FCC RF Test Report

APPLICANT	**: Motorola Mobility LLC**
EQUIPMENT	**: Mobile Cellular Phone**
BRAND NAME	**: Motorola**
MODEL NAME	**: XT1929-4(SS)**
FCC ID	**: IHDT56XE1**
STANDARD	**: FCC 47 CFR Part 2, 27**
CLASSIFICATION	**: PCS Licensed Transmitter Held to Ear (PCE)**

The product was received on Jan. 18, 2018 and completely tested on Mar. 03, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA-603-E and has been in compliance with the applicable technical standards.

This report contains data that were produced under subcontract by Laboratory SPORTON INTERNATIONAL INC.

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG811821E	Rev. 01	Initial issue of report	Mar. 05, 2018
FG811821E	Rev. 02	Revising antenna type in section 1.4.	Apr. 19, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.5	-	Peak-to-Average Ratio	<13dB	N/A	Reporting only
3.6	§27.50 (a)(3)	EIRP Power Density	EIRP < 250mW/5MHz	PASS	-
3.7	§2.1049	Occupied Bandwidth	Reporting Only	PASS	-
3.8	§2.1051 §27.53 (a)(4)	Conducted Band Edge Measurement	Refer standard	PASS	-
3.9	§2.1051 §27.53 (a)(4)	Conducted Spurious Emission	< $70+10\log_{10}$(P[Watts])	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within the band	PASS	-
4.4	§2.1053 §27.53 (a)(4)	Radiated Spurious Emission	< $70+10\log_{10}$(P[Watts])	PASS	Under limit 20.29 dB at 9224.000 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 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1929-4(SS)
FCC ID	IHDT56XE1
IMEI Code	**Conducted :** IMEI: 351886090013043 **Radiation :** IMEI: 351886090015329
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/GNSS/NFC WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 WLAN 11ac VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
HW Version	DVT2
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.

Accessory List	
AC Adapter 1	Brand Name : Motorola
	Model Name : SC-22 SPN5970A
	Manufacturer : Salom
AC Adapter 2	Brand Name : Motorola
	Model Name : SC-22 SPN5993A
	Manufacturer : Chenyang
Battery	Brand Name : Motorola
	Model Name : JS40
	Manufacturer : SUNWODA
C2Audio Cable 1	Brand Name : Motorola
	Model Name : SC18C27844
	Manufacturer : Luxshare
C2Audio Cable 2	Brand Name : Motorola
	Model Name : SC18C27845
	Manufacturer : Cabletech
USB Cable 1	Brand Name : Cabletech
	Model Name : SKN6473A
USB Cable 2	Brand Name : FOXLINK
	Model Name : SKN6473A 17195-C 0403532
USB Cable 3	Brand Name : SAIBAO
	Model Name : SKN6473A 17214-C 1127044
USB Cable 4	Brand Name : Luxshare
	Model Name : SKN6473A 17227-C 1126538

1.4 Product Specification of Equipment Under Test

Product Feature	
Tx Frequency	LTE Band 30 : 2307.5 MHz ~2312.5 MHz
Rx Frequency	LTE Band 30 : 2352.5 MHz ~ 2357.5 MHz
Bandwidth	5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 30 : 22.71 dBm
Antenna Type	Monopole Antenna
Antenna Gain	**<Main Antenna>** 0.5 dBi **<Aux. Antenna>** -9.0 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 Emission Designator

LTE Band 30		QPSK			16QAM			64QAM		
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum PSD EIRP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum PSD EIRP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum PSD EIRP(W)**
5	2307.5 ~ 2312.5	4M51G7D	-	0.2203	4M51W7D	-	0.1888	4M51W7D	-	0.1941
10	2310.0	8M99G7D	0.0017	0.2173	8M95W7D	-	0.1954	8M99W7D	-	0.1778

1.7 Testing Site

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0) and the FCC designation No. is CN5013.

Test Site	Sporton International (Kunshan) Inc.	
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958	
Test Site No.	**Sporton Site No.**	**FCC Test Firm Registration No.**
	03CH03-KS	630927

1.8 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 27(D)
- ANSI / TIA-603-E
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03

Remark:

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

2 Test Configuration of Equipment Under Test

2.1 Test Mode

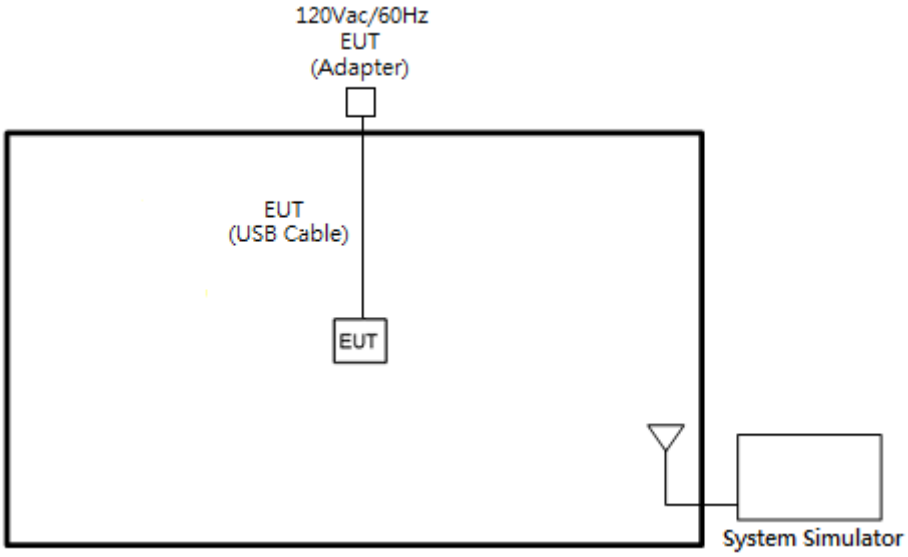
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03 with maximum output power.

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	30	-	-	V	V	-	-	V		V	V	V	V	V	V	V
Peak-to-Average Ratio	30	-	-		V	-	-				V		V	V	V	V
E.I.R.P PSD	30	-	-	V	V	-	-	V		V	V			V	V	V
26dB and 99% Bandwidth	30	-	-	V	V	-	-	V		V			V	V	V	V
Conducted Band Edge	30	-	-	V	V	-	-	V		V	V		V	V		V
Conducted Spurious Emission	30	-	-	V	V	-	-	V		V	V			V	V	V
Frequency Stability	30	-	-	V	V	-	-	V					V		V	
Radiated Spurious Emission	30	Worst Case												V	V	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

<EUT with Adapter>



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

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

Example :

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

= 4.2 + 10 = 14.2 (dB)

2.5 Frequency List of Low/Middle/High Channels

LTE Band 30 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	27710	-
	Frequency	-	2310	-
5	Channel	27685	27710	27735
	Frequency	2307.5	2310	2312.5

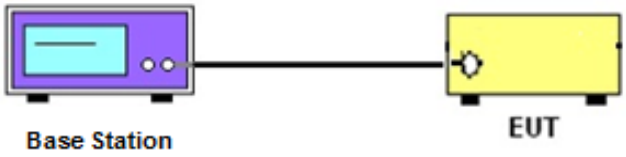
3 Conducted Test Items

3.1 Measuring Instruments

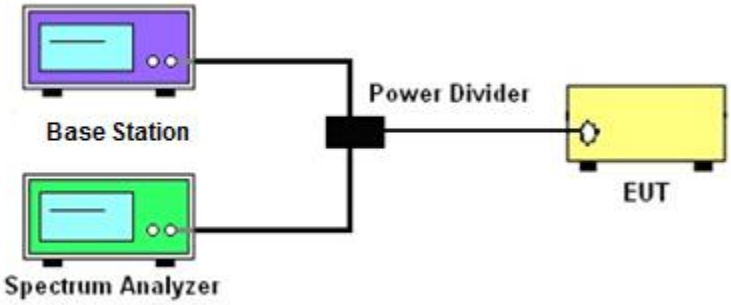
See list of measuring instruments of this test report.

3.2 Test Setup

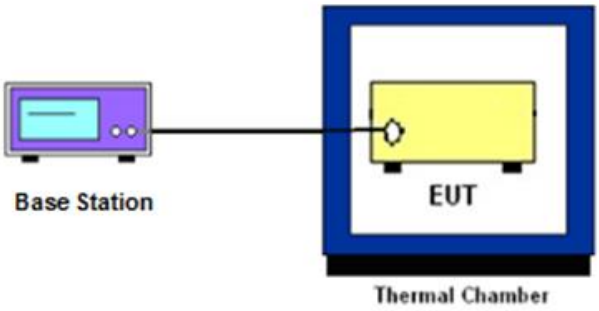
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied / 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 Measurement

3.4.1 Description of the Conducted Output Power 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.

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 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 5.7.1.
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 EIRP Power Density

3.6.1 Description of EIRP Power Density

For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, *except that* for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.7.1.
2. Set instrument center frequency to OBW center frequency.
3. Set span to at least 1.5 times the OBW.
4. Set the RBW to the specified reference bandwidth (5MHz).
5. Set VBW ≥ 3 × RBW.
6. Detector = RMS (power averaging).
7. Ensure that the number of measurement points in the sweep ≥ 2 × span/RBW.
8. Sweep time = auto couple.
9. Employ trace averaging (RMS) mode over a minimum of 100 traces.
10. Use the peak marker function to determine the maximum amplitude level within the reference bandwidth (PSD).

3.7 Occupied Bandwidth

3.7.1 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.

3.7.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 4.1 and 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.8 Conducted Band Edge Measurement

3.8.1 Description of Conducted Band Edge Measurement

27.53 (a)(4)

For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

(i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;

(ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;

(iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

3.8.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured.
4. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
5. Beyond the 1 MHz band from the band edge, RBW=1MHz was used or a narrower RBW was used and the measured power was integrated over the full required measurement bandwidth of 1 MHz.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. Checked that all the results comply with the emission limit line.

   Example:

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.

3.9 Conducted Spurious Emission Measurement

3.9.1 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 70 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 9 kHz up to a frequency including its 10^{th} harmonic.

3.9.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 70 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [70 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [70 + 10log(P)] (dB)
    = -40dBm

3.10 Frequency Stability Measurement

3.10.1 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.

3.10.2 Test Procedures for Temperature Variation

1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.10.3 Test Procedures for Voltage Variation

1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at 20±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

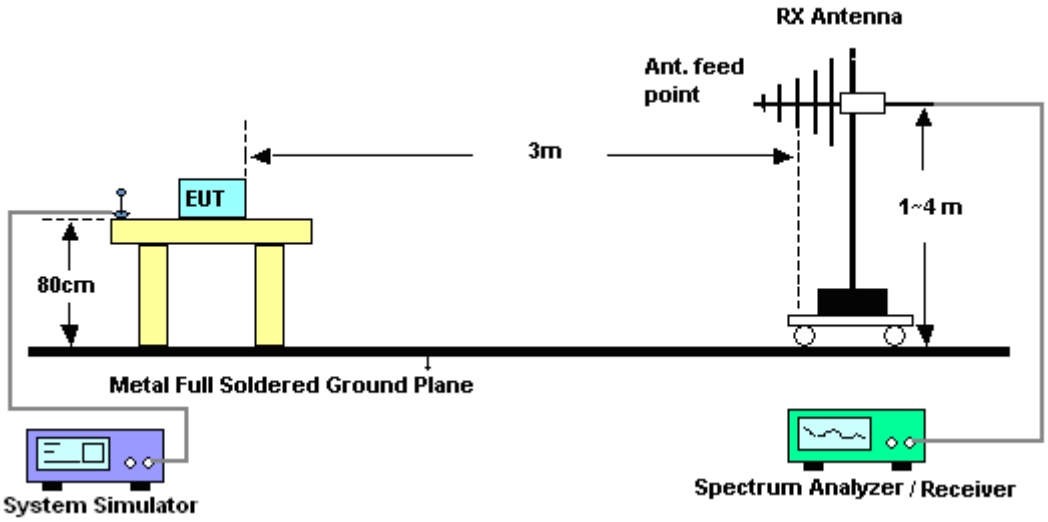
4 Radiated Test Items

4.1 Measuring Instruments

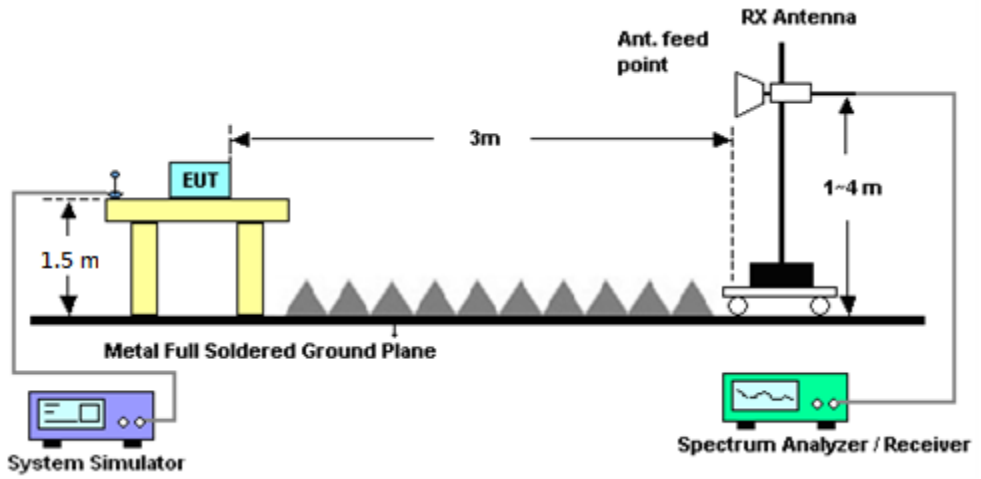
See list of measuring instruments of this test report.

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 / TIA / EIA-603-D-2010. 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 70 + 10 log (P) dB.

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

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-D-2010 Section 2.2.12.
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
   EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
   ERP (dBm) = EIRP - 2.15
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 70 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [70 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [70 + 10log(P)] (dB)
    = -40dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV30	101338	10kHz~30GHz; Max 30dBm	May 25, 2017	Mar. 03, 2018	May 24, 2018	Conducted (TH01-KS)
Temperature Chamber	Hongzhan	LP-150U	2306	Temperature (-40~150°C） Humidity （20~98%RH)	Apr. 20, 2017	Mar. 03, 2018	Apr. 19, 2018	Conducted (TH01-KS)
Radio communication analyzer	Anritsu	MT8820C	6201432830	GSM / GPRS /WCDMA / LTE FDD/TDD with 44) /LTE-3	Jan. 18, 2018	Mar. 03, 2018	Jan. 17, 2019	Conducted (TH01-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18~40GHz,45dB Min	Oct. 12, 2017	Mar. 02, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
Amplifier	com-power	MITEQ	2025788	100MHz ~1800MHz /	Apr. 18, 2018	Mar. 02, 2018	Apr. 17, 2019	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz-2GHz	Apr. 22, 2017	Mar. 02, 2018	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Mar. 02, 2018	Apr. 21, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr. 18, 2017	Mar. 02, 2018	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Oct. 12, 2017	Mar. 02, 2018	Oct. 11, 2018	Radiation (03CH03-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44GHz	Apr. 18, 2017	Mar. 02, 2018	Apr. 17, 2018	Radiation (03CH03-KS)
Controller	ChamPro	EM 1000	060762	N/A	N/A	Mar. 02, 2018	N/A	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0-360°	N/A	Mar. 02, 2018	N/A	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1m-4m	N/A	Mar. 02, 2018	N/A	Radiation (03CH03-KS)
SHF-EHF Horn	com-power	AH-840	101070	18Ghz-40Ghz	Dec. 06, 2017	Mar. 02, 2018	Dec. 05, 2018	Radiation (03CH03-KS)
Double Ridge horn Antenna	ETS-lindgren	3117	75957	1GHz~18GHz	Oct. 21, 2017	Mar. 02, 2018	Oct. 20, 2018	Radiation (03CH03-KS)
Signal Generator	R&S	SMR40	100455	10MHz~40GHz	Jan. 18, 2018	Mar. 02, 2018	Jan. 17, 2019	Radiation (03CH03-KS)

