FCC RF Test Report

APPLICANT	: Motorola Mobility LLC
EQUIPMENT	: Mobile Cellular Phone
BRAND NAME	: Motorola
MODEL NAME	: XT2403-4,XT2403-5
FCC ID	: IHDT56AQ6
STANDARD	: 47 CFR Part 2, 24(E)
CLASSIFICATION	: PCS Licensed Transmitter Held to Ear (PCE)
TEST DATE(S)	: Jan. 09, 2024 ~ Jan. 15, 2024

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.

This report contains data that were produced under subcontract by Sporton International Inc. (Shenzhen)

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

ACCREDITED Cert #5145.02

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

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG3D1818-01	Rev. 01	Initial issue of report	Feb. 01, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2)	EIRP < 2Watt		-
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)	Conducted Band Edge Measurement (Band 2)	< 43+10log10(P[Watts])	PASS	-
3.8	§24.238(a)	Conducted Spurious Emission (Band 2)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §24.235	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§24.238(a)	Radiated Spurious Emission (Band 2)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 40.23 dB at 7485.00 MHz

Conformity Assessment Condition:

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

Disclaimer:

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

1 General Description

1.1 Applicant

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

1.2 Manufacturer

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

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT2403-4,XT2403-5
FCC ID	IHDT56AQ6
IMEI Code	Conducted: 350950830008498/350950830008506 Radiation: 350950830009231
HW Version	DVT2
SW Version	U2UM34.9
EUT Stage	Identical Prototype

Note: The different model name is different for market purpose.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	<Ant.1> LTE Band 2 : 21.15 dBm <Ant.2> LTE Band 2 : 22.63 dBm
Antenna Gain	<Ant.1> LTE Band 2 : -1.5 dBi <Ant.2> LTE Band 2 : -1.7 dBi
Type of Modulation	QPSK / 16QAM / 64QAM/256QAM

Note: The maximum EIRP is calculated from output power and antenna gain, only the maximum EIRP of Ant.2 for LTE Band2 are shown in the report.

1.5 Modification of EUT

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

1.6 Maximum EIRP Power and Emission Designator

LTE Band 2		QPSK		16QAM/64QAM/256QAM	
BW (MHz)	Frequency Range (MHz)	Maximum EIRP(W)	Emission Designator (99%OBW)	Maximum EIRP(W)	Emission Designator (99%OBW)
1.4	1850.7 ~ 1909.3	0.1227	1M09G7D	0.0951	1M09W7D
3	1851.5 ~ 1908.5	0.1205	2M73G7D	0.0973	2M71W7D
5	1852.5 ~ 1907.5	0.1205	4M52G7D	0.0973	4M49W7D
10	1855.0 ~ 1905.0	0.1208	9M09G7D	0.0957	9M09W7D
15	1857.5 ~ 1902.5	0.1213	13M4G7D	0.0962	13M4W7D
20	1860.0 ~ 1900.0	0.1239	17M9G7D	0.0979	17M9W7D

Note: All modulationshave 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.**
	03CH04-KS	CN1257	314309

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

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

1.8 Test Software

Item	Site	Manufacture	Name	Version
1.	03CH04-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 2, 24(E)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

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

1.10 Specification of Accessory

Accessories Information				
AC Adapter 1	**Brand Name**	Motorola(Chenyang)	**Model Name**	MC-1251
AC Adapter 2	**Brand Name**	Motorola(AOHAI)	**Model Name**	MC-1251
Battery	**Brand Name**	Motorola (ATL)	**Model Name**	QM45
USB Cable 1	**Brand Name**	Motorola (Saibao)	**Model Name**	SC18D71644
USB Cable 2	**Brand Name**	Motorola (Luxshare)	**Model Name**	SC18E08104

2 Test Configuration of Equipment Under Test

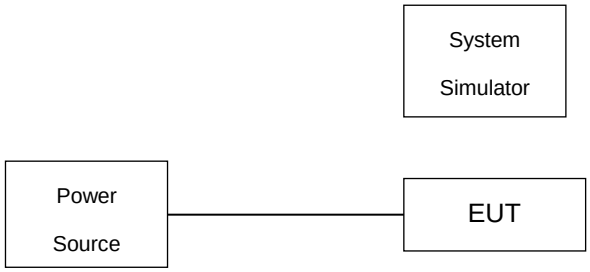
2.1 Test Mode

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

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

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



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

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 :

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.5 + 10 = 14.5 (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

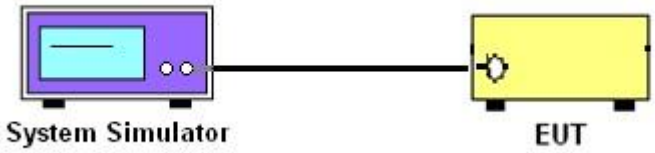
3 Conducted Test Items

3.1 Measuring Instruments

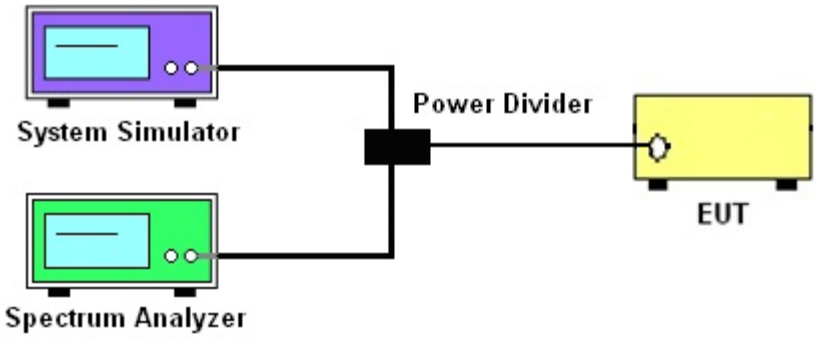
See list of measuring instruments of this test report.

3.2 Test Setup

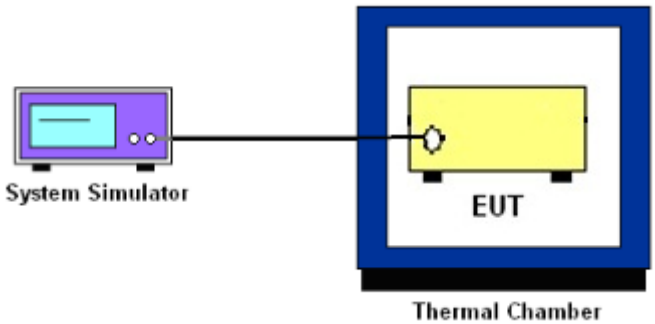
3.2.1 Conducted Output Power



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 EIRP

3.4.1 Description of the Conducted Output Power Measurement and 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 EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2.

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[Watts]) dB below the transmitter power P(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.

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 >= 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 + 10log(P)dB below the transmitter power P(Watts)
   = P(W)- [43 + 10log(P)] (dB)
   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
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 10^{th} 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 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

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.

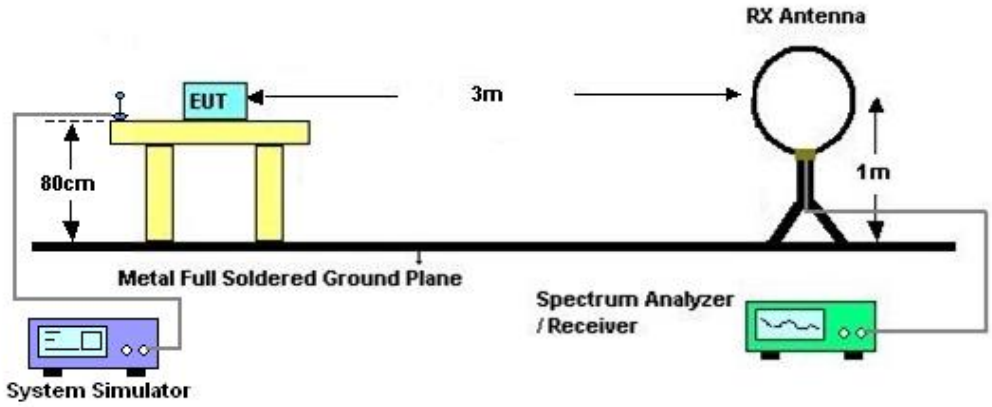
4 Radiated Test Items

4.1 Measuring Instruments

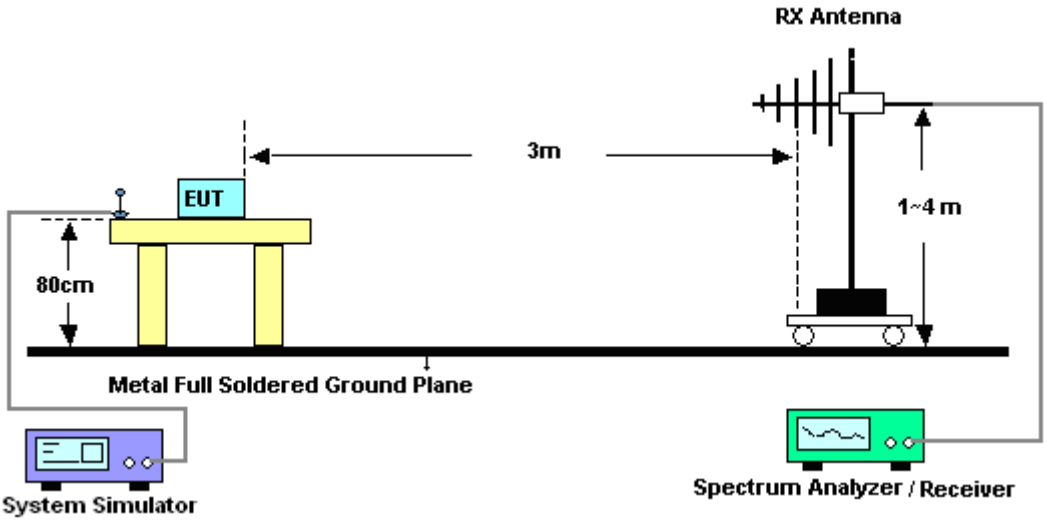
See list of measuring instruments of this test report.

4.2 Test Setup

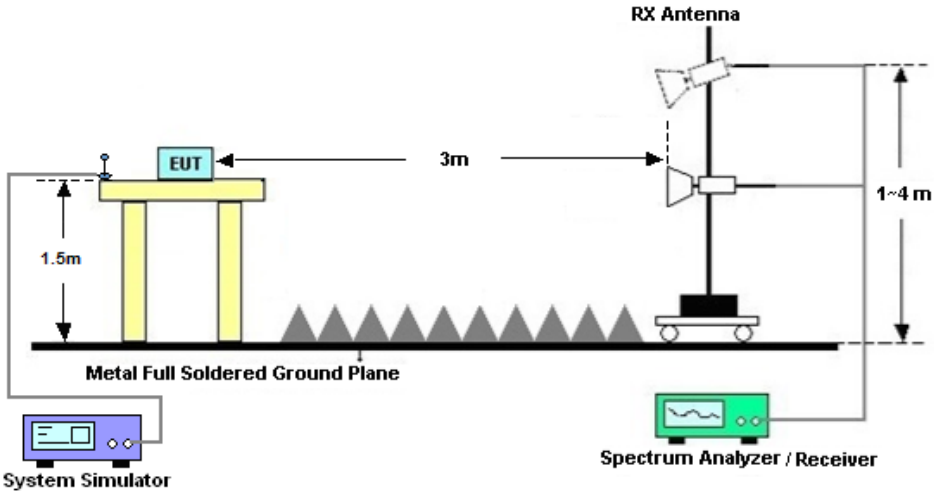
4.2.1 For radiated test below 30MHz



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 (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

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. 06, 2023	Jan. 09, 2024	Apr. 05, 2024	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 16, 2023	Jan. 09, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04265	60.06.020.0077	0.4GHz~26.5GHz	Dec. 25, 2023	Jan. 09, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 05, 2023	Jan. 09, 2024	Jul. 04, 2024	Conducted (TH01-SZ)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471079	10Hz-44G,MAX 30dB	Oct. 10, 2023	Jan. 15, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Loop Antenna	R&S	HFH2-Z2E	101125	9kHz~30MHz	Oct. 10, 2023	Jan. 15, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Bilog Antenna	TeseQ	CBL6111D	49922	30MHz-1GHz	Apr. 09, 2023	Jan. 15, 2024	Apr. 08, 2024	Radiation (03CH04-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	1284	1GHz~18GHz	Oct. 10, 2023	Jan. 15, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
SHF-EHF Horn	Com-power	AH-840	101070	18GHz~40GHz	Jan. 05, 2024	Jan. 15, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
Amplifier	SONOMA	310N	380827	9KHz-1GHz	Jul. 06, 2023	Jan. 15, 2024	Jul. 05, 2024	Radiation (03CH04-KS)
Amplifier	MITEQ	EM18G40GGA	060728	18~40GHz	Jan. 05, 2024	Jan. 15, 2024	Jan. 04, 2025	Radiation (03CH04-KS)
high gain Amplifier	EM	EM01G18GA	060840	1Ghz-18Ghz	Oct. 10, 2023	Jan. 15, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
Amplifier	Agilent	8449B	3008A02370	1Ghz-18Ghz	Oct. 10, 2023	Jan. 15, 2024	Oct. 09, 2024	Radiation (03CH04-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 15, 2024	NCR	Radiation (03CH04-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 15, 2024	NCR	Radiation (03CH04-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 15, 2024	NCR	Radiation (03CH04-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

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 (9 KHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.82

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.56

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.54

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

Appendix A. Test Results of Conducted Test

Test Engineer :	Hank Lin	Temperature :	24~26℃
		Relative Humidity :	50~53%

Conducted Output Power(Average power) and EIRP

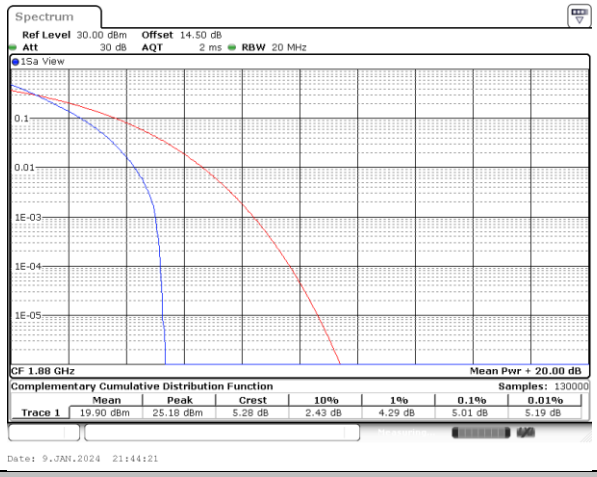
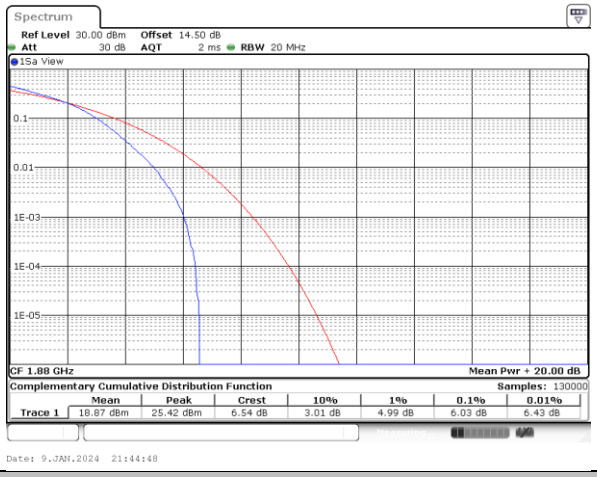
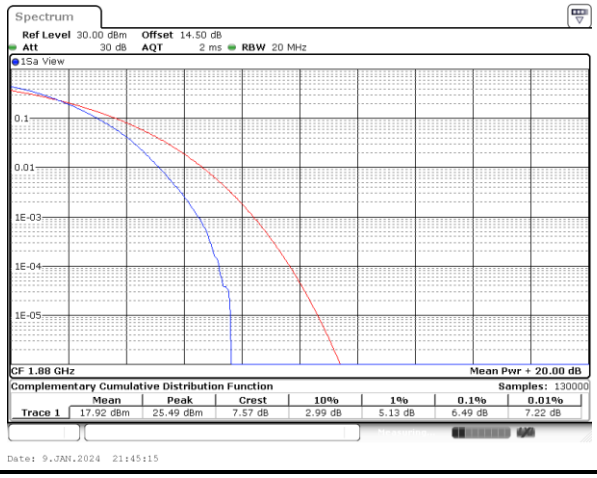
LTE Band 2_Ant.2:

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			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	22.60	22.63	22.58	0.1230	0.1239	0.1225
20	QPSK	1	99	22.52	22.54	22.45	0.1208	0.1213	0.1189
20	QPSK	100	0	21.55	21.66	21.62	0.0966	0.0991	0.0982
20	16QAM	1	0	21.54	21.61	21.56	0.0964	0.0979	0.0968
20	64QAM	1	0	20.60	20.66	20.50	0.0776	0.0787	0.0759
20	256QAM	1	0	17.67	17.71	17.58	0.0395	0.0399	0.0387
Channel				18675	18900	19125	EIRP(W)		
Frequency (MHz)				1857.5	1880	1902.5	L	M	H
15	QPSK	1	0	22.54	22.51	22.51	0.1213	0.1205	0.1205
15	16QAM	1	0	21.49	21.53	21.41	0.0953	0.0962	0.0935
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	22.45	22.50	22.52	0.1189	0.1202	0.1208
10	16QAM	1	0	21.45	21.51	21.46	0.0944	0.0957	0.0946
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	22.50	22.50	22.51	0.1202	0.1202	0.1205
5	16QAM	1	0	21.49	21.58	21.46	0.0953	0.0973	0.0946
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	22.51	22.51	22.44	0.1205	0.1205	0.1186
3	16QAM	1	0	21.43	21.58	21.53	0.0940	0.0973	0.0962
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	22.52	22.59	22.44	0.1208	0.1227	0.1186
1.4	16QAM	1	0	21.39	21.48	21.43	0.0931	0.0951	0.0940

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	5.01	6.03	6.49	PASS

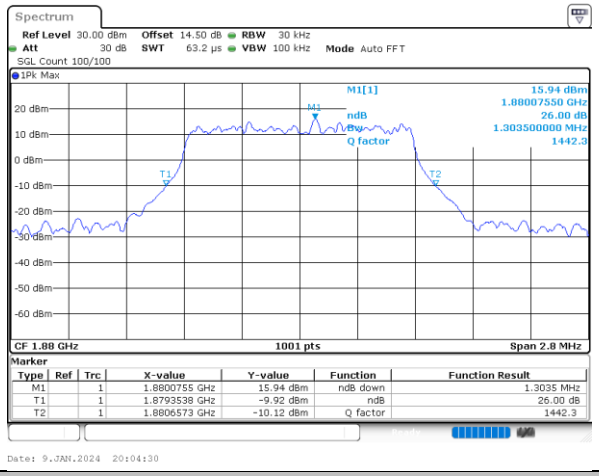
LTE Band 2 / 20MHz / QPSK	LTE Band 2 / 20MHz / 16QAM
Middle Channel / Full RB	Middle Channel / Full RB
	
