



FCC RF Test Report

APPLICANT : Barking Labs Corp.
EQUIPMENT : Fi Smart Collar Series 3+
BRAND NAME : Fi
MODEL NAME : FC3B
FCC ID : 2ARXN-FC3B
STANDARD : 47 CFR Part 24(E), 27(L), 27(H)
CLASSIFICATION : PCS Licensed Transmitter (PCB)
TEST DATE(S) : Apr. 15, 2025 ~ May 13, 2025

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)

**No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300
People's Republic of China**



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Product Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	5
1.5 Modification of EUT	6
1.6 Maximum ERP/EIRP Power and Emission Designator	6
1.7 Testing Location	7
1.8 Test Software	7
1.9 Applicable Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Test Mode	8
2.2 Connection Diagram of Test System	9
2.3 Support Unit used in test configuration and system	9
2.4 Measurement Results Explanation Example	9
2.5 Frequency List of Low/Middle/High Channels	10
3 CONDUCTED TEST ITEMS	12
3.1 Measuring Instruments	12
3.2 Test Setup	12
3.3 Test Result of Conducted Test	12
3.4 Conducted Output Power and ERP/EIRP	13
3.5 Peak-to-Average Ratio	14
3.6 Occupied Bandwidth	15
3.7 Conducted Band Edge	16
3.8 Conducted Spurious Emission	18
3.9 Frequency Stability	19
4 RADIATED TEST ITEMS	20
4.1 Measuring Instruments	20
4.2 Test Setup	20
4.3 Test Result of Radiated Test	21
4.4 Radiated Spurious Emission	22
5 LIST OF MEASURING EQUIPMENT	23
6 MEASUREMENT UNCERTAINTY	24
APPENDIX A. TEST RESULTS OF CONDUCTED TEST	
APPENDIX B. TEST RESULTS OF RADIATED TEST	
APPENDIX C. TEST SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG540712	Rev. 01	Initial issue of report	May 15, 2025

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§27.50(c)(10)	Effective Radiated Power (Band 12)	ERP < 3 Watt	PASS	-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2Watt		-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§2.1051 §24.238(a) §27.53(g) §27.53(h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 12)	< 43+10log10(P[Watts])	PASS	-
3.8	§2.1051 §24.238(a) §27.53(g) §27.53(h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 12)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §24.235 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§2.1053 §24.238(a) §27.53(g) §27.53(h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 12)	< 43+10log10(P[Watts])	PASS	Under limit 38.96 dB at 3750 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

Barking Labs Corp.

419 Lafayette St., Floor 2, New York, NY 10003

1.2 Manufacturer

Barking Labs Corp.

419 Lafayette St., Floor 2, New York, NY 10003

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Fi Smart Collar Series 3+
Brand Name	Fi
Model Name	FC3B
FCC ID	2ARXN-FC3B
SN Code	Conducted: FC35D002019 Radiation: AB1253QMBJ00NF
HW Version	1
SW Version	v4.18
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 12 : 699 MHz ~ 716 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 12 : 729 MHz ~ 746 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.15 dBm LTE Band 4 : 23.15 dBm LTE Band 12 : 23.15 dBm
Antenna Gain	LTE Band 2 : 1.0 dBi LTE Band 4 : -1.59 dBi LTE Band 12 : -3.83 dBi
Type of Modulation	QPSK / 16QAM



1.5 Modification of EUT

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

1.6 Maximum ERP/EIRP Power and Emission Designator

LTE Band 2		QPSK		16QAM	
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	0.2553	1M09G7D	0.2570	962KW7D
3	1851.5 ~ 1908.5	0.2576	1M10G7D	0.2564	959KW7D
5	1852.5 ~ 1907.5	0.2582	1M09G7D	0.2576	939KW7D
10	1855.0 ~ 1905.0	0.2547	1M10G7D	0.2553	979KW7D
15	1857.5 ~ 1902.5	0.2576	1M11G7D	0.2570	959KW7D
20	1860.0 ~ 1900.0	0.2600	1M12G7D	0.2559	999KW7D
LTE Band 4		QPSK		16QAM	
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	1M12G7D	0.1409	1M00W7D
3	1711.5 ~ 1753.5	0.1406	1M10G7D	0.1413	971KW7D
5	1712.5 ~ 1752.5	0.1416	1M09G7D	0.1416	1M01W7D
10	1715.0 ~ 1750.0	0.1419	1M12G7D	0.1416	939KW7D
15	1717.5 ~ 1747.5	0.1406	1M11G7D	0.1416	959KW7D
20	1720.0 ~ 1745.0	0.1432	1M12G7D	0.1409	959KW7D
LTE Band 12		QPSK		16QAM	
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	0.0518	1M11G7D	0.0516	937KW7D
3	700.5 ~ 714.5	0.0516	1M10G7D	0.0516	929KW7D
5	701.5 ~ 713.5	0.0516	1M10G7D	0.0507	1M01W7D
10	704.0 ~ 711.0	0.0521	1M10G7D	0.0515	959KW7D

Note: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. (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.
	03CH08-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	TH01-KS	SPORTON	FCC LTE_Ver2.0 Auto_china_210503	2.0
2.	03CH08-KS	AUDIX	E3	210616

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

Remark:

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



2 Test Configuration of Equipment Under Test

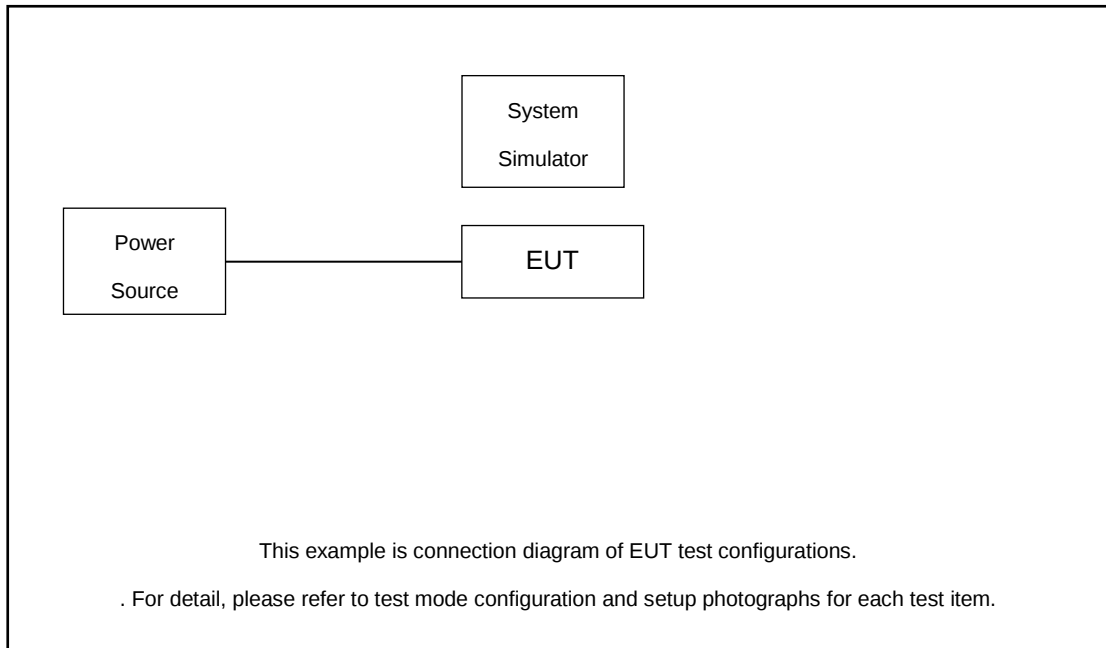
2.1 Test Mode

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

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

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

Offset = RF cable loss.

Following shows an offset computation example with cable loss 5.6 dB.

Example :

Offset(dB) = RF cable loss(dB).

= 5.6 (dB)



2.5 Frequency List of Low/Middle/High Channels

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

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



LTE Band 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

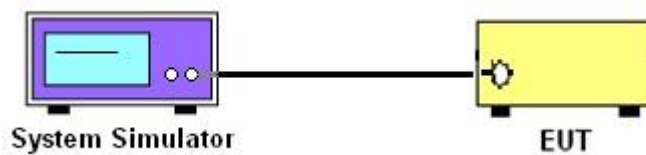
3 Conducted Test Items

3.1 Measuring Instruments

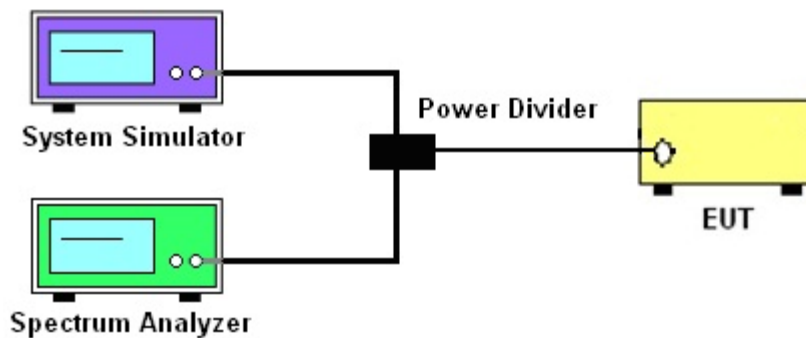
See list of measuring instruments of this test report.

3.2 Test Setup

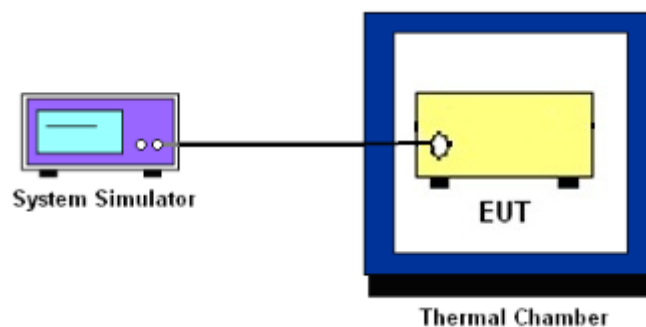
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

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

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

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

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.

According to KDB 412172 D01 Power Approach,

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

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

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

3.4.2 Test Procedures

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

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

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

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 Test Procedures

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

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

24.238 (a)

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

27.53 (g)

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

27.53 (h)

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

3.7.2 Test Procedures

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

Example:

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.

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.

3.9.2 Test Procedures for Temperature Variation

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

3.9.3 Test Procedures for Voltage Variation

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

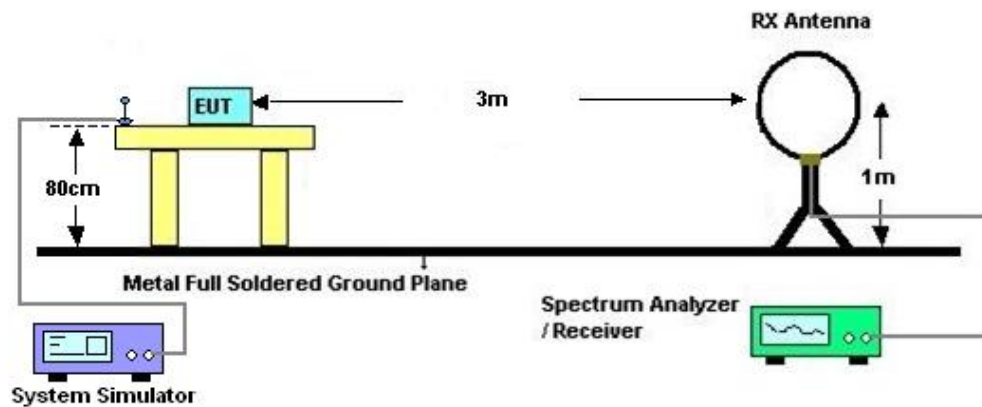
4 Radiated Test Items

4.1 Measuring Instruments

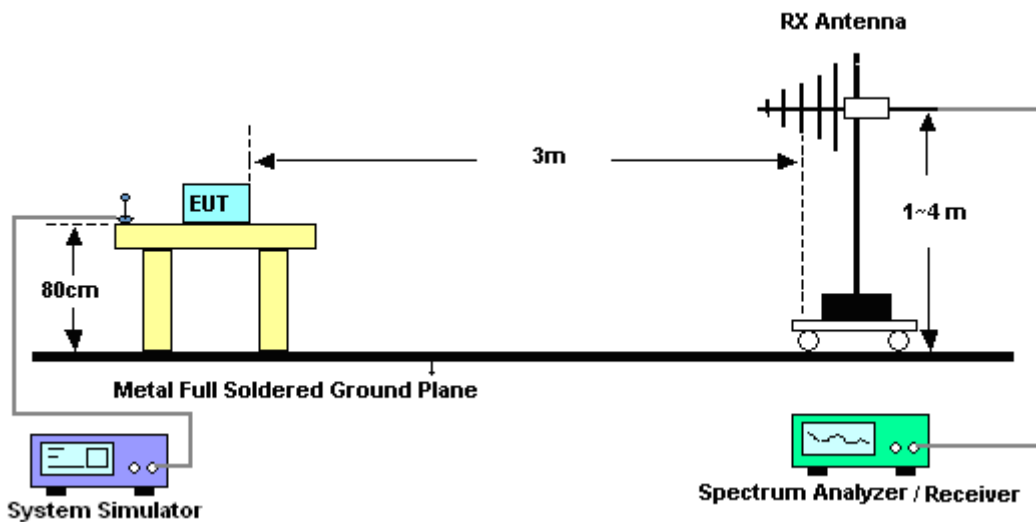
See list of measuring instruments of this test report.

4.2 Test Setup

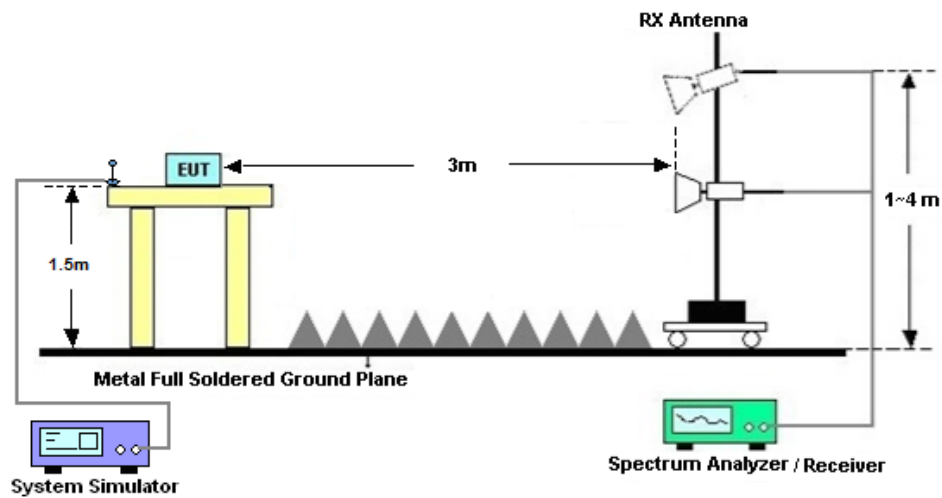
4.2.1 For radiated test below 30MHz



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	101040	10Hz~40GHz	Oct. 10, 2024	Apr. 15, 2025~ May 13, 2025	Oct. 09, 2025	Conducted (TH01-KS)
Power divider	STI	STI08-0055	-	0.5~40GHz	NCR	Apr. 15, 2025~ May 13, 2025	NCR	Conducted (TH01-KS)
Temperature & humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 04, 2024	Apr. 15, 2025~ May 13, 2025	Jul. 03, 2025	Conducted (TH01-KS)
EMI Test Receiver	Keysight	N9038A	MY57290151	3Hz~8.5GHz;Max 30dBm	Jul. 04, 2024	Apr. 29, 2025	Jul. 03, 2025	Radiation (03CH08-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57441079	10Hz~44GHz	Oct. 09, 2024	Apr. 29, 2025	Oct. 08, 2025	Radiation (03CH08-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Sep. 08, 2024	Apr. 29, 2025	Sep. 07, 2025	Radiation (03CH08-KS)
Bilog Antenna	TESEQ	CBL 6111D	59915	30MHz~1GHz	Aug. 18, 2024	Apr. 29, 2025	Aug. 17, 2025	Radiation (03CH08-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00240138	1GHz~18GHz	Jul. 06, 2024	Apr. 29, 2025	Jul. 05, 2025	Radiation (03CH08-KS)
high gain Amplifier	EM	EM01G18G A	060890	1Ghz~18Ghz	Jul. 23, 2024	Apr. 29, 2025	Jul. 22, 2025	Radiation (03CH08-KS)
SHF-EHF Horn	Com-power	AH-840	101116	18GHz~40GHz	Oct. 22, 2024	Apr. 29, 2025	Oct. 21, 2025	Radiation (03CH08-KS)
Amplifier	SONOMA	310N	380826	9KHz~1GHz	Jul. 03, 2024	Apr. 29, 2025	Jul. 02, 2025	Radiation (03CH08-KS)
Amplifier	Keysight	83017A	MY53270417	500MHz~26.5GHz	Oct. 09, 2024	Apr. 29, 2025	Oct. 08, 2025	Radiation (03CH08-KS)
Amplifier	EM	EM18G40G GA	060737	18~40GHz	Jan. 03, 2025	Apr. 29, 2025	Jan. 02, 2026	Radiation (03CH08-KS)
AC Power Source	Chroma	61601	616010002473	N/A	NCR	Apr. 29, 2025	NCR	Radiation (03CH08-KS)
Turn Table	EM	EM 1000-T	N/A	0~360 degree	NCR	Apr. 29, 2025	NCR	Radiation (03CH08-KS)
Antenna Mast	EM	EM 1000-A	N/A	1 m~4 m	NCR	Apr. 29, 2025	NCR	Radiation (03CH08-KS)

