



FCC RF Test Report

APPLICANT : Motorola Mobility LLC
EQUIPMENT : Mobile Cellular Phone
BRAND NAME : Motorola
MODEL NAME : XT2323-2,XT2323-5,XT2323-6
FCC ID : IHDT56AL9
STANDARD : 47 CFR Part 2, 22(H), 24(E), 27(L), 90(S)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : Apr. 25, 2023 ~ May 25, 2023

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

Jason Jia



Approved by: Jason Jia

Sporton International Inc. (Kunshan)

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG340401-01B	Rev. 01	Initial issue of report	Jun. 05, 2023



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
4.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2) (Band 25)	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 §22.917(a) §24.238(a) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 26) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 26) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
5.4	§2.1053 §22.917(a) §24.238(a) §27.53(f) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 26) (Band 25) (Band 66)	< 43+10log ₁₀ (P[Watts])	PASS	Under limit 29.30 dB at 5550.000 MHz

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty"

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



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	XT2323-2,XT2323-5,XT2323-6
FCC ID	IHDT56AL9
IMEI Code	Conducted: 351606570017474/351606570017482 Radiation: 351606570016070
HW Version	DVT2
SW Version	T2TV33.23
EUT Stage	Identical Prototype



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 5 : 824 MHz ~ 849 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 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 5 : 869 MHz ~ 894 MHz LTE Band 25 : 1930 MHz ~ 1995 MHz LTE Band 26 : 869 MHz ~ 894 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 5 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	Ant 0: LTE Band 2 : 23.40 dBm LTE Band 4 : 23.16 dBm LTE Band 5B : 22.45 dBm LTE Band 25 : 23.45 dBm LTE Band 66 : 23.26 dBm LTE Band 66B : 22.86 dBm LTE Band 66C : 22.92 dBm Ant 1: LTE Band 2 : 23.17 dBm LTE Band 4 : 22.97 dBm LTE Band 5B : 22.35 dBm LTE Band 25 : 23.23 dBm LTE Band 66 : 23.02 dBm LTE Band 66B : 22.28 dBm LTE Band 66C : 22.44 dBm Ant 2: LTE Band 2 : 21.79 dBm LTE Band 4 : 21.90 dBm LTE Band 25 : 21.84 dBm LTE Band 66 : 21.93 dBm LTE Band 66B : 21.30 dBm LTE Band 66C : 21.38 dBm Ant 3: LTE Band 2 : 22.57 dBm LTE Band 4 : 22.68 dBm LTE Band 25 : 22.65 dBm LTE Band 66 : 22.74 dBm LTE Band 66B : 22.31 dBm LTE Band 66C : 22.63 dBm
Antenna Gain	Ant 0:



	LTE Band 2 : -4.5 dBi LTE Band 4 : -3.2 dBi LTE Band 5 : -4.34 dBi LTE Band 25 : -4.5 dBi LTE Band 26 : -4.34 dBi LTE Band 66 : -3.2 dBi Ant 1: LTE Band 2 : -3.3 dBi LTE Band 4 : -3.1 dBi LTE Band 5 : -3.3 dBi LTE Band 25 : -3.3 dBi LTE Band 26 : -3.3 dBi LTE Band 66 : -3.1 dBi Ant 2: LTE Band 2 : -2.5 dBi LTE Band 4 : -2.8 dBi LTE Band 25 : -2.5 dBi LTE Band 66 : -2.8 dBi Ant 3: LTE Band 2 : -1.0 dBi LTE Band 4 : -1.0 dBi LTE Band 25 : -1.0 dBi LTE Band 66 : -1.0 dBi
Type of Modulation	QPSK / 16QAM / 64QAM / 256QAM

Note:

1. The maximum ERP/EIRP is calculated from max output power and max antenna gain, only the maximum ERP/EIRP of Ant.1 for LTE Band 5B and Ant.3 for LTE Band 2/4/25/66/66B/66C are shown in the report. For conducted test items, we choose the highest power among all antennas for testing.
2. The device supports two PAs for LTE Band 2/66 (main PA and other PA), the maximum power of main PA is higher than the other PA, therefore, we chose higher power of main PA to calculate the EIRP and show in the report.

1.5 Modification of EUT

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



1.6 Maximum ERP/EIRP Power 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	0.1422	1M10G7D	0.1343	1M11W7D
3	1851.5 ~ 1908.5	0.1422	2M75G7D	0.1374	2M72W7D
5	1852.5 ~ 1907.5	0.1384	4M52G7D	0.1377	4M51W7D
10	1855.0 ~ 1905.0	0.1355	9M11G7D	0.1343	9M03W7D
15	1857.5 ~ 1902.5	0.1365	13M5G7D	0.1306	13M5W7D
20	1860.0 ~ 1900.0	0.1435	17M9G7D	0.1390	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	0.1400	1M10G7D	0.1355	1M11W7D
3	1851.5 ~ 1913.5	0.1445	2M71G7D	0.1409	2M72W7D
5	1852.5 ~ 1912.5	0.1393	4M52G7D	0.1361	4M51W7D
10	1855.0 ~ 1910.0	0.1432	9M11G7D	0.1393	9M03W7D
15	1857.5 ~ 1907.5	0.1429	13M4G7D	0.1406	13M4W7D
20	1860.0 ~ 1905.0	0.1462	17M9G7D	0.1422	17M9W7D
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	0.1426	1M10G7D	0.1374	1M11W7D
3	1711.5 ~ 1753.5	0.1396	2M73G7D	0.1371	2M72W7D
5	1712.5 ~ 1752.5	0.1413	4M52G7D	0.1384	4M52W7D
10	1715.0 ~ 1750.0	0.1419	9M07G7D	0.1346	9M11W7D
15	1717.5 ~ 1747.5	0.1462	13M4G7D	0.1365	13M5W7D
20	1720.0 ~ 1745.0	0.1472	18M0G7D	0.1406	17M9W7D



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	0.1445	1M10G7D	0.1416	1M11W7D
3	1711.5 ~ 1778.5	0.1466	2M73G7D	0.1403	2M72W7D
5	1712.5 ~ 1777.5	0.1449	4M52G7D	0.1396	4M52W7D
10	1715.0 ~ 1775.0	0.1426	9M07G7D	0.1396	9M11W7D
15	1717.5 ~ 1772.5	0.1432	13M4G7D	0.1387	13M5W7D
20	1720.0 ~ 1770.0	0.1493	18M0G7D	0.1435	17M9W7D

LTE Band CA_5B		QPSK		16QAM/64QAM/256QAM	
BW (MHz)		Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
3MHz+5MHz		0.0481	7M58G7D	0.0447	7M54W7D
5MHz+3MHz		0.0485	7M58G7D	0.0451	7M56W7D
5MHz+10MHz		0.0482	13M9G7D	0.0450	14M0W7D
10MHz+5MHz		0.0489	13M9G7D	0.0453	13M9W7D
10MHz+10MHz		0.0490	18M7G7D	0.0466	18M8W7D

LTE Band CA_66B		QPSK		16QAM/64QAM/256QAM	
BW (MHz)		Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+5MHz		0.1327	9M31G7D	0.1230	9M33W7D
5MHz+10MHz		0.1340	13M9G7D	0.1239	13M9W7D
5MHz+15MHz		0.1334	18M3G7D	0.1247	18M2W7D
10MHz+5MHz		0.1330	13M9G7D	0.1245	13M9W7D
10MHz+10MHz		0.1352	18M8G7D	0.1274	18M7W7D
15MHz+5MHz		0.1343	18M2G7D	0.1262	18M3W7D



LTE Band CA_66C	QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
5MHz+20MHz	0.1390	23M4G7D	0.1291	23M1W7D
10MHz+15MHz	0.1403	23M6G7D	0.1288	23M7W7D
10MHz+20MHz	0.1390	28M2G7D	0.1309	28M1W7D
15MHz+10MHz	0.1409	23M7G7D	0.1297	23M5W7D
15MHz+15MHz	0.1384	28M7G7D	0.1300	28M5W7D
15MHz+20MHz	0.1429	32M9G7D	0.1330	32M8W7D
20MHz+5MHz	0.1416	23M3G7D	0.1324	23M3W7D
20MHz+10MHz	0.1416	28M4G7D	0.1297	28M3W7D
20MHz+15MHz	0.1435	33M0G7D	0.1343	32M9W7D
20MHz+20MHz	0.1455	37M8G7D	0.1358	37M8W7D

Note:

1. 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.
2. LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2 (for main PA), LTE Band 2 additional test other PA.

1.7 Testing Location

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

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

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-KS	AUDIX	E3	6.2009-8-24al



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, 22(H), 24(E), 27(L), 90(S)
- 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

Accessories Information				
AC Adapter	Brand Name	Motorola(Salom)	Model Name	MC-301
Base Battery	Brand Name	Motorola (ATL)	Model Name	PM29
Flip Battery	Brand Name	Motorola (ATL)	Model Name	PV11
USB Cable 1	Brand Name	Motorola(Cabletech)	Model Name	SC18D13216
USB Cable 2	Brand Name	Motorola(Luxshare)	Model Name	SC18D13217
USB Cable 3	Brand Name	Motorola(Saibao)	Model Name	SC18D13215
USB Cable 4	Brand Name	Motorola(Saibao)	Model Name	SC18D86732



2 Re-use of Measured Data

2.1 Introduction Section

This application re-uses data collected on a similar device. The subject device of this application (Model: XT2323-2,XT2323-5,XT2323-6, FCC ID: IHDT56AL9) is electrically identical to the reference device (Model: XT2323-1, FCC ID: IHDT56AL8) for the portions of the circuitry corresponding to the data being re-used. Based on their similarity, the FCC Part 22(LTE Band 5/26)/90S(LTE B26) (equipment class: PCE) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.

The applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID: IHDT56AL9.

2.2 Model Difference Information

The **main** difference between FCC ID: IHDT56AL8 and FCC ID: IHDT56AL9 is as below:

- Remove LTE B19/32/42/43/38C, 5G NR n8/n38/n40.
- Add LTE B14/29/30/46/71/5B/66B/48C, 5G NR n12/n14/n25/n29/n30/n48/n70/n71;

Other differences and all the details of similarity and difference can be found in the confidential documents (XT2323-2,XT2323-5,XT2323-6_Operational Description of Product Equality Declaration).



2.3 Reference detail Section:

Rule Part	Equipment Class	Frequency Band (MHz)	Reference FCC ID (Parent)	Type Grant/Permissive Change	Reference Title	FCC ID Filling (Variant)	Report Title/Section
22,	PCE (LTE)	Band 5/26	IHDT56AL8	Original Grant	FG340401B	IHDT56AL9	All sections applicable
90S	PCE (LTE)	Band 26	IHDT56AL8	Original Grant	FG340401D	IHDT56AL9	All sections applicable

Note: LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 26 as well as Band 5.

2.4 Spot Check Verification Data Section

Conducted power test and radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model

Summary for power and RSE spot check for each rule entry and technology is listed as below:

Test Item	Mode	IHDT56AL8 Parent Worst Result	IHDT56AL9 Variant Check Result	Difference (dB)
Conducted Power (dBm)	Band 26H	22.67	22.62	-0.05
	Band 26(90S)	22.64	22.54	-0.10

Note: For the RSE spot check, we select the worst mode across all LTE bands from parent report for comparison testing, the spot check data is in variant report No. FG340401-01G(LTE B48).

Conclusion:

Radiated spurious emission test against the variant model based on the worst-case condition from the original model was performed in this filing to demonstrate the test data from original model remains representative for the variant model.

Based on the spot check test result, the test data from the original model is representative for the variant model. The power level and RSE spot check are shown within expected level compliant to limit line.

We are using power and ERP measurements from the original parent model reports to list on the grant.

We confirm that the test data reuse policy of FCC KDB 484596 D01 Referencing Test Data v01 has been followed and the test data as referenced from the parent model report represents compliance with new FCC ID.



3 Test Configuration of Equipment Under Test

3.1 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.

For radiated measurement, pre-scanned flip open and close state in three orthogonal panels X, Y, Z. The worst cases (X plane with flip close, Z plane with flip open) were recorded in this report.

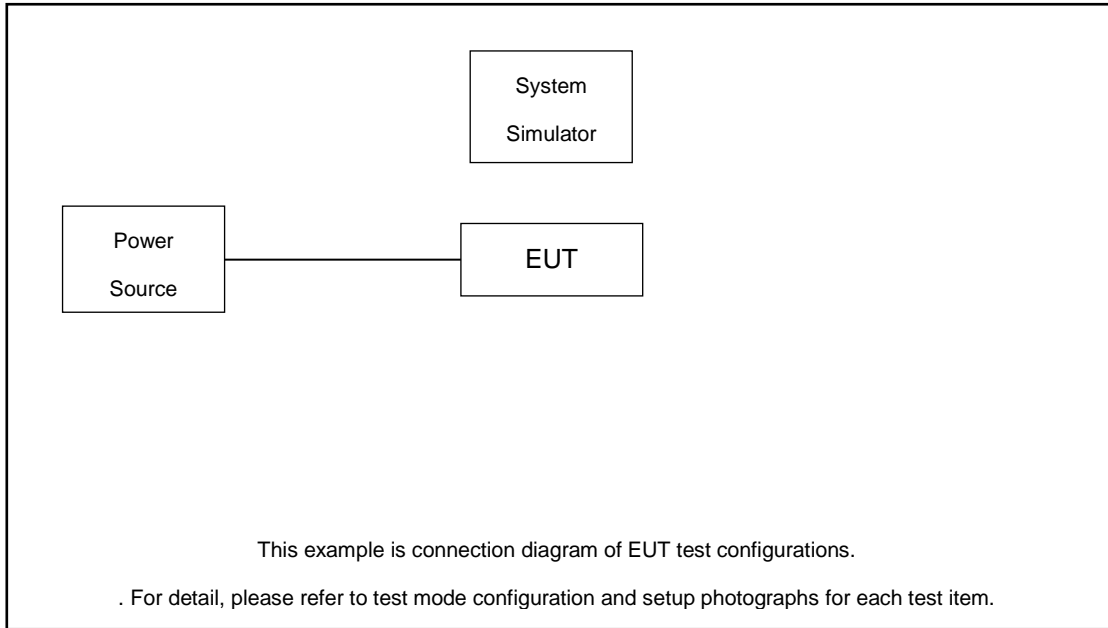
Test Items	Band	Bandwidth (MHz)						Modulation				RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
	25	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
	66	v	v	v	v	v	v	v	v	v	v	v		v	v	v	v
Peak-to-Average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



Test Items	Band	Bandwidth (MHz)								Modulation				RB #			Test Channel		
		10+10	15+5	5+15	10+5	5+10	5+5	5+3	3+5	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	5B_CA	v	-	-	v	v	-	v	v	v	v	v	v	v			v	v	v
	66B_CA	v	v	v	v	v	v	-	-	v	v	v	v	v			v	v	v
26dB and 99% Bandwidth	5B_CA	v	-	-	v	v	-	v	v	v	v						v	v	v
	66B_CA	v	v	v	v	v	v	-	-	v	v						v	v	v
Conducted Band Edge	5B_CA	v	-	-	v	v	-	v	v	v	v	v	v	v			v	v	v
	66B_CA	v	v	v	v	v	v	-	-	v	v	v	v	v			v	v	v
Conducted Spurious Emission	5B_CA	v	-	-	v	v	-	v	v	v							v	v	v
	66B_CA	v	v	v	v	v	v	-	-	v							v	v	v
E.I.R.P.	5B_CA	v	-	-	v	v	-	v	v	v	v	v	v	v			v	v	v
	66B_CA	v	v	v	v	v	v	-	-	v	v	v	v	v			v	v	v
Radiated Spurious Emission	5B_CA	Worst Case															v	v	v
	66B_CA	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&256QAM mode by referring to the higher conducted power 																		

Test Items	Band	Bandwidth (MHz)										Modulation				RB #			Test Channel		
		20+20	20+15	20+10	20+5	15+20	15+15	15+10	10+20	10+15	5+20	QPSK	16QAM	64QAM	256QAM	1	Half	Full	L	M	H
Max. Output Power	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v
26dB and 99% Bandwidth	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v						v	v	v
Conducted Band Edge	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v			v	v	v	
Conducted Spurious Emission	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v						v	v	v
E.I.R.P.	66C_CA	v	v	v	v	v	v	v	v	v	v	v	v	v	v				v	v	v
Radiated Spurious Emission	66C_CA	Worst Case															v	v	v		
Note	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing 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&256QAM mode by referring to the higher conducted power 																				

3.2 Connection Diagram of Test System



3.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	Base Station	Anritsu	MT8820/8821	Fcc DoC	N/A	Unshielded, 1.8 m

3.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

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

Following shows an offset computation example with cable loss 5.4 dB.

