



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2321-1
FCC ID : IHDT56AJ5
STANDARD : 47 CFR Part 2, 24(E), 27(L), 27(F), 27(M)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : Jan. 16, 2023 ~ Feb. 15, 2023

We, Sporton International Inc. (ShenZhen), 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 Inc. (ShenZhen), the test report shall not be reproduced except in full.

Jason Jia



Approved by: Jason Jia

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People's Republic of China



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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§27.50(b)(10)	Effective Radiated Power (Band 13)	ERP < 3 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 25) (Band 38)	EIRP < 2Watt		-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt		-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB		PASS
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§2.1051 §24.238(a) §27.53(c)(2)(4) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 13) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§27.53(m)(4)	Conducted Band Edge Measurement (Band 38)	§27.53(m)(4)		
3.8	§2.1051 §24.238(a) §27.53(c)(2) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 13) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	Conducted Spurious Emission (Band 38)	< 55+10log ₁₀ (P[Watts])		
3.9	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §24.238(a) §27.53(c)(2) §27.53(f) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 13) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 21.48 dB at 1559.500 MHz
	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 38)	< 55+10log ₁₀ (P[Watts])		

Declaration of Conformity:

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

Comments and Explanations:

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



1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W, Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2321-1
FCC ID	IHDT56AJ5
IMEI Code	Conducted: 356909990009013/356909990009021 Radiation: 356909990009575/356909990009583
HW Version	DVT2
SW Version	TTZ33.61
EUT Stage	Identical Prototype

Note: The EUT has two working states, flip open state and flip close state, by verifying these two states, we choose the worst flip open state for all test.



1.4 Product Specification of Equipment Under Test

Standards-related Product Specification					
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz				
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 25 : 1930 MHz ~ 1995 MHz LTE Band 38 : 2570 MHz ~ 2620 MHz LTE Band 66 : 2110 MHz~ 2200 MHz				
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 13 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 38 : 5MHz / 10MHz / 15MHz / 20MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz				
Maximum Output Power to Antenna		Ant.0	Ant.1	Ant.2	Ant.3
	LTE Band 2	-	-	21.24	22.72
	LTE Band 4	20.30	21.75	21.30	22.87
	LTE Band 13	22.82	21.31	-	-
	LTE Band 25	-	-	21.52	22.76
	LTE Band 66	20.36	21.83	21.57	22.89
	LTE Band 38C_CA	20.53	22.44	22.46	23.45
Antenna Gain		Ant.0	Ant.1	Ant.2	Ant.3
	LTE Band 2	-	-	-2.43	-3.61
	LTE Band 4	-2.20	-2.64	-4.65	-3.73
	LTE Band 13	-2.69	-2.84	-	-
	LTE Band 25	-	-	-2.43	-3.61
	LTE Band 66	-2.20	-2.64	-4.65	-3.73
	LTE Band 38C_CA	-1.27	-2.77	-0.86	-1.91
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM				

Note: The maximum ERP/EIRP is calculated from Output power and antenna gain, only the maximum ERP/EIRP of Ant.0 are shown in the report for LTE Band 13, Ant.1 for LTE Band 66, Ant.3 for LTE Band 2/4/25 and Ant.2 for LTE Band 38C.

1.5 Modification of EUT

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



1.6 Maximum ERP/EIRP and Emission Designator

LTE Band 2		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1850.7 ~ 1909.3	0.0809	1M10G7D	0.0719	1M11W7D
3	1851.5 ~ 1908.5	0.0809	2M75G7D	0.0685	2M75W7D
5	1852.5 ~ 1907.5	0.0805	4M51G7D	0.0689	4M52W7D
10	1855.0 ~ 1905.0	0.0798	9M15G7D	0.0676	9M11W7D
15	1857.5 ~ 1902.5	0.0809	13M5G7D	0.0684	13M6W7D
20	1860.0 ~ 1900.0	0.0822	17M9G7D	0.0698	18M0W7D
LTE Band 25		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1850.7 ~ 1914.3	0.0809	1M10G7D	0.0719	1M11W7D
3	1851.5 ~ 1913.5	0.0809	2M75G7D	0.0685	2M75W7D
5	1852.5 ~ 1912.5	0.0805	4M51G7D	0.0689	4M52W7D
10	1855.0 ~ 1910.0	0.0798	9M15G7D	0.0676	9M11W7D
15	1857.5 ~ 1907.5	0.0809	13M5G7D	0.0684	13M6W7D
20	1860.0 ~ 1905.0	0.0822	17M9G7D	0.0698	18M0W7D
LTE Band 4		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1710.7 ~ 1754.3	0.0815	1M11G7D	0.0641	1M11W7D
3	1711.5 ~ 1753.5	0.0807	2M74G7D	0.0641	2M76W7D
5	1712.5 ~ 1752.5	0.0818	4M53G7D	0.0637	4M53W7D
10	1715.0 ~ 1750.0	0.0824	9M09G7D	0.0631	9M09W7D
15	1717.5 ~ 1747.5	0.0809	13M5G7D	0.0637	13M5W7D
20	1720.0 ~ 1745.0	0.0830	17M9G7D	0.0646	18M0W7D
LTE Band 13		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	779.5 ~ 784.5	0.0622	4M51G7D	0.0490	4M54W7D
10	782.0	0.0628	9M01G7D	0.0493	8M99W7D



LTE Band 66		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1710.7 ~ 1779.3	0.0815	1M11G7D	0.0641	1M11W7D
3	1711.5 ~ 1778.5	0.0807	2M74G7D	0.0641	2M76W7D
5	1712.5 ~ 1777.5	0.0818	4M53G7D	0.0637	4M53W7D
10	1715.0 ~ 1775.0	0.0824	9M09G7D	0.0631	9M09W7D
15	1717.5 ~ 1772.5	0.0809	13M5G7D	0.0637	13M5W7D
20	1720.0 ~ 1770.0	0.0830	17M9G7D	0.0646	18M0W7D

LTE Band 38 CA		QPSK		16QAM/64QAM/256QAM	
BW (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
15MHz+15MHz		0.1409	29M0G7D	0.1084	29M0W7D
20MHz+20MHz		0.1445	38M1G7D	0.1104	37M9W7D

Note:

1. LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2.
2. LTE Band 66 overlaps the entire frequency range of LTE Band 4. Therefore, the test results provided in this report covers Band 66 as well as Band 4.
3. All modulations have been tested, and only the worst test results of PSK & QAM are shown in the report.



1.7 Testing Location

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

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

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City Guangdong Province China 518103 TEL: +86-755-33202398		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	03CH01-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH01-SZ	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- 47 CFR Part 2, 24(E), 27(L), 27(F), 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.



1.10 Specification of Accessory

Specification of Accessory				
AC Adapter 1(US)	Brand Name	Motorola(Salcomp)	Model Name	MC-331
AC Adapter 1 (EU)	Brand Name	Motorola(Salcomp)	Model Name	MC-332
AC Adapter 1 (UK)	Brand Name	Motorola(Salcomp)	Model Name	MC-333
AC Adapter 1(AU)	Brand Name	Motorola(Salcomp)	Model Name	MC-335
AC Adapter 1(AR)	Brand Name	Motorola(Salcomp)	Model Name	MC-336
AC Adapter 1(BR)	Brand Name	Motorola(Salcomp)	Model Name	MC-337
AC Adapter 1(CHILE)	Brand Name	Motorola(Salcomp)	Model Name	MC-339
AC Adapter 1(KR)	Brand Name	Motorola(Salcomp)	Model Name	MC-330
AC Adapter 2(IN)	Brand Name	Motorola(Salcomp)	Model Name	MC-334
Battery 1	Brand Name	Motorola(ATL)	Model Name	PM29
Battery 2	Brand Name	Motorola(ATL)	Model Name	PM08
USB Cable 1	Brand Name	Motorola(Saibao)	Model Name	SC18D22297
USB Cable 2	Brand Name	Motorola(Cabletech)	Model Name	SC18D22298
USB Cable 3	Brand Name	Motorola(Luxshare)	Model Name	SC18D22299



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. (Z/Y-Plane)

Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	13				v			v	v	v		v		v		v	
	25						v	v	v	v		v		v		v	
	66						v	v	v	v		v		v		v	
26dB and 99% Bandwidth	13	-	-	v		-	-	v	v					v	v	v	v
		-	-		v	-	-	v	v					v		v	
	25	v	v	v	v	v	v	v	v					v	v	v	v
	66	v	v	v	v	v	v	v	v					v	v	v	v
Conducted Band Edge	13	-	-	v	v	-	-	v	v	v		v		v	v		v
	25	v	v	v	v	v	v	v	v	v		v		v	v		v
	66	v	v	v	v	v	v	v	v	v		v		v	v		v
Conducted Spurious Emission	13	-	-	v		-	-	v	v	v		v			v	v	v
		-	-		v	-	-	v	v	v		v				v	
	25	v	v	v	v	v	v	v	v	v		v			v	v	v
	66	v	v	v	v	v	v	v	v	v		v			v	v	v
Frequency Stability	13				v			v				v				v	
	25				v			v				v				v	
	66				v			v				v				v	

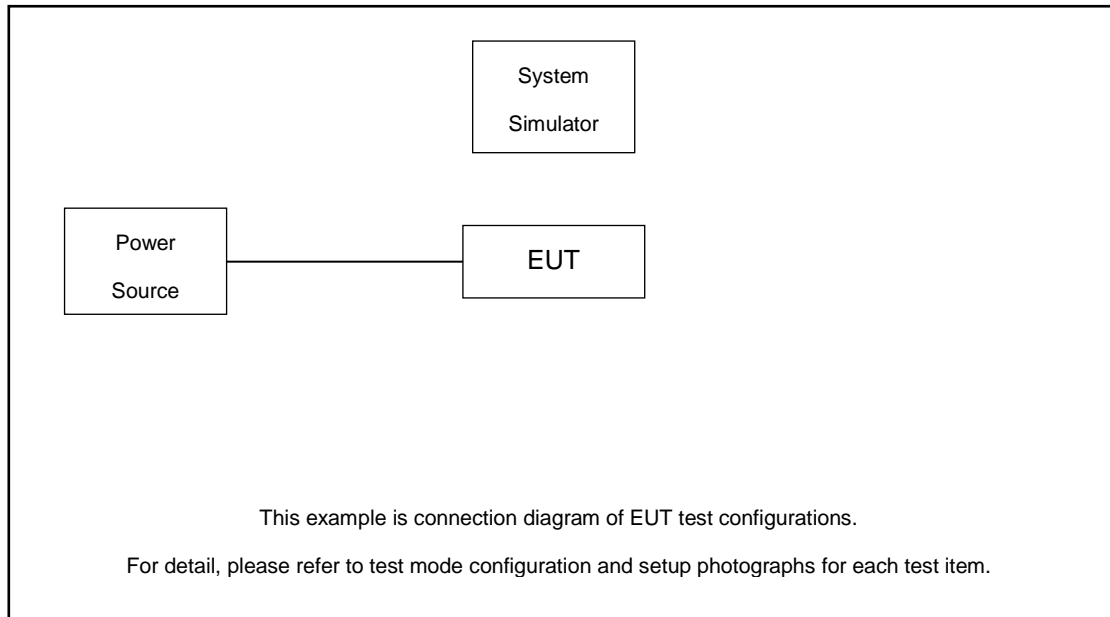


Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16 QAM	64 QAM	256 QAM	1	Half	Full	L	M	H
E.R.P / E.I.R.P	13	-	-	v	v	-	-	v	v	v		v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	v		v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	v		v	v	v	v	v	v
Radiated Spurious Emission	13	Worst Case												v	v	v	
	25	Worst Case												v	v	v	
	66	Worst Case												v	v	v	
Note	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. 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. All test items are based on engineering evaluation. For QAM modulation mode, the whole testing has assessed 16QAM&64QAM mode by referring to their higher conducted power. 																



Test Items	Band	Bandwidth (MHz)										Modulation				RB #			Test Channel		
		20+20	20+15	15+20	20+10	10+20	20+5	5+20	15+15	15+10	10+15	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
26dB and 99% Bandwidth	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v					v	v	v	v
Conducted Band Edge	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v		v		v	v		v
Conducted Spurious Emission	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v		v		v	v	v	v
Frequency Stability	38C_CA	v	-	-	-	-	-	-		-	-	v						v		v	
E.I.R.P.	38C_CA	v	-	-	-	-	-	-	v	-	-	v	v	v	v	v			v	v	v
Radiated Spurious Emission	38C_CA	Worst Case																	v	v	v
Note	1. The mark "v" means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 4. For QAM modulation mode, the whole testing has assessed 16QAM&64QAM mode by referring to their higher conducted power.																				

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	GW INSTEK	GPD-3030D	N/A	N/A	Unshielded, 1.8 m
2.	Base Station	Anritsu	MT8821C	Fcc DoC	N/A	Shielded, 1.5m

2.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.0 dB and 10dB attenuator.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\ &= 4.0 + 10 = 14.0 \text{ (dB)} \end{aligned}$$



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

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



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

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

3 Conducted Test Items

3.1 Measuring Instruments

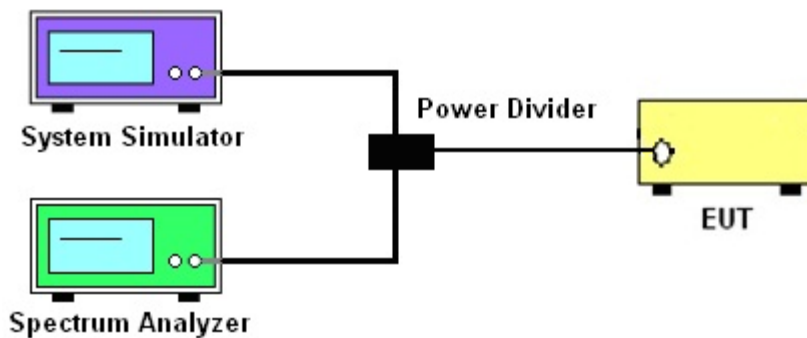
See list of measuring instruments of this test report.

3.2 Test Setup

3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.



3.4 Conducted Output Power and ERP/EIRP

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

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 13.

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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



3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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



3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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



3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

24.238 (a)

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

27.53 (c)

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

27.53 (h)

For operations in the 1710 – 1755 MHz and 1710 – 1780 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.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

Example:

The limit line is derived from $43 + 10\log(P)$ 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.

9. For LTE Band 38, the other 40 dB, and 55 dB have additionally applied same calculation above.
10. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.



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 38:

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

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



3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block.

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.

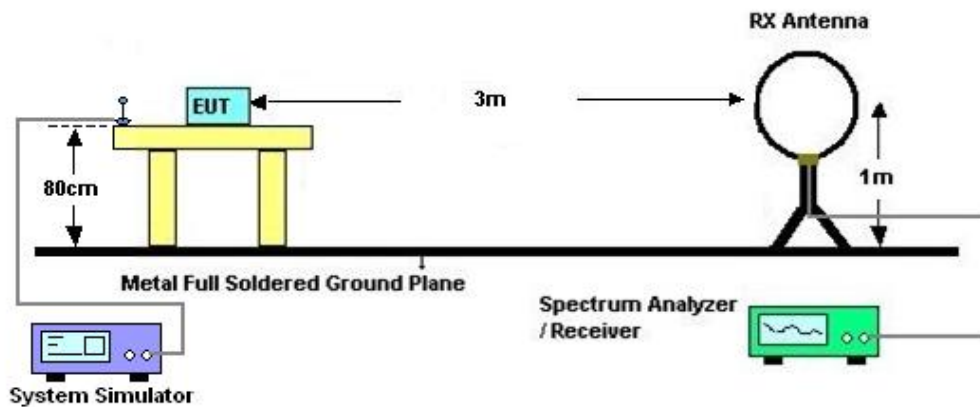
4 Radiated Test Items

4.1 Measuring Instruments

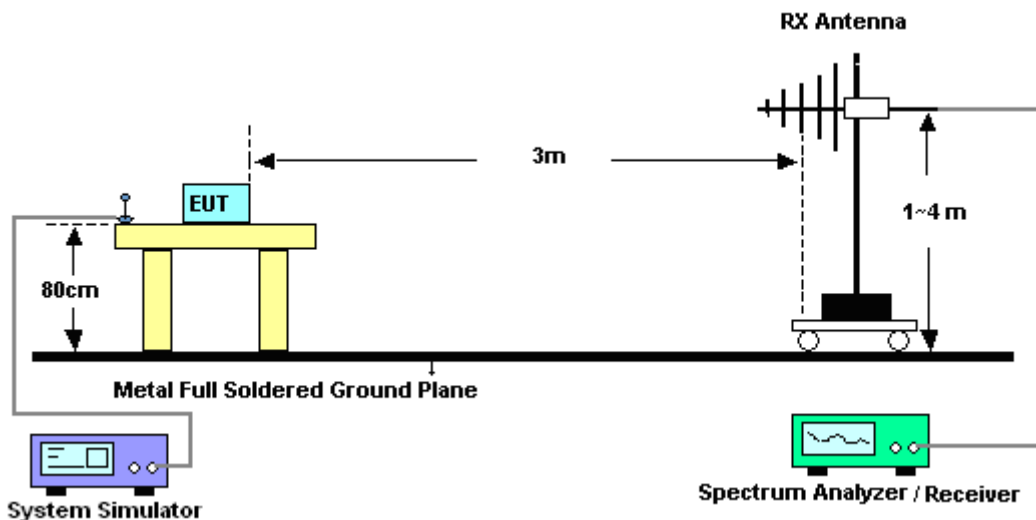
See list of measuring instruments of this test report.

