



FCC RF Test Report

APPLICANT : ASUSTeK COMPUTER INC.
EQUIPMENT : ASUS Phone(Mobile Phone)
BRAND NAME : ASUS
MODEL NAME : ASUS_X01BDA
FCC ID : MSQX01BDA
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 27(H), 27(M)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Aug. 28, 2018 and completely tested on Oct. 25, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

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



Approved by: James Huang / Manager

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TABLE OF CONTENTS

REVISION HISTORY..... 3
SUMMARY OF TEST RESULT 4
1 GENERAL DESCRIPTION 5
1.1 Applicant 5
1.2 Manufacturer 5
1.3 Product Feature of Equipment Under Test..... 5
1.4 Product Specification of Equipment Under Test..... 6
1.5 Modification of EUT 6
1.6 Maximum ERP/EIRP Power, Frequency Tolerance, and Emission Designator 7
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 14
2.3 Support Unit used in test configuration and system 14
2.4 Measurement Results Explanation Example 14
2.5 Frequency List of Low/Middle/High Channels 15
3 CONDUCTED TEST ITEMS 18
3.1 Measuring Instruments 18
3.2 Test Setup 18
3.3 Test Result of Conducted Test 18
3.4 Conducted Output Power and ERP/EIRP 19
3.5 Peak-to-Average Ratio 20
3.6 Occupied Bandwidth 21
3.7 Conducted Band Edge 22
3.8 Conducted Spurious Emission 24
3.9 Frequency Stability 25
4 RADIATED TEST ITEMS 26
4.1 Measuring Instruments 26
4.2 Test Setup 26
4.3 Test Result of Radiated Test 26
4.4 Radiated Spurious Emission 27
5 LIST OF MEASURING EQUIPMENT 28
6 UNCERTAINTY OF EVALUATION 29
APPENDIX A. TEST RESULTS OF CONDUCTED TEST
APPENDIX B. TEST RESULTS OF RADIATED TEST
APPENDIX C. TEST SETUP PHOTOGRAPHS



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
	§22.913(a)(5)	Effective Radiated Power (Band 5)	ERP < 7 Watt	PASS	-
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 17)	ERP < 3 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7) (Band 38) (Band 41)	EIRP < 2Watt	PASS	-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt	PASS	-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 7) (Band 38) (Band 41)	§27.53(m)(4)		
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log ₁₀ (P[Watts])		
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22H	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 4.36 dB at 10544.000 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7) (Band 38) (Band 41)	< 55+10log ₁₀ (P[Watts])		



1 General Description

1.1 Applicant

ASUSTeK COMPUTER INC.

4F, No.150, Li-Te Rd., Peitou, Taipei 112, Taiwan

1.2 Manufacturer

ASUSTeK COMPUTER INC.

4F, No.150, Li-Te Rd., Peitou, Taipei 112, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	ASUS Phone(Mobile Phone)
Brand Name	ASUS
Model Name	ASUS_X01BDA
FCC ID	MSQX01BDA
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+ (16QAM uplink is not supported)/LTE/NFC WLAN 2.4GHz 802.11b/g/n HT20 Bluetooth BR/EDR/LE
IMEI Code	Conducted: 352385100047629/352385100047637 Radiation: 352384100042367/352384100042375
HW Version	S.TA.3.1-00742-SDM660_GEN_PACK-1
SW Version	CSC_ZB630KL_15.2016.1807.012_userdebug_20180821
EUT Stage	Identical Prototype



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 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2547.5 MHz ~ 2652.5 MHz
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 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz LTE Band 38 : 2572.5MHz ~ 2617.5MHz LTE Band 41 : 2547.5 MHz ~ 2652.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 41 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.38 dBm LTE Band 4 : 23.07 dBm LTE Band 5 : 23.60 dBm LTE Band 7 : 22.77 dBm LTE Band 12 : 23.55 dBm LTE Band 17 : 23.56 dBm LTE Band 38 : 22.71 dBm LTE Band 41 : 22.87 dBm
Antenna Gain	LTE Band 2 : -4.11 dBi LTE Band 4 : -2.34 dBi LTE Band 5 : -5.14 dBi LTE Band 7 : -1.56 dBi LTE Band 12 : -4.39 dBi LTE Band 17 : -4.48 dBi LTE Band 38 : -1.79 dBi LTE Band 41 : -1.79 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

1.5 Modification of EUT

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



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

LTE Band 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	-	0.0784	1M09W7D	-	0.0675
3	1851.5 ~ 1908.5	2M72G7D	-	0.0784	2M72W7D	-	0.0672
5	1852.5 ~ 1907.5	4M52G7D	-	0.0794	4M51W7D	-	0.0686
10	1855.0 ~ 1905.0	9M05G7D	0.0032	0.0834	9M09W7D	-	0.0725
15	1857.5 ~ 1902.5	13M4G7D	-	0.0817	13M5W7D	-	0.0706
20	1860.0 ~ 1900.0	18M4G7D	-	0.0845	18M4W7D	-	0.0733
LTE Band 2		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)	Maximum EIRP(W)		
1.4	1850.7 ~ 1909.3	1M09W7D		-	0.0662		
3	1851.5 ~ 1908.5	2M73W7D		-	0.0661		
5	1852.5 ~ 1907.5	4M51W7D		-	0.0673		
10	1855.0 ~ 1905.0	9M09W7D		-	0.0703		
15	1857.5 ~ 1902.5	13M5W7D		-	0.0690		
20	1860.0 ~ 1900.0	18M5W7D		-	0.0716		
LTE Band 4		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1710.7 ~ 1754.3	1M09G7D	-	0.1176	1M09W7D	-	0.1019
3	1711.5 ~ 1753.5	2M73G7D	-	0.1171	2M74W7D	-	0.1019
5	1712.5 ~ 1752.5	4M52G7D	-	0.1168	4M50W7D	-	0.1017
10	1715.0 ~ 1750.0	9M07G7D	0.0035	0.1181	9M07W7D	-	0.1029
15	1717.5 ~ 1747.5	13M6G7D	-	0.1181	13M5W7D	-	0.1038
20	1720.0 ~ 1745.0	18M4G7D	-	0.1184	18M5W7D	-	0.1048



LTE Band 4		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum EIRP(W)		
1.4	1710.7 ~ 1754.3	1M23W7D	-		0.0987		
3	1711.5 ~ 1753.5	2M73W7D	-		0.0994		
5	1712.5 ~ 1752.5	4M52W7D	-		0.0989		
10	1715.0 ~ 1750.0	9M09W7D	-		0.1001		
15	1717.5 ~ 1747.5	13M5W7D	-		0.1005		
20	1720.0 ~ 1745.0	18M4W7D	-		0.1022		
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	1M10G7D	-	0.0423	1M10W7D	-	0.0356
3	825.5 ~ 847.5	2M73G7D	-	0.0421	2M72W7D	-	0.0359
5	826.5 ~ 846.5	4M50G7D	-	0.0421	4M50W7D	-	0.0355
10	829.0 ~ 844.0	9M05G7D	0.0071	0.0427	9M07W7D	-	0.0363
LTE Band 5		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)		Maximum ERP(W)		
1.4	824.7 ~ 848.3	1M10W7D	-		0.0348		
3	825.5 ~ 847.5	2M73W7D	-		0.0351		
5	826.5 ~ 846.5	4M51W7D	-		0.0351		
10	829.0 ~ 844.0	9M07W7D	-		0.0353		
LTE Band 7		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2502.5 ~ 2567.5	4M51G7D	-	0.1298	4M51W7D	-	0.1090
10	2505.0 ~ 2565.0	9M05G7D	0.0065	0.1295	9M05W7D	-	0.1100
15	2507.5 ~ 2562.5	13M4G7D	-	0.1319	13M5W7D	-	0.1147
20	2510.0 ~ 2560.0	18M4G7D	-	0.1322	18M5W7D	-	0.1108



LTE Band 7		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum EIRP(W)	
5	2502.5 ~ 2567.5	4M51W7D		-		0.1075	
10	2505.0 ~ 2565.0	9M05W7D		-		0.1080	
15	2507.5 ~ 2562.5	13M5W7D		-		0.1108	
20	2510.0 ~ 2560.0	18M4W7D		-		0.1105	
LTE Band 12(Band 17)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	699.7 ~ 715.3	1M09G7D	-	0.0494	1M09W7D	-	0.0424
3	700.5 ~ 714.5	2M72G7D	-	0.0495	2M73W7D	-	0.0424
5	701.5 ~ 713.5	4M51G7D	-	0.0495	4M52W7D	-	0.0422
10	704.0 ~ 711.0	9M09G7D	0.0117	0.0502	9M03W7D	-	0.0432
LTE Band 12 (Band 17)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
1.4	699.7 ~ 715.3	1M09W7D		-		0.0415	
3	700.5 ~ 714.5	2M72W7D		-		0.0415	
5	701.5 ~ 713.5	4M51W7D		-		0.0414	
10	704.0 ~ 711.0	9M07W7D		-		0.0419	



LTE Band 41 (Band 38)		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
5	2547.5 ~ 2652.5	4M50G7D	-	0.1280	4M51W7D	-	0.1048
10	2550.0 ~ 2650.0	9M07G7D	0.0022	0.1277	9M05W7D	-	0.1048
15	2552.5 ~ 2647.5	13M4G7D	-	0.1268	13M5W7D	-	0.1041
20	2555.0 ~ 2645.0	18M3G7D	-	0.1283	18M6W7D	-	0.1033
LTE Band 41 (Band 38)		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)	Maximum EIRP(W)		
5	2547.5 ~ 2652.5	4M51W7D		-	0.0996		
10	2550.0 ~ 2650.0	9M01W7D		-	0.0991		
15	2552.5 ~ 2647.5	13M4W7D		-	0.0978		
20	2555.0 ~ 2645.0	18M3W7D		-	0.0980		

Note:

1. LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.
2. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.



1.7 Testing Location

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

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958		
Test Site No.	Sporton Site No.	FCC designation No.	FCC Test Firm Registration No.
	TH01-KS 03CH06-KS	CN5013	630927

1.8 Applicable Standards

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

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

Remark:

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



2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

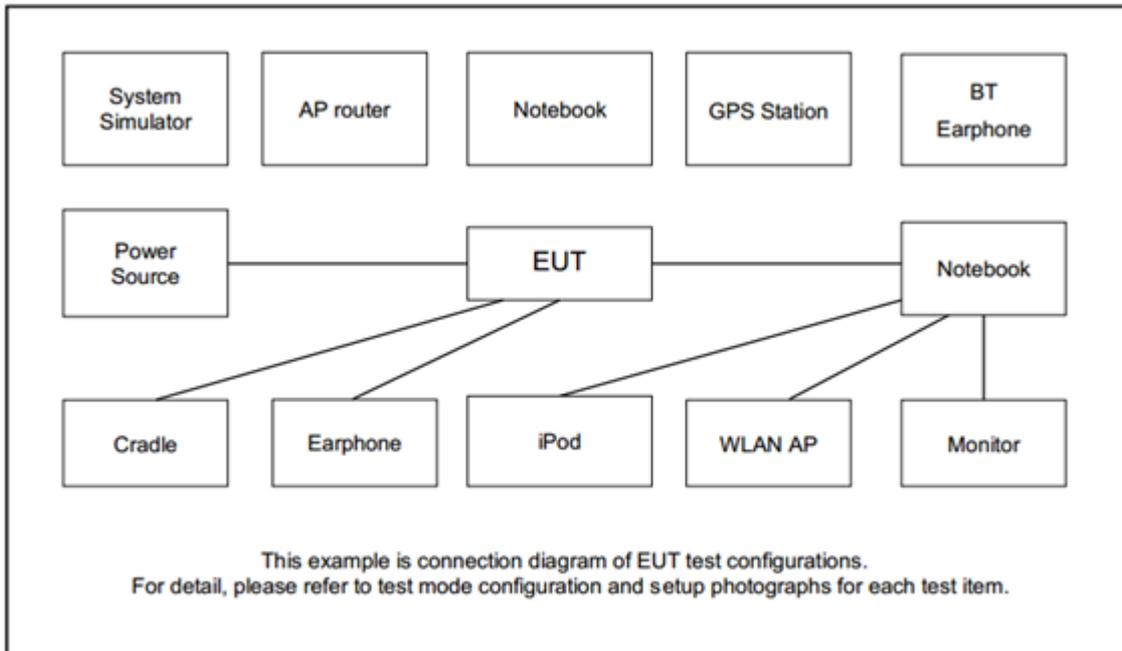
Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	38	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
	41	-	-	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v	v	v	v	v		v	v	v	v
	4						v	v	v	v	v		v	v	v	v
	5				v	-	-	v	v	v	v		v	v	v	v
	7	-	-				v	v	v	v	v		v	v	v	v
	12				v	-	-	v	v	v	v		v	v	v	v
	41	-	-				v	v	v	v	v		v	v	v	v
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v	v			v	v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v	v
	5	v	v	v	v	-	-	v	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v	-	-	v	v	v			v	v	v	v
	41	-	-	v	v	v	v	v	v	v			v	v	v	v
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v	v		v	v		v
	4	v	v	v	v	v	v	v	v	v	v		v	v		v
	5	v	v	v	v	-	-	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v	v		v	v		v
	41	-	-	v	v	v	v	v	v	v	v		v	v		v



Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	41	-	-	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	2				v			v						v		v
	4				v			v						v		v
	5				v	-	-	v						v		v
	7	-	-		v			v						v		v
	12				v	-	-	v						v		v
	41	-	-		v			v						v		v
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	41	-	-	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	2	Worst Case												v	v	v
	4	Worst Case												v	v	v
	5	Worst Case												v	v	v
	7	Worst Case												v	v	v
	12	Worst Case												v	v	v
	41	Worst Case												v	v	v
Note	<p>1. The mark "v" means that this configuration is chosen for testing</p> <p>2. The mark "-" means that this bandwidth is not supported.</p> <p>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.</p> <p>4. LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.</p> <p>5. LTE Band 41 overlaps the entire frequency range of LTE Band 38. Therefore, the test results provided in this report covers Band 41 as well as Band 38.</p>															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	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 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

$$\text{Offset} = \text{RF cable loss}$$

Following shows an offset computation example with cable loss 5.8dB.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 5.8 \text{ (dB)} \end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

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

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



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

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

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



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

LTE Band 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	40240	40690	41140
	Frequency	2555	2600	2645
15	Channel	40215	40690	41165
	Frequency	2552.5	2600	2647.5
10	Channel	40190	40690	41190
	Frequency	2550	2600	2650
5	Channel	40165	40690	41215
	Frequency	2547.5	2600	2652.5

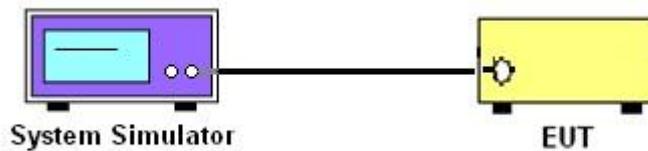
3 Conducted Test Items

3.1 Measuring Instruments

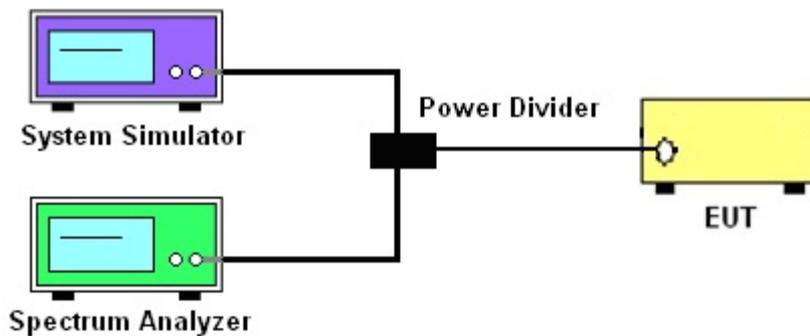
See list of measuring instruments of this test report.

3.2 Test Setup

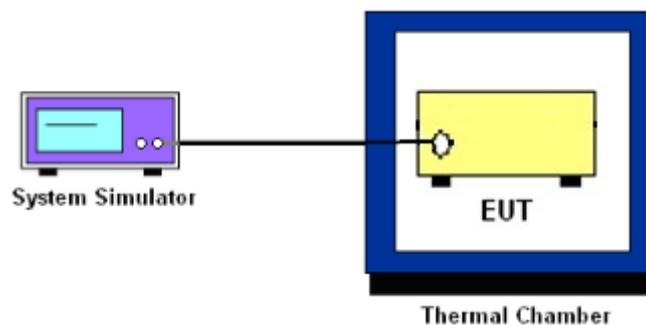
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power and ERP/EIRP

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

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

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

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

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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



3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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



3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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



3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

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

24.238 (a)

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

27.53 (g)

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

27.53 (h)

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



27.53(m)(4)

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

3.7.2 Test Procedures

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

Example:

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

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



3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

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

For Band 7,38,41:

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

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 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 $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.
11. For Band 7, 38, 41
The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [55 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[55 + 10\log(P)]$ (dB)
 $= -25$ dBm.



