26	v	v	v	v	v	-	v	v				v	v	v	v
	41	-	-	v	v	v	v	v	v				v	v	v	v
	66	v	v	v	v	v	v	v	v				v	v	v	v
	71	-	-	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
	4	v	v	v	v	v	v	v	v		v		v	v		v
	5	v	v	v	v	-	-	v	v		v		v	v		v
	12	v	v	v	v	-	-	v	v		v		v	v		v
	13	-	-	v	v	-	-	v	v		v		v	v		v
	25	v	v	v	v	v	v	v	v		v		v	v		v
	26	v	v	v	v	v	-	v	v		v		v	v		v
	41	-	-	v	v	v	v	v	v		v		v	v		v
	66	v	v	v	v	v	v	v	v		v		v	v		v
	71	-	-	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
	12	v	v	v	v	-	-	v	v		v			v	v	v
	13	-	-	v	v	-	-	v	v		v			v	v	v
	25	v	v	v	v	v	v	v	v		v			v	v	v
	26	v	v	v	v	v	-	v	v		v			v	v	v
	41	-	-	v	v	v	v	v	v		v			v	v	v
	66	v	v	v	v	v	v	v	v		v			v	v	v
	71	-	-	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	
	12				v	-	-	v					v		v	
	13	-	-		v	-	-	v					v		v	
	25				v			v					v		v	
	26				v		-	v					v		v	
	41	-	-		v			v					v		v	
	66				v			v					v		v	
	71	-	-		v			v					v		v	

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
E.R.P / E.I.R.P	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
	12	v	v	v	v	-	-	v	v		v			v	v	v
	13	-	-	v	v	-	-	v	v		v			v	v	v
	25	v	v	v	v	v	v	v	v		v			v	v	v
	26	v	v	v	v	v	-	v	v		v			v	v	v
	41	-	-	v	v	v	v	v	v		v			v	v	v
	66	v	v	v	v	v	v	v	v		v			v	v	v
	71	-	-	v	v	v	v	v	v		v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v	v		v				v	
	4	v	v	v	v	v	v	v	v		v				v	
	5	v	v	v	v	-	-	v	v		v				v	
	12	v	v	v	v	-	-	v	v		v				v	
	13	-	-	v	v	-	-	v	v		v				v	
	25	v	v	v	v	v	v	v	v		v				v	
	26	v	v	v	v	v	-	v	v		v				v	
	41	-	-	v	v	v	v	v	v		v				v	
	66	v	v	v	v	v	v	v	v		v				v	
	71	-	-	v	v	v	v	v	v		v				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



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor 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 and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.5 dB and 10dB attenuator.

Example :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.5 + 10 = 14.5 (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 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3

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

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

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

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

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

LTE Band 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3

LTE Band 71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	133222	133322	133372
	Frequency	673.0	680.5	688.0
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133272	133422
	Frequency	668.0	678.0	693.0
5	Channel	133147	133247	133447
	Frequency	665.5	675.5	695.5

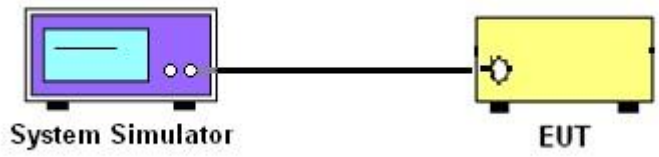
3 Conducted Test Items

3.1 Measuring Instruments

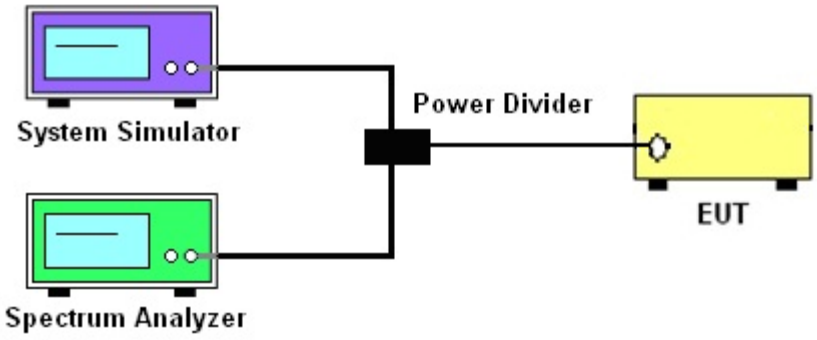
See list of measuring instruments of this test report.

3.2 Test Setup

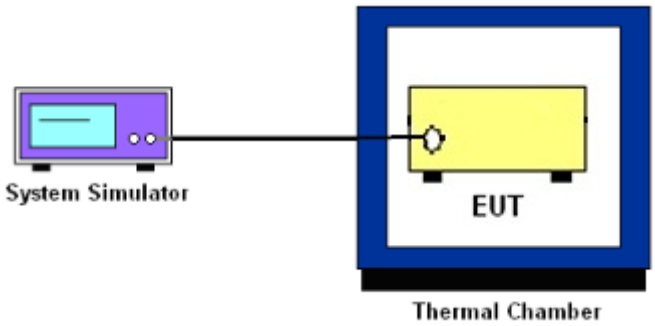
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

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

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

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

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

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is 43 + $10\log_{10}$(P[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[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 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[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 that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 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. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

   Example:

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

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
9. For LTE Band 41, the other 40 dB, and 55 dB have additionally applied same calculation above.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

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

For Band 41:

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

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

3.8.2 Test Procedures

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

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) 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°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°C step up to 50°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±5°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.

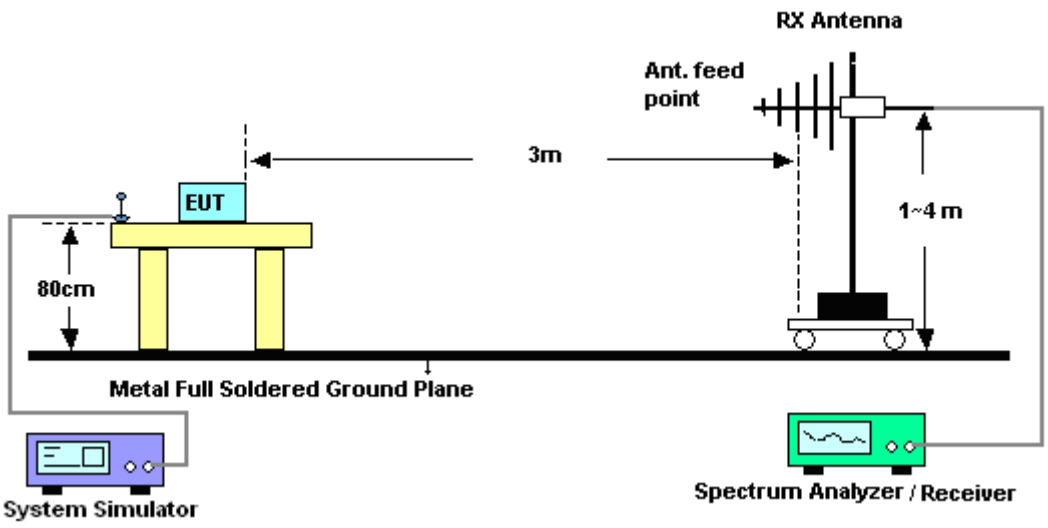
4 Radiated Test Items

4.1 Measuring Instruments

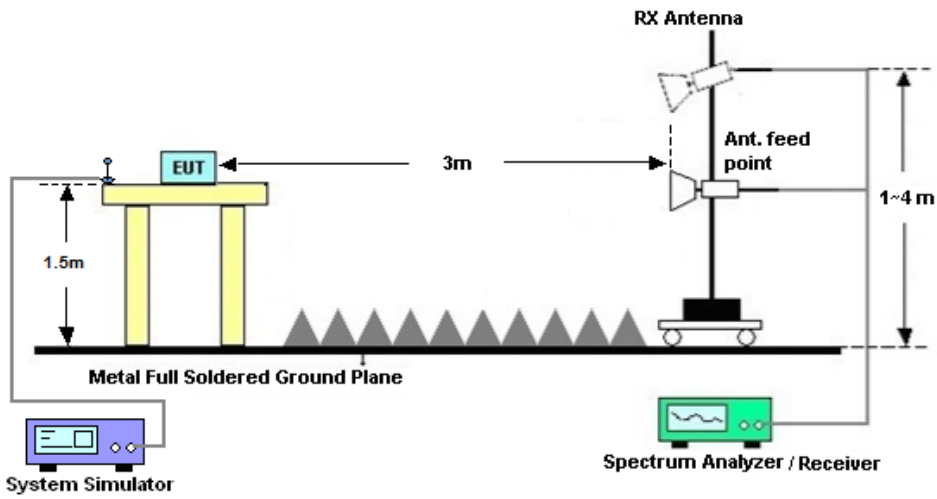
See list of measuring instruments of this test report.

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 41

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

For LTE Band 13

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

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
13. For Band 41:
    The limit line is derived from 55 + 10log(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	101078	10Hz~40GHz	Apr. 18, 2019	Aug. 29, 2019~ Sep. 02, 2019	Apr. 17, 2020	Conducted (TH01-SZ)
DC Power Supply	GWINSTEK	AnritsuGPS-3030D	EM882636	Max 30V	Apr. 18, 2019	Aug. 29, 2019~ Sep. 02, 2019	Apr. 17, 2020	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Apr. 18, 2019	Aug. 31, 2019~ Sep. 03, 2019	Apr. 17, 2020	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Apr. 18, 2019	Aug. 31, 2019~ Sep. 03, 2019	Apr. 17, 2020	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	Aug. 27, 2019	Aug. 31, 2019~ Sep. 03, 2019	Aug. 26, 2020	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Apr. 01, 2019	Aug. 31, 2019~ Sep. 03, 2019	Mar. 31, 2020	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Apr. 19, 2019	Aug. 31, 2019~ Sep. 03, 2019	Apr. 18, 2020	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2018	Aug. 31, 2019~ Sep. 03, 2019	Oct. 17, 2019	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 18, 2018	Aug. 31, 2019~ Sep. 03, 2019	Oct. 17, 2019	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 22, 2019	Aug. 31, 2019~ Sep. 03, 2019	Jul. 21, 2020	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY53270156	500MHz~26.5GHz	Aug. 26, 2019	Aug. 31, 2019~ Sep. 03, 2019	Aug. 25, 2020	Radiation (03CH04-SZ)
AC Power Source	Chroma	61601	N/A	N/A	NCR	Aug. 31, 2019~ Sep. 03, 2019	NCR	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Aug. 31, 2019~ Sep. 03, 2019	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Aug. 31, 2019~ Sep. 03, 2019	NCR	Radiation (03CH04-SZ)

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)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.8dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.1dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.9dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.41	23.43	23.58
20	1	49		23.35	23.40	23.16
20	1	99		23.13	23.48	23.46
20	50	0		22.70	22.59	22.34
20	50	24		22.47	22.42	22.33
20	50	50		22.48	22.58	22.32
20	100	0		22.54	22.44	22.43
20	1	0	16-QAM	22.44	22.38	21.85
20	1	49		22.32	22.16	22.24
20	1	99		22.21	22.03	22.13
20	50	0		21.70	21.51	21.32
20	50	24		21.54	21.46	21.37
20	50	50		21.55	21.43	21.35
20	100	0		21.48	21.36	21.45
15	1	0	QPSK	23.39	23.41	23.42
15	1	37		23.41	23.43	23.43
15	1	74		23.41	23.36	23.37
15	36	0		22.79	22.59	22.31
15	36	20		22.54	22.54	22.41
15	36	39		22.67	22.76	22.31
15	75	0		22.70	22.54	22.44
15	1	0	16-QAM	22.61	22.51	22.25
15	1	37		22.35	22.07	22.59
15	1	74		22.37	22.26	22.12
15	36	0		21.61	21.46	21.37
15	36	20		21.50	21.38	21.31
15	36	39		21.59	21.46	21.29
15	75	0		21.43	21.46	21.37

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.44	23.39	23.09
10	1	25		23.41	23.28	23.34
10	1	49		23.29	23.36	23.47
10	25	0		22.68	22.54	22.47
10	25	12		22.55	22.49	22.36
10	25	25		22.44	22.50	22.33
10	50	0		22.53	22.47	22.28
10	1	0	16-QAM	22.48	22.27	22.25
10	1	25		22.59	22.62	22.40
10	1	49		22.31	22.32	22.20
10	25	0		21.70	21.53	21.58
10	25	12		21.51	21.58	21.36
10	25	25		21.55	21.49	21.23
10	50	0		21.54	21.38	21.48
5	1	0	QPSK	23.42	23.17	23.04
5	1	12		23.39	23.37	23.18
5	1	24		23.42	22.99	22.98
5	12	0		22.50	22.53	22.28
5	12	7		22.66	22.42	22.29
5	12	13		22.65	22.47	22.33
5	25	0		22.56	22.45	22.33
5	1	0	16-QAM	22.34	22.35	22.49
5	1	12		22.20	22.13	22.22
5	1	24		22.56	22.22	22.01
5	12	0		21.36	21.37	21.27
5	12	7		21.33	21.34	21.19
5	12	13		21.44	21.35	21.09
5	25	0		21.35	21.40	21.32

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.46	23.28	23.54
3	1	8		23.42	23.29	23.09
3	1	14		23.53	23.44	23.06
3	8	0		22.71	22.64	22.32
3	8	4		22.70	22.55	22.26
3	8	7		22.68	22.46	22.32
3	15	0		22.73	22.58	22.31
3	1	0	16-QAM	22.51	22.55	22.30
3	1	8		22.40	22.28	22.12
3	1	14		22.67	22.51	22.25
3	8	0		21.88	21.69	21.20
3	8	4		21.72	21.44	21.31
3	8	7		21.42	21.33	21.13
3	15	0		21.51	21.58	21.26
1.4	1	0	QPSK	23.49	23.54	23.18
1.4	1	3		23.52	23.45	23.39
1.4	1	5		23.48	23.43	23.25
1.4	3	0		23.38	23.43	23.43
1.4	3	1		23.52	23.54	23.42
1.4	3	3		23.50	23.46	23.36
1.4	6	0		22.75	22.43	22.32
1.4	1	0	16-QAM	22.57	22.28	22.19
1.4	1	3		22.76	22.43	22.36
1.4	1	5		22.58	22.35	22.12
1.4	3	0		22.84	22.47	22.36
1.4	3	1		22.77	22.58	22.56
1.4	3	3		22.63	22.50	22.55
1.4	6	0		21.54	21.16	21.37

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.80	23.49	23.70
20	1	49		23.47	23.50	23.43
20	1	99		23.28	23.33	23.02
20	50	0		22.71	22.76	22.51
20	50	24		22.56	22.61	22.46
20	50	50		22.54	22.63	22.37
20	100	0		22.70	22.74	22.41
20	1	0	16-QAM	22.52	22.56	22.46
20	1	49		22.39	22.46	22.24
20	1	99		22.32	22.29	22.10
20	50	0		21.67	21.73	21.27
20	50	24		21.43	21.48	21.43
20	50	50		21.44	21.73	21.28
20	100	0		21.59	21.70	21.45
15	1	0	QPSK	23.40	23.50	23.44
15	1	37		23.35	23.68	23.55
15	1	74		23.49	23.36	22.97
15	36	0		22.62	22.71	22.39
15	36	20		22.54	22.50	22.39
15	36	39		22.49	22.55	22.17
15	75	0		22.56	22.64	22.39
15	1	0	16-QAM	22.50	22.51	22.23
15	1	37		22.57	22.74	22.70
15	1	74		22.35	22.20	22.04
15	36	0		21.63	21.50	21.28
15	36	20		21.45	21.50	21.36
15	36	39		21.33	21.54	21.14
15	75	0		21.58	21.64	21.42

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.57	23.37	23.60
10	1	25		23.77	23.48	23.20
10	1	49		23.58	23.77	22.99
10	25	0		22.65	22.52	22.36
10	25	12		22.63	22.61	22.16
10	25	25		22.55	22.54	22.18
10	50	0		22.67	22.62	22.16
10	1	0	16-QAM	22.47	22.47	22.90
10	1	25		22.46	22.65	22.12
10	1	49		22.36	22.03	22.19
10	25	0		21.58	21.50	21.34
10	25	12		21.56	21.60	21.28
10	25	25		21.50	21.56	21.10
10	50	0		21.69	21.36	21.18
5	1	0	QPSK	23.19	23.50	23.37
5	1	12		23.73	23.37	23.39
5	1	24		23.60	23.20	23.00
5	12	0		22.53	22.60	22.24
5	12	7		22.58	22.60	22.20
5	12	13		22.60	22.44	22.29
5	25	0		22.52	22.68	22.19
5	1	0	16-QAM	22.33	22.50	22.34
5	1	12		22.26	22.22	21.80
5	1	24		22.33	22.38	22.14
5	12	0		21.34	21.29	21.29
5	12	7		21.49	21.30	21.20
5	12	13		21.51	21.45	21.07
5	25	0		21.63	21.53	21.22

LTE Band 25 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.54	23.66	23.29
3	1	8		23.62	23.23	23.40
3	1	14		23.71	23.48	23.04
3	8	0		22.58	22.56	22.20
3	8	4		22.63	22.56	22.15
3	8	7		22.66	22.58	22.20
3	15	0		22.57	22.51	22.15
3	1	0	16-QAM	22.34	22.47	22.18
3	1	8		22.39	22.36	21.68
3	1	14		22.54	22.58	21.88
3	8	0		21.26	21.31	21.35
3	8	4		21.59	21.52	21.15
3	8	7		21.62	21.60	21.05
3	15	0		21.41	21.54	21.15
1.4	1	0	QPSK	23.44	23.47	23.24
1.4	1	3		23.62	23.46	23.22
1.4	1	5		23.52	23.50	23.15
1.4	3	0		23.43	23.66	23.26
1.4	3	1		23.50	23.68	23.25
1.4	3	3		23.52	23.60	23.10
1.4	6	0		22.39	22.66	22.02
1.4	1	0	16-QAM	22.25	22.59	21.87
1.4	1	3		22.38	22.47	22.07
1.4	1	5		22.24	22.15	21.89
1.4	3	0		22.50	22.50	21.99
1.4	3	1		22.03	22.72	22.35
1.4	3	3		22.82	22.93	22.27
1.4	6	0		21.18	21.55	20.87

