FCC RF Test Report

APPLICANT	:	**Motorola Mobility LLC**
EQUIPMENT	:	**Mobile Cellular Phone**
BRAND NAME	:	**Motorola**
MODEL NAME	:	**XT1955-5, XT1955DL, XT1955-6**
FCC ID	:	**IHDT56XQ1**
STANDARD	:	**FCC 47 CFR Part 2, 90(R)**
CLASSIFICATION	:	**PCS Licensed Transmitter Held to Ear (PCE)**

The product was received on Sep. 28, 2018 and completely tested on Nov. 01, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated 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.

James Huang

NVLAP®
TESTING
NVLAP LAB CODE 600155-0

Approved by: James Huang / Manager

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone,
Jiangsu Province 215335, China

TABLE OF CONTENTS

REVISION HISTORY **3**

SUMMARY OF TEST RESULT **4**

1 GENERAL DESCRIPTION **5**

1.1 Applicant 5
1.2 Manufacturer 5
1.3 Feature of Equipment Under Test 5
1.4 Maximum ERP Power, Frequency Tolerance, and Emission Designator 6
1.5 Specification of Accessory 6
1.6 Testing Site 7
1.7 Applied Standards 7

2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST **8**

2.1 Test Mode 8
2.2 Connection Diagram of Test System 9
2.3 Support Unit used in test configuration and system 9
2.4 Measurement Results Explanation Example 10

3 CONDUCTED TEST ITEMS **11**

3.1 Measuring Instruments 11
3.2 Test Setup 11
3.3 Test Result of Conducted Test 11
3.4 Conducted Output Power and ERP 12
3.5 Occupied Bandwidth 13
3.6 Conducted Band Edge Measurement 14
3.7 Emission Mask 15
3.8 Conducted Spurious Emission Measurement 16
3.9 Frequency Stability Measurement 17

4 RADIATED TEST ITEMS **18**

4.1 Measuring Instruments 18
4.2 Test Setup 18
4.3 Test Result of Radiated Test 18
4.4 Radiated Spurious Emission Measurement 19

5 LIST OF MEASURING EQUIPMENT **20**

6 UNCERTAINTY OF EVALUATION **21**

APPENDIX A. TEST RESULTS OF CONDUCTED TEST

APPENDIX B. TEST RESULTS OF RADIATED TEST

APPENDIX C. TEST SETUP PHOTOGRAPHS

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG892801D	Rev. 01	Initial issue of report	Dec. 26, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting only	PASS	-
	§90.542 (a)(7)	Effective Radiated Power	ERP < 3Watt	PASS	-
3.5	§2.1049	Occupied Bandwidth	Reporting only	PASS	-
3.6	§2.1053 §90.543 (e)(2)(3)	Conducted Band Edge Measurement	Refer standard	PASS	-
3.7	§2.1051 §90.210(n)	Emission Mask	Mask B	PASS	-
3.8	§2.1053 §90.543 (e)(3)	Conducted Spurious Emission	< $43+10\log_{10}$(P[Watts])	PASS	-
3.9	§2.1055 §90.539 (e)	Frequency Stability Temperature & Voltage	< ±1.25 ppm	PASS	-
4.4	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 27.77 dB at 1578.000 MHz

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 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1955-5, XT1955DL, XT1955-6
FCC ID	IHDT56XQ1
Tx Frequency	LTE Band 14: 790.5 MHz ~ 795.5 MHz
Rx Frequency	LTE Band 14: 760.5 MHz ~ 765.5 MHz
Bandwidth	5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 14: 22.94 dBm
Type of Modulation	QPSK / 16QAM / 64QAM
IMEI Code	Conducted: 359525090014179 Radiation: 359525090014666
HW Version	DVT2
SW Version	PPO29.60
EUT Stage	Identical Prototype

Remark:

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The different model names are for different market purpose.

1.4 Maximum ERP Power, Frequency Tolerance, and Emission Designator

LTE Band 14		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	**790.5~795.5**	4M52G7D	-	0.0551	4M50W7D	-	0.0470
10	**793**	8M94G7D	0.0049	0.0561	8M94W7D	-	0.0461

LTE Band 14		64QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	**790.5~795.5**	4M53W7D	-	0.0356
10	**793**	8M94W7D	-	0.0357

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1	**Brand Name**	Motorola (Salom)	**Model Name**	SC-51
	Power Rating	I/P: 100-240 Vac, 600mA O/P: 5Vdc,3000mA; 9Vdc,2000mA; 12Vdc,1500mA		
AC Adapter 2	**Brand Name**	Motorola (Chenyang)	**Model Name**	SC-51
	Power Rating	I/P: 100-240 Vac, 600mA O/P: 5Vdc,3000mA; 9Vdc,2000mA; 12Vdc,1500mA		
Battery	**Brand Name**	Motorola (ATL)	**Model Name**	JK50
	Power Rating	3.8Vdc,5000mAh	**Type**	Li-ion, Polymer
USB Cable	**Brand Name**	Motorola (Saibao)	**Model Name**	711310002491
	Signal Line Type	1.0 meter, shielded cable, without ferrite core		

1.6 Testing Site

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0).

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC designation No.**	**FCC Test Firm Registration No.**
	TH01-KS 03CH06-KS	CN5013	630927

1.7 Applied Standards

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

- 47 CFR Part 2, Part 90(R)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

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

2 Test Configuration of Equipment Under Test

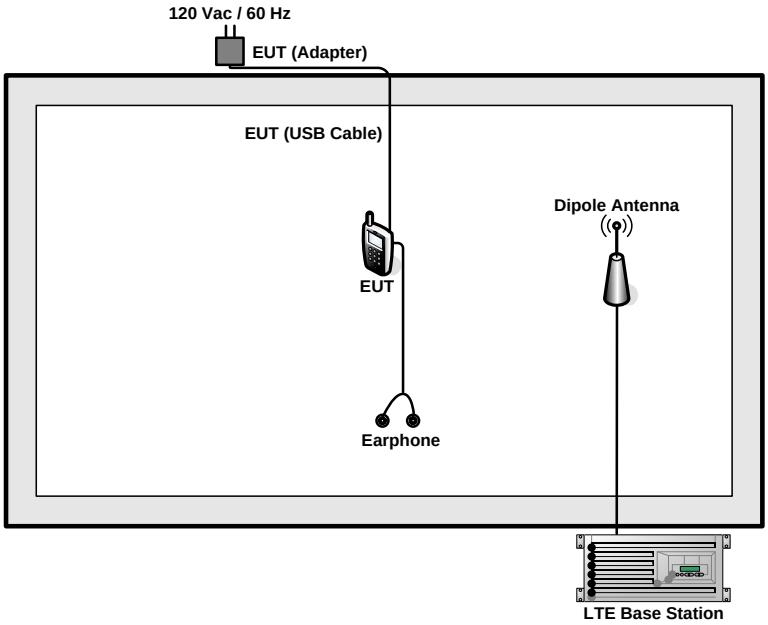
2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed with maximum output power.

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

Conducted Test Cases	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	14	-	-	V	-	-	-	V	V	V	V	V	V	V	V	V
	14	-	-		V	-	-	V	V	V	V	V	V		V	
26dB and 99% Bandwidth	14	-	-	V		-	-	V	V	V			V	V	V	V
	14	-	-		V	-	-	V	V	V			V		V	
Conducted Band Edge	14	-	-	V		-	-	V	V	V	V		V	V		V
	14	-	-		V	-	-	V	V	V	V		V		V	
Emission Mask	14	-	-	V		-	-	V	V	V	V		V	V	V	V
	14	-	-		V	-	-	V	V	V	V		V		V	
Conducted Spurious Emission	14	-	-	V		-	-	V	V	V	V			V	V	V
	14	-	-		V	-	-	V	V	V	V				V	
Frequency Stability	14	-	-		V	-	-	V					V		V	
E.R.P	14	-	-	V		-	-	V	V	V	V			V	V	V
	14	-	-		V	-	-	V	V	V	V				V	
Radiated Spurious Emission	14	Worst Case													V	
Note	1. The mark "v " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Earphone	Lenovo	SH100	N/A	Unshielded,1.2m	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 EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 4.3 dB.

Example :

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

= 4.3 (dB)

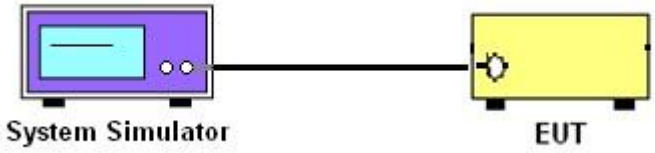
3 Conducted Test Items

3.1 Measuring Instruments

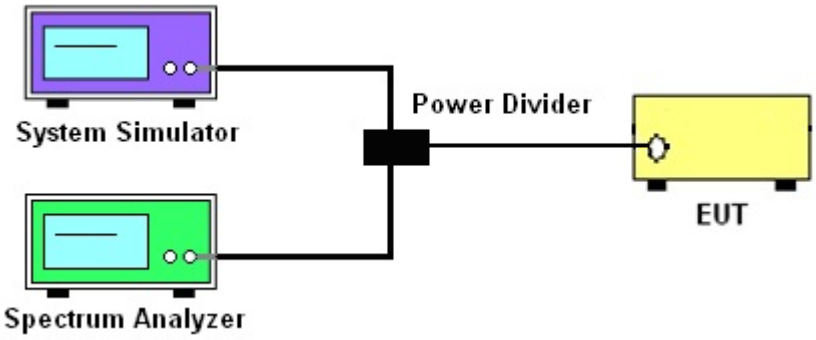
See list of measuring instruments of this test report.

3.2 Test Setup

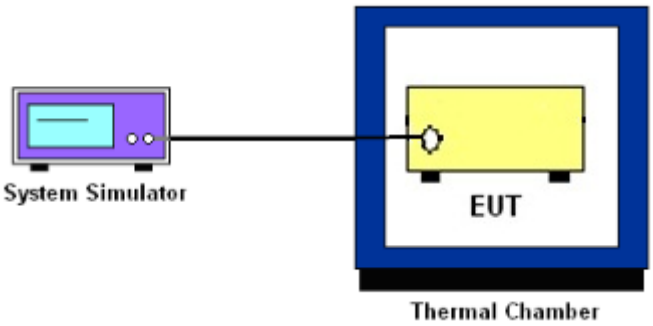
3.2.1 Conducted Output Power



3.2.2 Occupied / 26dB Bandwidth ,Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP

3.4.1 Description of the Conducted Output Power Measurement and ERP Measurement

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

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 14.

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 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.

3.5 Occupied Bandwidth

3.5.1 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.

3.5.2 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.

3.6 Conducted Band Edge Measurement

3.6.1 Description of Conducted Band Edge Measurement

For operations in the 758-768 MHz and the 788-798 MHz bands

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

3.6.2 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. Set spectrum analyzer with RMS detector.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
4. 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)

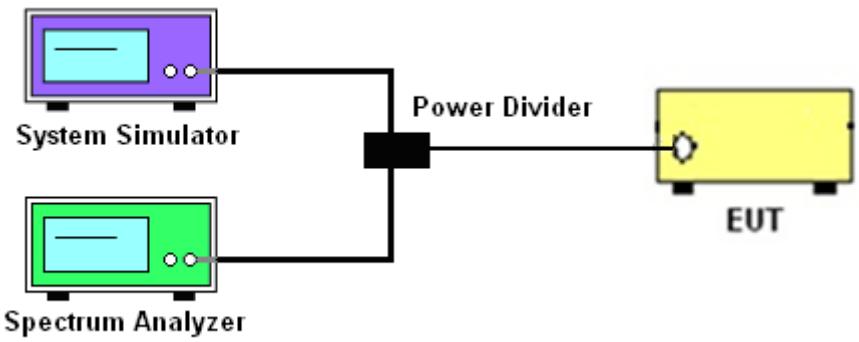
   = -13dBm.

3.7 Emission Mask

3.7.1 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The power of the modulated signal was measured on a spectrum analyzer using an RMS and 10 second sweep time in order to maximize the level.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.2 Test Setup



3.8 Conducted Spurious Emission Measurement

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 30MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via 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, for under 1GHz RBW = 100kHz, VBW = 300kHz and for above 1GHz RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
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. 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 Measurement

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±1.25 ppm of the center frequency.

3.9.2 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 before testing. 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.

3.9.3 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

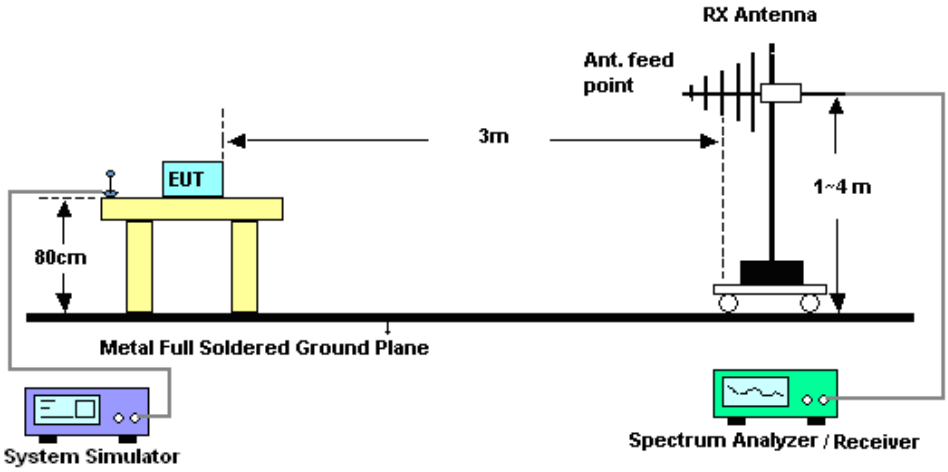
4 Radiated Test Items

4.1 Measuring Instruments

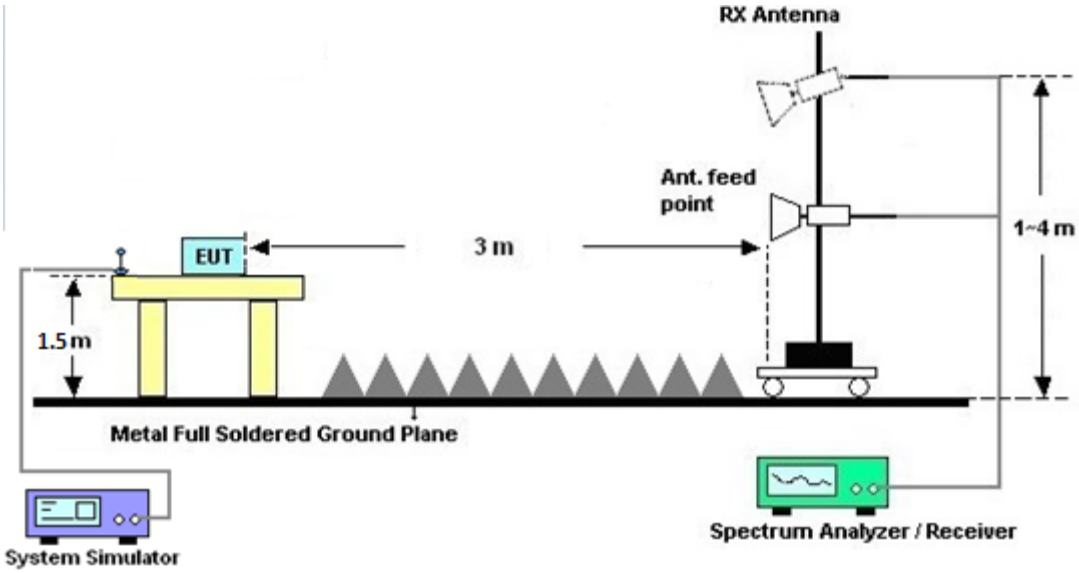
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Radiated Spurious Emission Measurement

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.

