

FCC RF Test Report

APPLICANT : ZTE CORPORATION
EQUIPMENT : LTE uFi
BRAND NAME : ZTE
MODEL NAME : MF985
FCC ID : SRQ-MF985
STANDARD : FCC 47 CFR Part 2, 90(R)
CLASSIFICATION : PCS Licensed Transmitter (PCB)

The product was received on Nov. 15, 2017 and completely tested on Dec. 17, 2017. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI/TIA-603-E and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.



Approved by: James Huang / Manager



Sporton International (Kunshan) Inc.

**No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335
China**



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG7N1502D	Rev. 01	Initial issue of report	Jan. 10, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting only	PASS	-
	§90.542 (a)(7)	Effective Radiated Power	ERP < 3Watt	PASS	-
3.5	§2.1049	Occupied Bandwidth	Reporting only	PASS	-
3.6	§2.1053 §90.543 (e)(2)(3)	Conducted Band Edge Measurement	Refer standard	PASS	-
3.7	§2.1051 §90.210(n)	Emission Mask	Mask B	PASS	-
3.8	§2.1053 §90.543 (e)(3)	Conducted Spurious Emission	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	-
3.9	§2.1055 §90.539 (e)	Frequency Stability Temperature & Voltage	$< \pm 1.25 \text{ ppm}$	PASS	-
4.4	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission	$< 43 + 10\log_{10}(P[\text{Watts}])$	PASS	Under limit 18.09 dB at 1578.000 MHz

1 General Description

1.1 Applicant

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057,
P. R. China

1.2 Manufacturer

ZTE CORPORATION

ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, 518057,
P. R. China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	LTE uFi
Brand Name	ZTE
Model Name	MF985
FCC ID	SRQ-MF985
Tx Frequency	LTE Band 14: 790.5 MHz ~ 795.5 MHz
Rx Frequency	LTE Band 14: 760.5 MHz ~ 765.5 MHz
Bandwidth	5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 14: 23.11dBm
Type of Modulation	QPSK / 16QAM / 64QAM
IMEI Code	Conducted: 867358030002517 Radiation: 867358030003218
HW Version	MF985HWV1.1
SW Version	MF985V1.3
EUT Stage	Identical Prototype

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

1.4 Maximum ERP Power, Frequency Tolerance, and Emission Designator

LTE Band 14		QPSK			16QAM		
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
5	790.5~795.5	4M50G7D	-	0.1387	4M50W7D	-	0.1230
10	793	9M01G7D	0.0044	0.1432	8M99W7D	-	0.1239
LTE Band 14		64QAM					
BW (MHz)	Frequency Range (MHz)	Emission Designator (99%OBW)		Frequency Tolerance (ppm)		Maximum ERP(W)	
5	790.5~795.5	4M50W7D		-		0.0851	
10	793	8M95W7D		-		0.0845	

1.5 Testing Site

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

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No.3-2 Ping-Xiang Rd, Kunshan Development Zone Kunshan City Jiangsu Province 215335 China TEL : +86-512-57900158 FAX : +86-512-57900958		
Test Site No.	Sporton Site No.		FCC Test Firm Registration No.
	TH01-KS	03CH03-KS	630927

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:

- 47 CFR Part 2, Part 90(R)
- ANSI/TIA-603-E
- FCC KDB 971168 D01 Power Meas. License Digital Systems v03
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

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

2 Test Configuration of Equipment Under Test

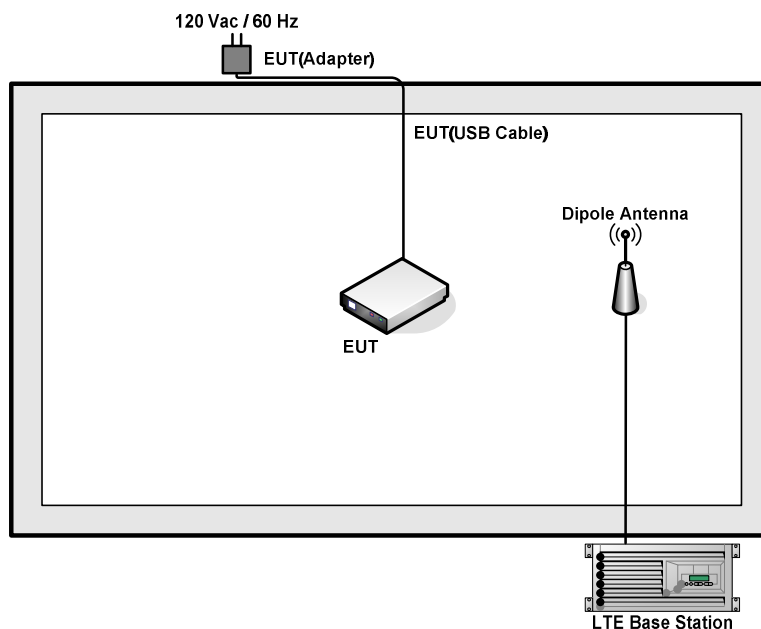
2.1 Test Mode

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

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

Conducted Test Cases	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	14	-	-	V	-	-	-	V	V	V	V	V	V	V	V	V
	14	-	-		V	-	-	V	V	V	V	V	V		V	
26dB and 99% Bandwidth	14	-	-	V		-	-	V	V	V			V	V	V	V
	14	-	-		V	-	-	V	V	V			V		V	
Conducted Band Edge	14	-	-	V		-	-	V	V	V	V		V	V		V
	14	-	-		V	-	-	V	V	V	V		V		V	
Emission Mask	14	-	-	V		-	-	V	V	V	V		V	V	V	V
	14	-	-		V	-	-	V	V	V	V		V		V	
Conducted Spurious Emission	14	-	-	V		-	-	V	V	V	V			V	V	V
	14	-	-		V	-	-	V	V	V	V				V	
Frequency Stability	14	-	-		V	-	-	V					V		V	
E.R.P	14	-	-	V		-	-	V	V	V	V			V	V	V
	14	-	-		V	-	-	V	V	V	V				V	
Radiated Spurious Emission	14	-	-	V	V	-	-	V			V				V	
Note	<ol style="list-style-type: none"> The mark "v" means that this configuration is chosen for testing The mark "-" means that this bandwidth is not supported. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported. 															

