FCC RF Test Report

APPLICANT	:	Fibocom Wireless Inc.
EQUIPMENT	:	LTE Module
BRAND NAME	:	Fibocom
MODEL NAME	:	L860-GL-16
FCC ID	:	ZMOL860GL16
STANDARD	:	47 CFR Part 2, and 90(S)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)

The product was received on Oct. 30, 2020 and completely tested on Feb. 04, 2021. We, Sporton International (Kunshan) Inc., 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 (Kunshan) Inc., the test report shall not be reproduced except in full.

Jason Jia

Reviewed by: Jason Jia / Supervisor

James Huang

Approved by: James Huang / Manager

ACCREDITED
Cert #5145.02

Sporton International (Kunshan) Inc.

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FW0O3022	Rev. 01	Initial issue of report	Feb. 07, 2021

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	§2.1046	Conducted Output Power	Reporting only	PASS	-
3.2	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Reporting only	PASS	-
3.3	§2.1051 §90.691	Emission masks – In-band emissions	< $50+10\log_{10}$(P[Watts])	PASS	-
3.4	§2.1051 §90.691	Emission masks – Out of band emissions	< $43+10\log_{10}$(P[Watts])	PASS	-
3.5	§2.1053 §90.691	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 43.83 dB at 4074.00 MHz
3.6	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-

Declaration of Conformity:

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

Comments and Explanations:

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

1 General Description

1.1 Applicant

Fibocom Wireless Inc.
1101,Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan,Shenzhen, China

1.2 Manufacturer

Fibocom Wireless Inc.
1101,Tower A, Building 6, Shenzhen International Innovation Valley, Dashi 1st Rd, Nanshan,Shenzhen, China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	LTE Module
Brand Name	Fibocom
Model Name	L860-GL-16
FCC ID	ZMOL860GL16
EUT supports Radios application	WCDMA/LTE/GNSS
HW Version	V1.3
SW Version	18601.5001.00.01.01.01
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	814 ~ 824 MHz
Rx Frequency	859 ~ 869 MHz
Bandwidth	1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz
Maximum Output Power to Antenna	22.93 dBm
Antenna Gain	3.00 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

1.5 Modification of EUT

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

1.6 Maximum Conducted Power, Frequency Tolerance and Emission Designator

LTE Band 26		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum Conducted power (W)
10	819.0	9M05G7D	0.0087	0.1963	9M01W7D	-	0.1486
15	821.5	13M4G7D	-	0.1959	13M4W7D	-	0.1570

1.7 Testing Site

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

Test Firm	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone Jiangsu Province 215300 People's Republic of China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH06-KS TH01-KS	CN1257	314309

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH06-KS	AUDIX	E3	6.2009-8-24al

1.9 Applied Standards

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

- 47 CFR Part 2, 90(S)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 971168 D02 Misc Rev Approv License Devices v02r01

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

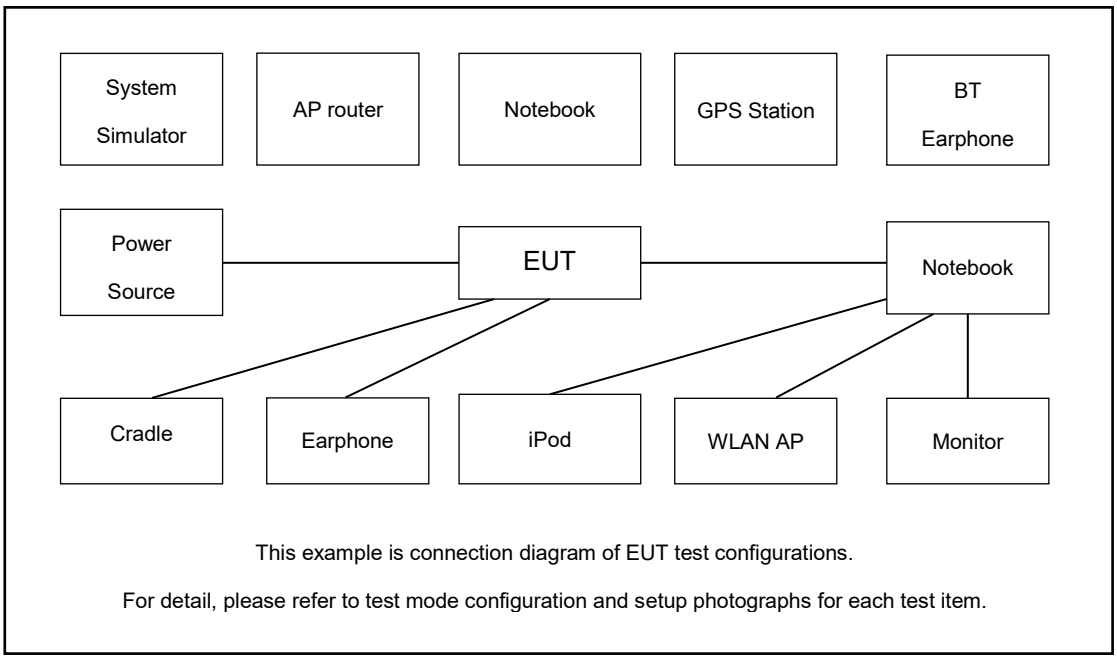
2.1 Test Mode

During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Frequency range investigated for radiated emission is 30 MHz to 9000 MHz.

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	26	v	v	v	v	v	-	v	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	26				v		-	v					v		v	
Emission masks In-band emissions	26	v	v	v	v	v	-	v	v		v		v	v		v
Emission masks – Out of band emissions	26	v	v	v	v	v	-	v	v		v			v	v	v
Frequency Stability	26				v		-	v					v		v	
Radiated Spurious Emission	26		Worst Case												v	
Note	1.	2. The mark "**v** " means that this configuration is chosen for testing 3. The mark "-" means that this bandwidth is not supported. 4. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz. ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies. 5. Based on engineering evaluation, only the worst modulation test results are shown in the report.														

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.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	Test jig	N/A	N/A	N/A	N/A	N/A

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 RF conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level will be exactly the RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

The following shows an offset computation example with RF cable loss 4.4 dB.

Example :

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

= 4.4 (dB)

2.5 Frequency List of Low/Middle/High Channels

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

3 Test Result

3.1 Conducted Output Power Measurement

3.1.1 Description of the Conducted Output Power Measurement

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

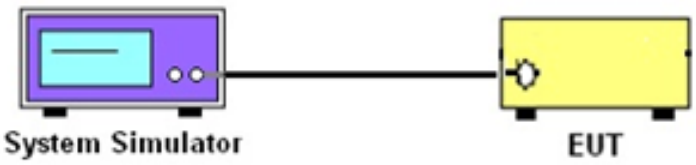
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of Conducted Output Power

Please refer to Appendix A.

3.2 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.2.1 Description of (Occupied) Bandwidth Limitations Measurement

The 99% 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 emission bandwidth is defined as the width of the signal between two points, located at the 2 sides of the carrier frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

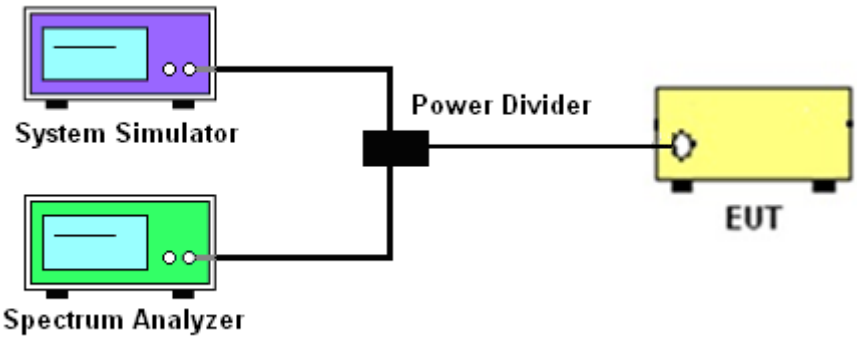
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The 26dB and 99% occupied bandwidth (BW) of the middle channel for the highest RF power with full RB sizes were measured.

3.2.4 Test Setup



3.2.5 Test Result of 99% Occupied Bandwidth and 26dB Bandwidth

Please refer to Appendix A.

3.3 Emissions Mask Measurement

3.3.1 Description of Emissions Mask Measurement

Equipment used in this licensed to EA or non-EA systems shall comply with the emission mask provisions of FCC Part 90.691.(a):

(a) Out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 $Log_{10}(f/6.1)$ decibels or 50 + 10 $Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + $10Log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

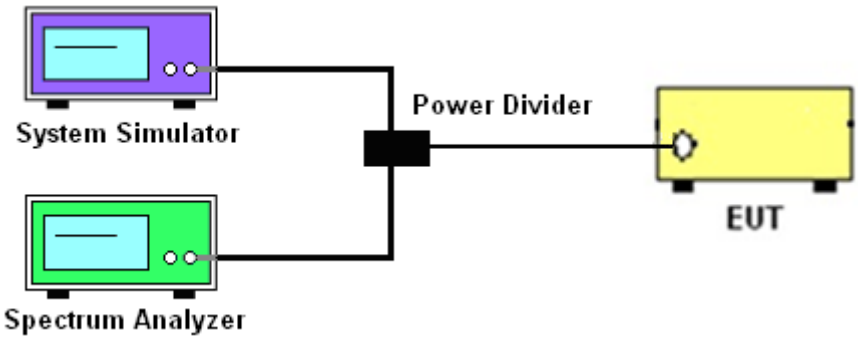
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The emissions mask of low and high channels for the highest RF powers were measured.
3. The measured RBW and the VBW set 3 times of RBW are then set in spectrum analyzer, and the RBW correction factor 10log (1% of OBW/measured RBW)(dB) was compensated, if required.
4. The test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

3.3.4 Test Setup



3.3.5 Test Result (Plots) of Conducted Emissions Mask

Please refer to Appendix A.

3.4 Emissions Mask – Out Of Band Emissions Measurement

3.4.1 Description of Conducted Emissions Out of band emissions measurement

The power of any emission FCC Part 90.691 (a)(2) on any frequency removed from the assigned frequency by out of the authorized bandwidth 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.

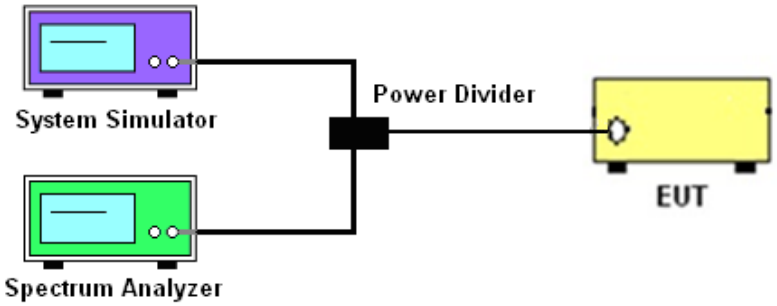
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. 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.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

3.4.4 Test Setup



3.4.5 Test Result (Plots) of Conducted Emission

Please refer to Appendix A.

3.5 Field Strength of Spurious Radiation Measurement

3.5.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. The power of any emission FCC Part 90.691 on any frequency removed from the assigned frequency by more than 250 percent of the authorized bandwidth at least 43 + 10 log (P) dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

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 $43+10\log_{10}(P[Watts])$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.5.2 Measuring Instruments

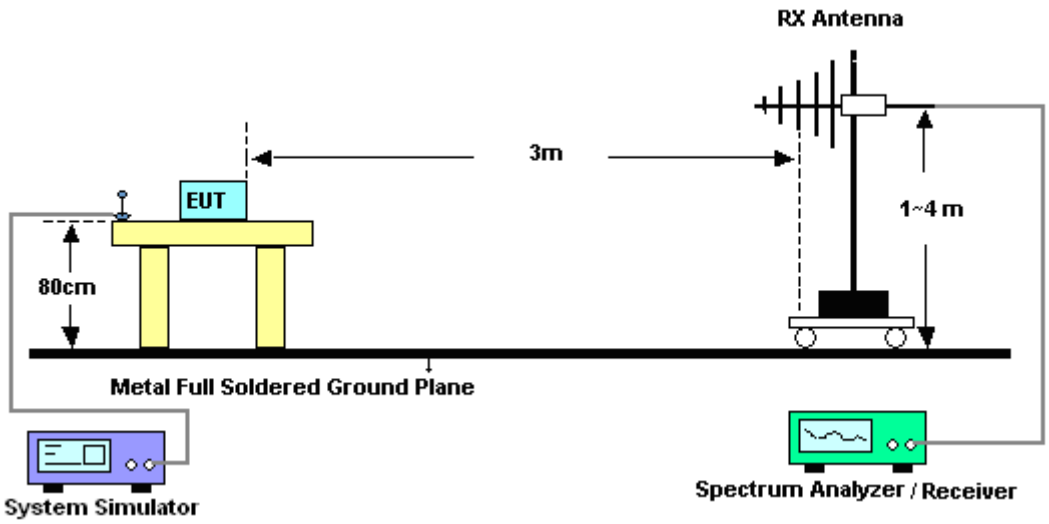
The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

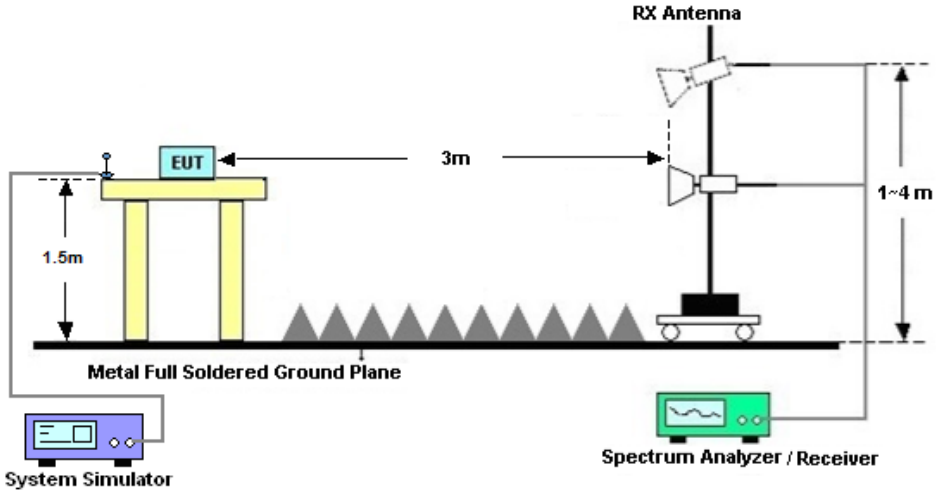
1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
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.
13. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.5.4 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



3.5.5 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.

3.6 Frequency Stability Measurement

3.6.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency according to FCC Part 90.213.

3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

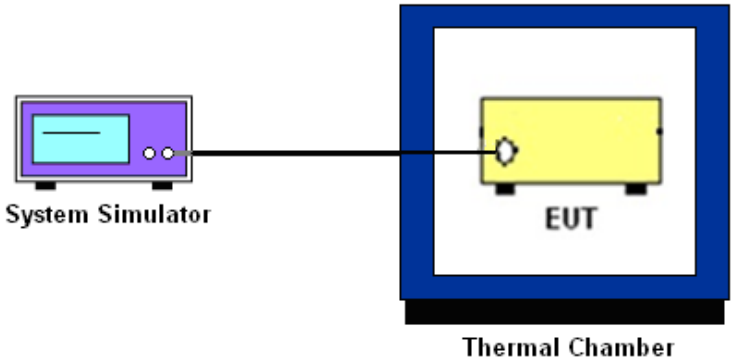
3.6.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. 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.