LTE Band 2 / 20MHz / 64QAM	
Middle Channel / Full RB	
	-

26dB Bandwidth

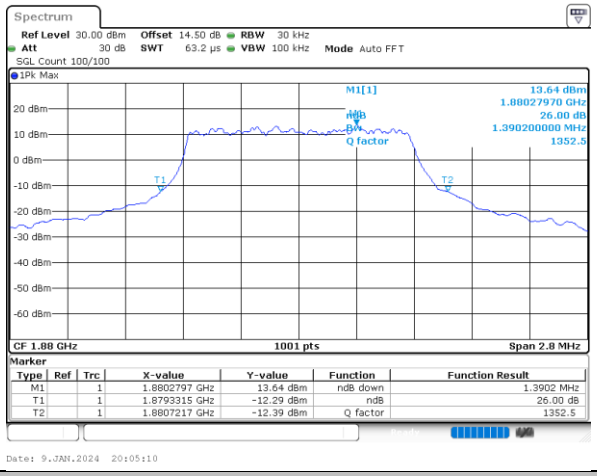
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.30	1.39	3.12	3.10	5.09	4.87	10.03	9.87	14.15	14.48	19.06	18.82

LTE Band 2

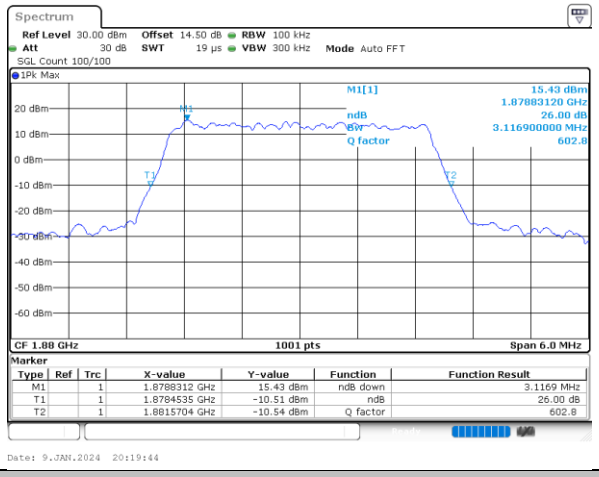
Middle Channel / 1.4MHz / QPSK



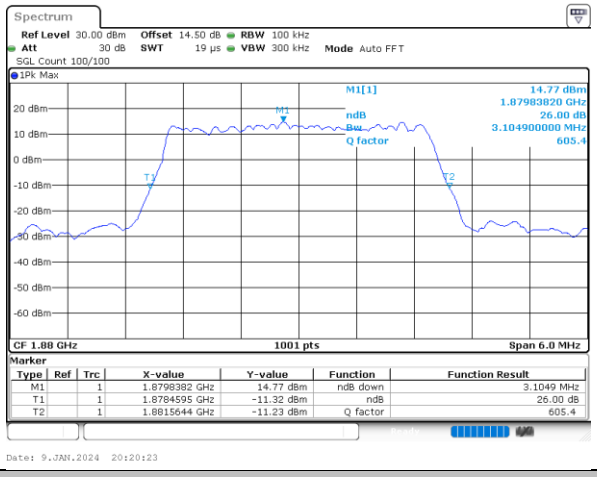
Middle Channel / 1.4MHz / 16QAM



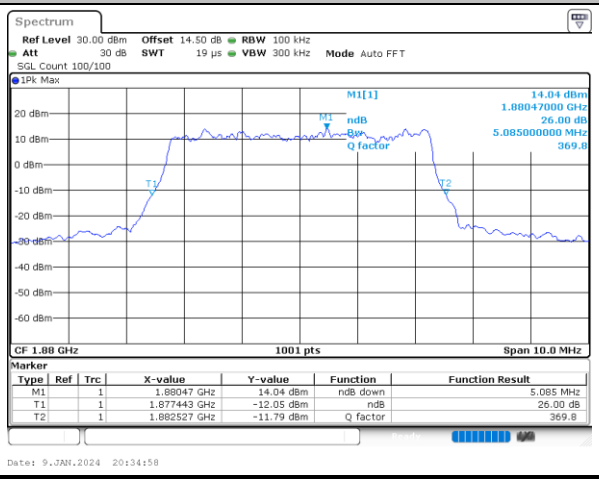
Middle Channel / 3MHz / QPSK



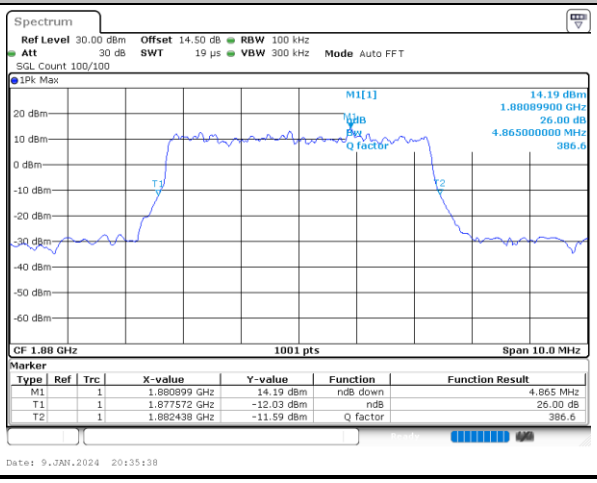
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK

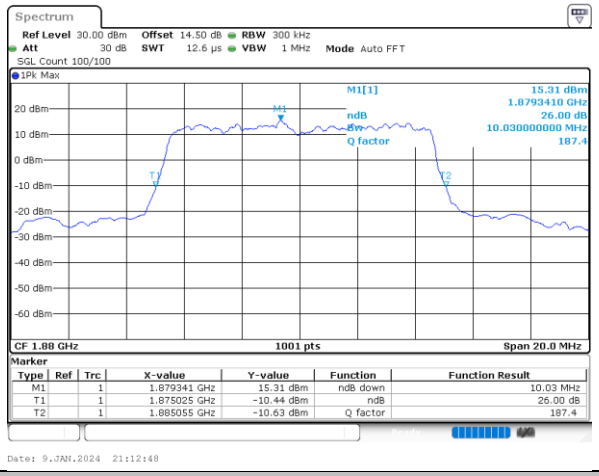


Middle Channel / 5MHz / 16QAM

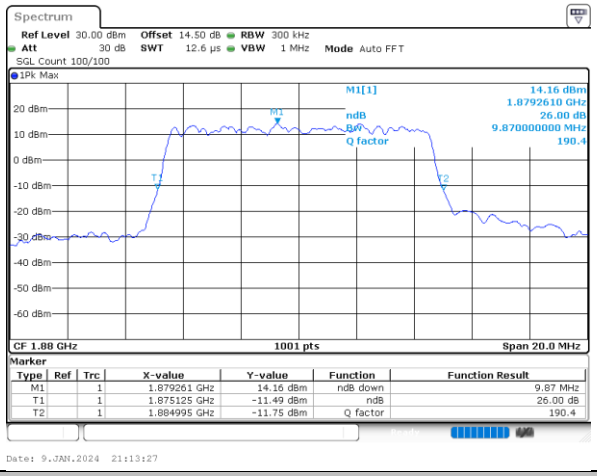


LTE Band 2

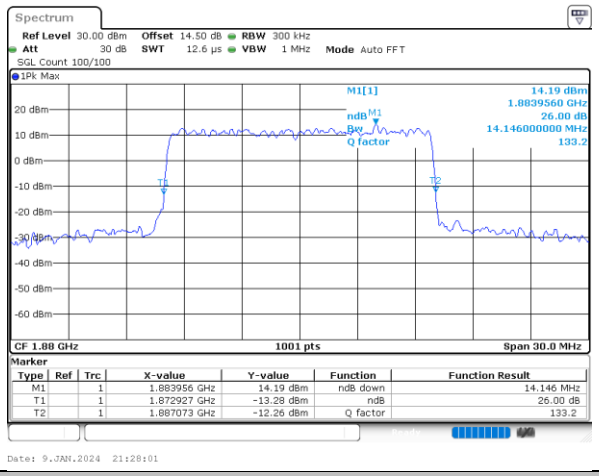
Middle Channel / 10MHz / QPSK



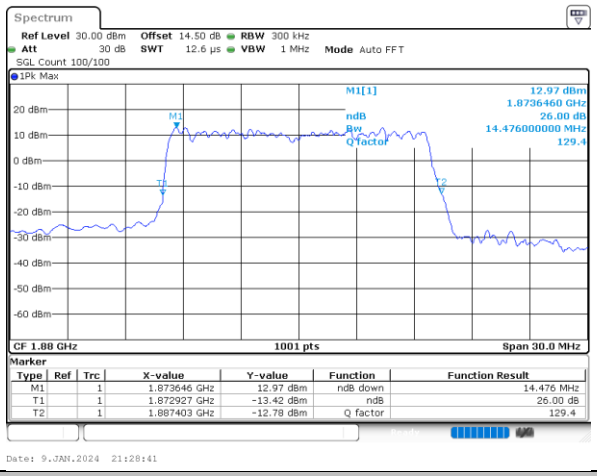
Middle Channel / 10MHz / 16QAM



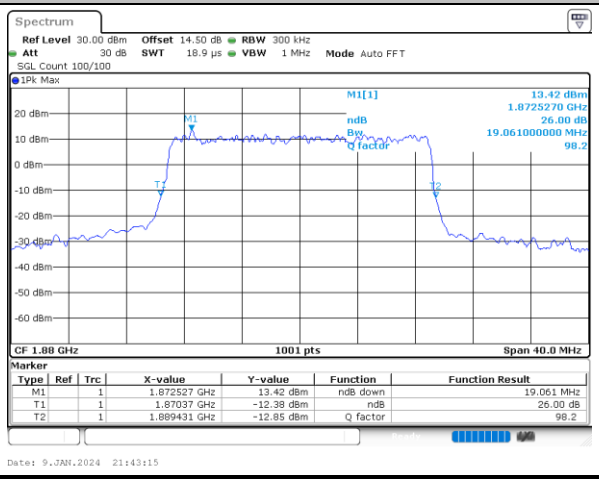
Middle Channel / 15MHz / QPSK



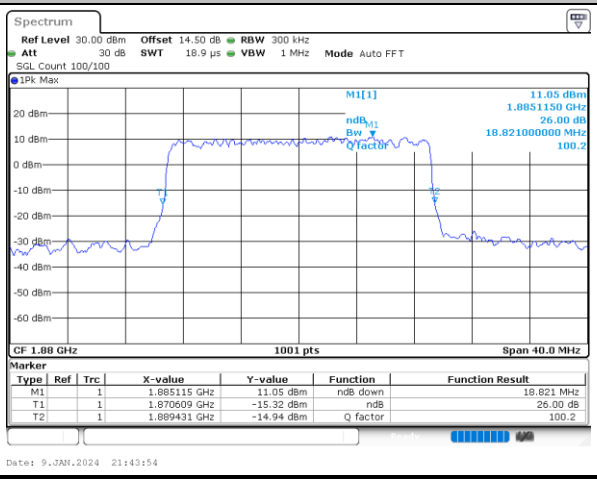
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM

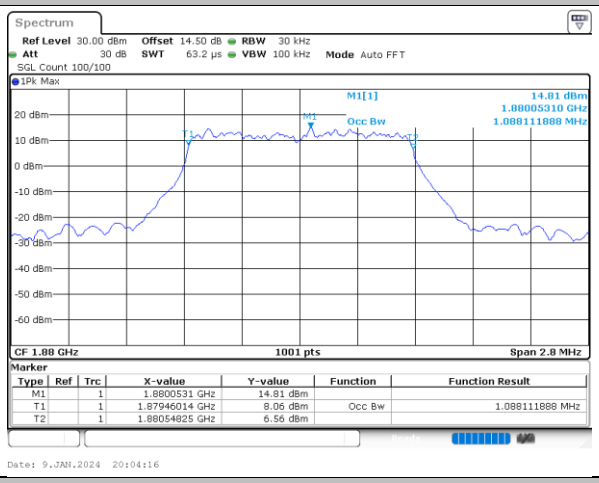


Occupied Bandwidth

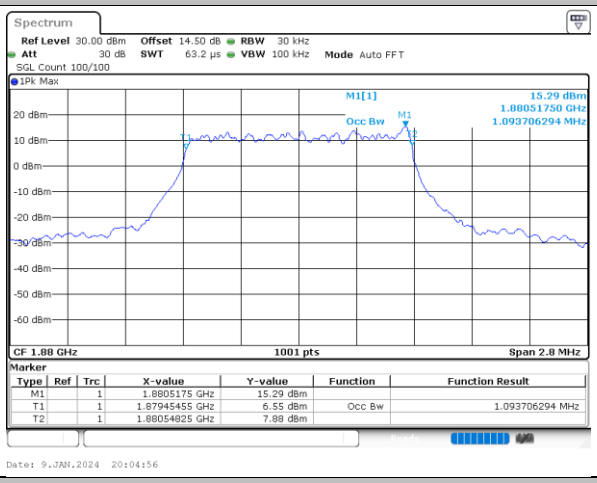
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.09	1.09	2.73	2.71	4.52	4.49	9.09	9.09	13.43	13.43	17.90	17.86