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m

2.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

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

Example :

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)}. \\ &= 4.3 \text{ (dB)}\end{aligned}$$

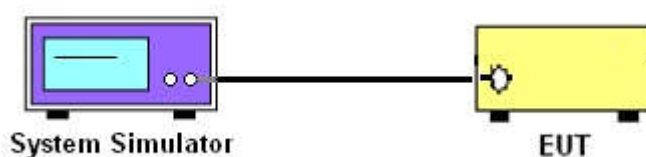
3 Conducted Test Items

3.1 Measuring Instruments

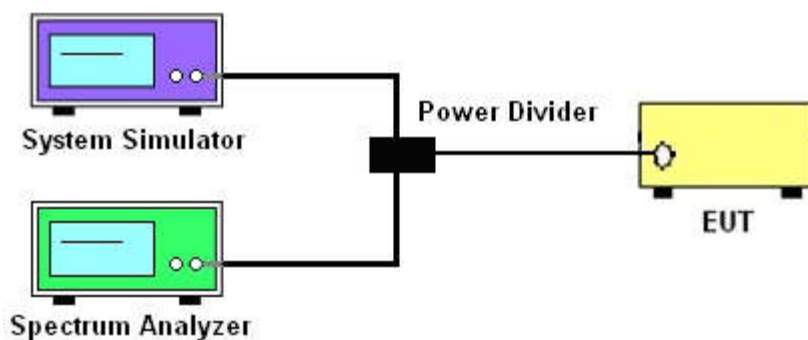
See list of measuring instruments of this test report.

3.2 Test Setup

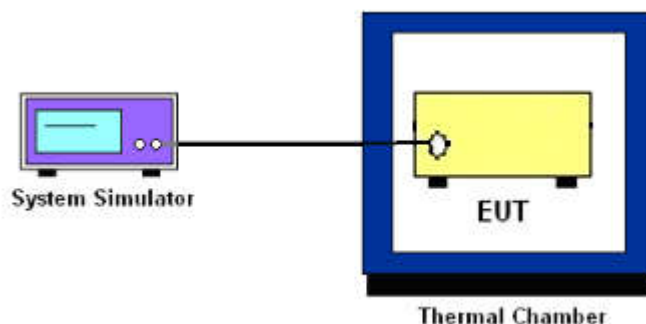
3.2.1 Conducted Output Power



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



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP

3.4.1 Description of the Conducted Output Power Measurement and ERP

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

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

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.4.2 Test Procedures

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

3.5 Occupied Bandwidth

3.5.1 Description of Occupied Bandwidth Measurement

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

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.

3.6 Conducted Band Edge Measurement

3.6.1 Description of Conducted Band Edge Measurement

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

- (1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations.
- (2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than $65 + 10 \log (P)$ dB in a 6.25 kHz band segment, for mobile and portable stations.
- (3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least $43 + 10 \log (P)$ dB.

3.6.2 Test Procedures

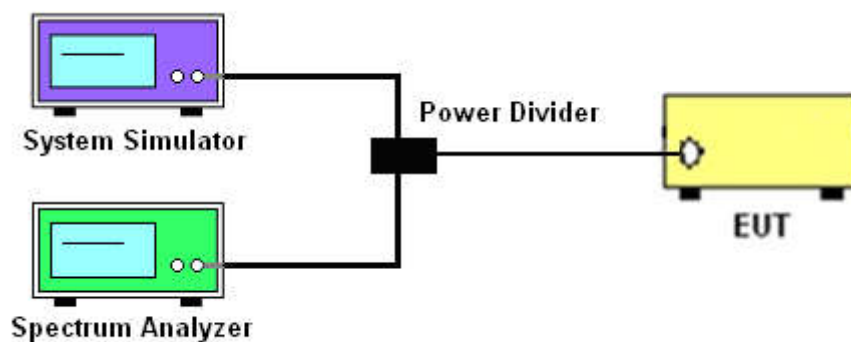
1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. Set spectrum analyzer with RMS detector.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
4. The limit line is derived from $43 + 10 \log(P)$ dB below the transmitter power P (Watts)
= $P(W) - [43 + 10 \log(P)]$ (dB)
= $[30 + 10 \log(P)]$ (dBm) - $[43 + 10 \log(P)]$ (dB)
= -13dBm.

3.7 Emission Mask

3.7.1 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The power of the modulated signal was measured on a spectrum analyzer using an RMS and 10 second sweep time in order to maximize the level.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.7.2 Test Setup



3.8 Conducted Spurious Emission Measurement

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30MHz up to a frequency including its 10th harmonic.

3.8.2 Test Procedures

1. The EUT was connected to spectrum analyzer and base station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's, for under 1GHz RBW = 100kHz, VBW = 300kHz and for above 1GHz RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. Set spectrum analyzer with RMS detector.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
= $P(W) - [43 + 10\log(P)]$ (dB)
= $[30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
= -13dBm.