3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

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

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°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 $20\pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

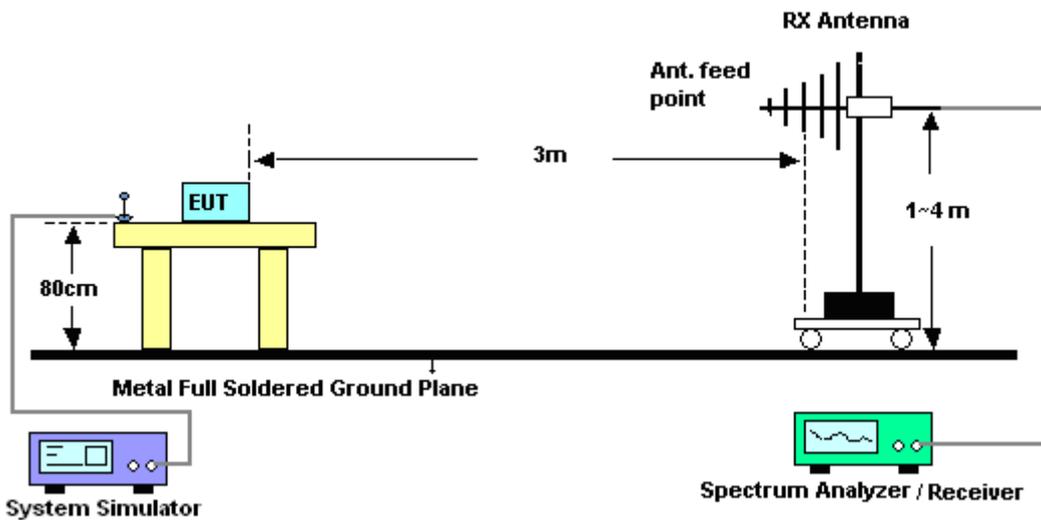
4 Radiated Test Items

4.1 Measuring Instruments

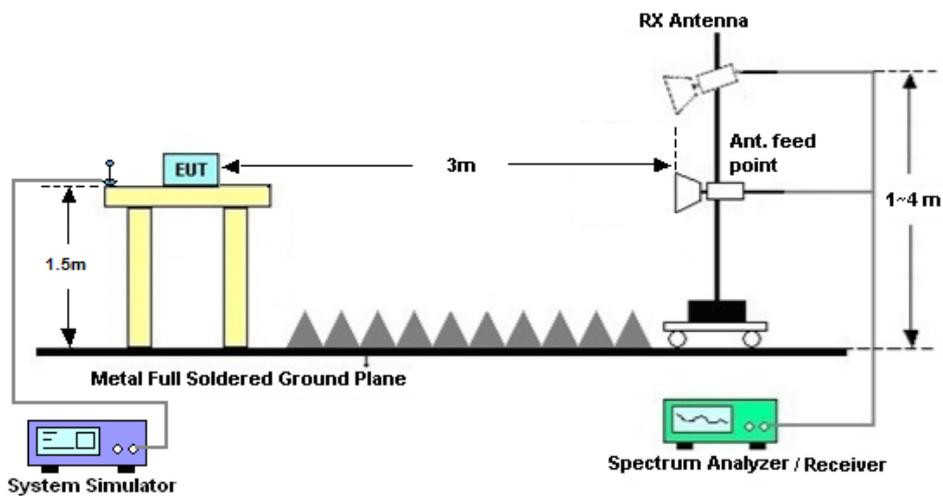
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.



4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

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

For Band 7, 38, 41

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

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

4.4.2 Test Procedures

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

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

13. For Band 7, 38, 41:

The limit line is derived from $55 + 10\log(P)$ dB below the transmitter power P(Watts)



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	10Hz~30GHz	Apr. 19, 2018	Oct. 20, 2018~ Oct. 25, 2018	Apr. 18, 2019	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jun. 27, 2018	Oct. 20, 2018~ Oct. 25, 2018	Jun. 26, 2019	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz~44GHz	Jun. 25, 2018	Oct. 21, 2018~ Oct. 24, 2018	Jun. 24, 2019	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz~1GHz	Jan. 29, 2018	Oct. 21, 2018~ Oct. 24, 2018	Jan. 28, 2019	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 20, 2018	Oct. 21, 2018~ Oct. 24, 2018	Oct. 19, 2019	Radiation (03CH06-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Oct. 21, 2018~ Oct. 24, 2018	Feb. 06, 2019	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Aug. 06, 2018	Oct. 21, 2018~ Oct. 24, 2018	Aug. 05, 2019	Radiation (03CH06-KS)
Amplifier	MITEQ	TTA1840-35-HG	2014749	18~40GHz	Feb. 08, 2018	Oct. 21, 2018~ Oct. 24, 2018	Feb. 07, 2019	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Apr. 17, 2018	Oct. 21, 2018~ Oct. 24, 2018	Apr. 16, 2019	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Dec. 16, 2017	Oct. 21, 2018~ Oct. 24, 2018	Dec. 15, 2018	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 21, 2018~ Oct. 24, 2018	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 21, 2018~ Oct. 24, 2018	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required



6 Uncertainty of Evaluation

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

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

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

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

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	23.32	23.38	23.22
20	1	49		22.95	23.09	23.08
20	1	99		23.21	23.20	23.03
20	50	0		22.16	22.23	22.23
20	50	24		22.04	22.21	22.18
20	50	50		22.11	22.15	22.13
20	100	0		22.17	22.20	22.18
20	1	0	16-QAM	22.61	22.76	22.53
20	1	49		22.30	22.44	22.39
20	1	99		22.53	22.54	22.34
20	50	0		21.22	21.38	21.35
20	50	24		21.18	21.32	21.26
20	50	50		21.19	21.25	21.24
20	100	0		21.27	21.29	21.26
20	1	0	64QAM	22.53	22.66	22.44
20	1	49		22.19	22.36	22.30
20	1	99		22.44	22.45	22.24
20	50	0		21.22	21.33	21.33
20	50	24		21.18	21.29	21.24
20	50	50		21.16	21.22	21.20
20	100	0		21.26	21.30	21.26
15	1	0	QPSK	23.12	23.23	23.20
15	1	37		22.92	23.07	23.04
15	1	74		22.94	23.09	23.04
15	36	0		22.13	22.21	22.18
15	36	20		22.04	22.16	22.17
15	36	39		22.03	22.17	22.15
15	75	0		22.05	22.19	22.16
15	1	0	16-QAM	22.46	22.60	22.51



15	1	37		22.24	22.43	22.37
15	1	74		22.30	22.45	22.34
15	36	0		21.18	21.34	21.31
15	36	20		21.16	21.28	21.28
15	36	39		21.09	21.23	21.21
15	75	0		21.16	21.30	21.26
15	1	0	64QAM	22.33	22.50	22.45
15	1	37		22.16	22.31	22.30
15	1	74		22.19	22.36	22.25
15	36	0		21.17	21.34	21.31
15	36	20		21.16	21.28	21.27
15	36	39		21.08	21.24	21.21
15	75	0		21.16	21.30	21.28



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.24	23.32	23.11
10	1	25		22.95	23.11	23.02
10	1	49		23.12	23.26	22.99
10	25	0		22.08	22.17	22.16
10	25	12		22.05	22.15	22.13
10	25	25		22.02	22.13	22.10
10	50	0		22.04	22.18	22.12
10	1	0	16-QAM	22.59	22.71	22.47
10	1	25		22.28	22.46	22.38
10	1	49		22.45	22.59	22.29
10	25	0		21.19	21.29	21.27
10	25	12		21.14	21.27	21.24
10	25	25		21.11	21.23	21.20
10	50	0		21.16	21.26	21.22
10	1	0	64QAM	22.43	22.58	22.37
10	1	25		22.18	22.39	22.29
10	1	49		22.34	22.50	22.21
10	25	0		21.16	21.29	21.25
10	25	12		21.12	21.24	21.23
10	25	25		21.09	21.22	21.19
10	50	0		21.16	21.24	21.21
5	1	0	QPSK	23.02	23.11	23.05
5	1	12		22.93	23.02	22.95
5	1	24		22.95	23.08	23.01
5	12	0		22.02	22.15	22.11
5	12	7		22.03	22.14	22.08
5	12	13		22.00	22.10	22.04
5	25	0		22.02	22.08	22.09
5	1	0	16-QAM	22.32	22.47	22.41
5	1	12		22.22	22.41	22.29
5	1	24		22.26	22.44	22.25
5	12	0		21.12	21.28	21.20
5	12	7		21.11	21.24	21.20



5	12	13		21.05	21.24	21.17
5	25	0		21.09	21.21	21.14
5	1	0	64QAM	22.21	22.39	22.29
5	1	12		22.16	22.33	22.19
5	1	24		22.15	22.32	22.16
5	12	0		21.10	21.24	21.16
5	12	7		21.06	21.21	21.20
5	12	13		21.04	21.20	21.12
5	25	0		21.09	21.19	21.14



LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.95	23.05	22.98
3	1	8		22.92	23.02	22.74
3	1	14		22.90	23.02	22.95
3	8	0		22.00	22.09	22.04
3	8	4		22.02	22.12	22.07
3	8	7		22.00	22.06	22.03
3	15	0		21.97	22.07	22.06
3	1	0	16-QAM	22.21	22.38	22.26
3	1	8		22.23	22.37	22.26
3	1	14		22.21	22.34	22.21
3	8	0		21.09	21.24	21.17
3	8	4		21.11	21.28	21.16
3	8	7		21.07	21.22	21.13
3	15	0		21.06	21.17	21.15
3	1	0	64QAM	22.11	22.31	22.17
3	1	8		22.13	22.29	22.18
3	1	14		21.93	22.27	22.13
3	8	0		21.06	21.20	21.14
3	8	4		21.09	21.22	21.13
3	8	7		21.03	21.20	21.08
3	15	0		21.03	21.16	21.11
1.4	1	0	QPSK	22.87	22.98	22.89
1.4	1	3		22.84	23.03	22.97
1.4	1	5		22.83	22.97	22.89
1.4	3	0		22.91	23.00	22.93
1.4	3	1		22.95	23.05	22.96
1.4	3	3		22.89	22.99	22.94
1.4	6	0		21.93	22.00	21.97
1.4	1	0	16-QAM	22.17	22.32	22.23
1.4	1	3		22.22	22.40	22.24
1.4	1	5		22.18	22.33	22.17
1.4	3	0		22.00	22.10	21.98
1.4	3	1		22.03	22.15	22.02



1.4	3	3	64QAM	21.98	22.07	21.92
1.4	6	0		21.11	21.22	21.13
1.4	1	0		22.07	22.27	22.10
1.4	1	3		22.09	22.32	22.11
1.4	1	5		22.04	22.25	22.02
1.4	3	0		22.01	22.13	22.03
1.4	3	1		22.05	22.22	22.07
1.4	3	3		21.98	22.14	21.99
1.4	6	0		21.00	21.15	21.07



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.90	22.96	23.07
20	1	49		22.91	23.04	23.03
20	1	99		22.94	22.95	22.92
20	50	0		22.07	22.12	22.05
20	50	24		22.11	22.11	22.03
20	50	50		22.06	21.99	21.99
20	100	0		22.08	22.05	22.04
20	1	0	16-QAM	22.42	22.24	22.54
20	1	49		22.22	22.48	22.43
20	1	99		22.29	22.44	22.33
20	50	0		21.11	21.22	21.17
20	50	24		21.19	21.21	21.24
20	50	50		21.17	21.13	21.13
20	100	0		21.13	21.21	21.15
20	1	0	64QAM	22.29	22.15	22.43
20	1	49		22.15	22.27	22.35
20	1	99		22.20	22.33	22.20
20	50	0		21.07	21.20	21.17
20	50	24		21.19	21.20	21.19
20	50	50		21.15	21.18	21.08
20	100	0		21.16	21.20	21.23
15	1	0	QPSK	22.96	23.05	23.06
15	1	37		22.91	23.00	23.02
15	1	74		22.94	22.96	22.95
15	36	0		21.96	22.12	22.07
15	36	20		22.02	22.11	22.07
15	36	39		22.08	22.06	22.03
15	75	0		22.09	22.08	22.02
15	1	0	16-QAM	22.38	22.34	22.50
15	1	37		22.24	22.38	22.41
15	1	74		22.22	22.46	22.28
15	36	0		21.09	21.22	21.24
15	36	20		21.07	21.27	21.25



15	36	39	64QAM	21.15	21.22	21.17
15	75	0		21.16	21.18	21.17
15	1	0		22.26	22.29	22.36
15	1	37		22.15	22.31	22.28
15	1	74		22.13	22.28	22.23
15	36	0		21.10	21.22	21.21
15	36	20		21.07	21.28	21.24
15	36	39		21.14	21.19	21.17
15	75	0		21.15	21.23	21.16



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.95	23.06	23.04
10	1	25		22.98	23.03	23.02
10	1	49		22.86	22.91	22.93
10	25	0		22.00	22.10	22.05
10	25	12		21.98	22.07	22.06
10	25	25		21.94	22.03	22.02
10	50	0		21.95	22.06	22.03
10	1	0	16-QAM	22.34	22.38	22.46
10	1	25		22.29	22.44	22.46
10	1	49		22.18	22.40	22.35
10	25	0		21.07	21.22	21.17
10	25	12		21.11	21.23	21.19
10	25	25		21.06	21.18	21.16
10	50	0		21.09	21.18	21.16
10	1	0	64QAM	22.26	22.27	22.34
10	1	25		22.21	22.34	22.26
10	1	49		22.08	22.27	22.20
10	25	0		21.09	21.21	21.18
10	25	12		21.12	21.24	21.19
10	25	25		21.01	21.18	21.16
10	50	0		21.08	21.18	21.15
5	1	0	QPSK	22.91	23.01	22.99
5	1	12		22.93	23.00	22.98
5	1	24		22.86	22.96	22.96
5	12	0		21.99	22.10	22.06
5	12	7		22.03	22.14	22.10
5	12	13		21.98	22.10	22.04
5	25	0		21.96	22.09	22.03
5	1	0	16-QAM	22.35	22.35	22.41
5	1	12		22.33	22.36	22.40
5	1	24		22.22	22.39	22.36
5	12	0		21.11	21.21	21.21
5	12	7		21.15	21.25	21.27



5	12	13		21.09	21.23	21.17
5	25	0		21.08	21.21	21.19
5	1	0	64QAM	22.22	22.28	22.29
5	1	12		22.20	22.29	22.26
5	1	24		22.07	22.23	22.23
5	12	0		21.10	21.22	21.17
5	12	7		21.12	21.25	21.20
5	12	13		21.11	21.21	21.20
5	25	0		21.07	21.19	21.16



LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	22.89	23.01	22.97
3	1	8		22.89	23.02	23.01
3	1	14		22.86	22.98	22.91
3	8	0		21.97	22.05	22.04
3	8	4		21.97	22.11	22.10
3	8	7		21.97	22.07	22.05
3	15	0		21.97	22.06	22.04
3	1	0	16-QAM	22.27	22.40	22.39
3	1	8		22.27	22.42	22.40
3	1	14		22.25	22.36	22.34
3	8	0		21.12	21.28	21.26
3	8	4		21.18	21.30	21.28
3	8	7		21.14	21.26	21.26
3	15	0		21.10	21.24	21.21
3	1	0	64QAM	22.16	22.29	22.28
3	1	8		22.23	22.31	22.27
3	1	14		22.15	22.25	22.28
3	8	0		21.13	21.20	21.21
3	8	4		21.12	21.27	21.25
3	8	7		21.05	21.21	21.19
3	15	0		21.07	21.21	21.17
1.4	1	0	QPSK	22.82	22.96	22.92
1.4	1	3		22.93	23.02	22.97
1.4	1	5		22.81	22.93	22.89
1.4	3	0		22.89	23.03	22.97
1.4	3	1		22.93	23.04	23.01
1.4	3	3		22.88	23.01	22.97
1.4	6	0		21.91	22.04	21.97
1.4	1	0	16-QAM	22.25	22.33	22.34
1.4	1	3		22.33	22.40	22.42
1.4	1	5		22.23	22.33	22.30
1.4	3	0		22.06	22.12	22.15
1.4	3	1		22.06	22.17	22.18



1.4	3	3	64QAM	22.00	22.11	22.09
1.4	6	0		21.10	21.23	21.22
1.4	1	0		22.14	22.22	22.22
1.4	1	3		22.22	22.28	22.28
1.4	1	5		22.16	22.19	22.18
1.4	3	0		22.09	22.17	22.17
1.4	3	1		22.12	22.21	22.17
1.4	3	3		22.07	22.16	22.11
1.4	6	0		21.01	21.16	21.11