Example :

$$\begin{aligned} \text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 5.4 \text{ (dB)} \end{aligned}$$



3.5 Frequency List of Low/Middle/High Channels

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

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



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

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



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

LTE Band 26(90S) Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	26740	-
	Frequency	-	819	-
5	Channel	26715	26740	26765
	Frequency	816.5	819	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819	823.3

LTE Band 26 Cross-rule Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	-	Middle	-
15	Channel	-	26790	-
	Frequency	-	824	-
10	Channel	-	26790	-
	Frequency	-	824	-
5	Channel	-	26790	-
	Frequency	-	824	-
3	Channel	-	26790	-
	Frequency	-	824	-
1.4	Channel	-	26790	-
	Frequency	-	824	-



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 5B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest	
3 + 5	PCC	Channel	20416	20501	20586
		Frequency	825.6	834.1	842.6
	SCC	Channel	20455	20540	20625
		Frequency	829.5	838.0	846.5
5 + 3	PCC	Channel	20425	20510	20595
		Frequency	826.5	835.0	843.5
	SCC	Channel	20464	20549	20634
		Frequency	830.4	838.9	847.4
5 + 10	PCC	Channel	20428	20478	20528
		Frequency	826.8	831.8	836.8
	SCC	Channel	20500	20550	20600
		Frequency	834	839	844
10 + 5	PCC	Channel	20450	20500	20550
		Frequency	829	834	839
	SCC	Channel	20522	20572	20622
		Frequency	836.2	841.2	846.2
10 + 10	PCC	Channel	20450	20476	20501
		Frequency	829	831.6	834.1
	SCC	Channel	20549	20575	20600
		Frequency	838.9	841.5	844



LTE Band 66B_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
5 + 5	PCC	Channel	131997	132398	132599
		Frequency	1712.5	1752.6	1772.7
	SCC	Channel	132045	132446	132647
		Frequency	1717.3	1757.4	1777.5
5 + 10	PCC	Channel	132000	132375	132550
		Frequency	1712.8	1750.3	1767.8
	SCC	Channel	132072	132447	132622
		Frequency	1720	1757.5	1775
10 + 5	PCC	Channel	132022	132397	132572
		Frequency	1715	1752.5	1770
	SCC	Channel	132094	132469	132644
		Frequency	1722.2	1759.7	1777.2
5 + 15	PCC	Channel	132002	132353	132504
		Frequency	1713	1748.1	1763.2
	SCC	Channel	132095	132446	132597
		Frequency	1722.3	1757.4	1772.5
15 + 5	PCC	Channel	132047	132398	132549
		Frequency	1717.5	1752.6	1767.7
	SCC	Channel	132140	132491	132642
		Frequency	1726.8	1761.9	1777
10 + 10	PCC	Channel	132022	132373	132523
		Frequency	1715	1750.1	1765.1
	SCC	Channel	132121	132472	132622
		Frequency	1724.9	1760	1775



LTE Band 66C_CA Channel and Frequency List					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 15	PCC	Channel	132025	132351	132477
		Frequency	1715.3	1747.9	1760.5
	SCC	Channel	132145	132471	132597
		Frequency	1727.3	1759.9	1772.5
15 + 10	PCC	Channel	132047	132373	132499
		Frequency	1717.5	1750.1	1762.7
	SCC	Channel	132167	132493	132619
		Frequency	1729.5	1762.1	1774.7
10 + 20	PCC	Channel	132027	132328	132428
		Frequency	1715.5	1745.6	1755.6
	SCC	Channel	132171	132472	132572
		Frequency	1729.9	1760	1770
20 + 10	PCC	Channel	132072	132373	132473
		Frequency	1720	1750.1	1760.1
	SCC	Channel	132216	132517	132617
		Frequency	1734.4	1764.5	1774.5
15 + 15	PCC	Channel	132047	132347	132447
		Frequency	1717.5	1747.5	1757.5
	SCC	Channel	132197	132497	132597
		Frequency	1732.5	1762.5	1772.5
15 + 20	PCC	Channel	132050	132325	132401
		Frequency	1717.8	1745.3	1752.9
	SCC	Channel	132221	132496	132572
		Frequency	1734.9	1762.4	1770
20 + 15	PCC	Channel	132072	132348	132423
		Frequency	1720	1747.6	1755.1
	SCC	Channel	132243	132519	132594
		Frequency	1737.1	1764.7	1772.2
20 + 5	PCC	Channel	132072	132397	132522
		Frequency	1720	1752.5	1765
	SCC	Channel	132189	132514	132639
		Frequency	1731.7	1764.2	1776.7
5 + 20	PCC	Channel	132005	132330	132455
		Frequency	1713.3	1745.8	1758.3



	SCC	Channel	132122	132447	132572
		Frequency	1725	1757.5	1770
20 + 20	PCC	Channel	132072	132323	132374
		Frequency	1720	1745.1	1750.2
	SCC	Channel	132270	132521	132572
		Frequency	1739.8	1764.9	1770

4 Conducted Test Items

4.1 Measuring Instruments

See list of measuring instruments of this test report.

4.2 Test Setup

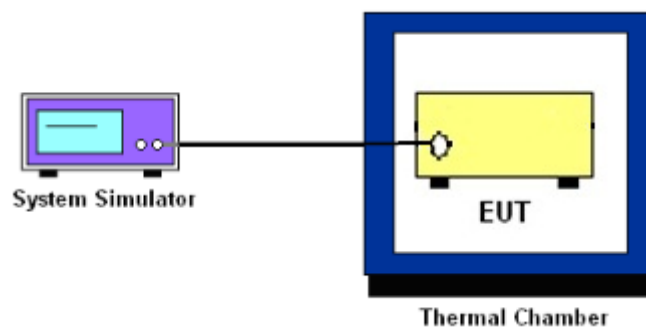
4.2.1 Conducted Output Power



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



4.2.3 Frequency Stability



4.3 Test Result of Conducted Test

Please refer to Appendix A.



4.4 Conducted Output Power and ERP/EIRP

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

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

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

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

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

4.4.2 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.



4.5 Peak-to-Average Ratio

4.5.1 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.

4.5.2 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.



4.6 Occupied Bandwidth

4.6.1 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.

4.6.2 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.



4.7 Conducted Band Edge

4.7.1 Description of Conducted Band Edge Measurement

22.917(a)

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

24.238 (a)

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

27.53 (h)

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



4.7.2 Test Procedures

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

Example:

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

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

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

9. 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.



4.8 Conducted Spurious Emission

4.8.1 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.

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

4.8.2 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 + 10log(P)] (dB)
= [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
= -13dBm.



4.9 Frequency Stability

4.9.1 Description of Frequency Stability Measurement

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

4.9.2 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.

4.9.3 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.

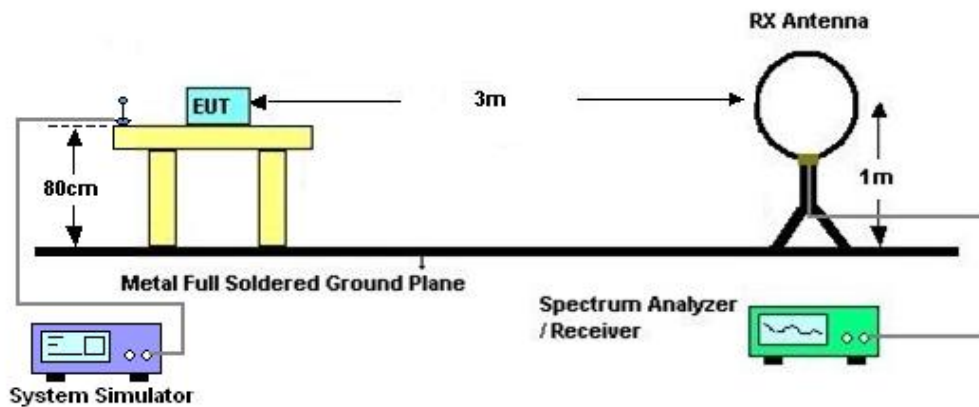
5 Radiated Test Items

5.1 Measuring Instruments

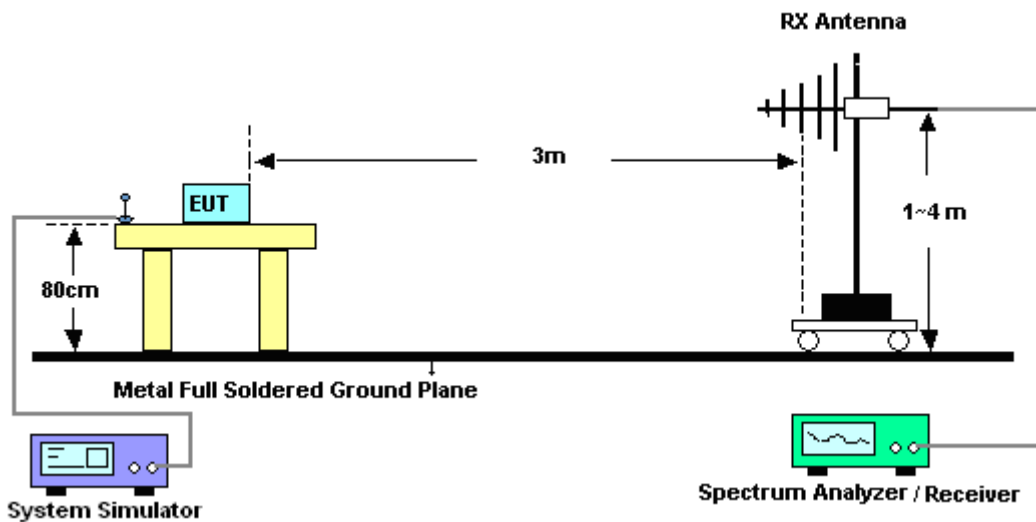
See list of measuring instruments of this test report.

5.2 Test Setup

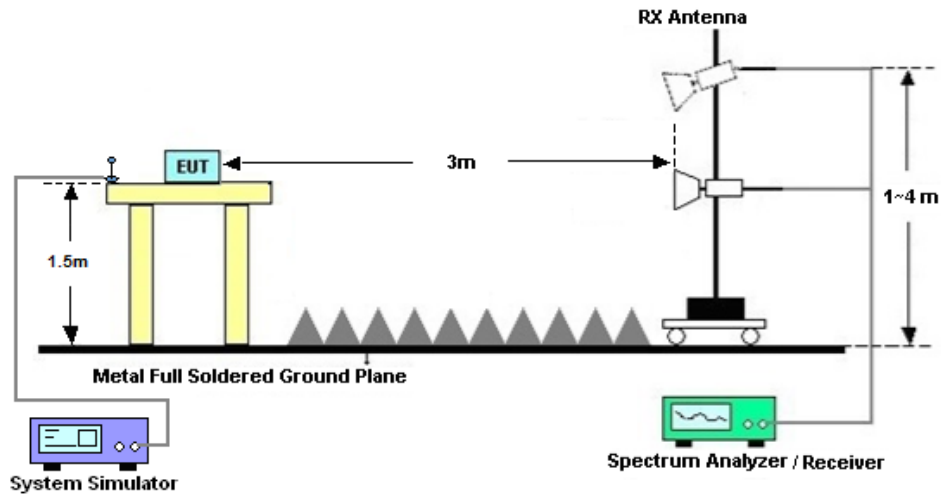
5.2.1 For radiated test below 30MHz



5.2.2 For radiated test from 30MHz to 1GHz



5.2.3 For radiated test above 1GHz



5.3 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.



5.4 Radiated Spurious Emission

5.4.1 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.

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

5.4.2 Test Procedures

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

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



6 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Oct. 12, 2022	Apr. 25, 2023~ May 19, 2023	Oct. 11, 2023	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	Aug. 26, 2022	Apr. 25, 2023~ May 19, 2023	Aug. 25, 2023	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 15, 2022	Apr. 25, 2023~ May 19, 2023	Jul. 14, 2023	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz~44G,MAX 30dB	Oct. 12, 2022	May 25, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 16, 2022	May 25, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	May 25, 2023	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 16, 2022	May 25, 2023	Oct. 15, 2023	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 08, 2023	May 25, 2023	Jan. 07, 2024	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 11, 2022	May 25, 2023	Jul. 10, 2023	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40G GA	060728	18~40GHz	Jan. 05, 2023	May 25, 2023	Jan. 04, 2024	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18G A	060840	1Ghz-18Ghz	Oct. 12, 2022	May 25, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 12, 2022	May 25, 2023	Oct. 11, 2023	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	May 25, 2023	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	May 25, 2023	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	May 25, 2023	NCR	Radiation (03CH04-KS)

NCR: No Calibration Required



7 Measurement Uncertainty

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	±0.46 dB
Conducted Emissions	±0.48 dB
Occupied Channel Bandwidth	±0.1 %

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.82dB
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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))	3.56dB
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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))	3.54dB
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Appendix A. Test Results of Conducted Test

Test Engineer :	Simle Wang	Temperature :	22~23°C
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and EIRP

LTE Band 2-Ant 3									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				18700	18900	19100			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	22.50	22.57	22.48	0.1413	0.1435	0.1406
20	QPSK	1	99	22.44	22.44	22.40	0.1393	0.1393	0.1380
20	QPSK	100	0	22.39	22.48	22.35	0.1377	0.1406	0.1365
20	16QAM	1	0	22.36	22.43	22.29	0.1368	0.1390	0.1346
20	64QAM	1	0	22.27	22.29	22.24	0.1340	0.1346	0.1330
20	256QAM	1	0	19.08	19.29	19.12	0.0643	0.0675	0.0649
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	22.30	22.32	22.35	0.1349	0.1355	0.1365
15	16QAM	1	0	22.11	22.16	22.06	0.1291	0.1306	0.1276
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	22.28	22.32	22.23	0.1343	0.1355	0.1327
10	16QAM	1	0	22.28	22.18	22.20	0.1343	0.1312	0.1318
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	22.40	22.41	22.28	0.1380	0.1384	0.1343
5	16QAM	1	0	22.14	22.39	22.14	0.1300	0.1377	0.1300
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	22.29	22.53	22.24	0.1346	0.1422	0.1330
3	16QAM	1	0	22.24	22.38	22.13	0.1330	0.1374	0.1297
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	22.32	22.53	22.35	0.1355	0.1422	0.1365
1.4	16QAM	1	0	22.28	22.24	22.23	0.1343	0.1330	0.1327



LTE Band 4-Ant 3									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300			
Frequency (MHz)				1720	1732.5	1745	L	M	H
20	QPSK	1	0	22.62	22.68	22.56	0.1452	0.1472	0.1432
20	QPSK	1	99	22.47	22.51	22.35	0.1403	0.1416	0.1365
20	QPSK	100	0	22.53	22.57	22.50	0.1422	0.1435	0.1413
20	16QAM	1	0	22.48	22.48	22.47	0.1406	0.1406	0.1403
20	64QAM	1	0	22.06	22.16	21.99	0.1276	0.1306	0.1256
20	256QAM	1	0	19.19	19.26	19.22	0.0659	0.0670	0.0664
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	22.55	22.65	22.52	0.1429	0.1462	0.1419
15	16QAM	1	0	22.35	22.35	22.35	0.1365	0.1365	0.1365
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	22.40	22.48	22.52	0.1380	0.1406	0.1419
10	16QAM	1	0	22.26	22.29	22.26	0.1337	0.1346	0.1337
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	22.50	22.42	22.44	0.1413	0.1387	0.1393
5	16QAM	1	0	22.26	22.30	22.41	0.1337	0.1349	0.1384
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	22.45	22.42	22.31	0.1396	0.1387	0.1352
3	16QAM	1	0	22.37	22.36	22.37	0.1371	0.1368	0.1371
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	22.52	22.54	22.41	0.1419	0.1426	0.1384
1.4	16QAM	1	0	22.21	22.24	22.38	0.1321	0.1330	0.1374



LTE Band 25-Ant 3									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				26140	26340	26590			
Frequency (MHz)				1860	1880	1905	L	M	H
20	QPSK	1	0	22.57	22.65	22.52	0.1435	0.1462	0.1419
20	QPSK	1	99	22.47	22.42	22.39	0.1403	0.1387	0.1377
20	QPSK	100	0	22.46	22.56	22.43	0.1400	0.1432	0.1390
20	16QAM	1	0	22.47	22.53	22.37	0.1403	0.1422	0.1371
20	64QAM	1	0	22.04	22.12	22.09	0.1271	0.1294	0.1285
20	256QAM	1	0	19.11	19.26	18.98	0.0647	0.0670	0.0628
Channel				26115	26340	26615	EIRP(W)		
Frequency (MHz)				1857.5	1880	1907.5	L	M	H
15	QPSK	1	0	22.46	22.55	22.30	0.1400	0.1429	0.1349
15	16QAM	1	0	22.29	22.48	22.20	0.1346	0.1406	0.1318
Channel				26090	26340	26640	EIRP(W)		
Frequency (MHz)				1855	1880	1910	L	M	H
10	QPSK	1	0	22.51	22.56	22.49	0.1416	0.1432	0.1409
10	16QAM	1	0	22.35	22.44	22.21	0.1365	0.1393	0.1321
Channel				26065	26340	26665	EIRP(W)		
Frequency (MHz)				1852.5	1880	1912.5	L	M	H
5	QPSK	1	0	22.30	22.44	22.30	0.1349	0.1393	0.1349
5	16QAM	1	0	22.34	22.28	22.16	0.1361	0.1343	0.1306
Channel				26055	26340	26675	EIRP(W)		
Frequency (MHz)				1851.5	1880	1913.5	L	M	H
3	QPSK	1	0	22.50	22.60	22.37	0.1413	0.1445	0.1371
3	16QAM	1	0	22.30	22.49	22.18	0.1349	0.1409	0.1312
Channel				26047	26340	26683	EIRP(W)		
Frequency (MHz)				1850.7	1880	1914.3	L	M	H
1.4	QPSK	1	0	22.40	22.46	22.25	0.1380	0.1400	0.1334
1.4	16QAM	1	0	22.21	22.32	22.32	0.1321	0.1355	0.1355