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

Conducted Spurious Emission & Bandedge	±2.22 dB
Occupied Channel Bandwidth	±0.1%
Conducted Power	±0.50 dB
Peak to Average Ratio	±0.90 dB
Frequency Stability	±0.04 ppm

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.82 dB
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.83 dB
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.83 dB
---	---------

----- THE END -----



Appendix A. Test Results of Conducted Test

Test Engineer :	Smile Wang	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

LTE Band 2:

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	18700	18900	19100
Frequency (MHz)				1860	1880	1900	1860	1880	1900
20	QPSK	1	0	23.06	23.15	23.05	0.2547	0.2600	0.2541
20	QPSK	1	5	23.10	22.95	22.94	0.2570	0.2483	0.2477
20	QPSK	3	0	22.97	23.13	22.96	0.2495	0.2588	0.2489
20	QPSK	3	3	22.96	23.10	22.99	0.2489	0.2570	0.2506
20	QPSK	6	0	23.02	22.99	23.07	0.2523	0.2506	0.2553
20	16QAM	1	0	23.08	23.07	22.97	0.2559	0.2553	0.2495
20	16QAM	1	5	23.00	23.05	22.93	0.2512	0.2541	0.2472
20	16QAM	3	0	23.05	22.96	23.06	0.2541	0.2489	0.2547
20	16QAM	3	3	23.01	22.96	22.92	0.2518	0.2489	0.2466
20	16QAM	5	0	23.01	22.94	23.07	0.2518	0.2477	0.2553
Channel				18675	18900	19125	18675	18900	19125
Frequency (MHz)				1857.5	1880	1902.5	1857.5	1880	1902.5
15	QPSK	1	0	22.93	23.11	23.06	0.2472	0.2576	0.2547
15	QPSK	1	5	23.00	22.95	22.81	0.2512	0.2483	0.2404
15	QPSK	3	0	22.86	22.99	22.95	0.2432	0.2506	0.2483
15	QPSK	3	3	22.84	23.01	22.94	0.2421	0.2518	0.2477
15	QPSK	6	0	22.88	22.95	22.98	0.2443	0.2483	0.2500
15	16QAM	1	0	23.10	23.05	22.96	0.2570	0.2541	0.2489
15	16QAM	1	5	22.90	23.04	22.79	0.2455	0.2535	0.2393
15	16QAM	3	0	23.02	22.94	22.97	0.2523	0.2477	0.2495
15	16QAM	3	3	22.93	22.84	22.78	0.2472	0.2421	0.2388
15	16QAM	5	0	23.05	22.93	23.07	0.2541	0.2472	0.2553
Channel				18650	18900	19150	18650	18900	19150
Frequency (MHz)				1855	1880	1905	1855	1880	1905
10	QPSK	1	0	22.98	23.06	23.04	0.2500	0.2547	0.2535
10	QPSK	1	5	23.00	22.86	22.93	0.2512	0.2432	0.2472
10	QPSK	3	0	22.84	23.04	23.00	0.2421	0.2535	0.2512
10	QPSK	3	3	22.84	23.03	22.89	0.2421	0.2529	0.2449
10	QPSK	6	0	22.89	22.97	23.03	0.2449	0.2495	0.2529
10	16QAM	1	0	23.06	23.02	22.84	0.2547	0.2523	0.2421
10	16QAM	1	5	23.02	23.06	22.91	0.2523	0.2547	0.2460
10	16QAM	3	0	23.05	22.88	23.07	0.2541	0.2443	0.2553
10	16QAM	3	3	23.00	22.81	22.83	0.2512	0.2404	0.2415
10	16QAM	5	0	22.99	22.95	23.01	0.2506	0.2483	0.2518
Channel				18625	18900	19175	18625	18900	19175
Frequency (MHz)				1852.5	1880	1907.5	1852.5	1880	1907.5
5	QPSK	1	0	22.97	22.98	23.05	0.2495	0.2500	0.2541
5	QPSK	1	5	22.97	22.93	22.82	0.2495	0.2472	0.2410
5	QPSK	3	0	22.97	23.12	22.82	0.2495	0.2582	0.2410
5	QPSK	3	3	22.83	23.10	23.02	0.2415	0.2570	0.2523
5	QPSK	6	0	23.06	22.85	23.01	0.2547	0.2427	0.2518
5	16QAM	1	0	23.11	23.10	22.91	0.2576	0.2570	0.2460
5	16QAM	1	5	23.02	22.98	22.86	0.2523	0.2500	0.2432
5	16QAM	3	0	23.01	22.95	23.03	0.2518	0.2483	0.2529



5	16QAM	3	3	22.94	22.88	22.79	0.2477	0.2443	0.2393
5	16QAM	5	0	22.91	22.94	22.97	0.2460	0.2477	0.2495
Channel				18615	18900	19185	18615	18900	19185
Frequency (MHz)				1851.5	1880	1908.5	1851.5	1880	1908.5
3	QPSK	1	0	23.00	23.11	22.94	0.2512	0.2576	0.2477
3	QPSK	1	5	23.11	22.99	22.81	0.2576	0.2506	0.2404
3	QPSK	3	0	22.91	22.99	22.98	0.2460	0.2506	0.2500
3	QPSK	3	3	22.99	22.95	23.01	0.2506	0.2483	0.2518
3	QPSK	6	0	23.04	22.90	23.07	0.2535	0.2455	0.2553
3	16QAM	1	0	22.93	22.95	22.91	0.2472	0.2483	0.2460
3	16QAM	1	5	22.95	22.91	22.81	0.2483	0.2460	0.2404
3	16QAM	3	0	22.93	22.97	23.09	0.2472	0.2495	0.2564
3	16QAM	3	3	22.90	22.93	22.91	0.2455	0.2472	0.2460
3	16QAM	5	0	23.02	22.88	23.07	0.2523	0.2443	0.2553
Channel				18607	18900	19193	18607	18900	19193
Frequency (MHz)				1850.7	1880	1909.3	1850.7	1880	1909.3
1.4	QPSK	1	0	22.96	23.06	23.07	0.2489	0.2547	0.2553
1.4	QPSK	1	5	22.99	22.84	22.85	0.2506	0.2421	0.2427
1.4	QPSK	3	0	22.97	23.04	22.85	0.2495	0.2535	0.2427
1.4	QPSK	3	3	22.94	22.97	22.99	0.2477	0.2495	0.2506
1.4	QPSK	6	0	22.96	23.00	22.98	0.2489	0.2512	0.2500
1.4	16QAM	1	0	22.95	23.06	22.92	0.2483	0.2547	0.2466
1.4	16QAM	1	5	22.90	23.10	22.93	0.2455	0.2570	0.2472
1.4	16QAM	3	0	22.97	22.89	22.94	0.2495	0.2449	0.2477
1.4	16QAM	3	3	22.98	22.83	22.92	0.2500	0.2415	0.2466
1.4	16QAM	5	0	23.03	22.82	23.03	0.2529	0.2410	0.2529

LTE Band 4:

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	20050	20175	20300
Frequency (MHz)				1720	1732.5	1745	1720	1732.5	1745
20	QPSK	1	0	23.06	23.15	23.02	0.1403	0.1432	0.1390
20	QPSK	1	5	22.96	22.88	22.88	0.1371	0.1346	0.1346
20	QPSK	3	0	22.87	23.13	22.89	0.1343	0.1426	0.1349
20	QPSK	3	3	22.99	23.04	22.91	0.1380	0.1396	0.1355
20	QPSK	6	0	22.95	22.84	23.07	0.1368	0.1334	0.1406
20	16QAM	1	0	23.04	22.95	22.98	0.1396	0.1368	0.1377
20	16QAM	1	5	22.91	23.08	22.96	0.1355	0.1409	0.1371
20	16QAM	3	0	23.03	22.85	22.94	0.1393	0.1337	0.1365
20	16QAM	3	3	22.88	22.90	22.88	0.1346	0.1352	0.1346
20	16QAM	5	0	22.92	22.91	22.99	0.1358	0.1355	0.1380
Channel				20025	20175	20325	20025	20175	20325
Frequency (MHz)				1717.5	1732.5	1747.5	1717.5	1732.5	1747.5
15	QPSK	1	0	23.03	22.98	22.96	0.1393	0.1377	0.1371
15	QPSK	1	5	23.07	22.88	22.82	0.1406	0.1346	0.1327
15	QPSK	3	0	22.90	23.06	22.84	0.1352	0.1403	0.1334
15	QPSK	3	3	22.93	22.99	22.85	0.1361	0.1380	0.1337
15	QPSK	6	0	22.93	22.94	23.01	0.1361	0.1365	0.1387
15	16QAM	1	0	23.10	22.95	22.86	0.1416	0.1368	0.1340
15	16QAM	1	5	23.00	23.02	22.91	0.1384	0.1390	0.1355
15	16QAM	3	0	23.09	22.86	22.93	0.1413	0.1340	0.1361
15	16QAM	3	3	22.94	22.99	22.82	0.1365	0.1380	0.1327
15	16QAM	5	0	22.87	22.84	23.07	0.1343	0.1334	0.1406
Channel				20000	20175	20350	20000	20175	20350
Frequency (MHz)				1715	1732.5	1750	1715	1732.5	1750
10	QPSK	1	0	23.07	23.06	22.92	0.1406	0.1403	0.1358
10	QPSK	1	5	23.05	22.92	22.85	0.1400	0.1358	0.1337
10	QPSK	3	0	23.01	23.11	22.93	0.1387	0.1419	0.1361
10	QPSK	3	3	23.00	23.08	22.96	0.1384	0.1409	0.1371



10	QPSK	6	0	23.05	23.03	23.06	0.1400	0.1393	0.1403
10	16QAM	1	0	23.08	23.10	22.90	0.1409	0.1416	0.1352
10	16QAM	1	5	23.04	23.07	22.80	0.1396	0.1406	0.1321
10	16QAM	3	0	23.07	22.85	22.97	0.1406	0.1337	0.1374
10	16QAM	3	3	22.93	22.95	22.86	0.1361	0.1368	0.1340
10	16QAM	5	0	23.05	22.80	22.93	0.1400	0.1321	0.1361
Channel				19975	20175	20375	19975	20175	20375
Frequency (MHz)				1712.5	1732.5	1752.5	1712.5	1732.5	1752.5
5	QPSK	1	0	22.94	23.10	22.95	0.1365	0.1416	0.1368
5	QPSK	1	5	22.98	22.82	22.96	0.1377	0.1327	0.1371
5	QPSK	3	0	22.89	23.03	22.93	0.1349	0.1393	0.1361
5	QPSK	3	3	22.93	23.10	22.98	0.1361	0.1416	0.1377
5	QPSK	6	0	23.06	22.88	23.04	0.1403	0.1346	0.1396
5	16QAM	1	0	23.10	23.01	23.01	0.1416	0.1387	0.1387
5	16QAM	1	5	22.96	22.92	22.92	0.1371	0.1358	0.1358
5	16QAM	3	0	23.05	22.89	23.07	0.1400	0.1349	0.1406
5	16QAM	3	3	22.96	22.81	22.93	0.1371	0.1324	0.1361
5	16QAM	5	0	22.97	22.85	22.96	0.1374	0.1337	0.1371
Channel				19965	20175	20385	19965	20175	20385
Frequency (MHz)				1711.5	1732.5	1753.5	1711.5	1732.5	1753.5
3	QPSK	1	0	23.07	22.99	23.01	0.1406	0.1380	0.1387
3	QPSK	1	5	23.04	22.83	22.95	0.1396	0.1330	0.1368
3	QPSK	3	0	22.91	23.07	22.96	0.1355	0.1406	0.1371
3	QPSK	3	3	22.95	23.02	22.89	0.1368	0.1390	0.1349
3	QPSK	6	0	23.01	22.91	22.95	0.1387	0.1355	0.1368
3	16QAM	1	0	23.04	23.02	22.88	0.1396	0.1390	0.1346
3	16QAM	1	5	22.94	22.94	22.82	0.1365	0.1365	0.1327
3	16QAM	3	0	23.00	22.86	22.97	0.1384	0.1340	0.1374
3	16QAM	3	3	23.05	22.92	22.82	0.1400	0.1358	0.1327
3	16QAM	5	0	23.03	22.85	23.09	0.1393	0.1337	0.1413
Channel				19957	20175	20393	19957	20175	20393
Frequency (MHz)				1710.7	1732.5	1754.3	1710.7	1732.5	1754.3
1.4	QPSK	1	0	23.10	22.95	22.91	0.1416	0.1368	0.1355
1.4	QPSK	1	5	23.07	22.96	22.84	0.1406	0.1371	0.1334
1.4	QPSK	3	0	23.01	23.11	22.89	0.1387	0.1419	0.1349
1.4	QPSK	3	3	22.97	23.13	22.89	0.1374	0.1426	0.1349
1.4	QPSK	6	0	23.04	22.96	22.93	0.1396	0.1371	0.1361
1.4	16QAM	1	0	23.08	23.07	23.01	0.1409	0.1406	0.1387
1.4	16QAM	1	5	22.95	23.03	22.91	0.1368	0.1393	0.1355
1.4	16QAM	3	0	22.92	22.92	22.93	0.1358	0.1358	0.1361
1.4	16QAM	3	3	22.93	22.86	22.79	0.1361	0.1340	0.1318
1.4	16QAM	5	0	22.92	22.98	22.93	0.1358	0.1377	0.1361



LTE Band 12:

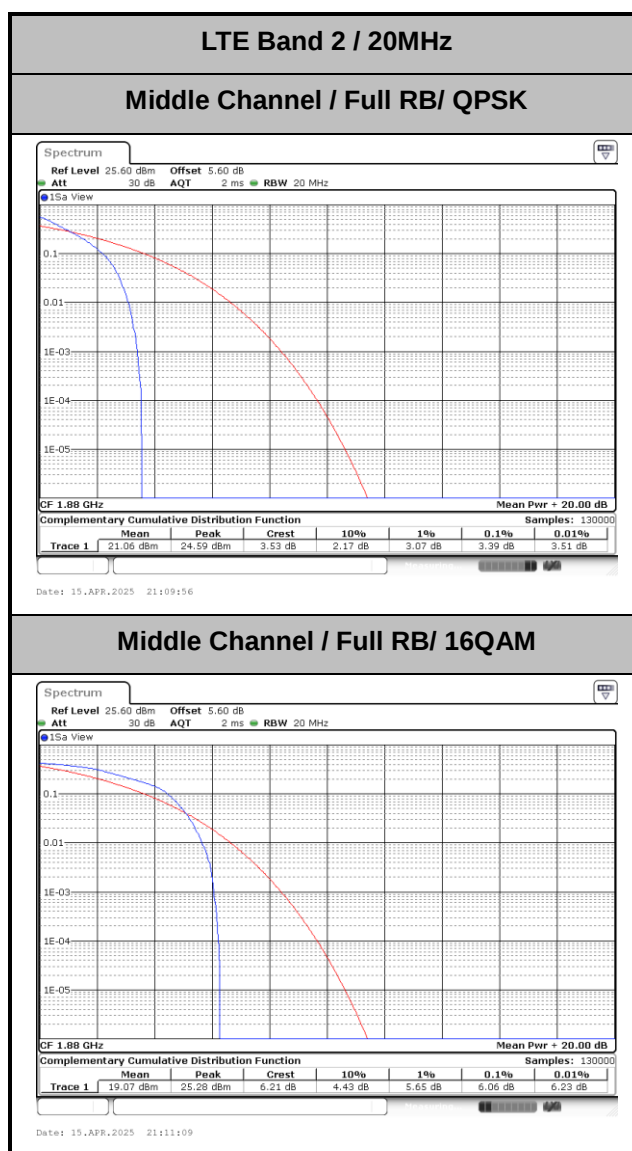
BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIP(W)		
Channel				23060	23095	23130	23060	23095	23130
Frequency (MHz)				704	707.5	711	704	707.5	711
10	QPSK	1	0	23.01	23.15	23.01	0.0505	0.0521	0.0505
10	QPSK	1	5	23.04	22.95	22.79	0.0508	0.0498	0.0480
10	QPSK	3	0	22.98	22.98	22.81	0.0501	0.0501	0.0482
10	QPSK	3	3	22.93	23.01	22.94	0.0495	0.0505	0.0497
10	QPSK	6	0	22.99	22.89	23.04	0.0502	0.0491	0.0508
10	16QAM	1	0	23.10	22.98	22.92	0.0515	0.0501	0.0494
10	16QAM	1	5	22.97	22.99	22.86	0.0500	0.0502	0.0488
10	16QAM	3	0	22.96	22.94	23.01	0.0499	0.0497	0.0505
10	16QAM	3	3	22.93	22.91	22.78	0.0495	0.0493	0.0479
10	16QAM	5	0	22.89	22.91	22.98	0.0491	0.0493	0.0501
Channel				23035	23095	23155	23035	23095	23155
Frequency (MHz)				701.5	707.5	713.5	701.5	707.5	713.5
5	QPSK	1	0	22.98	23.04	22.90	0.0501	0.0508	0.0492
5	QPSK	1	5	23.11	22.96	22.80	0.0516	0.0499	0.0481
5	QPSK	3	0	23.02	23.03	22.99	0.0506	0.0507	0.0502
5	QPSK	3	3	22.91	22.97	22.98	0.0493	0.0500	0.0501
5	QPSK	6	0	22.91	22.93	22.98	0.0493	0.0495	0.0501
5	16QAM	1	0	23.02	22.93	22.87	0.0506	0.0495	0.0489
5	16QAM	1	5	22.92	22.98	22.86	0.0494	0.0501	0.0488
5	16QAM	3	0	22.92	22.91	22.94	0.0494	0.0493	0.0497
5	16QAM	3	3	22.96	22.92	22.90	0.0499	0.0494	0.0492
5	16QAM	5	0	22.88	22.93	23.03	0.0490	0.0495	0.0507
Channel				23025	23095	23165	23025	23095	23165
Frequency (MHz)				700.5	707.5	714.5	700.5	707.5	714.5
3	QPSK	1	0	23.03	22.95	23.08	0.0507	0.0498	0.0513
3	QPSK	1	5	23.09	22.81	22.90	0.0514	0.0482	0.0492
3	QPSK	3	0	23.02	23.05	22.85	0.0506	0.0509	0.0486
3	QPSK	3	3	22.97	22.98	22.88	0.0500	0.0501	0.0490
3	QPSK	6	0	23.04	22.86	23.11	0.0508	0.0488	0.0516
3	16QAM	1	0	23.01	23.08	22.97	0.0505	0.0513	0.0500
3	16QAM	1	5	23.01	23.06	22.82	0.0505	0.0511	0.0483
3	16QAM	3	0	22.96	22.90	23.07	0.0499	0.0492	0.0512
3	16QAM	3	3	22.87	22.93	22.93	0.0489	0.0495	0.0495
3	16QAM	5	0	22.90	22.81	23.11	0.0492	0.0482	0.0516
Channel				23017	23095	23173	23017	23095	23173
Frequency (MHz)				699.7	707.5	715.3	699.7	707.5	715.3
1.4	QPSK	1	0	22.94	23.12	22.98	0.0497	0.0518	0.0501
1.4	QPSK	1	5	22.96	22.81	22.99	0.0499	0.0482	0.0502
1.4	QPSK	3	0	22.85	23.08	22.92	0.0486	0.0513	0.0494
1.4	QPSK	3	3	22.99	22.99	22.97	0.0502	0.0502	0.0500
1.4	QPSK	6	0	22.90	22.86	22.98	0.0492	0.0488	0.0501
1.4	16QAM	1	0	23.11	23.06	22.98	0.0516	0.0511	0.0501
1.4	16QAM	1	5	22.94	22.99	22.84	0.0497	0.0502	0.0485
1.4	16QAM	3	0	23.04	22.81	23.05	0.0508	0.0482	0.0509
1.4	16QAM	3	3	22.91	22.88	22.84	0.0493	0.0490	0.0485
1.4	16QAM	5	0	23.02	22.98	23.01	0.0506	0.0501	0.0505