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))	2.81

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.27

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

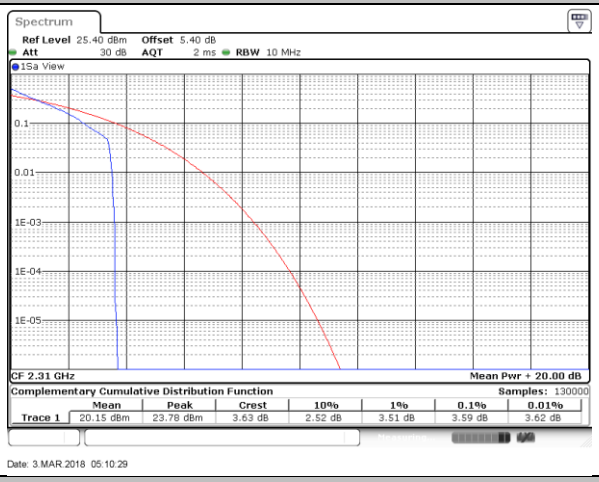
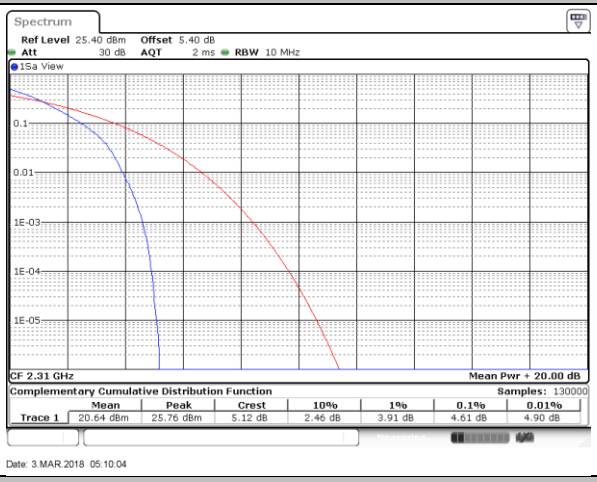
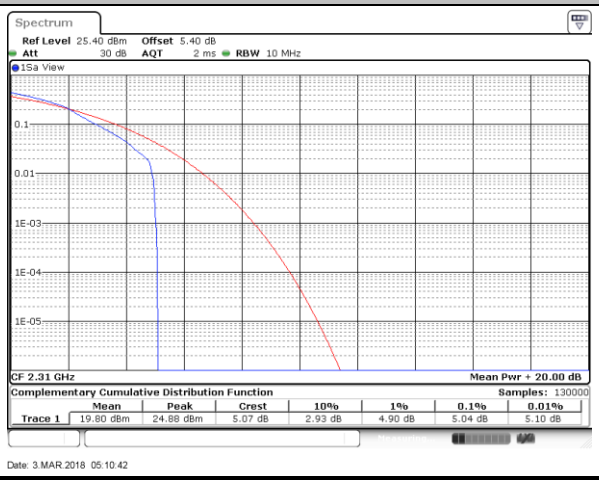
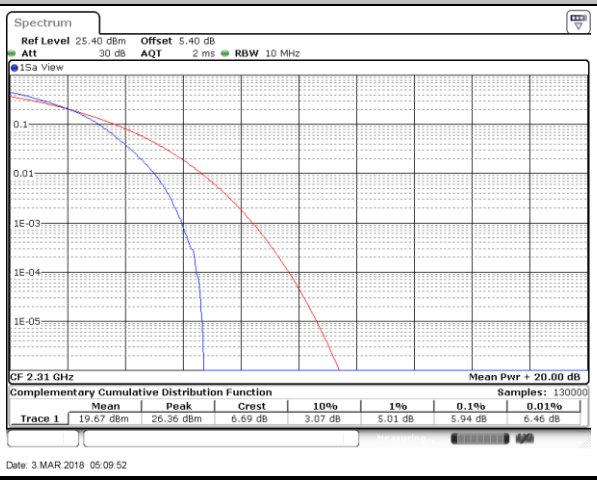
LTE Band 30 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK	-	**22.71**	-
10	1	25			22.68	
10	1	49			22.67	
10	25	0			21.67	
10	25	12			21.75	
10	25	25			21.79	
10	50	0			21.73	
10	1	0	16-QAM		22.06	
10	1	25			21.93	
10	1	49			21.95	
10	25	0			20.77	
10	25	12			20.85	
10	25	25			20.85	
10	50	0			20.83	
10	1	0	64-QAM		21.05	
10	1	25			20.96	
10	1	49			20.82	
10	25	0			19.98	
10	25	12			19.86	
10	25	25			19.88	
10	50	0			19.91	
5	1	0	QPSK	22.65	22.65	22.70
5	1	12		22.59	22.67	22.65
5	1	24		22.63	22.64	22.66
5	12	0		21.72	21.72	21.78
5	12	7		21.29	21.74	21.82
5	12	13		21.73	21.76	21.73
5	25	0		21.65	21.73	21.80
5	1	0	16-QAM	21.88	21.91	22.00
5	1	12		21.91	21.93	21.91
5	1	24		21.86	21.90	22.02
5	12	0		20.76	20.79	20.85
5	12	7		20.79	20.83	20.87
5	12	13		20.78	20.82	20.77
5	25	0		20.69	20.79	20.85
5	1	0	64-QAM	21.00	21.18	21.10
5	1	12		20.80	20.92	20.89
5	1	24		21.03	20.96	20.97
5	12	0		19.90	19.99	19.88
5	12	7		19.82	19.91	19.94
5	12	13		19.91	19.91	19.86
5	25	0		19.88	19.86	19.84

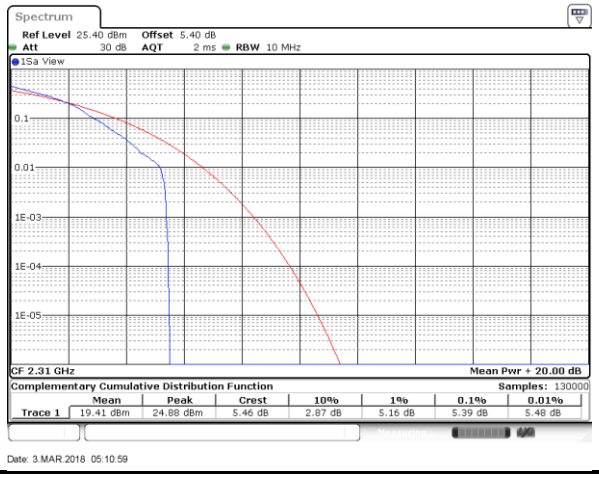
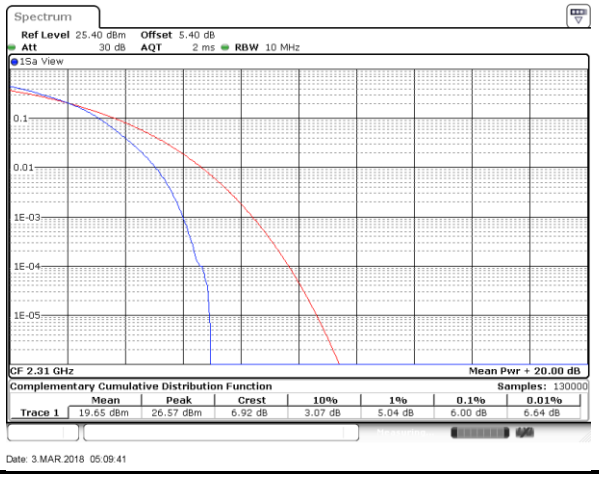
LTE Band 30

Peak-to-Average Ratio

Mode	LTE Band 30 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.59	4.61	5.04	5.94	
Highest CH	-	-	-	-	

Mod.	64QAM		Limit: 13dB
RB Size	1RB	Full RB	Result
Lowest CH			PASS
Middle CH	5.39	6	
Highest CH			

LTE Band 30 / 10MHz / QPSK	
Middle Channel / 1RB	**Middle Channel / Full RB**
	
LTE Band 30 / 10MHz / 16QAM	
Middle Channel / 1RB	**Middle Channel / Full RB**
	

LTE Band 30 / 10MHz / 64QAM	
Middle Channel / 1RB	**Middle Channel / Full RB**
	

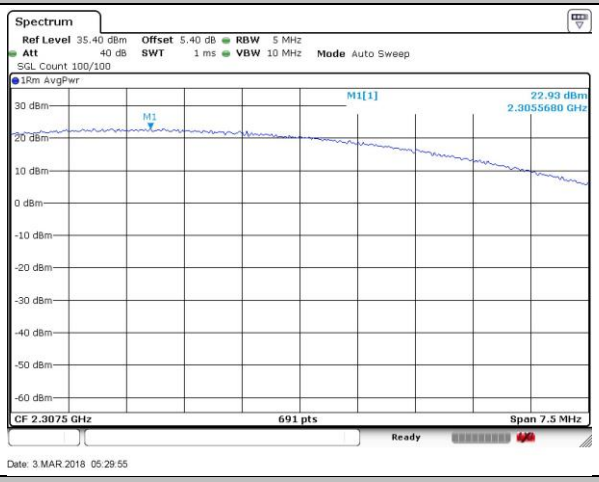
EIRP Power Density

Mode	LTE Band 30 : Conducted Power Density (dBm/5MHz)											
BW	5MHz		10MHz		5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM		64QAM					
Lowest CH	22.93	22.25			22.38							
Middle CH	22.78	22.24	22.87	22.41	22.21		22					
Highest CH	22.85	22.26			22.18							

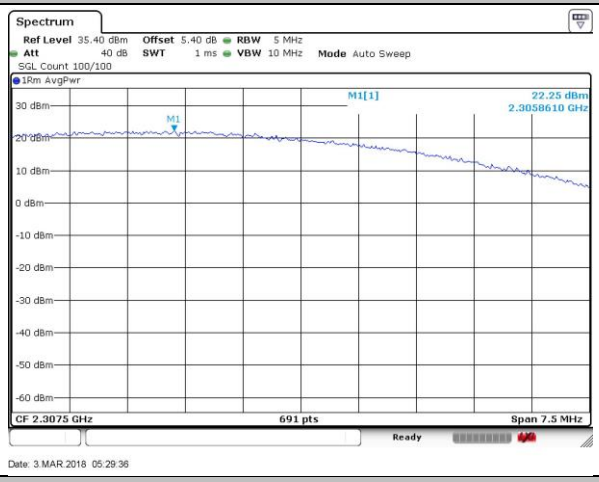
Mode	LTE Band 30 : EIRP Power Density (dBm/5MHz)											
BW	5MHz		10MHz		5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM		64QAM					
Lowest CH	23.43	22.75			22.88							
Middle CH	23.28	22.74	23.37	22.91	22.71		22.5					
Highest CH	23.35	22.76			22.68							
Antenna Gain	0.5 dBi											
Limit	250mW / 5MHz = 24dBm / 5MHz											
Result	Pass											

LTE Band 30 / 5MHz

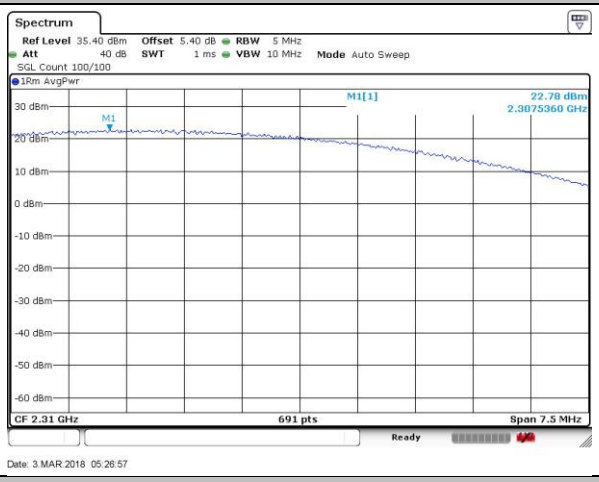
Lowest Channel / 5MHz / 1RB0 / QPSK



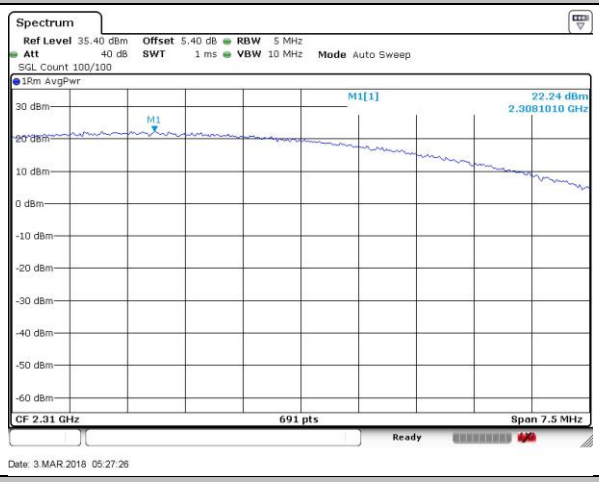
Lowest Channel / 5MHz / 1RB0 / 16QAM



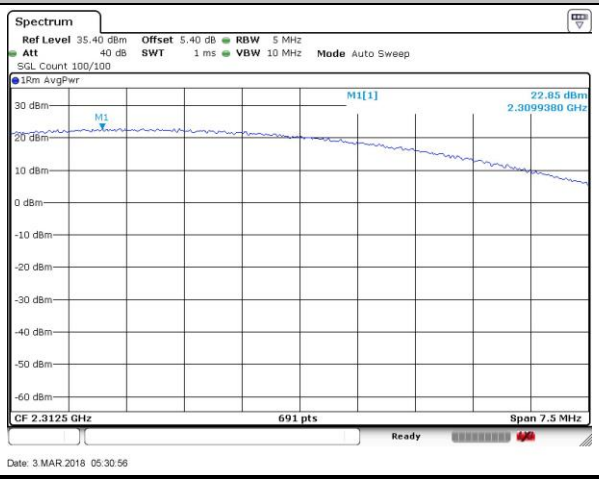
Middle Channel / 5MHz / 1RB0 / QPSK



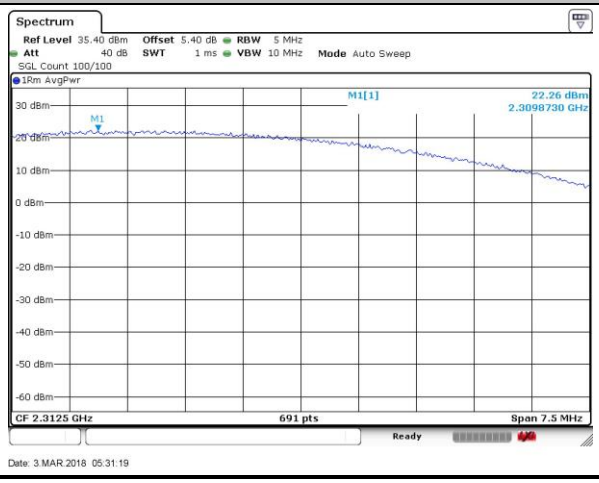
Middle Channel / 5MHz / 1RBmax / 16QAM

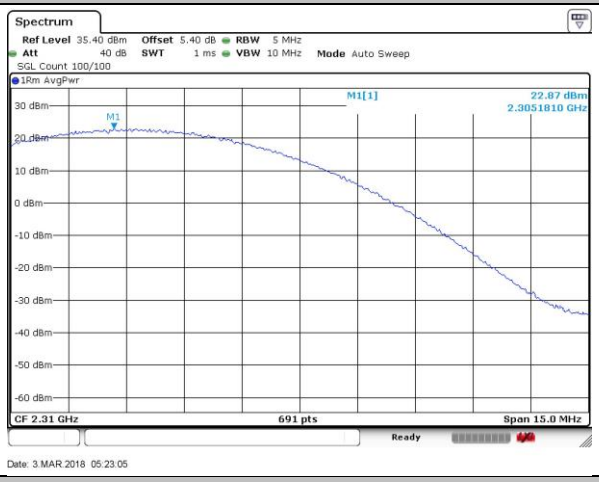
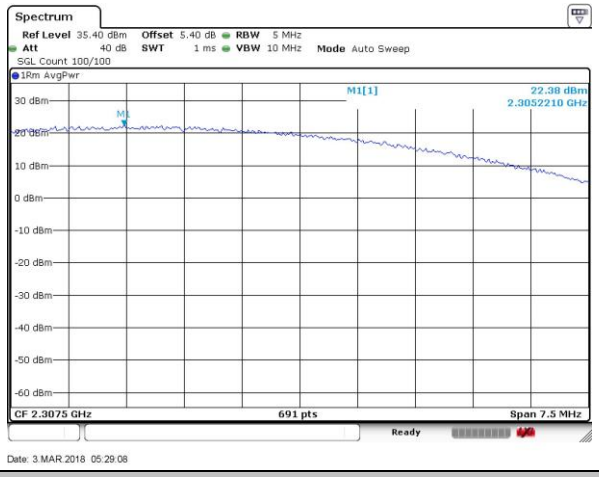
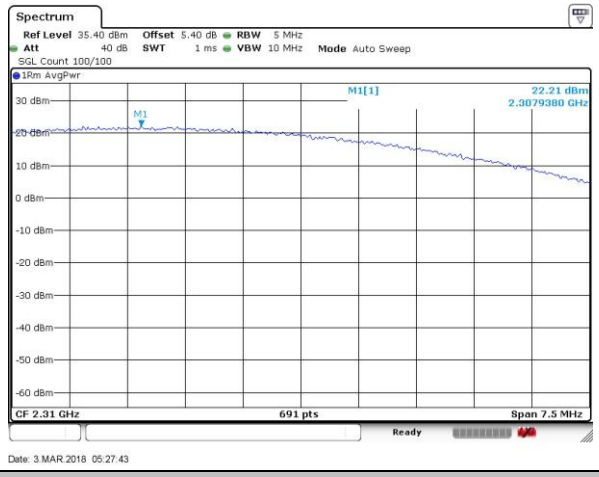
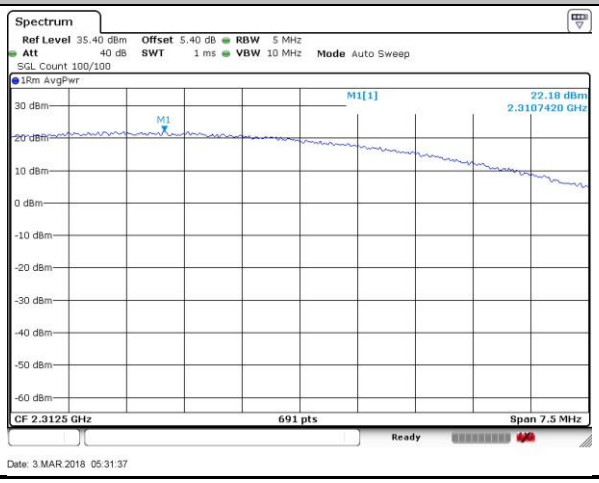


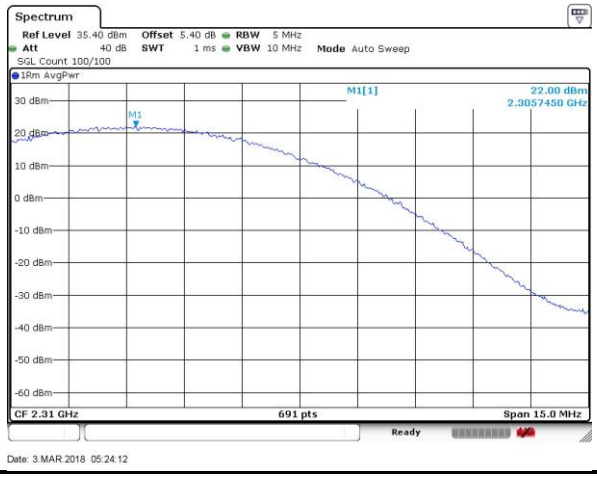
Highest Channel / 5MHz / Full RB / QPSK



Highest Channel / 5MHz / Full RB / 16QAM



LTE Band 30 / 10MHz	
Lowest Channel / 10MHz / 1RB0 / QPSK	**Lowest Channel / 10MHz / 1RB0 / 16QAM**
	
LTE Band 30 / 5MHz	
Lowest Channel / 5MHz / 1RB0 / 64QAM	**Middle Channel / 5MHz / 1RB0 / 64QAM**
	
LTE Band 30 / 5MHz	
Highest Channel / 5MHz / 1RB0 / 64QAM	
	

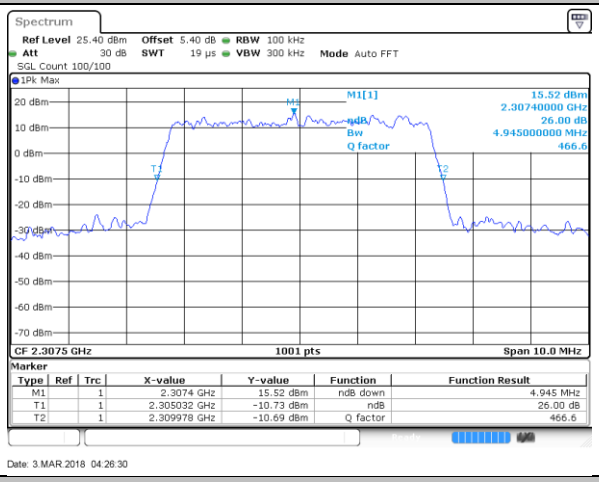
LTE Band 30 / 10MHz	
Middle Channel / 10MHz / 1RB0 / 64QAM	
	

26dB Bandwidth

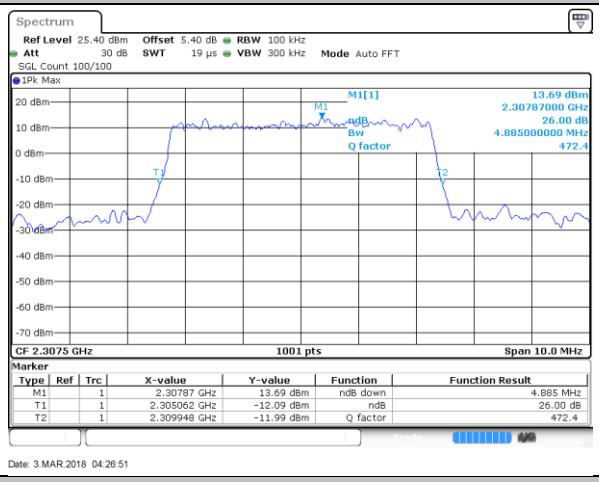
Mode	LTE Band 30 : 26dB BW(MHz)											
BW	5MHz		10MHz		5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM		64QAM					
Lowest CH	4.945	4.885	-	-	4.915				-			
Middle CH	4.835	4.895	9.91	9.63	4.925		9.81		-	-	-	-
Highest CH	4.945	4.915	-	-	4.805				-	-	-	-

LTE Band 30

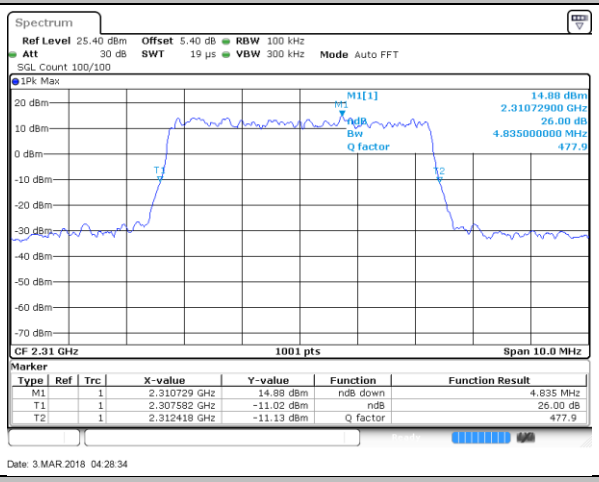
Lowest Channel / 5MHz / QPSK



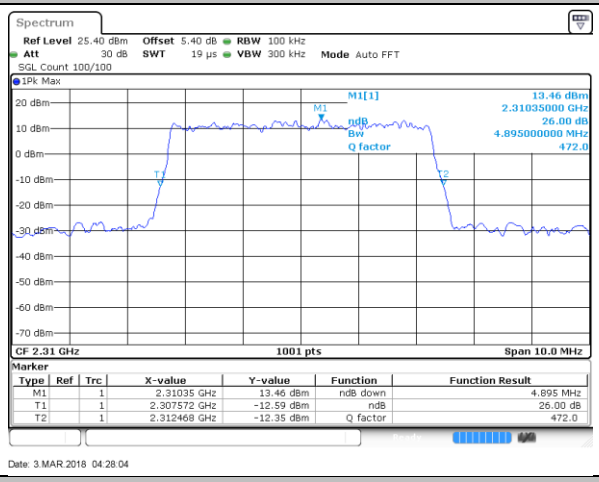
Lowest Channel / 5MHz / 16QAM



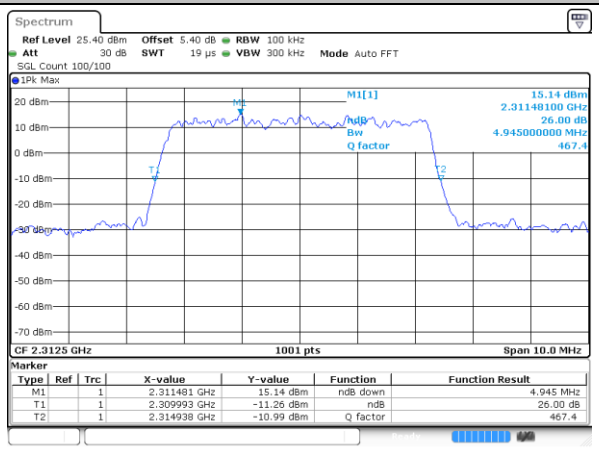
Middle Channel / 5MHz / QPSK



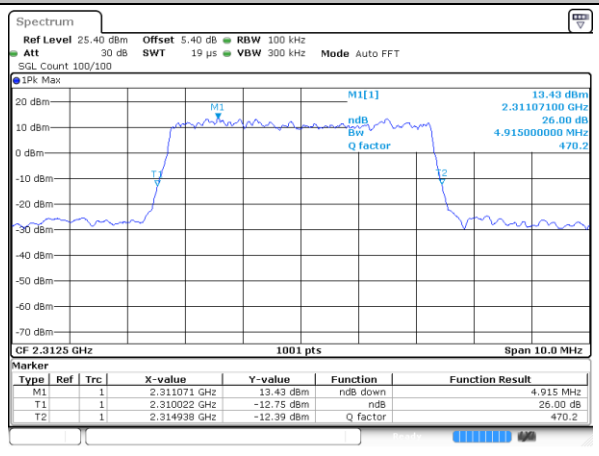
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

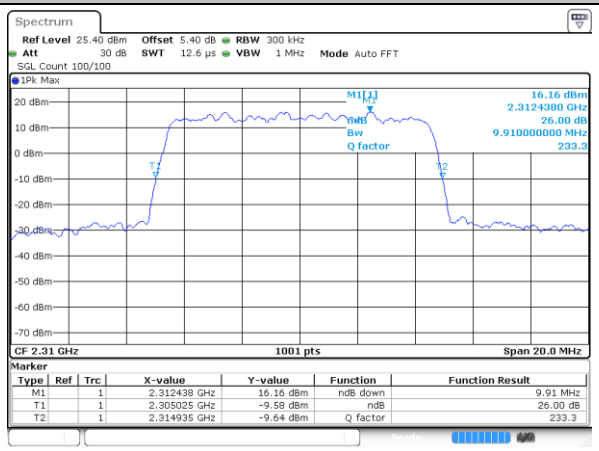


Highest Channel / 5MHz / 16QAM

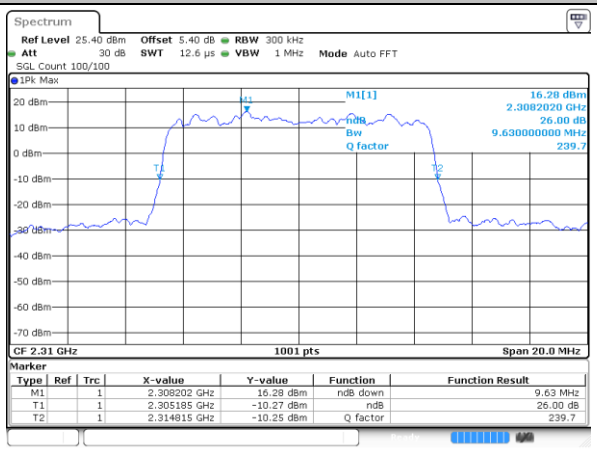


LTE Band 30

Middle Channel / 10MHz / QPSK

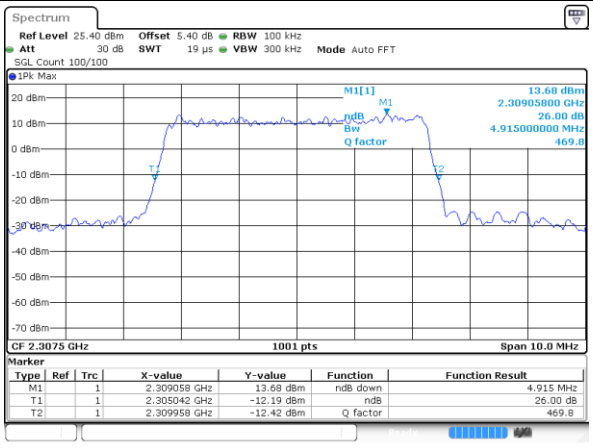


Middle Channel / 10MHz / 16QAM

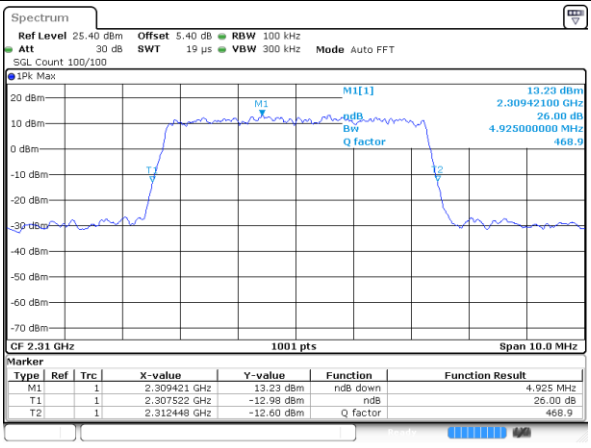


LTE Band 30

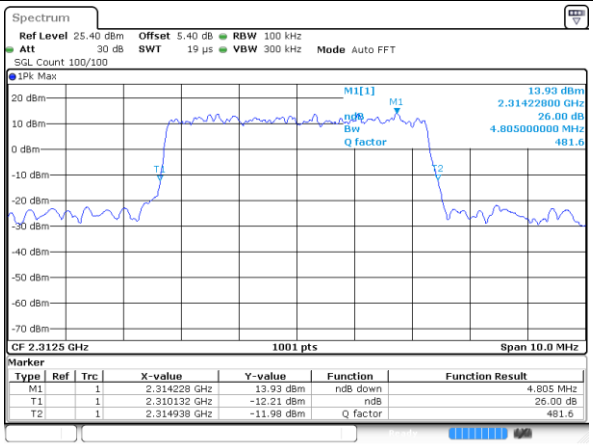
Lowest Channel / 5MHz / 64QAM



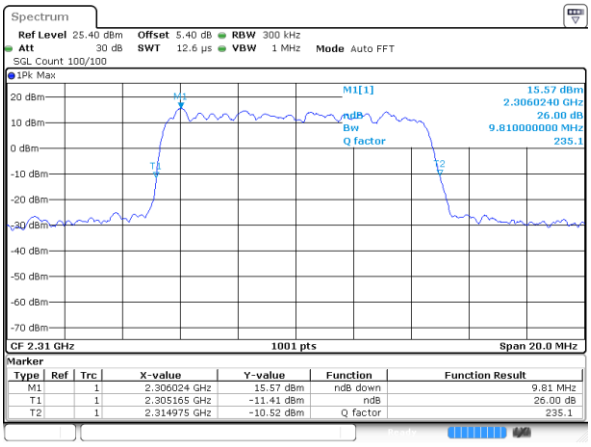
Middle Channel / 5MHz / 64QAM



Highest Channel /5MHz / 64QAM



Middle Channel /10MHz / 64QAM

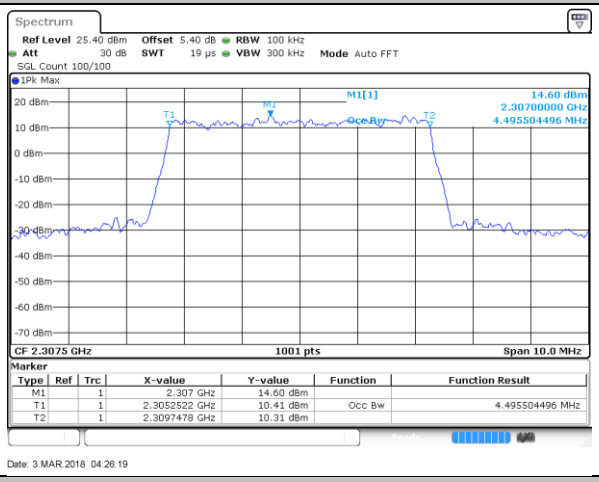


Occupied Bandwidth

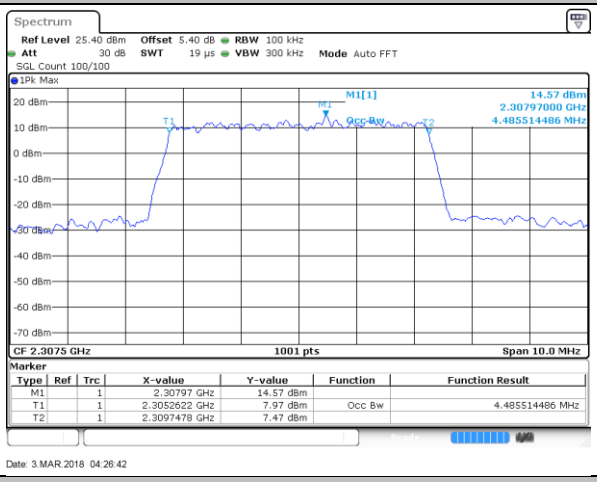
Mode	LTE Band 30 : 99%OBW(MHz)											
BW	5MHz		10MHz		5MHz		10MHz					
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM		64QAM					
Lowest CH	4.5	4.49	-	-	4.5				-	-	-	-
Middle CH	4.51	4.47	8.99	8.95	4.51		8.99		-	-	-	-
Highest CH	4.51	4.51	-	-	4.48				-	-	-	-

LTE Band 30

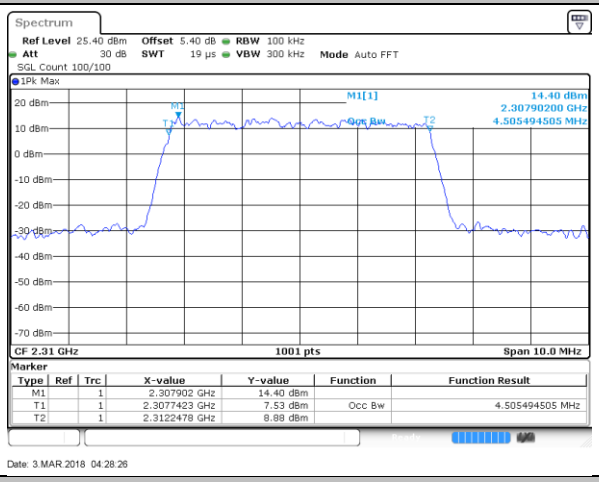
Lowest Channel / 5MHz / QPSK



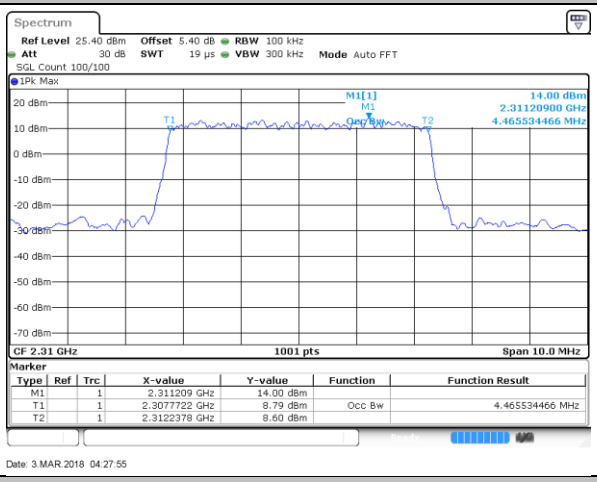
Lowest Channel / 5MHz / 16QAM



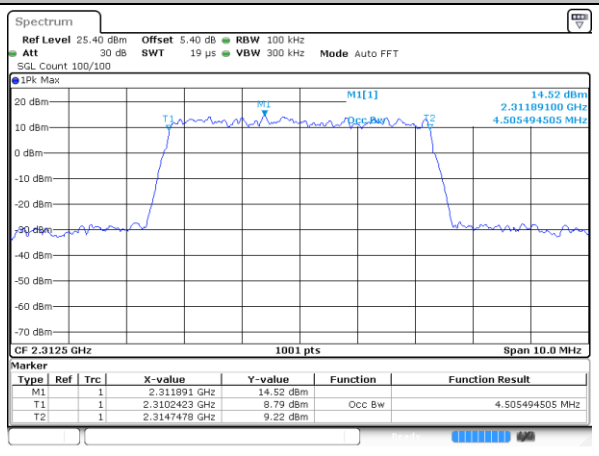
Middle Channel / 5MHz / QPSK



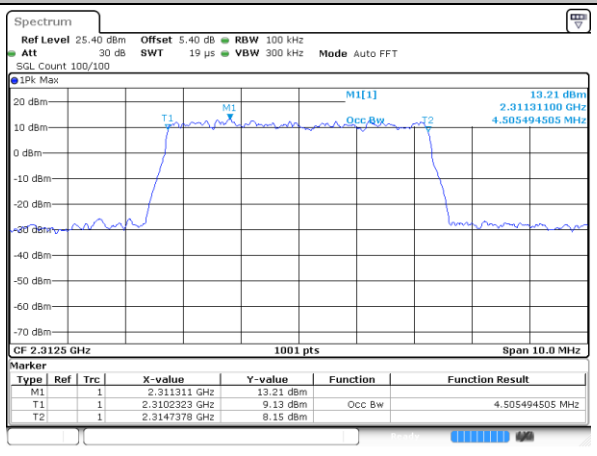
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

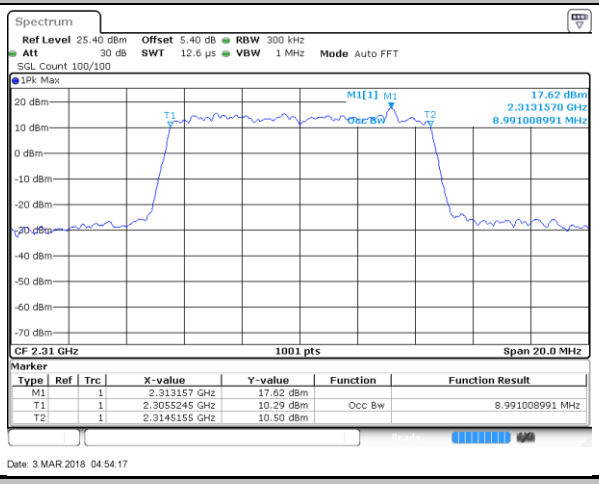


Highest Channel / 5MHz / 16QAM

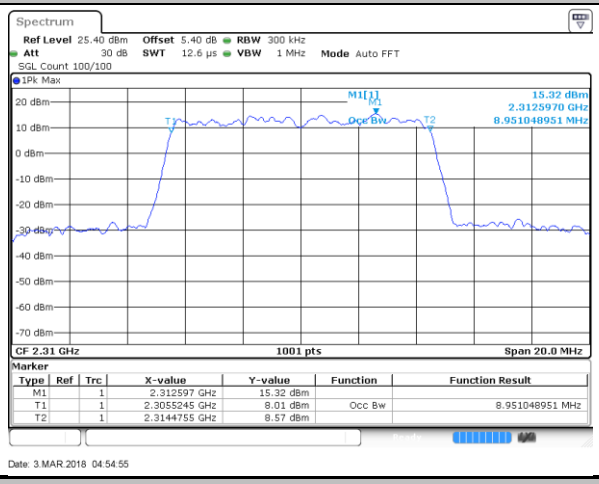


LTE Band 30

Middle Channel / 10MHz / QPSK

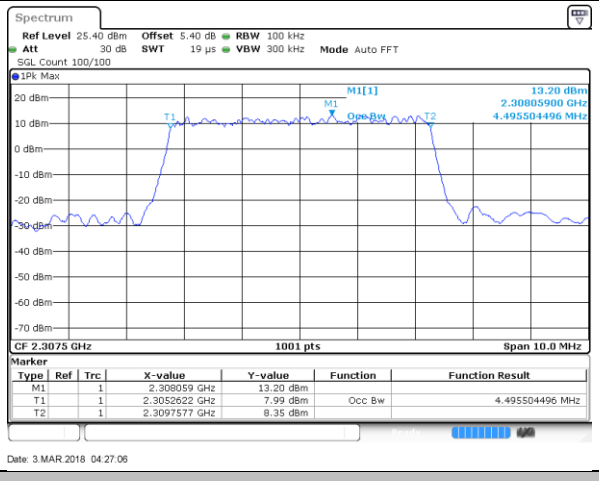


Middle Channel / 10MHz / 16QAM

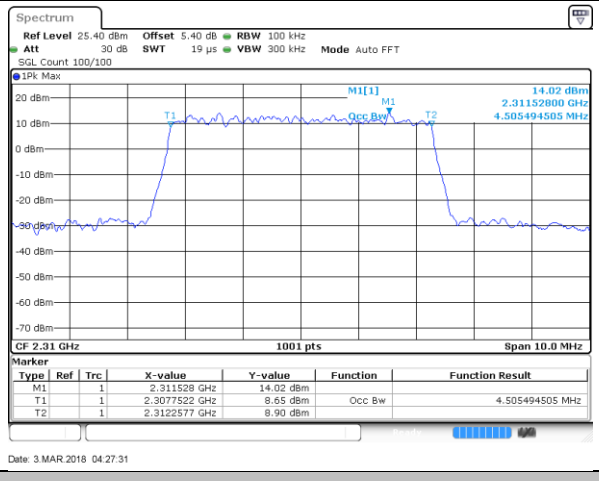


LTE Band 30

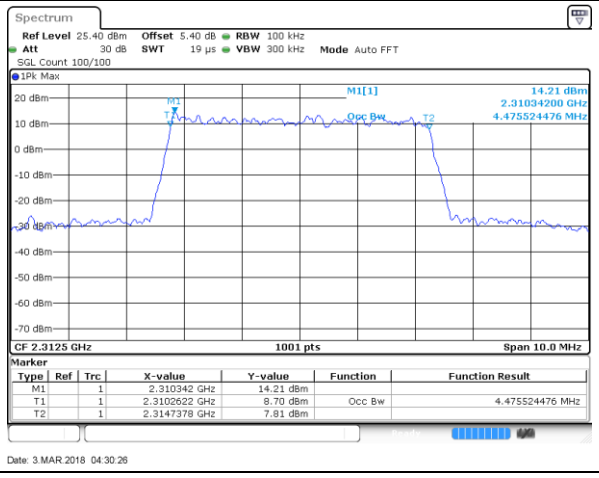
Lowest Channel / 5MHz / 64QAM



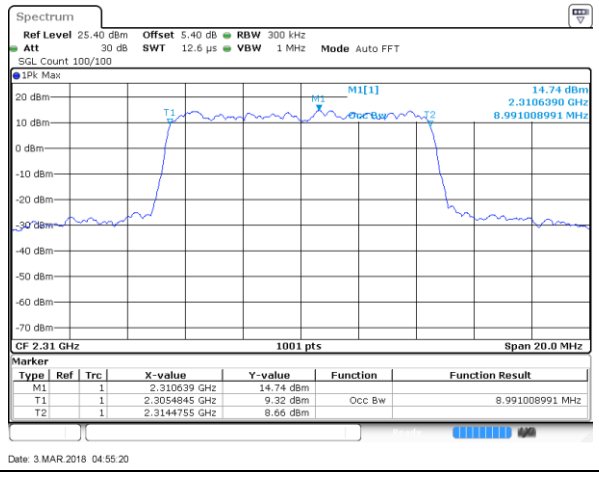
Middle Channel / 5MHz / 64QAM



Highest Channel /5MHz / 64QAM



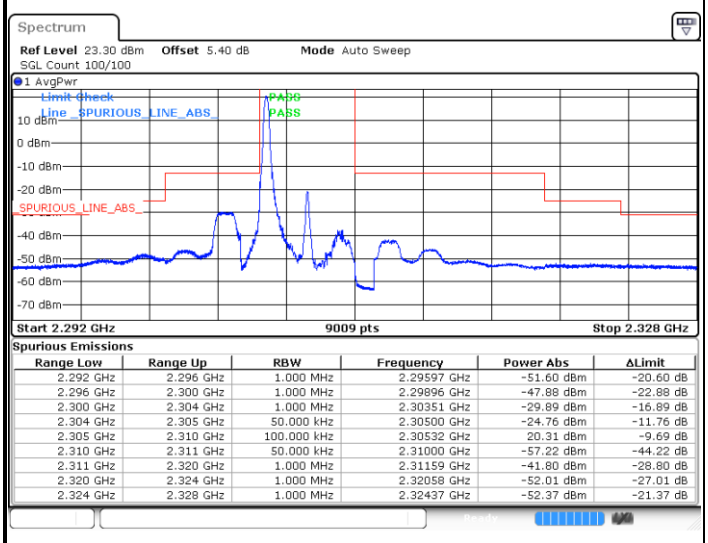
Middle Channel /10MHz / 64QAM



Conducted Band Edge

LTE Band 30 / 5MHz / QPSK

Lowest Band Edge / 1 RB

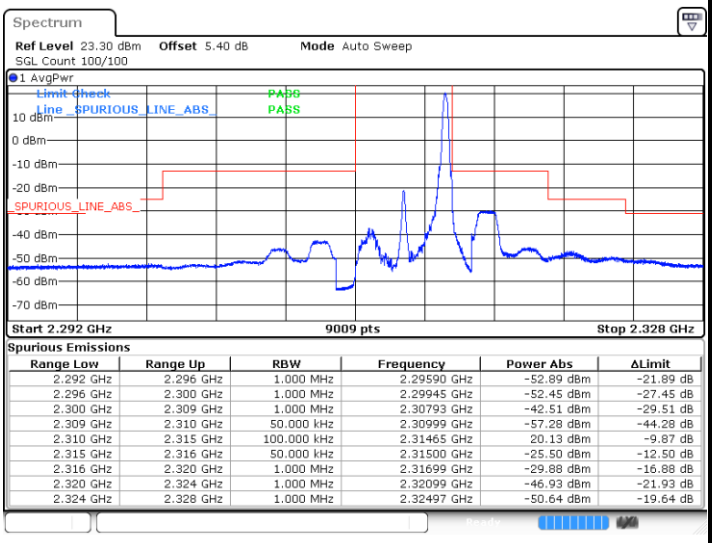


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29597 GHz	-51.60 dBm	-20.60 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29896 GHz	-47.88 dBm	-22.88 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30351 GHz	-29.89 dBm	-16.89 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30500 GHz	-24.76 dBm	-11.76 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30532 GHz	20.31 dBm	-9.69 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31000 GHz	-57.22 dBm	-44.22 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31159 GHz	-41.80 dBm	-28.80 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32058 GHz	-52.01 dBm	-27.01 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32437 GHz	-52.37 dBm	-21.37 dB

Date: 3.MAR.2018 04:41:34

Highest Band Edge / 1 RB

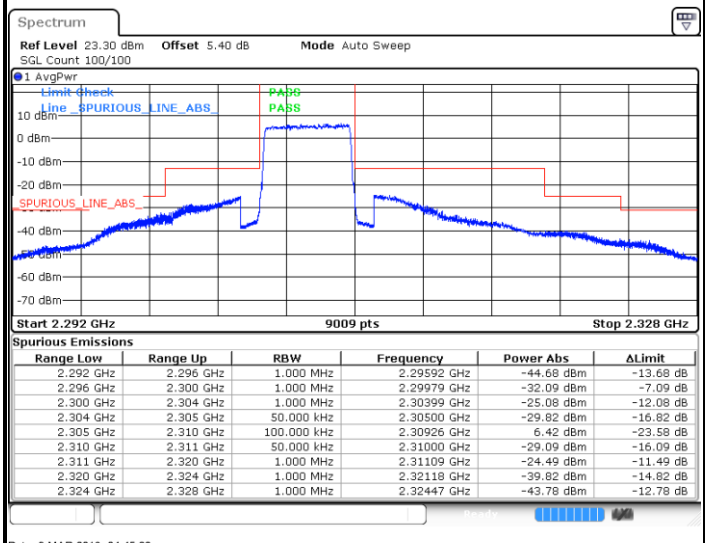


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29590 GHz	-52.89 dBm	-21.89 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29945 GHz	-52.45 dBm	-27.45 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30793 GHz	-42.51 dBm	-29.51 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.30999 GHz	-57.28 dBm	-44.28 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31465 GHz	20.13 dBm	-9.87 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31500 GHz	-25.50 dBm	-12.50 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31699 GHz	-29.88 dBm	-16.88 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32099 GHz	-46.93 dBm	-21.93 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32497 GHz	-50.64 dBm	-19.64 dB

Date: 3.MAR.2018 04:51:14

Lowest Band Edge / Full RB

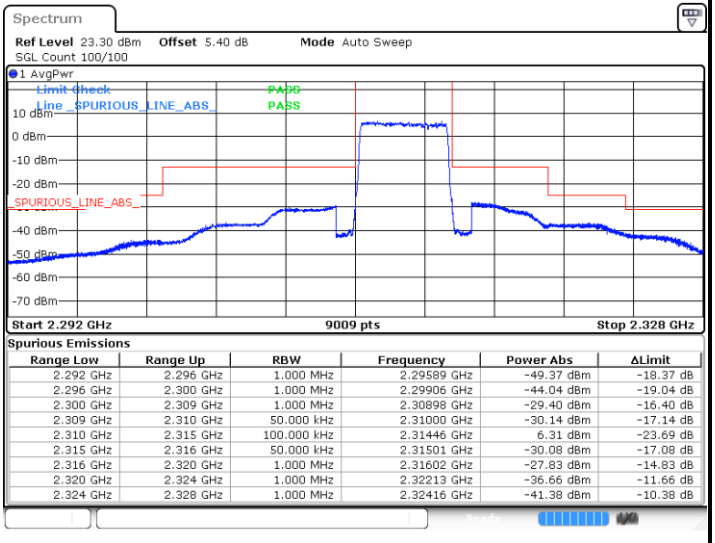


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29592 GHz	-44.68 dBm	-13.68 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29979 GHz	-32.09 dBm	-7.09 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30399 GHz	-25.08 dBm	-12.08 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30500 GHz	-29.82 dBm	-16.82 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30926 GHz	6.42 dBm	-23.58 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31000 GHz	-29.09 dBm	-16.09 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31109 GHz	-24.49 dBm	-11.49 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32118 GHz	-39.82 dBm	-14.82 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32447 GHz	-43.78 dBm	-12.78 dB

Date: 3.MAR.2018 04:45:22

Highest Band Edge / Full RB



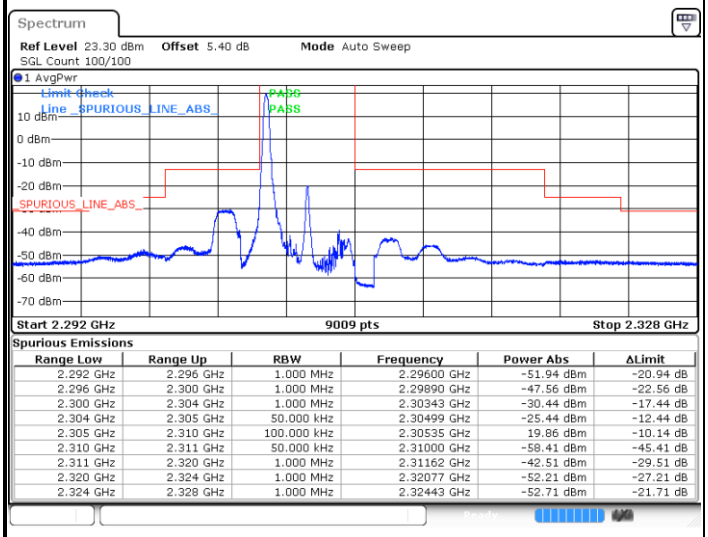
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29589 GHz	-49.37 dBm	-18.37 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29906 GHz	-44.04 dBm	-19.04 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30898 GHz	-29.40 dBm	-16.40 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.31000 GHz	-30.14 dBm	-17.14 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31446 GHz	6.31 dBm	-23.69 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31501 GHz	-30.08 dBm	-17.08 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31602 GHz	-27.83 dBm	-14.83 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32213 GHz	-36.66 dBm	-11.66 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32416 GHz	-41.38 dBm	-10.38 dB

Date: 3.MAR.2018 04:50:26

LTE Band 30 / 5MHz / 16QAM

Lowest Band Edge / 1RB

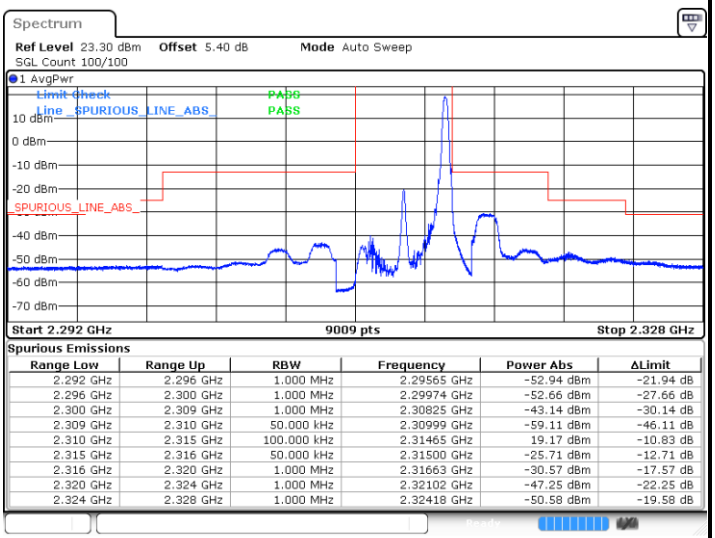


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29600 GHz	-51.94 dBm	-20.94 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29890 GHz	-47.56 dBm	-22.56 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30343 GHz	-30.44 dBm	-17.44 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30499 GHz	-25.44 dBm	-12.44 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30535 GHz	19.86 dBm	-10.14 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31000 GHz	-58.41 dBm	-45.41 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31162 GHz	-42.51 dBm	-29.51 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32077 GHz	-52.21 dBm	-27.21 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32443 GHz	-52.71 dBm	-21.71 dB

Date: 3.MAR.2018 04:42:14

Highest Band Edge / 1 RB

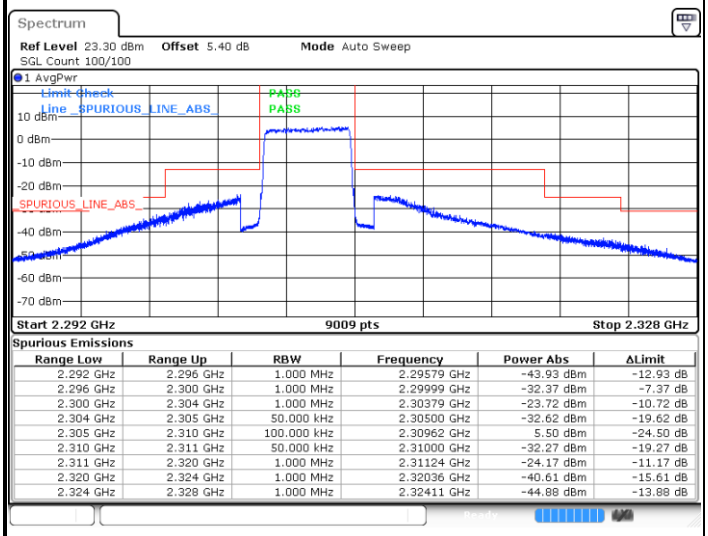


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29565 GHz	-52.94 dBm	-21.94 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29974 GHz	-52.66 dBm	-27.66 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30825 GHz	-43.14 dBm	-30.14 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.30999 GHz	-59.11 dBm	-46.11 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31465 GHz	19.17 dBm	-10.83 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31500 GHz	-25.71 dBm	-12.71 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31663 GHz	-30.57 dBm	-17.57 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32102 GHz	-47.25 dBm	-22.25 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32418 GHz	-50.58 dBm	-19.58 dB

Date: 3.MAR.2018 04:51:46

Lowest Band Edge / Full RB

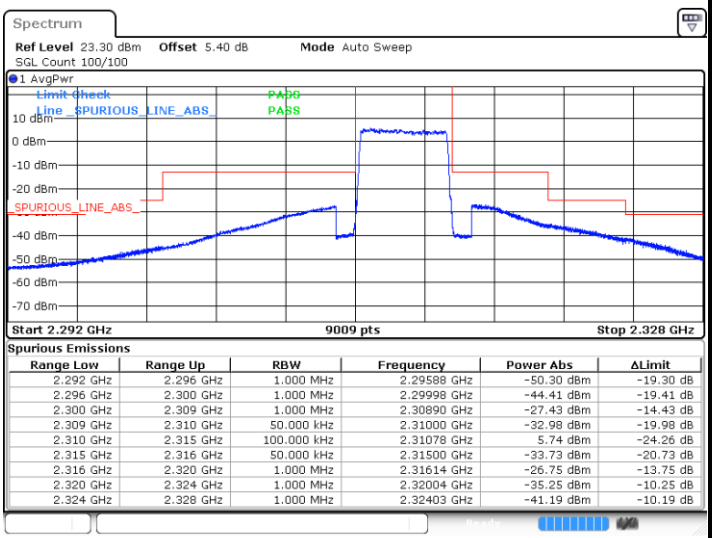


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29579 GHz	-43.93 dBm	-12.93 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29999 GHz	-32.37 dBm	-7.37 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30379 GHz	-23.72 dBm	-10.72 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30500 GHz	-32.62 dBm	-19.62 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30962 GHz	5.50 dBm	-24.50 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31000 GHz	-32.27 dBm	-19.27 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31124 GHz	-24.17 dBm	-11.17 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32036 GHz	-40.61 dBm	-15.61 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32411 GHz	-44.88 dBm	-13.88 dB

Date: 3.MAR.2018 04:46:32

Highest Band Edge / Full RB



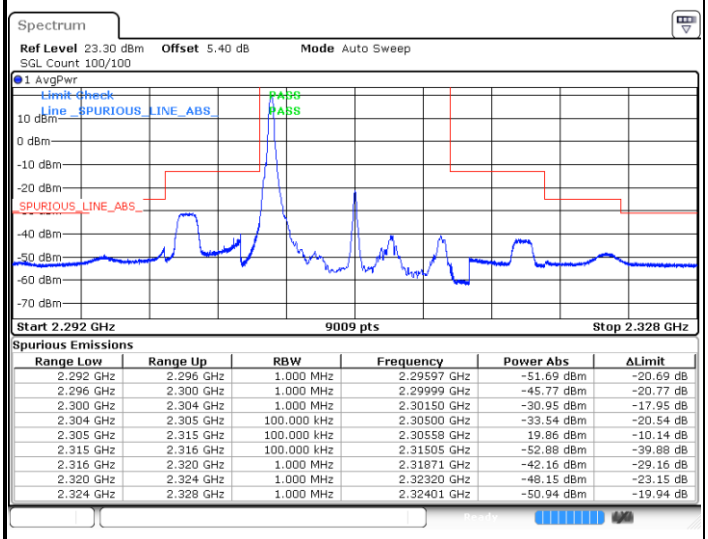
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29588 GHz	-50.30 dBm	-19.30 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29998 GHz	-44.41 dBm	-19.41 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30890 GHz	-27.43 dBm	-14.43 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.31000 GHz	-32.98 dBm	-19.98 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31078 GHz	5.74 dBm	-24.26 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31500 GHz	-33.73 dBm	-20.73 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31614 GHz	-26.75 dBm	-13.75 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32004 GHz	-35.25 dBm	-10.25 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32403 GHz	-41.19 dBm	-10.19 dB

Date: 3.MAR.2018 04:48:59

LTE Band 30 / 10MHz / QPSK

Lowest Band Edge / 1 RB

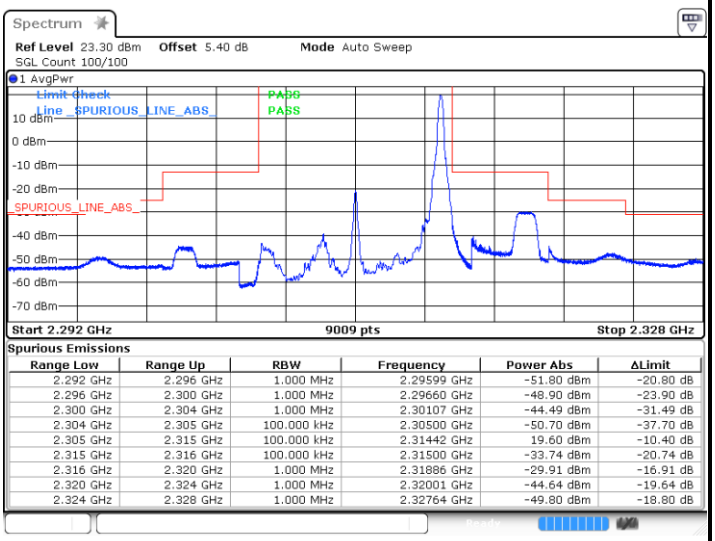


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29597 GHz	-51.69 dBm	-20.69 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29999 GHz	-45.77 dBm	-20.77 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30150 GHz	-30.95 dBm	-17.95 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-33.54 dBm	-20.54 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.30558 GHz	19.86 dBm	-10.14 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31505 GHz	-52.88 dBm	-39.88 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31871 GHz	-42.16 dBm	-29.16 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32320 GHz	-48.15 dBm	-23.15 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32401 GHz	-50.94 dBm	-19.94 dB

Date: 3.MAR.2018 05:02:03

Highest Band Edge / 1 RB

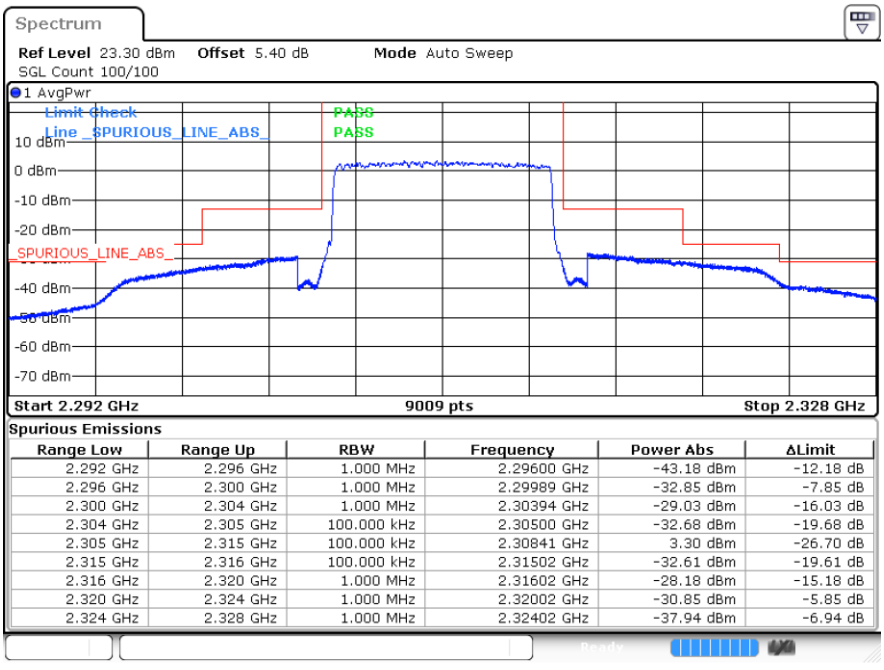


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29599 GHz	-51.80 dBm	-20.80 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29660 GHz	-48.90 dBm	-23.90 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30107 GHz	-44.49 dBm	-31.49 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-50.70 dBm	-37.70 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.31442 GHz	19.60 dBm	-10.40 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-33.74 dBm	-20.74 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31886 GHz	-29.91 dBm	-16.91 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32001 GHz	-44.64 dBm	-19.64 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32764 GHz	-49.80 dBm	-18.80 dB

Date: 3.MAR.2018 05:08:15

Band Edge / Full RB



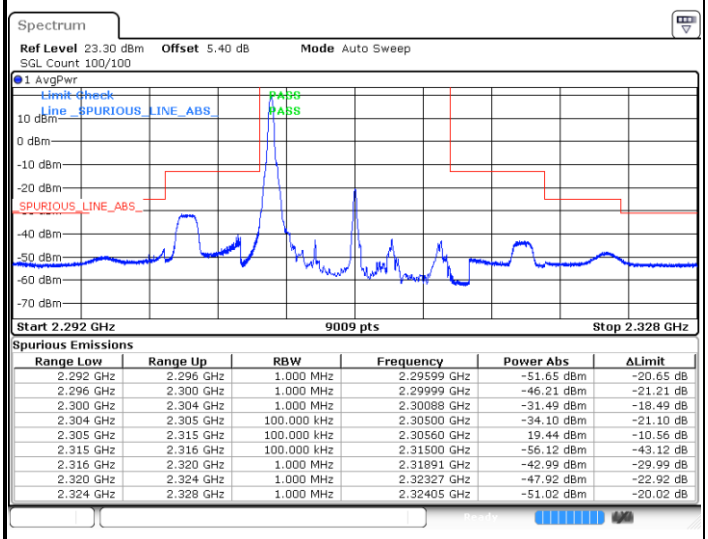
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29600 GHz	-43.18 dBm	-12.18 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29989 GHz	-32.85 dBm	-7.85 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30394 GHz	-29.03 dBm	-16.03 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-32.68 dBm	-19.68 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.30841 GHz	3.30 dBm	-26.70 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31502 GHz	-32.61 dBm	-19.61 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31602 GHz	-28.18 dBm	-15.18 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32002 GHz	-30.85 dBm	-5.85 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32402 GHz	-37.94 dBm	-6.94 dB

Date: 3.MAR.2018 05:08:48

LTE Band 30 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

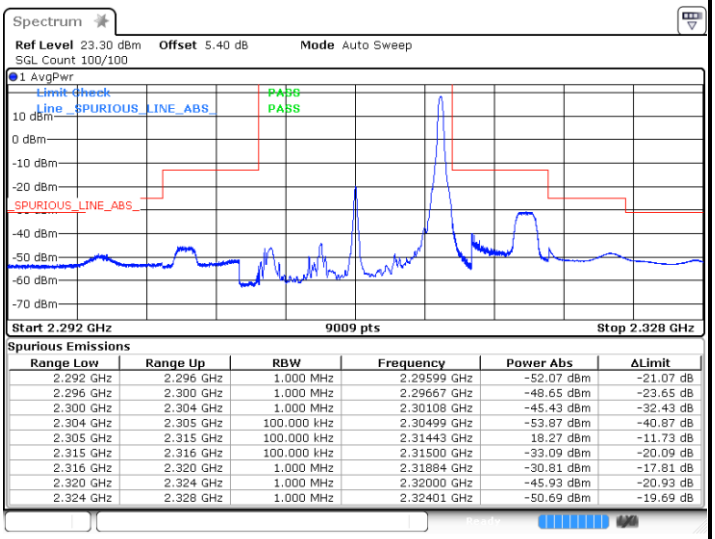


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29599 GHz	-51.65 dBm	-20.65 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29999 GHz	-46.21 dBm	-21.21 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30088 GHz	-31.49 dBm	-18.49 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-34.10 dBm	-21.10 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.30560 GHz	19.44 dBm	-10.56 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-56.12 dBm	-43.12 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31891 GHz	-42.99 dBm	-29.99 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32327 GHz	-47.92 dBm	-22.92 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32405 GHz	-51.02 dBm	-20.02 dB

Date: 3.MAR.2018 05:02:37

Highest Band Edge / 1 RB

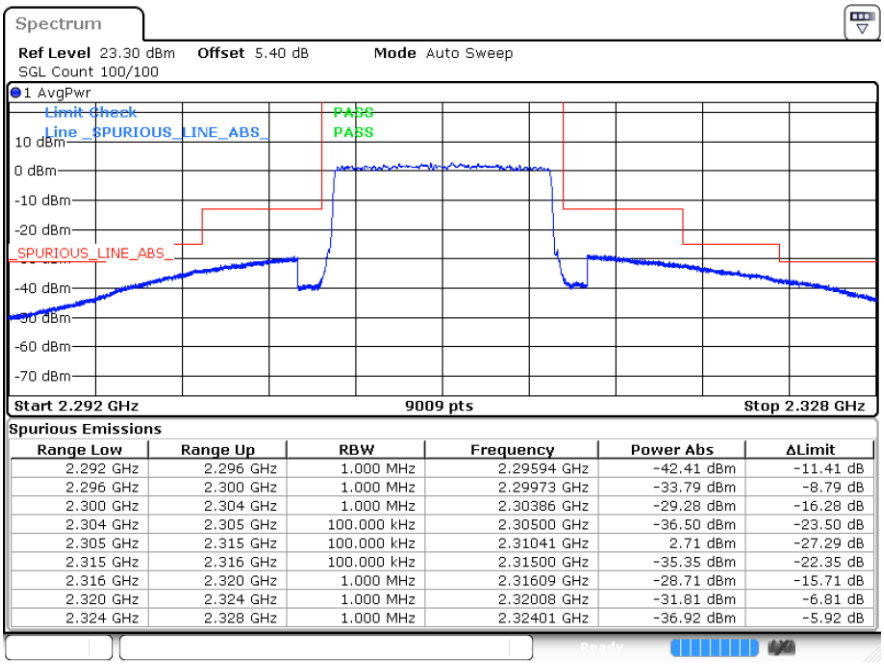


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29599 GHz	-52.07 dBm	-21.07 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29667 GHz	-48.65 dBm	-23.65 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30108 GHz	-45.43 dBm	-32.43 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30499 GHz	-53.87 dBm	-40.87 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.31443 GHz	18.27 dBm	-11.73 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-33.09 dBm	-20.09 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31884 GHz	-30.81 dBm	-17.81 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32000 GHz	-45.93 dBm	-20.93 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32401 GHz	-50.69 dBm	-19.69 dB

Date: 3.MAR.2018 05:07:29

Band Edge / Full RB



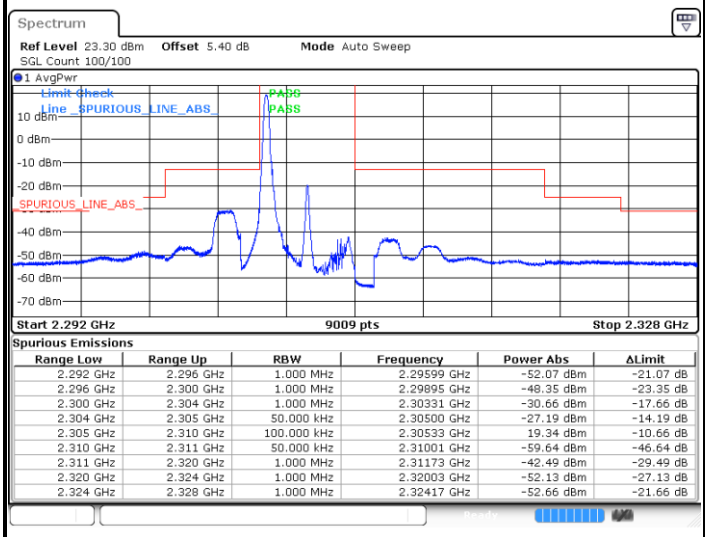
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29594 GHz	-42.41 dBm	-11.41 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29973 GHz	-33.79 dBm	-8.79 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30386 GHz	-29.28 dBm	-16.28 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-36.50 dBm	-23.50 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.31041 GHz	2.71 dBm	-27.29 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-35.35 dBm	-22.35 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31609 GHz	-28.71 dBm	-15.71 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32008 GHz	-31.81 dBm	-6.81 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32401 GHz	-36.92 dBm	-5.92 dB

Date: 3.MAR.2018 05:09:09

LTE Band 30 / 5MHz / 64QAM

Lowest Band Edge / 1 RB

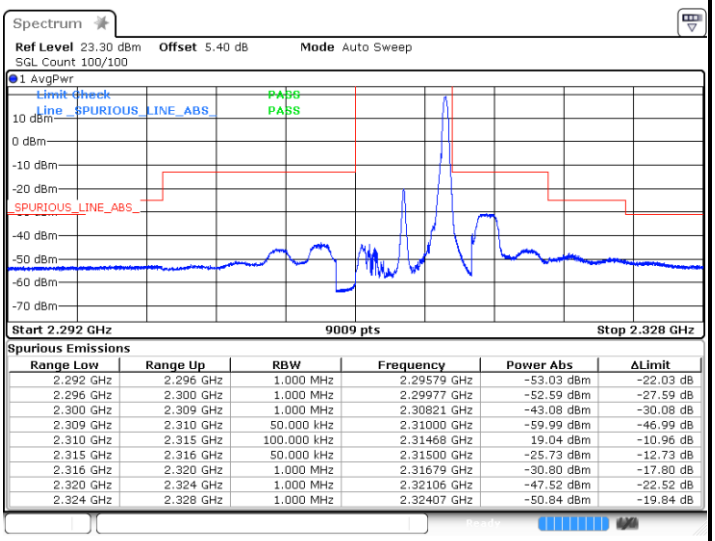


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29599 GHz	-52.07 dBm	-21.07 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29895 GHz	-48.35 dBm	-23.35 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30331 GHz	-30.66 dBm	-17.66 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30500 GHz	-27.19 dBm	-14.19 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30533 GHz	19.34 dBm	-10.66 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31001 GHz	-59.64 dBm	-46.64 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31173 GHz	-42.49 dBm	-29.49 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32003 GHz	-52.13 dBm	-27.13 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32417 GHz	-52.66 dBm	-21.66 dB

Date: 3.MAR.2018 04:43:24

Highest Band Edge / 1 RB

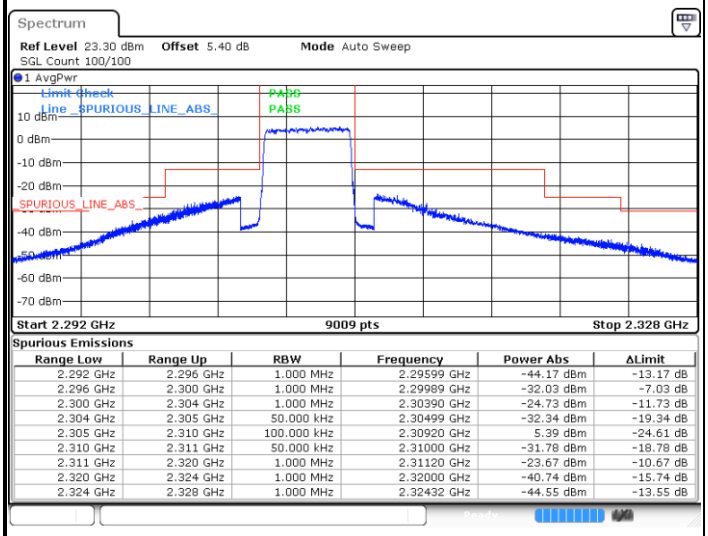


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29579 GHz	-53.03 dBm	-22.03 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29977 GHz	-52.59 dBm	-27.59 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30821 GHz	-43.08 dBm	-30.08 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.31000 GHz	-59.99 dBm	-46.99 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31468 GHz	19.04 dBm	-10.96 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31500 GHz	-25.73 dBm	-12.73 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31679 GHz	-30.80 dBm	-17.80 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32106 GHz	-47.52 dBm	-22.52 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32407 GHz	-50.84 dBm	-19.84 dB

Date: 3.MAR.2018 04:52:55

Lowest Band Edge / Full RB

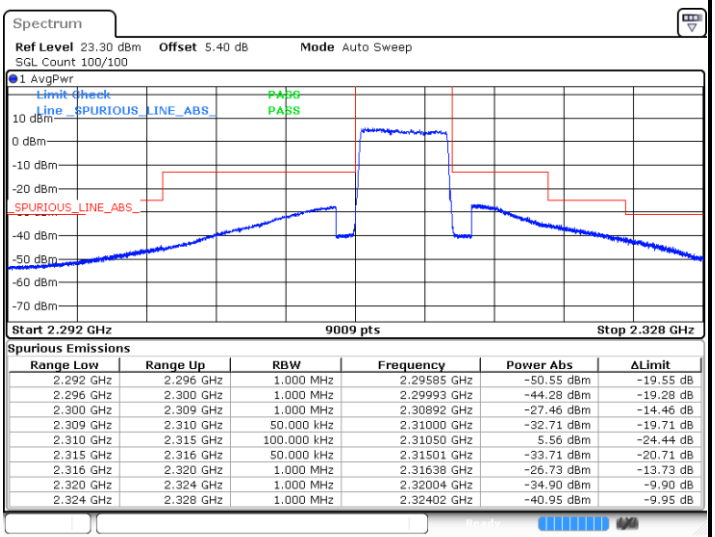


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29599 GHz	-44.17 dBm	-13.17 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29989 GHz	-32.03 dBm	-7.03 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30390 GHz	-24.73 dBm	-11.73 dB
2.304 GHz	2.305 GHz	50.000 kHz	2.30499 GHz	-32.34 dBm	-19.34 dB
2.305 GHz	2.310 GHz	100.000 kHz	2.30920 GHz	5.39 dBm	-24.61 dB
2.310 GHz	2.311 GHz	50.000 kHz	2.31000 GHz	-31.78 dBm	-18.78 dB
2.311 GHz	2.320 GHz	1.000 MHz	2.31120 GHz	-23.67 dBm	-10.67 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32000 GHz	-40.74 dBm	-15.74 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32432 GHz	-44.55 dBm	-13.55 dB

Date: 3.MAR.2018 04:47:12

Highest Band Edge / Full RB



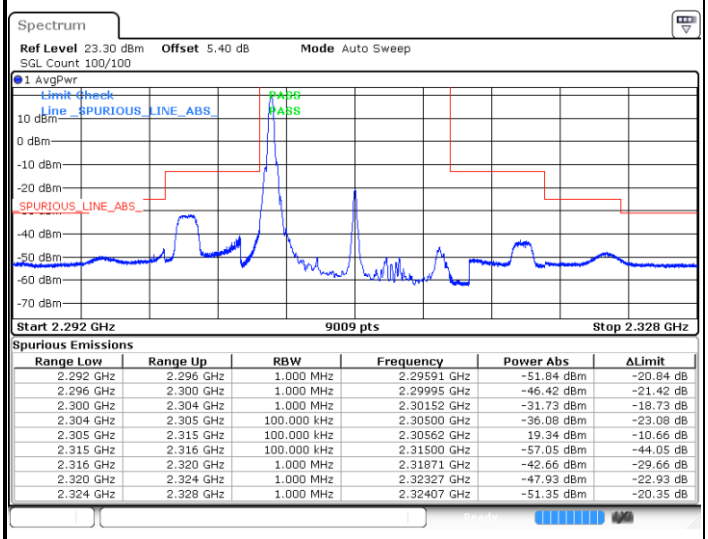
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29585 GHz	-50.55 dBm	-19.55 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29993 GHz	-44.28 dBm	-19.28 dB
2.300 GHz	2.309 GHz	1.000 MHz	2.30892 GHz	-27.46 dBm	-14.46 dB
2.309 GHz	2.310 GHz	50.000 kHz	2.31000 GHz	-32.71 dBm	-19.71 dB
2.310 GHz	2.315 GHz	100.000 kHz	2.31050 GHz	5.56 dBm	-24.44 dB
2.315 GHz	2.316 GHz	50.000 kHz	2.31501 GHz	-33.71 dBm	-20.71 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31638 GHz	-26.73 dBm	-13.73 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32004 GHz	-34.90 dBm	-9.90 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32402 GHz	-40.95 dBm	-9.95 dB

Date: 3.MAR.2018 04:47:58

LTE Band 30 / 10MHz / 64QAM

Band Edge / 1 RB0

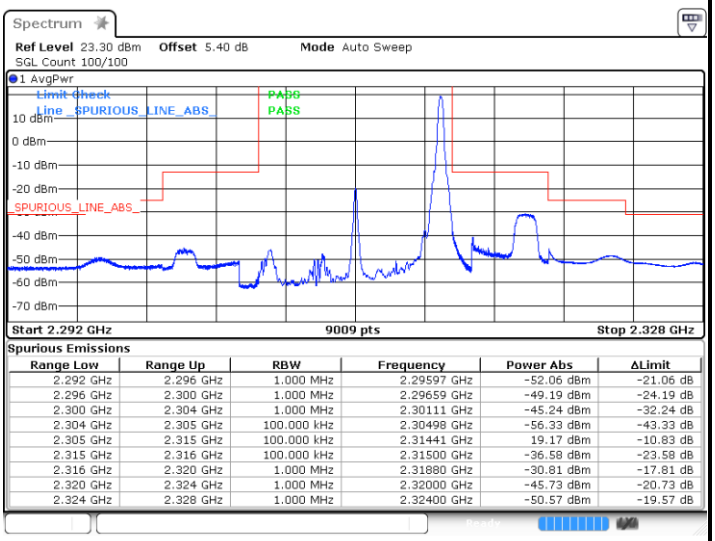


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29591 GHz	-51.84 dBm	-20.84 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29995 GHz	-46.42 dBm	-21.42 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30152 GHz	-31.73 dBm	-18.73 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-36.08 dBm	-23.08 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.30562 GHz	19.34 dBm	-10.66 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-57.05 dBm	-44.05 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31871 GHz	-42.66 dBm	-29.66 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32327 GHz	-47.93 dBm	-22.93 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32407 GHz	-51.35 dBm	-20.35 dB

Date: 3.MAR.2018 05:02:58

Band Edge / 1 RB MAX

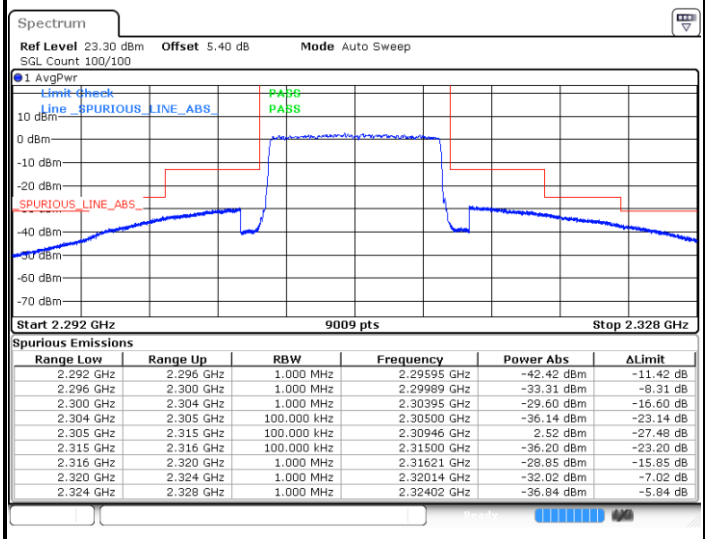


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29597 GHz	-52.06 dBm	-21.06 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29659 GHz	-49.19 dBm	-24.19 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30111 GHz	-45.24 dBm	-32.24 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30498 GHz	-56.33 dBm	-43.33 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.31441 GHz	19.17 dBm	-10.83 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-36.58 dBm	-23.58 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31880 GHz	-30.81 dBm	-17.81 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32000 GHz	-45.73 dBm	-20.73 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32400 GHz	-50.57 dBm	-19.57 dB

Date: 3.MAR.2018 05:05:29

Band Edge / Full RB



Spurious Emissions

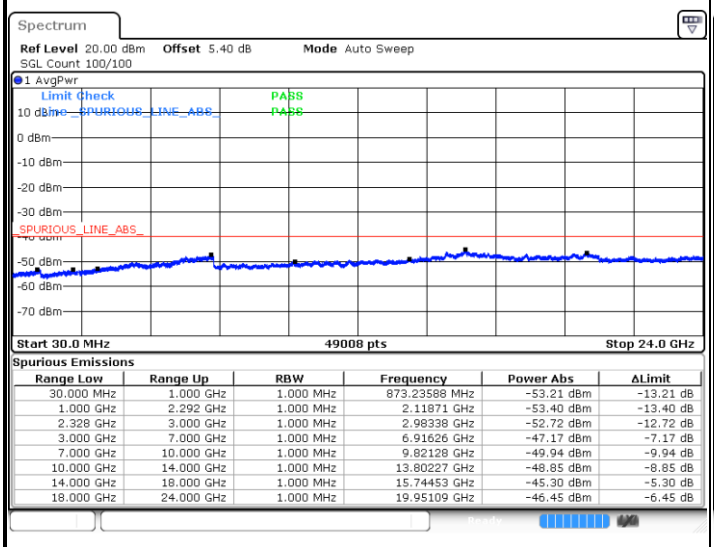
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
2.292 GHz	2.296 GHz	1.000 MHz	2.29595 GHz	-42.42 dBm	-11.42 dB
2.296 GHz	2.300 GHz	1.000 MHz	2.29989 GHz	-33.31 dBm	-8.31 dB
2.300 GHz	2.304 GHz	1.000 MHz	2.30395 GHz	-29.60 dBm	-16.60 dB
2.304 GHz	2.305 GHz	100.000 kHz	2.30500 GHz	-36.14 dBm	-23.14 dB
2.305 GHz	2.315 GHz	100.000 kHz	2.30946 GHz	2.52 dBm	-27.48 dB
2.315 GHz	2.316 GHz	100.000 kHz	2.31500 GHz	-36.20 dBm	-23.20 dB
2.316 GHz	2.320 GHz	1.000 MHz	2.31621 GHz	-28.85 dBm	-15.85 dB
2.320 GHz	2.324 GHz	1.000 MHz	2.32014 GHz	-32.02 dBm	-7.02 dB
2.324 GHz	2.328 GHz	1.000 MHz	2.32402 GHz	-36.84 dBm	-5.84 dB

Date: 3.MAR.2018 05:09:29

Conducted Spurious Emission

LTE Band 30 / 5MHz

Lowest Channel / QPSK

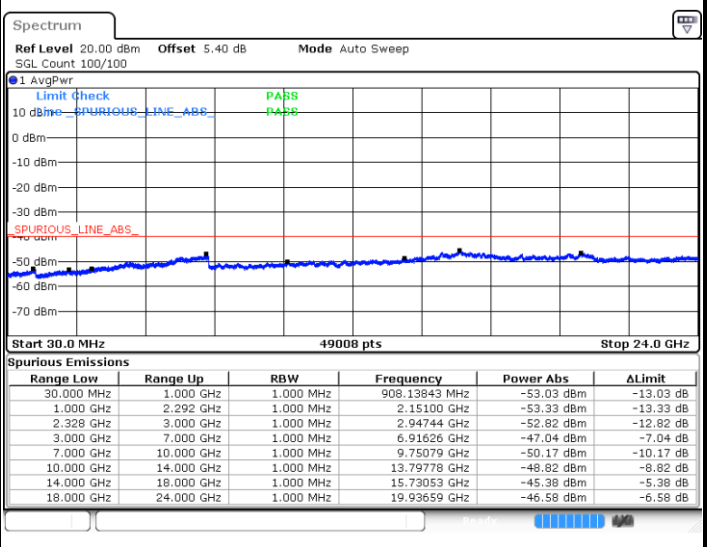


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	873.23588 MHz	-53.21 dBm	-13.21 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.11871 GHz	-53.40 dBm	-13.40 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.98338 GHz	-52.72 dBm	-12.72 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-47.17 dBm	-7.17 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.82128 GHz	-49.94 dBm	-9.94 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.80227 GHz	-48.85 dBm	-8.85 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.74453 GHz	-45.30 dBm	-5.30 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.95109 GHz	-46.45 dBm	-6.45 dB

Date: 3.MAR.2018 04:32:32

Lowest Channel / 16QAM

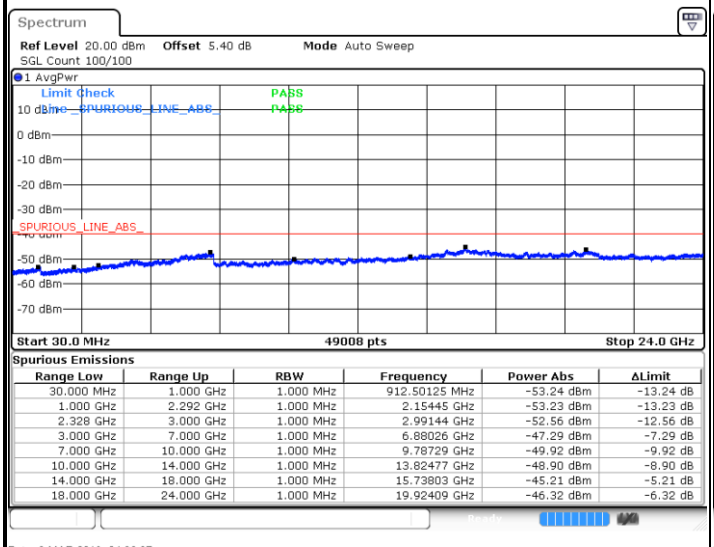


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	908.13843 MHz	-53.03 dBm	-13.03 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.15100 GHz	-53.33 dBm	-13.33 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.94744 GHz	-52.82 dBm	-12.82 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-47.04 dBm	-7.04 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.75079 GHz	-50.17 dBm	-10.17 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.79778 GHz	-48.82 dBm	-8.82 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.73053 GHz	-45.38 dBm	-5.38 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.93659 GHz	-46.58 dBm	-6.58 dB

Date: 3.MAR.2018 04:33:17

Middle Channel / QPSK

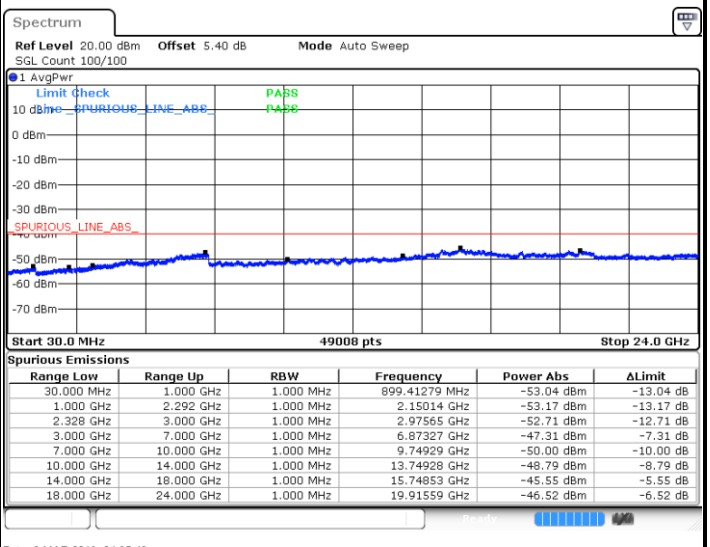


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.50125 MHz	-53.24 dBm	-13.24 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.15445 GHz	-53.23 dBm	-13.23 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.99144 GHz	-52.56 dBm	-12.56 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88026 GHz	-47.29 dBm	-7.29 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.78729 GHz	-49.92 dBm	-9.92 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.82477 GHz	-48.90 dBm	-8.90 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.73803 GHz	-45.21 dBm	-5.21 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.92409 GHz	-46.32 dBm	-6.32 dB

Date: 3.MAR.2018 04:36:37

Middle Channel / 16QAM



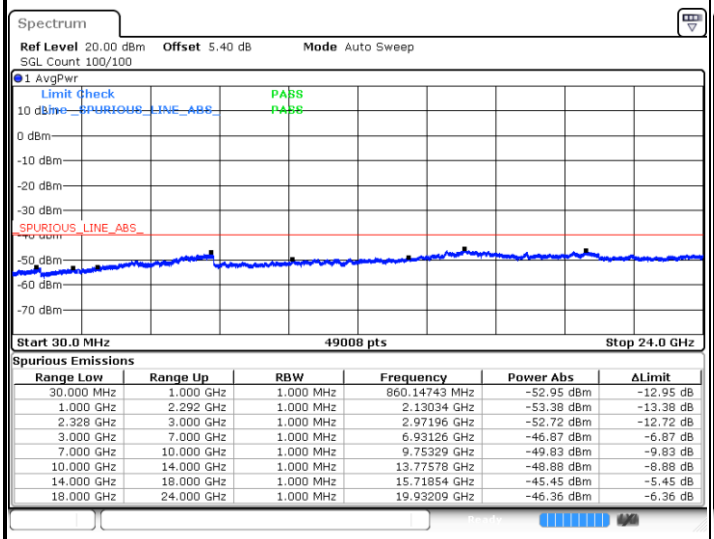
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	899.41279 MHz	-53.04 dBm	-13.04 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.15014 GHz	-53.17 dBm	-13.17 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.97565 GHz	-52.71 dBm	-12.71 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87327 GHz	-47.31 dBm	-7.31 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.74929 GHz	-50.00 dBm	-10.00 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.74928 GHz	-48.79 dBm	-8.79 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.74853 GHz	-45.55 dBm	-5.55 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.91559 GHz	-46.52 dBm	-6.52 dB

Date: 3.MAR.2018 04:35:43

LTE Band 30 / 5MHz

Highest Channel / QPSK

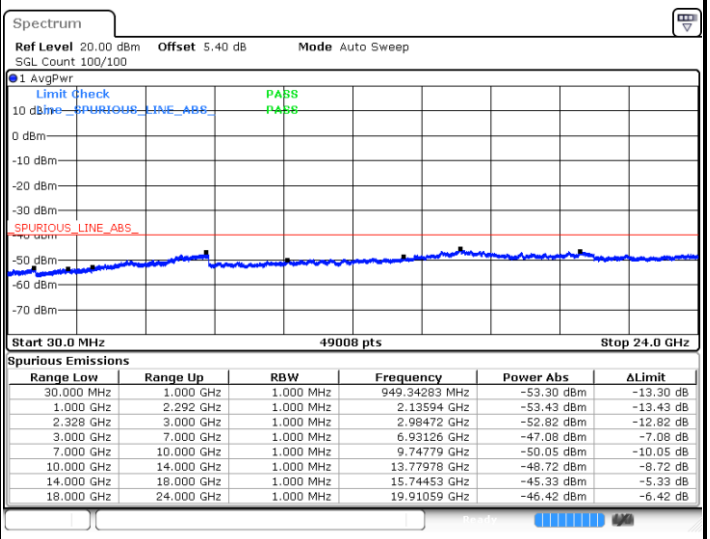


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	860.14743 MHz	-52.95 dBm	-12.95 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.13034 GHz	-53.38 dBm	-13.38 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.97196 GHz	-52.72 dBm	-12.72 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.93126 GHz	-46.87 dBm	-6.87 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.75329 GHz	-49.83 dBm	-9.83 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.77578 GHz	-48.88 dBm	-8.88 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.71854 GHz	-45.45 dBm	-5.45 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.93209 GHz	-46.36 dBm	-6.36 dB

Date: 3.MAR.2018 04:37:25

Highest Channel / 16QAM



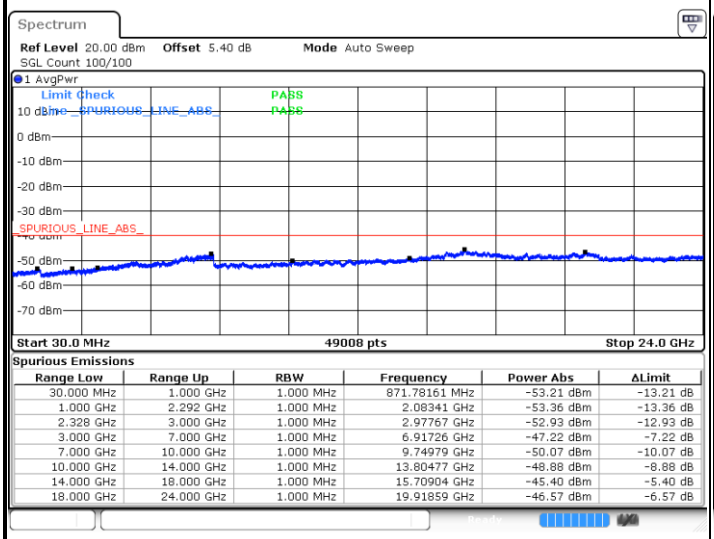
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	949.34283 MHz	-53.30 dBm	-13.30 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.13594 GHz	-53.43 dBm	-13.43 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.98472 GHz	-52.82 dBm	-12.82 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.93126 GHz	-47.08 dBm	-7.08 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.74779 GHz	-50.05 dBm	-10.05 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.77978 GHz	-48.72 dBm	-8.72 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.74453 GHz	-45.33 dBm	-5.33 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.91059 GHz	-46.42 dBm	-6.42 dB

Date: 3.MAR.2018 04:39:03

LTE Band 30 / 10MHz

Middle Channel / QPSK

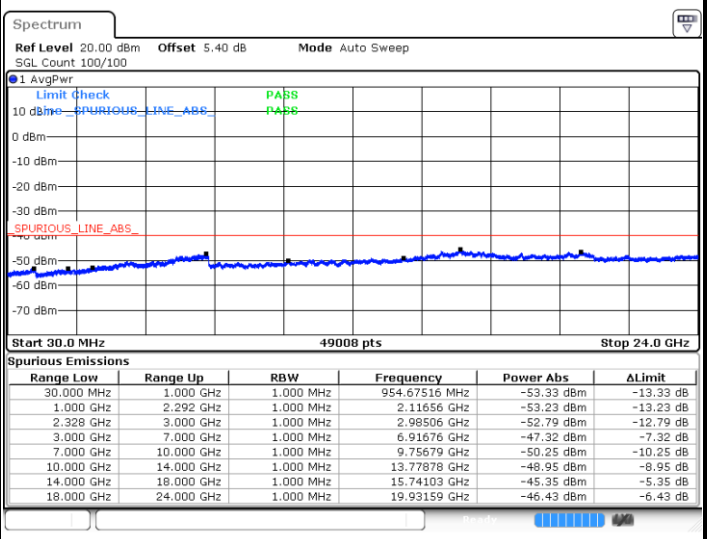


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	871.78161 MHz	-53.21 dBm	-13.21 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.08341 GHz	-53.36 dBm	-13.36 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.97767 GHz	-52.93 dBm	-12.93 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91726 GHz	-47.22 dBm	-7.22 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.74979 GHz	-50.07 dBm	-10.07 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.80477 GHz	-48.88 dBm	-8.88 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.70904 GHz	-45.40 dBm	-5.40 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.91859 GHz	-46.57 dBm	-6.57 dB

Date: 3.MAR.2018 05:01:36

Middle Channel / 16QAM



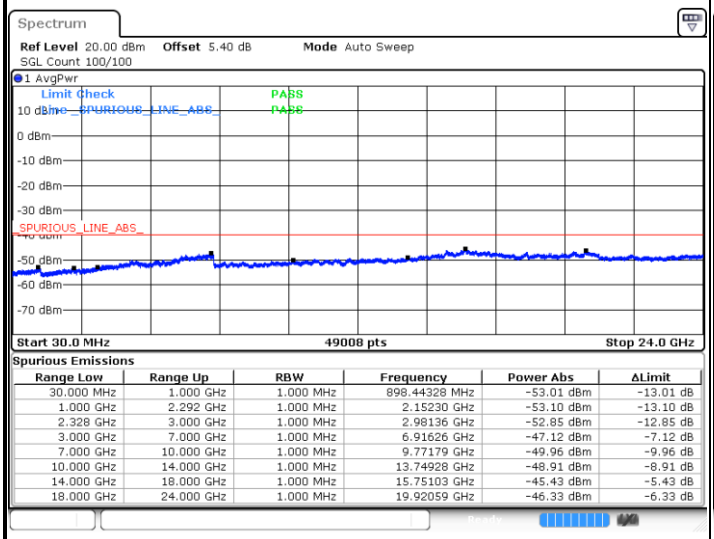
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	954.67516 MHz	-53.33 dBm	-13.33 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.11656 GHz	-53.23 dBm	-13.23 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.98506 GHz	-52.79 dBm	-12.79 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91676 GHz	-47.32 dBm	-7.32 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.75679 GHz	-50.25 dBm	-10.25 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.77878 GHz	-48.95 dBm	-8.95 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.74103 GHz	-45.35 dBm	-5.35 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.93159 GHz	-46.43 dBm	-6.43 dB

Date: 3.MAR.2018 05:00:44

LTE Band 30 / 5MHz

Lowest Channel / 64QAM

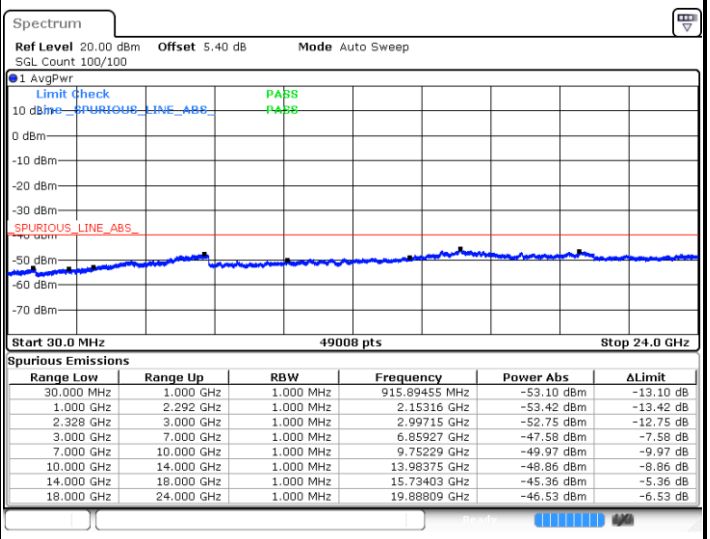


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	898.44328 MHz	-53.01 dBm	-13.01 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.15230 GHz	-53.10 dBm	-13.10 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.98136 GHz	-52.85 dBm	-12.85 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-47.12 dBm	-7.12 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.77179 GHz	-49.96 dBm	-9.96 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.74928 GHz	-48.91 dBm	-8.91 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.75103 GHz	-45.43 dBm	-5.43 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.92059 GHz	-46.33 dBm	-6.33 dB

Date: 3.MAR.2018 04:34:05

Middle Channel / 64QAM

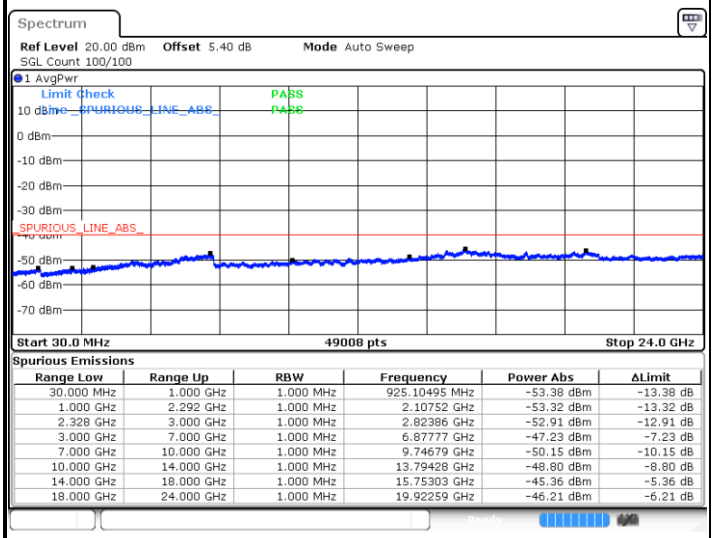


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	915.89455 MHz	-53.10 dBm	-13.10 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.15316 GHz	-53.42 dBm	-13.42 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.99715 GHz	-52.75 dBm	-12.75 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.85927 GHz	-47.58 dBm	-7.58 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.75229 GHz	-49.97 dBm	-9.97 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.98375 GHz	-48.86 dBm	-8.86 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.73403 GHz	-45.36 dBm	-5.36 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.88809 GHz	-46.53 dBm	-6.53 dB

Date: 3.MAR.2018 04:34:52

Highest Channel / 64QAM

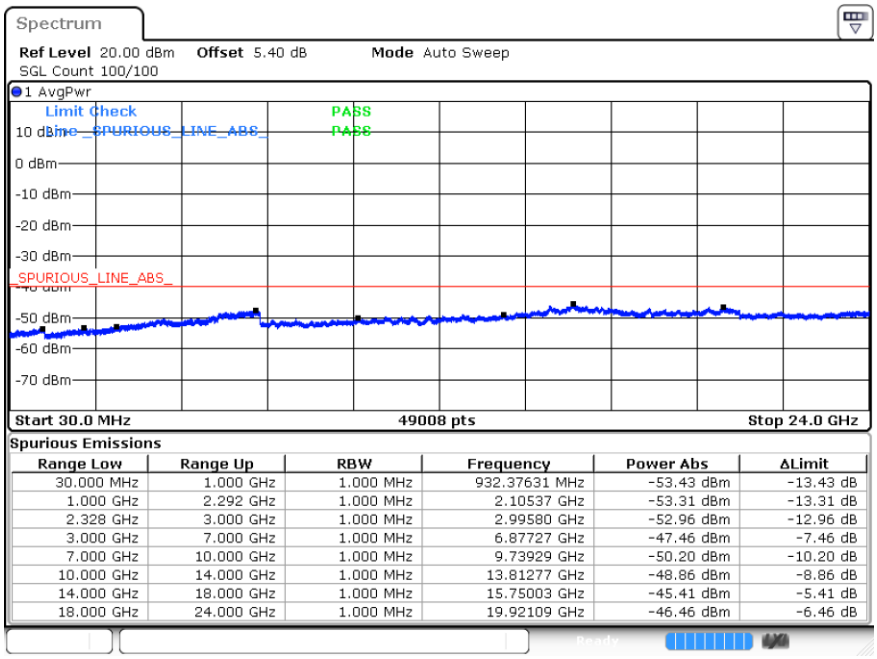


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	925.10495 MHz	-53.38 dBm	-13.38 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.10752 GHz	-53.32 dBm	-13.32 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.82386 GHz	-52.91 dBm	-12.91 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87777 GHz	-47.23 dBm	-7.23 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.74679 GHz	-50.15 dBm	-10.15 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.79428 GHz	-48.80 dBm	-8.80 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.75303 GHz	-45.36 dBm	-5.36 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.92259 GHz	-46.21 dBm	-6.21 dB

Date: 3.MAR.2018 04:40:29

LTE Band 30 / 10MHz
Middle Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	932.37631 MHz	-53.43 dBm	-13.43 dB
1.000 GHz	2.292 GHz	1.000 MHz	2.10537 GHz	-53.31 dBm	-13.31 dB
2.328 GHz	3.000 GHz	1.000 MHz	2.99580 GHz	-52.96 dBm	-12.96 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87727 GHz	-47.46 dBm	-7.46 dB
7.000 GHz	10.000 GHz	1.000 MHz	9.73929 GHz	-50.20 dBm	-10.20 dB
10.000 GHz	14.000 GHz	1.000 MHz	13.81277 GHz	-48.86 dBm	-8.86 dB
14.000 GHz	18.000 GHz	1.000 MHz	15.75003 GHz	-45.41 dBm	-5.41 dB
18.000 GHz	24.000 GHz	1.000 MHz	19.92109 GHz	-46.46 dBm	-6.46 dB

Date: 3.MAR.2018 04:59:51

Frequency Stability

Test Conditions		LTE Band 30 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0007	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0016	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0013	
0	Normal Voltage	0.0017	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0003	
-30	Normal Voltage	0.0001	
20	Maximum Voltage	0.0017	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0015	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.6 V.；Maximum Voltage =4.4 V.

2. Note: The frequency fundamental emissions stay within the authorized frequency block.

Appendix B. Test Results of EIRP and Radiated Test

EIRP

<Main Antenna>
<Reporting Only>

LTE Band 30 / 5MHz (Average) (GT - LC = 0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.65	0.1841	23.15	0.2065
Middle		1	0	22.65	0.1841	23.15	0.2065
Highest		1	0	22.70	0.1862	23.20	0.2089
Lowest	16QAM	1	24	21.86	0.1535	22.36	0.1722
Middle		1	24	21.90	0.1549	22.40	0.1738
Highest		1	24	22.02	0.1592	22.52	0.1786
Lowest	64QAM	1	0	21.00	0.1259	21.50	0.1413
Middle		1	0	21.18	0.1312	21.68	0.1472
Highest		1	0	21.10	0.1288	21.60	0.1445
Limit	EIRP < 0.25W			Result		PASS	

LTE Band 30 / 10MHz (Average) (GT - LC = 0.5 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	-	-	-	-	-	-
Middle		1	0	22.71	0.1866	23.21	0.2094
Highest		-	-	-	-	-	-
Lowest	16QAM	-	-	-	-	-	-
Middle		1	0	22.06	0.1607	22.56	0.1803
Highest		-	-	-	-	-	-
Lowest	64QAM	-	-	-	-	-	-
Middle		1	0	21.05	0.1274	21.55	0.1429
Highest		-	-	-	-	-	-
Limit	EIRP < 0.25W			Result		PASS	

<Aux. Antenna>
<Reporting Only>

LTE Band 30 / 5MHz (Average) (GT - LC = -9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	22.65	0.1841	13.65	0.0232
Middle		1	0	22.65	0.1841	13.65	0.0232
Highest		1	0	22.70	0.1862	13.70	0.0234
Lowest	16QAM	1	24	21.86	0.1535	12.86	0.0193
Middle		1	24	21.90	0.1549	12.90	0.0195
Highest		1	24	22.02	0.1592	13.02	0.0200
Lowest	64QAM	1	0	21.00	0.1259	12.00	0.0158
Middle		1	0	21.18	0.1312	12.18	0.0165
Highest		1	0	21.10	0.1288	12.10	0.0162
Limit	EIRP < 0.25W			Result		PASS	

LTE Band 30 / 10MHz (Average) (GT - LC = -9 dB)							
Channel	Mode	RB		Conducted		EIRP	
		Size	Offset	Power (dBm)	Power (Watts)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	-	-	-	-	-	-
Middle		1	0	22.71	0.1866	13.71	0.0235
Highest		-	-	-	-	-	-
Lowest	16QAM	-	-	-	-	-	-
Middle		1	0	22.06	0.1607	13.06	0.0202
Highest		-	-	-	-	-	-
Lowest	64QAM	-	-	-	-	-	-
Middle		1	0	21.05	0.1274	12.05	0.0160
Highest		-	-	-	-	-	-
Limit	EIRP < 0.25W			Result		PASS	

Radiated Spurious Emission

<For Main Antenna>

LTE Band 30

LTE Band 30 / 10MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	4612	-66.55	-40	-26.55	-55.74	-72.42	2.12	7.99	H
	6916	-63.30	-40	-23.30	-58.42	-72.46	2.51	11.67	H
	9224	-61.61	-40	-21.61	-60.26	-72.18	3.02	13.59	H
									H
									H
									H
									H
	4612	-65.09	-40	-25.09	-54.55	-70.96	2.12	7.99	V
	6916	-63.99	-40	-23.99	-59.05	-73.15	2.51	11.67	V
	9224	-60.39	-40	-20.39	-59.44	-70.96	3.02	13.59	V
									V
									V
									V
									V

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

<For Aux. Antenna>

LTE Band 30

LTE Band 30 / 10MHz / QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Middle	4612	-66.71	-40	-26.71	-55.90	-72.58	2.12	7.99	H
	6916	-63.57	-40	-23.57	-58.69	-72.73	2.51	11.67	H
	9224	-60.56	-40	-20.56	-59.21	-71.13	3.02	13.59	H
									H
									H
									H
									H
	4612	-67.74	-40	-27.74	-57.20	-73.61	2.12	7.99	V
	6916	-64.90	-40	-24.90	-59.96	-74.06	2.51	11.67	V
	9224	-60.29	-40	-20.29	-59.34	-70.86	3.02	13.59	V
									V
									V
									V
									V

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