



FCC RF Test Report

APPLICANT : NOTHING TECHNOLOGY LIMITED
EQUIPMENT : Smart Phone
BRAND NAME : cmf by NOTHING
MODEL NAME : A001
FCC ID : 2AZEQ-A001
STANDARD : 47 CFR Part 22(H), 24(E), 27(L) , 27(H) , 27(N)
CLASSIFICATION : PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S) : Jan. 02, 2025 ~ Jan. 08, 2025

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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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG4N1331B	Rev. 01	Initial issue of report	Feb. 26, 2025



SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(c)(10)	Effective Radiated Power (Band 12) (Band 17)(Band 71)	ERP < 3 Watt		-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	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(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)(Band 26) (Band 66)(Band 71)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)(Band 26) (Band 66)(Band 71)	< 43+10log10(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		
4.4	§2.1053 §22.917(a) §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 17)(Band 26) (Band 66)(Band 71)	< 43+10log10(P[Watts])	PASS	Under limit 38.6 dB at 7484.00 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/manufacture 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

NOTHING TECHNOLOGY LIMITED

Bedford House, 21A John Street, London, United Kingdom WC1N 2BF

1.2 Manufacturer

NOTHING TECHNOLOGY LIMITED

Bedford House, 21A John Street, London, United Kingdom WC1N 2BF

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Phone
Brand Name	cmf by NOTHING
Model Name	A001
FCC ID	2AZEQ-A001
IMEI Code	Conducted: 353560160031528/353560160031536 Radiation: 353560160033102/353560160033110
HW Version	SM683_MB_T1
SW Version	Nothing OS 3.2
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 12 : 699 MHz ~ 716 MHz LTE Band 17 : 704 MHz ~ 716 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 71: 663 MHz ~ 698 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 12 : 729 MHz ~ 746 MHz LTE Band 17 : 734 MHz ~ 746 MHz LTE Band 26 : 869 MHz ~ 894 MHz LTE Band 66 : 2110 MHz~ 2180 MHz LTE Band 71: 617 MHz ~ 652 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 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71 : 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	Ant0: LTE Band 5 : 23.87 dBm LTE Band 12 : 23.50 dBm LTE Band 17 : 23.40 dBm LTE Band 26 : 23.92 dBm LTE Band 71 : 23.41 dBm Ant1: LTE Band 2 : 23.43 dBm LTE Band 4 : 23.30 dBm LTE Band 66 : 23.45 dBm Ant2: LTE Band 2 : 23.55 dBm LTE Band 4 : 23.40 dBm LTE Band 66 : 23.48 dBm Ant4: LTE Band 2 : 23.43 dBm LTE Band 4 : 23.25 dBm LTE Band 5 : 23.66 dBm LTE Band 12 : 23.72 dBm LTE Band 17 : 23.67 dBm LTE Band 26 : 23.75 dBm LTE Band 66 : 23.38 dBm LTE Band 71 : 23.69 dBm
Antenna Gain	Ant0: LTE Band 5/12/17/26 : -3.0 dBi LTE Band 71 : -3.8 dBi

	Ant1: LTE Band 2 : -3.27 dBi LTE Band 4/66 : -2.01 dBi Ant2: LTE Band 2 : -3.42 dBi LTE Band 4/66 : -2.67 dBi Ant4: LTE Band 2 : -0.95 dBi LTE Band 4/66 : -1.55 dBi LTE Band 5/26 : -5.0 dBi LTE Band 12/17 : -6.1 dBi LTE Band 71 : -6.5 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

Note: The maximum ERP/EIRP is calculated from max output power and max antenna gain, so only the maximum ERP/EIRP of Antenna 0 for LTE Band5/12/17/26/71 and Antenna 4 for LTE Band2/4/66 are shown 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	
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	0.1734	1M09G7D	0.1469	1M09W7D
3	1851.5 ~ 1908.5	0.1762	2M71G7D	0.1486	2M73W7D
5	1852.5 ~ 1907.5	0.1738	4M47G7D	0.1493	4M49W7D
10	1855.0 ~ 1905.0	0.1746	9M01G7D	0.1455	8M99W7D
15	1857.5 ~ 1902.5	0.1762	13M4G7D	0.1459	13M5W7D
20	1860.0 ~ 1900.0	0.1770	17M9G7D	0.1496	17M9W7D
LTE Band 4		QPSK		16QAM/64QAM	
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	0.1445	1M10G7D	0.1211	1M09W7D
3	1711.5 ~ 1753.5	0.1452	2M72G7D	0.1236	2M71W7D
5	1712.5 ~ 1752.5	0.1445	4M49G7D	0.1219	4M50W7D
10	1715.0 ~ 1750.0	0.1432	9M07G7D	0.1213	9M07W7D
15	1717.5 ~ 1747.5	0.1469	13M4G7D	0.1230	13M5W7D
20	1720.0 ~ 1745.0	0.1479	17M9G7D	0.1250	17M9W7D



LTE Band 5		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
1.4	824.7 ~ 848.3	0.0740	1M09G7D	0.0597	1M09W7D
3	825.5 ~ 847.5	0.0735	2M72G7D	0.0594	2M72W7D
5	826.5 ~ 846.5	0.0741	4M49G7D	0.0597	4M48W7D
10	829.0 ~ 844.0	0.0745	9M07G7D	0.0605	9M01W7D
LTE Band 12		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
1.4	699.7 ~ 715.3	0.0676	1M10G7D	0.0550	1M09W7D
3	700.5 ~ 714.5	0.0682	2M71G7D	0.0555	2M72W7D
5	701.5 ~ 713.5	0.0665	4M48G7D	0.0551	4M49W7D
10	704.0 ~ 711.0	0.0684	9M07G7D	0.0556	9M07W7D
LTE Band 17		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	706.5 ~ 713.5	0.0661	4M48G7D	0.0541	4M49W7D
10	709.0 ~ 711.0	0.0668	9M07G7D	0.0543	9M07W7D
LTE Band 26		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
1.4	824.7 ~ 848.3	0.0733	1M09G7D	0.0614	1M09W7D
3	825.5 ~ 847.5	0.0740	2M72G7D	0.0622	2M72W7D
5	826.5 ~ 846.5	0.0750	4M49G7D	0.0617	4M48W7D
10	829.0 ~ 844.0	0.0738	9M07G7D	0.0624	9M01W7D
15	831.5 ~ 841.5	0.0753	13M4G7D	0.0625	13M4W7D
CH26790	824.0	0.0724	13M4G7D	0.0597	13M4W7D



LTE Band 66		QPSK		16QAM/64QAM	
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	0.1479	1M10G7D	0.1236	1M09W7D
3	1711.5 ~ 1778.5	0.1514	2M72G7D	0.1259	2M71W7D
5	1712.5 ~ 1777.5	0.1493	4M49G7D	0.1262	4M50W7D
10	1715.0 ~ 1775.0	0.1486	9M07G7D	0.1230	9M07W7D
15	1717.5 ~ 1772.5	0.1521	13M4G7D	0.1242	13M5W7D
20	1720.0 ~ 1770.0	0.1524	17M9G7D	0.1268	17M9W7D
LTE Band 71		QPSK		16QAM/64QAM	
BW (MHz)	Frequency Range (MHz)	Maximum ERP(W)	Emission Designator (99%OBW)	Maximum ERP(W)	Emission Designator (99%OBW)
5	665.5 ~ 695.5	0.0550	4M49G7D	0.0438	4M51W7D
10	668.0 ~ 693.0	0.0541	9M03G7D	0.0445	8M99W7D
15	670.5 ~ 690.5	0.0545	13M4G7D	0.0448	13M4W7D
20	673.0 ~ 688.0	0.0557	17M9G7D	0.0455	17M9W7D

Note:

1. 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. 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. LTE Band 12 overlaps the entire frequency range of LTE Band 17. Therefore, the test results provided in this report covers Band 12 as well as Band 17.
4. 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	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	Sporton Site No.	FCC Designation No.	FCC Test Firm Registration No.
	TH01-SZ 03CH02-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH02-SZ	AUDIX	E3	6.2009-8-24a

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

Remark:

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



2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

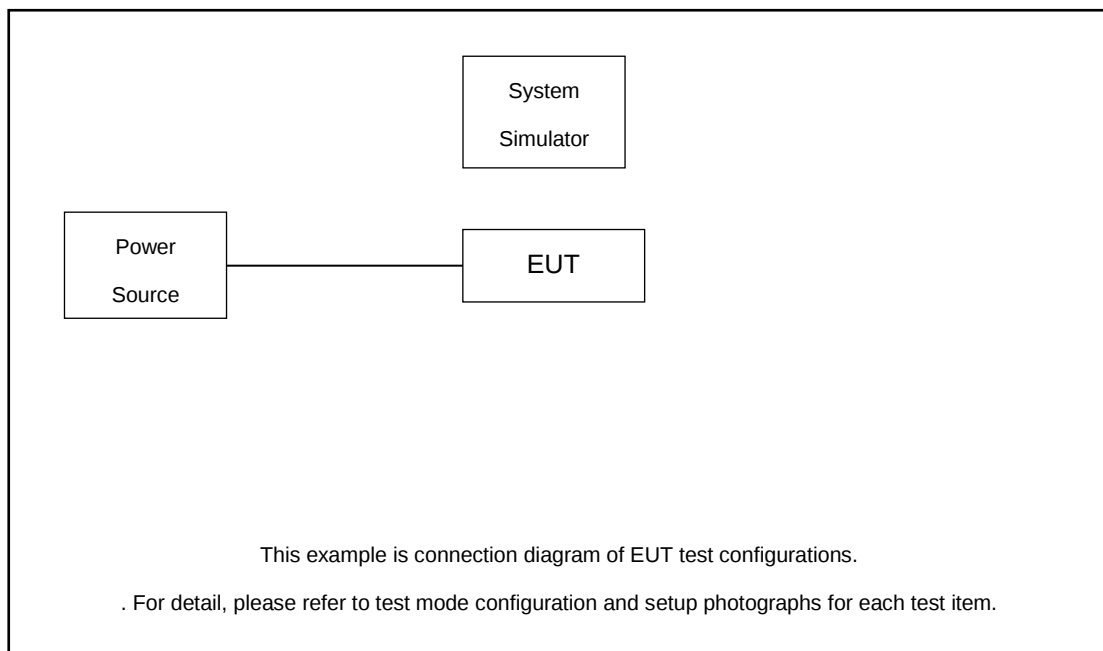
For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z for Adapter mode and Earphone Mode. The worst cases (Y plane-Adapter mode) were recorded in this report.

Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v	v
	26	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
	71	-	-	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	
	12				v	-	-	v	v	v	v		v		v	
	26				v		-	v	v	v	v		v		v	
	66						v	v	v	v	v		v		v	
	71	-	-				v	v	v	v	v		v		v	
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v	v			v		v	
	12	v	v	v	v	-	-	v	v	v			v		v	
	26	v	v	v	v	v	-	v	v	v			v		v	
	66	v	v	v	v	v	v	v	v	v			v		v	
	71	-	-	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
	12	v	v	v	v	-	-	v	v	v	v		v	v		v
	26	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
	71	-	-	v	v	v	v	v	v	v	v		v	v		v
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	26	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
	71	-	-	v	v	v	v	v	v	v	v			v	v	v
Frequency Stability	2				v			v					v		v	
	12				v	-	-	v					v		v	
	26				v		-	v					v		v	
	66				v			v					v		v	
	71	-	-		v			v					v		v	
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v	v			v	v	v
	5	v	v	v	v	-	-	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v	v			v	v	v
	26	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
	71	-	-	v	v	v	v	v	v	v	v			v	v	v
Radiated Spurious Emission	2	Worst Case													v	
	12	Worst Case													v	
	26	Worst Case													v	
	66	Worst Case													v	
	71	Worst Case													v	
Note	1. The mark “v “ means that this configuration is chosen for testing 2. The mark “-“ means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

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

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

Example :

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\
 &= 4.5 + 10 = 14.5 \text{ (dB)}
 \end{aligned}$$



2.5 Frequency List of Low/Middle/High Channels

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

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



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

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

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

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



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

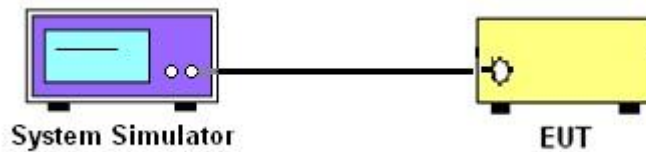
3 Conducted Test Items

3.1 Measuring Instruments

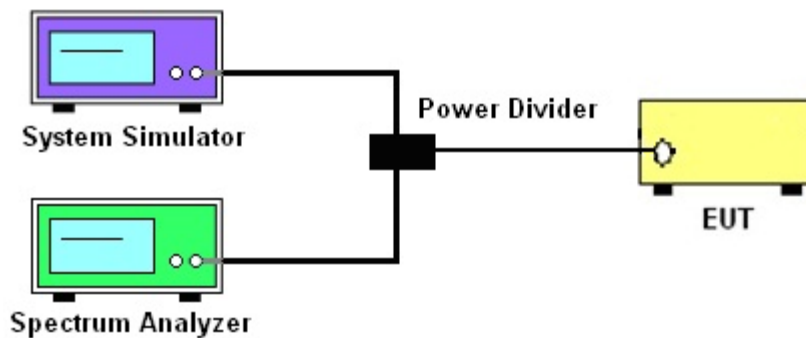
See list of measuring instruments of this test report.

3.2 Test Setup

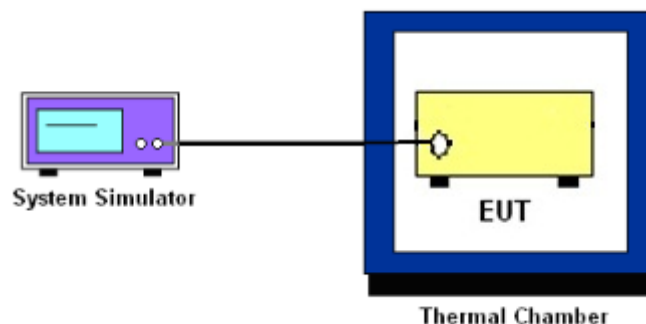
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

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

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

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12 and Band 17 and Band 71.

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

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

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

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

24.238 (a)

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

27.53 (g)

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

27.53 (h)

For operations in the 1710 – 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.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW $\geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. 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.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. 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)

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

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

8. 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.

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

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

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

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at $20\pm 5^{\circ}\text{C}$ and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

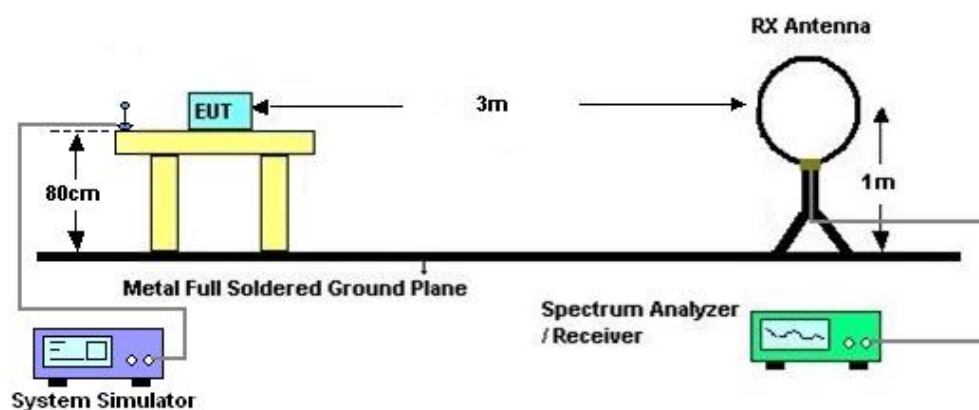
4 Radiated Test Items

4.1 Measuring Instruments

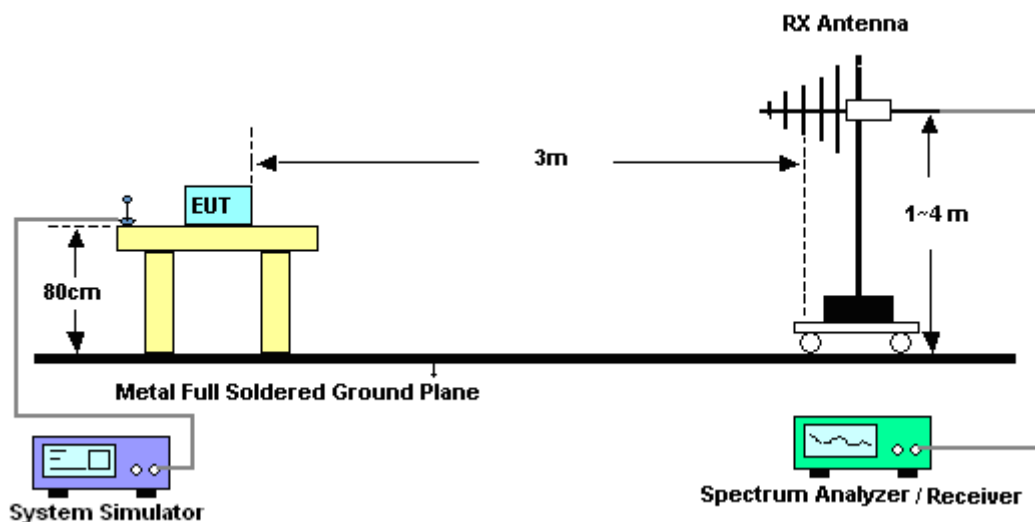
See list of measuring instruments of this test report.