LTE Band 2

Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz		
Mod.	QPSK	16QAM	Limit: 13dB
RB Size	Full RB	Full RB	Result
Middle CH	3.39	6.06	PASS



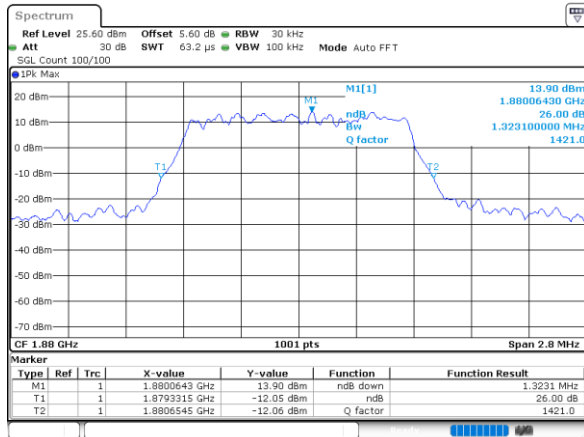
**26dB Bandwidth**

Mode	LTE Band 2 : 26dB BW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.32	1.30
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.34	1.25
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.32	1.27
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.34	1.30
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.38	1.32
Mode	LTE Band 2 : 26dB BW(MHz)	
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.40	1.32

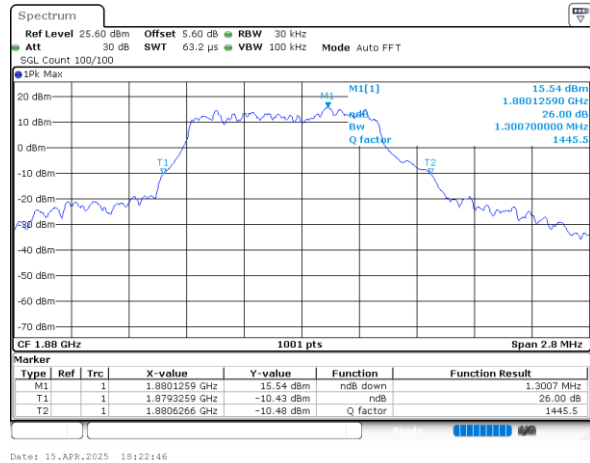


LTE Band 2

Middle Channel / 1.4MHz / QPSK

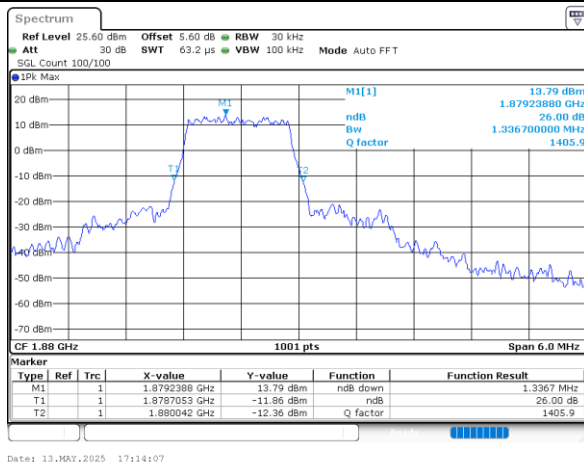


Middle Channel / 1.4MHz / 16QAM

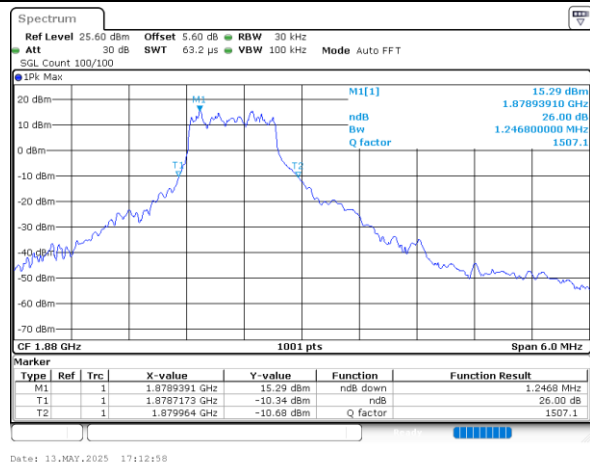


LTE Band 2

Middle Channel / 3MHz / QPSK

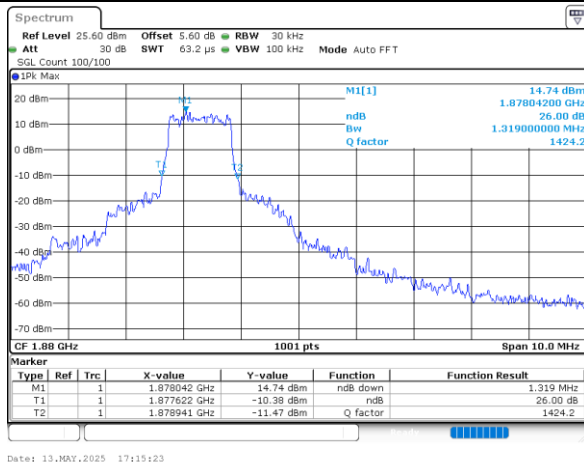


Middle Channel / 3MHz / 16QAM

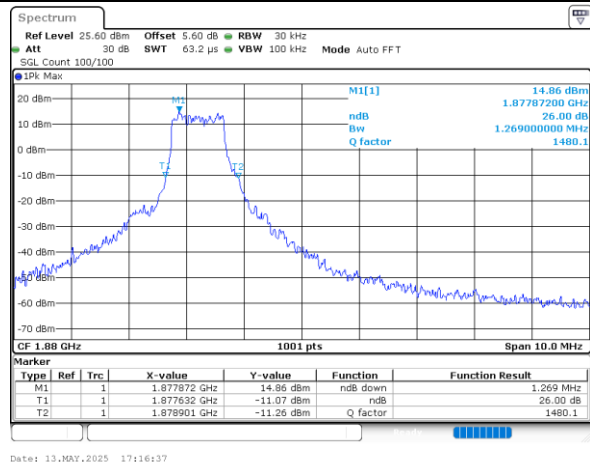


LTE Band 2

Middle Channel / 5MHz / QPSK



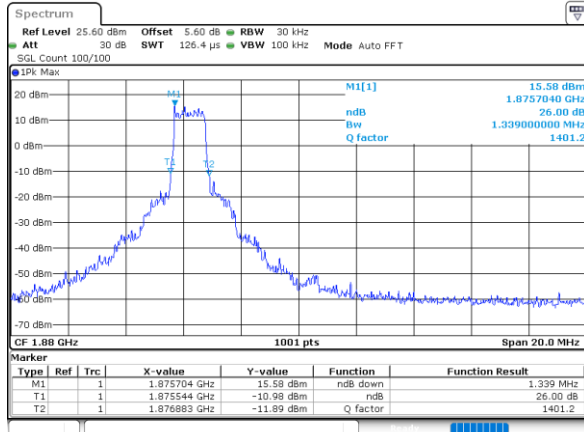
Middle Channel / 5MHz / 16QAM





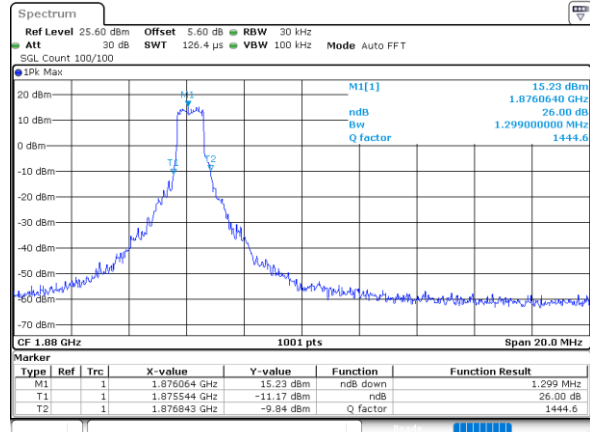
LTE Band 2

Middle Channel / 10MHz / QPSK



Date: 13.MAY.2025 17:17:43

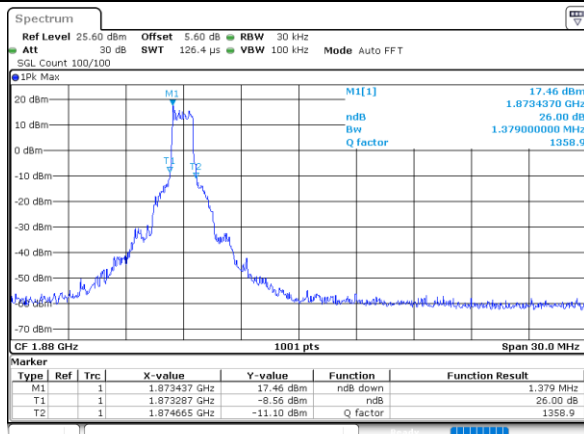
Middle Channel / 10MHz / 16QAM



Date: 13.MAY.2025 17:19:16

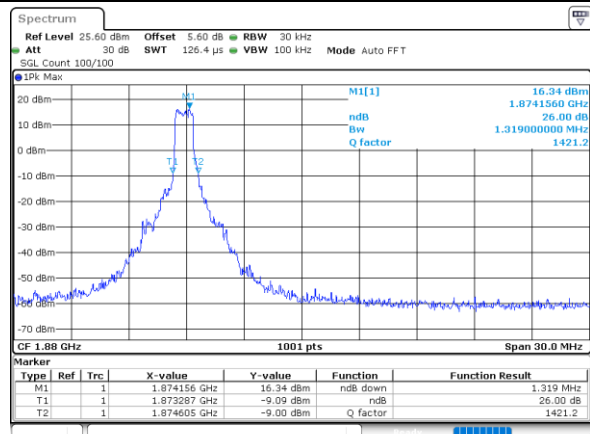
LTE Band 2

Middle Channel / 15MHz / QPSK



Date: 13.MAY.2025 17:20:53

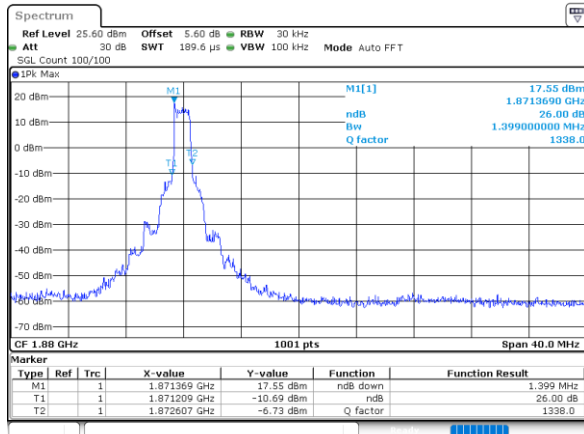
Middle Channel / 15MHz / 16QAM



Date: 13.MAY.2025 17:21:52

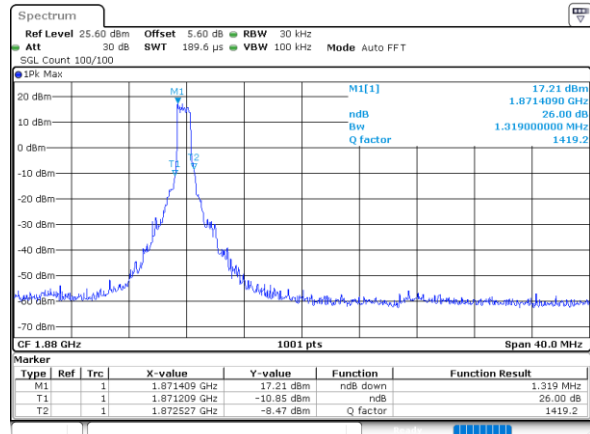
LTE Band 2

Middle Channel / 20MHz / QPSK



Date: 13.MAY.2025 17:23:16

Middle Channel / 20MHz / 16QAM



Date: 13.MAY.2025 17:23:56

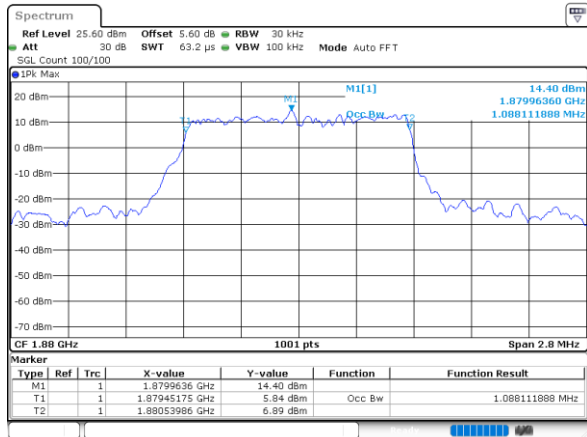
**Occupied Bandwidth**

Mode	LTE Band 2 : 99%OBW(MHz)	
BW	1.4MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	0.962
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	3MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	0.959
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	5MHz	
Mod.	QPSK	16QAM
Middle CH	1.09	0.939
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	1.10	0.979
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	15MHz	
Mod.	QPSK	16QAM
Middle CH	1.11	0.959
Mode	LTE Band 2 : 99%OBW(MHz)	
BW	20MHz	
Mod.	QPSK	16QAM
Middle CH	1.12	0.999