4.2 Test Setup

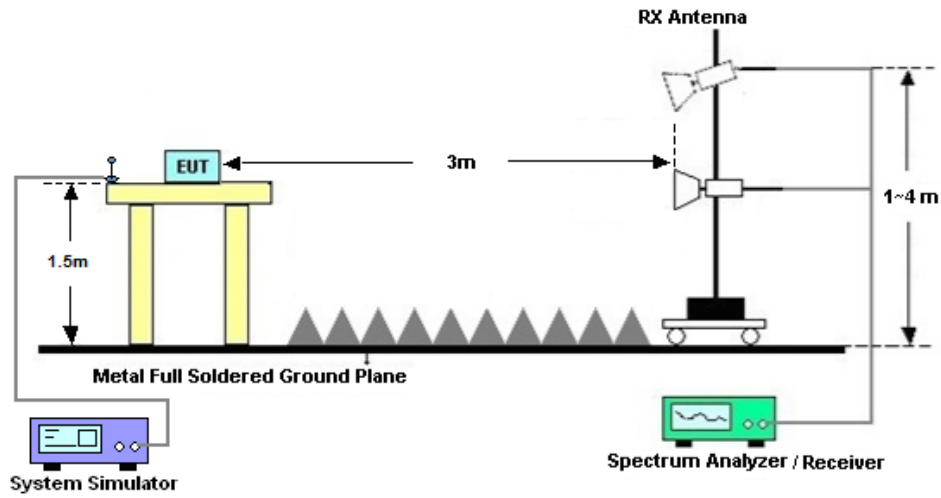
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

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 38

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

For LTE Band 13

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

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

4.4.2 Test Procedures

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



5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 07, 2022	Jan. 16, 2023~ Feb. 15, 2023	Apr. 06, 2023	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2022	Jan. 16, 2023~ Feb. 15, 2023	Dec. 24, 2023	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 07, 2022	Jan. 16, 2023~ Feb. 15, 2023	Jul. 06, 2023	Conducted (TH01-SZ)
EMI Test Receiver&SA	Agilent	N9038A	MY52260185	20Hz~26.5GHz	Dec. 26, 2022	Jan. 17, 2023~ Feb. 06, 2023	Dec. 25, 2023	Radiation (03CH01-SZ)
Loop Antenna	R&S	HFH2-Z2	100354	9kHz~30MHz	Jul. 28, 2022	Jan. 17, 2023~ Feb. 06, 2023	Jul. 27, 2023	Radiation (03CH01-SZ)
HF Amplifier	KEYSIGHT	83017A	MY53270105	0.5GHz~26.5Ghz	Oct. 19, 2022	Jan. 17, 2023~ Feb. 06, 2023	Oct. 18, 2023	Radiation (03CH01-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	Sep. 28, 2022	Jan. 17, 2023~ Feb. 06, 2023	Sep. 27, 2023	Radiation (03CH01-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 07, 2022	Jan. 17, 2023~ Feb. 06, 2023	Jul. 06, 2023	Radiation (03CH01-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Apr. 10, 2022	Jan. 17, 2023~ Feb. 06, 2023	Apr. 09, 2023	Radiation (03CH01-SZ)
LF Amplifier	Burgeon	BPA-530	102209	0.01~3000Mhz	Apr. 06, 2022	Jan. 17, 2023~ Feb. 06, 2023	Apr. 05, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 19, 2022	Jan. 17, 2023~ Feb. 06, 2023	Oct. 18, 2023	Radiation (03CH01-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 06, 2022	Jan. 17, 2023~ Feb. 06, 2023	Jul. 05, 2023	Radiation (03CH01-SZ)
AC Power Source	Chroma	61601	616010001985	N/A	Nov. 10, 2022	Jan. 17, 2023~ Feb. 06, 2023	Nov. 09, 2023	Radiation (03CH01-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Jan. 17, 2023~ Feb. 06, 2023	NCR	Radiation (03CH01-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Jan. 17, 2023~ Feb. 06, 2023	NCR	Radiation (03CH01-SZ)

NCR: No Calibration Required



6 Uncertainty of Evaluation

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

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Power	±1.34 dB
Conducted Emissions	±1.34 dB
Occupied Channel Bandwidth	±0.13 %

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.48dB
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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))	3.53dB
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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))	4.02dB
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Appendix A. Test Results of Conducted Test

Test Engineer :	Zhenhua Zou	Temperature :	24~26°C
		Relative Humidity :	50~53%

Conducted Output Power(Average power)

LTE Band 2 <Ant.3>:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				18700	18900	19100
Frequency (MHz)				1860	1880	1900
20	QPSK	1	0	22.65	22.72	22.70
20	QPSK	1	49	22.52	22.63	22.57
20	QPSK	1	99	22.45	22.58	22.53
20	QPSK	50	0	22.00	22.06	22.03
20	QPSK	50	24	21.97	22.01	21.92
20	QPSK	50	50	21.90	21.94	21.84
20	QPSK	100	0	21.98	22.02	21.87
20	16QAM	1	0	21.90	21.97	21.86
20	16QAM	1	49	21.85	21.92	21.84
20	16QAM	1	99	21.80	21.85	21.75
20	16QAM	50	0	20.96	20.99	20.90
20	16QAM	50	24	20.81	20.94	20.89
20	16QAM	50	50	20.75	20.87	20.76
20	16QAM	100	0	20.87	20.93	20.80
20	64QAM	1	0	20.80	20.91	20.80
20	64QAM	1	49	20.76	20.86	20.71
20	64QAM	1	99	20.71	20.79	20.76
20	64QAM	50	0	19.97	20.08	19.94
20	64QAM	50	24	19.97	20.03	19.96
20	64QAM	50	50	19.93	19.96	19.88
20	64QAM	100	0	19.93	20.03	19.92
20	256QAM	1	0	17.90	18.01	17.89
20	256QAM	1	49	17.89	17.96	17.86
20	256QAM	1	99	17.81	17.89	17.85
20	256QAM	50	0	17.84	17.93	17.88
20	256QAM	50	24	17.83	17.88	17.85
20	256QAM	50	50	17.68	17.81	17.69
20	256QAM	100	0	17.86	17.91	17.76
Channel				18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5
15	QPSK	1	0	22.60	22.68	22.61
15	QPSK	1	37	22.42	22.58	22.49
15	QPSK	1	74	22.40	22.49	22.46
15	QPSK	36	0	21.93	21.98	21.88



15	QPSK	36	20	21.90	21.94	21.79
15	QPSK	36	39	21.84	21.88	21.73
15	QPSK	75	0	21.89	21.90	21.78
15	16QAM	1	0	21.83	21.82	21.80
15	16QAM	1	37	21.78	21.87	21.73
15	16QAM	1	74	21.74	21.75	21.68
15	16QAM	36	0	20.90	20.93	20.85
15	16QAM	36	20	20.69	20.87	20.77
15	16QAM	36	39	20.70	20.81	20.69
15	16QAM	75	0	20.73	20.85	20.69
15	64QAM	1	0	20.70	20.77	20.69
15	64QAM	1	37	20.62	20.72	20.57
15	64QAM	1	74	20.57	20.72	20.72
15	64QAM	36	0	19.90	19.97	19.82
15	64QAM	36	20	19.91	19.97	19.87
15	64QAM	36	39	19.87	19.91	19.81
15	64QAM	75	0	19.81	19.89	19.83
15	256QAM	1	0	17.76	17.97	17.83
15	256QAM	1	37	17.82	17.88	17.79
15	256QAM	1	74	17.78	17.85	17.81
15	256QAM	36	0	17.78	17.85	17.76
15	256QAM	36	20	17.73	17.75	17.79
15	256QAM	36	39	17.64	17.74	17.60
15	256QAM	75	0	17.71	17.84	17.64
Channel				18650	18900	19150
Frequency (MHz)				1855	1880	1905
10	QPSK	1	0	22.60	22.61	22.60
10	QPSK	1	25	22.46	22.54	22.50
10	QPSK	1	49	22.34	22.52	22.43
10	QPSK	25	0	21.96	22.01	21.92
10	QPSK	25	12	21.85	21.90	21.81
10	QPSK	25	25	21.80	21.89	21.75
10	QPSK	50	0	21.90	21.89	21.77
10	16QAM	1	0	21.85	21.88	21.71
10	16QAM	1	25	21.80	21.86	21.80
10	16QAM	1	49	21.67	21.77	21.67
10	16QAM	25	0	20.93	20.89	20.75
10	16QAM	25	12	20.77	20.90	20.86
10	16QAM	25	25	20.69	20.83	20.63
10	16QAM	50	0	20.76	20.80	20.70
10	64QAM	1	0	20.65	20.76	20.71
10	64QAM	1	25	20.66	20.71	20.61
10	64QAM	1	49	20.64	20.67	20.73
10	64QAM	25	0	19.93	20.03	19.88
10	64QAM	25	12	19.83	19.94	19.89
10	64QAM	25	25	19.86	19.85	19.75
10	64QAM	50	0	19.86	19.94	19.80
10	256QAM	1	0	17.84	17.97	17.76
10	256QAM	1	25	17.81	17.82	17.75
10	256QAM	1	49	17.74	17.76	17.70



10	256QAM	25	0	17.78	17.83	17.79
10	256QAM	25	12	17.77	17.81	17.79
10	256QAM	25	25	17.65	17.72	17.58
10	256QAM	50	0	17.77	17.78	17.70
Channel				18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5
5	QPSK	1	0	22.62	22.67	22.64
5	QPSK	1	12	22.39	22.54	22.46
5	QPSK	1	24	22.38	22.51	22.49
5	QPSK	12	0	21.94	21.96	21.99
5	QPSK	12	7	21.85	21.87	21.88
5	QPSK	12	13	21.83	21.80	21.71
5	QPSK	25	0	21.95	21.89	21.83
5	16QAM	1	0	21.75	21.89	21.73
5	16QAM	1	12	21.81	21.81	21.78
5	16QAM	1	24	21.71	21.76	21.63
5	16QAM	12	0	20.85	20.92	20.79
5	16QAM	12	7	20.74	20.82	20.80
5	16QAM	12	13	20.70	20.80	20.70
5	16QAM	25	0	20.74	20.79	20.65
5	64QAM	1	0	20.73	20.80	20.65
5	64QAM	1	12	20.65	20.77	20.58
5	64QAM	1	24	20.62	20.72	20.71
5	64QAM	12	0	19.87	19.98	19.86
5	64QAM	12	7	19.90	19.90	19.93
5	64QAM	12	13	19.82	19.91	19.78
5	64QAM	25	0	19.88	19.96	19.82
5	256QAM	1	0	17.78	17.96	17.79
5	256QAM	1	12	17.79	17.92	17.76
5	256QAM	1	24	17.73	17.79	17.77
5	256QAM	12	0	17.80	17.88	17.74
5	256QAM	12	7	17.72	17.79	17.72
5	256QAM	12	13	17.54	17.74	17.55
5	256QAM	25	0	17.82	17.86	17.67
Channel				18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5
3	QPSK	1	0	22.51	22.66	22.60
3	QPSK	1	8	22.37	22.51	22.45
3	QPSK	1	14	22.39	22.51	22.41
3	QPSK	8	0	21.95	22.00	21.91
3	QPSK	8	4	21.87	21.86	21.87
3	QPSK	8	7	21.77	21.79	21.72
3	QPSK	15	0	21.90	21.89	21.73
3	16QAM	1	0	21.82	21.93	21.71
3	16QAM	1	8	21.78	21.81	21.77
3	16QAM	1	14	21.74	21.75	21.68
3	16QAM	8	0	20.84	20.95	20.81
3	16QAM	8	4	20.69	20.84	20.83
3	16QAM	8	7	20.71	20.74	20.72
3	16QAM	15	0	20.79	20.88	20.66



3	64QAM	1	0	20.70	20.82	20.75
3	64QAM	1	8	20.67	20.75	20.57
3	64QAM	1	14	20.57	20.76	20.67
3	64QAM	8	0	19.84	19.95	19.88
3	64QAM	8	4	19.87	19.88	19.89
3	64QAM	8	7	19.81	19.88	19.81
3	64QAM	15	0	19.84	19.88	19.87
3	256QAM	1	0	17.78	17.91	17.76
3	256QAM	1	8	17.75	17.86	17.76
3	256QAM	1	14	17.71	17.77	17.75
3	256QAM	8	0	17.80	17.88	17.78
3	256QAM	8	4	17.69	17.82	17.79
3	256QAM	8	7	17.55	17.72	17.55
3	256QAM	15	0	17.74	17.85	17.71
Channel				18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3
1.4	QPSK	1	0	22.61	22.61	22.66
1.4	QPSK	1	3	22.40	22.57	22.43
1.4	QPSK	1	5	22.33	22.53	22.46
1.4	QPSK	3	0	22.43	22.56	22.40
1.4	QPSK	3	1	22.31	22.50	22.40
1.4	QPSK	3	3	22.35	22.36	22.34
1.4	QPSK	6	0	21.86	21.91	21.82
1.4	16QAM	1	0	21.84	21.89	21.78
1.4	16QAM	1	3	21.82	21.82	21.77
1.4	16QAM	1	5	21.84	21.99	21.83
1.4	16QAM	3	0	21.82	21.90	21.75
1.4	16QAM	3	1	21.78	21.87	21.74
1.4	16QAM	3	3	21.76	21.80	21.64
1.4	16QAM	6	0	20.87	20.96	20.85
1.4	64QAM	1	0	20.74	20.85	20.79
1.4	64QAM	1	3	20.62	20.75	20.67
1.4	64QAM	1	5	20.79	20.82	20.73
1.4	64QAM	3	0	20.69	20.78	20.75
1.4	64QAM	3	1	20.72	20.72	20.57
1.4	64QAM	3	3	20.66	20.64	20.70
1.4	64QAM	6	0	19.89	19.95	19.87
1.4	256QAM	1	0	17.80	17.94	17.82
1.4	256QAM	1	3	17.81	17.82	17.74
1.4	256QAM	1	5	17.70	17.85	17.74
1.4	256QAM	3	0	17.80	17.80	17.78
1.4	256QAM	3	1	17.73	17.81	17.77
1.4	256QAM	3	3	17.61	17.74	17.60
1.4	256QAM	6	0	17.76	17.87	17.72



LTE Band 4 <Ant.3>:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				20050	20175	20300
Frequency (MHz)				1720	1732.5	1745
20	QPSK	1	0	22.72	22.87	22.67
20	QPSK	1	49	22.61	22.78	22.53
20	QPSK	1	99	22.54	22.73	22.53
20	QPSK	50	0	21.99	22.03	21.91
20	QPSK	50	24	21.93	21.98	21.90
20	QPSK	50	50	21.86	21.91	21.81
20	QPSK	100	0	21.80	21.89	21.78
20	16QAM	1	0	22.15	22.18	22.05
20	16QAM	1	49	21.99	22.13	22.07
20	16QAM	1	99	22.00	22.06	21.92
20	16QAM	50	0	21.01	21.08	21.03
20	16QAM	50	24	20.98	21.03	20.92
20	16QAM	50	50	20.88	20.96	20.91
20	16QAM	100	0	20.89	21.04	20.90
20	64QAM	1	0	21.02	21.14	21.06
20	64QAM	1	49	21.05	21.09	21.01
20	64QAM	1	99	20.90	21.02	20.88
20	64QAM	50	0	19.97	20.02	19.98
20	64QAM	50	24	19.88	19.97	19.89
20	64QAM	50	50	19.76	19.90	19.83
20	64QAM	100	0	19.96	20.11	20.01
20	256QAM	1	0	18.03	18.12	18.06
20	256QAM	1	49	17.94	18.07	17.92
20	256QAM	1	99	17.86	18.00	17.94
20	256QAM	50	0	17.99	18.08	17.95
20	256QAM	50	24	17.91	18.03	17.90
20	256QAM	50	50	17.82	17.96	17.89
20	256QAM	100	0	17.96	18.04	17.92
Channel				20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5
15	QPSK	1	0	22.68	22.83	22.64
15	QPSK	1	37	22.52	22.70	22.49
15	QPSK	1	74	22.41	22.59	22.40
15	QPSK	36	0	21.89	21.92	21.86
15	QPSK	36	20	21.88	21.90	21.82
15	QPSK	36	39	21.71	21.87	21.73
15	QPSK	75	0	21.71	21.78	21.75
15	16QAM	1	0	22.04	22.10	21.93
15	16QAM	1	37	21.93	22.05	22.01
15	16QAM	1	74	21.92	21.91	21.78
15	16QAM	36	0	20.96	21.04	20.89
15	16QAM	36	20	20.88	20.93	20.89
15	16QAM	36	39	20.81	20.90	20.85
15	16QAM	75	0	20.80	20.96	20.81



15	64QAM	1	0	20.93	21.11	20.94
15	64QAM	1	37	21.01	20.94	20.92
15	64QAM	1	74	20.76	20.89	20.81
15	64QAM	36	0	19.86	19.98	19.94
15	64QAM	36	20	19.76	19.87	19.82
15	64QAM	36	39	19.72	19.76	19.75
15	64QAM	75	0	19.89	20.06	19.97
15	256QAM	1	0	17.94	18.06	17.99
15	256QAM	1	37	17.81	18.03	17.83
15	256QAM	1	74	17.71	17.95	17.87
15	256QAM	36	0	17.88	18.03	17.91
15	256QAM	36	20	17.87	17.91	17.78
15	256QAM	36	39	17.70	17.92	17.76
15	256QAM	75	0	17.83	17.92	17.79
Channel				20000	20175	20350
Frequency (MHz)				1715	1732.5	1750
10	QPSK	1	0	22.67	22.78	22.56
10	QPSK	1	25	22.55	22.72	22.43
10	QPSK	1	49	22.48	22.66	22.43
10	QPSK	25	0	21.88	21.93	21.76
10	QPSK	25	12	21.82	21.85	21.83
10	QPSK	25	25	21.71	21.85	21.77
10	QPSK	50	0	21.71	21.79	21.65
10	16QAM	1	0	22.12	22.06	22.00
10	16QAM	1	25	21.95	22.07	21.99
10	16QAM	1	49	21.92	22.01	21.82
10	16QAM	25	0	20.97	21.03	20.90
10	16QAM	25	12	20.87	20.89	20.78
10	16QAM	25	25	20.83	20.89	20.86
10	16QAM	50	0	20.76	20.92	20.83
10	64QAM	1	0	20.95	21.02	20.97
10	64QAM	1	25	21.02	20.96	20.88
10	64QAM	1	49	20.80	20.89	20.76
10	64QAM	25	0	19.87	19.88	19.95
10	64QAM	25	12	19.75	19.90	19.76
10	64QAM	25	25	19.70	19.76	19.79
10	64QAM	50	0	19.88	20.01	19.93
10	256QAM	1	0	17.96	18.04	17.95
10	256QAM	1	25	17.82	17.99	17.80
10	256QAM	1	49	17.80	17.86	17.91
10	256QAM	25	0	17.93	17.95	17.87
10	256QAM	25	12	17.86	17.93	17.77
10	256QAM	25	25	17.74	17.86	17.82
10	256QAM	50	0	17.90	17.92	17.88
Channel				19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5
5	QPSK	1	0	22.62	22.73	22.55
5	QPSK	1	12	22.49	22.69	22.39
5	QPSK	1	24	22.45	22.66	22.40
5	QPSK	12	0	21.89	21.89	21.84



5	QPSK	12	7	21.85	21.91	21.77
5	QPSK	12	13	21.75	21.87	21.77
5	QPSK	25	0	21.66	21.75	21.68
5	16QAM	1	0	22.06	22.12	21.91
5	16QAM	1	12	21.89	22.00	21.95
5	16QAM	1	24	21.92	21.97	21.77
5	16QAM	12	0	20.94	20.95	20.91
5	16QAM	12	7	20.94	20.91	20.80
5	16QAM	12	13	20.74	20.84	20.81
5	16QAM	25	0	20.76	20.90	20.81
5	64QAM	1	0	20.90	20.99	20.99
5	64QAM	1	12	20.96	20.97	20.92
5	64QAM	1	24	20.82	20.97	20.81
5	64QAM	12	0	19.91	19.98	19.86
5	64QAM	12	7	19.75	19.89	19.75
5	64QAM	12	13	19.64	19.77	19.75
5	64QAM	25	0	19.88	19.98	19.92
5	256QAM	1	0	17.93	17.98	18.00
5	256QAM	1	12	17.80	17.98	17.88
5	256QAM	1	24	17.82	17.95	17.87
5	256QAM	12	0	17.94	18.02	17.88
5	256QAM	12	7	17.84	17.93	17.79
5	256QAM	12	13	17.72	17.92	17.80
5	256QAM	25	0	17.85	17.98	17.83
Channel				19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5
3	QPSK	1	0	22.61	22.73	22.52
3	QPSK	1	8	22.53	22.69	22.43
3	QPSK	1	14	22.50	22.66	22.45
3	QPSK	8	0	21.95	21.94	21.77
3	QPSK	8	4	21.89	21.85	21.82
3	QPSK	8	7	21.82	21.82	21.73
3	QPSK	15	0	21.68	21.84	21.64
3	16QAM	1	0	22.06	22.12	21.92
3	16QAM	1	8	21.95	22.03	21.98
3	16QAM	1	14	21.88	22.02	21.81
3	16QAM	8	0	20.88	20.98	20.89
3	16QAM	8	4	20.85	20.97	20.85
3	16QAM	8	7	20.80	20.82	20.87
3	16QAM	15	0	20.82	20.93	20.86
3	64QAM	1	0	20.95	21.07	21.00
3	64QAM	1	8	20.95	20.94	20.93
3	64QAM	1	14	20.80	20.88	20.78
3	64QAM	8	0	19.82	19.88	19.90
3	64QAM	8	4	19.83	19.83	19.76
3	64QAM	8	7	19.70	19.84	19.74
3	64QAM	15	0	19.88	20.07	19.95
3	256QAM	1	0	17.88	18.08	17.93
3	256QAM	1	8	17.89	17.99	17.88
3	256QAM	1	14	17.74	17.87	17.83



