FCC RADIO TEST REPORT

FCC ID	:	**IHDT56XP1**
Equipment	:	**Mobile Cellular Phone**
Brand Name	:	**Motorola**
Model Name	:	**XT1962-1**
Marketing Name	:	**Motorola Mobility LLC** **222 W,Merchandise Mart Plaza, Chicago IL 60654 USA**
Applicant	:	**Motorola Mobility LLC** **222 W,Merchandise Mart Plaza, Chicago IL 60654 USA**
Manufacturer	:	**IHDT56XP1**
Standard	:	**FCC 47 CFR Part 2, and 90(S)**

The product was received on Sep. 08, 208 and testing was started from mm. dd, yyyy and completed on mm. dd, yyyy. We, SPORTON INTERNATIONAL 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.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Joseph Lin

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)

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History of this test report

Report No.	Version	Description	Issued Date
FG890804D	01	Initial issue of report	Oct. 12, 2018

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046 §90.635	Conducted Output Power and Effective Radiated Power	Pass	-
3.3	-	Peak-to-Average Ratio	Reporting only	-
3.4	§2.1049 §90.209	Occupied Bandwidth and 26dB Bandwidth	Reporting only	-
3.5	§2.1051 §90.691	Emission masks – In-band emissions	Pass	-
3.6	§2.1051 §90.691	Emission masks – Out of band emissions	Pass	-
3.7	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	Pass	-
3.8	§2.1053 §90.691	Field Strength of Spurious Radiation	Pass	Under limit 34.83 dB at 2472.000 MHz

Reviewed by: Wii Chang

Report Producer: Natasha Hsieh

1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1962-1
FCC ID	IHDT56XP1
IMEI Code	**Conducted :** IMEI : 355569090014213 **Radiation :** IMEI : 355569090016853
EUT supports Radios application	CDMA/EV-DO/GSM/EGPRS/WCDMA/HSPA/LTE/GNSS/ FM WLAN 11b/g/n HT20 WLAN 11a/n HT20/HT40 Bluetooth BR/EDR/LE
HW Version	DVT1-B
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer.

Accessory List	
AC Adapter 1	Brand Name : Motorola
	Model Name : SC-51
	Manufacturer : Salom
AC Adapter 2	Brand Name : Motorola
	Model Name : SC-51
	Manufacturer : Chenyang
Battery	Brand Name : Motorola
	Model Name : JG30
	Manufacturer : Amperex
Earphone	Brand Name : Motorola
	Model Name : SH38C37773
	Manufacturer : Lyand
USB Cable 1	Brand Name : Cabletech
	Model Name : SKN6473A
USB Cable 2	Brand Name : Saibao
	Model Name : SKN6473A
USB Cable 3	Brand Name : Luxshare
	Model Name : SKN6473A

1.2 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx Frequency	LTE Band 26 : 814.7 ~ 823.3 MHz
Rx Frequency	LTE Band 26 : 859.7 ~ 868.3 MHz
Bandwidth	1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz
Maximum Output Power to Antenna	22.68 dBm
Antenna Type	Fixed Internal Antenna and Dipole Antenna
Antenna Gain	0.0 dBi
Type of Modulation	QPSK / 16QAM

1.3 Modification of EUT

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

1.4 Emission Designator

LTE Band 26		QPSK		16QAM	
BW (MHz)	**Frequency Range (MHz)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**
1.4	814.7 ~ 823.3	1M10G7D	-	1M10W7D	-
3	815.5 ~ 822.5	2M74G7D	-	2M73W7D	-
5	816.5 ~ 821.5	4M50G7D	-	4M51W7D	-
10	819.0	9M05G7D	0.0074	9M03W7D	-
15	821.5	13M4G7D	0.0138	13M5W7D	-

1.5 Testing Site

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	**Sporton Site No.**
	TH05-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	**Sporton Site No.**
	03CH15-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

1.6 Applied Standards

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

- FCC 47 CFR Part 2, 90
- ANSI / TIA-603-E
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- Interim Guidance for Equipment Authorization of Devices with Channel Bandwidths Combined Across Two Contiguous Service Rule Allocations OET/Lab/EACB, June 6, 2013

Remark:

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

2 Test Configuration of Equipment Under Test

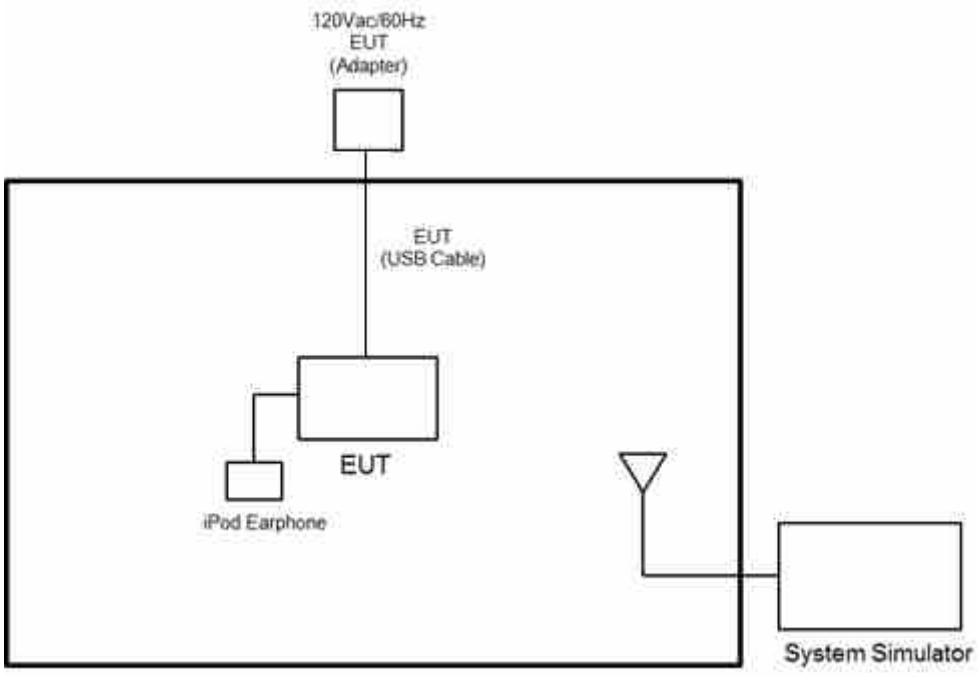
2.1 Test Mode

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

For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

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	26	v	v	v	v	v	-	v	v		v	v	v	v	v	v
Peak-to-Average Ratio	26					v	-	v	v		v		v	v	v	v
26dB and 99% Bandwidth	26	v	v	v	v	v	-	v	v				v	v	v	v
Emission masks In-band emissions	26	v	v	v	v	v	-	v	v		v		v	v		v
Emission masks – Out of band emissions	26	v	v	v	v	v	-	v	v		v			v	v	v
Frequency Stability	26	-	-		v	v	-	v	v				v		v	
E.R.P.	26					v	-	v	v		v			v	v	v
Radiated Spurious Emission	26	Worst Case												v	v	v
Remark	1. The mark "**v** " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. LTE Band26 transmit frequency for part22 rule is 824MHz-849MHz, for part90 rule is 814MHz-824MHz. ERP over 15MHz bandwidth complies the ERP limit line of part22 rule, therefore ERP of the partial frequency spectrum which falls within part 22 also complies. 4. All the radiated test cases were performed with Adapter 1 and USB Cable 1.															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m

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

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

Offset = RF cable loss + attenuator factor.

The following shows an offset computation example with RF cable loss 4.2 dB and a 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 26 Channel and Frequency List				
BW [MHz]	**Channel/Frequency(MHz)**	**Lowest**	**Middle**	**Highest**
15	Channel	26765	-	-
	Frequency	821.5	-	-
10	Channel	-	26740	-
	Frequency	-	819	-
5	Channel	26715	26740	26765
	Frequency	816.5	819	821.5
3	Channel	26705	26740	26775
	Frequency	815.5	819	822.5
1.4	Channel	26697	26740	26783
	Frequency	814.7	819	823.3

3 Conducted Test Items

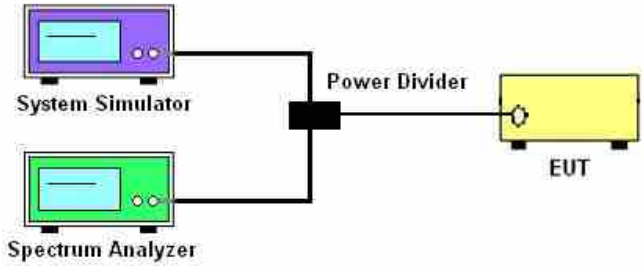
3.1 Measuring Instruments

See list of measuring instruments of this test report.

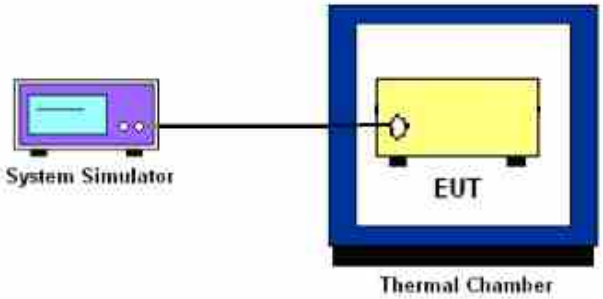
3.1.1 Test Setup

3.1.2 Conducted Output Power

3.1.3 Peak-to-Average Ratio, Occupied Bandwidth, Conducted Band-Edge, Emission Mask, Emissions Mask – Out Of Band Emissions, and Conducted Spurious Emission



3.1.4 Frequency Stability



3.1.5 Test Result of Conducted Test

Please refer to Appendix A.

3.2 Conducted Output Power Measurement and ERP Measurement

3.2.1 Description of the Conducted Output Power Measurement and ERP Measurement

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

The ERP of mobile transmitters must not exceed 7 Watts for LTE Band 26.

According to KDB 412172 D01 Power Approach,

EIRP = $P_T + G_T – L_C$, 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

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through 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.

3.3 Peak-to-Average Ratio

3.3.1 Description of the PAR Measurement

Reporting only

3.3.2 Test Procedures

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

3.4 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.4.1 Description of (Occupied) Bandwidth Limitations Measurement

The 99% occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

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

3.4.2 Test Procedures

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

3.5 Emissions Mask Measurement

3.5.1 Description of Emissions Mask Measurement

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

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

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

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

3.5.2 Test Procedures

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

3.6 Emissions Mask – Out Of Band Emissions Measurement

3.6.1 Description of Conducted Emissions Out of band emissions measurement

The power of any emission FCC Part 90.691 (a)(2) on any frequency removed from the assigned frequency by out of the authorized bandwidth at least 43 + 10 log (P) dB. It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10^{th} harmonic.

3.6.2 Test Procedures

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

3.7 Frequency Stability Measurement

3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
2. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 20±5° C and connected with the base station.
2. The power supply voltage to the EUT was varied from BEP to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

3.8 Field Strength of Spurious Radiation Measurement

3.8.1 Description of Field Strength of Spurious Radiated Measurement

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

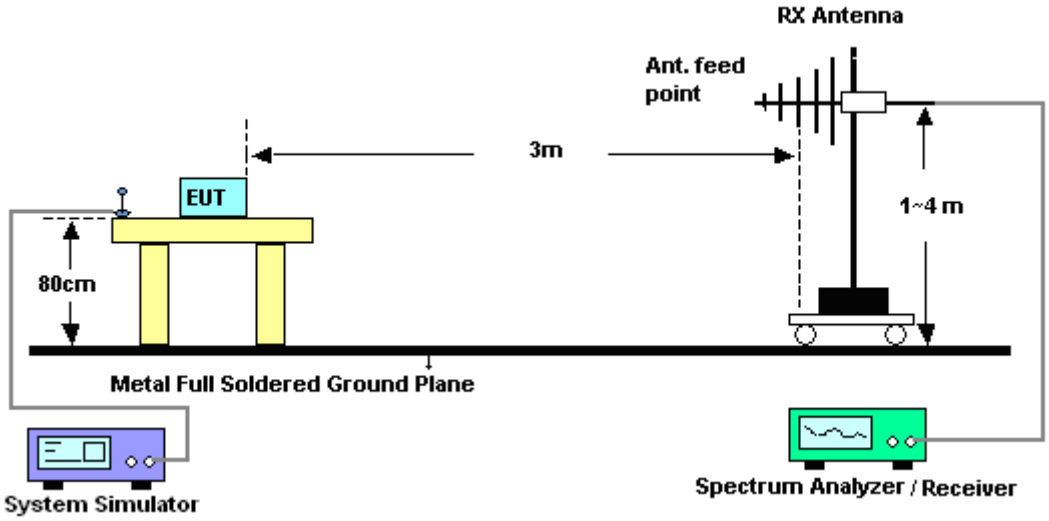
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43+10\log_{10}(P[Watts])$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

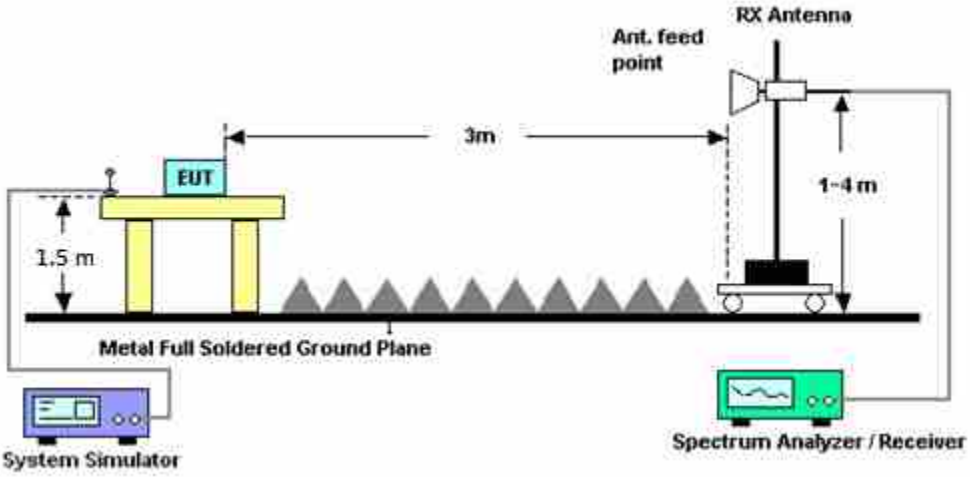
1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
13. The limit line is derived from 43 + 10log(P) dB below the transmitter power P(Watts)

3.8.3 Test Setup

For radiated test from 30MHz to 1GHz



For radiated test above 1GHz



3.8.4 Test Result of Field Strength of Spurious Radiated

Please refer to Appendix B.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
LTE Base Station	Anritsu	MT8820C	6201432821	GSM/GPRS /WCDMA/LTE	Oct. 13, 2017	Sep. 21, 2018~ Oct. 06, 2018	Oct. 12, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Nov. 07, 2017	Sep. 21, 2018~ Oct. 06, 2018	Nov. 06, 2018	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-40℃~90℃	Aug. 29, 2018	Sep. 21, 2018~ Oct. 06, 2018	Aug. 28, 2019	Conducted (TH05-HY)
Programmable Power Supply	GW Instek	PSS-2005	EL890089	1V~20V 0.5A~5A	Jan. 12, 2018	Sep. 21, 2018~ Oct. 06, 2018	Jan. 11, 2019	Conducted (TH05-HY)
Coupler	Warison	1-18GHz 20dB 25WSMA Directional Coupler	#B	1G~18GHz	Dec. 04, 2017	Sep. 21, 2018~ Oct. 06, 2018	Dec. 03, 2018	Conducted (TH05-HY)
Bilog Antenna	TESEQ	CBL6111D&00800N1D01N-06	41912&05	30MHz to 1GHz	Jan. 10, 2018	Sep. 24, 2018~ Sep. 28, 2018	Jan. 09, 2019	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1620	1G~18GHz	Oct. 03, 2017	Sep. 24, 2018~ Sep. 28, 2018	Oct. 02, 2018	Radiation (03CH15-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1522	1G~18GHz	May. 10, 2018	Sep. 24, 2018~ Sep. 28, 2018	May. 09, 2019	Radiation (03CH15-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Sep. 24, 2018~ Sep. 28, 2018	Nov. 22, 2018	Radiation (03CH15-HY)
Preamplifier	Keysight	83017A	MY53270195	1GHz~26.5GHz	Aug. 23, 2018	Sep. 24, 2018~ Sep. 28, 2018	Aug. 22, 2019	Radiation (03CH15-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz ~ 40GHz	Dec. 05, 2017	Sep. 24, 2018~ Sep. 28, 2018	Dec. 04, 2018	Radiation (03CH15-HY)
Amplifier	SONOMA	310N	363440	9kHz~1GHz	Dec. 26, 2017	Sep. 24, 2018~ Sep. 28, 2018	Dec. 25, 2018	Radiation (03CH15-HY)
Spectrum Analyzer	Agilent	E4446A	MY50180136	3Hz~44GHz	Apr. 25, 2018	Sep. 24, 2018~ Sep. 28, 2018	Apr. 24, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY2859/2	30MHz-40GHz	Mar. 04, 2018	Sep. 24, 2018~ Sep. 28, 2018	Mar. 03, 2019	Radiation (03CH15-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY4274/2	30MHz-40GHz	Mar. 14, 2018	Sep. 24, 2018~ Sep. 28, 2018	Mar. 13, 2019	Radiation (03CH15-HY)
Controller	ChainTek	3000-1	N/A	Control Turn table & Ant Mast	N/A	Sep. 24, 2018~ Sep. 28, 2018	N/A	Radiation (03CH15-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Sep. 24, 2018~ Sep. 28, 2018	N/A	Radiation (03CH15-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Sep. 24, 2018~ Sep. 28, 2018	N/A	Radiation (03CH15-HY)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170576	18GHz ~ 40GHz	May 08, 2018	Sep. 24, 2018~ Sep. 28, 2018	May 07, 2019	Radiation (03CH15-HY)
Signal Generator	Rohde & Schwarz	SMF100A	101107	100kHz~40GHz	May. 21, 2018	Sep. 24, 2018~ Sep. 28, 2018	May. 20, 2019	Radiation (03CH15-HY)
Software	Audix	E3 6.2009-8-24(K5)	ARD-SPR-000185	N/A	N/A	Sep. 24, 2018~ Sep. 28, 2018	N/A	Radiation (03CH15-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN11	1G Low Pass	Sep. 16, 2018	Sep. 24, 2018~ Sep. 28, 2018	Sep. 15, 2019	Radiation (03CH15-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60ST	SN2	3 GHz Highpass	Jul. 15, 2018	Sep. 24, 2018~ Sep. 28, 2018	Jul. 14, 2019	Radiation (03CH15-HY)
Notch Filter	Wainwright	WRCT800/960-0.2/40-8SSK	SN22	GSM850	Nov. 03, 2017	Sep. 24, 2018~ Sep. 28, 2018	Nov. 02, 2018	Radiation (03CH15-HY)
Notch Filter	Wainwright	WRCT1747.5-0.4/40-8SS	SN2	DCS 1800	Aug. 22, 2018	Sep. 24, 2018~ Sep. 28, 2018	Aug. 21, 2019	Radiation (03CH15-HY)
Notch Filter	Wainwright	WRCT2500/2570-10/40-10SSK	SN1 R	LTE Band7	Aug. 22, 2018	Sep. 24, 2018~ Sep. 28, 2018	Aug. 21, 2019	Radiation (03CH15-HY)
Notch Filter	Wainwright	WRCT698/798-10/40 8SSK	SN1	AWS Band	Nov. 08, 2017	Sep. 24, 2018~ Sep. 28, 2018	Nov. 07, 2018	Radiation (03CH15-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.37**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**3.67**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.03**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.99	-	-
15	1	37		**23.32**	-	-
15	1	74		23.02	-	-
15	36	0		22.22	-	-
15	36	20		22.20	-	-
15	36	39		22.05	-	-
15	75	0		22.20	-	-
15	1	0	16-QAM	22.51	-	-
15	1	37		22.35	-	-
15	1	74		22.30	-	-
15	36	0		21.18	-	-
15	36	20		21.17	-	-
15	36	39		21.04	-	-
15	75	0		21.16	-	-
10	1	0	QPSK	-	22.79	-
10	1	25		-	23.01	-
10	1	49		-	22.86	-
10	25	0		-	21.97	-
10	25	12		-	22.06	-
10	25	25		-	21.85	-
10	50	0		-	21.89	-
10	1	0	16-QAM	-	21.91	-
10	1	25		-	22.23	-
10	1	49		-	21.71	-
10	25	0		-	20.96	-
10	25	12		-	21.06	-
10	25	25		-	20.86	-
10	50	0		-	20.89	-