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.42	23.45	23.53
10	1	25		23.50	23.60	23.58
10	1	49		23.50	23.46	23.44
10	25	0		22.55	22.62	22.57
10	25	12		22.53	22.63	22.55
10	25	25		22.48	22.57	22.55
10	50	0		22.52	22.60	22.55
10	1	0	16-QAM	22.75	22.80	22.80
10	1	25		22.87	22.89	22.83
10	1	49		22.88	22.79	22.61
10	25	0		21.63	21.71	21.62
10	25	12		21.65	21.73	21.63
10	25	25		21.60	21.67	21.59
10	50	0		21.63	21.67	21.58
10	1	0	64QAM	22.62	22.72	22.72
10	1	25		22.72	22.77	22.75
10	1	49		22.73	22.68	22.54
10	25	0		21.64	21.72	21.62
10	25	12		21.67	21.69	21.59
10	25	25		21.62	21.67	21.60
10	50	0		21.63	21.65	21.56
5	1	0	QPSK	23.41	23.54	23.54
5	1	12		23.37	23.51	23.49
5	1	24		23.46	23.50	23.45
5	12	0		22.44	22.57	22.56
5	12	7		22.60	22.62	22.54
5	12	13		22.52	22.55	22.51
5	25	0		22.53	22.58	22.56
5	1	0	16-QAM	22.73	22.79	22.74
5	1	12		22.73	22.80	22.65
5	1	24		22.78	22.70	22.56
5	12	0		21.55	21.66	21.57
5	12	7		21.68	21.70	21.57



5	12	13	64QAM	21.63	21.64	21.53
5	25	0		21.64	21.65	21.55
5	1	0		22.60	22.74	22.68
5	1	12		22.62	22.70	22.60
5	1	24		22.68	22.62	22.48
5	12	0		21.51	21.65	21.58
5	12	7		21.66	21.71	21.56
5	12	13		21.61	21.64	21.53
5	25	0		21.62	21.65	21.57



LTE Band 5 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.40	23.54	23.52
3	1	8		23.40	23.52	23.46
3	1	14		23.36	23.49	23.45
3	8	0		22.45	22.59	22.52
3	8	4		22.44	22.59	22.51
3	8	7		22.42	22.53	22.49
3	15	0		22.44	22.57	22.54
3	1	0	16-QAM	22.77	22.84	22.68
3	1	8		22.79	22.84	22.62
3	1	14		22.73	22.81	22.58
3	8	0		21.58	21.71	21.54
3	8	4		21.60	21.72	21.54
3	8	7		21.55	21.64	21.52
3	15	0		21.54	21.68	21.58
3	1	0	64QAM	22.61	22.75	22.58
3	1	8		22.62	22.72	22.54
3	1	14		22.60	22.68	22.49
3	8	0		21.31	21.68	21.48
3	8	4		21.54	21.68	21.52
3	8	7		21.52	21.60	21.49
3	15	0		21.52	21.63	21.54
1.4	1	0	QPSK	23.34	23.46	23.41
1.4	1	3		23.38	23.52	23.48
1.4	1	5		23.32	23.45	23.39
1.4	3	0		23.37	23.49	23.48
1.4	3	1		23.41	23.56	23.50
1.4	3	3		23.41	23.51	23.43
1.4	6	0		22.38	22.52	22.44
1.4	1	0	16-QAM	22.65	22.76	22.57
1.4	1	3		22.73	22.81	22.65
1.4	1	5		22.64	22.75	22.56
1.4	3	0		22.47	22.54	22.37
1.4	3	1		22.52	22.57	22.45



1.4	3	3	64QAM	22.45	22.52	22.39
1.4	6	0		21.55	21.63	21.55
1.4	1	0		22.59	22.68	22.48
1.4	1	3		22.64	22.71	22.51
1.4	1	5		22.50	22.65	22.49
1.4	3	0		22.49	22.60	22.44
1.4	3	1		22.52	22.65	22.49
1.4	3	3		22.49	22.60	22.46
1.4	6	0		21.45	21.57	21.49



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.77	22.63	22.42
20	1	49		22.60	22.59	22.54
20	1	99		22.41	22.64	22.61
20	50	0		21.78	21.72	21.61
20	50	24		21.76	21.68	21.66
20	50	50		21.76	21.70	21.62
20	100	0		21.74	21.70	21.63
20	1	0	16-QAM	22.00	21.98	21.71
20	1	49		21.90	21.97	21.86
20	1	99		21.97	21.90	21.89
20	50	0		20.81	20.77	20.71
20	50	24		20.85	20.82	20.72
20	50	50		20.81	20.79	20.70
20	100	0		20.81	20.76	20.70
20	1	0	64QAM	21.85	21.85	21.59
20	1	49		21.86	21.87	21.77
20	1	99		21.99	21.83	21.76
20	50	0		20.78	20.75	20.69
20	50	24		20.81	20.81	20.70
20	50	50		20.83	20.81	20.69
20	100	0		20.78	20.75	20.70
15	1	0	QPSK	22.69	22.65	22.43
15	1	37		22.64	22.62	22.52
15	1	74		22.76	22.68	22.61
15	36	0		21.71	21.73	21.63
15	36	20		21.78	21.75	21.67
15	36	39		21.71	21.72	21.63
15	75	0		21.73	21.71	21.62
15	1	0	16-QAM	22.07	21.97	21.73
15	1	37		21.91	21.92	21.82
15	1	74		22.15	21.95	21.89
15	36	0		20.77	20.79	20.71
15	36	20		20.84	20.82	20.74



15	36	39	64QAM	20.82	20.81	20.71
15	75	0		20.83	20.78	20.66
15	1	0		21.92	21.89	21.61
15	1	37		21.86	21.84	21.72
15	1	74		22.00	21.89	21.77
15	36	0		20.76	20.80	20.68
15	36	20		20.84	20.82	20.73
15	36	39		20.79	20.77	20.66
15	75	0		20.83	20.79	20.66



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.64	22.62	22.48
10	1	25		22.66	22.62	22.51
10	1	49		22.68	22.65	22.54
10	25	0		21.72	21.68	21.57
10	25	12		21.74	21.71	21.62
10	25	25		21.76	21.70	21.58
10	50	0		21.74	21.67	21.60
10	1	0	16-QAM	21.95	21.93	21.82
10	1	25		21.95	21.97	21.79
10	1	49		21.96	21.95	21.84
10	25	0		20.77	20.75	20.65
10	25	12		20.80	20.78	20.70
10	25	25		20.83	20.78	20.66
10	50	0		20.81	20.75	20.68
10	1	0	64QAM	21.86	21.81	21.75
10	1	25		21.83	21.84	21.72
10	1	49		21.89	21.86	21.73
10	25	0		20.78	20.76	20.64
10	25	12		20.81	20.79	20.69
10	25	25		20.82	20.78	20.66
10	50	0		20.81	20.73	20.68
5	1	0	QPSK	22.65	22.59	22.49
5	1	12		22.66	22.60	22.50
5	1	24		22.69	22.63	22.56
5	12	0		21.74	21.66	21.56
5	12	7		21.77	21.71	21.61
5	12	13		21.73	21.71	21.57
5	25	0		21.71	21.68	21.58
5	1	0	16-QAM	21.93	21.89	21.77
5	1	12		21.93	21.92	21.81
5	1	24		21.93	21.89	21.76
5	12	0		20.78	20.73	20.61
5	12	7		20.82	20.76	20.69



5	12	13	64QAM	20.80	20.76	20.64
5	25	0		20.78	20.73	20.62
5	1	0		21.86	21.82	21.65
5	1	12		21.86	21.87	21.71
5	1	24		21.87	21.84	21.65
5	12	0		20.77	20.73	20.61
5	12	7		20.81	20.76	20.64
5	12	13		20.78	20.76	20.61
5	25	0		20.76	20.72	20.61



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.45	23.39	23.46
10	1	25		23.45	23.55	23.51
10	1	49		23.54	23.48	23.47
10	25	0		22.49	22.54	22.54
10	25	12		22.62	22.60	22.60
10	25	25		22.61	22.54	22.52
10	50	0		22.59	22.58	22.55
10	1	0	16-QAM	22.74	22.73	22.78
10	1	25		22.77	22.89	22.86
10	1	49		22.87	22.85	22.75
10	25	0		21.57	21.63	21.64
10	25	12		21.70	21.70	21.68
10	25	25		21.68	21.65	21.63
10	50	0		21.67	21.66	21.61
10	1	0	64QAM	22.61	22.62	22.68
10	1	25		22.68	22.76	22.72
10	1	49		22.75	22.73	22.66
10	25	0		21.58	21.63	21.60
10	25	12		21.70	21.66	21.64
10	25	25		21.67	21.65	21.64
10	50	0		21.64	21.63	21.60
5	1	0	QPSK	23.46	23.37	23.47
5	1	12		23.42	23.48	23.44
5	1	24		23.43	23.49	23.45
5	12	0		22.52	22.51	22.54
5	12	7		22.54	22.59	22.56
5	12	13		22.50	22.55	22.54
5	25	0		22.51	22.55	22.50
5	1	0	16-QAM	22.72	22.66	22.77
5	1	12		22.75	22.79	22.76
5	1	24		22.70	22.77	22.70
5	12	0		21.61	21.67	21.63
5	12	7		21.64	21.68	21.66



5	12	13	64QAM	21.60	21.66	21.59
5	25	0		21.59	21.66	21.62
5	1	0		22.65	22.61	22.70
5	1	12		22.63	22.71	22.65
5	1	24		22.60	22.67	22.59
5	12	0		21.60	21.62	21.61
5	12	7		21.63	21.65	21.66
5	12	13		21.59	21.61	21.59
5	25	0		21.59	21.64	21.60



LTE Band 12 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
3	1	0	QPSK	23.45	23.48	23.43
3	1	8		23.45	23.49	23.46
3	1	14		23.44	23.48	23.43
3	8	0		22.51	22.54	22.46
3	8	4		22.51	22.59	22.50
3	8	7		22.50	22.50	22.50
3	15	0		22.52	22.56	22.51
3	1	0	16-QAM	22.70	22.76	22.66
3	1	8		22.77	22.81	22.72
3	1	14		22.67	22.79	22.66
3	8	0		21.65	21.65	21.59
3	8	4		21.70	21.72	21.65
3	8	7		21.64	21.67	21.62
3	15	0		21.63	21.62	21.58
3	1	0	64QAM	22.59	22.65	22.60
3	1	8		22.66	22.72	22.63
3	1	14		22.63	22.66	22.38
3	8	0		21.59	21.63	21.56
3	8	4		21.65	21.69	21.61
3	8	7		21.59	21.62	21.59
3	15	0		21.59	21.60	21.56
1.4	1	0	QPSK	23.37	23.39	23.37
1.4	1	3		23.41	23.48	23.42
1.4	1	5		23.34	23.39	23.36
1.4	3	0		23.44	23.42	23.39
1.4	3	1		23.45	23.48	23.45
1.4	3	3		23.42	23.44	23.40
1.4	6	0		22.44	22.45	22.43
1.4	1	0	16-QAM	22.70	22.71	22.59
1.4	1	3		22.76	22.81	22.68
1.4	1	5		22.67	22.75	22.60
1.4	3	0		22.51	22.52	22.44
1.4	3	1		22.52	22.55	22.48



1.4	3	3	64QAM	22.46	22.50	22.40
1.4	6	0		21.61	21.61	21.54
1.4	1	0		22.58	22.63	22.51
1.4	1	3		22.64	22.72	22.57
1.4	1	5		22.57	22.65	22.46
1.4	3	0		22.52	22.58	22.45
1.4	3	1		22.56	22.59	22.50
1.4	3	3		22.52	22.56	22.44
1.4	6	0		21.53	21.54	21.48



LTE Band 17 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	23.52	23.50	23.50
10	1	25		23.56	23.54	23.54
10	1	49		23.52	23.52	23.50
10	25	0		22.62	22.58	22.58
10	25	12		22.65	22.63	22.59
10	25	25		22.63	22.61	22.61
10	50	0		22.63	22.58	22.60
10	1	0	16-QAM	22.86	22.85	22.84
10	1	25		22.92	22.85	22.87
10	1	49		22.84	22.80	22.77
10	25	0		21.72	21.65	21.67
10	25	12		21.73	21.74	21.70
10	25	25		21.68	21.70	21.70
10	50	0		21.68	21.70	21.71
10	1	0	64QAM	22.72	22.72	22.72
10	1	25		22.77	22.77	22.75
10	1	49		22.72	22.72	22.67
10	25	0		21.69	21.67	21.69
10	25	12		21.70	21.73	21.71
10	25	25		21.68	21.64	21.65
10	50	0		21.67	21.69	21.70
5	1	0	QPSK	23.53	23.51	23.49
5	1	12		23.51	23.51	23.49
5	1	24		23.54	23.52	23.48
5	12	0		22.63	22.61	22.58
5	12	7		22.64	22.62	22.61
5	12	13		22.61	22.63	22.58
5	25	0		22.61	22.61	22.57
5	1	0	16-QAM	22.85	22.84	22.80
5	1	12		22.82	22.79	22.75
5	1	24		22.83	22.75	22.71
5	12	0		21.72	21.71	21.67
5	12	7		21.73	21.70	21.70



5	12	13	64QAM	21.71	21.73	21.70
5	25	0		21.69	21.65	21.67
5	1	0		22.76	22.74	22.67
5	1	12		22.75	22.70	22.70
5	1	24		22.73	22.68	22.61
5	12	0		21.71	21.71	21.67
5	12	7		21.72	21.68	21.71
5	12	13		21.71	21.68	21.67
5	25	0		21.69	21.65	21.67



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.48	22.41	22.39
20	1	49		22.62	22.56	22.48
20	1	99		22.57	22.52	22.47
20	50	0		21.60	21.53	21.46
20	50	24		21.63	21.57	21.53
20	50	50		21.64	21.54	21.50
20	100	0		21.61	21.50	21.51
20	1	0	16-QAM	21.63	21.54	21.52
20	1	49		21.71	21.67	21.65
20	1	99		21.67	21.66	21.63
20	50	0		20.69	20.61	20.59
20	50	24		20.75	20.65	20.63
20	50	50		20.72	20.65	20.63
20	100	0		20.71	20.62	20.60
20	1	0	64QAM	21.38	21.32	21.26
20	1	49		21.49	21.42	21.33
20	1	99		21.42	21.44	21.37
20	50	0		20.67	20.59	20.54
20	50	24		20.68	20.60	20.59
20	50	50		20.69	20.61	20.55
20	100	0		20.73	20.69	20.63
15	1	0	QPSK	22.62	22.50	22.45
15	1	37		22.67	22.56	22.52
15	1	74		22.64	22.56	22.52
15	36	0		21.65	21.51	21.49
15	36	20		21.68	21.63	21.51
15	36	39		21.64	21.57	21.57
15	75	0		21.65	21.58	21.49
15	1	0	16-QAM	21.71	21.60	21.56
15	1	37		21.78	21.65	21.64
15	1	74		21.73	21.66	21.67
15	36	0		20.69	20.59	20.52
15	36	20		20.73	20.68	20.62



15	36	39	64QAM	20.73	20.63	20.59
15	75	0		20.72	20.66	20.61
15	1	0		21.47	21.38	21.35
15	1	37		21.52	21.44	21.40
15	1	74		21.47	21.43	21.41
15	36	0		20.70	20.61	20.58
15	36	20		20.74	20.70	20.62
15	36	39		20.74	20.67	20.61
15	75	0		20.74	20.67	20.61



LTE Band 38 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.64	22.55	22.46
10	1	25		22.66	22.56	22.52
10	1	49		22.67	22.57	22.55
10	25	0		21.65	21.53	21.49
10	25	12		21.70	21.55	21.55
10	25	25		21.65	21.59	21.52
10	50	0		21.66	21.59	21.53
10	1	0	16-QAM	21.75	21.63	21.63
10	1	25		21.79	21.70	21.66
10	1	49		21.71	21.69	21.62
10	25	0		20.77	20.65	20.60
10	25	12		20.80	20.69	20.66
10	25	25		20.77	20.69	20.62
10	50	0		20.78	20.69	20.63
10	1	0	64QAM	21.51	21.42	21.35
10	1	25		21.56	21.45	21.43
10	1	49		21.50	21.46	21.44
10	25	0		20.71	20.61	20.55
10	25	12		20.75	20.66	20.61
10	25	25		20.75	20.60	20.59
10	50	0		20.73	20.59	20.54
5	1	0	QPSK	22.67	22.57	22.48
5	1	12		22.71	22.57	22.55
5	1	24		22.68	22.55	22.50
5	12	0		21.69	21.62	21.50
5	12	7		21.73	21.64	21.55
5	12	13		21.69	21.61	21.54
5	25	0		21.72	21.56	21.54
5	1	0	16-QAM	21.77	21.65	21.63
5	1	12		21.82	21.70	21.69
5	1	24		21.80	21.72	21.67
5	12	0		20.76	20.65	20.57
5	12	7		20.76	20.67	20.65