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.65	24.25	23.96
20	1	49		23.60	23.54	23.66
20	1	99		23.98	23.44	23.55
20	50	0		22.97	22.88	23.01
20	50	24		22.86	22.75	22.95
20	50	50		22.92	22.79	22.86
20	100	0		22.87	22.79	22.95
20	1	0	16-QAM	22.70	22.36	23.34
20	1	49		22.75	22.07	22.83
20	1	99		22.09	22.57	22.75
20	50	0		21.61	21.89	22.07
20	50	24		21.79	21.78	21.94
20	50	50		21.97	21.72	21.94
20	100	0		21.87	21.81	22.02
15	1	0	QPSK	23.72	23.81	23.77
15	1	37		23.73	23.64	24.22
15	1	74		23.96	23.52	23.71
15	36	0		22.64	22.79	22.97
15	36	20		22.81	22.82	22.87
15	36	39		22.78	22.67	22.77
15	75	0		22.78	22.96	22.92
15	1	0	16-QAM	22.69	22.22	22.81
15	1	37		22.52	22.51	22.43
15	1	74		22.16	22.15	22.61
15	36	0		21.58	21.85	21.94
15	36	20		21.82	21.90	21.87
15	36	39		21.79	22.14	21.89
15	75	0		21.88	21.75	21.94

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.51	23.80	23.67
10	1	25		23.68	23.48	24.03
10	1	49		23.68	23.36	23.81
10	25	0		22.38	22.66	22.88
10	25	12		22.78	22.73	22.68
10	25	25		22.91	22.73	22.77
10	50	0		22.69	22.61	22.75
10	1	0	16-QAM	22.52	22.06	22.77
10	1	25		22.77	22.72	22.77
10	1	49		22.75	22.49	22.67
10	25	0		21.95	21.82	21.77
10	25	12		21.79	21.84	21.71
10	25	25		21.95	21.93	22.07
10	50	0		21.77	21.70	21.87
5	1	0	QPSK	23.65	23.92	23.53
5	1	12		23.56	23.63	23.65
5	1	24		23.48	23.44	23.65
5	12	0		22.75	22.71	22.71
5	12	7		22.67	22.68	22.68
5	12	13		22.52	22.84	22.73
5	25	0		22.56	22.66	22.76
5	1	0	16-QAM	22.62	22.57	22.55
5	1	12		22.56	22.37	22.57
5	1	24		22.68	22.05	22.49
5	12	0		21.81	21.68	21.76
5	12	7		21.49	21.80	21.63
5	12	13		21.68	21.63	21.95
5	25	0		21.88	21.77	21.84

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.88	23.98	23.76
3	1	8		23.32	23.46	23.38
3	1	14		23.90	23.87	23.72
3	8	0		22.74	23.00	22.69
3	8	4		22.78	22.88	22.75
3	8	7		22.82	22.91	22.76
3	15	0		22.79	22.98	22.79
3	1	0	16-QAM	22.68	22.68	22.62
3	1	8		22.36	22.63	22.39
3	1	14		22.79	22.16	22.50
3	8	0		21.88	21.75	21.71
3	8	4		21.82	21.76	21.78
3	8	7		21.88	22.02	21.78
3	15	0		21.93	21.55	21.70
1.4	1	0	QPSK	23.59	23.69	23.47
1.4	1	3		23.77	23.76	23.57
1.4	1	5		23.67	23.57	23.45
1.4	3	0		23.71	23.68	23.56
1.4	3	1		23.66	23.69	23.62
1.4	3	3		23.67	23.69	23.61
1.4	6	0		22.83	22.81	22.64
1.4	1	0	16-QAM	22.70	22.55	22.56
1.4	1	3		22.78	22.76	22.67
1.4	1	5		22.58	22.62	22.42
1.4	3	0		22.68	22.70	22.63
1.4	3	1		22.73	22.88	22.66
1.4	3	3		22.68	22.71	22.65
1.4	6	0		21.77	21.61	21.70

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.57	22.58	22.85
10	1	25		22.65	23.13	22.97
10	1	49		22.64	22.87	22.78
10	25	0		21.94	22.01	22.06
10	25	12		21.92	22.05	22.02
10	25	25		21.99	22.13	22.09
10	50	0		21.89	22.03	22.05
10	1	0	16-QAM	21.49	21.74	21.83
10	1	25		21.84	21.88	21.64
10	1	49		21.66	21.75	21.84
10	25	0		20.73	20.88	21.03
10	25	12		20.75	21.03	20.83
10	25	25		21.00	21.20	21.06
10	50	0		20.78	21.01	21.03
5	1	0	QPSK	22.26	22.66	22.99
5	1	12		22.79	22.96	23.05
5	1	24		22.46	22.94	23.12
5	12	0		21.68	21.84	22.05
5	12	7		21.83	21.94	22.04
5	12	13		21.81	21.99	22.15
5	25	0		21.80	21.93	22.02
5	1	0	16-QAM	21.53	22.12	21.73
5	1	12		21.54	21.67	21.61
5	1	24		21.48	21.71	21.72
5	12	0		20.66	20.81	20.93
5	12	7		20.83	20.95	21.02
5	12	13		20.71	20.96	21.10
5	25	0		20.69	20.89	21.10

LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.77	22.76	23.04
3	1	8		22.75	22.78	22.99
3	1	14		22.72	22.92	23.10
3	8	0		21.76	21.92	21.92
3	8	4		21.73	21.95	22.15
3	8	7		21.70	21.94	22.08
3	15	0		21.70	21.91	22.14
3	1	0	16-QAM	21.58	21.60	21.78
3	1	8		21.50	21.65	21.70
3	1	14		21.51	21.84	21.85
3	8	0		20.81	21.01	21.14
3	8	4		20.88	20.88	21.17
3	8	7		20.85	20.98	21.31
3	15	0		20.71	20.91	21.04
1.4	1	0	QPSK	22.51	22.67	22.89
1.4	1	3		22.63	22.88	23.08
1.4	1	5		22.54	22.81	23.04
1.4	3	0		22.75	22.84	23.04
1.4	3	1		22.80	22.95	23.07
1.4	3	3		22.78	22.95	23.09
1.4	6	0		21.75	21.89	22.05
1.4	1	0	16-QAM	21.54	21.65	21.94
1.4	1	3		21.64	21.80	21.85
1.4	1	5		21.48	21.64	21.69
1.4	3	0		21.76	21.89	22.19
1.4	3	1		21.81	21.95	22.29
1.4	3	3		21.87	21.91	22.34
1.4	6	0		20.50	20.81	21.06

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.50	22.55	22.74
15	1	37		22.82	22.86	23.06
15	1	74		22.81	22.66	22.74
15	36	0		21.55	21.79	21.96
15	36	20		21.70	21.74	21.95
15	36	39		21.87	21.91	21.89
15	75	0		21.70	21.89	22.00
15	1	0	16-QAM	21.52	21.48	21.63
15	1	37		21.49	21.61	21.81
15	1	74		21.71	21.74	21.24
15	36	0		20.53	20.76	20.91
15	36	20		20.79	20.73	20.89
15	36	39		20.74	20.78	20.88
15	75	0		20.70	20.75	20.97
10	1	0	QPSK	22.52	22.66	22.62
10	1	25		22.36	22.60	22.70
10	1	49		22.59	22.45	22.39
10	25	0		21.59	21.80	22.03
10	25	12		21.63	21.95	21.95
10	25	25		21.70	21.87	21.87
10	50	0		21.56	21.85	21.96
10	1	0	16-QAM	21.37	22.01	21.89
10	1	25		21.56	21.87	21.87
10	1	49		21.55	21.52	21.54
10	25	0		20.48	20.90	21.00
10	25	12		20.82	21.03	20.96
10	25	25		20.90	20.83	20.73
10	50	0		20.65	20.94	20.87

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.21	22.54	22.81
5	1	12		22.86	22.98	22.61
5	1	24		22.63	22.90	22.30
5	12	0		21.64	21.87	21.82
5	12	7		21.66	21.86	21.81
5	12	13		21.55	21.81	21.78
5	25	0		21.60	21.81	21.75
5	1	0	16-QAM	21.50	21.66	22.07
5	1	12		21.59	21.64	21.51
5	1	24		21.38	21.64	21.39
5	12	0		20.62	20.66	20.73
5	12	7		20.75	20.84	20.69
5	12	13		20.64	20.71	20.65
5	25	0		20.67	20.79	20.83
3	1	0	QPSK	22.55	22.78	22.82
3	1	8		22.36	22.82	22.81
3	1	14		22.54	22.76	22.77
3	8	0		21.74	21.84	21.77
3	8	4		21.75	21.86	21.70
3	8	7		21.64	21.83	21.80
3	15	0		21.62	21.83	21.82
3	1	0	16-QAM	21.62	21.73	21.60
3	1	8		21.48	21.62	21.45
3	1	14		21.43	22.03	21.56
3	8	0		20.82	20.94	21.01
3	8	4		20.80	20.83	20.74
3	8	7		20.68	20.58	20.75
3	15	0		20.62	20.74	20.70

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.41	22.64	22.72
1.4	1	3		22.50	22.83	22.80
1.4	1	5		22.45	22.65	22.77
1.4	3	0		22.55	22.76	22.74
1.4	3	1		22.61	22.70	22.69
1.4	3	3		22.58	22.78	22.79
1.4	6	0		21.64	21.95	21.72
1.4	1	0	16-QAM	21.57	21.68	21.56
1.4	1	3		21.62	21.89	21.64
1.4	1	5		21.52	21.70	21.51
1.4	3	0		21.63	21.86	21.81
1.4	3	1		21.70	21.92	21.92
1.4	3	3		21.67	21.86	22.07
1.4	6	0		20.60	20.79	20.73

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.71	23.01	23.10
10	1	25		23.48	22.97	23.24
10	1	49		23.03	23.31	23.31
10	25	0		22.21	22.14	22.22
10	25	12		22.28	22.18	22.36
10	25	25		22.21	22.11	22.48
10	50	0		22.28	22.25	22.36
10	1	0	16-QAM	21.76	21.95	22.05
10	1	25		22.16	22.24	22.27
10	1	49		22.00	22.58	22.07
10	25	0		21.29	21.08	21.29
10	25	12		21.35	21.15	21.34
10	25	25		21.29	21.20	21.30
10	50	0		21.36	21.12	21.35
5	1	0	QPSK	22.80	22.94	22.69
5	1	12		23.28	23.07	23.47
5	1	24		23.21	22.87	23.17
5	12	0		21.93	22.10	22.18
5	12	7		22.19	22.11	22.25
5	12	13		22.18	22.08	22.17
5	25	0		22.06	21.99	22.19
5	1	0	16-QAM	21.65	21.81	21.93
5	1	12		21.88	22.00	22.03
5	1	24		21.88	21.88	21.88
5	12	0		21.07	20.99	20.97
5	12	7		21.14	20.96	21.18
5	12	13		21.10	21.00	21.13
5	25	0		21.12	21.04	21.24

LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.98	23.23	23.13
3	1	8		23.00	23.01	23.16
3	1	14		23.15	22.82	23.15
3	8	0		21.98	22.14	22.35
3	8	4		22.05	22.07	22.26
3	8	7		22.12	22.10	22.26
3	15	0		22.06	22.08	22.22
3	1	0	16-QAM	21.89	21.87	21.91
3	1	8		21.75	21.86	21.90
3	1	14		22.01	22.02	21.93
3	8	0		21.00	21.18	21.18
3	8	4		21.09	21.06	21.19
3	8	7		21.13	21.15	21.20
3	15	0		21.08	21.08	21.20
1.4	1	0	QPSK	22.81	22.99	23.15
1.4	1	3		22.93	22.90	23.25
1.4	1	5		22.74	23.09	23.13
1.4	3	0		22.96	23.11	23.23
1.4	3	1		22.97	23.10	23.25
1.4	3	3		23.09	23.02	23.24
1.4	6	0		21.92	22.06	22.26
1.4	1	0	16-QAM	22.19	22.00	22.08
1.4	1	3		22.05	22.15	22.20
1.4	1	5		21.86	22.02	22.31
1.4	3	0		21.98	22.36	22.31
1.4	3	1		22.00	22.32	22.38
1.4	3	3		22.06	22.11	22.42
1.4	6	0		20.95	21.11	21.29

LTE Band 13 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		22.34	
10	1	25			23.01	
10	1	49			22.44	
10	25	0			21.89	
10	25	12			21.84	
10	25	25			21.80	
10	50	0			21.80	
10	1	0	16-QAM		21.36	
10	1	25			21.78	
10	1	49			21.53	
10	25	0			20.90	
10	25	12			20.69	
10	25	25			20.62	
10	50	0			20.72	
5	1	0	QPSK	22.35	22.95	22.41
5	1	12		23.00	22.78	22.94
5	1	24		22.88	22.34	22.68
5	12	0		21.83	21.97	21.76
5	12	7		22.01	21.83	21.94
5	12	13		21.95	21.75	21.80
5	25	0		21.99	21.87	21.82
5	1	0	16-QAM	21.45	21.55	21.53
5	1	12		21.60	21.59	21.61
5	1	24		21.55	21.42	21.50
5	12	0		20.87	20.84	20.60
5	12	7		20.98	20.59	20.76
5	12	13		20.81	20.59	20.81
5	25	0		21.05	20.73	20.71

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.08	23.41	23.13
20	1	49		22.95	23.69	23.10
20	1	99		22.84	23.55	23.12
20	50	0		22.23	22.55	22.44
20	50	24		22.08	22.59	22.33
20	50	50		22.19	22.60	22.28
20	100	0		22.19	22.62	22.36
20	1	0	16-QAM	21.88	22.36	22.10
20	1	49		21.98	22.37	22.13
20	1	99		21.61	22.18	22.26
20	50	0		21.14	21.56	21.32
20	50	24		21.15	21.61	21.36
20	50	50		21.23	21.71	21.25
20	100	0		21.17	21.61	21.36
15	1	0	QPSK	23.03	23.31	23.09
15	1	37		23.15	23.46	23.16
15	1	74		23.07	23.45	23.24
15	36	0		22.11	22.57	22.40
15	36	20		22.09	22.50	22.28
15	36	39		22.13	22.63	22.27
15	75	0		22.11	22.65	22.39
15	1	0	16-QAM	21.94	22.45	22.11
15	1	37		21.86	22.48	22.02
15	1	74		22.04	22.49	22.37
15	36	0		21.15	21.53	21.28
15	36	20		20.94	21.66	21.26
15	36	39		21.10	21.64	21.18
15	75	0		21.15	21.68	21.40

LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.03	23.40	23.36
10	1	25		23.12	23.61	23.14
10	1	49		23.11	23.55	23.22
10	25	0		22.36	22.63	22.36
10	25	12		22.26	22.59	22.24
10	25	25		22.38	22.58	22.26
10	50	0		22.23	22.66	22.34
10	1	0	16-QAM	22.15	22.17	22.41
10	1	25		21.99	22.57	22.05
10	1	49		21.82	22.49	22.33
10	25	0		21.49	21.57	21.58
10	25	12		21.52	21.62	21.57
10	25	25		21.52	21.61	21.27
10	50	0		21.35	21.67	21.38
5	1	0	QPSK	23.01	23.35	23.27
5	1	12		23.03	23.67	23.64
5	1	24		22.92	23.41	23.24
5	12	0		22.14	22.57	22.39
5	12	7		22.08	22.50	22.27
5	12	13		22.18	22.65	22.30
5	25	0		22.07	22.59	22.28
5	1	0	16-QAM	22.02	22.45	22.11
5	1	12		22.00	22.48	21.98
5	1	24		22.05	22.77	21.98
5	12	0		21.18	21.66	21.33
5	12	7		21.18	21.61	21.39
5	12	13		21.21	21.67	21.22
5	25	0		21.34	21.66	21.35

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.31	23.72	23.10
20	1	49		24.04	23.50	23.13
20	1	99		23.36	23.18	23.09
20	50	0		22.57	22.83	22.34
20	50	24		22.80	22.67	22.22
20	50	50		22.67	22.58	22.05
20	100	0		22.68	22.60	22.22
20	1	0	16-QAM	22.41	22.70	21.98
20	1	49		22.57	22.48	22.07
20	1	99		22.28	22.39	21.79
20	50	0		21.69	21.75	21.41
20	50	24		21.72	21.69	21.28
20	50	50		21.56	21.44	21.19
20	100	0		21.64	21.66	21.27
15	1	0	QPSK	23.46	23.68	23.12
15	1	37		23.91	23.52	23.25
15	1	74		23.44	23.50	23.04
15	36	0		22.71	22.80	22.20
15	36	20		22.63	22.68	22.19
15	36	39		22.63	22.54	22.02
15	75	0		22.60	22.62	22.16
15	1	0	16-QAM	22.45	22.95	22.04
15	1	37		23.00	22.77	22.04
15	1	74		22.52	22.39	22.05
15	36	0		21.78	21.82	21.20
15	36	20		21.66	21.63	21.22
15	36	39		21.55	21.59	21.03
15	75	0		21.74	21.64	21.09

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.36	23.56	23.04
10	1	25		23.75	23.54	23.04
10	1	49		23.45	23.49	22.81
10	25	0		22.57	22.84	22.24
10	25	12		22.52	22.76	22.12
10	25	25		22.68	22.57	21.95
10	50	0		22.59	22.58	22.08
10	1	0	16-QAM	22.08	23.00	22.07
10	1	25		22.75	22.92	22.01
10	1	49		22.77	22.49	22.04
10	25	0		21.68	21.76	21.33
10	25	12		21.60	21.90	21.10
10	25	25		21.59	21.70	21.13
10	50	0		21.63	21.79	21.03
5	1	0	QPSK	23.25	23.48	22.93
5	1	12		23.37	23.58	23.38
5	1	24		23.50	23.30	23.08
5	12	0		22.61	22.75	22.10
5	12	7		22.64	22.75	22.17
5	12	13		22.46	22.67	22.02
5	25	0		22.49	22.71	22.00
5	1	0	16-QAM	22.38	22.66	21.87
5	1	12		22.54	22.68	21.84
5	1	24		22.43	22.44	21.84
5	12	0		21.35	21.71	21.01
5	12	7		21.47	21.72	21.15
5	12	13		21.47	21.64	21.00
5	25	0		21.65	21.70	21.13