3.9 Frequency Stability Measurement

3.9.1 Description of Frequency Stability Measurement

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

3.9.2 Test Procedures for Temperature Variation

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

3.9.3 Test Procedures for Voltage Variation

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

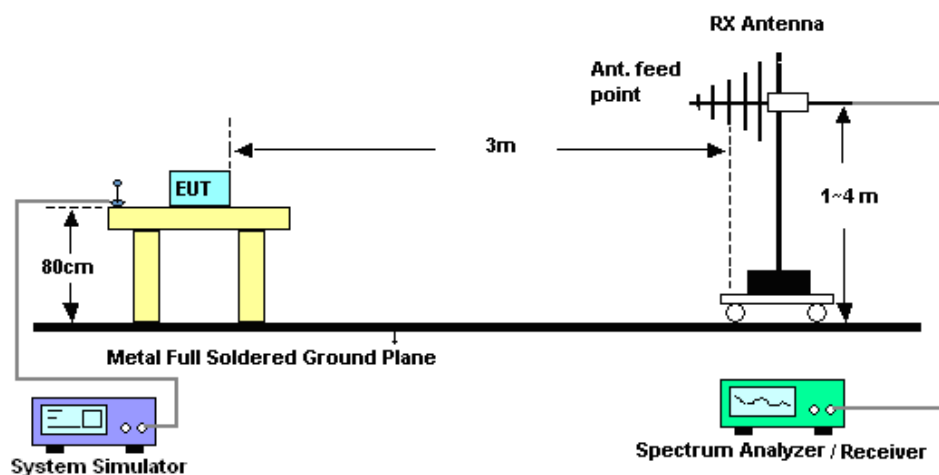
4 Radiated Test Items

4.1 Measuring Instruments

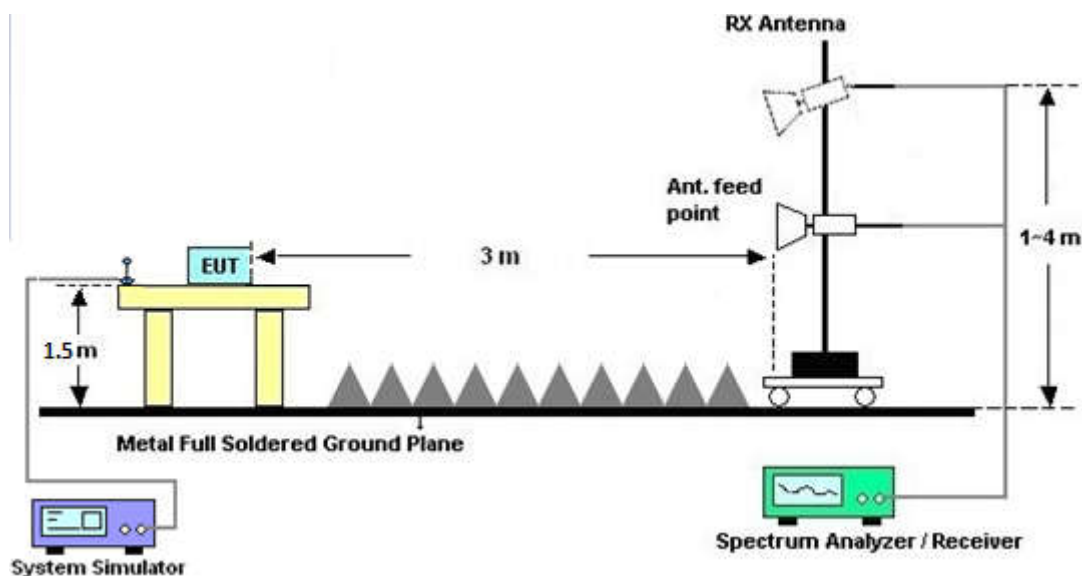
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Radiated Spurious Emission Measurement

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI/TIA-603-E. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

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

4.4.2 Test Procedures

1. The testing follows FCC KDB 971168 v03 Section 5.8 and ANSI/TIA-603-E Section 2.2.12.
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, Sweep = 500ms, Taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from $43 + 10\log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10\log(P)]$ (dB)
 $= [30 + 10\log(P)]$ (dBm) - $[43 + 10\log(P)]$ (dB)
 $= -13$ dBm.

12. $EIRP$ (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
 ERP (dBm) = $EIRP - 2.15$

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101040	10Hz~40GHz	Aug. 08, 2017	Dec. 12, 2017	Aug. 07, 2018	Conducted (TH01-KS)
Radio communication analyzer	Anritsu	MT8820C	6201300652	2G/3G/LTE_ full band	Aug. 08, 2017	Dec. 12, 2017	Aug. 07, 2018	Conducted (TH01-KS)
Thermal Chamber	Hongzhan	LP-150U	2306	-40~+150°C 20%~98%RH	Apr. 20, 2017	Dec. 12, 2017	Apr. 19, 2018	Conducted (TH01-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz~44GHz	Apr. 18, 2017	Dec. 17, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Bilog Antenna	TeseQ	CBL6112D	35406	25MHz~2GHz	Apr. 22, 2017	Dec. 17, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1356	1GHz~18GHz	Apr. 22, 2017	Dec. 17, 2017	Apr. 21, 2018	Radiation (03CH03-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 15, 2017	Dec. 17, 2017	Feb. 14, 2018	Radiation (03CH03-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1000MHz / 32 dB	Apr. 18, 2017	Dec. 17, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
Amplifier	MITEQ	TTA1840-35-HG	1887435	18GHz~40GHz	Oct. 12, 2017	Dec. 17, 2017	Oct. 11, 2018	Radiation (03CH03-KS)
high gain Amplifier	MITEQ	AMF-7D-00 101800-30-1	2025788	1GHz~18GHz	Apr. 18, 2017	Dec. 17, 2017	Apr. 17, 2018	Radiation (03CH03-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Dec. 17, 2017	NCR	Radiation (03CH03-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Dec. 17, 2017	NCR	Radiation (03CH03-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Dec. 17, 2017	NCR	Radiation (03CH03-KS)

NCR: No Calibration Required

6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.8 dB
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Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.3 dB
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Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power)

LTE Band 14 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.81	22.91	22.93
5	1	12		22.95	22.97	22.88
5	1	24		22.96	22.91	22.83
5	12	0		22.04	22.11	21.96
5	12	7		22.10	22.05	21.97
5	12	13		22.07	22.04	21.92
5	25	0		22.07	22.09	21.94
5	1	0	16-QAM	22.35	22.45	22.23
5	1	12		22.35	22.35	22.25
5	1	24		22.34	22.17	22.03
5	12	0		21.11	21.16	21.00
5	12	7		21.13	21.08	20.99
5	12	13		21.10	21.05	20.95
5	25	0		21.09	21.14	20.99
5	1	0	64QAM	20.81	20.83	20.80
5	1	12		20.79	20.80	20.85
5	1	24		20.72	20.77	20.80
5	12	0		19.75	19.70	19.80
5	12	7		19.65	19.70	19.80
5	12	13		19.62	19.61	19.65
5	25	0		19.60	19.64	19.69

LTE Band 14 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
10	1	0	QPSK		23.11	
10	1	25			22.91	
10	1	49			22.71	
10	25	0			21.93	
10	25	12			22.15	
10	25	25			22.21	
10	50	0			22.32	
10	1	0	16-QAM		22.48	
10	1	25			22.33	
10	1	49			22.12	
10	25	0			21.04	
10	25	12			21.19	
10	25	25			20.99	
10	50	0			21.08	
10	1	0	64QAM		20.82	
10	1	25			20.80	
10	1	49			20.53	
10	25	0			19.63	
10	25	12			19.66	
10	25	25			19.64	
10	50	0			19.69	

ERP

LTE Band 14 ($G_T - L_C = 0.6$ dBi) QPSK						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency	790.5	793	795.5		793	
(MHz)						
Conducted Power (dBm)	22.95	22.97	22.88		23.11	
Conducted Power (Watts)	0.1972	0.1982	0.1941		0.2046	
ERP(dBm)	21.40	21.42	21.33		21.56	
ERP(Watts)	0.1380	0.1387	0.1358		0.1432	

LTE Band 14 ($G_T - L_C = 0.6$ dBi) 16QAM						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency	790.5	793	795.5		793	
(MHz)						
Conducted Power (dBm)	22.35	22.45	22.23		22.48	
Conducted Power (Watts)	0.1718	0.1758	0.1671		0.1770	
ERP(dBm)	20.80	20.90	20.68		20.93	
ERP(Watts)	0.1202	0.1230	0.1169		0.1239	