3	256QAM	8	0	17.92	18.00	17.83
3	256QAM	8	4	17.78	17.90	17.82
3	256QAM	8	7	17.76	17.91	17.79
3	256QAM	15	0	17.93	17.98	17.79
Channel				19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3
1.4	QPSK	1	0	22.58	22.82	22.57
1.4	QPSK	1	3	22.57	22.73	22.49
1.4	QPSK	1	5	22.48	22.67	22.46
1.4	QPSK	3	0	22.58	22.70	22.59
1.4	QPSK	3	1	22.45	22.49	22.55
1.4	QPSK	3	3	22.47	22.45	22.43
1.4	QPSK	6	0	21.89	21.90	21.82
1.4	16QAM	1	0	21.87	21.89	21.77
1.4	16QAM	1	3	21.72	21.83	21.77
1.4	16QAM	1	5	21.74	21.75	21.74
1.4	16QAM	3	0	22.06	22.08	21.90
1.4	16QAM	3	1	21.94	22.01	21.93
1.4	16QAM	3	3	21.94	21.95	21.84
1.4	16QAM	6	0	20.88	20.95	20.94
1.4	64QAM	1	0	20.84	20.94	20.82
1.4	64QAM	1	3	20.78	20.89	20.86
1.4	64QAM	1	5	20.75	21.00	20.84
1.4	64QAM	3	0	20.97	21.02	20.94
1.4	64QAM	3	1	20.90	20.94	20.97
1.4	64QAM	3	3	20.82	20.96	20.84
1.4	64QAM	6	0	19.83	19.90	19.91
1.4	256QAM	1	0	17.92	18.08	17.98
1.4	256QAM	1	3	17.90	18.02	17.85
1.4	256QAM	1	5	17.81	17.92	17.86
1.4	256QAM	3	0	17.87	18.04	17.87
1.4	256QAM	3	1	17.81	17.93	17.87
1.4	256QAM	3	3	17.74	17.88	17.79
1.4	256QAM	6	0	17.83	17.95	17.78



LTE Band 13 <Ant.0>:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				23230		
Frequency (MHz)				782		
10	QPSK	1	0		22.82	
10	QPSK	1	25		22.77	
10	QPSK	1	49		22.73	
10	QPSK	25	0		21.87	
10	QPSK	25	12		21.82	
10	QPSK	25	25		21.76	
10	QPSK	50	0		21.83	
10	16QAM	1	0		21.77	
10	16QAM	1	25		21.72	
10	16QAM	1	49		21.61	
10	16QAM	25	0		20.90	
10	16QAM	25	12		20.85	
10	16QAM	25	25		20.73	
10	16QAM	50	0		20.84	
10	64QAM	1	0		20.79	
10	64QAM	1	25		20.74	
10	64QAM	1	49		20.60	
10	64QAM	25	0		19.91	
10	64QAM	25	12		19.86	
10	64QAM	25	25		19.81	
10	64QAM	50	0		19.85	
10	256QAM	1	0		17.91	
10	256QAM	1	25		17.86	
10	256QAM	1	49		17.74	
10	256QAM	25	0		17.87	
10	256QAM	25	12		17.82	
10	256QAM	25	25		17.74	
10	256QAM	50	0		17.80	
Channel				23205	23230	23255
Frequency (MHz)				779.5	782	784.5
5	QPSK	1	0	22.71	22.78	22.67
5	QPSK	1	12	22.68	22.72	22.64
5	QPSK	1	24	22.54	22.62	22.53
5	QPSK	12	0	21.66	21.77	21.68
5	QPSK	12	7	21.71	21.78	21.73
5	QPSK	12	13	21.49	21.64	21.54
5	QPSK	25	0	21.66	21.79	21.67
5	16QAM	1	0	21.63	21.74	21.63
5	16QAM	1	12	21.57	21.60	21.54
5	16QAM	1	24	21.39	21.51	21.46
5	16QAM	12	0	20.70	20.81	20.69
5	16QAM	12	7	20.68	20.77	20.64
5	16QAM	12	13	20.61	20.72	20.61
5	16QAM	25	0	20.68	20.81	20.73



5	64QAM	1	0	20.52	20.65	20.59
5	64QAM	1	12	20.46	20.60	20.50
5	64QAM	1	24	20.48	20.57	20.43
5	64QAM	12	0	19.66	19.76	19.67
5	64QAM	12	7	19.70	19.74	19.63
5	64QAM	12	13	19.66	19.71	19.59
5	64QAM	25	0	19.71	19.79	19.66
5	256QAM	1	0	17.78	17.83	17.76
5	256QAM	1	12	17.68	17.83	17.76
5	256QAM	1	24	17.64	17.75	17.70
5	256QAM	12	0	17.78	17.83	17.77
5	256QAM	12	7	17.65	17.73	17.60
5	256QAM	12	13	17.55	17.70	17.65
5	256QAM	25	0	17.73	17.78	17.68



LTE Band 25 <Ant.3>:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26140	26340	26590
Frequency (MHz)				1860	1880	1905
20	QPSK	1	0	22.60	22.76	22.72
20	QPSK	1	49	22.49	22.60	22.54
20	QPSK	1	99	22.36	22.55	22.55
20	QPSK	50	0	22.24	22.33	22.27
20	QPSK	50	24	22.14	22.28	22.15
20	QPSK	50	50	22.16	22.21	22.11
20	QPSK	100	0	22.14	22.28	22.23
20	16QAM	1	0	22.00	22.05	22.01
20	16QAM	1	49	21.93	22.00	21.85
20	16QAM	1	99	21.82	21.93	21.90
20	16QAM	50	0	21.14	21.22	21.17
20	16QAM	50	24	21.09	21.17	21.13
20	16QAM	50	50	21.02	21.10	21.02
20	16QAM	100	0	21.04	21.15	21.03
20	64QAM	1	0	20.99	21.05	20.94
20	64QAM	1	49	20.91	21.00	20.85
20	64QAM	1	99	20.88	20.93	20.78
20	64QAM	50	0	20.18	20.32	20.21
20	64QAM	50	24	20.19	20.27	20.20
20	64QAM	50	50	20.12	20.20	20.16
20	64QAM	100	0	20.05	20.17	20.07
20	256QAM	1	0	18.44	18.52	18.38
20	256QAM	1	49	18.33	18.47	18.39
20	256QAM	1	99	18.30	18.40	18.32
20	256QAM	50	0	18.09	18.24	18.11
20	256QAM	50	24	18.06	18.19	18.14
20	256QAM	50	50	18.08	18.12	18.01
20	256QAM	100	0	18.10	18.21	18.16
Channel				26115	26340	26615
Frequency (MHz)				1857.5	1880	1907.5
15	QPSK	1	0	22.50	22.69	22.65
15	QPSK	1	37	22.45	22.55	22.47
15	QPSK	1	74	22.27	22.48	22.42
15	QPSK	36	0	22.12	22.29	22.17
15	QPSK	36	20	22.07	22.14	22.08
15	QPSK	36	39	22.02	22.17	22.02
15	QPSK	75	0	22.09	22.24	22.10
15	16QAM	1	0	21.96	21.94	21.94
15	16QAM	1	37	21.78	21.89	21.74
15	16QAM	1	74	21.69	21.86	21.85
15	16QAM	36	0	20.99	21.15	21.04
15	16QAM	36	20	20.99	21.08	21.09
15	16QAM	36	39	20.95	21.06	20.89
15	16QAM	75	0	20.90	21.07	20.92



15	64QAM	1	0	20.89	21.00	20.84
15	64QAM	1	37	20.77	20.94	20.82
15	64QAM	1	74	20.76	20.79	20.67
15	64QAM	36	0	20.06	20.26	20.17
15	64QAM	36	20	20.06	20.17	20.08
15	64QAM	36	39	19.99	20.12	20.01
15	64QAM	75	0	19.91	20.08	19.96
15	256QAM	1	0	18.30	18.42	18.29
15	256QAM	1	37	18.29	18.37	18.27
15	256QAM	1	74	18.23	18.28	18.18
15	256QAM	36	0	17.95	18.19	17.96
15	256QAM	36	20	17.97	18.14	18.11
15	256QAM	36	39	18.00	17.98	17.96
15	256QAM	75	0	17.97	18.09	18.09
Channel				26090	26340	26640
Frequency (MHz)				1855	1880	1910
10	QPSK	1	0	22.50	22.63	22.58
10	QPSK	1	25	22.35	22.52	22.44
10	QPSK	1	49	22.26	22.47	22.47
10	QPSK	25	0	22.20	22.25	22.20
10	QPSK	25	12	22.02	22.19	22.02
10	QPSK	25	25	22.09	22.09	22.06
10	QPSK	50	0	22.01	22.13	22.09
10	16QAM	1	0	21.85	21.91	21.87
10	16QAM	1	25	21.81	21.88	21.74
10	16QAM	1	49	21.77	21.88	21.83
10	16QAM	25	0	21.08	21.19	21.03
10	16QAM	25	12	21.02	21.10	21.08
10	16QAM	25	25	20.96	21.06	20.96
10	16QAM	50	0	20.96	21.10	20.97
10	64QAM	1	0	20.89	20.91	20.84
10	64QAM	1	25	20.81	20.87	20.77
10	64QAM	1	49	20.84	20.82	20.74
10	64QAM	25	0	20.07	20.28	20.17
10	64QAM	25	12	20.08	20.19	20.16
10	64QAM	25	25	19.98	20.17	20.12
10	64QAM	50	0	19.93	20.04	20.01
10	256QAM	1	0	18.32	18.43	18.32
10	256QAM	1	25	18.22	18.44	18.31
10	256QAM	1	49	18.26	18.36	18.18
10	256QAM	25	0	18.05	18.18	17.99
10	256QAM	25	12	17.98	18.05	18.00
10	256QAM	25	25	18.02	18.02	17.89
10	256QAM	50	0	18.04	18.08	18.03
Channel				26065	26340	26665
Frequency (MHz)				1852.5	1880	1912.5
5	QPSK	1	0	22.50	22.67	22.65
5	QPSK	1	12	22.42	22.57	22.40
5	QPSK	1	24	22.25	22.46	22.41
5	QPSK	12	0	22.17	22.21	22.23



5	QPSK	12	7	22.10	22.24	22.08
5	QPSK	12	13	22.04	22.15	22.03
5	QPSK	25	0	21.99	22.19	22.11
5	16QAM	1	0	21.86	21.99	21.89
5	16QAM	1	12	21.78	21.93	21.79
5	16QAM	1	24	21.72	21.87	21.82
5	16QAM	12	0	21.01	21.15	21.12
5	16QAM	12	7	21.05	21.06	21.00
5	16QAM	12	13	20.89	21.07	20.96
5	16QAM	25	0	20.94	21.07	20.95
5	64QAM	1	0	20.88	20.92	20.90
5	64QAM	1	12	20.83	20.86	20.75
5	64QAM	1	24	20.78	20.85	20.68
5	64QAM	12	0	20.14	20.17	20.17
5	64QAM	12	7	20.09	20.19	20.09
5	64QAM	12	13	20.00	20.15	20.13
5	64QAM	25	0	19.96	20.08	20.02
5	256QAM	1	0	18.31	18.39	18.25
5	256QAM	1	12	18.21	18.35	18.25
5	256QAM	1	24	18.25	18.26	18.23
5	256QAM	12	0	18.03	18.13	18.03
5	256QAM	12	7	18.03	18.07	18.04
5	256QAM	12	13	18.04	18.01	17.89
5	256QAM	25	0	17.96	18.14	18.01
Channel				26055	26340	26675
Frequency (MHz)				1851.5	1880	1913.5
3	QPSK	1	0	22.47	22.65	22.69
3	QPSK	1	8	22.45	22.55	22.44
3	QPSK	1	14	22.28	22.45	22.42
3	QPSK	8	0	22.15	22.30	22.21
3	QPSK	8	4	22.03	22.16	22.00
3	QPSK	8	7	22.07	22.11	22.03
3	QPSK	15	0	22.05	22.20	22.11
3	16QAM	1	0	21.90	21.97	21.92
3	16QAM	1	8	21.79	21.92	21.72
3	16QAM	1	14	21.78	21.90	21.79
3	16QAM	8	0	20.99	21.14	21.07
3	16QAM	8	4	21.03	21.12	21.05
3	16QAM	8	7	20.91	21.01	20.87
3	16QAM	15	0	20.95	21.12	20.96
3	64QAM	1	0	20.90	20.94	20.87
3	64QAM	1	8	20.82	20.87	20.81
3	64QAM	1	14	20.80	20.79	20.67
3	64QAM	8	0	20.10	20.17	20.15
3	64QAM	8	4	20.06	20.15	20.08
3	64QAM	8	7	19.98	20.05	20.07
3	64QAM	15	0	19.94	20.04	19.98
3	256QAM	1	0	18.30	18.40	18.31
3	256QAM	1	8	18.26	18.42	18.36
3	256QAM	1	14	18.22	18.37	18.18



3	256QAM	8	0	17.96	18.19	18.01
3	256QAM	8	4	17.97	18.15	18.01
3	256QAM	8	7	18.05	18.04	17.88
3	256QAM	15	0	18.07	18.16	18.04
Channel				26047	26340	26683
Frequency (MHz)				1850.7	1880	1914.3
1.4	QPSK	1	0	22.47	22.62	22.69
1.4	QPSK	1	3	22.41	22.56	22.47
1.4	QPSK	1	5	22.23	22.44	22.48
1.4	QPSK	3	0	22.40	22.63	22.41
1.4	QPSK	3	1	22.29	22.38	22.36
1.4	QPSK	3	3	22.35	22.43	22.38
1.4	QPSK	6	0	22.19	22.19	22.14
1.4	16QAM	1	0	22.05	22.15	22.10
1.4	16QAM	1	3	22.12	22.18	22.07
1.4	16QAM	1	5	22.06	22.18	22.13
1.4	16QAM	3	0	21.90	21.92	21.89
1.4	16QAM	3	1	21.81	21.86	21.73
1.4	16QAM	3	3	21.75	21.90	21.80
1.4	16QAM	6	0	21.08	21.11	21.13
1.4	64QAM	1	0	20.96	21.12	21.09
1.4	64QAM	1	3	20.91	20.98	20.95
1.4	64QAM	1	5	20.90	21.09	20.94
1.4	64QAM	3	0	20.91	20.99	20.87
1.4	64QAM	3	1	20.87	20.86	20.80
1.4	64QAM	3	3	20.73	20.81	20.68
1.4	64QAM	6	0	20.12	20.24	20.13
1.4	256QAM	1	0	18.33	18.47	18.26
1.4	256QAM	1	3	18.21	18.34	18.36
1.4	256QAM	1	5	18.16	18.30	18.21
1.4	256QAM	3	0	18.03	18.13	18.04
1.4	256QAM	3	1	17.95	18.14	18.10
1.4	256QAM	3	3	17.95	18.07	17.94
1.4	256QAM	6	0	17.99	18.09	18.12



LTE Band 66 <Ant.1>:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				132072	132322	132572
Frequency (MHz)				1720	1745	1770
20	QPSK	1	0	21.72	21.83	21.76
20	QPSK	1	49	21.67	21.78	21.71
20	QPSK	1	99	21.58	21.71	21.67
20	QPSK	50	0	20.77	20.85	20.82
20	QPSK	50	24	20.66	20.80	20.73
20	QPSK	50	50	20.68	20.73	20.59
20	QPSK	100	0	20.65	20.77	20.72
20	16QAM	1	0	20.69	20.74	20.66
20	16QAM	1	49	20.57	20.69	20.56
20	16QAM	1	99	20.56	20.62	20.55
20	16QAM	50	0	19.64	19.78	19.68
20	16QAM	50	24	19.63	19.73	19.63
20	16QAM	50	50	19.63	19.66	19.61
20	16QAM	100	0	19.64	19.71	19.68
20	64QAM	1	0	19.52	19.64	19.49
20	64QAM	1	49	19.51	19.59	19.52
20	64QAM	1	99	19.45	19.52	19.41
20	64QAM	50	0	18.61	18.69	18.54
20	64QAM	50	24	18.58	18.64	18.61
20	64QAM	50	50	18.53	18.57	18.51
20	64QAM	100	0	18.52	18.62	18.54
20	256QAM	1	0	16.61	16.75	16.64
20	256QAM	1	49	16.65	16.70	16.65
20	256QAM	1	99	16.48	16.63	16.57
20	256QAM	50	0	16.62	16.71	16.66
20	256QAM	50	24	16.60	16.66	16.55
20	256QAM	50	50	16.49	16.59	16.45
20	256QAM	100	0	16.61	16.68	16.57
Channel				132047	132322	132597
Frequency (MHz)				1717.5	1745	1772.5
15	QPSK	1	0	21.59	21.72	21.67
15	QPSK	1	37	21.60	21.69	21.63
15	QPSK	1	74	21.54	21.58	21.62
15	QPSK	36	0	20.74	20.79	20.75
15	QPSK	36	20	20.58	20.68	20.66
15	QPSK	36	39	20.55	20.62	20.55
15	QPSK	75	0	20.52	20.70	20.69
15	16QAM	1	0	20.65	20.68	20.53
15	16QAM	1	37	20.48	20.55	20.49
15	16QAM	1	74	20.45	20.51	20.45
15	16QAM	36	0	19.50	19.74	19.61
15	16QAM	36	20	19.53	19.60	19.53
15	16QAM	36	39	19.52	19.60	19.57
15	16QAM	75	0	19.52	19.61	19.58



15	64QAM	1	0	19.42	19.55	19.40
15	64QAM	1	37	19.43	19.51	19.40
15	64QAM	1	74	19.35	19.39	19.30
15	64QAM	36	0	18.56	18.57	18.42
15	64QAM	36	20	18.52	18.58	18.50
15	64QAM	36	39	18.48	18.50	18.42
15	64QAM	75	0	18.48	18.59	18.48
15	256QAM	1	0	16.55	16.66	16.50
15	256QAM	1	37	16.62	16.65	16.61
15	256QAM	1	74	16.38	16.55	16.49
15	256QAM	36	0	16.56	16.58	16.55
15	256QAM	36	20	16.56	16.54	16.47
15	256QAM	36	39	16.39	16.50	16.32
15	256QAM	75	0	16.50	16.55	16.47
Channel				132022	132322	132622
Frequency (MHz)				1715	1745	1775
10	QPSK	1	0	21.65	21.80	21.69
10	QPSK	1	25	21.55	21.72	21.66
10	QPSK	1	49	21.54	21.64	21.60
10	QPSK	25	0	20.64	20.76	20.77
10	QPSK	25	12	20.55	20.72	20.66
10	QPSK	25	25	20.57	20.70	20.56
10	QPSK	50	0	20.51	20.66	20.58
10	16QAM	1	0	20.64	20.59	20.51
10	16QAM	1	25	20.51	20.59	20.43
10	16QAM	1	49	20.50	20.51	20.45
10	16QAM	25	0	19.52	19.64	19.59
10	16QAM	25	12	19.51	19.63	19.59
10	16QAM	25	25	19.59	19.62	19.57
10	16QAM	50	0	19.60	19.63	19.60
10	64QAM	1	0	19.38	19.61	19.40
10	64QAM	1	25	19.48	19.48	19.41
10	64QAM	1	49	19.38	19.42	19.30
10	64QAM	25	0	18.50	18.55	18.47
10	64QAM	25	12	18.48	18.60	18.49
10	64QAM	25	25	18.41	18.47	18.45
10	64QAM	50	0	18.44	18.56	18.48
10	256QAM	1	0	16.58	16.64	16.60
10	256QAM	1	25	16.58	16.66	16.58
10	256QAM	1	49	16.41	16.53	16.53
10	256QAM	25	0	16.54	16.58	16.61
10	256QAM	25	12	16.48	16.59	16.40
10	256QAM	25	25	16.46	16.46	16.41
10	256QAM	50	0	16.57	16.54	16.52
Channel				131997	132322	132647
Frequency (MHz)				1712.5	1745	1777.5
5	QPSK	1	0	21.64	21.77	21.72
5	QPSK	1	12	21.60	21.70	21.62
5	QPSK	1	24	21.46	21.57	21.63
5	QPSK	12	0	20.64	20.78	20.73