LTE Band 66-Ant 3									
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				132072	132322	132572	EIRP(W)		
Frequency (MHz)				1720	1745	1770	L	M	H
20	QPSK	1	0	22.62	22.74	22.66	0.1452	0.1493	0.1466
20	QPSK	1	99	22.52	22.61	22.48	0.1419	0.1449	0.1406
20	QPSK	100	0	22.53	22.62	22.49	0.1422	0.1452	0.1409
20	16QAM	1	0	22.51	22.57	22.46	0.1416	0.1435	0.1400
20	64QAM	1	0	22.13	22.12	22.14	0.1297	0.1294	0.1300
20	256QAM	1	0	19.05	19.23	19.15	0.0638	0.0665	0.0653
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	22.50	22.56	22.47	0.1413	0.1432	0.1403
15	16QAM	1	0	22.42	22.31	22.34	0.1387	0.1352	0.1361
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	22.36	22.54	22.46	0.1368	0.1426	0.1400
10	16QAM	1	0	22.45	22.36	22.20	0.1396	0.1368	0.1318
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	22.51	22.61	22.44	0.1416	0.1449	0.1393
5	16QAM	1	0	22.45	22.42	22.22	0.1396	0.1387	0.1324
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	22.55	22.66	22.53	0.1429	0.1466	0.1422
3	16QAM	1	0	22.36	22.47	22.38	0.1368	0.1403	0.1374
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	22.43	22.60	22.44	0.1390	0.1445	0.1393
1.4	16QAM	1	0	22.44	22.51	22.20	0.1393	0.1416	0.1318



CA power and ERP/EIRP

LTE Band 5B-Ant 1							
Combination 10MHz+10MHz (50RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	22.24	0.0478
M	QPSK	1	Max	1	0	22.35	0.0490
H	QPSK	1	Max	1	0	22.27	0.0481
L	16QAM	1	Max	1	0	22.00	0.0452
M	16QAM	1	Max	1	0	22.13	0.0466
H	16QAM	1	Max	1	0	22.02	0.0454
L	64QAM	1	Max	1	0	21.93	0.0445
M	64QAM	1	Max	1	0	21.95	0.0447
H	64QAM	1	Max	1	0	21.99	0.0451
L	256QAM	1	Max	1	0	18.82	0.0217
M	256QAM	1	Max	1	0	18.85	0.0219
H	256QAM	1	Max	1	0	18.79	0.0216
Combination 10MHz+5MHz (50RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.34	0.0489
M	16QAM	1	Max	1	0	22.01	0.0453
Combination 5MHz+10MHz (25RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.28	0.0482
M	16QAM	1	Max	1	0	21.98	0.0450
Combination 5MHz+3MHz (25RB+15RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.31	0.0485
M	16QAM	1	Max	1	0	21.99	0.0451
Combination 3MHz+5MHz (15RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	ERP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.27	0.0481
M	16QAM	1	Max	1	0	21.95	0.0447



LTE Band 66B-Ant 3							
Combination 10MHz+10MHz (50RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
L	QPSK	1	Max	1	0	22.22	0.1324
M	QPSK	1	Max	1	0	22.31	0.1352
H	QPSK	1	Max	1	0	22.26	0.1337
L	16QAM	1	Max	1	0	22.05	0.1274
M	16QAM	1	Max	1	0	22.02	0.1265
H	16QAM	1	Max	1	0	22.00	0.1259
L	64QAM	1	Max	1	0	21.82	0.1208
M	64QAM	1	Max	1	0	21.85	0.1216
H	64QAM	1	Max	1	0	21.80	0.1202
L	256QAM	1	Max	1	0	18.87	0.0612
M	256QAM	1	Max	1	0	18.85	0.0610
H	256QAM	1	Max	1	0	18.79	0.0601
Combination 15MHz+5MHz (75RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.28	0.1343
L	16QAM	1	Max	1	0	22.01	0.1262
Combination 5MHz+15MHz (25RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.25	0.1334
L	16QAM	1	Max	1	0	21.96	0.1247
Combination 10MHz+5MHz (50RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.24	0.1330
L	16QAM	1	Max	1	0	21.95	0.1245
Combination 5MHz+10MHz (25RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.27	0.1340
L	16QAM	1	Max	1	0	21.93	0.1239
Combination 5MHz+5MHz (25RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.23	0.1327
L	16QAM	1	Max	1	0	21.90	0.1230



LTE Band 66C-Ant 3							
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	22.50	0.1413
M	QPSK	1	Max	1	0	22.63	0.1455
H	QPSK	1	Max	1	0	22.59	0.1442
L	16QAM	1	Max	1	0	22.33	0.1358
M	16QAM	1	Max	1	0	22.31	0.1352
H	16QAM	1	Max	1	0	22.28	0.1343
L	64QAM	1	Max	1	0	22.14	0.1300
M	64QAM	1	Max	1	0	22.15	0.1303
H	64QAM	1	Max	1	0	22.13	0.1297
L	256QAM	1	Max	1	0	19.20	0.0661
M	256QAM	1	Max	1	0	19.15	0.0653
H	256QAM	1	Max	1	0	19.17	0.0656
Combination 20MHz+15MHz (100RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.57	0.1435
L	16QAM	1	Max	1	0	22.28	0.1343
Combination 15MHz+20MHz (75RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.55	0.1429
L	16QAM	1	Max	1	0	22.24	0.1330
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	22.41	0.1384
L	16QAM	1	Max	1	0	22.14	0.1300
Combination 20MHz+10MHz (100RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.51	0.1416
L	16QAM	1	Max	1	0	22.13	0.1297
Combination 10MHz+20MHz (50RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.43	0.1390
L	16QAM	1	Max	1	0	22.17	0.1309
Combination 15MHz+10MHz (75RB+50RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.49	0.1409



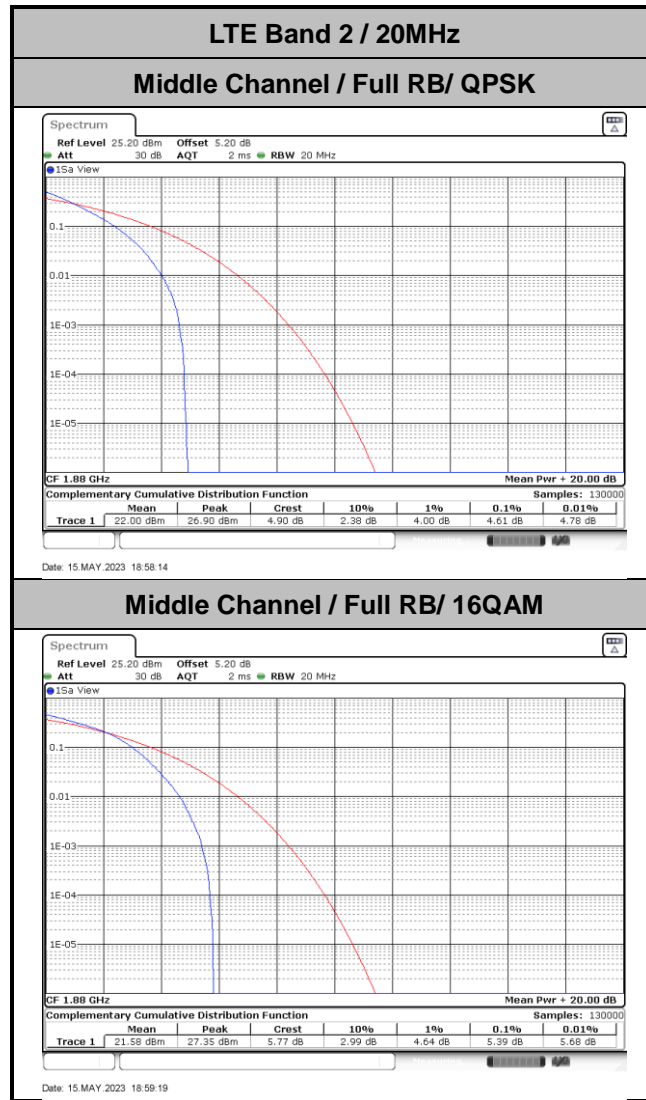
L	16QAM	1	Max	1	0	22.13	0.1297
Combination 10MHz+15MHz (50RB+75RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.47	0.1403
L	16QAM	1	Max	1	0	22.10	0.1288
Combination 20MHz+5MHz (100RB+25RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.51	0.1416
L	16QAM	1	Max	1	0	22.22	0.1324
Combination 5MHz+20MHz (25RB+100RB)							
Channel	Modulation	PCC		SCC		Measured Power	EIRP(W)
		RB Size	RB offset	RB Size	RB offset		
M	QPSK	1	Max	1	0	22.43	0.1390
L	16QAM	1	Max	1	0	22.11	0.1291

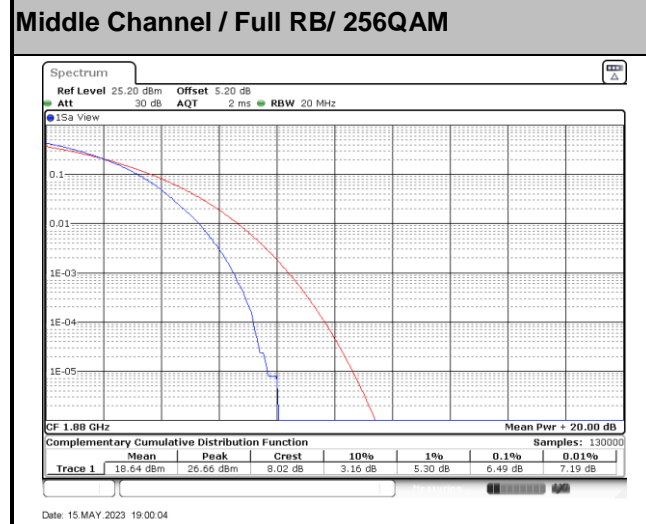
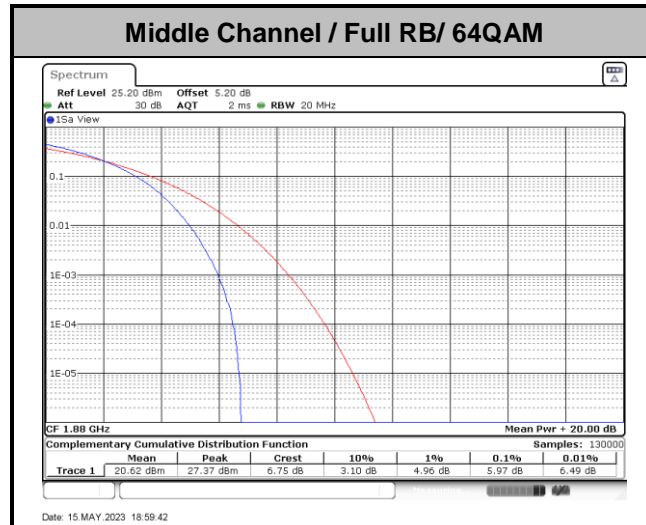


LTE Band 2 for Other PA

Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK	16QAM	64QAM	256QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Full RB	Result
Middle CH	4.61	5.39	5.97	6.49	PASS







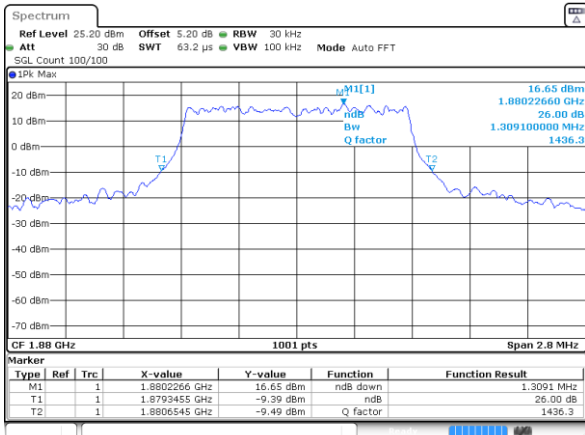
26dB Bandwidth

Mode	LTE Band 2 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.31	1.33
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	3.07	3.15
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	5.11	5.06
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.81	10.17
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	14.57	14.72
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	18.98	19.46