For operations in the 758-775 MHz and 788-805 MHz bands, all emissions including harmonics in the band 1559–1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5.3 Measurement of spurious emissions using substitution method.
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, which was 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 one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. 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.
12. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
    ERP (dBm) = EIRP – 2.15

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 07, 2018	Oct. 22, 2018~ Oct. 23, 2018	Aug. 06, 2019	Conducted (TH01-KS)
Thermal Chamber	Hongzhan	LP-150U	H2014011440	-40~+150°C 20%~95%RH	Jun. 27, 2018	Oct. 22, 2018~ Oct. 23, 2018	Jun. 26, 2019	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010B	MY57471084	10Hz-44GHz	Jun. 25, 2018	Nov. 01, 2018	Jun. 24, 2019	Radiation (03CH06-KS)
Bilog Antenna	TeseQ	CBL6111D	44483	30MHz-1GHz	Jan. 29, 2018	Nov. 01, 2018	Jan. 28, 2019	Radiation (03CH06-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Oct. 20, 2018	Nov. 01, 2018	Oct. 19, 2019	Radiation (03CH06-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Nov. 01, 2018	Feb. 06, 2019	Radiation (03CH06-KS)
Amplifier	SONOMA	310N	187289	9KHz ~1GHZ	Aug. 06, 2018	Nov. 01, 2018	Aug. 05, 2019	Radiation (03CH06-KS)
Amplifier	MITEQ	TTA1840-35 -HG	2014749	18~40GHz	Feb. 08, 2018	Nov. 01, 2018	Feb. 07, 2019	Radiation (03CH06-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P	2025788	1Ghz-18Ghz	Apr. 17, 2018	Nov. 01, 2018	Apr. 16, 2019	Radiation (03CH06-KS)
Amplifier	Keysight	83017A	MY53270203	500MHz~26.5GHz	Dec. 16, 2017	Nov. 01, 2018	Dec. 15, 2018	Radiation (03CH06-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Nov. 01, 2018	NCR	Radiation (03CH06-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Nov. 01, 2018	NCR	Radiation (03CH06-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Nov. 01, 2018	NCR	Radiation (03CH06-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

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

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.0 dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.0 dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 14 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.82	22.86	22.80
5	1	12		22.78	22.73	22.77
5	1	24		22.75	22.76	22.73
5	12	0		21.81	21.76	21.77
5	12	7		21.81	21.77	21.63
5	12	13		21.75	21.72	21.70
5	25	0		21.85	21.76	21.80
5	1	0	16-QAM	22.10	22.17	22.04
5	1	12		21.98	21.93	21.98
5	1	24		22.06	22.09	22.04
5	12	0		20.83	20.76	20.80
5	12	7		20.89	20.77	20.71
5	12	13		20.85	20.79	20.79
5	25	0		20.76	20.74	20.71
5	1	0	64QAM	20.90	20.97	20.90
5	1	12		20.83	20.77	20.76
5	1	24		20.89	20.93	20.95
5	12	0		19.75	19.69	19.79
5	12	7		19.82	19.74	19.73
5	12	13		19.78	19.73	19.82
5	25	0		19.81	19.74	19.79

LTE Band 14 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		22.94	
10	1	25			22.50	
10	1	49			22.66	
10	25	0			21.75	
10	25	12			21.70	
10	25	25			21.73	
10	50	0			21.67	
10	1	0	16-QAM		22.09	
10	1	25			21.83	
10	1	49			21.99	
10	25	0			20.76	
10	25	12			20.68	
10	25	25			20.63	
10	50	0			20.73	
10	1	0	64QAM		20.98	
10	1	25			20.81	
10	1	49			20.93	
10	25	0			19.76	
10	25	12			19.67	
10	25	25			19.71	
10	50	0			19.68	

ERP

LTE Band 14 (G_T - L_C = -3.30 dBi) QPSK						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency (MHz)	790.5	793	795.5		793	
Conducted Power (dBm)	22.82	22.86	22.80		22.94	
Conducted Power (Watts)	0.1914	0.1932	0.1905		0.1968	
ERP(dBm)	17.37	17.41	17.35		17.49	
ERP(Watts)	0.0546	0.0551	0.0543		0.0561	

LTE Band 14 (G_T - L_C = -3.30 dBi) 16QAM						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency (MHz)	790.5	793	795.5		793	
Conducted Power (dBm)	22.10	22.17	22.04		22.09	
Conducted Power (Watts)	0.1622	0.1648	0.1600		0.1618	
ERP(dBm)	16.65	16.72	16.59		16.64	
ERP(Watts)	0.0462	0.0470	0.0456		0.0461	

LTE Band 14 (G_T - L_C = -3.30 dBi) 64QAM						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency (MHz)	790.5	793	795.5		793	
Conducted Power (dBm)	20.90	20.97	20.90		20.98	
Conducted Power (Watts)	0.1230	0.1250	0.1230		0.1253	
ERP(dBm)	15.45	15.52	15.45		15.53	
ERP(Watts)	0.0351	0.0356	0.0351		0.0357	

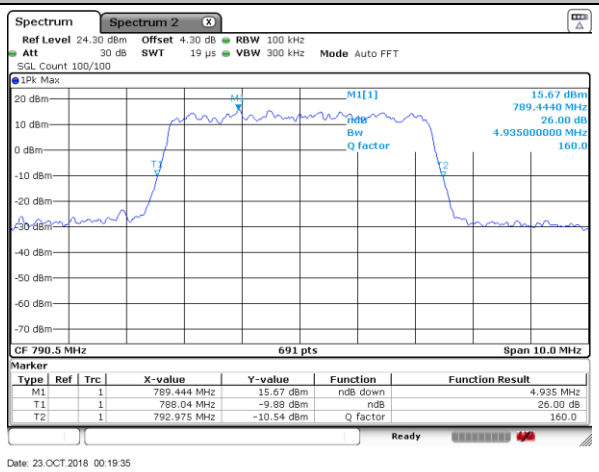
26dB Bandwidth

Mode	LTE Band 14 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.935	4.935	-	-	-	-	-	-
Middle CH	-	-	-	-	4.935	4.935	9.465	9.638	-	-	-	-
Highest CH	-	-	-	-	4.92	4.863	-	-	-	-	-	-

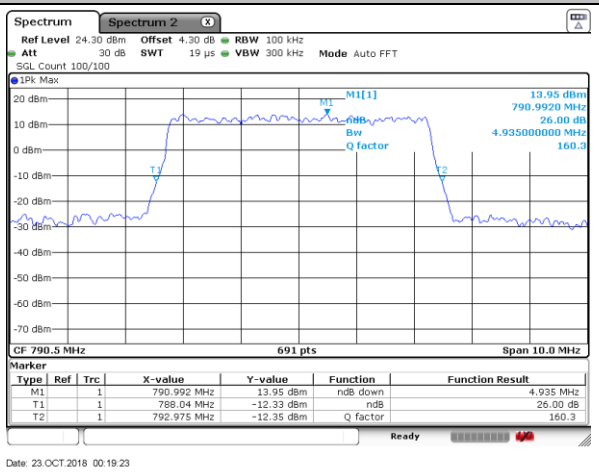
BW	5MHz	10MHz
Mod.	64QAM	64QAM
Lowest CH	4.877	-
Middle CH	4.964	9.580
Highest CH	4.891	-

LTE Band 14

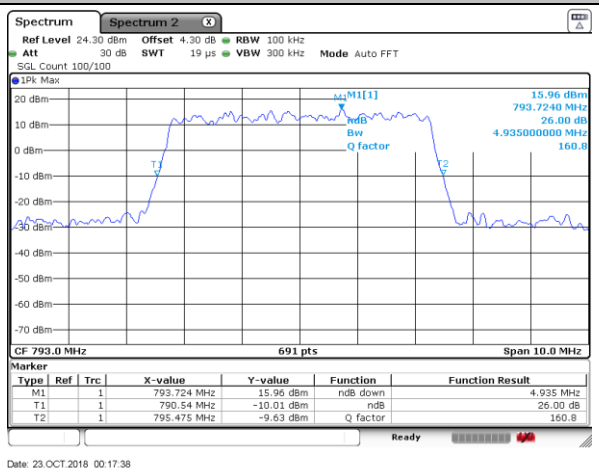
Lowest Channel / 5MHz / QPSK



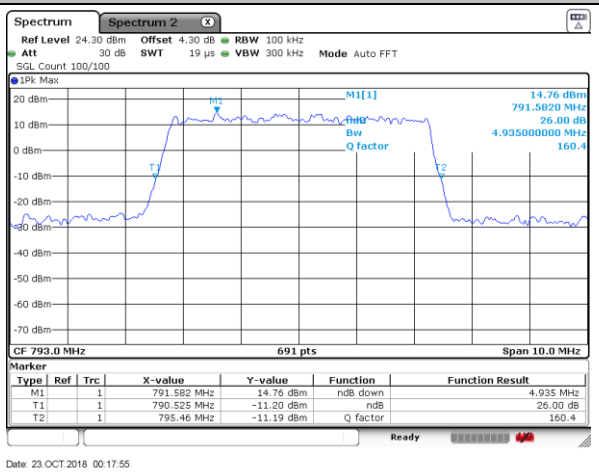
Lowest Channel / 5MHz / 16QAM



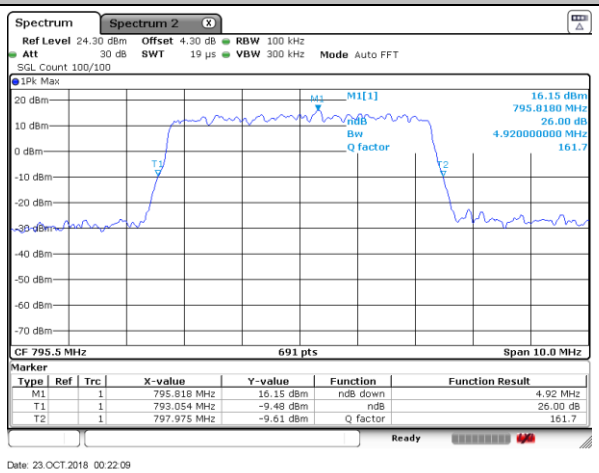
Middle Channel / 5MHz / QPSK



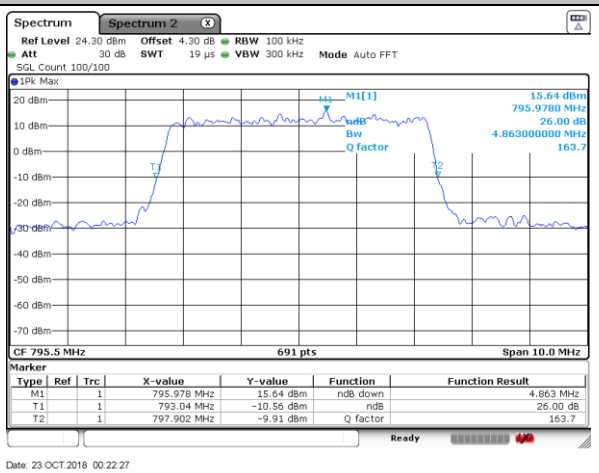
Middle Channel / 5MHz / 16QAM

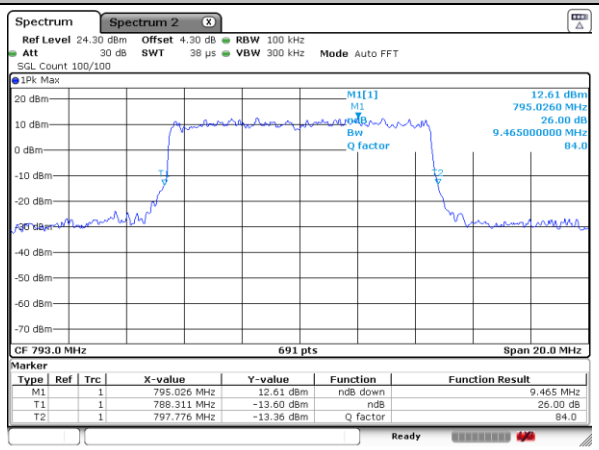
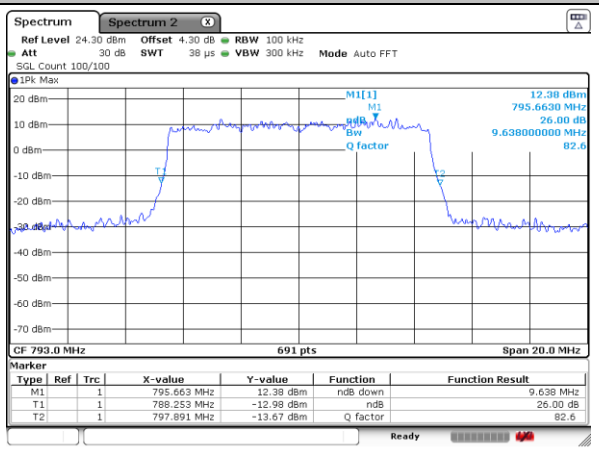


Highest Channel / 5MHz / QPSK



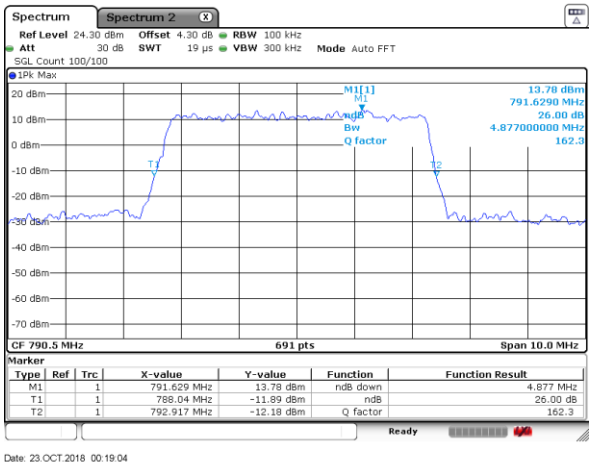
Highest Channel / 5MHz / 16QAM



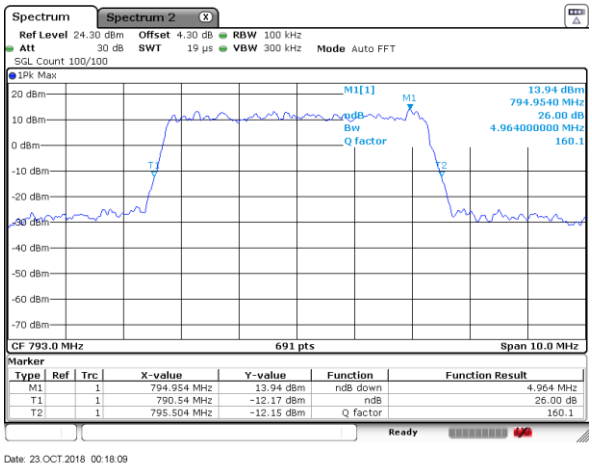
LTE Band 14	
Middle Channel / 10MHz / QPSK	**Middle Channel / 10MHz / 16QAM**
	

LTE Band 14

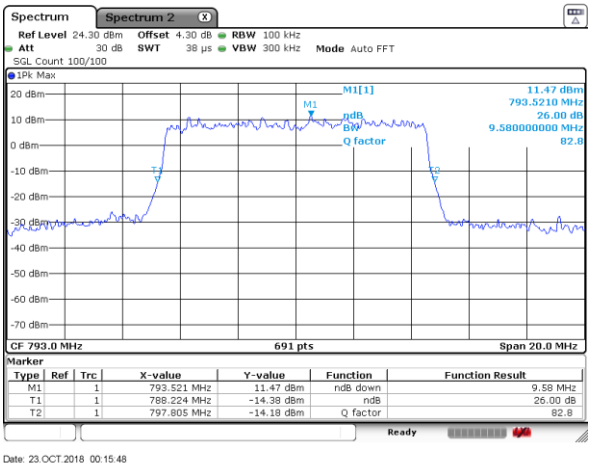
Lowest Channel / 5MHz / 64QAM



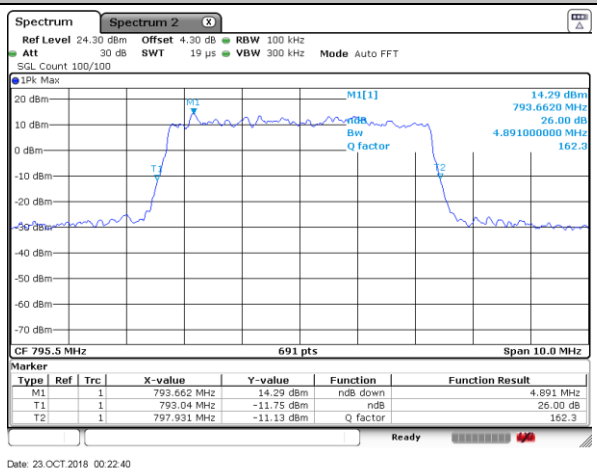
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM



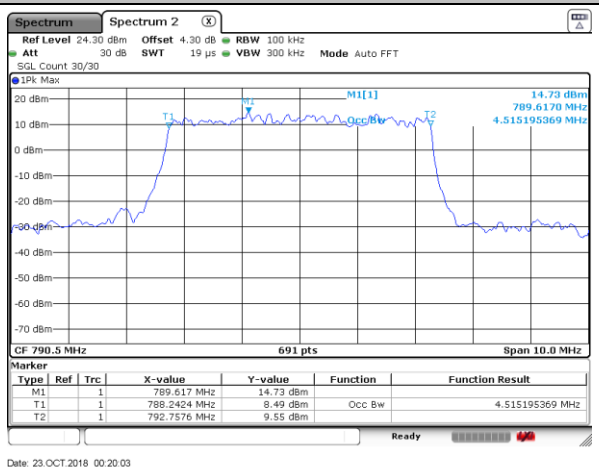
Occupied Bandwidth

Mode	LTE Band 14 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	-	-	-	-	4.52	4.47	-	-	-	-	-	-
Middle CH	-	-	-	-	4.49	4.49	8.94	8.94	-	-	-	-
Highest CH	-	-	-	-	4.49	4.50	-	-	-	-	-	-

BW	5MHz	10MHz
Mod.	64QAM	64QAM
Lowest CH	4.50	-
Middle CH	4.53	8.94
Highest CH	4.50	-