5	QPSK	12	7	20.63	20.70	20.59
5	QPSK	12	13	20.60	20.62	20.45
5	QPSK	25	0	20.57	20.71	20.60
5	16QAM	1	0	20.59	20.68	20.60
5	16QAM	1	12	20.47	20.60	20.49
5	16QAM	1	24	20.53	20.54	20.50
5	16QAM	12	0	19.50	19.66	19.55
5	16QAM	12	7	19.53	19.59	19.51
5	16QAM	12	13	19.56	19.58	19.58
5	16QAM	25	0	19.55	19.60	19.64
5	64QAM	1	0	19.39	19.53	19.39
5	64QAM	1	12	19.36	19.46	19.43
5	64QAM	1	24	19.36	19.43	19.35
5	64QAM	12	0	18.49	18.55	18.41
5	64QAM	12	7	18.55	18.61	18.51
5	64QAM	12	13	18.41	18.43	18.39
5	64QAM	25	0	18.48	18.53	18.46
5	256QAM	1	0	16.46	16.70	16.51
5	256QAM	1	12	16.54	16.56	16.51
5	256QAM	1	24	16.36	16.57	16.50
5	256QAM	12	0	16.50	16.58	16.60
5	256QAM	12	7	16.56	16.59	16.46
5	256QAM	12	13	16.39	16.45	16.34
5	256QAM	25	0	16.54	16.63	16.50
Channel				131987	132322	132657
Frequency (MHz)				1711.5	1745	1778.5
3	QPSK	1	0	21.65	21.70	21.65
3	QPSK	1	8	21.59	21.71	21.57
3	QPSK	1	14	21.49	21.68	21.58
3	QPSK	8	0	20.69	20.78	20.79
3	QPSK	8	4	20.57	20.76	20.61
3	QPSK	8	7	20.56	20.68	20.49
3	QPSK	15	0	20.62	20.64	20.67
3	16QAM	1	0	20.62	20.71	20.61
3	16QAM	1	8	20.45	20.65	20.48
3	16QAM	1	14	20.48	20.49	20.51
3	16QAM	8	0	19.56	19.72	19.57
3	16QAM	8	4	19.51	19.62	19.50
3	16QAM	8	7	19.56	19.63	19.58
3	16QAM	15	0	19.56	19.59	19.59
3	64QAM	1	0	19.43	19.59	19.40
3	64QAM	1	8	19.47	19.51	19.44
3	64QAM	1	14	19.34	19.40	19.32
3	64QAM	8	0	18.52	18.59	18.46
3	64QAM	8	4	18.44	18.57	18.48
3	64QAM	8	7	18.44	18.46	18.47
3	64QAM	15	0	18.48	18.56	18.50
3	256QAM	1	0	16.51	16.60	16.54
3	256QAM	1	8	16.61	16.66	16.61
3	256QAM	1	14	16.35	16.50	16.51



3	256QAM	8	0	16.54	16.56	16.57
3	256QAM	8	4	16.49	16.53	16.41
3	256QAM	8	7	16.39	16.45	16.39
3	256QAM	15	0	16.48	16.64	16.52
Channel				131979	132322	132665
Frequency (MHz)				1710.7	1745	1779.3
1.4	QPSK	1	0	21.65	21.75	21.68
1.4	QPSK	1	3	21.56	21.66	21.61
1.4	QPSK	1	5	21.52	21.68	21.52
1.4	QPSK	3	0	21.60	21.70	21.65
1.4	QPSK	3	1	21.54	21.72	21.60
1.4	QPSK	3	3	21.43	21.67	21.54
1.4	QPSK	6	0	20.69	20.71	20.75
1.4	16QAM	1	0	20.61	20.71	20.64
1.4	16QAM	1	3	20.56	20.65	20.46
1.4	16QAM	1	5	20.61	20.69	20.60
1.4	16QAM	3	0	20.61	20.64	20.52
1.4	16QAM	3	1	20.52	20.57	20.47
1.4	16QAM	3	3	20.50	20.58	20.50
1.4	16QAM	6	0	19.59	19.75	19.58
1.4	64QAM	1	0	19.50	19.66	19.60
1.4	64QAM	1	3	19.54	19.60	19.47
1.4	64QAM	1	5	19.56	19.65	19.56
1.4	64QAM	3	0	19.53	19.58	19.46
1.4	64QAM	3	1	19.51	19.54	19.49
1.4	64QAM	3	3	19.40	19.48	19.42
1.4	64QAM	6	0	18.49	18.57	18.42
1.4	256QAM	1	0	16.57	16.71	16.57
1.4	256QAM	1	3	16.55	16.57	16.61
1.4	256QAM	1	5	16.43	16.54	16.43
1.4	256QAM	3	0	16.55	16.63	16.63
1.4	256QAM	3	1	16.52	16.62	16.49
1.4	256QAM	3	3	16.36	16.44	16.33
1.4	256QAM	6	0	16.47	16.56	16.52



ERP/EIRP

LTE Band 13 (GT - LC = -2.69 dB) QPSK						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency	779.5	782	784.5	-	782	-
(MHz)						
Conducted Power (dBm)	22.71	22.78	22.67	-	22.82	-
Conducted Power (Watts)	0.1866	0.1897	0.1849	-	0.1914	-
ERP(dBm)	17.87	17.94	17.83	-	17.98	-
ERP(Watts)	0.0612	0.0622	0.0607	-	0.0628	-

LTE Band 13 (GT - LC = -2.69 dB) 16QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency	779.5	782	784.5	-	782	-
(MHz)						
Conducted Power (dBm)	21.63	21.74	21.63	-	21.77	-
Conducted Power (Watts)	0.1455	0.1493	0.1455	-	0.1503	-
ERP(dBm)	16.79	16.90	16.79	-	16.93	-
ERP(Watts)	0.0478	0.0490	0.0478	-	0.0493	-



LTE Band 13 (GT - LC = -2.69 dB) 64QAM						
Bandwidth	5M			10M		
Channel	23205	23230	23255	23230		
	(Low)	(Mid)	(High)	-	(Mid)	-
Frequency	779.5	782	784.5	-	782	-
(MHz)						
Conducted Power (dBm)	20.52	20.65	20.59	-	20.79	-
Conducted Power (Watts)	0.1127	0.1161	0.1146	-	0.1199	-
ERP(dBm)	15.68	15.81	15.75	-	15.95	-
ERP(Watts)	0.0370	0.0381	0.0376	-	0.0394	-



LTE Band 25 (GT - LC = -3.61 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	22.47	22.62	22.69	22.47	22.65	22.69	22.50	22.67	22.65
Conducted Power (Watts)	0.1766	0.1828	0.1858	0.1766	0.1841	0.1858	0.1778	0.1849	0.1841
EIRP(dBm)	18.86	19.01	19.08	18.86	19.04	19.08	18.89	19.06	19.04
EIRP(Watts)	0.0769	0.0796	0.0809	0.0769	0.0802	0.0809	0.0774	0.0805	0.0802

LTE Band 25 (GT - LC = -3.61 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	22.50	22.63	22.58	22.50	22.69	22.65	22.60	22.76	22.72
Conducted Power (Watts)	0.1778	0.1832	0.1811	0.1778	0.1858	0.1841	0.1820	0.1888	0.1871
EIRP(dBm)	18.89	19.02	18.97	18.89	19.08	19.04	18.99	19.15	19.11
EIRP(Watts)	0.0774	0.0798	0.0789	0.0774	0.0809	0.0802	0.0793	0.0822	0.0815



LTE Band 25 (GT - LC = -3.61 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	22.12	22.18	22.07	21.90	21.97	21.92	21.86	21.99	21.89
Conducted Power (Watts)	0.1629	0.1652	0.1611	0.1549	0.1574	0.1556	0.1535	0.1581	0.1545
EIRP(dBm)	18.51	18.57	18.46	18.29	18.36	18.31	18.25	18.38	18.28
EIRP(Watts)	0.0710	0.0719	0.0701	0.0675	0.0685	0.0678	0.0668	0.0689	0.0673

LTE Band 25 (GT - LC = -3.61 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	21.85	21.91	21.87	21.96	21.94	21.94	22.00	22.05	22.01
Conducted Power (Watts)	0.1531	0.1552	0.1538	0.1570	0.1563	0.1563	0.1585	0.1603	0.1589
EIRP(dBm)	18.24	18.30	18.26	18.35	18.33	18.33	18.39	18.44	18.40
EIRP(Watts)	0.0667	0.0676	0.0670	0.0684	0.0681	0.0681	0.0690	0.0698	0.0692



LTE Band 25 (GT - LC = -3.61 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	26407	26340	26683	26055	26340	26675	26065	26340	26665
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1850.7	1880	1914.3	1851.5	1880	1913.5	1852.5	1880	1912.5
Conducted Power (dBm)	20.96	21.12	21.09	20.90	20.94	20.87	20.88	20.92	20.90
Conducted Power (Watts)	0.1247	0.1294	0.1285	0.1230	0.1242	0.1222	0.1225	0.1236	0.1230
EIRP(dBm)	17.35	17.51	17.48	17.29	17.33	17.26	17.27	17.31	17.29
EIRP(Watts)	0.0543	0.0564	0.0560	0.0536	0.0541	0.0532	0.0533	0.0538	0.0536

LTE Band 25 (GT - LC = -3.61 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	26090	26340	26640	26115	26340	26615	26140	26340	26590
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1855	1880	1910	1857.5	1880	1907.5	1860	1880	1905
Conducted Power (dBm)	20.89	20.91	20.84	20.89	21.00	20.84	20.99	21.05	20.94
Conducted Power (Watts)	0.1227	0.1233	0.1213	0.1227	0.1259	0.1213	0.1256	0.1274	0.1242
EIRP(dBm)	17.28	17.30	17.23	17.28	17.39	17.23	17.38	17.44	17.33
EIRP(Watts)	0.0535	0.0537	0.0528	0.0535	0.0548	0.0528	0.0547	0.0555	0.0541



LTE Band 66 (GT - LC = -2.64 dB) QPSK									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	21.65	21.75	21.68	21.59	21.71	21.57	21.64	21.77	21.72
Conducted Power (Watts)	0.1462	0.1496	0.1472	0.1442	0.1483	0.1435	0.1459	0.1503	0.1486
EIRP(dBm)	19.01	19.11	19.04	18.95	19.07	18.93	19.00	19.13	19.08
EIRP(Watts)	0.0796	0.0815	0.0802	0.0785	0.0807	0.0782	0.0794	0.0818	0.0809

LTE Band 66 (GT - LC = -2.64 dB) QPSK									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	21.65	21.80	21.69	21.59	21.72	21.67	21.72	21.83	21.76
Conducted Power (Watts)	0.1462	0.1514	0.1476	0.1442	0.1486	0.1469	0.1486	0.1524	0.1500
EIRP(dBm)	19.01	19.16	19.05	18.95	19.08	19.03	19.08	19.19	19.12
EIRP(Watts)	0.0796	0.0824	0.0804	0.0785	0.0809	0.0800	0.0809	0.0830	0.0817



LTE Band 66 (GT - LC = -2.64 dB) 16QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	20.61	20.71	20.64	20.62	20.71	20.61	20.59	20.68	20.60
Conducted Power (Watts)	0.1151	0.1178	0.1159	0.1153	0.1178	0.1151	0.1146	0.1169	0.1148
EIRP(dBm)	17.97	18.07	18.00	17.98	18.07	17.97	17.95	18.04	17.96
EIRP(Watts)	0.0627	0.0641	0.0631	0.0628	0.0641	0.0627	0.0624	0.0637	0.0625

LTE Band 66 (GT - LC = -2.64 dB) 16QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	20.64	20.59	20.51	20.65	20.68	20.53	20.69	20.74	20.66
Conducted Power (Watts)	0.1159	0.1146	0.1125	0.1161	0.1169	0.1130	0.1172	0.1186	0.1164
EIRP(dBm)	18.00	17.95	17.87	18.01	18.04	17.89	18.05	18.10	18.02
EIRP(Watts)	0.0631	0.0624	0.0612	0.0632	0.0637	0.0615	0.0638	0.0646	0.0634



LTE Band 66 (GT - LC = -2.64 dB) 64QAM									
Bandwidth	1.4M			3M			5M		
Channel	131979	132322	132665	131987	132322	132657	131997	132322	132647
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)
Frequency (MHz)	1710.7	1745	1779.3	1711.5	1745	1778.5	1712.5	1745	1777.5
Conducted Power (dBm)	19.50	19.66	19.60	19.43	19.59	19.40	19.39	19.53	19.39
Conducted Power (Watts)	0.0891	0.0925	0.0912	0.0877	0.0910	0.0871	0.0869	0.0897	0.0869
EIRP(dBm)	16.86	17.02	16.96	16.79	16.95	16.76	16.75	16.89	16.75
EIRP(Watts)	0.0485	0.0504	0.0497	0.0478	0.0495	0.0474	0.0473	0.0489	0.0473

LTE Band 66 (GT - LC = -2.64 dB) 64QAM									
Bandwidth	10M			15M			20M		
Channel	132022	132322	132622	132047	132322	132597	132072	132322	132572
	(Low)	(Mid)	(High)	(Low)	(Mid)	(High)	(Low)	(Mid)	(Mid)
Frequency (MHz)	1715	1745	1775	1717.5	1745	1772.5	1720	1745	1770
Conducted Power (dBm)	19.38	19.61	19.40	19.42	19.55	19.40	19.52	19.64	19.49
Conducted Power (Watts)	0.0867	0.0914	0.0871	0.0875	0.0902	0.0871	0.0895	0.0920	0.0889
EIRP(dBm)	16.74	16.97	16.76	16.78	16.91	16.76	16.88	17.00	16.85
EIRP(Watts)	0.0472	0.0498	0.0474	0.0476	0.0491	0.0474	0.0488	0.0501	0.0484



CA Conducted Output Power & EIRP

LTE Band CA_38C<Ant.2> :

Combination 20MHz+20MHz (100RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	22.38	0.1419
M	QPSK	1	Max	1	0	22.46	0.1445
H	QPSK	1	Max	1	0	22.42	0.1432
L	16QAM	1	Max	1	0	21.23	0.1089
M	16QAM	1	Max	1	0	21.29	0.1104
H	16QAM	1	Max	1	0	21.21	0.1084
L	64QAM	1	Max	1	0	20.18	0.0855
M	64QAM	1	Max	1	0	20.23	0.0865
H	64QAM	1	Max	1	0	20.15	0.0849
L	256QAM	1	Max	1	0	17.30	0.0441
M	256QAM	1	Max	1	0	17.38	0.0449
H	256QAM	1	Max	1	0	17.26	0.0437
Combination 15MHz+15MHz (75RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.35	0.1409
M	16QAM	1	Max	1	0	21.21	0.1084



LTE Band 13

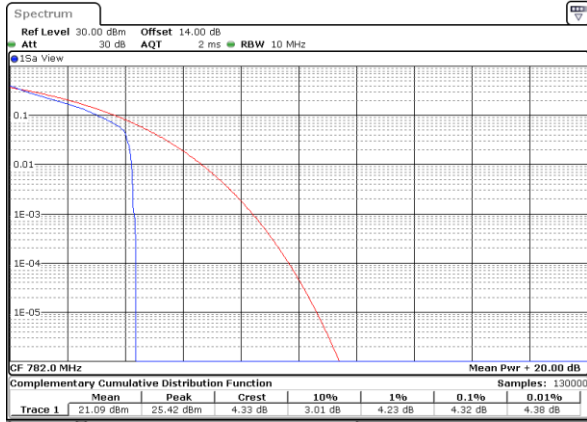
Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	4.32	4.64	5.07	5.74	
Highest CH	-	-	-	-	
Mode	LTE Band 13 / 10MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	-	-	-	-	PASS
Middle CH	6.03	6.43	-	-	
Highest CH	-	-	-	-	



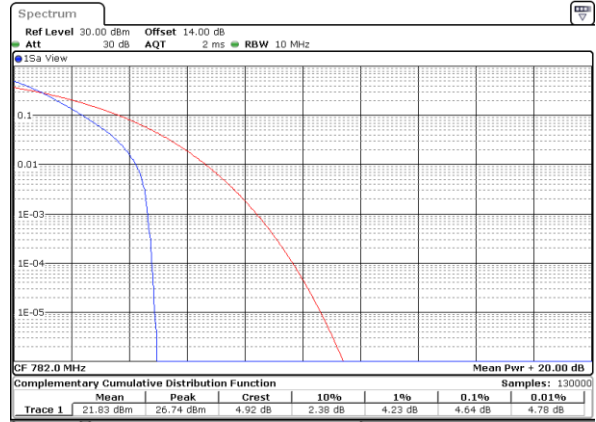
LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Date: 15.FEB.2023 00:46:20

Middle Channel / Full RB



Date: 15.FEB.2023 00:46:53

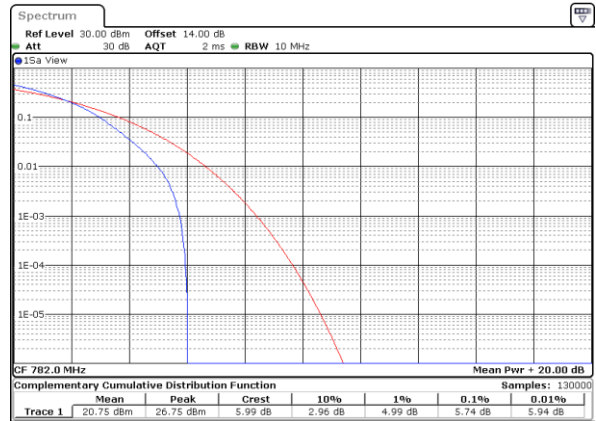
LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB



Date: 15.FEB.2023 00:45:30

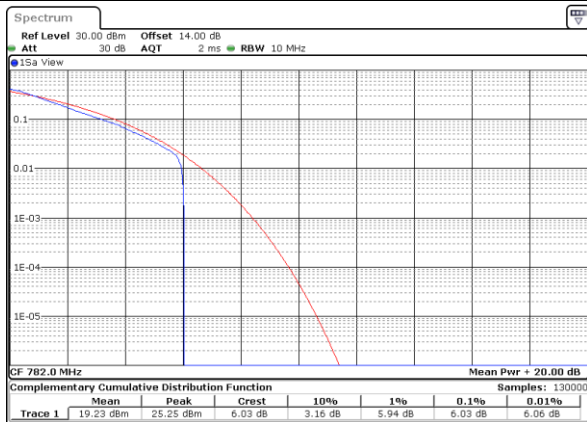
Middle Channel / Full RB



Date: 15.FEB.2023 00:46:03

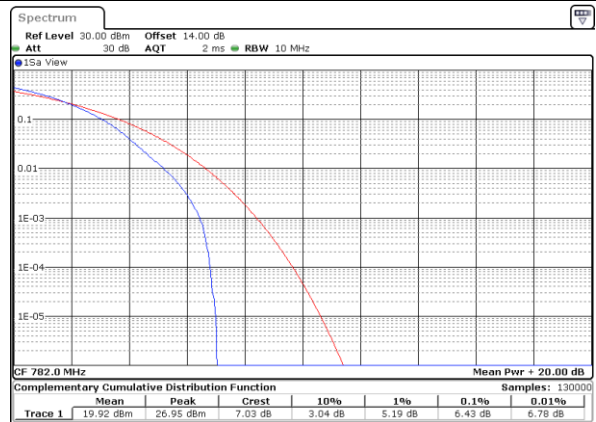
LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB



Date: 15.FEB.2023 00:44:40

Middle Channel / Full RB



Date: 15.FEB.2023 00:45:13



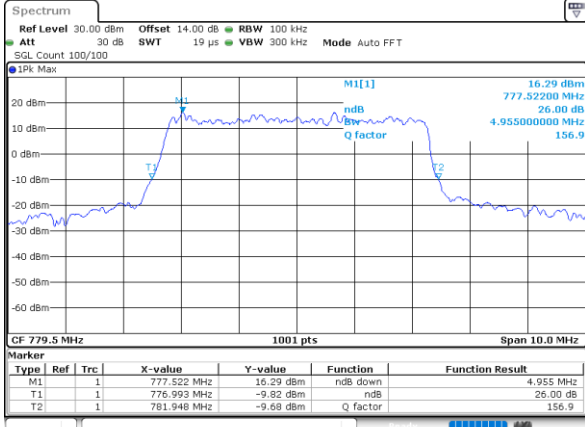
26dB Bandwidth

Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.96	5.19	-	-	-	-	-	-
Middle CH	-	-	-	-	5.06	5.02	9.75	9.63	-	-	-	-
Highest CH	-	-	-	-	4.98	4.87	-	-	-	-	-	-
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	5.12	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.97	-	9.89	-	-	-	-	-
Highest CH	-	-	-	-	4.86	-	-	-	-	-	-	-