4.2 Test Setup

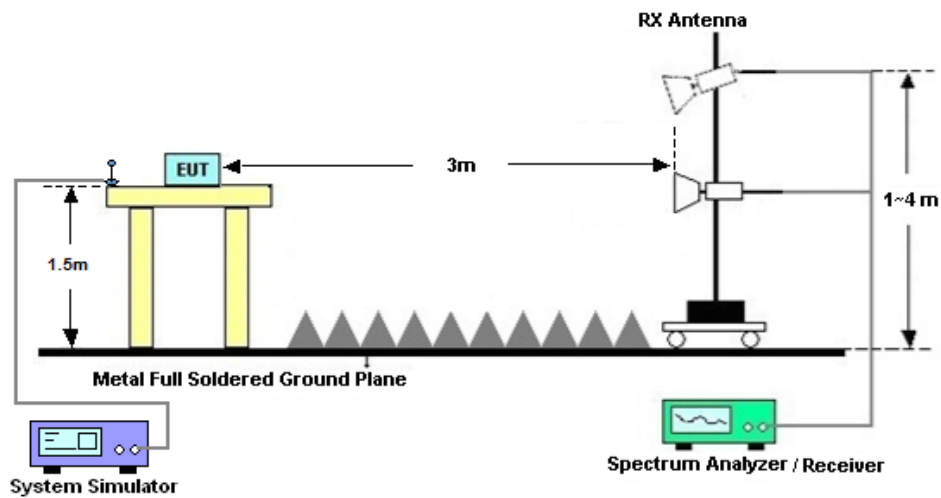
4.2.1 For radiated test below 30MHz



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.

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

4.4.2 Test Procedures

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



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. 09, 2024	Jan. 02, 2025~ Jan. 06, 2025	Apr. 08, 2025	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-0426 5	60.06.020. 0077	0.4GHz~26.5G Hz	Dec. 24, 2024	Jan. 02, 2025~ Jan. 06, 2025	Dec. 23, 2025	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangrou p	LP-150U	H2014081 803	-40~+150°C	Jul. 03, 2024	Jan. 02, 2025~ Jan. 06, 2025	Jul. 02, 2025	Conducted (TH01-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY551502 13	10Hz~44GHz	Jul. 03, 2024	Jan. 08, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 28, 2024	Jan. 08, 2025	Dec. 27, 2025	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz~2GHz	Oct. 24, 2023	Jan. 08, 2025	Oct. 23, 2025	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00119436	1GHz~18GHz	Jul. 04, 2024	Jan. 08, 2025	Jul. 03, 2025	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35- HG	1871923	18GHz~40GHz	Jul. 03, 2024	Jan. 08, 2025	Jul. 02, 2025	Radiation (03CH02-SZ)
SHF-EHF Horn	com-power	AH-840	101071	18Ghz~40GHz	Apr. 09, 2024	Jan. 08, 2025	Apr. 08, 2025	Radiation (03CH02-SZ)
LF Amplifier	Burgeon	BPA-530	102211	0.01~3000Mhz	Oct. 18, 2024	Jan. 08, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
HF Amplifier	KEYSIGHT	83017A	MY532701 05	0.5GHz~26.5Gh z	Oct. 14, 2024	Jan. 08, 2025	Oct. 13, 2025	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010003 043	N/A	Oct. 18, 2024	Jan. 08, 2025	Oct. 17, 2025	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Jan. 08, 2025	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Jan. 08, 2025	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 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 Spurious Emission & Bandedge	± 1.34 dB
Occupied Channel Bandwidth	± 0.012 MHz
Conducted Power	± 1.34 dB
Peak to Average Ratio	± 1.34 dB
Frequency Stability	± 1.3 Hz

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.47dB
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Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.31dB
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Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.72dB
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----- THE END -----



Appendix A. Test Results of Conducted Test

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

Conducted Output Power(Average power) and ERP/EIRP

LTE Band 2_Ant4:

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	23.37	23.43	23.40	0.1746	0.1770	0.1758
20	QPSK	1	49	23.34	23.26	23.31	0.1734	0.1702	0.1722
20	QPSK	1	99	23.22	23.12	23.26	0.1687	0.1648	0.1702
20	QPSK	50	0	22.35	22.36	22.33	0.1380	0.1384	0.1374
20	QPSK	50	24	22.29	22.31	22.32	0.1361	0.1368	0.1371
20	QPSK	50	50	22.29	22.27	22.26	0.1361	0.1355	0.1352
20	QPSK	100	0	22.27	22.32	22.29	0.1355	0.1371	0.1361
20	16QAM	1	0	22.70	22.45	22.60	0.1496	0.1413	0.1462
20	64QAM	1	0	21.53	21.70	21.66	0.1143	0.1189	0.1178
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	23.34	23.41	23.38	0.1734	0.1762	0.1750
15	16QAM	1	0	22.59	22.36	22.52	0.1459	0.1384	0.1435
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	23.33	23.37	23.37	0.1730	0.1746	0.1746
10	16QAM	1	0	22.58	22.32	22.45	0.1455	0.1371	0.1413
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	23.35	23.30	23.28	0.1738	0.1718	0.1710
5	16QAM	1	0	22.69	22.30	22.48	0.1493	0.1365	0.1422
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	23.23	23.41	23.31	0.1690	0.1762	0.1722
3	16QAM	1	0	22.67	22.34	22.55	0.1486	0.1377	0.1445
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	23.31	23.31	23.34	0.1722	0.1722	0.1734
1.4	16QAM	1	0	22.62	22.35	22.45	0.1469	0.1380	0.1413



LTE Band 4_Ant4:

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	23.18	23.25	23.22	0.1455	0.1479	0.1469
20	QPSK	1	49	23.14	23.23	23.20	0.1442	0.1472	0.1462
20	QPSK	1	99	23.06	23.14	23.13	0.1416	0.1442	0.1439
20	QPSK	50	0	22.17	22.20	22.19	0.1153	0.1161	0.1159
20	QPSK	50	24	22.13	22.10	22.15	0.1143	0.1135	0.1148
20	QPSK	50	50	22.11	22.11	22.12	0.1138	0.1138	0.1140
20	QPSK	100	0	22.12	22.16	22.14	0.1140	0.1151	0.1146
20	16QAM	1	0	22.45	22.52	22.50	0.1230	0.1250	0.1245
20	64QAM	1	0	21.48	21.35	21.50	0.0984	0.0955	0.0989
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	23.10	23.22	23.21	0.1429	0.1469	0.1466
15	16QAM	1	0	22.41	22.44	22.45	0.1219	0.1227	0.1230
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	23.07	23.11	23.07	0.1419	0.1432	0.1419
10	16QAM	1	0	22.35	22.39	22.35	0.1202	0.1213	0.1202
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	23.06	23.10	23.15	0.1416	0.1429	0.1445
5	16QAM	1	0	22.41	22.37	22.38	0.1219	0.1208	0.1211
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	23.17	23.12	23.08	0.1452	0.1435	0.1422
3	16QAM	1	0	22.40	22.40	22.47	0.1216	0.1216	0.1236
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	23.03	23.15	23.14	0.1406	0.1445	0.1442
1.4	16QAM	1	0	22.35	22.38	22.36	0.1202	0.1211	0.1205



LTE Band 5_Ant0:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				20450	20525	20600			
Frequency (MHz)				829	836.5	844	L	M	H
10	QPSK	1	0	23.78	23.87	23.86	0.0729	0.0745	0.0743
10	QPSK	1	25	23.66	23.74	23.53	0.0710	0.0723	0.0689
10	QPSK	1	49	23.70	23.82	23.74	0.0716	0.0736	0.0723
10	QPSK	25	0	22.64	22.77	22.74	0.0561	0.0578	0.0574
10	QPSK	25	12	22.63	22.67	22.72	0.0560	0.0565	0.0571
10	QPSK	25	25	22.63	22.69	22.70	0.0560	0.0568	0.0569
10	QPSK	50	0	22.67	22.75	22.73	0.0565	0.0575	0.0573
10	16QAM	1	0	22.74	22.93	22.97	0.0574	0.0600	0.0605
10	64QAM	1	0	21.93	22.06	21.96	0.0476	0.0491	0.0480
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	23.75	23.85	23.83	0.0724	0.0741	0.0738
5	16QAM	1	0	22.67	22.80	22.91	0.0565	0.0582	0.0597
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	23.74	23.81	23.76	0.0723	0.0735	0.0726
3	16QAM	1	0	22.62	22.89	22.88	0.0558	0.0594	0.0593
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	23.69	23.72	23.84	0.0714	0.0719	0.0740
1.4	16QAM	1	0	22.73	22.91	22.88	0.0573	0.0597	0.0593



LTE Band 12_Ant0:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23060	23095	23130			
Frequency (MHz)				704	707.5	711	L	M	H
10	QPSK	1	0	23.43	23.50	23.45	0.0673	0.0684	0.0676
10	QPSK	1	25	23.22	23.39	23.29	0.0641	0.0667	0.0652
10	QPSK	1	49	23.41	23.47	23.22	0.0670	0.0679	0.0641
10	QPSK	25	0	22.28	22.30	22.25	0.0516	0.0519	0.0513
10	QPSK	25	12	22.21	22.20	22.22	0.0508	0.0507	0.0509
10	QPSK	25	25	22.24	22.28	22.22	0.0512	0.0516	0.0509
10	QPSK	50	0	22.23	22.27	22.24	0.0511	0.0515	0.0512
10	16QAM	1	0	22.52	22.37	22.60	0.0546	0.0527	0.0556
10	64QAM	1	0	21.25	21.36	21.22	0.0407	0.0418	0.0405
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	23.38	23.37	23.38	0.0665	0.0664	0.0665
5	16QAM	1	0	22.37	22.28	22.56	0.0527	0.0516	0.0551
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	23.40	23.49	23.35	0.0668	0.0682	0.0661
3	16QAM	1	0	22.51	22.30	22.59	0.0545	0.0519	0.0555
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	23.32	23.45	23.37	0.0656	0.0676	0.0664
1.4	16QAM	1	0	22.45	22.28	22.55	0.0537	0.0516	0.0550

LTE Band 17_Ant0:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23780	23790	23800			
Frequency (MHz)				709	710	711	L	M	H
10	QPSK	1	0	23.35	23.40	23.38	0.0661	0.0668	0.0665
10	QPSK	1	25	23.33	23.36	23.20	0.0658	0.0662	0.0638
10	QPSK	1	49	23.30	23.23	23.34	0.0653	0.0643	0.0659
10	QPSK	25	0	22.31	22.33	22.28	0.0520	0.0522	0.0516
10	QPSK	25	12	22.25	22.31	22.25	0.0513	0.0520	0.0513
10	QPSK	25	25	22.29	22.21	22.25	0.0518	0.0508	0.0513
10	QPSK	50	0	22.23	22.25	22.21	0.0511	0.0513	0.0508
10	16QAM	1	0	22.45	22.25	22.50	0.0537	0.0513	0.0543
10	64QAM	1	0	21.46	21.32	21.38	0.0428	0.0414	0.0420
Channel				23755	23790	23825	ERP(W)		
Frequency (MHz)				706.5	710	713.5	L	M	H
5	QPSK	1	0	23.33	23.35	23.24	0.0658	0.0661	0.0644
5	16QAM	1	0	22.39	22.17	22.48	0.0530	0.0504	0.0541



LTE Band 26_Ant0:

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)			
Channel				26790	26865	26915	26965				
Frequency (MHz)				824	831.5	836.5	841.5	Straddle Ch	L	M	H
15	QPSK	1	0	23.75	23.82	23.92	23.85	0.0724	0.0736	0.0753	0.0741
15	QPSK	1	37	23.64	23.72	23.88	23.82	0.0706	0.0719	0.0746	0.0736
15	QPSK	1	74	23.69	23.77	23.89	23.79	0.0714	0.0728	0.0748	0.0731
15	QPSK	36	0	22.70	22.77	22.88	22.82	0.0569	0.0578	0.0593	0.0585
15	QPSK	36	20	22.62	22.71	22.83	22.78	0.0558	0.0570	0.0586	0.0579
15	QPSK	36	39	22.60	22.74	22.82	22.75	0.0556	0.0574	0.0585	0.0575
15	QPSK	75	0	22.64	22.71	22.84	22.80	0.0561	0.0570	0.0587	0.0582
15	16QAM	1	0	22.91	22.99	23.05	23.11	0.0597	0.0608	0.0617	0.0625
15	64QAM	1	0	21.67	21.75	21.87	21.91	0.0449	0.0457	0.0470	0.0474
Channel				26790	26840	26915	26990	ERP(W)			
Frequency (MHz)				824	829	836.5	844	Straddle Ch	L	M	H
10	QPSK	1	0	23.64	23.75	23.83	23.77	0.0706	0.0724	0.0738	0.0728
10	16QAM	1	0	22.81	22.95	23.03	23.10	0.0583	0.0603	0.0614	0.0624
Channel				26790	26815	26915	27015	ERP(W)			
Frequency (MHz)				824	826.5	836.5	846.5	Straddle Ch	L	M	H
5	QPSK	1	0	23.72	23.79	23.90	23.77	0.0719	0.0731	0.0750	0.0728
5	16QAM	1	0	22.82	22.96	22.95	23.05	0.0585	0.0604	0.0603	0.0617
Channel				26790	26815	26915	27025	ERP(W)			
Frequency (MHz)				824	825.5	836.5	847.5	Straddle Ch	L	M	H
3	QPSK	1	0	23.74	23.72	23.84	23.73	0.0723	0.0719	0.0740	0.0721
3	16QAM	1	0	22.83	22.85	23.03	23.09	0.0586	0.0589	0.0614	0.0622
Channel				26790	26797	26915	27033	ERP(W)			
Frequency (MHz)				824	824.7	836.5	848.3	Straddle Ch	L	M	H
1.4	QPSK	1	0	23.65	23.73	23.80	23.77	0.0708	0.0721	0.0733	0.0728
1.4	16QAM	1	0	22.92	22.87	23.02	23.03	0.0598	0.0592	0.0612	0.0614



LTE Band 66_Ant4:

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			
Frequency (MHz)				1720	1745	1770	L	M	H
20	QPSK	1	0	23.31	23.38	23.30	0.1500	0.1524	0.1496
20	QPSK	1	49	23.27	23.26	23.25	0.1486	0.1483	0.1479
20	QPSK	1	99	23.03	23.15	23.13	0.1406	0.1445	0.1439
20	QPSK	50	0	22.26	22.33	22.30	0.1178	0.1197	0.1189
20	QPSK	50	24	22.21	22.23	22.25	0.1164	0.1169	0.1175
20	QPSK	50	50	22.16	22.22	22.29	0.1151	0.1167	0.1186
20	QPSK	100	0	22.19	22.30	22.27	0.1159	0.1189	0.1180
20	16QAM	1	0	22.50	22.58	22.41	0.1245	0.1268	0.1219
20	64QAM	1	0	21.18	21.33	21.29	0.0918	0.0951	0.0942
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	23.21	23.37	23.17	0.1466	0.1521	0.1452
15	16QAM	1	0	22.39	22.49	22.36	0.1213	0.1242	0.1205
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	23.23	23.27	23.15	0.1472	0.1486	0.1445
10	16QAM	1	0	22.45	22.45	22.31	0.1230	0.1230	0.1191
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	23.22	23.29	23.29	0.1469	0.1493	0.1493
5	16QAM	1	0	22.36	22.56	22.36	0.1205	0.1262	0.1205
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	23.30	23.35	23.29	0.1496	0.1514	0.1493
3	16QAM	1	0	22.45	22.55	22.36	0.1230	0.1259	0.1205
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	23.23	23.25	23.21	0.1472	0.1479	0.1466
1.4	16QAM	1	0	22.45	22.47	22.27	0.1230	0.1236	0.1180

**LTE Band 71_Ant0:**

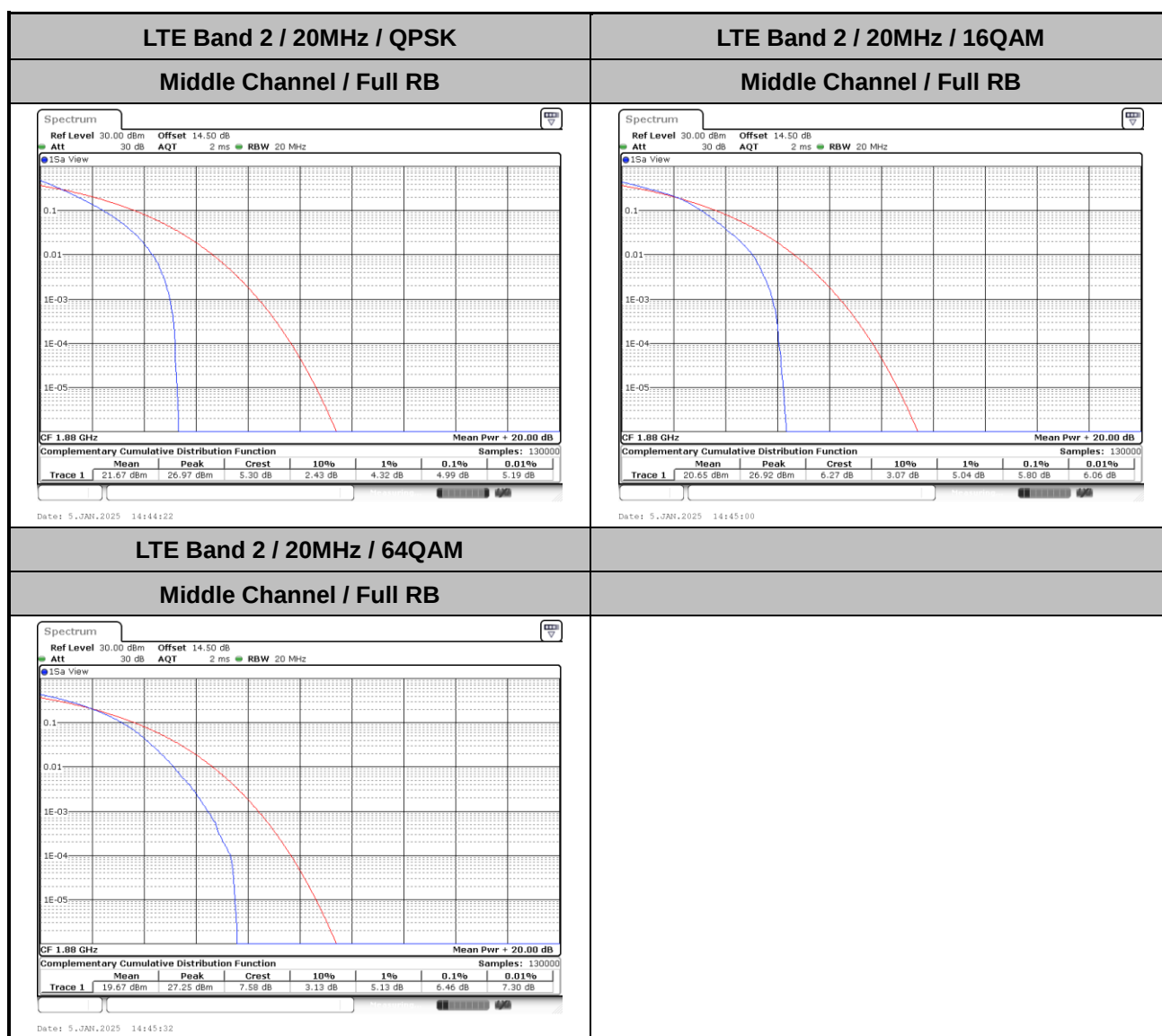
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				133222	133322	133372			
Frequency (MHz)				673	683	688	L	M	H
20	QPSK	1	0	23.38	23.41	23.24	0.0553	0.0557	0.0536
20	QPSK	1	49	23.21	23.24	23.20	0.0532	0.0536	0.0531
20	QPSK	1	99	23.16	23.22	23.22	0.0526	0.0533	0.0533
20	QPSK	50	0	22.35	22.39	22.29	0.0437	0.0441	0.0431
20	QPSK	50	24	22.29	22.29	22.25	0.0431	0.0431	0.0427
20	QPSK	50	50	22.33	22.23	22.24	0.0435	0.0425	0.0426
20	QPSK	100	0	22.31	22.34	22.26	0.0433	0.0436	0.0428
20	16QAM	1	0	22.53	22.52	22.53	0.0455	0.0454	0.0455
20	64QAM	1	0	21.42	21.44	21.46	0.0352	0.0354	0.0356
Channel				133197	133297	133397	ERP(W)		
Frequency (MHz)				670.5	680.5	690.5	L	M	H
15	QPSK	1	0	23.30	23.31	23.06	0.0543	0.0545	0.0514
15	16QAM	1	0	22.36	22.46	22.44	0.0438	0.0448	0.0446
Channel				133172	133272	133422	ERP(W)		
Frequency (MHz)				668	678	693	L	M	H
10	QPSK	1	0	23.28	23.16	23.17	0.0541	0.0526	0.0527
10	16QAM	1	0	22.37	22.43	22.41	0.0439	0.0445	0.0443
Channel				133147	133247	133447	ERP(W)		
Frequency (MHz)				665.5	675.5	695.5	L	M	H
5	QPSK	1	0	23.27	23.35	23.10	0.0540	0.0550	0.0519
5	16QAM	1	0	22.34	22.33	22.36	0.0436	0.0435	0.0438