5	12	13	64QAM	20.74	20.67	20.61
5	25	0		20.81	20.68	20.64
5	1	0		21.58	21.49	21.40
5	1	12		21.58	21.47	21.42
5	1	24		21.59	21.47	21.43
5	12	0		20.77	20.67	20.58
5	12	7		20.77	20.68	20.62
5	12	13		20.78	20.67	20.61
5	25	0		20.73	20.63	20.61



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
20	1	0	QPSK	22.70	22.38	22.53
20	1	49		22.87	22.46	22.64
20	1	99		22.74	22.45	22.64
20	50	0		21.78	21.57	21.56
20	50	24		21.86	21.68	21.65
20	50	50		21.84	21.58	21.66
20	100	0		21.77	21.55	21.62
20	1	0	16-QAM	21.84	21.57	21.70
20	1	49		21.93	21.68	21.81
20	1	99		21.84	21.67	21.82
20	50	0		20.92	20.61	20.67
20	50	24		20.94	20.71	20.76
20	50	50		20.93	20.67	20.78
20	100	0		20.90	20.79	20.67
20	1	0	64QAM	21.61	21.34	21.39
20	1	49		21.70	21.46	21.54
20	1	99		21.59	21.48	21.51
20	50	0		20.83	20.59	20.62
20	50	24		20.90	20.49	20.71
20	50	50		20.84	20.63	20.70
20	100	0		20.94	20.58	20.74
15	1	0	QPSK	22.77	22.59	22.55
15	1	37		22.82	22.66	22.65
15	1	74		22.82	22.59	22.70
15	36	0		21.81	21.67	21.57
15	36	20		21.84	21.89	21.67
15	36	39		21.85	21.70	21.65
15	75	0		21.78	21.50	21.60
15	1	0	16-QAM	21.92	21.74	21.70
15	1	37		21.96	21.80	21.80
15	1	74		21.92	21.56	21.85
15	36	0		20.85	20.73	20.65
15	36	20		20.90	20.79	20.74



15	36	39	64QAM	20.88	20.76	20.71
15	75	0		20.92	20.86	20.71
15	1	0		21.69	21.52	21.49
15	1	37		21.67	21.46	21.56
15	1	74		21.68	21.49	21.57
15	36	0		20.88	20.76	20.67
15	36	20		20.96	20.50	20.76
15	36	39		20.91	20.49	20.73
15	75	0		20.89	20.79	20.71



LTE Band 41 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	22.79	22.58	22.53
10	1	25		22.83	22.70	22.59
10	1	49		22.85	22.67	22.67
10	25	0		21.78	21.61	21.61
10	25	12		21.88	21.67	21.65
10	25	25		21.81	21.64	21.62
10	50	0		21.89	21.67	21.63
10	1	0	16-QAM	21.93	21.76	21.75
10	1	25		21.99	21.83	21.76
10	1	49		21.89	21.78	21.76
10	25	0		20.90	20.76	20.74
10	25	12		20.99	20.79	20.84
10	25	25		20.92	20.76	20.76
10	50	0		20.98	20.79	20.76
10	1	0	64QAM	21.69	21.48	21.47
10	1	25		21.75	21.55	21.51
10	1	49		21.71	21.52	21.54
10	25	0		20.88	20.71	20.65
10	25	12		20.91	20.75	20.78
10	25	25		20.90	20.71	20.73
10	50	0		20.87	20.70	20.71
5	1	0	QPSK	22.85	22.60	22.62
5	1	12		22.86	22.63	22.62
5	1	24		22.82	22.58	22.61
5	12	0		21.90	21.63	21.64
5	12	7		21.90	21.66	21.60
5	12	13		21.89	21.67	21.70
5	25	0		21.83	21.60	21.63
5	1	0	16-QAM	21.97	21.70	21.75
5	1	12		21.99	21.75	21.82
5	1	24		21.99	21.77	21.82
5	12	0		20.94	20.70	20.73
5	12	7		20.95	20.72	20.74



5	12	13	64QAM	20.95	20.74	20.75
5	25	0		20.96	20.73	20.79
5	1	0		21.75	21.52	21.54
5	1	12		21.73	21.51	21.55
5	1	24		21.77	21.52	21.58
5	12	0		20.91	20.69	20.74
5	12	7		20.97	20.76	20.75
5	12	13		20.93	20.72	20.72
5	25	0		20.93	20.68	20.73



ERP/EIRP

LTE Band 2 (GT - LC = -4.11 dBi) 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	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
(MHz)									
Conducted Power (dBm)	22.95	23.05	22.96	22.95	23.05	22.98	23.02	23.11	23.05
Conducted Power (Watts)	0.1972	0.2018	0.1977	0.1972	0.2018	0.1986	0.2004	0.2046	0.2018
EIRP(dBm)	18.84	18.94	18.85	18.84	18.94	18.87	18.91	19.00	18.94
EIRP(Watts)	0.0766	0.0784	0.0767	0.0766	0.0784	0.0771	0.0778	0.0794	0.0784

LTE Band 2 (GT - LC = -4.11 dBi) 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	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
(MHz)									
Conducted Power (dBm)	23.24	23.32	23.11	23.12	23.23	23.20	23.32	23.38	23.22
Conducted Power (Watts)	0.2109	0.2148	0.2046	0.2051	0.2104	0.2089	0.2148	0.2178	0.2099
EIRP(dBm)	19.13	19.21	19.00	19.01	19.12	19.09	19.21	19.27	19.11
EIRP(Watts)	0.0819	0.0834	0.0794	0.0796	0.0817	0.0811	0.0834	0.0845	0.0815



LTE Band 2 (GT - LC = -4.11 dBi) 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)	22.22	22.40	22.24	22.21	22.38	22.26	22.32	22.47	22.41
Conducted Power (Watts)	0.1667	0.1738	0.1675	0.1663	0.1730	0.1683	0.1706	0.1766	0.1742
EIRP(dBm)	18.11	18.29	18.13	18.10	18.27	18.15	18.21	18.36	18.30
EIRP(Watts)	0.0647	0.0675	0.0650	0.0646	0.0672	0.0653	0.0662	0.0686	0.0676

LTE Band 2 (GT - LC = -4.11 dBi) 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	22.71	22.47	22.46	22.60	22.51	22.61	22.76	22.53
Conducted Power (Watts)	0.1816	0.1866	0.1766	0.1762	0.1820	0.1782	0.1824	0.1888	0.1791
EIRP(dBm)	18.48	18.60	18.36	18.35	18.49	18.40	18.50	18.65	18.42
EIRP(Watts)	0.0705	0.0725	0.0686	0.0684	0.0706	0.0692	0.0708	0.0733	0.0695



LTE Band 2 (GT - LC = -4.11 dBi) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	18607	18900	19193	18615	18900	19185	18625	18900	19175
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1850.7	1880	1909.3	1851.5	1880	1908.5	1852.5	1880	1907.5
(MHz)									
Conducted Power (dBm)	22.09	22.32	22.11	22.11	22.31	22.17	22.21	22.39	22.29
Conducted Power (Watts)	0.1618	0.1706	0.1626	0.1626	0.1702	0.1648	0.1663	0.1734	0.1694
EIRP(dBm)	17.98	18.21	18.00	18.00	18.20	18.06	18.10	18.28	18.18
EIRP(Watts)	0.0628	0.0662	0.0631	0.0631	0.0661	0.0640	0.0646	0.0673	0.0658

LTE Band 2 (GT - LC = -4.11 dBi) 64QAM									
Bandwidth	10M			15M			20M		
Channel	18650	18900	19150	18675	18900	19125	18650	18900	19100
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	1855	1880	1905	1857.5	1880	1902.5	1860	1880	1900
(MHz)									
Conducted Power (dBm)	22.43	22.58	22.37	22.33	22.50	22.45	22.53	22.66	22.44
Conducted Power (Watts)	0.1750	0.1811	0.1726	0.1710	0.1778	0.1758	0.1791	0.1845	0.1754
EIRP(dBm)	18.32	18.47	18.26	18.22	18.39	18.34	18.42	18.55	18.33
EIRP(Watts)	0.0679	0.0703	0.0670	0.0664	0.0690	0.0682	0.0695	0.0716	0.0681



LTE Band 4 (GT - LC = -2.34 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	22.93	23.04	23.01	22.89	23.02	23.01	22.91	23.01	22.99
Conducted Power (Watts)	0.1963	0.2014	0.2000	0.1945	0.2004	0.2000	0.1954	0.2000	0.1991
EIRP(dBm)	20.59	20.70	20.67	20.55	20.68	20.67	20.57	20.67	20.65
EIRP(Watts)	0.1147	0.1176	0.1168	0.1136	0.1171	0.1168	0.1141	0.1168	0.1162

LTE Band 4 (GT - LC = -2.34 dBi) QPSK									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	22.95	23.06	23.04	22.96	23.05	23.06	22.90	22.96	23.07
Conducted Power (Watts)	0.1972	0.2023	0.2014	0.1977	0.2018	0.2023	0.1950	0.1977	0.2028
EIRP(dBm)	20.61	20.72	20.70	20.62	20.71	20.72	20.56	20.62	20.73
EIRP(Watts)	0.1152	0.1181	0.1176	0.1154	0.1179	0.1181	0.1139	0.1154	0.1184



LTE Band 4 (GT - LC = -2.34 dBi) 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)	22.33	22.40	22.42	22.27	22.42	22.40	22.35	22.35	22.41
Conducted Power (Watts)	0.1710	0.1738	0.1746	0.1687	0.1746	0.1738	0.1718	0.1718	0.1742
EIRP(dBm)	19.99	20.06	20.08	19.93	20.08	20.06	20.01	20.01	20.07
EIRP(Watts)	0.0999	0.1015	0.1019	0.0985	0.1019	0.1015	0.1003	0.1003	0.1017

LTE Band 4 (GT - LC = -2.34 dBi) 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)	22.29	22.44	22.46	22.38	22.34	22.50	22.42	22.24	22.54
Conducted Power (Watts)	0.1694	0.1754	0.1762	0.1730	0.1714	0.1778	0.1746	0.1675	0.1795
EIRP(dBm)	19.95	20.10	20.12	20.04	20.00	20.16	20.08	19.90	20.20
EIRP(Watts)	0.0989	0.1024	0.1029	0.1010	0.1001	0.1038	0.1019	0.0978	0.1048



LTE Band 4 (GT - LC = -2.34 dBi) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	19957	20175	20393	19965	20175	20385	19975	20175	20375
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1732.5	1754.3	1711.5	1732.5	1753.5	1712.5	1732.5	1752.5
Conducted Power (dBm)	22.22	22.28	22.28	22.23	22.31	22.27	22.22	22.28	22.29
Conducted Power (Watts)	0.1667	0.1690	0.1690	0.1671	0.1702	0.1687	0.1667	0.1690	0.1694
EIRP(dBm)	19.88	19.94	19.94	19.89	19.97	19.93	19.88	19.94	19.95
EIRP(Watts)	0.0974	0.0987	0.0987	0.0976	0.0994	0.0985	0.0974	0.0987	0.0989

LTE Band 4 (GT - LC = -2.34 dBi) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20000	20175	20350	20025	20175	20325	20050	20175	20300
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1715	1732.5	1750	1717.5	1732.5	1747.5	1720	1732.5	1745
Conducted Power (dBm)	22.26	22.27	22.34	22.26	22.29	22.36	22.29	22.15	22.43
Conducted Power (Watts)	0.1683	0.1687	0.1714	0.1683	0.1694	0.1722	0.1694	0.1641	0.1750
EIRP(dBm)	19.92	19.93	20.00	19.92	19.95	20.02	19.95	19.81	20.09
EIRP(Watts)	0.0983	0.0985	0.1001	0.0983	0.0989	0.1005	0.0989	0.0958	0.1022



LTE Band 5 (GT - LC = -5.14 dBi) 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)	23.41	23.56	23.50	23.40	23.54	23.52	23.41	23.54	23.54
Conducted Power (Watts)	0.2193	0.2270	0.2239	0.2188	0.2259	0.2249	0.2193	0.2259	0.2259
ERP(dBm)	16.12	16.27	16.21	16.11	16.25	16.23	16.12	16.25	16.25
ERP(Watts)	0.0409	0.0423	0.0418	0.0408	0.0421	0.0420	0.0409	0.0421	0.0421

LTE Band 5 (GT - LC = -5.14 dBi) QPSK			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	23.50	23.60	23.58
Conducted Power (Watts)	0.2239	0.2291	0.2280
ERP(dBm)	16.21	16.31	16.29
ERP(Watts)	0.0418	0.0427	0.0425



LTE Band 5 (GT - LC = -5.14 dBi) 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)	22.73	22.81	22.65	22.79	22.84	22.62	22.73	22.80	22.65
Conducted Power (Watts)	0.1875	0.1910	0.1841	0.1901	0.1923	0.1828	0.1875	0.1905	0.1841
ERP(dBm)	15.44	15.52	15.36	15.50	15.55	15.33	15.44	15.51	15.36
ERP(Watts)	0.0350	0.0356	0.0343	0.0355	0.0359	0.0341	0.0350	0.0355	0.0343

LTE Band 5 (GT - LC = -5.14 dBi) 16QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	22.87	22.89	22.83
Conducted Power (Watts)	0.1936	0.1945	0.1919
ERP(dBm)	15.58	15.60	15.54
ERP(Watts)	0.0361	0.0363	0.0358



LTE Band 5 (GT - LC = -5.14 dBi) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	20407	20525	20643	20415	20525	20635	20425	20525	20625
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	824.7	836.5	848.3	825.5	836.5	847.5	826.5	836.5	846.5
Conducted Power (dBm)	22.64	22.71	22.51	22.61	22.75	22.58	22.60	22.74	22.68
Conducted Power (Watts)	0.1837	0.1866	0.1782	0.1824	0.1884	0.1811	0.1820	0.1879	0.1854
ERP(dBm)	15.35	15.42	15.22	15.32	15.46	15.29	15.31	15.45	15.39
ERP(Watts)	0.0343	0.0348	0.0333	0.0340	0.0351	0.0338	0.0339	0.0351	0.0346

LTE Band 5 (GT - LC = -5.14 dBi) 64QAM			
Bandwidth	10M		
Channel	20450	20525	20600
	(Low)	(Mid)	(High)
Frequency (MHz)	829	836.5	844
Conducted Power (dBm)	22.72	22.77	22.75
Conducted Power (Watts)	0.1871	0.1892	0.1884
ERP(dBm)	15.43	15.48	15.46
ERP(Watts)	0.0349	0.0353	0.0351



LTE Band 7 (GT - LC = -1.56 dBi) QPSK			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	22.69	22.63	22.56
Conducted Power (Watts)	0.1858	0.1832	0.1803
EIRP(dBm)	21.13	21.07	21.00
EIRP(Watts)	0.1298	0.1281	0.1260

LTE Band 7 (GT - LC = -1.56 dBi) QPSK									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	22.68	22.65	22.54	22.76	22.68	22.61	22.77	22.63	22.42
Conducted Power (Watts)	0.1854	0.1841	0.1795	0.1888	0.1854	0.1824	0.1892	0.1832	0.1746
EIRP(dBm)	21.12	21.09	20.98	21.20	21.12	21.05	21.21	21.07	20.86
EIRP(Watts)	0.1295	0.1286	0.1254	0.1319	0.1295	0.1275	0.1322	0.1281	0.1220



LTE Band 7 (GT - LC = -1.56 dBi) 16QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency	2502.5	2535	2567.5
(MHz)			
Conducted Power (dBm)	21.93	21.92	21.81
Conducted Power (Watts)	0.1560	0.1556	0.1517
EIRP(dBm)	20.37	20.36	20.25
EIRP(Watts)	0.1090	0.1087	0.1060

LTE Band 7 (GT - LC = -1.56 dBi) 16QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
(MHz)									
Conducted Power (dBm)	21.95	21.97	21.79	22.15	21.95	21.89	22.00	21.98	21.71
Conducted Power (Watts)	0.1567	0.1574	0.1510	0.1641	0.1567	0.1545	0.1585	0.1578	0.1483
EIRP(dBm)	20.39	20.41	20.23	20.59	20.39	20.33	20.44	20.42	20.15
EIRP(Watts)	0.1095	0.1100	0.1055	0.1147	0.1095	0.1080	0.1108	0.1103	0.1036