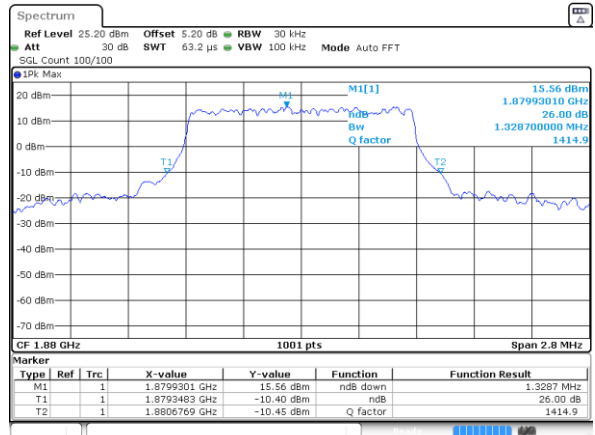
LTE Band 2

Middle Channel / 1.4MHz / QPSK



Date: 15 MAY 2023 19:03:13

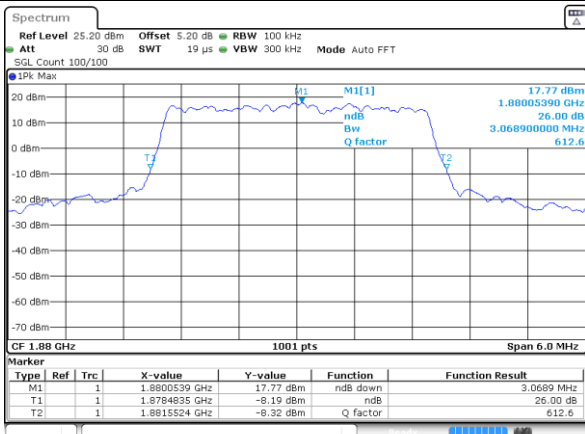
Middle Channel / 1.4MHz / 16QAM



Date: 15 MAY 2023 19:03:35

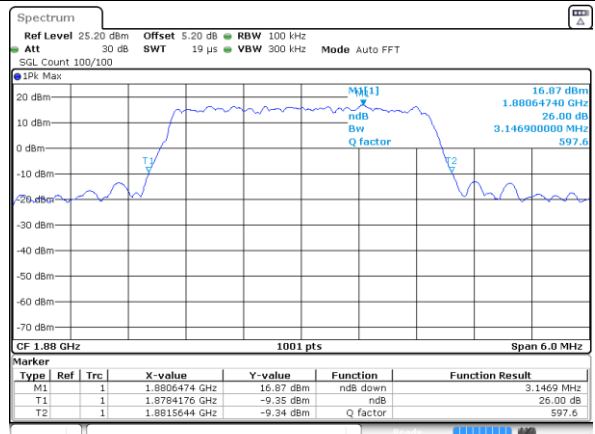
LTE Band 2

Middle Channel / 3MHz / QPSK



Date: 15 MAY 2023 19:04:38

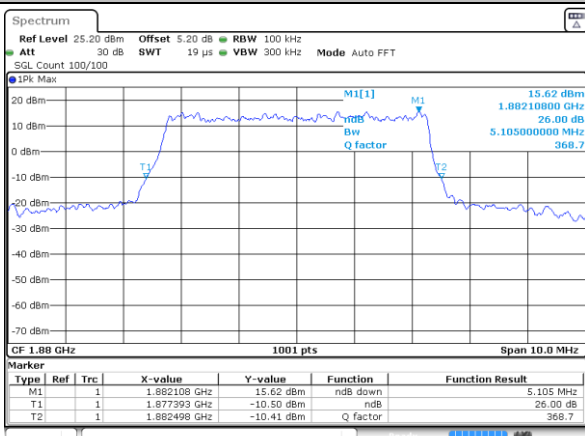
Middle Channel / 3MHz / 16QAM



Date: 15 MAY 2023 19:04:59

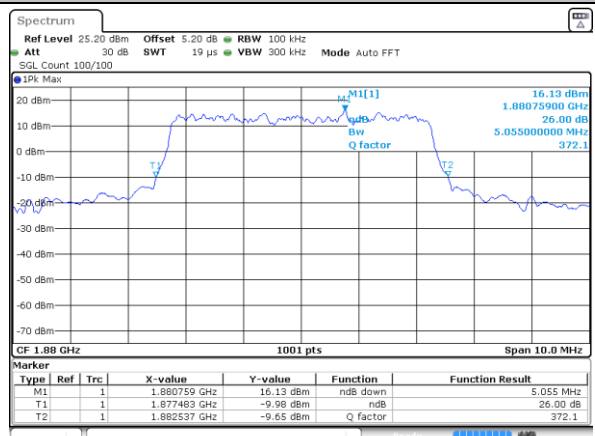
LTE Band 2

Middle Channel / 5MHz / QPSK



Date: 15 MAY 2023 19:06:03

Middle Channel / 5MHz / 16QAM

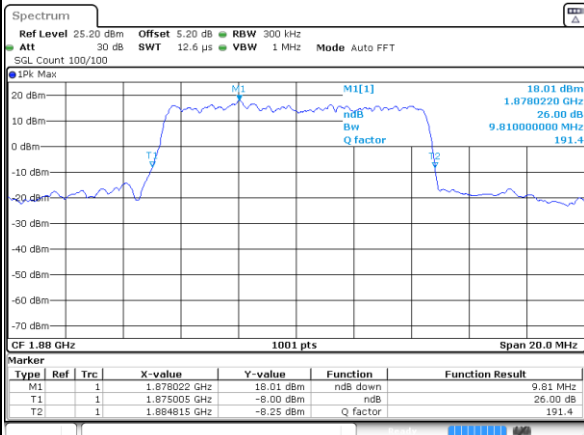


Date: 15 MAY 2023 19:06:24



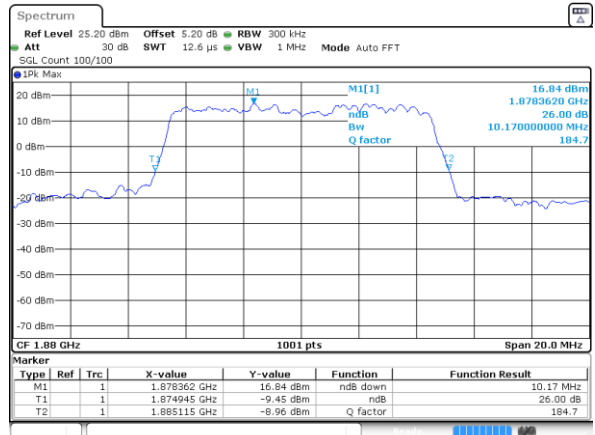
LTE Band 2

Middle Channel / 10MHz / QPSK



Date: 15 MAY 2023 19:07:28

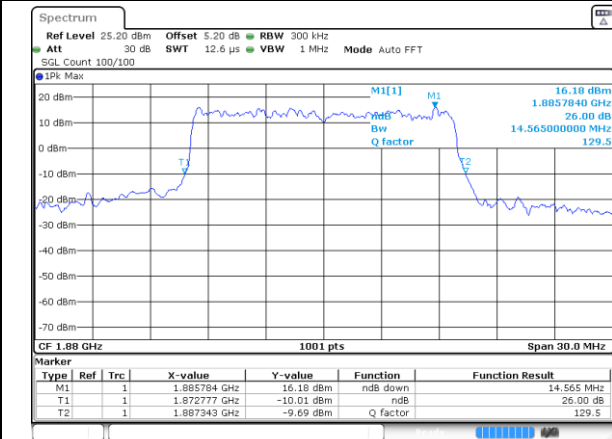
Middle Channel / 10MHz / 16QAM



Date: 15 MAY 2023 19:07:49

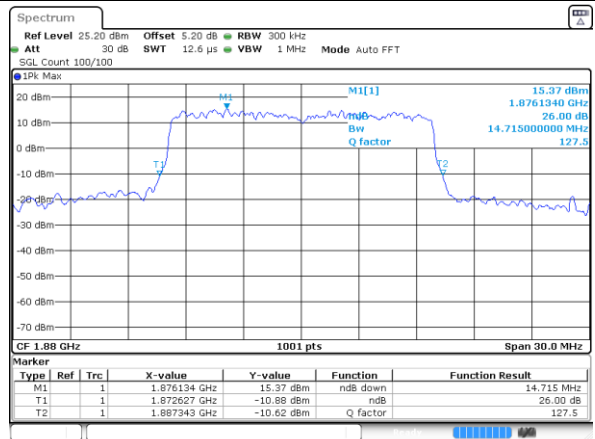
LTE Band 2

Middle Channel / 15MHz / QPSK



Date: 15 MAY 2023 19:08:53

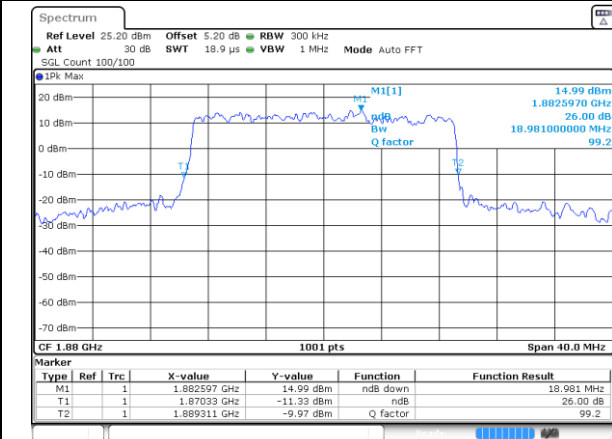
Middle Channel / 15MHz / 16QAM



Date: 15 MAY 2023 19:09:14

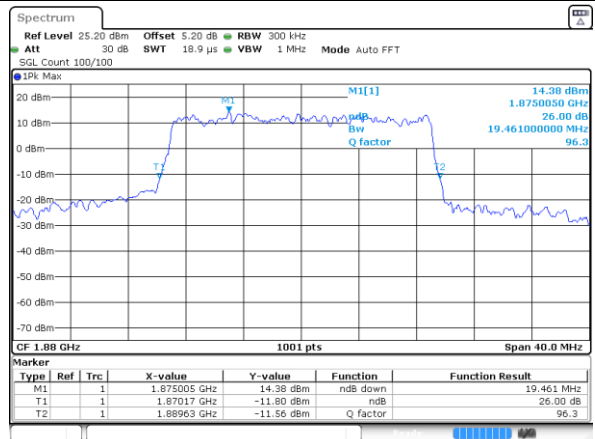
LTE Band 2

Middle Channel / 20MHz / QPSK



Date: 15 MAY 2023 18:57:30

Middle Channel / 20MHz / 16QAM



Date: 15 MAY 2023 18:58:35



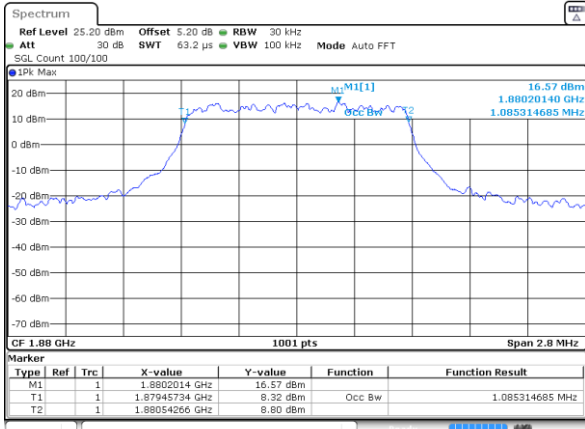
Occupied Bandwidth

Mode	LTE Band 2 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	1.09
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	2.75	2.72
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	4.50	4.50
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.07	8.99
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	13.49	13.46
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	17.86	17.98