LTE Band 66 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.38	23.68	22.86
3	1	8		23.48	23.42	22.78
3	1	14		23.26	23.49	23.16
3	8	0		22.65	22.75	22.12
3	8	4		22.71	22.67	22.09
3	8	7		22.65	22.63	22.00
3	15	0		22.65	22.66	22.06
3	1	0	16-QAM	22.52	22.66	21.93
3	1	8		22.49	22.54	21.88
3	1	14		22.81	22.57	21.86
3	8	0		21.78	21.84	21.27
3	8	4		21.61	21.76	21.11
3	8	7		21.60	21.72	21.15
3	15	0		21.59	21.70	21.05
1.4	1	0	QPSK	23.41	23.47	23.04
1.4	1	3		23.59	23.49	23.14
1.4	1	5		23.57	23.60	23.17
1.4	3	0		23.44	23.59	23.26
1.4	3	1		23.50	23.62	23.36
1.4	3	3		23.51	23.59	23.20
1.4	6	0		22.66	22.75	22.14
1.4	1	0	16-QAM	22.36	22.55	21.93
1.4	1	3		22.66	22.76	22.05
1.4	1	5		22.52	22.84	21.92
1.4	3	0		22.59	22.67	22.18
1.4	3	1		22.65	22.85	22.06
1.4	3	3		22.65	22.71	22.41
1.4	6	0		21.49	21.70	21.18

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.14	22.61	22.48
20	1	49		22.62	22.72	22.63
20	1	99		22.22	22.56	22.35
20	50	0		22.05	21.85	21.64
20	50	24		21.69	21.70	21.75
20	50	50		21.67	21.66	21.68
20	100	0		21.67	21.68	21.73
20	1	0	16-QAM	21.24	21.39	21.19
20	1	49		21.50	21.49	21.35
20	1	99		20.93	21.16	21.11
20	50	0		20.74	20.73	20.74
20	50	24		20.68	21.05	20.73
20	50	50		20.53	20.72	20.70
20	100	0		20.87	20.57	20.89
15	1	0	QPSK	22.46	22.45	22.29
15	1	37		22.45	22.68	22.49
15	1	74		22.36	22.36	22.19
15	36	0		22.05	21.68	21.44
15	36	20		21.57	21.50	21.63
15	36	39		21.60	21.62	21.58
15	75	0		21.49	21.58	21.70
15	1	0	16-QAM	21.07	21.21	21.11
15	1	37		21.40	21.30	21.34
15	1	74		20.74	21.05	21.03
15	36	0		20.68	20.60	20.59
15	36	20		20.62	20.88	20.73
15	36	39		20.37	20.62	20.51
15	75	0		20.77	20.57	20.89

LTE Band 71 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.59	22.43	22.29
10	1	25		22.50	22.62	22.52
10	1	49		22.45	22.50	22.16
10	25	0		21.93	21.82	21.52
10	25	12		21.51	21.54	21.71
10	25	25		21.57	21.58	21.60
10	50	0		21.50	21.61	21.67
10	1	0	16-QAM	21.15	21.25	21.11
10	1	25		21.32	21.41	21.35
10	1	49		20.77	21.11	20.97
10	25	0		20.60	20.56	20.54
10	25	12		20.63	20.88	20.70
10	25	25		20.39	20.72	20.65
10	50	0		20.84	20.52	20.88
5	1	0	QPSK	22.60	22.47	22.42
5	1	12		22.62	22.60	22.44
5	1	24		22.45	22.36	22.28
5	12	0		21.85	21.85	21.58
5	12	7		21.50	21.62	21.70
5	12	13		21.59	21.61	21.49
5	25	0		21.67	21.54	21.59
5	1	0	16-QAM	21.12	21.23	21.16
5	1	12		21.44	21.35	21.16
5	1	24		20.93	21.14	20.91
5	12	0		20.65	20.63	20.74
5	12	7		20.53	20.97	20.55
5	12	13		20.46	20.58	20.68
5	25	0		20.69	20.43	20.81

ERP/EIRP

LTE Band 2 (GT - LC = 1.00 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)	23.52	23.54	23.42	23.46	23.28	23.54	23.42	23.17	23.04
Conducted Power (Watts)	0.2249	0.2259	0.2198	0.2218	0.2128	0.2259	0.2198	0.2075	0.2014
EIRP(dBm)	24.52	24.54	24.42	24.46	24.28	24.54	24.42	24.17	24.04
EIRP(Watts)	0.2831	0.2844	0.2767	0.2793	0.2679	0.2844	0.2767	0.2612	0.2535

LTE Band 2 (GT - LC = 1.00 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)	23.29	23.36	23.47	23.41	23.43	23.43	23.41	23.43	23.58
Conducted Power (Watts)	0.2133	0.2168	0.2223	0.2193	0.2203	0.2203	0.2193	0.2203	0.2280
EIRP(dBm)	24.29	24.36	24.47	24.41	24.43	24.43	24.41	24.43	24.58
EIRP(Watts)	0.2685	0.2729	0.2799	0.2761	0.2773	0.2773	0.2761	0.2773	0.2871

LTE Band 2 (GT - LC = 1.00 dB) 16QAM									
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	22.47	22.36	22.67	22.51	22.25	22.56	22.22	22.01
Conducted Power (Watts)	0.1923	0.1766	0.1722	0.1849	0.1782	0.1679	0.1803	0.1667	0.1589
EIRP(dBm)	23.84	23.47	23.36	23.67	23.51	23.25	23.56	23.22	23.01
EIRP(Watts)	0.2421	0.2223	0.2168	0.2328	0.2244	0.2113	0.2270	0.2099	0.2000

LTE Band 2 (GT - LC = 1.00 dB) 16QAM									
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)	22.59	22.62	22.40	22.61	22.51	22.25	22.44	22.38	21.85
Conducted Power (Watts)	0.1816	0.1828	0.1738	0.1824	0.1782	0.1679	0.1754	0.1730	0.1531
EIRP(dBm)	23.59	23.62	23.40	23.61	23.51	23.25	23.44	23.38	22.85
EIRP(Watts)	0.2286	0.2301	0.2188	0.2296	0.2244	0.2113	0.2208	0.2178	0.1928

LTE Band 4 (GT - LC = 1.20 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)	23.77	23.76	23.57	23.88	23.98	23.76	23.65	23.92	23.53
Conducted Power (Watts)	0.2382	0.2377	0.2275	0.2443	0.2500	0.2377	0.2317	0.2466	0.2254
EIRP(dBm)	24.97	24.96	24.77	25.08	25.18	24.96	24.85	25.12	24.73
EIRP(Watts)	0.3141	0.3133	0.2999	0.3221	0.3296	0.3133	0.3055	0.3251	0.2972

LTE Band 4 (GT - LC = 1.20 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)	23.68	23.48	24.03	23.73	23.64	24.22	23.65	24.25	23.96
Conducted Power (Watts)	0.2333	0.2228	0.2529	0.2360	0.2312	0.2642	0.2317	0.2661	0.2489
EIRP(dBm)	24.88	24.68	25.23	24.93	24.84	25.42	24.85	25.45	25.16
EIRP(Watts)	0.3076	0.2938	0.3334	0.3112	0.3048	0.3483	0.3055	0.3508	0.3281

LTE Band 4 (GT - LC = 1.20 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)	22.73	22.88	22.66	22.79	22.16	22.50	22.68	22.05	22.49
Conducted Power (Watts)	0.1875	0.1941	0.1845	0.1901	0.1644	0.1778	0.1854	0.1603	0.1774
EIRP(dBm)	23.93	24.08	23.86	23.99	23.36	23.70	23.88	23.25	23.69
EIRP(Watts)	0.2472	0.2559	0.2432	0.2506	0.2168	0.2344	0.2443	0.2113	0.2339

LTE Band 4 (GT - LC = 1.20 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)	22.77	22.72	22.77	22.69	22.22	22.81	22.70	22.36	23.34
Conducted Power (Watts)	0.1892	0.1871	0.1892	0.1858	0.1667	0.1910	0.1862	0.1722	0.2158
EIRP(dBm)	23.97	23.92	23.97	23.89	23.42	24.01	23.90	23.56	24.54
EIRP(Watts)	0.2495	0.2466	0.2495	0.2449	0.2198	0.2518	0.2455	0.2270	0.2844

LTE Band 5 (GT - LC = 0.00 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)	22.78	22.95	23.09	22.72	22.92	23.10	22.46	22.94	23.12
Conducted Power (Watts)	0.1897	0.1972	0.2037	0.1871	0.1959	0.2042	0.1762	0.1968	0.2051
ERP(dBm)	20.63	20.80	20.94	20.57	20.77	20.95	20.31	20.79	20.97
ERP(Watts)	0.1156	0.1202	0.1242	0.1140	0.1194	0.1245	0.1074	0.1199	0.1250

LTE Band 5 (GT - LC = 0.00 dB) QPSK			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	22.65	23.13	22.97
Conducted Power (Watts)	0.1841	0.2056	0.1982
ERP(dBm)	20.50	20.98	20.82
ERP(Watts)	0.1122	0.1253	0.1208

LTE Band 5 (GT - LC = 0.00 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)	21.87	21.91	22.34	21.51	21.84	21.85	21.53	22.12	21.73
Conducted Power (Watts)	0.1538	0.1552	0.1714	0.1416	0.1528	0.1531	0.1422	0.1629	0.1489
ERP(dBm)	19.72	19.76	20.19	19.36	19.69	19.70	19.38	19.97	19.58
ERP(Watts)	0.0938	0.0946	0.1045	0.0863	0.0931	0.0933	0.0867	0.0993	0.0908

LTE Band 5 (GT - LC = 0.00 dB) 16QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	21.84	21.88	21.64
Conducted Power (Watts)	0.1528	0.1542	0.1459
ERP(dBm)	19.69	19.73	19.49
ERP(Watts)	0.0931	0.0940	0.0889

LTE Band 12 (GT - LC = -0.70 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	22.97	23.10	23.25	22.98	23.23	23.13	23.28	23.07	23.47
Conducted Power (Watts)	0.1982	0.2042	0.2113	0.1986	0.2104	0.2056	0.2128	0.2028	0.2223
ERP(dBm)	20.12	20.25	20.40	20.13	20.38	20.28	20.43	20.22	20.62
ERP(Watts)	0.1028	0.1059	0.1096	0.1030	0.1091	0.1067	0.1104	0.1052	0.1153

LTE Band 12 (GT - LC = -0.70 dB) QPSK			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	23.48	22.97	23.24
Conducted Power (Watts)	0.2228	0.1982	0.2109
ERP(dBm)	20.63	20.12	20.39
ERP(Watts)	0.1156	0.1028	0.1094

LTE Band 12 (GT - LC = -0.70 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	22.06	22.11	22.42	22.01	22.02	21.93	21.88	22.00	22.03
Conducted Power (Watts)	0.1607	0.1626	0.1746	0.1589	0.1592	0.1560	0.1542	0.1585	0.1596
ERP(dBm)	19.21	19.26	19.57	19.16	19.17	19.08	19.03	19.15	19.18
ERP(Watts)	0.0834	0.0843	0.0906	0.0824	0.0826	0.0809	0.0800	0.0822	0.0828

LTE Band 12 (GT - LC = -0.70 dB) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	22.00	22.58	22.07
Conducted Power (Watts)	0.1585	0.1811	0.1611
ERP(dBm)	19.15	19.73	19.22
ERP(Watts)	0.0822	0.0940	0.0836

LTE Band 13 (GT - LC = -0.50 dB) QPSK						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	23.00	22.78	22.94		23.01	-
Conducted Power (Watts)	0.1995	0.1897	0.1968		0.2000	-
ERP(dBm)	20.35	20.13	20.29		20.36	-
ERP(Watts)	0.1084	0.1030	0.1069		0.1086	-

LTE Band 13 (GT - LC = -0.50 dB) 16QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency (MHz)	779.5	782	784.5	-	782	-
Conducted Power (dBm)	21.60	21.59	21.61		21.78	-
Conducted Power (Watts)	0.1445	0.1442	0.1449		0.1507	-
ERP(dBm)	18.95	18.94	18.96		19.13	-
ERP(Watts)	0.0785	0.0783	0.0787		0.0818	-

LTE Band 25 (GT - LC = 1.00 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	23.50	23.68	23.25	23.71	23.48	23.04	23.73	23.37	23.39
Conducted Power (Watts)	0.2239	0.2333	0.2113	0.2350	0.2228	0.2014	0.2360	0.2173	0.2183
EIRP(dBm)	24.50	24.68	24.25	24.71	24.48	24.04	24.73	24.37	24.39
EIRP(Watts)	0.2818	0.2938	0.2661	0.2958	0.2805	0.2535	0.2972	0.2735	0.2748

LTE Band 25 (GT - LC = 1.00 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	23.58	23.77	22.99	23.35	23.68	23.55	23.80	23.49	23.70
Conducted Power (Watts)	0.2280	0.2382	0.1991	0.2163	0.2333	0.2265	0.2399	0.2234	0.2344
EIRP(dBm)	24.58	24.77	23.99	24.35	24.68	24.55	24.80	24.49	24.70
EIRP(Watts)	0.2871	0.2999	0.2506	0.2723	0.2938	0.2851	0.3020	0.2812	0.2951

LTE Band 25 (GT - LC = 1.00 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	22.82	22.93	22.27	22.54	22.58	21.88	22.33	22.50	22.34
Conducted Power (Watts)	0.1914	0.1963	0.1687	0.1795	0.1811	0.1542	0.1710	0.1778	0.1714
EIRP(dBm)	23.82	23.93	23.27	23.54	23.58	22.88	23.33	23.50	23.34
EIRP(Watts)	0.2410	0.2472	0.2123	0.2259	0.2280	0.1941	0.2153	0.2239	0.2158

LTE Band 25 (GT - LC = 1.00 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	22.47	22.47	22.90	22.57	22.74	22.70	22.52	22.56	22.46
Conducted Power (Watts)	0.1766	0.1766	0.1950	0.1807	0.1879	0.1862	0.1786	0.1803	0.1762
EIRP(dBm)	23.47	23.47	23.90	23.57	23.74	23.70	23.52	23.56	23.46
EIRP(Watts)	0.2223	0.2223	0.2455	0.2275	0.2366	0.2344	0.2249	0.2270	0.2218

LTE Band 26 (GT - LC = 0.00 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	22.50	22.83	22.80	22.36	22.82	22.81	22.86	22.98	22.61
Conducted Power (Watts)	0.1778	0.1919	0.1905	0.1722	0.1914	0.1910	0.1932	0.1986	0.1824
ERP(dBm)	20.35	20.68	20.65	20.21	20.67	20.66	20.71	20.83	20.46
ERP(Watts)	0.1084	0.1169	0.1161	0.1050	0.1167	0.1164	0.1178	0.1211	0.1112

LTE Band 26 (GT - LC = 0.00 dB) QPSK							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	22.36	22.60	22.70	22.82	22.86	23.06	22.82
Conducted Power (Watts)	0.1722	0.1820	0.1862	0.1914	0.1932	0.2023	0.1914
ERP(dBm)	20.21	20.45	20.55	20.67	20.71	20.91	20.67
ERP(Watts)	0.1050	0.1109	0.1135	0.1167	0.1178	0.1233	0.1167

LTE Band 26 (GT - LC = 0.00 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26797	26915	27033	26805	26915	27025	26815	26915	27015
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	21.67	21.86	22.07	21.43	22.03	21.56	21.50	21.66	22.07
Conducted Power (Watts)	0.1469	0.1535	0.1611	0.1390	0.1596	0.1432	0.1413	0.1466	0.1611
ERP(dBm)	19.52	19.71	19.92	19.28	19.88	19.41	19.35	19.51	19.92
ERP(Watts)	0.0895	0.0935	0.0982	0.0847	0.0973	0.0873	0.0861	0.0893	0.0982

LTE Band 26 (GT - LC = 0.00 dB) 16QAM							
Bandwidth	10M			15M			15M
Channel	26840	26915	26990	26865	26915	26965	26765
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)
Frequency (MHz)	829	836.5	844	831.5	836.5	841.5	821.5
Conducted Power (dBm)	21.37	22.01	21.89	21.49	21.61	21.81	21.71
Conducted Power (Watts)	0.1371	0.1589	0.1545	0.1409	0.1449	0.1517	0.1483
ERP(dBm)	19.22	19.86	19.74	19.34	19.46	19.66	19.56
ERP(Watts)	0.0836	0.0968	0.0942	0.0859	0.0883	0.0925	0.0904

LTE Band 41 (G_T - L_C = 1.80dB) QPSK									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	23.03	23.67	23.64	23.12	23.61	23.14	23.15	23.46	23.16
Conducted Power (Watts)	0.2009	0.2328	0.2312	0.2051	0.2296	0.2061	0.2065	0.2218	0.2070
EIRP(dBm)	24.83	25.47	25.44	24.92	25.41	24.94	24.95	25.26	24.96
EIRP(Watts)	0.3041	0.3524	0.3499	0.3105	0.3475	0.3119	0.3126	0.3357	0.3133

LTE Band 41 (G_T - L_C = 1.80dB) QPSK			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	22.95	23.69	23.10
Conducted Power (Watts)	0.1972	0.2339	0.2042
EIRP(dBm)	24.75	25.49	24.90
EIRP(Watts)	0.2985	0.3540	0.3090

LTE Band 41 (G_T - L_C = 1.80dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	39675	40620	41565	39700	40620	41540	39725	40620	41515
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2498.5	2593	2687.5	2501	2593	2685	2503.5	2593	2682.5
Conducted Power (dBm)	22.05	22.77	21.98	21.99	22.57	22.05	22.04	22.49	22.37
Conducted Power (Watts)	0.1603	0.1892	0.1578	0.1581	0.1807	0.1603	0.1600	0.1774	0.1726
EIRP(dBm)	23.85	24.57	23.78	23.79	24.37	23.85	23.84	24.29	24.17
EIRP(Watts)	0.2427	0.2864	0.2388	0.2393	0.2735	0.2427	0.2421	0.2685	0.2612