LTE Band 14 ($G_T - L_C = 0.6$ dBi) 64QAM						
Bandwidth	5M			10M		
Channel	23305	23330	23355		23330	
	(Low)	(Mid)	(High)		(Mid)	
Frequency	790.5	793	795.5		793	
(MHz)						
Conducted Power (dBm)	20.79	20.80	20.85		20.82	
Conducted Power (Watts)	0.1199	0.1202	0.1216		0.1208	
ERP(dBm)	19.24	19.25	19.30		19.27	
ERP(Watts)	0.0839	0.0841	0.0851		0.0845	

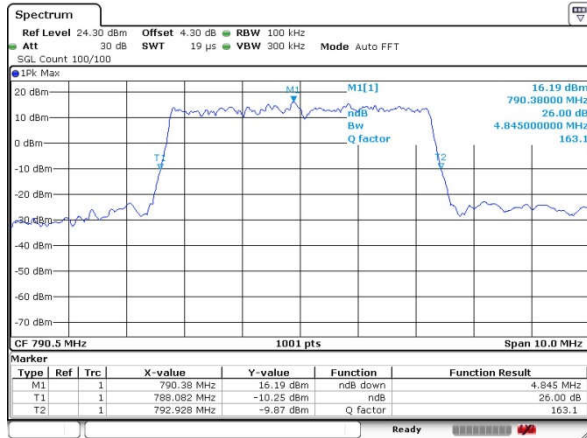


26dB Bandwidth

Mode	LTE Band 14 : 26dB BW(MHz)									
BW	5MHz		10MHz		5MHz	10MHz				
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM				
Lowest CH	4.845	4.965	-	-	4.895	-				
Middle CH	4.975	4.885	9.77	9.81	4.875	9.85				
Highest CH	4.925	4.895	-	-	4.905	-				