LTE Band 2

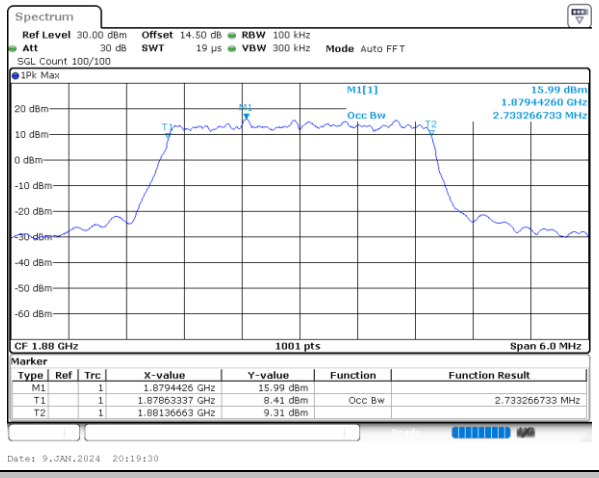
Middle Channel / 1.4MHz / QPSK



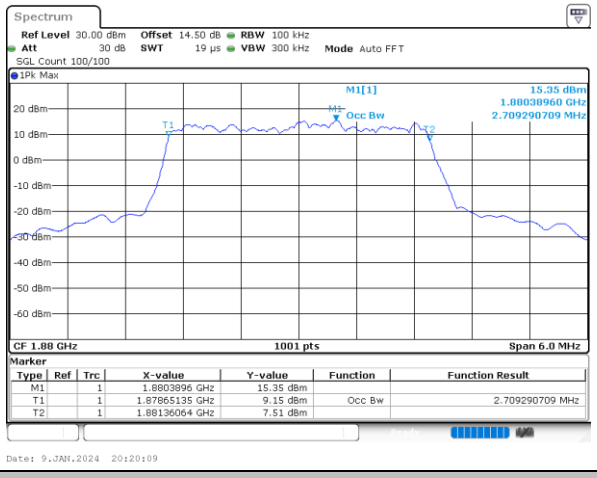
Middle Channel / 1.4MHz / 16QAM



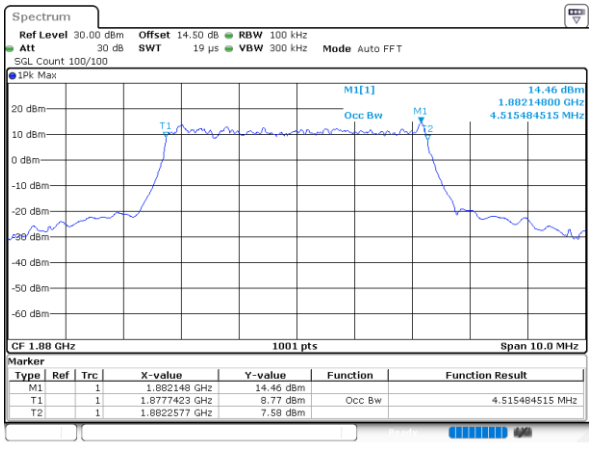
Middle Channel / 3MHz / QPSK



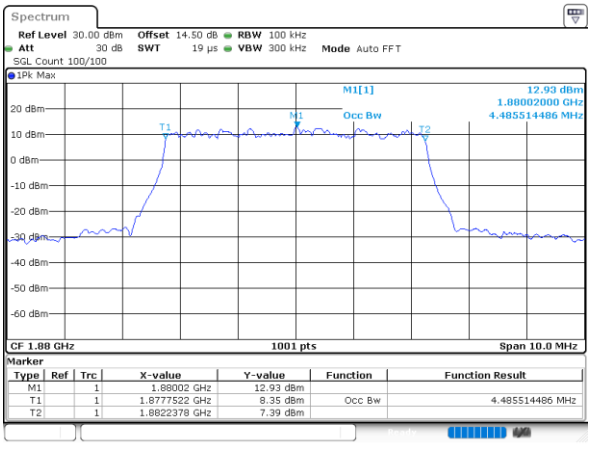
Middle Channel / 3MHz / 16QAM



Middle Channel / 5MHz / QPSK

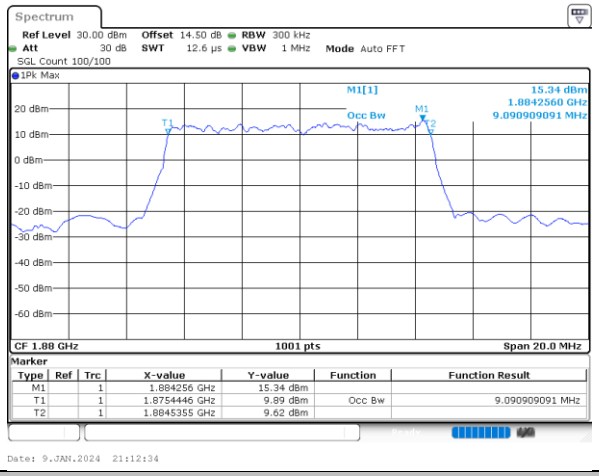


Middle Channel / 5MHz / 16QAM

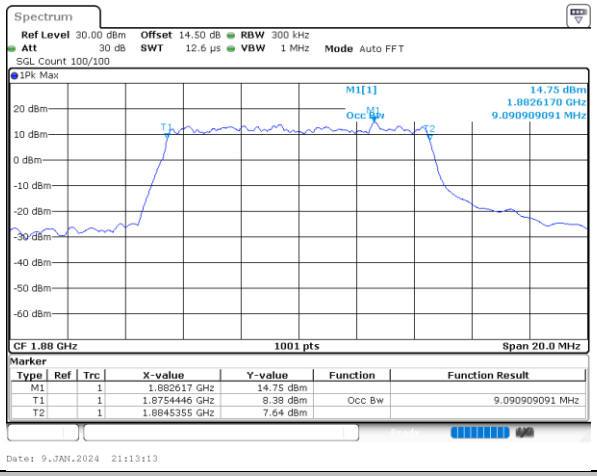


LTE Band 2

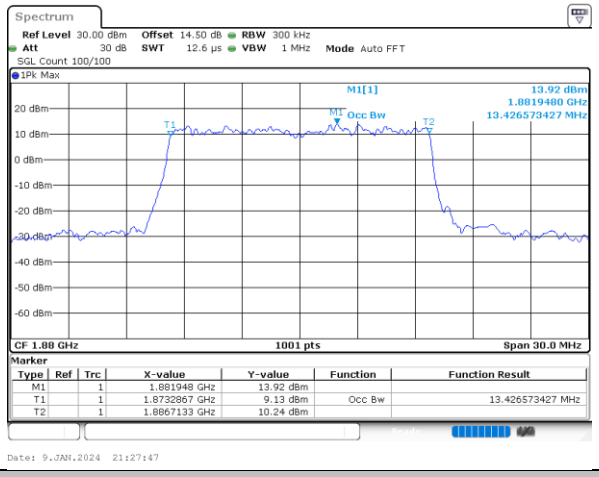
Middle Channel / 10MHz / QPSK



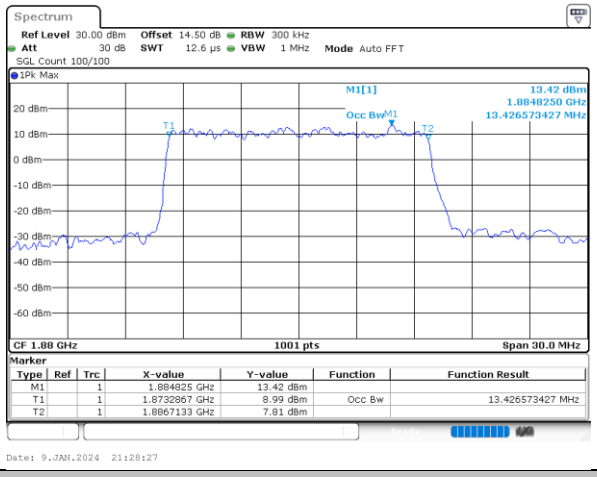
Middle Channel / 10MHz / 16QAM



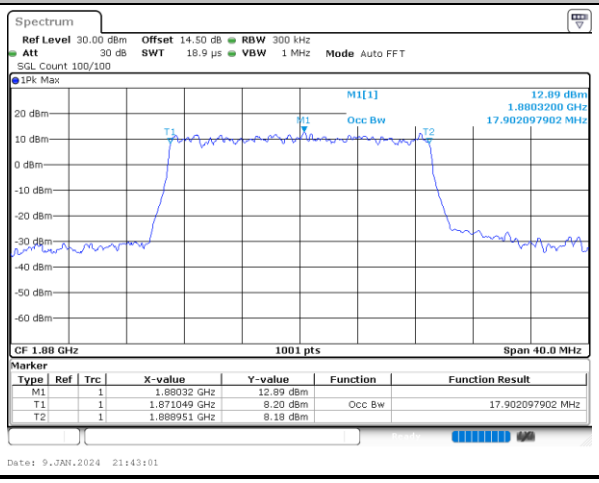
Middle Channel / 15MHz / QPSK



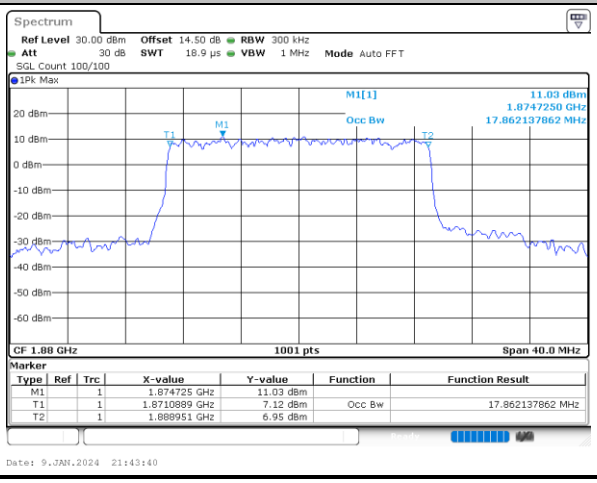
Middle Channel / 15MHz / 16QAM



Middle Channel / 20MHz / QPSK



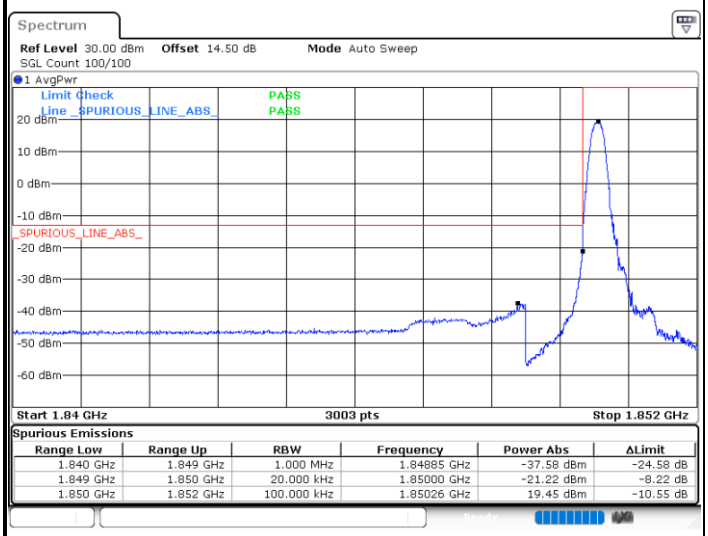
Middle Channel / 20MHz / 16QAM



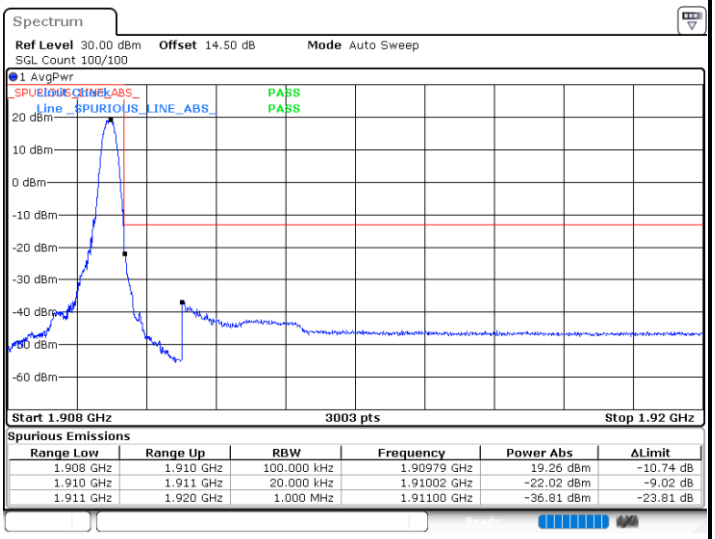
Conducted Band Edge

LTE Band 2 / 1.4MHz / QPSK

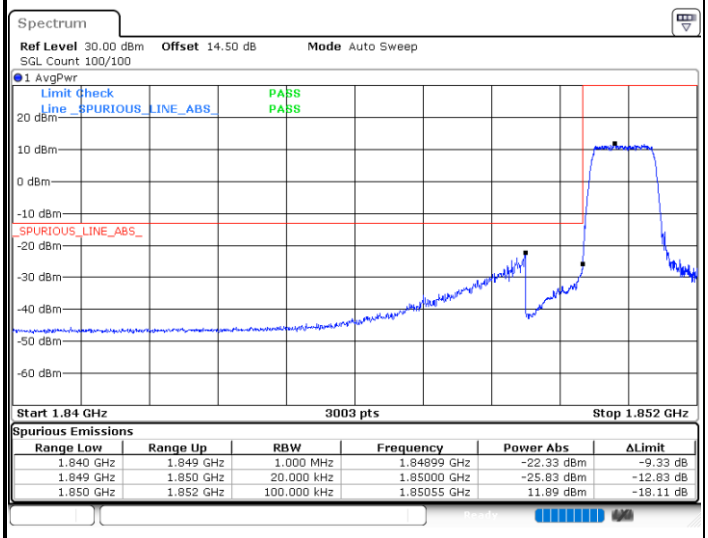
Lowest Band Edge / 1RB



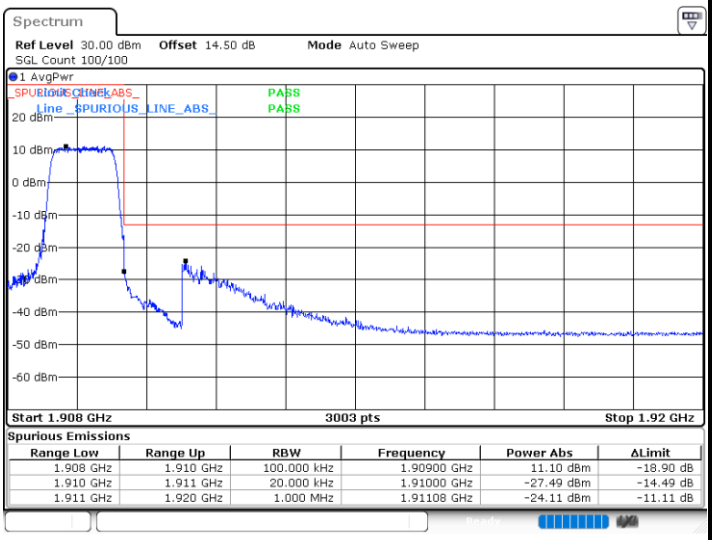
Highest Band Edge / 1RB



Lowest Band Edge / Full RB

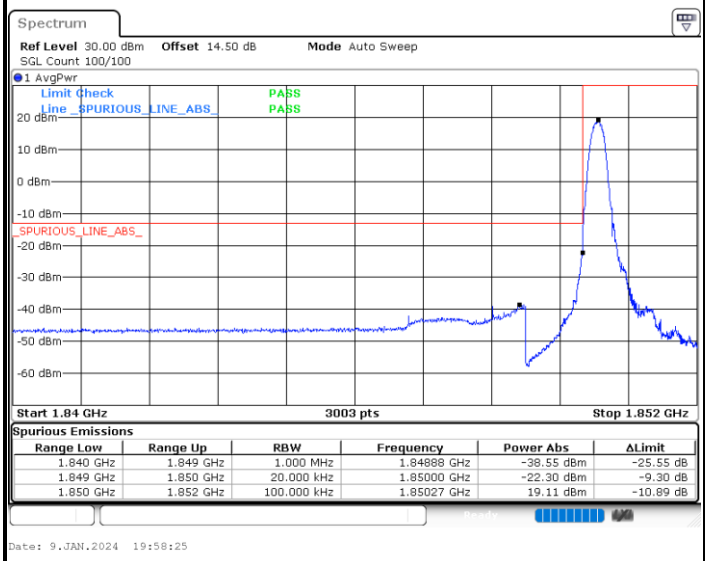


Highest Band Edge / Full RB



LTE Band 2 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

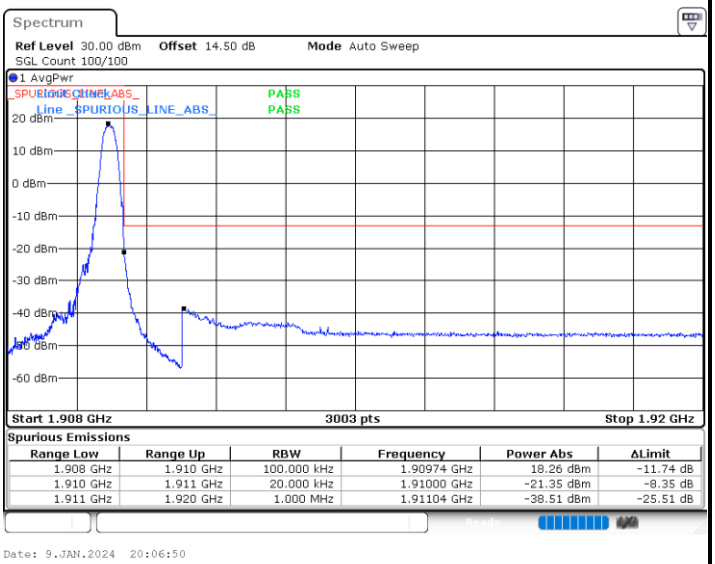


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84888 GHz	-38.55 dBm	-25.55 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-22.30 dBm	-9.30 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85027 GHz	19.11 dBm	-10.89 dB

Date: 9.JAN.2024 19:58:25

Highest Band Edge / 1 RB

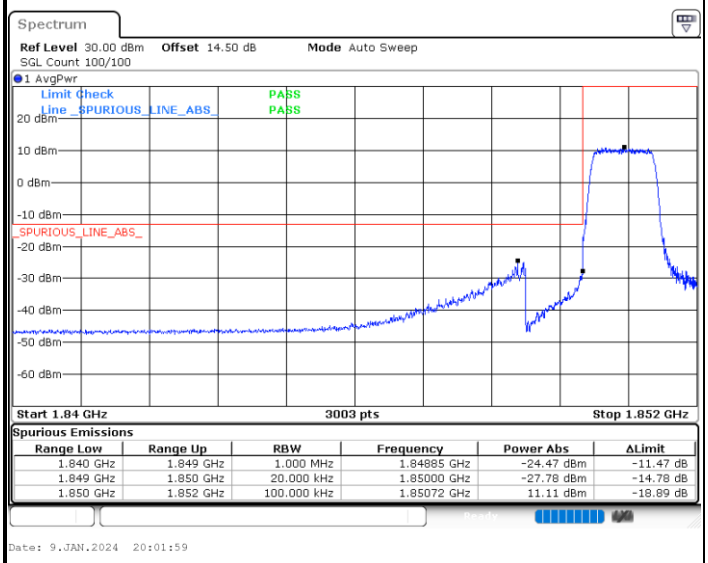


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90974 GHz	18.26 dBm	-11.74 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-21.35 dBm	-8.35 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91104 GHz	-38.51 dBm	-25.51 dB

Date: 9.JAN.2024 20:06:50

Lowest Band Edge / Full RB

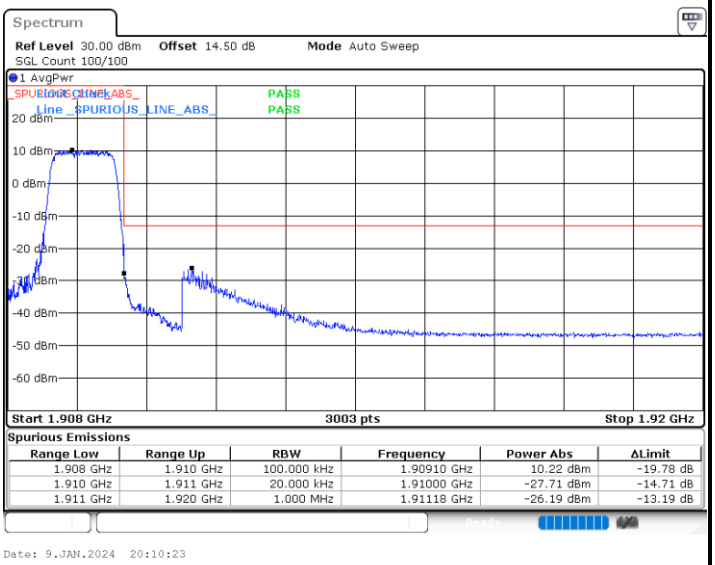


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84885 GHz	-24.47 dBm	-11.47 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-27.78 dBm	-14.78 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85072 GHz	11.11 dBm	-18.89 dB

Date: 9.JAN.2024 20:01:59

Highest Band Edge / Full RB



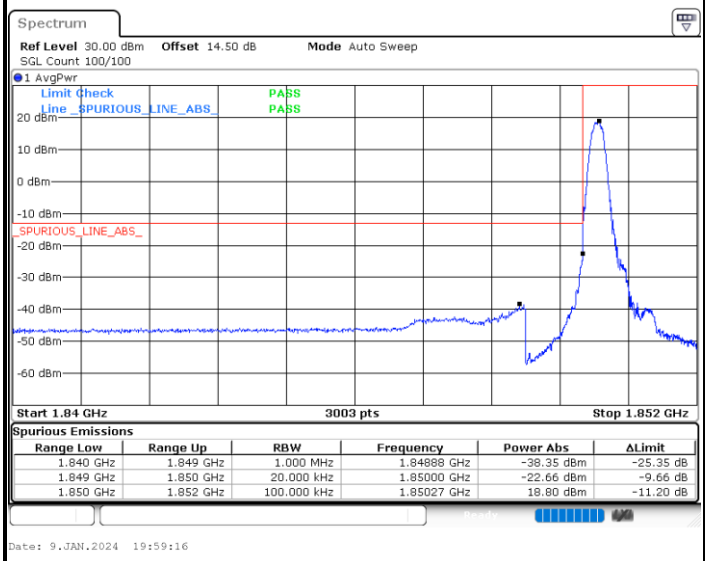
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90910 GHz	10.22 dBm	-19.78 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-27.71 dBm	-14.71 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91118 GHz	-26.19 dBm	-13.19 dB

Date: 9.JAN.2024 20:10:23

LTE Band 2 / 1.4MHz / 64QAM

Lowest Band Edge / 1 RB

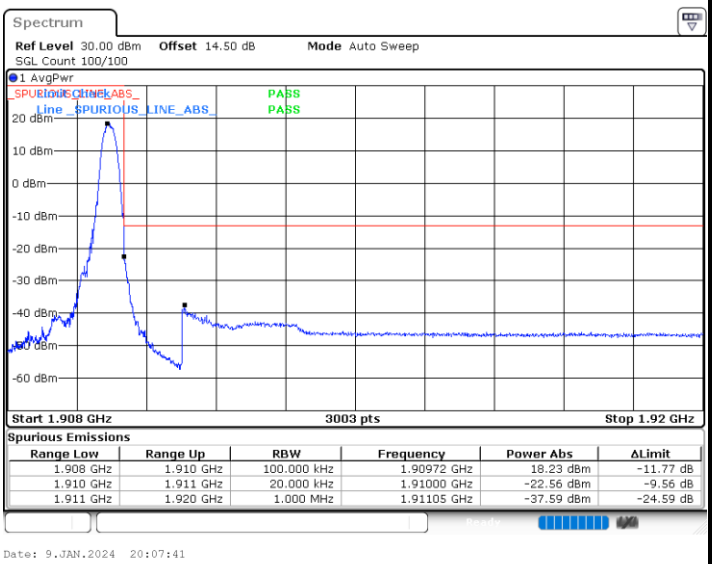


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84888 GHz	-38.35 dBm	-25.35 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-22.66 dBm	-9.66 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85027 GHz	18.80 dBm	-11.20 dB