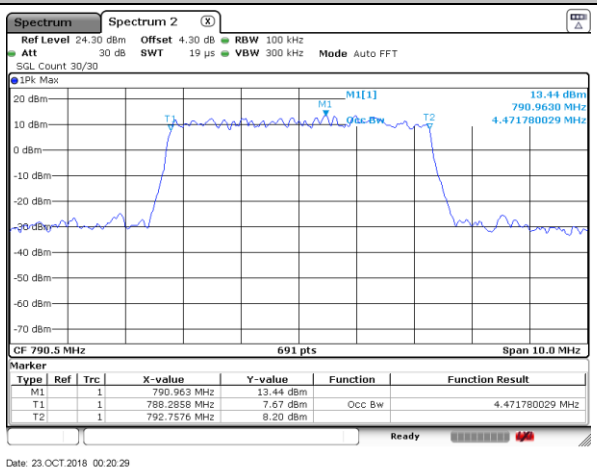
LTE Band 14

Lowest Channel / 5MHz / QPSK



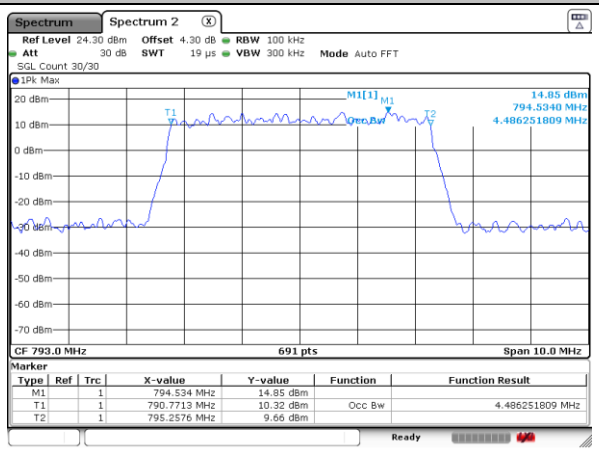
Date: 23.OCT.2018 00:20:03

Lowest Channel / 5MHz / 16QAM



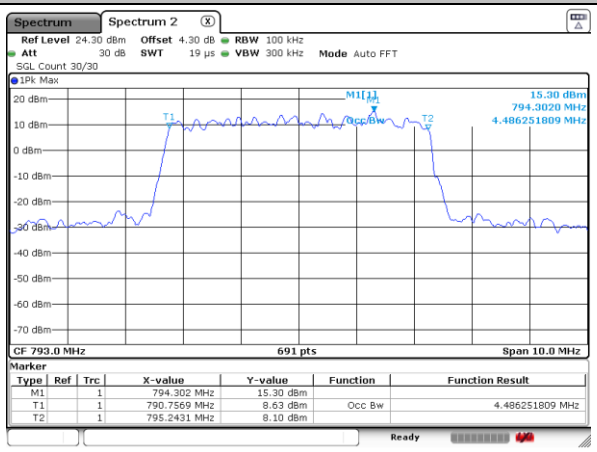
Date: 23.OCT.2018 00:20:29

Middle Channel / 5MHz / QPSK



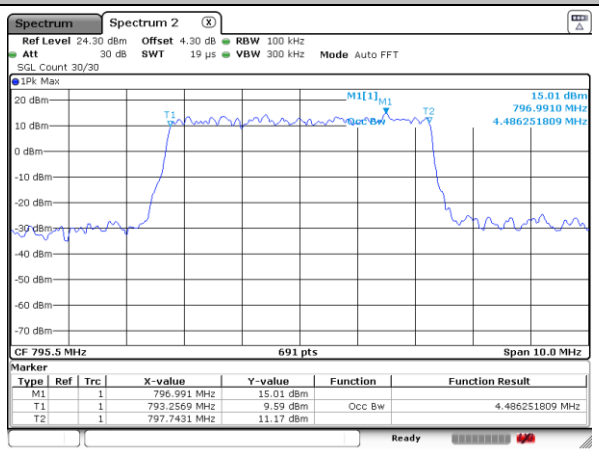
Date: 23.OCT.2018 00:17:18

Middle Channel / 5MHz / 16QAM



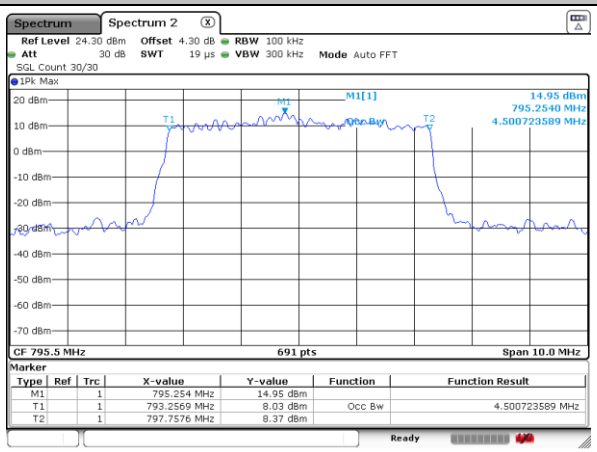
Date: 23.OCT.2018 00:17:06

Highest Channel / 5MHz / QPSK



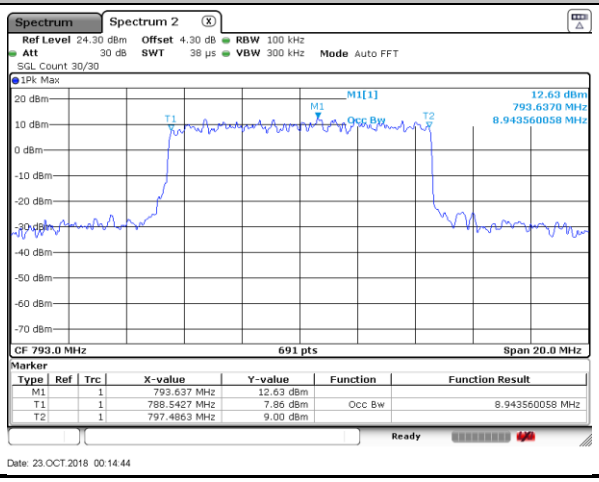
Date: 23.OCT.2018 00:21:50

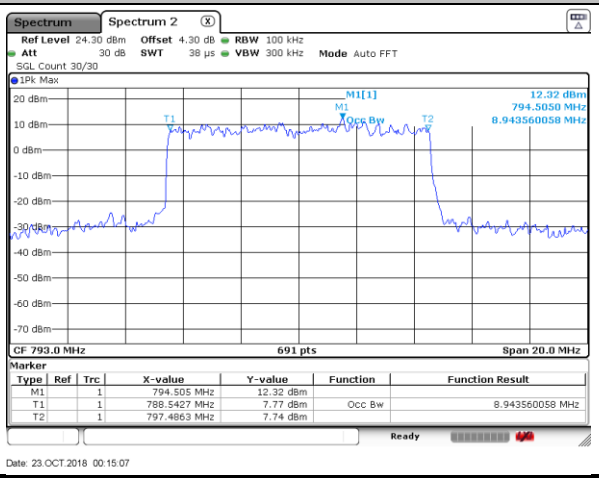
Highest Channel / 5MHz / 16QAM



Date: 23.OCT.2018 00:21:37

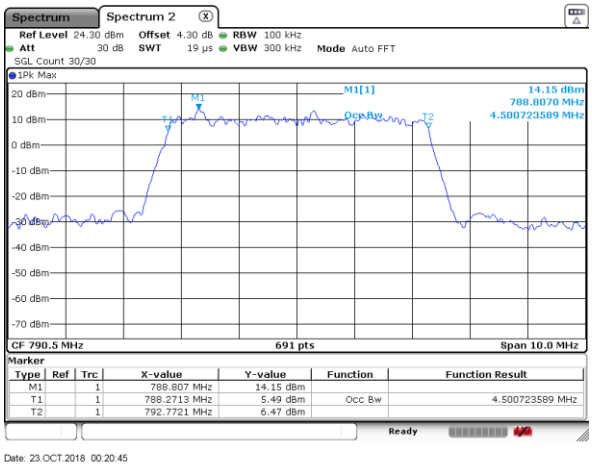
LTE Band 14	
Middle Channel / 10MHz / QPSK	Middle Channel / 10MHz / 16QAM



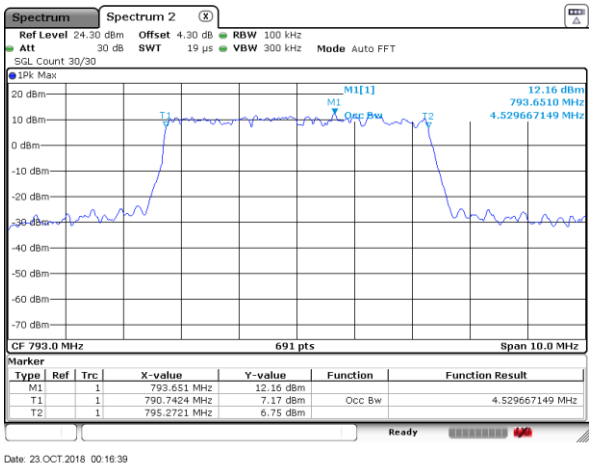


LTE Band 14

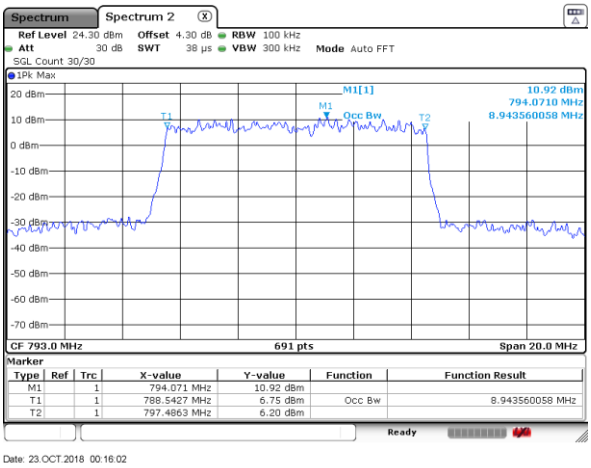
Lowest Channel / 5MHz / 64QAM



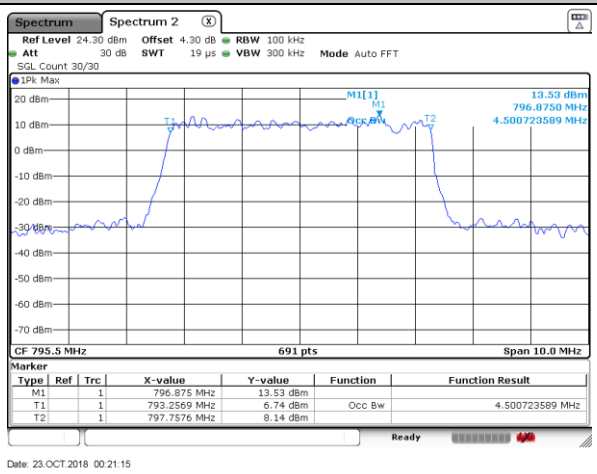
Middle Channel / 5MHz / 64QAM



Middle Channel / 10MHz / 64QAM



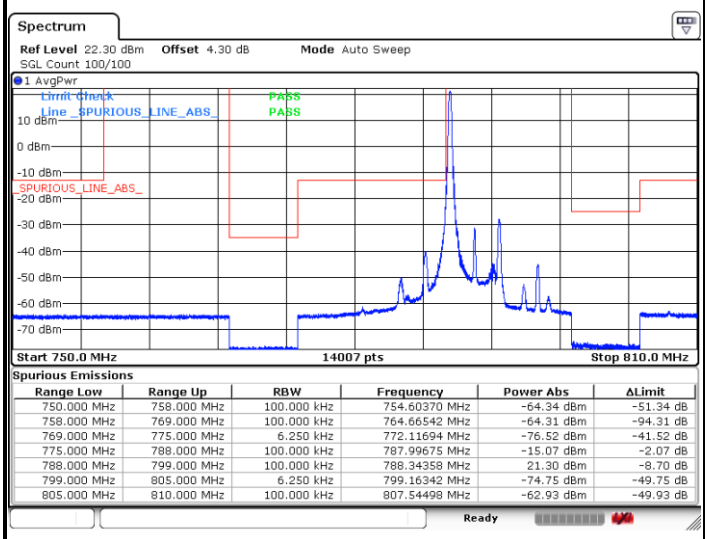
Highest Channel / 5MHz / 64QAM



Conducted Band Edge

LTE Band 14 / 5MHz / QPSK

Lowest Band Edge / 1 RB

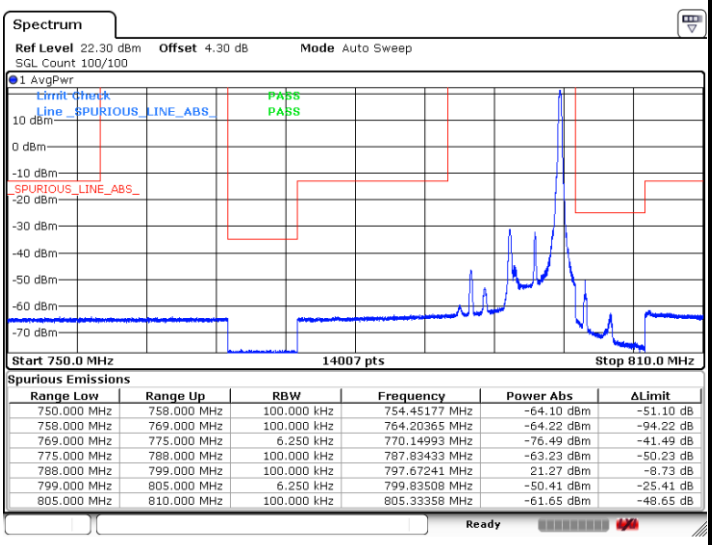


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	754.60370 MHz	-64.34 dBm	-51.34 dB
758.000 MHz	769.000 MHz	100.000 kHz	764.66542 MHz	-64.31 dBm	-94.31 dB
769.000 MHz	775.000 MHz	6.250 kHz	772.11694 MHz	-76.52 dBm	-41.52 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-15.07 dBm	-2.07 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.34358 MHz	21.30 dBm	-8.70 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.16342 MHz	-74.75 dBm	-49.75 dB
805.000 MHz	810.000 MHz	100.000 kHz	807.54498 MHz	-62.93 dBm	-49.93 dB

Date: 23.OCT.2018 04:34:05

Highest Band Edge / 1 RB

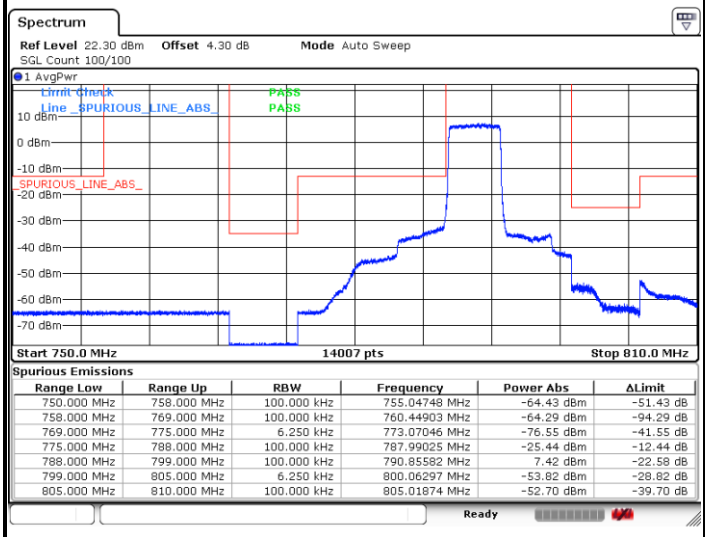


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	754.45177 MHz	-64.10 dBm	-51.10 dB
758.000 MHz	769.000 MHz	100.000 kHz	764.20365 MHz	-64.22 dBm	-94.22 dB
769.000 MHz	775.000 MHz	6.250 kHz	770.14993 MHz	-76.49 dBm	-41.49 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.83433 MHz	-63.23 dBm	-50.23 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.67241 MHz	21.27 dBm	-8.73 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.83508 MHz	-50.41 dBm	-25.41 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.33358 MHz	-61.65 dBm	-48.65 dB

Date: 23.OCT.2018 04:34:58

Lowest Band Edge / Full RB

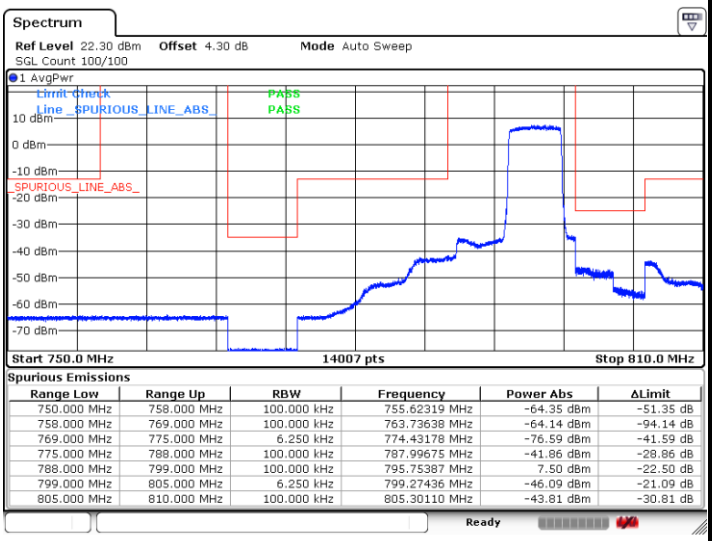


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	755.04748 MHz	-64.43 dBm	-51.43 dB
758.000 MHz	769.000 MHz	100.000 kHz	760.44903 MHz	-64.29 dBm	-94.29 dB
769.000 MHz	775.000 MHz	6.250 kHz	773.07046 MHz	-76.55 dBm	-41.55 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99025 MHz	-25.44 dBm	-12.44 dB
788.000 MHz	799.000 MHz	100.000 kHz	790.85582 MHz	7.42 dBm	-22.58 dB
799.000 MHz	805.000 MHz	6.250 kHz	800.06297 MHz	-53.82 dBm	-28.82 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.01874 MHz	-52.70 dBm	-39.70 dB

Date: 23.OCT.2018 04:30:58

Highest Band Edge / Full RB



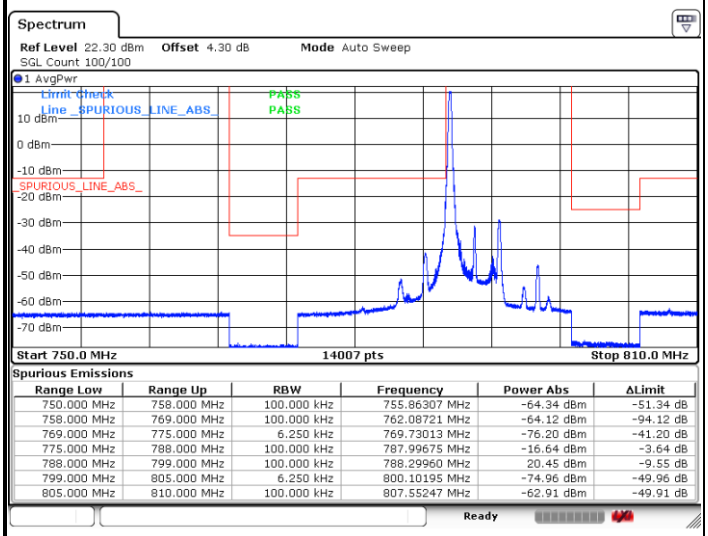
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	755.62319 MHz	-64.35 dBm	-51.35 dB
758.000 MHz	769.000 MHz	100.000 kHz	763.73638 MHz	-64.14 dBm	-94.14 dB
769.000 MHz	775.000 MHz	6.250 kHz	774.43178 MHz	-76.59 dBm	-41.59 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-41.86 dBm	-28.86 dB
788.000 MHz	799.000 MHz	100.000 kHz	795.75387 MHz	7.50 dBm	-22.50 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.27436 MHz	-46.09 dBm	-21.09 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.30110 MHz	-43.81 dBm	-30.81 dB