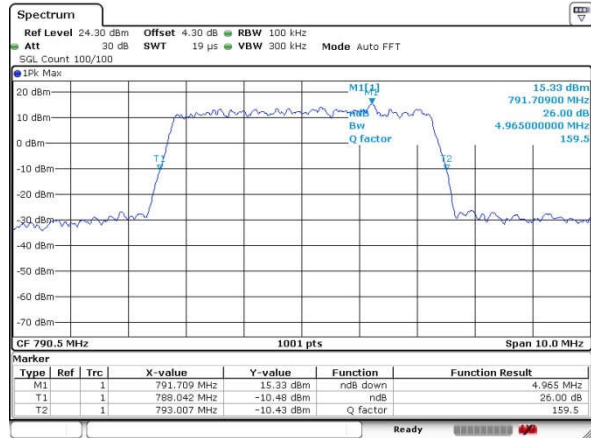
LTE Band 14

Lowest Channel / 5MHz / QPSK



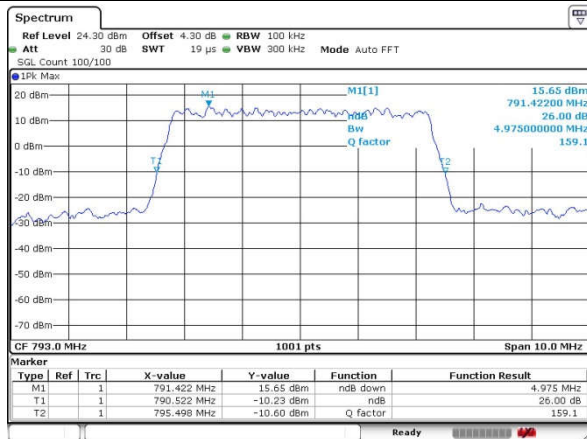
Date: 12 DEC 2017 19:43:41

Lowest Channel / 5MHz / 16QAM



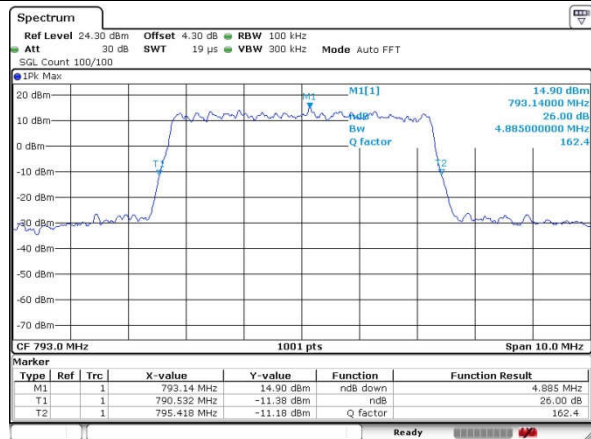
Date: 12 DEC 2017 19:44:33

Middle Channel / 5MHz / QPSK



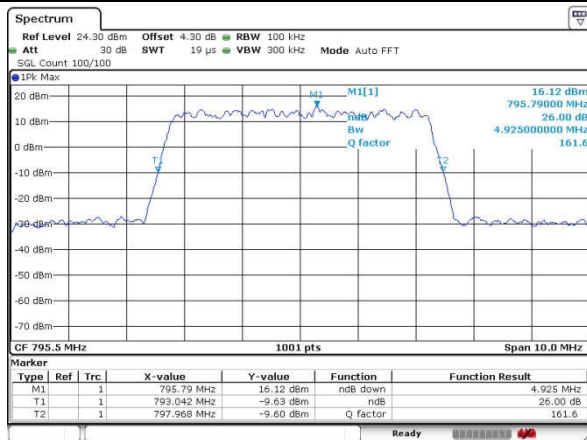
Date: 12 DEC 2017 19:47:48

Middle Channel / 5MHz / 16QAM



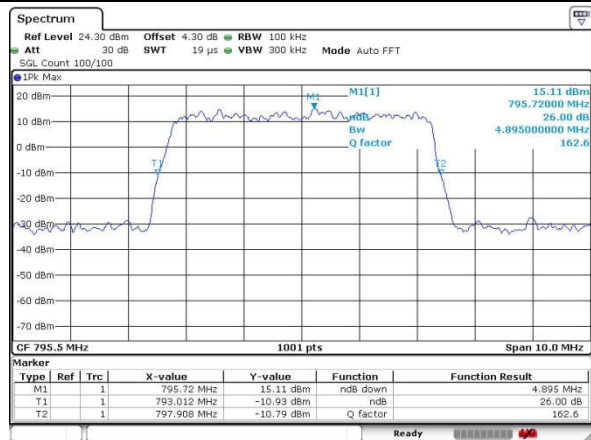
Date: 12 DEC 2017 19:47:30

Highest Channel / 5MHz / QPSK



Date: 12 DEC 2017 19:48:58

Highest Channel / 5MHz / 16QAM

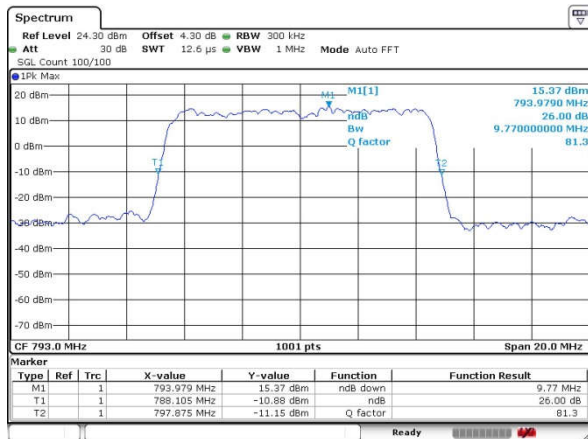


Date: 12 DEC 2017 19:49:23



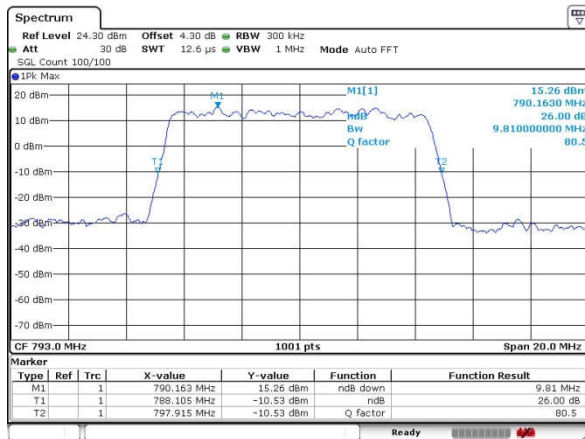
LTE Band 14

Middle Channel / 10MHz / QPSK



Date: 12 DEC 2017 19:55:55

Middle Channel / 10MHz / 16QAM

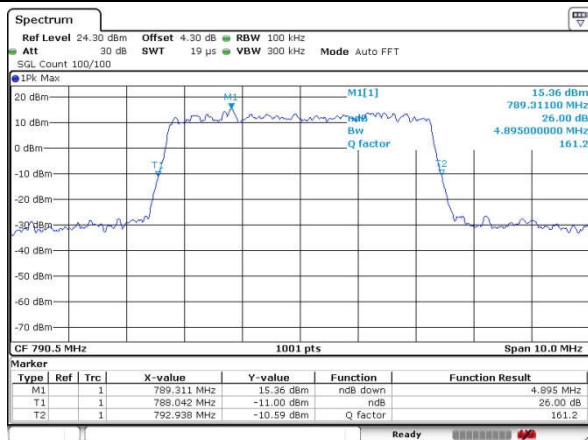


Date: 12 DEC 2017 19:55:25



LTE Band 14

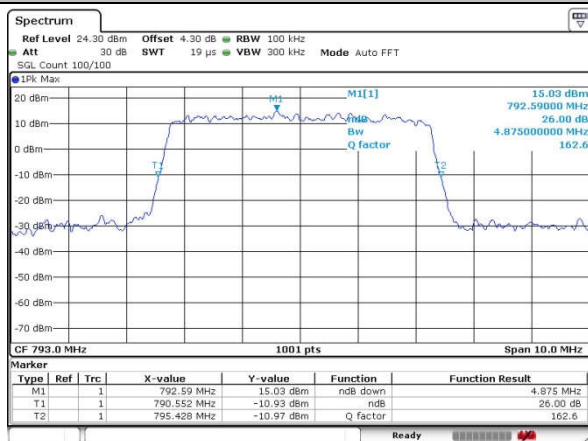
Lowest Channel / 5MHz / 64QAM



Date: 12 DEC 2017 19:45:20

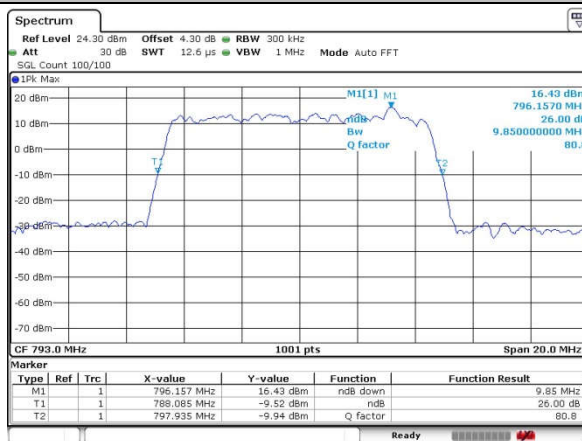
Lowest Channel / 10MHz / 64QAM

Middle Channel / 5MHz / 64QAM



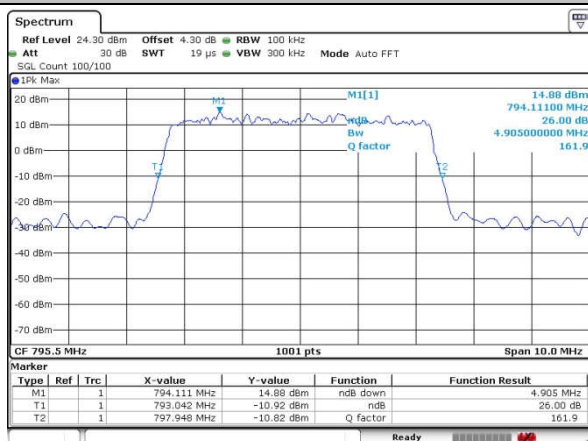
Date: 12 DEC 2017 19:47:05

Middle Channel / 10MHz / 64QAM



Date: 12 DEC 2017 19:54:44

Highest Channel / 5MHz / 64QAM



Date: 12 DEC 2017 19:50:09

Highest Channel / 10MHz / 64QAM

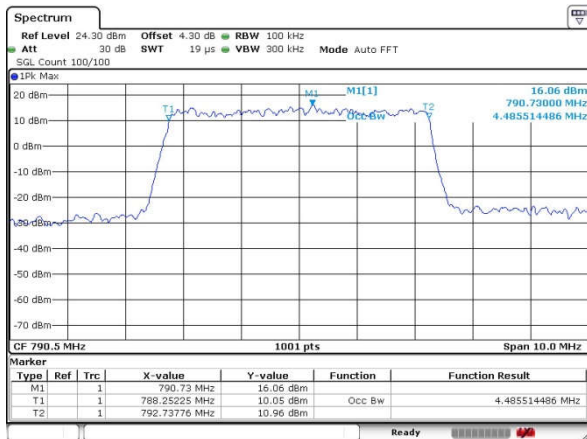


Occupied Bandwidth

Mode	LTE Band 14 : 99%OBW(MHz)									
BW	5MHz		10MHz		5MHz	10MHz				
Mod.	QPSK	16QAM	QPSK	16QAM	64QAM	64QAM				
Lowest CH	4.49	4.50	-	-	4.49	-				
Middle CH	4.49	4.48	9.01	8.99	4.50	8.95				
Highest CH	4.50	4.48	-	-	4.45	-				