3.6.4 Test Procedures for Voltage Variation

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

3.6.5 Test Setup



3.6.6 Test Result of Temperature Variation

Please refer to Appendix A.

4 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	Nov. 01, 2020	Dec. 15, 2020~ Feb. 04, 2021	Oct. 31, 2021	Conducted (TH01-KS)
Temperature &humidity chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jul. 03, 2020	Dec. 15, 2020~ Feb. 04, 2021	Jul. 02, 2021	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150208	10Hz-44GHz	Apr. 14, 2020	Jan. 10, 2021	Apr. 13, 2021	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	49921	30MHz-1GHz	May 29, 2020	Jan. 10, 2021	May 28, 2021	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	00218652	1GHz~18GHz	Apr. 27, 2020	Jan. 10, 2021	Apr. 26, 2021	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Apr. 14, 2020	Jan. 10, 2021	Apr. 13, 2021	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Jan. 06, 2021	Jan. 10, 2021	Jan.05, 2022	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Apr. 15, 2020	Jan. 10, 2021	Apr. 14. 2021	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Jan. 10, 2021	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Jan. 10, 2021	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Jan. 10, 2021	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.5dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.1dB**

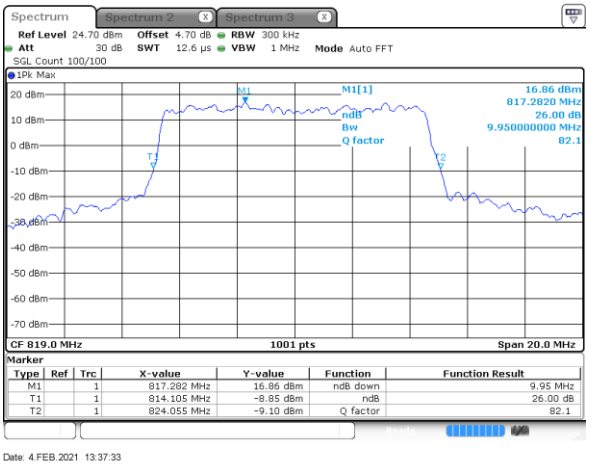
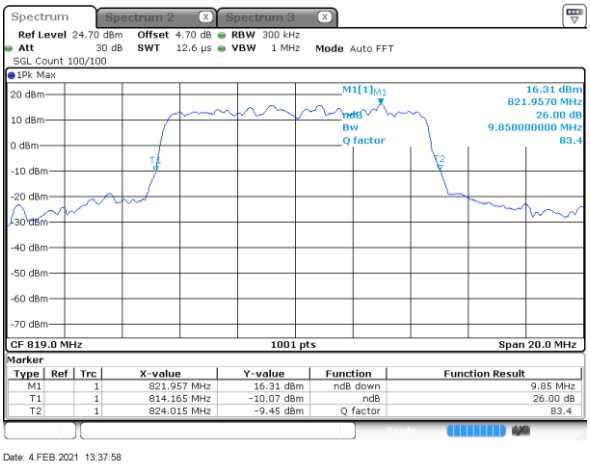
Appendix A. Test Results of Conducted Test

Conducted Output Power (Average power)

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.
Channel				26765		
Frequency (MHz)				821.5		
15	QPSK	1	0	22.92	-	-
15	QPSK	1	74	22.69		
15	QPSK	75	0	21.63		
15	16QAM	1	0	21.96		
15	64QAM	1	0	20.68		
Channel					26740	
Frequency (MHz)					819	
10	QPSK	1	0	-	22.93	-
10	16QAM	1	0		21.72	
10	64QAM	1	0		20.89	
Channel				26715	26740	26765
Frequency (MHz)				816.5	819	821.5
5	QPSK	1	0	22.63	22.89	22.89
5	16QAM	1	0	21.86	22.36	21.85
5	64QAM	1	0	20.96	20.72	21.23
Channel				26705	26740	26775
Frequency (MHz)				815.5	819	822.5
3	QPSK	1	0	22.63	22.86	22.92
3	16QAM	1	0	21.72	22.58	21.68
3	64QAM	1	0	20.78	21.63	20.69
Channel				26697	26740	26783
Frequency (MHz)				814.7	819	823.3
1.4	QPSK	1	0	22.69	22.21	22.85
1.4	16QAM	1	0	21.85	22.36	22.18
1.4	64QAM	1	0	20.69	21.21	21.25

26dB Bandwidth

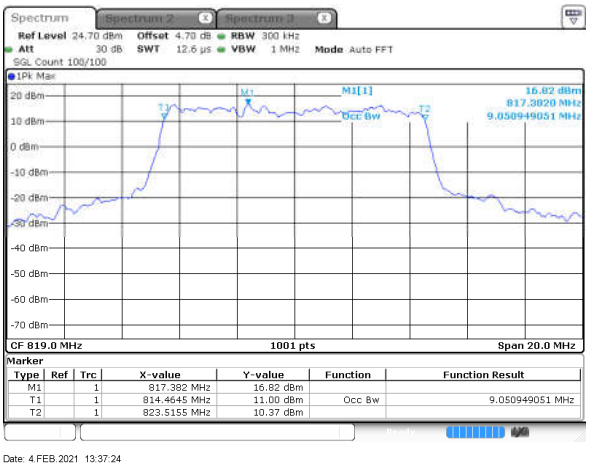
Mode	LTE Band 26 : 26dB BW(MHz)	
BW	10MHz	
Mod.	QPSK	16QAM
Middle CH	9.95	9.85

Middle Channel / 10MHz / QPSK	Middle Channel / 10MHz / 16QAM
	

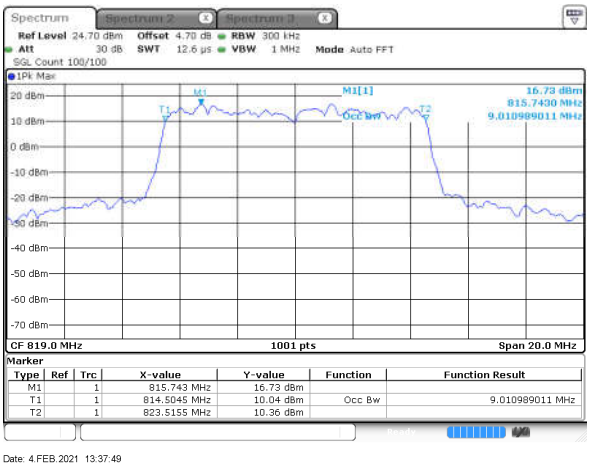
Occupied Bandwidth

Mode	LTE Band 26 : 99%OBW(MHz)	
Mod.	QPSK	16QAM
Middle CH	9.05	9.01
CH 26765	13.43	13.40

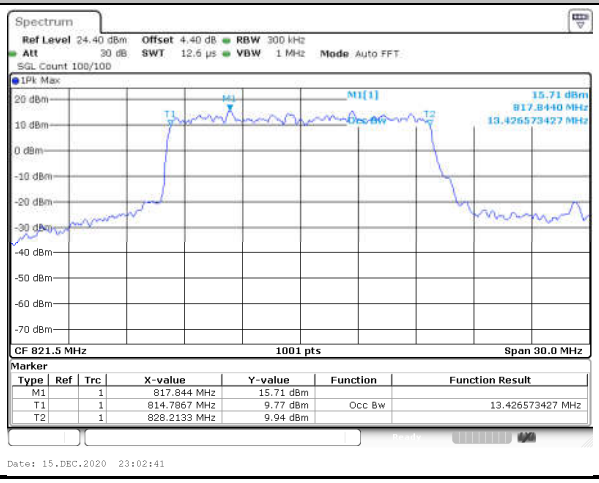
Middle Channel / 10MHz / QPSK



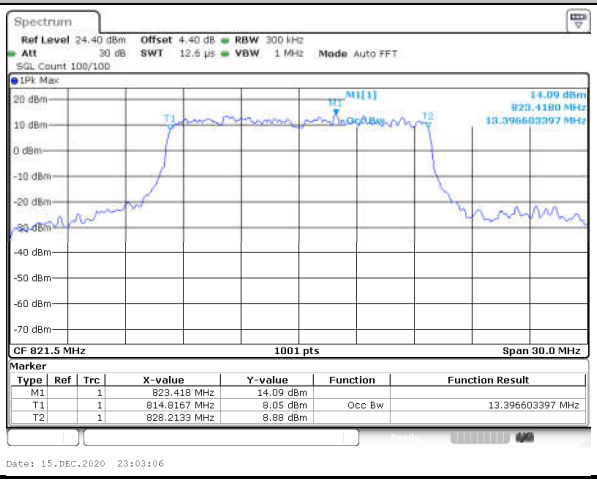
Middle Channel / 10MHz / 16QAM



CH26765 / 15MHz / QPSK



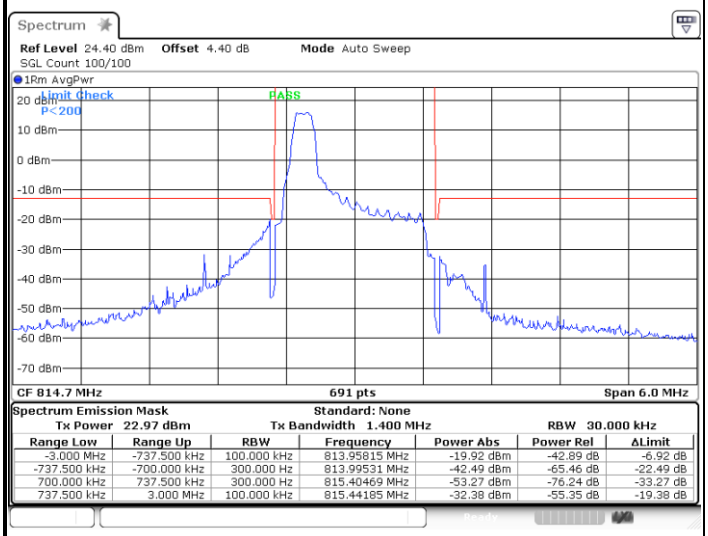
CH26765 / 15MHz / 16QAM



Conducted Band Edge

LTE Band 26 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

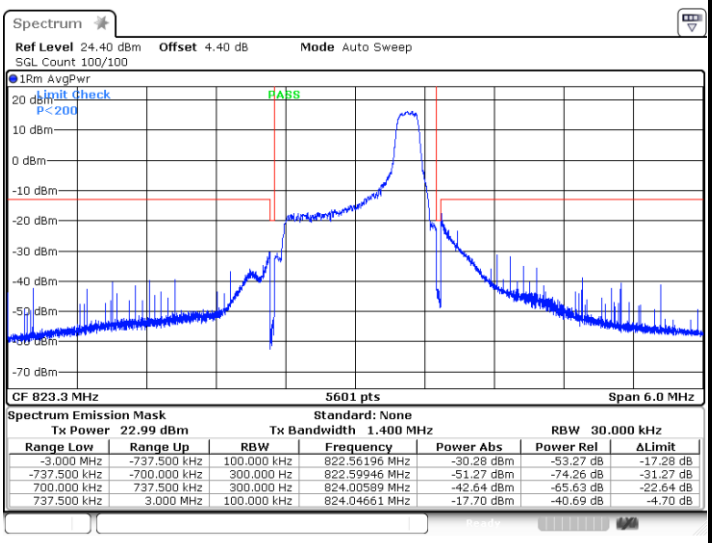


Spectrum Emission Mask — Standard: None
Tx Power 22.97 dBm — Tx Bandwidth 1.400 MHz — RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	813.95815 MHz	-19.92 dBm	-42.89 dB	-6.92 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	813.99531 MHz	-42.49 dBm	-65.46 dB	-22.49 dB
700.000 kHz	737.500 kHz	300.000 Hz	815.40469 MHz	-53.27 dBm	-76.24 dB	-33.27 dB
737.500 kHz	3.000 MHz	100.000 kHz	815.44185 MHz	-32.38 dBm	-55.35 dB	-19.38 dB

Date: 15.DEC.2020 16:37:07

Highest Band Edge / 1RB

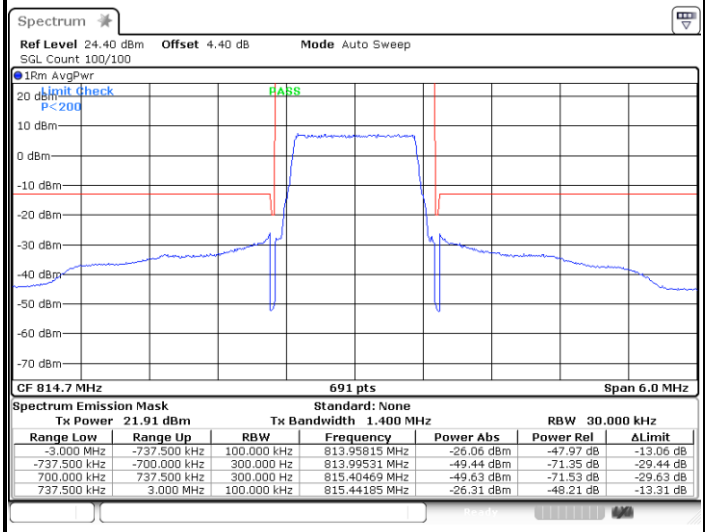


Spectrum Emission Mask — Standard: None
Tx Power 22.99 dBm — Tx Bandwidth 1.400 MHz — RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	822.56196 MHz	-30.28 dBm	-53.27 dB	-17.28 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	822.59946 MHz	-51.27 dBm	-74.26 dB	-31.27 dB
700.000 kHz	737.500 kHz	300.000 Hz	824.00589 MHz	-42.64 dBm	-65.63 dB	-22.64 dB
737.500 kHz	3.000 MHz	100.000 kHz	824.04661 MHz	-17.70 dBm	-40.69 dB	-4.70 dB

Date: 15.DEC.2020 16:59:54

Lowest Band Edge / Full RB

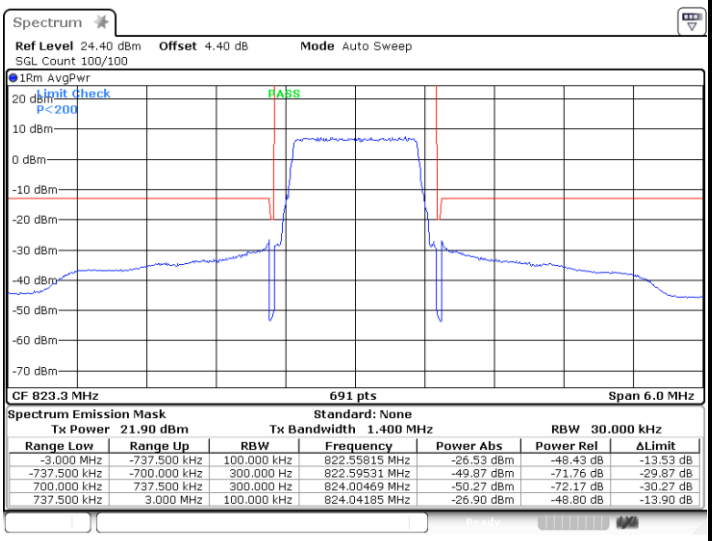


Spectrum Emission Mask — Standard: None
Tx Power 21.91 dBm — Tx Bandwidth 1.400 MHz — RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	813.95815 MHz	-26.06 dBm	-47.97 dB	-13.06 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	813.99531 MHz	-49.44 dBm	-71.35 dB	-29.44 dB
700.000 kHz	737.500 kHz	300.000 Hz	815.40469 MHz	-49.63 dBm	-71.53 dB	-29.63 dB
737.500 kHz	3.000 MHz	100.000 kHz	815.44185 MHz	-26.31 dBm	-48.21 dB	-13.31 dB