Date: 9.JAN.2024 19:59:16

Highest Band Edge / 1 RB

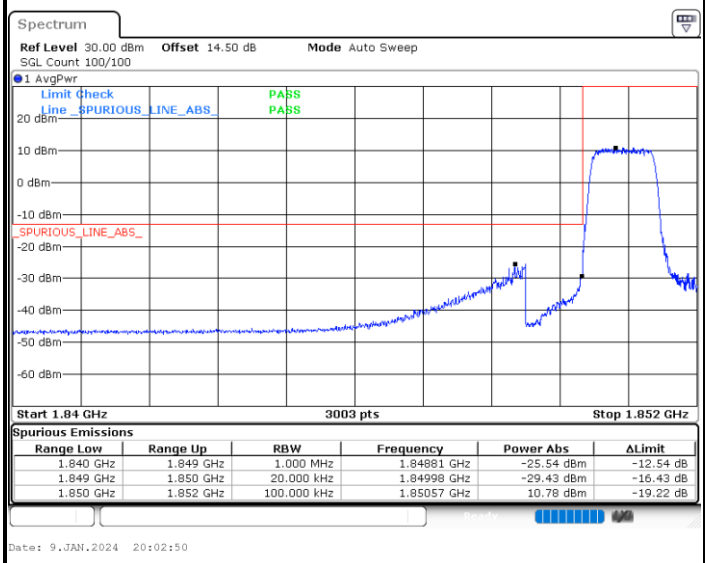


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90972 GHz	18.23 dBm	-11.77 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-22.56 dBm	-9.56 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91105 GHz	-37.59 dBm	-24.59 dB

Date: 9.JAN.2024 20:07:41

Lowest Band Edge / Full RB

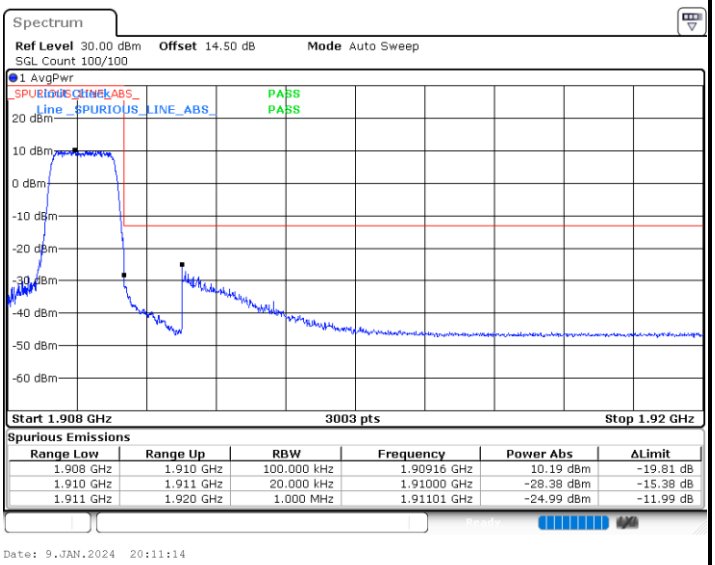


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84881 GHz	-25.54 dBm	-12.54 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.84998 GHz	-29.43 dBm	-16.43 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85057 GHz	10.78 dBm	-19.22 dB

Date: 9.JAN.2024 20:02:50

Highest Band Edge / Full RB



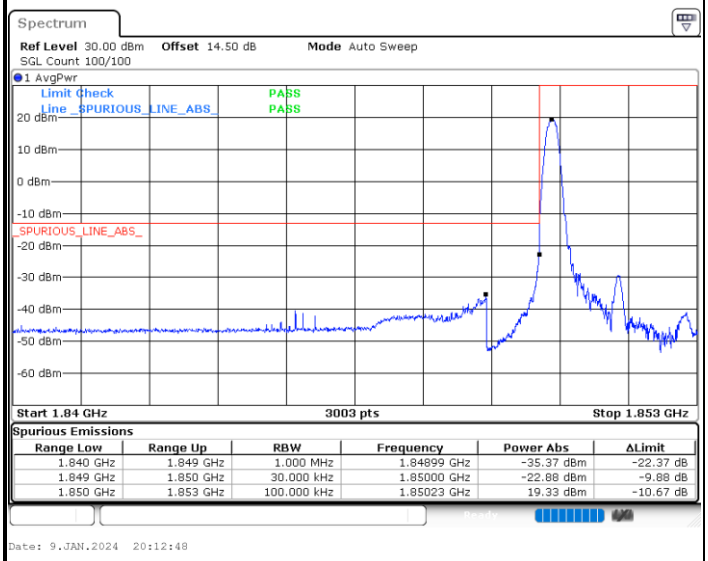
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90916 GHz	10.19 dBm	-19.81 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-28.38 dBm	-15.38 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91101 GHz	-24.99 dBm	-11.99 dB

Date: 9.JAN.2024 20:11:14

LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB

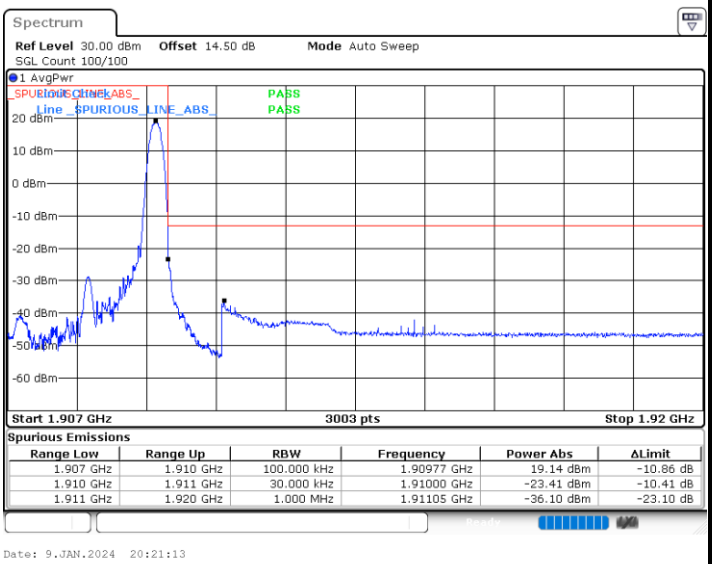


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-35.37 dBm	-22.37 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-22.88 dBm	-9.88 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85023 GHz	19.33 dBm	-10.67 dB

Date: 9.JAN.2024 20:12:48

Highest Band Edge / 1RB

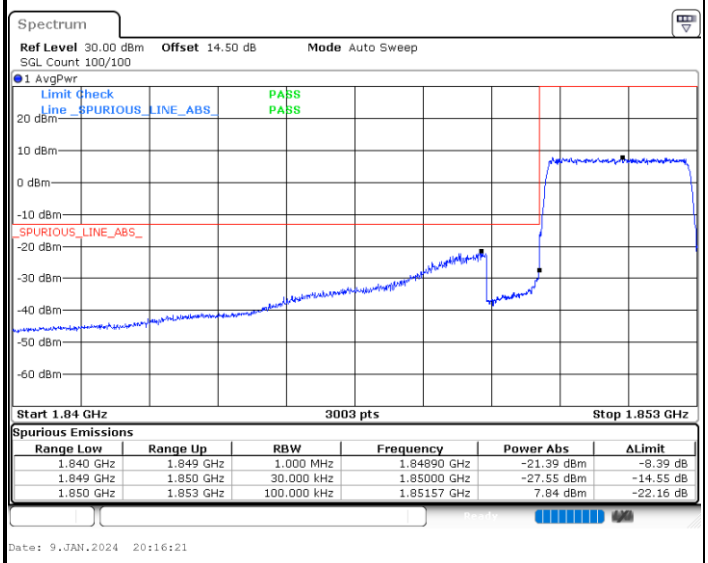


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90977 GHz	19.14 dBm	-10.86 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-23.41 dBm	-10.41 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91105 GHz	-36.10 dBm	-23.10 dB

Date: 9.JAN.2024 20:21:13

Lowest Band Edge / Full RB

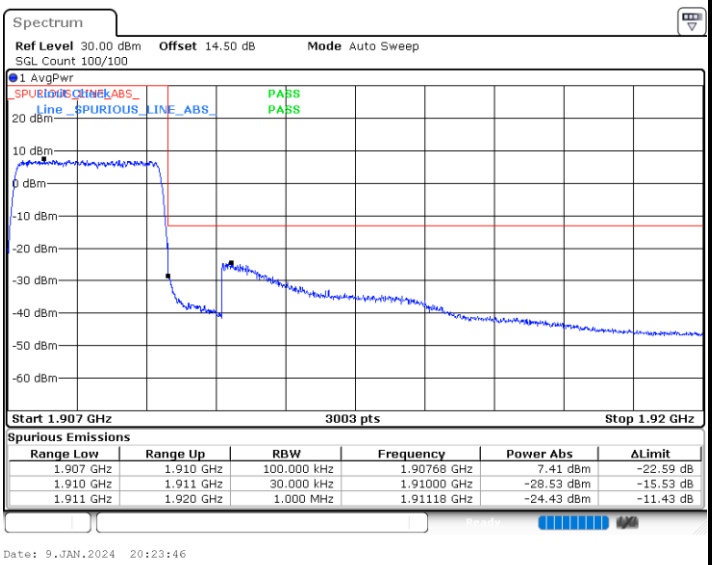


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84890 GHz	-21.39 dBm	-8.39 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-27.55 dBm	-14.55 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85157 GHz	7.84 dBm	-22.16 dB

Date: 9.JAN.2024 20:16:21

Highest Band Edge / Full RB



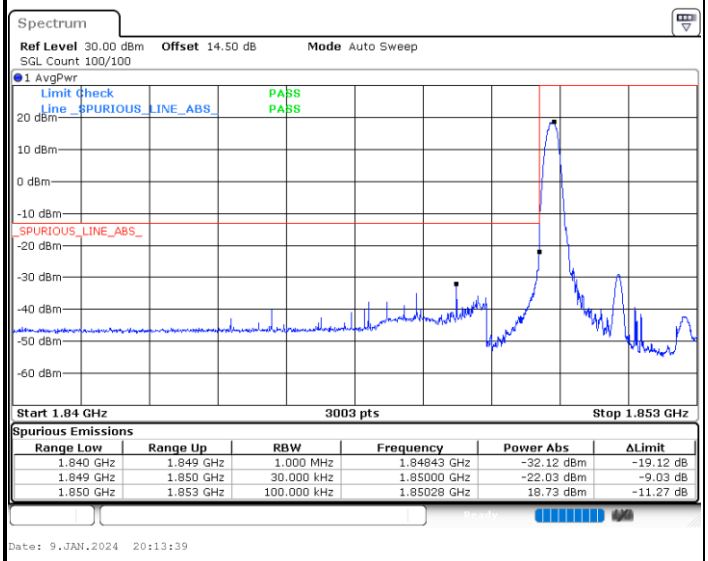
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90768 GHz	7.41 dBm	-22.59 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-28.53 dBm	-15.53 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91118 GHz	-24.43 dBm	-11.43 dB

Date: 9.JAN.2024 20:23:46

LTE Band 2 / 3MHz / 16QAM

Lowest Band Edge / 1 RB

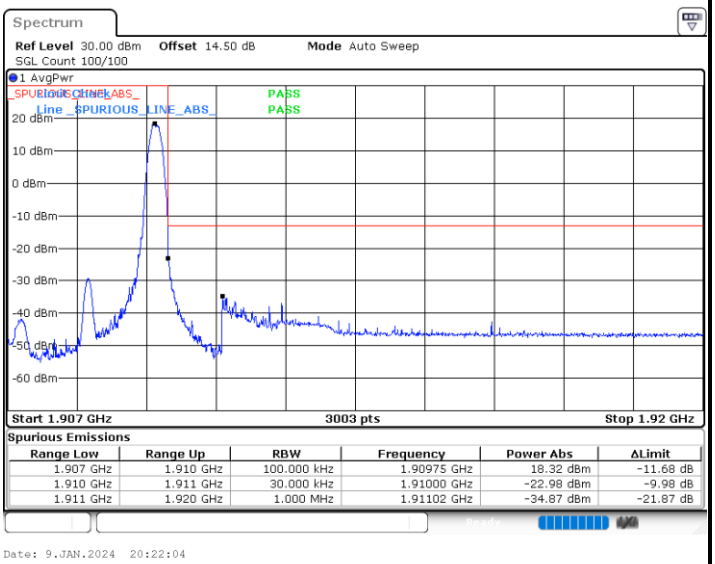


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84843 GHz	-32.12 dBm	-19.12 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-22.03 dBm	-9.03 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85028 GHz	18.73 dBm	-11.27 dB

Date: 9.JAN.2024 20:13:39

Highest Band Edge / 1 RB

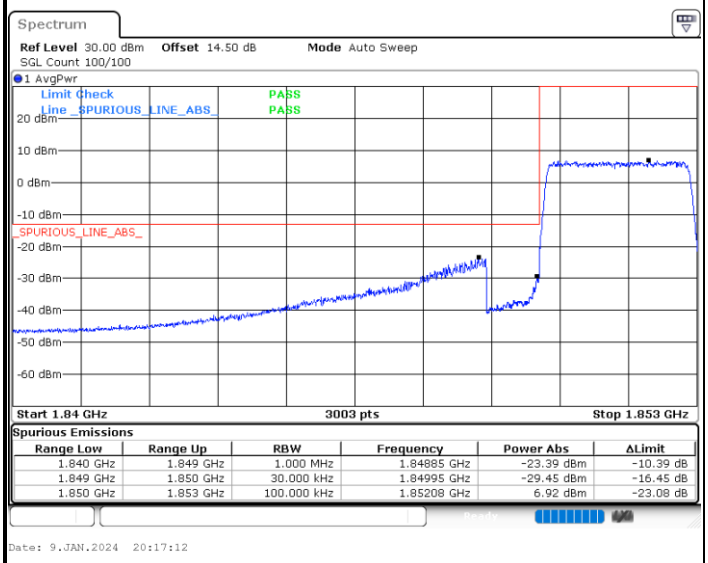


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90975 GHz	18.32 dBm	-11.68 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-22.98 dBm	-9.98 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91102 GHz	-34.87 dBm	-21.87 dB

Date: 9.JAN.2024 20:22:04

Lowest Band Edge / Full RB

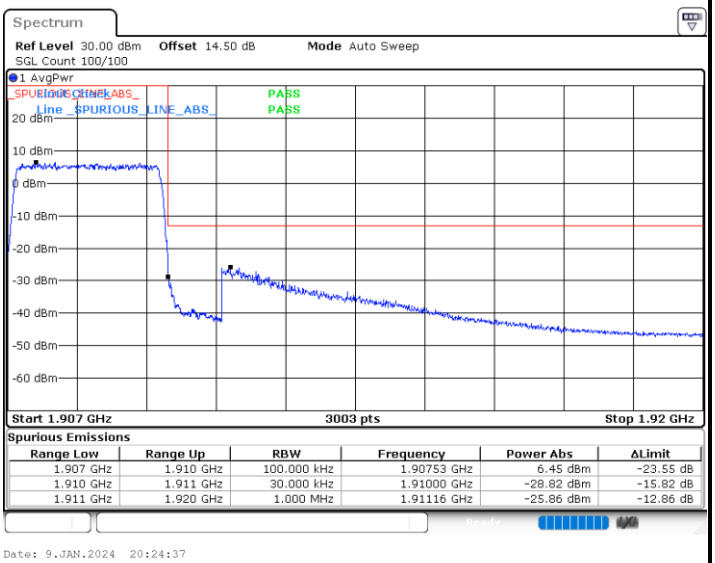


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84885 GHz	-23.39 dBm	-10.39 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.84995 GHz	-29.45 dBm	-16.45 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85208 GHz	6.92 dBm	-23.08 dB

Date: 9.JAN.2024 20:17:12

Highest Band Edge / Full RB



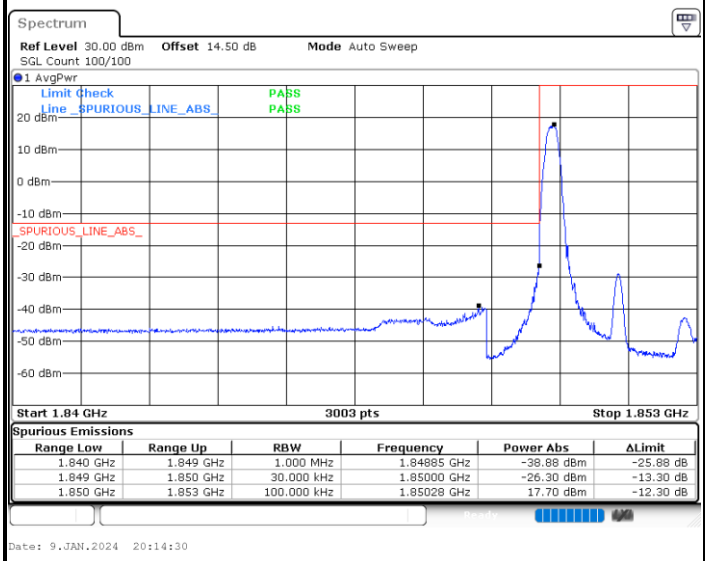
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90753 GHz	6.45 dBm	-23.55 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-28.82 dBm	-15.82 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91116 GHz	-25.86 dBm	-12.86 dB

Date: 9.JAN.2024 20:24:37

LTE Band 2 / 3MHz / 64QAM

Lowest Band Edge / 1 RB

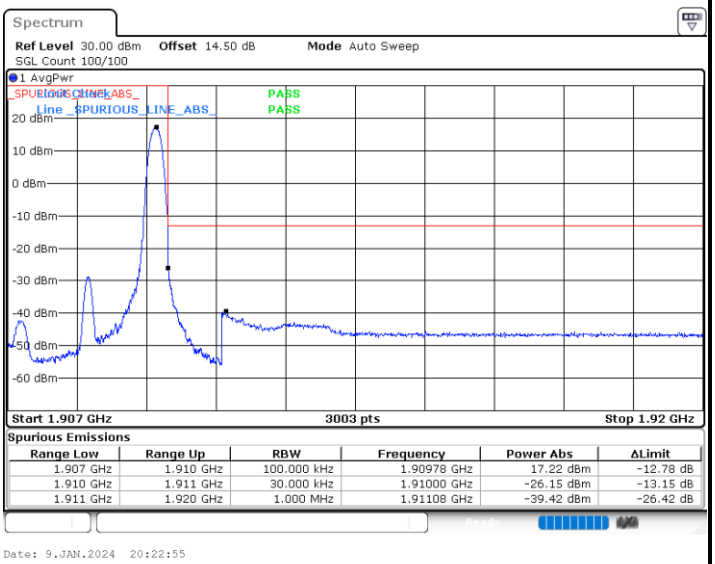


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84885 GHz	-38.88 dBm	-25.88 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-26.30 dBm	-13.30 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85028 GHz	17.70 dBm	-12.30 dB