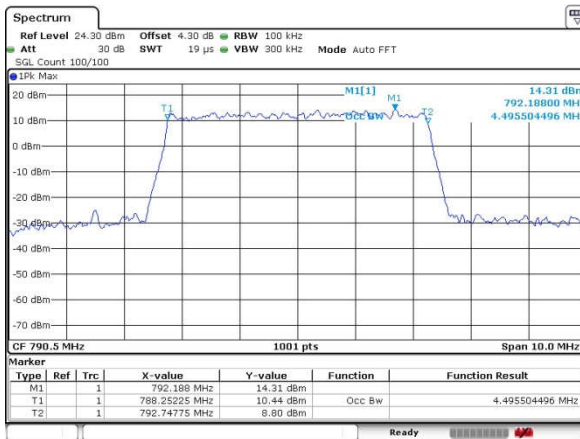
LTE Band 14

Lowest Channel / 5MHz / QPSK



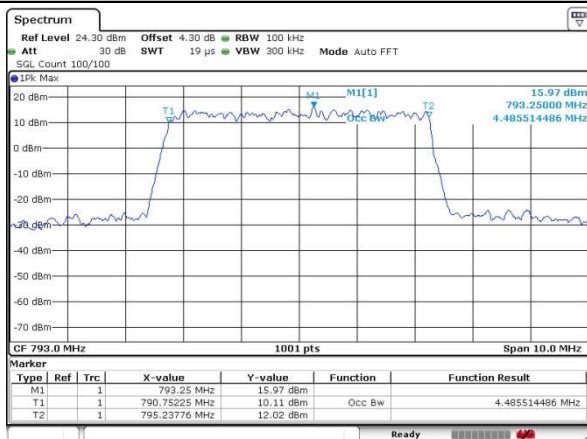
Date: 12 DEC 2017 20:04:58

Lowest Channel / 5MHz / 16QAM



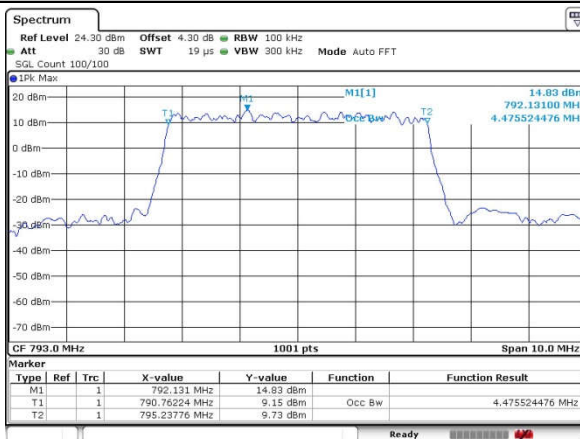
Date: 12 DEC 2017 20:04:39

Middle Channel / 5MHz / QPSK



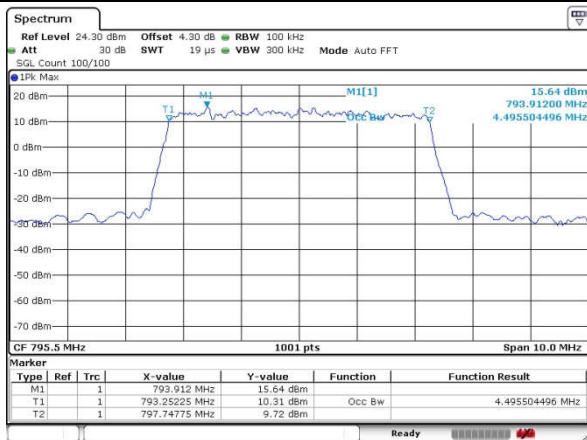
Date: 12 DEC 2017 20:05:37

Middle Channel / 5MHz / 16QAM



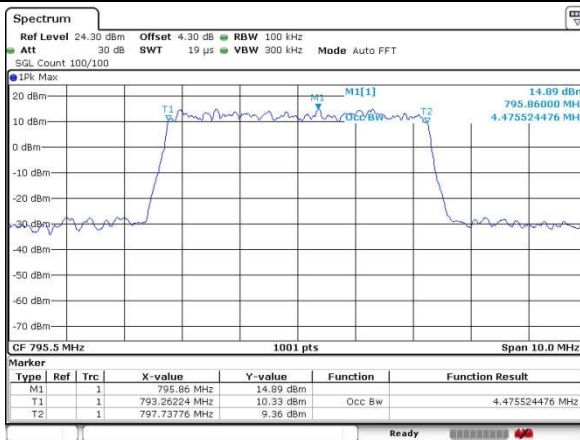
Date: 12 DEC 2017 20:05:56

Highest Channel / 5MHz / QPSK



Date: 12 DEC 2017 20:06:25

Highest Channel / 5MHz / 16QAM

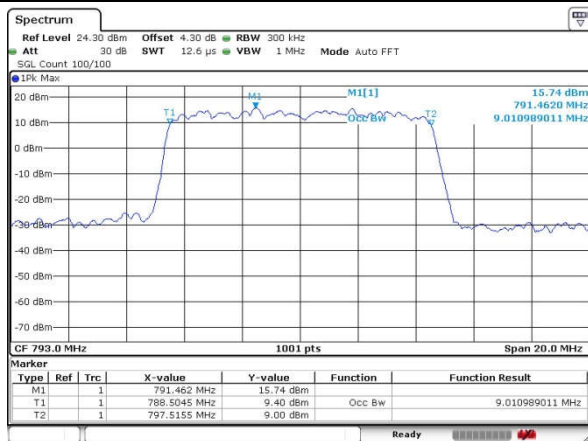