LTE Band 2

Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz			
Mod.	QPSK	16QAM	64QAM	Limit: 13dB
RB Size	Full RB	Full RB	Full RB	Result
Middle CH	4.99	5.80	6.46	PASS



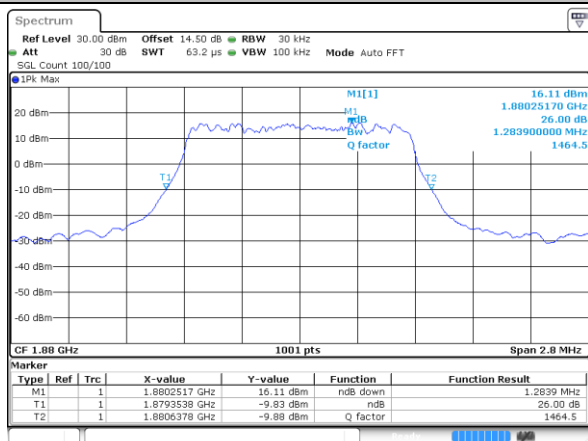


26dB Bandwidth

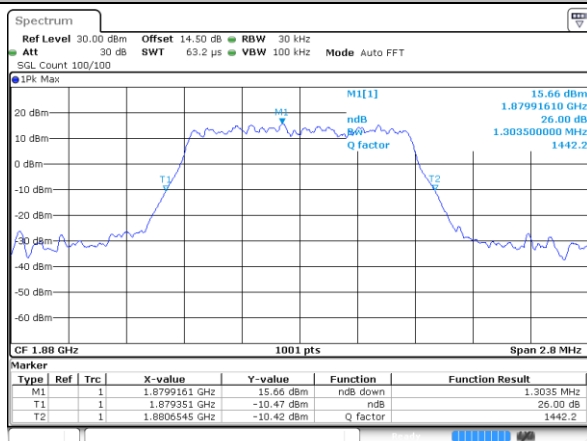
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.28	1.30	2.95	2.97	4.95	4.87	9.81	9.69	14.36	14.39	18.78	18.78

LTE Band 2

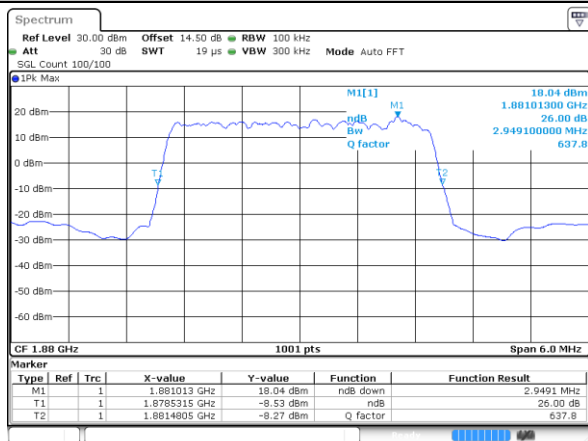
Middle Channel / 1.4MHz / QPSK



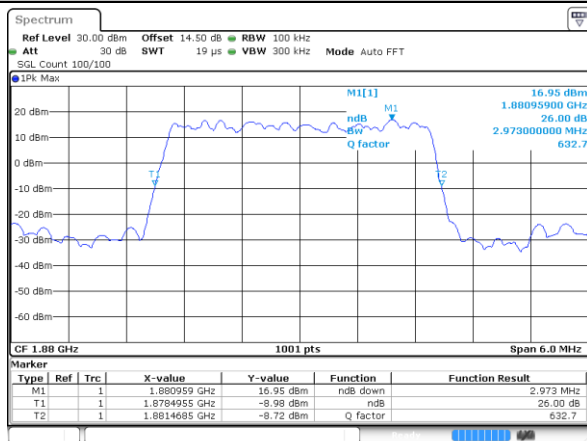
Middle Channel / 1.4MHz / 16QAM



Middle Channel / 3MHz / QPSK

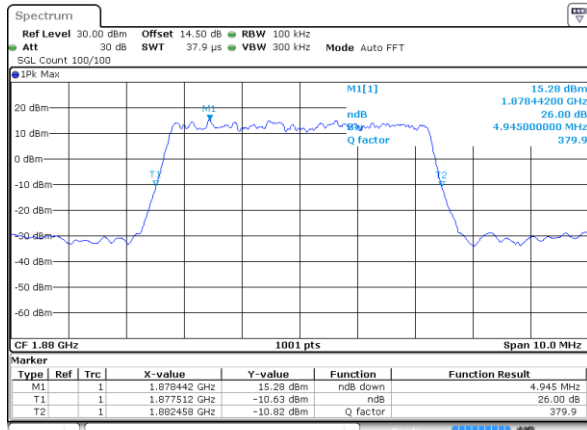


Middle Channel / 3MHz / 16QAM



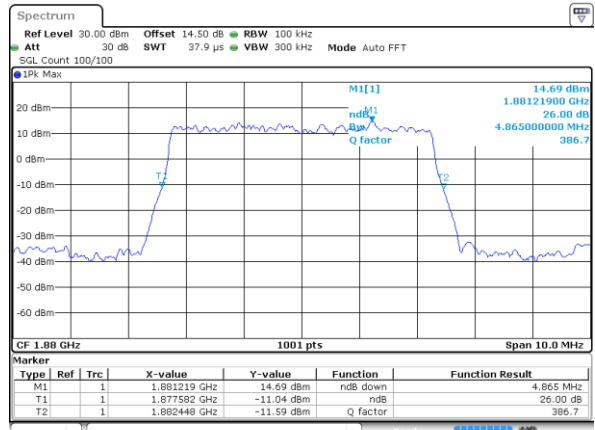


Middle Channel / 5MHz / QPSK



Date: 2 JAN 2025 19:56:14

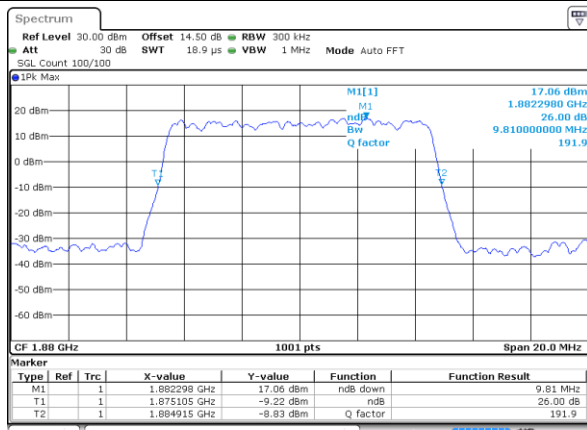
Middle Channel / 5MHz / 16QAM



Date: 2 JAN 2025 19:56:53

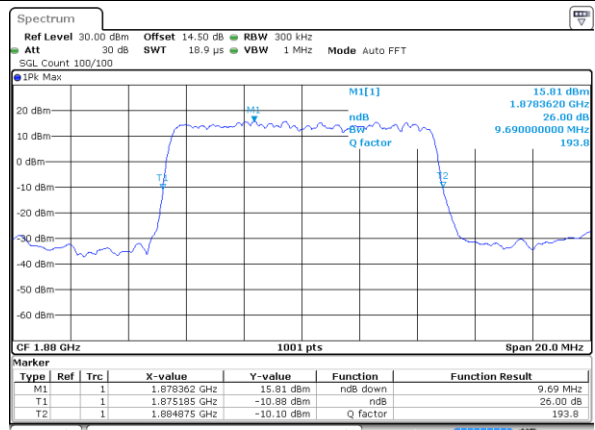
LTE Band 2

Middle Channel / 10MHz / QPSK



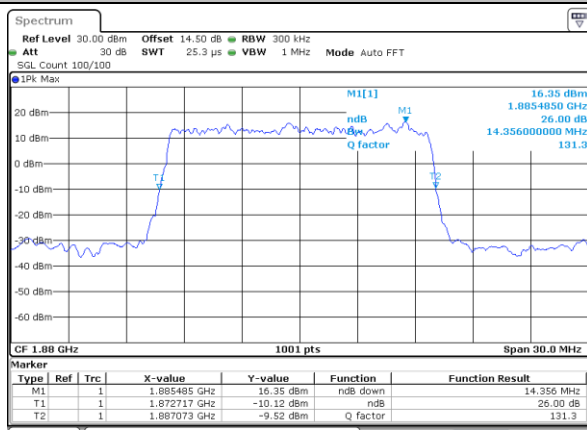
Date: 2 JAN 2025 20:11:07

Middle Channel / 10MHz / 16QAM



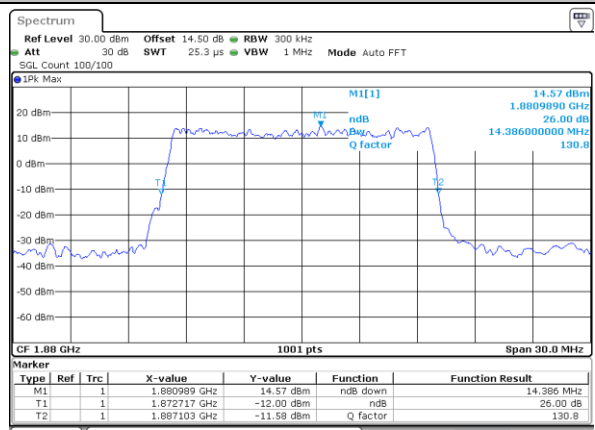
Date: 2 JAN 2025 20:11:47

Middle Channel / 15MHz / QPSK



Date: 2 JAN 2025 20:26:00

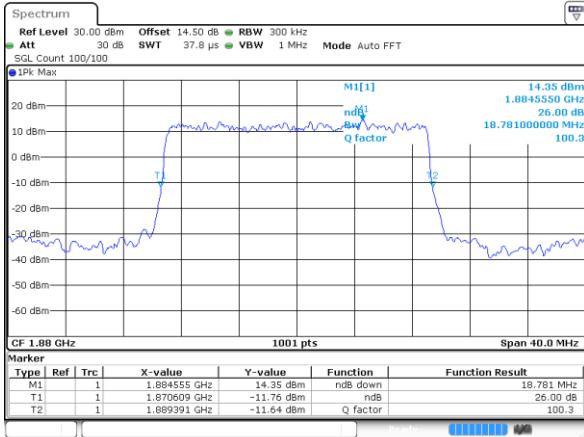
Middle Channel / 15MHz / 16QAM



Date: 2 JAN 2025 20:26:40

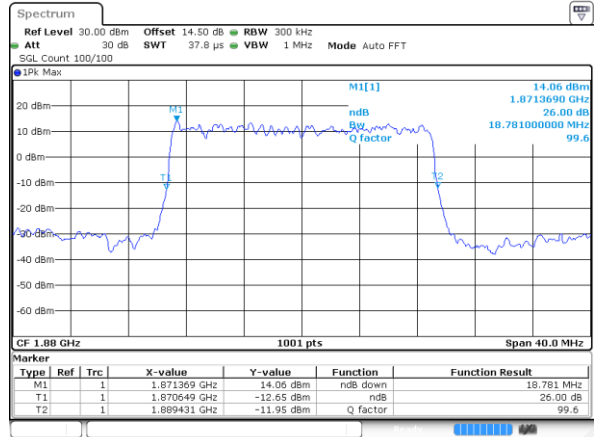


Middle Channel / 20MHz / QPSK



Date: 2 JAN 2025 20:50:13

Middle Channel / 20MHz / 16QAM



Date: 2 JAN 2025 20:50:52

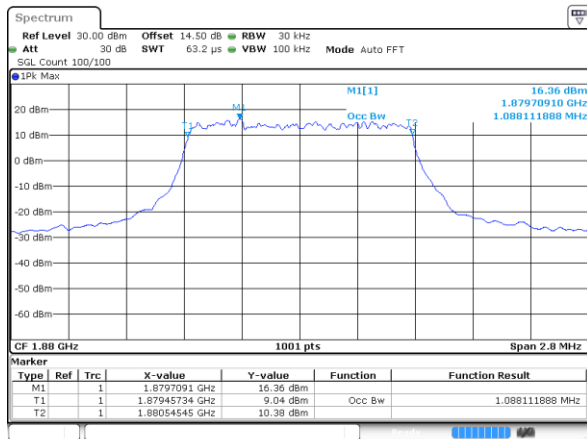


Occupied Bandwidth

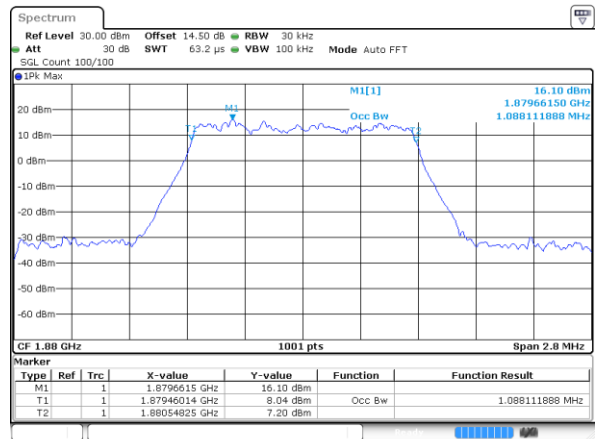
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.09	1.09	2.71	2.73	4.47	4.49	9.01	8.99	13.40	13.49	17.90	17.90