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.86	22.95	22.78
5	1	12		23.10	22.93	22.80
5	1	24		23.16	22.93	22.89
5	12	0		22.24	22.06	21.98
5	12	7		22.23	22.03	21.95
5	12	13		22.20	21.99	21.92
5	25	0		22.23	22.01	21.95
5	1	0	16-QAM	22.37	22.27	22.19
5	1	12		22.31	22.17	22.05
5	1	24		22.37	22.19	22.03
5	12	0		21.24	21.12	21.01
5	12	7		21.25	21.10	21.01
5	12	13		21.24	21.08	20.98
5	25	0		21.18	21.02	20.87
3	1	0	QPSK	22.95	23.00	22.86
3	1	8		23.15	22.98	22.87
3	1	14		23.05	22.90	22.82
3	8	0		22.17	22.00	21.92
3	8	4		22.19	22.00	21.94
3	8	7		22.16	21.97	21.90
3	15	0		22.17	21.98	21.92
3	1	0	16-QAM	22.39	22.23	22.07
3	1	8		22.38	22.18	22.12
3	1	14		22.32	22.14	22.04
3	8	0		21.29	21.13	21.03
3	8	4		21.28	21.14	21.06
3	8	7		21.31	21.09	21.03
3	15	0		21.21	21.00	20.90

LTE Band 26 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.86	22.65	22.63
1.4	1	3		22.94	22.73	22.68
1.4	1	5		22.91	22.64	22.61
1.4	3	0		22.88	22.71	22.69
1.4	3	1		22.90	22.73	22.66
1.4	3	3		22.84	22.66	22.57
1.4	6	0		22.30	22.21	22.20
1.4	1	0	16-QAM	22.78	22.53	22.51
1.4	1	3		22.78	22.58	22.57
1.4	1	5		22.70	22.50	22.51
1.4	3	0		22.29	22.22	22.27
1.4	3	1		22.36	22.33	22.34
1.4	3	3		22.32	22.18	22.18
1.4	6	0		21.48	21.26	21.14

LTE Band 26_Part 90S

Peak-to-Average Ratio

Mode	LTE Band 26 / 10MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	-	-	-	-	PASS
Middle CH	3.71	5.13	4.61	5.97	
Highest CH	-	-	-	-	

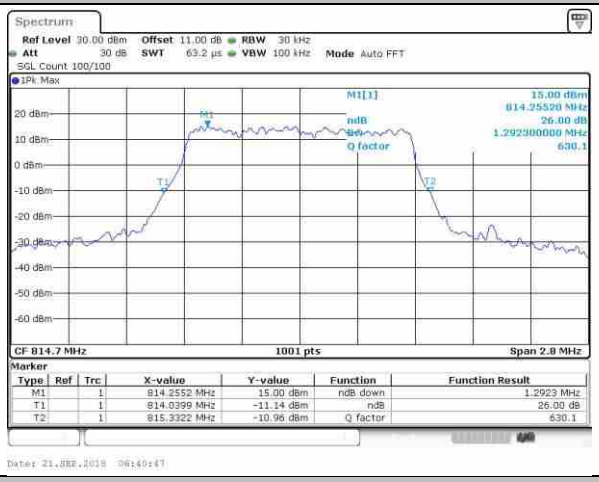
LTE Band 26 / 10MHz / QPSK	
Middle Channel / 1RB	**Middle Channel / Full RB**
	
LTE Band 26 / 10MHz / 16QAM	
Middle Channel / 1RB	**Middle Channel / Full RB**
	

26dB Bandwidth

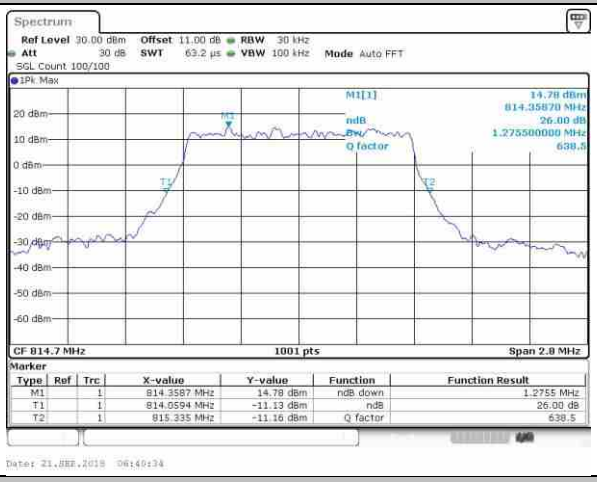
Mode	LTE Band 26 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.29	1.28	3.05	3.03	5.02	4.90	-	-	14.27	14.36	-	-
Middle CH	1.28	1.28	3.01	2.97	5.03	4.85	9.67	9.77	-	-	-	-
Highest CH	1.27	1.27	3.02	3.04	4.93	4.91	-	-	-	-	-	-

LTE Band 26

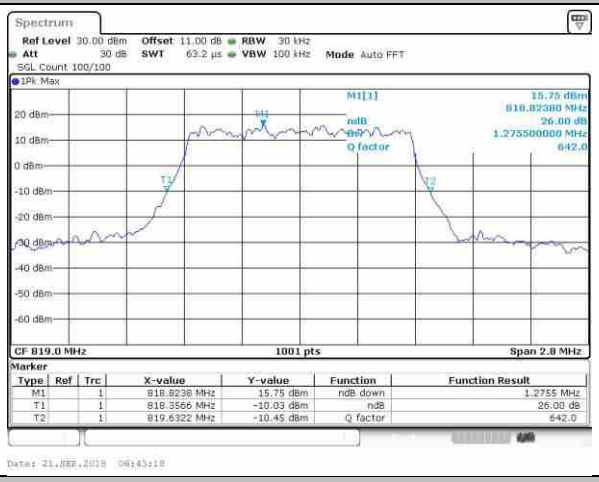
Lowest Channel / 1.4MHz / QPSK



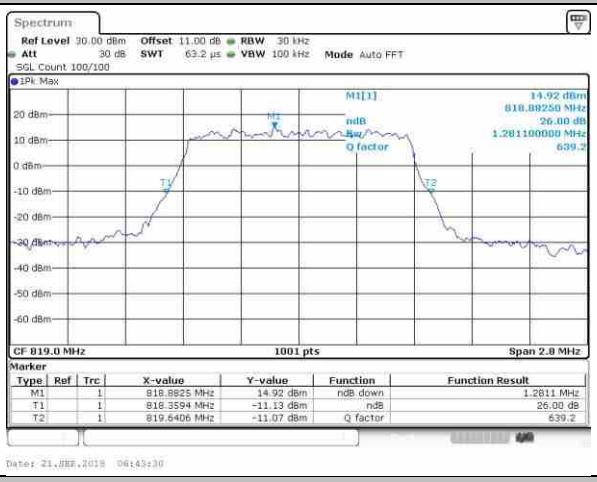
Lowest Channel / 1.4MHz / 16QAM



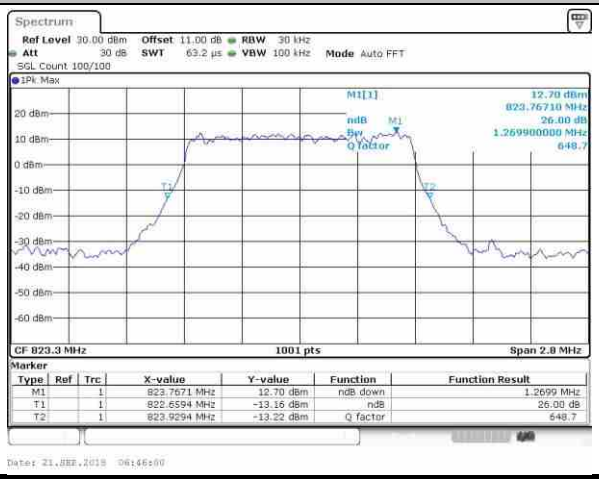
Middle Channel / 1.4MHz / QPSK



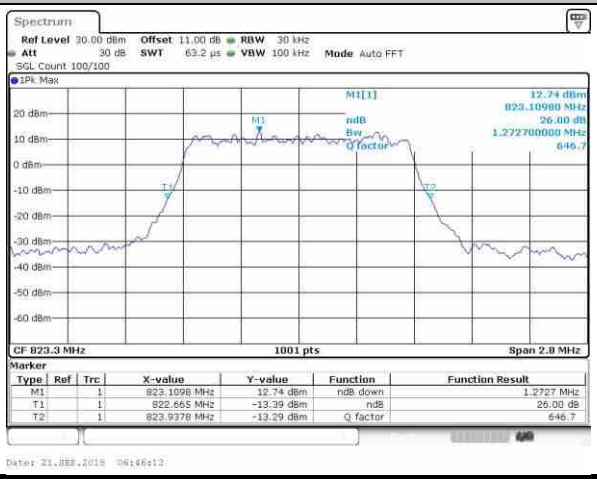
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

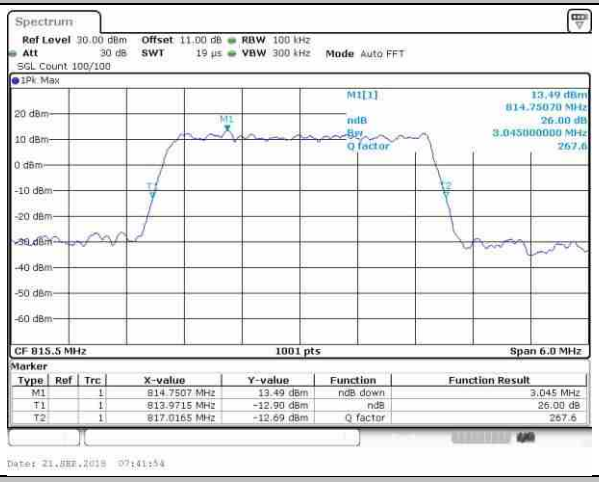


Highest Channel / 1.4MHz / 16QAM

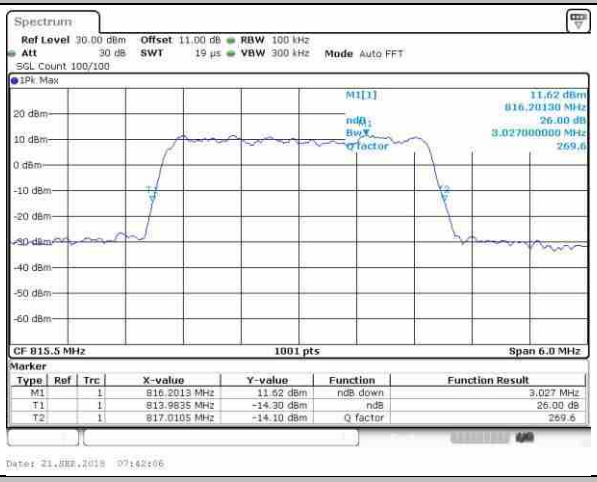


LTE Band 26

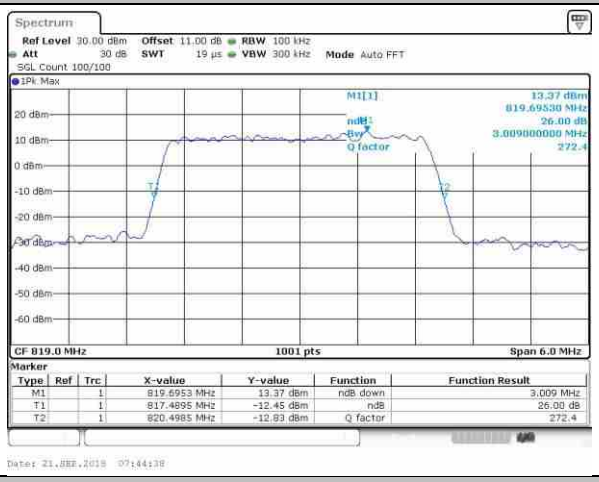
Lowest Channel / 3MHz / QPSK



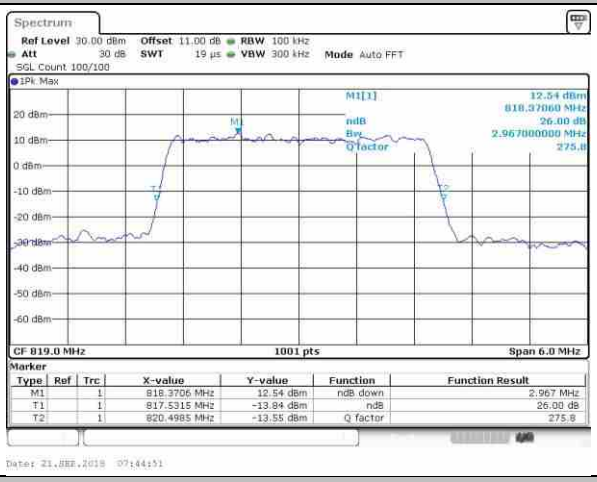
Lowest Channel / 3MHz / 16QAM



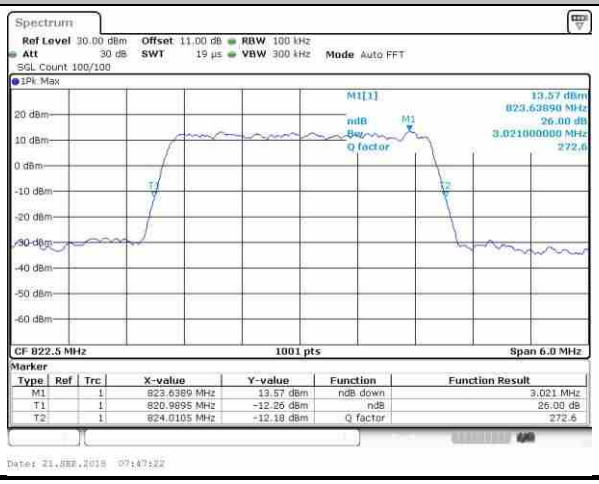
Middle Channel / 3MHz / QPSK



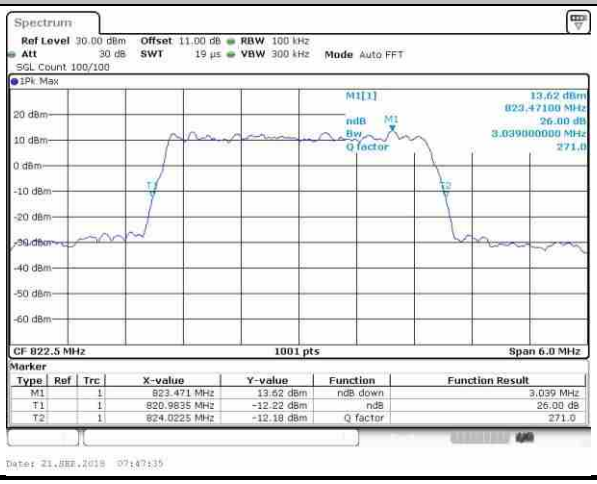
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

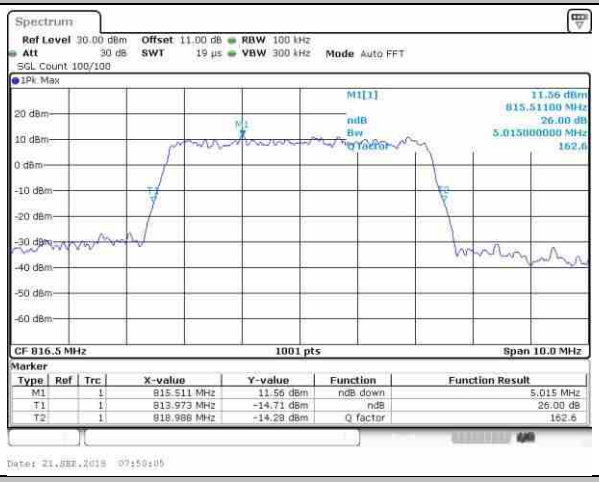


Highest Channel /3MHz / 16QAM

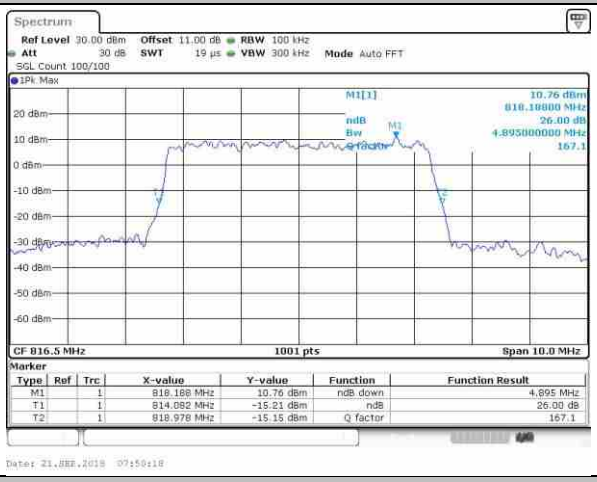


LTE Band 26

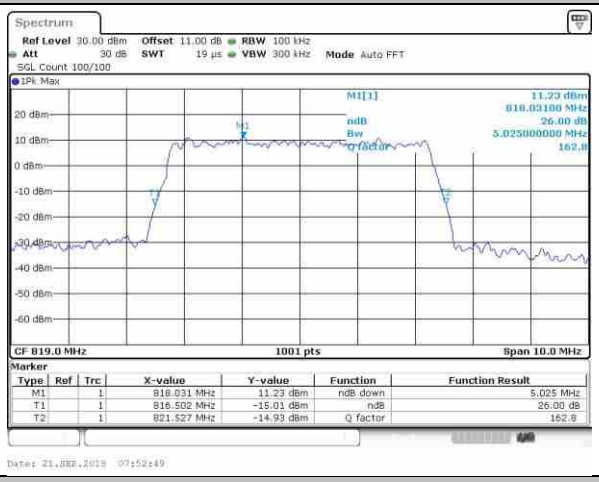
Lowest Channel / 5MHz / QPSK



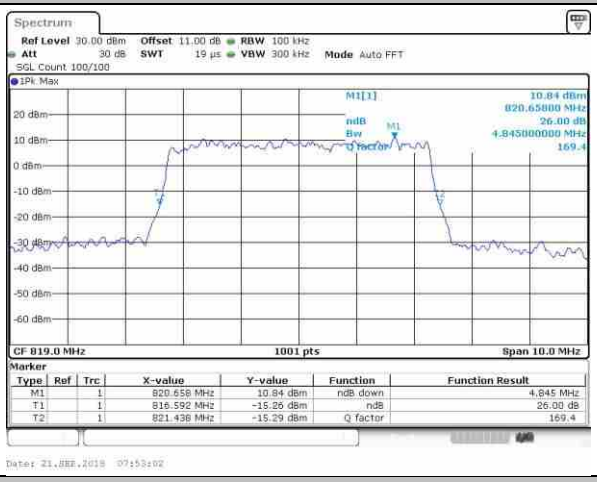
Lowest Channel / 5MHz / 16QAM



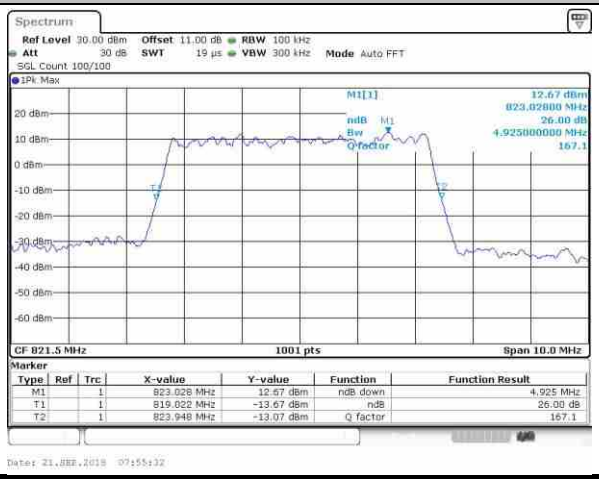
Middle Channel / 5MHz / QPSK



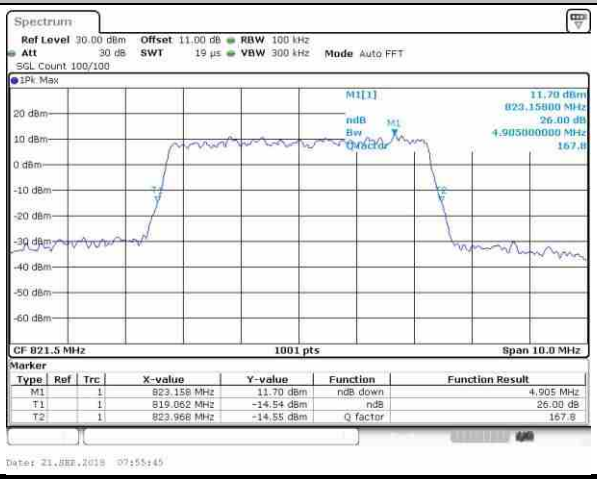
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

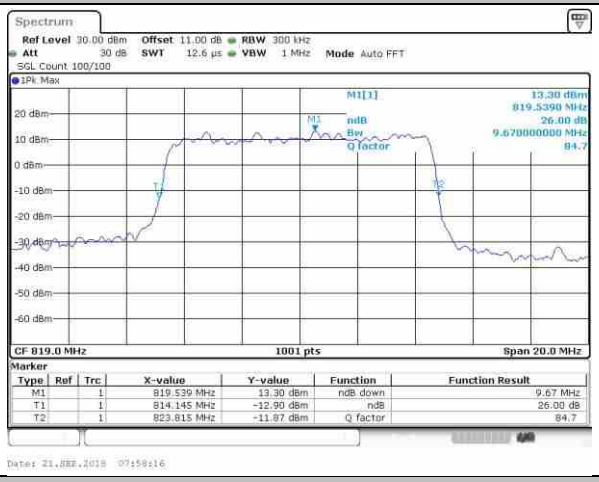


Highest Channel / 5MHz / 16QAM

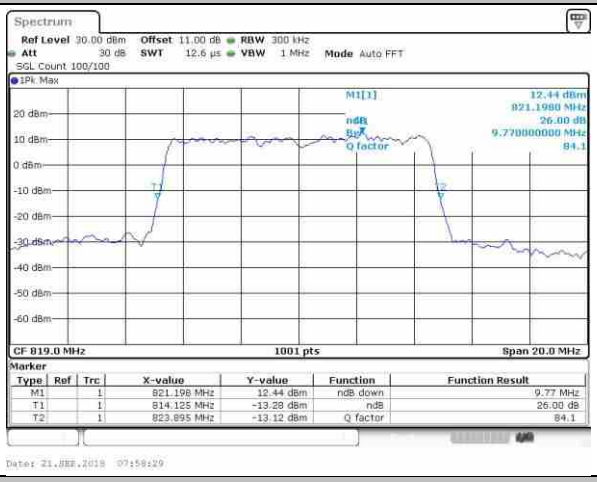


LTE Band 26

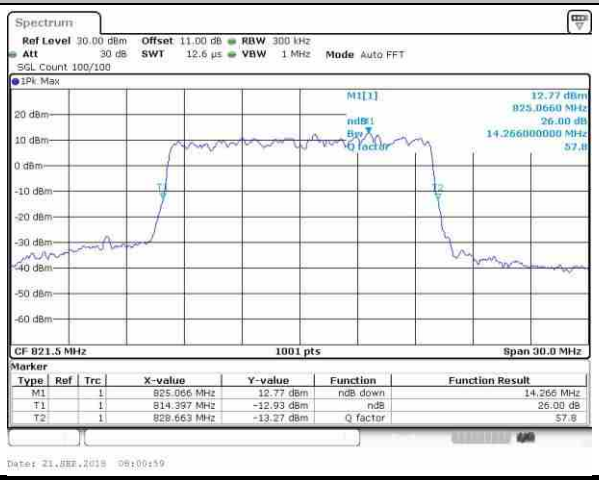
Middle Channel / 10MHz / QPSK



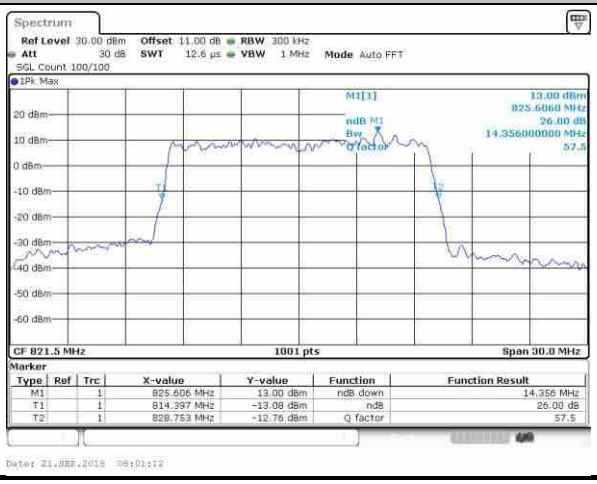
Middle Channel / 10MHz / 16QAM



Lowest Channel / 15MHz / QPSK



Lowest Channel / 15MHz / 16QAM

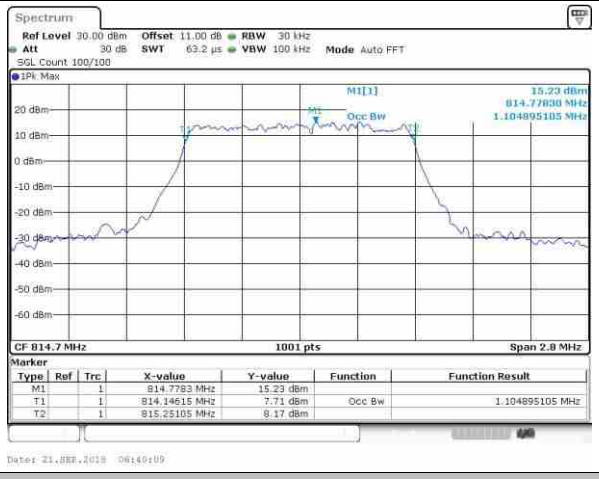


Occupied Bandwidth

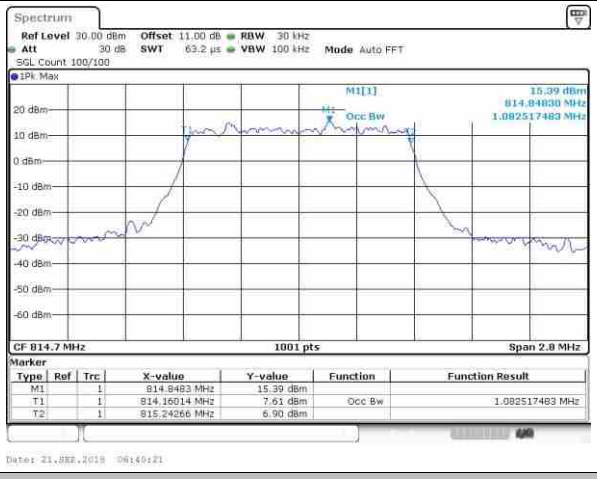
Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.1	1.08	2.73	2.72	4.5	4.47	-	-	13.4	13.49	-	-
Middle CH	1.09	1.1	2.72	2.73	4.48	4.49	9.05	9.03	-	-	-	-
Highest CH	1.09	1.1	2.74	2.73	4.48	4.51	-	-	-	-	-	-

LTE Band 26

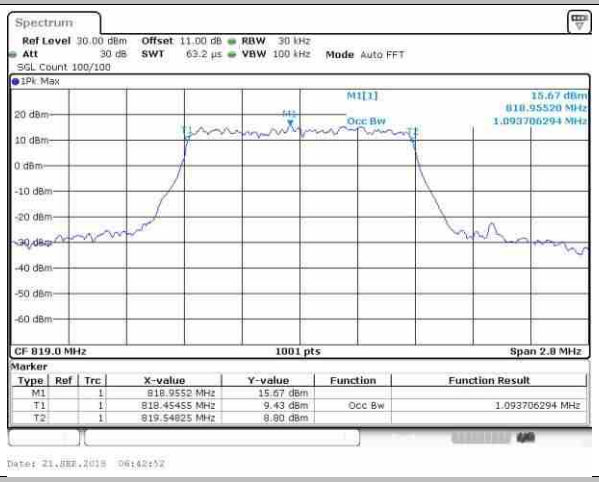
Lowest Channel / 1.4MHz / QPSK



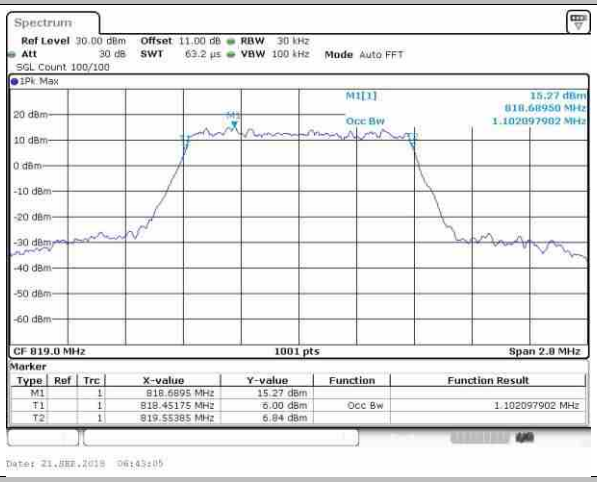
Lowest Channel / 1.4MHz / 16QAM



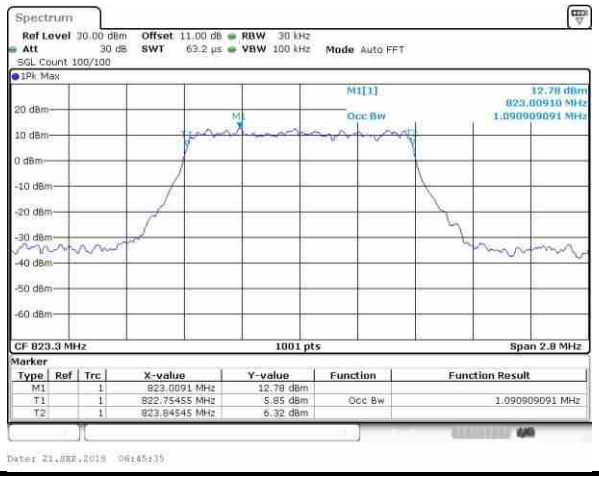
Middle Channel / 1.4MHz / QPSK



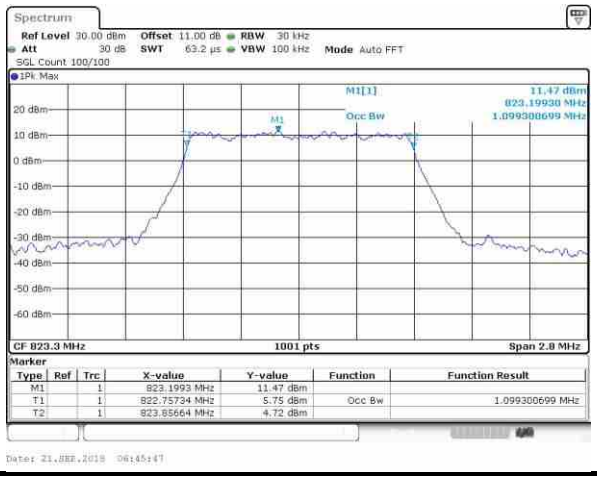
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

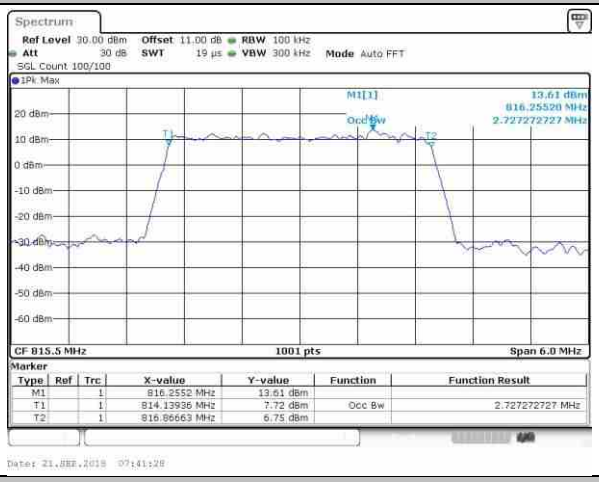


Highest Channel / 1.4MHz / 16QAM

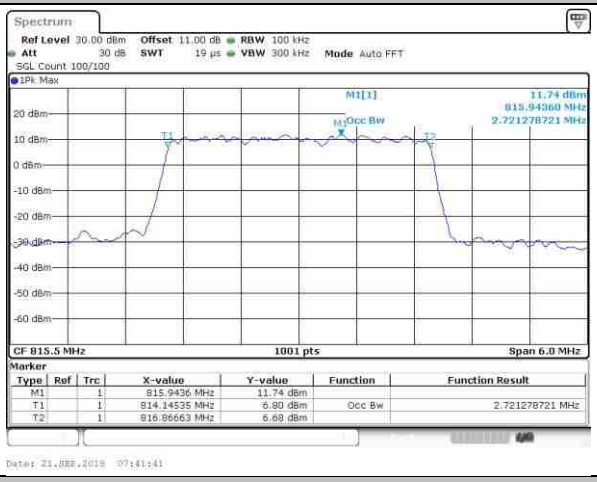


LTE Band 26

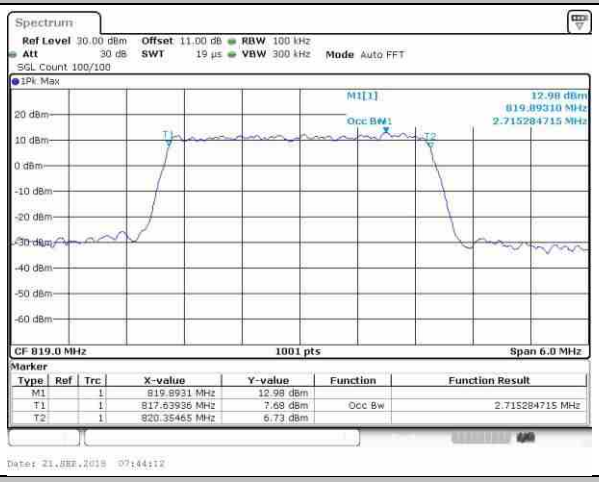
Lowest Channel / 3MHz / QPSK



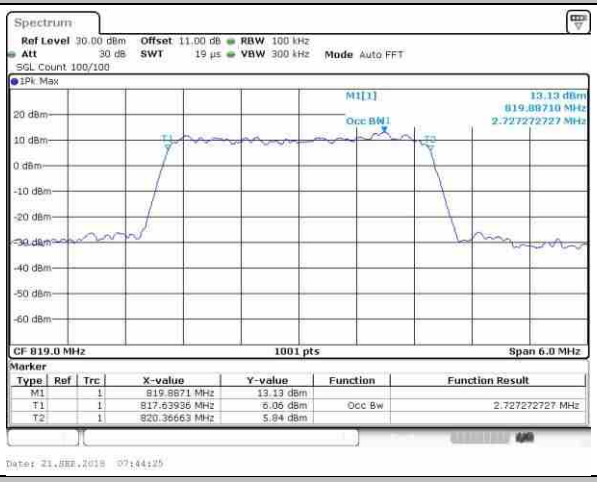
Lowest Channel / 3MHz / 16QAM



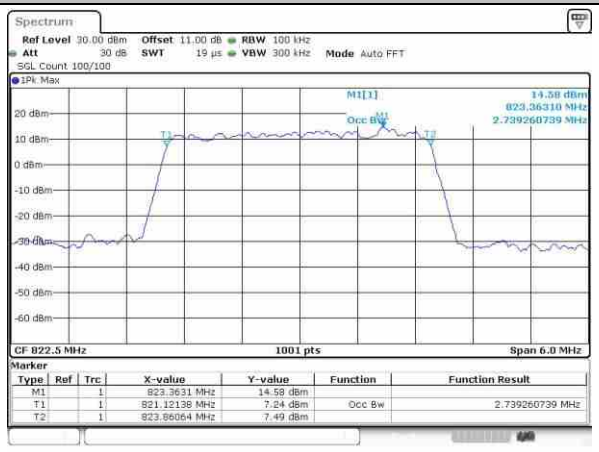
Middle Channel / 3MHz / QPSK



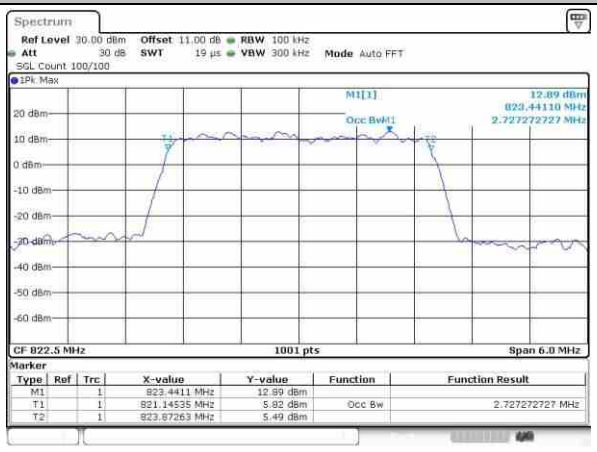
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

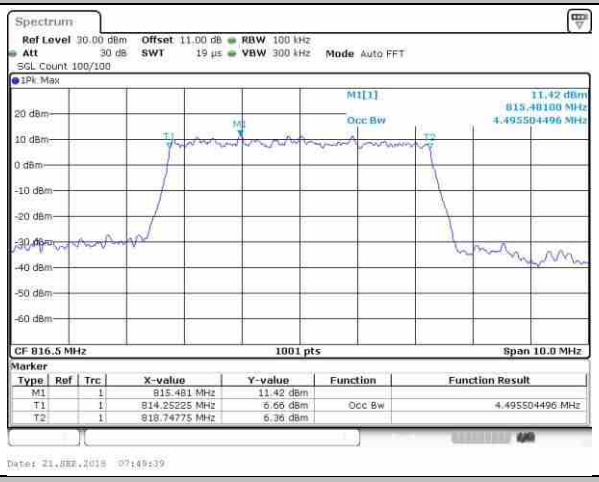


Highest Channel / 3MHz / 16QAM

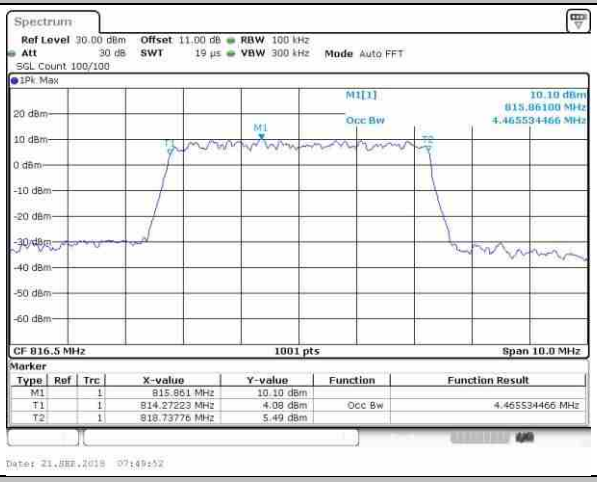


LTE Band 26

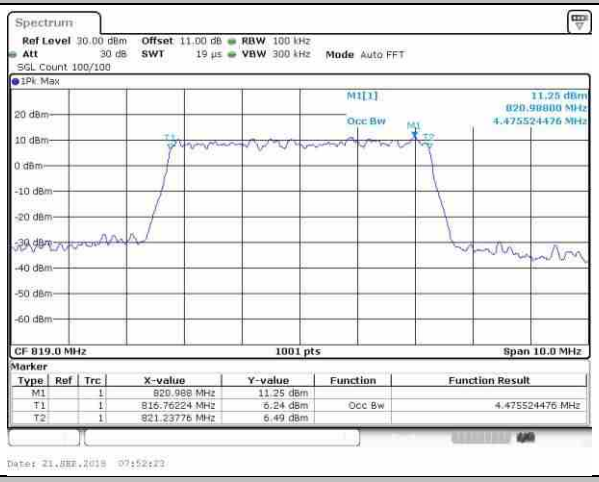
Lowest Channel / 5MHz / QPSK



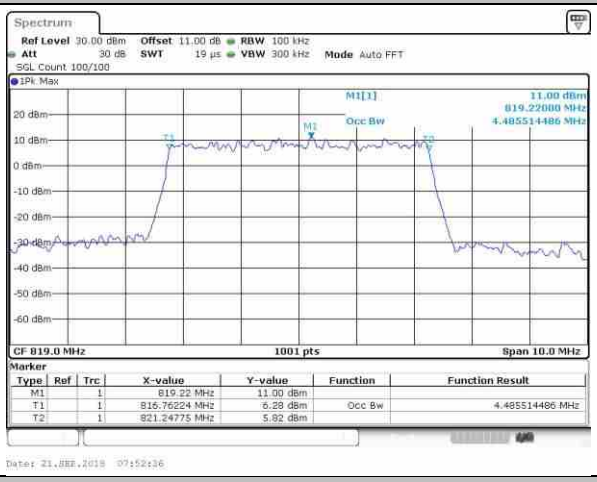
Lowest Channel / 5MHz / 16QAM



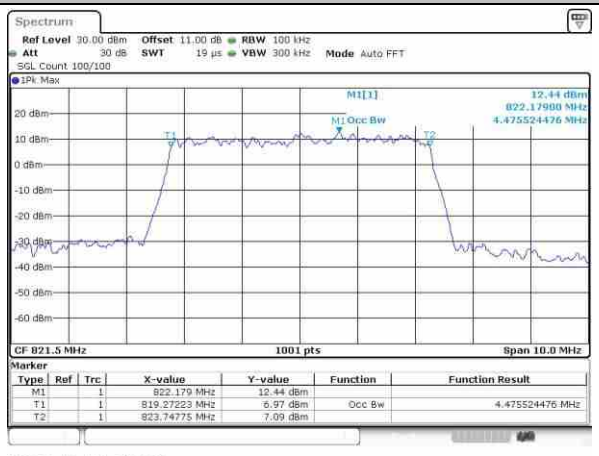
Middle Channel / 5MHz / QPSK



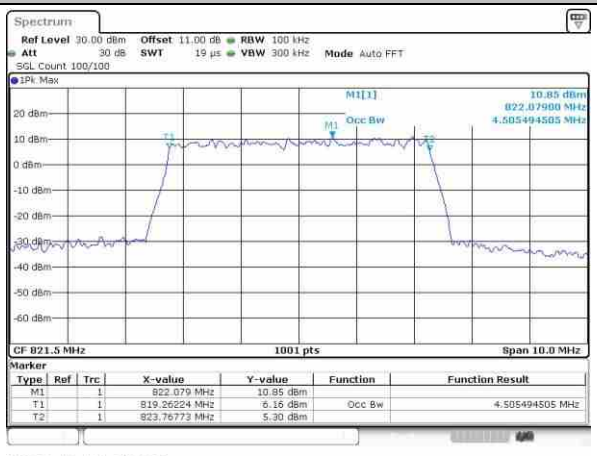
Middle Channel / 5MHz / 16QAM

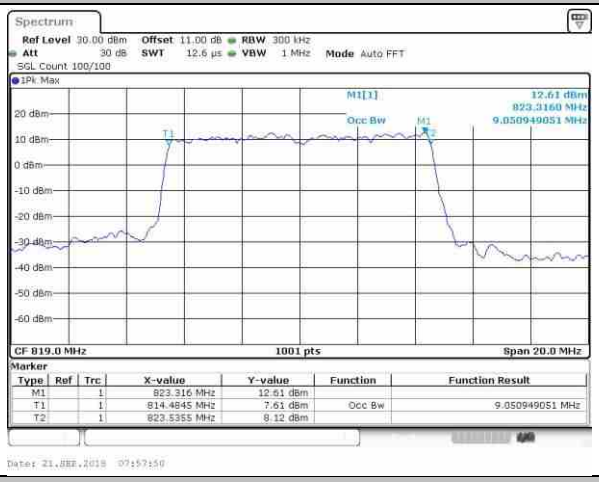
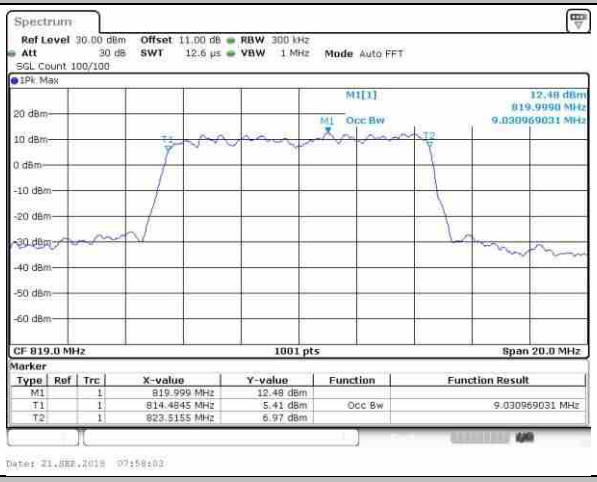
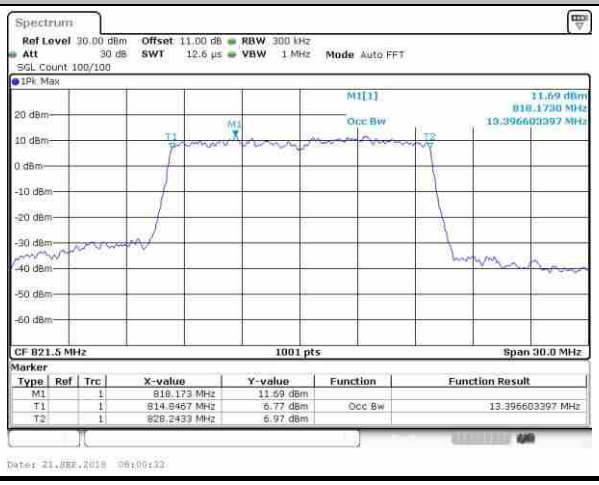
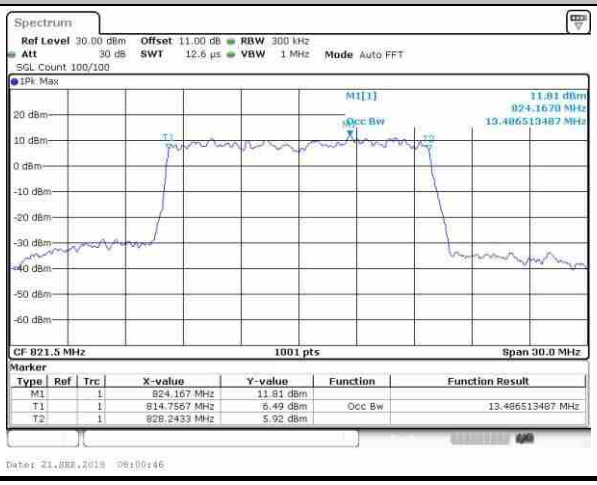


Highest Channel / 5MHz / QPSK



Highest Channel / 5MHz / 16QAM

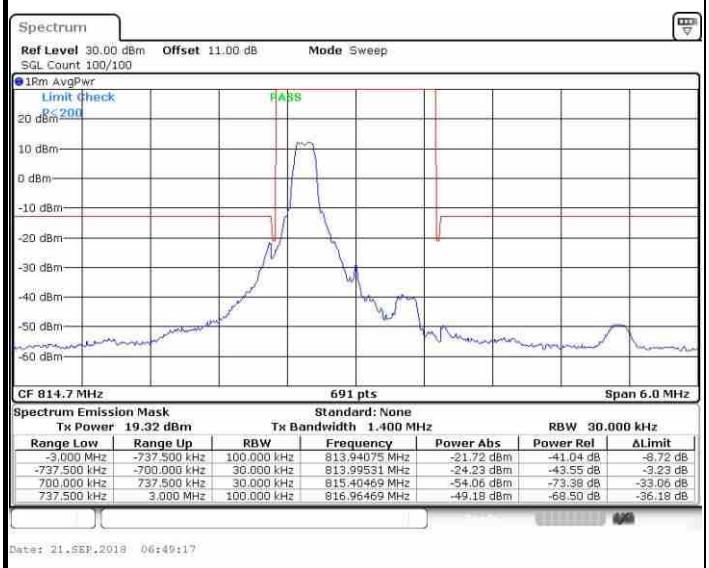


LTE Band 26	
Middle Channel / 10MHz / QPSK	**Middle Channel / 10MHz / 16QAM**
	
LTE Band 26	
Lowest Channel / 15MHz / QPSK	**Lowest Channel / 15MHz / 16QAM**
	

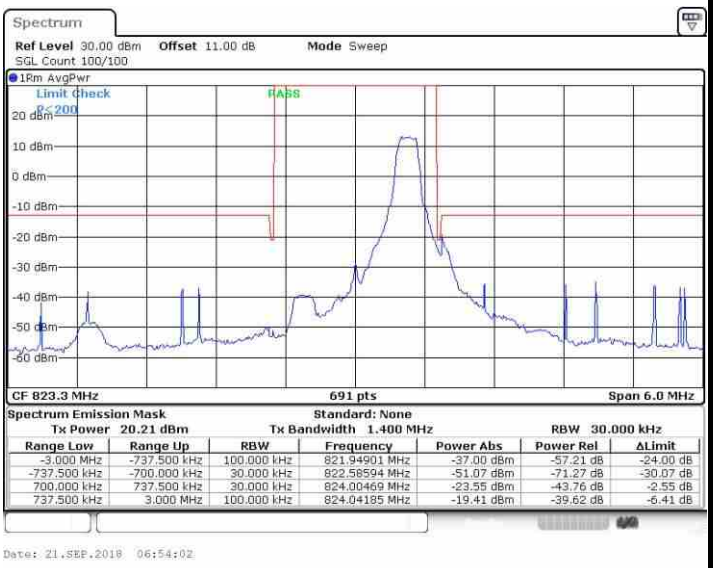
Conducted Band Edge

LTE Band 26 / 1.4MHz / QPSK

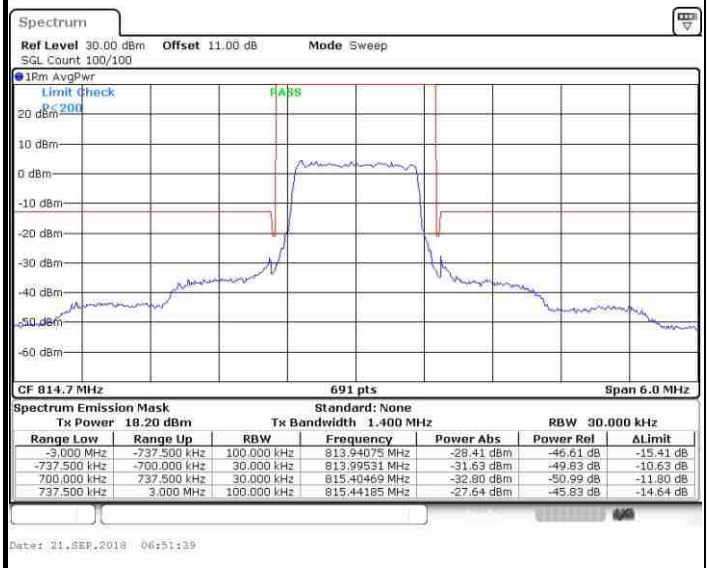
Lowest Band Edge / 1RB



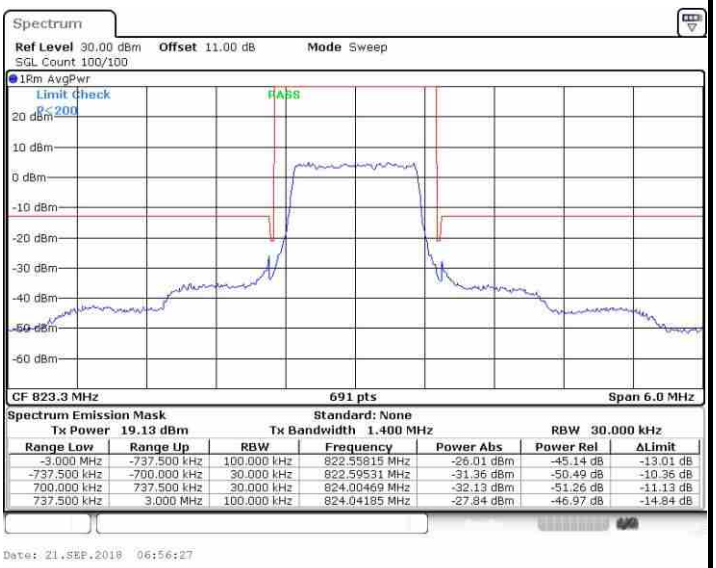
Highest Band Edge / 1RB



Lowest Band Edge / Full RB

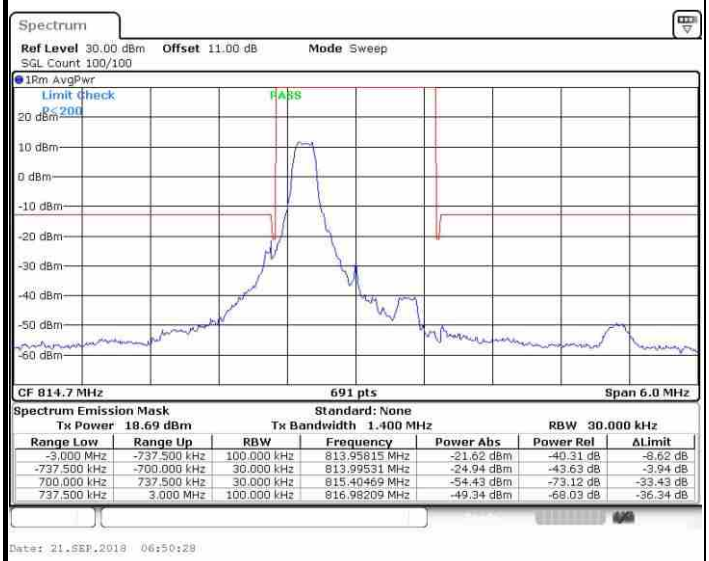


Highest Band Edge / Full RB

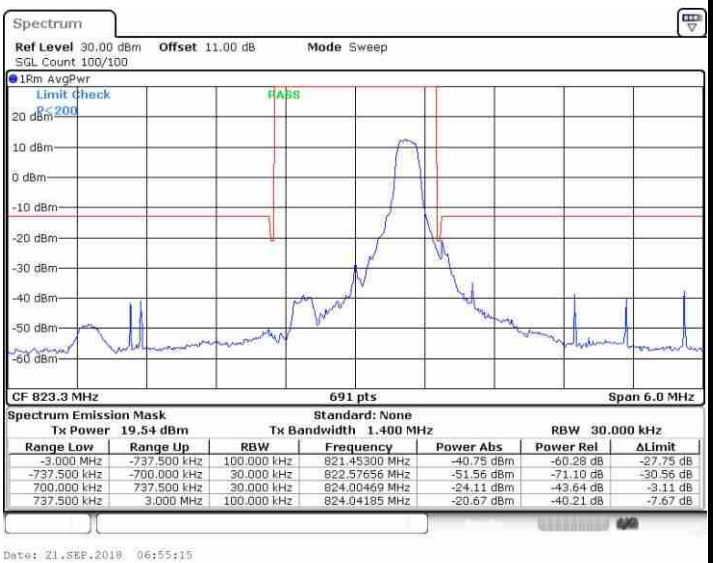


LTE Band 26 / 1.4MHz / 16QAM

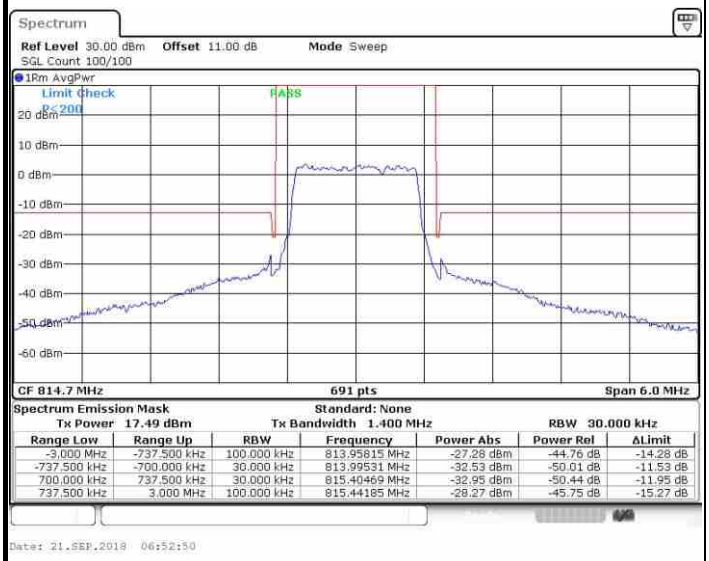
Lowest Band Edge / 1 RB



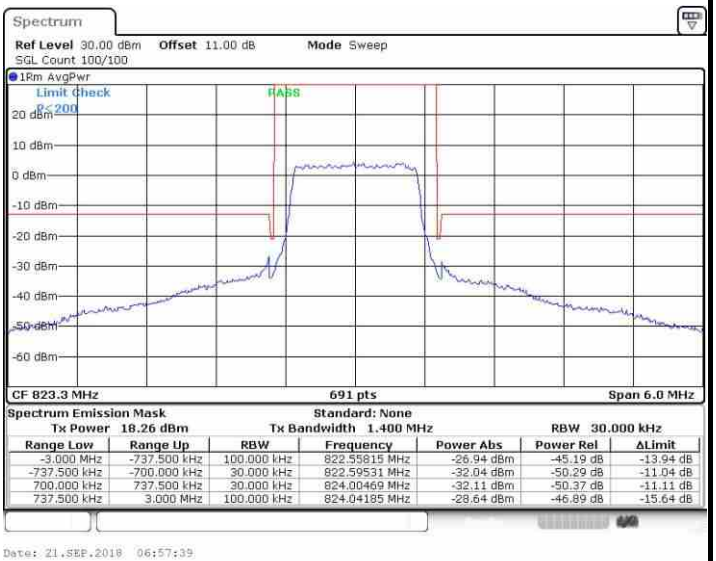
Highest Band Edge / 1 RB

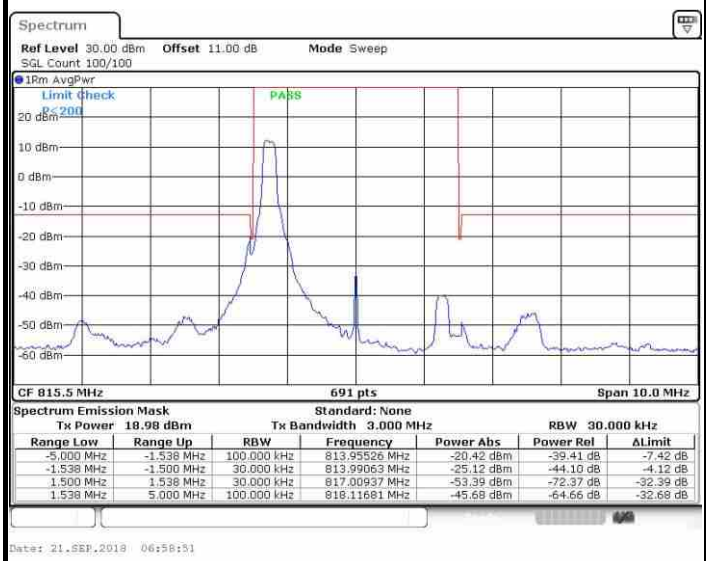
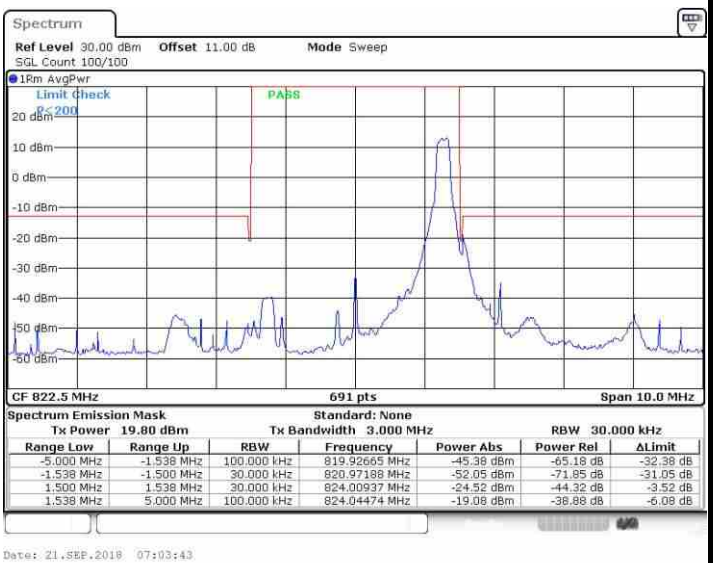
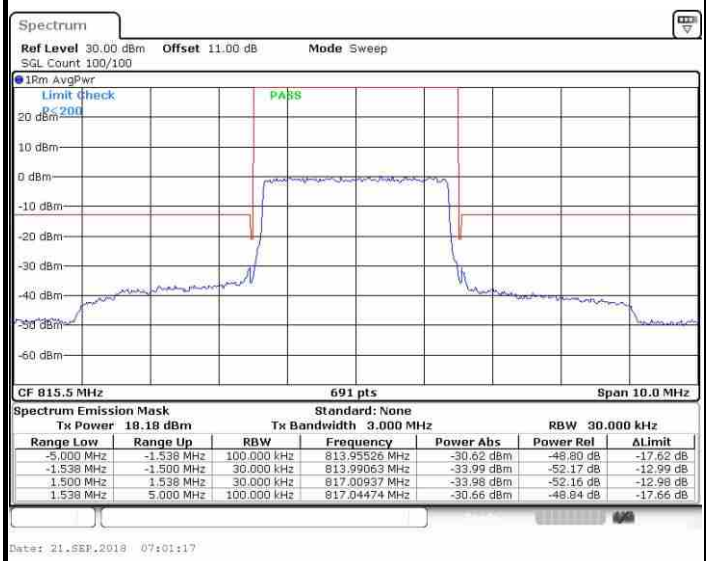
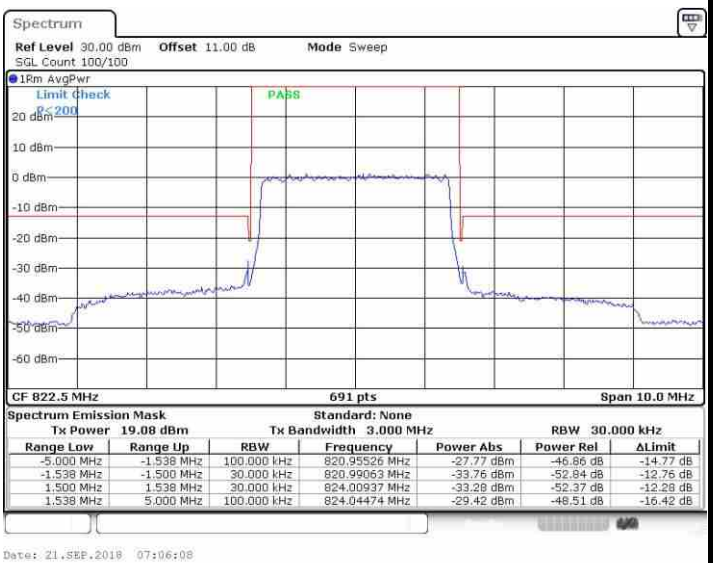


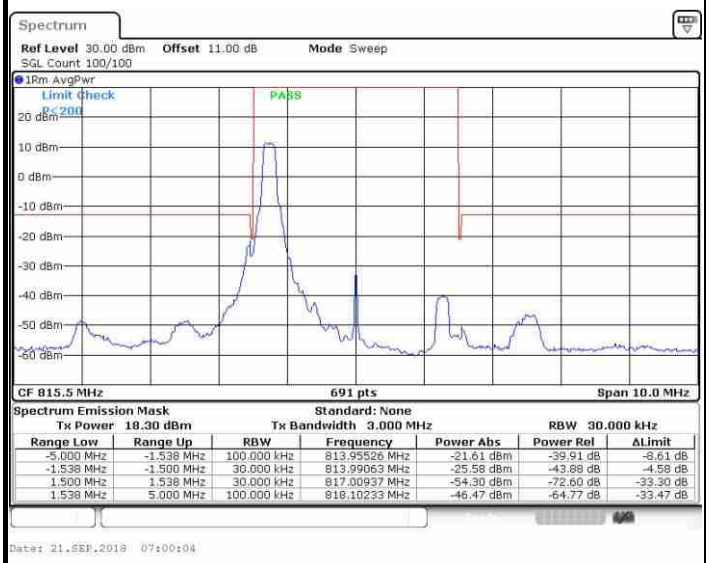
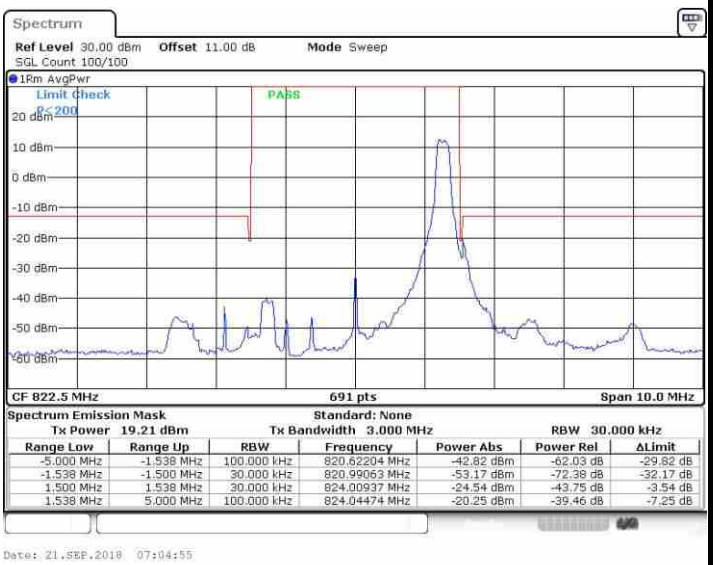
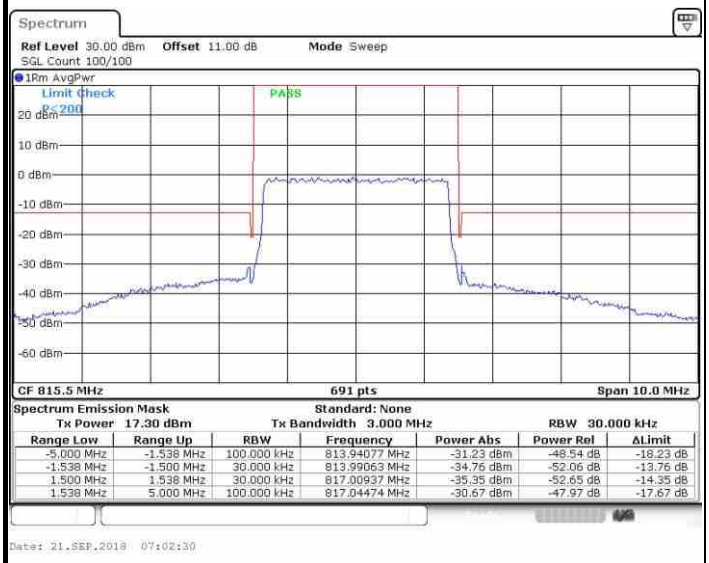
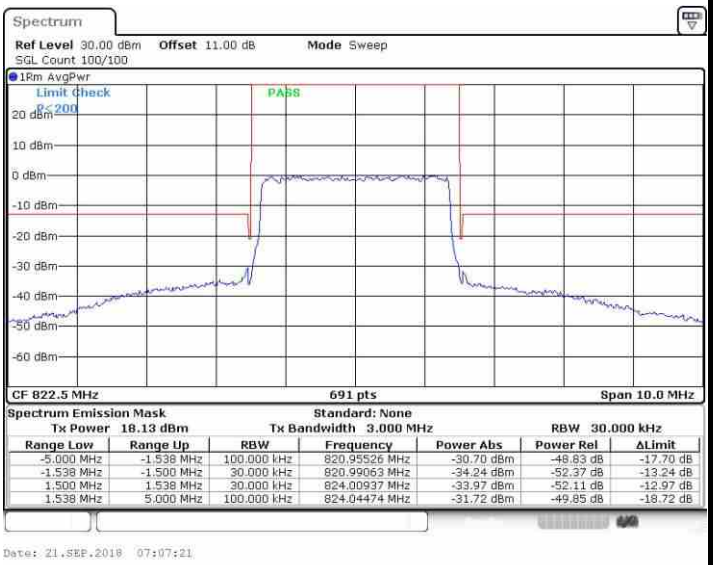
Lowest Band Edge / Full RB

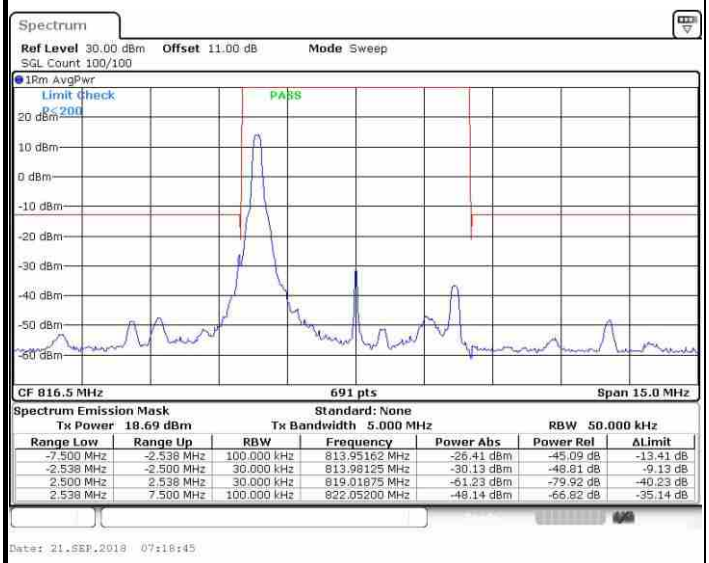
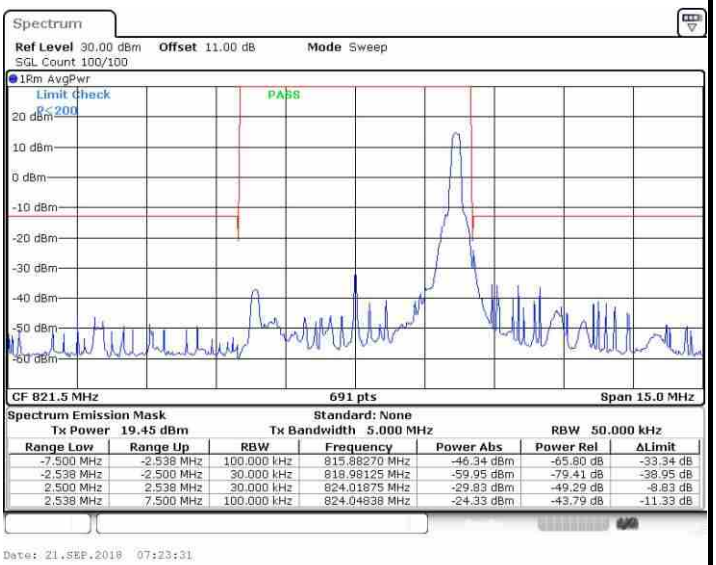
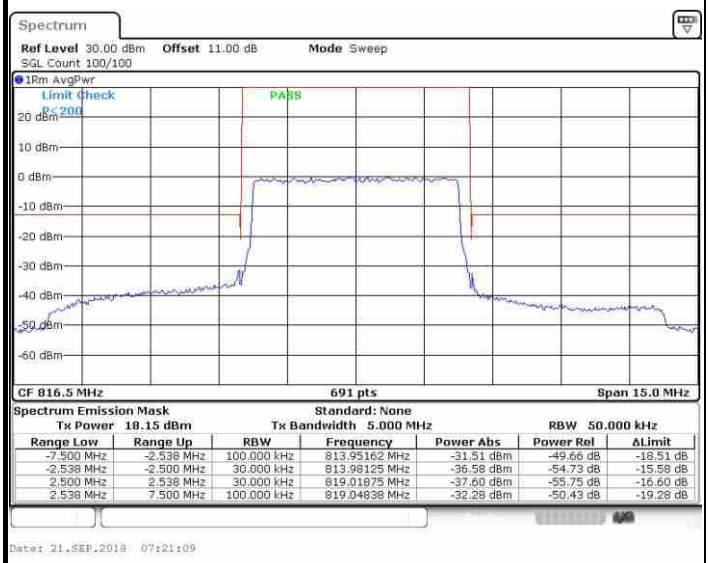
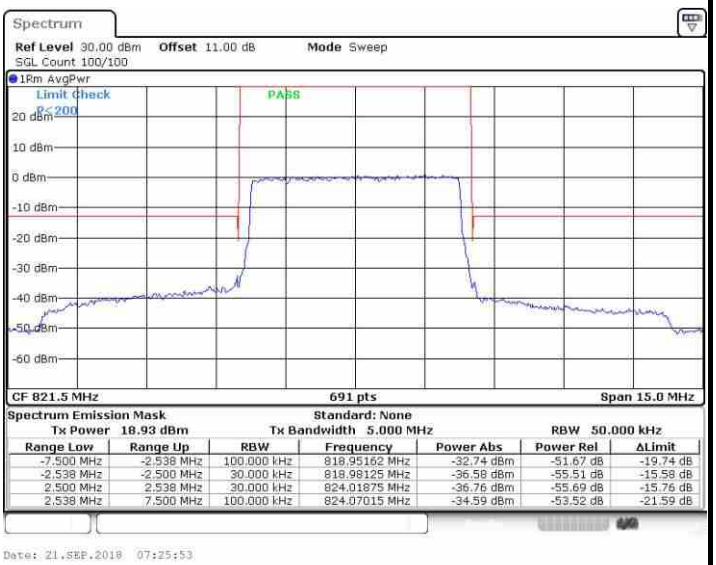


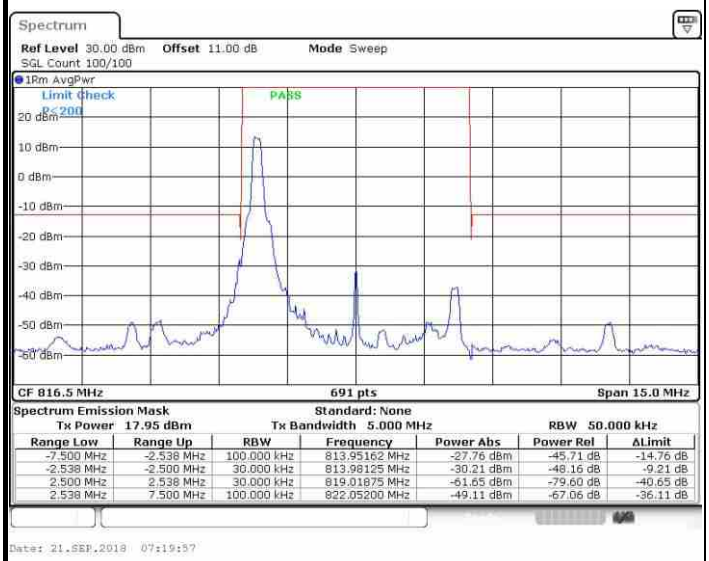
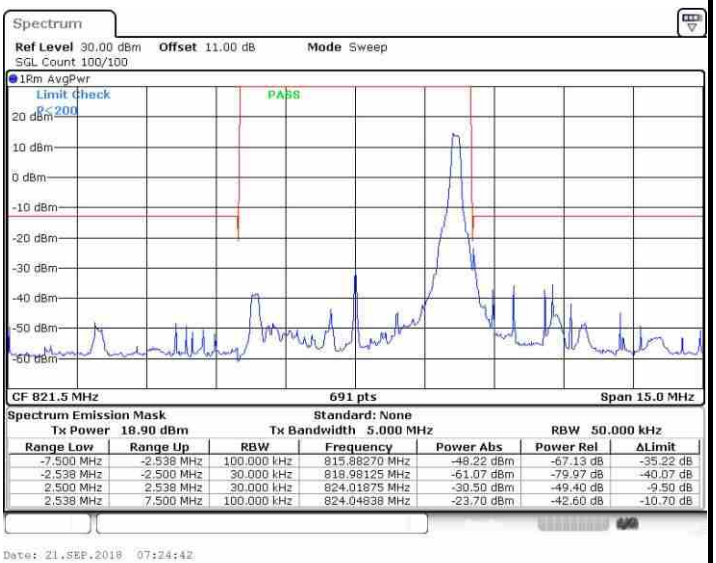
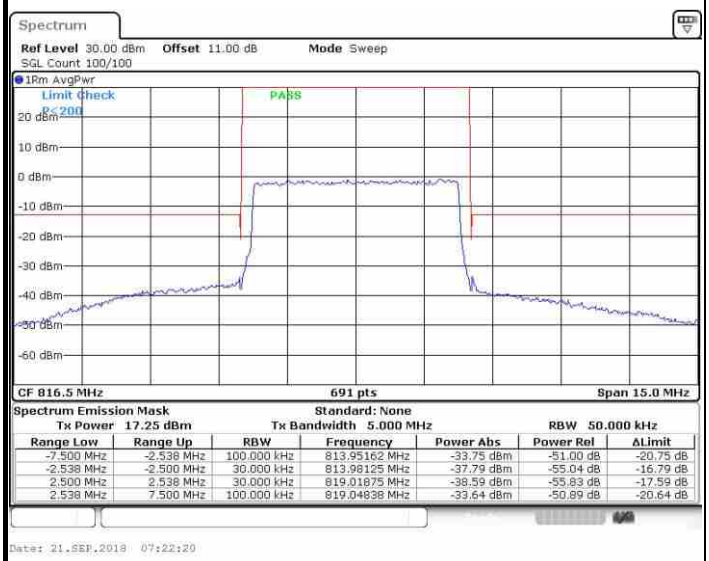
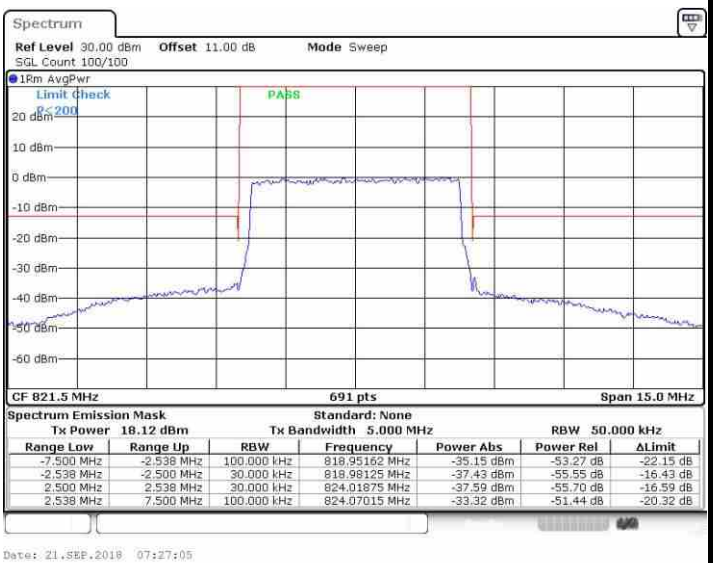
Highest Band Edge / Full RB



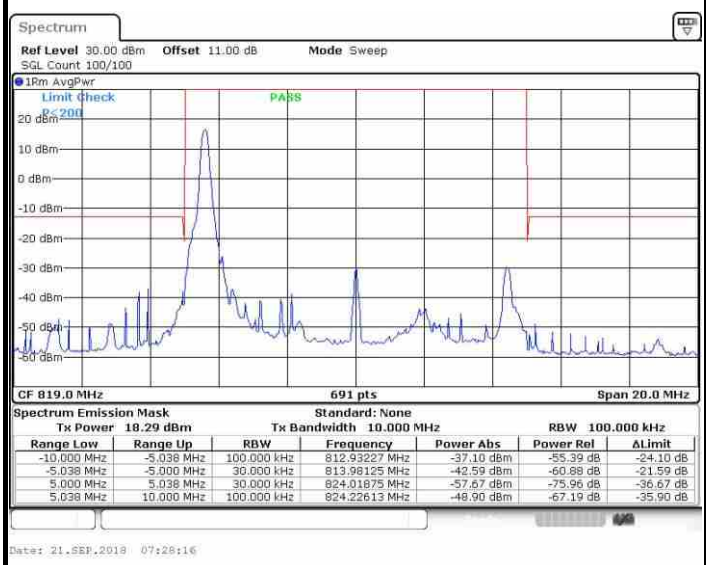
LTE Band 26 / 3MHz / QPSK	
Lowest Band Edge / 1RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

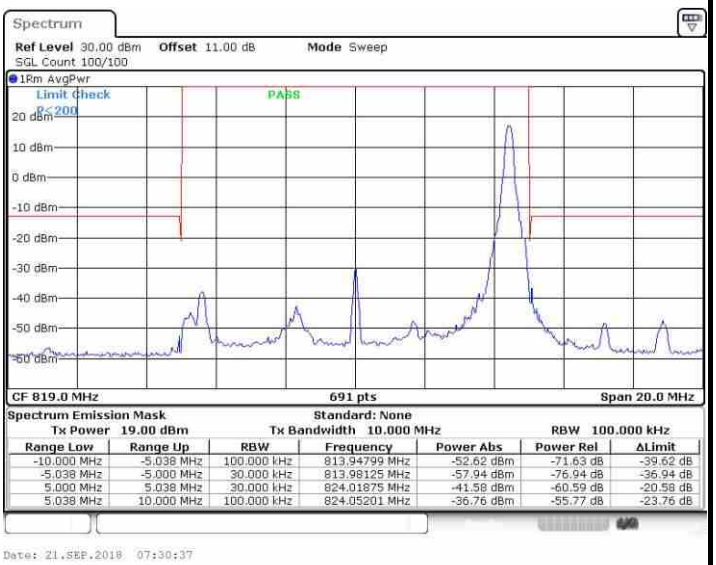
LTE Band 26 / 3MHz / 16QAM	
Lowest Band Edge / 1 RB	**Highest Band Edge /1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 26 / 5MHz / QPSK	
Lowest Band Edge / 1 RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

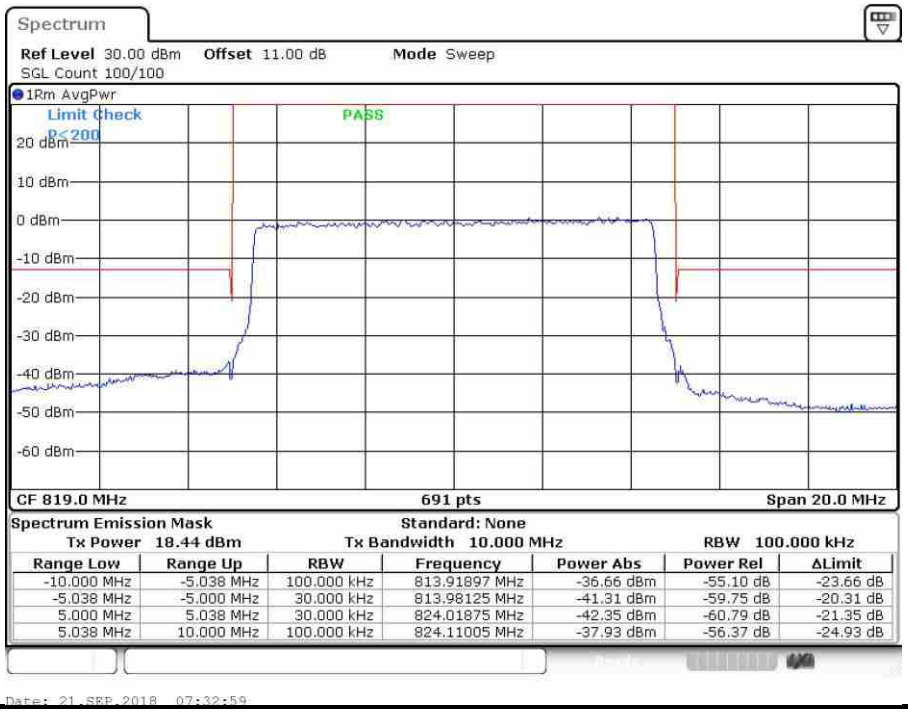
LTE Band 26 / 5MHz / 16QAM	
Lowest Band Edge / 1RB	**Highest Band Edge / 1 RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 26 / 10MHz / QPSK	
Lowest Band Edge / 1 RB	**Highest Band Edge / 1 RB**

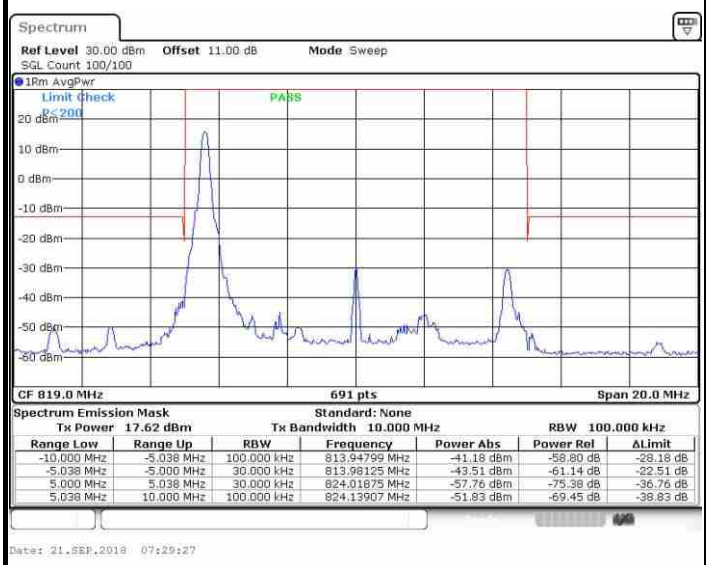


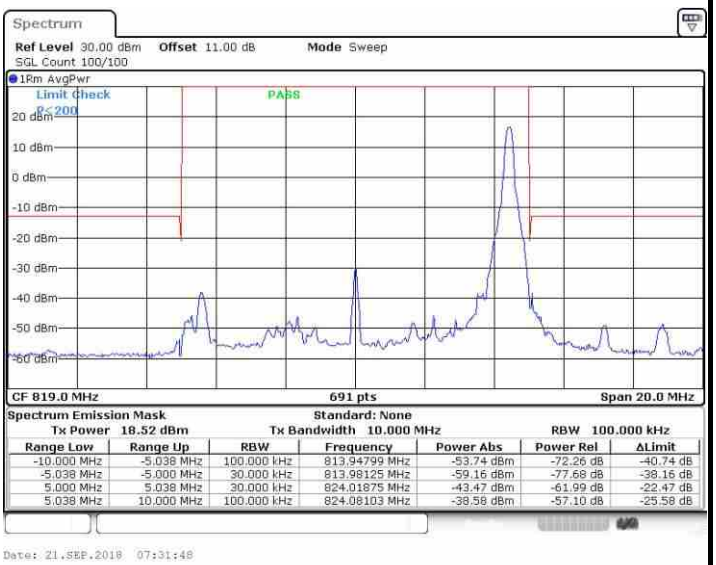


Band Edge / Full RB

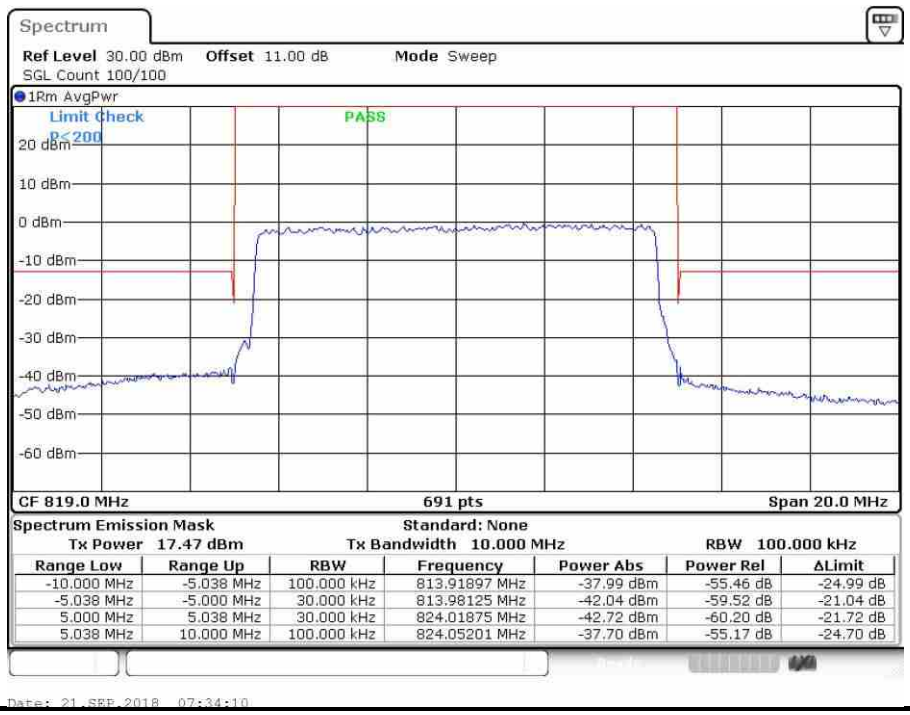


LTE Band 26 / 10MHz / 16QAM	
Lowest Band Edge / 1 RB	**Highest Band Edge / 1 RB**



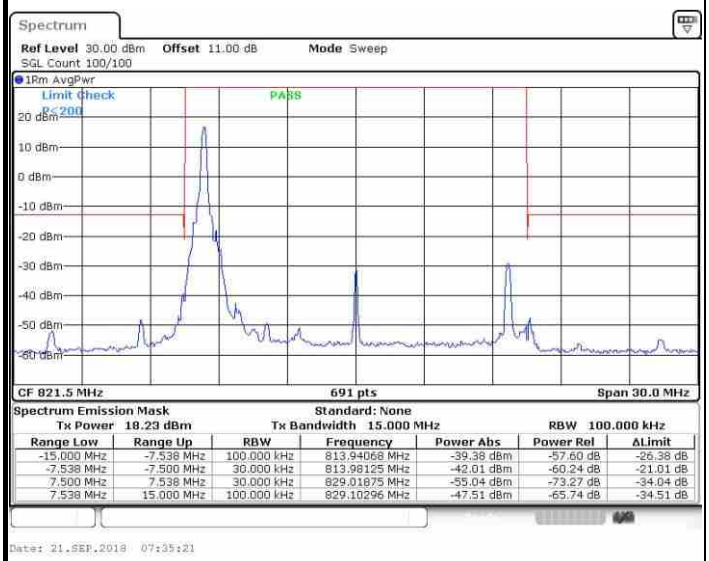


Band Edge / Full RB

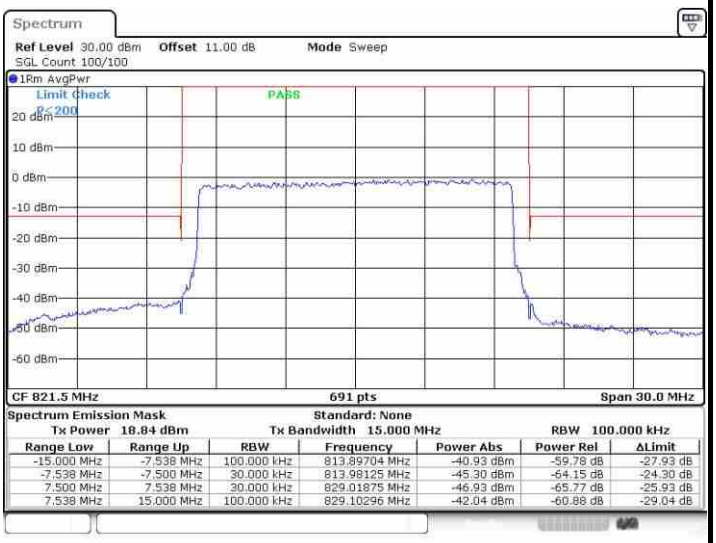


LTE Band 26 / 15MHz QPSK

Lowest Band Edge / 1 RB

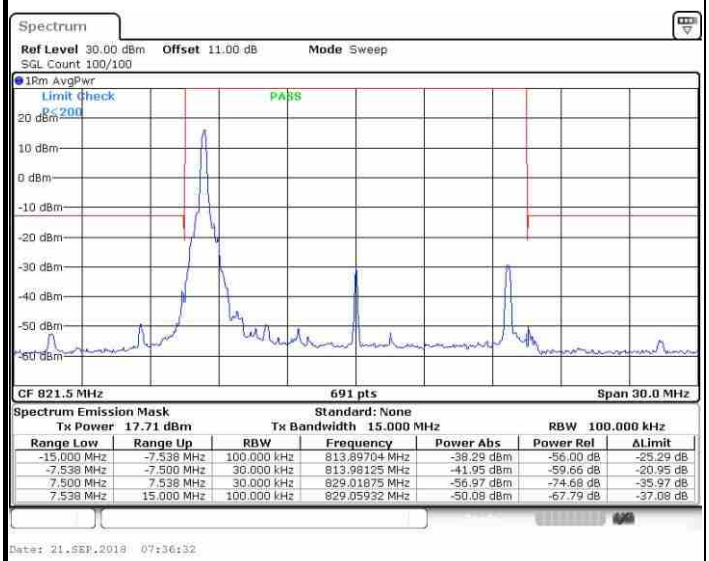


Lowest Band Edge / Full RB

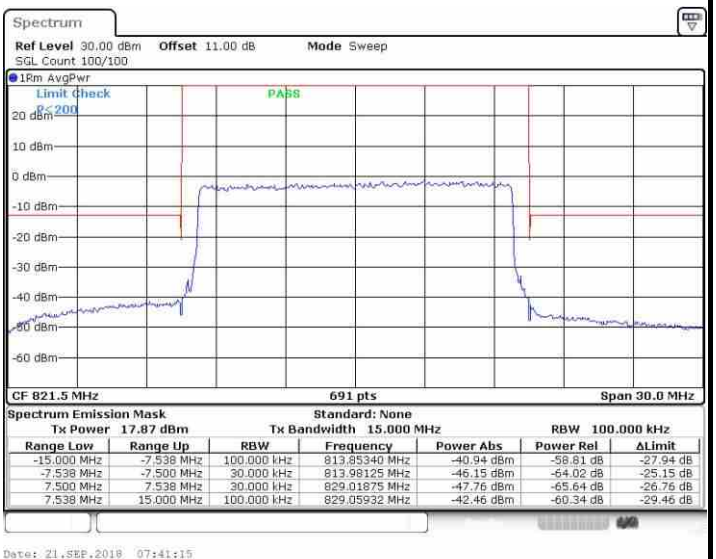


LTE Band 26 / 15MHz 16QAM

Lowest Band Edge / 1 RB



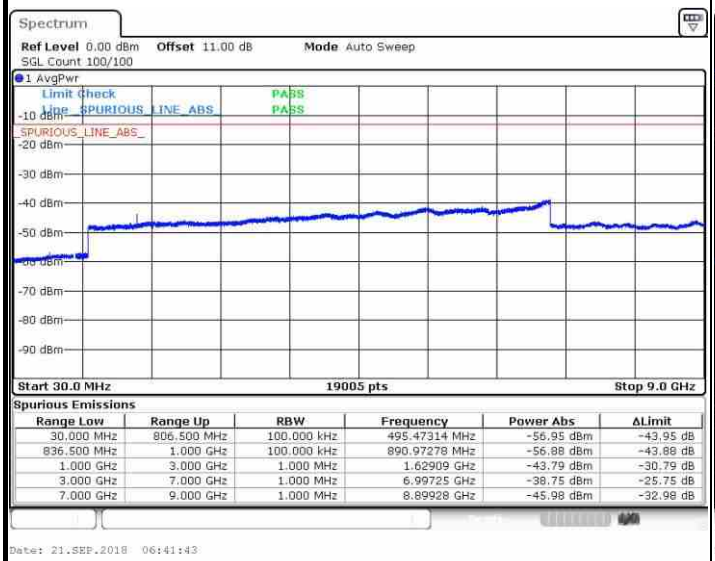
Lowest Band Edge / Full RB



Conducted Spurious Emission

LTE Band 26 / 1.4MHz

Lowest Channel / QPSK

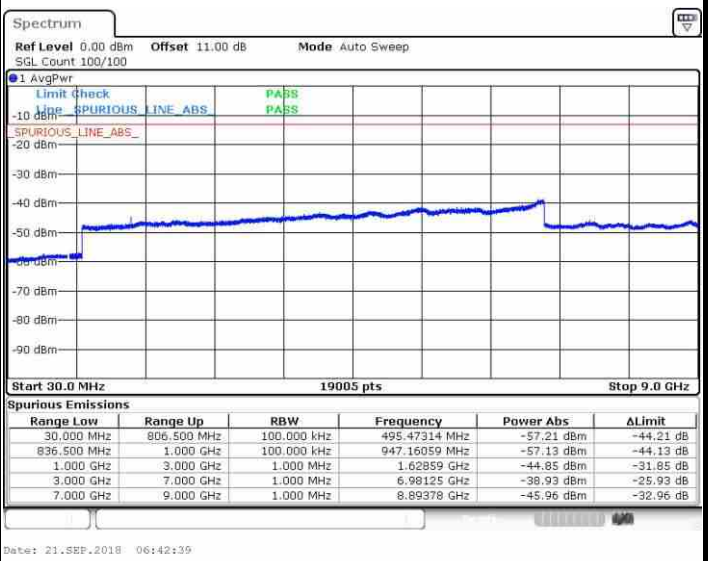


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	495.47314 MHz	-56.95 dBm	-43.95 dB
836.500 MHz	1.000 GHz	100.000 kHz	890.97278 MHz	-56.88 dBm	-43.88 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62909 GHz	-43.79 dBm	-30.79 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99725 GHz	-38.75 dBm	-25.75 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89928 GHz	-45.98 dBm	-32.98 dB

Date: 21.SEP.2018 06:41:43

Lowest Channel / 16QAM

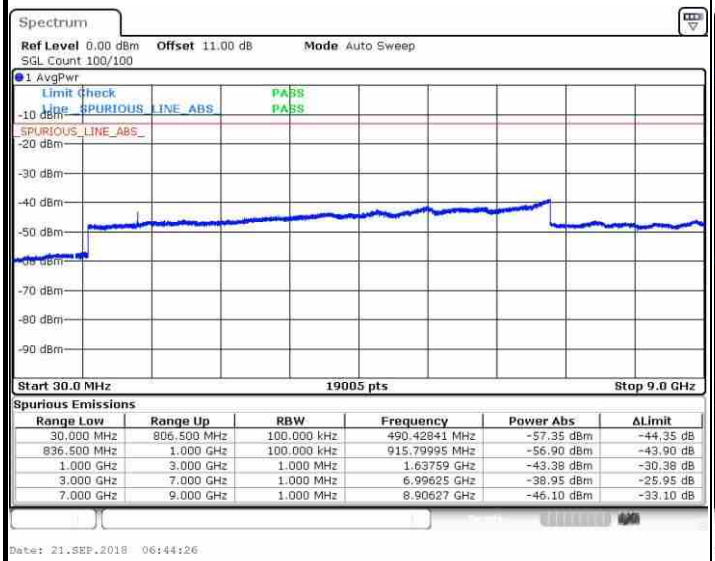


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	495.47314 MHz	-57.21 dBm	-44.21 dB
836.500 MHz	1.000 GHz	100.000 kHz	947.16059 MHz	-57.13 dBm	-44.13 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.62859 GHz	-44.85 dBm	-31.85 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98125 GHz	-38.93 dBm	-25.93 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89378 GHz	-45.96 dBm	-32.96 dB

Date: 21.SEP.2018 06:42:39

Middle Channel / QPSK

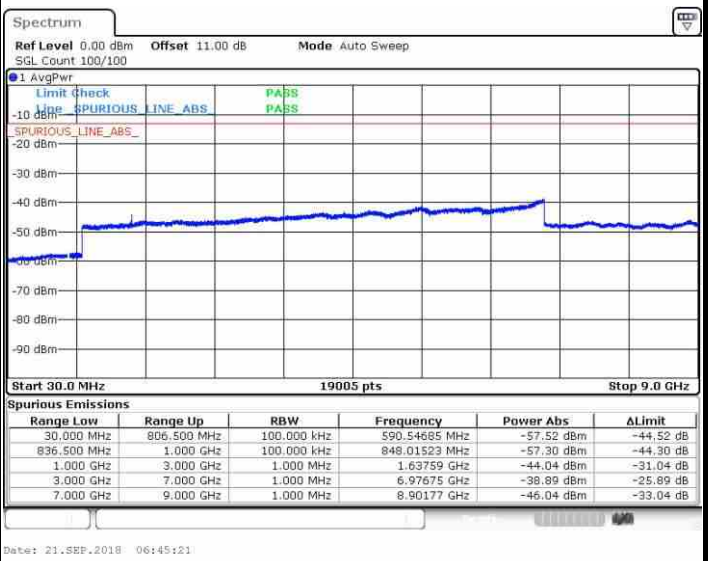


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	490.42841 MHz	-57.35 dBm	-44.35 dB
836.500 MHz	1.000 GHz	100.000 kHz	915.79995 MHz	-56.90 dBm	-43.90 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63759 GHz	-43.38 dBm	-30.38 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99625 GHz	-38.95 dBm	-25.95 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.90627 GHz	-46.10 dBm	-33.10 dB

Date: 21.SEP.2018 06:44:26

Middle Channel / 16QAM



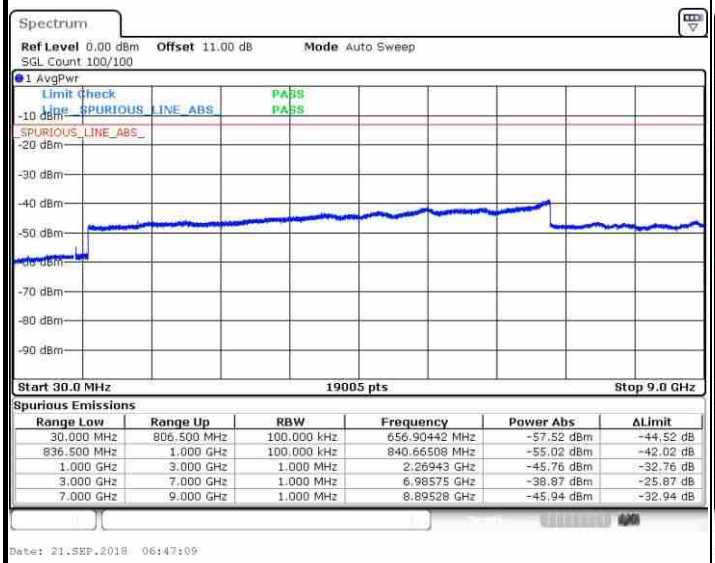
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	590.54685 MHz	-57.52 dBm	-44.52 dB
836.500 MHz	1.000 GHz	100.000 kHz	848.01523 MHz	-57.30 dBm	-44.30 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.63759 GHz	-44.04 dBm	-31.04 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97675 GHz	-38.89 dBm	-25.89 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.90177 GHz	-46.04 dBm	-33.04 dB

Date: 21.SEP.2018 06:45:21

LTE Band 26 / 1.4MHz

Highest Channel / QPSK

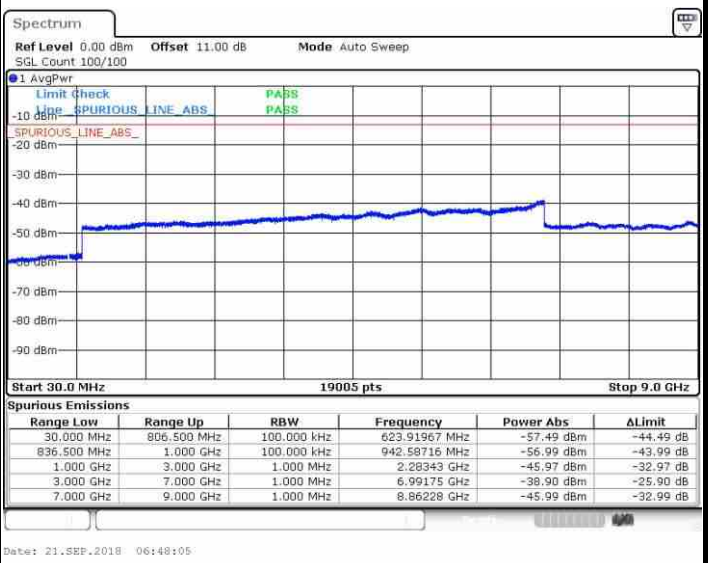


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	656.90442 MHz	-57.52 dBm	-44.52 dB
836.500 MHz	1.000 GHz	100.000 kHz	840.66508 MHz	-55.02 dBm	-42.02 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.26943 GHz	-45.76 dBm	-32.76 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98575 GHz	-38.87 dBm	-25.87 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89528 GHz	-45.94 dBm	-32.94 dB

Date: 21.SEP.2018 06:47:09

Highest Channel / 16QAM



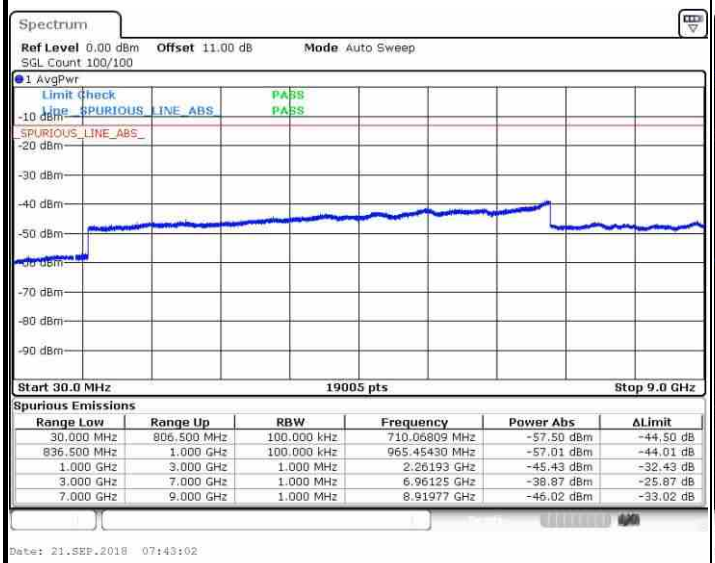
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	623.91967 MHz	-57.49 dBm	-44.49 dB
836.500 MHz	1.000 GHz	100.000 kHz	942.58716 MHz	-56.99 dBm	-43.99 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.28343 GHz	-45.97 dBm	-32.97 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99175 GHz	-38.90 dBm	-25.90 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.86228 GHz	-45.99 dBm	-32.99 dB

Date: 21.SEP.2018 06:48:05

LTE Band 26 / 3MHz

Lowest Channel / QPSK

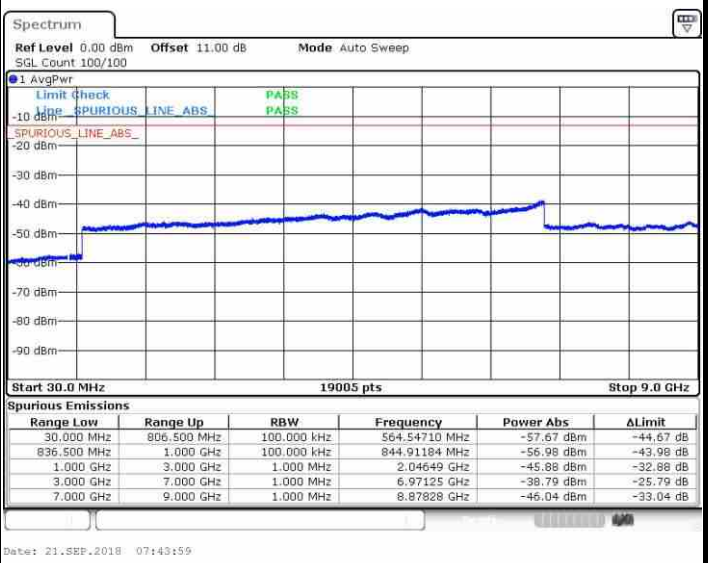


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	710.06809 MHz	-57.50 dBm	-44.50 dB
836.500 MHz	1.000 GHz	100.000 kHz	965.45430 MHz	-57.01 dBm	-44.01 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.26193 GHz	-45.43 dBm	-32.43 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96125 GHz	-38.87 dBm	-25.87 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91977 GHz	-46.02 dBm	-33.02 dB

Date: 21.SEP.2018 07:43:02

Lowest Channel / 16QAM



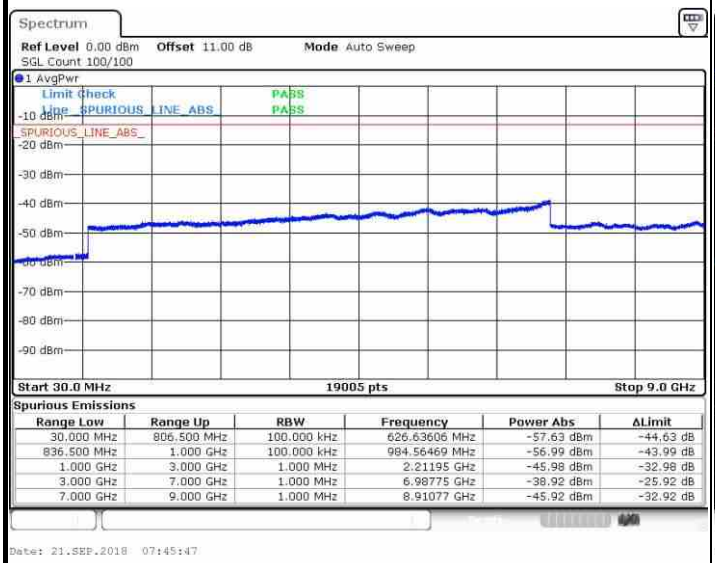
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	564.54710 MHz	-57.67 dBm	-44.67 dB
836.500 MHz	1.000 GHz	100.000 kHz	844.91184 MHz	-56.98 dBm	-43.98 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.04649 GHz	-45.88 dBm	-32.88 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97125 GHz	-38.79 dBm	-25.79 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87828 GHz	-46.04 dBm	-33.04 dB

Date: 21.SEP.2018 07:43:59

LTE Band 26 / 3MHz

Middle Channel / QPSK

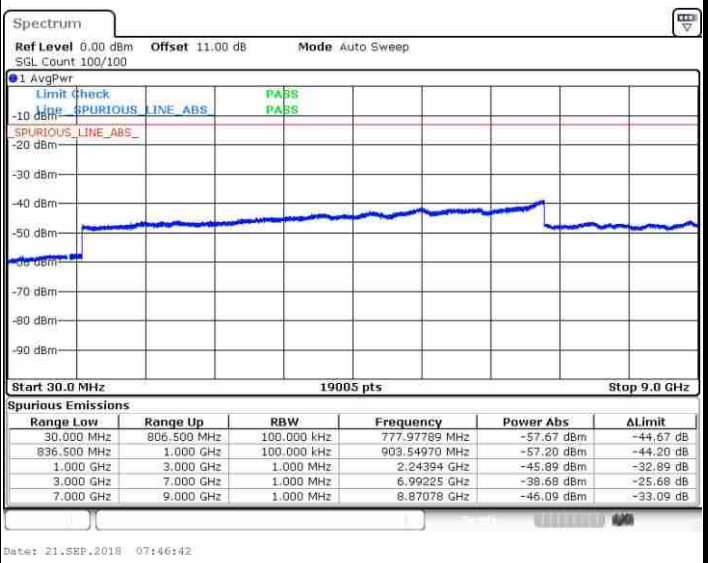


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	626.63606 MHz	-57.63 dBm	-44.63 dB
836.500 MHz	1.000 GHz	100.000 kHz	984.56469 MHz	-56.99 dBm	-43.99 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.21195 GHz	-45.98 dBm	-32.98 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98775 GHz	-38.92 dBm	-25.92 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91077 GHz	-45.92 dBm	-32.92 dB

Date: 21.SEP.2018 07:45:47

Middle Channel / 16QAM

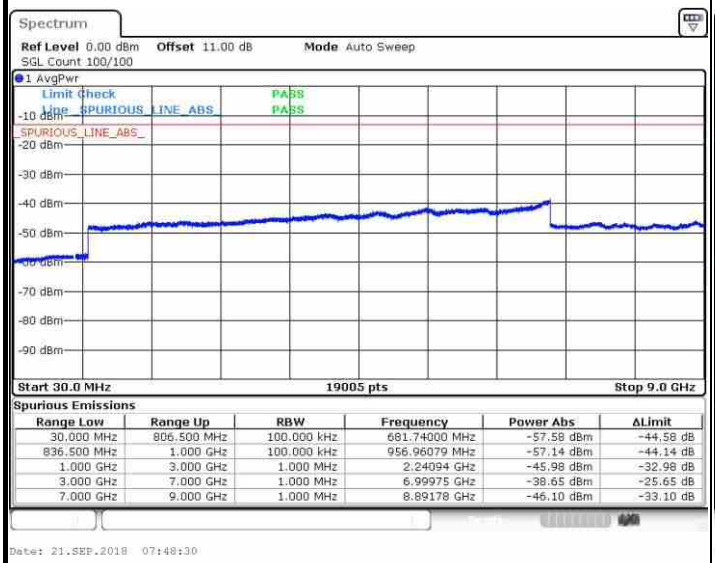


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	777.97789 MHz	-57.67 dBm	-44.67 dB
836.500 MHz	1.000 GHz	100.000 kHz	903.54970 MHz	-57.20 dBm	-44.20 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.24394 GHz	-45.89 dBm	-32.89 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99225 GHz	-38.68 dBm	-25.68 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87078 GHz	-46.09 dBm	-33.09 dB

Date: 21.SEP.2018 07:46:42

Highest Channel / QPSK

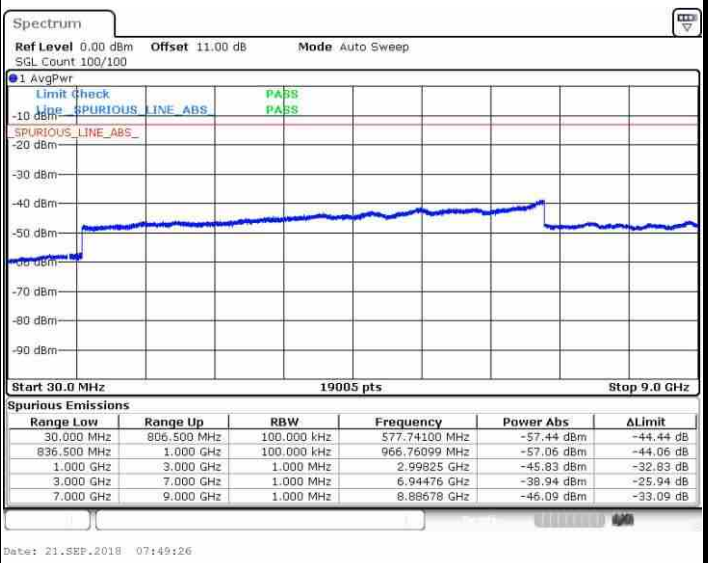


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	681.74000 MHz	-57.58 dBm	-44.58 dB
836.500 MHz	1.000 GHz	100.000 kHz	956.96079 MHz	-57.14 dBm	-44.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.24094 GHz	-45.98 dBm	-32.98 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99975 GHz	-38.65 dBm	-25.65 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89178 GHz	-46.10 dBm	-33.10 dB

Date: 21.SEP.2018 07:48:30

Highest Channel / 16QAM



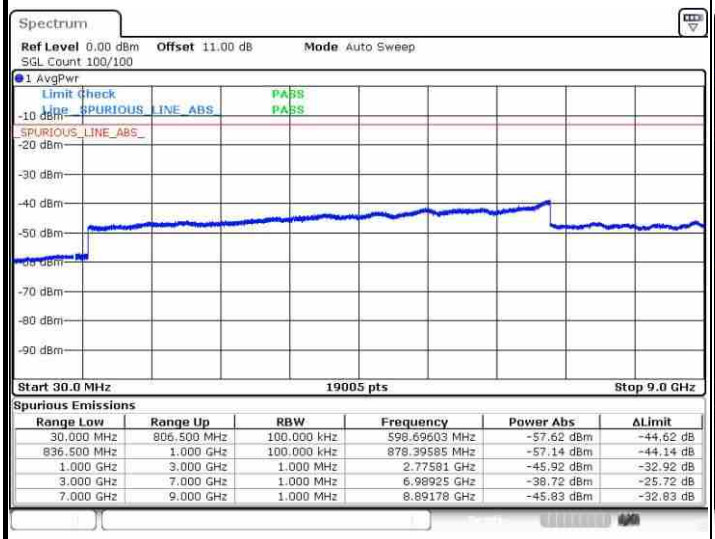
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	577.74100 MHz	-57.44 dBm	-44.44 dB
836.500 MHz	1.000 GHz	100.000 kHz	966.76099 MHz	-57.06 dBm	-44.06 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99825 GHz	-45.83 dBm	-32.83 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94476 GHz	-38.94 dBm	-25.94 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.88678 GHz	-46.09 dBm	-33.09 dB

Date: 21.SEP.2018 07:49:26

LTE Band 26 / 5MHz

Lowest Channel / QPSK

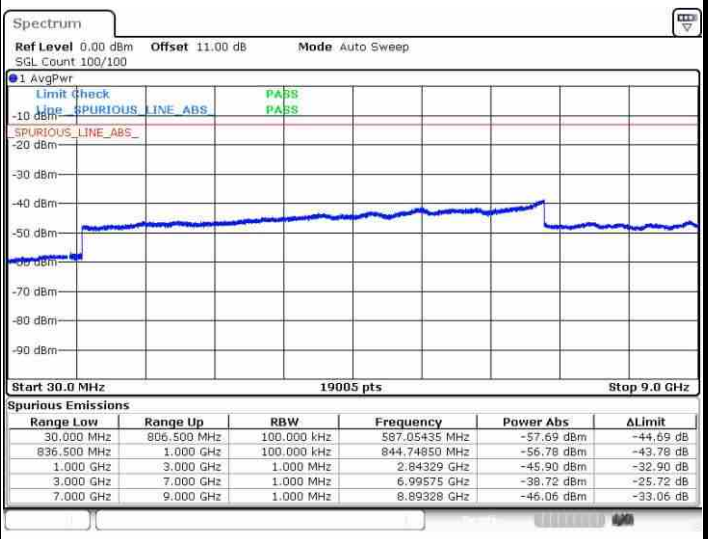


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	598.69603 MHz	-57.62 dBm	-44.62 dB
836.500 MHz	1.000 GHz	100.000 kHz	878.39585 MHz	-57.14 dBm	-44.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.77581 GHz	-45.92 dBm	-32.92 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98925 GHz	-38.72 dBm	-25.72 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89178 GHz	-45.83 dBm	-32.83 dB

Date: 21.SEP.2018 07:51:13

Lowest Channel / 16QAM

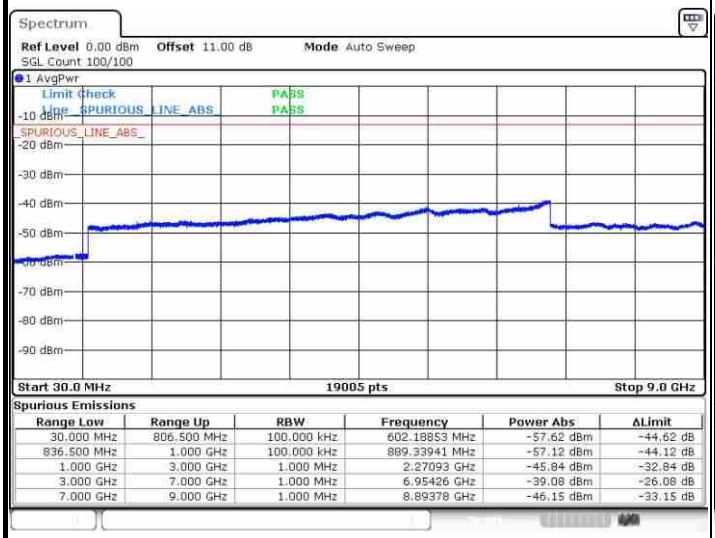


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	587.05435 MHz	-57.69 dBm	-44.69 dB
836.500 MHz	1.000 GHz	100.000 kHz	844.74850 MHz	-56.78 dBm	-43.78 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.84329 GHz	-45.90 dBm	-32.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99575 GHz	-38.72 dBm	-25.72 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89328 GHz	-46.06 dBm	-33.06 dB

Date: 21.SEP.2018 07:52:09

Middle Channel / QPSK

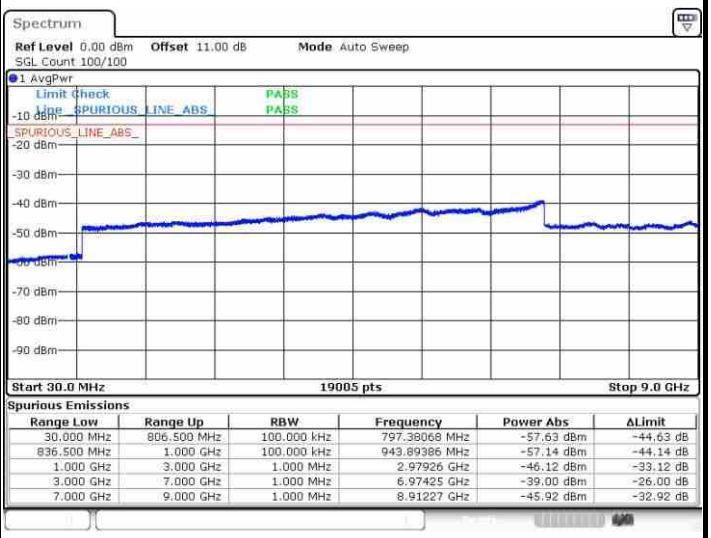


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	602.18853 MHz	-57.62 dBm	-44.62 dB
836.500 MHz	1.000 GHz	100.000 kHz	889.33941 MHz	-57.12 dBm	-44.12 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.27093 GHz	-45.84 dBm	-32.84 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.95426 GHz	-39.08 dBm	-26.08 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89378 GHz	-46.15 dBm	-33.15 dB

Date: 21.SEP.2018 07:53:57

Middle Channel / 16QAM



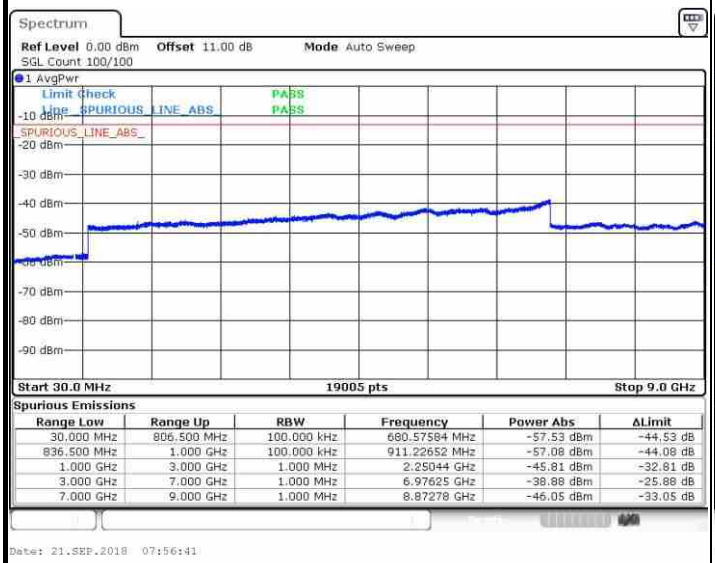
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	797.38068 MHz	-57.63 dBm	-44.63 dB
836.500 MHz	1.000 GHz	100.000 kHz	943.89386 MHz	-57.14 dBm	-44.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.97926 GHz	-46.12 dBm	-33.12 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97425 GHz	-39.00 dBm	-26.00 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91227 GHz	-45.92 dBm	-32.92 dB

Date: 21.SEP.2018 07:54:53

LTE Band 26 / 5MHz

Highest Channel / QPSK

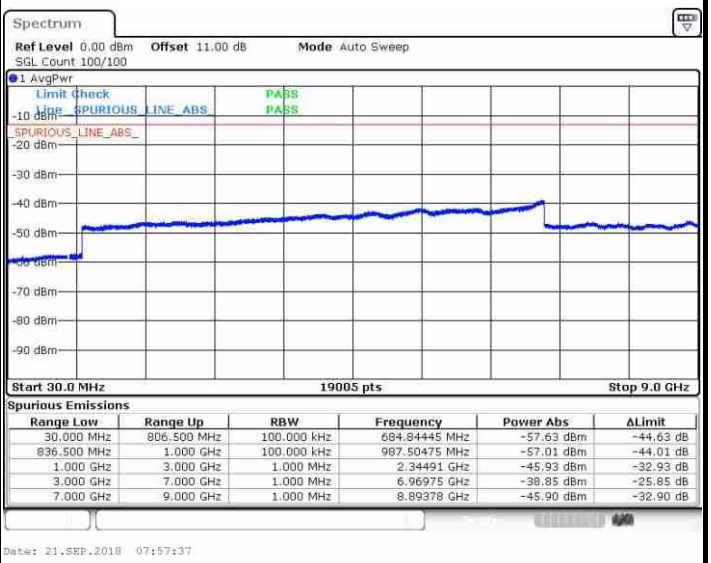


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	680.57584 MHz	-57.53 dBm	-44.53 dB
836.500 MHz	1.000 GHz	100.000 kHz	911.22652 MHz	-57.08 dBm	-44.08 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.25044 GHz	-45.81 dBm	-32.81 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97625 GHz	-38.88 dBm	-25.88 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87278 GHz	-46.05 dBm	-33.05 dB

Date: 21.SEP.2018 07:56:41

Highest Channel / 16QAM



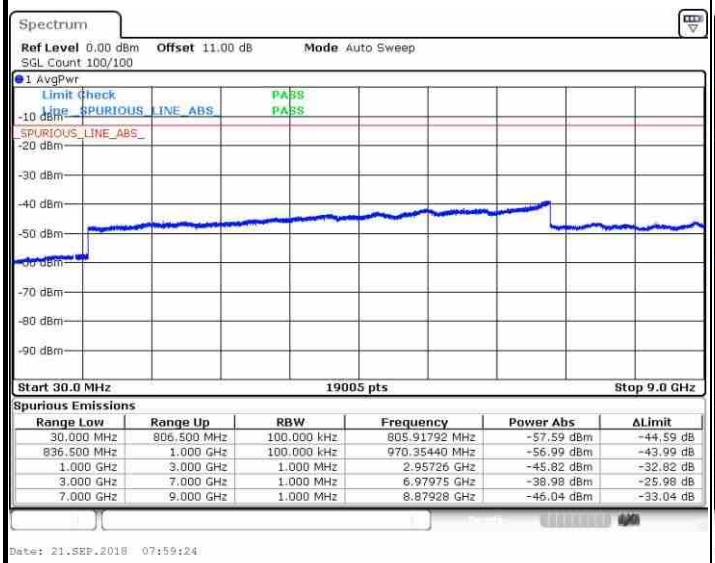
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	684.84445 MHz	-57.63 dBm	-44.63 dB
836.500 MHz	1.000 GHz	100.000 kHz	987.50475 MHz	-57.01 dBm	-44.01 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.34491 GHz	-45.93 dBm	-32.93 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96975 GHz	-38.85 dBm	-25.85 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.89378 GHz	-45.90 dBm	-32.90 dB

Date: 21.SEP.2018 07:57:37

LTE Band 26 / 10MHz

Middle Channel / QPSK

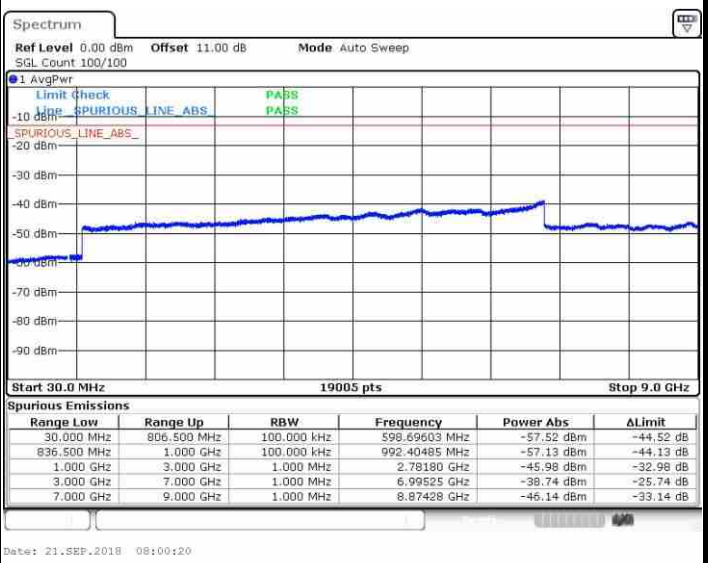


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	805.91792 MHz	-57.59 dBm	-44.59 dB
836.500 MHz	1.000 GHz	100.000 kHz	970.35440 MHz	-56.99 dBm	-43.99 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.95726 GHz	-45.82 dBm	-32.82 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97975 GHz	-38.98 dBm	-25.98 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87928 GHz	-46.04 dBm	-33.04 dB

Date: 21.SEP.2018 07:59:24

Middle Channel / 16QAM

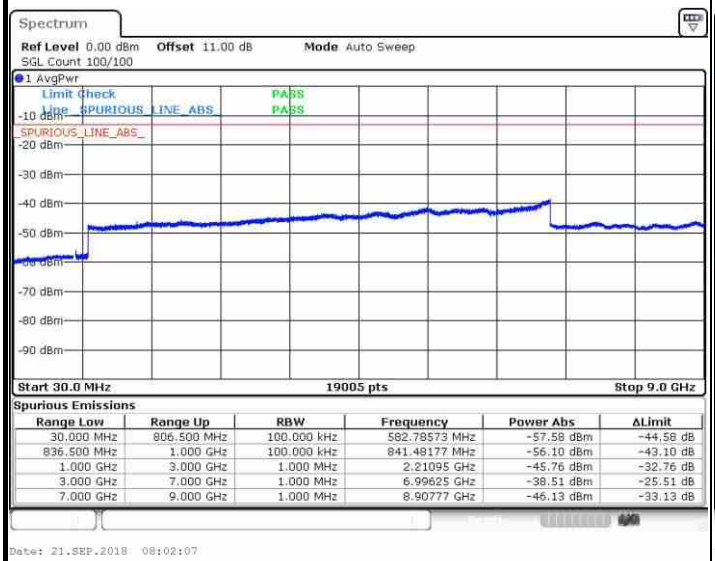


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	598.69603 MHz	-57.52 dBm	-44.52 dB
836.500 MHz	1.000 GHz	100.000 kHz	992.40485 MHz	-57.13 dBm	-44.13 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.78180 GHz	-45.98 dBm	-32.98 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-38.74 dBm	-25.74 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.87428 GHz	-46.14 dBm	-33.14 dB

Date: 21.SEP.2018 08:00:20

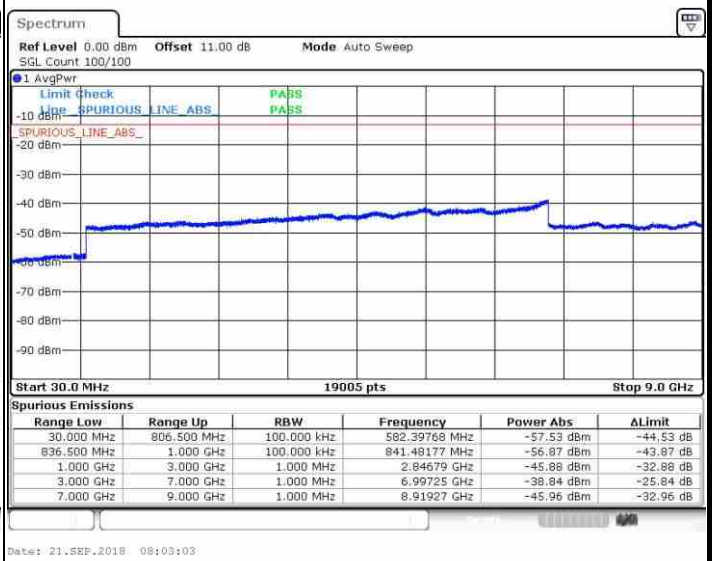
LTE Band 26 / 15MHz	
Lowest Channel / QPSK	**Lowest Channel / 16QAM**



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	582.78573 MHz	-57.58 dBm	-44.58 dB
836.500 MHz	1.000 GHz	100.000 kHz	841.48177 MHz	-56.10 dBm	-43.10 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.21095 GHz	-45.76 dBm	-32.76 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99625 GHz	-38.51 dBm	-25.51 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.90777 GHz	-46.13 dBm	-33.13 dB

Date: 21.SEP.2018 08:02:07



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	806.500 MHz	100.000 kHz	582.39768 MHz	-57.53 dBm	-44.53 dB
836.500 MHz	1.000 GHz	100.000 kHz	841.48177 MHz	-56.87 dBm	-43.87 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.84679 GHz	-45.88 dBm	-32.88 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99725 GHz	-38.84 dBm	-25.84 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91927 GHz	-45.96 dBm	-32.96 dB

Date: 21.SEP.2018 08:03:03

Frequency Stability

Test Conditions		LTE Band 26 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0073	PASS
40	Normal Voltage	0.0063	
30	Normal Voltage	0.0020	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0022	
0	Normal Voltage	0.0016	
-10	Normal Voltage	0.0066	
-20	Normal Voltage	0.0057	
-30	Normal Voltage	0.0012	
20	Maximum Voltage	0.0074	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0049	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.35 V.

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

Test Conditions		LTE Band 26 (QPSK) / Low Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 15MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0033	PASS
40	Normal Voltage	0.0019	
30	Normal Voltage	0.0035	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0006	
0	Normal Voltage	0.0039	
-10	Normal Voltage	0.0026	
-20	Normal Voltage	0.0138	
-30	Normal Voltage	0.0127	
20	Maximum Voltage	0.0088	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0012	

Note:

1. Normal Voltage =3.8 V.；Battery End Point (BEP) =3.4 V.；Maximum Voltage =4.35 V.

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

Appendix B. Test Results of ERP and Radiated Test

ERP

<Reporting Only>

LTE Band 26 / 15MHz (Channel 26765) (GT - LC = 0 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	37	23.32	0.2148	21.17	0.1309
Middle		-	-	-	-	-	-
Highest		-	-	-	-	-	-
Lowest	16QAM	1	0	22.51	0.1782	20.36	0.1086
Middle		-	-	-	-	-	-
Highest		-	-	-	-	-	-
Limit	ERP < 7W			Result		PASS	

Radiated Spurious Emission

Part 90S LTE Band 26

LTE Band 26 / 5MHz / QPSK									
Channel	Frequency (MHz)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1638	-63.46	-13	-50.46	-74.51	-69.27	0.69	8.65	H
	2456	-49.57	-13	-36.57	-65.53	-57.21	0.94	10.74	H
	3275	-57.60	-13	-44.60	-75.81	-66.06	1.20	11.81	H
									H
									H
									H
	1638	-63.07	-13	-50.07	-73.99	-68.88	0.69	8.65	V
	2456	-50.94	-13	-37.94	-66.94	-58.58	0.94	10.74	V
	3275	-57.67	-13	-44.67	-75.79	-66.13	1.20	11.81	V
									V
									V
									V
Middle	1643	-63.14	-13	-50.14	-74.2	-68.97	0.69	8.67	H
	2464	-48.70	-13	-35.70	-64.66	-56.35	0.95	10.75	H
	3288	-57.77	-13	-44.77	-75.96	-66.25	1.20	11.83	H
									H
									H
									H
	1643	-63.37	-13	-50.37	-74.31	-69.20	0.69	8.67	V
	2464	-49.52	-13	-36.52	-65.49	-57.17	0.95	10.75	V
	3288	-57.63	-13	-44.63	-75.68	-66.11	1.20	11.83	V
									V
									V
									V

Highest	1648	-63.38	-13	-50.38	-74.47	-69.23	0.69	8.69	H
	2472	-47.83	-13	-34.83	-63.8	-55.49	0.95	10.76	H
	3295	-58.03	-13	-45.03	-76.19	-66.53	1.20	11.85	H
									H
									H
									H
									H
	1648	-63.21	-13	-50.21	-74.18	-69.06	0.69	8.69	V
	2472	-49.95	-13	-36.95	-65.92	-57.61	0.95	10.76	V
	3295	-57.96	-13	-44.96	-75.97	-66.46	1.20	11.85	V
									V
									V
									V
									V

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

LTE Band 26 / 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	1638	-63.16	-13	-50.16	-74.21	-68.97	0.69	8.65	H
	2456	-48.25	-13	-35.25	-64.21	-55.89	0.94	10.74	H
	3276	-57.68	-13	-44.68	-75.89	-66.14	1.20	11.81	H
									H
									H
									H
									H
	1638	-63.53	-13	-50.53	-74.45	-69.34	0.69	8.65	V
	2456	-49.95	-13	-36.95	-65.95	-57.59	0.94	10.74	V
	3276	-57.61	-13	-44.61	-75.73	-66.07	1.20	11.81	V
									V
									V
									V
									V

LTE Band 26 / 15MHz / 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)
Lowest	1643	-63.38	-13	-50.38	-74.45	-69.21	0.69	8.67	H
	2464	-49.68	-13	-36.68	-65.64	-57.33	0.95	10.75	H
	3286	-57.73	-13	-44.73	-75.92	-66.21	1.20	11.83	H
									H
									H
									H
									H
	1643	-63.25	-13	-50.25	-74.19	-69.08	0.69	8.67	V
	2464	-51.63	-13	-38.63	-67.6	-59.28	0.95	10.75	V
	3286	-57.91	-13	-44.91	-75.98	-66.39	1.20	11.83	V
									V
									V
									V
									V