Date: 15.DEC.2020 16:48:19

Highest Band Edge / Full RB



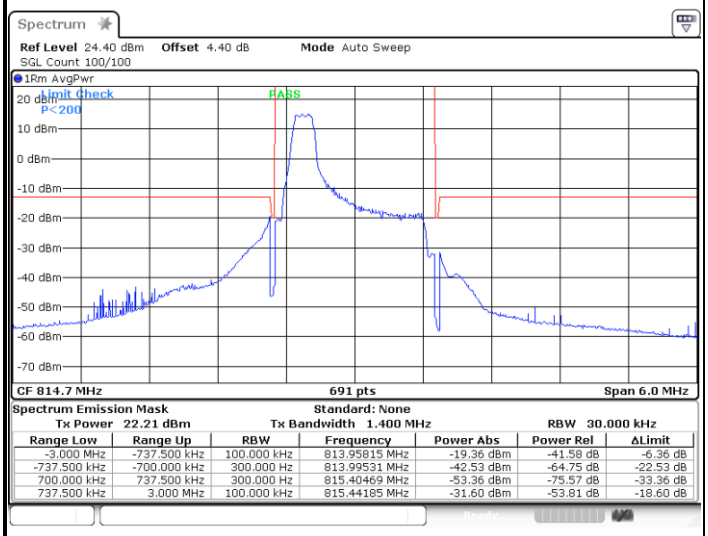
Spectrum Emission Mask — Standard: None
Tx Power 21.90 dBm — Tx Bandwidth 1.400 MHz — RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	822.55815 MHz	-26.53 dBm	-48.43 dB	-13.53 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	822.59531 MHz	-49.87 dBm	-71.76 dB	-29.87 dB
700.000 kHz	737.500 kHz	300.000 Hz	824.00469 MHz	-50.27 dBm	-72.17 dB	-30.27 dB
737.500 kHz	3.000 MHz	100.000 kHz	824.04185 MHz	-26.90 dBm	-48.80 dB	-13.90 dB

Date: 15.DEC.2020 18:21:15

LTE Band 26 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

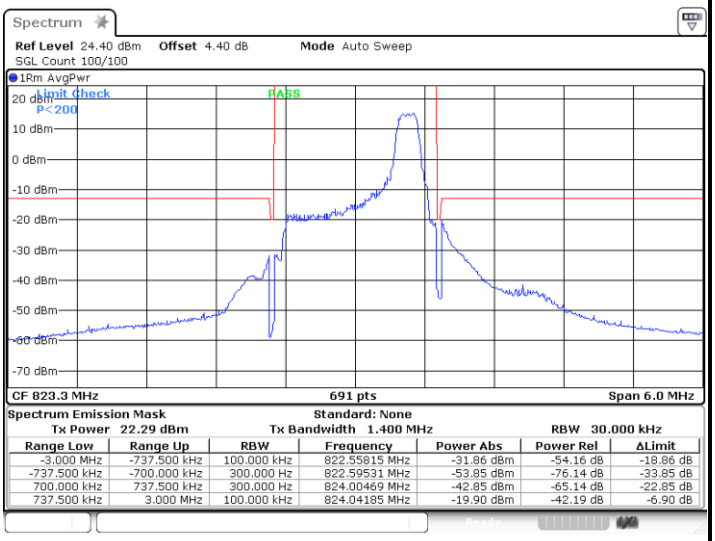


Spectrum Emission Mask Standard: None
Tx Power 22.21 dBm Tx Bandwidth 1.400 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	813.95815 MHz	-19.36 dBm	-41.58 dB	-6.36 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	813.99531 MHz	-42.53 dBm	-64.75 dB	-22.53 dB
700.000 kHz	737.500 kHz	300.000 Hz	815.40469 MHz	-53.36 dBm	-75.57 dB	-33.36 dB
737.500 kHz	3.000 MHz	100.000 kHz	815.44185 MHz	-31.60 dBm	-53.81 dB	-18.60 dB

Date: 15.DEC.2020 16:44:19

Highest Band Edge / 1 RB

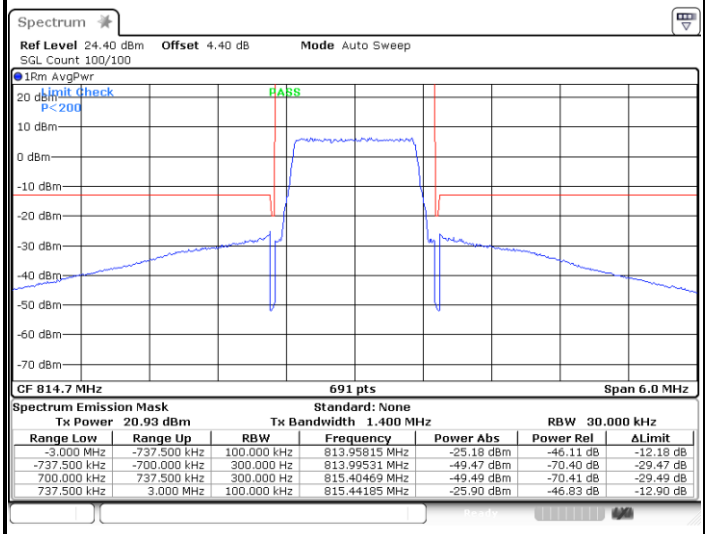


Spectrum Emission Mask Standard: None
Tx Power 22.29 dBm Tx Bandwidth 1.400 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	822.55815 MHz	-31.86 dBm	-54.16 dB	-18.86 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	822.59531 MHz	-53.85 dBm	-76.14 dB	-33.85 dB
700.000 kHz	737.500 kHz	300.000 Hz	824.00469 MHz	-42.85 dBm	-65.14 dB	-22.85 dB
737.500 kHz	3.000 MHz	100.000 kHz	824.04185 MHz	-19.90 dBm	-42.19 dB	-6.90 dB

Date: 15.DEC.2020 17:02:32

Lowest Band Edge / Full RB

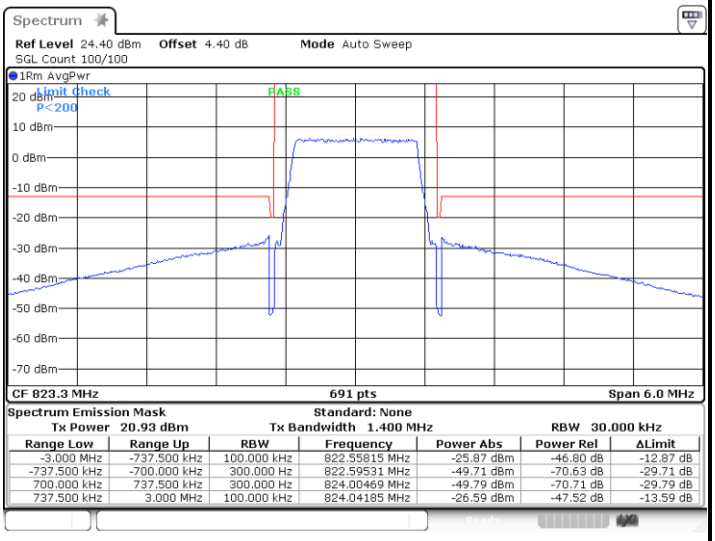


Spectrum Emission Mask Standard: None
Tx Power 20.93 dBm Tx Bandwidth 1.400 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	813.95815 MHz	-25.18 dBm	-46.11 dB	-12.18 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	813.99531 MHz	-49.47 dBm	-70.40 dB	-29.47 dB
700.000 kHz	737.500 kHz	300.000 Hz	815.40469 MHz	-49.49 dBm	-70.41 dB	-29.49 dB
737.500 kHz	3.000 MHz	100.000 kHz	815.44185 MHz	-25.90 dBm	-46.83 dB	-12.90 dB

Date: 15.DEC.2020 16:50:03

Highest Band Edge / Full RB



Spectrum Emission Mask Standard: None
Tx Power 20.93 dBm Tx Bandwidth 1.400 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-3.000 MHz	-737.500 kHz	100.000 kHz	822.55815 MHz	-25.87 dBm	-46.80 dB	-12.87 dB
-737.500 kHz	-700.000 kHz	300.000 Hz	822.59531 MHz	-49.71 dBm	-70.63 dB	-29.71 dB
700.000 kHz	737.500 kHz	300.000 Hz	824.00469 MHz	-49.79 dBm	-70.71 dB	-29.79 dB
737.500 kHz	3.000 MHz	100.000 kHz	824.04185 MHz	-26.59 dBm	-47.52 dB	-13.59 dB

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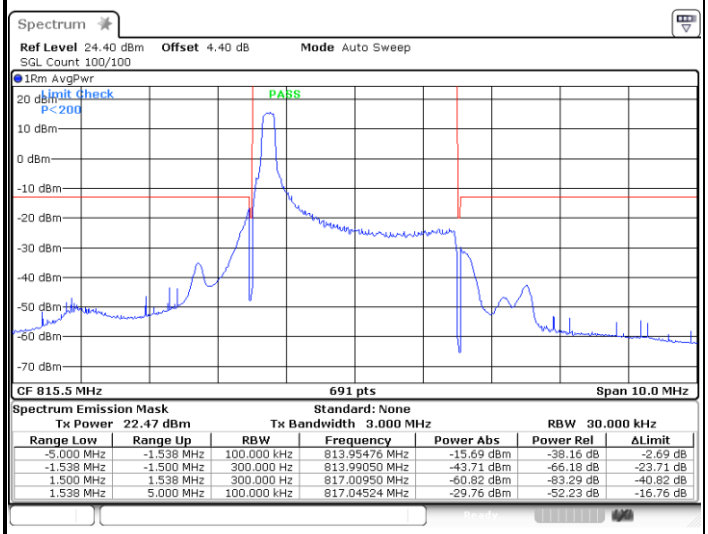
LTE Band 26 / 3MHz / QPSK

Lowest Band Edge / 1RB



Spectrum Emission Mask Standard: None
Tx Power 22.47 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	813.95476 MHz	-15.69 dBm	-38.16 dB	-2.69 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	813.99050 MHz	-43.71 dBm	-66.18 dB	-23.71 dB
1.500 MHz	1.538 MHz	300.000 Hz	817.00950 MHz	-60.82 dBm	-83.29 dB	-40.82 dB
1.538 MHz	5.000 MHz	100.000 kHz	817.04524 MHz	-29.76 dBm	-52.23 dB	-16.76 dB

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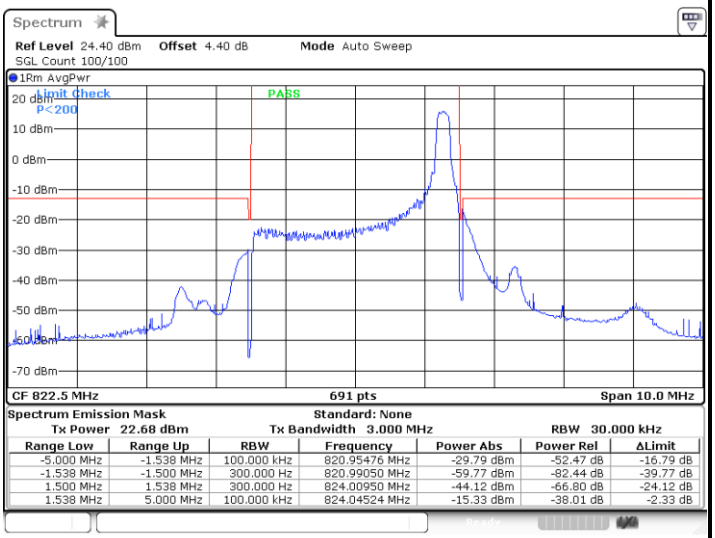
Highest Band Edge / 1 RB



Spectrum Emission Mask Standard: None
Tx Power 22.68 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	820.95476 MHz	-29.79 dBm	-52.47 dB	-16.79 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	820.99050 MHz	-59.77 dBm	-82.44 dB	-39.77 dB
1.500 MHz	1.538 MHz	300.000 Hz	824.00950 MHz	-44.12 dBm	-66.80 dB	-24.12 dB
1.538 MHz	5.000 MHz	100.000 kHz	824.04524 MHz	-15.33 dBm	-38.01 dB	-2.33 dB

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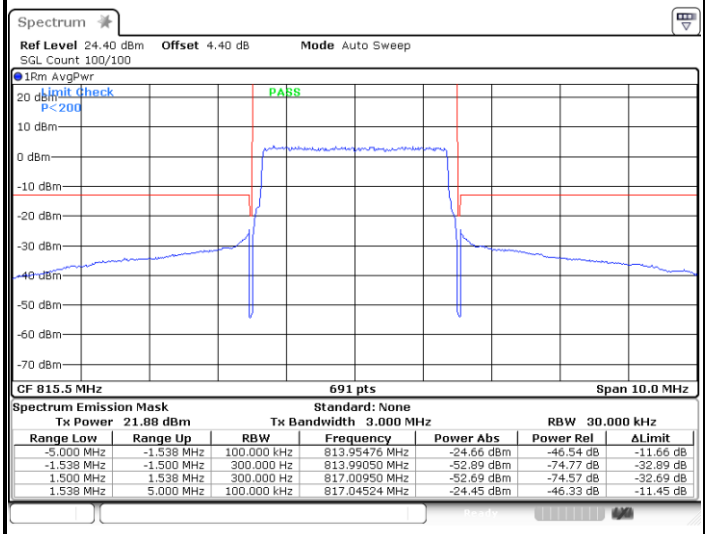
Lowest Band Edge / Full RB



Spectrum Emission Mask Standard: None
Tx Power 21.88 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	813.95476 MHz	-24.66 dBm	-46.54 dB	-11.66 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	813.99050 MHz	-52.89 dBm	-74.77 dB	-32.89 dB
1.500 MHz	1.538 MHz	300.000 Hz	817.00950 MHz	-52.69 dBm	-74.57 dB	-32.69 dB
1.538 MHz	5.000 MHz	100.000 kHz	817.04524 MHz	-24.45 dBm	-46.33 dB	-11.45 dB

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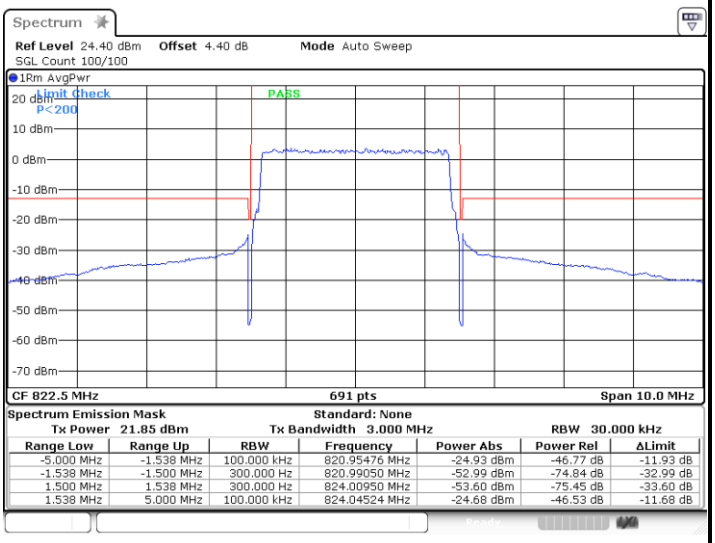
Highest Band Edge / Full RB