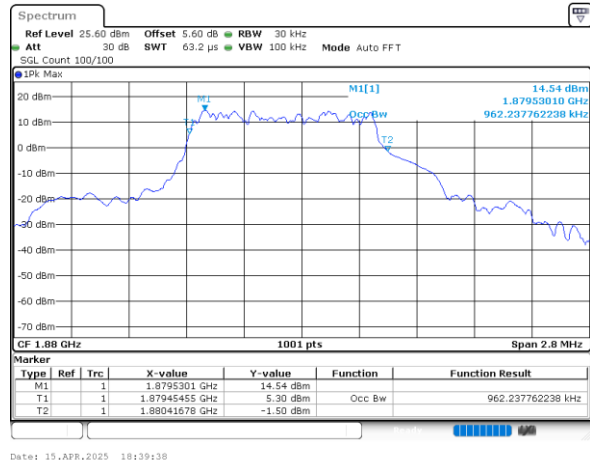


LTE Band 2

Middle Channel / 1.4MHz / QPSK

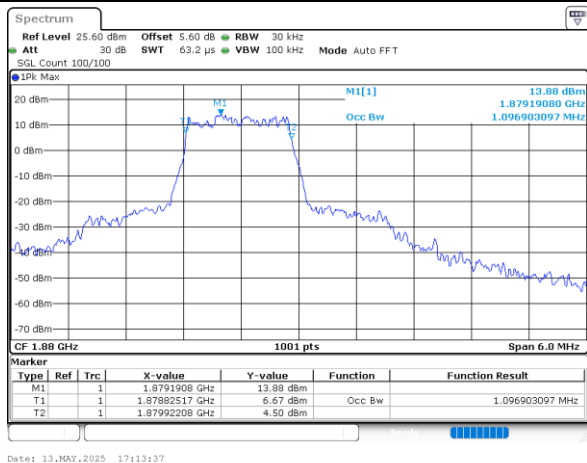


Middle Channel / 1.4MHz / 16QAM

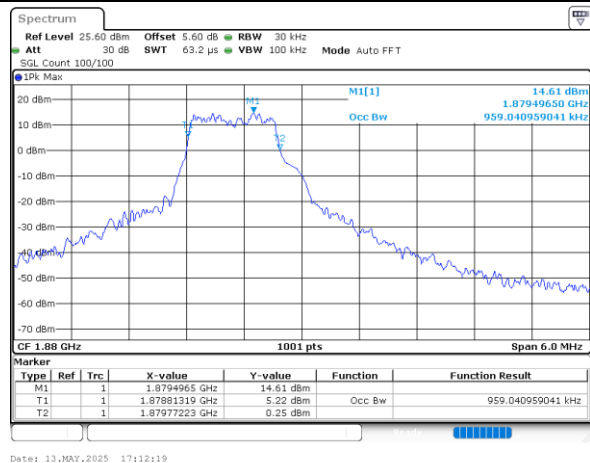


LTE Band 2

Middle Channel / 3MHz / QPSK

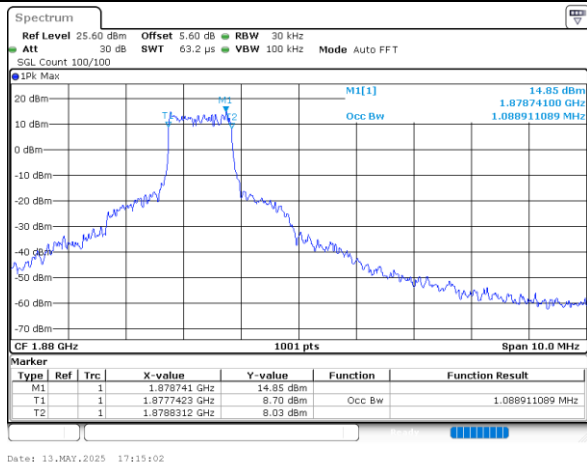


Middle Channel / 3MHz / 16QAM

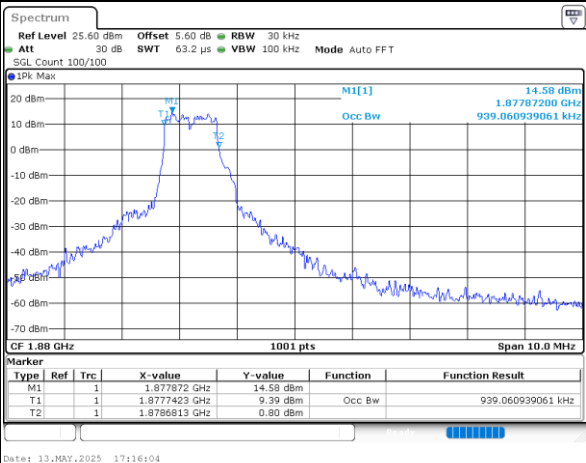


LTE Band 2

Middle Channel / 5MHz / QPSK



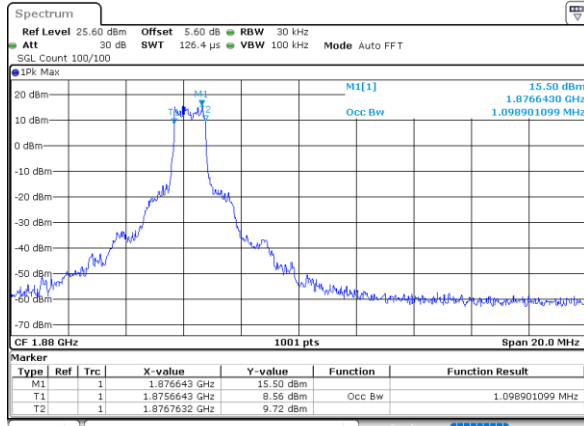
Middle Channel / 5MHz / 16QAM





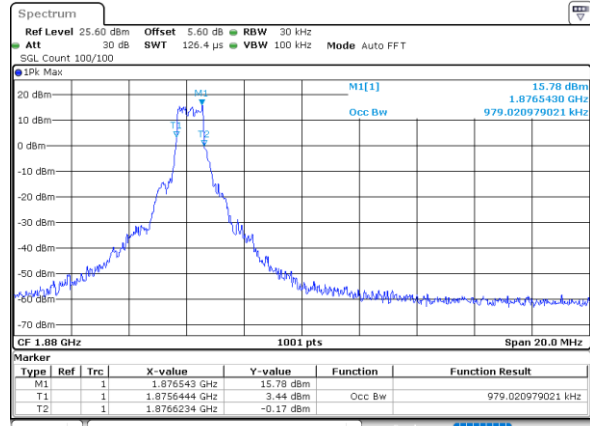
LTE Band 2

Middle Channel / 10MHz / QPSK



Date: 13.MAY.2025 17:17:33

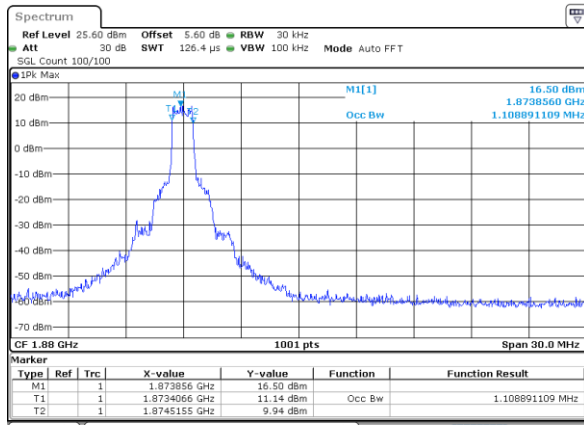
Middle Channel / 10MHz / 16QAM



Date: 13.MAY.2025 17:19:03

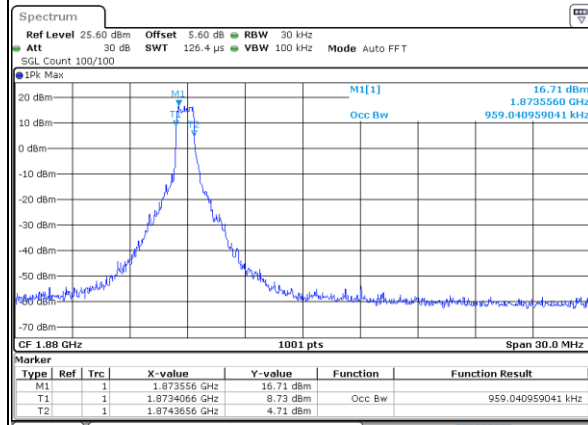
LTE Band 2

Middle Channel / 15MHz / QPSK



Date: 13.MAY.2025 17:20:35

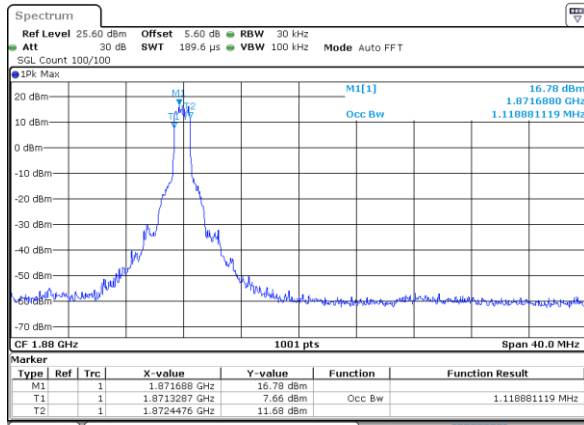
Middle Channel / 15MHz / 16QAM



Date: 13.MAY.2025 17:21:24

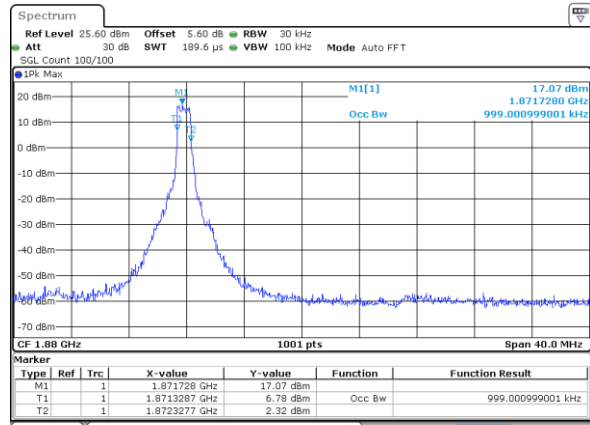
LTE Band 2

Middle Channel / 20MHz / QPSK



Date: 13.MAY.2025 17:22:59

Middle Channel / 20MHz / 16QAM



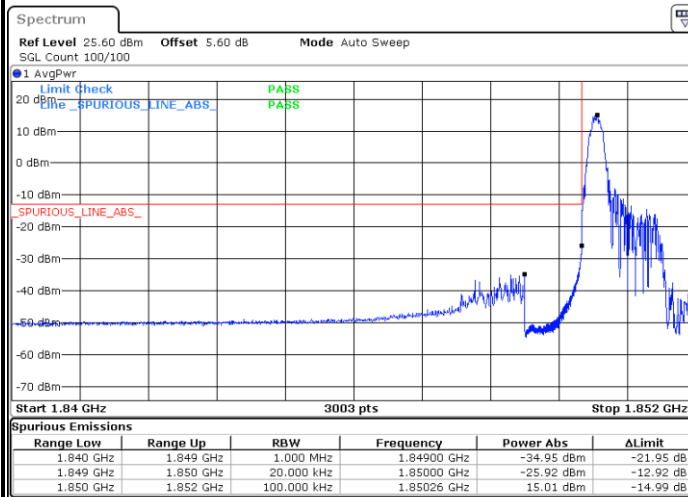
Date: 13.MAY.2025 17:23:44



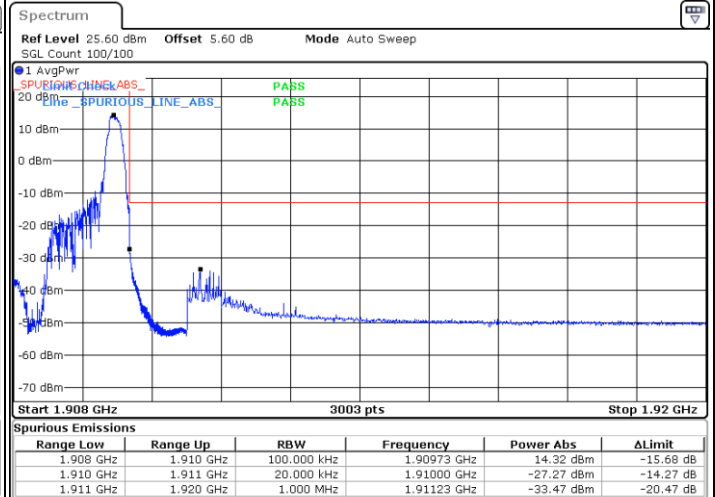
Conducted Band Edge

LTE Band 2 / 1.4MHz / QPSK

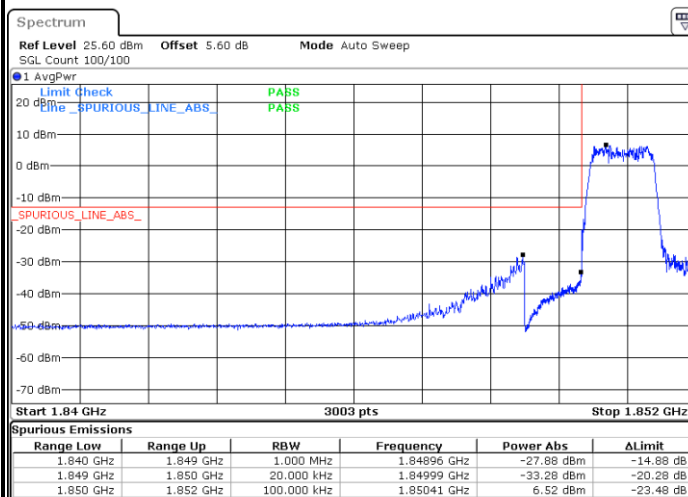
Lowest Band Edge / 1RB



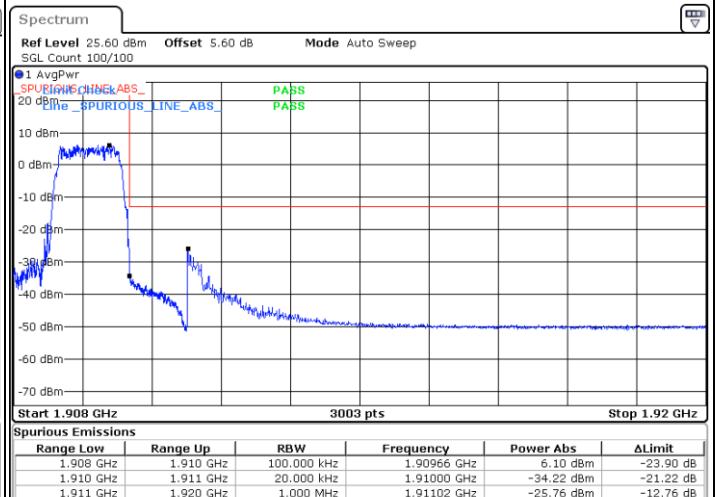
Highest Band Edge / 1RB



Lowest Band Edge / Full RB



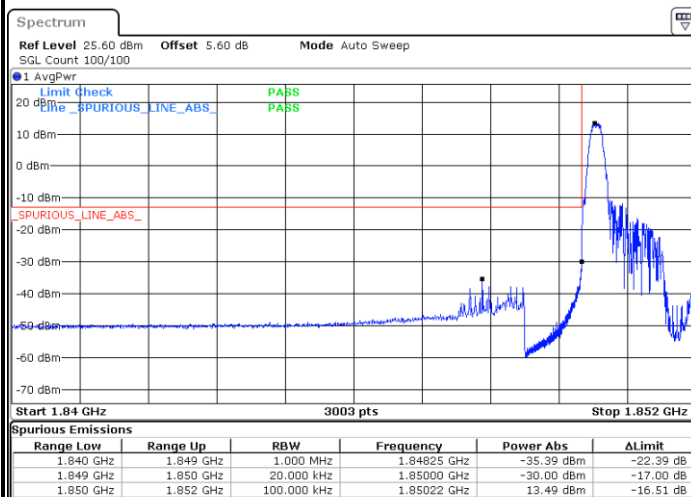
Highest Band Edge / Full RB



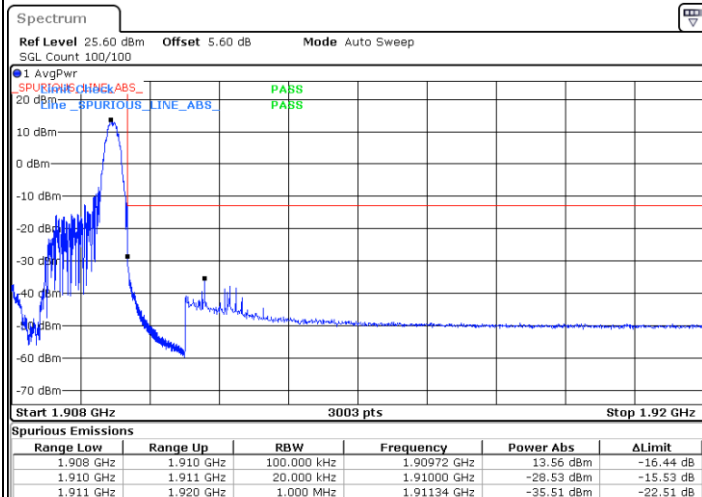


LTE Band 2 / 1.4MHz / 16QAM

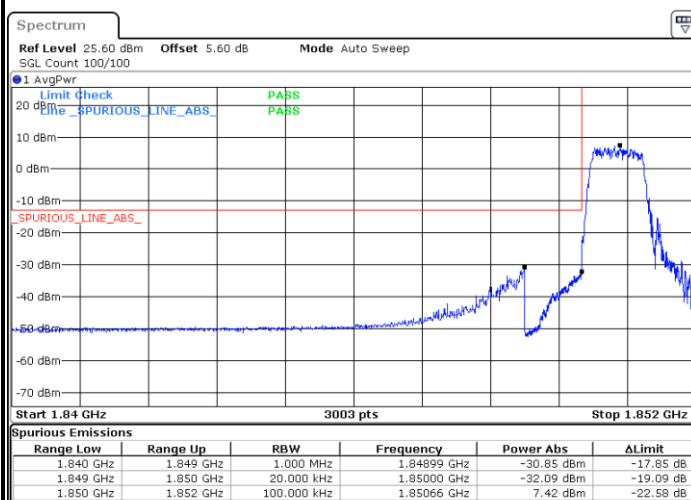
Lowest Band Edge / 1 RB



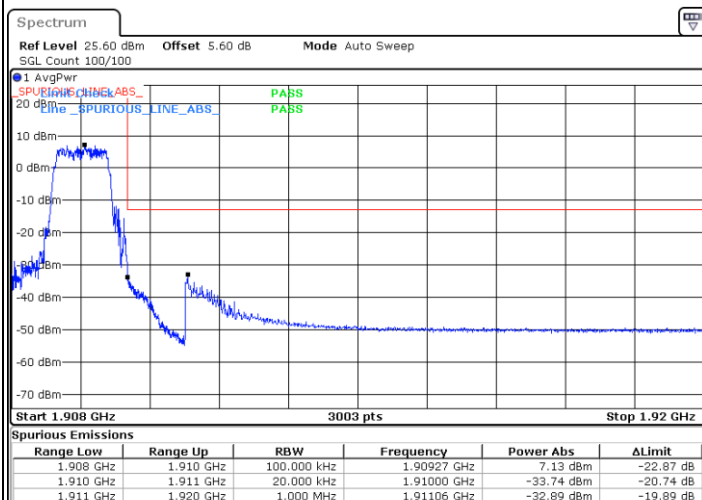
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