LTE Band 7 (GT - LC = -1.56 dBi) 64QAM			
Bandwidth	5M		
Channel	20775	21100	21425
	(Low)	(Mid)	(High)
Frequency (MHz)	2502.5	2535	2567.5
	Conducted Power (dBm)	21.86	21.87
Conducted Power (Watts)	0.1535	0.1538	0.1483
EIRP(dBm)	20.30	20.31	20.15
EIRP(Watts)	0.1072	0.1075	0.1036

LTE Band 7 (GT - LC = -1.56 dBi) 64QAM									
Bandwidth	10M			15M			20M		
Channel	20800	21100	21400	20825	21100	21375	20850	21100	21350
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	2505	2535	2565	2507.5	2535	2562.5	2510	2535	2560
	Conducted Power (dBm)	21.89	21.86	21.73	22.00	21.89	21.77	21.99	21.83
Conducted Power (Watts)	0.1545	0.1535	0.1489	0.1585	0.1545	0.1503	0.1581	0.1524	0.1500
EIRP(dBm)	20.33	20.30	20.17	20.44	20.33	20.21	20.43	20.27	20.20
EIRP(Watts)	0.1080	0.1072	0.1041	0.1108	0.1080	0.1050	0.1105	0.1065	0.1048



LTE Band 12 (GT - LC = -4.39 dBi) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	23.45	23.48	23.45	23.45	23.49	23.46	23.43	23.49	23.45
Conducted Power (Watts)	0.2213	0.2228	0.2213	0.2213	0.2234	0.2218	0.2203	0.2234	0.2213
ERP(dBm)	16.91	16.94	16.91	16.91	16.95	16.92	16.89	16.95	16.91
ERP(Watts)	0.0491	0.0494	0.0491	0.0491	0.0495	0.0492	0.0489	0.0495	0.0491

LTE Band 12 (GT - LC = -4.39 dBi) QPSK			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	23.45	23.55	23.51
Conducted Power (Watts)	0.2213	0.2265	0.2244
ERP(dBm)	16.91	17.01	16.97
ERP(Watts)	0.0491	0.0502	0.0498



LTE Band 12 (GT - LC = -4.39 dBi) 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)	22.76	22.81	22.68	22.77	22.81	22.72	22.75	22.79	22.76
Conducted Power (Watts)	0.1888	0.1910	0.1854	0.1892	0.1910	0.1871	0.1884	0.1901	0.1888
ERP(dBm)	16.22	16.27	16.14	16.23	16.27	16.18	16.21	16.25	16.22
ERP(Watts)	0.0419	0.0424	0.0411	0.0420	0.0424	0.0415	0.0418	0.0422	0.0419

LTE Band 12 (GT - LC = -4.39 dBi) 16QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	22.77	22.89	22.86
Conducted Power (Watts)	0.1892	0.1945	0.1932
ERP(dBm)	16.23	16.35	16.32
ERP(Watts)	0.0420	0.0432	0.0429



LTE Band 12 (GT - LC = -4.39 dBi) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	23017	23095	23173	23025	23095	23165	23035	23095	23155
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	699.7	707.5	715.3	700.5	707.5	714.5	701.5	707.5	713.5
Conducted Power (dBm)	22.64	22.72	22.57	22.66	22.72	22.63	22.63	22.71	22.65
Conducted Power (Watts)	0.1837	0.1871	0.1807	0.1845	0.1871	0.1832	0.1832	0.1866	0.1841
ERP(dBm)	16.10	16.18	16.03	16.12	16.18	16.09	16.09	16.17	16.11
ERP(Watts)	0.0407	0.0415	0.0401	0.0409	0.0415	0.0406	0.0406	0.0414	0.0408

LTE Band 12 (GT - LC = -4.39 dBi) 64QAM			
Bandwidth	10M		
Channel	23060	23095	23130
	(Low)	(Mid)	(High)
Frequency (MHz)	704	707.5	711
Conducted Power (dBm)	22.68	22.76	22.72
Conducted Power (Watts)	0.1854	0.1888	0.1871
ERP(dBm)	16.14	16.22	16.18
ERP(Watts)	0.0411	0.0419	0.0415



LTE Band 41 (G _T - L _C = -1.79 dBi) QPSK									
Bandwidth	5M			10M			15M		
Channel	40165	40690	41215	40190	40690	41190	40215	40690	41165
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2547.5	2600	2652.5	2550	2600	2650	2552.5	2600	2647.5
(MHz)									
Conducted Power (dBm)	22.86	22.63	22.62	22.85	22.67	22.67	22.82	22.66	22.65
Conducted Power (Watts)	0.1932	0.1832	0.1828	0.1928	0.1849	0.1849	0.1914	0.1845	0.1841
EIRP(dBm)	21.07	20.84	20.83	21.06	20.88	20.88	21.03	20.87	20.86
EIRP(Watts)	0.1280	0.1214	0.1211	0.1277	0.1225	0.1225	0.1268	0.1223	0.1220

LTE Band 41 (G _T - L _C = -1.79 dBi) QPSK			
Bandwidth	20M		
Channel	40240	40690	41140
	(Low)	(Mid)	(High)
Frequency	2555	2600	2645
(MHz)			
Conducted Power (dBm)	22.87	22.46	22.64
Conducted Power (Watts)	0.1936	0.1762	0.1837
EIRP(dBm)	21.08	20.67	20.85
EIRP(Watts)	0.1283	0.1167	0.1217



LTE Band 41 (G _T - L _C = -1.79 dBi) 16QAM									
Bandwidth	5M			10M			15M		
Channel	40165	40690	41215	40190	40690	41190	40215	40690	41165
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2547.5	2600	2652.5	2550	2600	2650	2552.5	2600	2647.5
(MHz)									
Conducted Power (dBm)	21.99	21.75	21.82	21.99	21.83	21.76	21.96	21.80	21.80
Conducted Power (Watts)	0.1581	0.1496	0.1521	0.1581	0.1524	0.1500	0.1570	0.1514	0.1514
EIRP(dBm)	20.20	19.96	20.03	20.20	20.04	19.97	20.17	20.01	20.01
EIRP(Watts)	0.1048	0.0991	0.1008	0.1048	0.1010	0.0994	0.1041	0.1003	0.1003

LTE Band 41 (G _T - L _C = -1.79 dBi) 16QAM			
Bandwidth	20M		
Channel	40240	40690	41140
	(Low)	(Mid)	(High)
Frequency	2555	2600	2645
(MHz)			
Conducted Power (dBm)	21.93	21.68	21.81
Conducted Power (Watts)	0.1560	0.1472	0.1517
EIRP(dBm)	20.14	19.89	20.02
EIRP(Watts)	0.1033	0.0976	0.1005



LTE Band 41 (G _T - L _C = -1.79 dBi) 64QAM									
Bandwidth	5M			10M			15M		
Channel	40165	40690	41215	40190	40690	41190	40215	40690	41165
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency	2547.5	2600	2652.5	2550	2600	2650	2552.5	2600	2647.5
(MHz)									
Conducted Power (dBm)	21.77	21.52	21.58	21.75	21.55	21.51	21.69	21.52	21.49
Conducted Power (Watts)	0.1503	0.1419	0.1439	0.1496	0.1429	0.1416	0.1476	0.1419	0.1409
EIRP(dBm)	19.98	19.73	19.79	19.96	19.76	19.72	19.90	19.73	19.70
EIRP(Watts)	0.0996	0.0940	0.0953	0.0991	0.0947	0.0938	0.0978	0.0940	0.0934

LTE Band 41 (G _T - L _C = -1.79 dBi) 64QAM			
Bandwidth	20M		
Channel	40240	40690	41140
	(Low)	(Mid)	(High)
Frequency	2555	2600	2645
(MHz)			
Conducted Power (dBm)	21.70	21.46	21.54
Conducted Power (Watts)	0.1479	0.1400	0.1426
EIRP(dBm)	19.91	19.67	19.75
EIRP(Watts)	0.0980	0.0927	0.0945



Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.07	4.06	4.46	5.28	PASS
Middle CH	3.48	4.29	4.64	5.59	
Highest CH	3.01	4.35	4.2	5.51	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	5.39	5.86	PASS		
Middle CH	5.74	6.23			
Highest CH	5.54	6.14			

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.62	4.29	4.78	5.59	PASS
Middle CH	3.33	4.55	4.84	5.74	
Highest CH	3.51	4.58	4.93	5.97	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	6.03	6.17	PASS		
Middle CH	6.23	6.38			
Highest CH	5.80	6.58			

Mode	LTE Band 5 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.1	4.29	4.55	5.45	PASS
Middle CH	3.48	4.2	4.78	5.45	
Highest CH	3.01	3.88	4.46	4.99	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	5.51	6.09	PASS		
Middle CH	6.23	6.03			
Highest CH	5.39	5.68			



Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.33	4.12	4.67	5.36	PASS
Middle CH	3.45	4.41	4.9	5.45	
Highest CH	3.13	4.09	4.64	5.28	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	5.74	5.97	PASS		
Middle CH	5.91	6.12			
Highest CH	5.54	5.91			

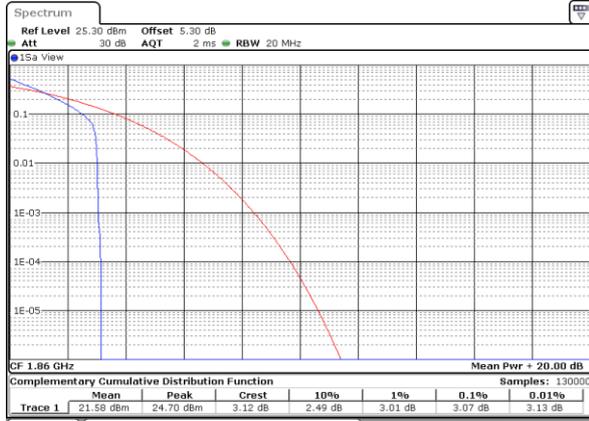
Mode	LTE Band 12 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.16	4.38	4.7	5.59	PASS
Middle CH	3.33	4.38	4.72	5.59	
Highest CH	3.45	4.14	4.72	5.39	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	5.68	6.32	PASS		
Middle CH	6.03	6.26			
Highest CH	5.77	6.00			

Mode	LTE Band 41 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.41	5.16	5.3	5.77	PASS
Middle CH	3.83	5.54	5.13	6.06	
Highest CH	4.64	4.67	5.48	6.2	
Mod.	64QAM		Limit: 13dB		
RB Size	1RB	Full RB	Result		
Lowest CH	6.46	6.38	PASS		
Middle CH	6.17	6.32			
Highest CH	6.17	6.46			