Date: 23.OCT.2018 04:38:43

LTE Band 14 / 5MHz / 16QAM

Lowest Band Edge /1 RB

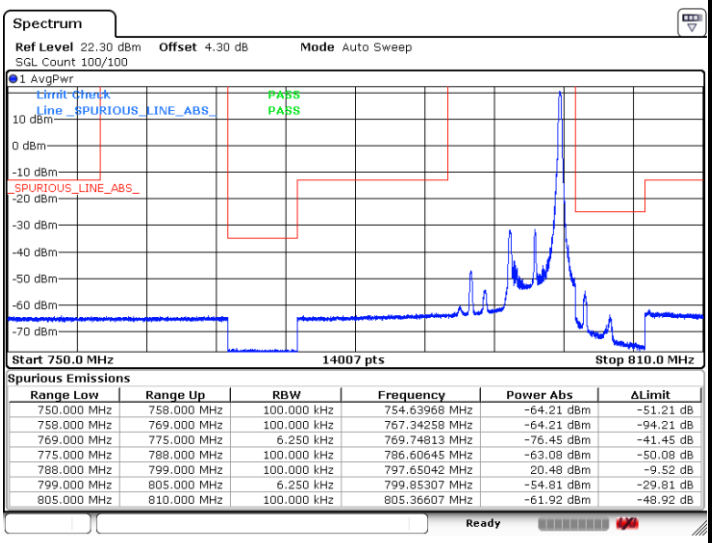


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	755.86307 MHz	-64.34 dBm	-51.34 dB
758.000 MHz	769.000 MHz	100.000 kHz	762.08721 MHz	-64.12 dBm	-94.12 dB
769.000 MHz	775.000 MHz	6.250 kHz	769.73013 MHz	-76.20 dBm	-41.20 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-16.64 dBm	-3.64 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.29960 MHz	20.45 dBm	-9.55 dB
799.000 MHz	805.000 MHz	6.250 kHz	800.10195 MHz	-74.96 dBm	-49.96 dB
805.000 MHz	810.000 MHz	100.000 kHz	807.55247 MHz	-62.91 dBm	-49.91 dB

Date: 23.OCT.2018 04:33:30

Highest Band Edge / 1 RB

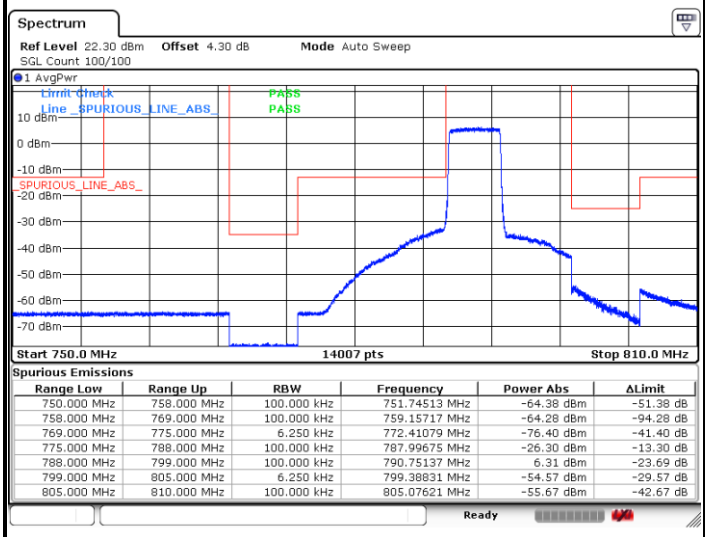


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	754.63968 MHz	-64.21 dBm	-51.21 dB
758.000 MHz	769.000 MHz	100.000 kHz	767.34258 MHz	-64.21 dBm	-94.21 dB
769.000 MHz	775.000 MHz	6.250 kHz	769.74813 MHz	-76.45 dBm	-41.45 dB
775.000 MHz	788.000 MHz	100.000 kHz	786.60645 MHz	-63.08 dBm	-50.08 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.65042 MHz	20.48 dBm	-9.52 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.85307 MHz	-54.81 dBm	-29.81 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.36607 MHz	-61.92 dBm	-48.92 dB

Date: 23.OCT.2018 04:36:24

Lowest Band Edge / Full RB

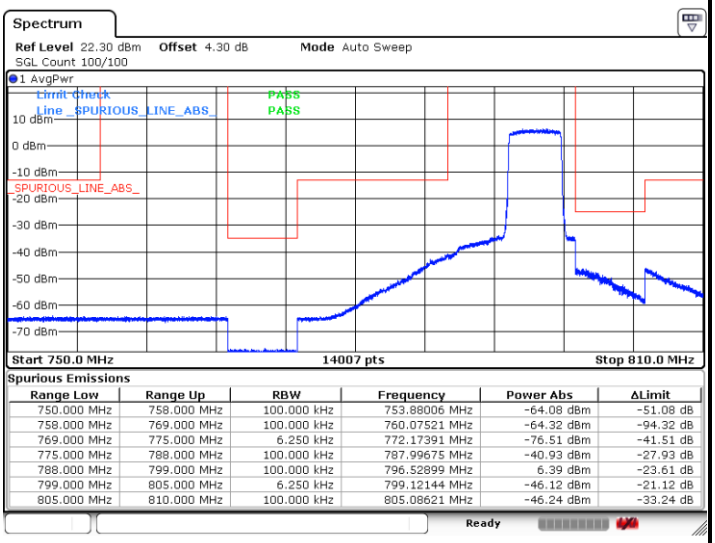


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	751.74513 MHz	-64.38 dBm	-51.38 dB
758.000 MHz	769.000 MHz	100.000 kHz	759.15717 MHz	-64.28 dBm	-94.28 dB
769.000 MHz	775.000 MHz	6.250 kHz	772.41079 MHz	-76.40 dBm	-41.40 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-26.30 dBm	-13.30 dB
788.000 MHz	799.000 MHz	100.000 kHz	790.75137 MHz	6.31 dBm	-23.69 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.38831 MHz	-54.57 dBm	-29.57 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.07621 MHz	-55.67 dBm	-42.67 dB

Date: 23.OCT.2018 04:31:47

Highest Band Edge / Full RB



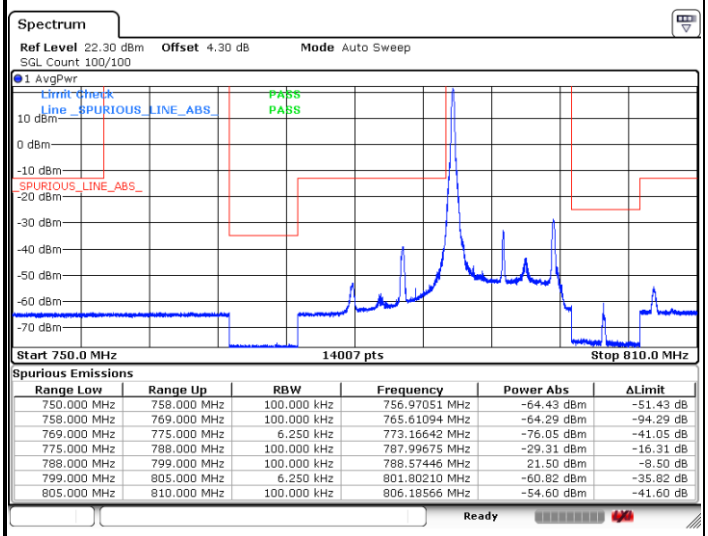
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	753.88006 MHz	-64.08 dBm	-51.08 dB
758.000 MHz	769.000 MHz	100.000 kHz	760.07521 MHz	-64.32 dBm	-94.32 dB
769.000 MHz	775.000 MHz	6.250 kHz	772.17391 MHz	-76.51 dBm	-41.51 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-40.93 dBm	-27.93 dB
788.000 MHz	799.000 MHz	100.000 kHz	796.52899 MHz	6.39 dBm	-23.61 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.12144 MHz	-46.12 dBm	-21.12 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.08621 MHz	-46.24 dBm	-33.24 dB

Date: 23.OCT.2018 04:38:09

LTE Band 14 / 10MHz / QPSK

Lowest Band Edge / 1 RB



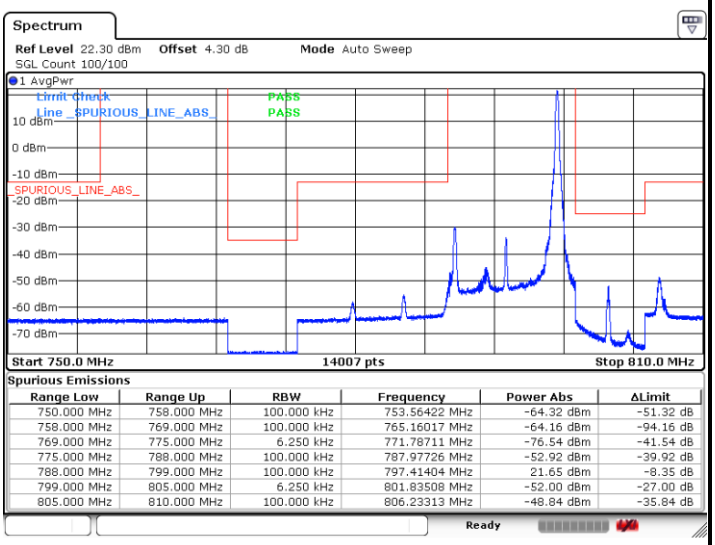
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	756.97051 MHz	-64.43 dBm	-51.43 dB
758.000 MHz	769.000 MHz	100.000 kHz	765.61094 MHz	-64.29 dBm	-94.29 dB
769.000 MHz	775.000 MHz	6.250 kHz	773.16642 MHz	-76.05 dBm	-41.05 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-29.31 dBm	-16.31 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.57446 MHz	21.50 dBm	-8.50 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.80210 MHz	-60.82 dBm	-35.82 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.18566 MHz	-54.60 dBm	-41.60 dB

Ready

Date: 23.OCT.2018 04:25:11

Highest Band Edge / 1 RB



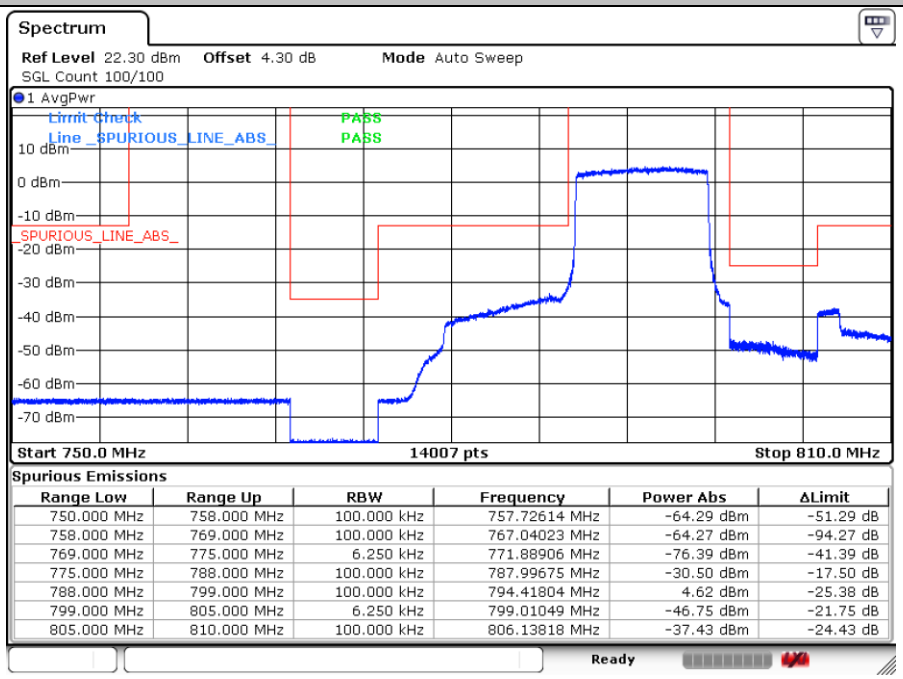
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	753.56422 MHz	-64.32 dBm	-51.32 dB
758.000 MHz	769.000 MHz	100.000 kHz	765.16017 MHz	-64.16 dBm	-94.16 dB
769.000 MHz	775.000 MHz	6.250 kHz	771.78711 MHz	-76.54 dBm	-41.54 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.97726 MHz	-52.92 dBm	-39.92 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.41404 MHz	21.65 dBm	-8.35 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.83508 MHz	-52.00 dBm	-27.00 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.23313 MHz	-48.84 dBm	-35.84 dB

Ready

Date: 23.OCT.2018 04:24:37

Band Edge / Full RB



Spurious Emissions

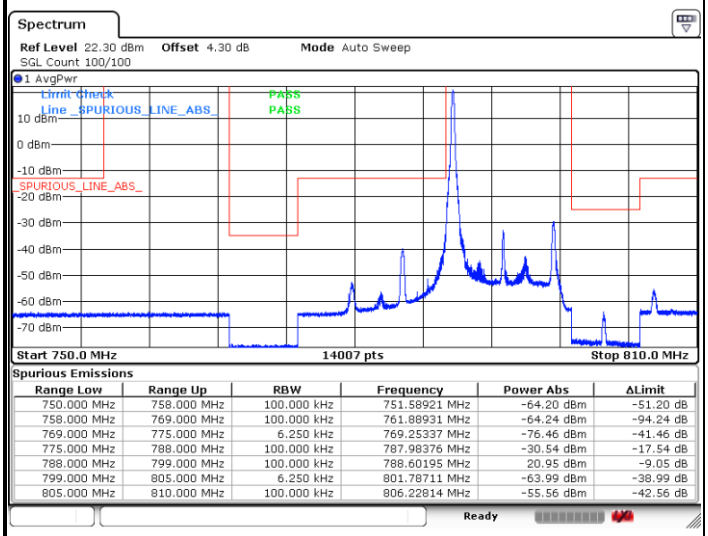
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	757.72614 MHz	-64.29 dBm	-51.29 dB
758.000 MHz	769.000 MHz	100.000 kHz	767.04023 MHz	-64.27 dBm	-94.27 dB
769.000 MHz	775.000 MHz	6.250 kHz	771.88906 MHz	-76.39 dBm	-41.39 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-30.50 dBm	-17.50 dB
788.000 MHz	799.000 MHz	100.000 kHz	794.41804 MHz	4.62 dBm	-25.38 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.01049 MHz	-46.75 dBm	-21.75 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.13818 MHz	-37.43 dBm	-24.43 dB

Ready

Date: 23.OCT.2018 04:28:24

LTE Band 14 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



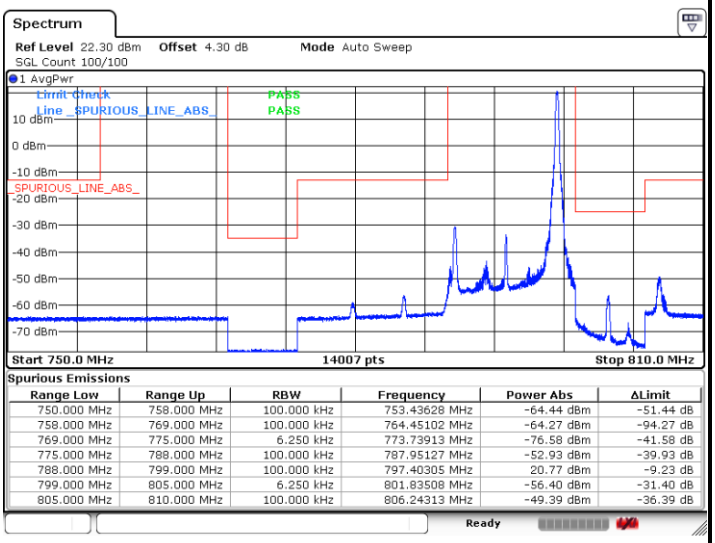
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	751.58921 MHz	-64.20 dBm	-51.20 dB
758.000 MHz	769.000 MHz	100.000 kHz	761.88931 MHz	-64.24 dBm	-94.24 dB
769.000 MHz	775.000 MHz	6.250 kHz	769.25337 MHz	-76.46 dBm	-41.46 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.98376 MHz	-30.54 dBm	-17.54 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.60195 MHz	20.95 dBm	-9.05 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.78711 MHz	-63.99 dBm	-38.99 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.22814 MHz	-55.56 dBm	-42.56 dB

Ready

Date: 23.OCT.2018 04:25:44

Highest Band Edge / 1 RB



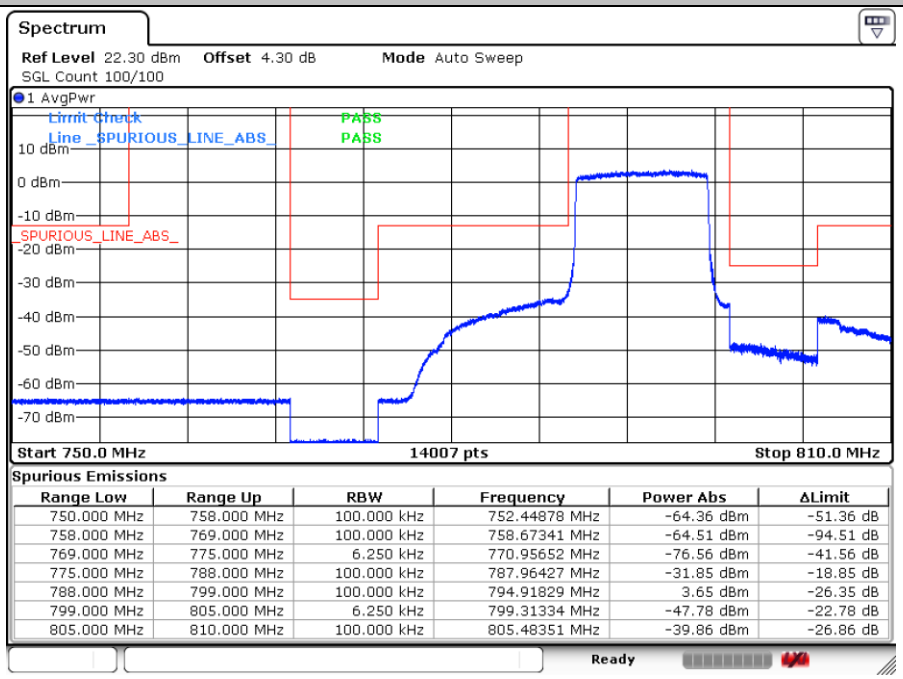
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	753.43628 MHz	-64.44 dBm	-51.44 dB
758.000 MHz	769.000 MHz	100.000 kHz	764.45102 MHz	-64.27 dBm	-94.27 dB
769.000 MHz	775.000 MHz	6.250 kHz	773.73913 MHz	-76.58 dBm	-41.58 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.95127 MHz	-52.93 dBm	-39.93 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.40305 MHz	20.77 dBm	-9.23 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.83508 MHz	-56.40 dBm	-31.40 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.24313 MHz	-49.39 dBm	-36.39 dB