LTE Band 2

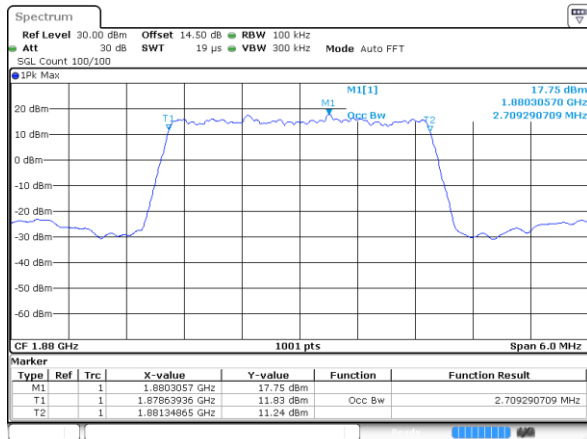
Middle Channel / 1.4MHz / QPSK



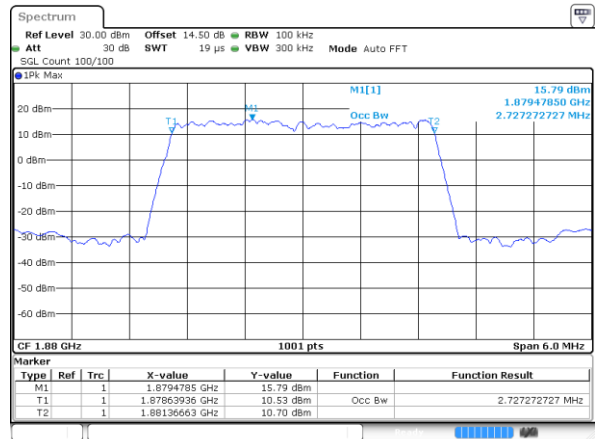
Middle Channel / 1.4MHz / 16QAM



Middle Channel / 3MHz / QPSK

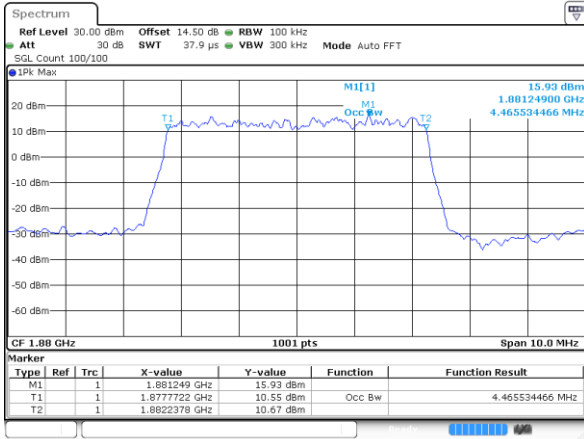


Middle Channel / 3MHz / 16QAM



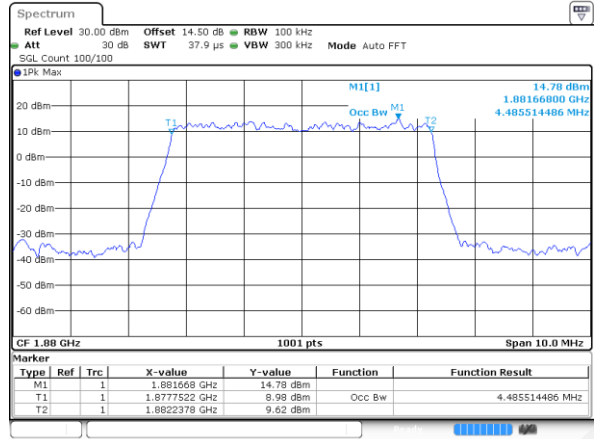


Middle Channel / 5MHz / QPSK



Date: 2 JAN 2025 19:56:00

Middle Channel / 5MHz / 16QAM

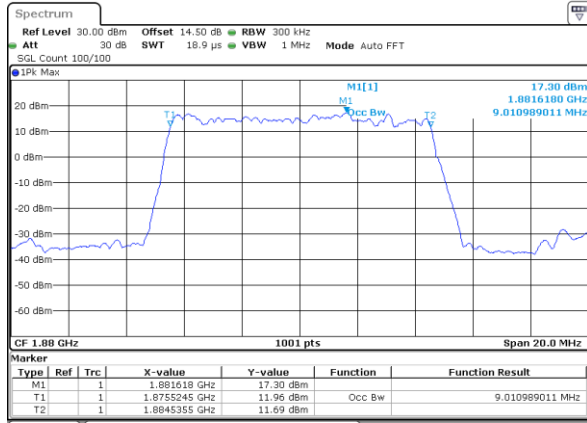


Date: 2 JAN 2025 19:56:39



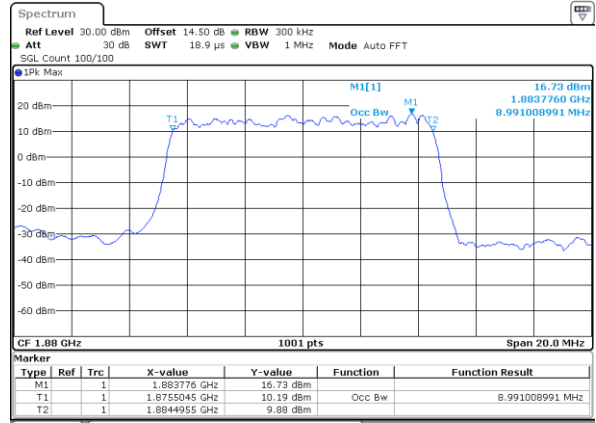
LTE Band 2

Middle Channel / 10MHz / QPSK



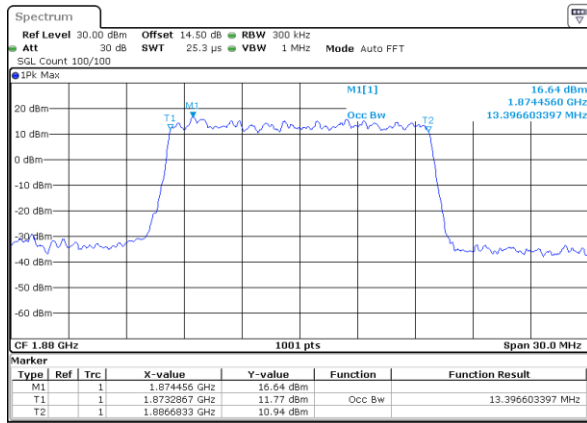
Date: 2 JAN 2025 20:10:53

Middle Channel / 10MHz / 16QAM



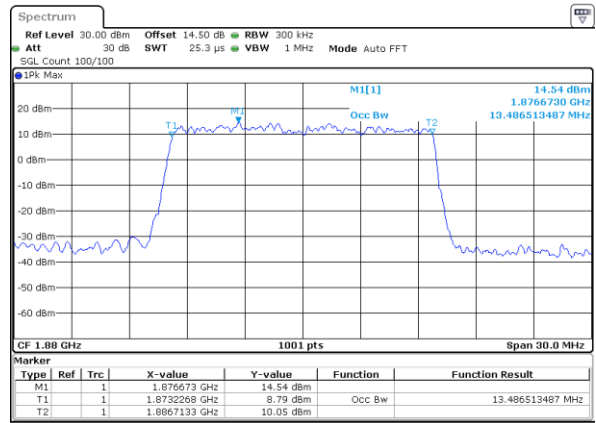
Date: 2 JAN 2025 20:11:33

Middle Channel / 15MHz / QPSK



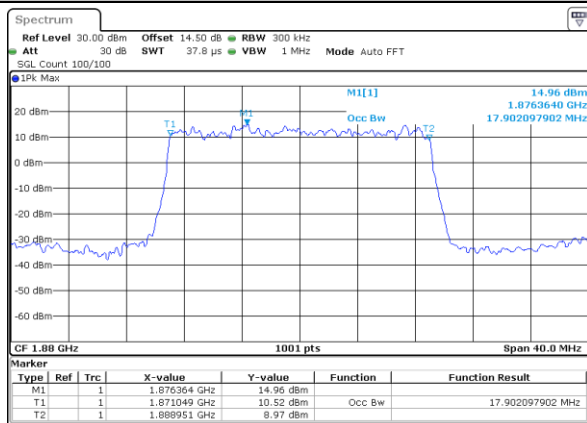
Date: 2 JAN 2025 20:25:46

Middle Channel / 15MHz / 16QAM



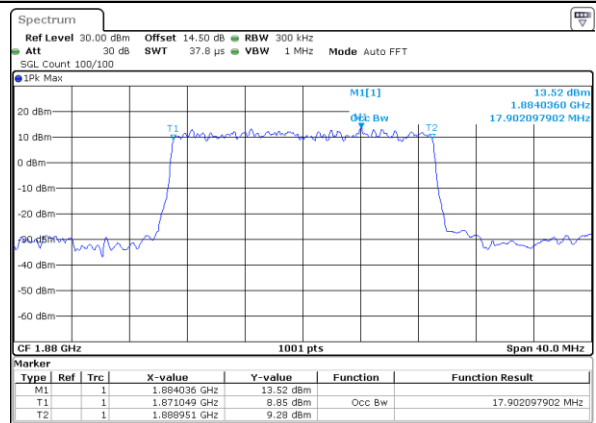
Date: 2 JAN 2025 20:26:26

Middle Channel / 20MHz / QPSK



Date: 2 JAN 2025 20:49:58

Middle Channel / 20MHz / 16QAM



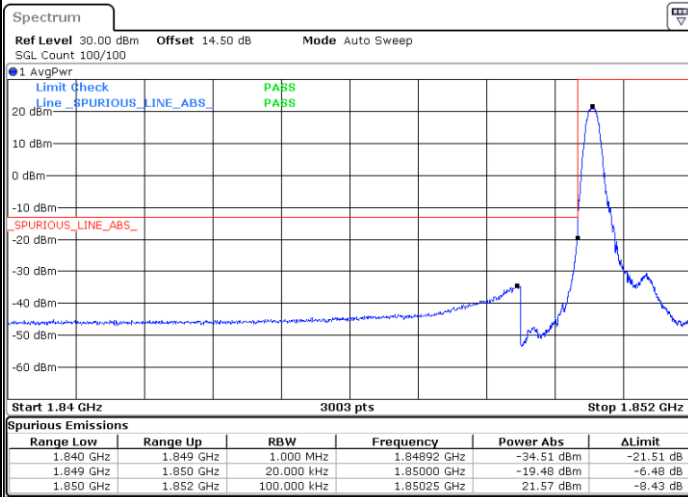
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Conducted Band Edge

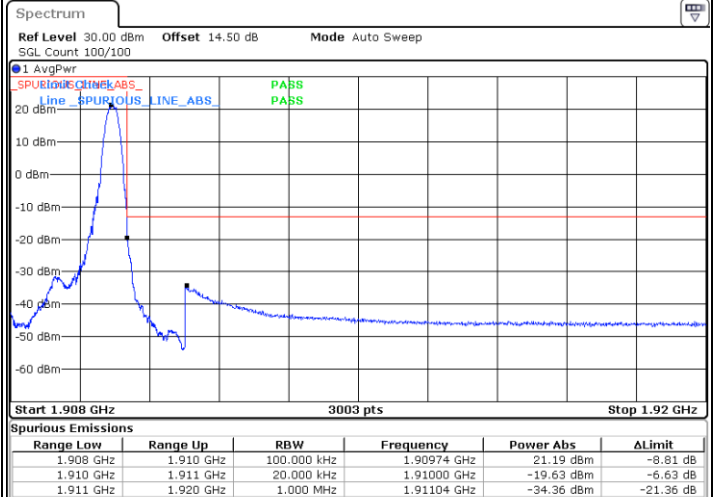
LTE Band 2 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



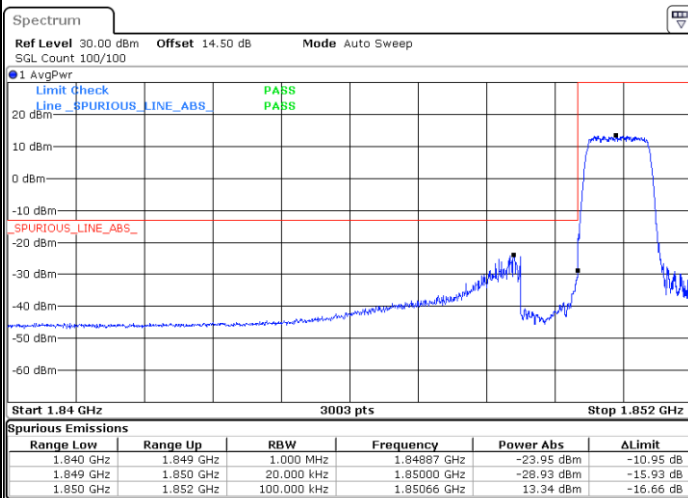
Date: 2 JAN 2025 19:19:45

Highest Band Edge / 1RB



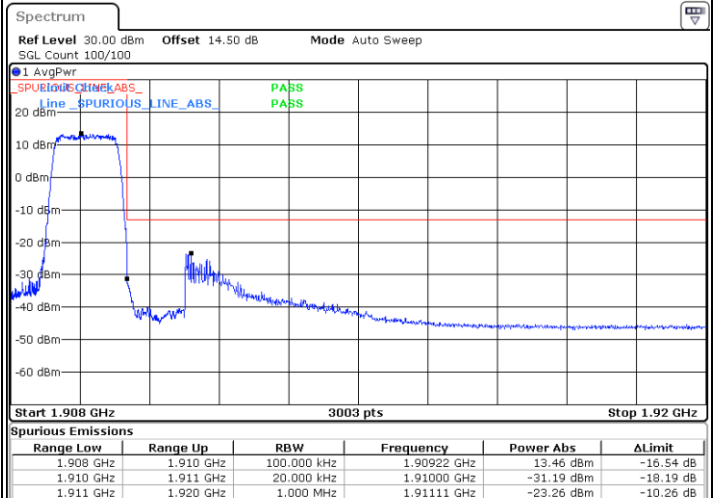
Date: 2 JAN 2025 19:27:57

Lowest Band Edge / Full RB



Date: 2 JAN 2025 19:23:11

Highest Band Edge / Full RB

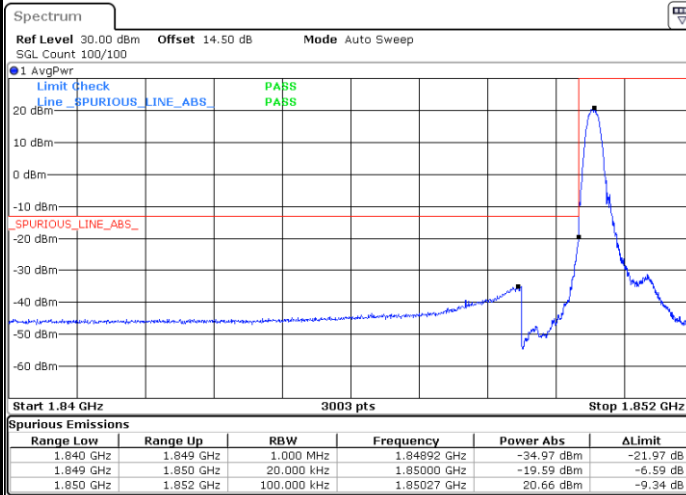


Date: 2 JAN 2025 19:31:24

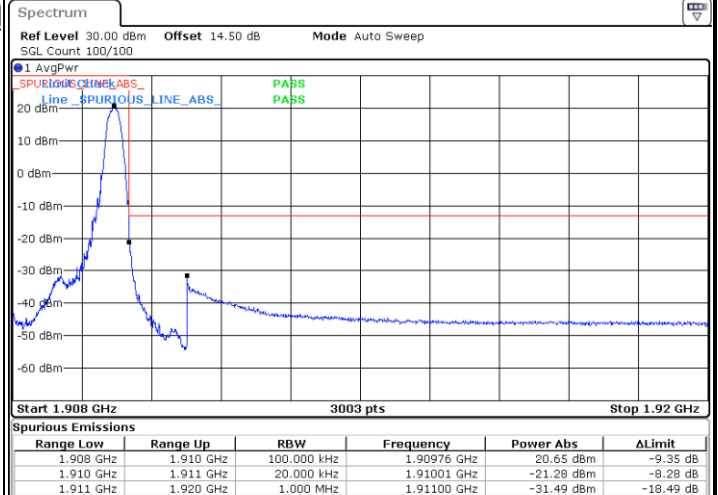


LTE Band 2 / 1.4MHz / 16QAM

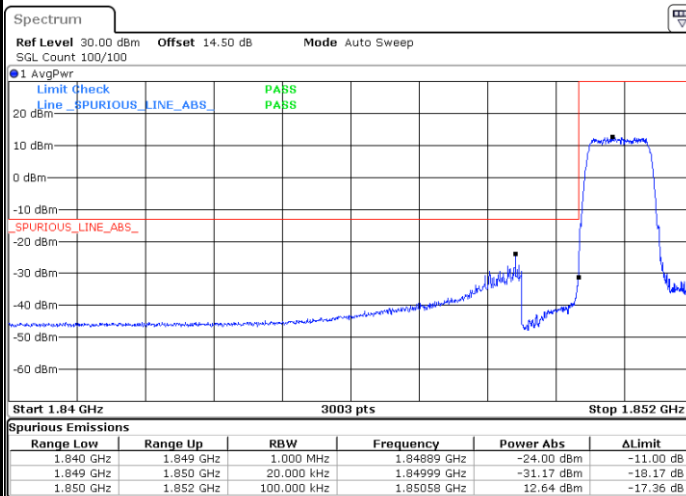
Lowest Band Edge / 1 RB



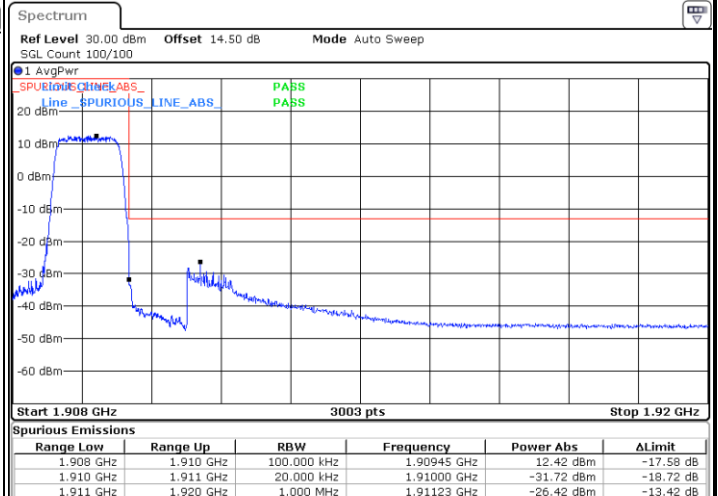
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