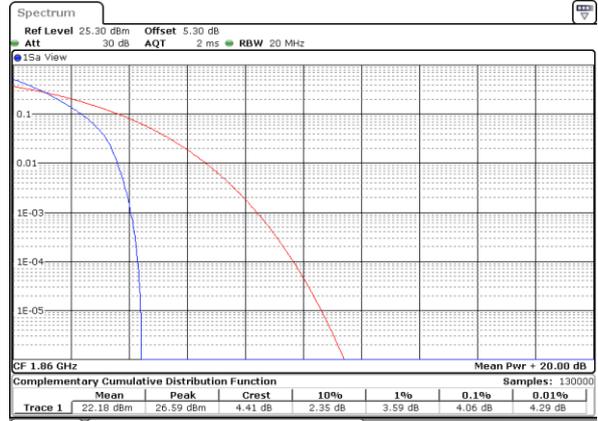
LTE Band 2 / 20MHz / QPSK

Lowest Channel / 1RB



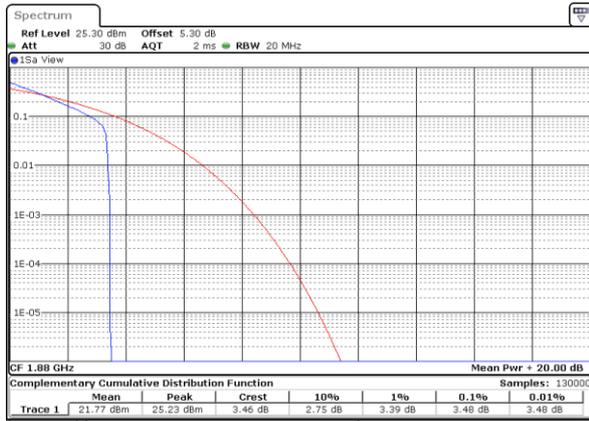
Date: 20.OCT.2018 15:20:34

Lowest Channel / Full RB



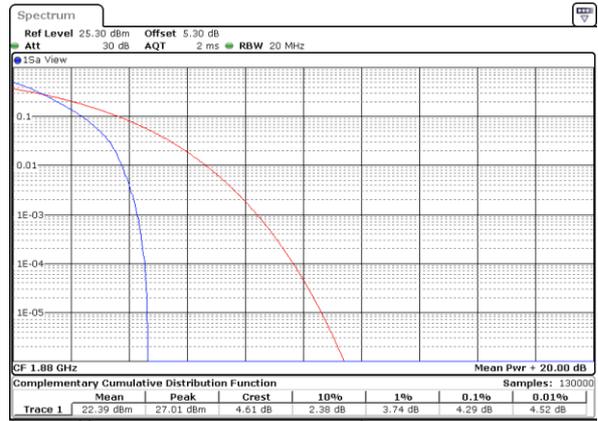
Date: 20.OCT.2018 15:20:45

Middle Channel / 1RB



Date: 20.OCT.2018 15:21:38

Middle Channel / Full RB



Date: 20.OCT.2018 15:21:26

Highest Channel / 1RB



Date: 20.OCT.2018 15:24:19

Highest Channel / Full RB

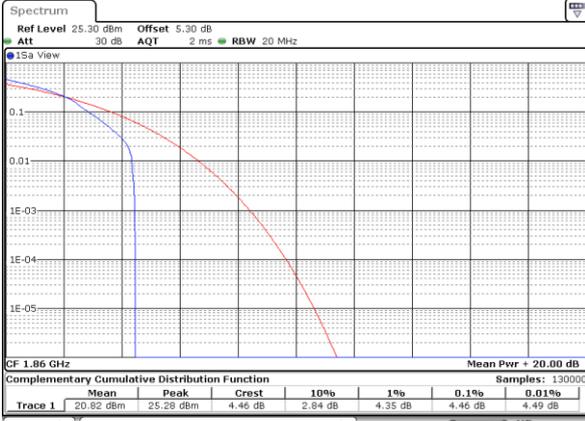


Date: 20.OCT.2018 15:24:35



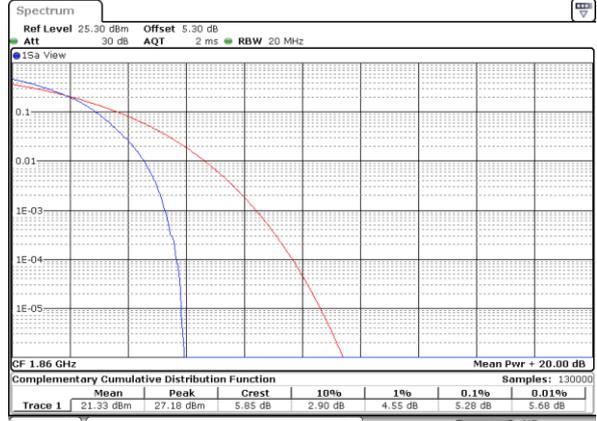
LTE Band 2 / 20MHz / 16QAM

Lowest Channel / 1RB



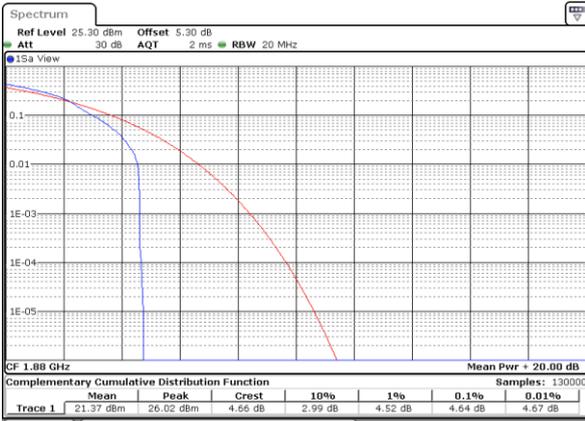
Date: 20.OCT.2018 14:27:19

Lowest Channel / Full RB



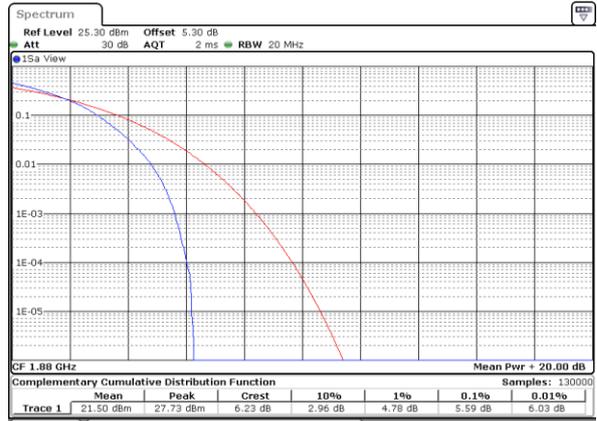
Date: 20.OCT.2018 14:27:28

Middle Channel / 1RB



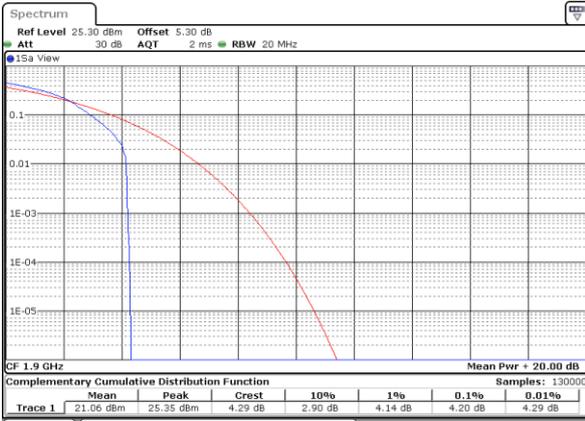
Date: 20.OCT.2018 14:27:36

Middle Channel / Full RB



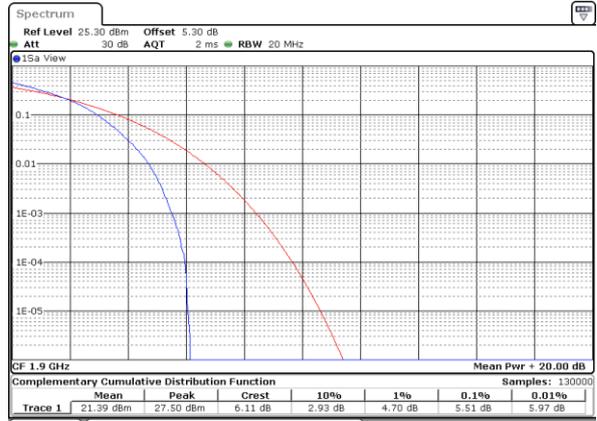
Date: 20.OCT.2018 14:27:45

Highest Channel / 1RB



Date: 20.OCT.2018 14:27:54

Highest Channel / Full RB

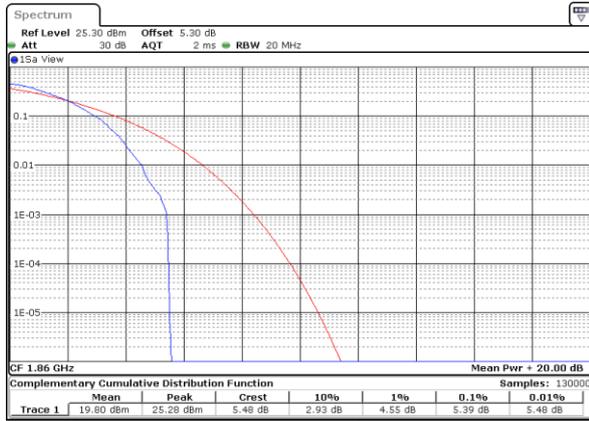


Date: 20.OCT.2018 14:28:02



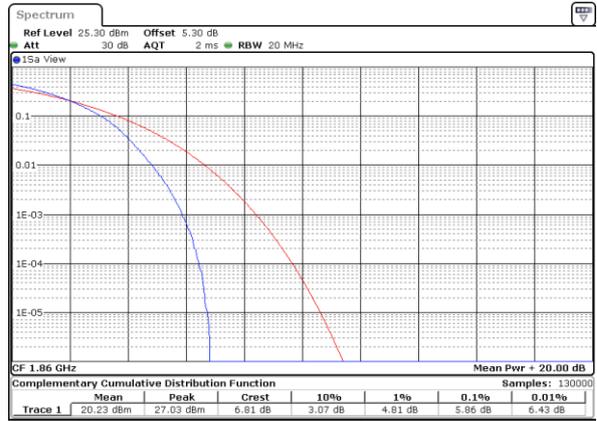
LTE Band 2 / 20MHz / 64QAM

Lowest Channel / 1RB



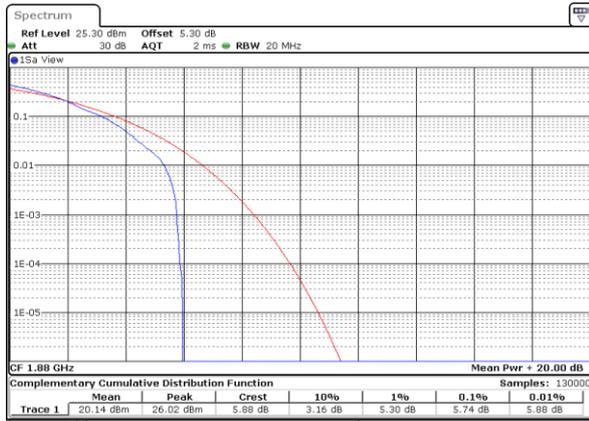
Date: 20.OCT.2018 15:20:22

Lowest Channel / Full RB



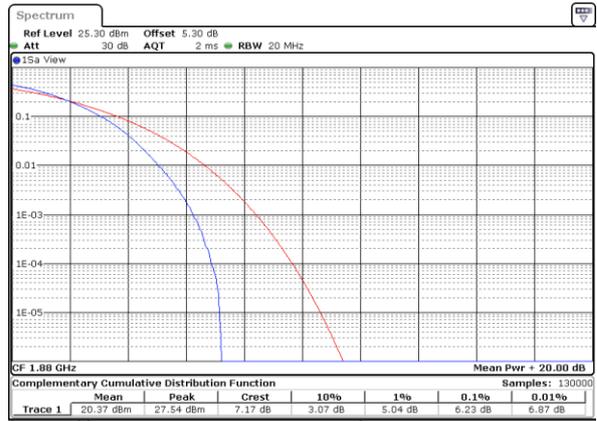
Date: 20.OCT.2018 15:20:56

Middle Channel / 1RB



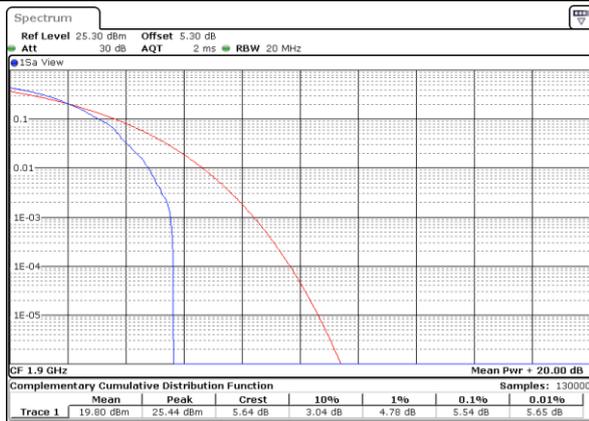
Date: 20.OCT.2018 15:21:52

Middle Channel / Full RB



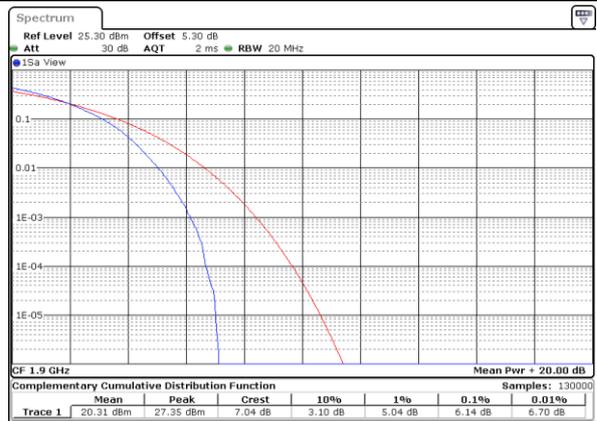
Date: 20.OCT.2018 15:21:09

Highest Channel / 1RB



Date: 20.OCT.2018 15:22:06

Highest Channel / Full RB

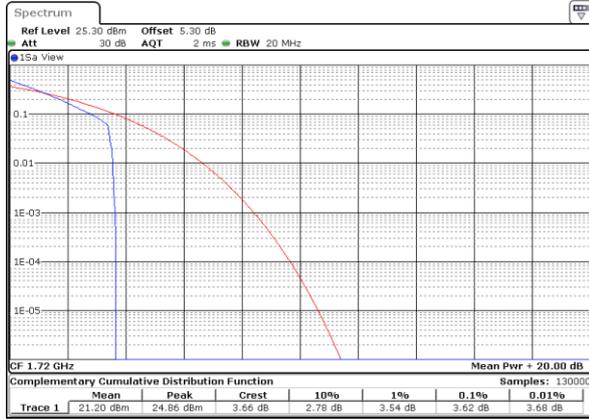


Date: 20.OCT.2018 15:24:48



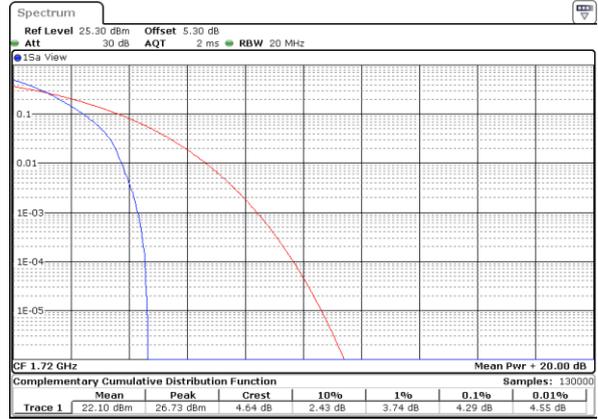
LTE Band 4 / 20MHz / QPSK

Lowest Channel / 1RB



Date: 20.OCT.2018 18:34:09

Lowest Channel / Full RB



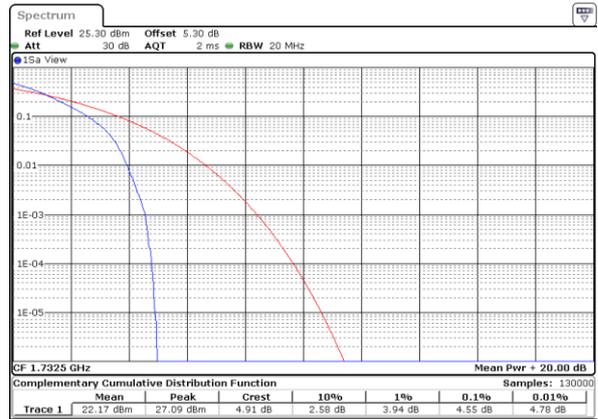
Date: 20.OCT.2018 18:34:01

Middle Channel / 1RB



Date: 20.OCT.2018 18:34:18

Middle Channel / Full RB



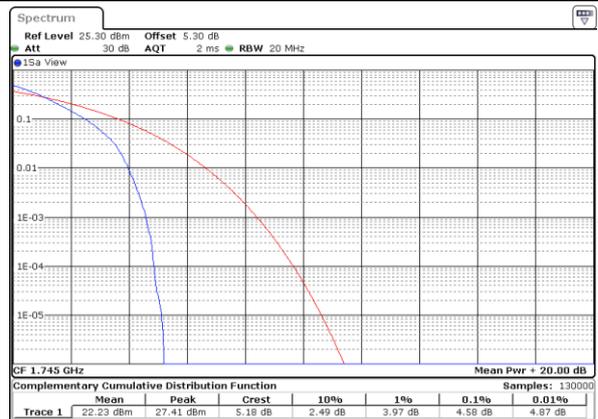
Date: 20.OCT.2018 18:34:26

Highest Channel / 1RB



Date: 20.OCT.2018 18:34:43

Highest Channel / Full RB

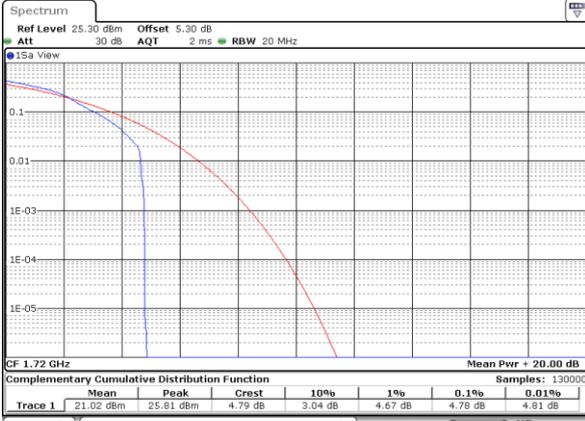


Date: 20.OCT.2018 18:34:35



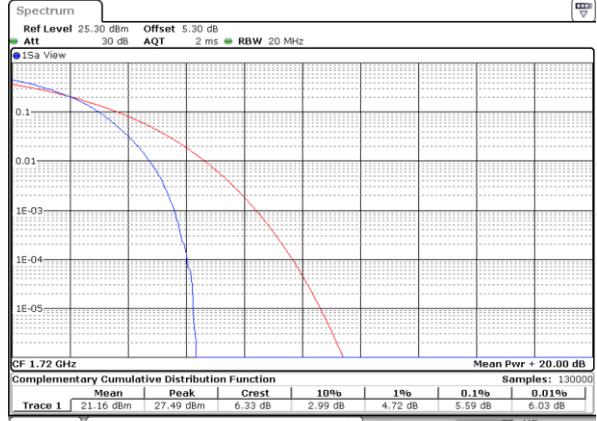
LTE Band 4 / 20MHz / 16QAM

Lowest Channel / 1RB



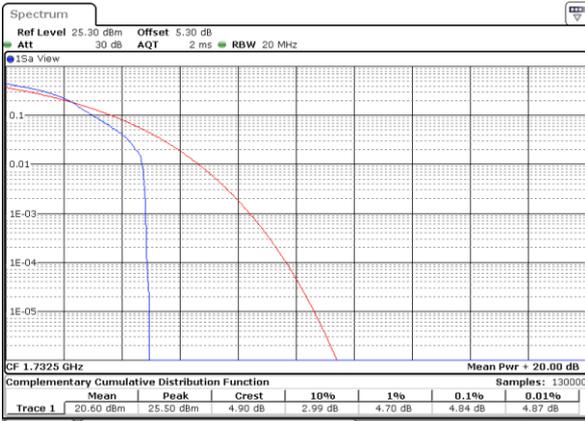
Date: 20.OCT.2018 17:35:35

Lowest Channel / Full RB