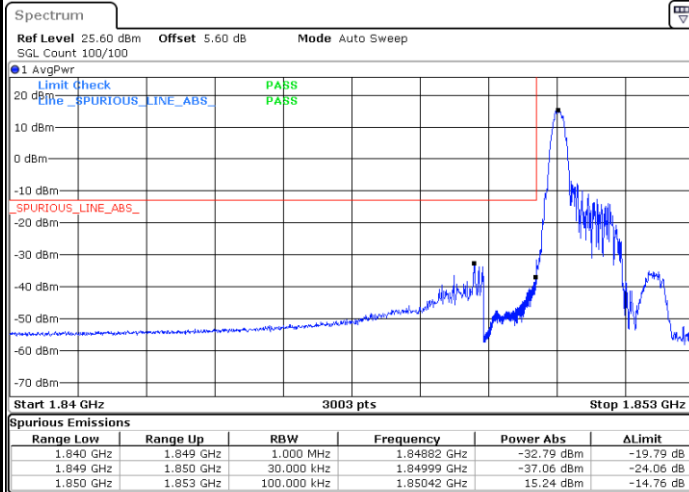
Highest Band Edge / Full RB



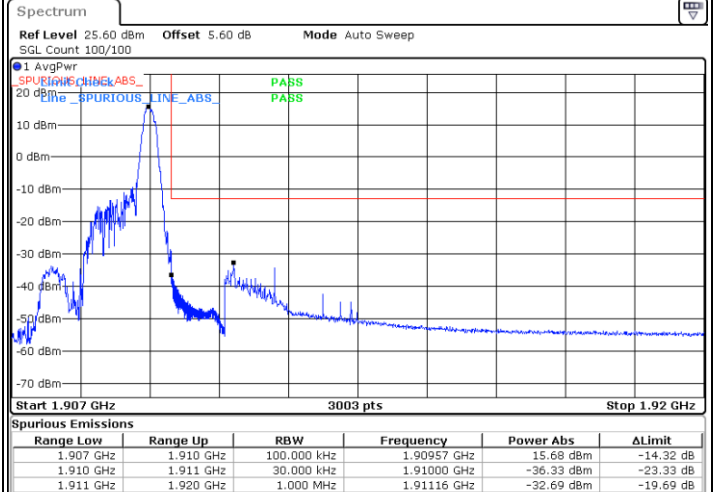


LTE Band 2 / 3MHz / QPSK

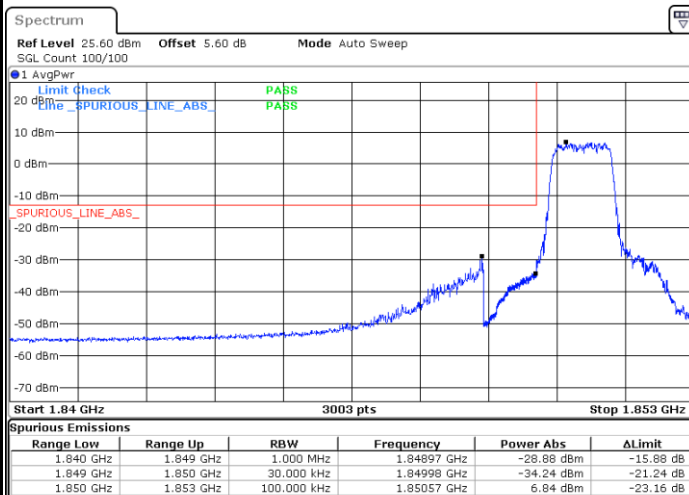
Lowest Band Edge / 1RB



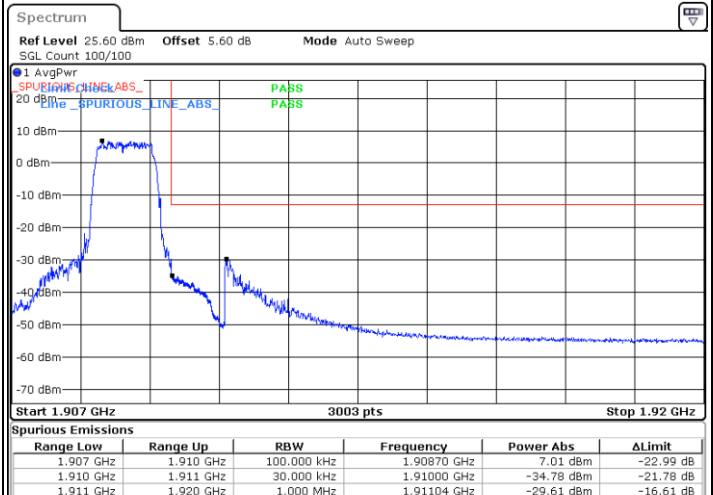
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



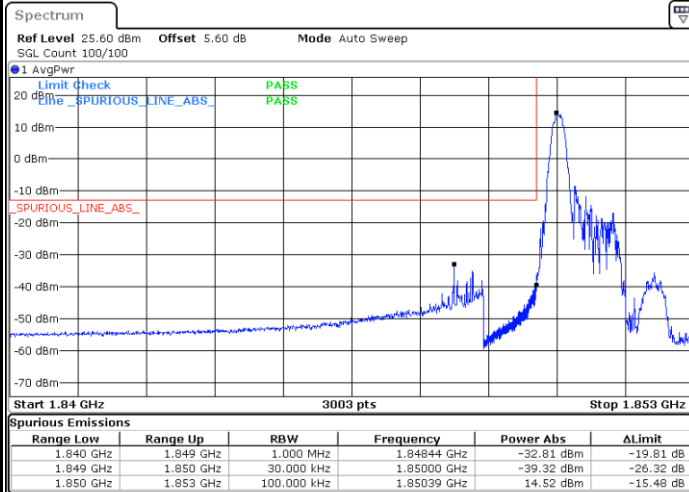
Highest Band Edge / Full RB



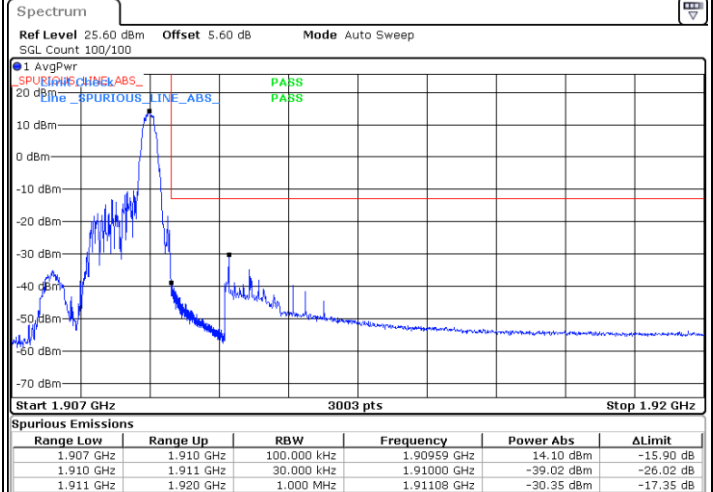


LTE Band 2 / 3MHz / 16QAM

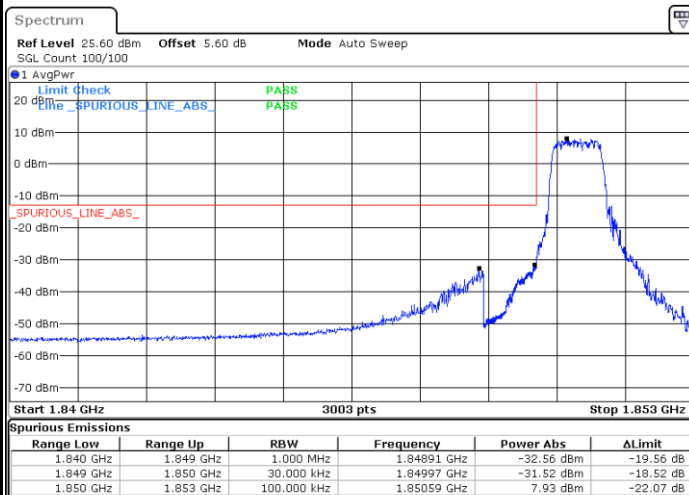
Lowest Band Edge / 1 RB



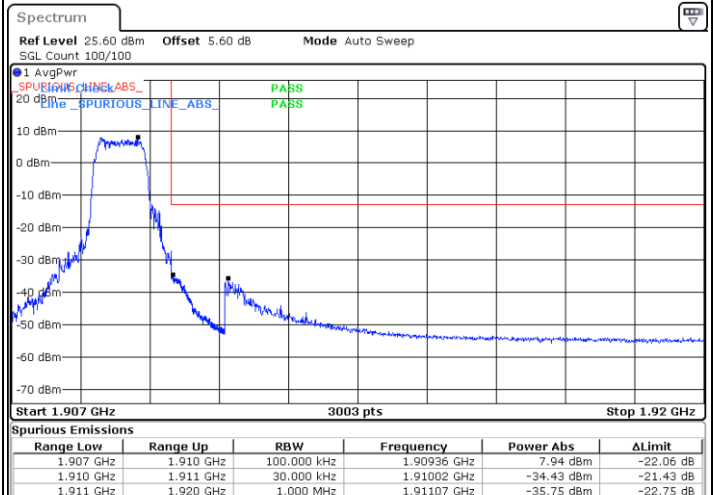
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



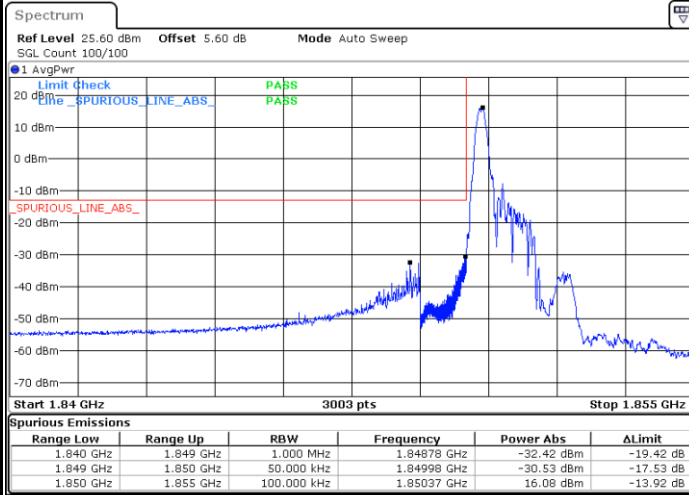
Highest Band Edge / Full RB



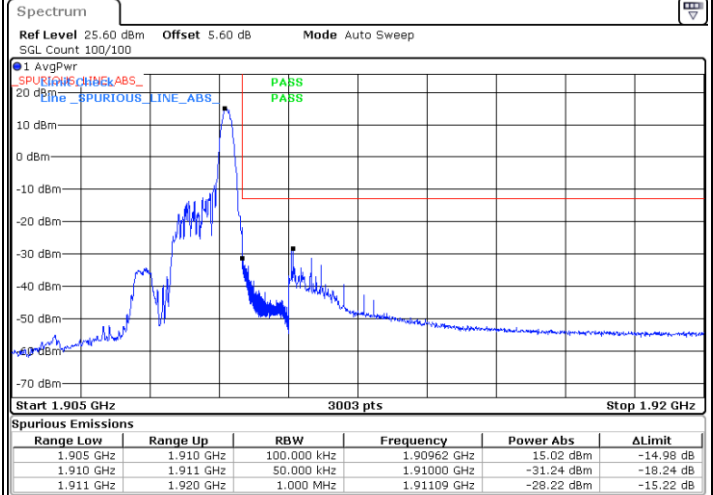


LTE Band 2 / 5MHz / QPSK

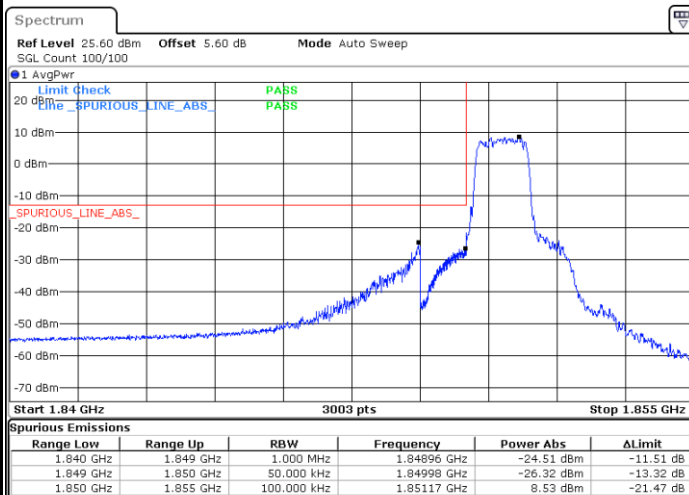
Lowest Band Edge / 1 RB



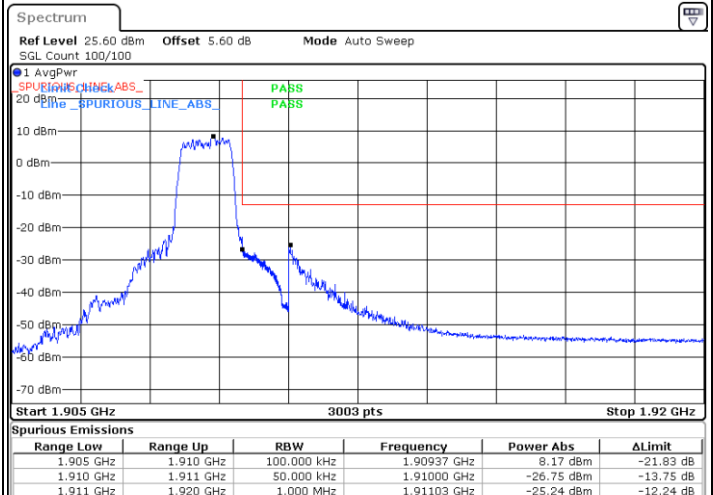
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