LTE Band 41 (G_T - L_C = 1.80dB) 16QAM			
Bandwidth	20M		
Channel	39750	40620	41490
	(Low)	(Mid)	(High)
Frequency (MHz)	2506	2593	2680
Conducted Power (dBm)	21.98	22.37	22.13
Conducted Power (Watts)	0.1578	0.1726	0.1633
EIRP(dBm)	23.78	24.17	23.93
EIRP(Watts)	0.2388	0.2612	0.2472

LTE Band 66 (GT - LC = 1.20 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	23.50	23.62	23.36	23.38	23.68	22.86	23.37	23.58	23.38
Conducted Power (Watts)	0.2239	0.2301	0.2168	0.2178	0.2333	0.1932	0.2173	0.2280	0.2178
EIRP(dBm)	24.70	24.82	24.56	24.58	24.88	24.06	24.57	24.78	24.58
EIRP(Watts)	0.2951	0.3034	0.2858	0.2871	0.3076	0.2547	0.2864	0.3006	0.2871

LTE Band 66 (GT - LC = 1.20 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	23.75	23.54	23.04	23.91	23.52	23.25	24.04	23.50	23.13
Conducted Power (Watts)	0.2371	0.2259	0.2014	0.2460	0.2249	0.2113	0.2535	0.2239	0.2056
EIRP(dBm)	24.95	24.74	24.24	25.11	24.72	24.45	25.24	24.70	24.33
EIRP(Watts)	0.3126	0.2979	0.2655	0.3243	0.2965	0.2786	0.3342	0.2951	0.2710

LTE Band 66 (GT - LC = 1.20 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	22.65	22.85	22.06	22.81	22.57	21.86	22.54	22.68	21.84
Conducted Power (Watts)	0.1841	0.1928	0.1607	0.1910	0.1807	0.1535	0.1795	0.1854	0.1528
EIRP(dBm)	23.85	24.05	23.26	24.01	23.77	23.06	23.74	23.88	23.04
EIRP(Watts)	0.2427	0.2541	0.2118	0.2518	0.2382	0.2023	0.2366	0.2443	0.2014

LTE Band 66 (GT - LC = 1.20 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	22.08	23.00	22.07	23.00	22.77	22.04	22.41	22.70	21.98
Conducted Power (Watts)	0.1614	0.1995	0.1611	0.1995	0.1892	0.1600	0.1742	0.1862	0.1578
EIRP(dBm)	23.28	24.20	23.27	24.20	23.97	23.24	23.61	23.90	23.18
EIRP(Watts)	0.2128	0.2630	0.2123	0.2630	0.2495	0.2109	0.2296	0.2455	0.2080

LTE Band 71 (GT - LC = -1.00 dB) QPSK									
Bandwidth	5M			10M			15M		
Channel	133147	133297	133447	133172	133297	133422	133197	133297	133397
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	665.5	680.5	695.5	668	680.5	693	670.5	680.5	690.5
Conducted Power (dBm)	22.62	22.60	22.44	22.50	22.62	22.52	22.45	22.68	22.49
Conducted Power (Watts)	0.1828	0.1820	0.1754	0.1778	0.1828	0.1786	0.1758	0.1854	0.1774
ERP(dBm)	19.47	19.45	19.29	19.35	19.47	19.37	19.30	19.53	19.34
ERP(Watts)	0.0885	0.0881	0.0849	0.0861	0.0885	0.0865	0.0851	0.0897	0.0859

LTE Band 71 (GT - LC = -1.00 dB) QPSK			
Bandwidth	20M		
Channel	133222	133297	133372
	(Low)	(Mid)	(High)
Frequency (MHz)	673	680.5	688
Conducted Power (dBm)	22.62	22.72	22.63
Conducted Power (Watts)	0.1828	0.1871	0.1832
ERP(dBm)	19.47	19.57	19.48
ERP(Watts)	0.0885	0.0906	0.0887

LTE Band 71 (GT - LC = -1.00 dB) 16QAM									
Bandwidth	5M			10M			15M		
Channel	133147	133297	133447	133172	133297	133422	133197	133297	133397
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	665.5	680.5	695.5	668	680.5	693	670.5	680.5	690.5
Conducted Power (dBm)	21.44	21.35	21.16	21.32	21.41	21.35	21.40	21.30	21.34
Conducted Power (Watts)	0.1393	0.1365	0.1306	0.1355	0.1384	0.1365	0.1380	0.1349	0.1361
ERP(dBm)	18.29	18.20	18.01	18.17	18.26	18.20	18.25	18.15	18.19
ERP(Watts)	0.0675	0.0661	0.0632	0.0656	0.0670	0.0661	0.0668	0.0653	0.0659

LTE Band 71 (GT - LC = -1.00 dB) 16QAM			
Bandwidth	20M		
Channel	133222	133297	133372
	(Low)	(Mid)	(High)
Frequency (MHz)	673	680.5	688
Conducted Power (dBm)	21.50	21.49	21.35
Conducted Power (Watts)	0.1413	0.1409	0.1365
ERP(dBm)	18.35	18.34	18.20
ERP(Watts)	0.0684	0.0682	0.0661

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	4.2	4.78	4.72	5.74	PASS
Middle CH	4.49	4.64	5.16	5.71	
Highest CH	3.94	4.67	4.64	5.68	

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.91	4.55	4.9	5.83	PASS
Middle CH	3.88	4.67	5.01	5.83	
Highest CH	3.71	4.52	4.75	5.51	

Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.54	5.8	5.88	6.61	PASS
Middle CH	5.68	5.62	5.97	6.46	
Highest CH	5.39	5.42	6.14	6.43	

Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.48	5.45	6.12	6.23	PASS
Middle CH	5.36	5.51	6.23	6.38	
Highest CH	5.19	5.65	6.09	6.46	

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.7	5.54	5.83	6.52	
Highest CH	-	-	-	-	

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.03	4.87	4.99	5.97	PASS
Middle CH	4.17	4.75	5.07	5.94	
Highest CH	3.54	4.41	5.04	5.59	

Mode	LTE Band 26 / 15MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.22	5.62	6.09	6.55	PASS
Middle CH	5.28	5.48	5.94	6.41	
Highest CH	5.28	5.25	5.71	6.20	

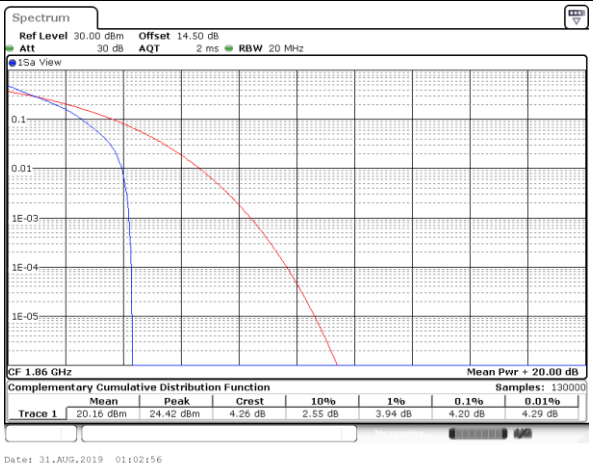
Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.55	5.39	5.51	7.01	PASS
Middle CH	4.64	5.83	5.86	7.07	
Highest CH	4.64	6.23	5.36	6.29	

Mode	LTE Band 66 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.14	4.70	4.87	5.74	PASS
Middle CH	3.57	4.64	4.46	5.71	
Highest CH	4.32	4.78	5.36	5.83	

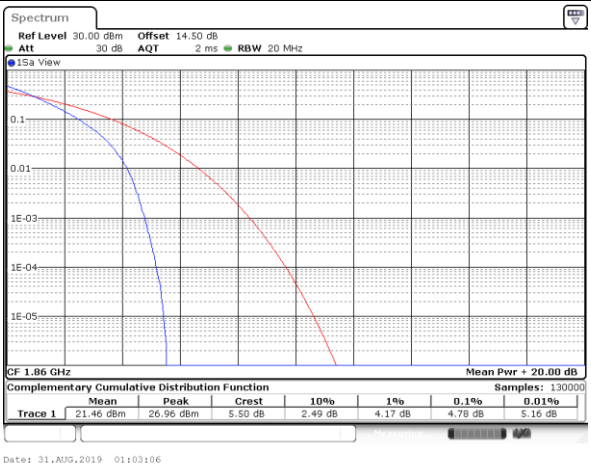
Mode	LTE Band 71 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	5.01	5.01	5.65	6.03	PASS
Middle CH	4.9	4.9	5.39	5.86	
Highest CH	4.9	4.9	5.74	5.94	