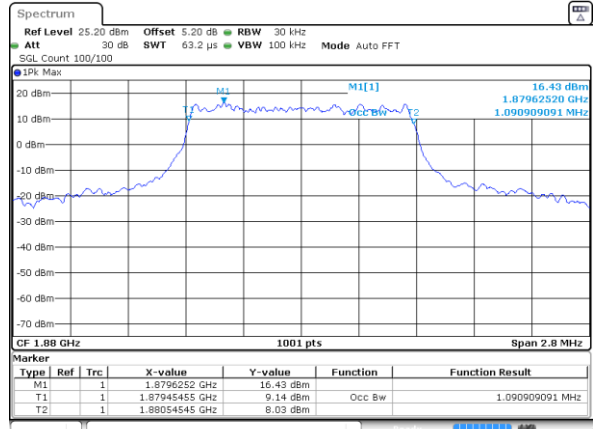
LTE Band 2

Middle Channel / 1.4MHz / QPSK



Date: 15 MAY 2023 19:02:52

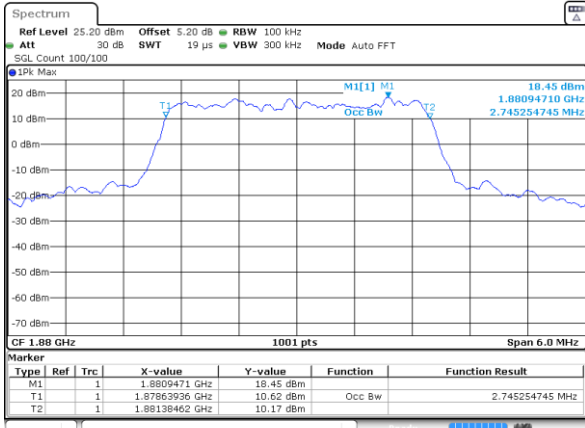
Middle Channel / 1.4MHz / 16QAM



Date: 15 MAY 2023 19:03:56

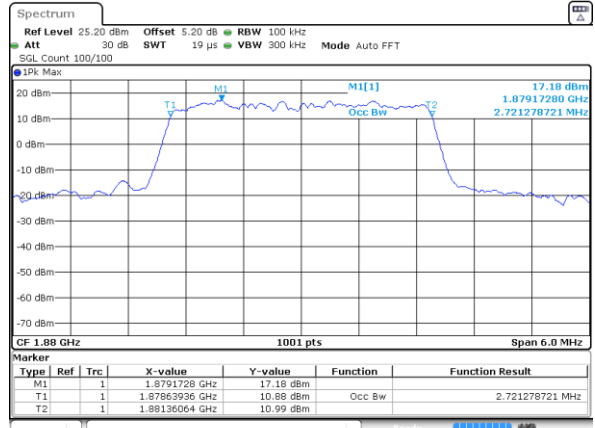
LTE Band 2

Middle Channel / 3MHz / QPSK



Date: 15 MAY 2023 19:04:17

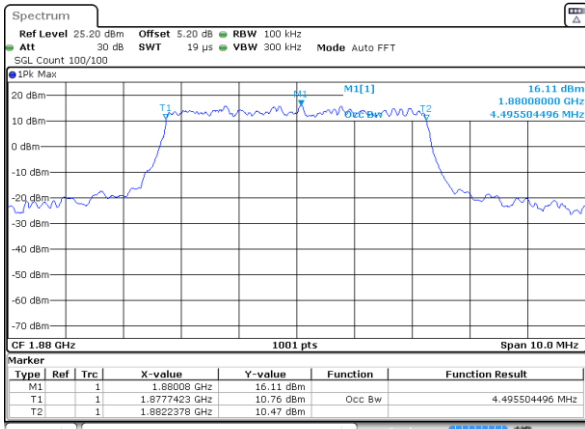
Middle Channel / 3MHz / 16QAM



Date: 15 MAY 2023 19:05:20

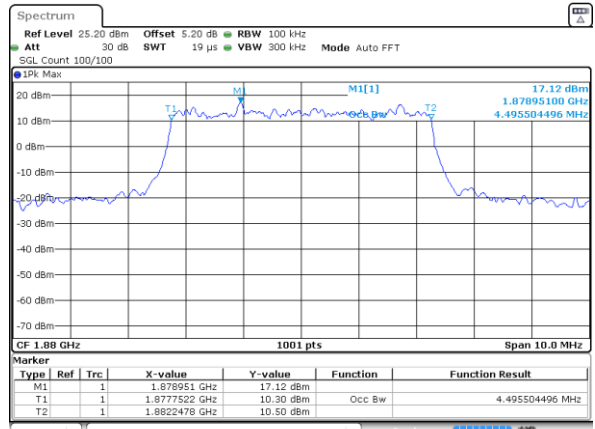
LTE Band 2

Middle Channel / 5MHz / QPSK



Date: 15 MAY 2023 19:05:42

Middle Channel / 5MHz / 16QAM

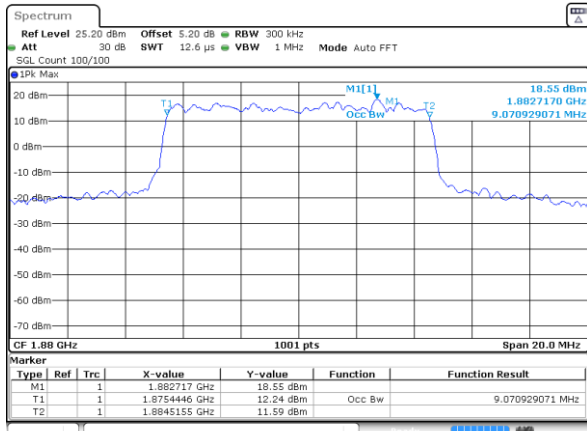


Date: 15 MAY 2023 19:06:45



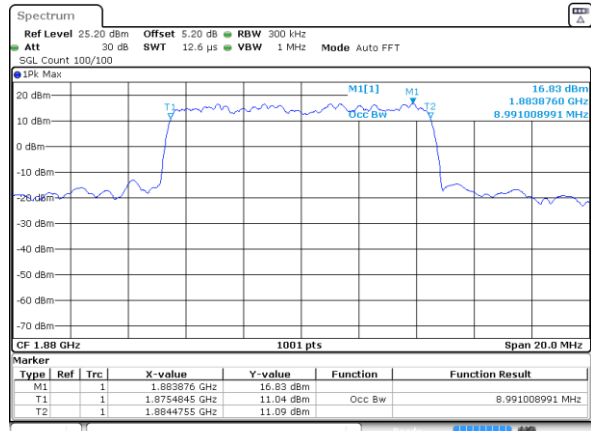
LTE Band 2

Middle Channel / 10MHz / QPSK



Date: 15 MAY 2023 19:07:07

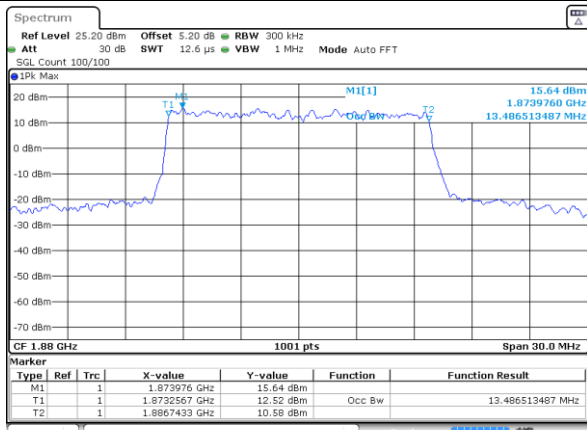
Middle Channel / 10MHz / 16QAM



Date: 15 MAY 2023 19:08:10

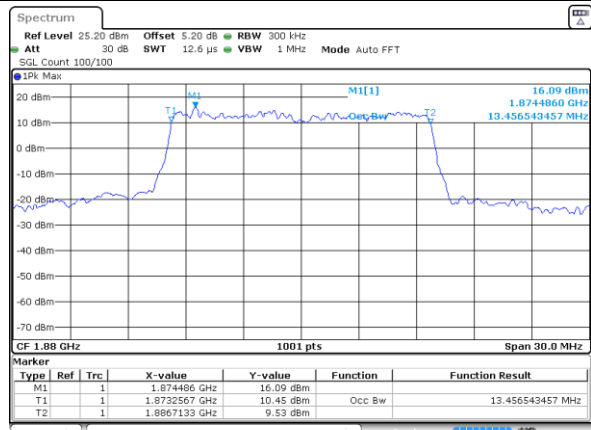
LTE Band 2

Middle Channel / 15MHz / QPSK



Date: 15 MAY 2023 19:08:32

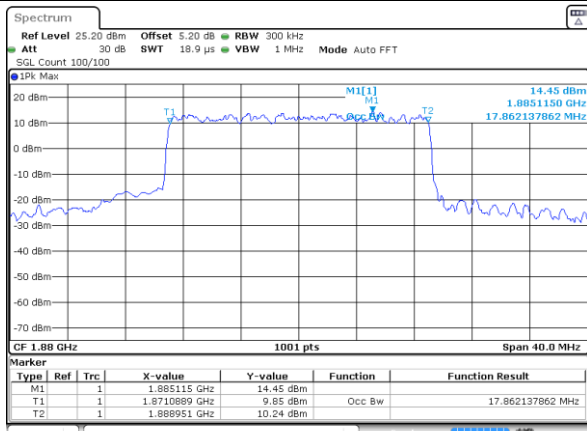
Middle Channel / 15MHz / 16QAM



Date: 15 MAY 2023 19:19:04

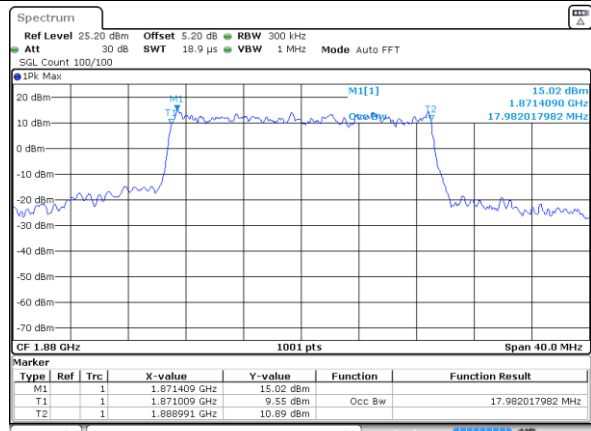
LTE Band 2

Middle Channel / 20MHz / QPSK



Date: 15 MAY 2023 18:57:52

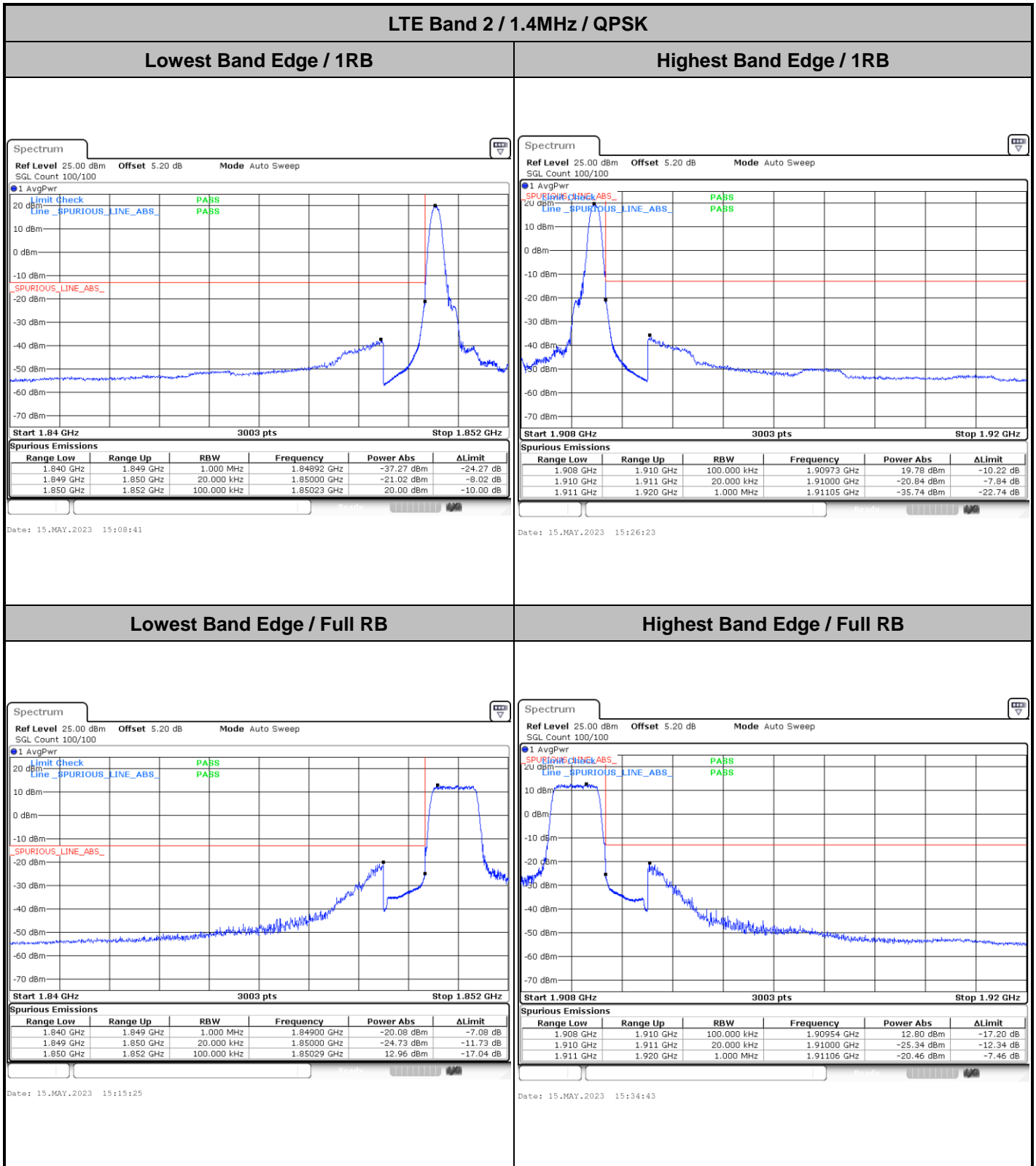
Middle Channel / 20MHz / 16QAM



Date: 15 MAY 2023 18:58:56



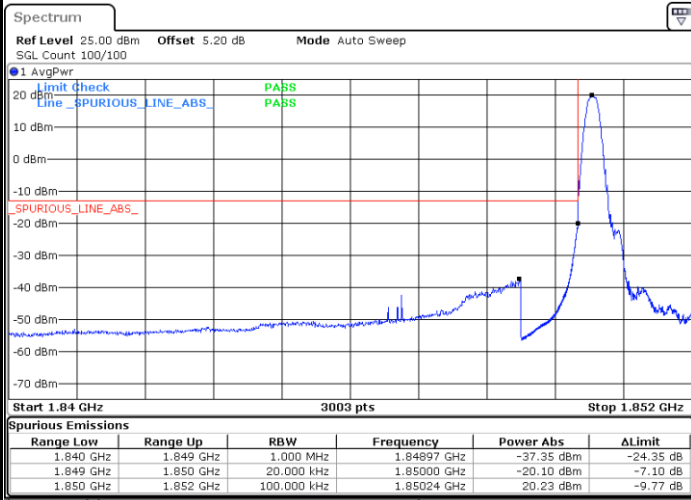
Conducted Band Edge





LTE Band 2 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB



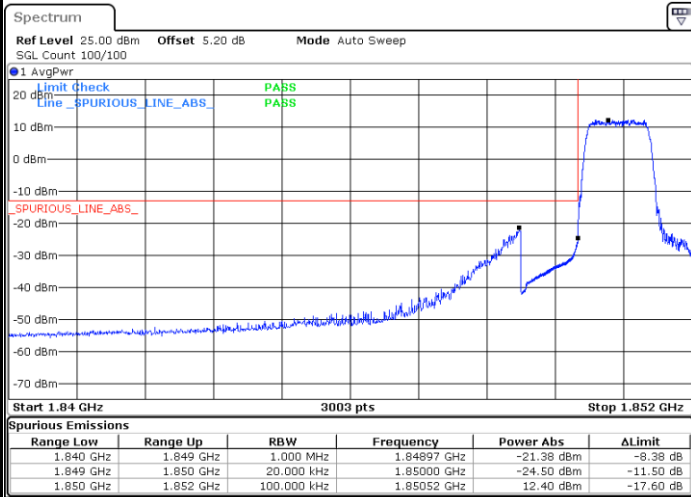
Date: 15.MAY.2023 15:10:21

Highest Band Edge / 1 RB



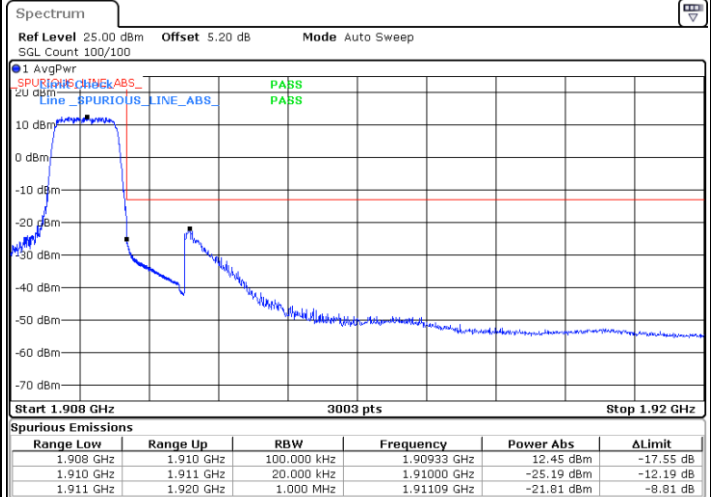
Date: 15.MAY.2023 15:28:04

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:17:06

Highest Band Edge / Full RB

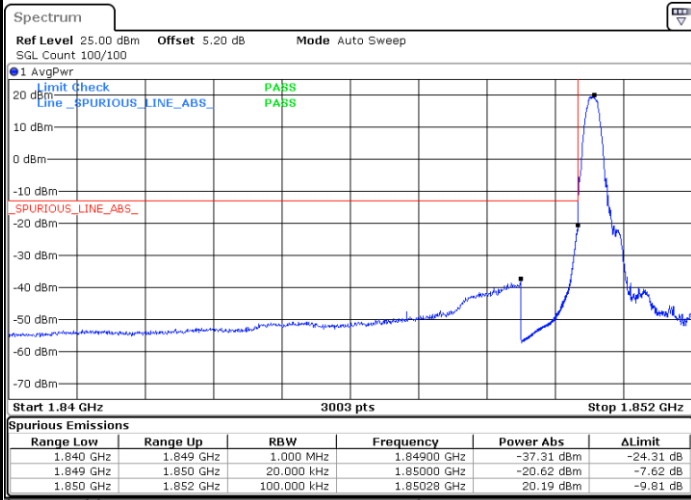


Date: 15.MAY.2023 15:36:24



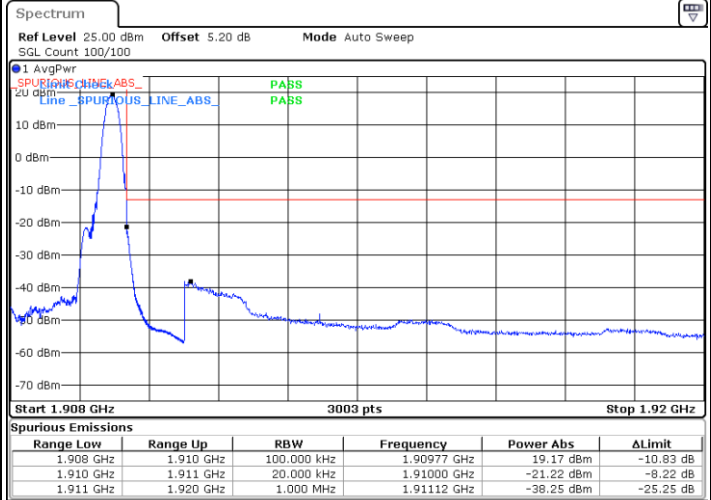
LTE Band 2 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB



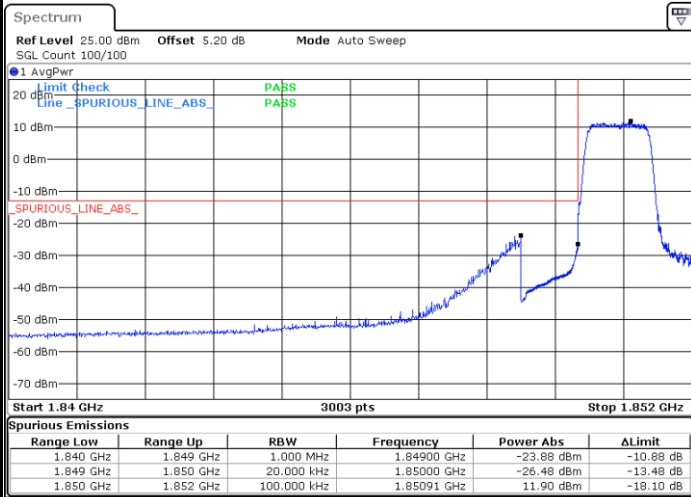
Date: 15.MAY.2023 15:12:03

Highest Band Edge / 1 RB



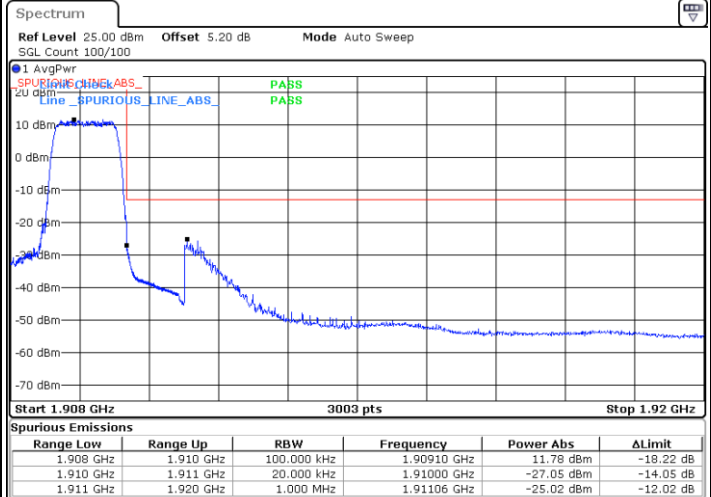
Date: 15.MAY.2023 15:29:44

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:18:46

Highest Band Edge / Full RB



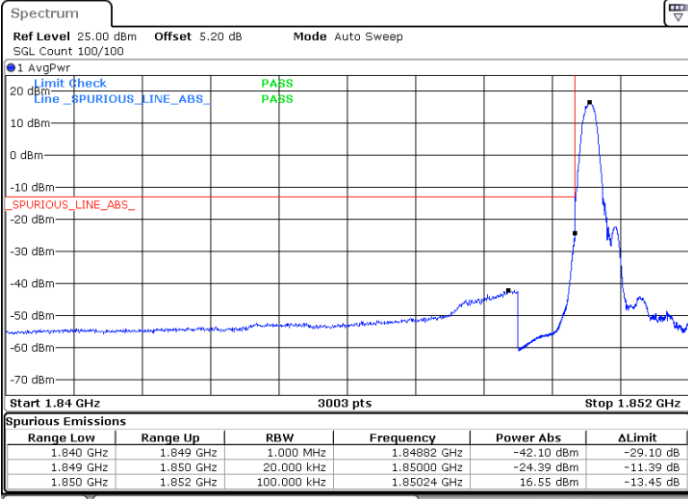
Date: 15.MAY.2023 15:38:04



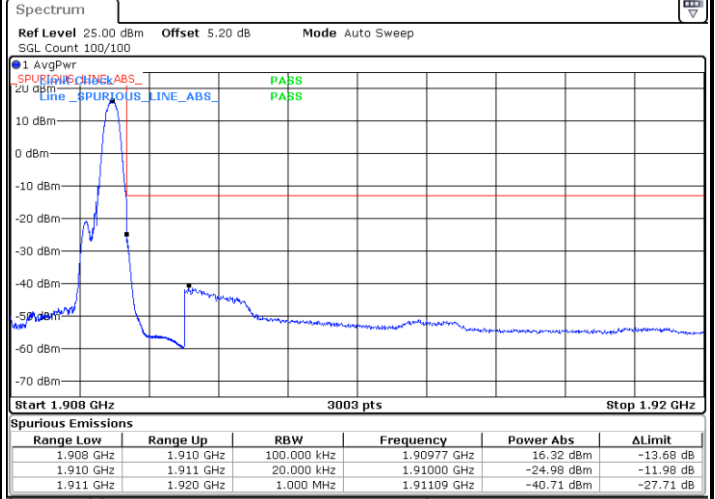
LTE Band 2 / 1.4MHz / 256QAM

Lowest Band Edge / 1 RB

Highest Band Edge / 1 RB



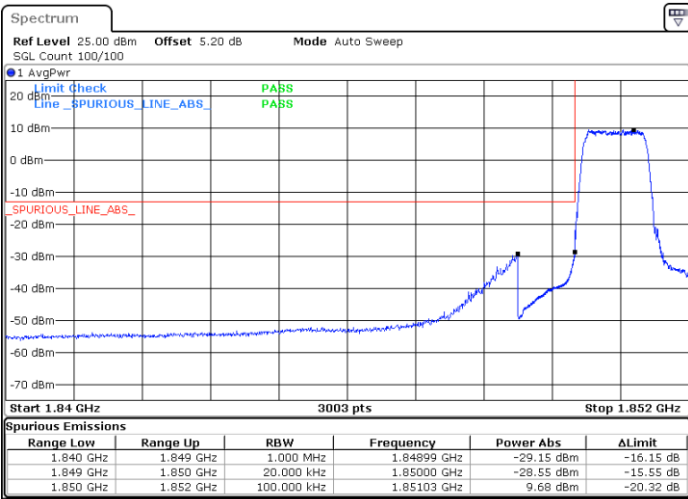
Date: 15.MAY.2023 15:13:44



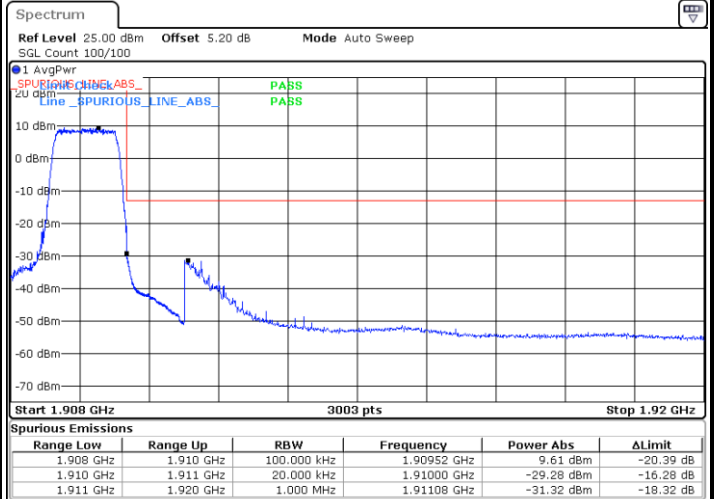
Date: 15.MAY.2023 15:33:00

Lowest Band Edge / Full RB

Highest Band Edge / Full RB



Date: 15.MAY.2023 15:20:27

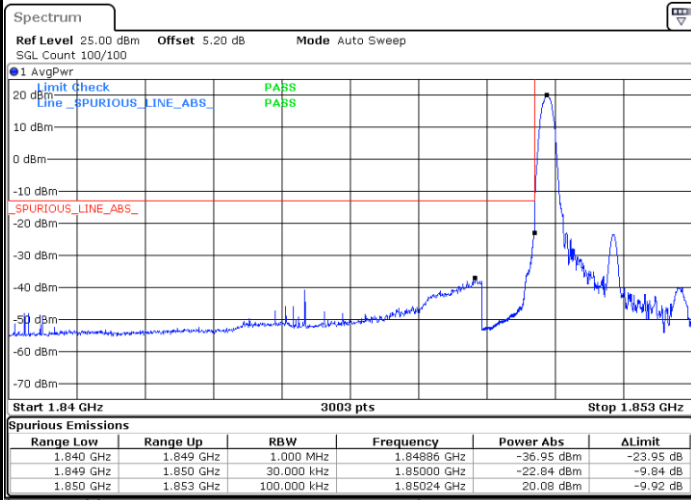


Date: 15.MAY.2023 15:39:45



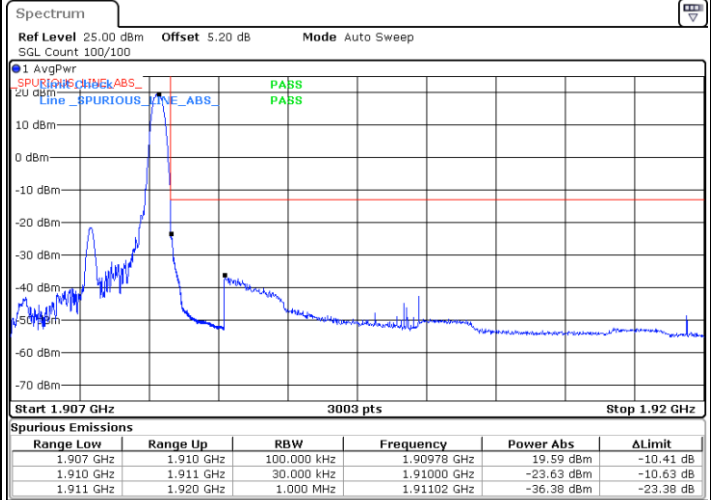
LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB



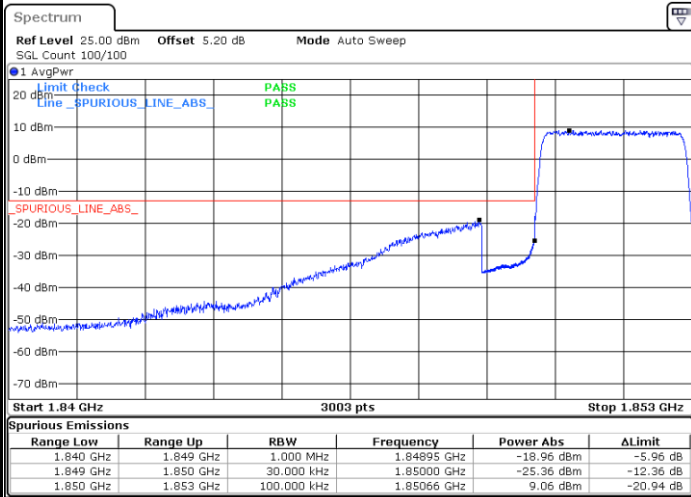
Date: 15.MAY.2023 15:44:45

Highest Band Edge / 1 RB



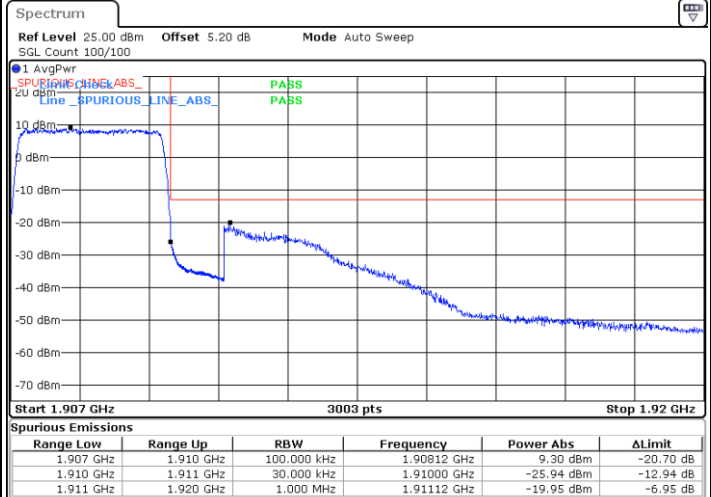
Date: 15.MAY.2023 16:00:23

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:49:47

Highest Band Edge / Full RB

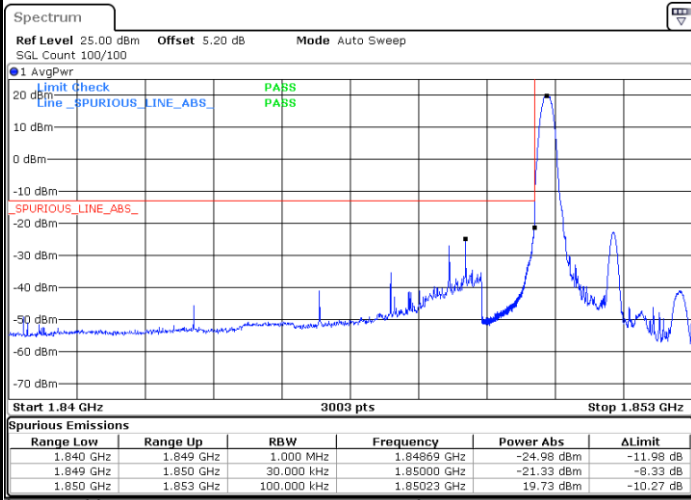


Date: 15.MAY.2023 16:04:18



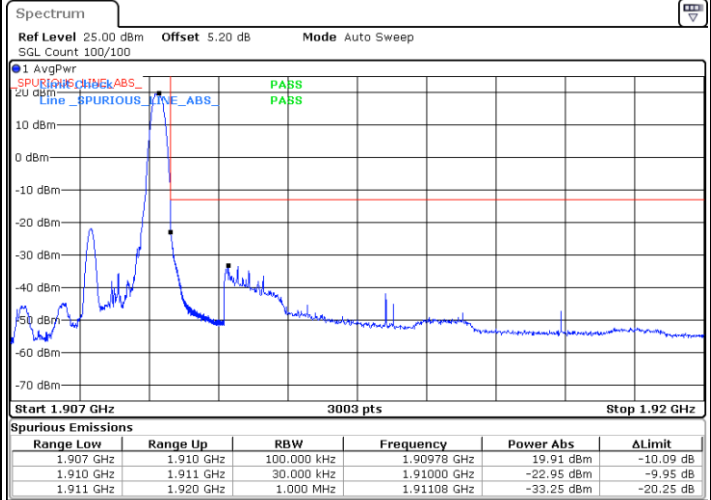
LTE Band 2 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