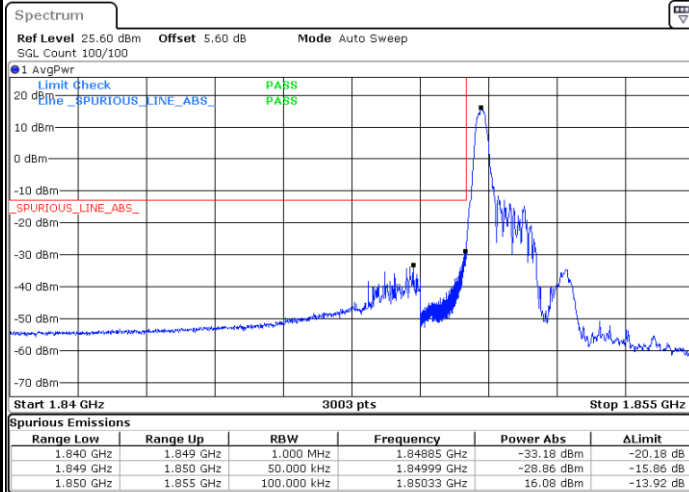
Highest Band Edge / Full RB



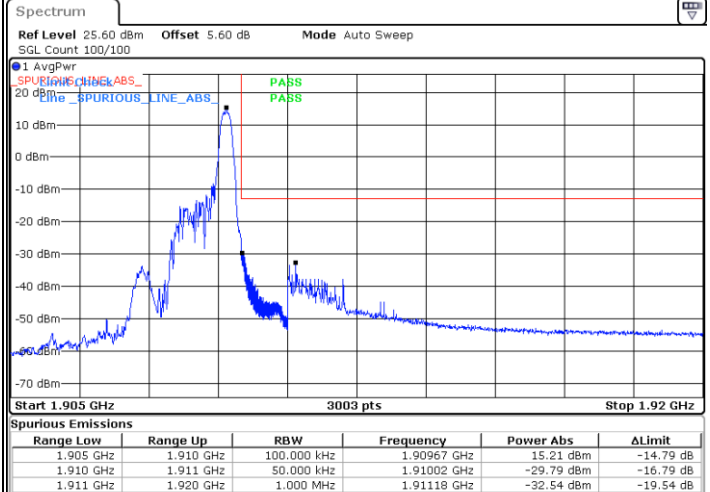


LTE Band 2 / 5MHz / 16QAM

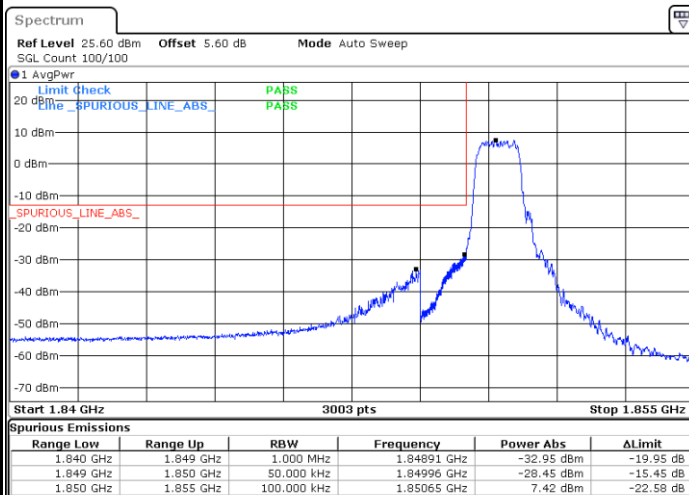
Lowest Band Edge / 1RB



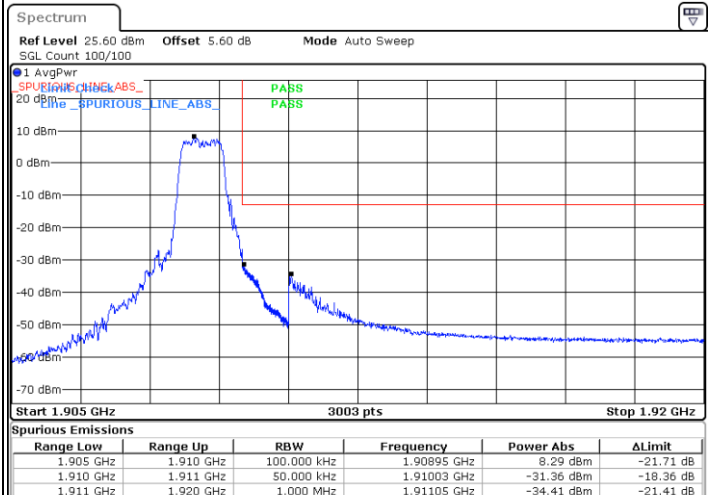
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



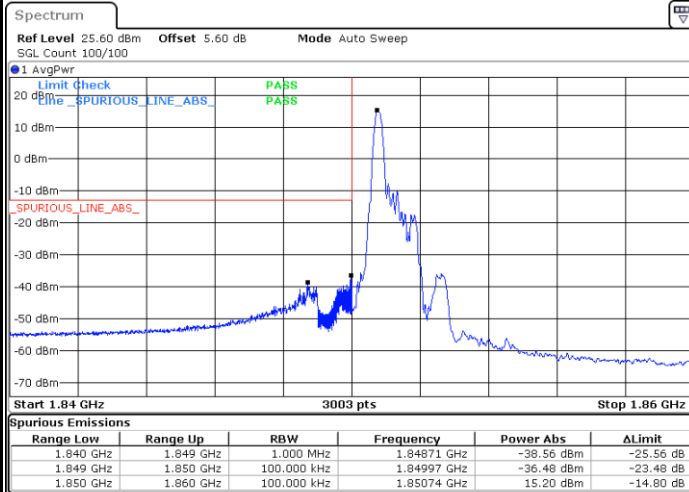
Highest Band Edge / Full RB



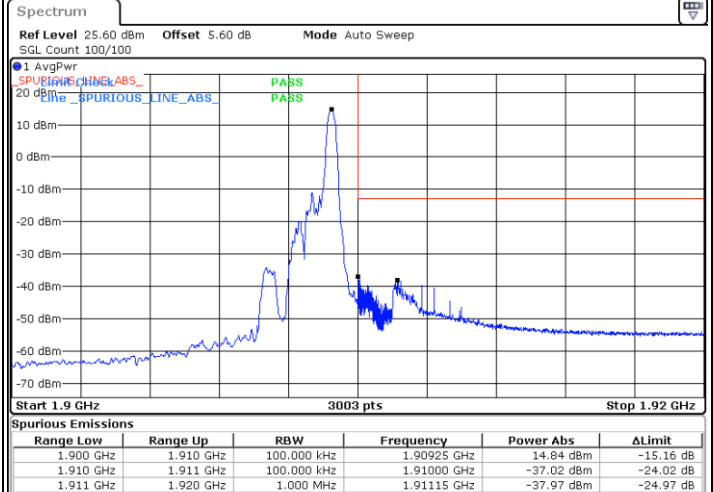


LTE Band 2 / 10MHz / QPSK

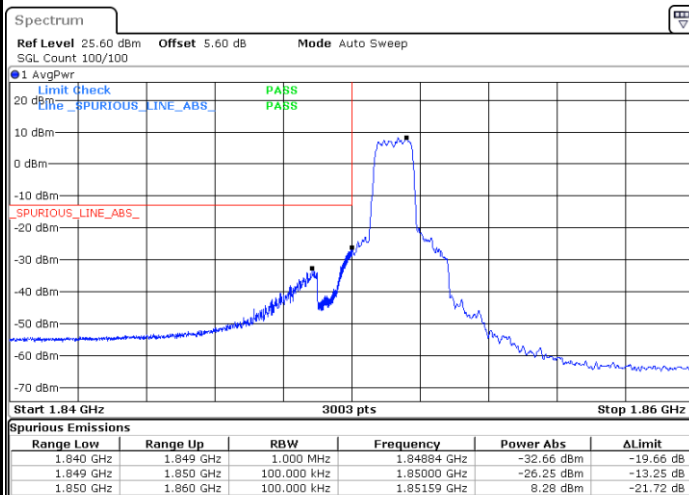
Lowest Band Edge / 1 RB



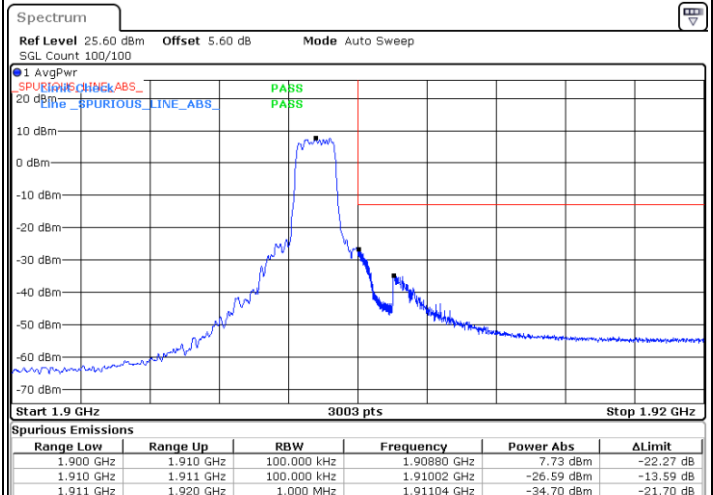
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



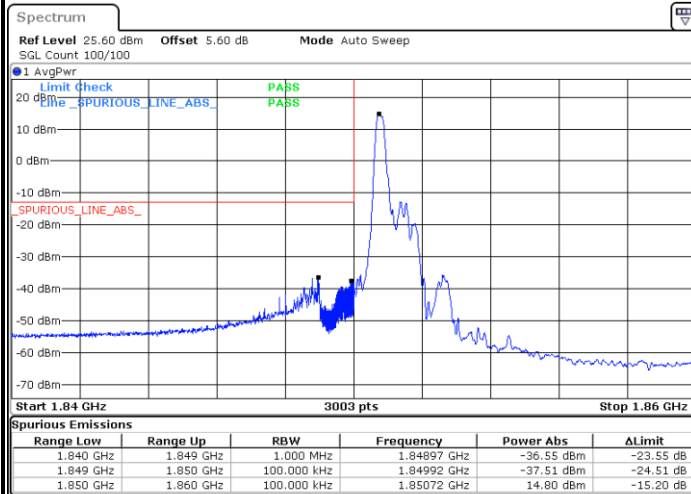
Highest Band Edge / Full RB



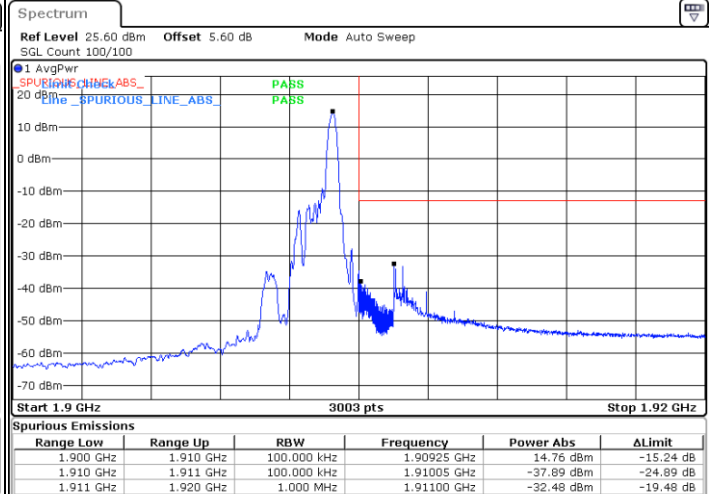


LTE Band 2 / 10MHz / 16QAM

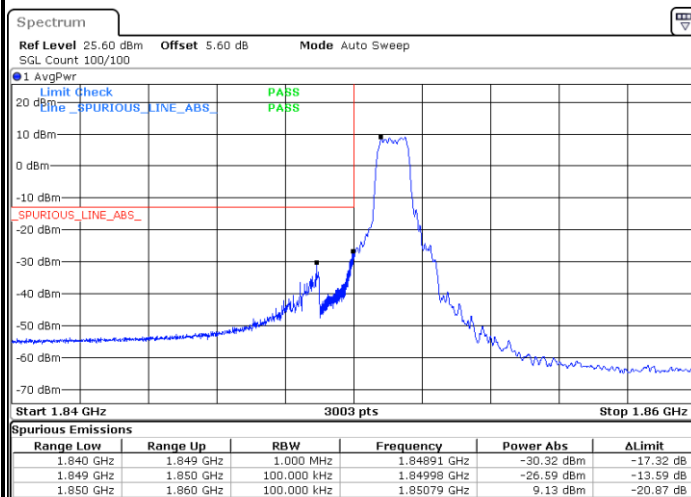
Lowest Band Edge / 1 RB



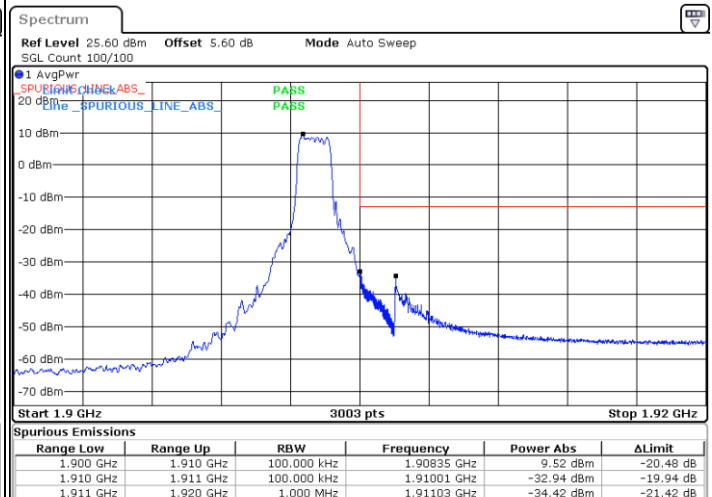
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



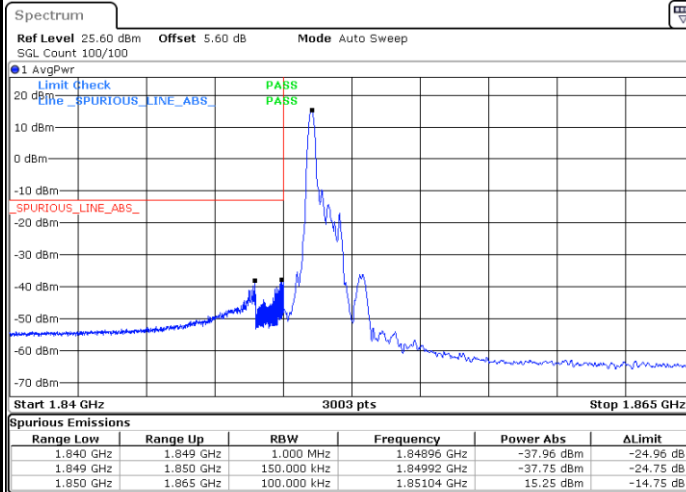
Highest Band Edge / Full RB



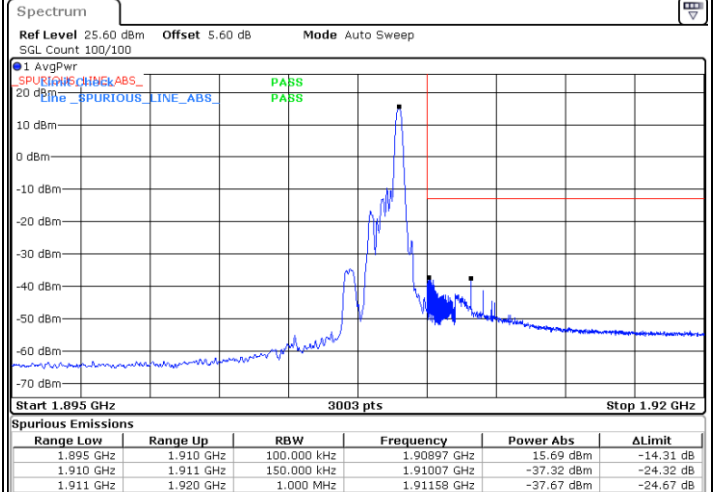


LTE Band 2 / 15MHz / QPSK

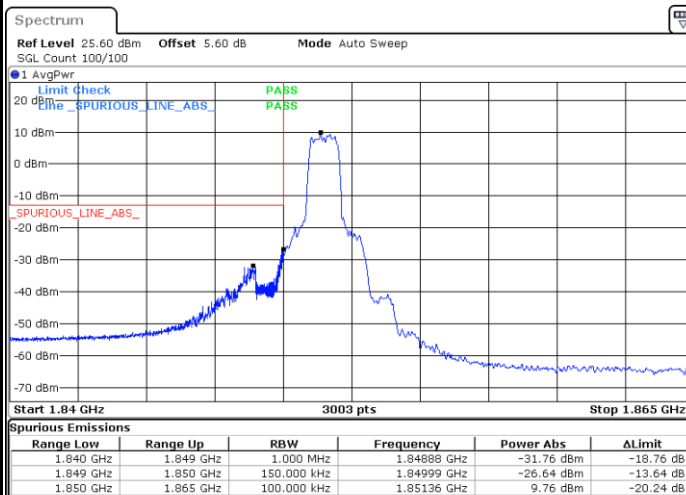
Lowest Band Edge / 1 RB



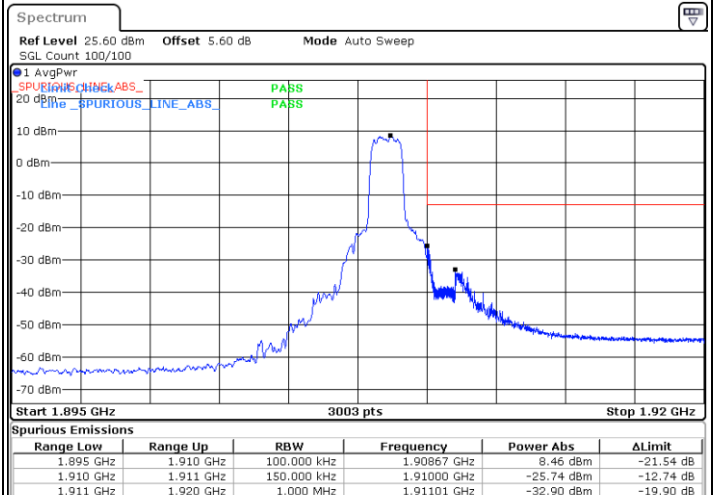
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