LTE Band 2 / 20MHz / QPSK

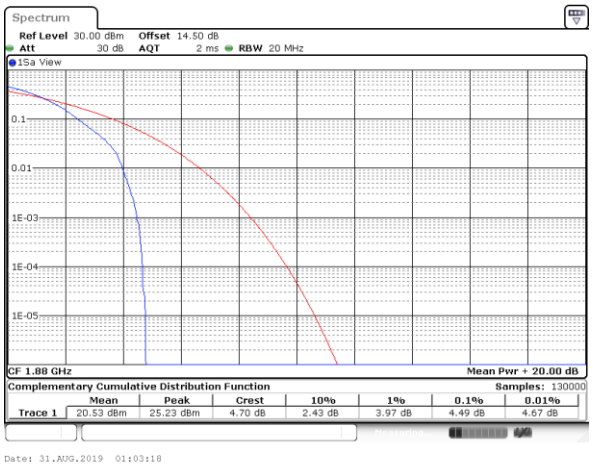
Lowest Channel / 1RB



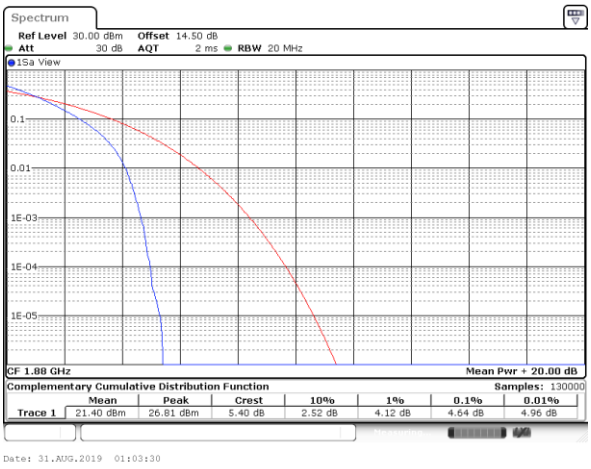
Lowest Channel / Full RB



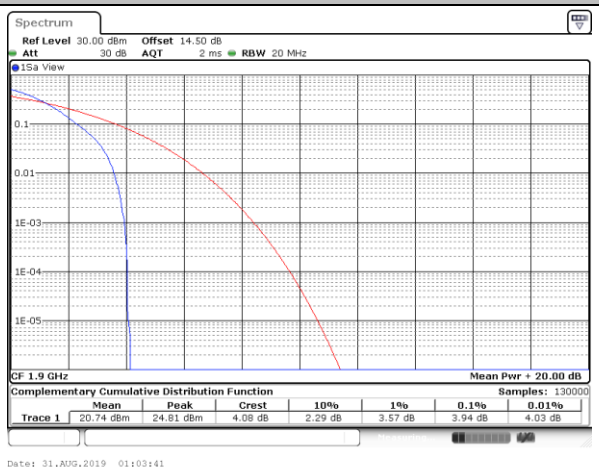
Middle Channel / 1RB



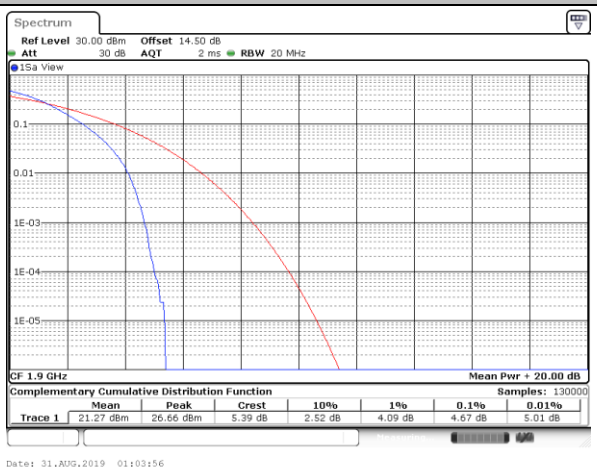
Middle Channel / Full RB



Highest Channel / 1RB

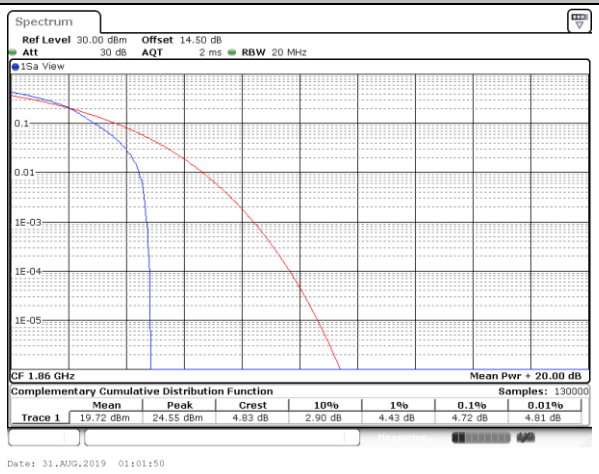


Highest Channel / Full RB

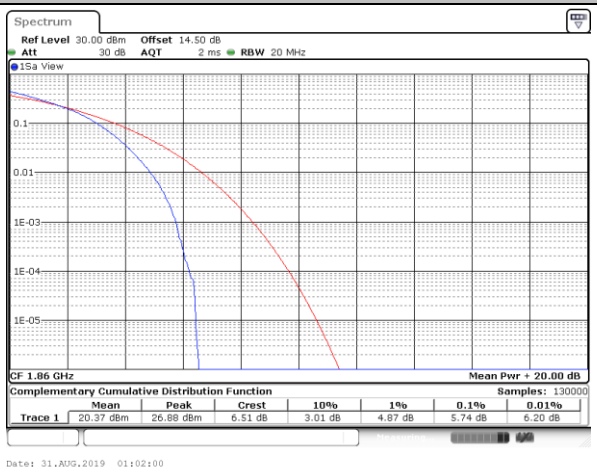


LTE Band 2 / 20MHz / 16QAM

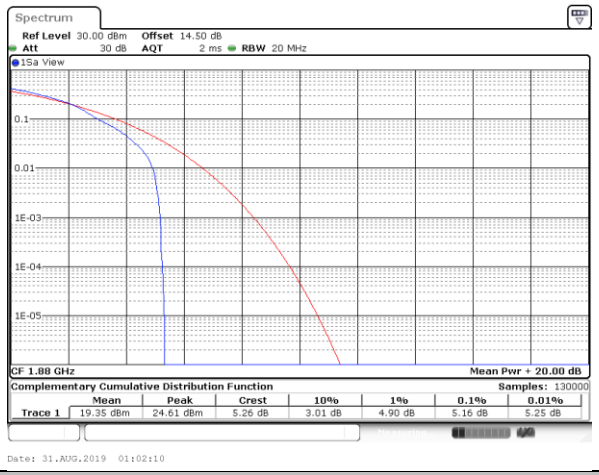
Lowest Channel / 1RB



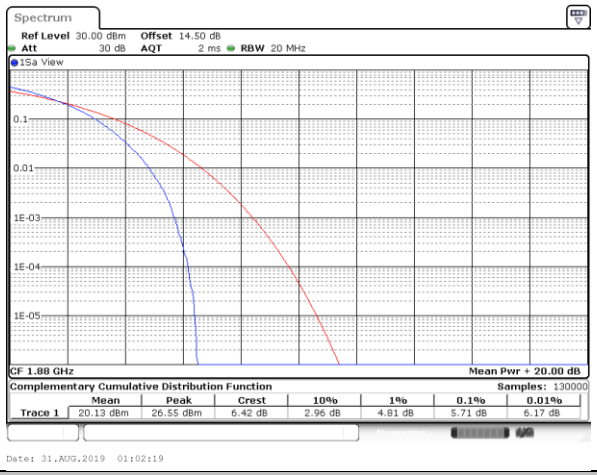
Lowest Channel / Full RB



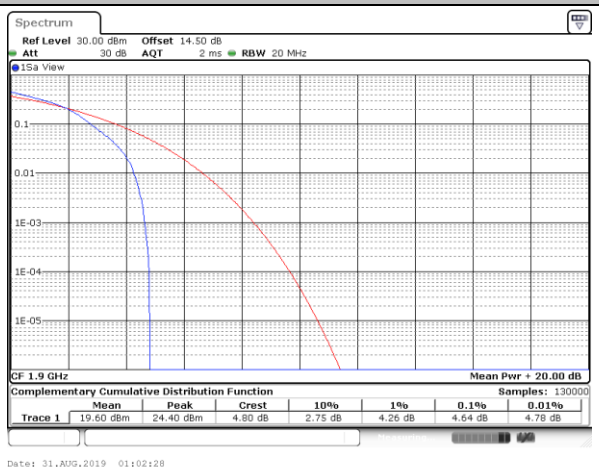
Middle Channel / 1RB



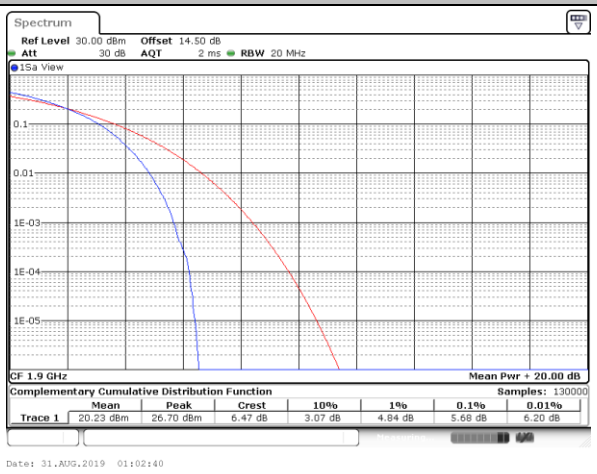
Middle Channel / Full RB



Highest Channel / 1RB

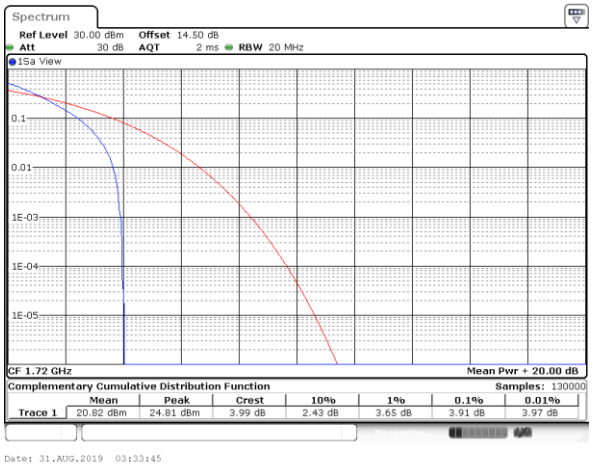


Highest Channel / Full RB

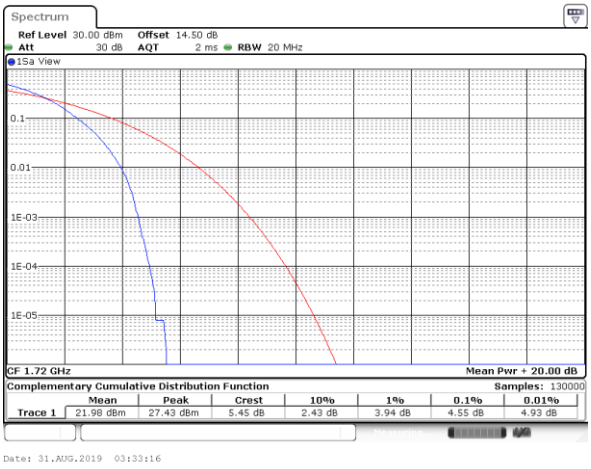


LTE Band 4 / 20MHz / QPSK

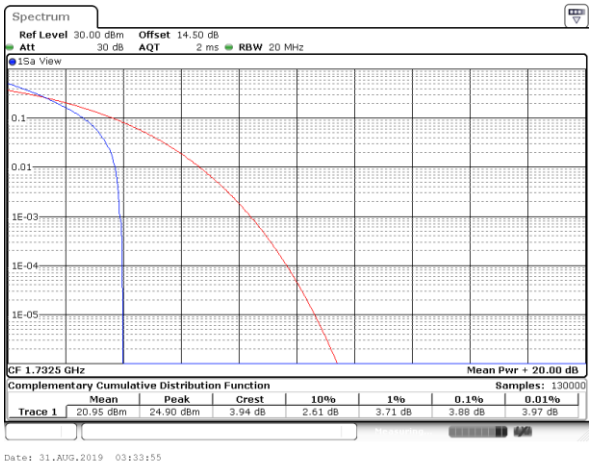
Lowest Channel / 1RB



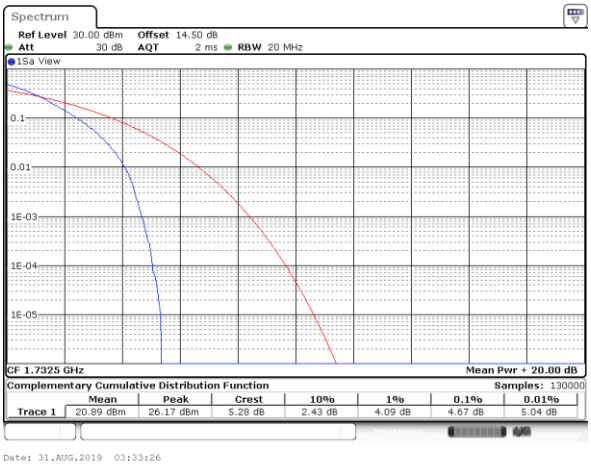
Lowest Channel / Full RB



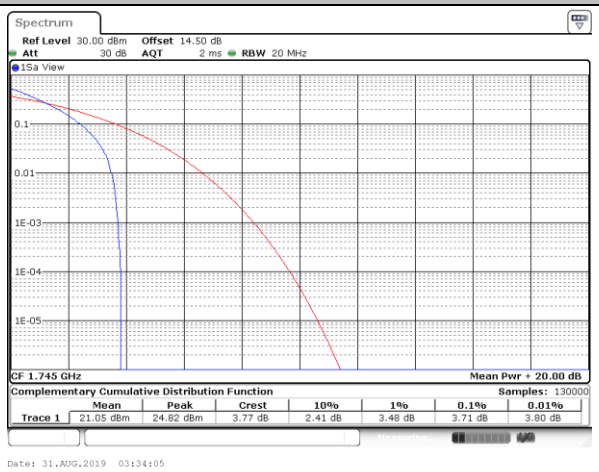
Middle Channel / 1RB



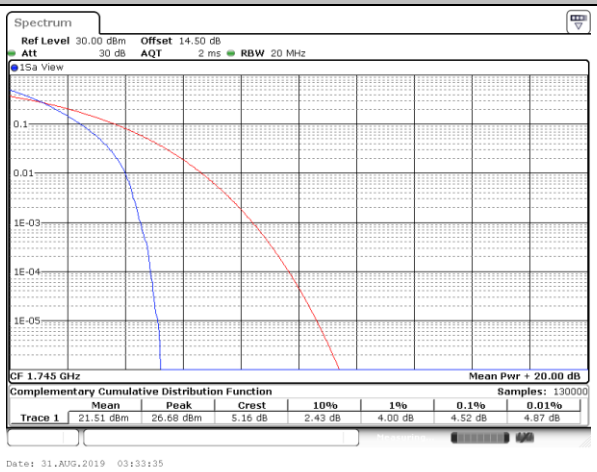
Middle Channel / Full RB



Highest Channel / 1RB

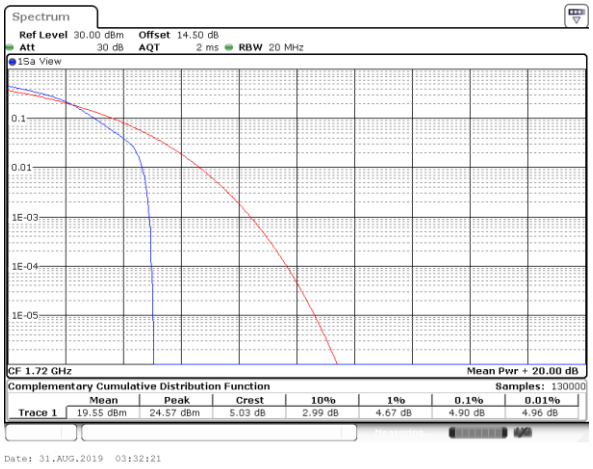


Highest Channel / Full RB

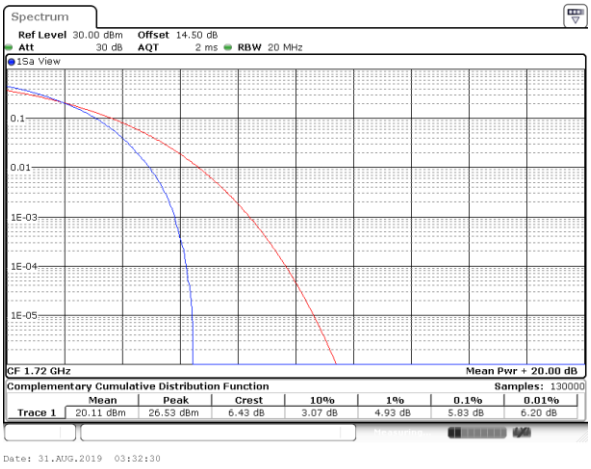


LTE Band 4 / 20MHz / 16QAM

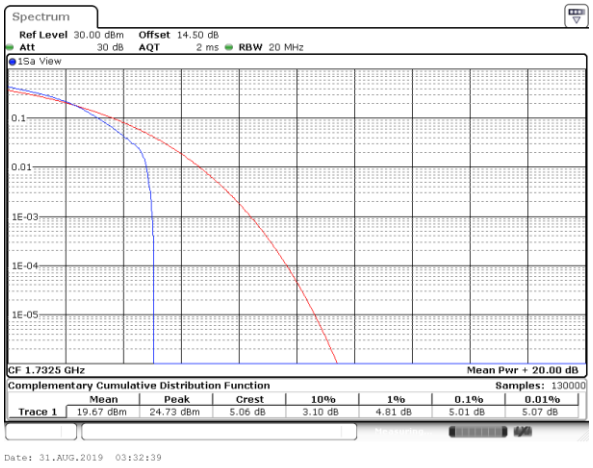
Lowest Channel / 1RB



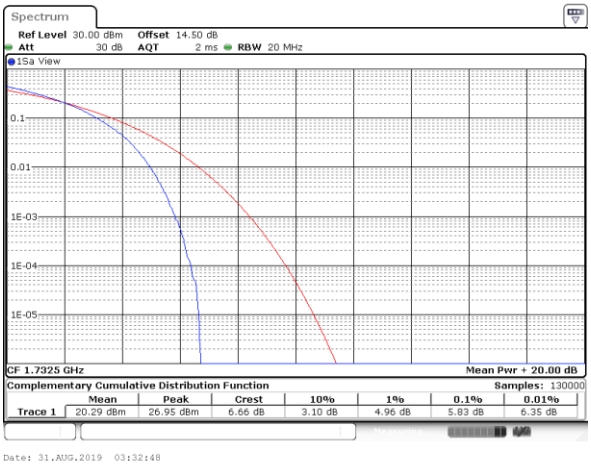
Lowest Channel / Full RB



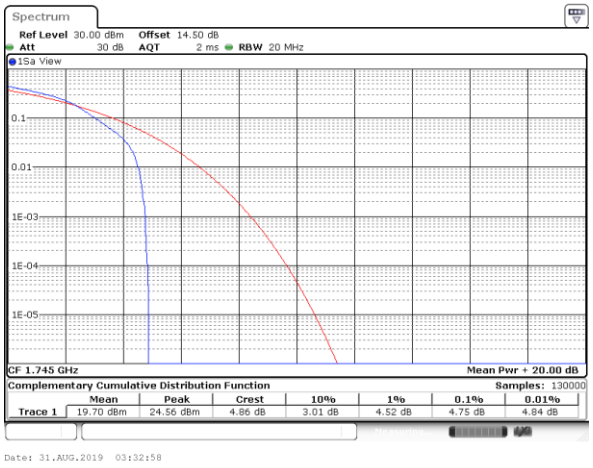
Middle Channel / 1RB



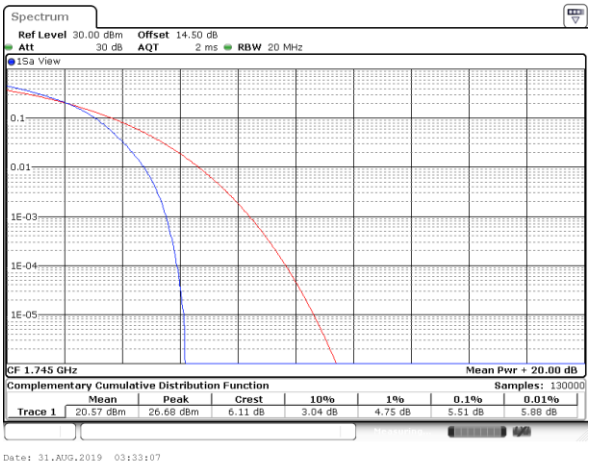
Middle Channel / Full RB



Highest Channel / 1RB

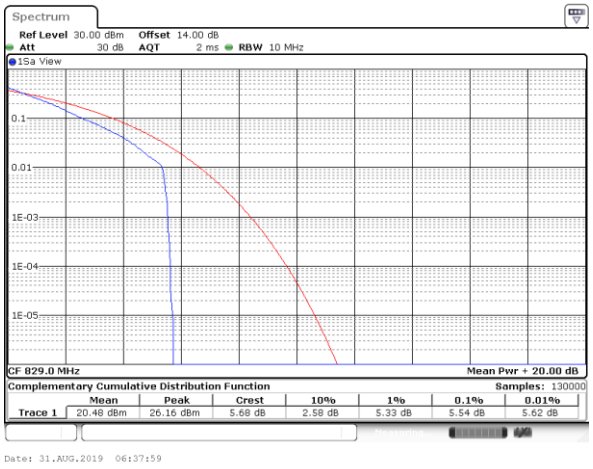


Highest Channel / Full RB