Date: 9.JAN.2024 20:14:30

Highest Band Edge / 1 RB

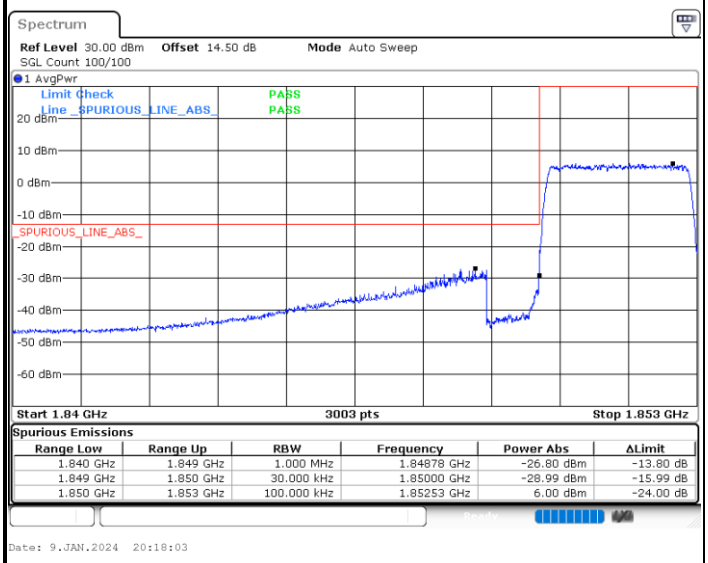


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90978 GHz	17.22 dBm	-12.78 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-26.15 dBm	-13.15 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91108 GHz	-39.42 dBm	-26.42 dB

Date: 9.JAN.2024 20:22:55

Lowest Band Edge / Full RB

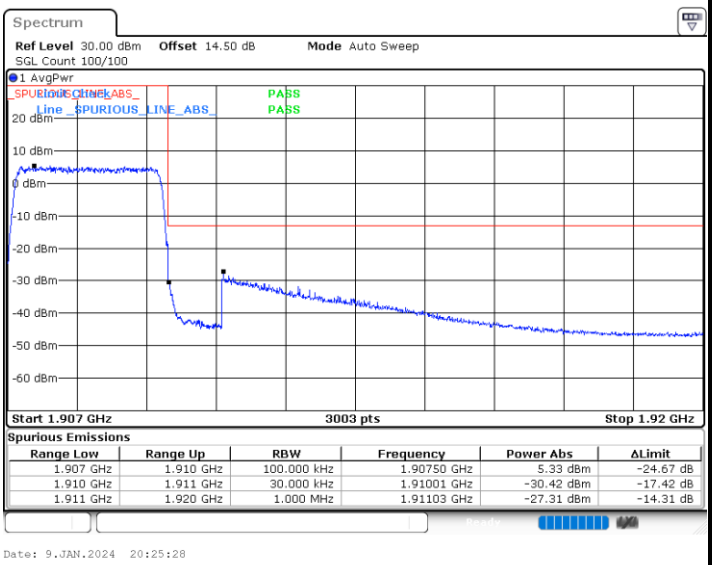


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84878 GHz	-26.80 dBm	-13.80 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-28.99 dBm	-15.99 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85253 GHz	6.00 dBm	-24.00 dB

Date: 9.JAN.2024 20:18:03

Highest Band Edge / Full RB



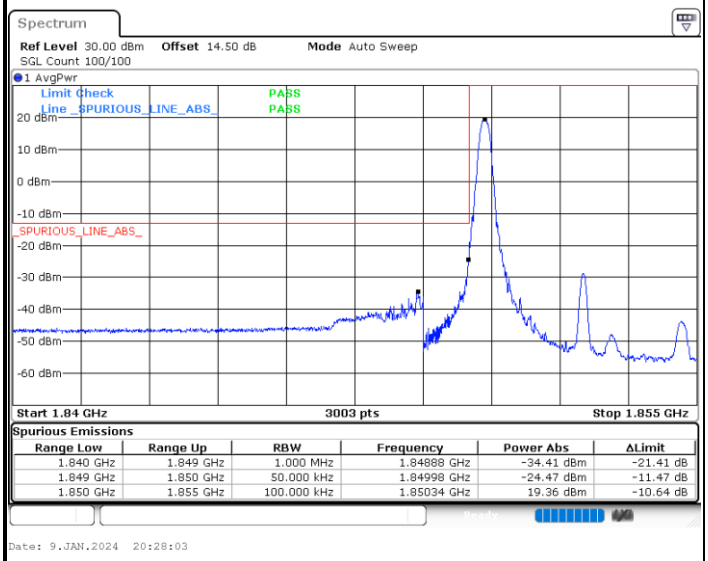
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90750 GHz	5.33 dBm	-24.67 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91001 GHz	-30.42 dBm	-17.42 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91103 GHz	-27.31 dBm	-14.31 dB

Date: 9.JAN.2024 20:25:28

LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1RB

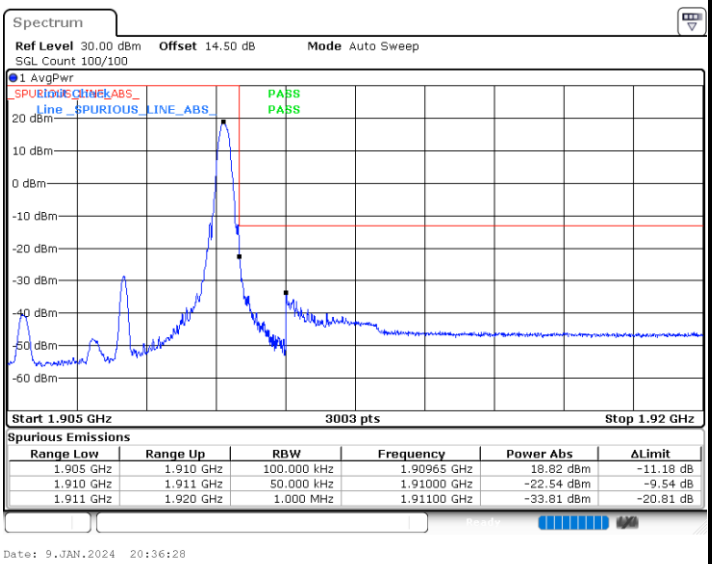


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84888 GHz	-34.41 dBm	-21.41 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.84998 GHz	-24.47 dBm	-11.47 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85034 GHz	19.36 dBm	-10.64 dB

Date: 9.JAN.2024 20:28:03

Highest Band Edge / 1RB

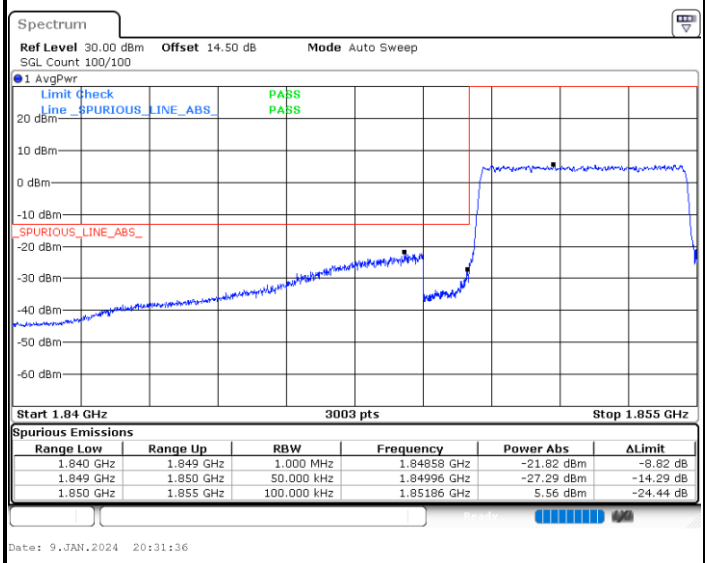


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90965 GHz	18.82 dBm	-11.18 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-22.54 dBm	-9.54 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-33.81 dBm	-20.81 dB

Date: 9.JAN.2024 20:36:28

Lowest Band Edge / Full RB

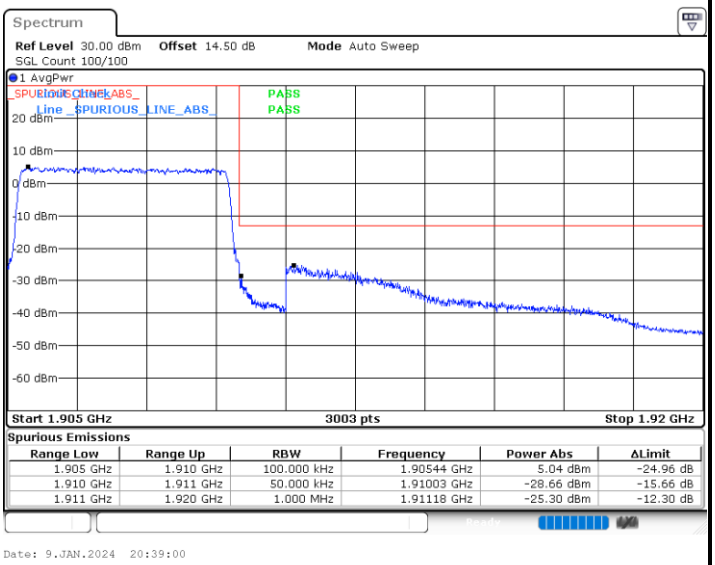


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84858 GHz	-21.82 dBm	-8.82 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.84996 GHz	-27.29 dBm	-14.29 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85186 GHz	5.56 dBm	-24.44 dB

Date: 9.JAN.2024 20:31:36

Highest Band Edge / Full RB



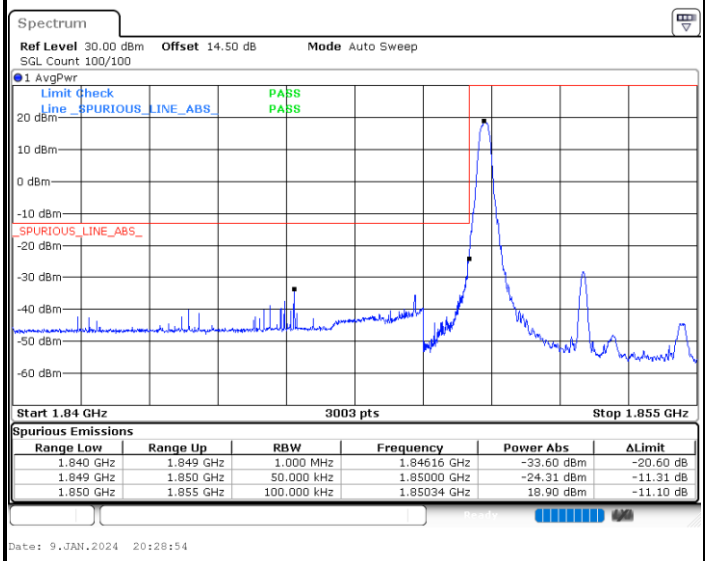
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90544 GHz	5.04 dBm	-24.96 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91003 GHz	-28.66 dBm	-15.66 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91118 GHz	-25.30 dBm	-12.30 dB

Date: 9.JAN.2024 20:39:00

LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

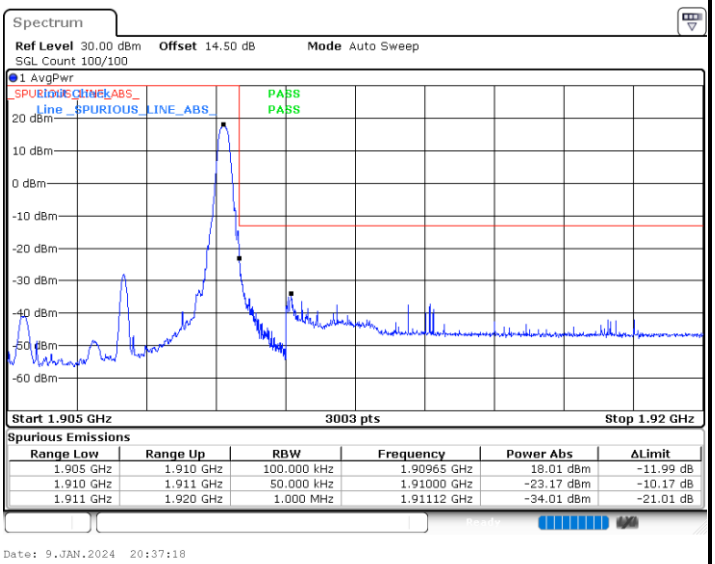


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84616 GHz	-33.60 dBm	-20.60 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-24.31 dBm	-11.31 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85034 GHz	18.90 dBm	-11.10 dB

Date: 9.JAN.2024 20:28:54

Highest Band Edge / 1 RB

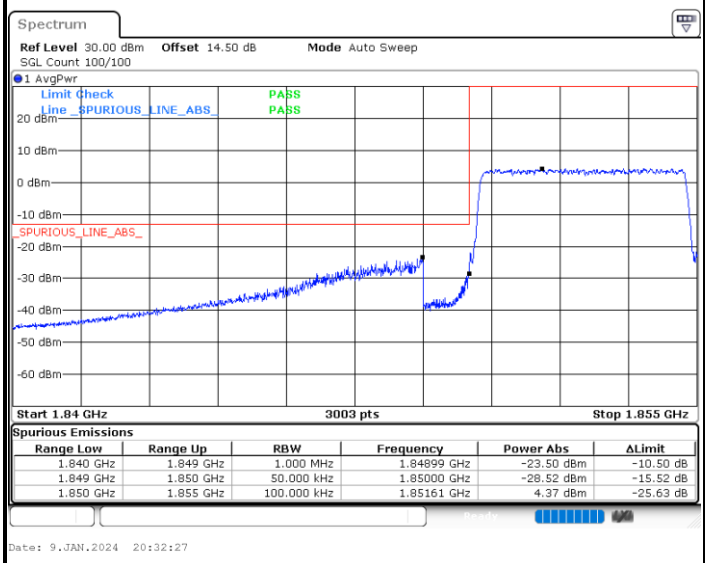


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90965 GHz	18.01 dBm	-11.99 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-23.17 dBm	-10.17 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91112 GHz	-34.01 dBm	-21.01 dB

Date: 9.JAN.2024 20:37:18

Lowest Band Edge / Full RB

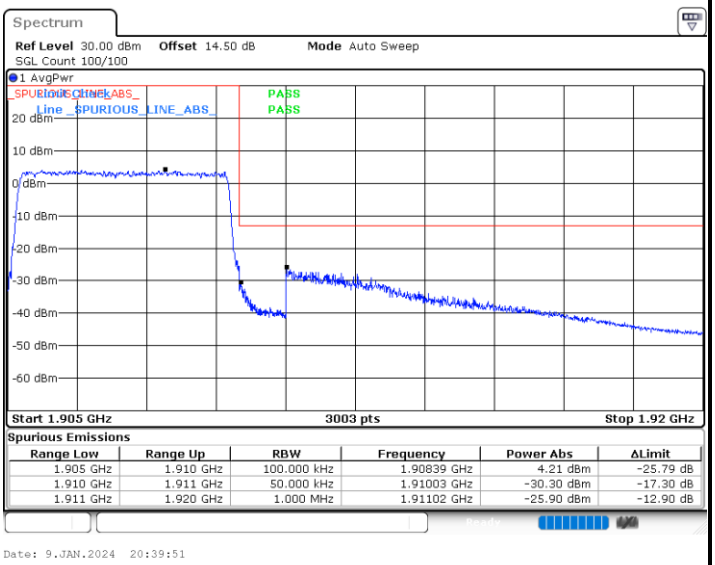


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-23.50 dBm	-10.50 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-28.52 dBm	-15.52 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85161 GHz	4.37 dBm	-25.63 dB

Date: 9.JAN.2024 20:32:27

Highest Band Edge / Full RB



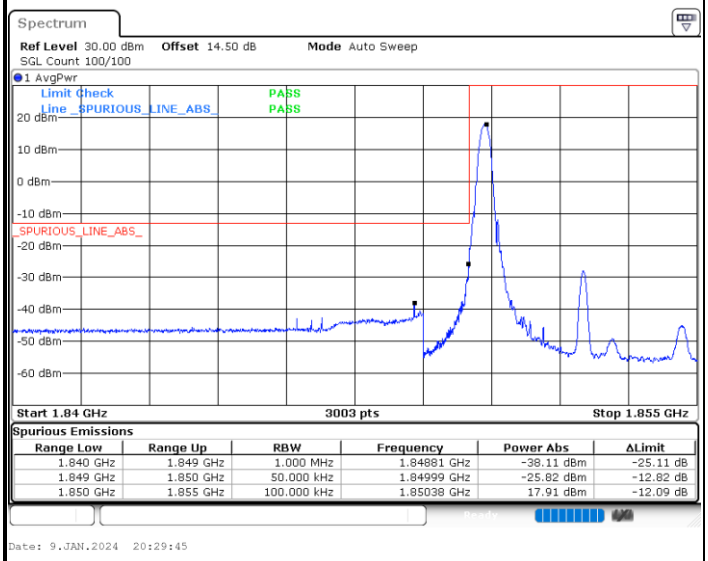
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90839 GHz	4.21 dBm	-25.79 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91003 GHz	-30.30 dBm	-17.30 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91102 GHz	-25.90 dBm	-12.90 dB