Ready

Date: 23.OCT.2018 04:24:03

Band Edge / Full RB



Spurious Emissions

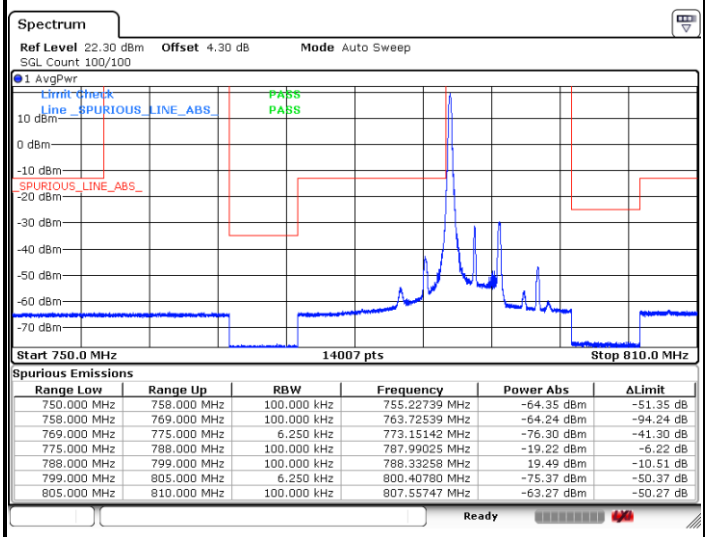
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	752.44878 MHz	-64.36 dBm	-51.36 dB
758.000 MHz	769.000 MHz	100.000 kHz	758.67341 MHz	-64.51 dBm	-94.51 dB
769.000 MHz	775.000 MHz	6.250 kHz	770.95652 MHz	-76.56 dBm	-41.56 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.96427 MHz	-31.85 dBm	-18.85 dB
788.000 MHz	799.000 MHz	100.000 kHz	794.91829 MHz	3.65 dBm	-26.35 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.31334 MHz	-47.78 dBm	-22.78 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.48351 MHz	-39.86 dBm	-26.86 dB

Ready

Date: 23.OCT.2018 04:27:30

LTE Band 14 / 5MHz / 64QAM

Lowest Band Edge /1 RB

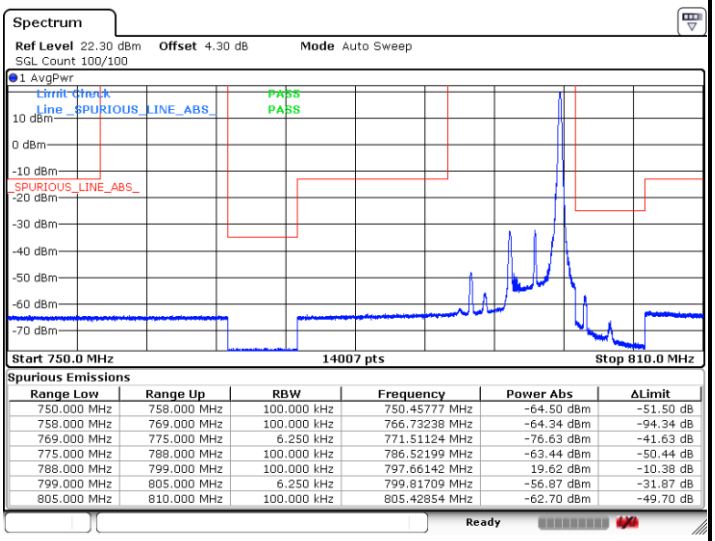


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	755.22739 MHz	-64.35 dBm	-51.35 dB
758.000 MHz	769.000 MHz	100.000 kHz	763.72539 MHz	-64.24 dBm	-94.24 dB
769.000 MHz	775.000 MHz	6.250 kHz	773.15142 MHz	-76.30 dBm	-41.30 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99025 MHz	-19.22 dBm	-6.22 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.33258 MHz	19.49 dBm	-10.51 dB
799.000 MHz	805.000 MHz	6.250 kHz	800.40780 MHz	-75.37 dBm	-50.37 dB
805.000 MHz	810.000 MHz	100.000 kHz	807.55747 MHz	-63.27 dBm	-50.27 dB

Date: 23.OCT.2018 04:32:56

Highest Band Edge / 1 RB

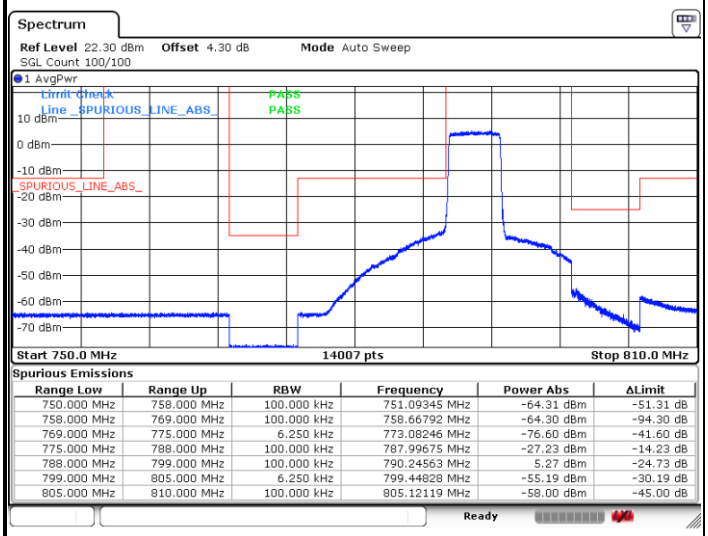


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	750.45777 MHz	-64.50 dBm	-51.50 dB
758.000 MHz	769.000 MHz	100.000 kHz	766.73238 MHz	-64.34 dBm	-94.34 dB
769.000 MHz	775.000 MHz	6.250 kHz	771.51124 MHz	-76.63 dBm	-41.63 dB
775.000 MHz	788.000 MHz	100.000 kHz	786.52199 MHz	-63.44 dBm	-50.44 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.66142 MHz	19.62 dBm	-10.38 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.81709 MHz	-56.87 dBm	-31.87 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.42854 MHz	-62.70 dBm	-49.70 dB

Date: 23.OCT.2018 04:36:56

Lowest Band Edge / Full RB

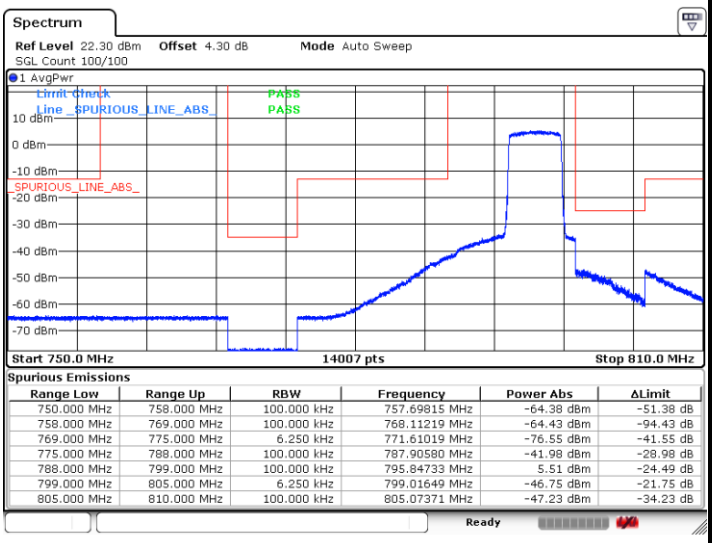


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	751.09345 MHz	-64.31 dBm	-51.31 dB
758.000 MHz	769.000 MHz	100.000 kHz	758.66792 MHz	-64.30 dBm	-94.30 dB
769.000 MHz	775.000 MHz	6.250 kHz	773.08246 MHz	-76.60 dBm	-41.60 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-27.23 dBm	-14.23 dB
788.000 MHz	799.000 MHz	100.000 kHz	790.24563 MHz	5.27 dBm	-24.73 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.44828 MHz	-55.19 dBm	-30.19 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.12119 MHz	-58.00 dBm	-45.00 dB

Date: 23.OCT.2018 04:32:20

Highest Band Edge / Full RB



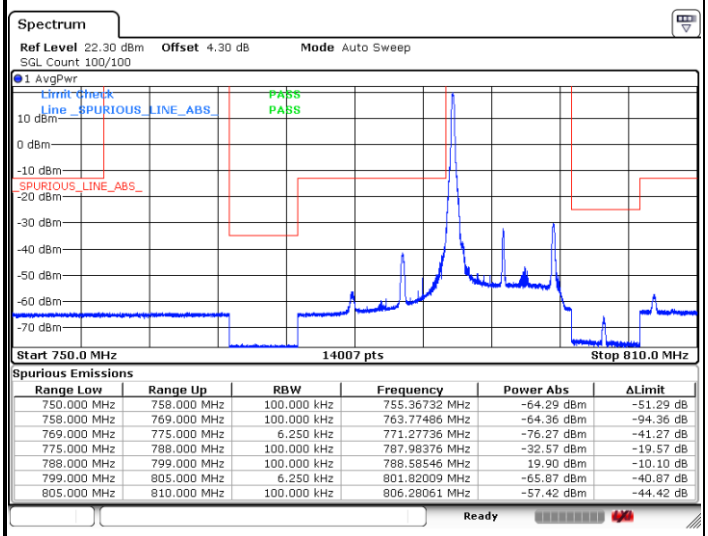
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	757.69815 MHz	-64.38 dBm	-51.38 dB
758.000 MHz	769.000 MHz	100.000 kHz	768.11219 MHz	-64.43 dBm	-94.43 dB
769.000 MHz	775.000 MHz	6.250 kHz	771.61019 MHz	-76.55 dBm	-41.55 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.90580 MHz	-41.98 dBm	-28.98 dB
788.000 MHz	799.000 MHz	100.000 kHz	795.84733 MHz	5.51 dBm	-24.49 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.01649 MHz	-46.75 dBm	-21.75 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.07371 MHz	-47.23 dBm	-34.23 dB

Date: 23.OCT.2018 04:37:32

LTE Band 14 / 10MHz / 64QAM

Band Edge / 1 RB

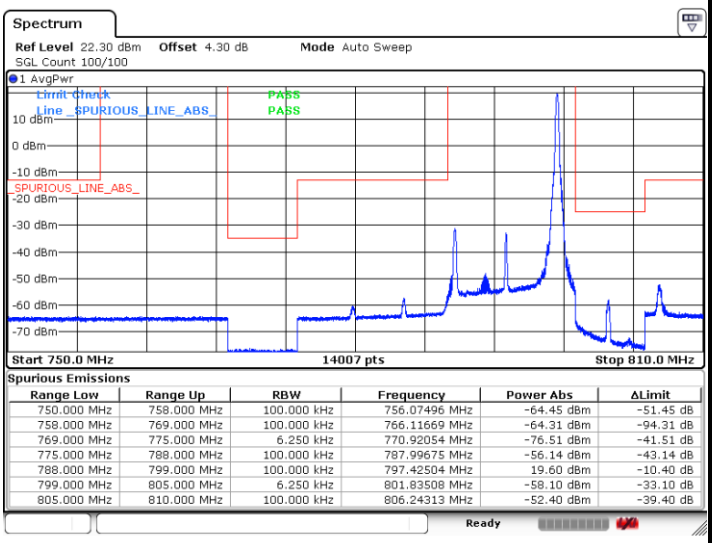


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	755.36732 MHz	-64.29 dBm	-51.29 dB
758.000 MHz	769.000 MHz	100.000 kHz	763.77486 MHz	-64.36 dBm	-94.36 dB
769.000 MHz	775.000 MHz	6.250 kHz	771.27736 MHz	-76.27 dBm	-41.27 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.98376 MHz	-32.57 dBm	-19.57 dB
788.000 MHz	799.000 MHz	100.000 kHz	788.58546 MHz	19.90 dBm	-10.10 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.82009 MHz	-65.87 dBm	-40.87 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.28061 MHz	-57.42 dBm	-44.42 dB

Date: 23.OCT.2018 04:26:20

Band Edge / 1 RBMax

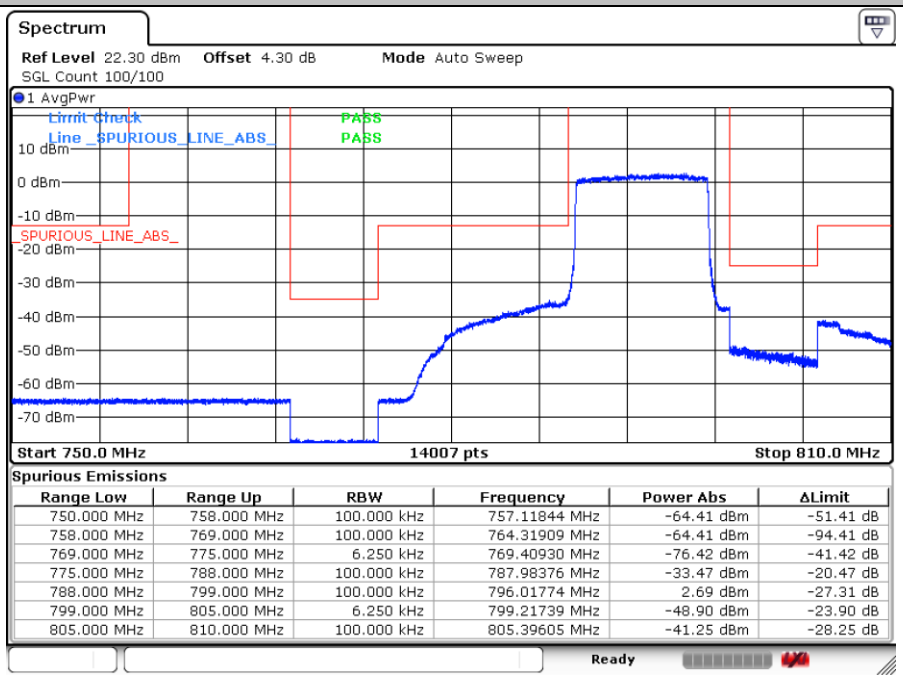


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	756.07496 MHz	-64.45 dBm	-51.45 dB
758.000 MHz	769.000 MHz	100.000 kHz	766.11669 MHz	-64.31 dBm	-94.31 dB
769.000 MHz	775.000 MHz	6.250 kHz	770.92054 MHz	-76.51 dBm	-41.51 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.99675 MHz	-56.14 dBm	-43.14 dB
788.000 MHz	799.000 MHz	100.000 kHz	797.42504 MHz	19.60 dBm	-10.40 dB
799.000 MHz	805.000 MHz	6.250 kHz	801.83508 MHz	-58.10 dBm	-33.10 dB
805.000 MHz	810.000 MHz	100.000 kHz	806.24313 MHz	-52.40 dBm	-39.40 dB

Date: 23.OCT.2018 04:23:22

Band Edge / Full RB



Spurious Emissions

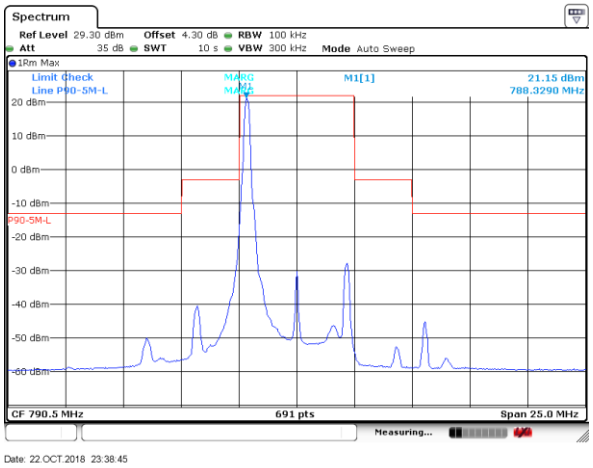
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
750.000 MHz	758.000 MHz	100.000 kHz	757.11844 MHz	-64.41 dBm	-51.41 dB
758.000 MHz	769.000 MHz	100.000 kHz	764.31909 MHz	-64.41 dBm	-94.41 dB
769.000 MHz	775.000 MHz	6.250 kHz	769.40930 MHz	-76.42 dBm	-41.42 dB
775.000 MHz	788.000 MHz	100.000 kHz	787.98376 MHz	-33.47 dBm	-20.47 dB
788.000 MHz	799.000 MHz	100.000 kHz	796.01774 MHz	2.69 dBm	-27.31 dB
799.000 MHz	805.000 MHz	6.250 kHz	799.21739 MHz	-48.90 dBm	-23.90 dB
805.000 MHz	810.000 MHz	100.000 kHz	805.39605 MHz	-41.25 dBm	-28.25 dB