Date: 12 DEC 2017 20:07:59



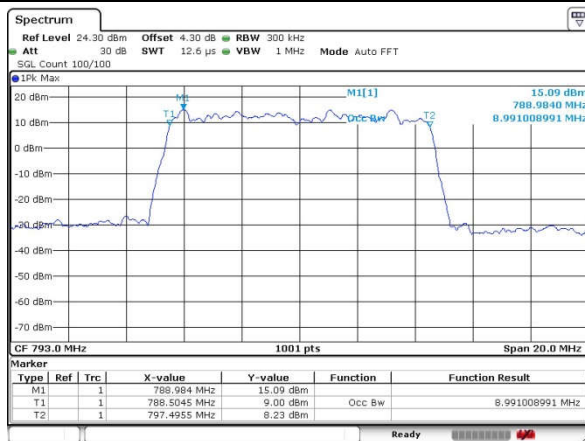
LTE Band 14

Middle Channel / 10MHz / QPSK



Date: 12 DEC 2017 20:00:35

Middle Channel / 10MHz / 16QAM

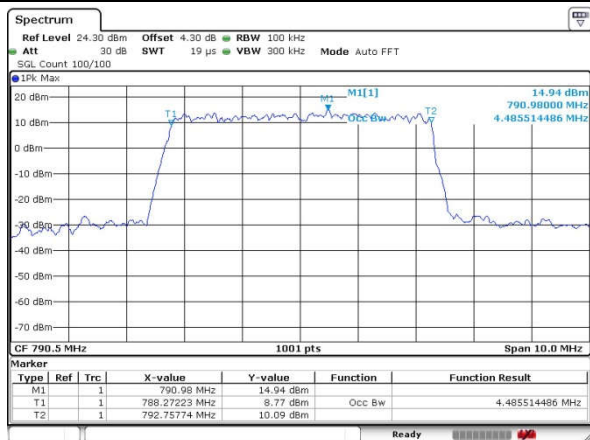


Date: 12 DEC 2017 20:01:10



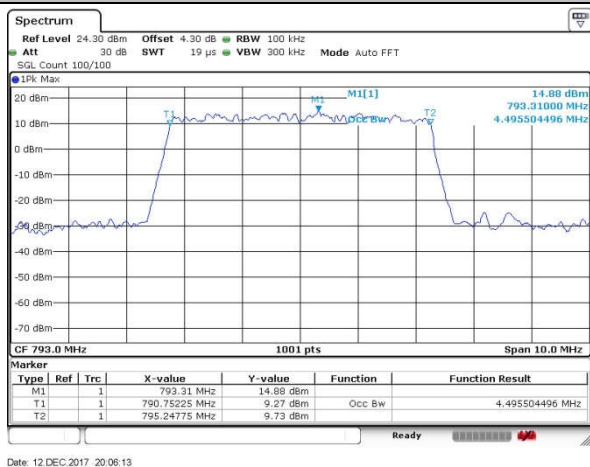
LTE Band 14

Lowest Channel / 5MHz / 64QAM

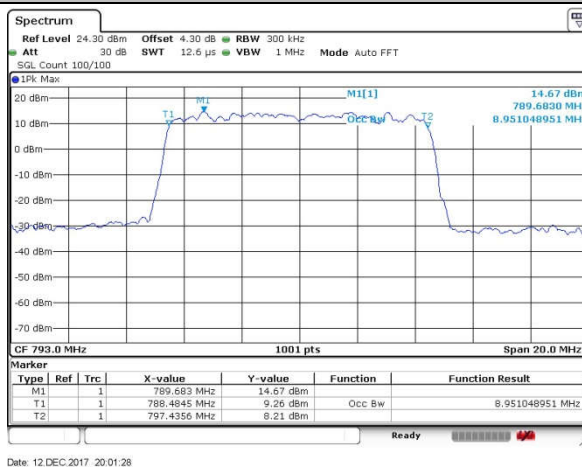


Lowest Channel / 10MHz / 64QAM

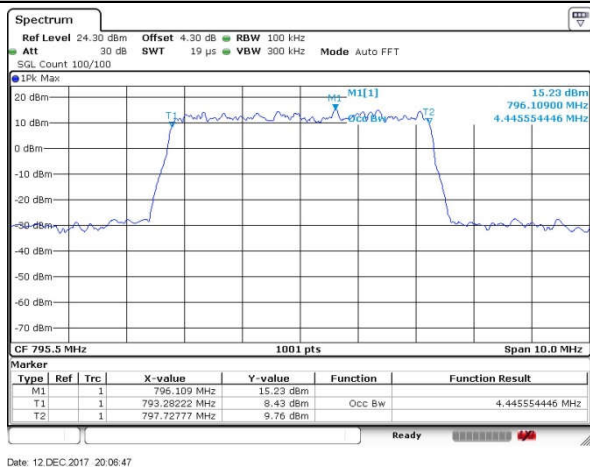
Middle Channel / 5MHz / 64QAM



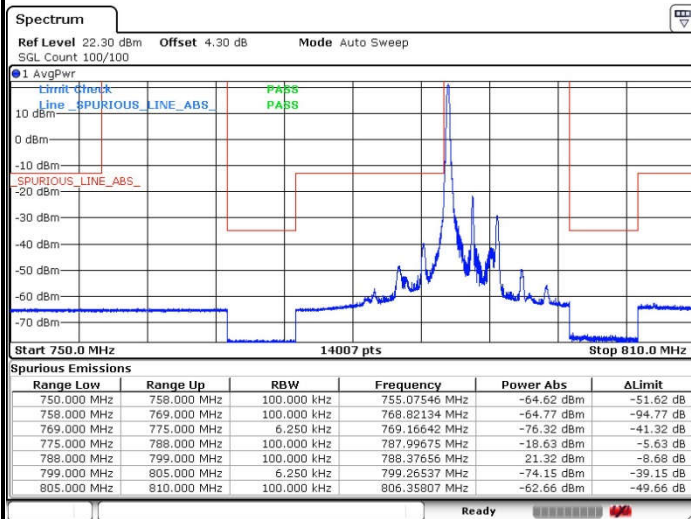
Middle Channel / 10MHz / 64QAM



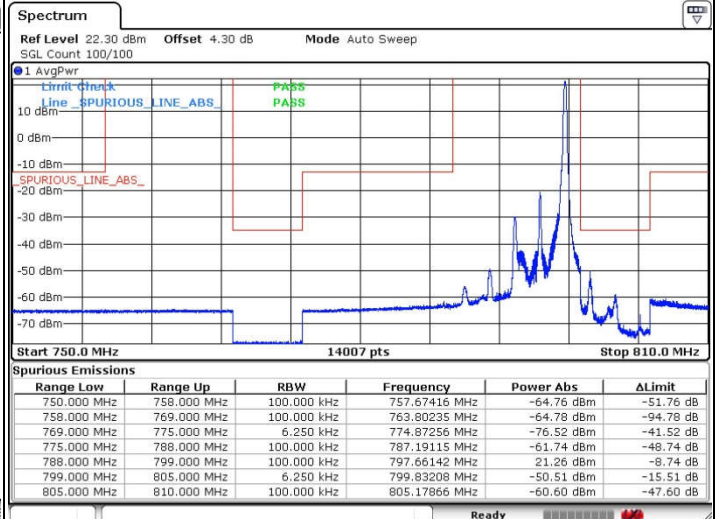