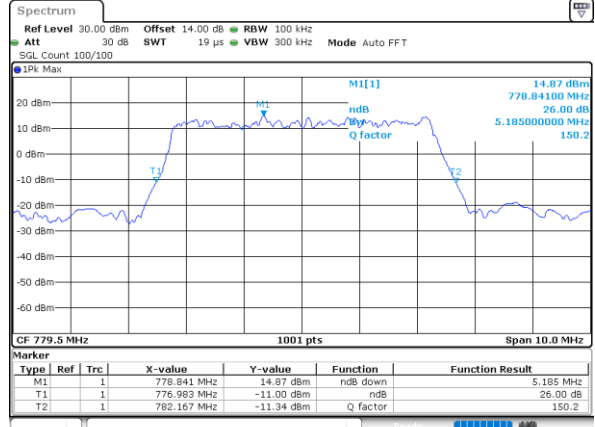
LTE Band 13

Lowest Channel / 5MHz / QPSK



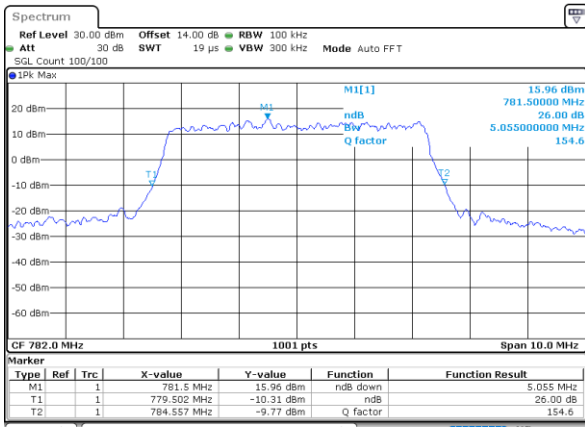
Date: 14.FEB.2023 23:37:13

Lowest Channel / 5MHz / 16QAM



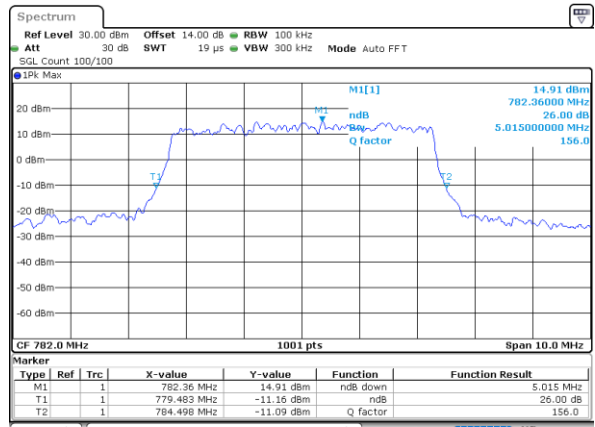
Date: 14.FEB.2023 23:36:49

Middle Channel / 5MHz / QPSK



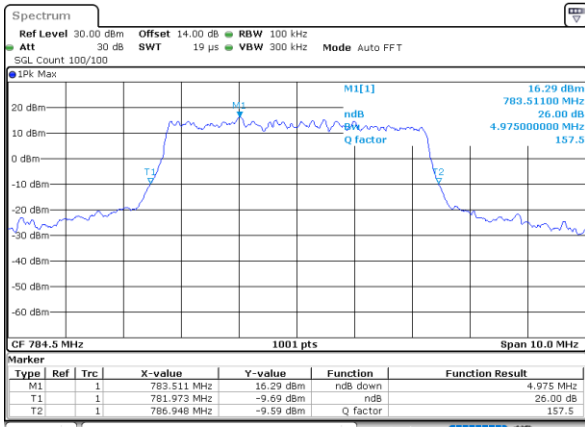
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Middle Channel / 5MHz / 16QAM



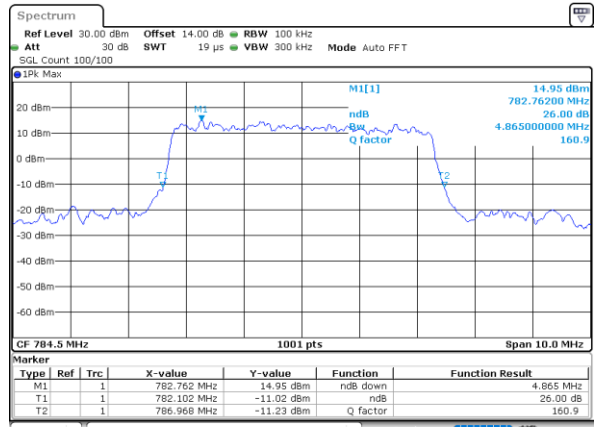
Date: 14.FEB.2023 23:52:39

Highest Channel / 5MHz / QPSK



Date: 14.FEB.2023 23:54:44

Highest Channel / 5MHz / 16QAM



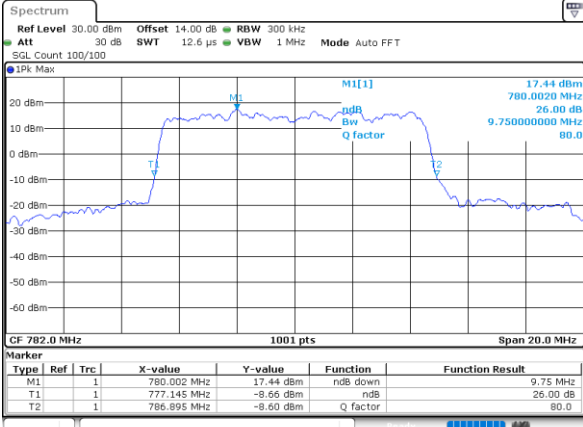
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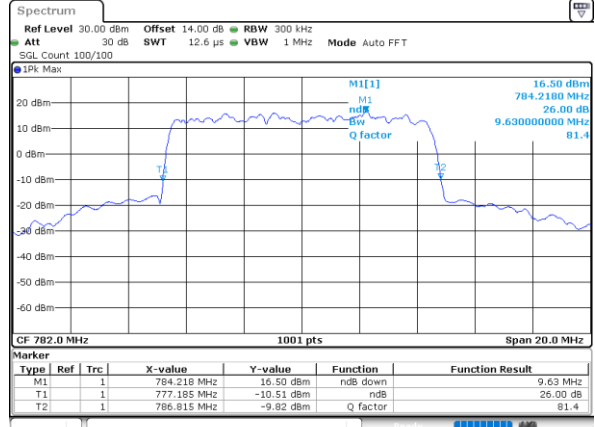
LTE Band 13

Middle Channel / 10MHz / QPSK

Middle Channel / 10MHz / 16QAM



Date: 15.FEB.2023 00:21:49

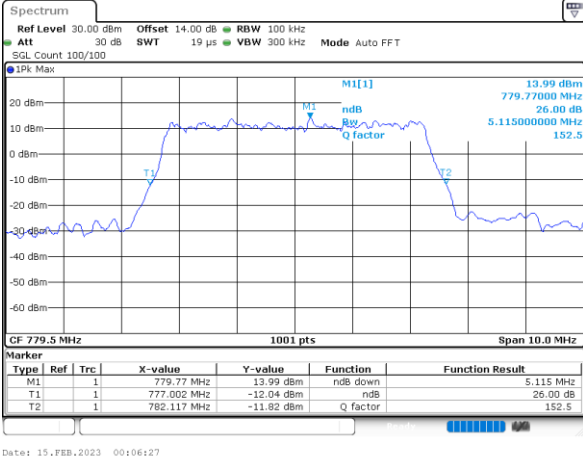


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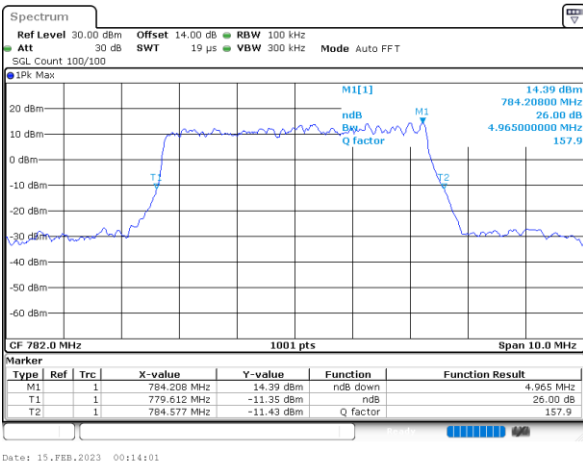


LTE Band 13

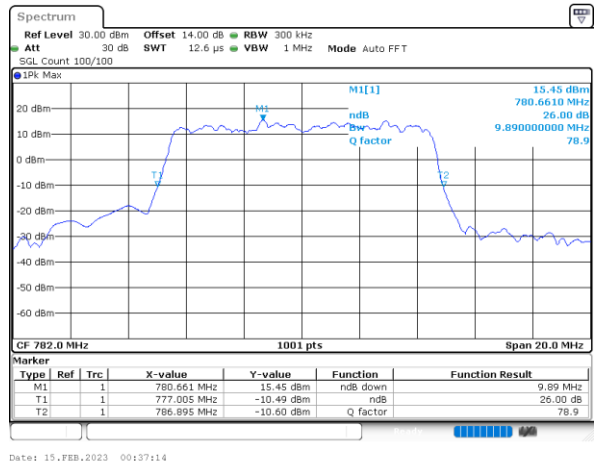
Lowest Channel / 5MHz / 64QAM



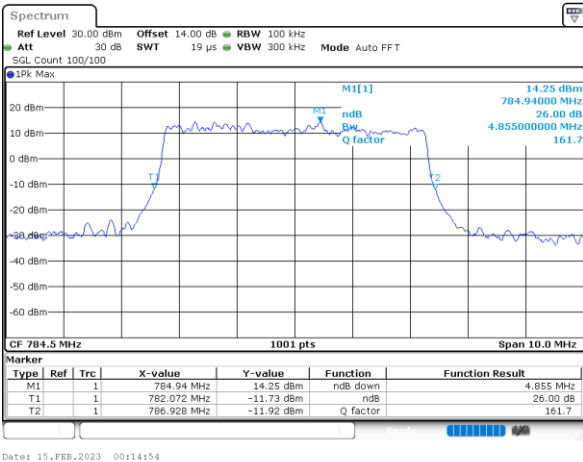
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM





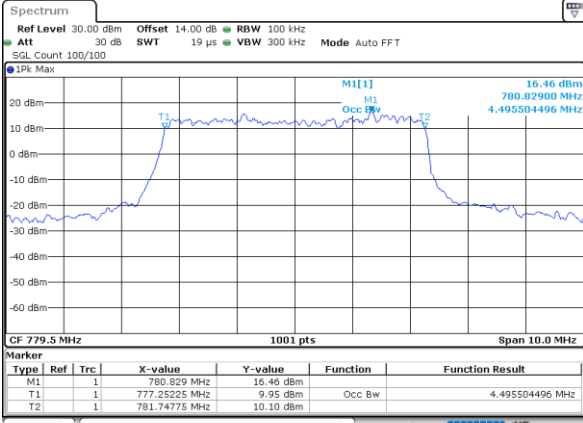
Occupied Bandwidth

Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.50	4.50	-	-	-	-	-	-
Middle CH	-	-	-	-	4.51	4.50	9.01	8.99	-	-	-	-
Highest CH	-	-	-	-	4.50	4.54	-	-	-	-	-	-
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	-	-	-	-	4.52	-	-	-	-	-	-	-
Middle CH	-	-	-	-	4.52	-	8.99	-	-	-	-	-
Highest CH	-	-	-	-	4.49	-	-	-	-	-	-	-



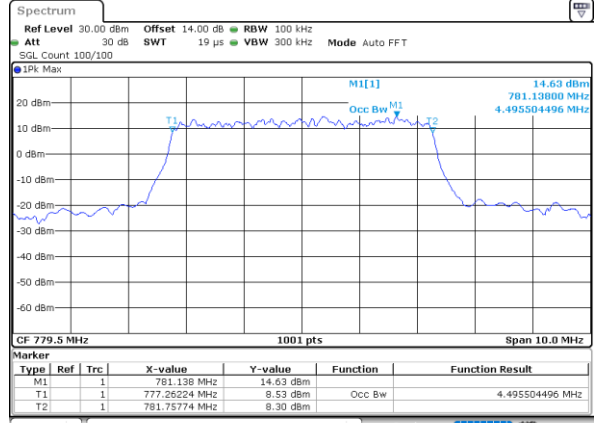
LTE Band 13

Lowest Channel / 5MHz / QPSK



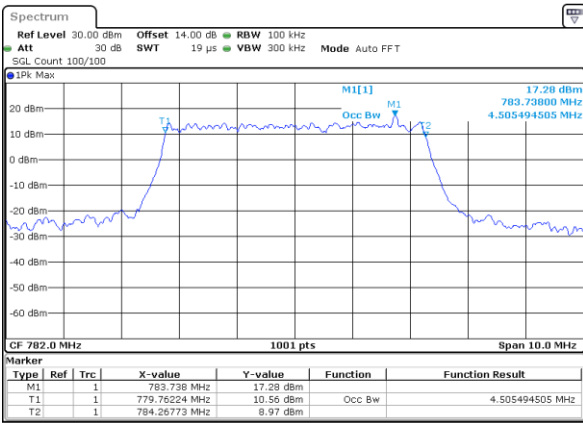
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Lowest Channel / 5MHz / 16QAM



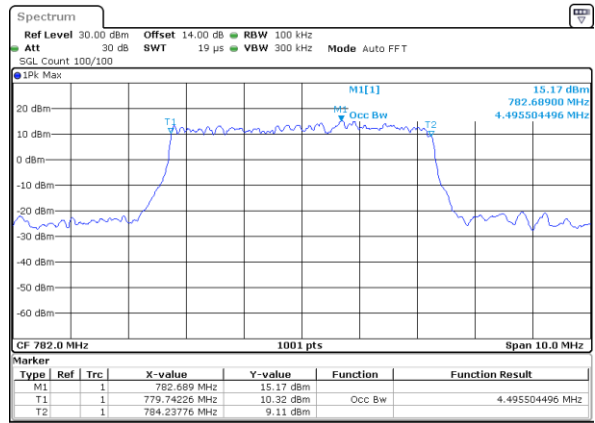
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Middle Channel / 5MHz / QPSK



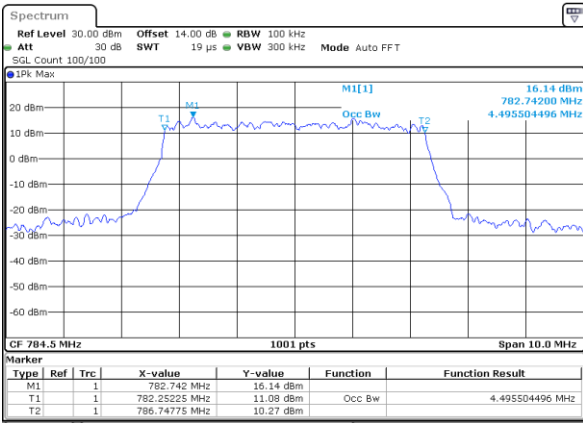
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Middle Channel / 5MHz / 16QAM



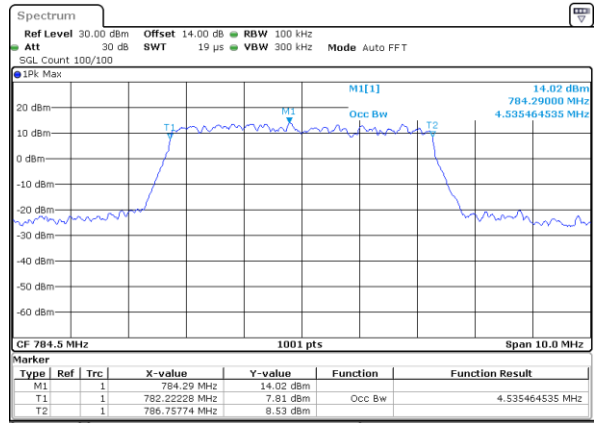
Date: 14.FEB.2023 23:52:54

Highest Channel / 5MHz / QPSK



Date: 14.FEB.2023 23:53:41

Highest Channel / 5MHz / 16QAM



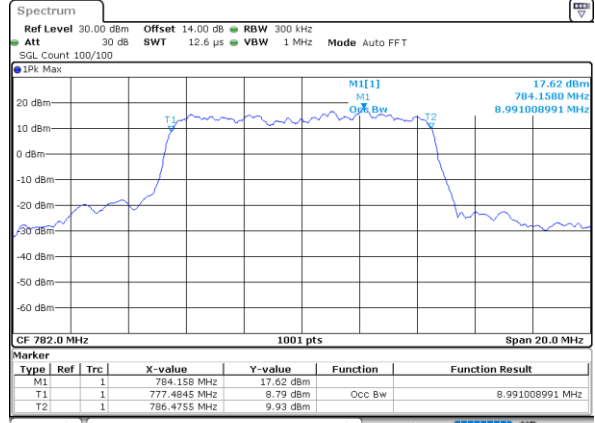
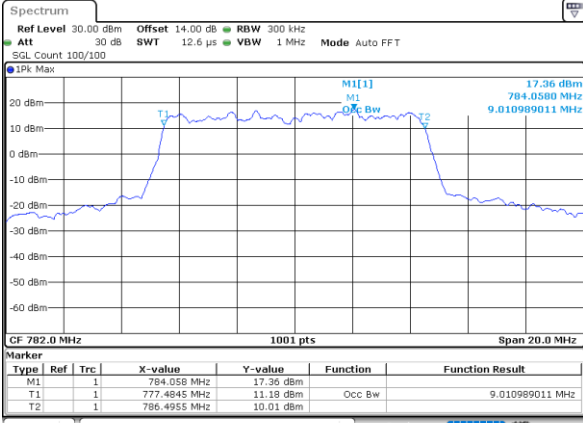
Date: 14.FEB.2023 23:54:05



LTE Band 13

Middle Channel / 10MHz / QPSK

Middle Channel / 10MHz / 16QAM



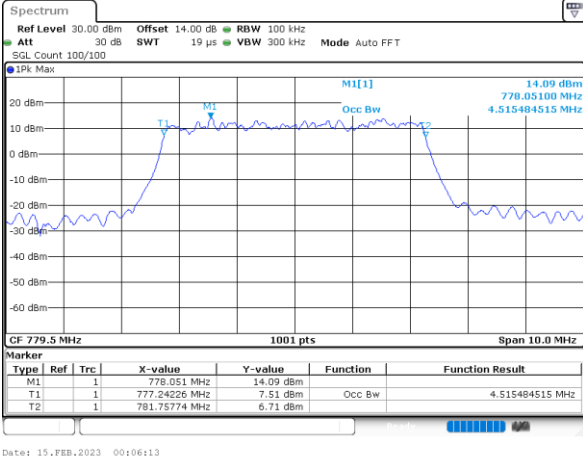
Date: 15.FEB.2023 00:20:40

Date: 15.FEB.2023 00:21:11

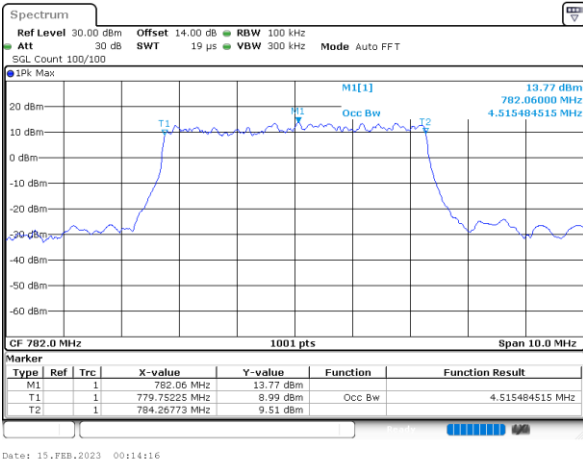


LTE Band 13

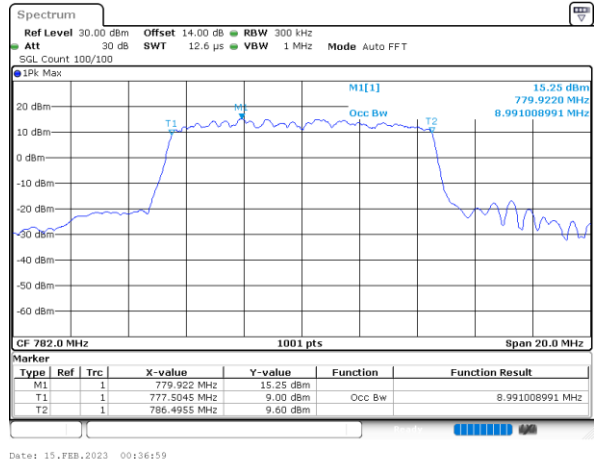
Lowest Channel / 5MHz / 64QAM



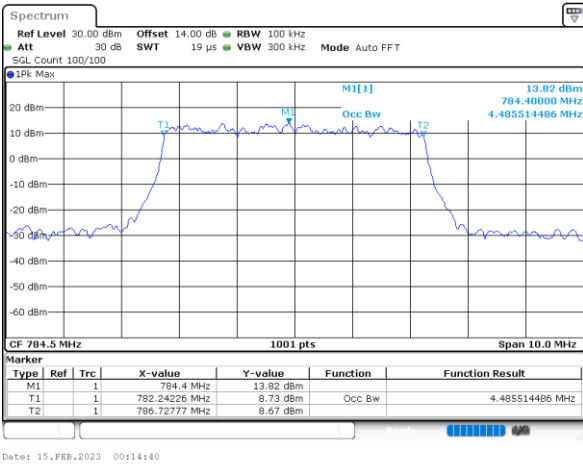
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