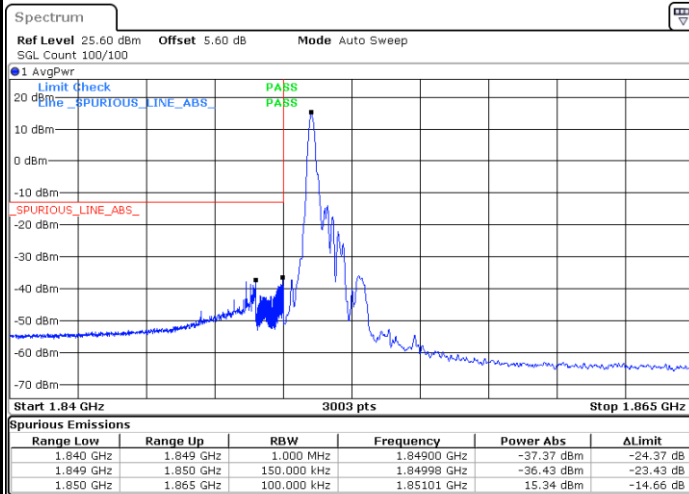
Highest Band Edge / Full RB



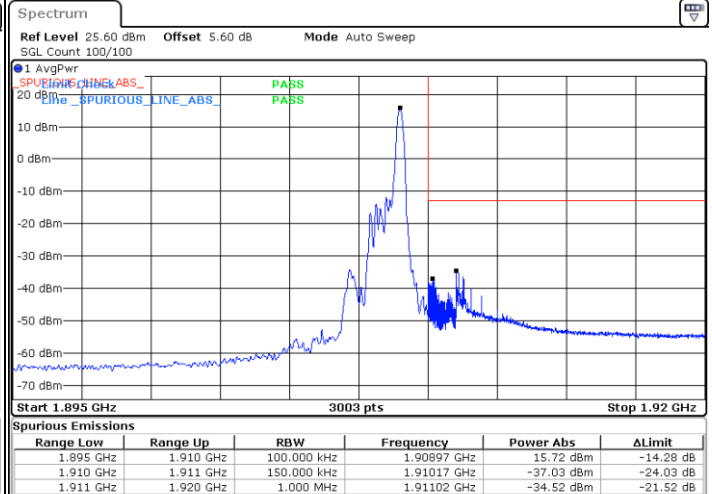


LTE Band 2 / 15MHz / 16QAM

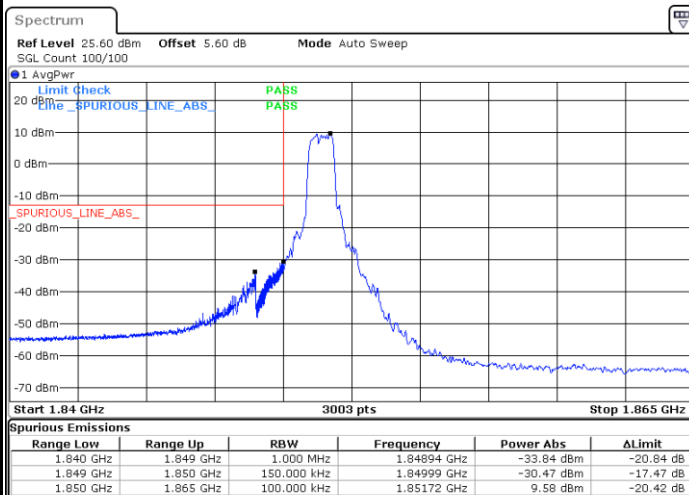
Lowest Band Edge / 1 RB



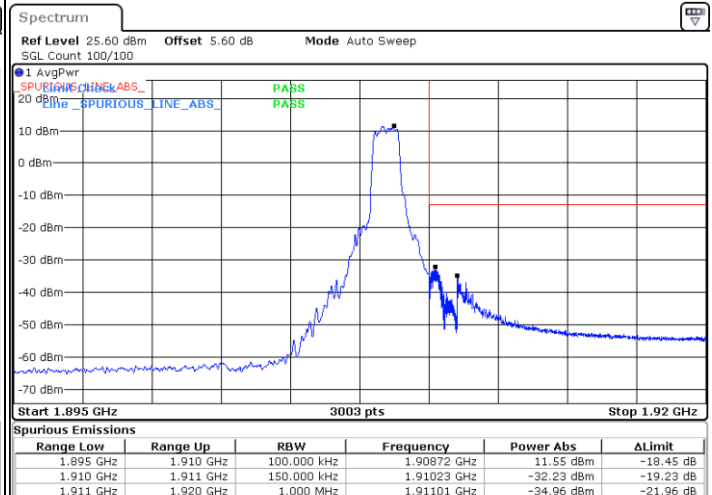
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



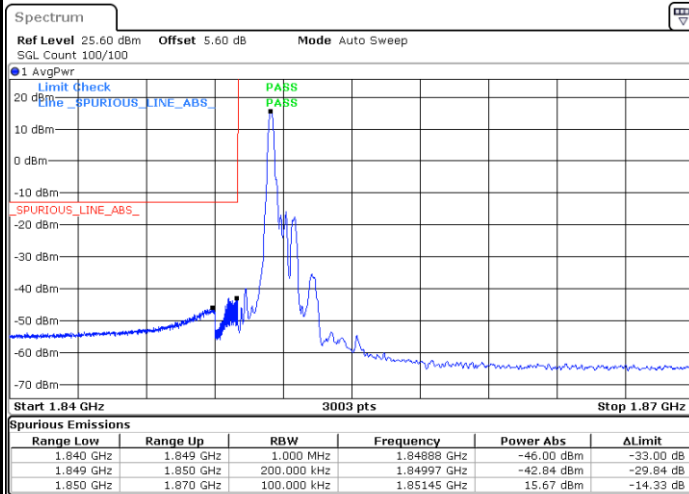
Highest Band Edge / Full RB



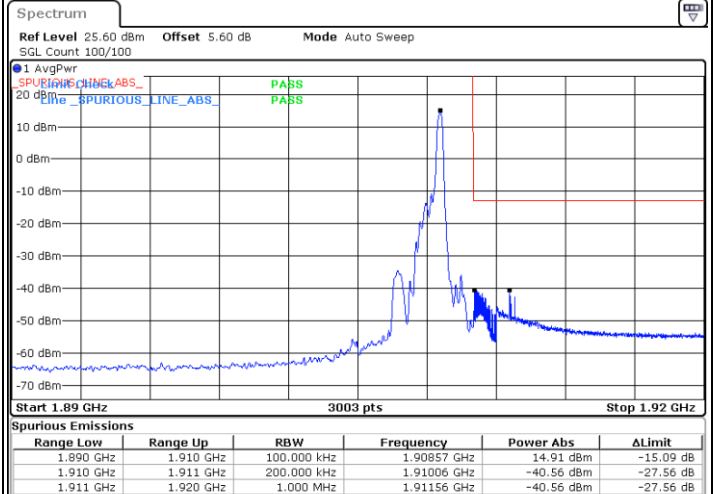


LTE Band 2 / 20MHz / QPSK

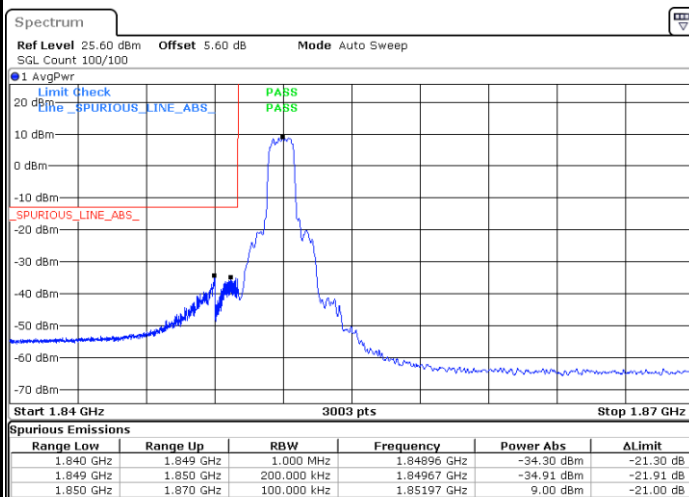
Lowest Band Edge / 1 RB



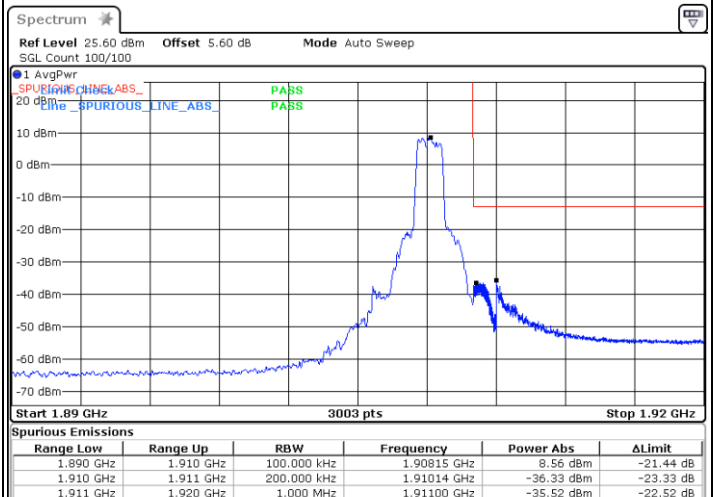
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



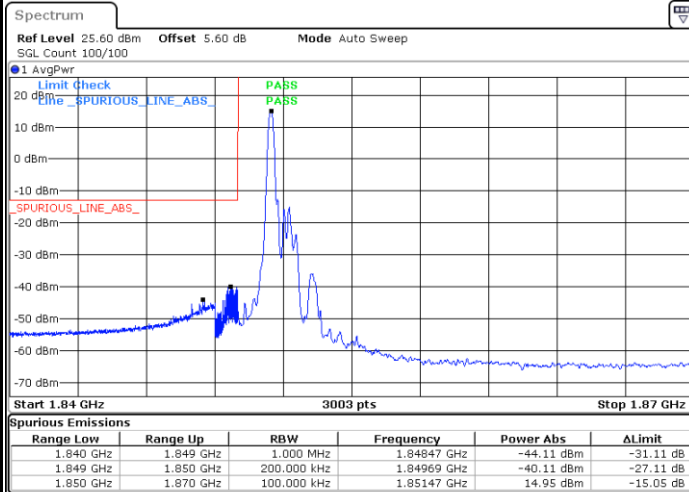
Highest Band Edge / Full RB



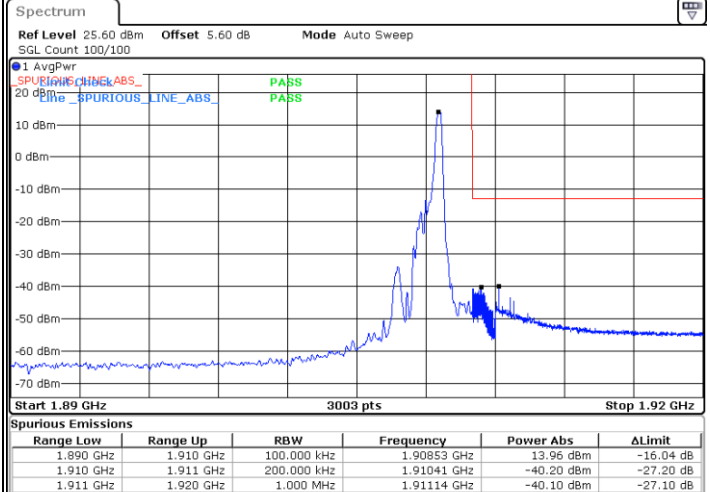


LTE Band 2 / 20MHz / 16QAM

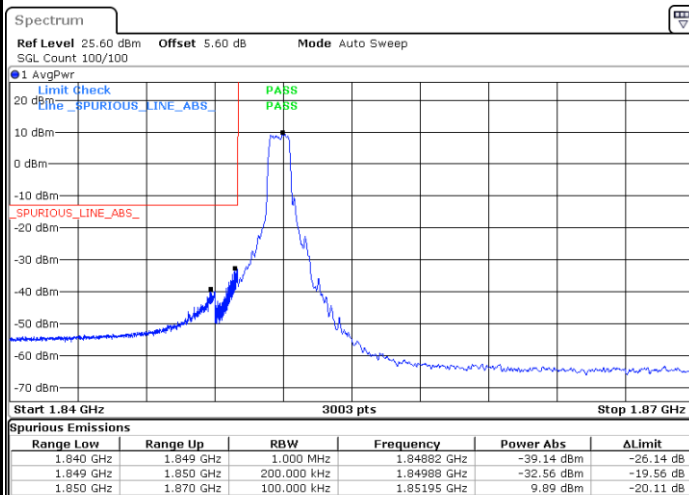
Lowest Band Edge / 1 RB



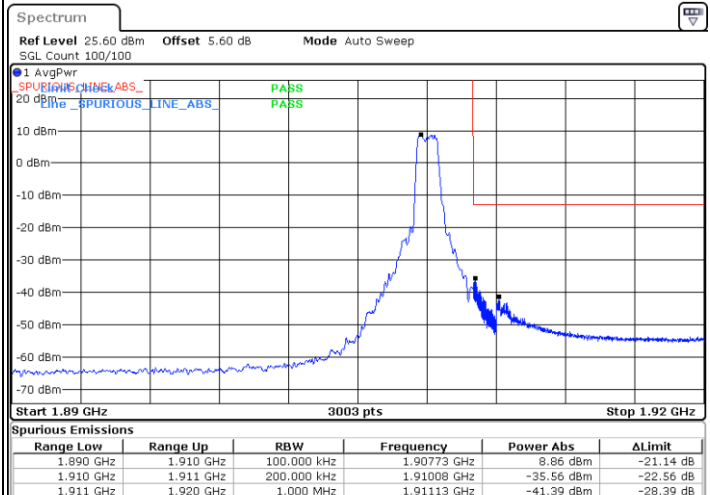
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB



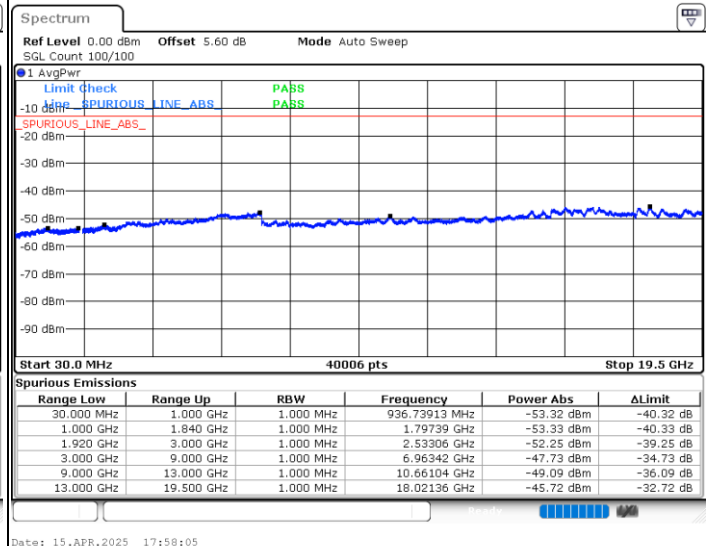
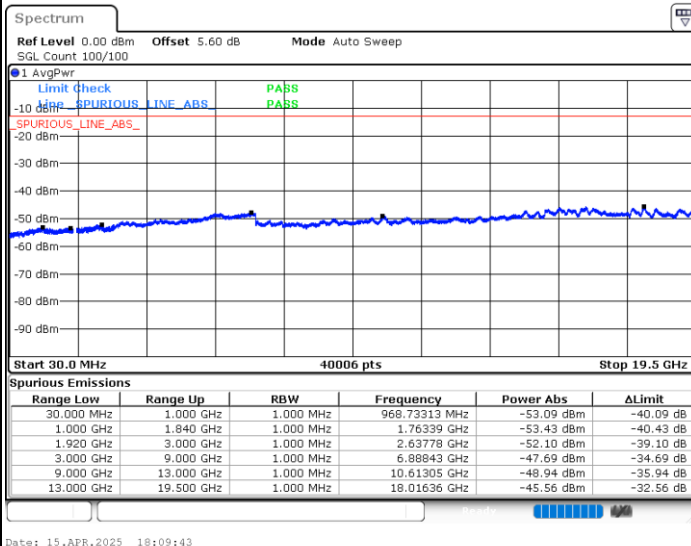