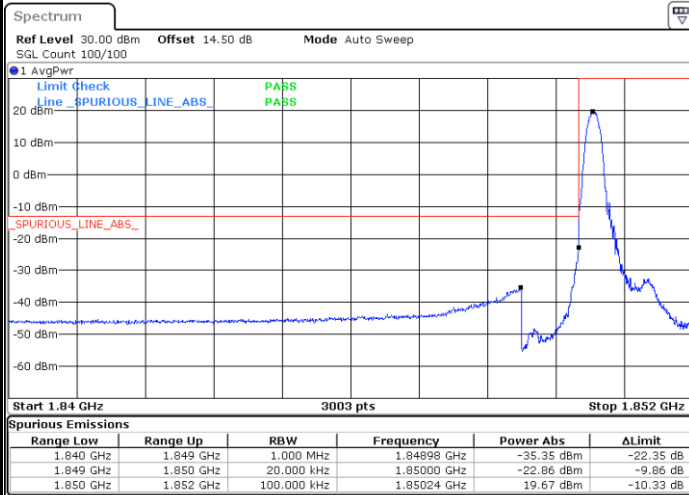
Highest Band Edge / Full RB



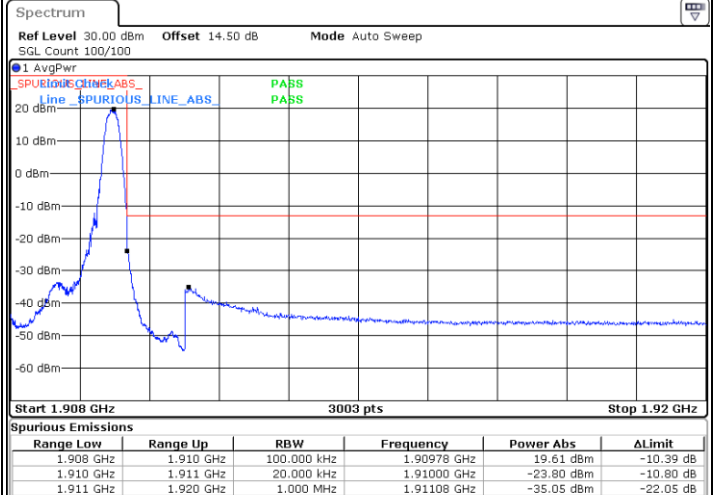


LTE Band 2 / 1.4MHz / 64QAM

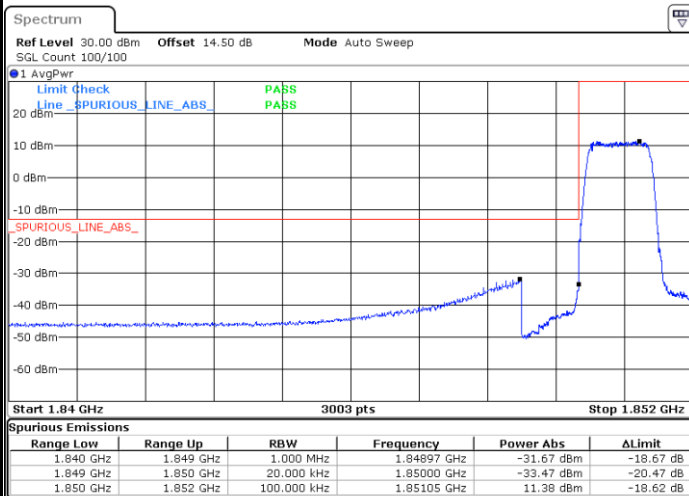
Lowest Band Edge / 1 RB



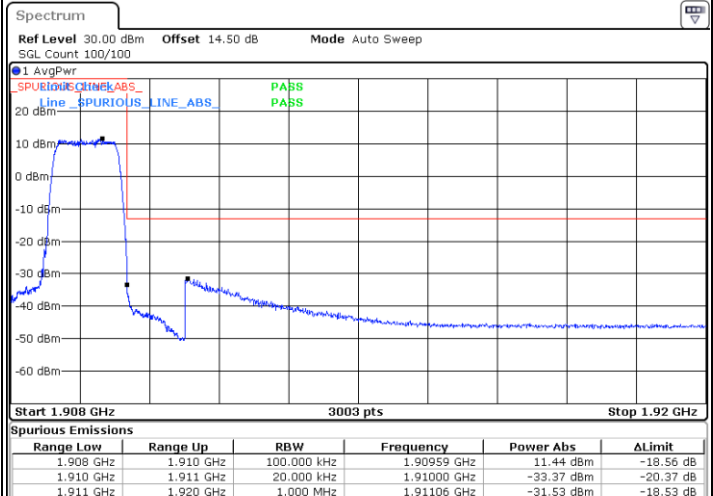
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



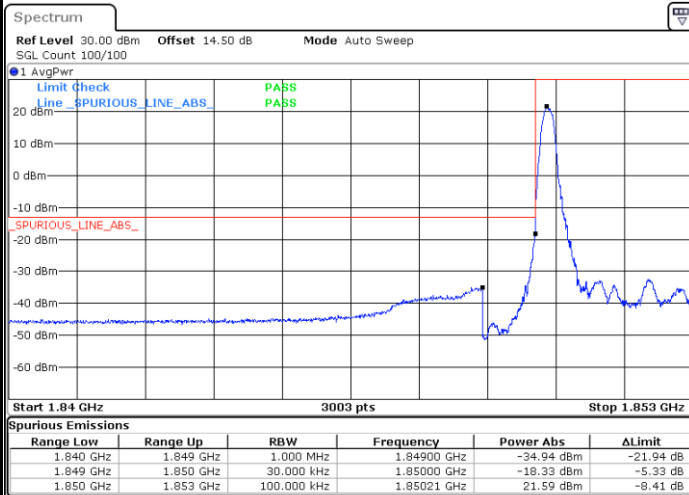
Highest Band Edge / Full RB





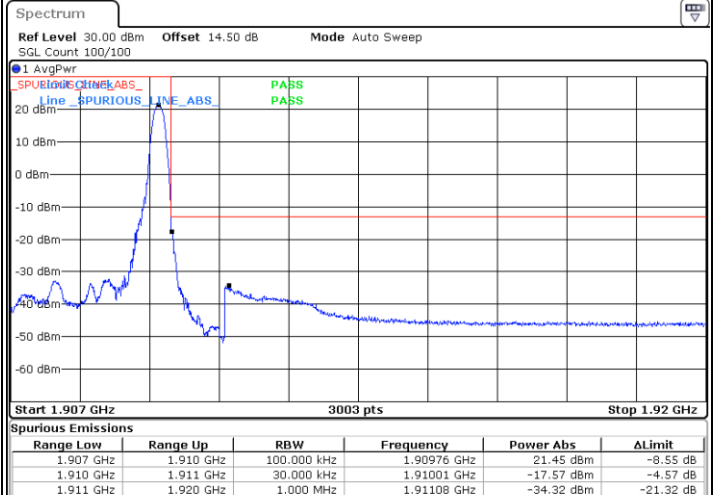
LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB



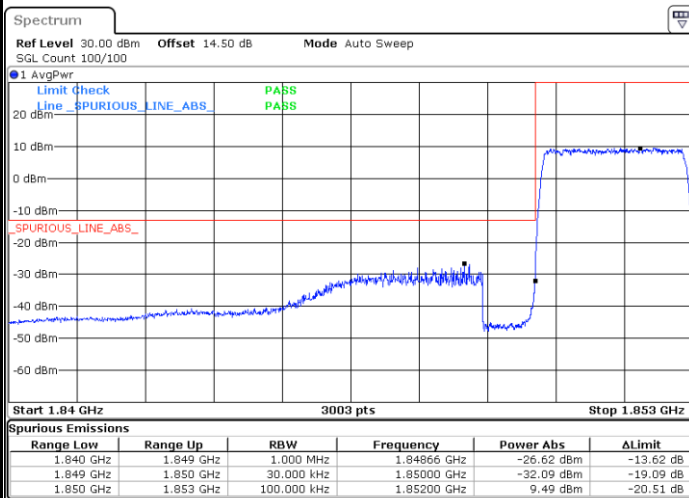
Date: 5.JAN.2025 14:40:15

Highest Band Edge / 1RB



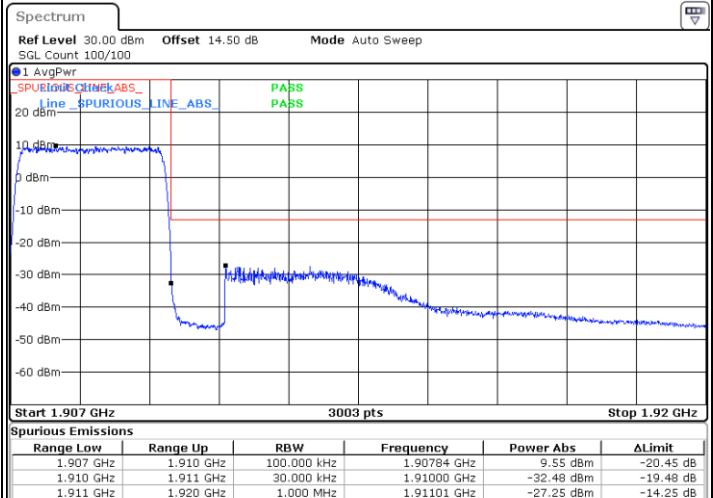
Date: 2.JAN.2025 19:42:50

Lowest Band Edge / Full RB



Date: 2.JAN.2025 19:38:05

Highest Band Edge / Full RB

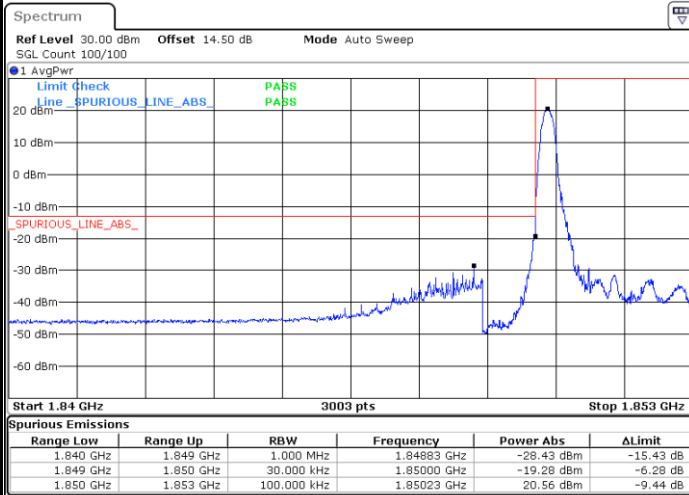


Date: 2.JAN.2025 19:45:21

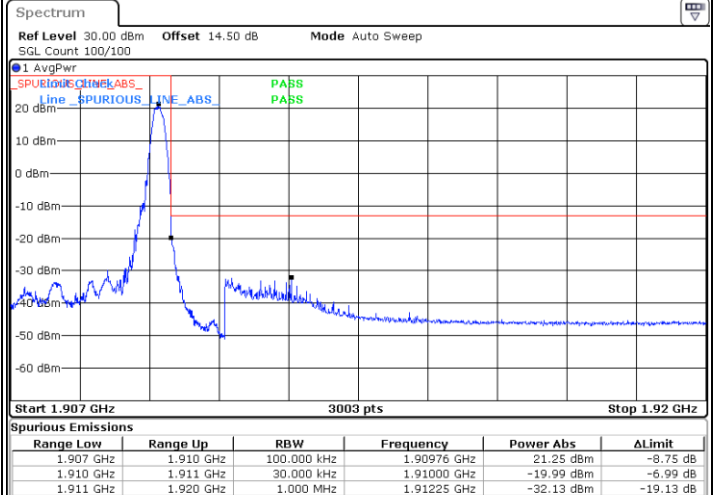


LTE Band 2 / 3MHz / 16QAM

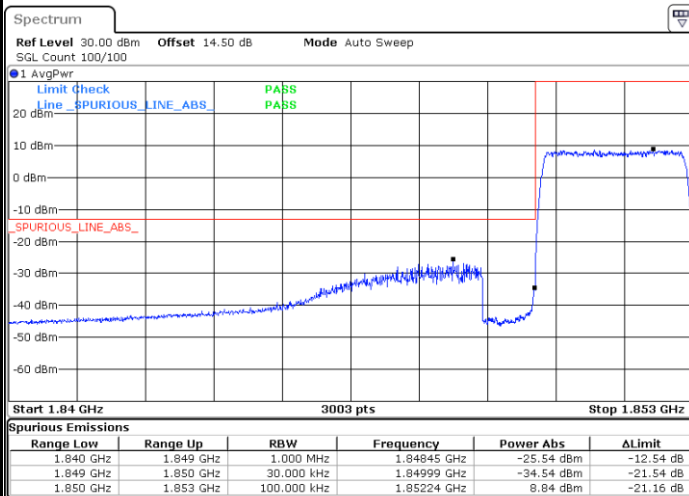
Lowest Band Edge / 1 RB



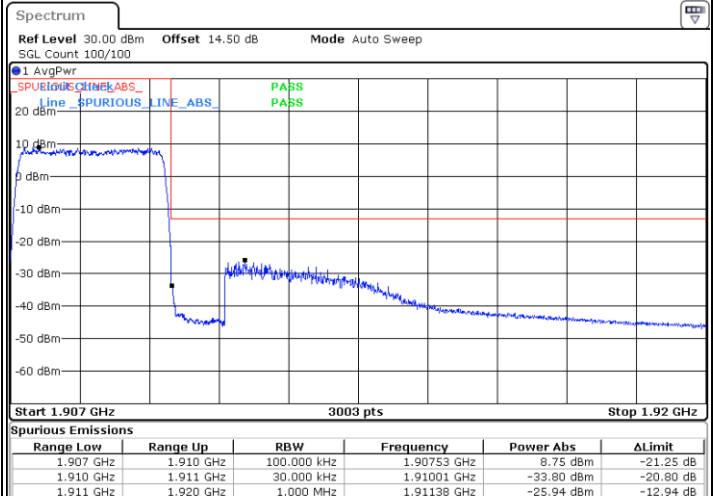
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



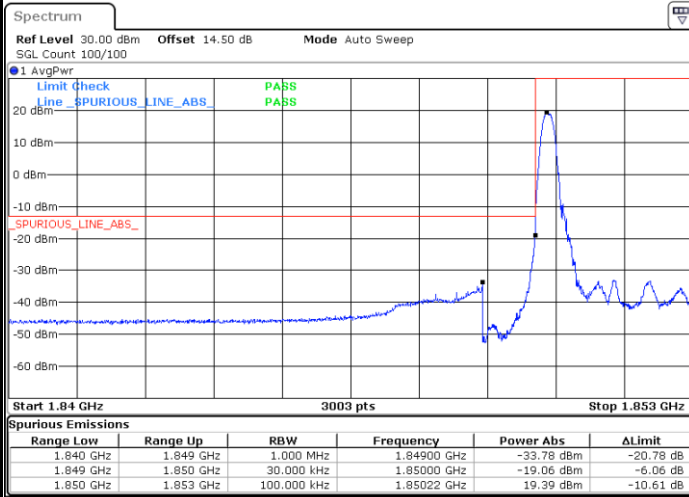
Highest Band Edge / Full RB



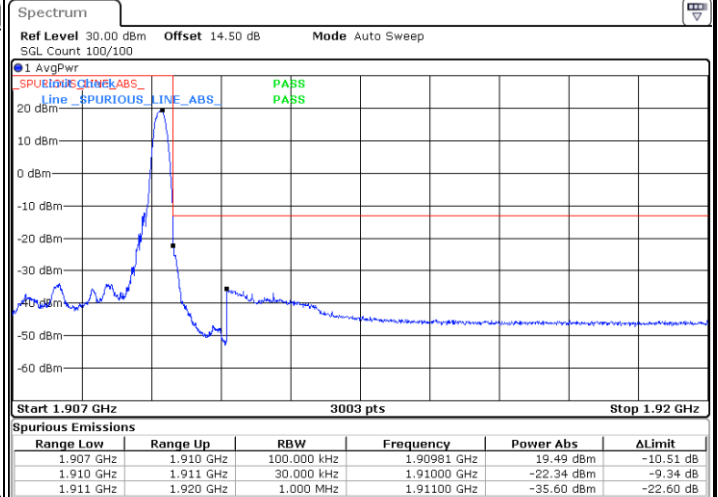


LTE Band 2 / 3MHz / 64QAM

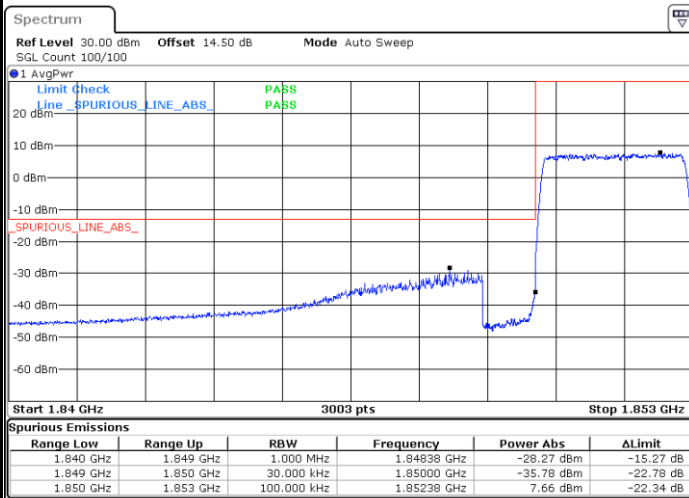
Lowest Band Edge / 1 RB



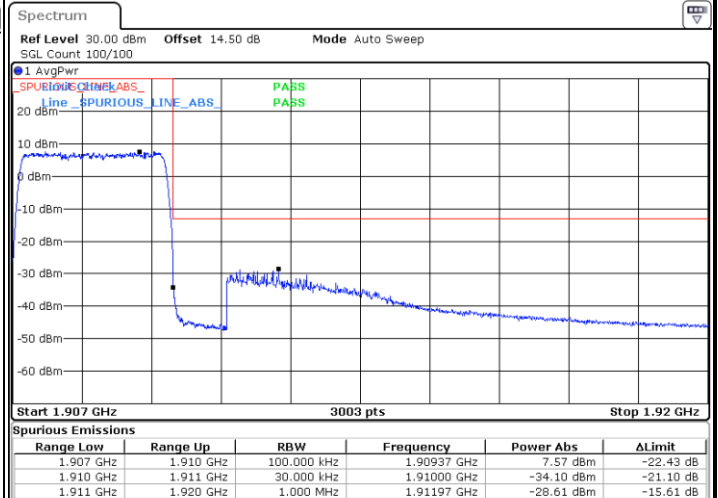
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



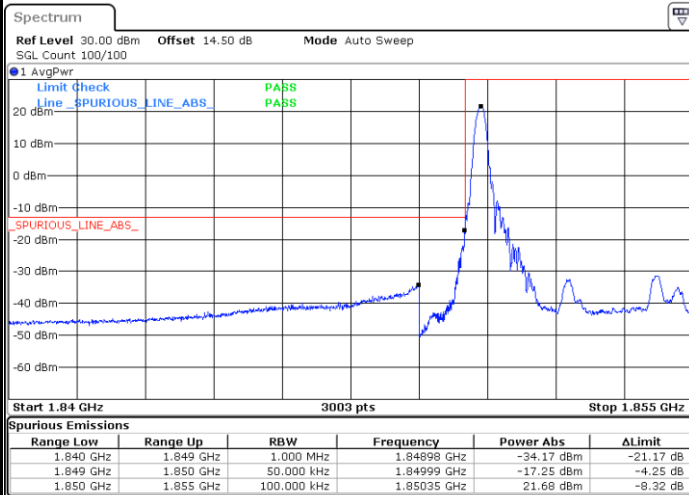
Highest Band Edge / Full RB





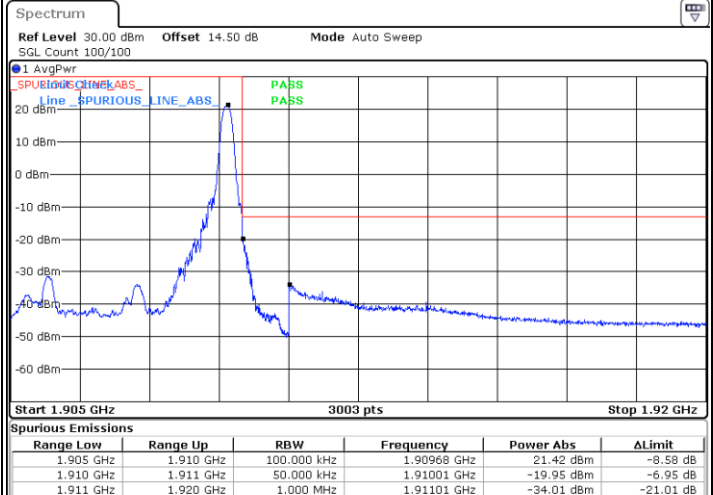
LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1RB