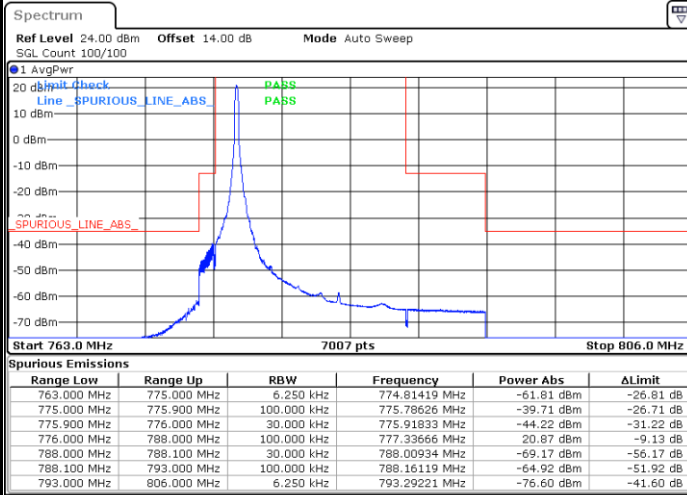




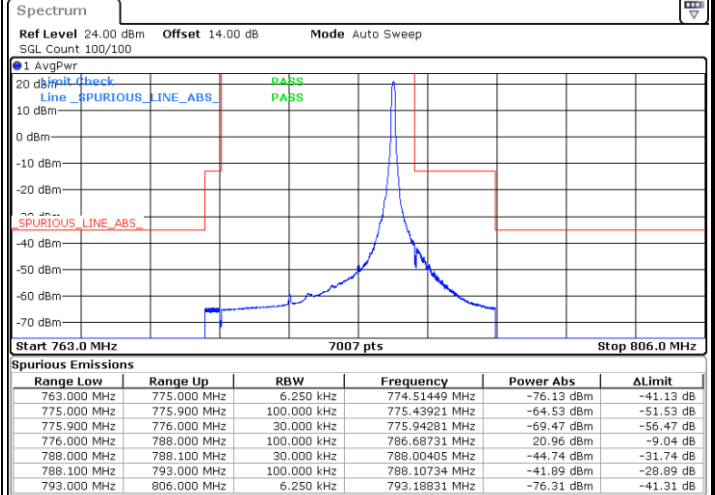
Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

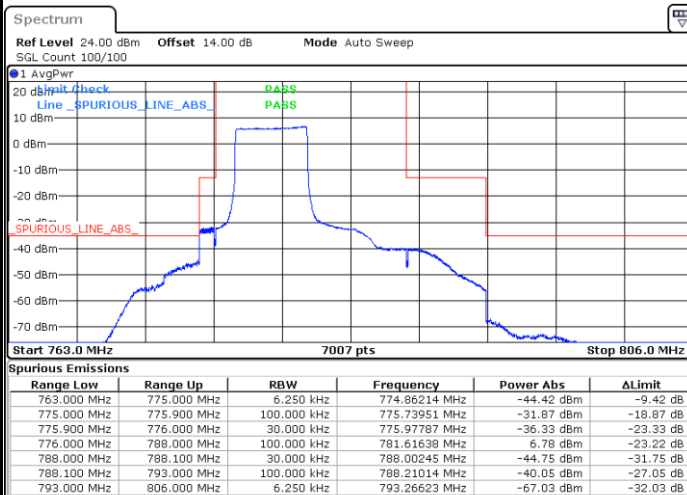
Lowest Band Edge / 1 RB



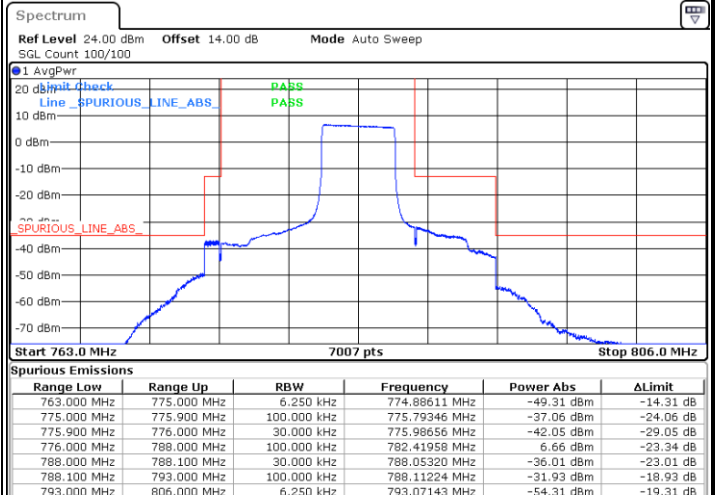
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB

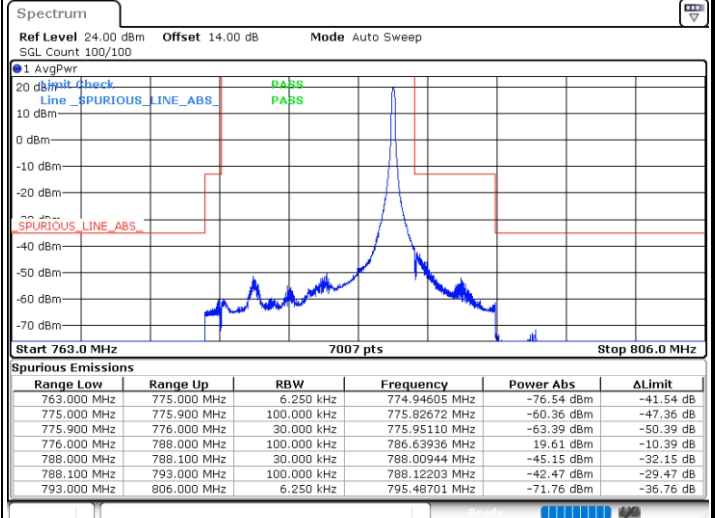
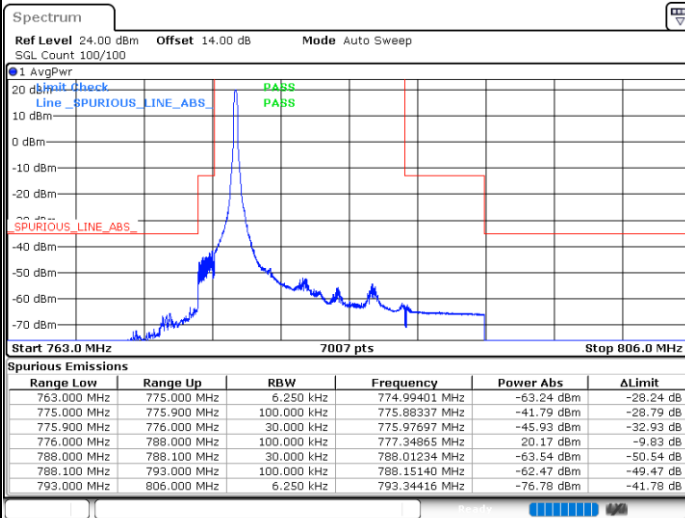




LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

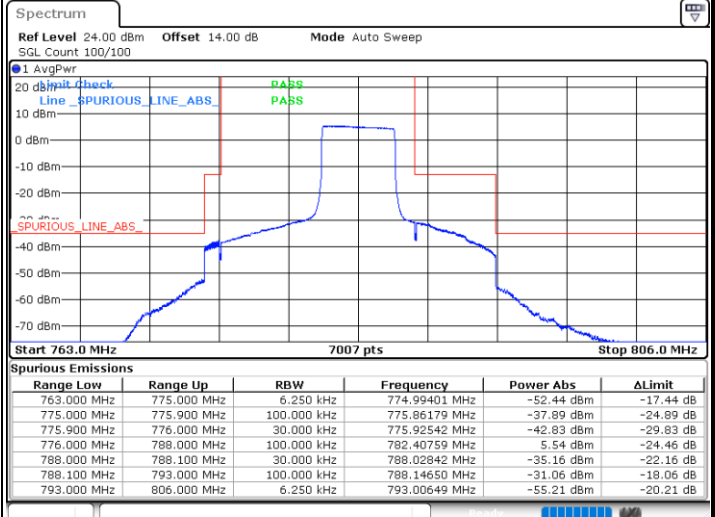
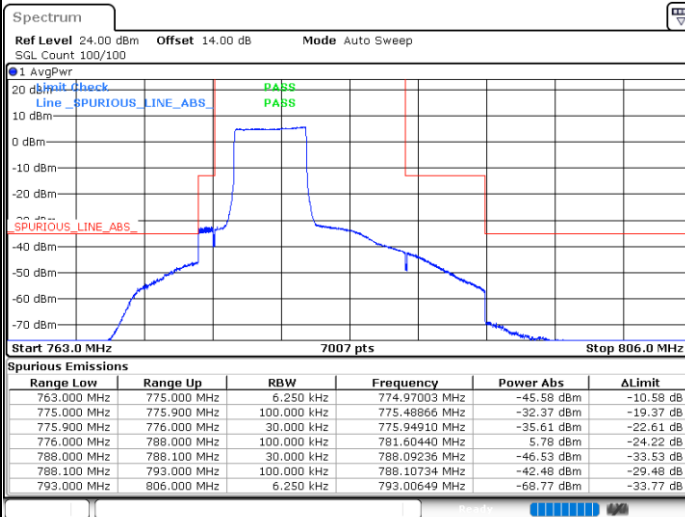


Date: 14.FEB.2023 23:42:41

Date: 15.FEB.2023 00:00:12

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 14.FEB.2023 23:40:49

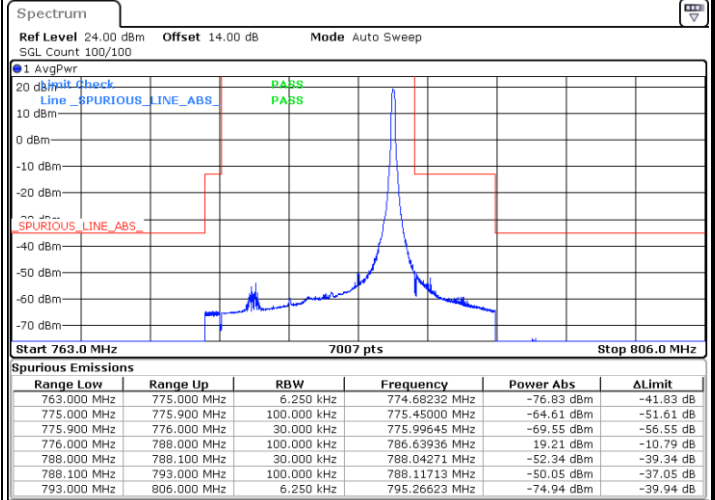
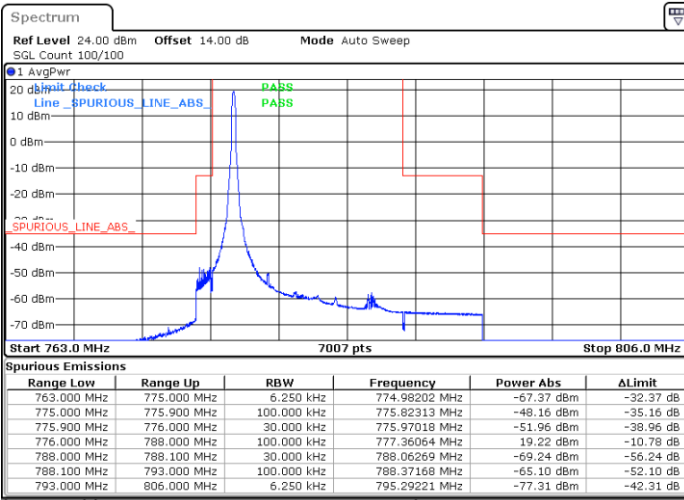
Date: 14.FEB.2023 23:58:19



LTE Band 13 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB

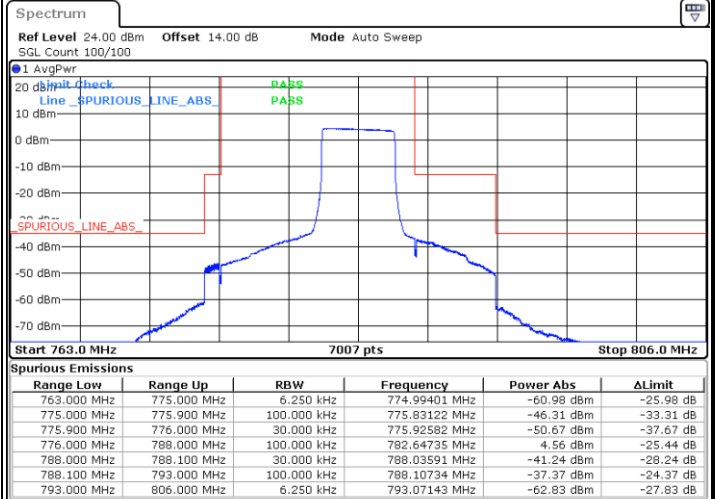
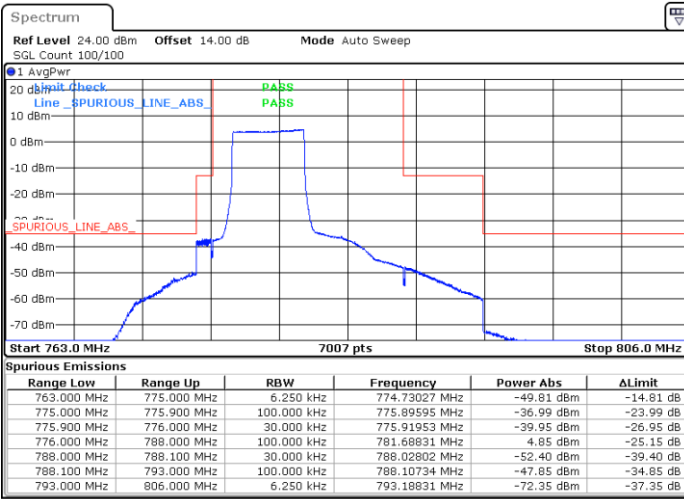


Date: 15.FEB.2023 00:10:03

Date: 15.FEB.2023 00:18:30

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



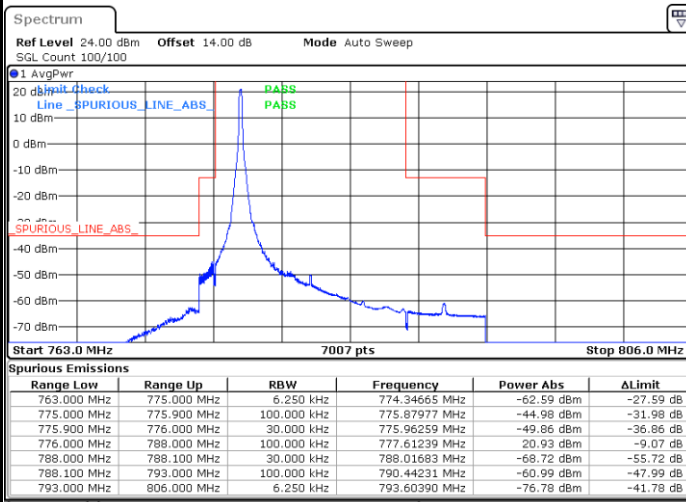
Date: 15.FEB.2023 00:08:10

Date: 15.FEB.2023 00:16:37



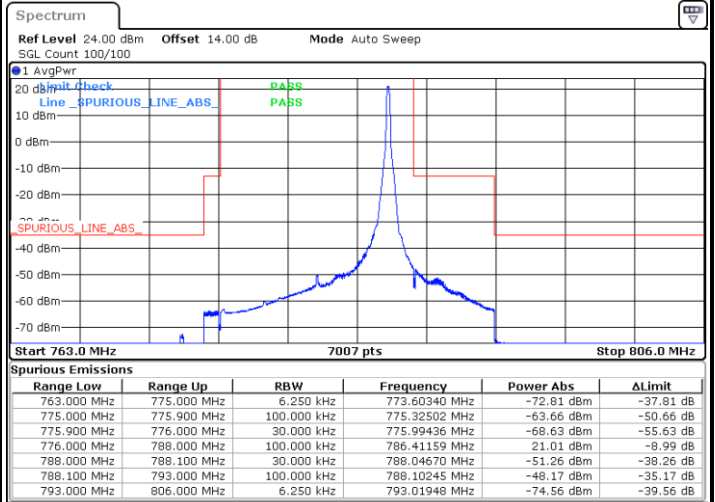
LTE Band 13 / 10MHz / QPSK

Lowest Band Edge / 1 RB



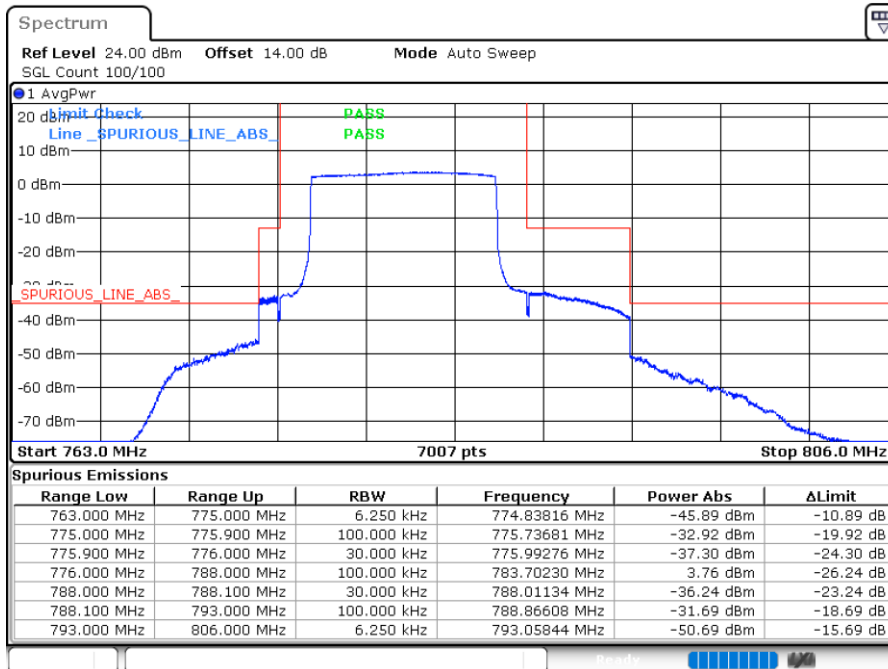
Date: 15.FEB.2023 00:29:08

Highest Band Edge / 1 RB



Date: 15.FEB.2023 00:31:00

Band Edge / Full RB

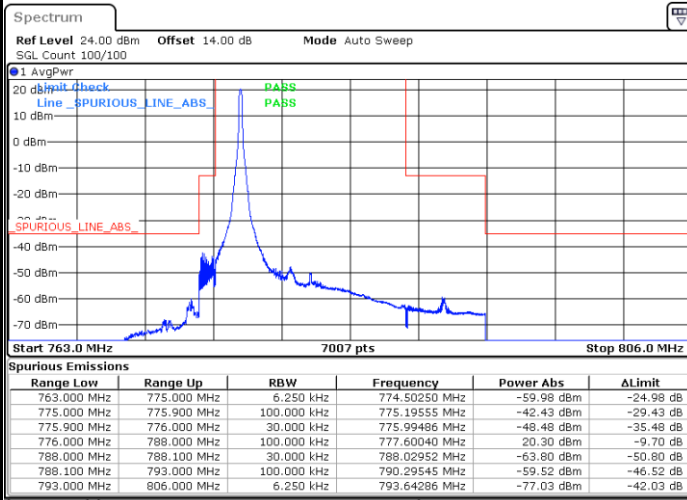


Date: 15.FEB.2023 00:23:32



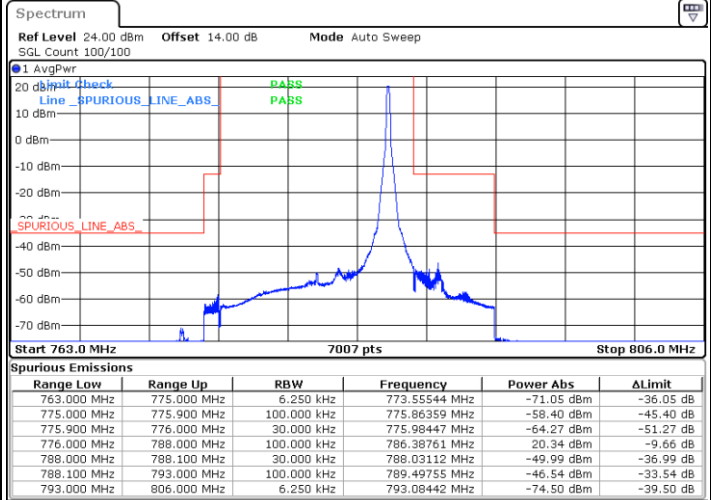
LTE Band 13 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