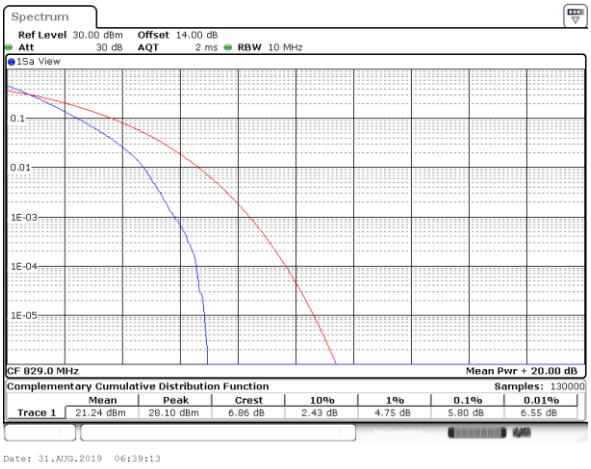


LTE Band 5 / 10MHz / QPSK

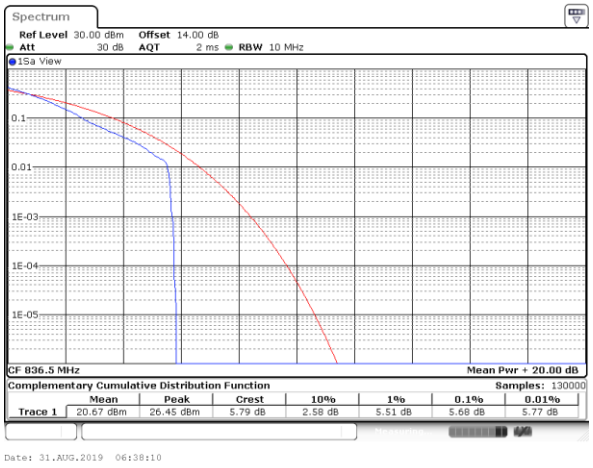
Lowest Channel / 1RB



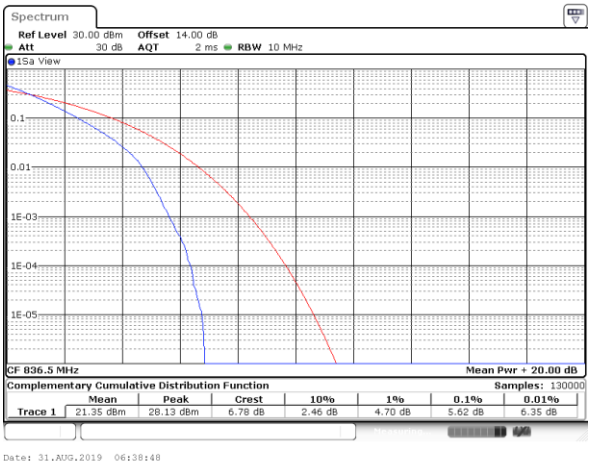
Lowest Channel / Full RB



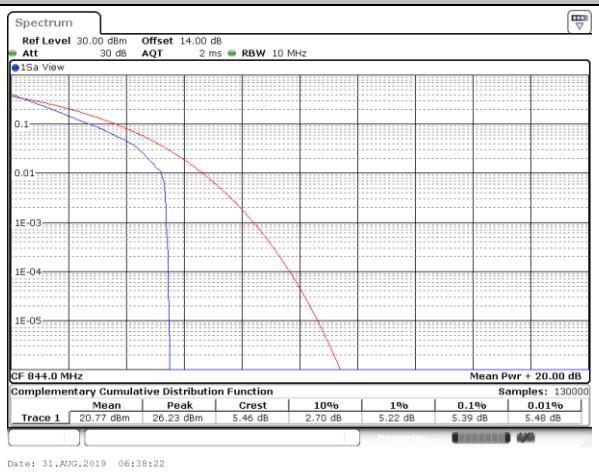
Middle Channel / 1RB



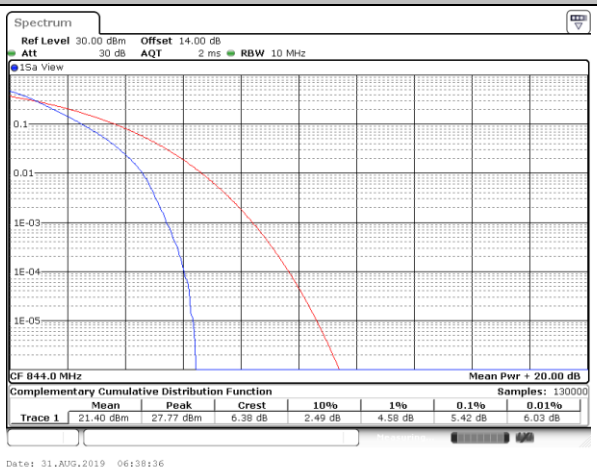
Middle Channel / Full RB



Highest Channel / 1RB

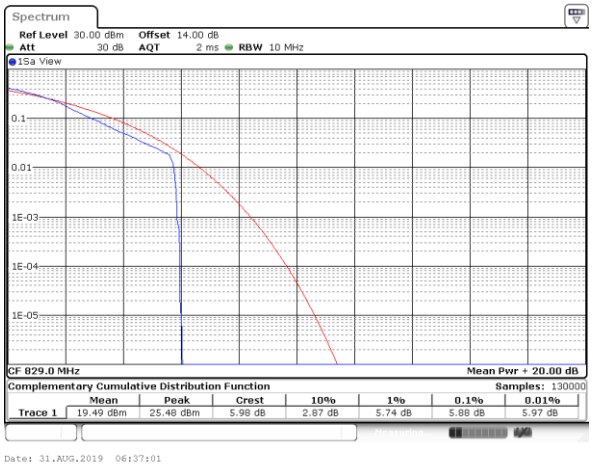


Highest Channel / Full RB

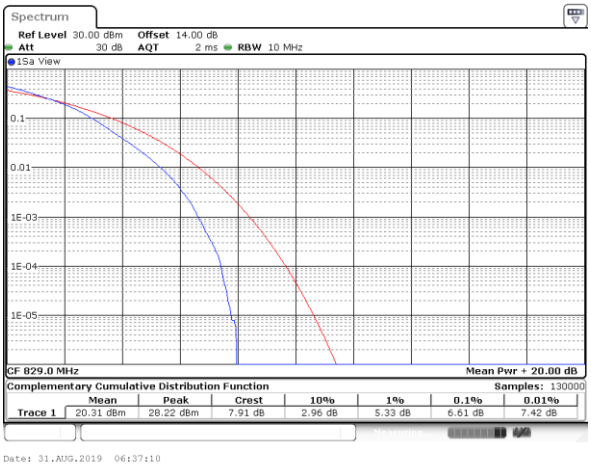


LTE Band 5 / 10MHz / 16QAM

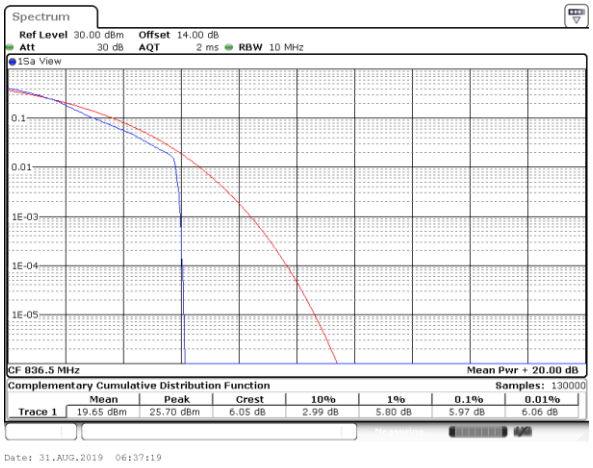
Lowest Channel / 1RB



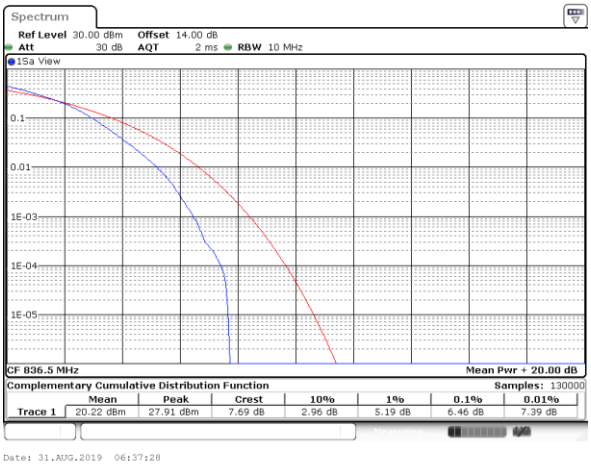
Lowest Channel / Full RB



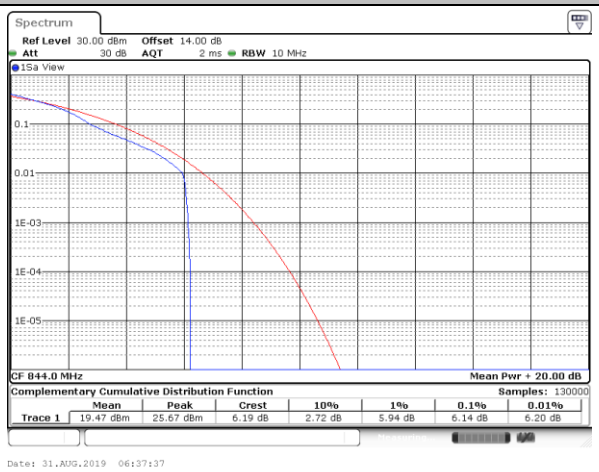
Middle Channel / 1RB



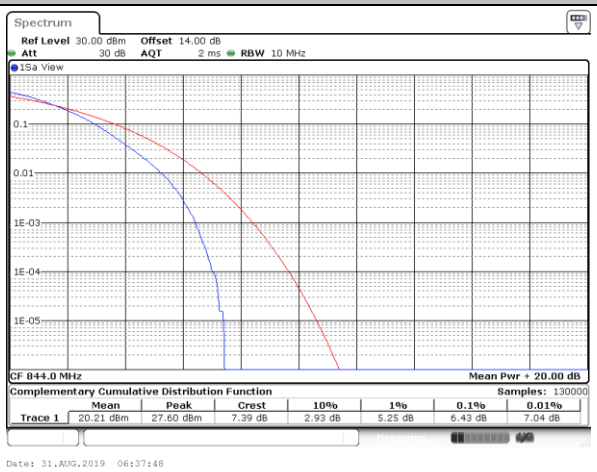
Middle Channel / Full RB



Highest Channel / 1RB

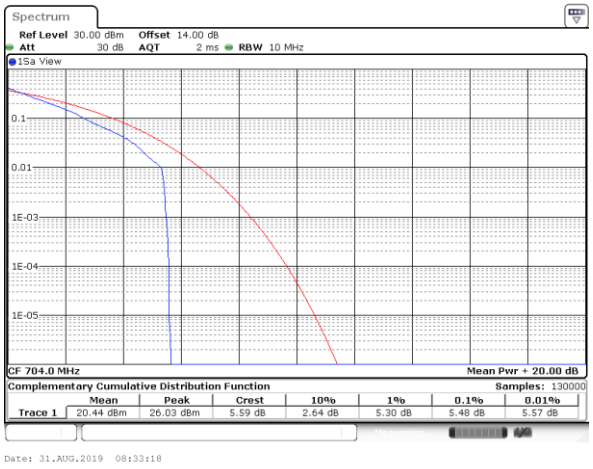


Highest Channel / Full RB

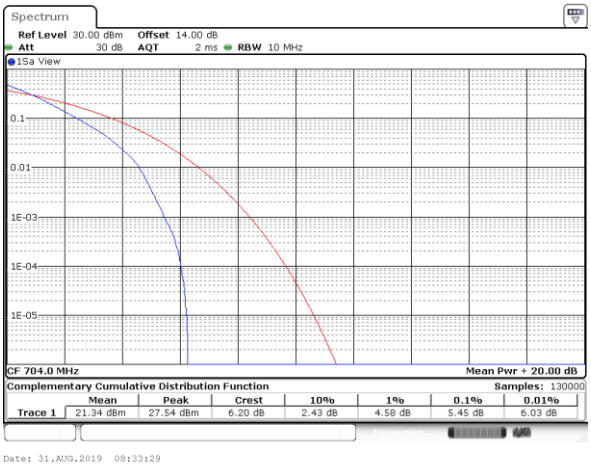


LTE Band 12 / 10MHz / QPSK

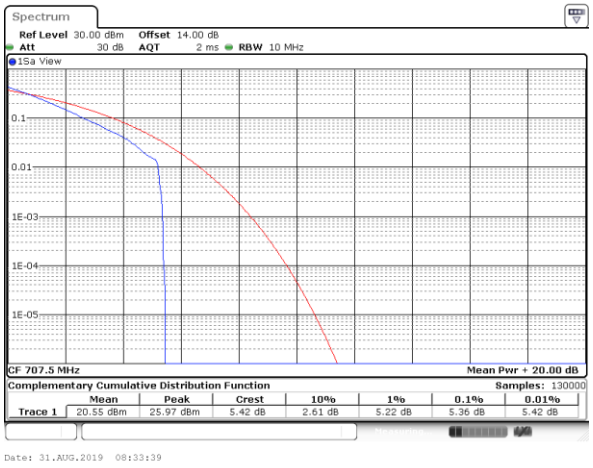
Lowest Channel / 1RB



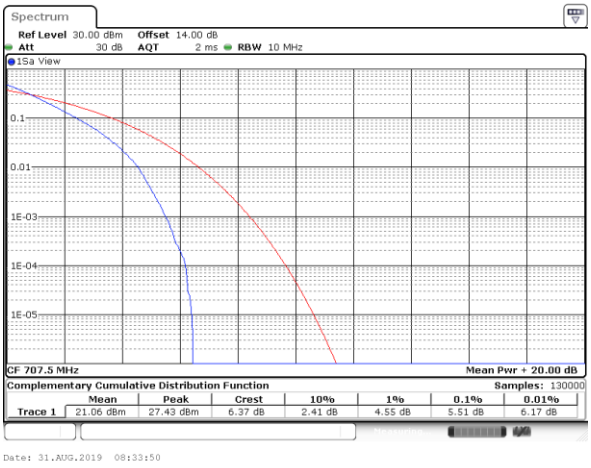
Lowest Channel / Full RB



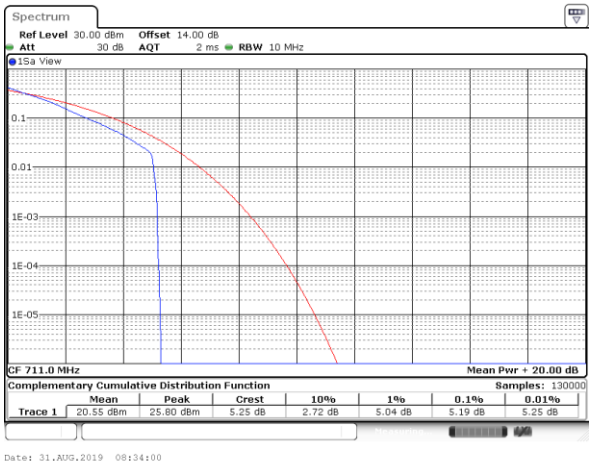
Middle Channel / 1RB



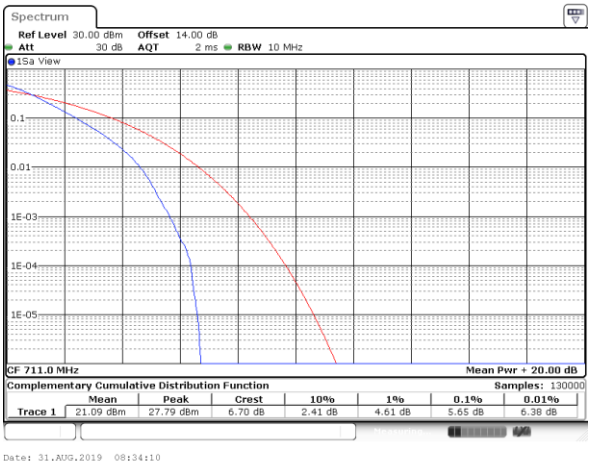
Middle Channel / Full RB



Highest Channel / 1RB

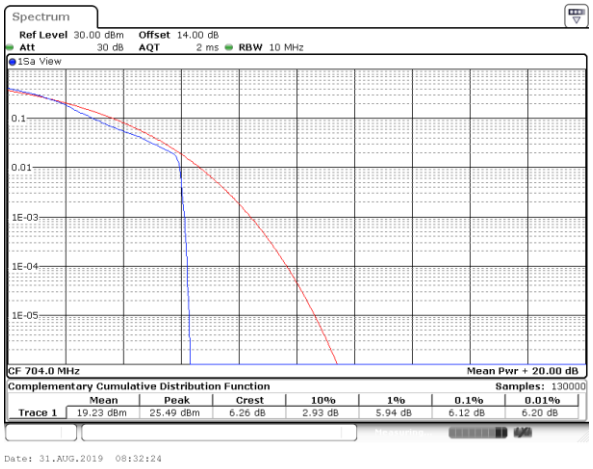


Highest Channel / Full RB

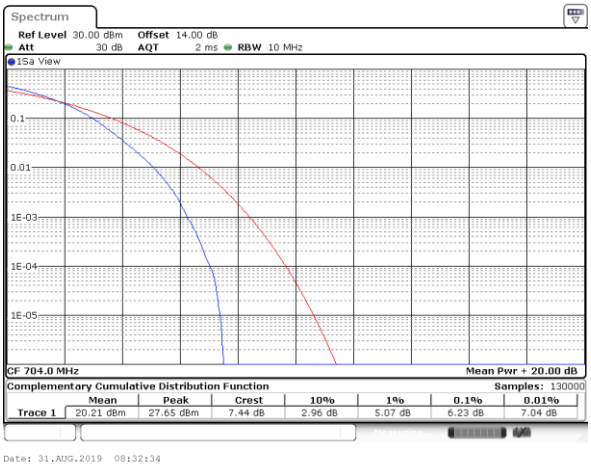


LTE Band 12 / 10MHz / 16QAM

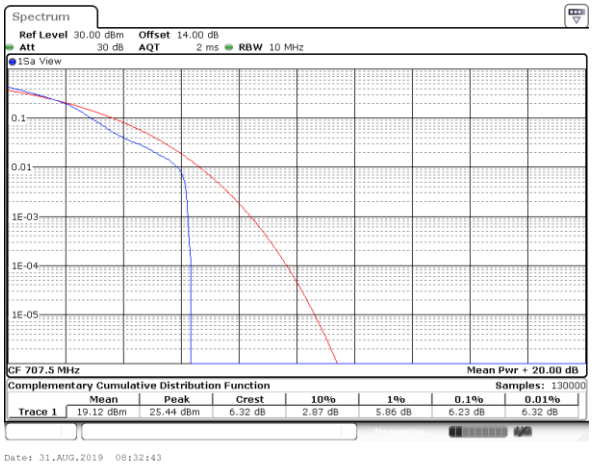
Lowest Channel / 1RB



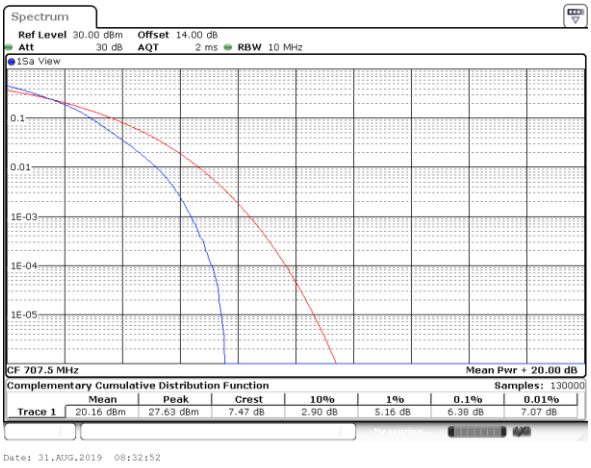
Lowest Channel / Full RB



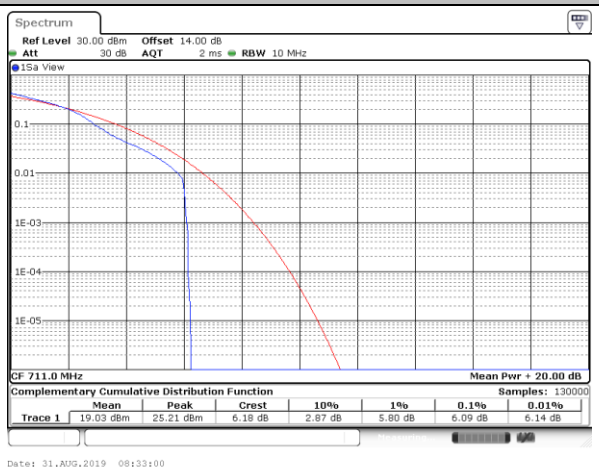
Middle Channel / 1RB



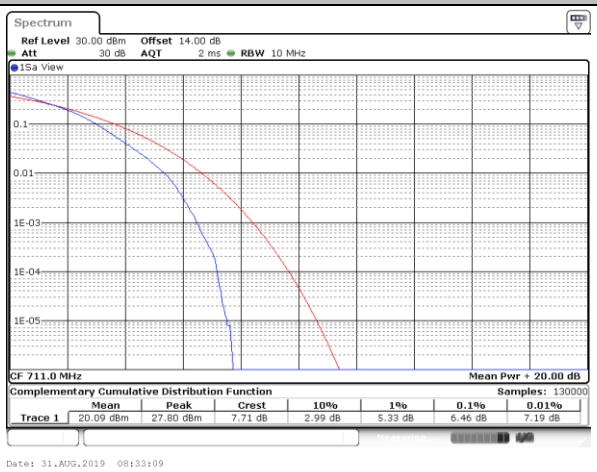
Middle Channel / Full RB

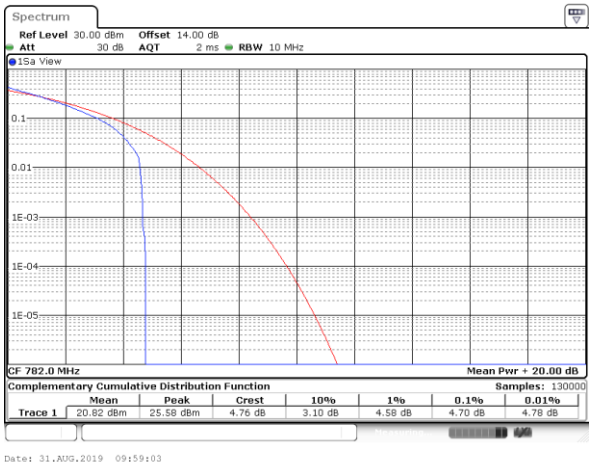
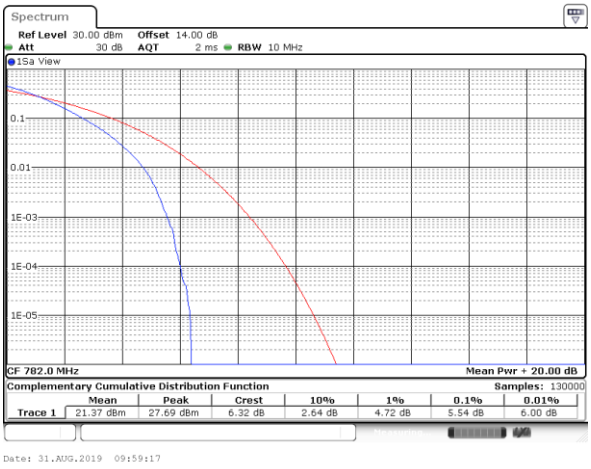