Date: 23.OCT.2018 04:26:57

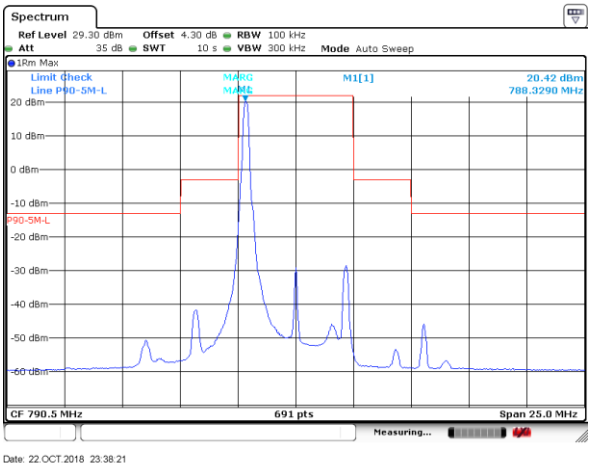
Emission Mask B

LTE Band 14/ 5MHz

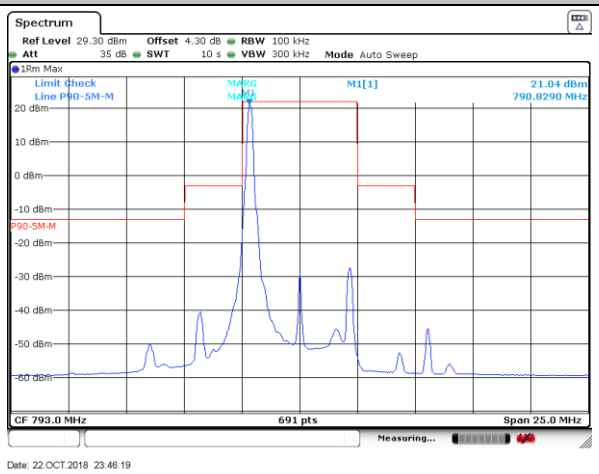
Lowest Channel / 5MHz / QPSK



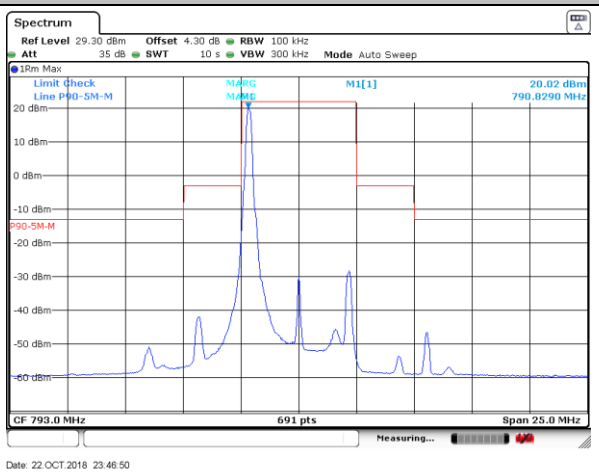
Lowest Channel / 5MHz / 16QAM



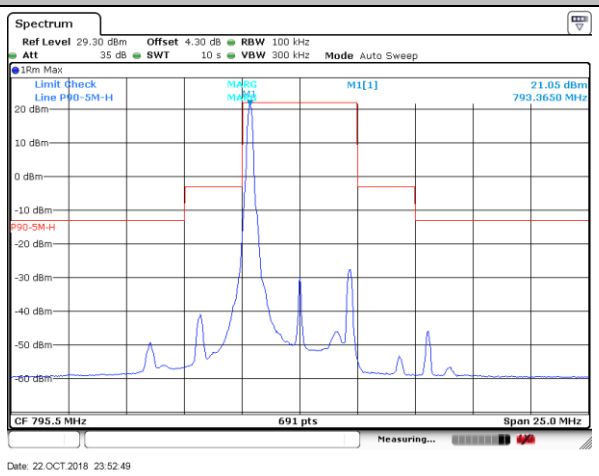
Middle Channel / 5MHz / QPSK



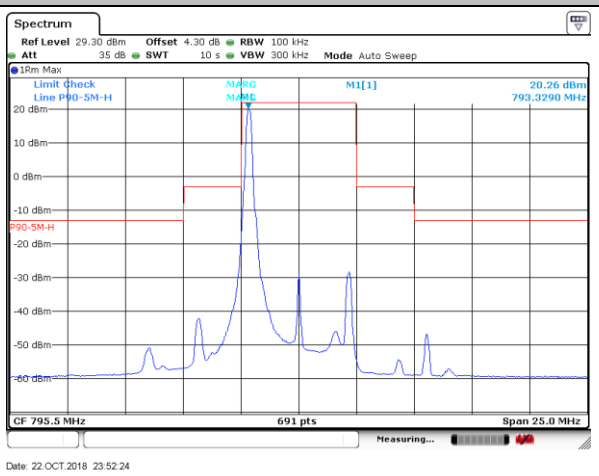
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

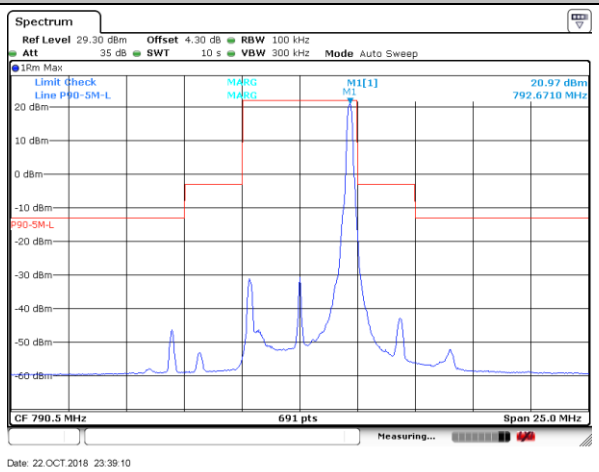


Highest Channel / 5MHz / 16QAM

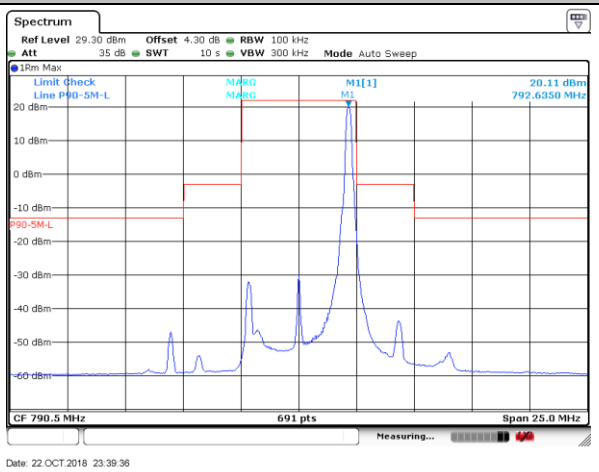


LTE Band 14/ 5MHz

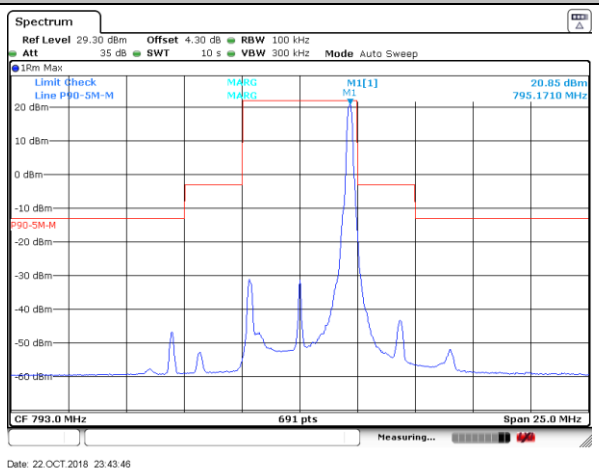
Lowest Channel / 5MHz / QPSK



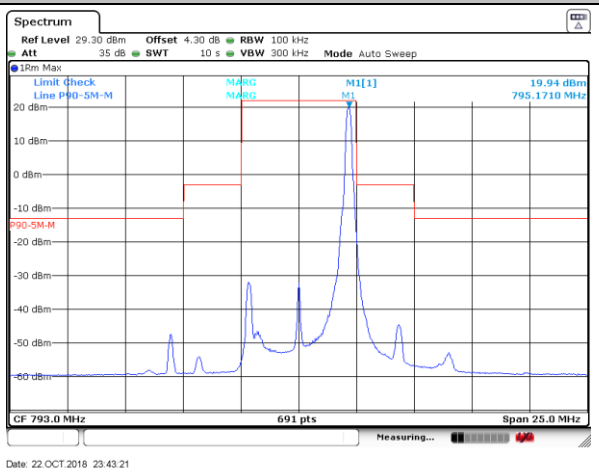
Lowest Channel / 5MHz / 16QAM



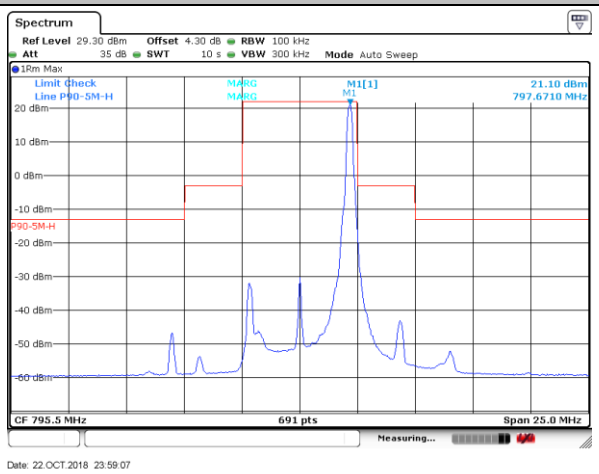
Middle Channel / 5MHz / QPSK



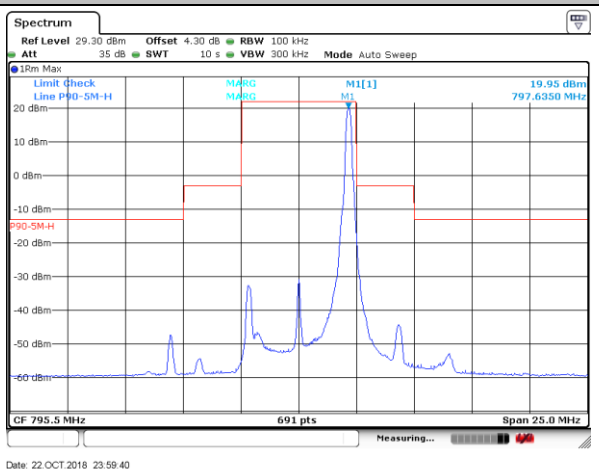
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

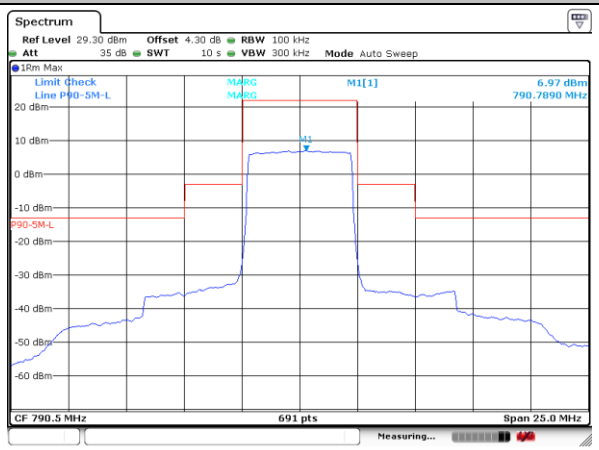


Highest Channel / 5MHz / 16QAM



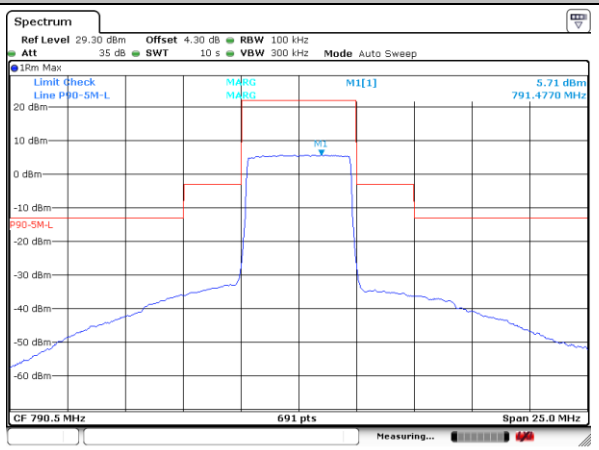
LTE Band 14/ 5MHz

Lowest Channel / 5MHz / QPSK



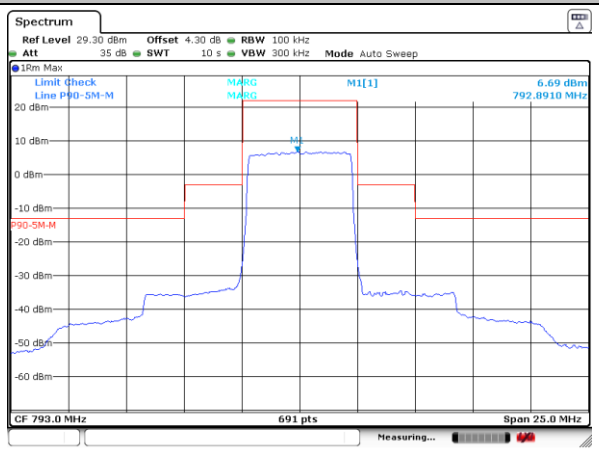
Date: 22.OCT.2018 23:35:30

Lowest Channel / 5MHz / 16QAM



Date: 22.OCT.2018 23:36:27

Middle Channel / 5MHz / QPSK



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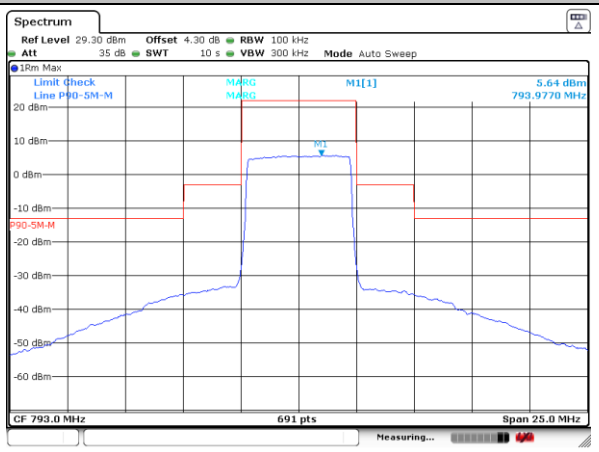
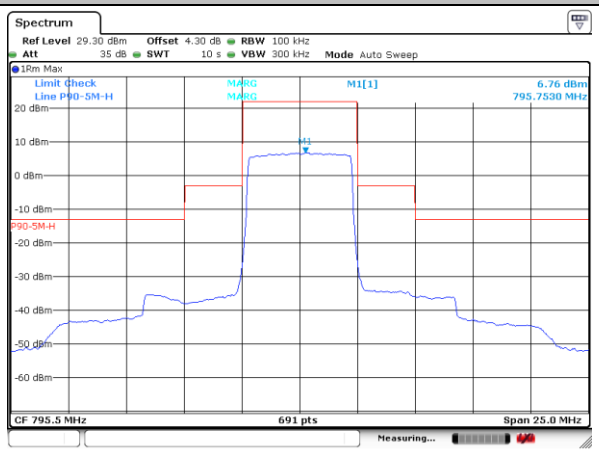
Middle Channel / 5MHz / 16QAM