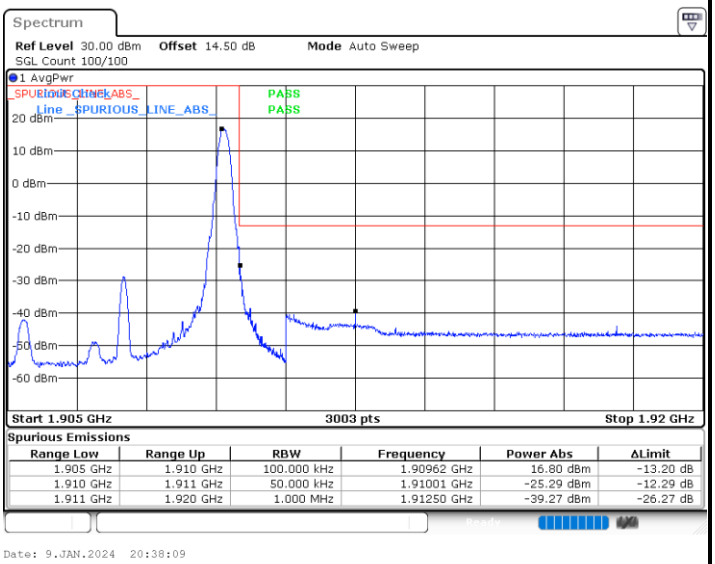
Date: 9.JAN.2024 20:39:51

LTE Band 2 / 5MHz / 64QAM

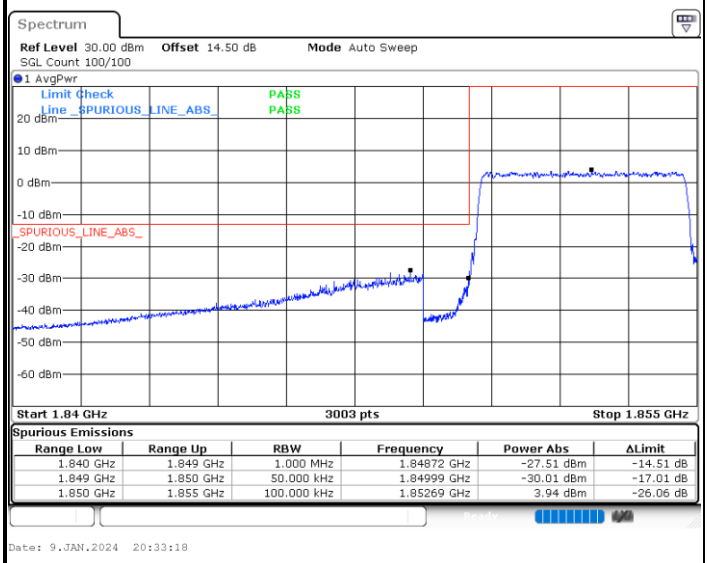
Lowest Band Edge / 1 RB



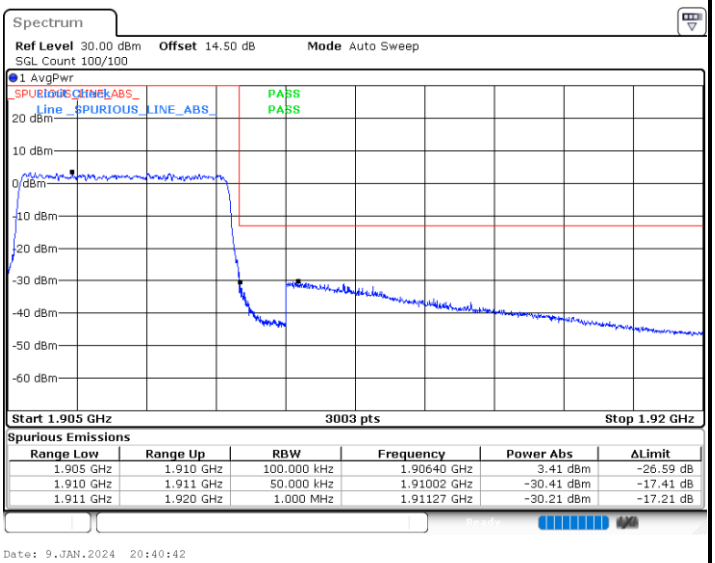
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

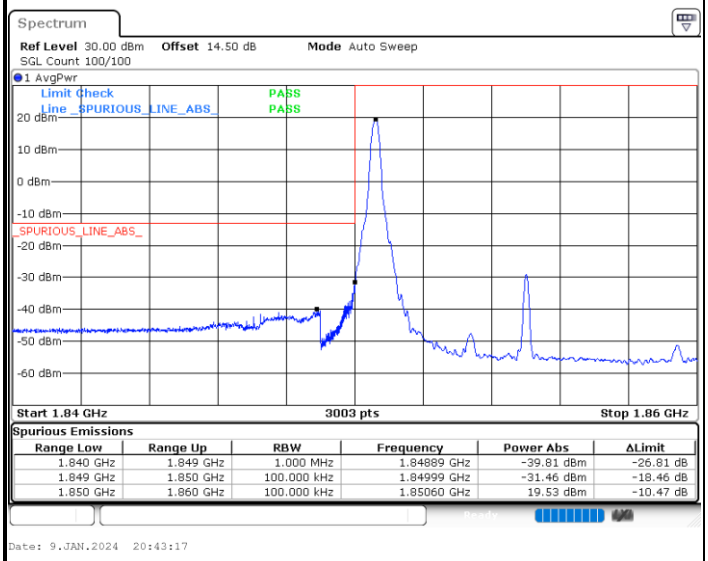


Highest Band Edge / Full RB



LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1RB

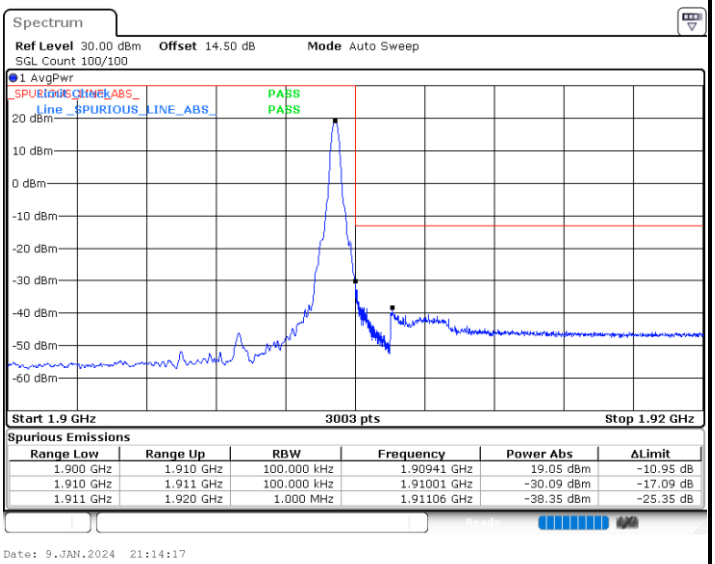


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84889 GHz	-39.81 dBm	-26.81 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.84999 GHz	-31.46 dBm	-18.46 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85060 GHz	19.53 dBm	-10.47 dB

Date: 9.JAN.2024 20:43:17

Highest Band Edge / 1RB

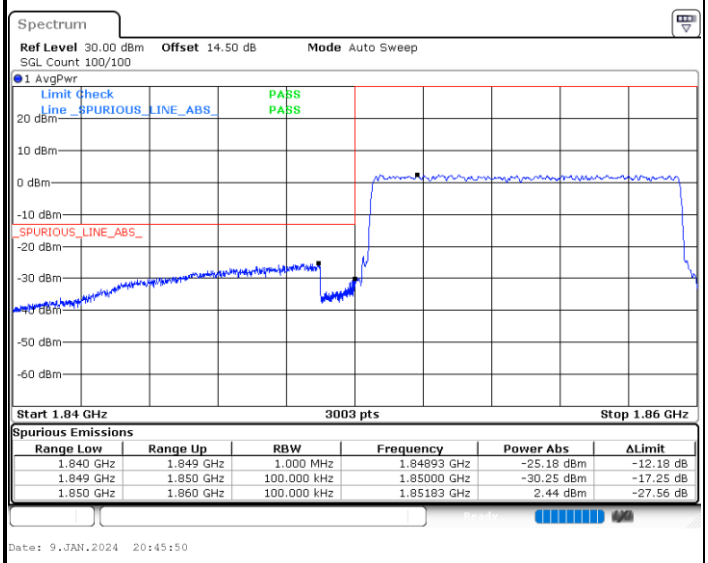


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90941 GHz	19.05 dBm	-10.95 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-30.09 dBm	-17.09 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91106 GHz	-38.35 dBm	-25.35 dB

Date: 9.JAN.2024 21:14:17

Lowest Band Edge / Full RB

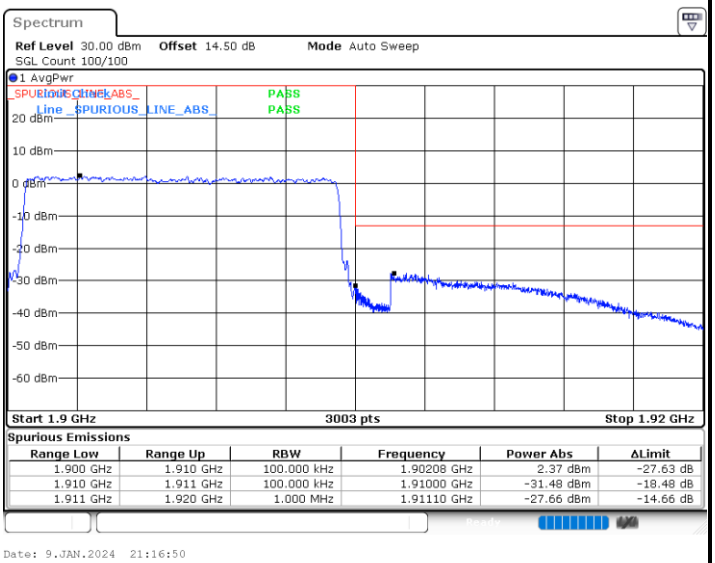


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84893 GHz	-25.18 dBm	-12.18 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-30.25 dBm	-17.25 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85183 GHz	2.44 dBm	-27.56 dB

Date: 9.JAN.2024 20:45:50

Highest Band Edge / Full RB



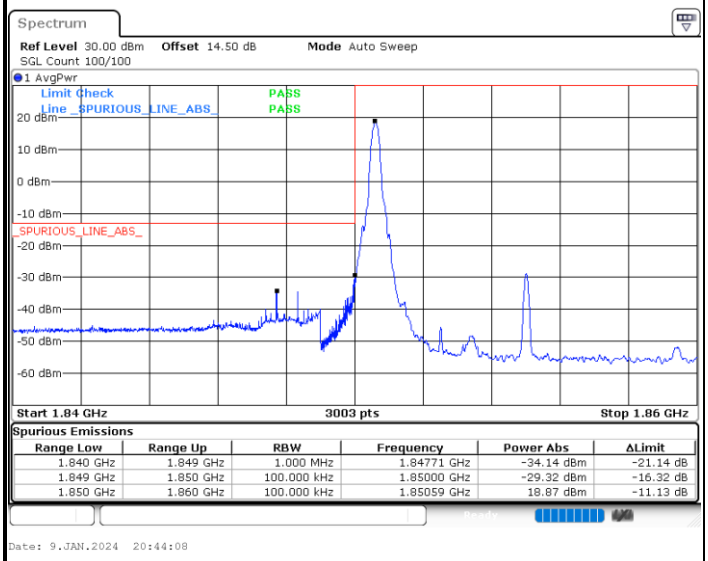
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90208 GHz	2.37 dBm	-27.63 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-31.48 dBm	-18.48 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91110 GHz	-27.66 dBm	-14.66 dB

Date: 9.JAN.2024 21:16:50

LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

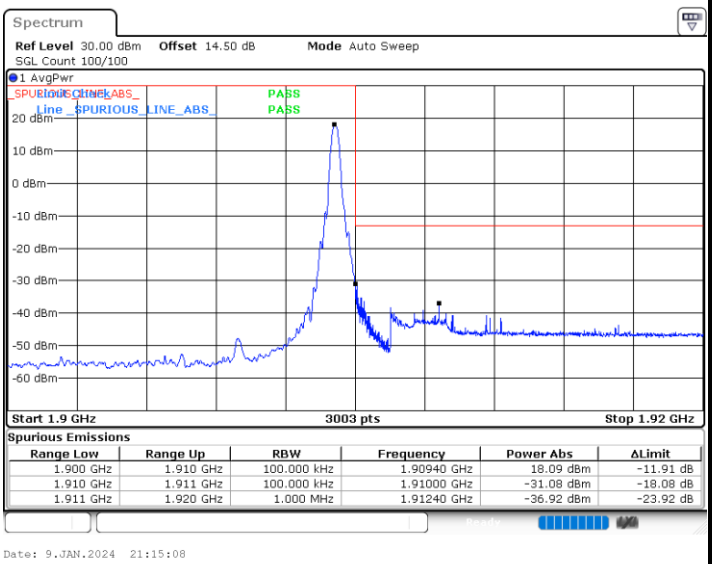


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84771 GHz	-34.14 dBm	-21.14 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-29.32 dBm	-16.32 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85059 GHz	18.87 dBm	-11.13 dB

Date: 9.JAN.2024 20:44:08

Highest Band Edge / 1 RB

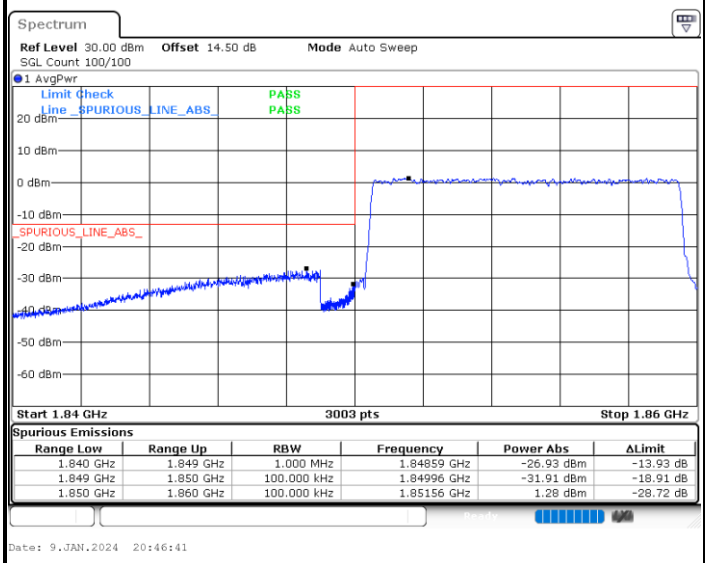


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90940 GHz	18.09 dBm	-11.91 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-31.08 dBm	-18.08 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91240 GHz	-36.92 dBm	-23.92 dB

Date: 9.JAN.2024 21:15:08

Lowest Band Edge / Full RB

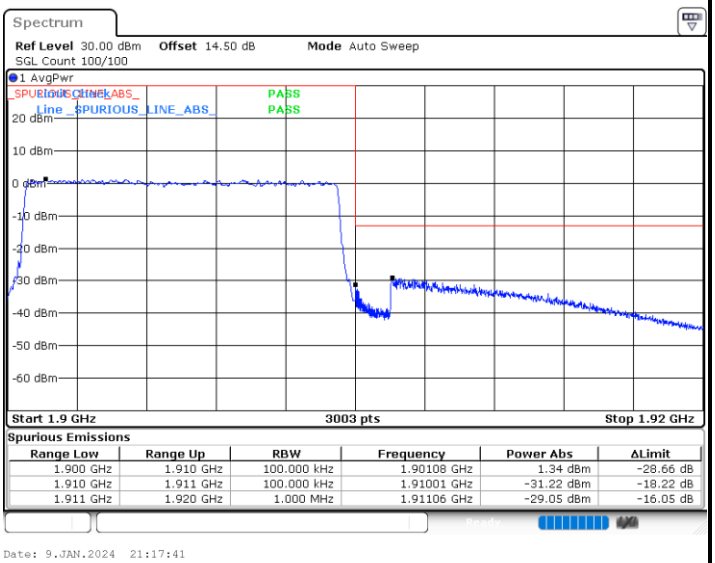


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84859 GHz	-26.93 dBm	-13.93 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.84996 GHz	-31.91 dBm	-18.91 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85156 GHz	1.28 dBm	-28.72 dB

Date: 9.JAN.2024 20:46:41

Highest Band Edge / Full RB



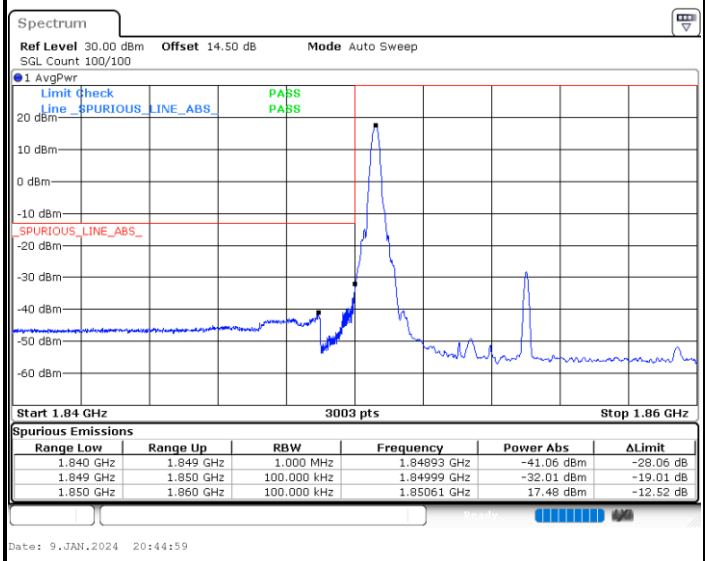
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90108 GHz	1.34 dBm	-28.66 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-31.22 dBm	-18.22 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91106 GHz	-29.05 dBm	-16.05 dB

Date: 9.JAN.2024 21:17:41

LTE Band 2 / 10MHz / 64QAM

Lowest Band Edge / 1 RB

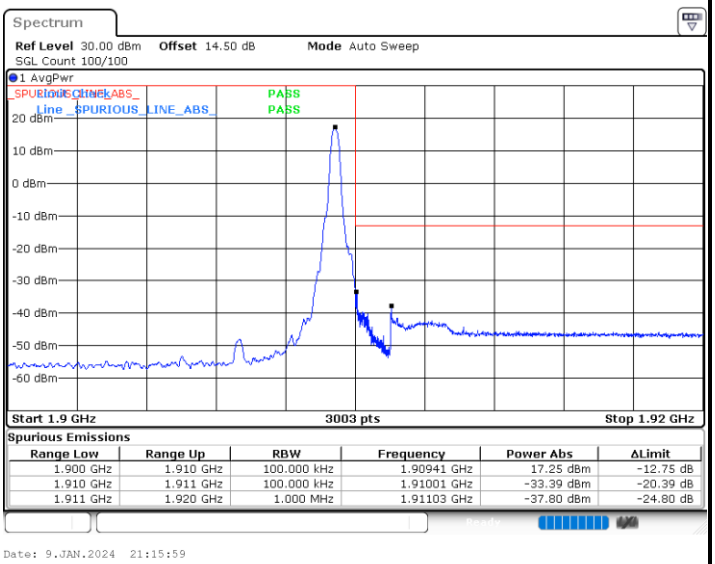


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84893 GHz	-41.06 dBm	-28.06 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.84999 GHz	-32.01 dBm	-19.01 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85061 GHz	17.48 dBm	-12.52 dB

Date: 9.JAN.2024 20:44:59

Highest Band Edge / 1 RB

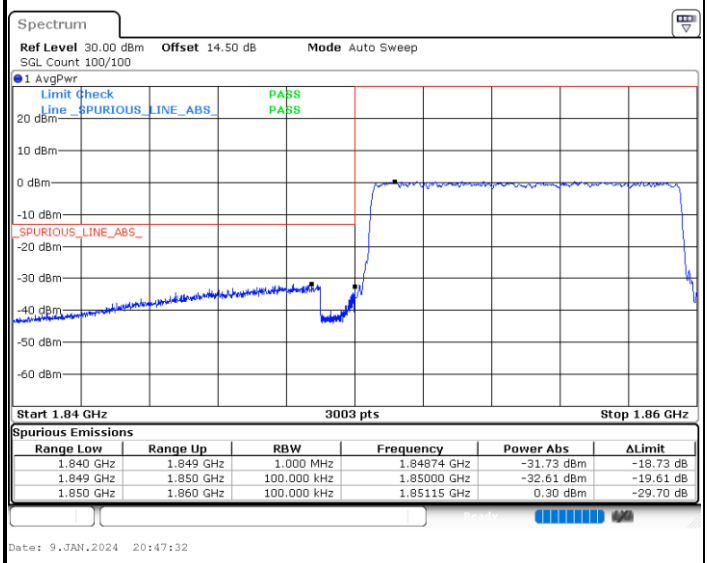


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90941 GHz	17.25 dBm	-12.75 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-33.39 dBm	-20.39 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91103 GHz	-37.80 dBm	-24.80 dB