Conducted Spurious Emission

LTE Band 2 / 1.4MHz

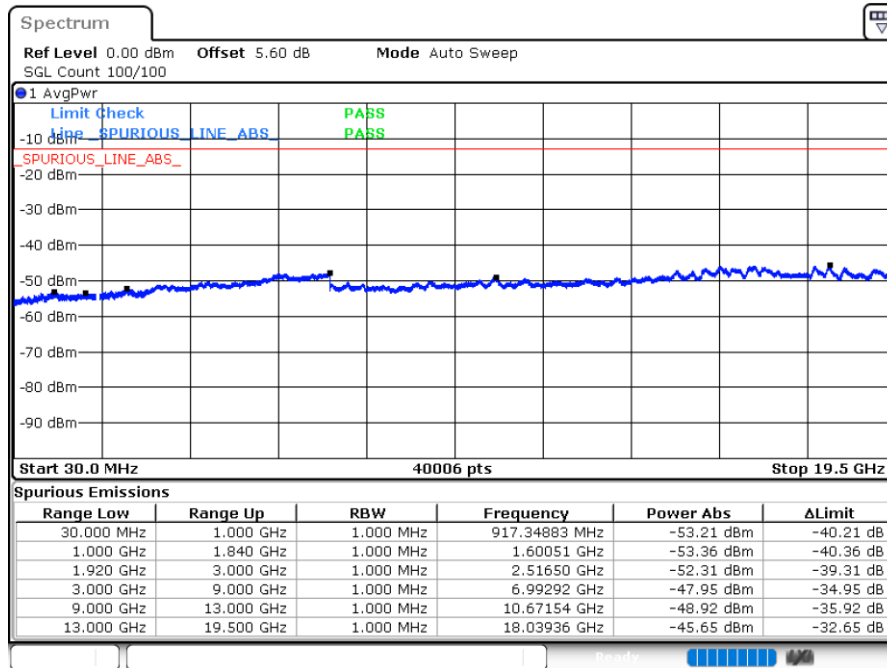
Lowest Channel / QPSK

Middle Channel / QPSK





Highest Channel / QPSK



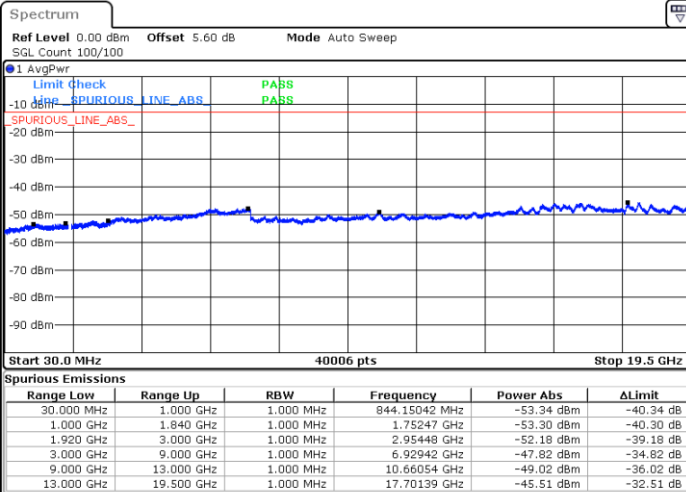
Date: 15.APR.2025 18:42:22



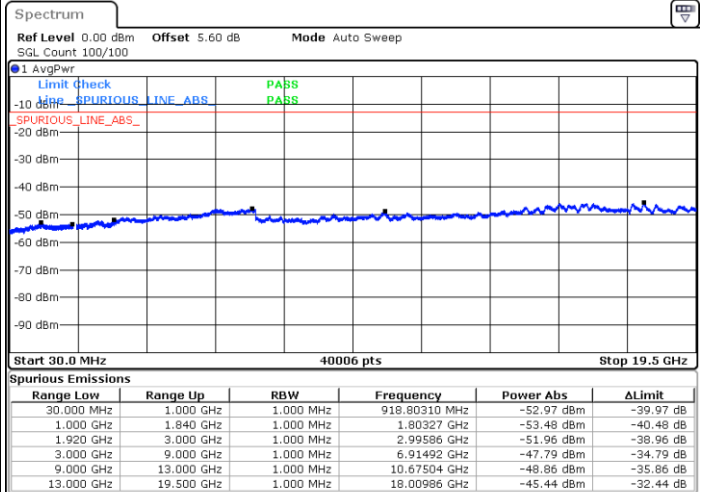
LTE Band 2 / 3MHz

Lowest Channel / QPSK

Middle Channel / QPSK

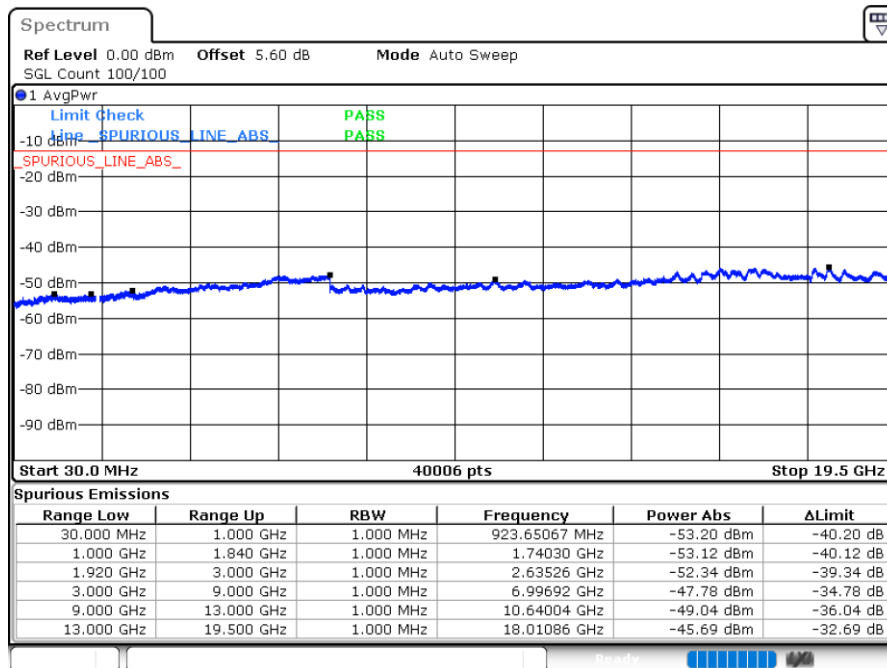


Date: 15.APR.2025 18:58:01



Date: 15.APR.2025 18:46:39

Highest Channel / QPSK



Date: 15.APR.2025 19:04:41

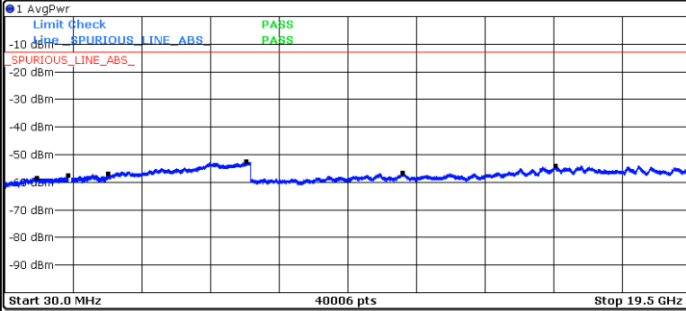


LTE Band 2 / 5MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

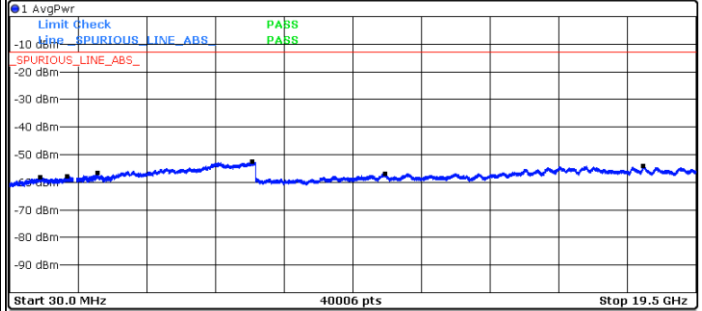
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	947.88856 MHz	-59.34 dBm	-45.34 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83937 GHz	-57.55 dBm	-44.55 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96671 GHz	-57.04 dBm	-44.04 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88543 GHz	-52.64 dBm	-39.64 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.32896 GHz	-56.66 dBm	-43.66 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.65055 GHz	-53.94 dBm	-40.94 dB

Date: 15.APR.2025 19:26:10

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

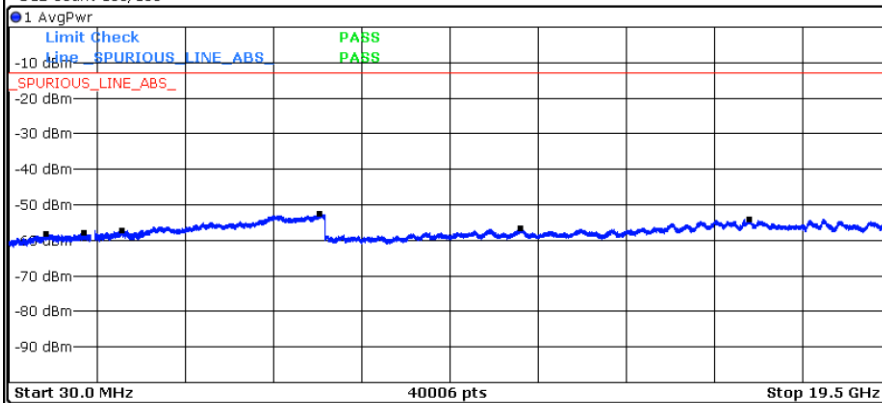
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	899.89755 MHz	-58.21 dBm	-45.21 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64795 GHz	-57.74 dBm	-44.74 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.50714 GHz	-56.68 dBm	-43.68 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90642 GHz	-52.55 dBm	-39.55 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.66554 GHz	-56.80 dBm	-43.80 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.00287 GHz	-54.12 dBm	-41.12 dB

Date: 15.APR.2025 19:23:13

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	832.03148 MHz	-58.24 dBm	-45.24 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.67481 GHz	-58.02 dBm	-45.02 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.51650 GHz	-57.18 dBm	-44.18 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88893 GHz	-52.56 dBm	-39.56 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.31096 GHz	-56.67 dBm	-43.67 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.37649 GHz	-54.11 dBm	-41.11 dB

Date: 15.APR.2025 19:43:06

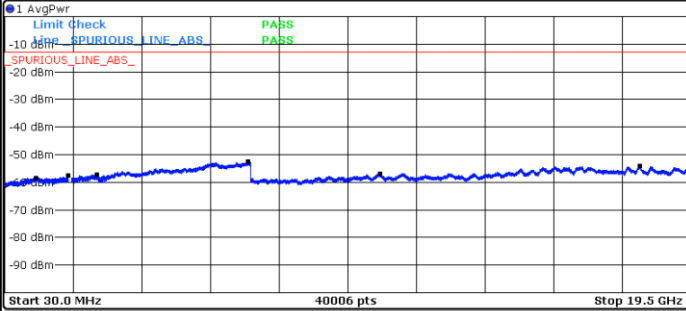


LTE Band 2 / 10MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

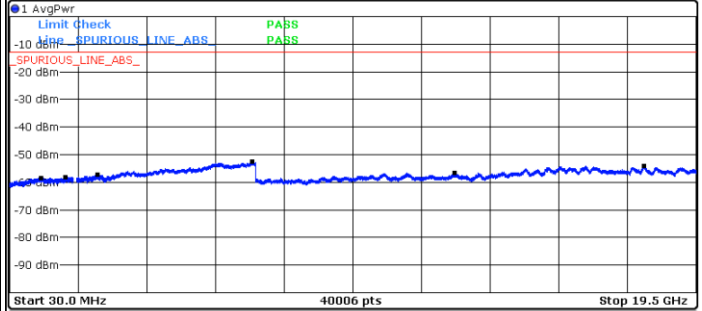
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	923.16592 MHz	-58.44 dBm	-45.44 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83937 GHz	-57.65 dBm	-44.65 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63346 GHz	-57.25 dBm	-44.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.93242 GHz	-52.65 dBm	-39.65 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.66504 GHz	-56.90 dBm	-43.90 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.04086 GHz	-54.18 dBm	-41.18 dB

Date: 15.APR.2025 19:52:48

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

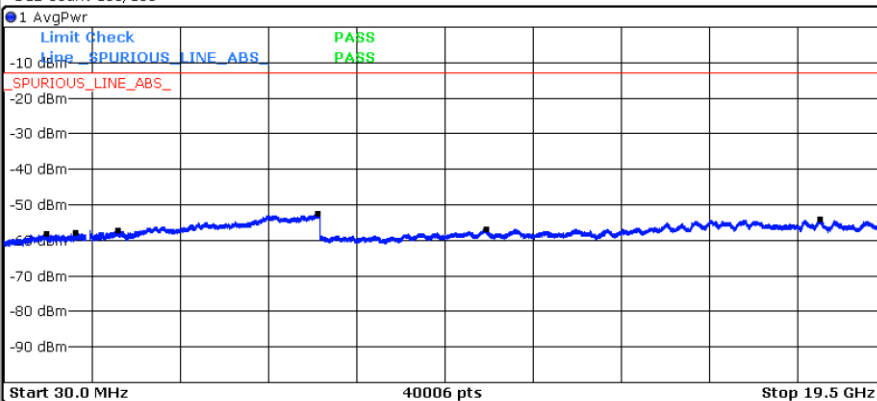
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	916.37931 MHz	-58.40 dBm	-45.40 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.61856 GHz	-58.14 dBm	-45.14 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.52910 GHz	-57.09 dBm	-44.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98993 GHz	-52.66 dBm	-39.66 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.63980 GHz	-56.66 dBm	-43.66 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.02436 GHz	-54.22 dBm	-41.22 dB

Date: 15.APR.2025 19:50:13

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.97401 MHz	-58.33 dBm	-45.33 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.59589 GHz	-57.99 dBm	-44.99 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.53450 GHz	-57.13 dBm	-44.13 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.95792 GHz	-52.54 dBm	-39.54 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.68704 GHz	-56.81 dBm	-43.81 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.03436 GHz	-53.98 dBm	-40.98 dB

Date: 15.APR.2025 20:13:34

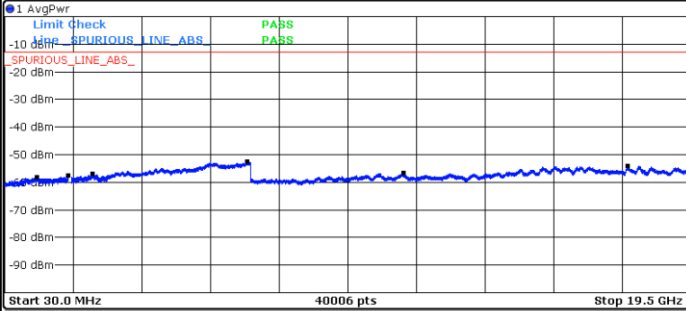


LTE Band 2 / 15MHz

Lowest Channel / QPSK

Middle Channel / QPSK

Spectrum

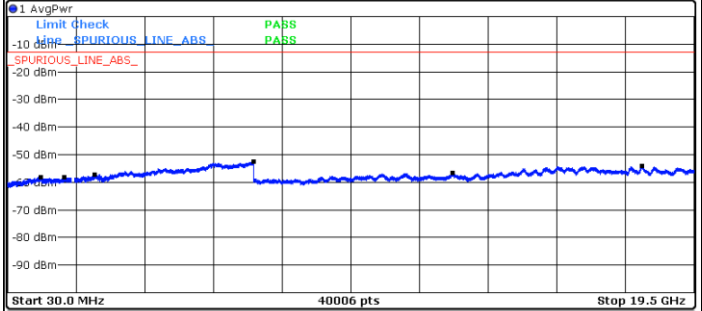
Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	942.55622 MHz	-59.30 dBm	-45.30 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81922 GHz	-57.40 dBm	-44.40 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.50858 GHz	-57.06 dBm	-44.06 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.91742 GHz	-52.49 dBm	-39.49 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.34096 GHz	-56.76 dBm	-43.76 dB
13.000 GHz	19.500 GHz	1.000 MHz	17.70139 GHz	-54.21 dBm	-41.21 dB

Date: 15.APR.2025 20:35:35

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

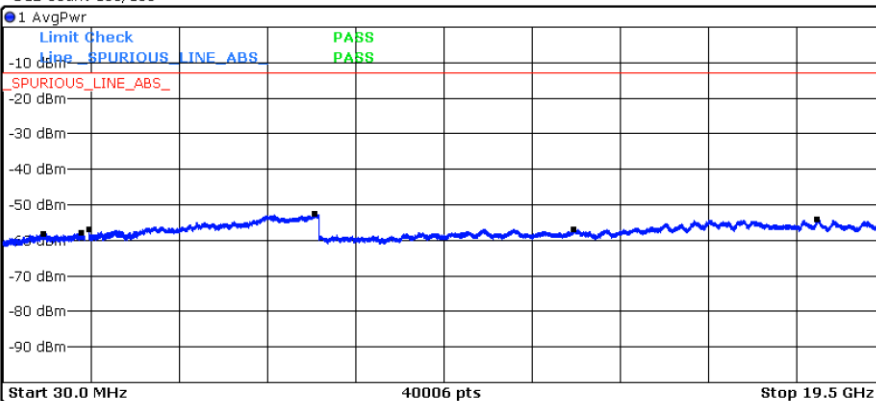
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	968.24838 MHz	-58.16 dBm	-45.16 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64123 GHz	-58.11 dBm	-45.11 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.49995 GHz	-57.15 dBm	-44.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99542 GHz	-52.53 dBm	-39.53 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.64129 GHz	-56.74 dBm	-43.74 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.01586 GHz	-54.21 dBm	-41.21 dB

Date: 15.APR.2025 20:33:11

Highest Channel / QPSK

Spectrum

Ref Level 0.00 dBm Offset 5.60 dB Mode Auto Sweep
SQL Count 100/100

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	920.74213 MHz	-58.17 dBm	-45.17 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.75457 GHz	-57.88 dBm	-44.88 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92018 GHz	-57.01 dBm	-44.01 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.90242 GHz	-52.60 dBm	-39.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.62530 GHz	-56.83 dBm	-43.83 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.00237 GHz	-54.14 dBm	-41.14 dB

Date: 15.APR.2025 20:46:25