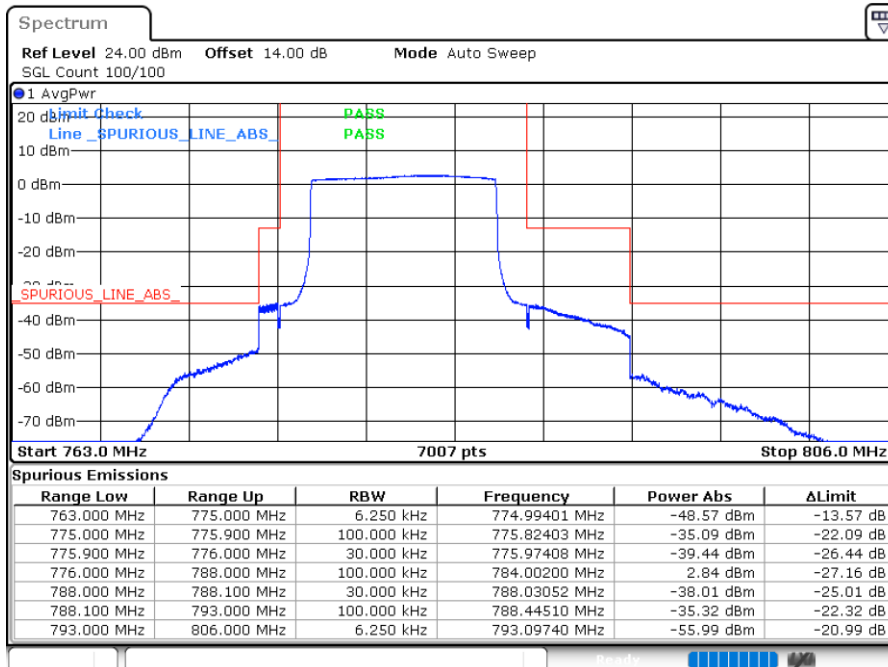
Date: 15.FEB.2023 00:27:16

Highest Band Edge / 1 RB



Date: 15.FEB.2023 00:32:52

Band Edge / Full RB



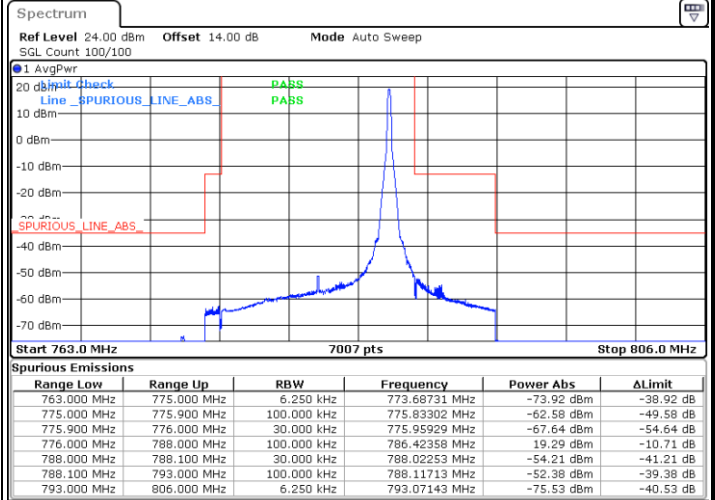
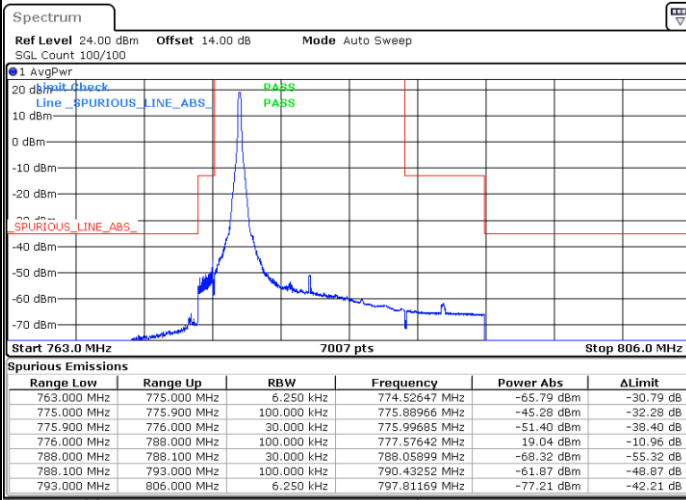
Date: 15.FEB.2023 00:25:24



LTE Band 13 / 10MHz / 64QAM

Lowest Band Edge / 1 RB

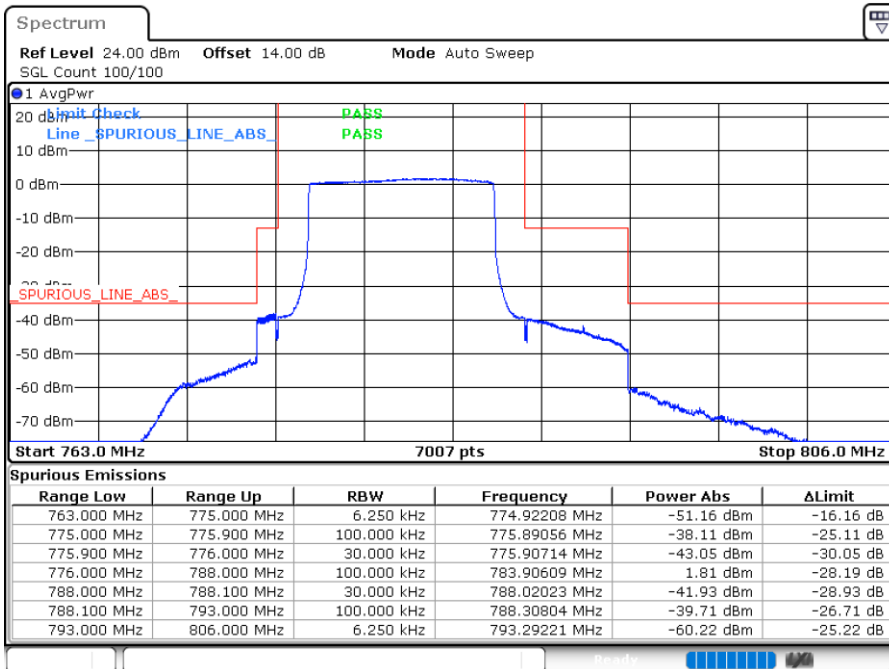
Highest Band Edge / 1 RB



Date: 15.FEB.2023 00:40:49

Date: 15.FEB.2023 00:42:41

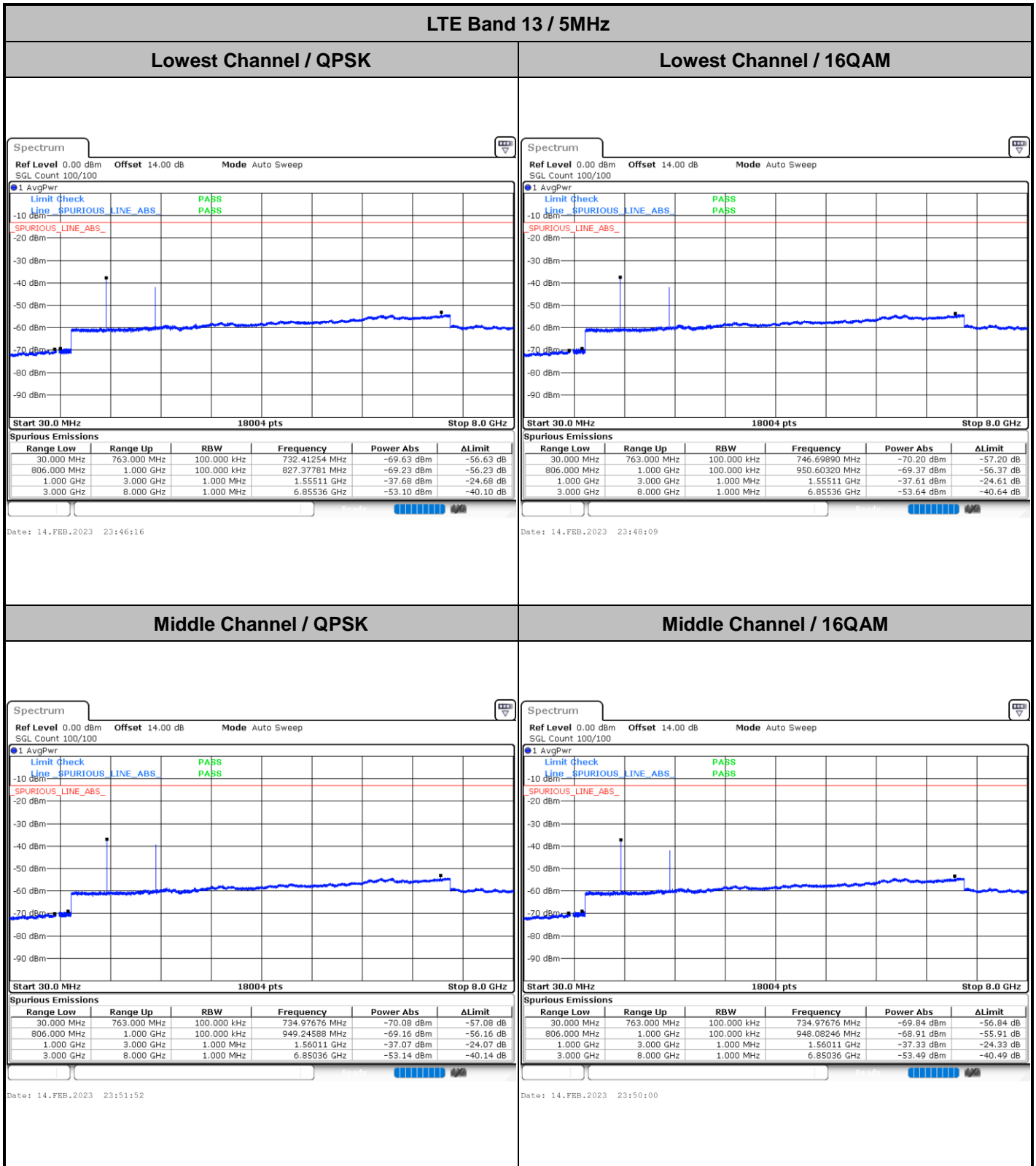
Band Edge / Full RB



Date: 15.FEB.2023 00:38:57



Conducted Spurious Emission

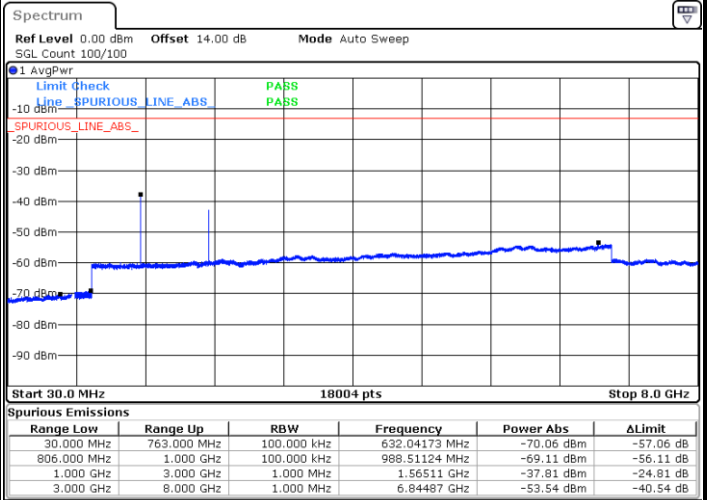
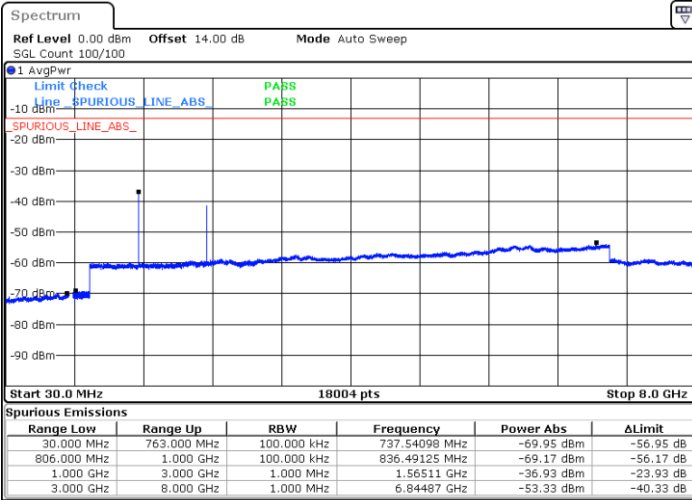




LTE Band 13 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



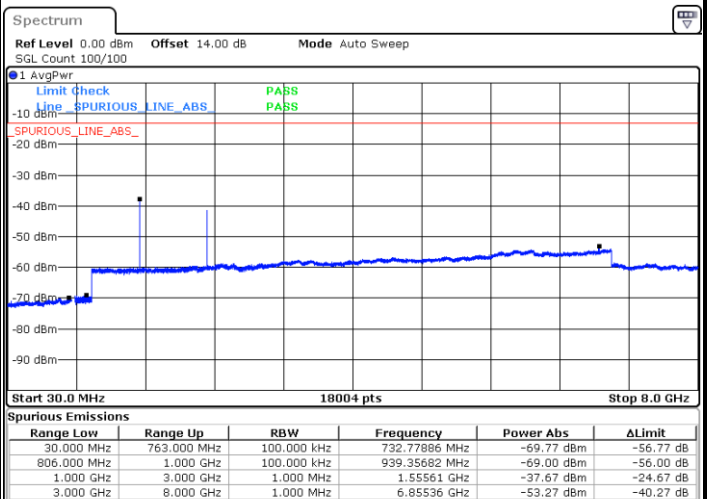
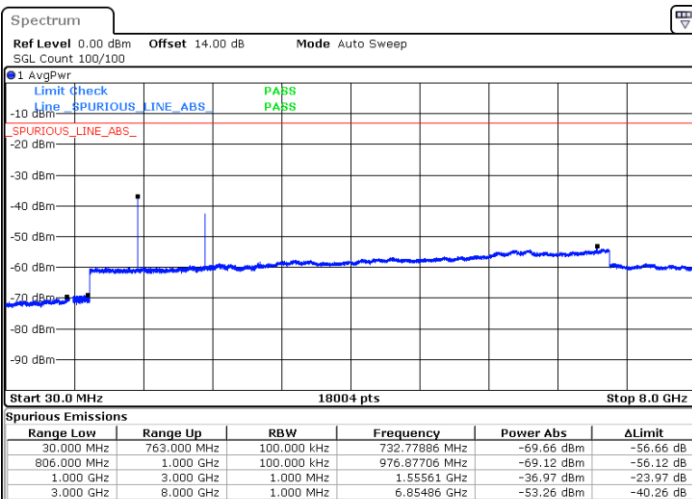
Date: 15.FEB.2023 00:03:56

Date: 15.FEB.2023 00:05:49

LTE Band 13 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM



Date: 15.FEB.2023 00:36:36

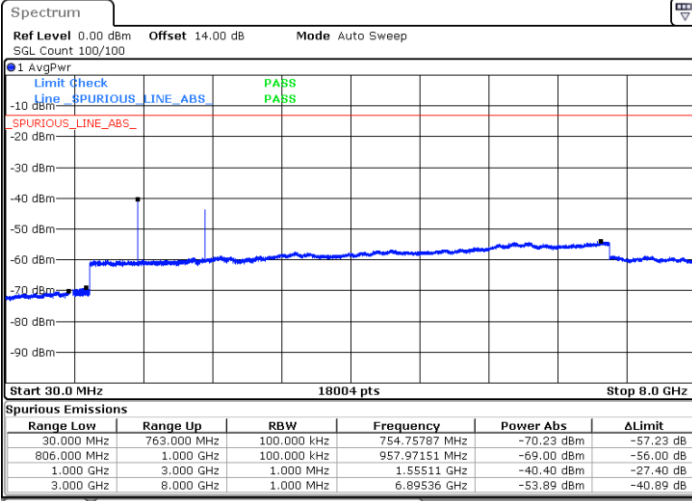
Date: 15.FEB.2023 00:34:44



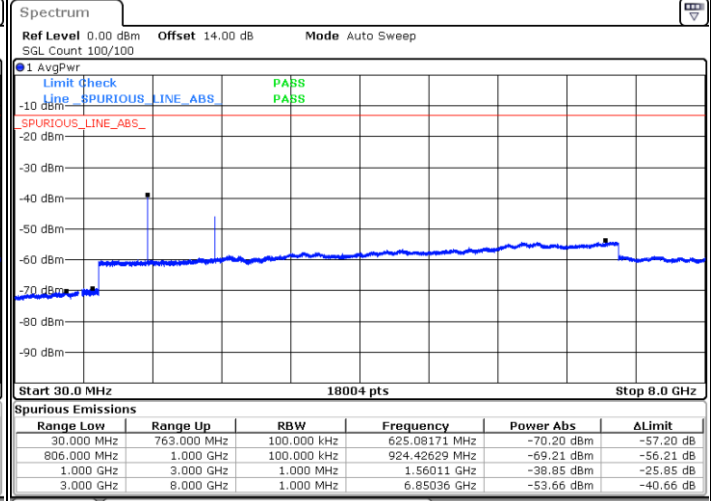
LTE Band 13 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