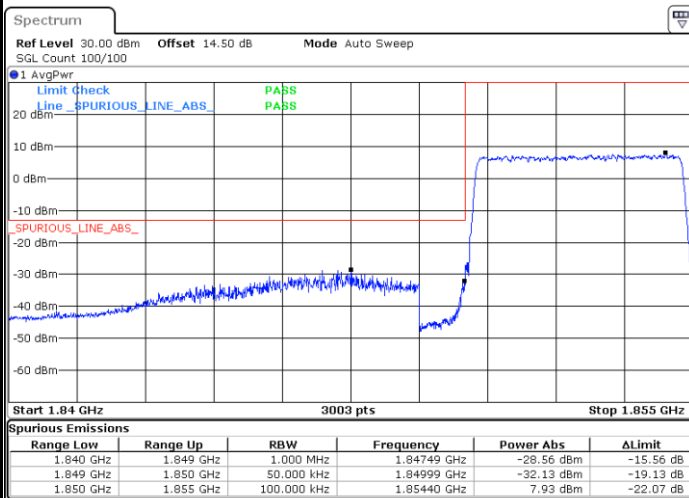
Date: 2 JAN 2025 19:49:31

Highest Band Edge / 1RB



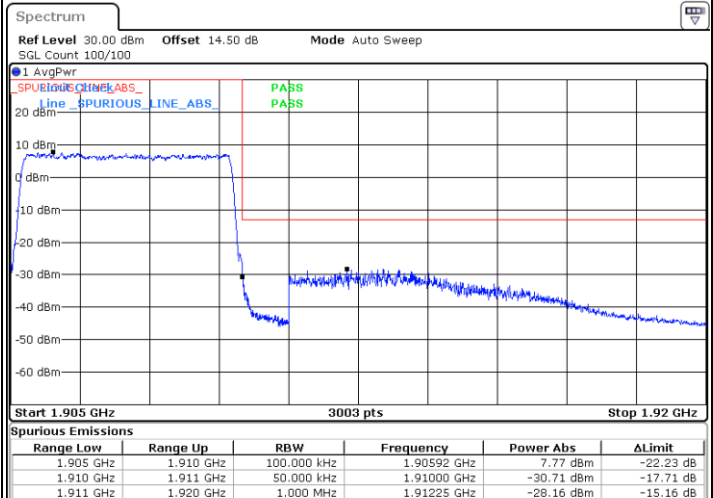
Date: 2 JAN 2025 19:57:43

Lowest Band Edge / Full RB



Date: 2 JAN 2025 19:52:57

Highest Band Edge / Full RB

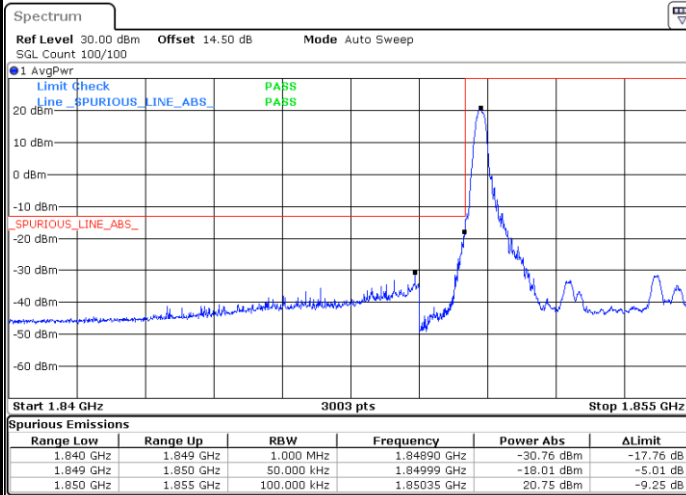


Date: 2 JAN 2025 20:00:15

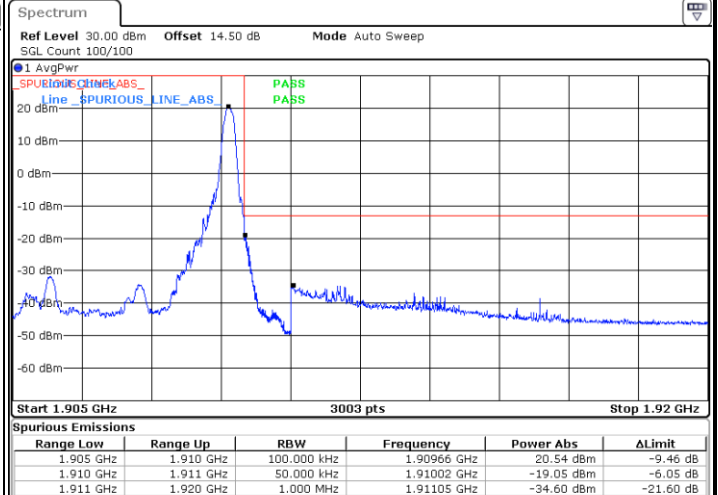


LTE Band 2 / 5MHz / 16QAM

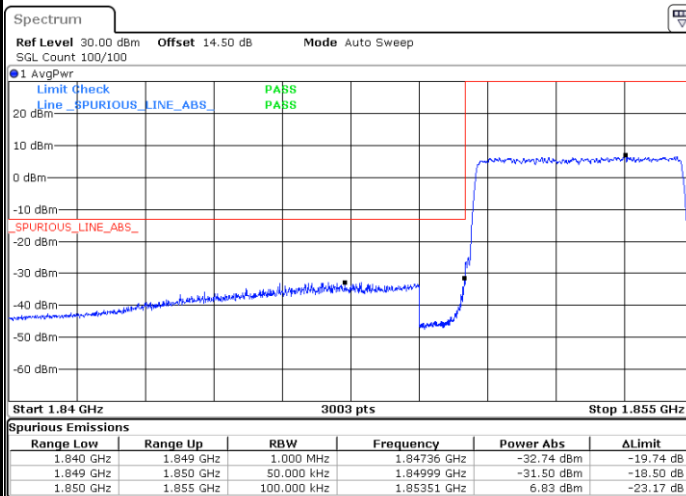
Lowest Band Edge / 1 RB



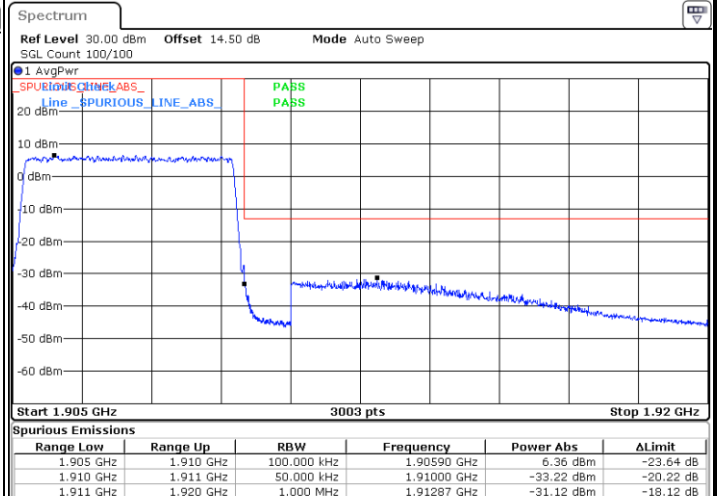
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



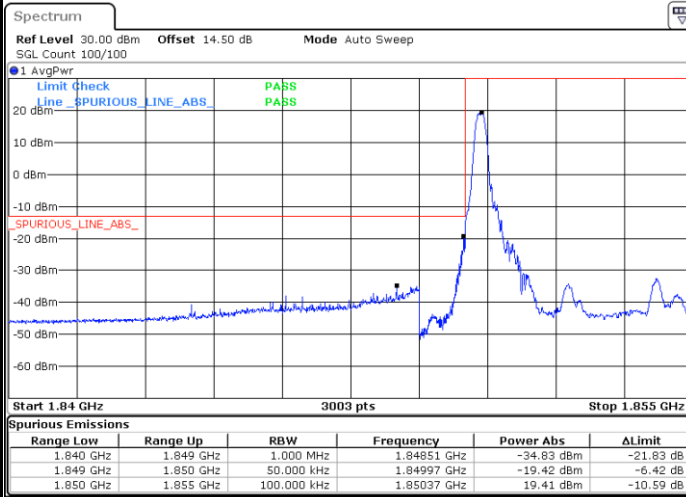
Highest Band Edge / Full RB



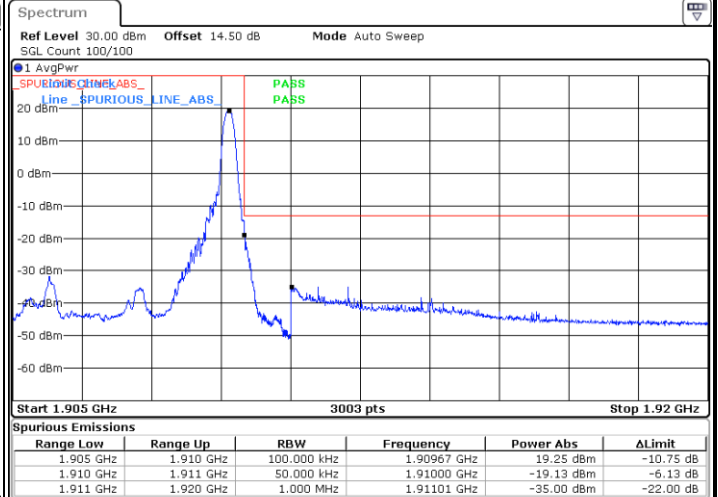


LTE Band 2 / 5MHz / 64QAM

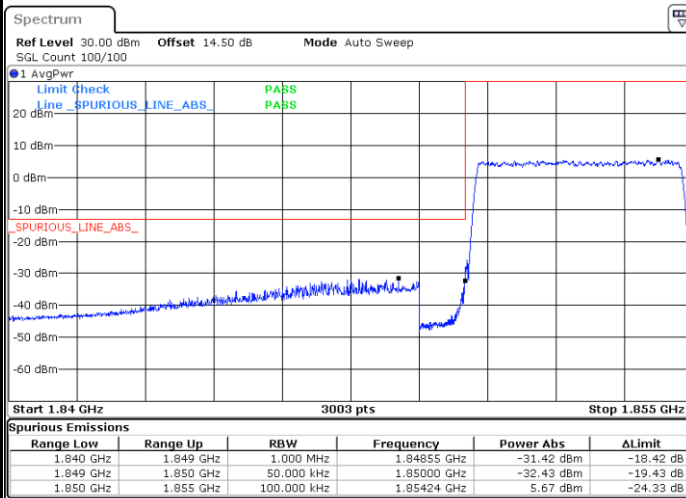
Lowest Band Edge / 1 RB



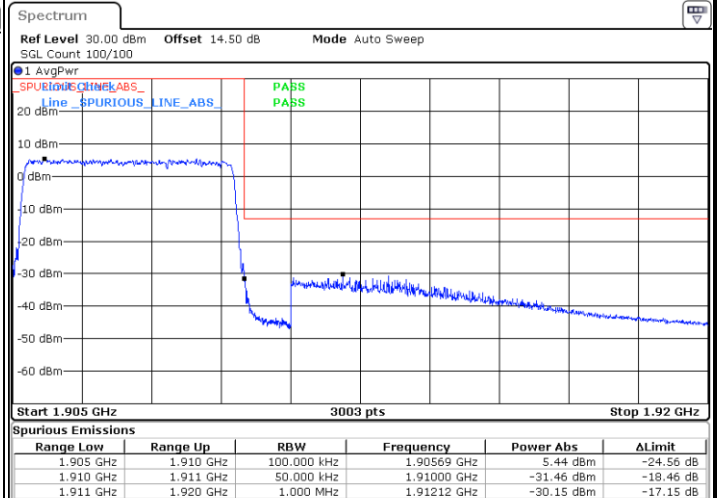
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



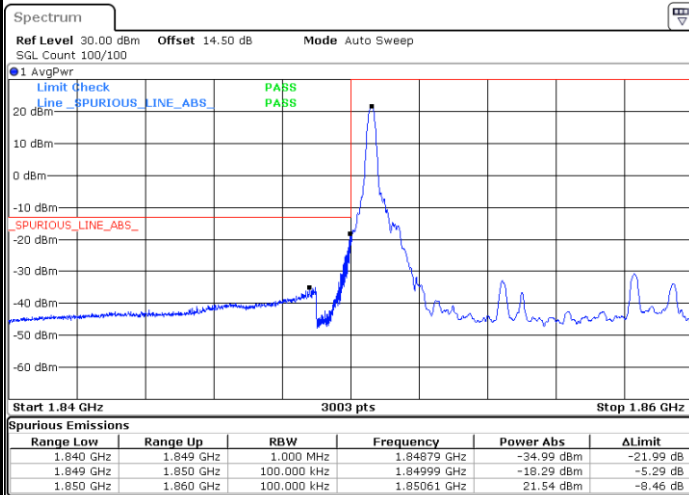
Highest Band Edge / Full RB





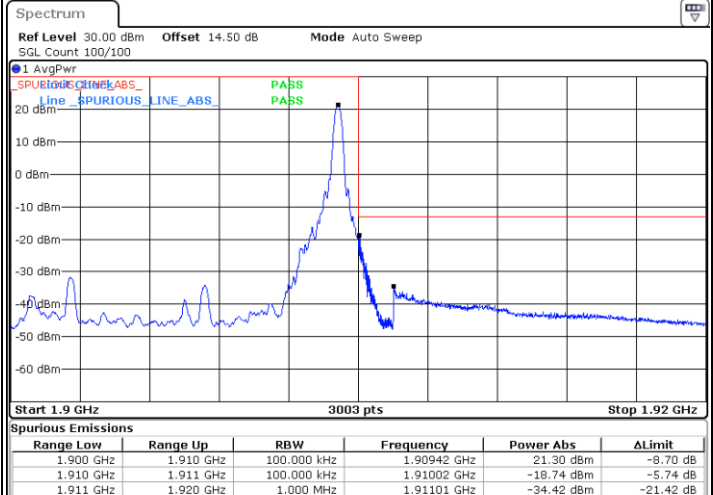
LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1RB