Spectrum Emission Mask Standard: None
Tx Power 21.85 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	820.95476 MHz	-24.93 dBm	-46.77 dB	-11.93 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	820.99050 MHz	-52.99 dBm	-74.84 dB	-32.99 dB
1.500 MHz	1.538 MHz	300.000 Hz	824.00950 MHz	-53.60 dBm	-75.45 dB	-33.60 dB
1.538 MHz	5.000 MHz	100.000 kHz	824.04524 MHz	-24.68 dBm	-46.53 dB	-11.68 dB

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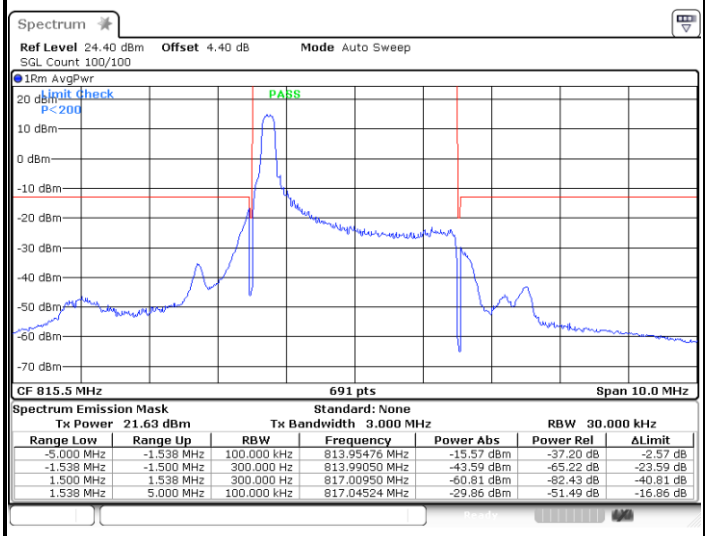
LTE Band 26 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



Spectrum Emission Mask Standard: None
Tx Power 21.63 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	813.95476 MHz	-15.57 dBm	-37.20 dB	-2.57 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	813.99050 MHz	-43.59 dBm	-65.22 dB	-23.59 dB
1.500 MHz	1.538 MHz	300.000 Hz	817.00950 MHz	-60.81 dBm	-82.43 dB	-40.81 dB
1.538 MHz	5.000 MHz	100.000 kHz	817.04524 MHz	-29.86 dBm	-51.49 dB	-16.86 dB

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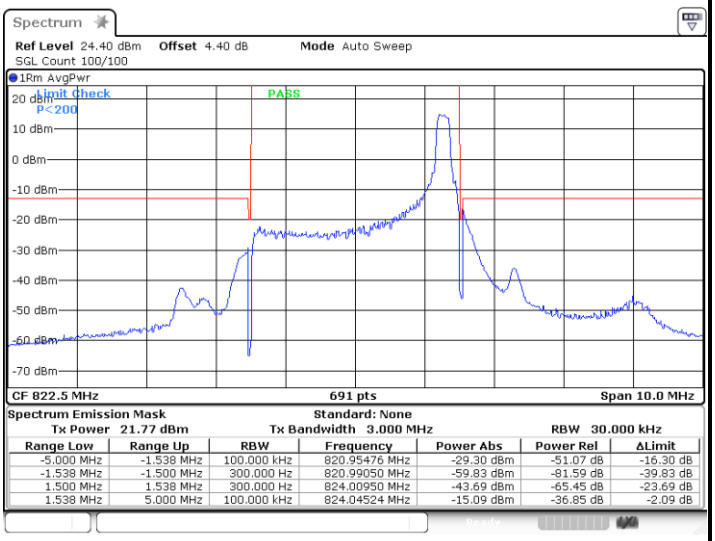
Highest Band Edge /1 RB



Spectrum Emission Mask Standard: None
Tx Power 21.77 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	820.95476 MHz	-29.30 dBm	-51.07 dB	-16.30 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	820.99050 MHz	-59.83 dBm	-81.59 dB	-39.83 dB
1.500 MHz	1.538 MHz	300.000 Hz	824.00950 MHz	-43.69 dBm	-65.45 dB	-23.69 dB
1.538 MHz	5.000 MHz	100.000 kHz	824.04524 MHz	-15.09 dBm	-36.85 dB	-2.09 dB

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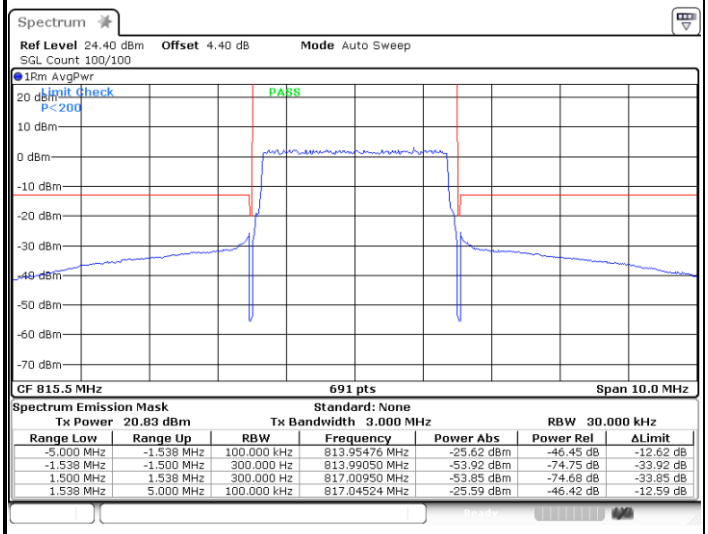
Lowest Band Edge / Full RB



Spectrum Emission Mask Standard: None
Tx Power 20.83 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	813.95476 MHz	-25.62 dBm	-46.45 dB	-12.62 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	813.99050 MHz	-53.92 dBm	-74.75 dB	-33.92 dB
1.500 MHz	1.538 MHz	300.000 Hz	817.00950 MHz	-53.85 dBm	-74.68 dB	-33.85 dB
1.538 MHz	5.000 MHz	100.000 kHz	817.04524 MHz	-25.59 dBm	-46.42 dB	-12.59 dB

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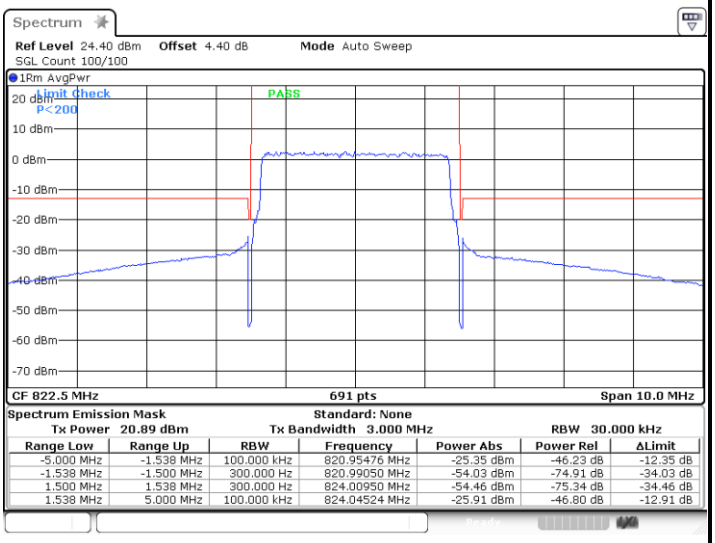
Highest Band Edge / Full RB



Spectrum Emission Mask Standard: None
Tx Power 20.89 dBm Tx Bandwidth 3.000 MHz RBW 30.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-5.000 MHz	-1.538 MHz	100.000 kHz	820.95476 MHz	-25.35 dBm	-46.23 dB	-12.35 dB
-1.538 MHz	-1.500 MHz	300.000 Hz	820.99050 MHz	-54.03 dBm	-74.91 dB	-34.03 dB
1.500 MHz	1.538 MHz	300.000 Hz	824.00950 MHz	-54.46 dBm	-75.34 dB	-34.46 dB
1.538 MHz	5.000 MHz	100.000 kHz	824.04524 MHz	-25.91 dBm	-46.80 dB	-12.91 dB

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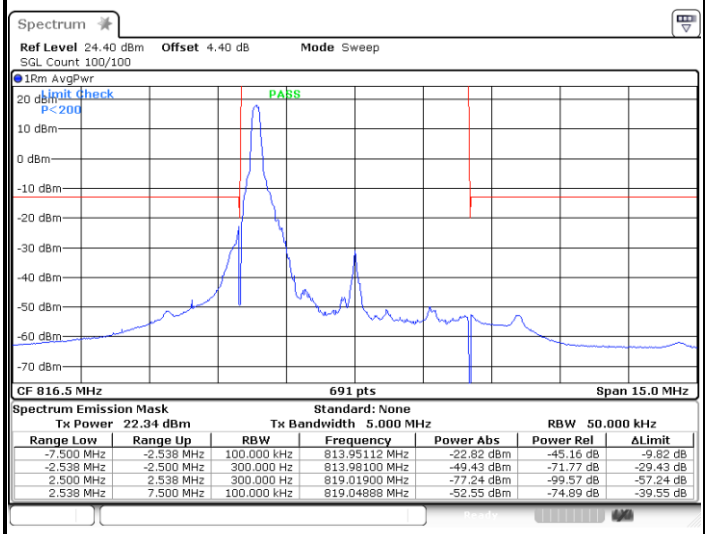
LTE Band 26 / 5MHz / QPSK

Lowest Band Edge / 1 RB

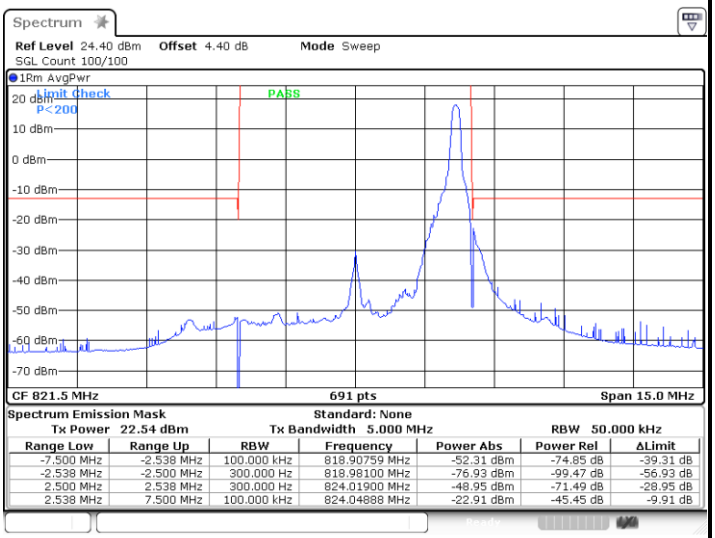


Spectrum Emission Mask Standard: None
Tx Power 22.34 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	813.95112 MHz	-22.82 dBm	-45.16 dB	-9.82 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	813.98100 MHz	-49.43 dBm	-71.77 dB	-29.43 dB
2.500 MHz	2.538 MHz	300.000 Hz	819.01900 MHz	-77.24 dBm	-99.57 dB	-57.24 dB
2.538 MHz	7.500 MHz	100.000 kHz	819.04888 MHz	-52.55 dBm	-74.89 dB	-39.55 dB

Date: 15.DEC.2020 18:51:21

Highest Band Edge / 1 RB



Spectrum Emission Mask Standard: None
Tx Power 22.54 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	818.90759 MHz	-52.31 dBm	-74.85 dB	-39.31 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	818.98100 MHz	-76.93 dBm	-99.47 dB	-56.93 dB
2.500 MHz	2.538 MHz	300.000 Hz	824.01900 MHz	-48.95 dBm	-71.49 dB	-28.95 dB
2.538 MHz	7.500 MHz	100.000 kHz	824.04888 MHz	-22.91 dBm	-45.45 dB	-9.91 dB

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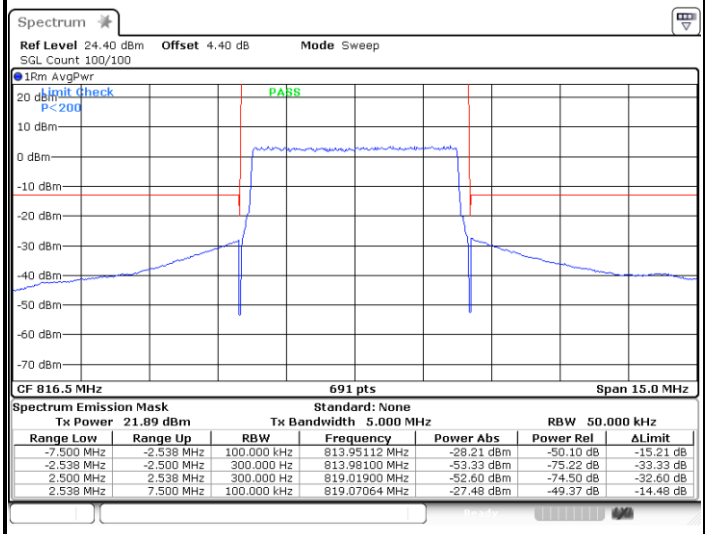
Lowest Band Edge / Full RB

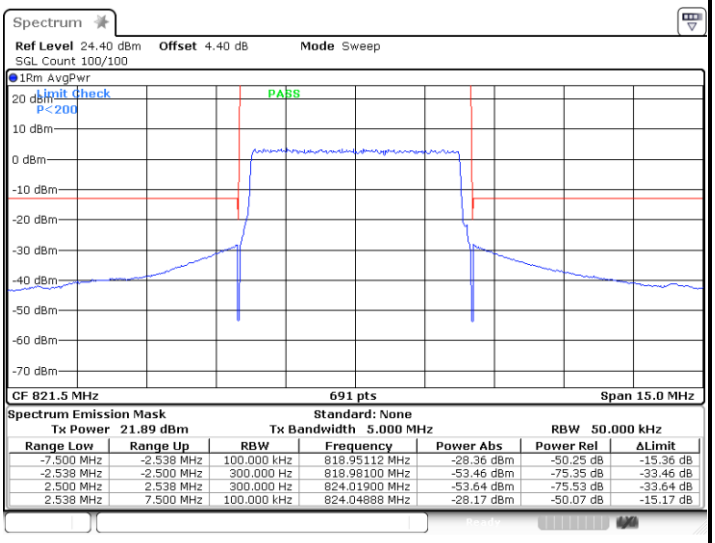


Spectrum Emission Mask Standard: None
Tx Power 21.89 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	813.95112 MHz	-28.21 dBm	-50.10 dB	-15.21 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	813.98100 MHz	-53.33 dBm	-75.22 dB	-33.33 dB
2.500 MHz	2.538 MHz	300.000 Hz	819.01900 MHz	-52.60 dBm	-74.50 dB	-32.60 dB
2.538 MHz	7.500 MHz	100.000 kHz	819.07064 MHz	-27.48 dBm	-49.37 dB	-14.48 dB