Date: 9.JAN.2024 21:15:59

Lowest Band Edge / Full RB

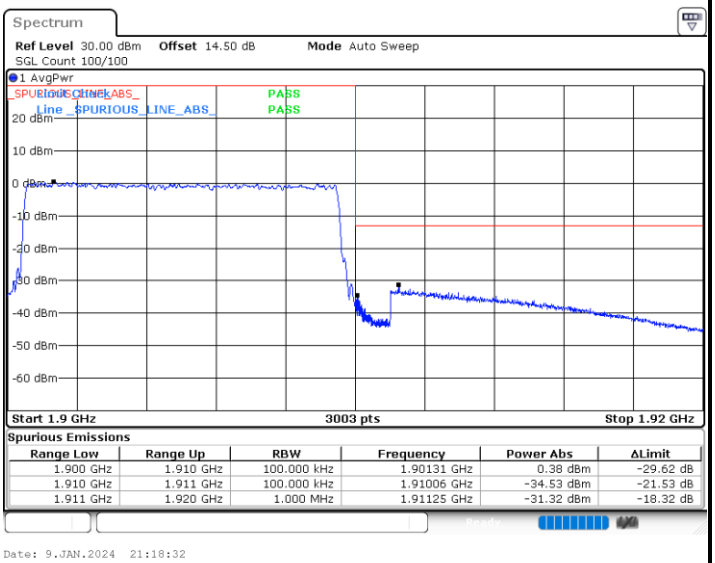


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84874 GHz	-31.73 dBm	-18.73 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-32.61 dBm	-19.61 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85115 GHz	0.30 dBm	-29.70 dB

Date: 9.JAN.2024 20:47:32

Highest Band Edge / Full RB



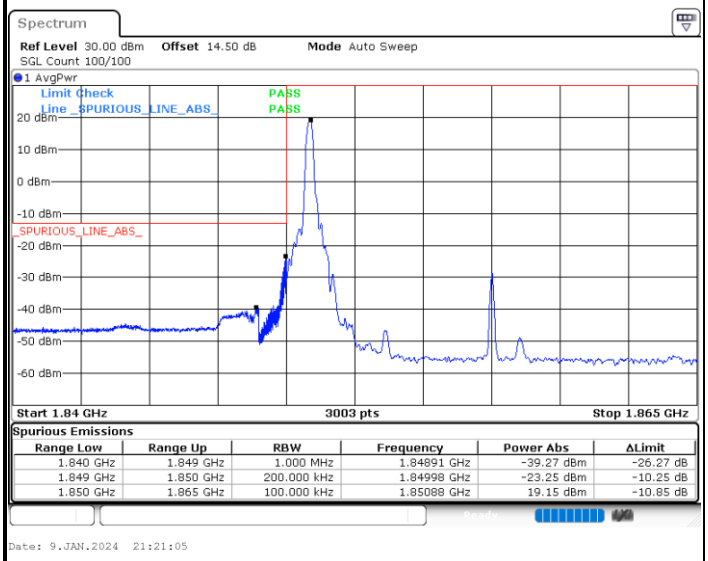
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90131 GHz	0.38 dBm	-29.62 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91006 GHz	-34.53 dBm	-21.53 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91125 GHz	-31.32 dBm	-18.32 dB

Date: 9.JAN.2024 21:18:32

LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / 1RB

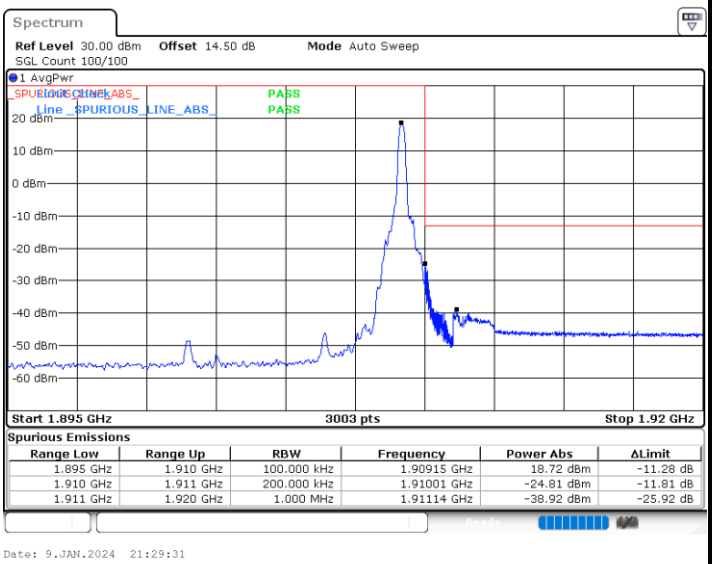


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84891 GHz	-39.27 dBm	-26.27 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84998 GHz	-23.25 dBm	-10.25 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85088 GHz	19.15 dBm	-10.85 dB

Date: 9.JAN.2024 21:21:05

Highest Band Edge / 1RB

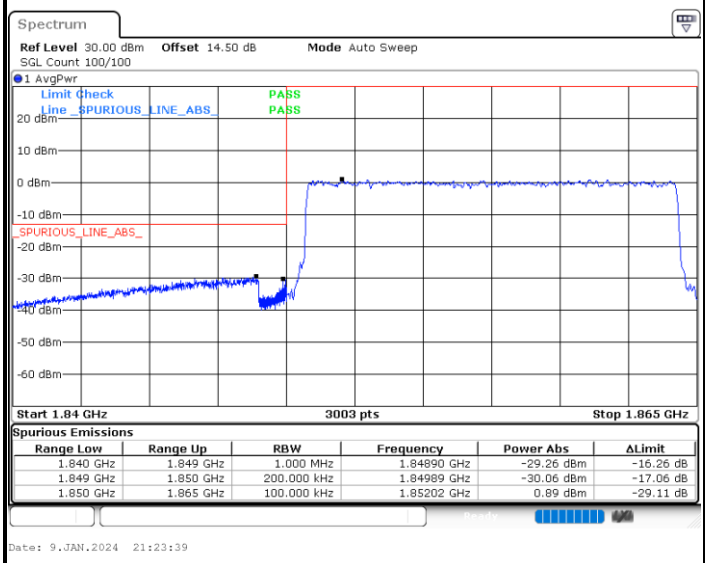


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90915 GHz	18.72 dBm	-11.28 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-24.81 dBm	-11.81 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91114 GHz	-38.92 dBm	-25.92 dB

Date: 9.JAN.2024 21:29:31

Lowest Band Edge / Full RB

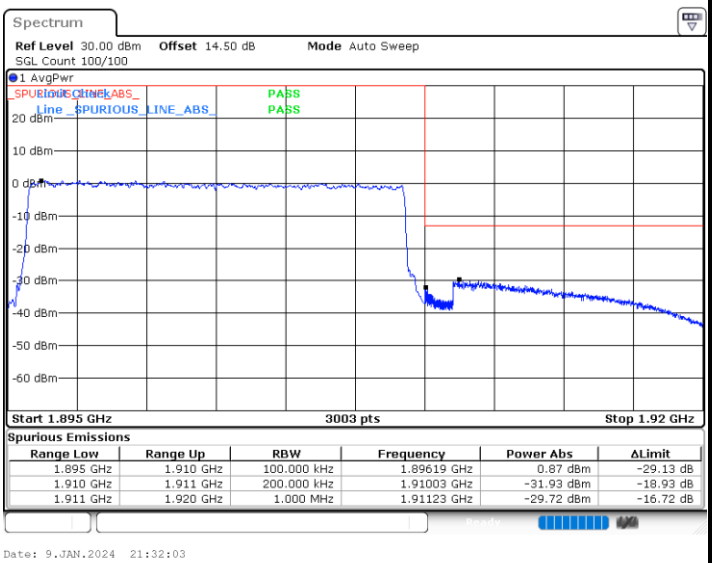


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84890 GHz	-29.26 dBm	-16.26 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84989 GHz	-30.06 dBm	-17.06 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85202 GHz	0.89 dBm	-29.11 dB

Date: 9.JAN.2024 21:23:39

Highest Band Edge / Full RB



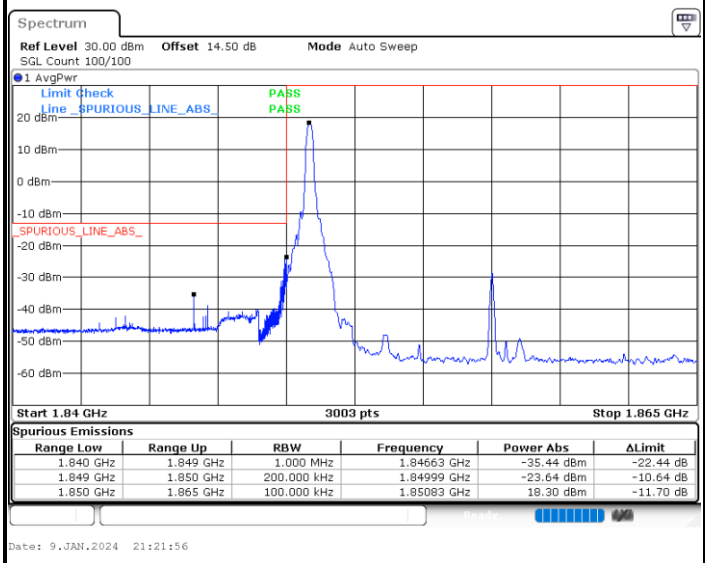
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.89619 GHz	0.87 dBm	-29.13 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91003 GHz	-31.93 dBm	-18.93 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91123 GHz	-29.72 dBm	-16.72 dB

Date: 9.JAN.2024 21:32:03

LTE Band 2 / 15MHz / 16QAM

Lowest Band Edge / 1 RB

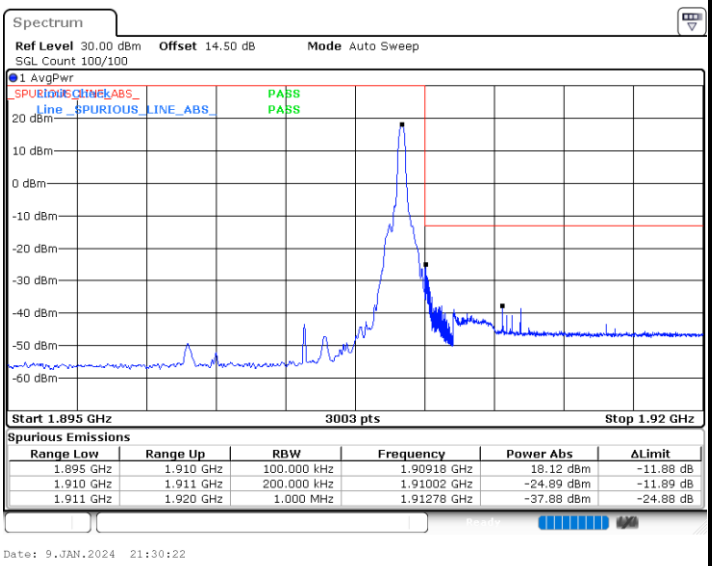


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84663 GHz	-35.44 dBm	-22.44 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84999 GHz	-23.64 dBm	-10.64 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85083 GHz	18.30 dBm	-11.70 dB

Date: 9.JAN.2024 21:21:56

Highest Band Edge / 1 RB

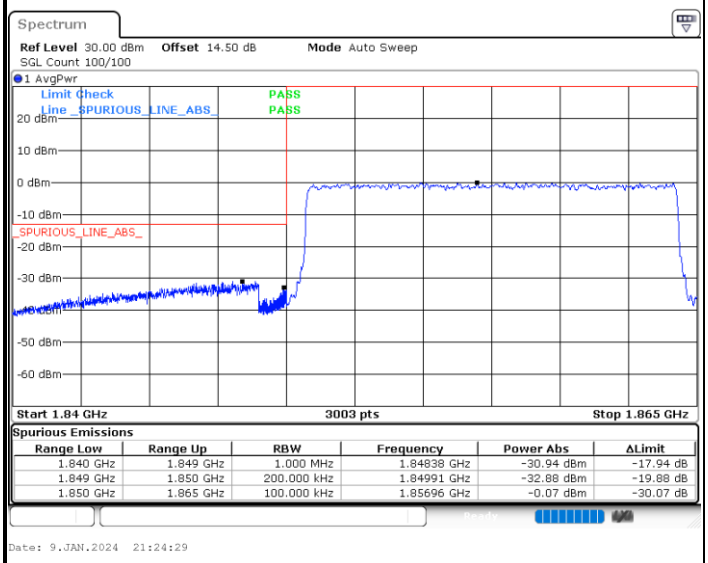


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90918 GHz	18.12 dBm	-11.88 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91002 GHz	-24.89 dBm	-11.89 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91278 GHz	-37.88 dBm	-24.88 dB

Date: 9.JAN.2024 21:30:22

Lowest Band Edge / Full RB

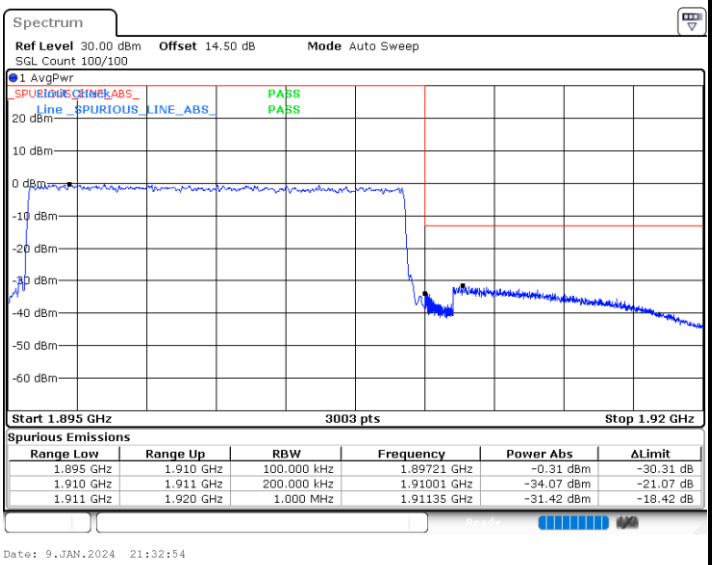


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84838 GHz	-30.94 dBm	-17.94 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84991 GHz	-32.88 dBm	-19.88 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85696 GHz	-0.07 dBm	-30.07 dB

Date: 9.JAN.2024 21:24:29

Highest Band Edge / Full RB



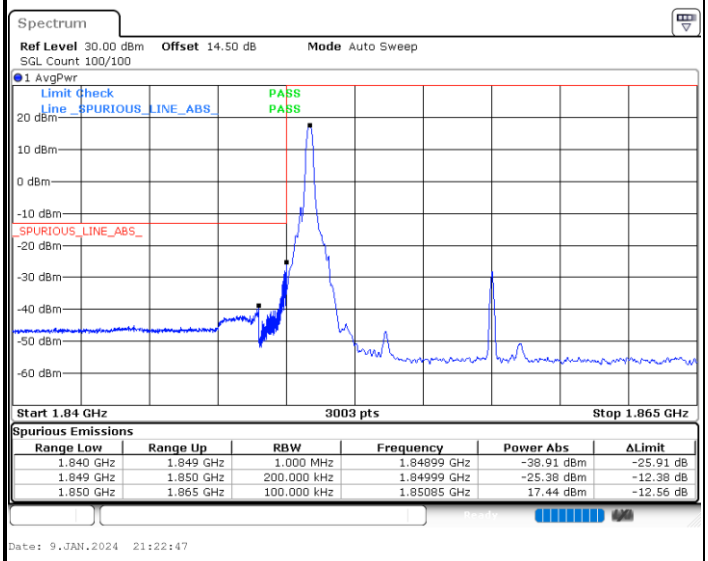
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.89721 GHz	-0.31 dBm	-30.31 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-34.07 dBm	-21.07 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91135 GHz	-31.42 dBm	-18.42 dB

Date: 9.JAN.2024 21:32:54

LTE Band 2 / 15MHz / 64QAM

Lowest Band Edge / 1 RB

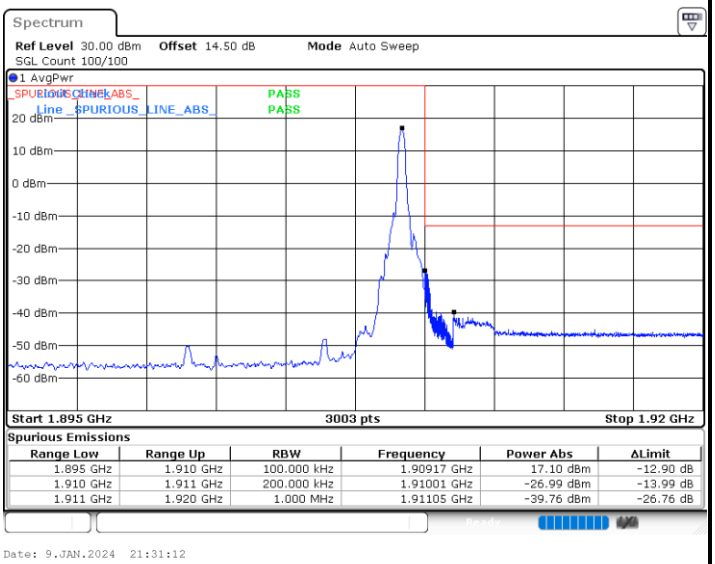


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-38.91 dBm	-25.91 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84999 GHz	-25.38 dBm	-12.38 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85085 GHz	17.44 dBm	-12.56 dB

Date: 9.JAN.2024 21:22:47

Highest Band Edge / 1 RB

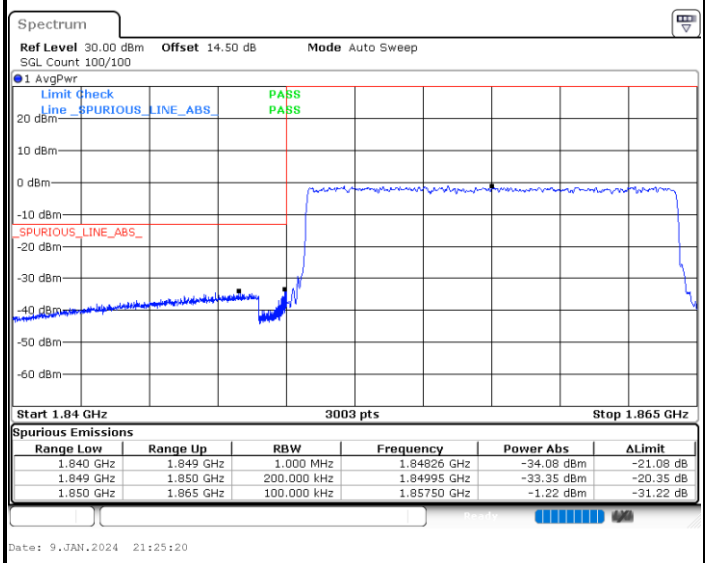


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90917 GHz	17.10 dBm	-12.90 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-26.99 dBm	-13.99 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91105 GHz	-39.76 dBm	-26.76 dB