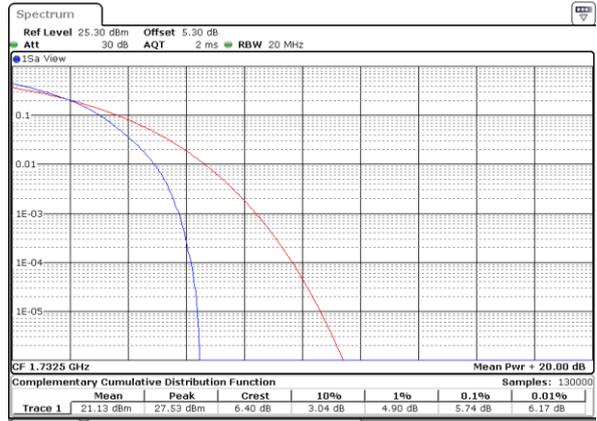
Date: 20.OCT.2018 17:35:46

Middle Channel / 1RB



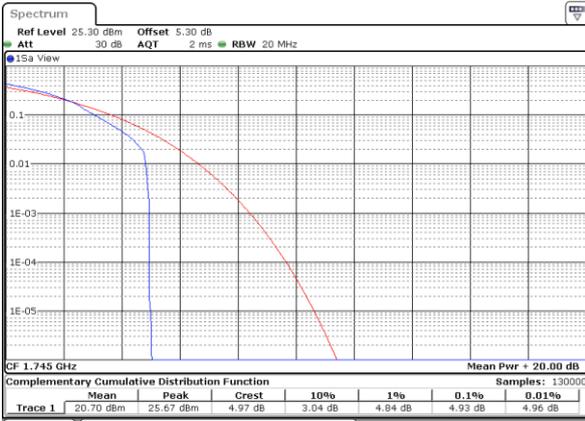
Date: 20.OCT.2018 17:35:55

Middle Channel / Full RB



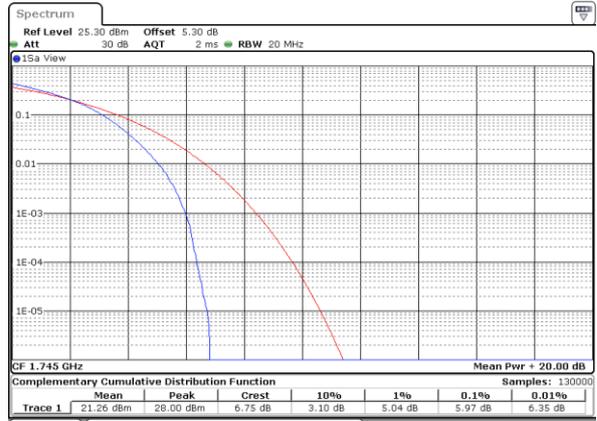
Date: 20.OCT.2018 17:36:03

Highest Channel / 1RB



Date: 20.OCT.2018 17:36:12

Highest Channel / Full RB

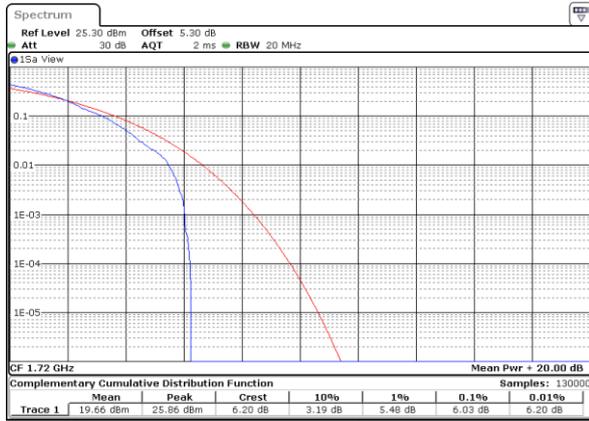


Date: 20.OCT.2018 17:36:21



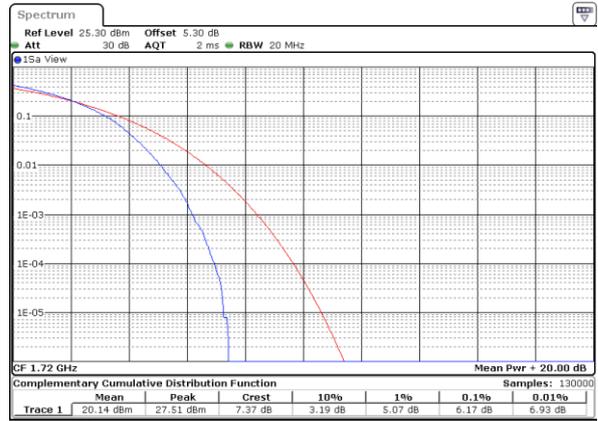
LTE Band 4 / 20MHz / 64QAM

Lowest Channel / 1RB



Date: 20.OCT.2018 18:33:35

Lowest Channel / Full RB



Date: 20.OCT.2018 18:33:26

Middle Channel / 1RB



Date: 20.OCT.2018 18:33:44

Middle Channel / Full RB



Date: 20.OCT.2018 18:33:52

Highest Channel / 1RB



Date: 20.OCT.2018 18:33:09

Highest Channel / Full RB

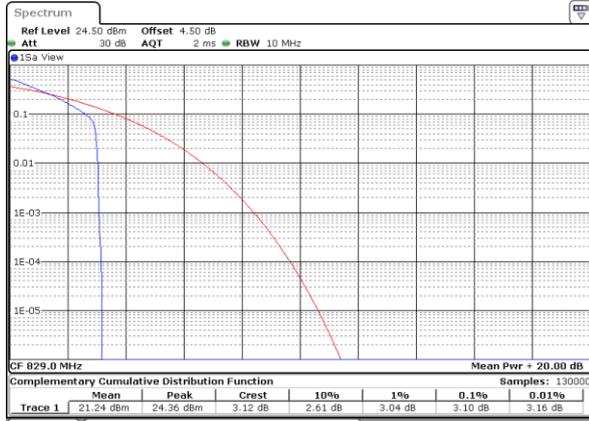


Date: 20.OCT.2018 18:33:18



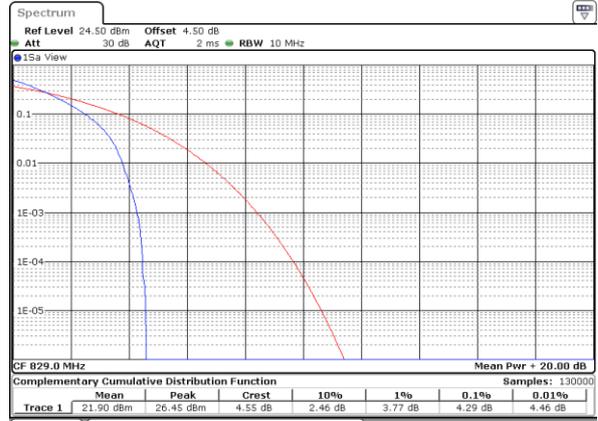
LTE Band 5 / 10MHz / QPSK

Lowest Channel / 1RB



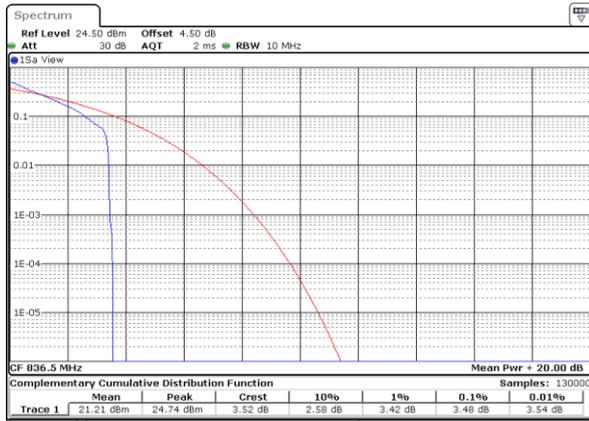
Date: 20.OCT.2018 21:48:48

Lowest Channel / Full RB



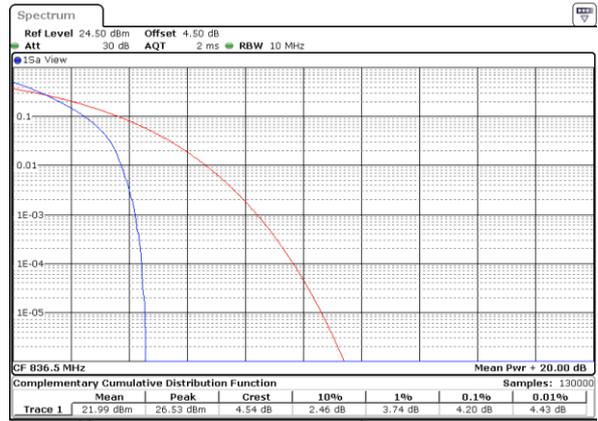
Date: 20.OCT.2018 21:49:06

Middle Channel / 1RB



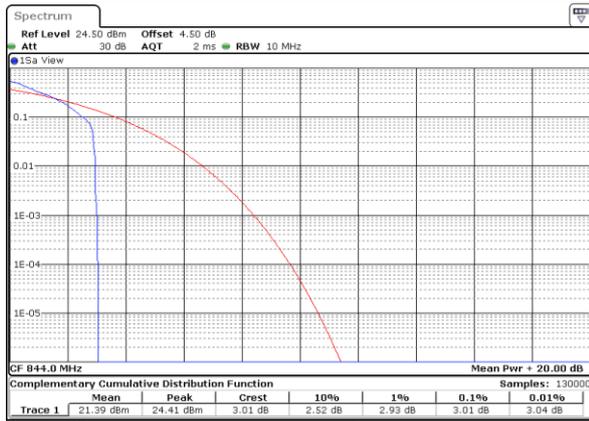
Date: 20.OCT.2018 21:49:25

Middle Channel / Full RB



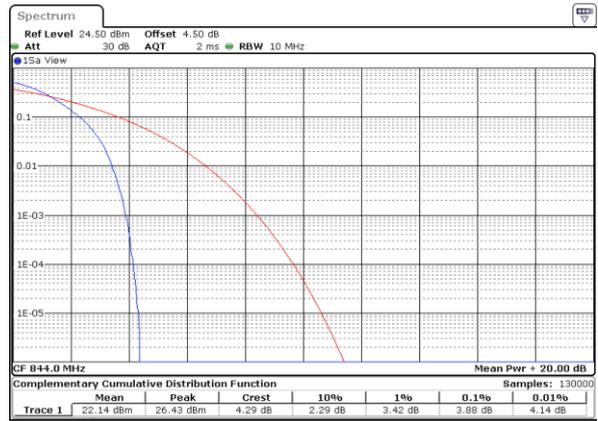
Date: 20.OCT.2018 21:50:06

Highest Channel / 1RB



Date: 20.OCT.2018 21:50:26

Highest Channel / Full RB

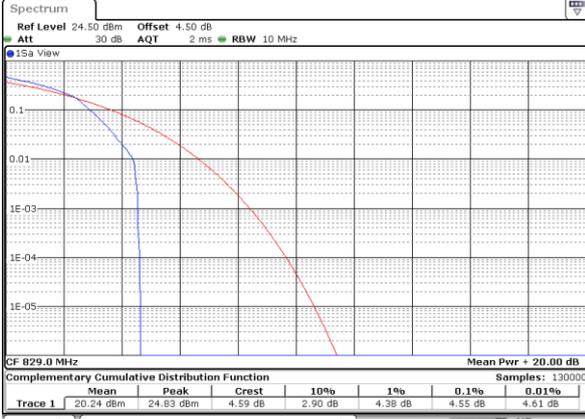


Date: 20.OCT.2018 21:50:47



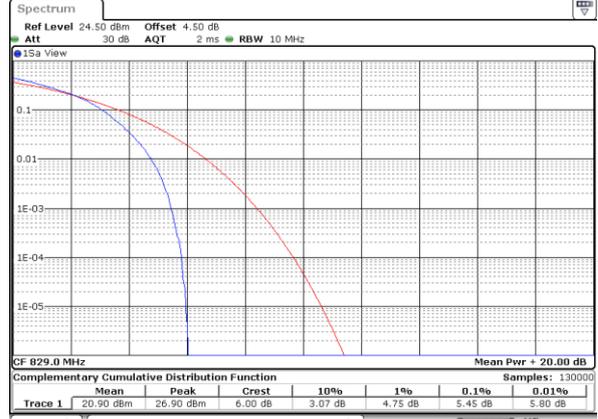
LTE Band 5 / 10MHz / 16QAM

Lowest Channel / 1RB



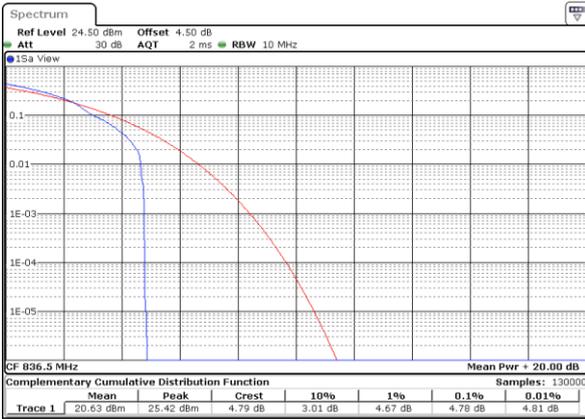
Date: 20.OCT.2018 20:48:35

Lowest Channel / Full RB



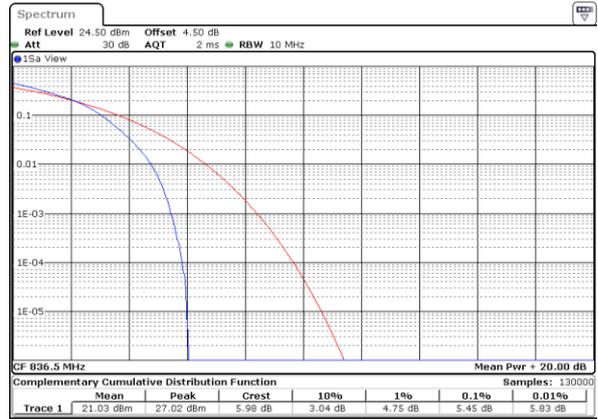
Date: 20.OCT.2018 20:48:44

Middle Channel / 1RB



Date: 20.OCT.2018 20:48:55

Middle Channel / Full RB



Date: 20.OCT.2018 20:49:04

Highest Channel / 1RB



Date: 20.OCT.2018 20:49:14

Highest Channel / Full RB



Date: 20.OCT.2018 20:49:24



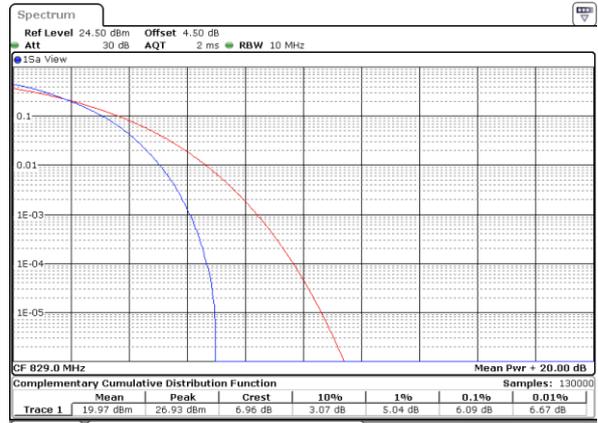
LTE Band 5 / 10MHz / 64QAM

Lowest Channel / 1RB



Date: 20.OCT.2018 21:48:58

Lowest Channel / Full RB



Date: 20.OCT.2018 21:49:14

Middle Channel / 1RB



Date: 20.OCT.2018 21:49:39

Middle Channel / Full RB



Date: 20.OCT.2018 21:50:16

Highest Channel / 1RB



Date: 20.OCT.2018 21:50:38

Highest Channel / Full RB



Date: 20.OCT.2018 21:50:58



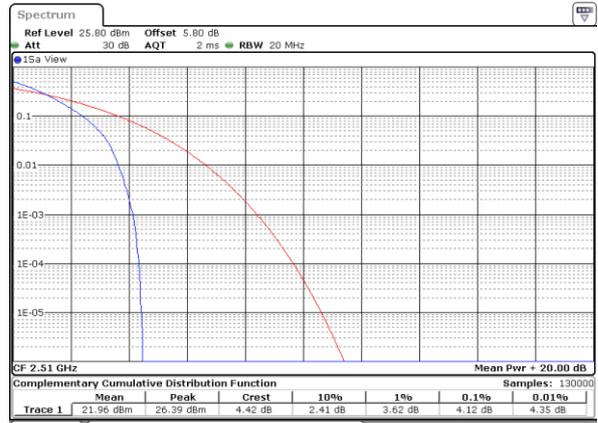
LTE Band 7 / 20MHz / QPSK

Lowest Channel / 1RB



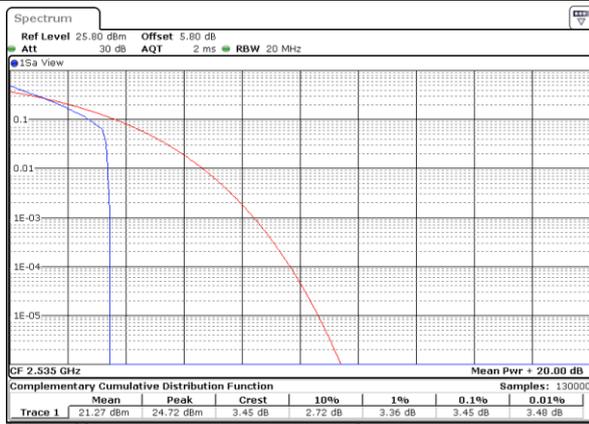