Date: 15.DEC.2020 18:55:39

Highest Band Edge / Full RB



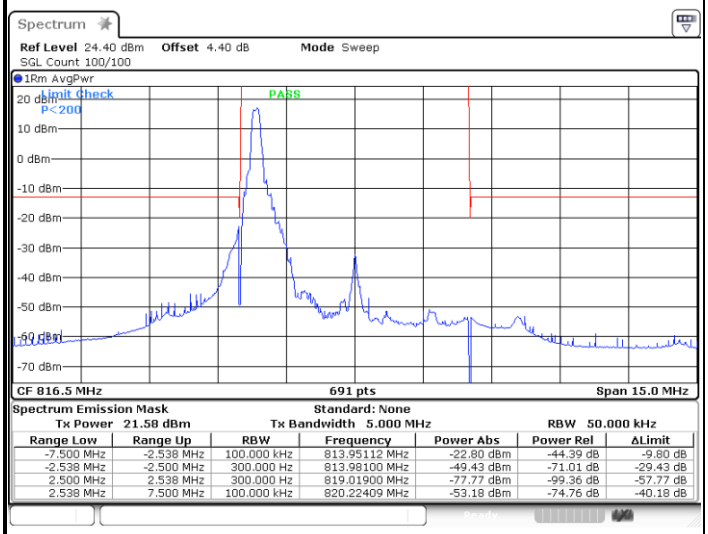
Spectrum Emission Mask Standard: None
Tx Power 21.89 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	818.95112 MHz	-28.36 dBm	-50.25 dB	-15.36 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	818.98100 MHz	-53.46 dBm	-75.35 dB	-33.46 dB
2.500 MHz	2.538 MHz	300.000 Hz	824.01900 MHz	-53.64 dBm	-75.53 dB	-33.64 dB
2.538 MHz	7.500 MHz	100.000 kHz	824.04888 MHz	-28.17 dBm	-50.07 dB	-15.17 dB

Date: 15.DEC.2020 19:03:59

LTE Band 26 / 5MHz / 16QAM

Lowest Band Edge / 1RB

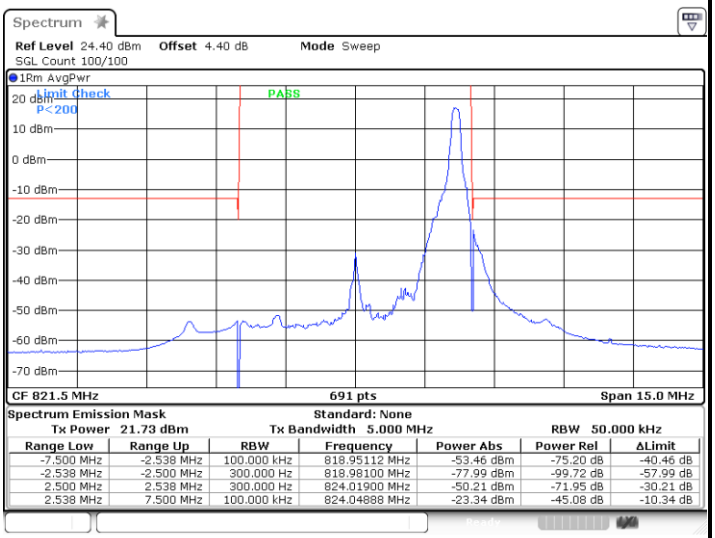


Spectrum Emission Mask Standard: None
Tx Power 21.58 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	813.95112 MHz	-22.80 dBm	-44.39 dB	-9.80 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	813.98100 MHz	-49.43 dBm	-71.01 dB	-29.43 dB
2.500 MHz	2.538 MHz	300.000 Hz	819.01900 MHz	-77.77 dBm	-99.36 dB	-57.77 dB
2.538 MHz	7.500 MHz	100.000 kHz	820.22409 MHz	-53.18 dBm	-74.76 dB	-40.18 dB

Date: 15.DEC.2020 18:58:35

Highest Band Edge / 1 RB

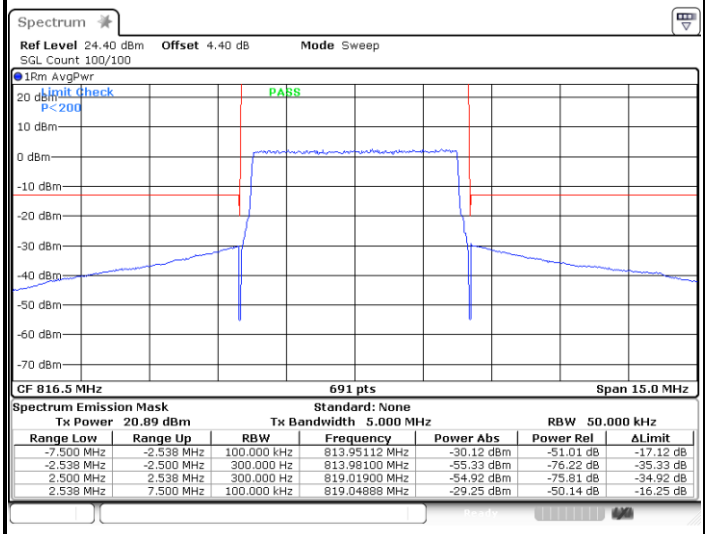


Spectrum Emission Mask Standard: None
Tx Power 21.73 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	818.95112 MHz	-53.46 dBm	-75.20 dB	-40.46 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	818.98100 MHz	-77.99 dBm	-99.72 dB	-57.99 dB
2.500 MHz	2.538 MHz	300.000 Hz	824.01900 MHz	-50.21 dBm	-71.95 dB	-30.21 dB
2.538 MHz	7.500 MHz	100.000 kHz	824.04888 MHz	-23.34 dBm	-45.08 dB	-10.34 dB

Date: 15.DEC.2020 19:02:37

Lowest Band Edge / Full RB

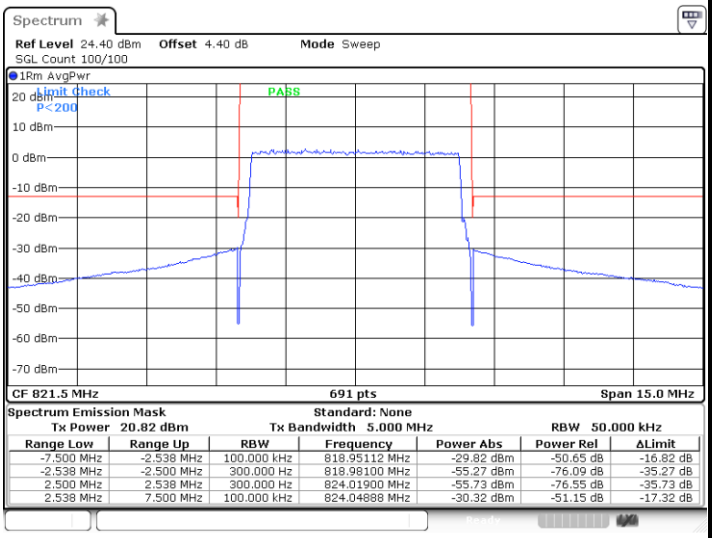


Spectrum Emission Mask Standard: None
Tx Power 20.89 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	813.95112 MHz	-30.12 dBm	-51.01 dB	-17.12 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	813.98100 MHz	-55.33 dBm	-76.22 dB	-35.33 dB
2.500 MHz	2.538 MHz	300.000 Hz	819.01900 MHz	-54.92 dBm	-75.81 dB	-34.92 dB
2.538 MHz	7.500 MHz	100.000 kHz	819.04888 MHz	-29.25 dBm	-50.14 dB	-16.25 dB

Date: 15.DEC.2020 18:56:49

Highest Band Edge / Full RB



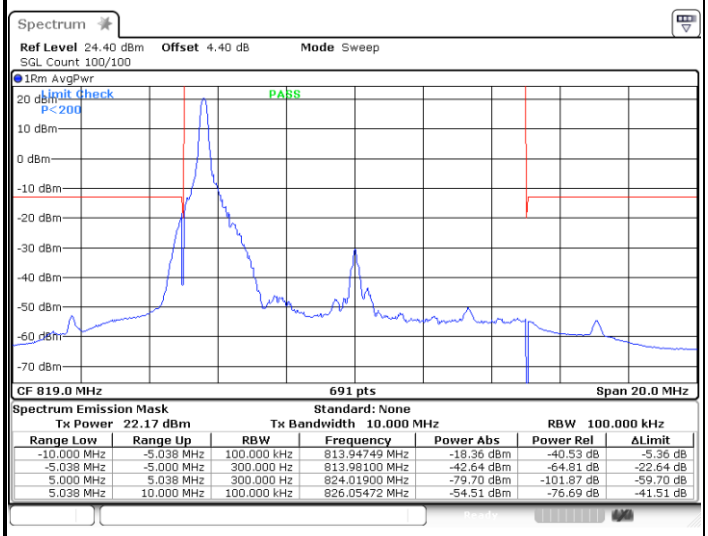
Spectrum Emission Mask Standard: None
Tx Power 20.82 dBm Tx Bandwidth 5.000 MHz RBW 50.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-7.500 MHz	-2.538 MHz	100.000 kHz	818.95112 MHz	-29.82 dBm	-50.65 dB	-16.82 dB
-2.538 MHz	-2.500 MHz	300.000 Hz	818.98100 MHz	-55.27 dBm	-76.09 dB	-35.27 dB
2.500 MHz	2.538 MHz	300.000 Hz	824.01900 MHz	-55.73 dBm	-76.55 dB	-35.73 dB
2.538 MHz	7.500 MHz	100.000 kHz	824.04888 MHz	-30.32 dBm	-51.15 dB	-17.32 dB

Date: 15.DEC.2020 19:05:25

LTE Band 26 / 10MHz / QPSK

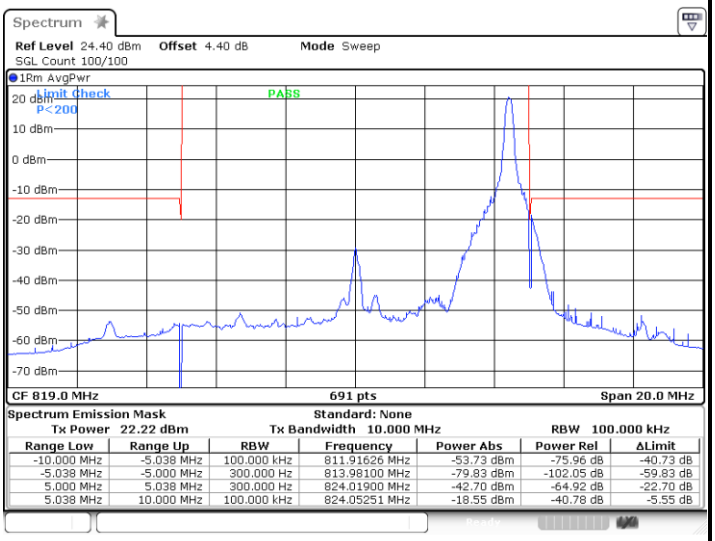
Lowest Band Edge / 1 RB



Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	813.94749 MHz	-18.36 dBm	-40.53 dB	-5.36 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-42.64 dBm	-64.81 dB	-22.64 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-79.70 dBm	-101.87 dB	-59.70 dB
5.038 MHz	10.000 MHz	100.000 kHz	826.05472 MHz	-54.51 dBm	-76.69 dB	-41.51 dB

Date: 15.DEC.2020 19:10:45

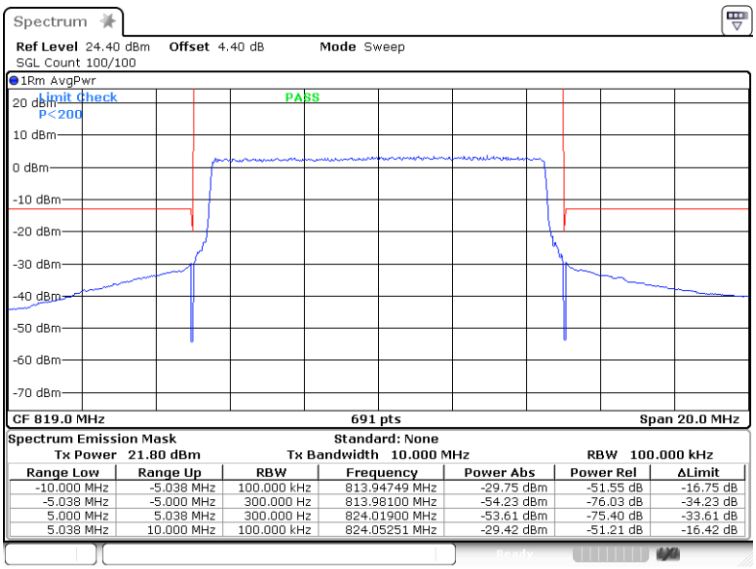
Highest Band Edge / 1 RB



Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	811.91626 MHz	-53.73 dBm	-75.96 dB	-40.73 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-79.83 dBm	-102.05 dB	-59.83 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-42.70 dBm	-64.92 dB	-22.70 dB
5.038 MHz	10.000 MHz	100.000 kHz	824.05251 MHz	-18.55 dBm	-40.78 dB	-5.55 dB

Date: 15.DEC.2020 19:14:37

Band Edge / Full RB

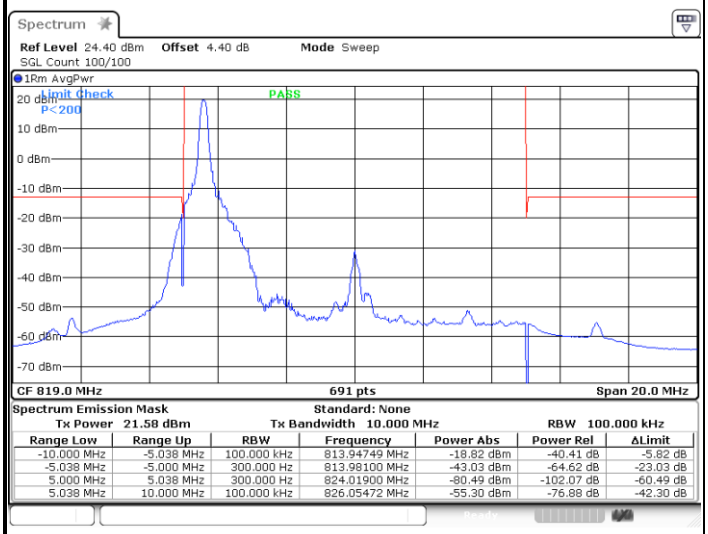


Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	813.94749 MHz	-29.75 dBm	-51.55 dB	-16.75 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-54.23 dBm	-76.03 dB	-34.23 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-53.61 dBm	-75.40 dB	-33.61 dB
5.038 MHz	10.000 MHz	100.000 kHz	824.05251 MHz	-29.42 dBm	-51.21 dB	-16.42 dB

Date: 15.DEC.2020 21:46:13

LTE Band 26 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

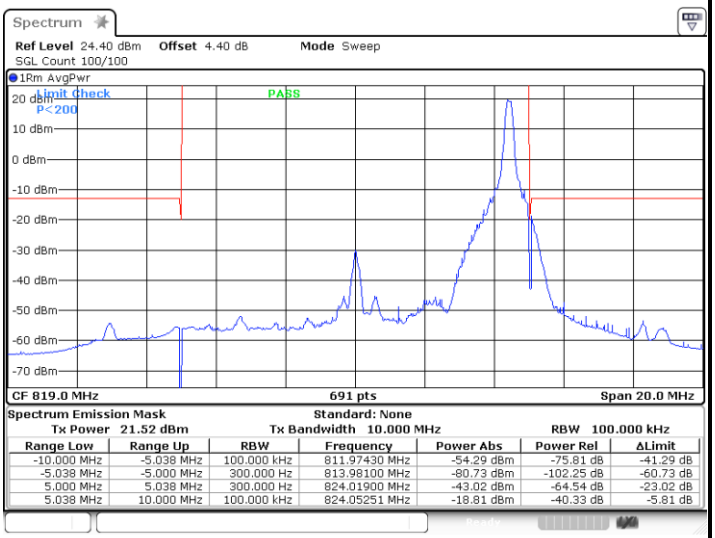


Spectrum Emission Mask — Standard: None
Tx Power 21.58 dBm — Tx Bandwidth 10.000 MHz — RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	813.94749 MHz	-18.82 dBm	-40.41 dB	-5.82 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-43.03 dBm	-64.62 dB	-23.03 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-80.49 dBm	-102.07 dB	-60.49 dB
5.038 MHz	10.000 MHz	100.000 kHz	826.05472 MHz	-55.30 dBm	-76.88 dB	-42.30 dB

Date: 15.DEC.2020 19:12:22

Highest Band Edge / 1 RB

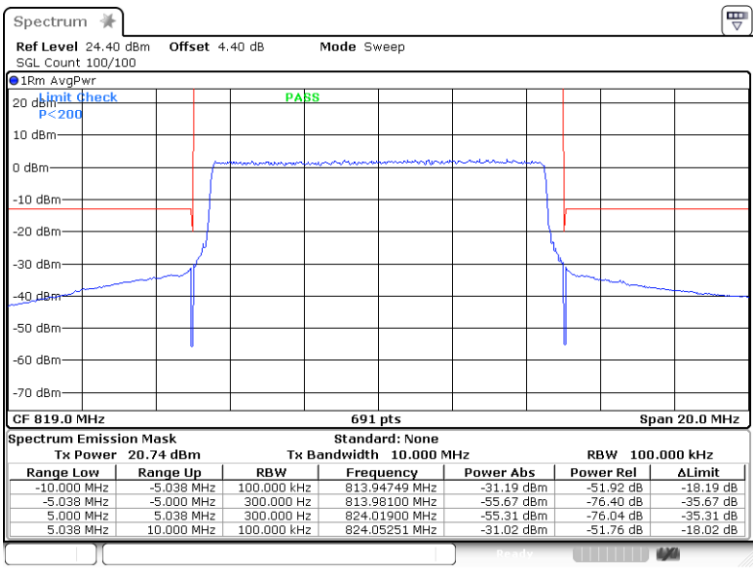


Spectrum Emission Mask — Standard: None
Tx Power 21.52 dBm — Tx Bandwidth 10.000 MHz — RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	811.97430 MHz	-54.29 dBm	-75.81 dB	-41.29 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-80.73 dBm	-102.25 dB	-60.73 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-43.02 dBm	-64.54 dB	-23.02 dB
5.038 MHz	10.000 MHz	100.000 kHz	824.05251 MHz	-18.81 dBm	-40.33 dB	-5.81 dB

Date: 15.DEC.2020 19:15:36

Band Edge / Full RB



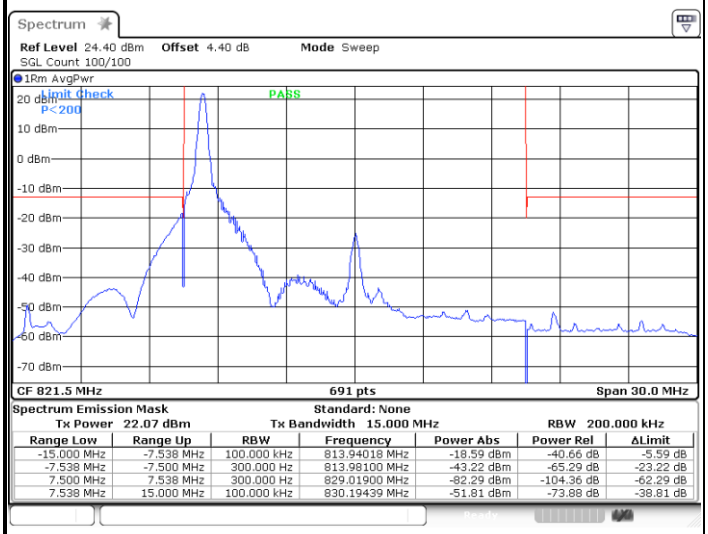
Spectrum Emission Mask — Standard: None
Tx Power 20.74 dBm — Tx Bandwidth 10.000 MHz — RBW 100.000 kHz

Range Low	Range Up	RBW	Frequency	Power Abs	Power Rel	ΔLimit
-10.000 MHz	-5.038 MHz	100.000 kHz	813.94749 MHz	-31.19 dBm	-51.92 dB	-18.19 dB
-5.038 MHz	-5.000 MHz	300.000 Hz	813.98100 MHz	-55.67 dBm	-76.40 dB	-35.67 dB
5.000 MHz	5.038 MHz	300.000 Hz	824.01900 MHz	-55.31 dBm	-76.04 dB	-35.31 dB
5.038 MHz	10.000 MHz	100.000 kHz	824.05251 MHz	-31.02 dBm	-51.76 dB	-18.02 dB

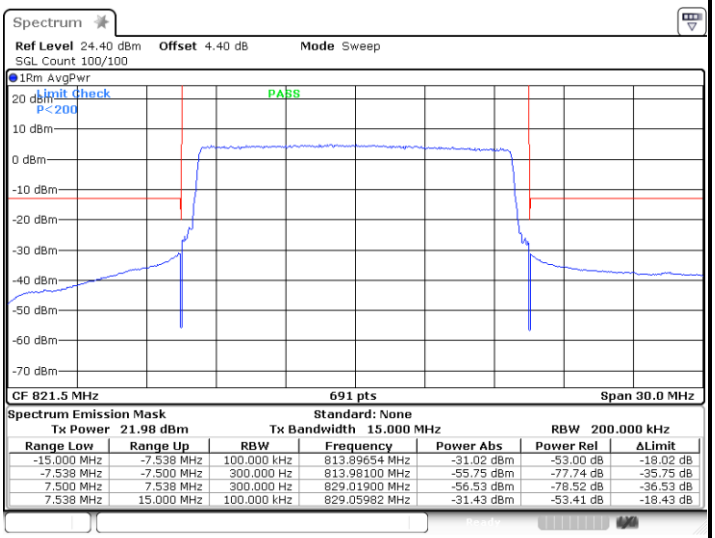
Date: 15.DEC.2020 21:48:06

LTE Band 26 / 15MHz QPSK

Lowest Band Edge / 1 RB

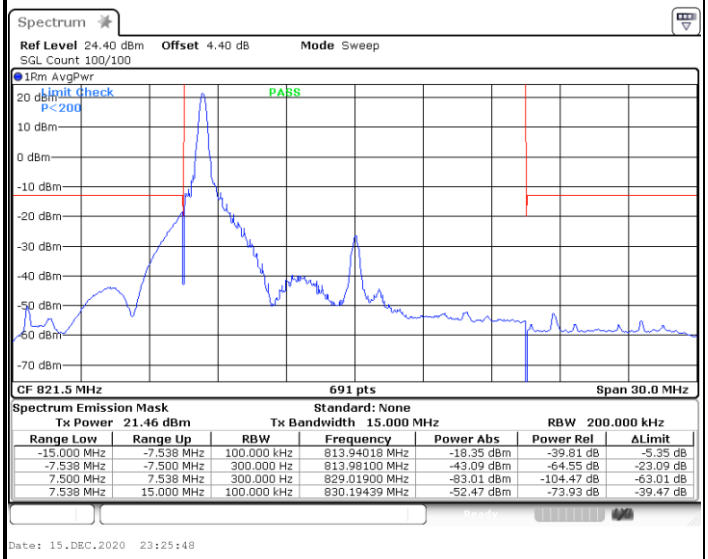


Lowest Band Edge / Full RB



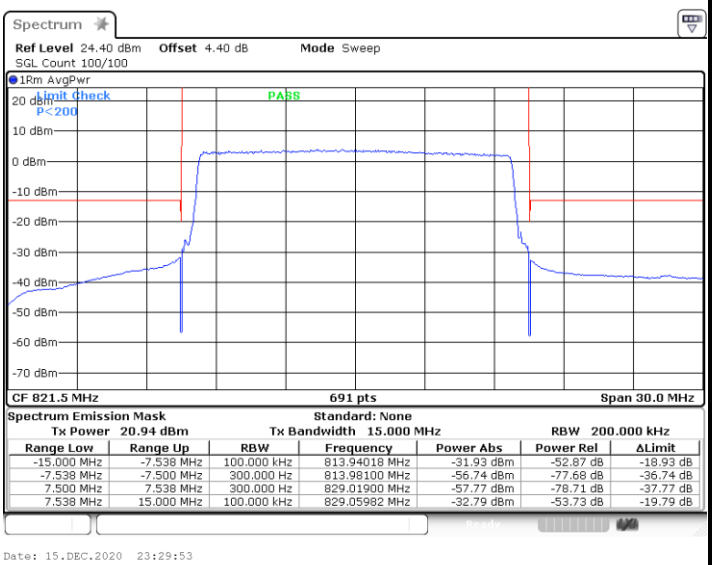
LTE Band 26 / 15MHz 16QAM

Lowest Band Edge / 1 RB



QAM

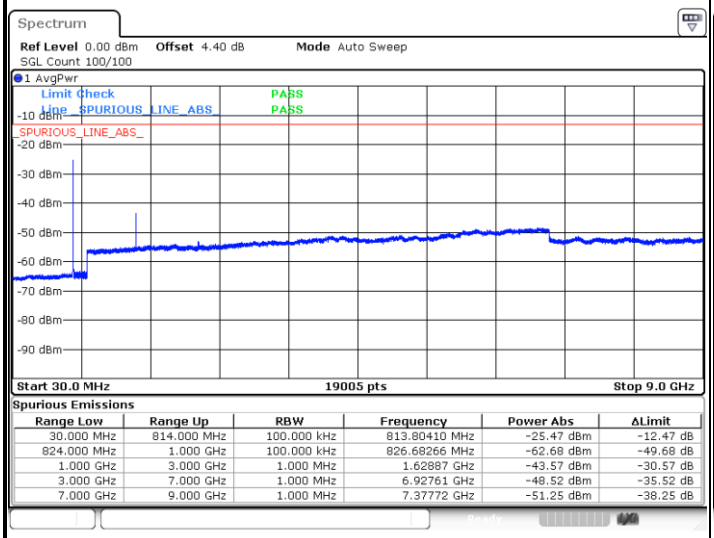
Lowest Band Edge / Full RB



Conducted Spurious Emission

LTE Band 26 / 1.4MHz

Lowest Channel / QPSK

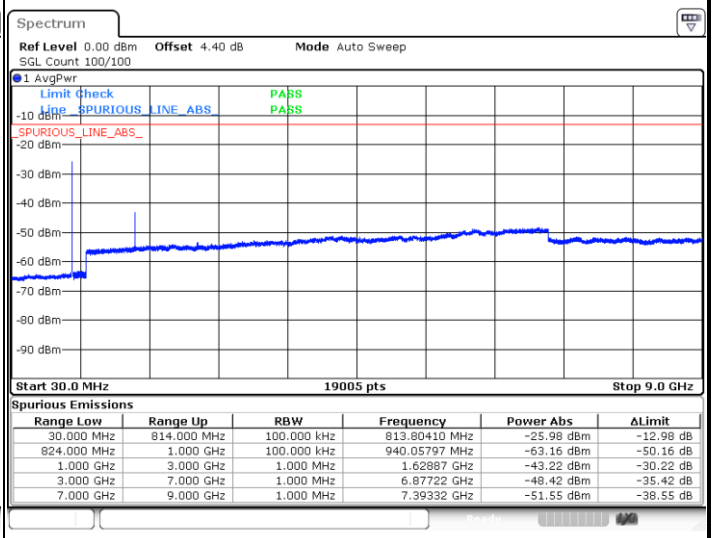


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-25.47 dBm	-12.47 dB
824.000 MHz	1.000 GHz	100.000 kHz	826.68266 MHz	-62.68 dBm	-49.68 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62887 GHz	-43.57 dBm	-30.57 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.92761 GHz	-48.52 dBm	-35.52 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.37772 GHz	-51.25 dBm	-38.25 dB

Date: 15.DEC.2020 16:40:08

Lowest Channel / 16QAM

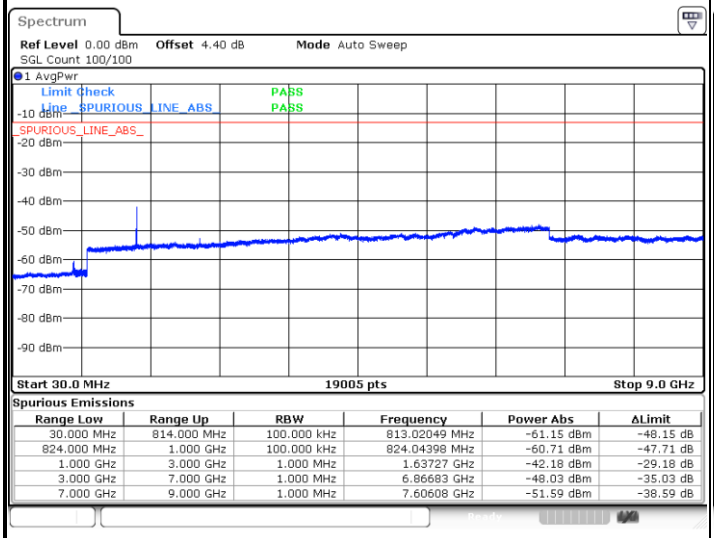


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-25.98 dBm	-12.98 dB
824.000 MHz	1.000 GHz	100.000 kHz	940.05797 MHz	-63.16 dBm	-50.16 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62887 GHz	-43.22 dBm	-30.22 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87722 GHz	-48.42 dBm	-35.42 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.39332 GHz	-51.55 dBm	-38.55 dB

Date: 15.DEC.2020 16:46:02

Middle Channel / QPSK

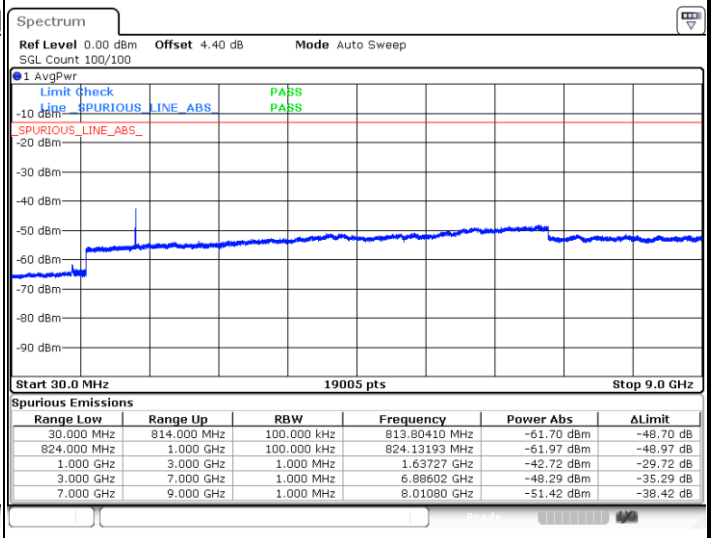


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.02049 MHz	-61.15 dBm	-48.15 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-60.71 dBm	-47.71 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63727 GHz	-42.18 dBm	-29.18 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86683 GHz	-48.03 dBm	-35.03 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.60608 GHz	-51.59 dBm	-38.59 dB

Date: 15.DEC.2020 16:54:14

Middle Channel / 16QAM



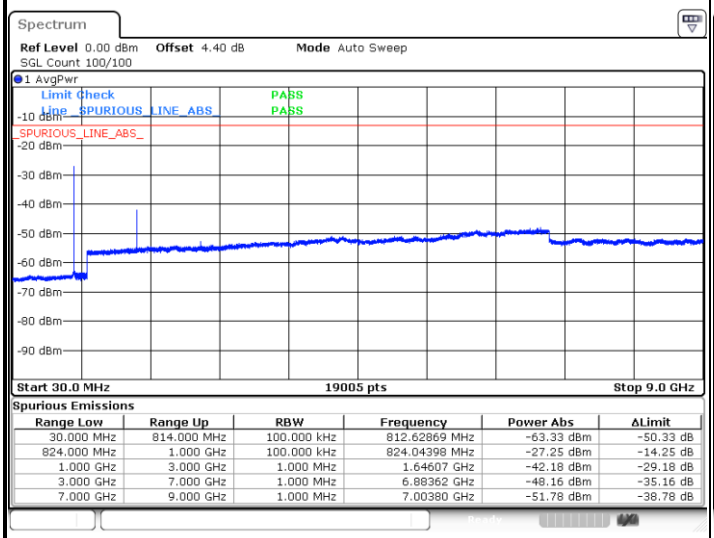
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-61.70 dBm	-48.70 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.13193 MHz	-61.97 dBm	-48.97 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63727 GHz	-42.72 dBm	-29.72 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88602 GHz	-48.29 dBm	-35.29 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.01080 GHz	-51.42 dBm	-38.42 dB

Date: 15.DEC.2020 16:54:57

LTE Band 26 / 1.4MHz

Highest Channel / QPSK

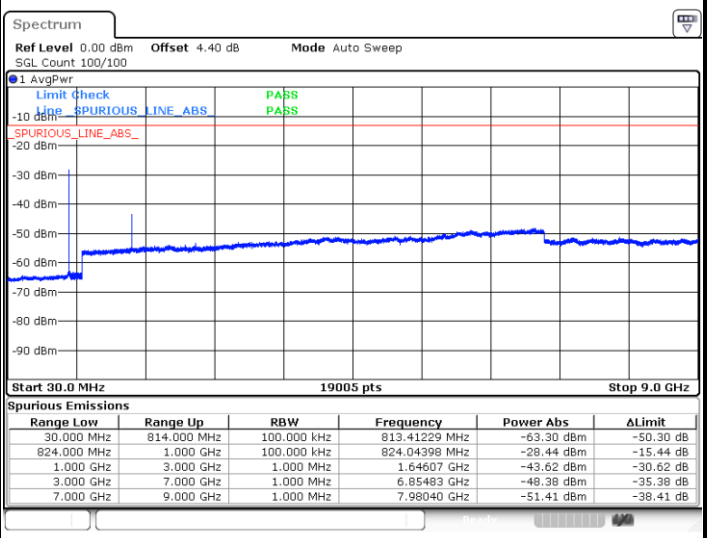


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	812.62869 MHz	-63.33 dBm	-50.33 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-27.25 dBm	-14.25 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64607 GHz	-42.18 dBm	-29.18 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88362 GHz	-48.16 dBm	-35.16 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.00380 GHz	-51.78 dBm	-38.78 dB

Date: 15.DEC.2020 18:24:54

Highest Channel / 16QAM



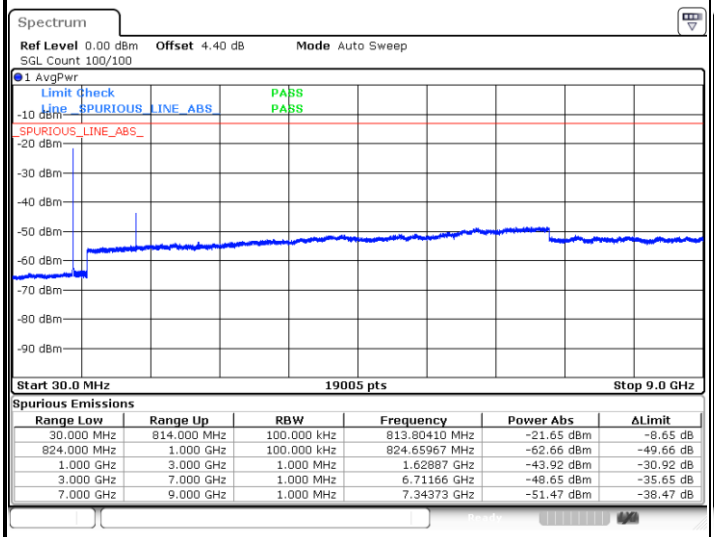
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.41229 MHz	-63.30 dBm	-50.30 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-28.44 dBm	-15.44 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64607 GHz	-43.62 dBm	-30.62 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.85483 GHz	-48.38 dBm	-35.38 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.98040 GHz	-51.41 dBm	-38.41 dB

Date: 15.DEC.2020 18:25:25

LTE Band 26 / 3MHz

Lowest Channel / QPSK

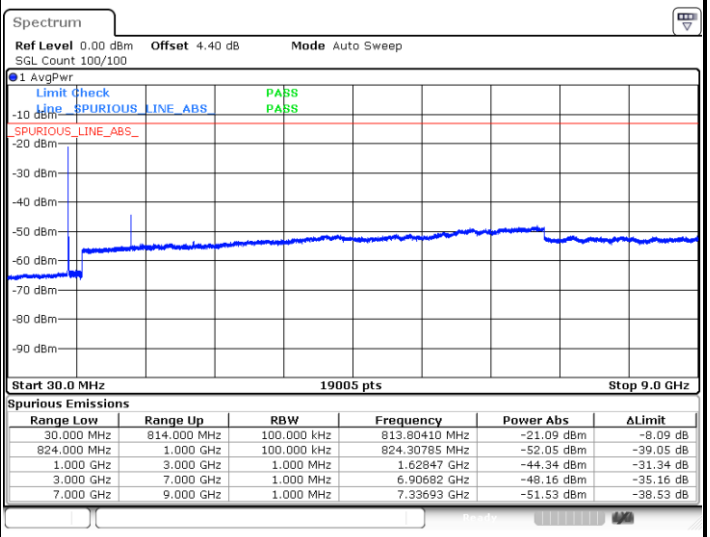


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-21.65 dBm	-8.65 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.65967 MHz	-62.66 dBm	-49.66 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62887 GHz	-43.92 dBm	-30.92 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.71166 GHz	-48.65 dBm	-35.65 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.34373 GHz	-51.47 dBm	-38.47 dB

Date: 15.DEC.2020 18:31:48

Lowest Channel / 16QAM



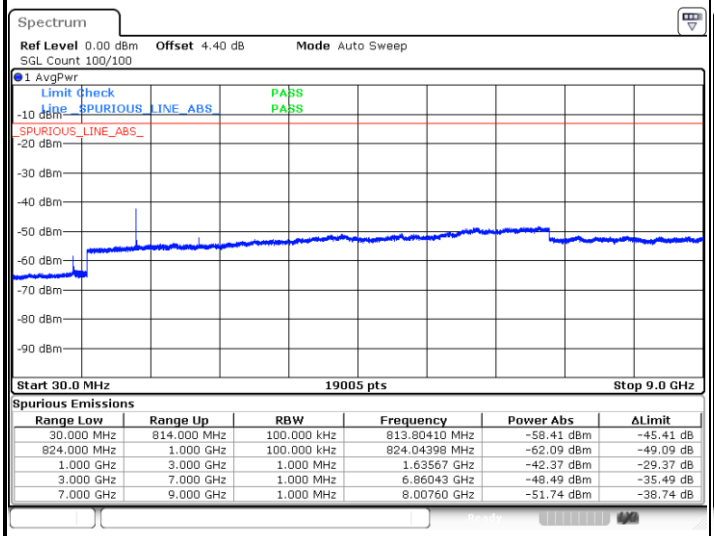
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-21.09 dBm	-8.09 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.30785 MHz	-52.05 dBm	-39.05 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62847 GHz	-44.34 dBm	-31.34 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.90682 GHz	-48.16 dBm	-35.16 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.33693 GHz	-51.53 dBm	-38.53 dB

Date: 15.DEC.2020 18:34:17

LTE Band 26 / 3MHz

Middle Channel / QPSK

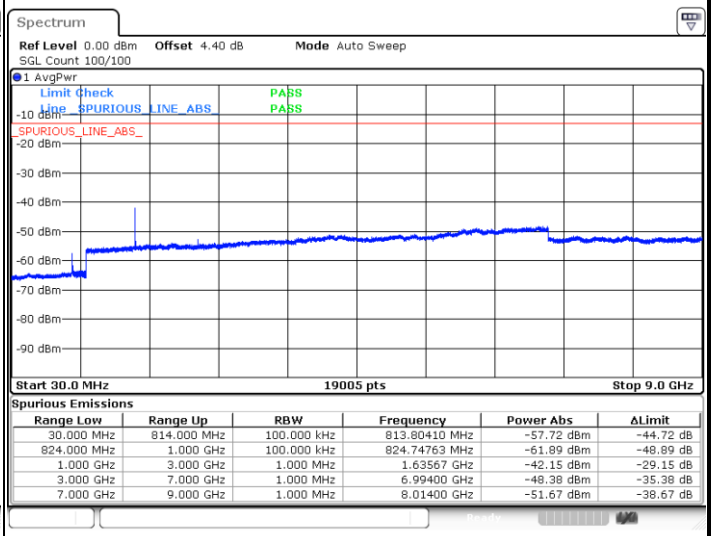


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-58.41 dBm	-45.41 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-62.09 dBm	-49.09 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63567 GHz	-42.37 dBm	-29.37 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86043 GHz	-48.49 dBm	-35.49 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.00760 GHz	-51.74 dBm	-38.74 dB

Date: 15.DEC.2020 18:38:19

Middle Channel / 16QAM

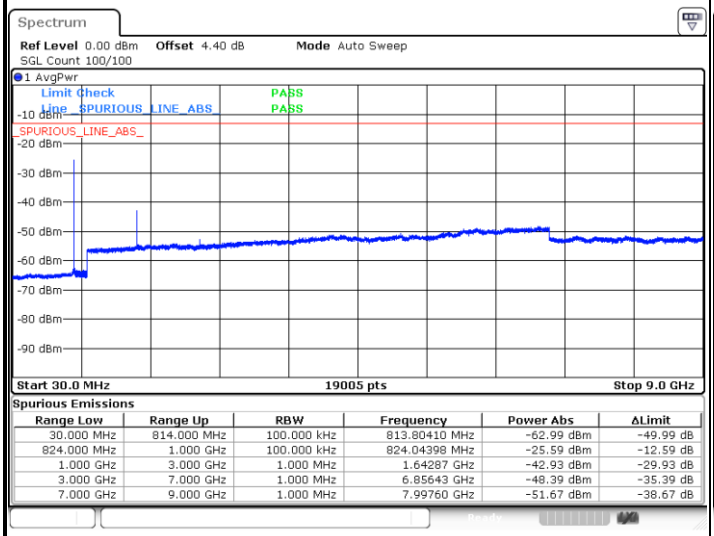


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-57.72 dBm	-44.72 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.74763 MHz	-61.89 dBm	-48.89 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63567 GHz	-42.15 dBm	-29.15 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99400 GHz	-48.38 dBm	-35.38 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.01400 GHz	-51.67 dBm	-38.67 dB

Date: 15.DEC.2020 18:38:58

Highest Channel / QPSK

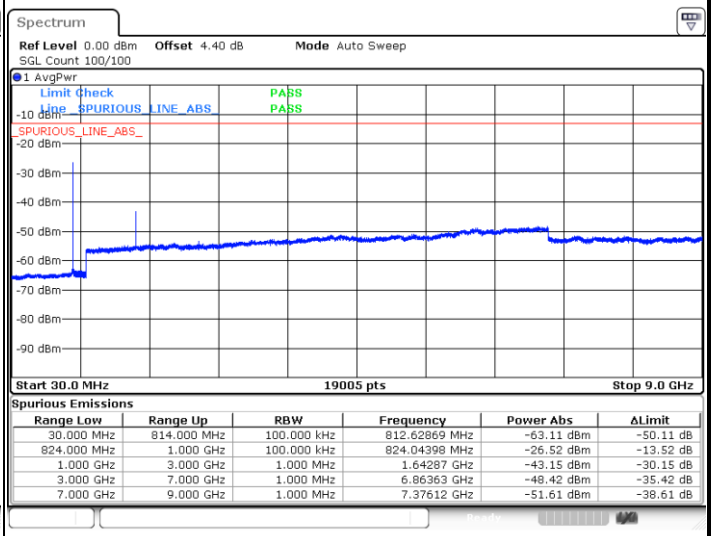


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-62.99 dBm	-49.99 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-25.59 dBm	-12.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64287 GHz	-42.93 dBm	-29.93 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.85643 GHz	-48.39 dBm	-35.39 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.99760 GHz	-51.67 dBm	-38.67 dB

Date: 15.DEC.2020 18:48:23

Highest Channel / 16QAM



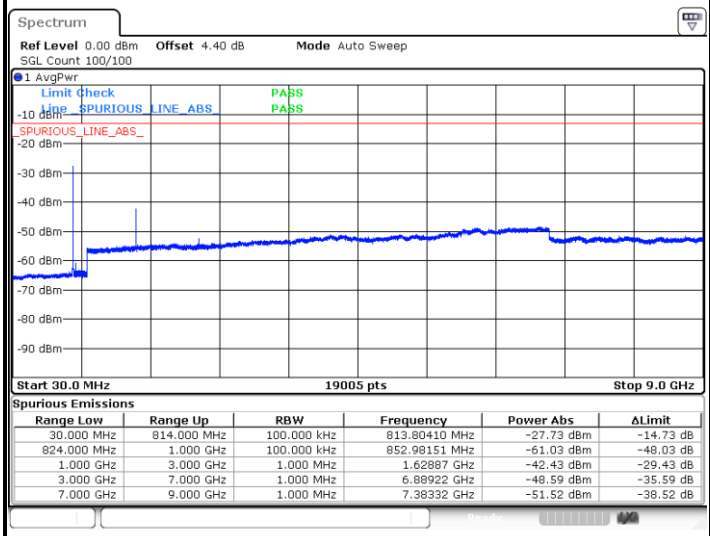
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	812.62869 MHz	-63.11 dBm	-50.11 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-26.52 dBm	-13.52 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64287 GHz	-43.15 dBm	-30.15 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86363 GHz	-48.42 dBm	-35.42 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.37612 GHz	-51.61 dBm	-38.61 dB

Date: 15.DEC.2020 18:48:55

LTE Band 26 / 5MHz

Lowest Channel / QPSK

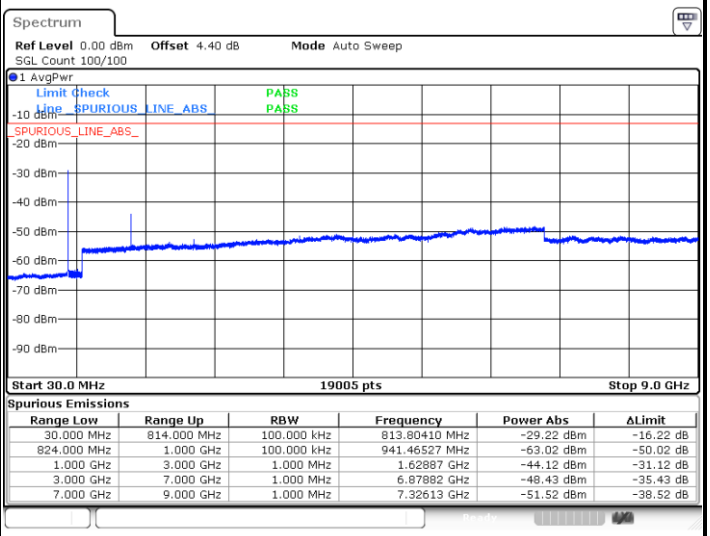


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-27.73 dBm	-14.73 dB
824.000 MHz	1.000 GHz	100.000 kHz	852.98151 MHz	-61.03 dBm	-48.03 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62887 GHz	-42.43 dBm	-29.43 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88922 GHz	-48.59 dBm	-35.59 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38332 GHz	-51.52 dBm	-38.52 dB