Date: 9.JAN.2024 21:31:12

Lowest Band Edge / Full RB

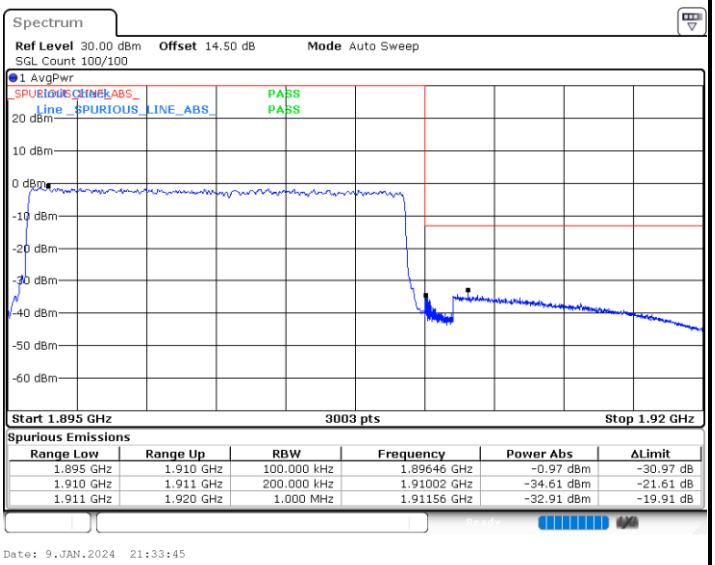


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84826 GHz	-34.08 dBm	-21.08 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84995 GHz	-33.35 dBm	-20.35 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85750 GHz	-1.22 dBm	-31.22 dB

Date: 9.JAN.2024 21:25:20

Highest Band Edge / Full RB



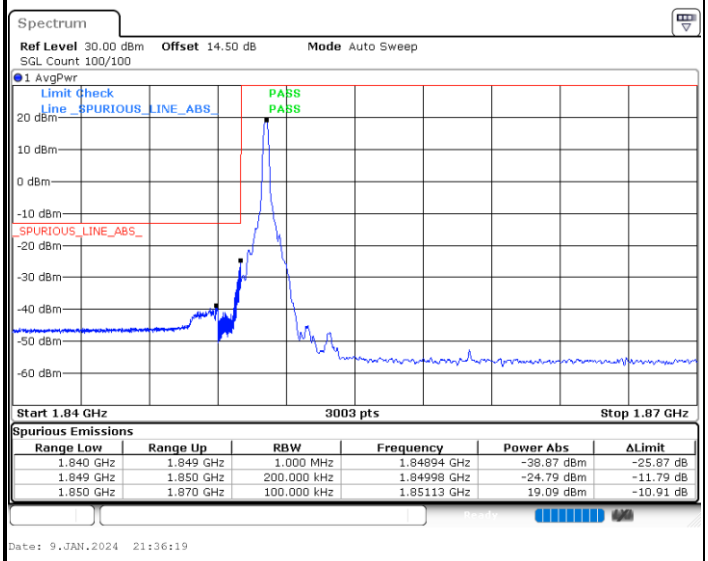
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.89646 GHz	-0.97 dBm	-30.97 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91002 GHz	-34.61 dBm	-21.61 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91156 GHz	-32.91 dBm	-19.91 dB

Date: 9.JAN.2024 21:33:45

LTE Band 2 / 20MHz / QPSK

Lowest Band Edge / 1RB

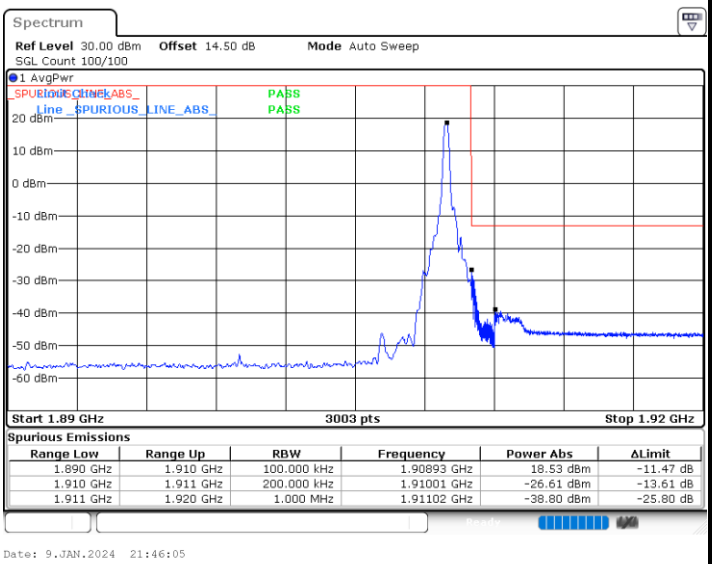


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84894 GHz	-38.87 dBm	-25.87 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84998 GHz	-24.79 dBm	-11.79 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85113 GHz	19.09 dBm	-10.91 dB

Date: 9.JAN.2024 21:36:19

Highest Band Edge / 1RB

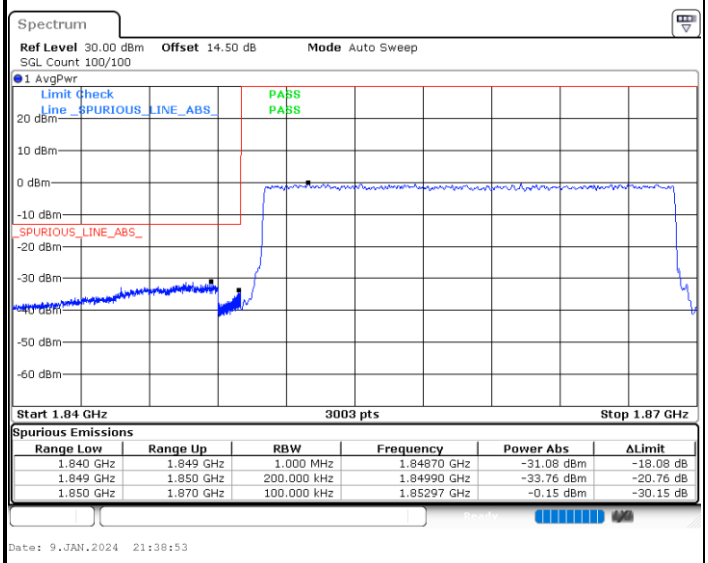


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90893 GHz	18.53 dBm	-11.47 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-26.61 dBm	-13.61 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91102 GHz	-38.80 dBm	-25.80 dB

Date: 9.JAN.2024 21:46:05

Lowest Band Edge / Full RB

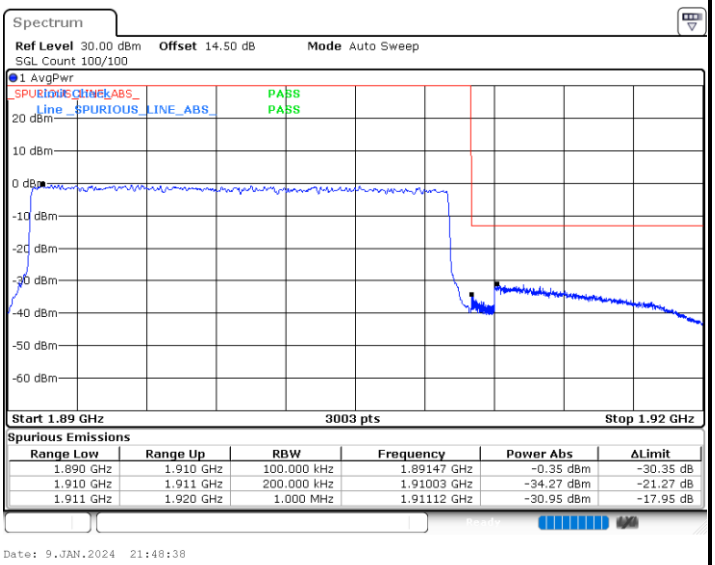


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84870 GHz	-31.08 dBm	-18.08 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84990 GHz	-33.76 dBm	-20.76 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85297 GHz	-0.15 dBm	-30.15 dB

Date: 9.JAN.2024 21:38:53

Highest Band Edge / Full RB



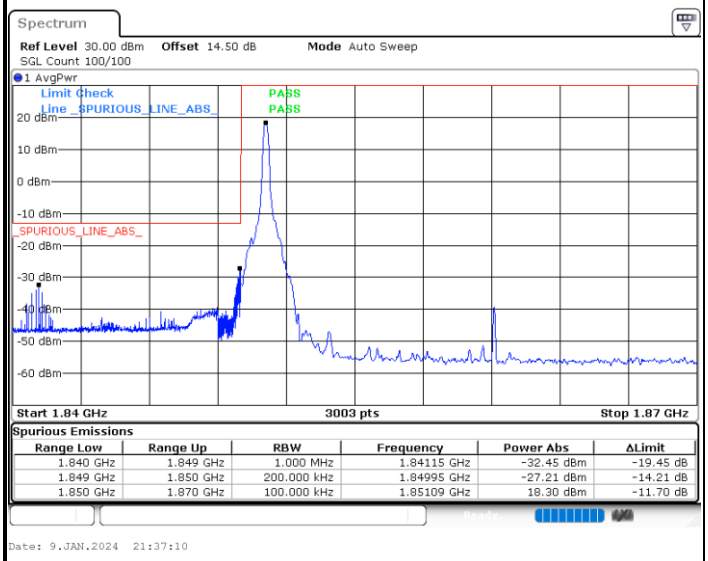
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.89147 GHz	-0.35 dBm	-30.35 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91003 GHz	-34.27 dBm	-21.27 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91112 GHz	-30.95 dBm	-17.95 dB

Date: 9.JAN.2024 21:48:38

LTE Band 2 / 20MHz / 16QAM

Lowest Band Edge / 1 RB

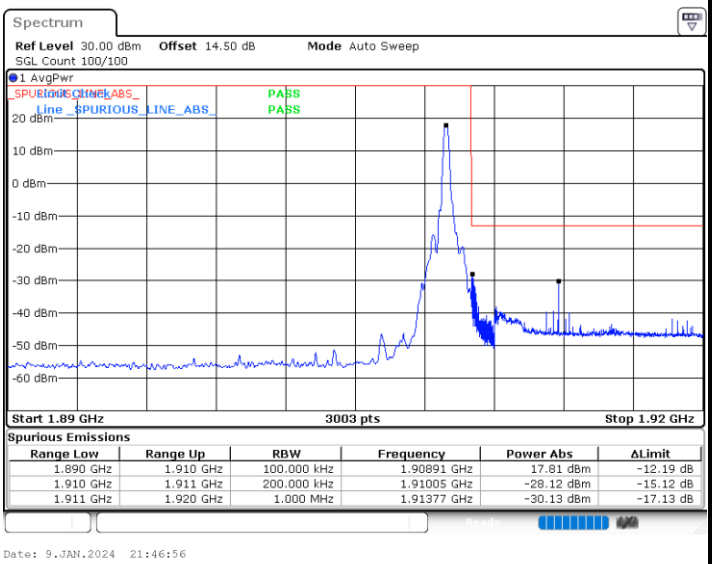


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84115 GHz	-32.45 dBm	-19.45 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84995 GHz	-27.21 dBm	-14.21 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85109 GHz	18.30 dBm	-11.70 dB

Date: 9.JAN.2024 21:37:10

Highest Band Edge / 1 RB

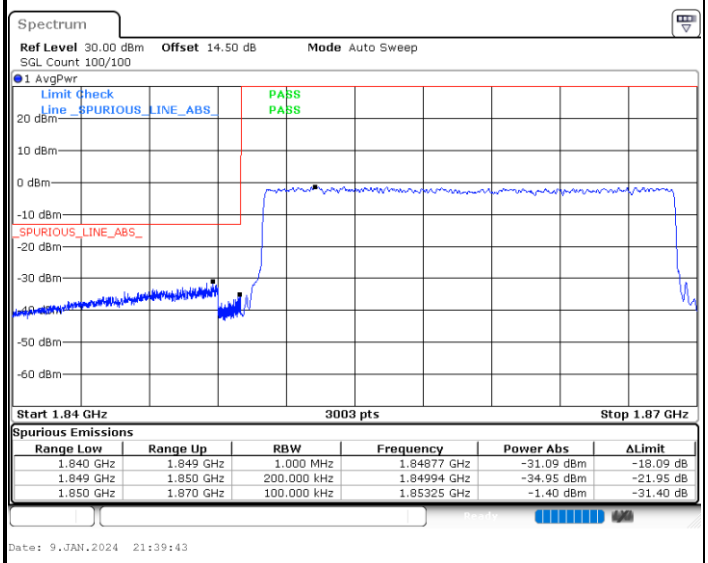


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90891 GHz	17.81 dBm	-12.19 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91005 GHz	-28.12 dBm	-15.12 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91377 GHz	-30.13 dBm	-17.13 dB

Date: 9.JAN.2024 21:46:56

Lowest Band Edge / Full RB

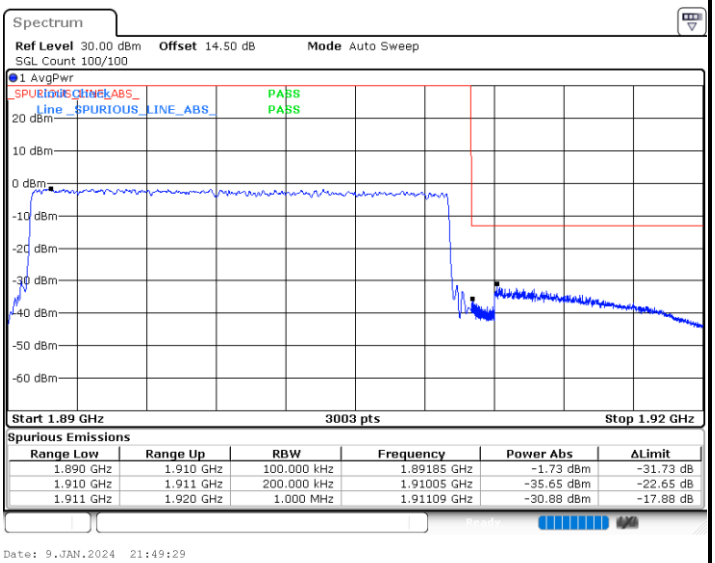


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84877 GHz	-31.09 dBm	-18.09 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84994 GHz	-34.95 dBm	-21.95 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85325 GHz	-1.40 dBm	-31.40 dB

Date: 9.JAN.2024 21:39:43

Highest Band Edge / Full RB



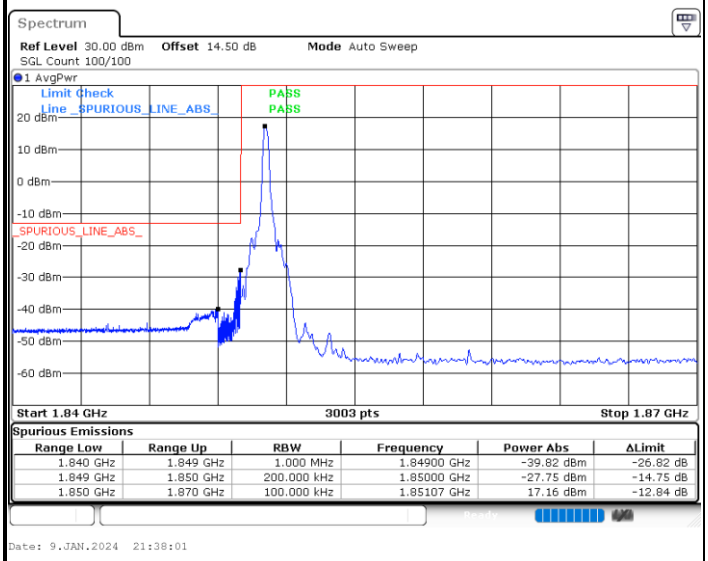
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.89185 GHz	-1.73 dBm	-31.73 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91005 GHz	-35.65 dBm	-22.65 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91109 GHz	-30.88 dBm	-17.88 dB

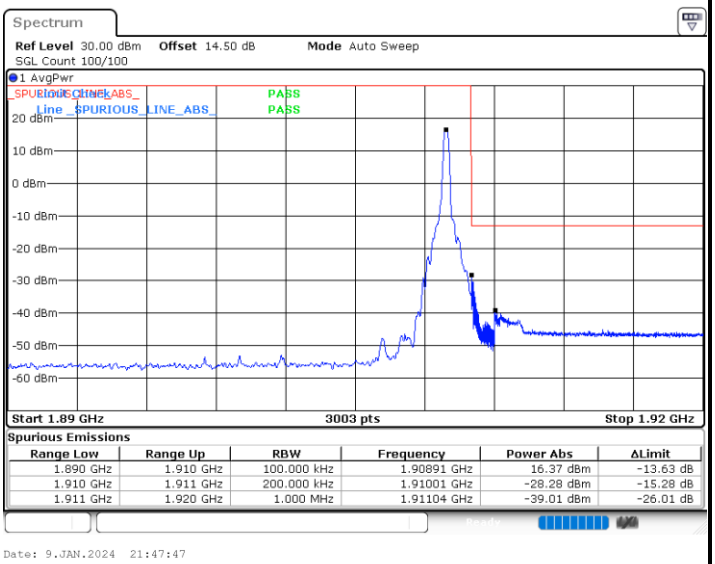
Date: 9.JAN.2024 21:49:29

LTE Band 2 / 20MHz / 64QAM

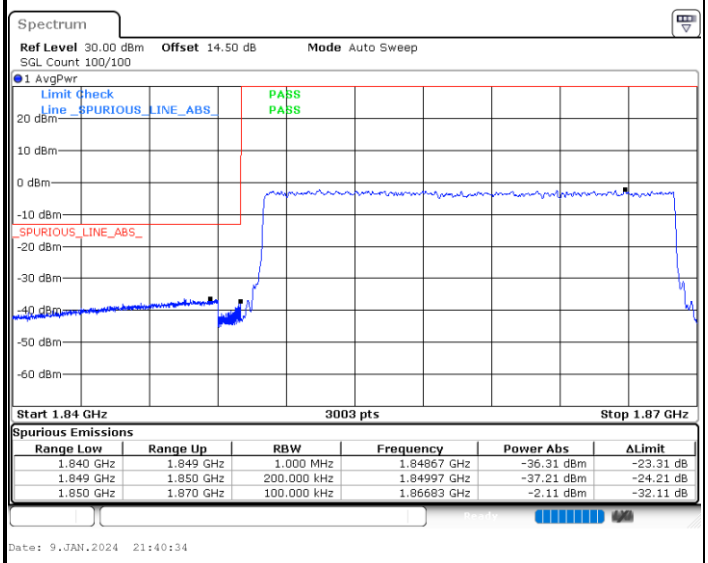
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



Highest Band Edge / Full RB