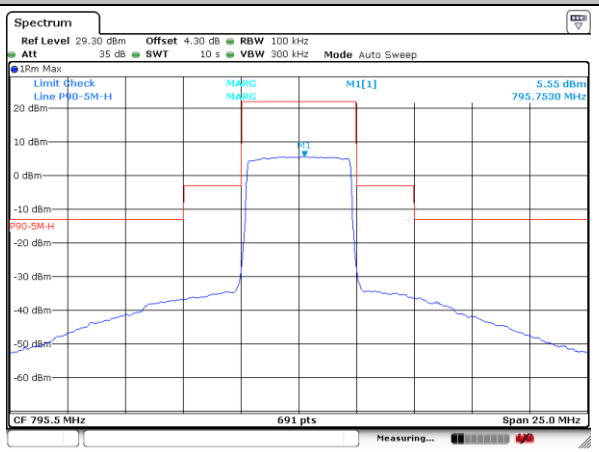
Date: 22.OCT.2018 23:48:44

Highest Channel / 5MHz / QPSK



Date: 22.OCT.2018 23:50:17

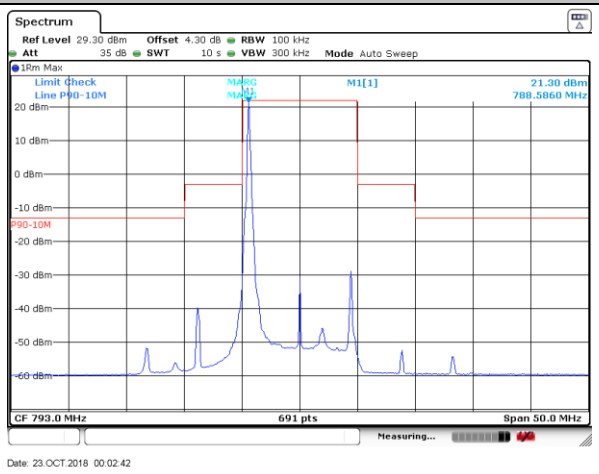
Highest Channel / 5MHz / 16QAM



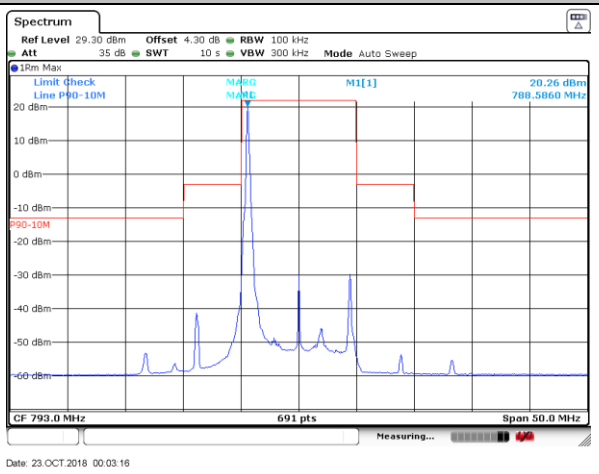
Date: 22.OCT.2018 23:50:56

LTE Band 14/ 10MHz

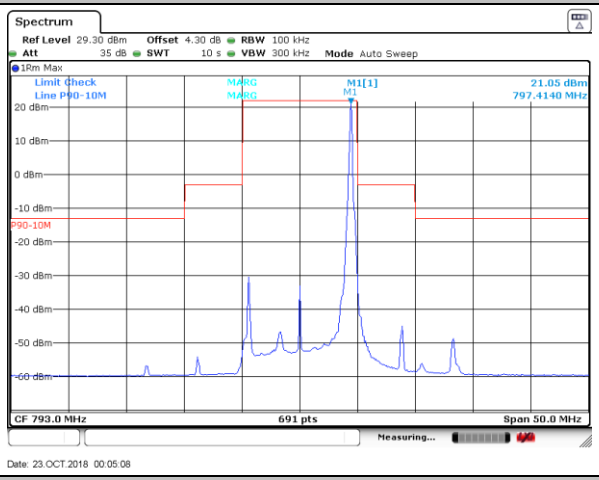
Middle Channel / 1RB0 / QPSK



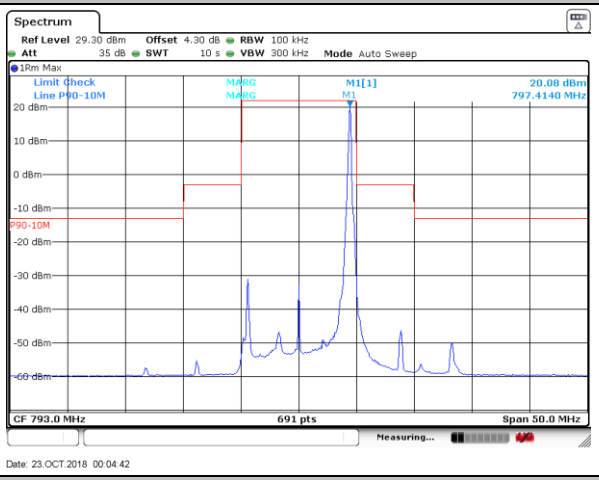
Middle Channel / 1RB0 / 16QAM



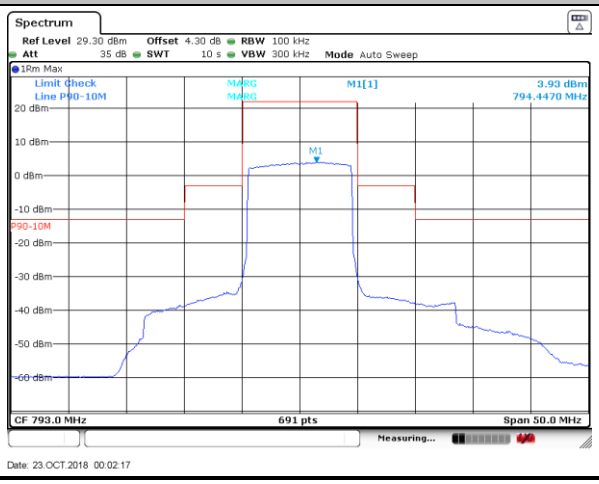
Middle Channel / 1RBmax / QPSK



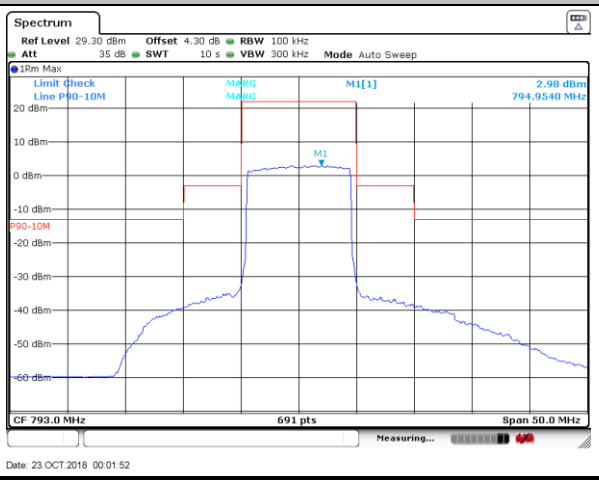
Middle Channel / 1RBmax / 16QAM



Middle Channel / fullRB0 / QPSK

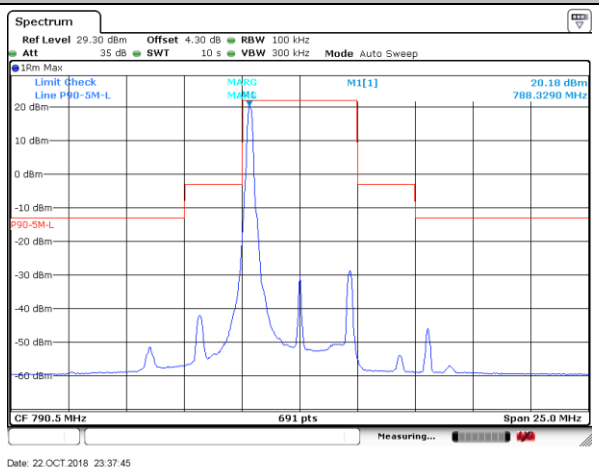


Middle Channel / fullRB0 / 16QAM

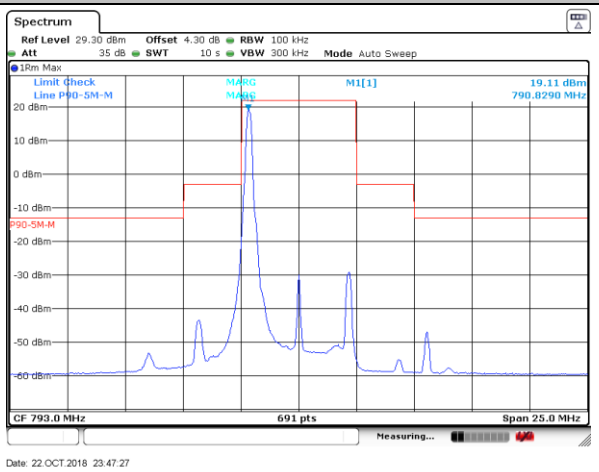


LTE Band 14 /5MHz

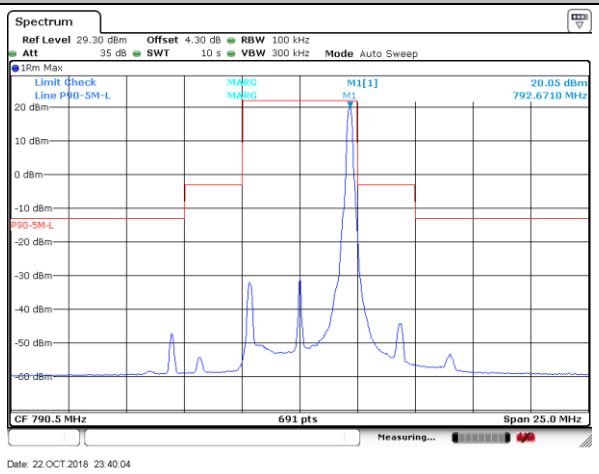
Lowest / 5MHz / 1RB0/ 64QAM



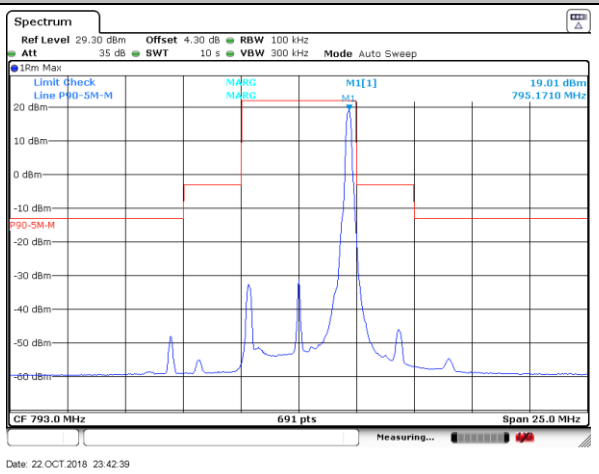
Middle / 5MHz /1RB0/ 64QAM



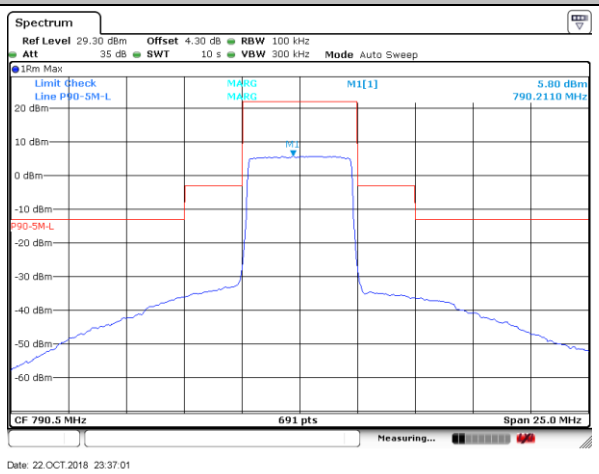
Lowest / 5MHz / 1RBmax/ 64QAM



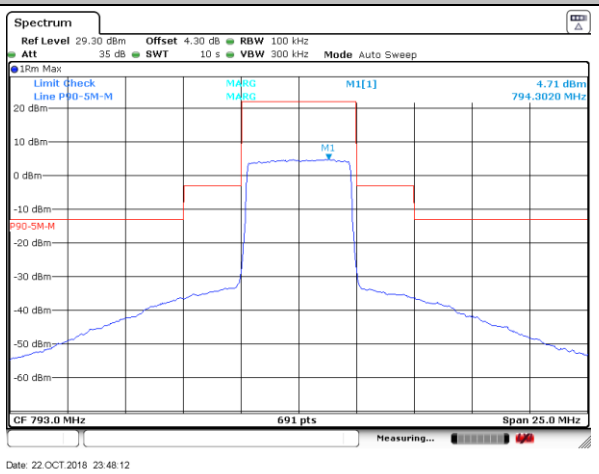
Middle / 5MHz /1RBmax/ 64QAM



Lowest / 5MHz / Full RB / 64QAM

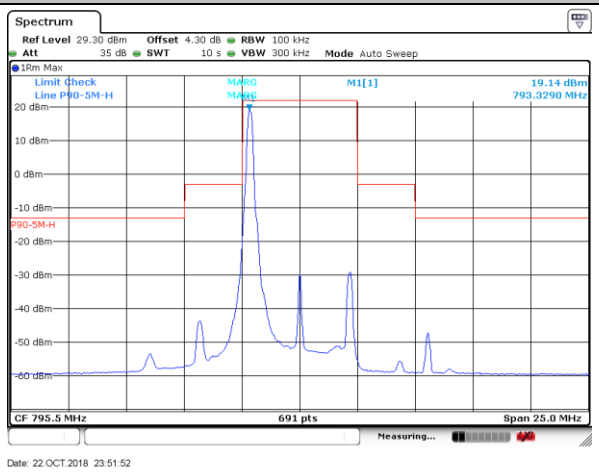


Middle / 5MHz / Full RB / 64QAM

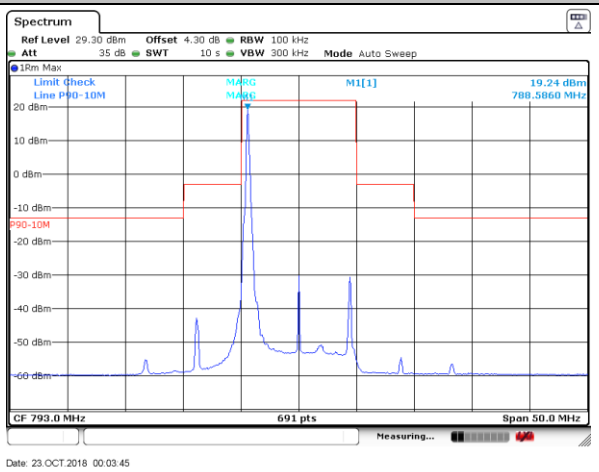


LTE Band 14 /5MHz

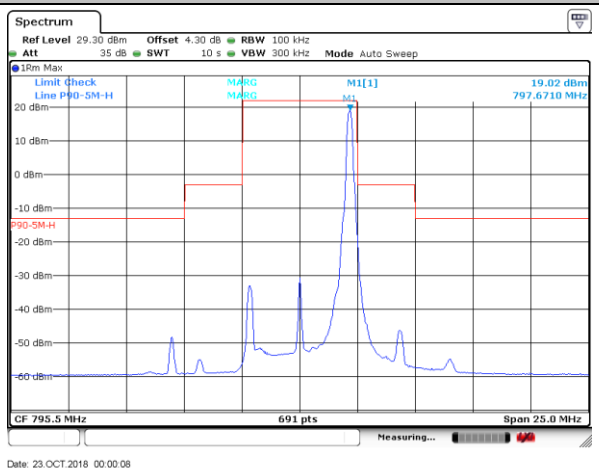
Highest / 5MHz / Full RB/ 64QAM



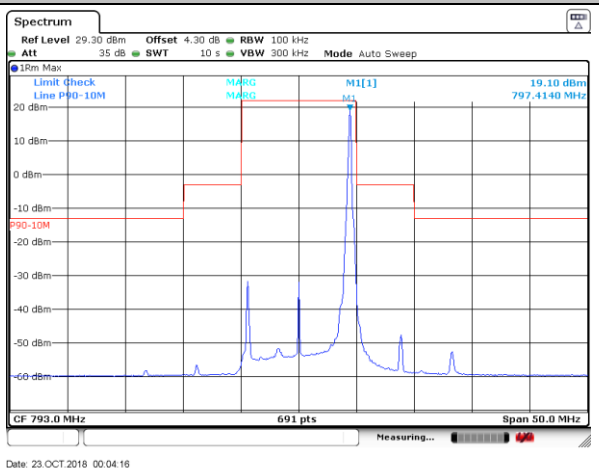
Middle / 10MHz / 1RB0 / 64QAM



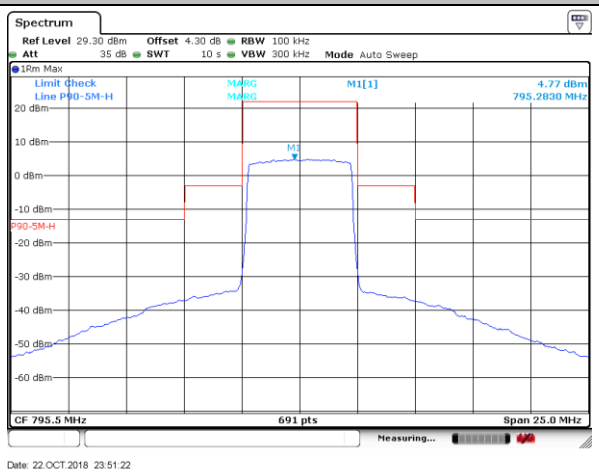
Highest / 5MHz / 1RBMax / 64QAM



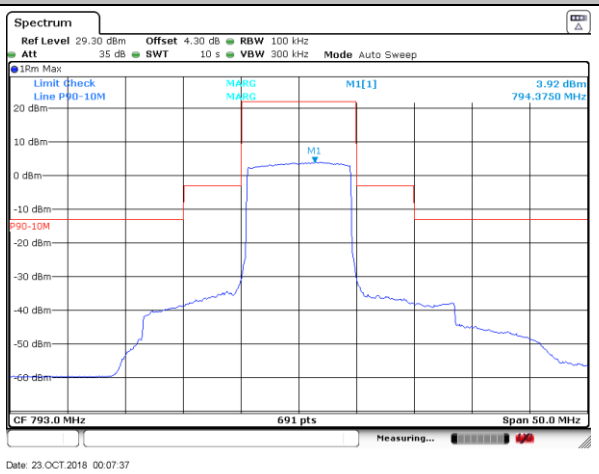
Middle / 10MHz / 1RBMax / 64QAM



Highest / 5MHz / Full RB / 64QAM



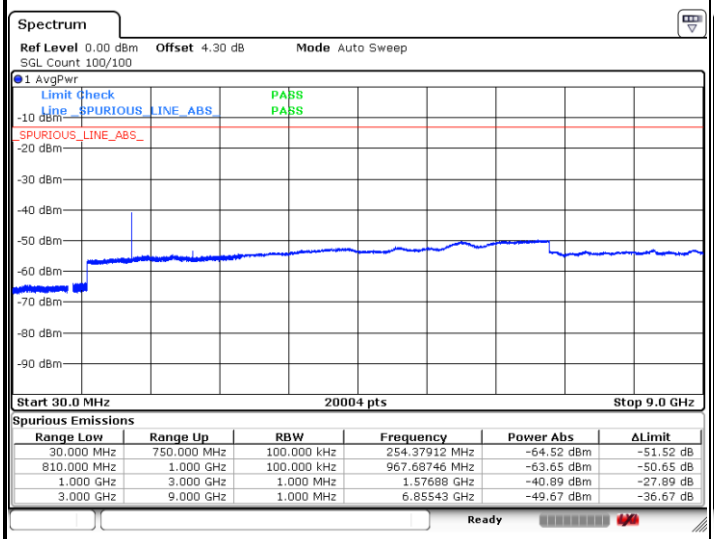
Middle /10MHz / Full RB / 64QAM



Conducted Spurious Emission

LTE Band 14 / 5MHz

Lowest Channel / QPSK

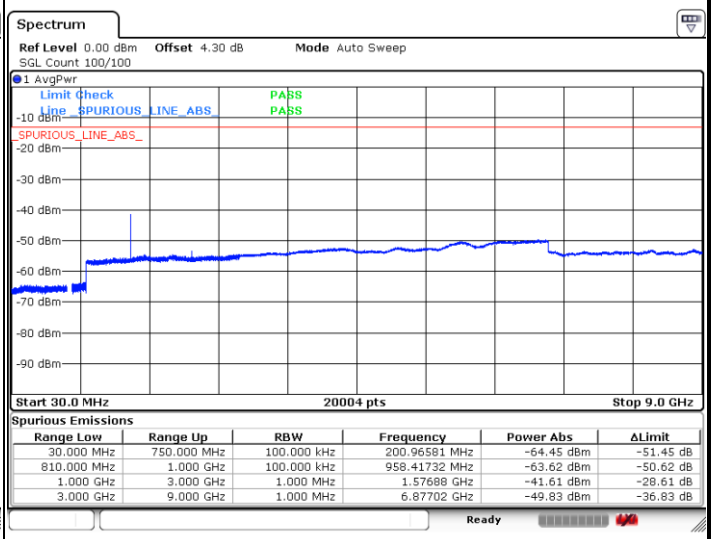


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	254.37912 MHz	-64.52 dBm	-51.52 dB
810.000 MHz	1.000 GHz	100.000 kHz	967.68746 MHz	-63.65 dBm	-50.65 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57688 GHz	-40.89 dBm	-27.89 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85543 GHz	-49.67 dBm	-36.67 dB