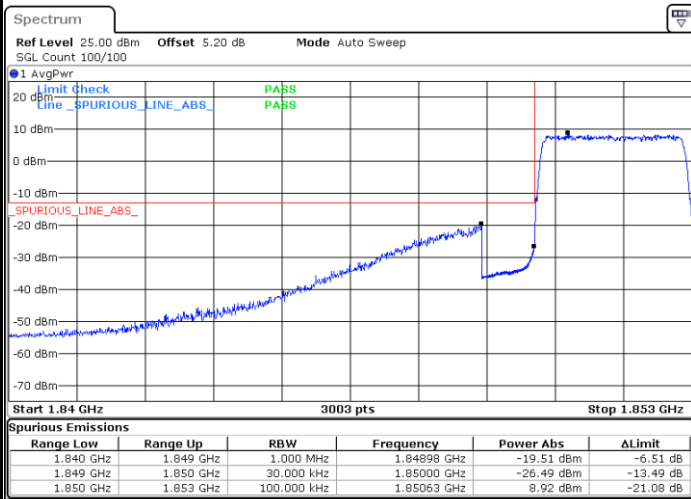
Date: 15.MAY.2023 15:53:10

Highest Band Edge / 1 RB



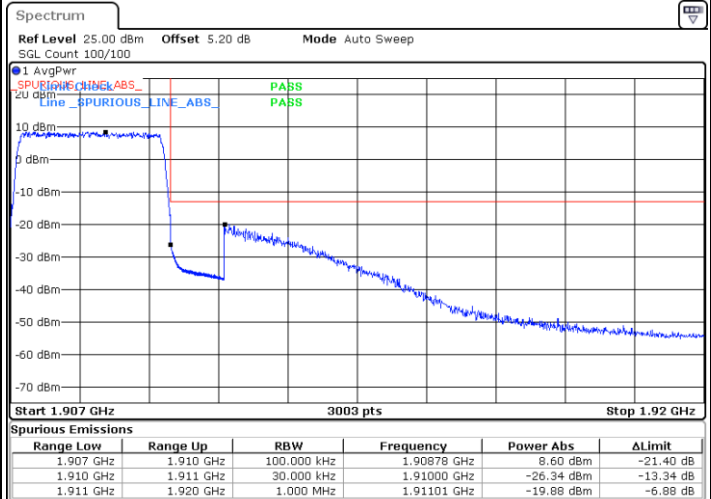
Date: 15.MAY.2023 16:01:22

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:51:03

Highest Band Edge / Full RB

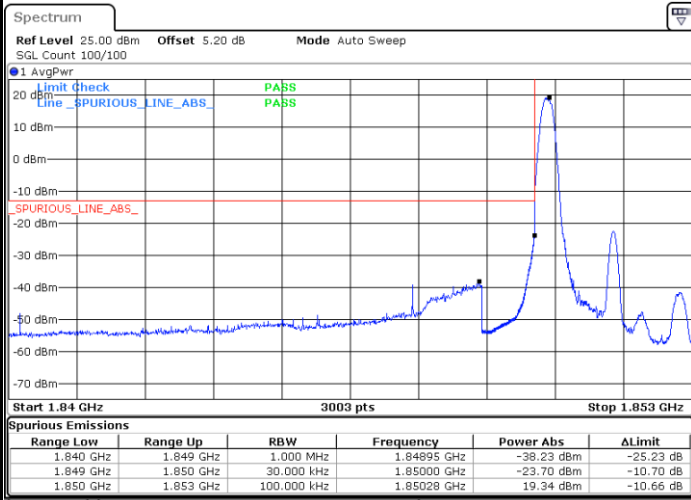


Date: 15.MAY.2023 16:05:16



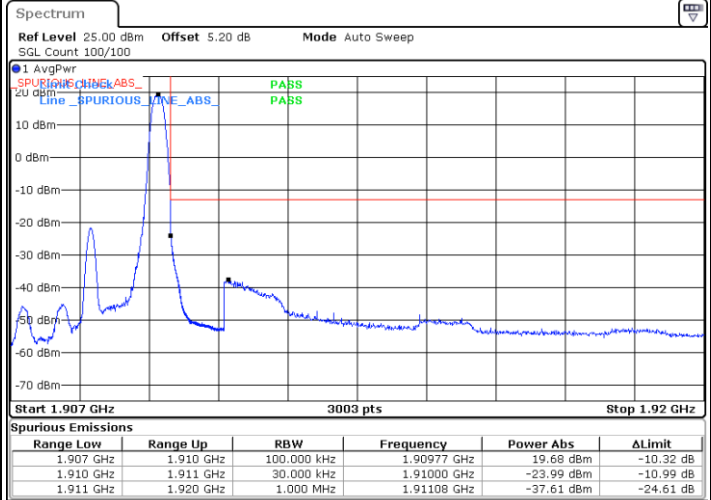
LTE Band 2 / 3MHz / 64QAM

Lowest Band Edge / 1 RB



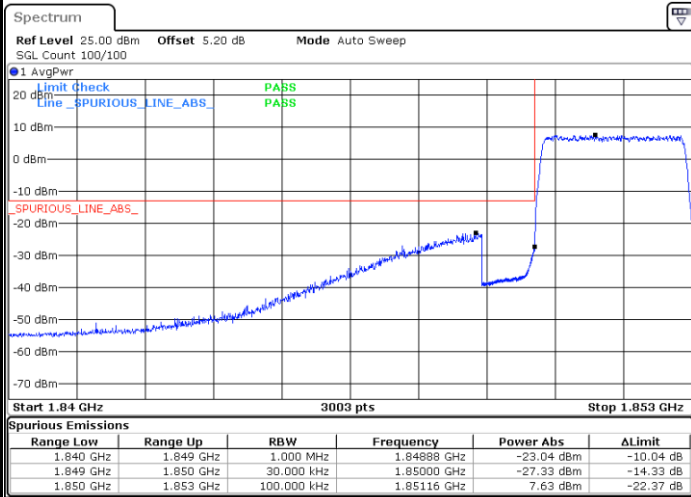
Date: 15.MAY.2023 15:47:16

Highest Band Edge / 1 RB



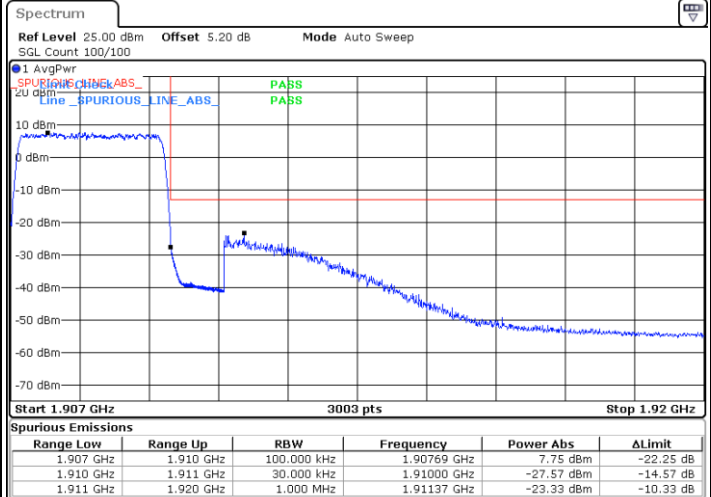
Date: 15.MAY.2023 16:02:21

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:54:11

Highest Band Edge / Full RB

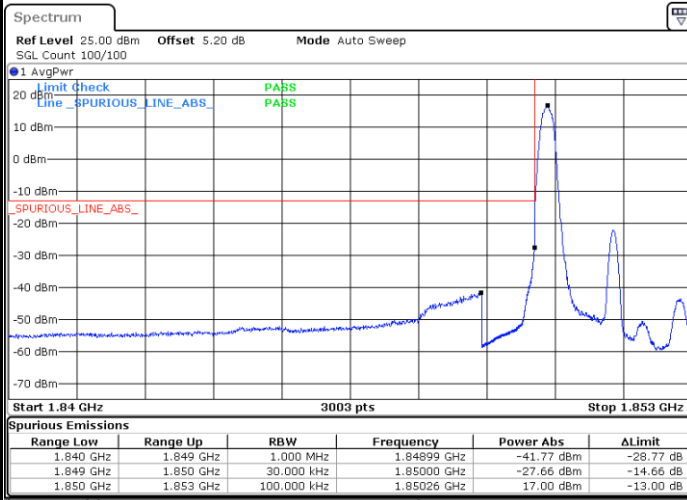


Date: 15.MAY.2023 16:06:15



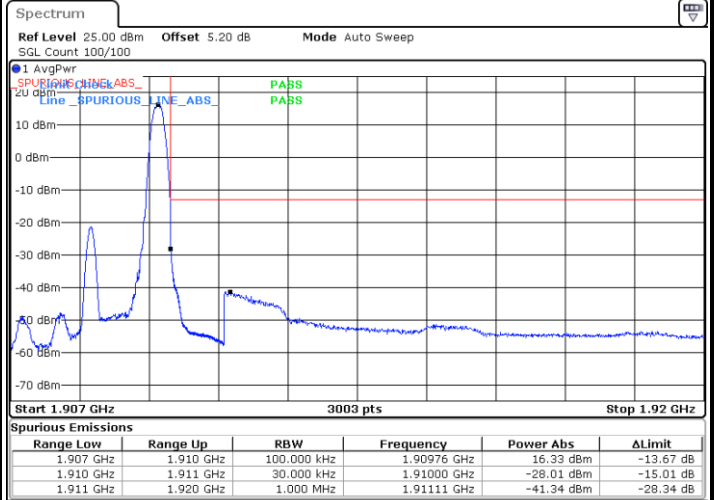
LTE Band 2 / 3MHz / 256QAM

Lowest Band Edge / 1 RB



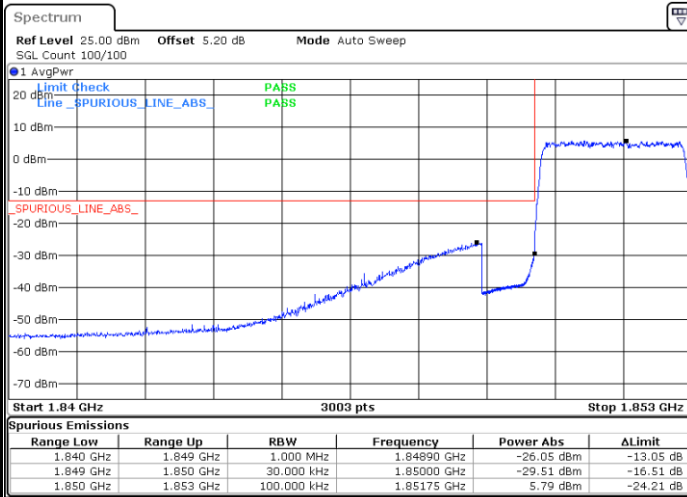
Date: 15.MAY.2023 15:48:31

Highest Band Edge / 1 RB



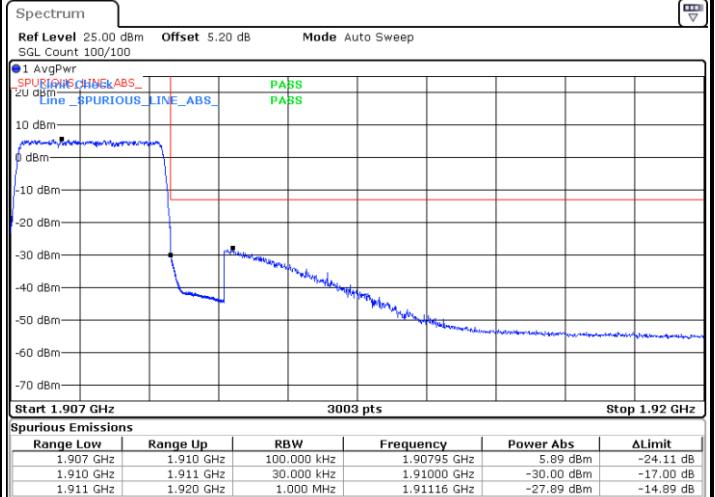
Date: 15.MAY.2023 16:03:20

Lowest Band Edge / Full RB



Date: 15.MAY.2023 15:55:09

Highest Band Edge / Full RB

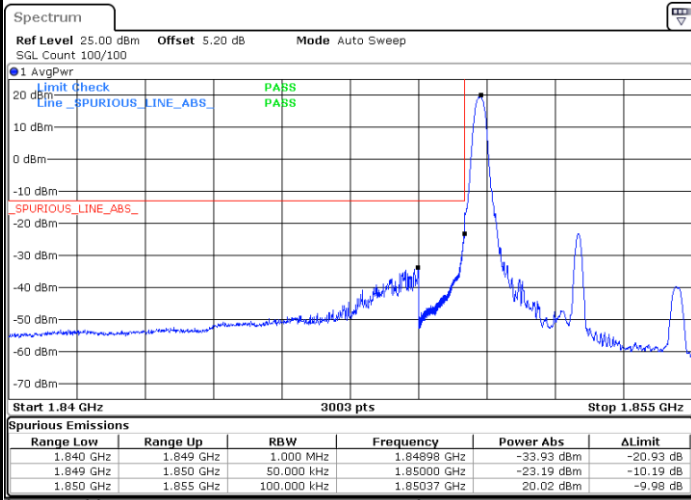


Date: 15.MAY.2023 16:07:13



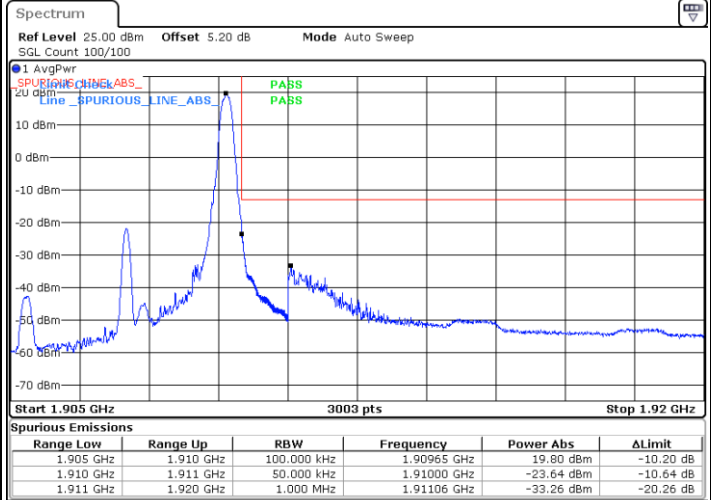
LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1 RB



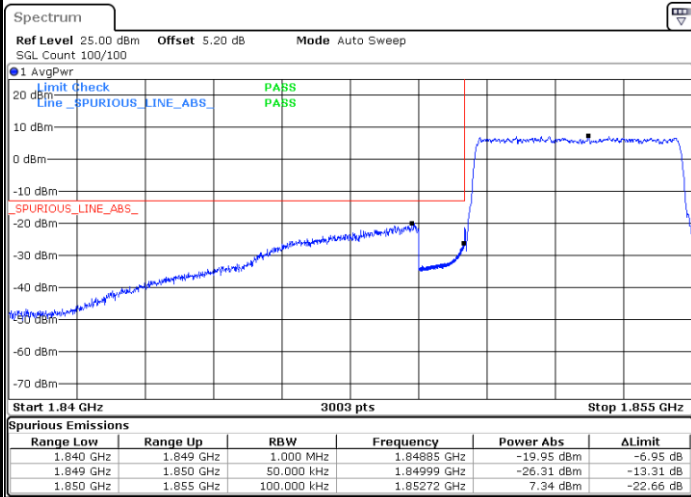
Date: 15.MAY.2023 16:12:00

Highest Band Edge / 1 RB



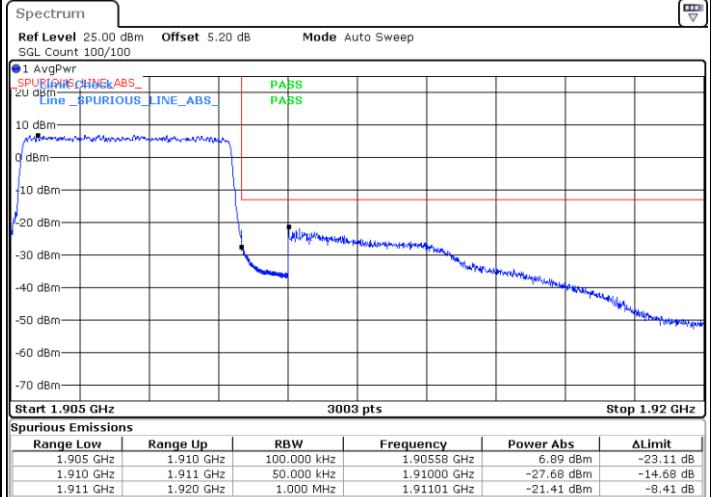
Date: 15.MAY.2023 16:23:01

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:15:24

Highest Band Edge / Full RB

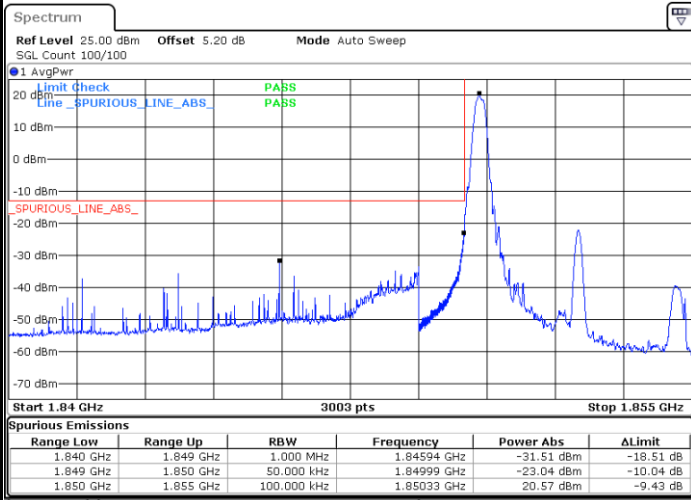


Date: 15.MAY.2023 16:26:22



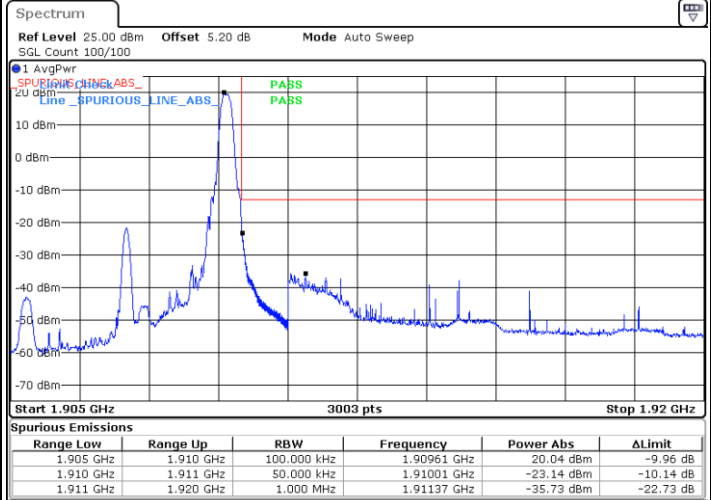
LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / 1RB