Date: 21.OCT.2018 10:30:27

Lowest Channel / Full RB



Date: 21.OCT.2018 10:30:35

Middle Channel / 1RB



Date: 21.OCT.2018 10:31:11

Middle Channel / Full RB



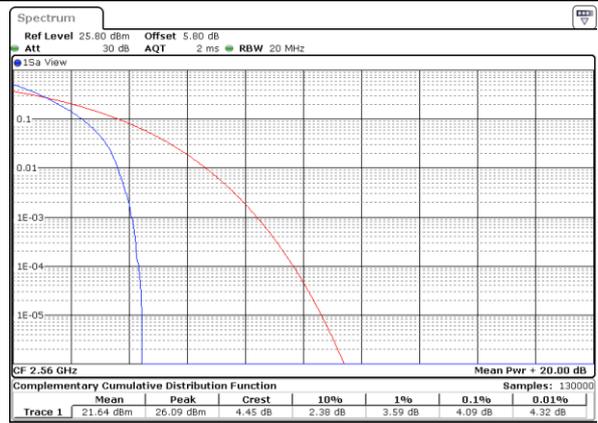
Date: 21.OCT.2018 10:31:03

Highest Channel / 1RB



Date: 21.OCT.2018 10:31:49

Highest Channel / Full RB

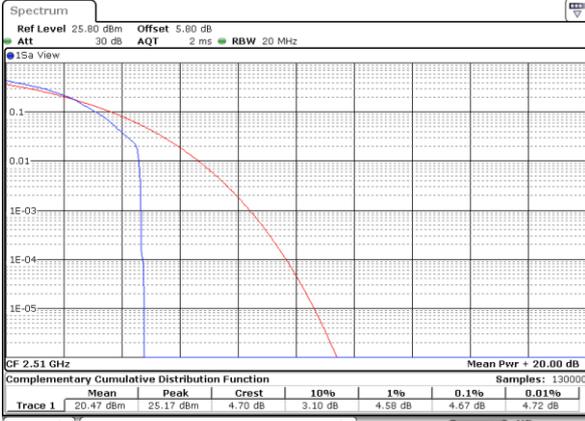


Date: 21.OCT.2018 10:31:57



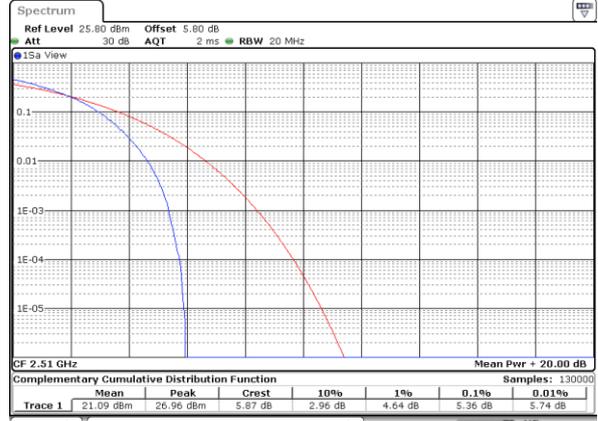
LTE Band 7 / 20MHz / 16QAM

Lowest Channel / 1RB



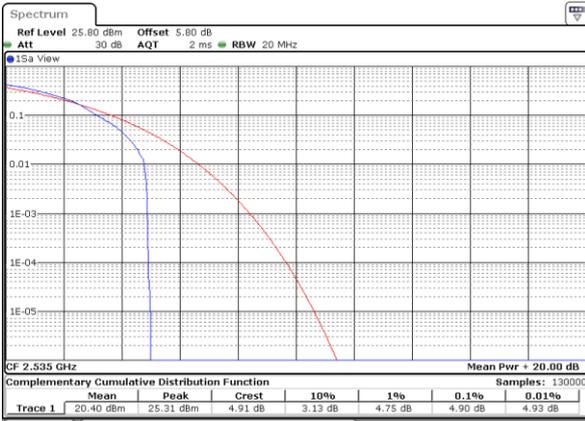
Date: 21.OCT.2018 10:30:18

Lowest Channel / Full RB



Date: 21.OCT.2018 10:30:44

Middle Channel / 1RB



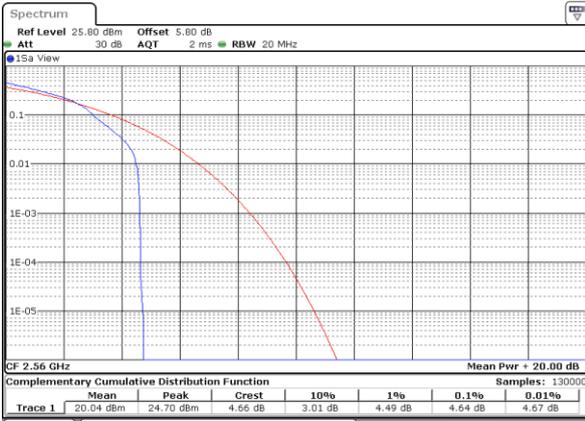
Date: 21.OCT.2018 10:31:20

Middle Channel / Full RB



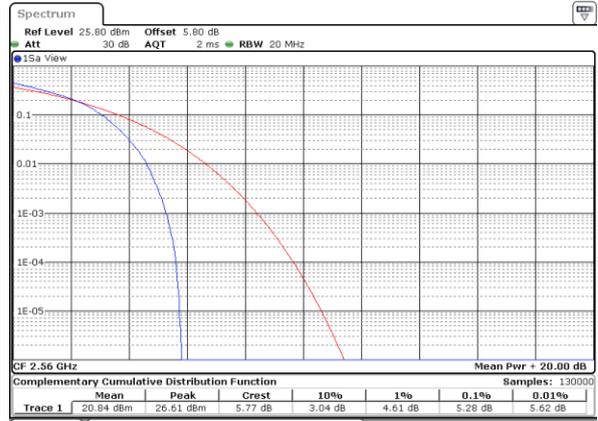
Date: 21.OCT.2018 10:30:53

Highest Channel / 1RB



Date: 21.OCT.2018 10:31:28

Highest Channel / Full RB



Date: 21.OCT.2018 10:32:06



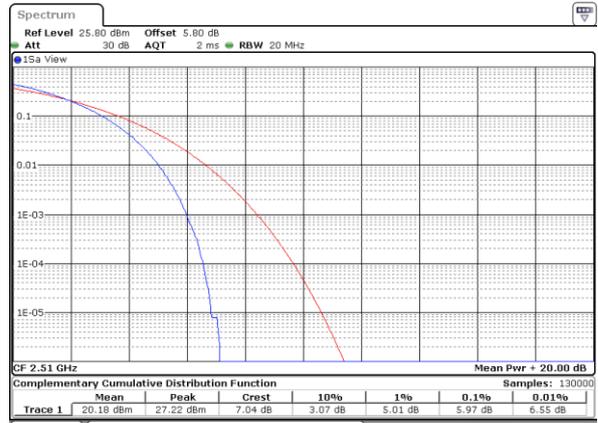
LTE Band 7 / 20MHz / 64QAM

Lowest Channel / 1RB



Date: 21.OCT.2018 11:00:08

Lowest Channel / Full RB



Date: 21.OCT.2018 11:00:16

Middle Channel / 1RB



Date: 21.OCT.2018 11:00:33

Middle Channel / Full RB



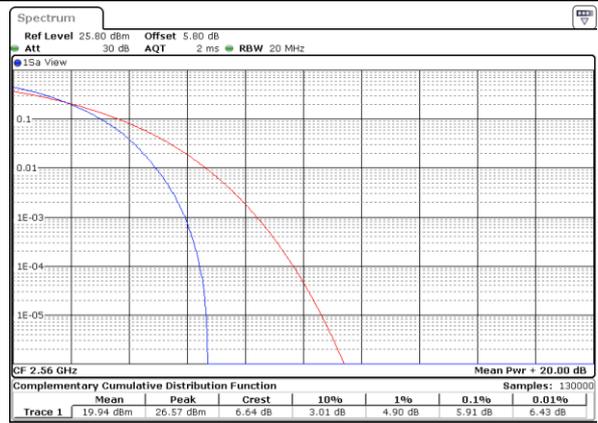
Date: 21.OCT.2018 11:00:25

Highest Channel / 1RB



Date: 21.OCT.2018 11:00:42

Highest Channel / Full RB

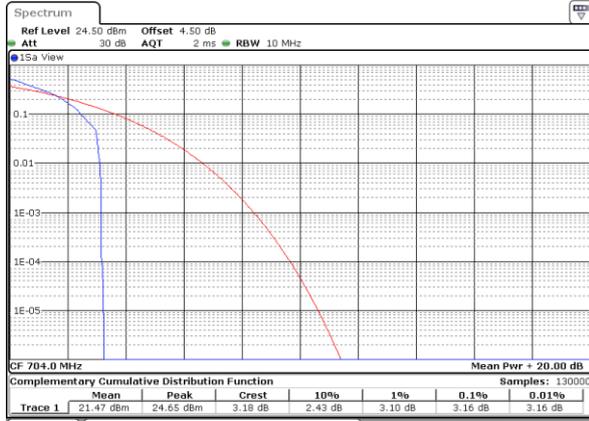


Date: 21.OCT.2018 11:00:50



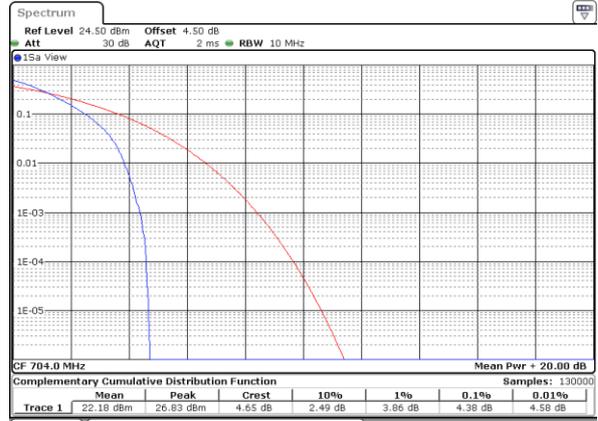
LTE Band 12 / 10MHz / QPSK

Lowest Channel / 1RB



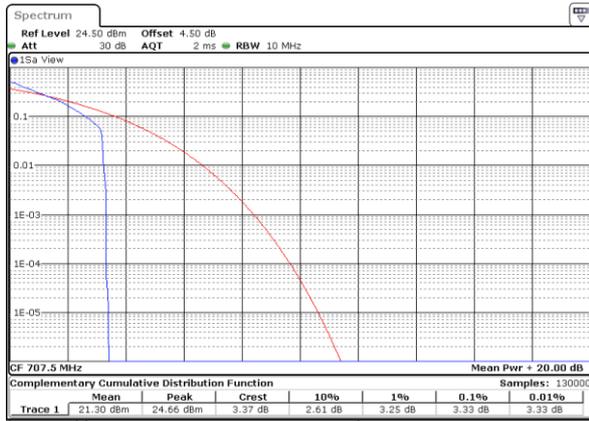
Date: 21.OCT.2018 13:17:21

Lowest Channel / Full RB



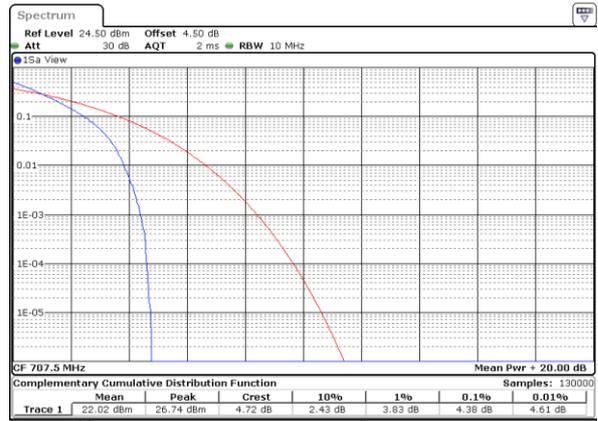
Date: 21.OCT.2018 13:17:29

Middle Channel / 1RB



Date: 21.OCT.2018 13:18:03

Middle Channel / Full RB



Date: 21.OCT.2018 13:17:55

Highest Channel / 1RB



Date: 21.OCT.2018 13:18:28

Highest Channel / Full RB

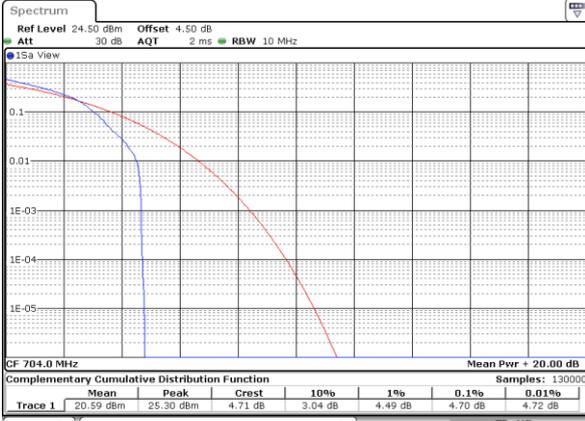


Date: 21.OCT.2018 13:18:37



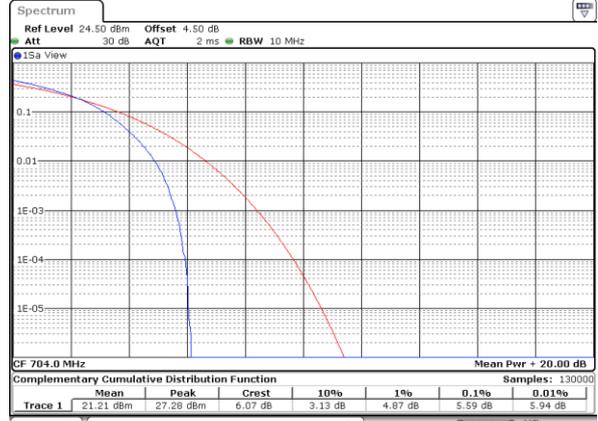
LTE Band 12 / 10MHz / 16QAM

Lowest Channel / 1RB



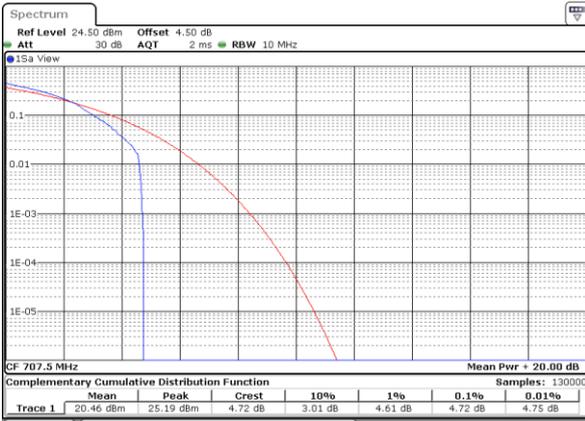
Date: 21.OCT.2018 13:17:12

Lowest Channel / Full RB



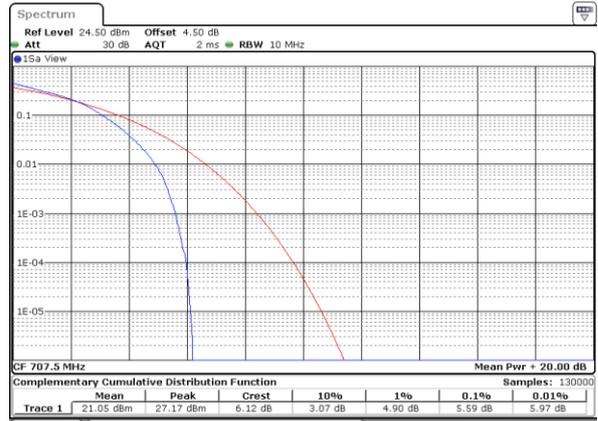
Date: 21.OCT.2018 13:17:38

Middle Channel / 1RB



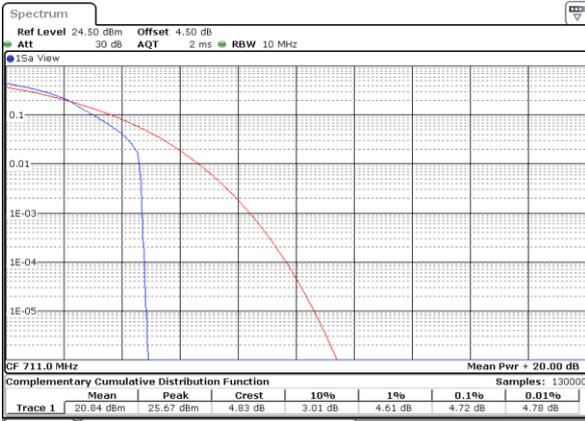
Date: 21.OCT.2018 13:18:12

Middle Channel / Full RB



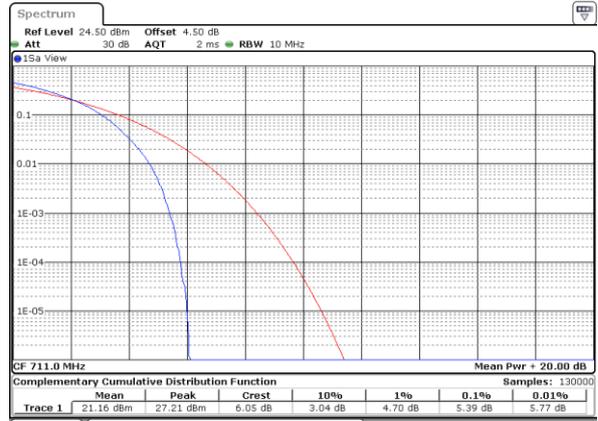
Date: 21.OCT.2018 13:17:46

Highest Channel / 1RB



Date: 21.OCT.2018 13:18:20

Highest Channel / Full RB



Date: 21.OCT.2018 13:18:45