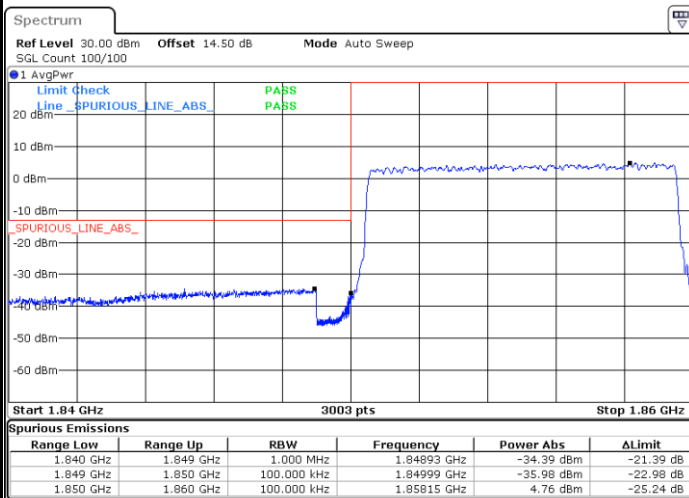
Date: 2 JAN 2025 20:04:25

Highest Band Edge / 1RB



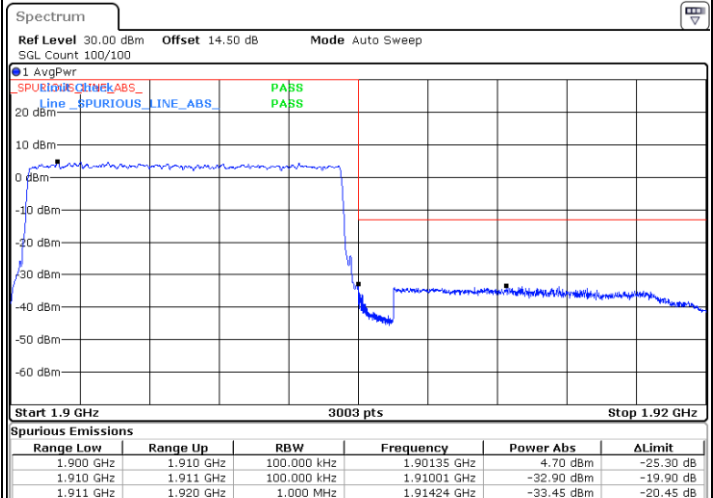
Date: 2 JAN 2025 20:12:37

Lowest Band Edge / Full RB



Date: 2 JAN 2025 20:06:56

Highest Band Edge / Full RB

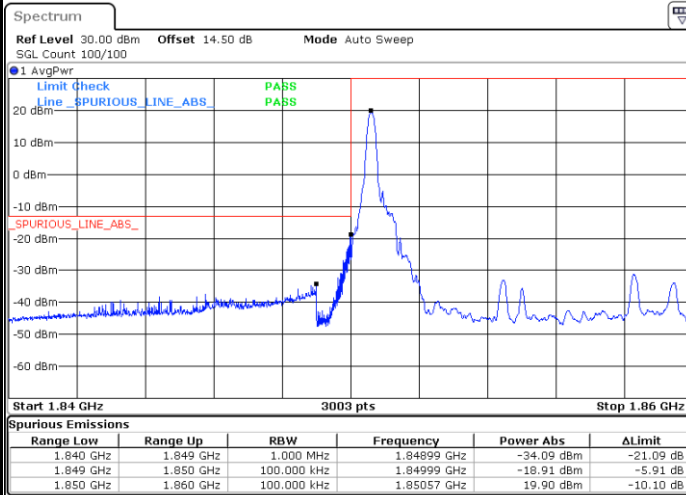


Date: 2 JAN 2025 20:15:08

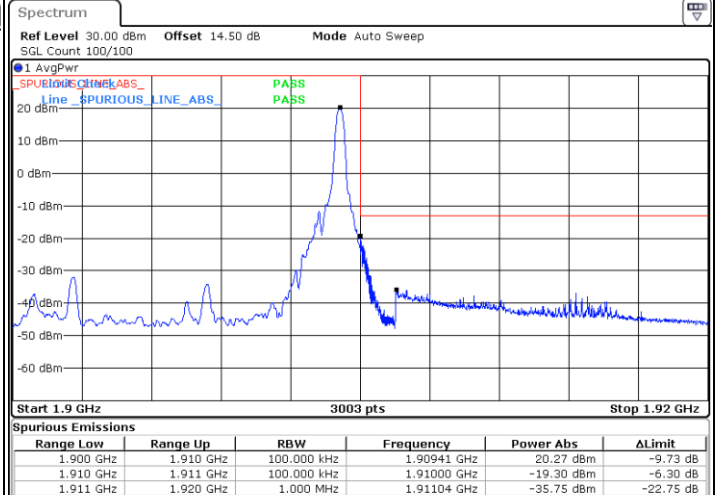


LTE Band 2 / 10MHz / 16QAM

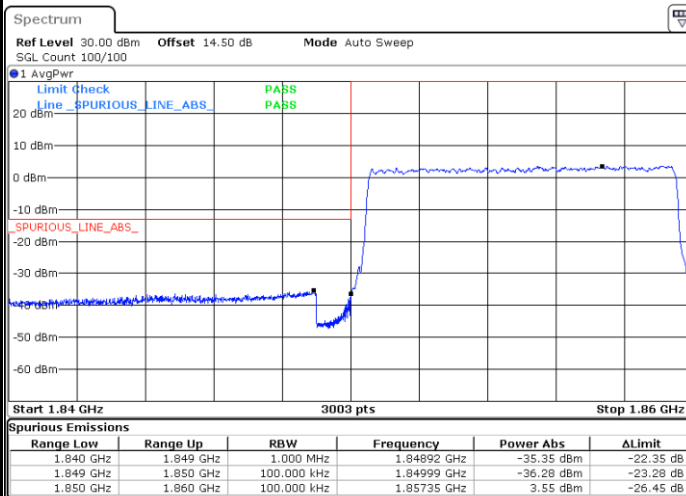
Lowest Band Edge / 1 RB



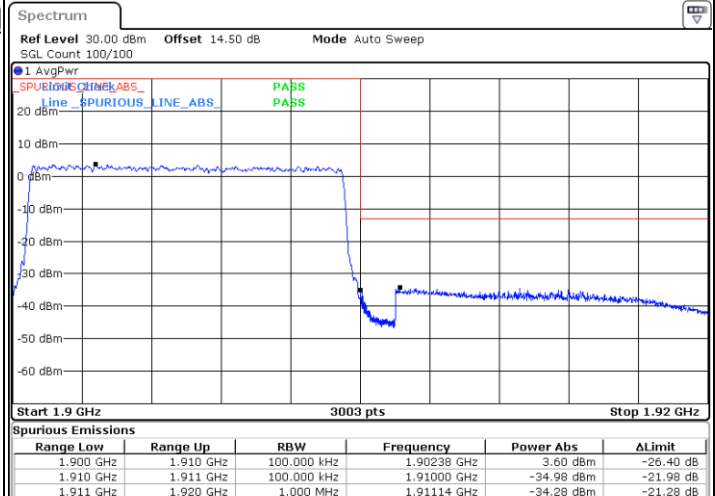
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



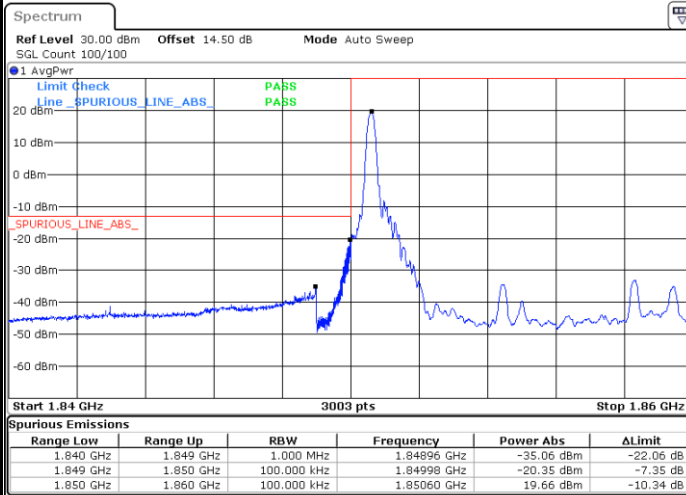
Highest Band Edge / Full RB



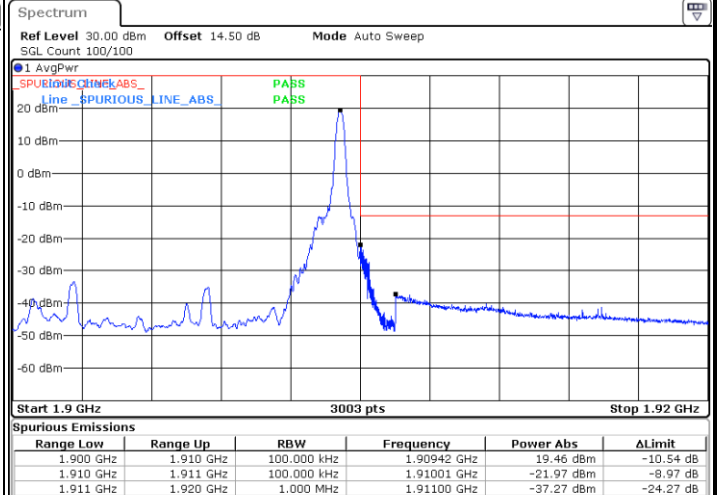


LTE Band 2 / 10MHz / 64QAM

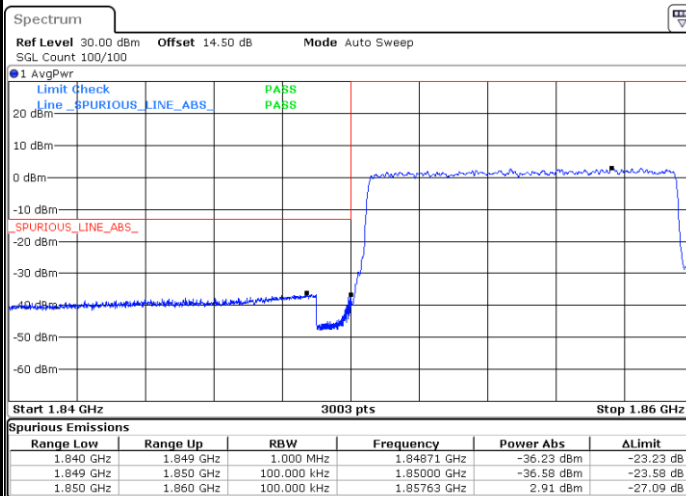
Lowest Band Edge / 1 RB



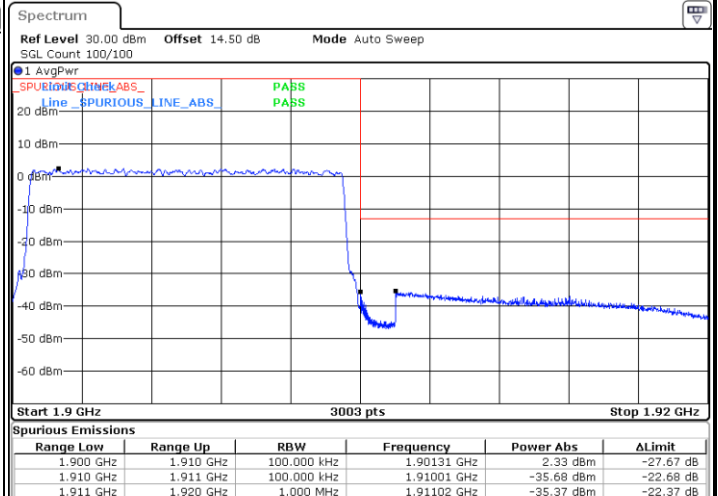
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



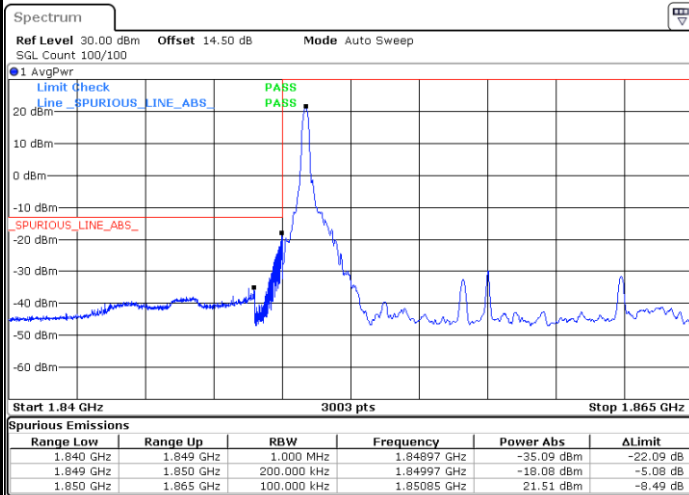
Highest Band Edge / Full RB





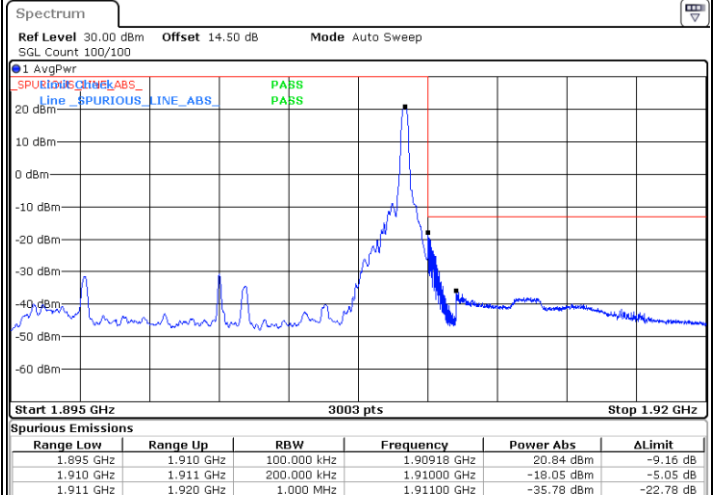
LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / 1RB



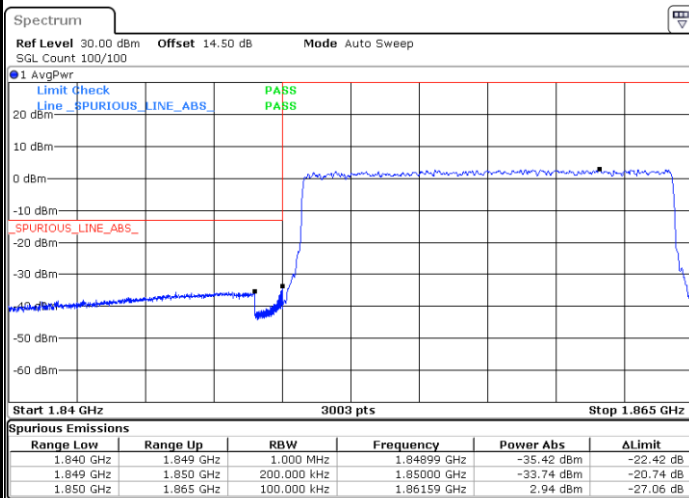
Date: 2 JAN 2025 20:19:17

Highest Band Edge / 1RB



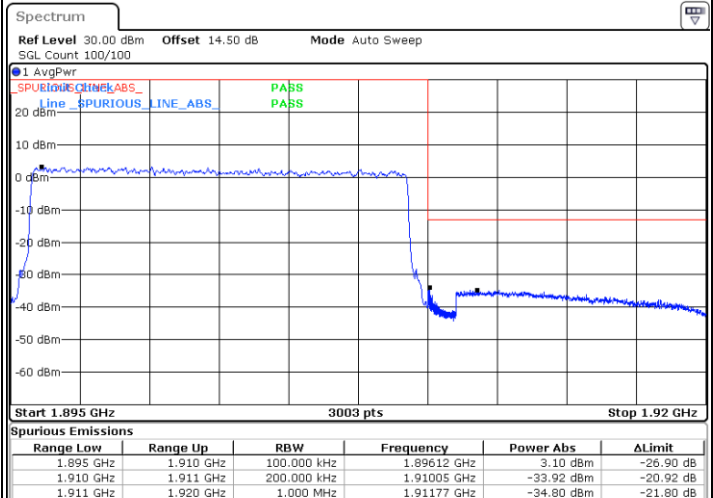
Date: 2 JAN 2025 20:27:29

Lowest Band Edge / Full RB



Date: 2 JAN 2025 20:21:49

Highest Band Edge / Full RB

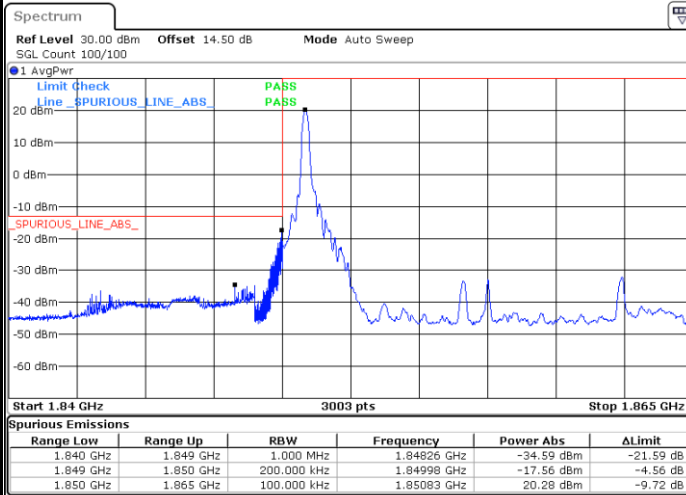


Date: 2 JAN 2025 20:39:19

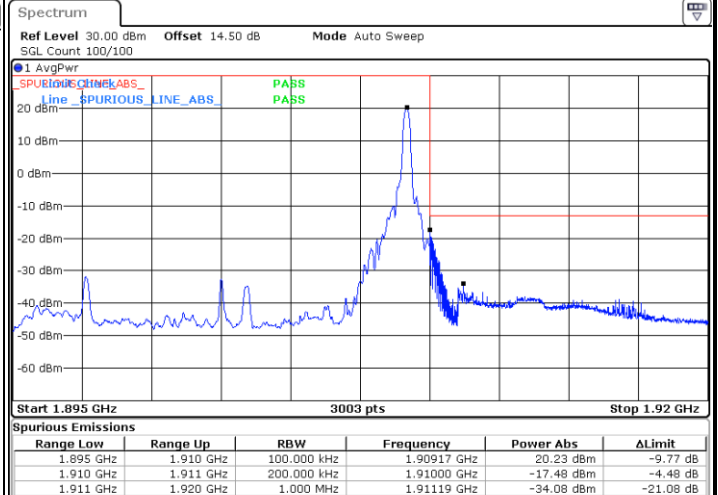


LTE Band 2 / 15MHz / 16QAM

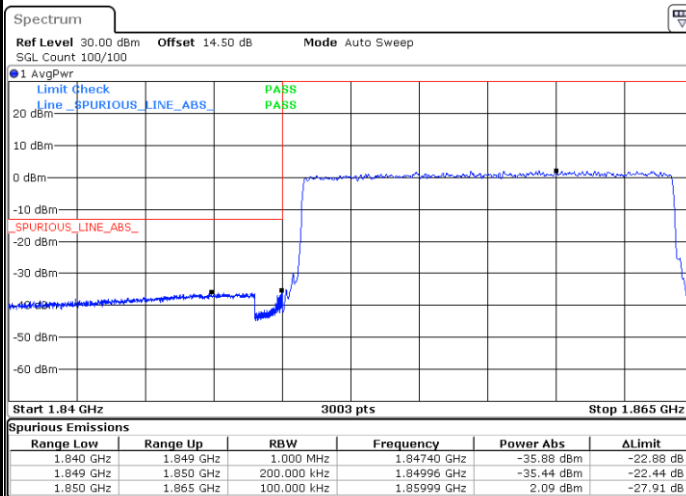
Lowest Band Edge / 1 RB



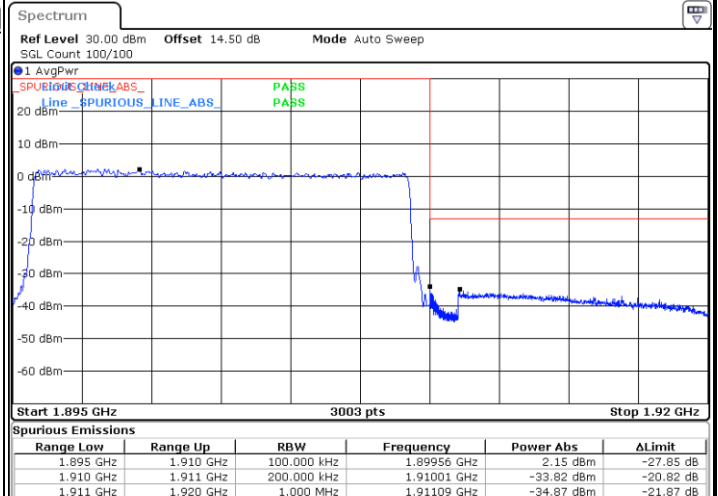
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