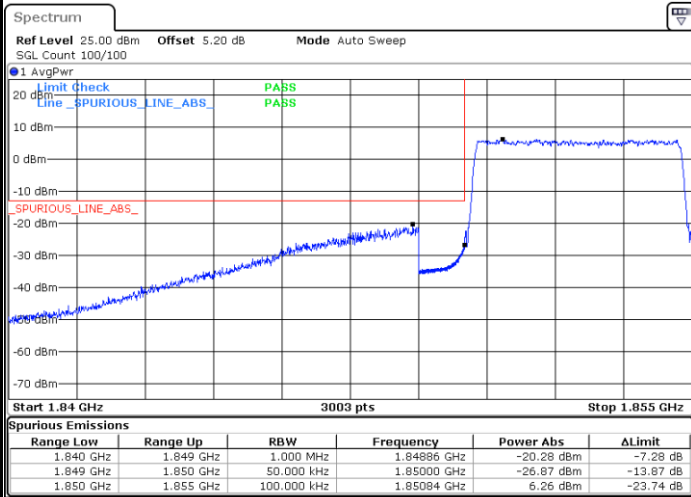
Date: 15.MAY.2023 16:12:50

Highest Band Edge / 1 RB



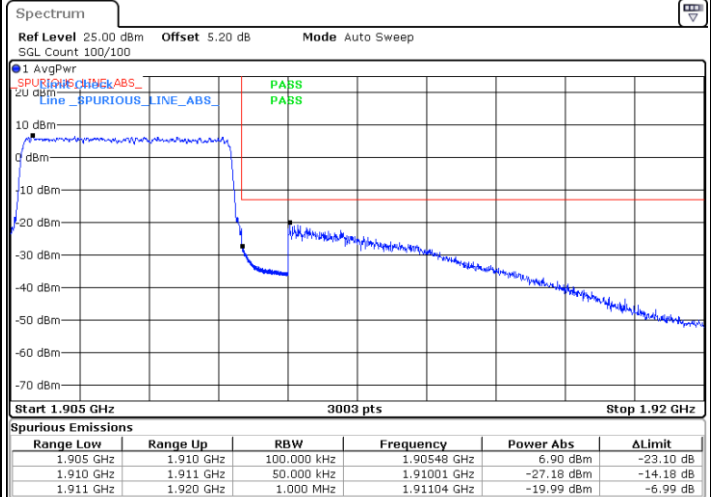
Date: 15.MAY.2023 16:23:51

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:16:14

Highest Band Edge / Full RB

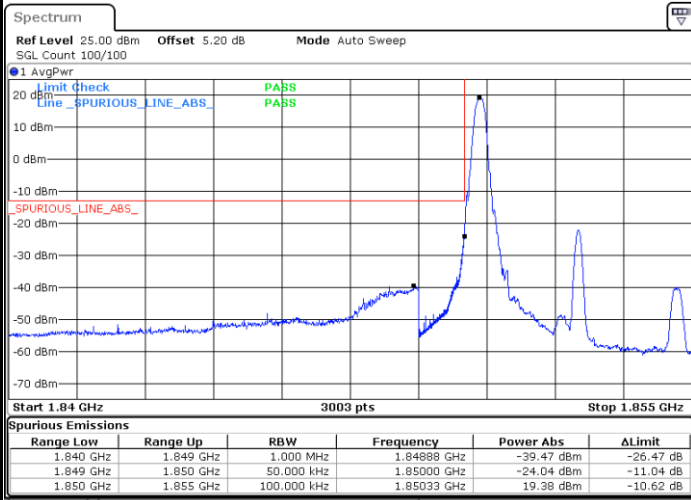


Date: 15.MAY.2023 16:27:12



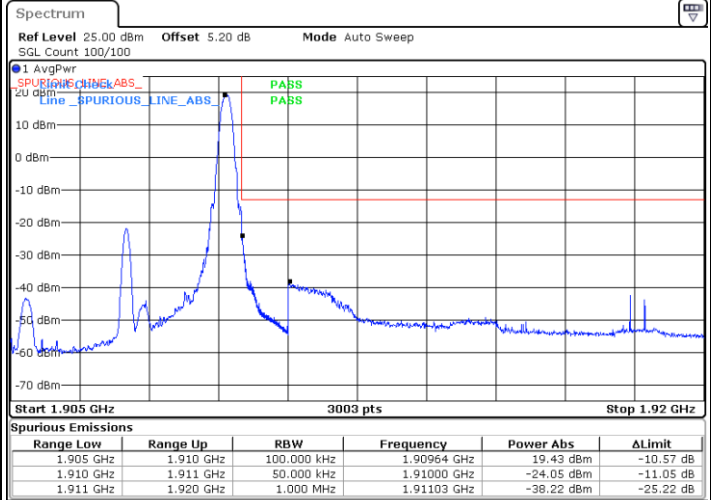
LTE Band 2 / 5MHz / 64QAM

Lowest Band Edge / 1RB



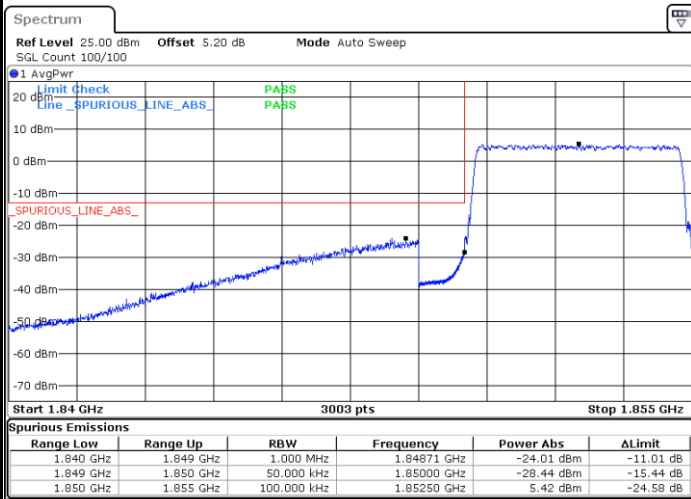
Date: 15.MAY.2023 16:13:41

Highest Band Edge / 1 RB



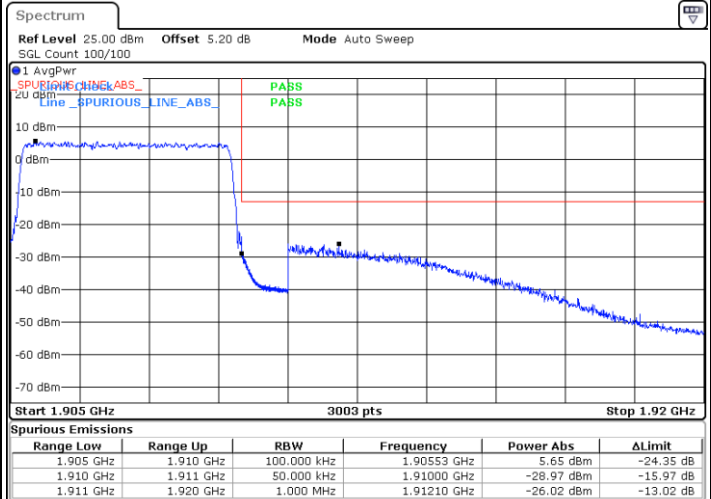
Date: 15.MAY.2023 16:24:41

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:17:05

Highest Band Edge / Full RB

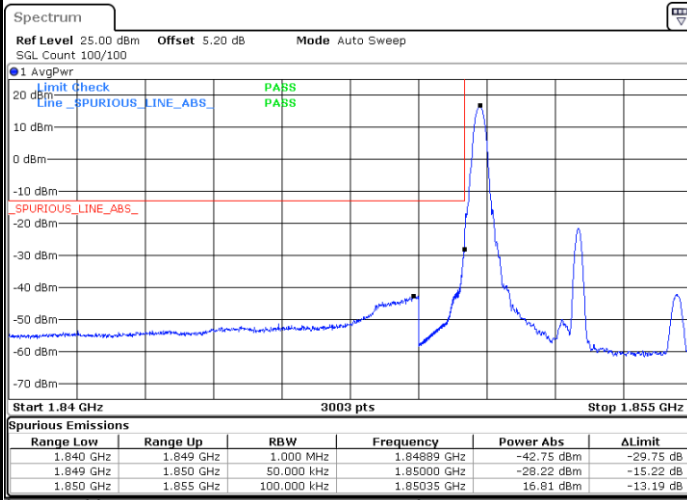


Date: 15.MAY.2023 16:28:02

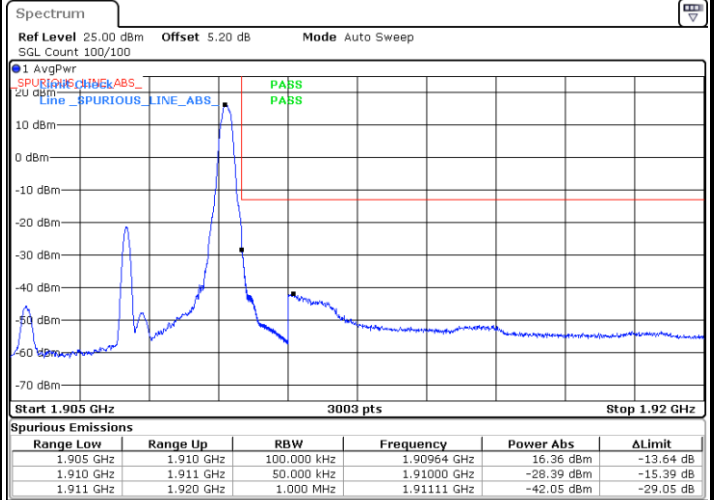


LTE Band 2 / 5MHz / 256QAM

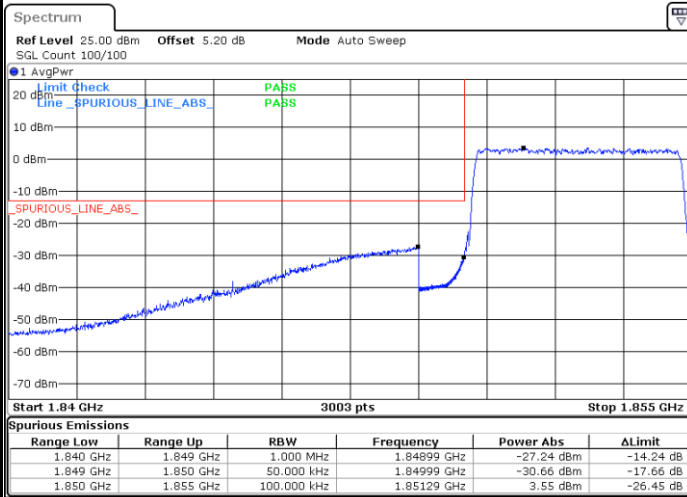
Lowest Band Edge / 1RB



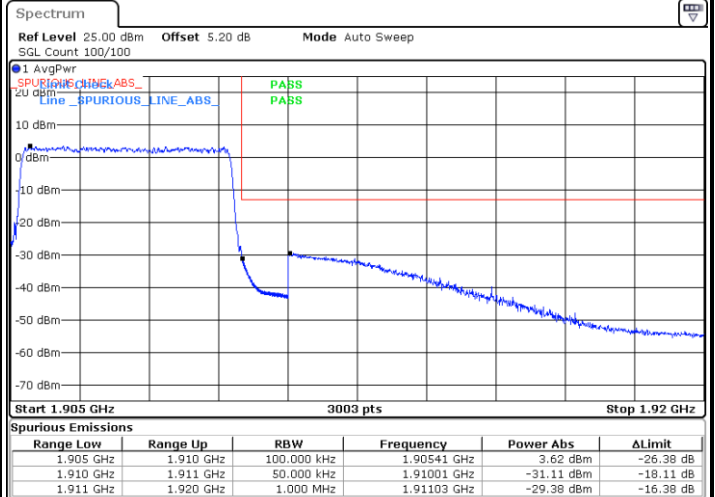
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



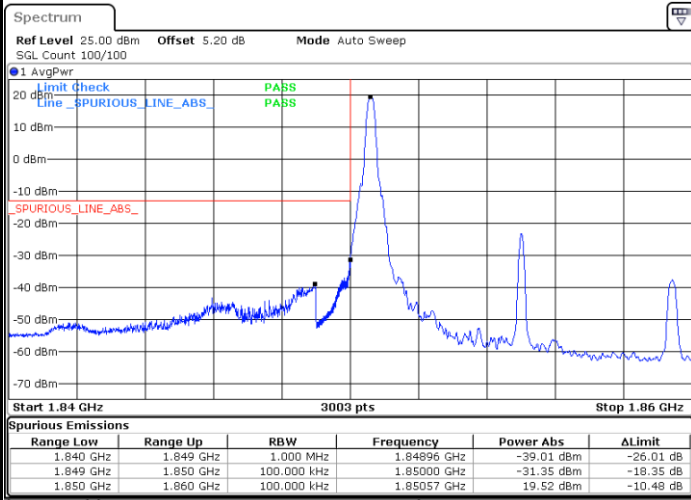
Highest Band Edge / Full RB





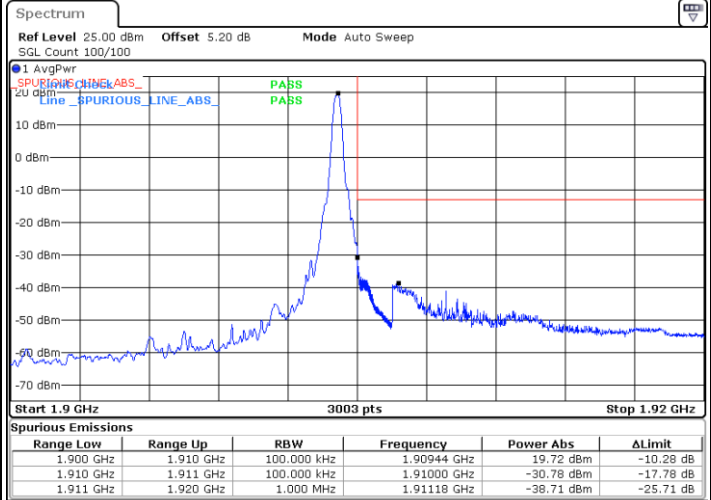
LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1 RB



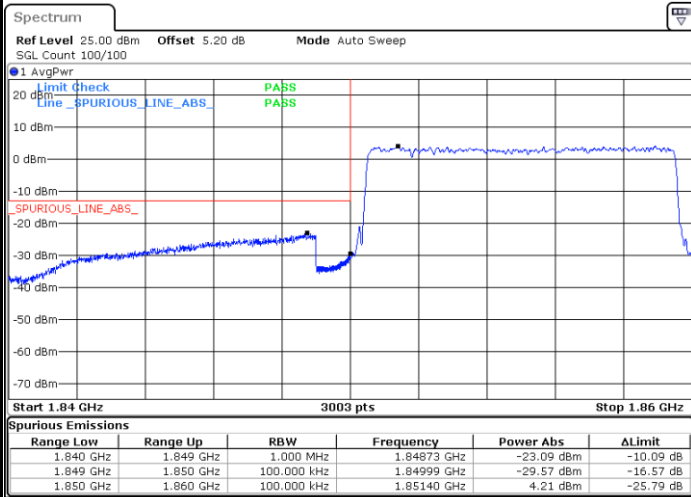
Date: 15.MAY.2023 16:32:55

Highest Band Edge / 1 RB



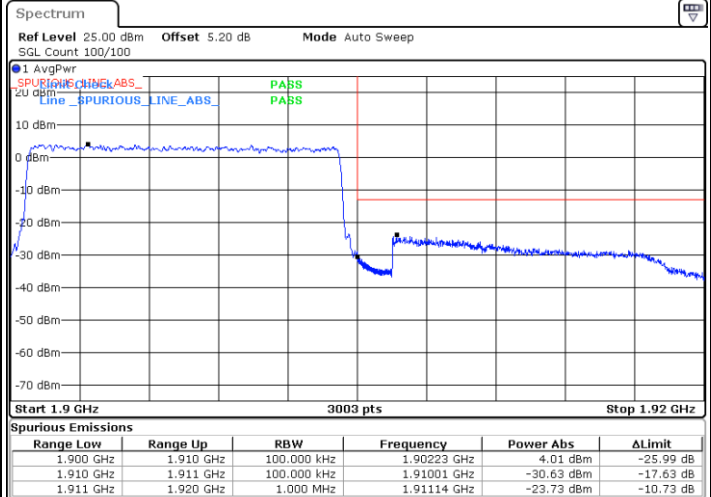
Date: 15.MAY.2023 16:44:49

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:38:34

Highest Band Edge / Full RB

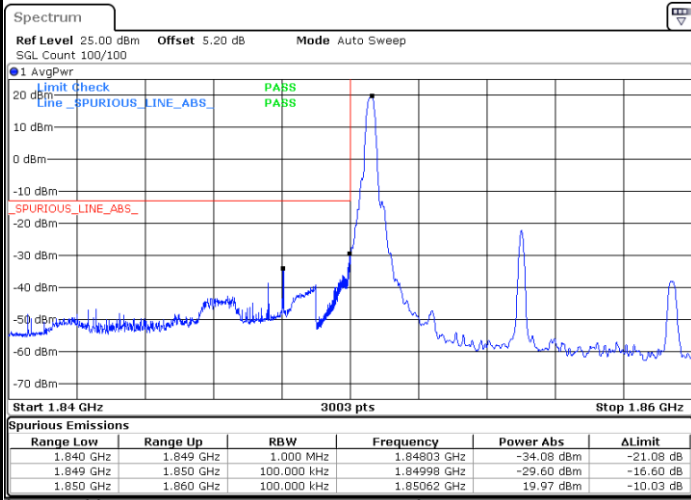


Date: 15.MAY.2023 16:48:53



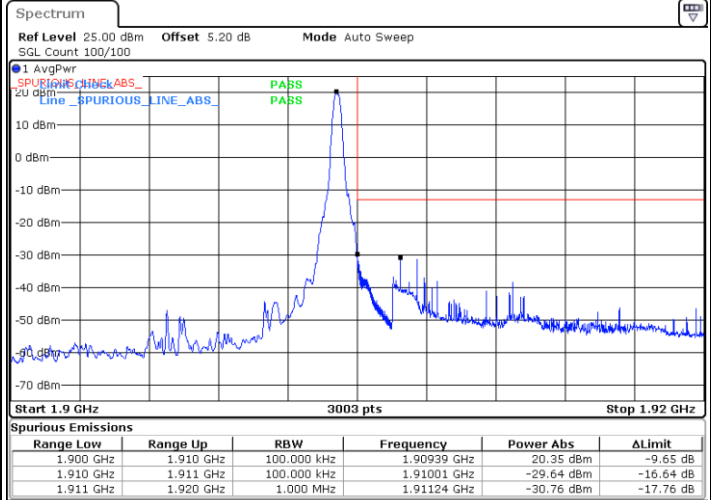
LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



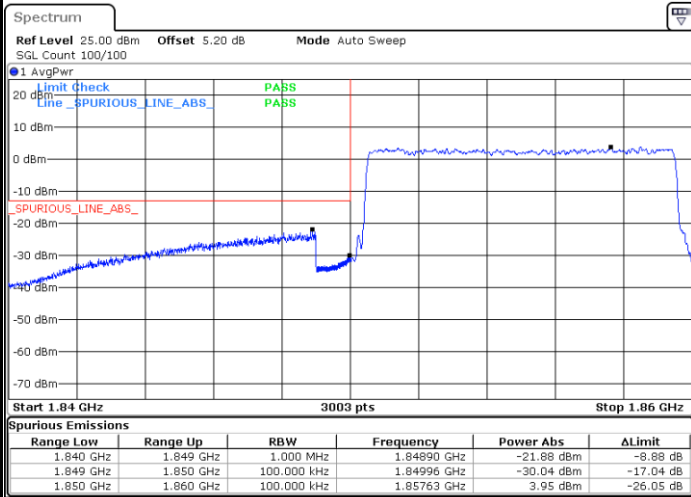
Date: 15.MAY.2023 16:33:45

Highest Band Edge / 1 RB



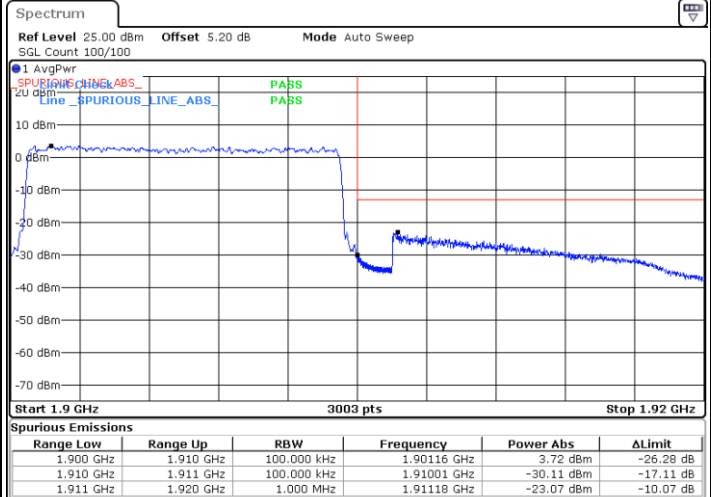
Date: 15.MAY.2023 16:45:39

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:39:24

Highest Band Edge / Full RB

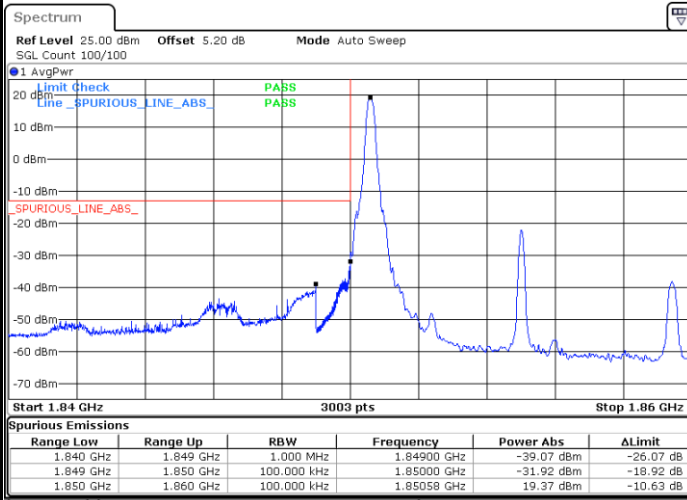


Date: 15.MAY.2023 16:49:43



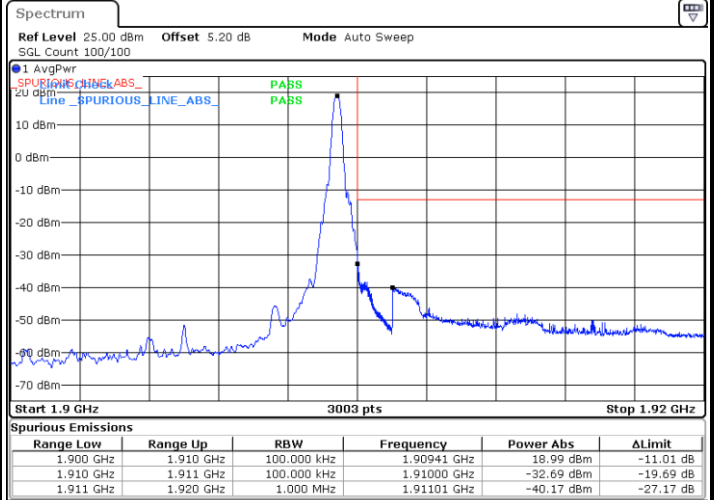
LTE Band 2 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



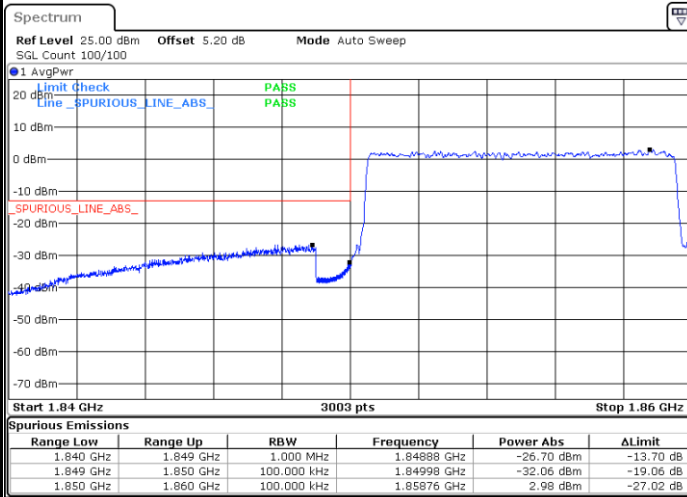
Date: 15.MAY.2023 16:34:35

Highest Band Edge / 1 RB



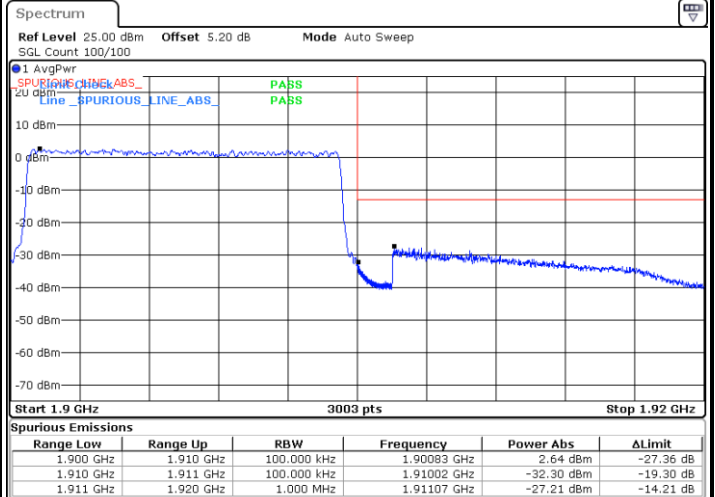
Date: 15.MAY.2023 16:46:29

Lowest Band Edge / Full RB



Date: 15.MAY.2023 16:40:14

Highest Band Edge / Full RB



Date: 15.MAY.2023 16:50:34