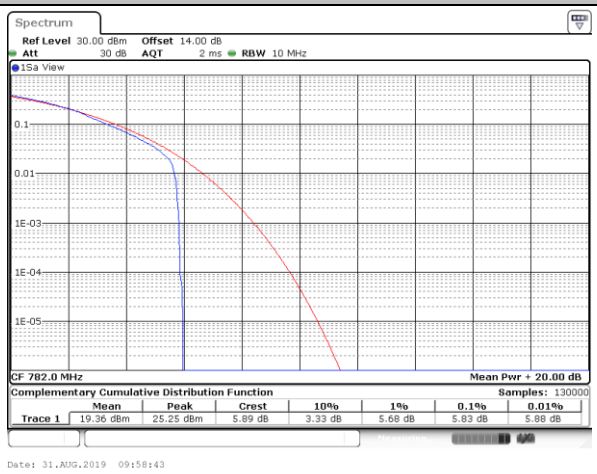
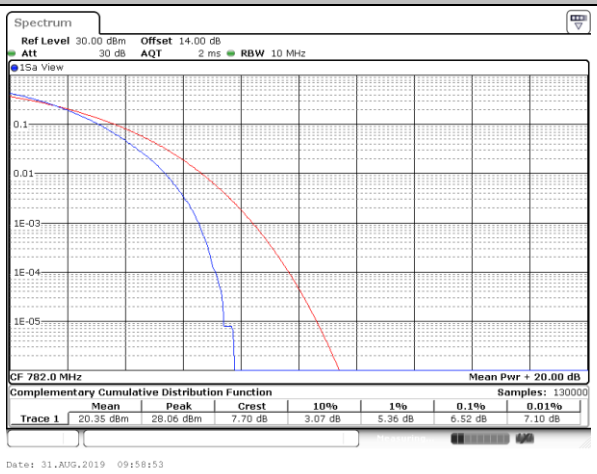
Highest Channel / 1RB



Highest Channel / Full RB

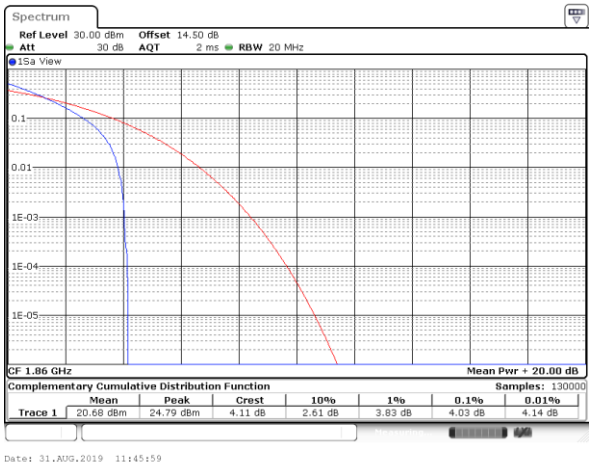


LTE Band 13 / 10MHz / QPSK	
Middle Channel/ 1RB	**Middle Channel / Full RB**
	

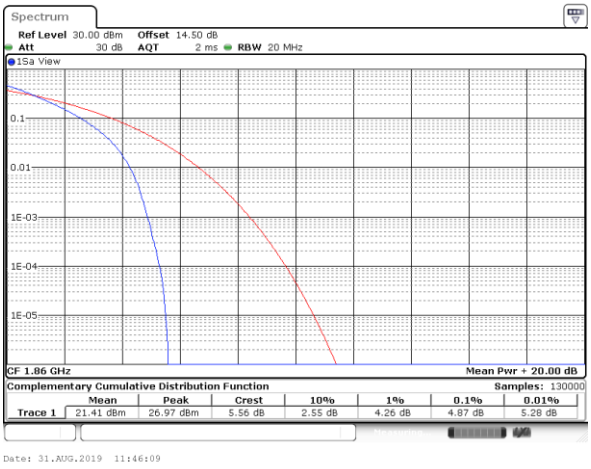
LTE Band 13 / 10MHz / 16QAM	
Middle Channel/ 1RB	**Middle Channel / Full RB**
	