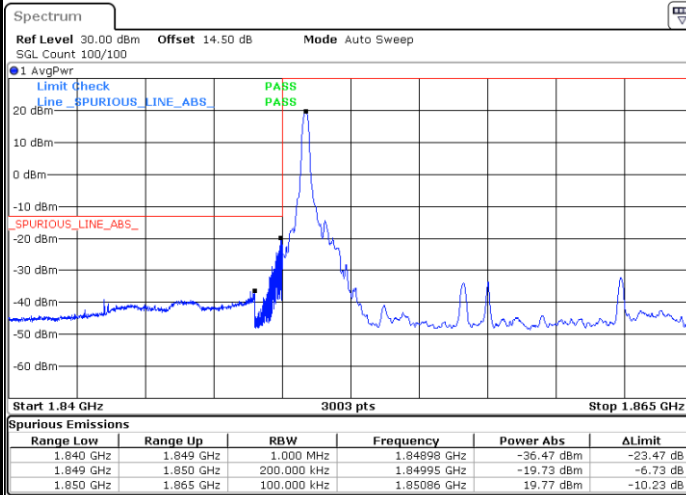
Highest Band Edge / Full RB



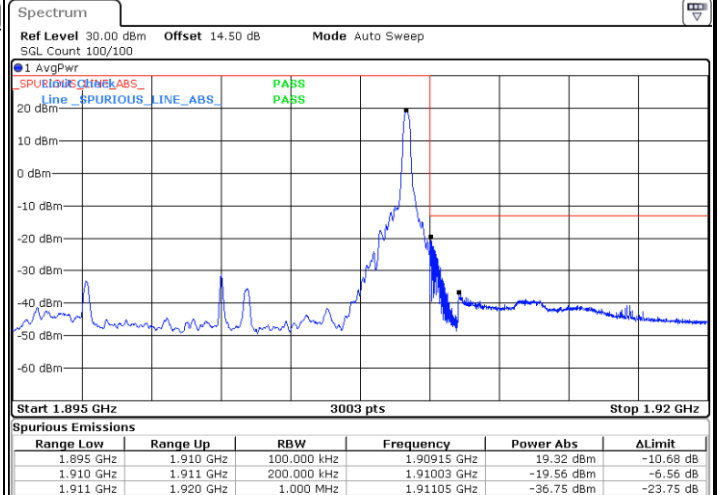


LTE Band 2 / 15MHz / 64QAM

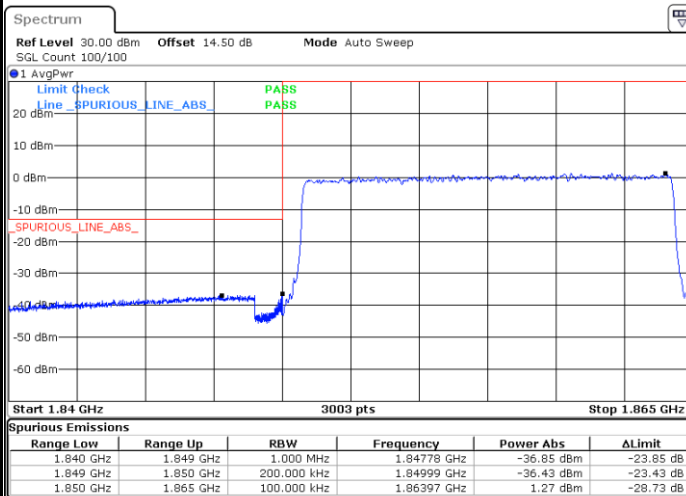
Lowest Band Edge / 1 RB



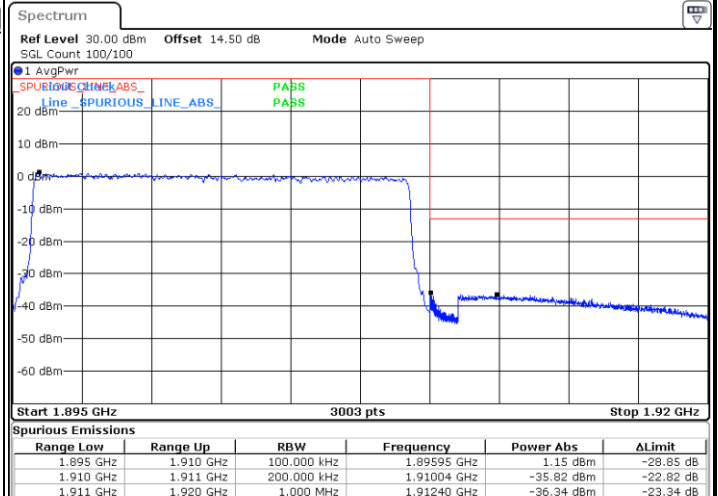
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



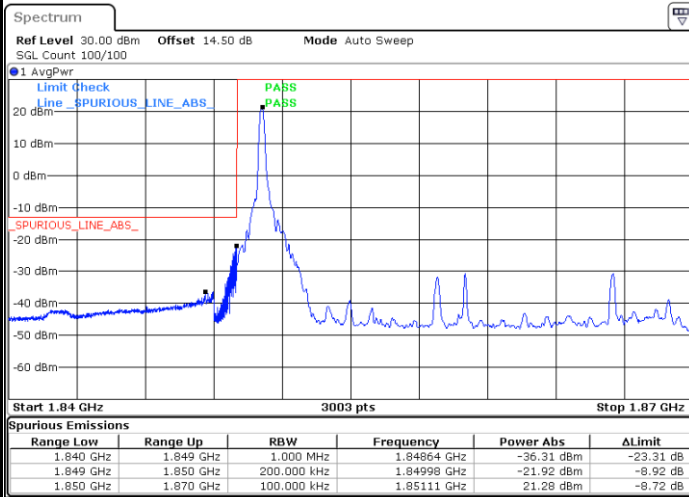
Highest Band Edge / Full RB





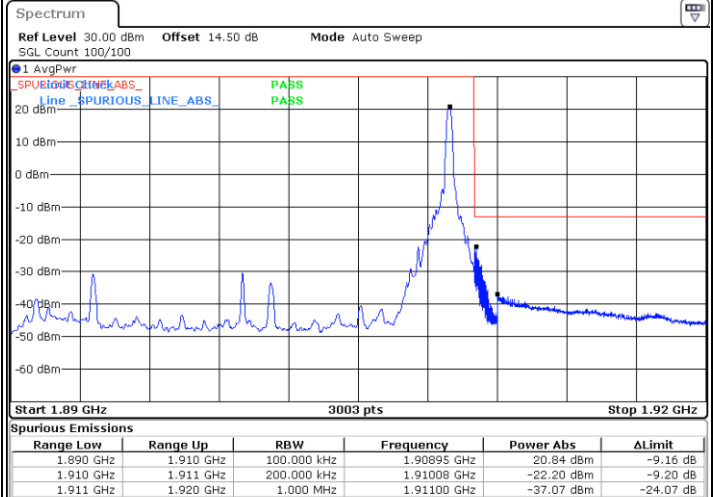
LTE Band 2 / 20MHz / QPSK

Lowest Band Edge / 1RB



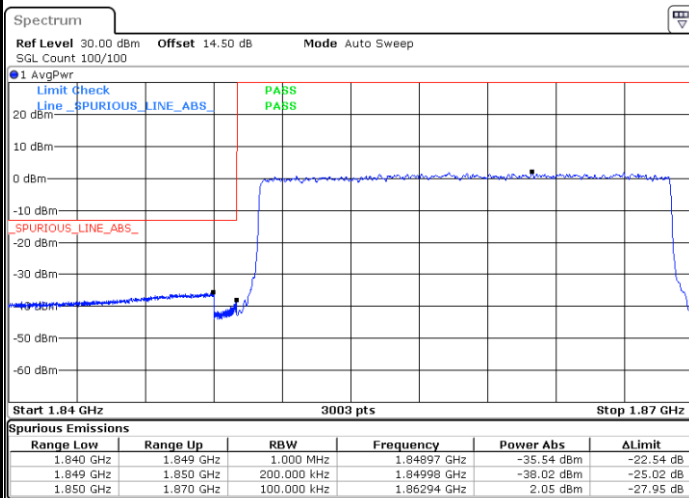
Date: 2 JAN 2025 20:43:29

Highest Band Edge / 1RB



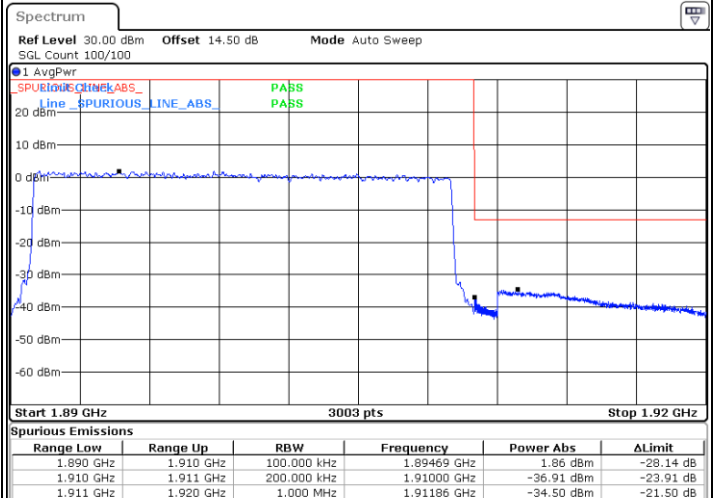
Date: 2 JAN 2025 20:53:02

Lowest Band Edge / Full RB



Date: 2 JAN 2025 20:46:01

Highest Band Edge / Full RB

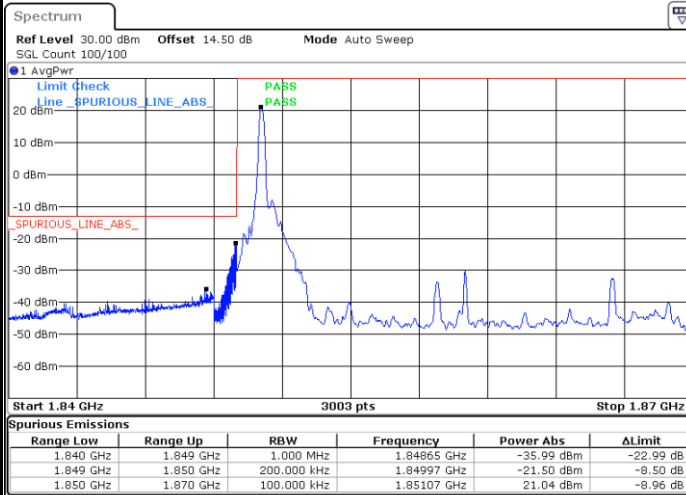


Date: 2 JAN 2025 20:55:33

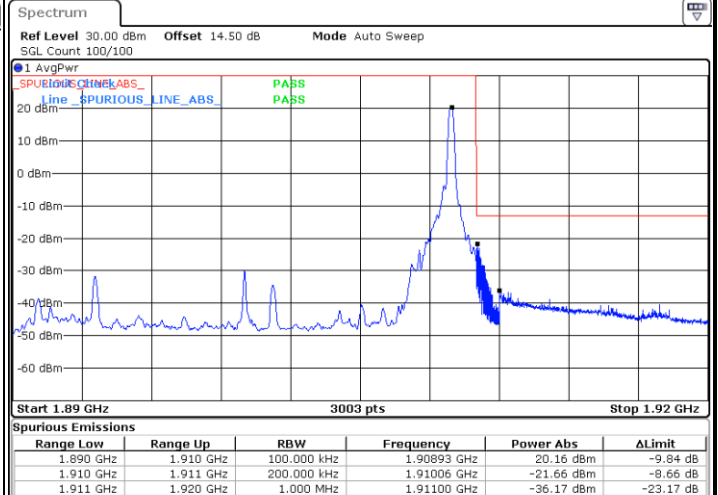


LTE Band 2 / 20MHz / 16QAM

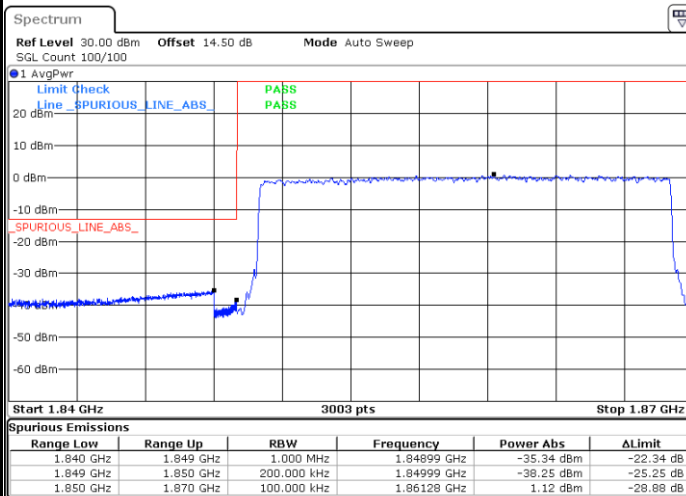
Lowest Band Edge / 1 RB



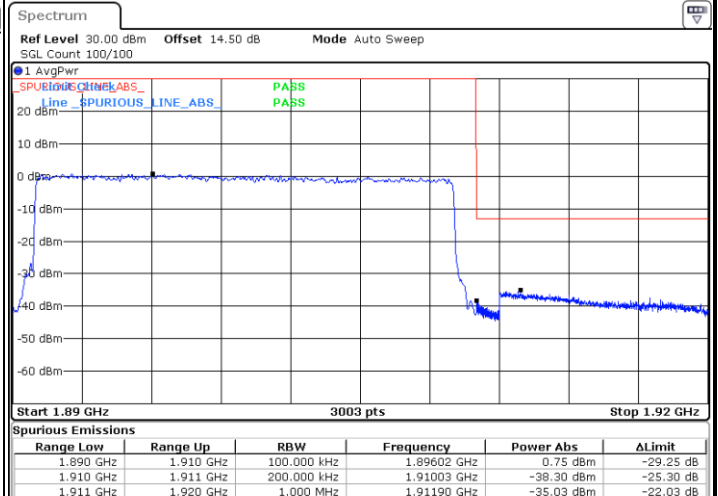
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



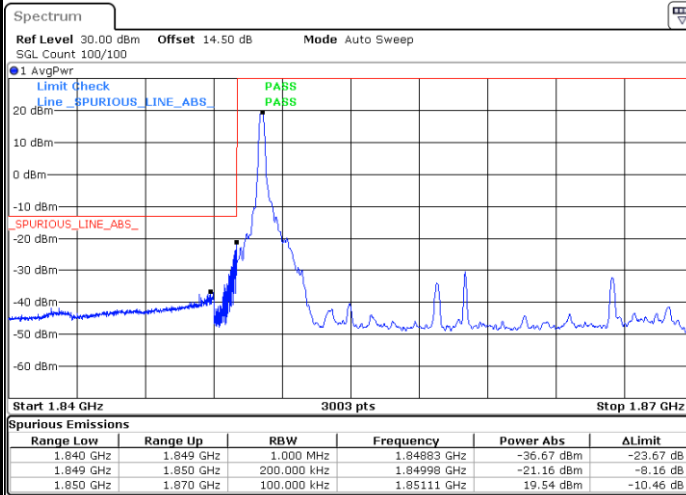
Highest Band Edge / Full RB





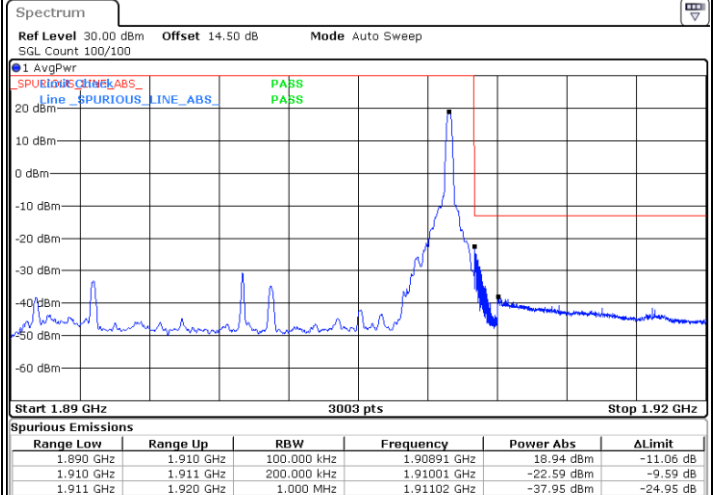
LTE Band 2 / 20MHz / 64QAM

Lowest Band Edge / 1 RB



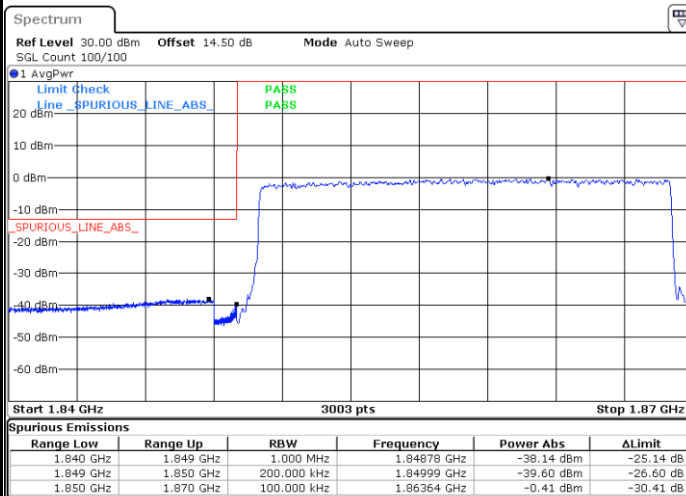
Date: 2 JAN 2025 20:45:10

Highest Band Edge / 1 RB



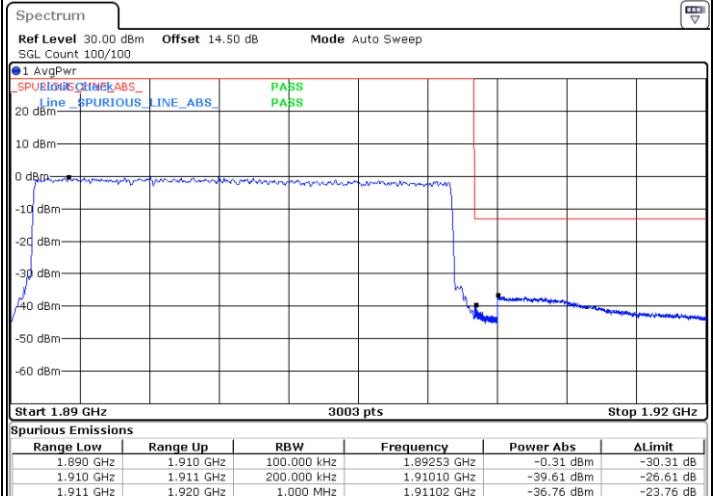
Date: 2 JAN 2025 20:54:43

Lowest Band Edge / Full RB



Date: 2 JAN 2025 20:47:42

Highest Band Edge / Full RB



Date: 2 JAN 2025 20:57:14