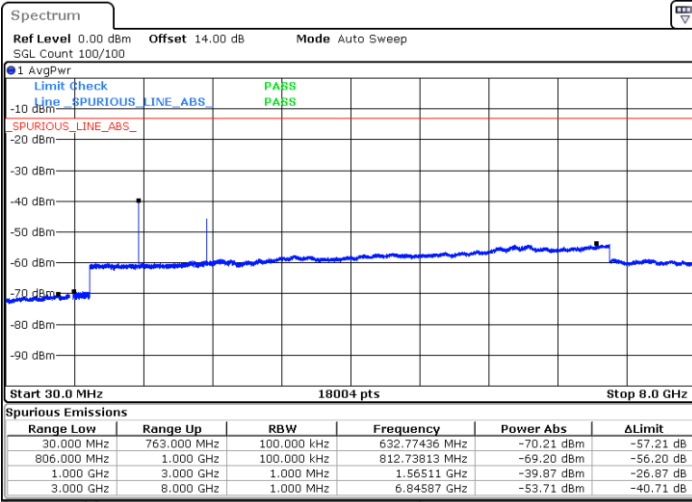


Date: 15.FEB.2023 00:11:46



Date: 15.FEB.2023 00:13:38

Highest Channel / 64QAM

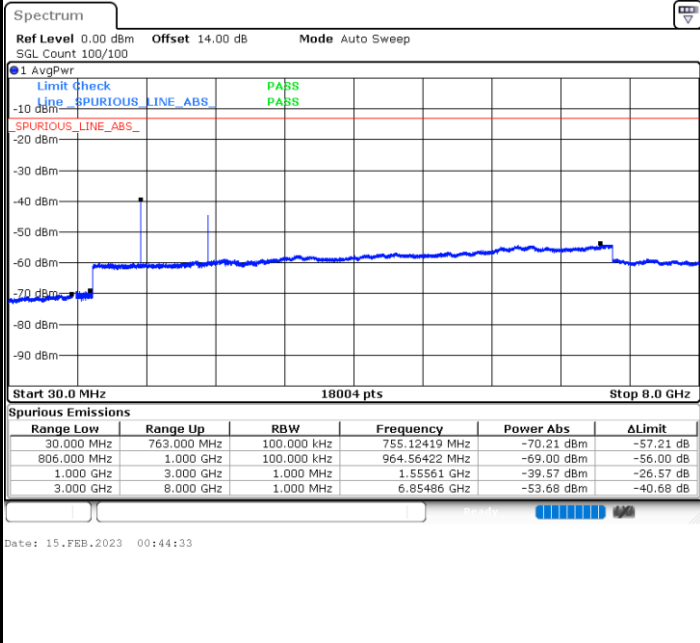


Date: 15.FEB.2023 00:20:22



LTE Band 13 / 10MHz

Middle Channel / 64QAM





Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0005	PASS
40	Normal Voltage	0.0008	
30	Normal Voltage	0.0009	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0012	
0	Normal Voltage	0.0010	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0009	
20	Maximum Voltage	0.0013	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage =3.91 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.5 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



LTE Band 25

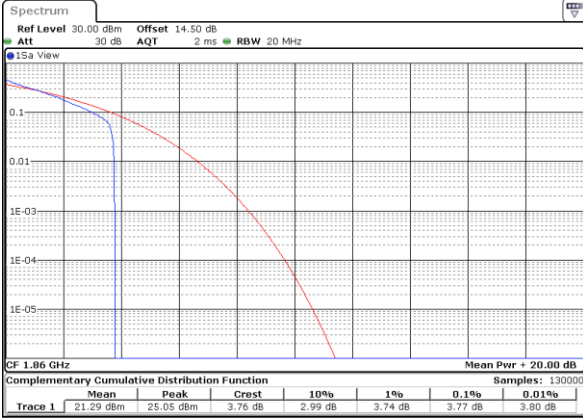
Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.77	4.41	4.46	5.68	PASS
Middle CH	3.51	4.52	4.20	5.59	
Highest CH	3.80	4.84	4.70	5.91	
Mode	LTE Band 25 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	5.45	6.41	-	-	PASS
Middle CH	5.28	6.29	-	-	
Highest CH	5.62	6.52	-	-	



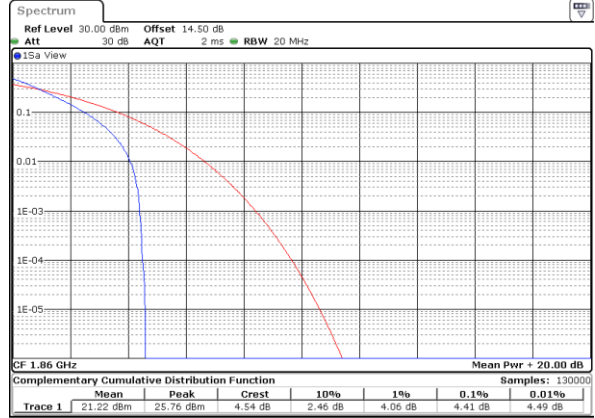
LTE Band 25 / 20MHz / QPSK

Lowest Channel / 1RB



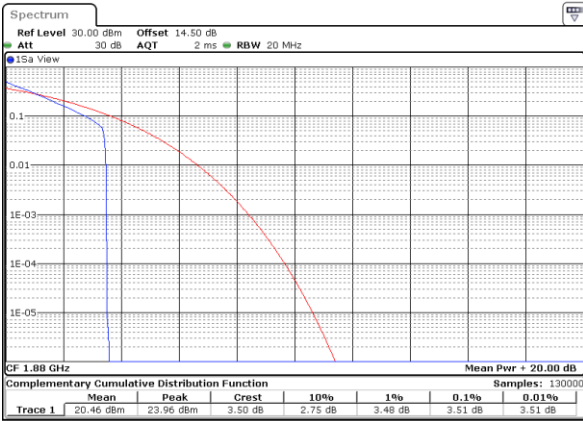
Date: 18_JAN.2023 06:08:27

Lowest Channel / Full RB



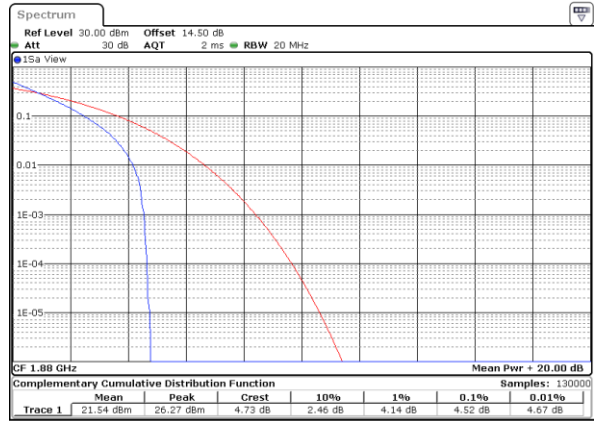
Date: 18_JAN.2023 06:12:124

Middle Channel / 1RB



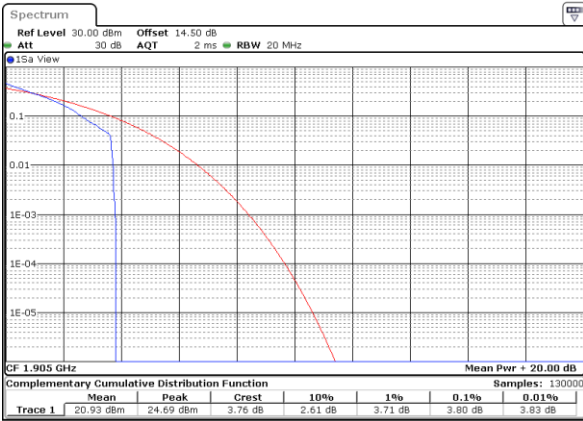
Date: 18_JAN.2023 06:26:34

Middle Channel / Full RB



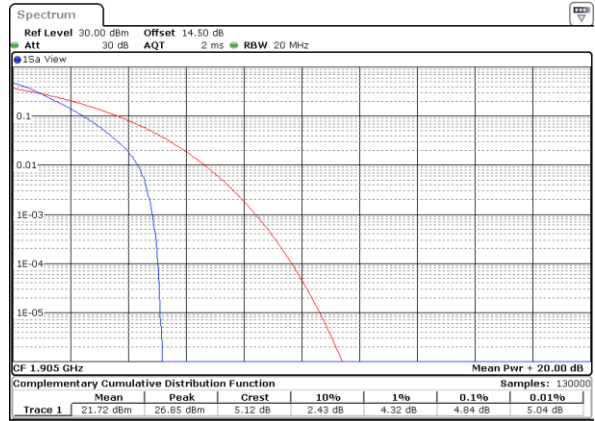
Date: 18_JAN.2023 06:12:158

Highest Channel / 1RB



Date: 18_JAN.2023 06:28:08

Highest Channel / Full RB

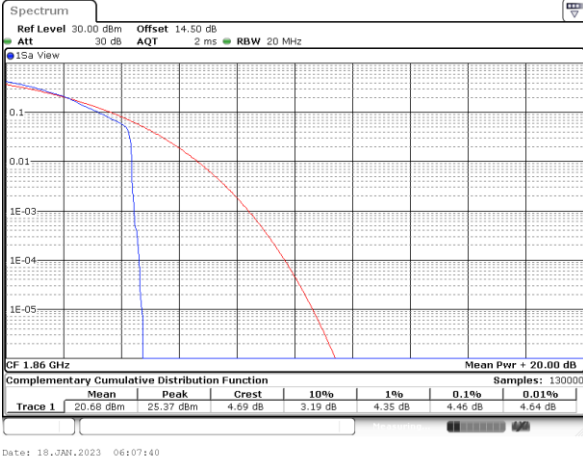


Date: 18_JAN.2023 06:12:831



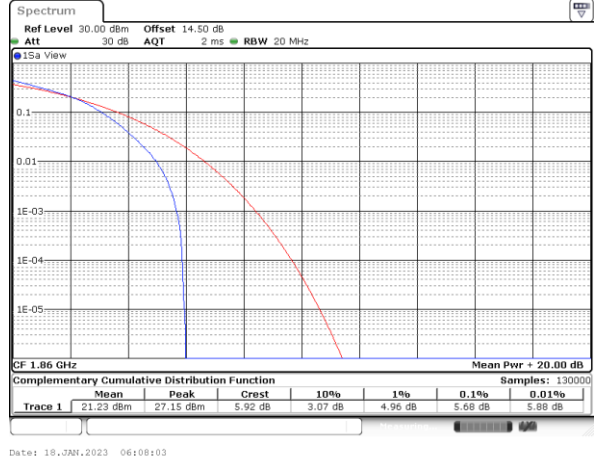
LTE Band 25 / 20MHz / 16QAM

Lowest Channel / 1RB



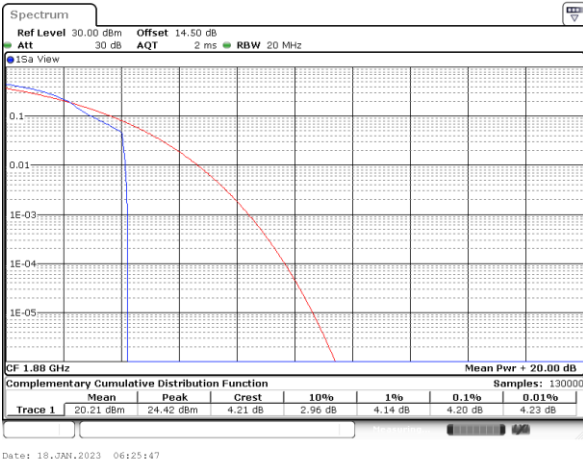
Date: 18_JAN.2023 06:07:40

Lowest Channel / Full RB



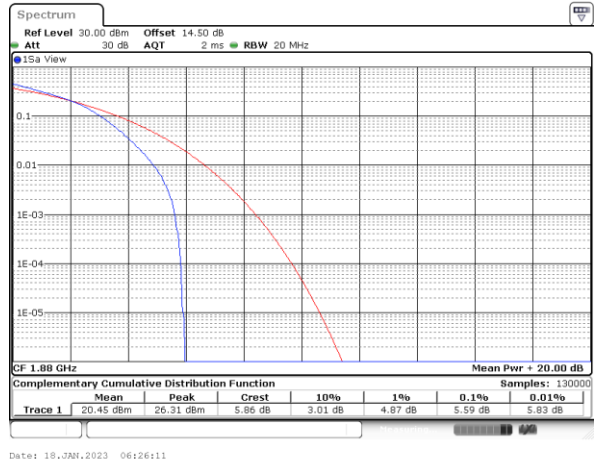
Date: 18_JAN.2023 06:10:03

Middle Channel / 1RB



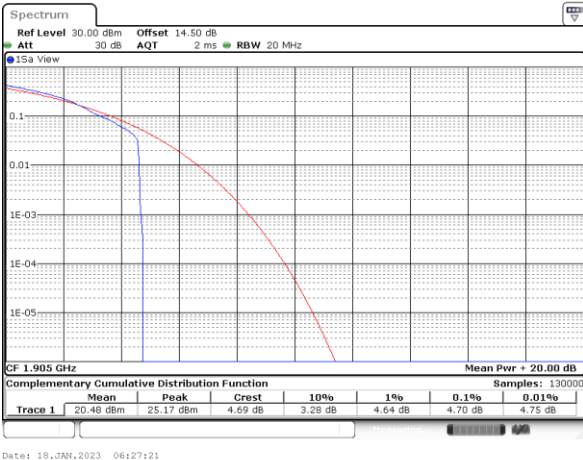
Date: 18_JAN.2023 06:25:47

Middle Channel / Full RB



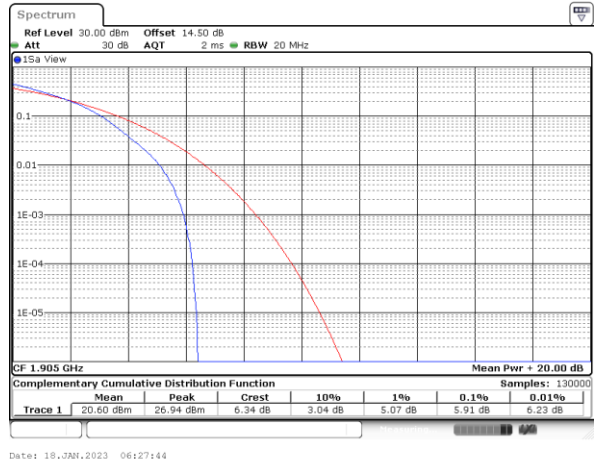
Date: 18_JAN.2023 06:12:11

Highest Channel / 1RB



Date: 18_JAN.2023 06:27:21

Highest Channel / Full RB

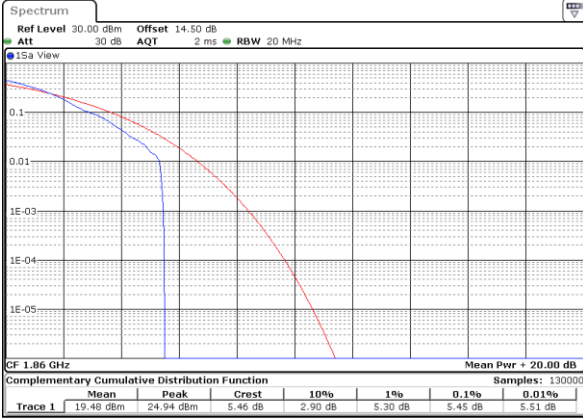


Date: 18_JAN.2023 06:12:44



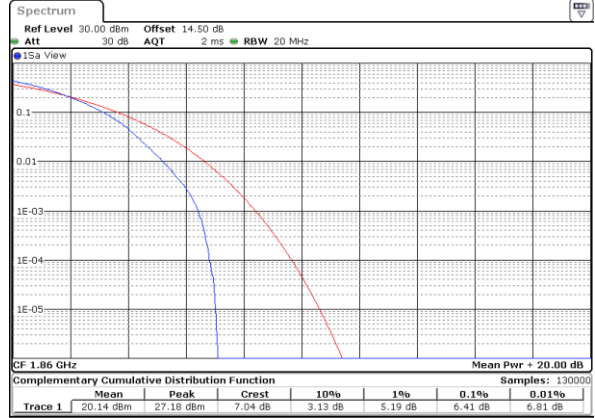
LTE Band 25 / 20MHz / 64QAM

Lowest Channel / 1RB



Date: 18_JAN.2023 06:05:20

Lowest Channel / Full RB



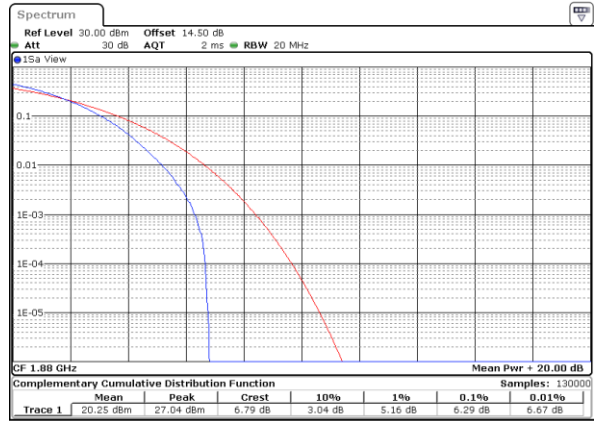
Date: 18_JAN.2023 06:05:43

Middle Channel / 1RB



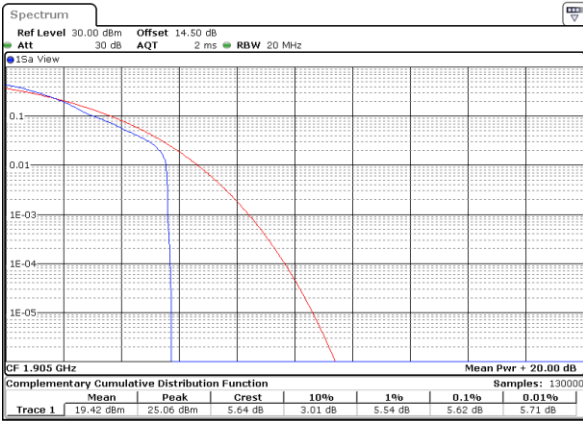
Date: 18_JAN.2023 06:06:07

Middle Channel / Full RB



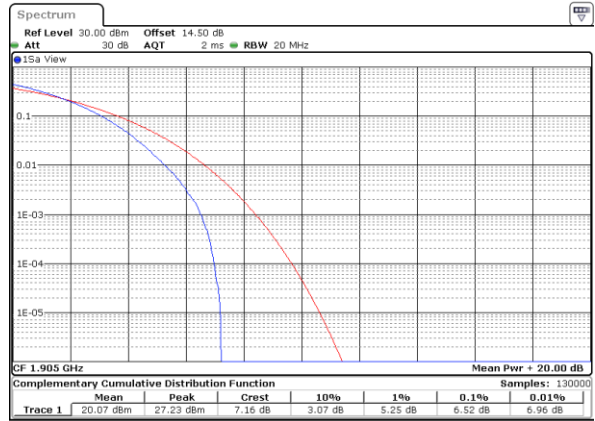
Date: 18_JAN.2023 06:06:30

Highest Channel / 1RB



Date: 18_JAN.2023 06:06:53

Highest Channel / Full RB



Date: 18_JAN.2023 06:07:16



26dB Bandwidth

Mode	LTE Band 25 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.33	1.34	3.16	3.05	5.11	5.09	10.11	10.05	14.27	14.81	19.22	19.34
Middle CH	1.36	1.34	3.04	3.03	5.13	5.00	10.01	9.83	14.39	14.30	19.18	19.14
Highest CH	1.35	1.35	3.09	3.06	5.06	5.07	9.83	9.81	14.72	14.63	19.02	19.18
Mode	LTE Band 25 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.32	-	3.07	-	4.86	-	9.85	-	14.54	-	18.86	-
Middle CH	1.33	-	3.00	-	4.93	-	9.65	-	14.51	-	19.26	-
Highest CH	1.31	-	3.03	-	5.06	-	9.75	-	14.33	-	18.70	-