LTE Band 25 / 20MHz / QPSK

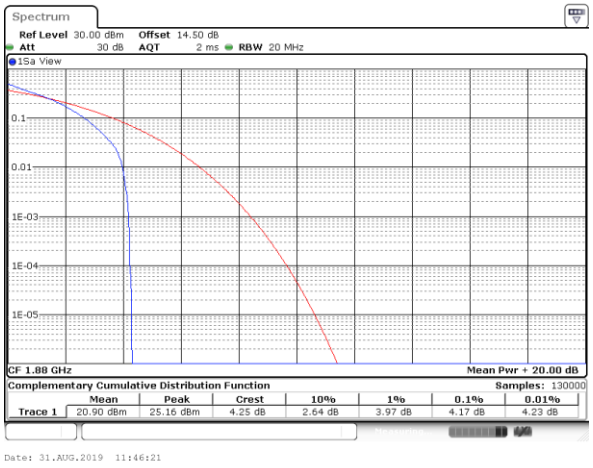
Lowest Channel / 1RB



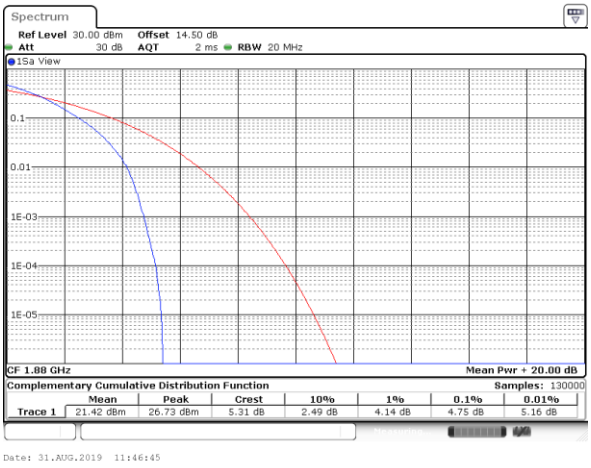
Lowest Channel / Full RB



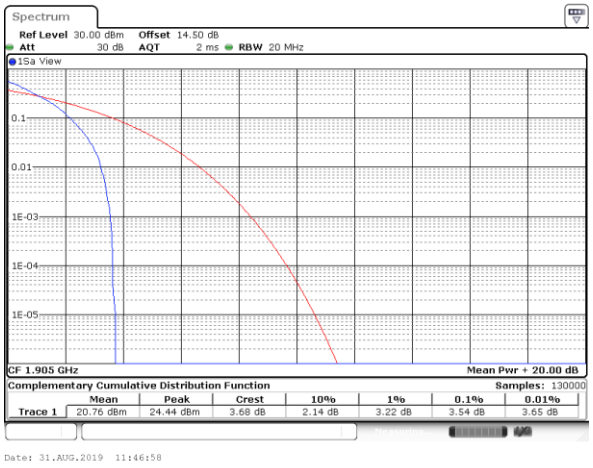
Middle Channel / 1RB



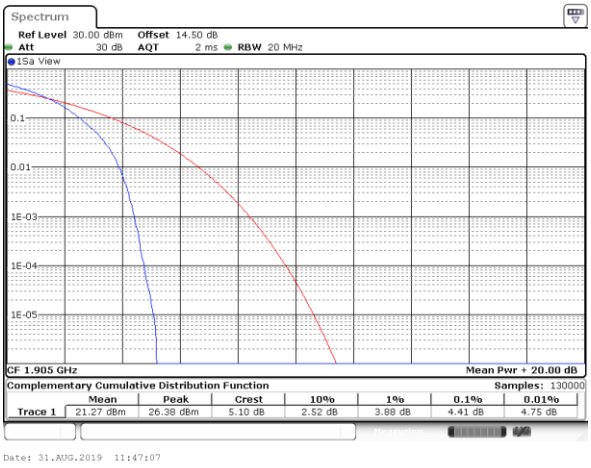
Middle Channel / Full RB



Highest Channel / 1RB

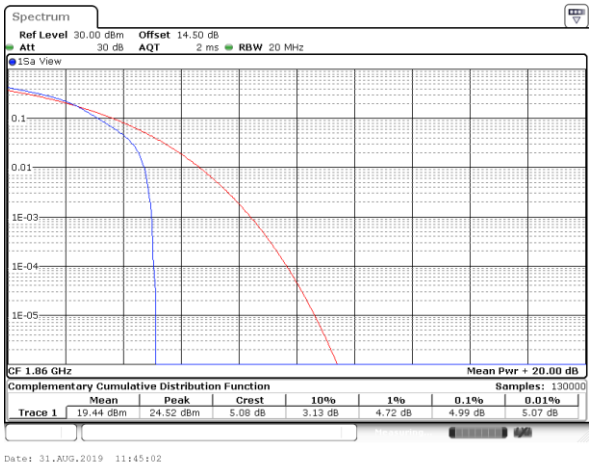


Highest Channel / Full RB

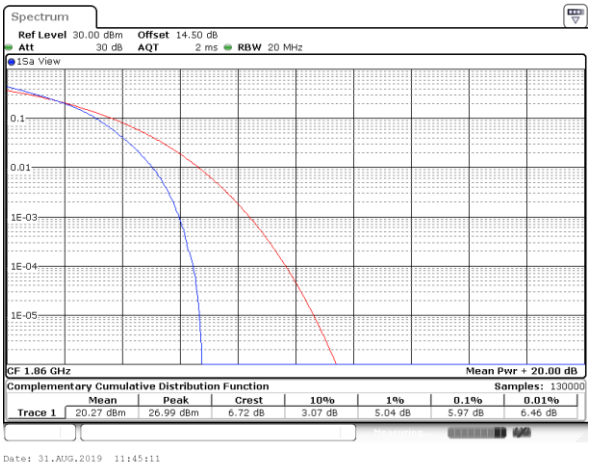


LTE Band 25 / 20MHz / 16QAM

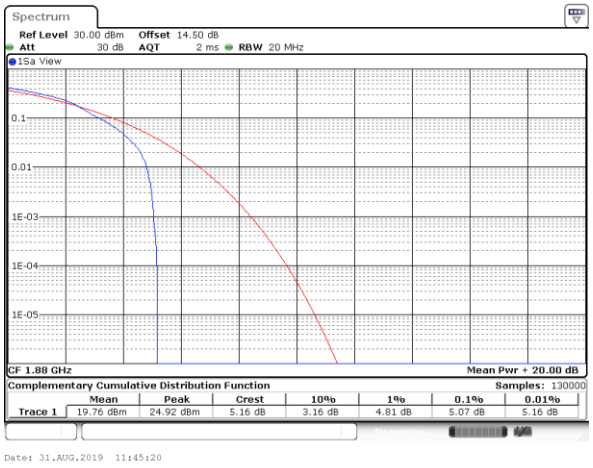
Lowest Channel / 1RB



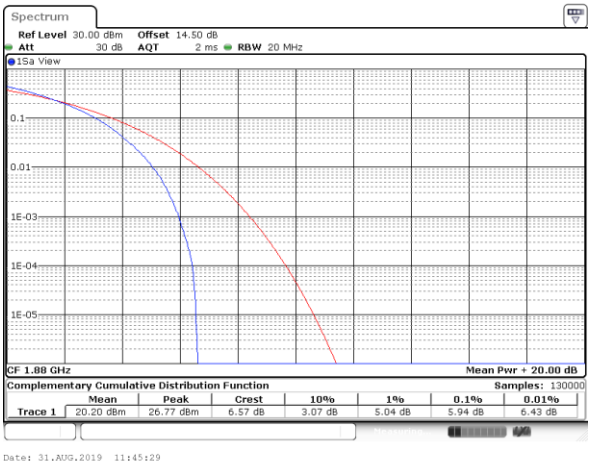
Lowest Channel / Full RB



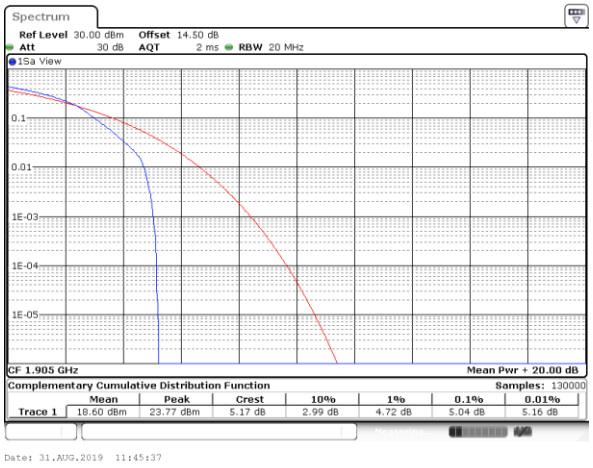
Middle Channel / 1RB



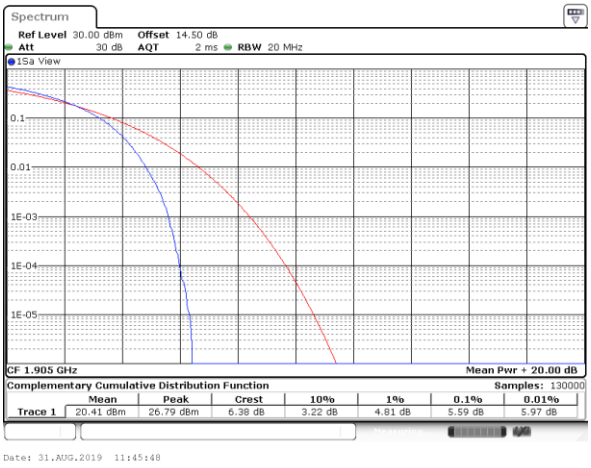
Middle Channel / Full RB



Highest Channel / 1RB

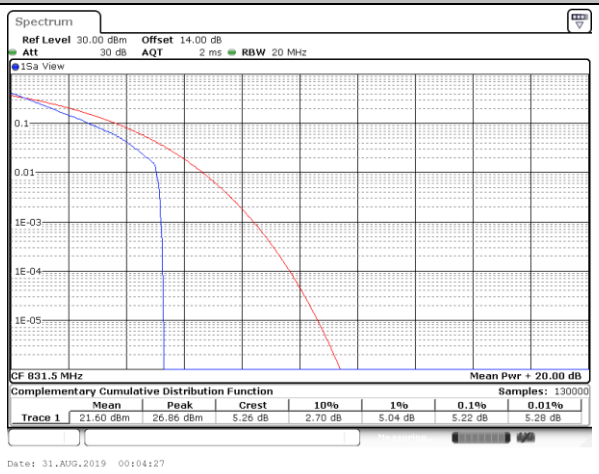


Highest Channel / Full RB

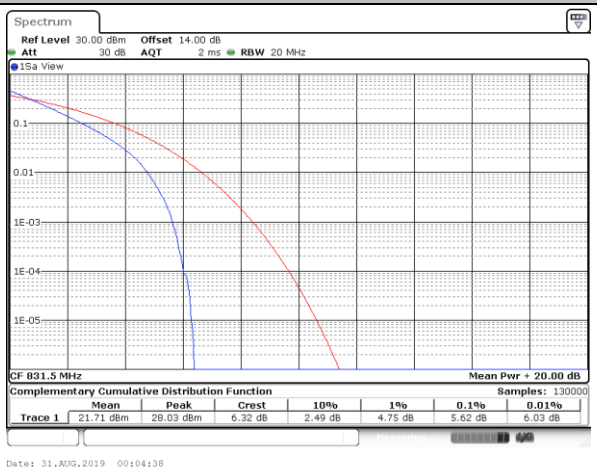


LTE Band 26 / 15MHz / QPSK

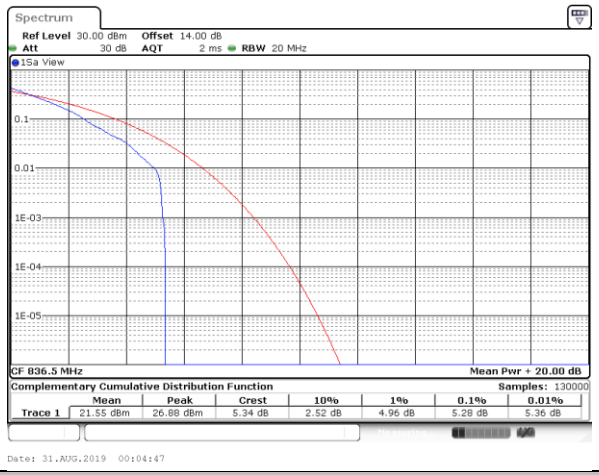
Lowest Channel / 1RB



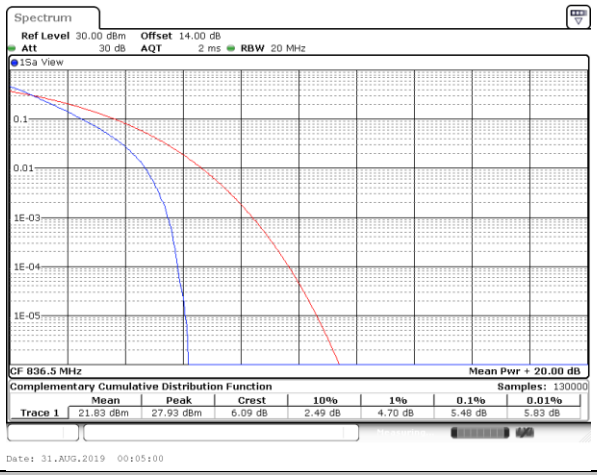
Lowest Channel / Full RB



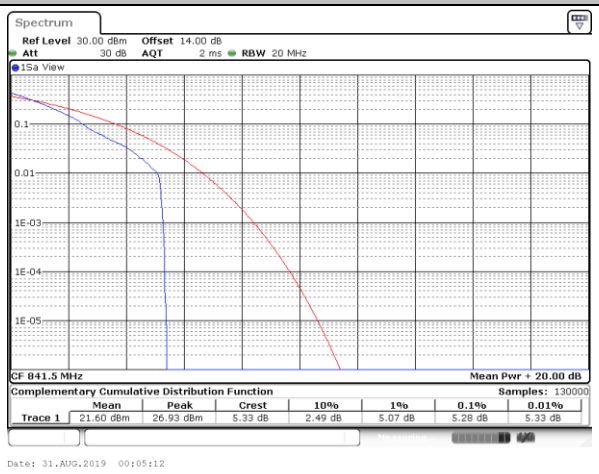
Middle Channel / 1RB



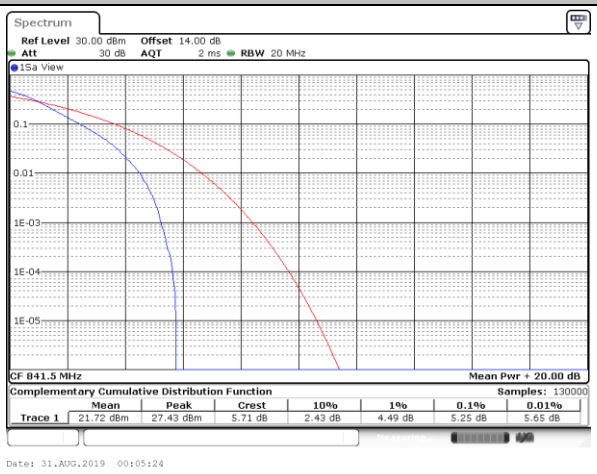
Middle Channel / Full RB



Highest Channel / 1RB

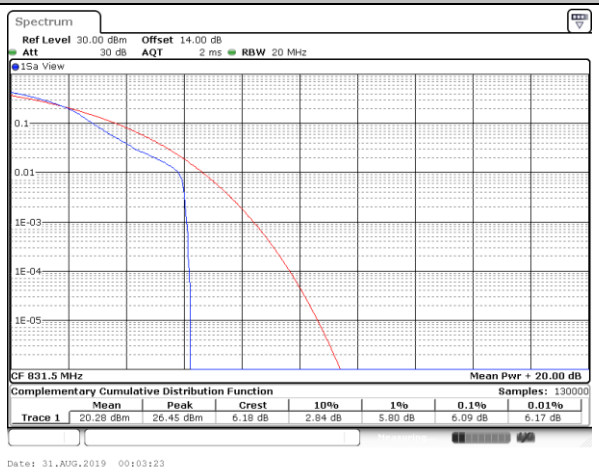


Highest Channel / Full RB

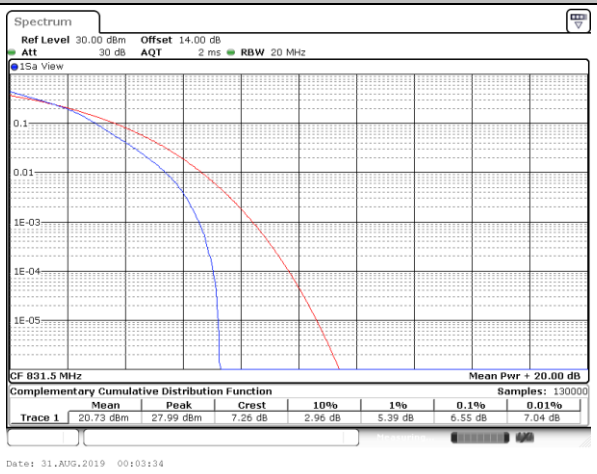


LTE Band 26 / 15MHz / 16QAM

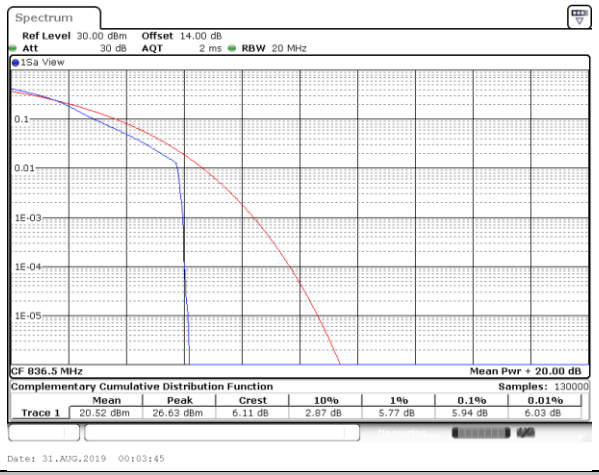
Lowest Channel / 1RB



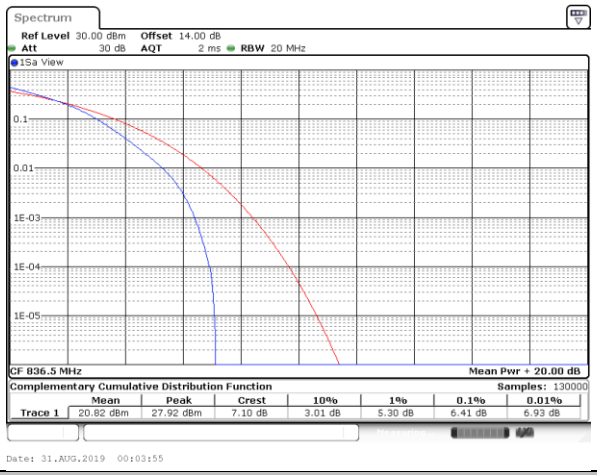
Lowest Channel / Full RB



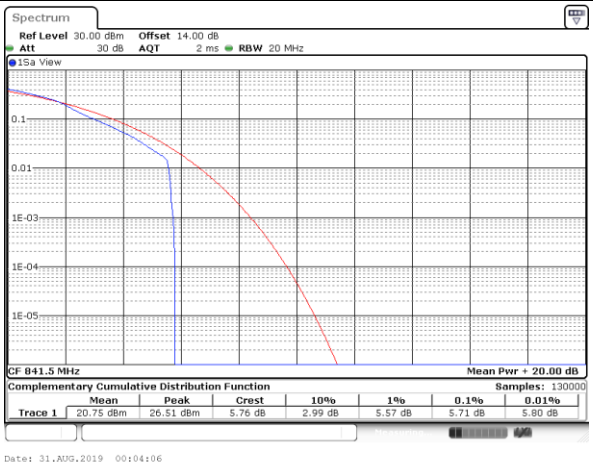
Middle Channel / 1RB



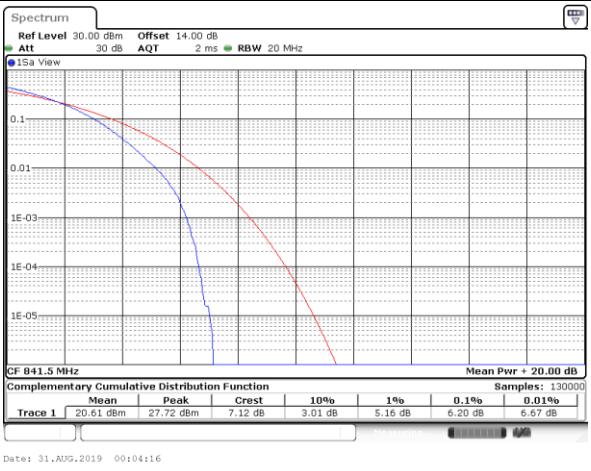
Middle Channel / Full RB



Highest Channel / 1RB

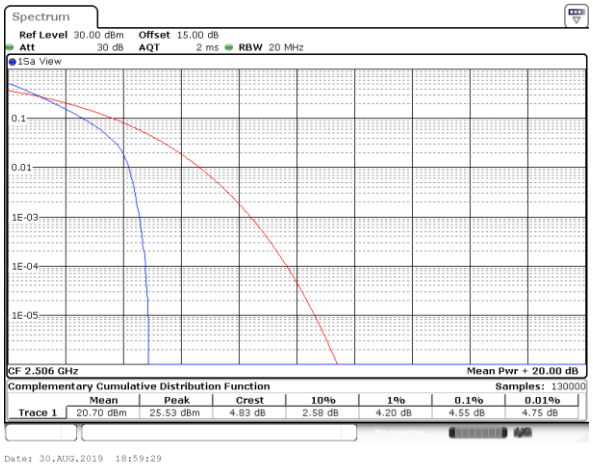


Highest Channel / Full RB

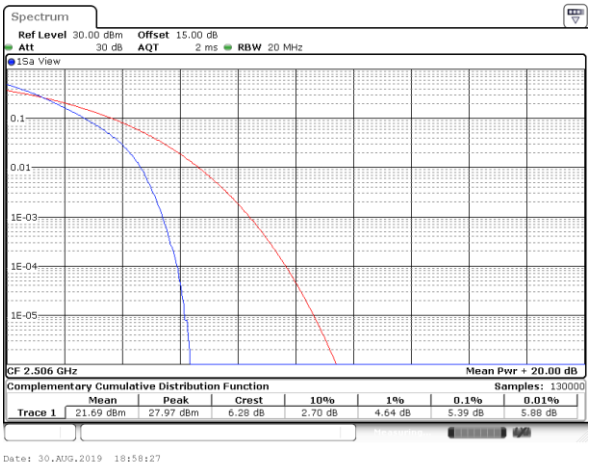


LTE Band 41 / 20MHz / QPSK

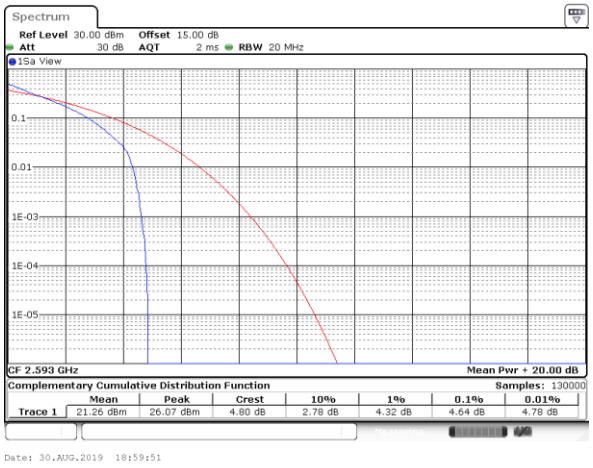
Lowest Channel / 1RB



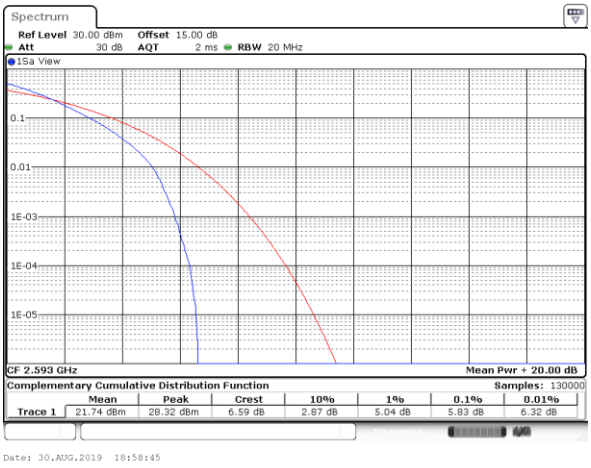
Lowest Channel / Full RB



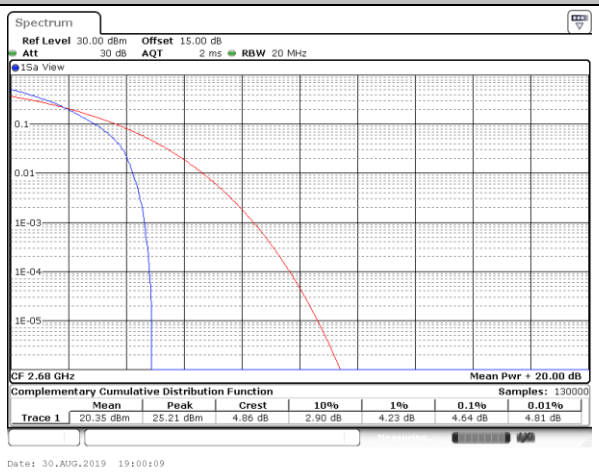
Middle Channel / 1RB



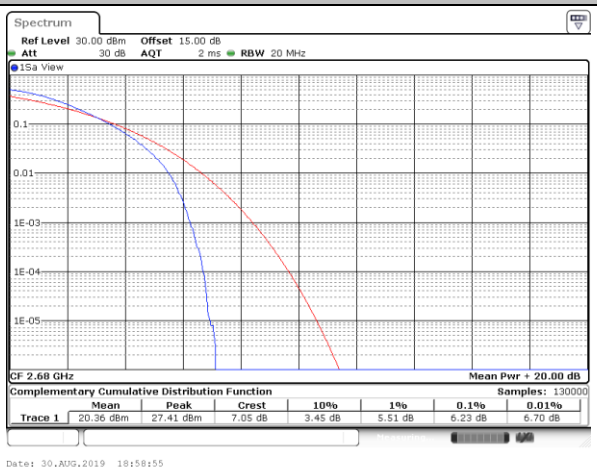
Middle Channel / Full RB



Highest Channel / 1RB

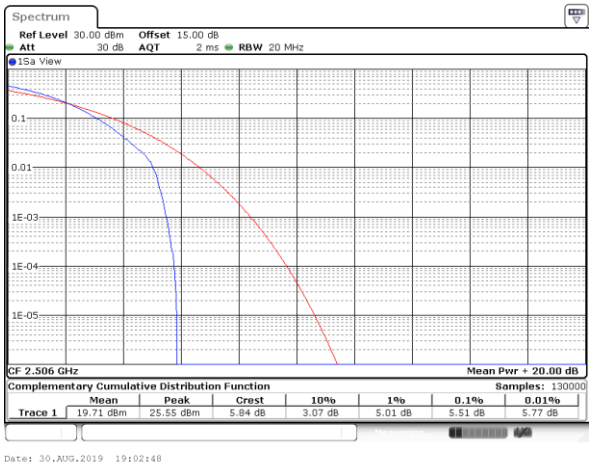


Highest Channel / Full RB

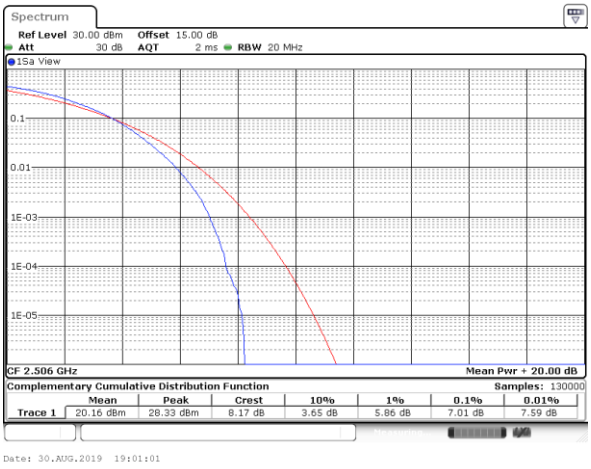


LTE Band 41 / 20MHz / 16QAM

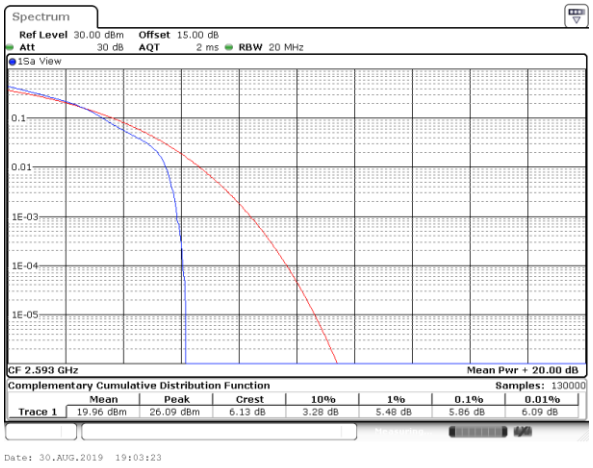
Lowest Channel / 1RB



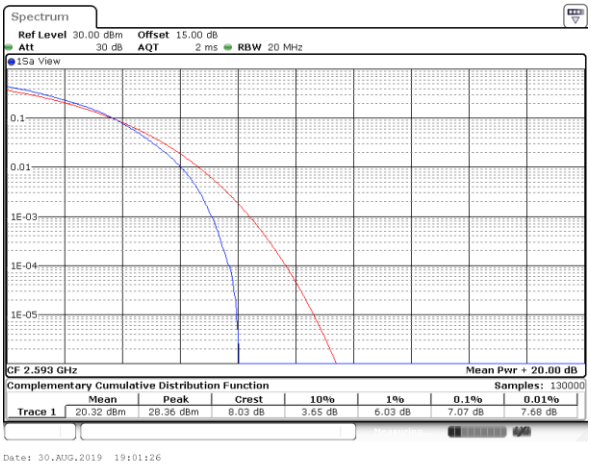
Lowest Channel / Full RB



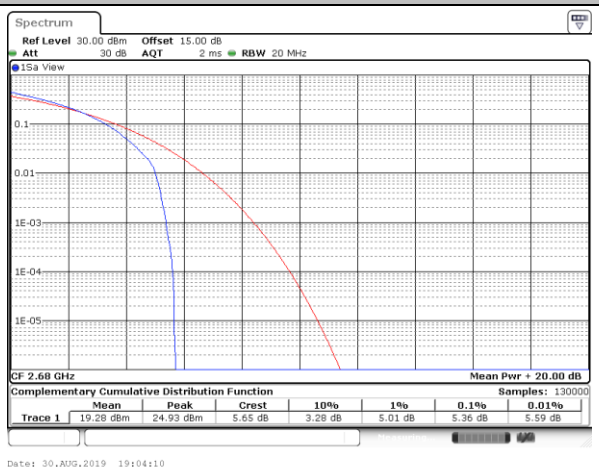
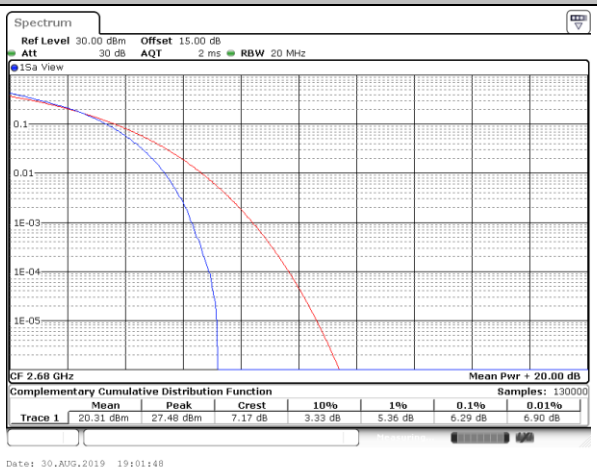
Middle Channel / 1RB



Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB