FCC RF Test Report

APPLICANT	:	Lenovo Japan
EQUIPMENT	:	Smart phone
BRAND NAME	:	lenovo
MODEL NAME	:	503LV
MARKETING NAME	:	Beam
FCC ID	:	2AJAYJP-LEN
STANDARD	:	FCC 47 CFR Part 2, and 90(S)
CLASSIFICATION	:	PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jul. 14, 2016 and testing was completed on Aug. 09, 2016. We, SPORTON INTERNATIONAL (SHENZHEN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI / TIA / EIA-603-D-2010 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL (SHENZHEN) INC., the test report shall not be reproduced except in full.

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Approved by: Jones Tsai / Manager

Testing Laboratory 2353

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FW671404	Rev. 01	Initial issue of report	Aug. 18, 2016

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	N/A , Reporting only	PASS	-
3.5	§2.1049 §90.209	99% Occupied Bandwidth and 26dB Bandwidth	N/A, Reporting only	PASS	-
3.6	§2.1051 §90.691	Emission masks – In-band emissions	< $50+10\log_{10}$(P[Watts])	PASS	-
3.7	§2.1051 §90.691	Emission masks – Out of band emissions	< $43+10\log_{10}$(P[Watts])	PASS	-
3.8	§2.1055 §90.213	Frequency Stability for Temperature & Voltage	< 2.5 ppm	PASS	-
4.4	§2.1053 §90.691	Field Strength of Spurious Radiation	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 37.01 dB at 2443.770MHz

1 General Description

1.1 Applicant

Lenovo Japan
Akihabara UDX, Sotokanda 4-14-1, Chiyoda-ku, Tokyo 101-0021, Japan

1.2 Manufacturer

Shenzhen BVC Technology Co.,Ltd.
Rainbow Bldg., North, Hi-Tech Industrial Park, Nanshan District, Shenzhen, China, P.C.518057

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Smart phone
Brand Name	lenovo
Model Name	503LV
FCC ID	2AJAYJP-LEN
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(16QAM uplink is not supported)/LTE/ WLAN2.4GHz 802.11b/g/n HT20/HT40/ WLAN5GHz 802.11a/n HT20/HT40/ WLAN5GHz 802.11ac VHT20/VHT40/VHT80/ Bluetooth v3.0+EDR/Bluetooth v4.0 LE
IMEI Code	Conducted: 357864060008503 Radiation: 357864060008628
HW Version	P2
SW Version	X5_S_WIN10_1028.20_21_testos
EUT Stage	Production Unit

1.4 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 Top/ Bottom Antenna	21.92 dBm
Antenna Type	PIFA Antenna

Remark: This test report recorded only product characteristics and test results of PCS Licensed Transmitter Held to Ear (PCE).

1.5 Modification of EUT

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

1.6 Maximum Frequency Tolerance, Conducted Power and Emission Designator

FCC Rule	System	Type of Modulation	BW	Conducted Power (dBm)	Conducted Power (W)	Frequency Tolerance (ppm)	Emission Designator
Part 90S	LTE Band 26	QPSK	1.4 MHz	21.63	0.1455	-	1M10G7D
		16QAM	1.4 MHz	20.91	0.1233	-	1M09W7D
		QPSK	3 MHz	21.71	0.1483	-	2M73G7D
		16QAM	3 MHz	20.54	0.1132	-	2M73W7D
		QPSK	5 MHz	21.79	0.1510	-	4M49G7D
		16QAM	5 MHz	20.68	0.1169	-	4M50W7D
		QPSK	10 MHz	21.57	0.1435	0.0085 ppm	9M03G7D
		16QAM	10 MHz	20.33	0.1079	-	8M97W7D
		QPSK	15 MHz	21.92	0.1556	-	13M3G7D
		16QAM	15 MHz	20.89	0.1227	-	13M4W7D

1.7 Testing Site

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.
Test Site Location	1F & 2F,Building A, Morning Business Center, No. 4003 ShiGu Rd., Xili Town, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755-8637-9589 FAX: +86-755-8637-9595
Test Site No.	**Sporton Site No.**
	TH01-SZ

Test Site	SPORTON INTERNATIONAL (SHENZHEN) INC.	
Test Site Location	No. 3 Building, the third floor of south, Shahe River west, Fengzeyuan warehouse, Nanshan District, Shenzhen, Guangdong, P. R. China TEL: +86-755- 3320-2398	
Test Site No.	**Sporton Site No.**	**FCC Registration No.**
	03CH02-SZ	566869

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

1.8 Applied Standards

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

- Preliminary Guidance for Receiving Applications for Certification of 3G Device. May 9, 2006.
- FCC 47 CFR Part 2, 90(S)
- ANSI / TIA / EIA-603-D-2010

Remark:

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

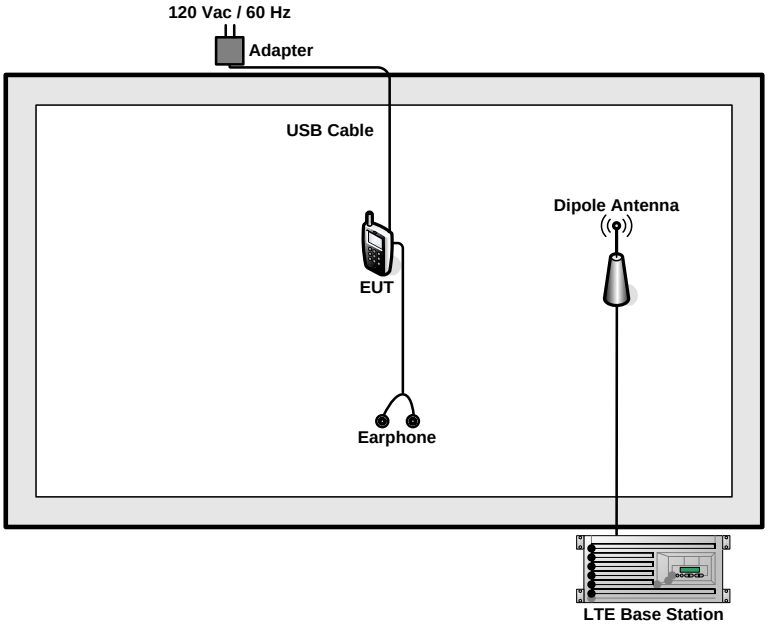
2 Test Configuration of Equipment Under Test

2.1 Test Mode

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

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



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
3.	Adapter	Lenovo	C-P35	FCC DoC	N/A	N/A
4.	USB Cable	Motorola	SKN6378A	FCC DoC	Shielded, 1.2 m	N/A
5.	Earphone	Lenovo	SH100	N/A	Shielded, 1.0 m	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss 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 4.5 dB and a 10dB attenuator.

Example :

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

= 4.5 + 10 = 14.5 (dB)

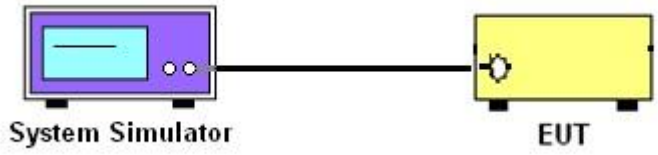
3 Test Result

3.1 Measuring Instruments

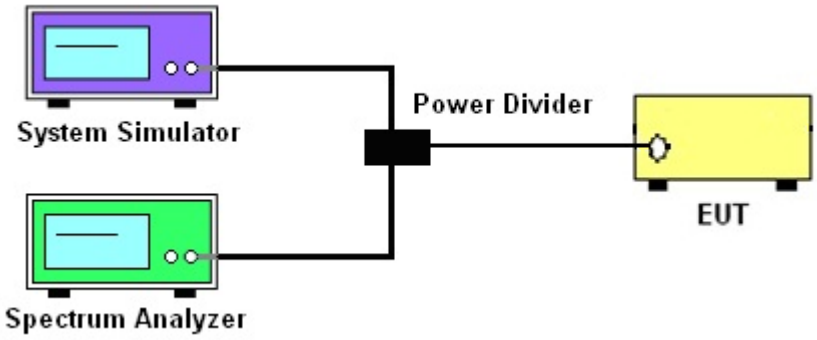
See list of measuring instruments of this test report.

3.2 Test Setup

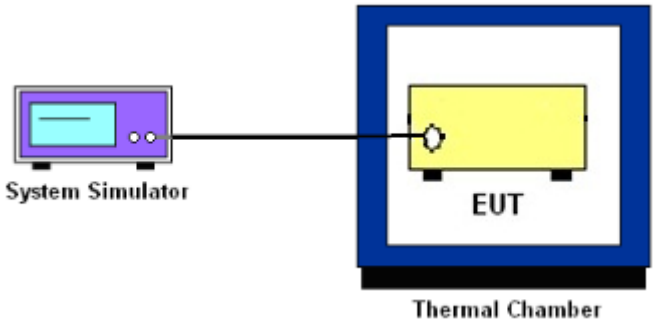
3.2.1 Conducted Output Power



3.2.2 99% Occupied Bandwidth and 26dB Bandwidth, Emissions Mask and Emissions Mask – Out Of Band Emissions



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power

3.4.1 Description of the Conducted Output Power

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

3.4.2 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 LTE Base Station.

3.5 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.5.1 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.

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The 99% and 26 dB occupied bandwidth (BW) of the middle channel for the highest RF powers were measured.

3.6 Emissions Mask Measurement

3.6.1 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.

3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The emissions mask of low and high channels for the highest RF powers were measured.

3.7 Emissions Mask – Out Of Band Emissions Measurement

3.7.1 Description of Conducted Emissions Out of band emissions measurement

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

3.7.2 Measuring Instruments

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

3.7.3 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The middle channel for the highest RF power within the transmitting frequency was measured.
3. The conducted spurious emission for the whole frequency range was taken.
4. The final test results were shown below plots with a correction offset factor including cable loss, insertion loss of power divider.

3.8 Frequency Stability

3.8.1 Description of Frequency Stability Measurement

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

3.8.2 Measuring Instruments

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

3.8.3 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.

3.8.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at 25±5° C and connected with the base station.
2. The power supply voltage to the EUT was varied from 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.

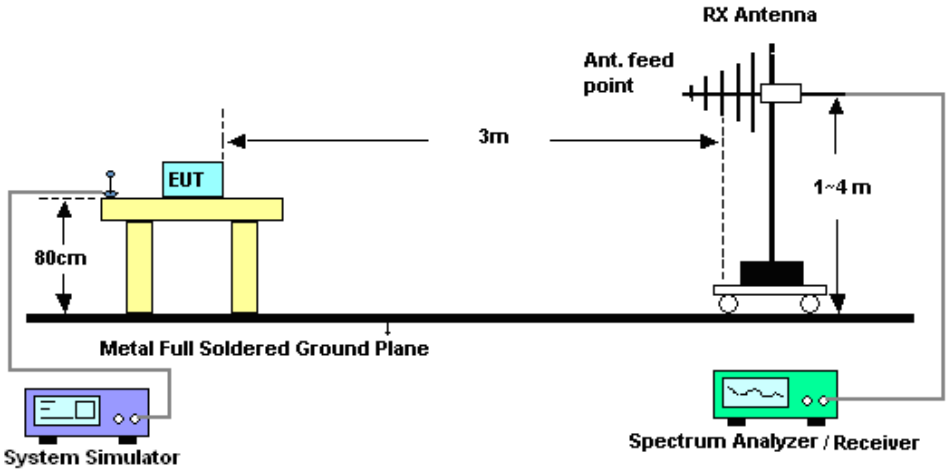
4 Radiated Test Items

4.1 Measuring Instruments

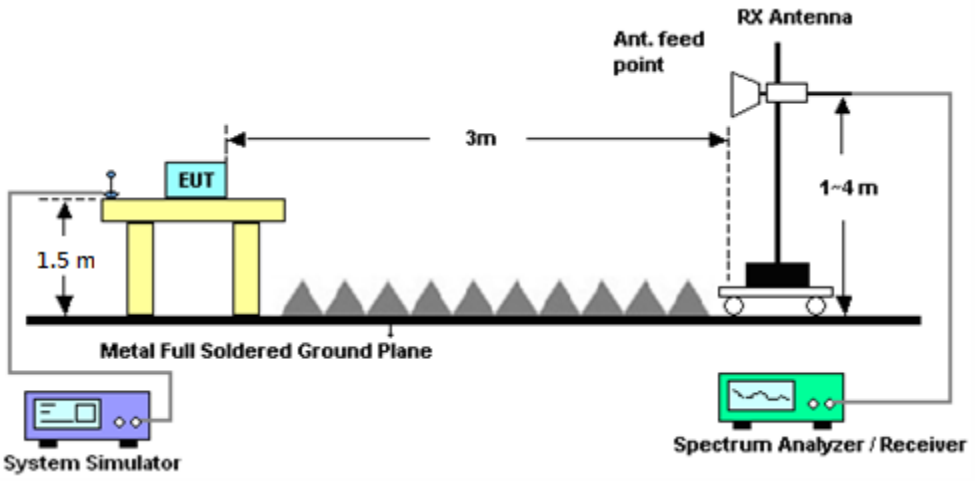
See list of measuring instruments of this test report.

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 Field Strength of Spurious Radiation Measurement

4.4.1 Description of Field Strength of Spurious Radiated Measurement

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-D-2010. 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 $43+10\log_{10}(P[\text{Watts}])$ dB. The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

4.4.2 Measuring Instruments

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

4.4.3 Test Procedures

1. The EUT was placed on a rotatable wooden table with 0.8 meter about 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)
    = P(W) - [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	9kHz~40GHz	May 07.2016	Jul. 29, 2016~ Aug. 09, 2016	May 06.2017	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 16, 2016	Jul. 29, 2016~ Aug. 09, 2016	Jul. 15, 2017	Conducted (TH01-SZ)
Spectrum Analyzer	R&S	FSV40	101041	10kHz~40GHz;Max 30dBm	Oct. 20, 2015	Aug. 04, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
Bilog Antenna	TeseQ	CBL6112D	35407	30MHz-2GHz	May. 21, 2016	Aug. 04, 2016	May. 20, 2017	Radiation (03CH02-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA 9120D	9120D-1285	1GHz~18GHz	Jan. 11, 2016	Aug. 04, 2016	Jan. 10, 2017	Radiation (03CH02-SZ)
HF Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz	Jul. 16. 2016	Aug. 04, 2016	Jul. 15. 2017	Radiation (03CH02-SZ
SHF-EHF Horn	com-power	AH-840	101071	18Ghz-40GHz	Aug. 17, 2015	Aug. 04, 2016	Aug. 16, 2016	Radiation (03CH02-SZ)
Amplifier	HP	8447F	3113A04622	9kHz ~1300MHz / 30 dB	Jul. 16, 2016	Aug. 04, 2016	Jul. 15, 2017	Radiation (03CH02-SZ)
Amplifier	Agilent	8449B	3008A01023	1GHz~26.5GHz	Oct. 20, 2015	Aug. 04, 2016	Oct. 19, 2016	Radiation (03CH02-SZ)
AC Power Source	Chroma	61601	616010002470	N/A	NCR	Aug. 04, 2016	NCR	Radiation (03CH02-SZ)
Turn Table	Chaintek	T-200	N/A	0~360 degree	NCR	Aug. 04, 2016	NCR	Radiation (03CH02-SZ)
Antenna Mast	Chaintek	MBS-400	N/A	1 m~4 m	NCR	Aug. 04, 2016	NCR	Radiation (03CH02-SZ)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.0dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**5.1dB**

Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel					26765	
Frequency (MHz)					821.5	
15	QPSK	1	0		21.35	
15	QPSK	1	37		21.92	
15	QPSK	1	74		21.56	
15	QPSK	36	0		20.77	
15	QPSK	36	20		20.84	
15	QPSK	36	39		20.67	
15	QPSK	75	0		20.84	
15	16QAM	1	0		20.12	
15	16QAM	1	37		20.89	
15	16QAM	1	74		20.61	
15	16QAM	36	0		19.72	
15	16QAM	36	20		19.81	
15	16QAM	36	39		19.66	
15	16QAM	75	0		19.80	
Channel					26740	
Frequency (MHz)					819	
10	QPSK	1	0		21.33	
10	QPSK	1	25		21.57	
10	QPSK	1	49		21.23	
10	QPSK	25	0		20.61	
10	QPSK	25	12		20.65	
10	QPSK	25	25		20.51	
10	QPSK	50	0		20.66	
10	16QAM	1	0		20.33	
10	16QAM	1	25		20.24	
10	16QAM	1	49		20.23	
10	16QAM	25	0		19.72	
10	16QAM	25	12		19.66	
10	16QAM	25	25		19.61	
10	16QAM	50	0		19.60	

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26715	26740	26765
Frequency (MHz)				816.5	819	821.5
5	QPSK	1	0	21.61	21.26	21.17
5	QPSK	1	12	21.78	21.79	21.62
5	QPSK	1	24	21.30	21.29	21.28
5	QPSK	12	0	20.43	20.58	20.59
5	QPSK	12	7	20.65	20.53	20.54
5	QPSK	12	13	20.62	20.46	20.55
5	QPSK	25	0	20.58	20.50	20.58
5	16QAM	1	0	20.12	20.56	20.57
5	16QAM	1	12	20.26	20.68	20.68
5	16QAM	1	24	20.15	20.64	20.64
5	16QAM	12	0	19.46	19.47	19.51
5	16QAM	12	7	19.71	19.84	19.56
5	16QAM	12	13	19.85	19.74	19.70
5	16QAM	25	0	19.76	19.47	19.75

BW [MHz]	Modulation	RB Size	RB Offset	Power (dBm) Low Ch. / Freq.	Power (dBm) Middle Ch. / Freq.	Power (dBm) High Ch. / Freq.
Channel				26705	26740	26775
Frequency (MHz)				815.5	819	822.5
3	QPSK	1	0	21.20	21.17	21.26
3	QPSK	1	8	21.71	21.46	21.59
3	QPSK	1	14	21.43	21.14	21.41
3	QPSK	8	0	20.48	20.63	20.63
3	QPSK	8	4	20.54	20.54	20.54
3	QPSK	8	7	20.54	20.52	20.53
3	QPSK	15	0	20.51	20.58	20.58
3	16QAM	1	0	20.22	20.38	20.31
3	16QAM	1	8	20.33	20.48	20.37
3	16QAM	1	14	20.34	20.54	20.40
3	16QAM	8	0	19.61	19.53	19.71
3	16QAM	8	4	19.56	19.57	19.63
3	16QAM	8	7	19.58	19.56	19.71
3	16QAM	15	0	19.57	19.67	19.66
Channel				26697	26740	26783
Frequency (MHz)				814.7	819	823.3
1.4	QPSK	1	0	21.23	21.53	21.36
1.4	QPSK	1	3	21.38	21.63	21.38
1.4	QPSK	1	5	21.29	21.53	21.26
1.4	QPSK	3	0	21.33	21.49	21.49
1.4	QPSK	3	1	21.48	21.43	21.52
1.4	QPSK	3	3	21.42	21.62	21.49
1.4	QPSK	6	0	20.41	20.44	20.54
1.4	16QAM	1	0	20.52	20.58	20.65
1.4	16QAM	1	3	20.63	20.62	20.81
1.4	16QAM	1	5	20.63	20.42	20.80
1.4	16QAM	3	0	20.32	20.53	20.46
1.4	16QAM	3	1	20.44	20.56	20.47
1.4	16QAM	3	3	20.49	20.91	20.47
1.4	16QAM	6	0	19.42	19.50	19.38

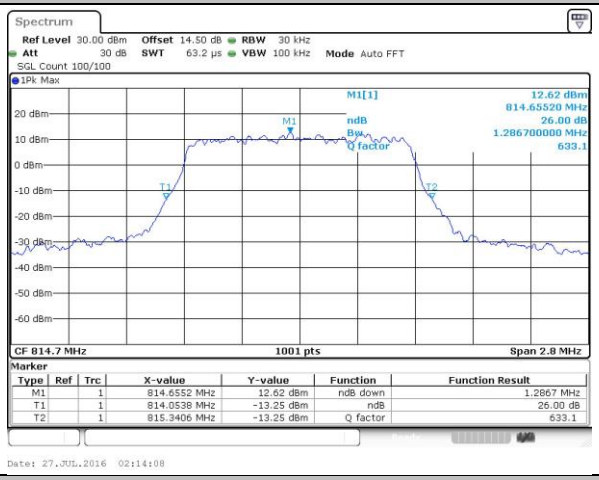
Note: Maximum average power for LTE.

26dB Bandwidth

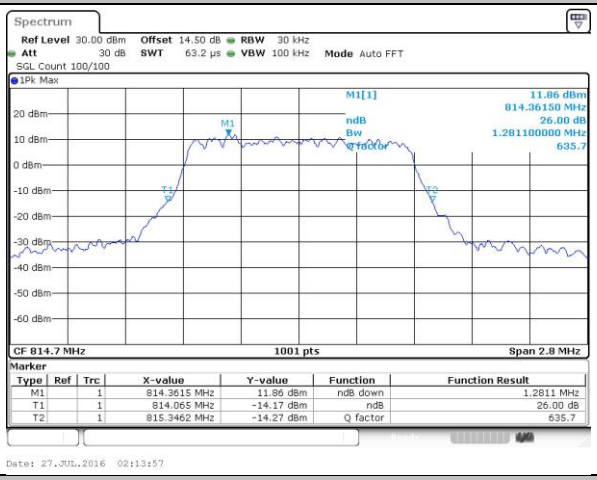
Mode	LTE Band 26 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.29	1.28	3.00	2.99	4.84	4.86	-	-	14.21	14.57	-	-
Middle CH	1.30	1.30	3.00	3.00	4.77	4.90	9.95	9.79	-	-	-	-
Highest CH	1.30	1.30	3.02	2.97	4.94	4.83	-	-	-	-	-	-

LTE Band 26

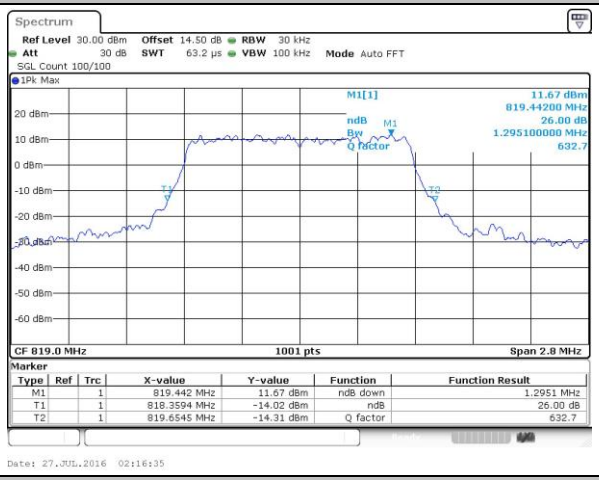
Lowest Channel / 1.4MHz / QPSK



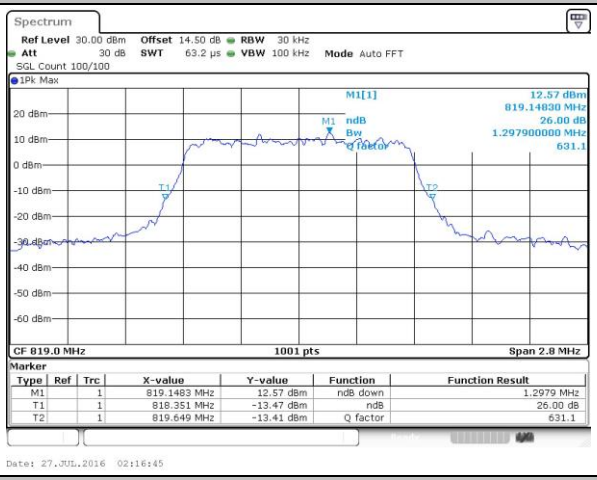
Lowest Channel / 1.4MHz / 16QAM



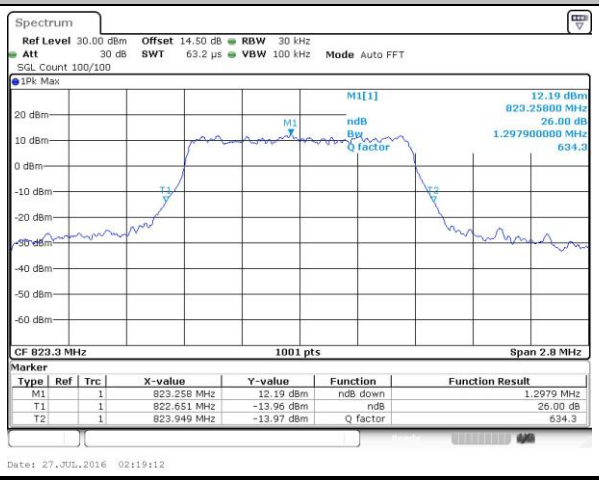
Middle Channel / 1.4MHz / QPSK



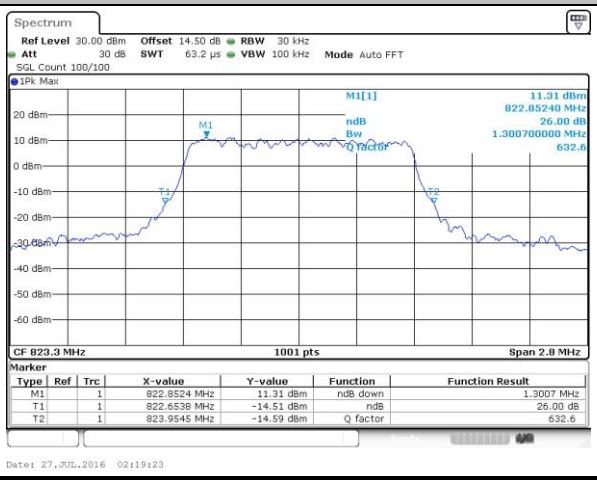
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

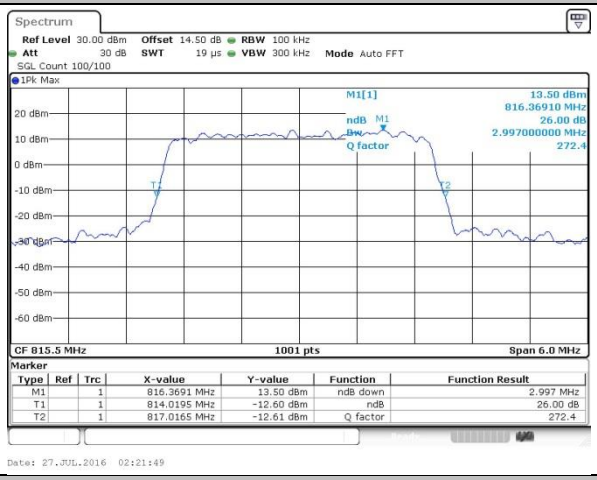


Highest Channel / 1.4MHz / 16QAM

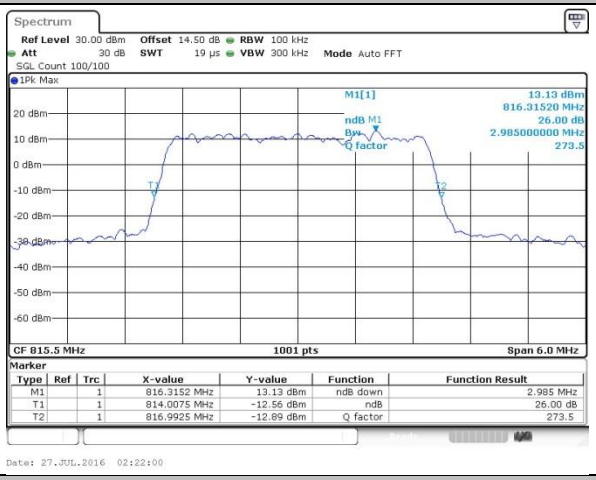


LTE Band 26

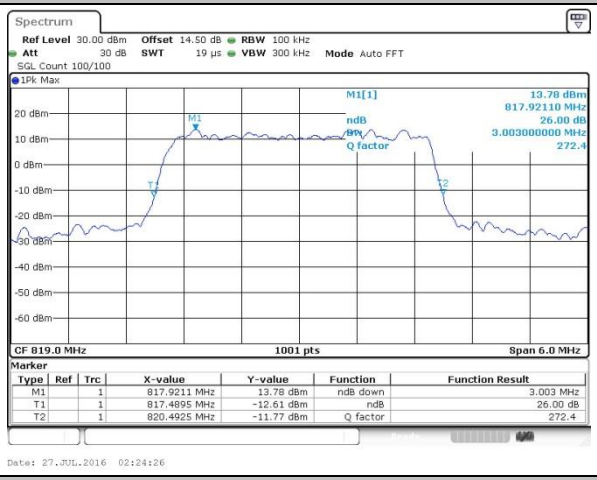
Lowest Channel / 3MHz / QPSK



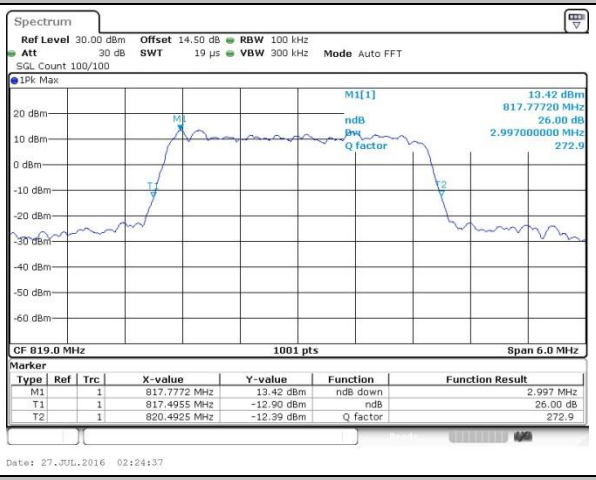
Lowest Channel / 3MHz / 16QAM



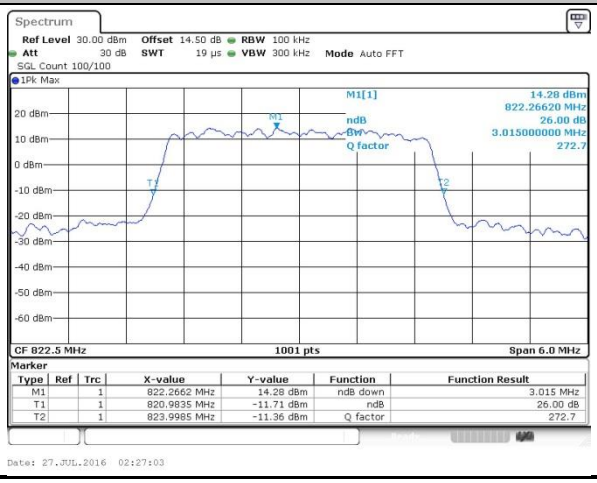
Middle Channel / 3MHz / QPSK



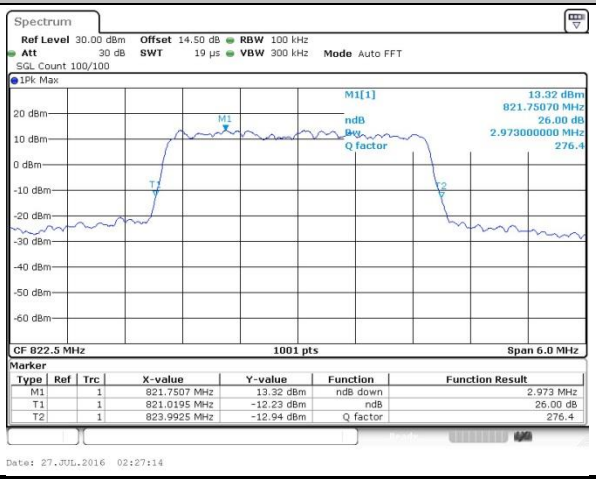
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

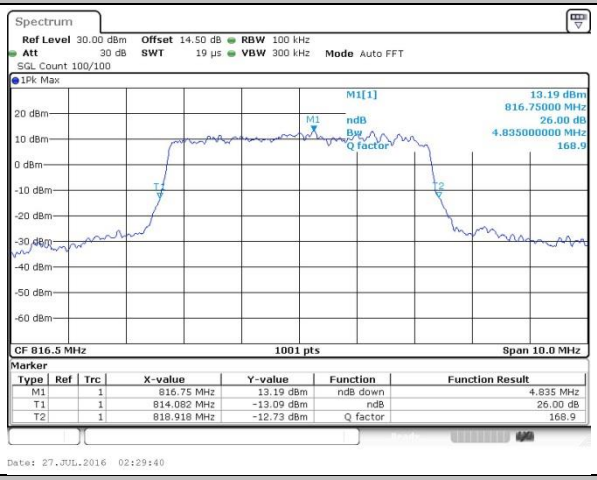


Highest Channel /3MHz / 16QAM

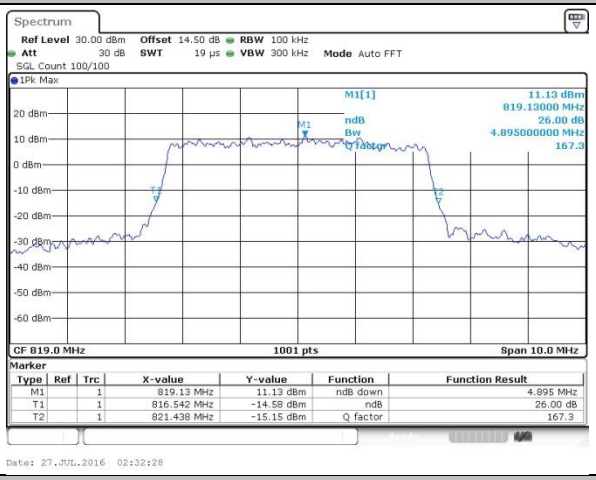


LTE Band 26

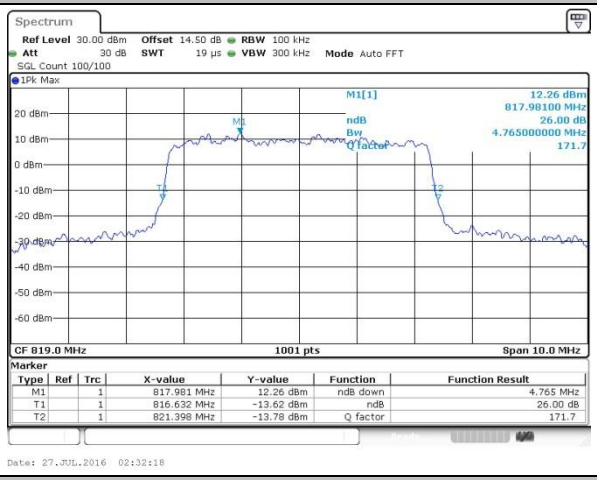
Lowest Channel / 5MHz / QPSK



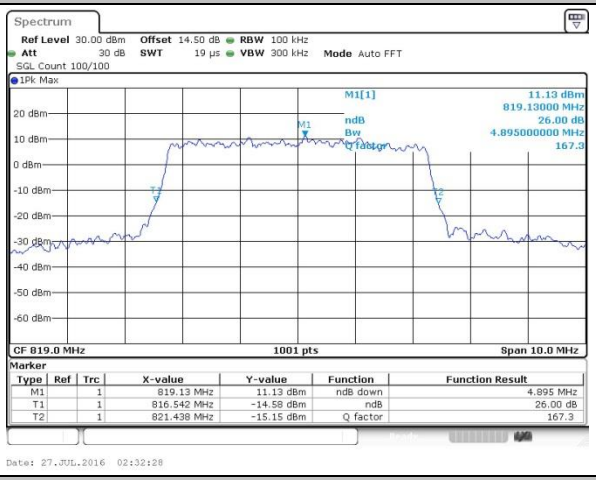
Lowest Channel / 5MHz / 16QAM



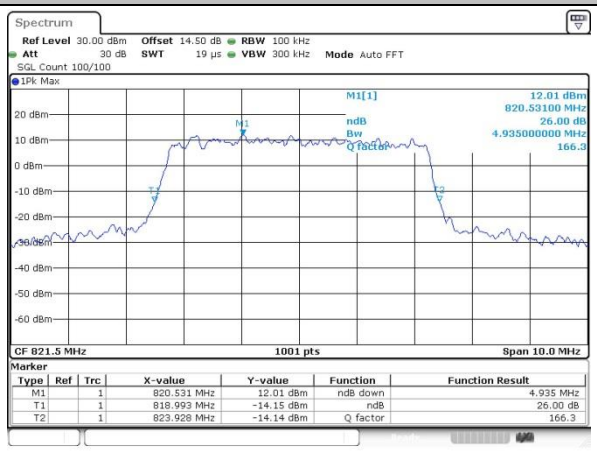
Middle Channel / 5MHz / QPSK



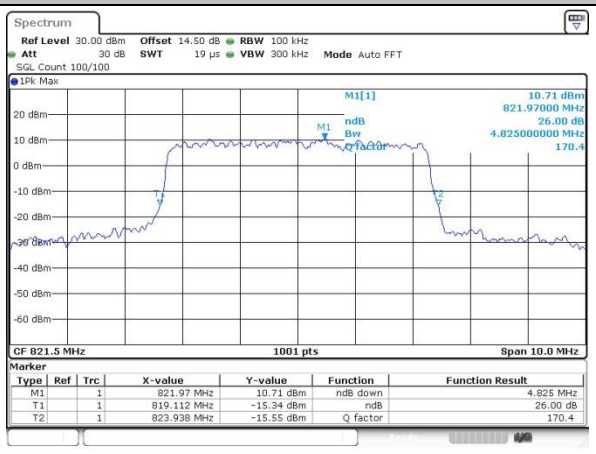
Middle Channel / 5MHz / 16QAM

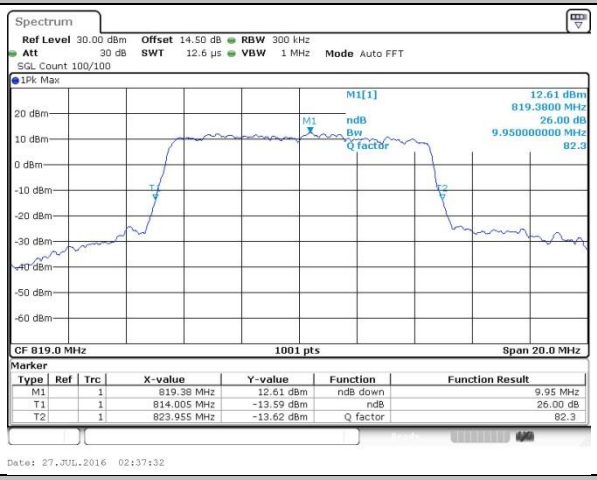
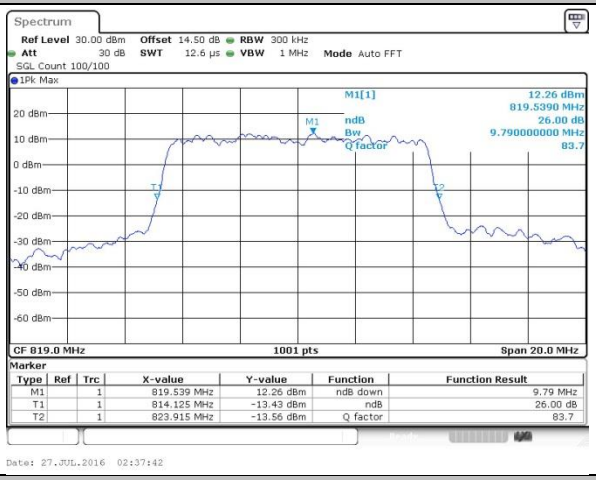
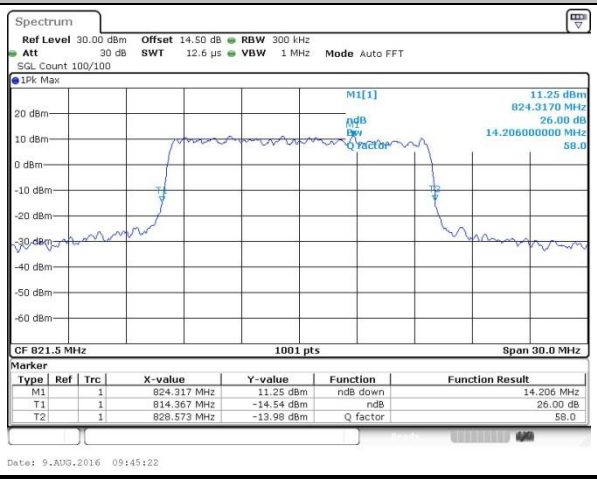
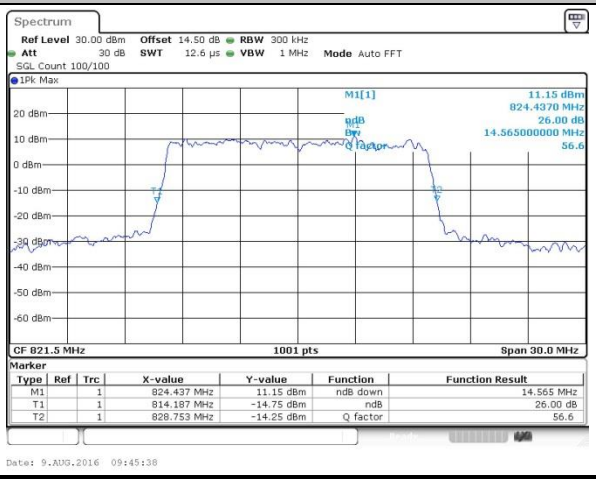


Highest Channel / 5MHz / QPSK



Highest Channel / 5MHz / 16QAM



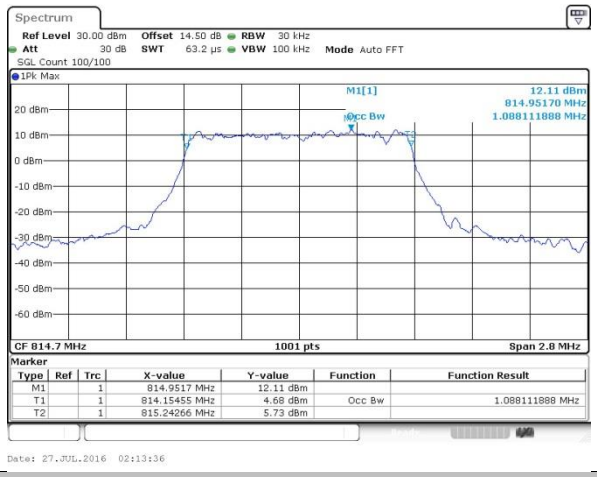
LTE Band 26	
Middle Channel / 10MHz / QPSK	**Middle Channel / 10MHz / 16QAM**
	
Lowest Channel / 15MHz / QPSK	**Lowest Channel / 15MHz / 16QAM**
	

Occupied Bandwidth

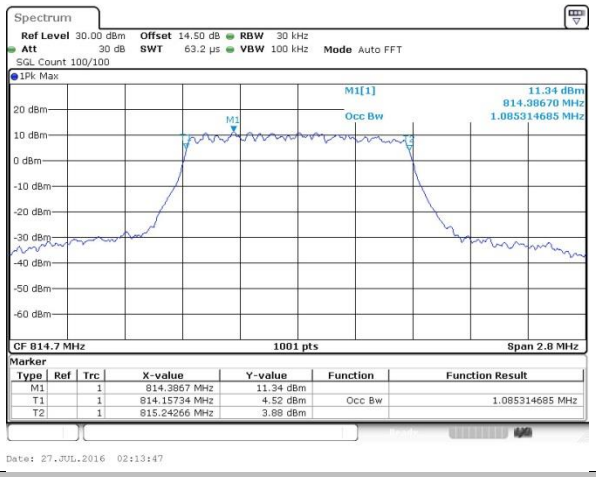
Mode	LTE Band 26 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.73	4.48	4.47	-	-	13.34	13.43	-	-
Middle CH	1.1	1.09	2.7	2.7	4.48	4.5	9.03	8.97	-	-	-	-
Highest CH	1.09	1.09	2.73	2.7	4.49	4.47	-	-	-	-	-	-

LTE Band 26

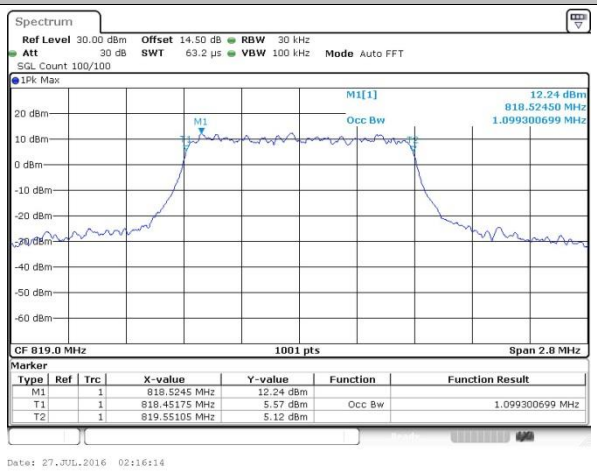
Lowest Channel / 1.4MHz / QPSK



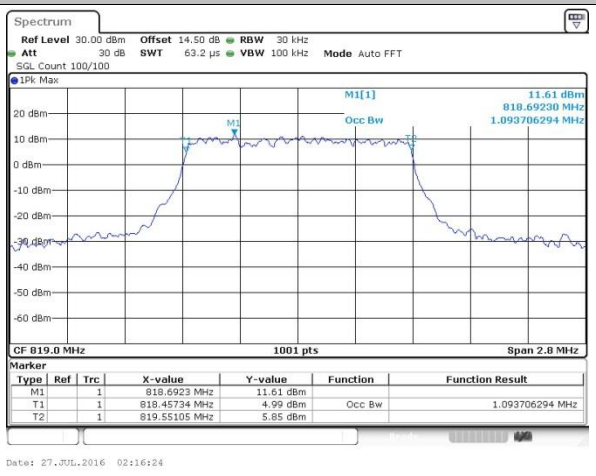
Lowest Channel / 1.4MHz / 16QAM



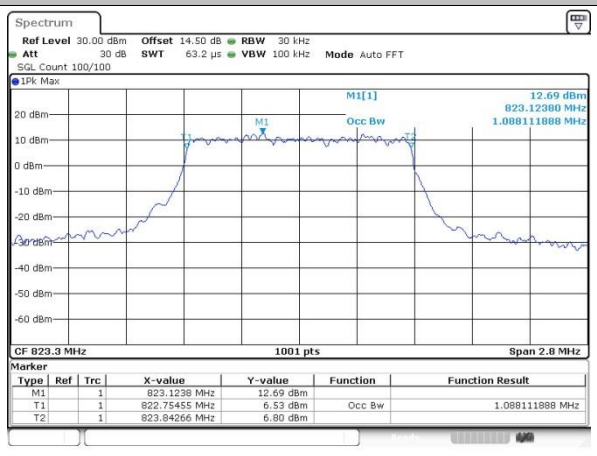
Middle Channel / 1.4MHz / QPSK



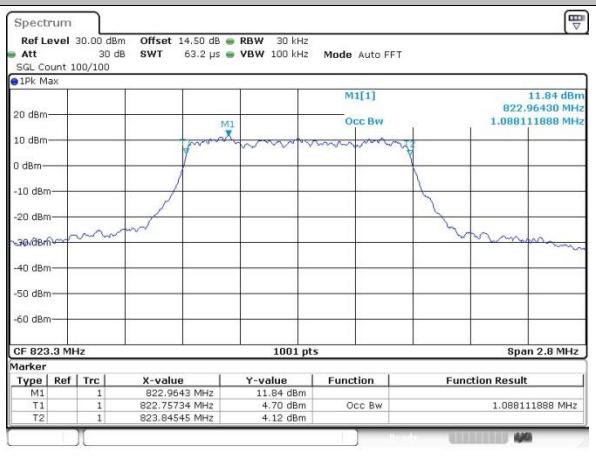
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

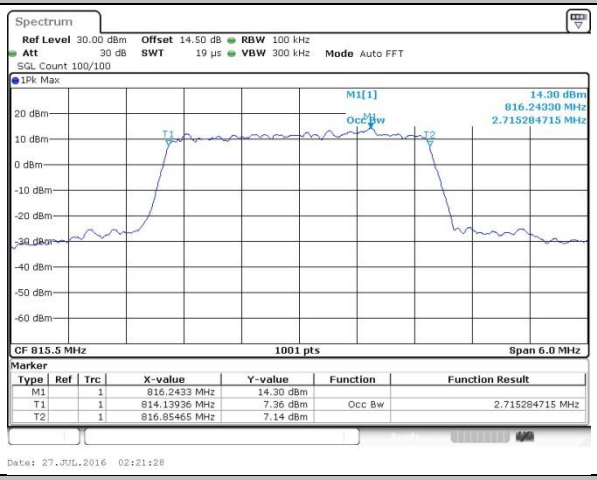


Highest Channel / 1.4MHz / 16QAM

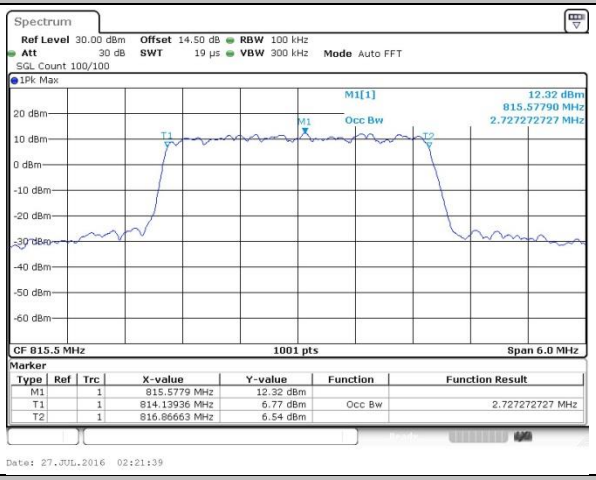


LTE Band 26

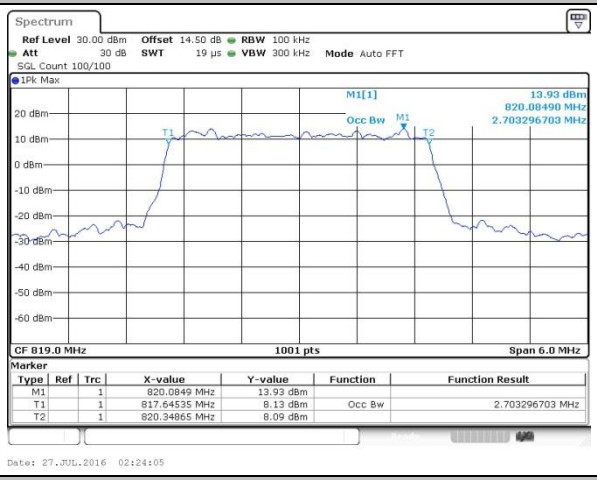
Lowest Channel / 3MHz / QPSK



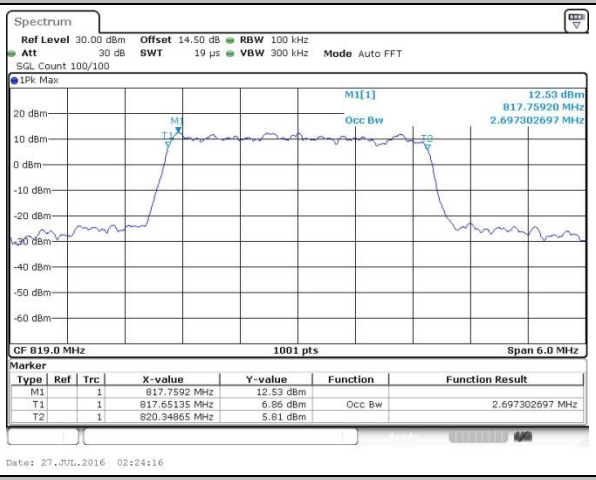
Lowest Channel / 3MHz / 16QAM



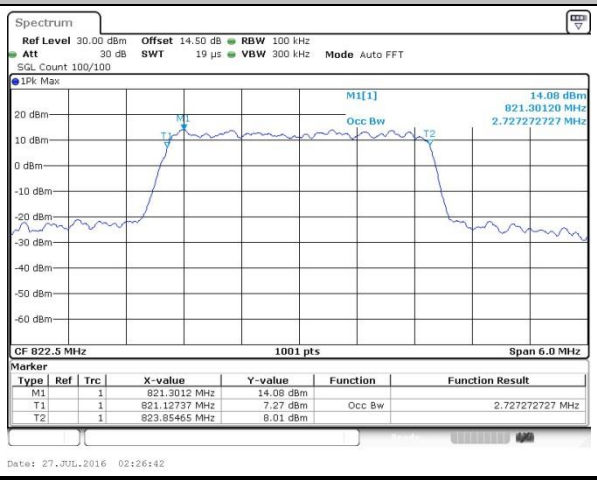
Middle Channel / 3MHz / QPSK



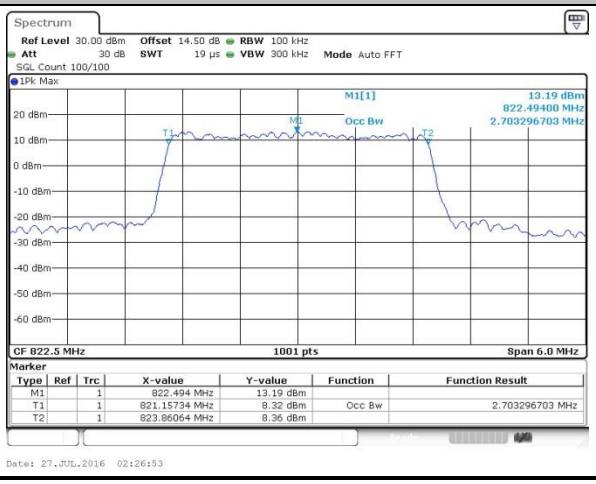
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

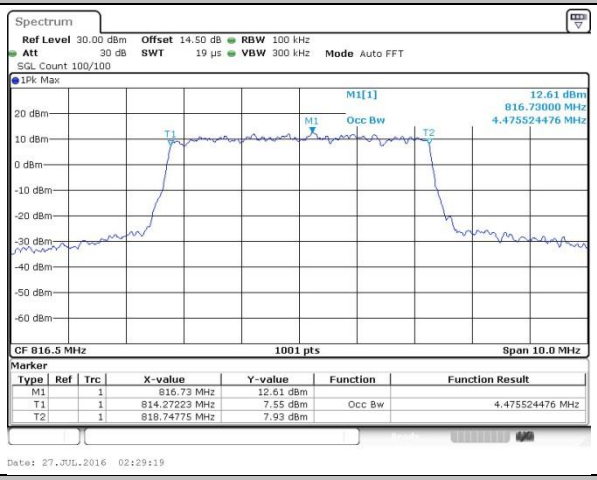


Highest Channel / 3MHz / 16QAM

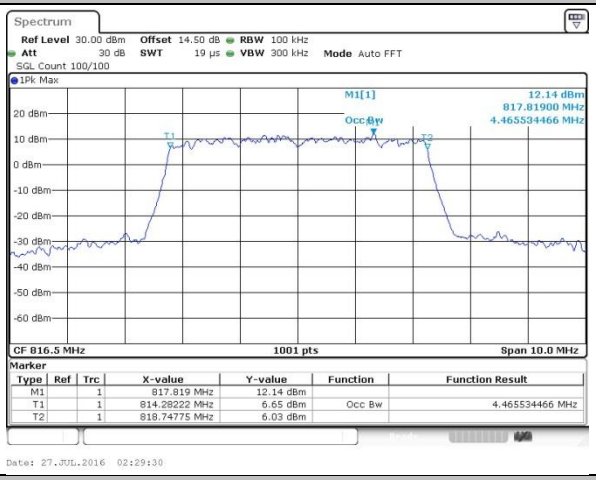


LTE Band 26

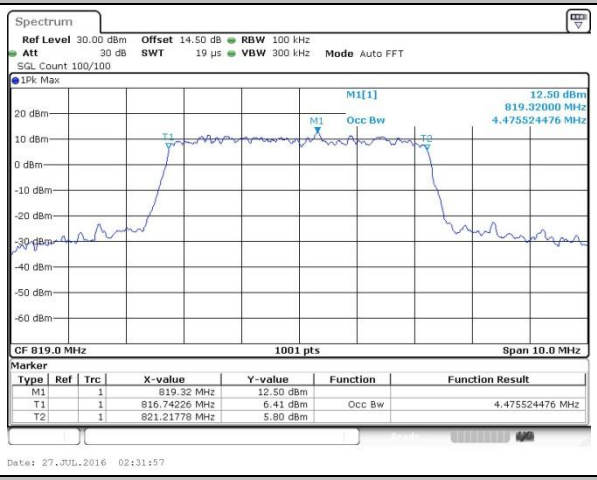
Lowest Channel / 5MHz / QPSK



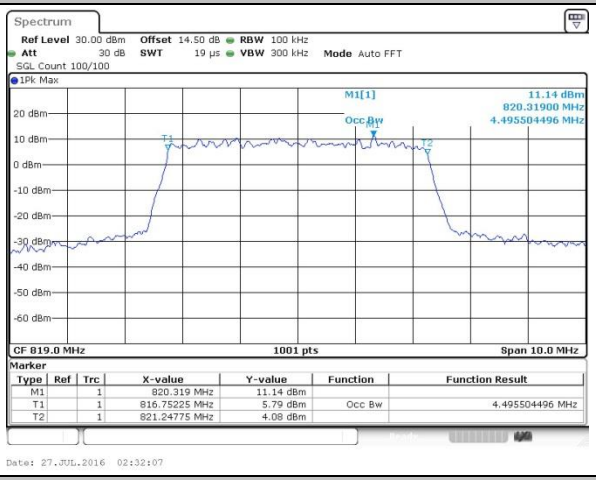
Lowest Channel / 5MHz / 16QAM



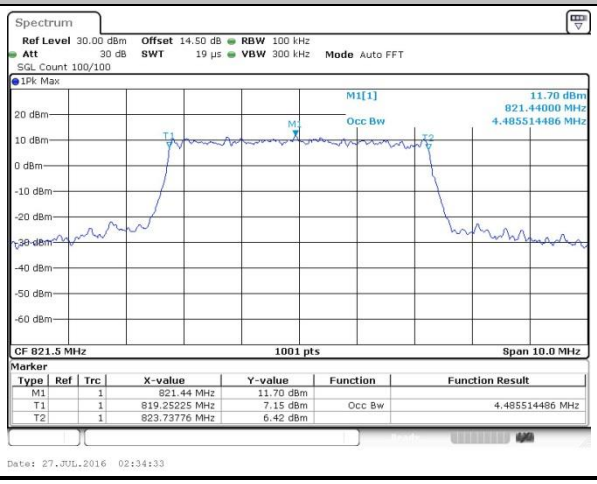
Middle Channel / 5MHz / QPSK



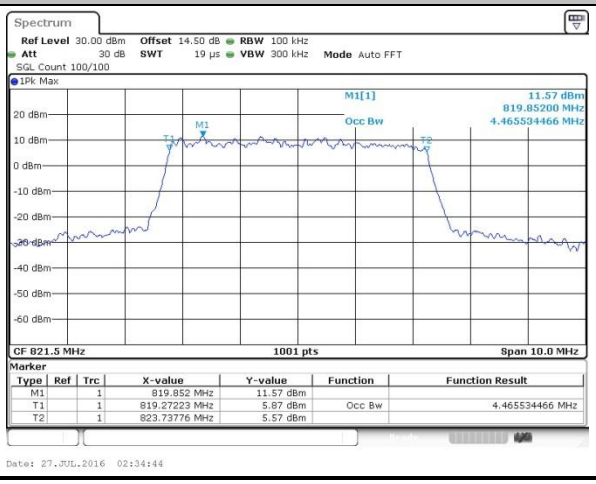
Middle Channel / 5MHz / 16QAM

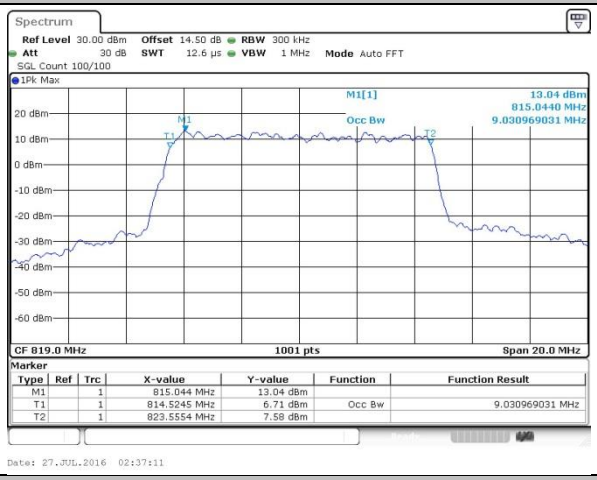
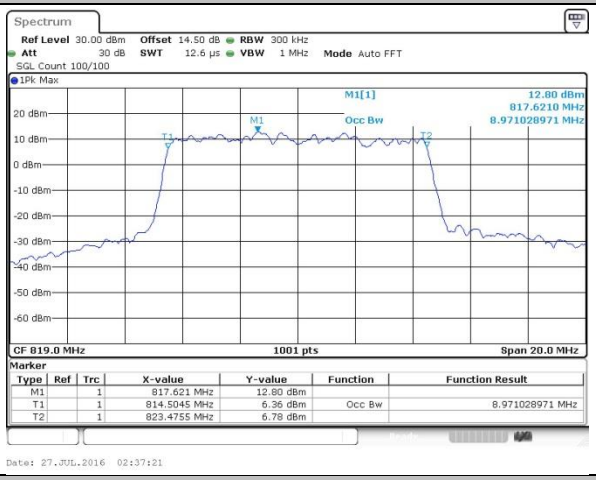
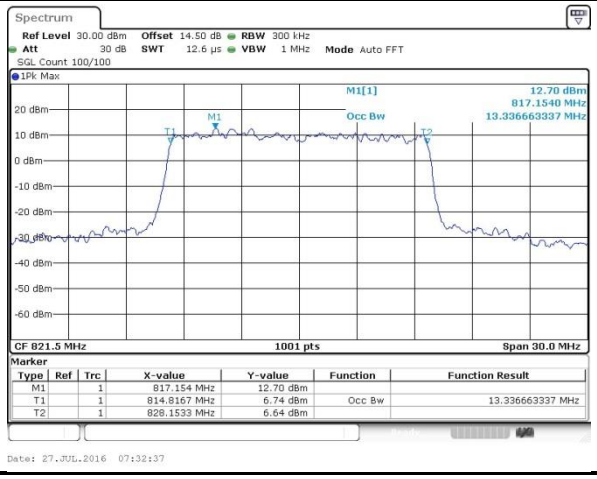
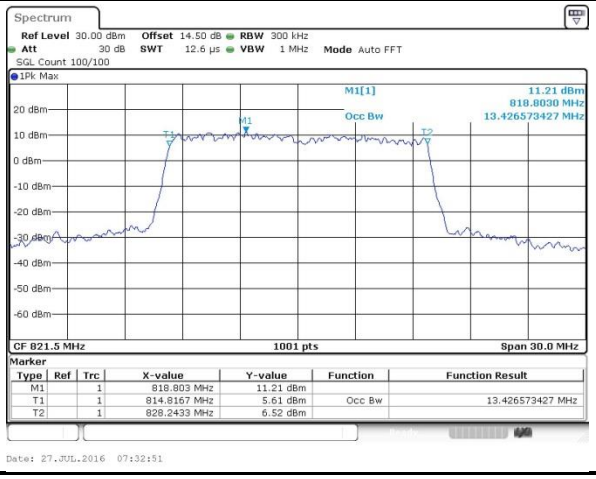


Highest Channel / 5MHz / QPSK

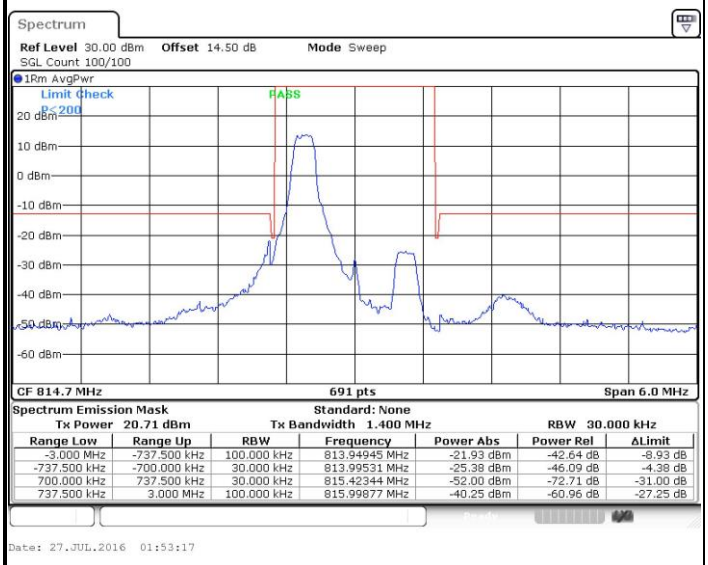
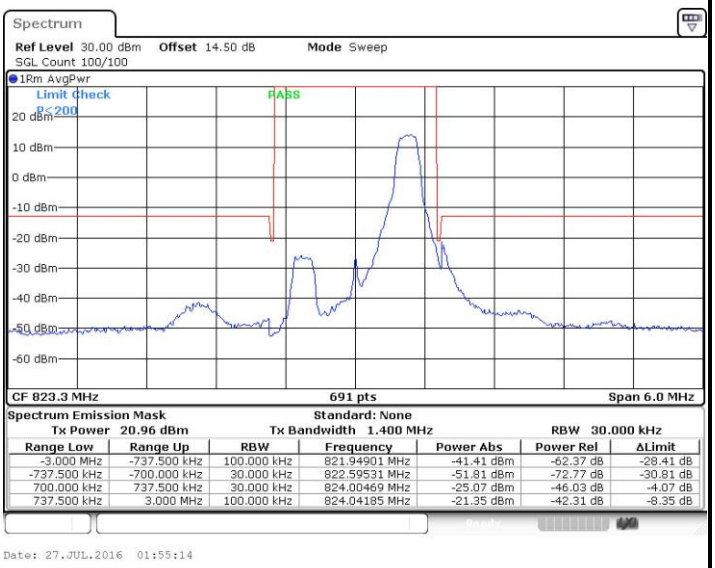
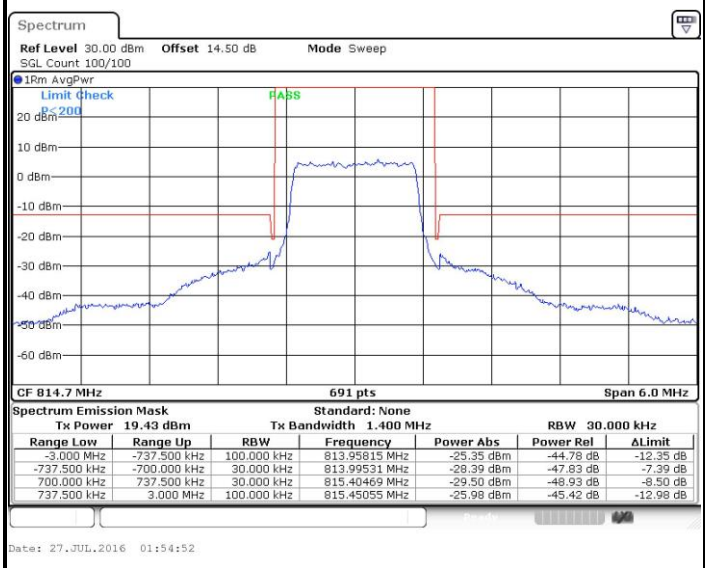
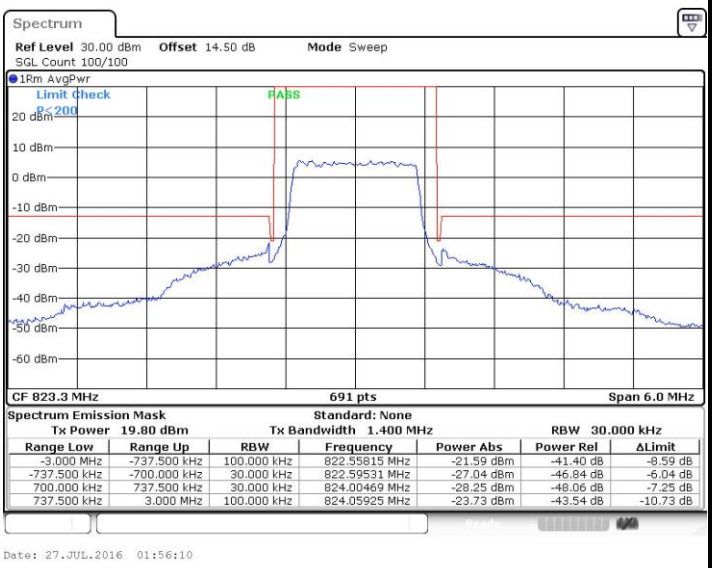


Highest Channel / 5MHz / 16QAM



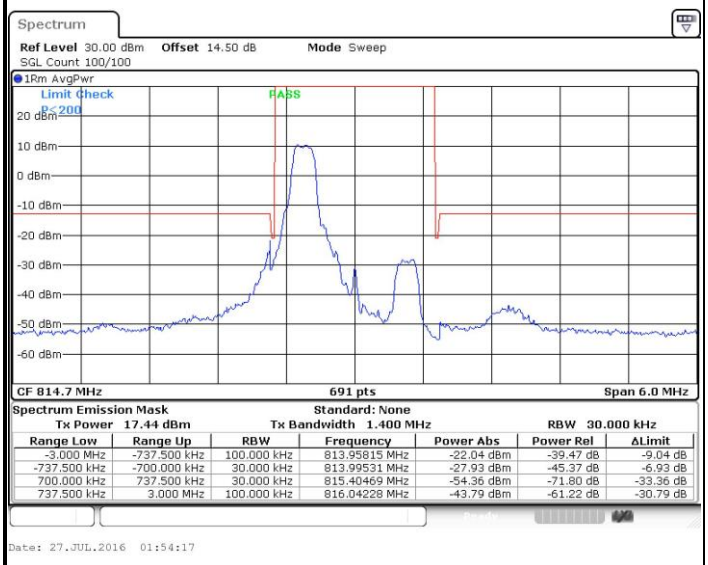
LTE Band 26	
Middle Channel / 10MHz / QPSK	**Middle Channel / 10MHz / 16QAM**
	
LTE Band 26	
Lowest Channel / 15MHz / QPSK	**Lowest Channel / 15MHz / 16QAM**
	

Conducted Band Edge

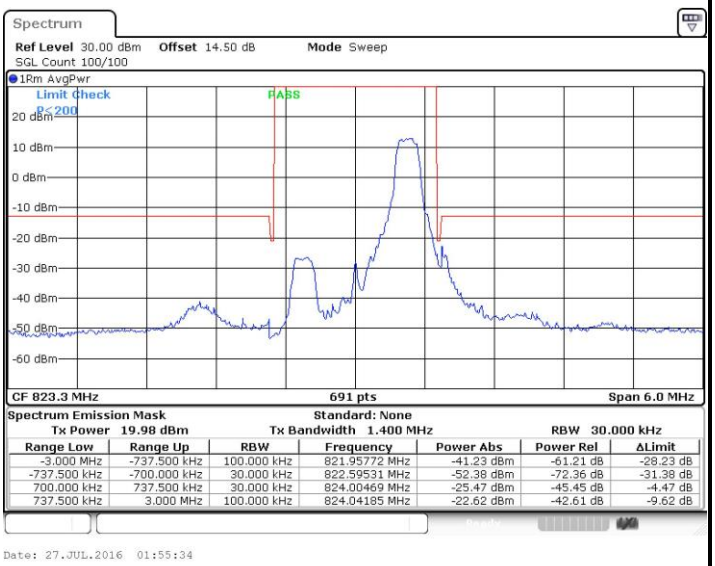
LTE Band 26 / 1.4MHz / QPSK	
Lowest Band Edge / 1RB	**Highest Band Edge / 1RB**
	
Lowest Band Edge / Full RB	**Highest Band Edge / Full RB**
	

LTE Band 26 / 1.4MHz / 16QAM

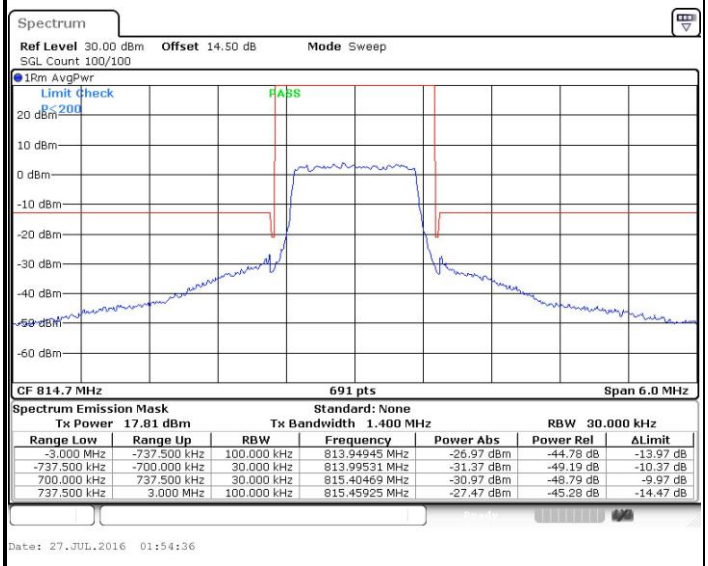
Lowest Band Edge / 1 RB



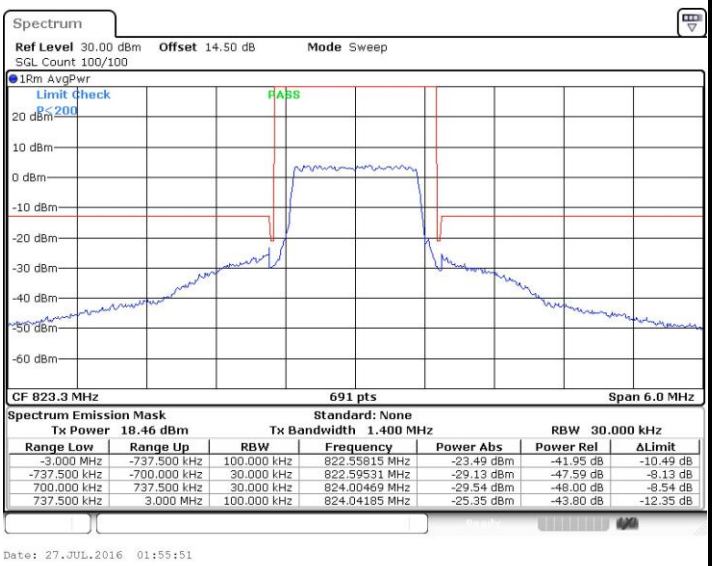
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

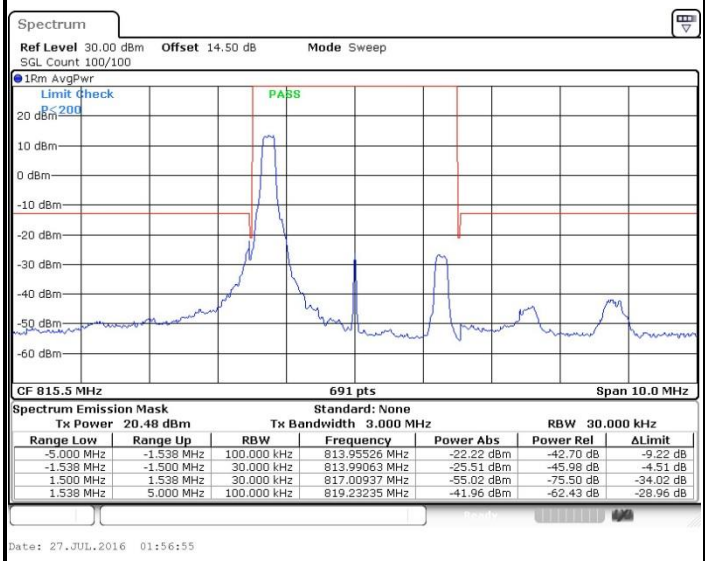


Highest Band Edge / Full RB

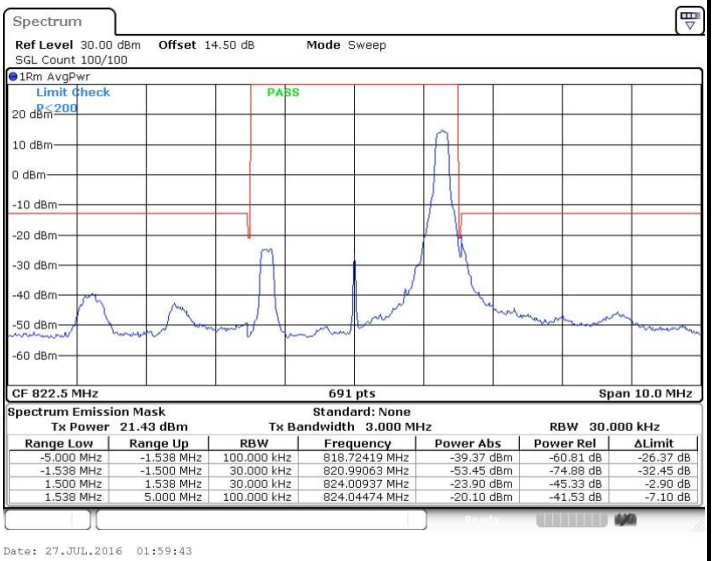


LTE Band 26 / 3MHz / QPSK

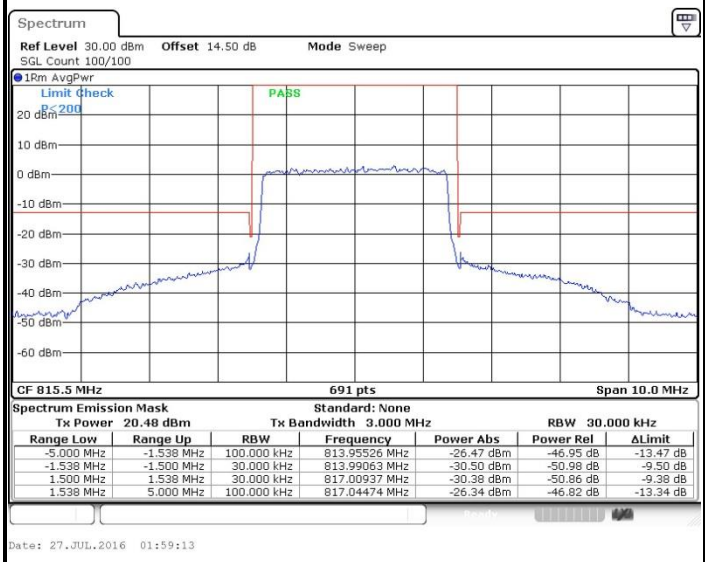
Lowest Band Edge / 1RB



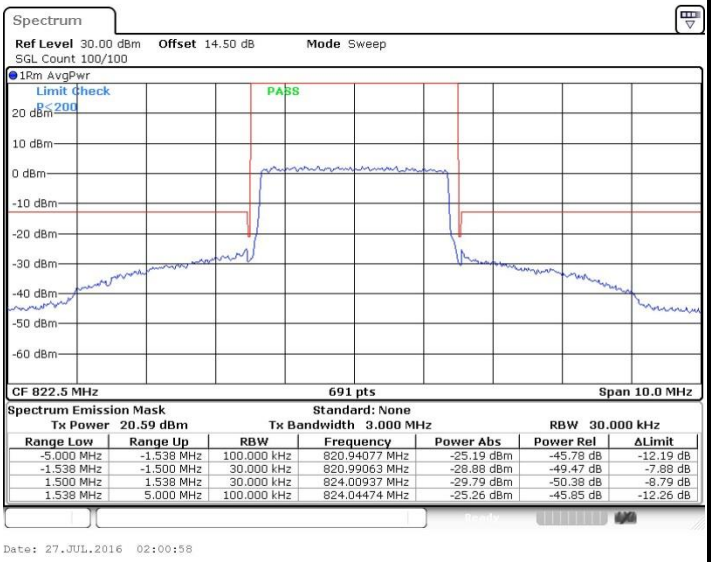
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

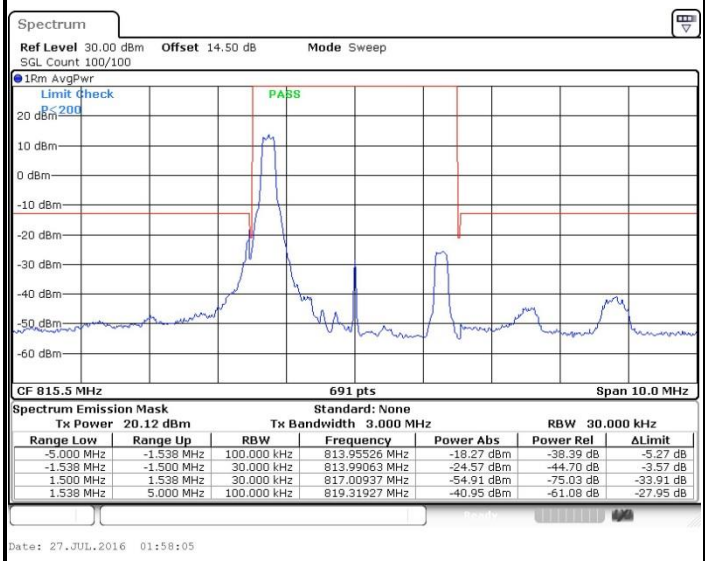


Highest Band Edge / Full RB

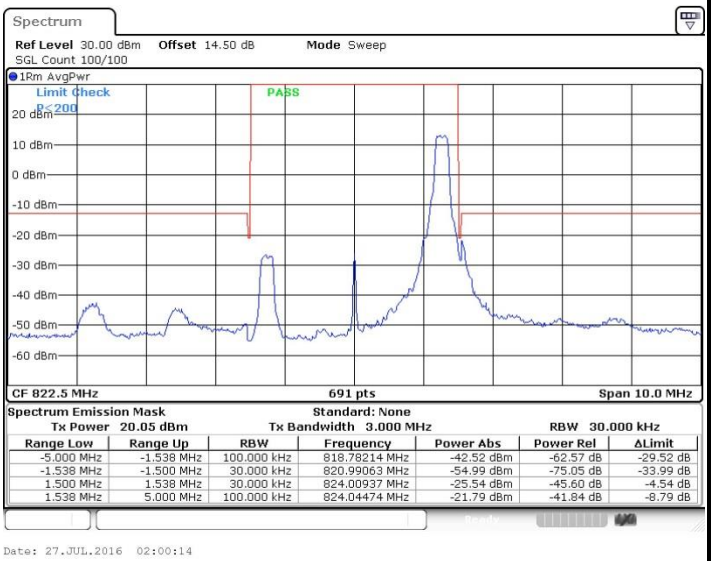


LTE Band 26 / 3MHz / 16QAM

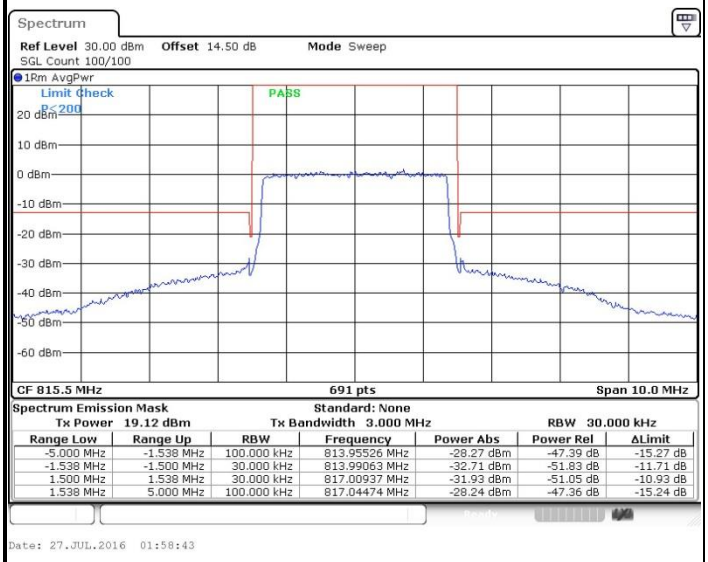
Lowest Band Edge / 1 RB



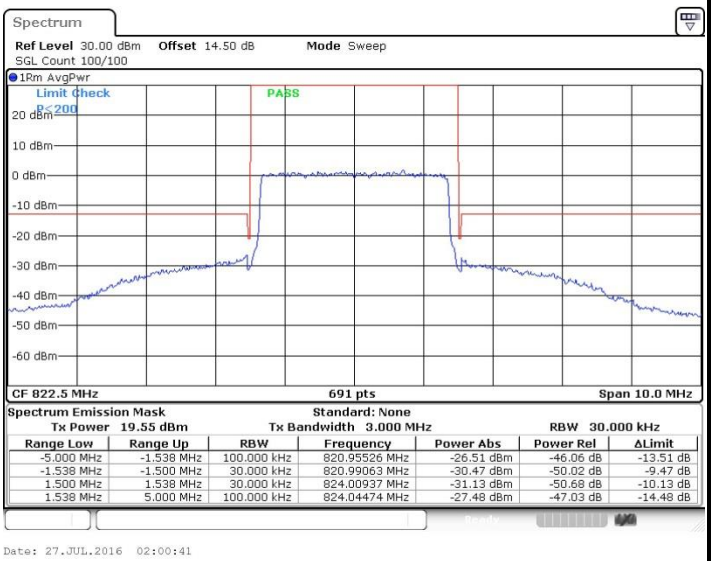
Highest Band Edge /1 RB



Lowest Band Edge / Full RB

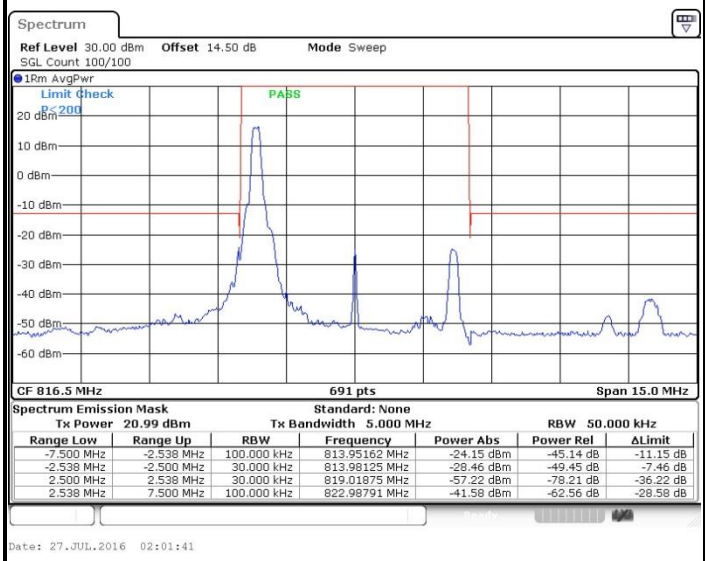


Highest Band Edge / Full RB

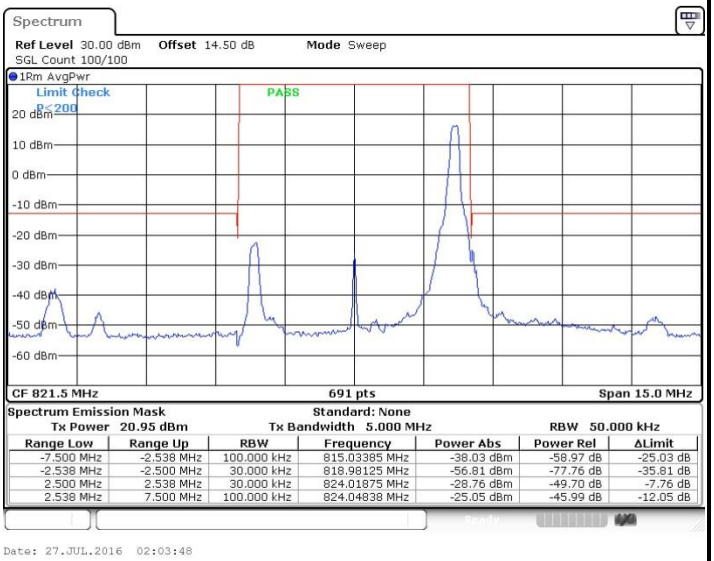


LTE Band 26 / 5MHz / QPSK

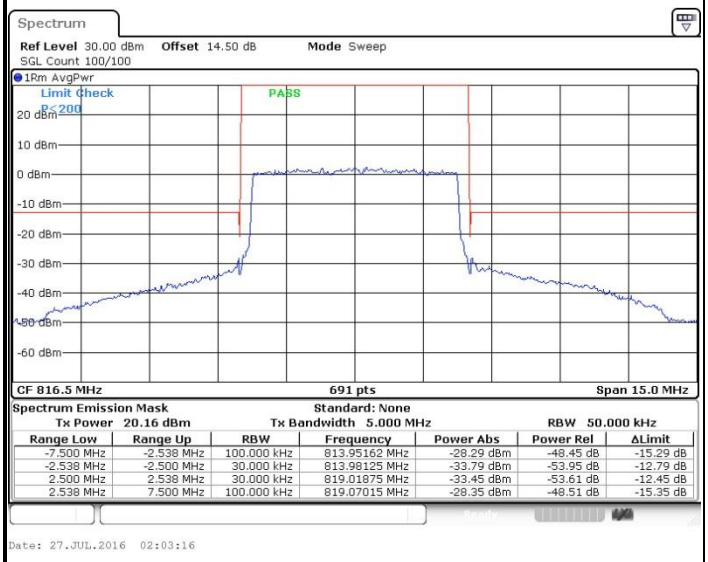
Lowest Band Edge / 1 RB



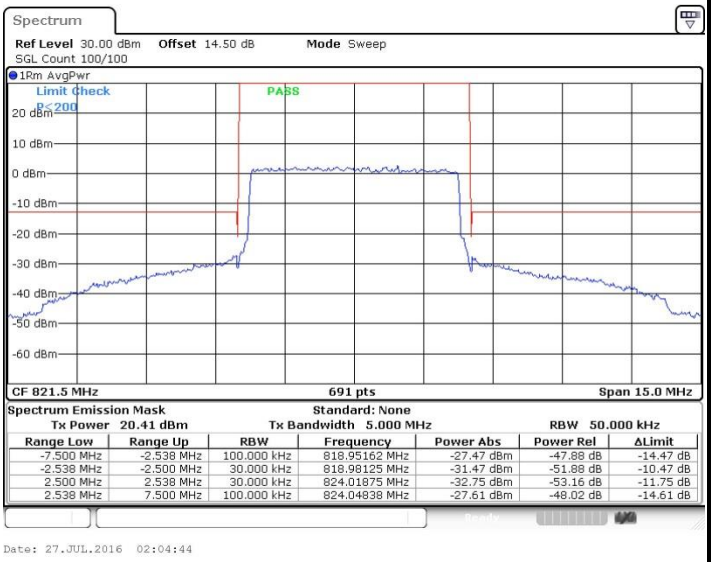
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB

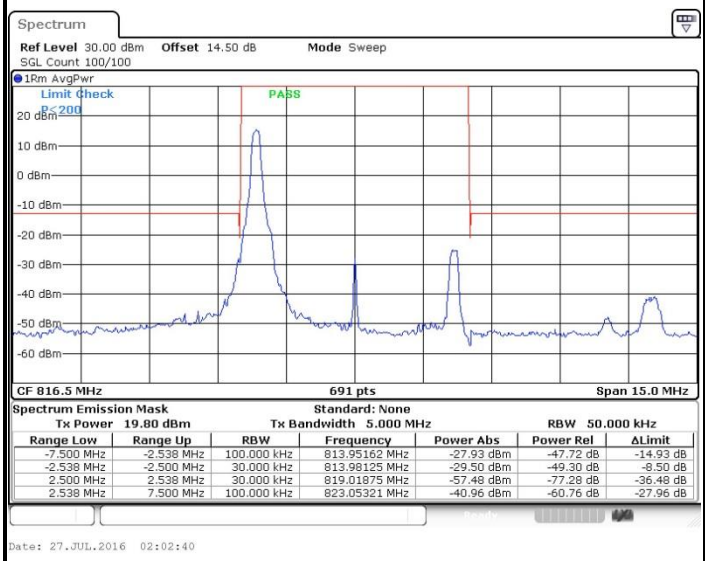


Highest Band Edge / Full RB

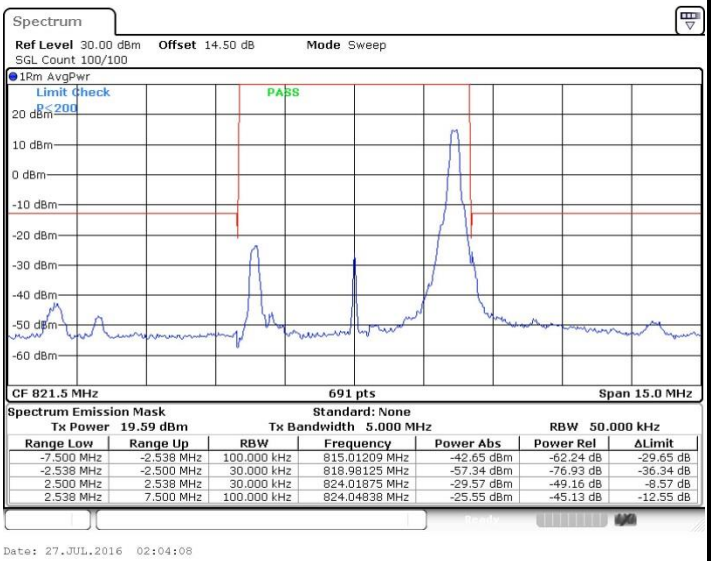


LTE Band 26 / 5MHz / 16QAM

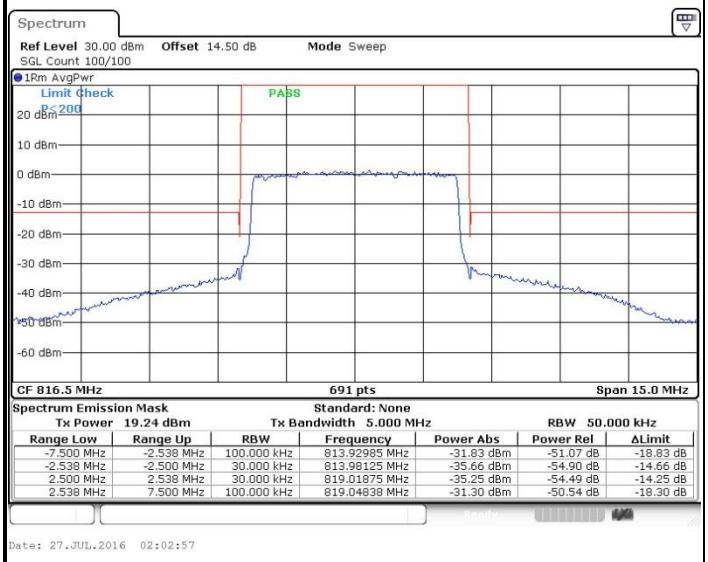
Lowest Band Edge / 1RB



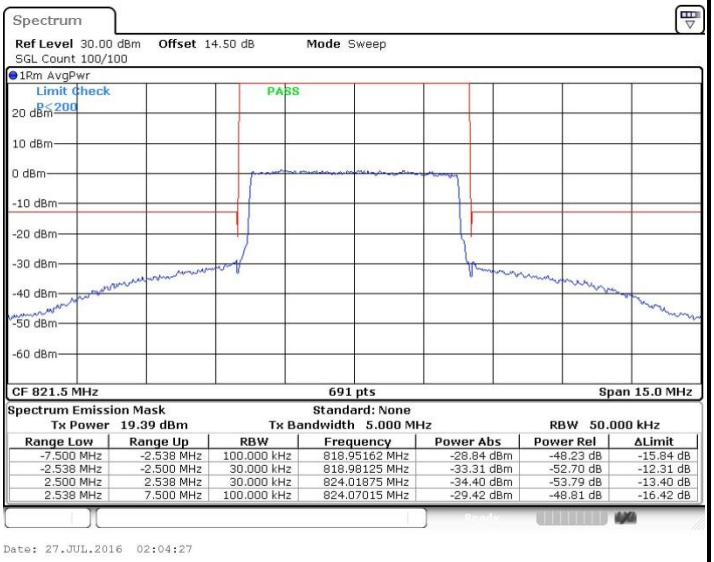
Highest Band Edge / 1 RB



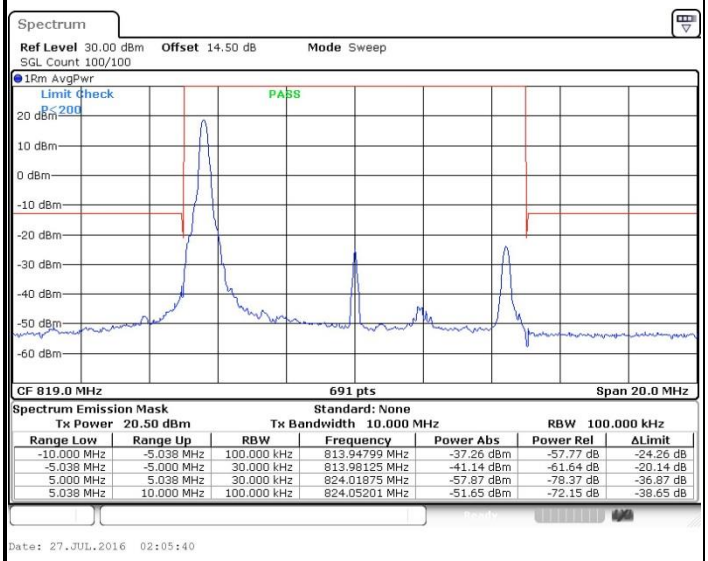
Lowest Band Edge / Full RB

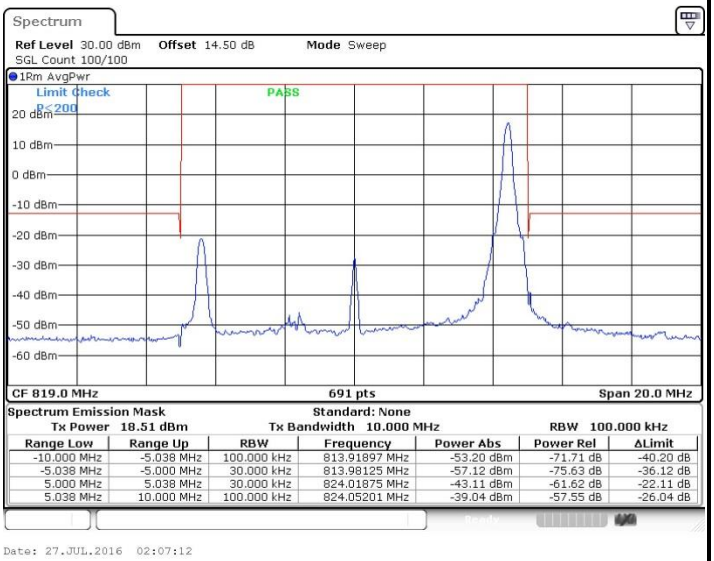


Highest Band Edge / Full RB



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





Band Edge / Full RB