Date: 15.DEC.2020 18:51:55

Lowest Channel / 16QAM

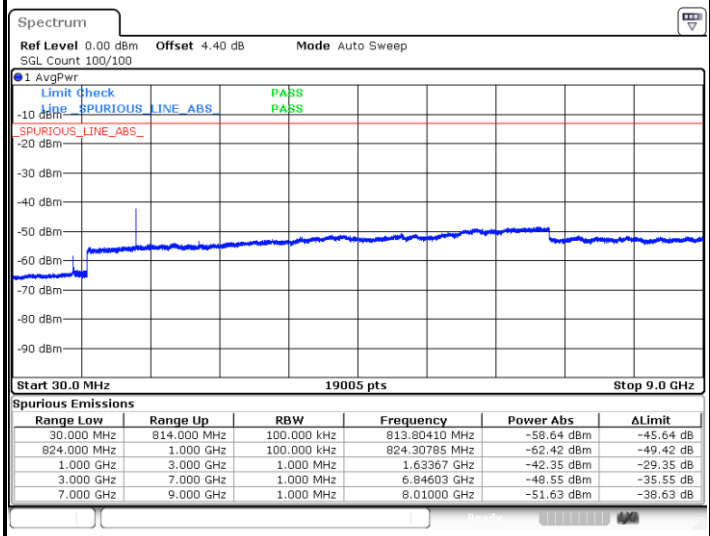


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-29.22 dBm	-16.22 dB
824.000 MHz	1.000 GHz	100.000 kHz	941.46527 MHz	-63.02 dBm	-50.02 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62887 GHz	-44.12 dBm	-31.12 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87882 GHz	-48.43 dBm	-35.43 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.32613 GHz	-51.52 dBm	-38.52 dB

Date: 15.DEC.2020 18:54:09

Middle Channel / QPSK

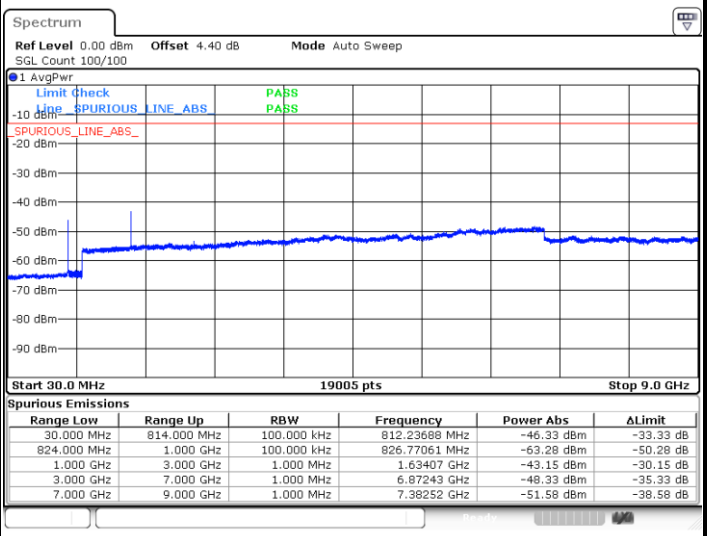


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-58.64 dBm	-45.64 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.30785 MHz	-62.42 dBm	-49.42 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63367 GHz	-42.35 dBm	-29.35 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.84603 GHz	-48.55 dBm	-35.55 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.01000 GHz	-51.63 dBm	-38.63 dB

Date: 15.DEC.2020 18:59:24

Middle Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	812.23688 MHz	-46.33 dBm	-33.33 dB
824.000 MHz	1.000 GHz	100.000 kHz	826.77061 MHz	-63.28 dBm	-50.28 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63407 GHz	-43.15 dBm	-30.15 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87243 GHz	-48.33 dBm	-35.33 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38252 GHz	-51.58 dBm	-38.58 dB

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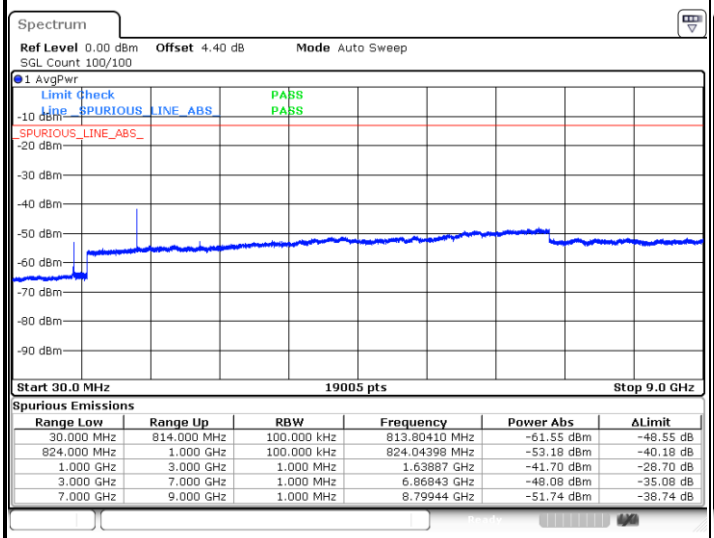
LTE Band 26 / 5MHz

Highest Channel / QPSK

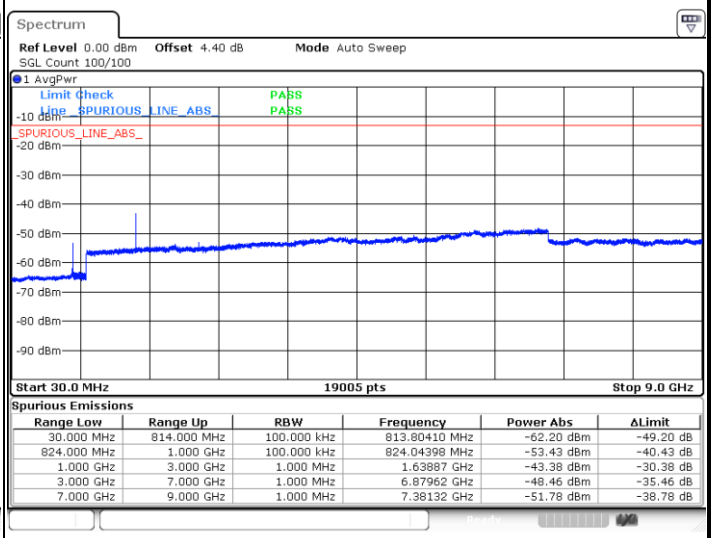


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-61.55 dBm	-48.55 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-53.18 dBm	-40.18 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63887 GHz	-41.70 dBm	-28.70 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86843 GHz	-48.08 dBm	-35.08 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.79944 GHz	-51.74 dBm	-38.74 dB

Date: 15.DEC.2020 19:06:19

Highest Channel / 16QAM



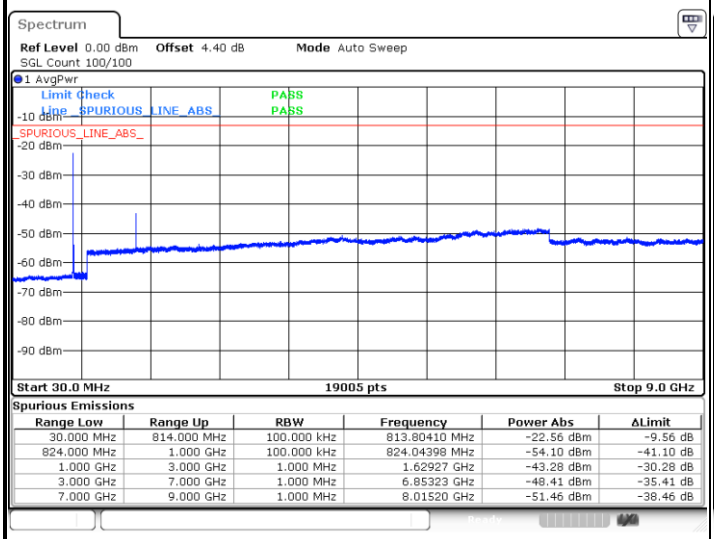
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-62.20 dBm	-49.20 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-53.43 dBm	-40.43 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63887 GHz	-43.38 dBm	-30.38 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87962 GHz	-48.46 dBm	-35.46 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.38132 GHz	-51.78 dBm	-38.78 dB

Date: 15.DEC.2020 19:06:59

LTE Band 26 / 10MHz

Middle Channel / QPSK

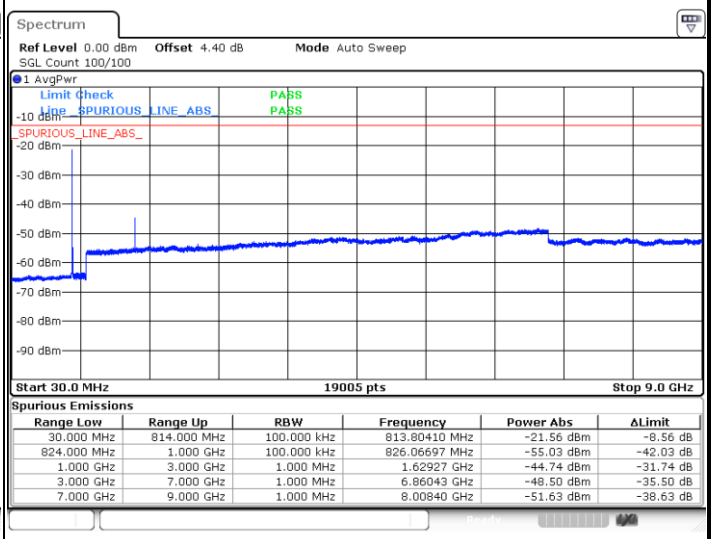


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-22.56 dBm	-9.56 dB
824.000 MHz	1.000 GHz	100.000 kHz	824.04398 MHz	-54.10 dBm	-41.10 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62927 GHz	-43.28 dBm	-30.28 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.85323 GHz	-48.41 dBm	-35.41 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.01520 GHz	-51.46 dBm	-38.46 dB

Date: 15.DEC.2020 19:11:20

Middle Channel / 16QAM



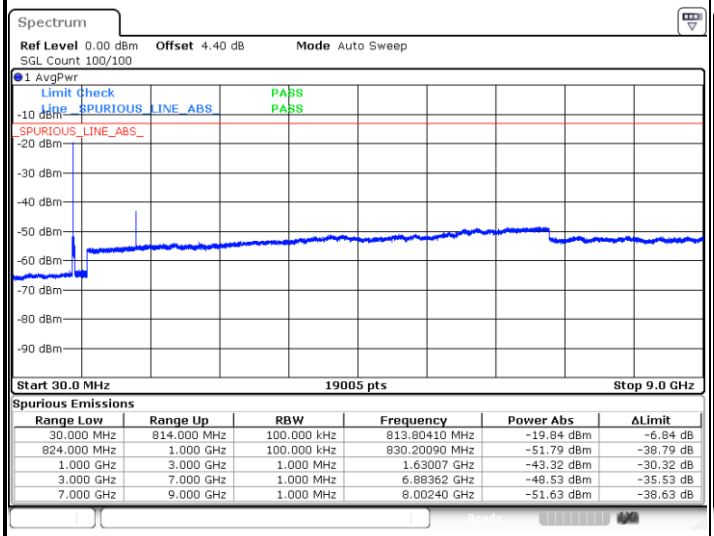
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-21.56 dBm	-8.56 dB
824.000 MHz	1.000 GHz	100.000 kHz	826.06697 MHz	-55.03 dBm	-42.03 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62927 GHz	-44.74 dBm	-31.74 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.86043 GHz	-48.50 dBm	-35.50 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.00840 GHz	-51.63 dBm	-38.63 dB

Date: 15.DEC.2020 19:13:00

LTE Band 26 / 15MHz

Lowest Channel / QPSK

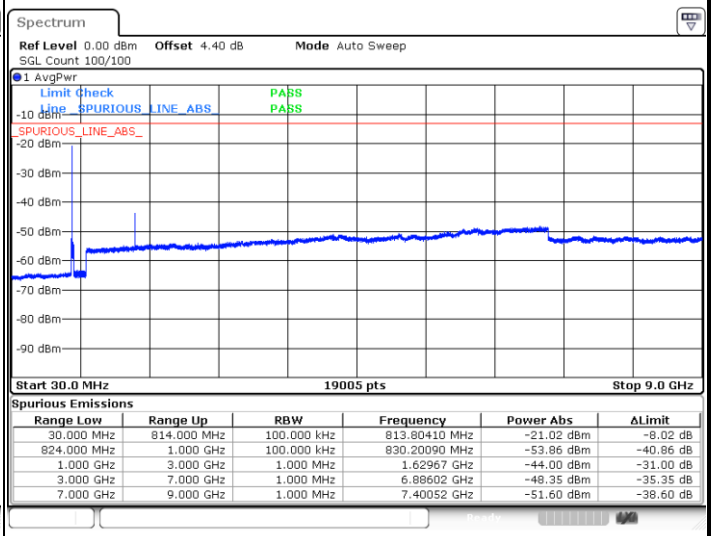


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-19.84 dBm	-6.84 dB
824.000 MHz	1.000 GHz	100.000 kHz	830.20090 MHz	-51.79 dBm	-38.79 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63007 GHz	-43.32 dBm	-30.32 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88362 GHz	-48.53 dBm	-35.53 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.00240 GHz	-51.63 dBm	-38.63 dB

Date: 15.DEC.2020 23:06:34

Lowest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	814.000 MHz	100.000 kHz	813.80410 MHz	-21.02 dBm	-8.02 dB
824.000 MHz	1.000 GHz	100.000 kHz	830.20090 MHz	-53.86 dBm	-40.86 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62967 GHz	-44.00 dBm	-31.00 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88602 GHz	-48.35 dBm	-35.35 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.40052 GHz	-51.60 dBm	-38.60 dB

Date: 15.DEC.2020 23:08:56

Frequency Stability

Test Conditions		LTE Band 26 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0053	PASS
40	Normal Voltage	0.0087	
30	Normal Voltage	0.0065	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0079	
0	Normal Voltage	0.0004	
-10	Normal Voltage	0.0020	
-20	Normal Voltage	0.0087	
-30	Normal Voltage	0.0068	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0001	
20	Battery End Point	0.0072	

Note: Normal Voltage =3.3 V. ; Battery End Point (BEP) =3.135 V. ; Maximum Voltage =4.4 V.

Appendix B. Test Results of Radiated Test

Radiated Spurious Emission

LTE Band 26 / 10MHz / QPSK								
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	1628	-64.69	-13	-51.69	-71.66	1.58	10.70	H
	2444	-60.71	-13	-47.71	-68.96	2.102	12.50	H
	3258	-58.51	-13	-45.51	-67.40	2.856	13.90	H
	4074	-57.07	-13	-44.07	-65.53	2.689	13.30	H
	1628	-64.71	-13	-51.71	-71.68	1.58	10.70	V
	2444	-59.49	-13	-46.49	-67.74	2.10	12.50	V
	3258	-58.39	-13	-45.39	-67.28	2.86	13.90	V
	4074	-56.83	-13	-43.83	-65.29	2.69	13.30	V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.