Date: 23.OCT.2018 04:48:27

Lowest Channel / 16QAM

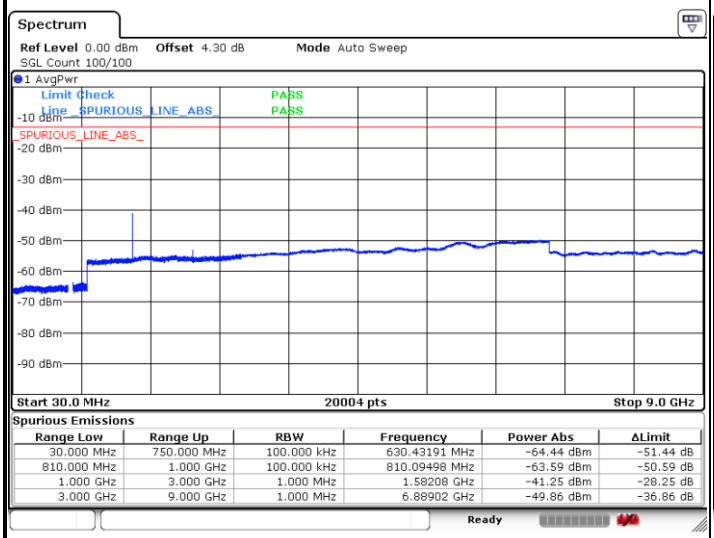


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	200.96581 MHz	-64.45 dBm	-51.45 dB
810.000 MHz	1.000 GHz	100.000 kHz	958.41732 MHz	-63.62 dBm	-50.62 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57688 GHz	-41.61 dBm	-28.61 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.87702 GHz	-49.83 dBm	-36.83 dB

Date: 23.OCT.2018 04:48:54

Middle Channel / QPSK

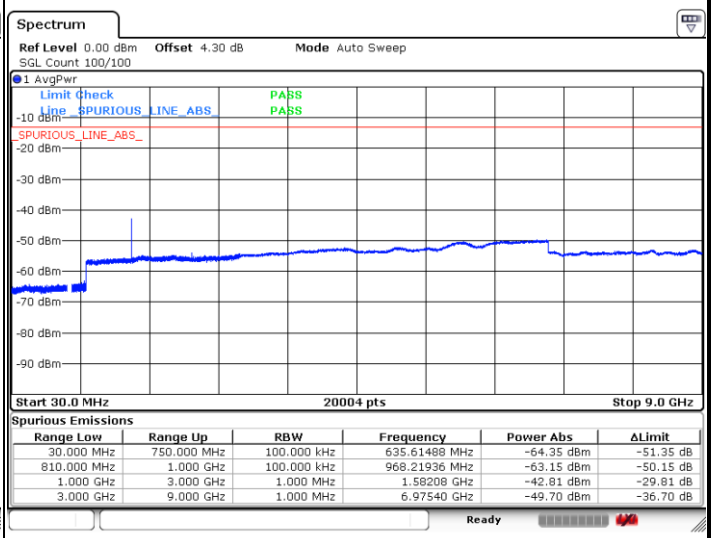


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	630.43191 MHz	-64.44 dBm	-51.44 dB
810.000 MHz	1.000 GHz	100.000 kHz	810.09498 MHz	-63.59 dBm	-50.59 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58208 GHz	-41.25 dBm	-28.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88902 GHz	-49.86 dBm	-36.86 dB

Date: 23.OCT.2018 04:47:55

Middle Channel / 16QAM



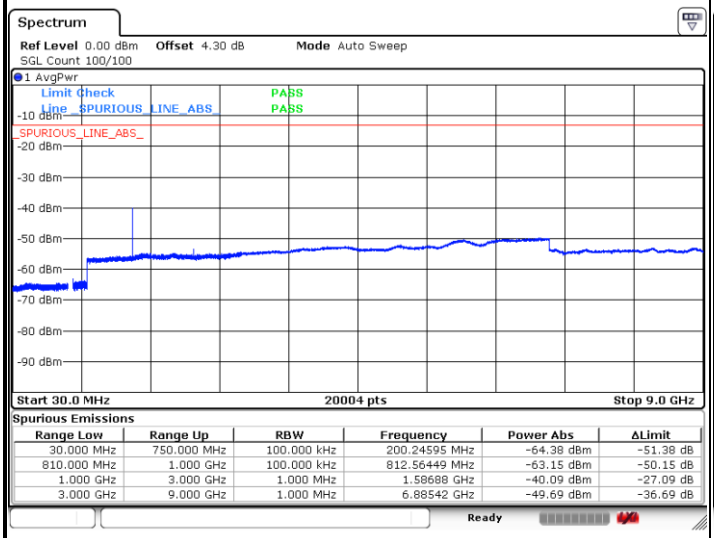
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	635.61488 MHz	-64.35 dBm	-51.35 dB
810.000 MHz	1.000 GHz	100.000 kHz	968.21936 MHz	-63.15 dBm	-50.15 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58208 GHz	-42.81 dBm	-29.81 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.97540 GHz	-49.70 dBm	-36.70 dB

Date: 23.OCT.2018 04:47:27

LTE Band 14 / 5MHz

Highest Channel / QPSK

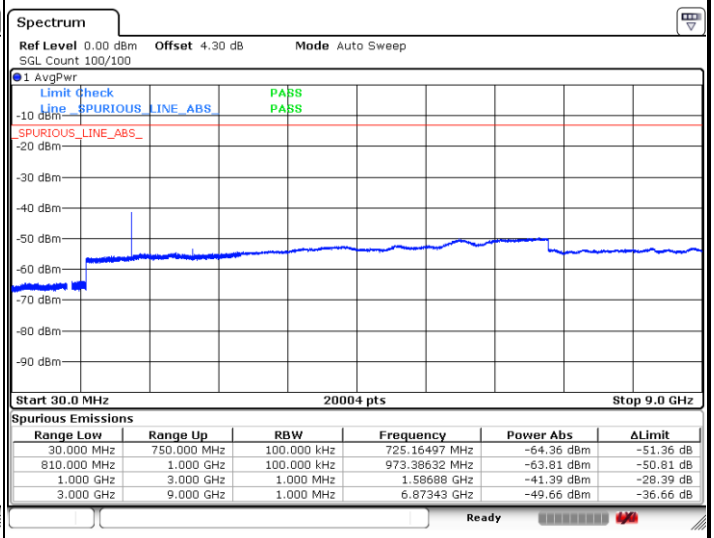


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	200.24595 MHz	-64.38 dBm	-51.38 dB
810.000 MHz	1.000 GHz	100.000 kHz	812.56449 MHz	-63.15 dBm	-50.15 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58688 GHz	-40.09 dBm	-27.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88542 GHz	-49.69 dBm	-36.69 dB

Date: 23.OCT.2018 04:45:28

Highest Channel / 16QAM



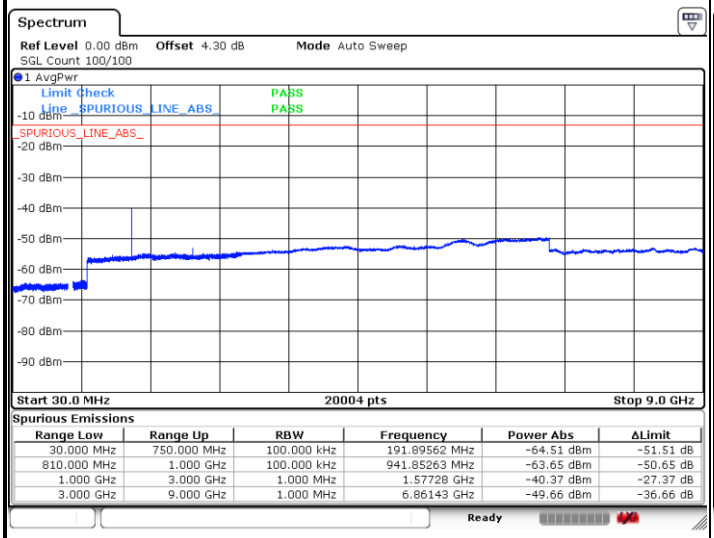
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	725.16497 MHz	-64.36 dBm	-51.36 dB
810.000 MHz	1.000 GHz	100.000 kHz	973.38632 MHz	-63.81 dBm	-50.81 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58688 GHz	-41.39 dBm	-28.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.87343 GHz	-49.66 dBm	-36.66 dB

Date: 23.OCT.2018 04:46:07

LTE Band 14 / 10MHz

Middle Channel / QPSK

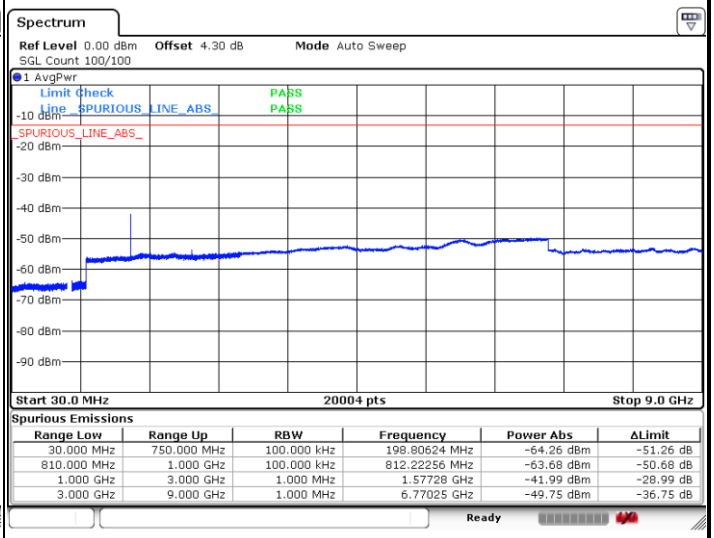


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	191.89562 MHz	-64.51 dBm	-51.51 dB
810.000 MHz	1.000 GHz	100.000 kHz	941.85263 MHz	-63.65 dBm	-50.65 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57728 GHz	-40.37 dBm	-27.37 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.86143 GHz	-49.66 dBm	-36.66 dB

Date: 23.OCT.2018 04:51:19

Middle Channel / 16QAM



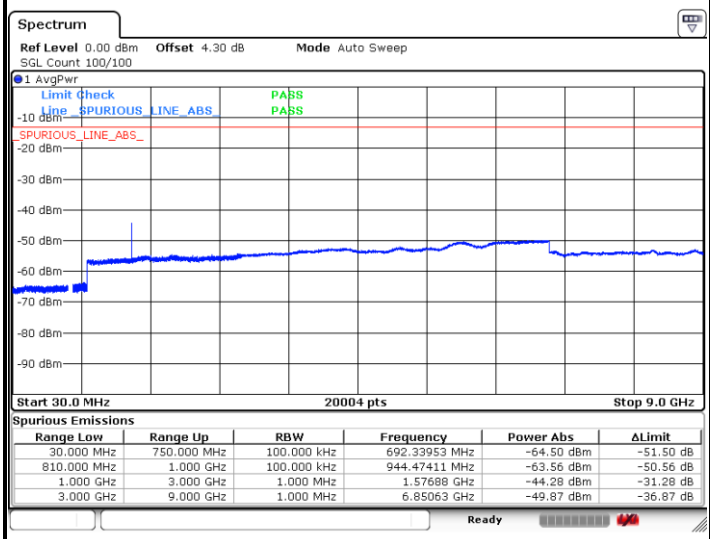
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	198.80624 MHz	-64.26 dBm	-51.26 dB
810.000 MHz	1.000 GHz	100.000 kHz	812.22256 MHz	-63.68 dBm	-50.68 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57728 GHz	-41.99 dBm	-28.99 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.77025 GHz	-49.75 dBm	-36.75 dB

Date: 23.OCT.2018 04:50:53

LTE Band 14 / 5MHz

Lowest Channel / 64QAM

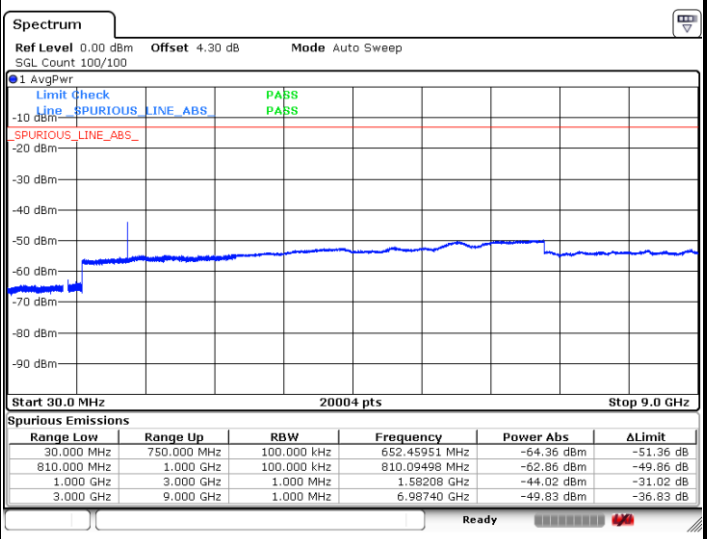


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	692.33953 MHz	-64.50 dBm	-51.50 dB
810.000 MHz	1.000 GHz	100.000 kHz	944.47411 MHz	-63.56 dBm	-50.56 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57688 GHz	-44.28 dBm	-31.28 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.85063 GHz	-49.87 dBm	-36.87 dB

Date: 23.OCT.2018 04:49:17

Middle Channel / 64QAM



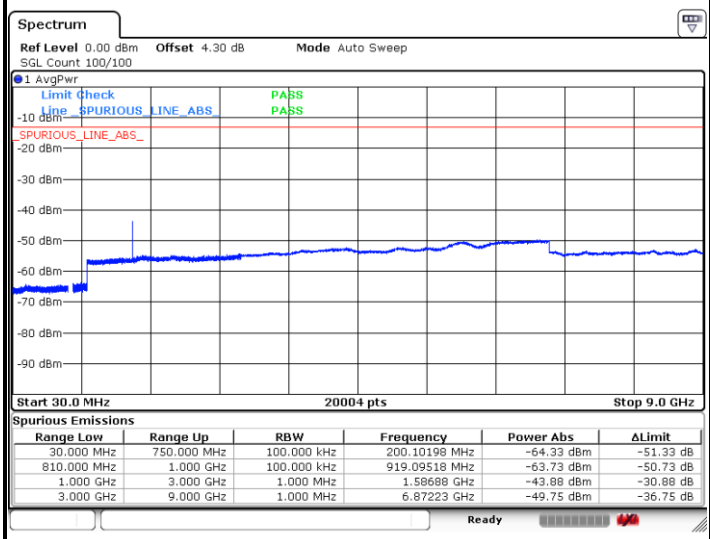
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	652.45951 MHz	-64.36 dBm	-51.36 dB
810.000 MHz	1.000 GHz	100.000 kHz	810.09498 MHz	-62.86 dBm	-49.86 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58208 GHz	-44.02 dBm	-31.02 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.98740 GHz	-49.83 dBm	-36.83 dB

Date: 23.OCT.2018 04:47:01

LTE Band 14 / 5MHz

Highest Channel / 64QAM



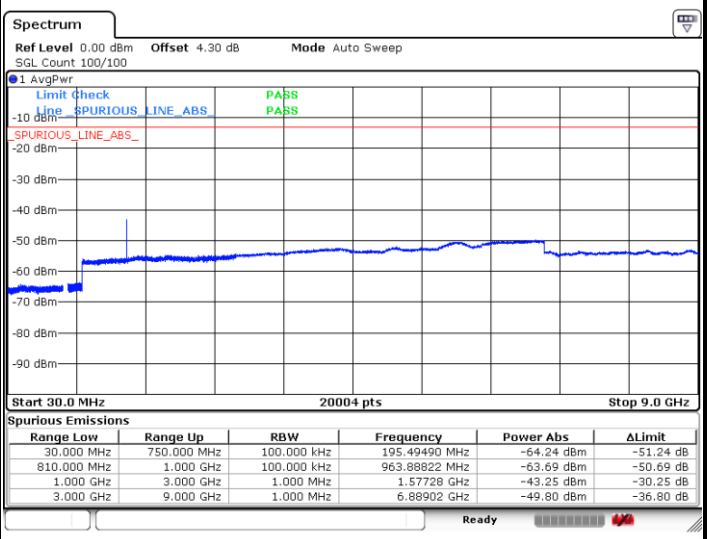
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	200.10198 MHz	-64.33 dBm	-51.33 dB
810.000 MHz	1.000 GHz	100.000 kHz	919.09518 MHz	-63.73 dBm	-50.73 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.58688 GHz	-43.88 dBm	-30.88 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.87223 GHz	-49.75 dBm	-36.75 dB

Date: 23.OCT.2018 04:46:29

LTE Band 14 / 10MHz

Middle Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	750.000 MHz	100.000 kHz	195.49490 MHz	-64.24 dBm	-51.24 dB
810.000 MHz	1.000 GHz	100.000 kHz	963.88822 MHz	-63.69 dBm	-50.69 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.57728 GHz	-43.25 dBm	-30.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.88902 GHz	-49.80 dBm	-36.80 dB

Date: 23.OCT.2018 04:50:10

Frequency Stability

Test Conditions		LTE Band 14 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	1.25ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0049	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0035	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0038	
0	Normal Voltage	0.0043	
-10	Normal Voltage	0.0040	
-20	Normal Voltage	0.0044	
-30	Normal Voltage	0.0006	
20	Maximum Voltage	0.0037	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0033	

Note: Normal Voltage =3.8V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.1 V.

Appendix B. Test Results of Radiated Test

Field Strength of Spurious Radiated

LTE Band 14 / QPSK / RB Size 1 Offset 0								
Bandwidth	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
10MHz	1578	-67.90	-40	-27.90	-71.76	2.23	6.09	H
	2365.77	-65.55	-13	-52.55	-66.08	2.83	5.51	H
	3156	-64.35	-13	-51.35	-66.29	3.21	7.30	H
	1578	-67.77	-40	-27.77	-71.63	2.23	6.09	V
	2365.77	-65.67	-13	-52.67	-66.20	2.83	5.51	V
	3156	-64.25	-13	-51.25	-66.19	3.21	7.30	V
	Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.							
Test Result					PASS			