Highest Channel / 5MHz / 64QAM



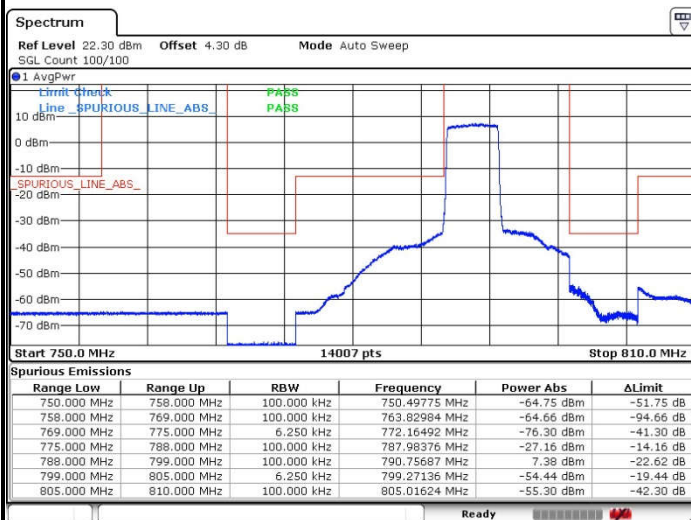
Highest Channel / 10MHz / 64QAM

**Conducted Band Edge****LTE Band 14 / 5MHz / QPSK****Lowest Band Edge / 1 RB**

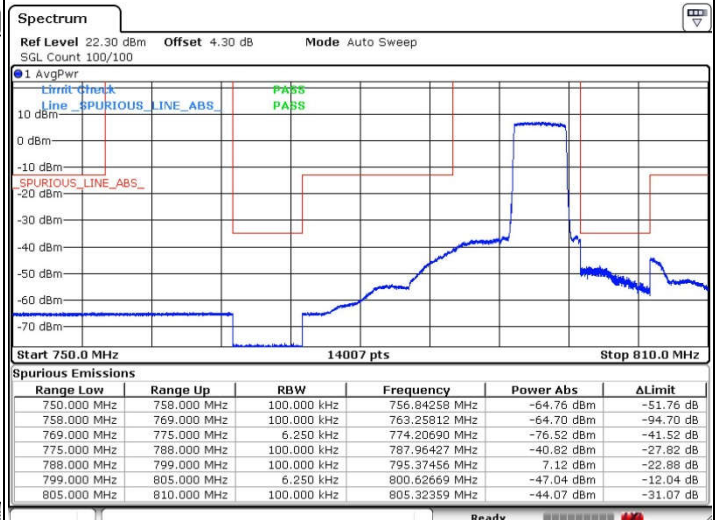
Date: 12 DEC 2017 20:42:27

Highest Band Edge / 1 RB

Date: 12 DEC 2017 20:38:40

Lowest Band Edge / Full RB

Date: 12 DEC 2017 20:54:52

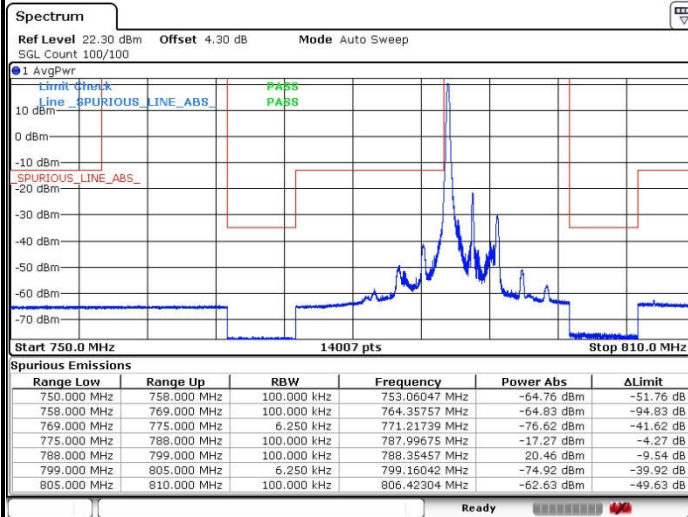
Highest Band Edge / Full RB

Date: 12 DEC 2017 20:27:42

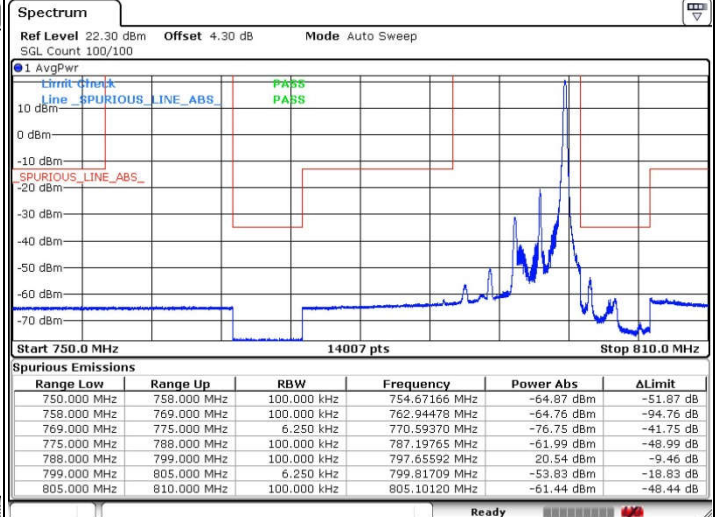


LTE Band 14 / 5MHz / 16QAM

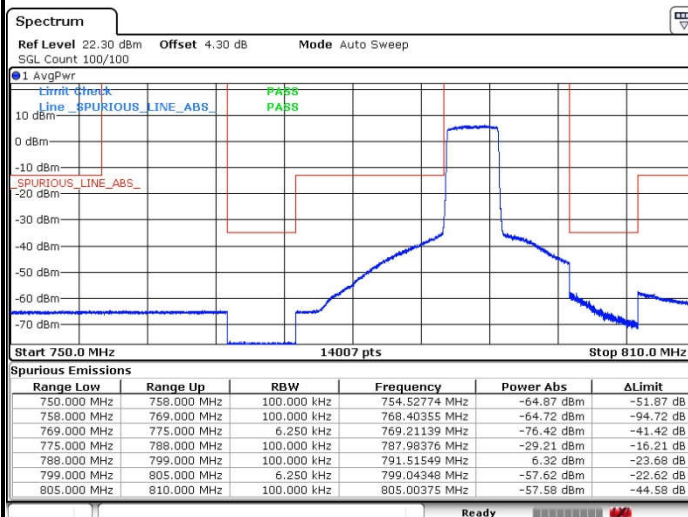
Lowest Band Edge /1 RB



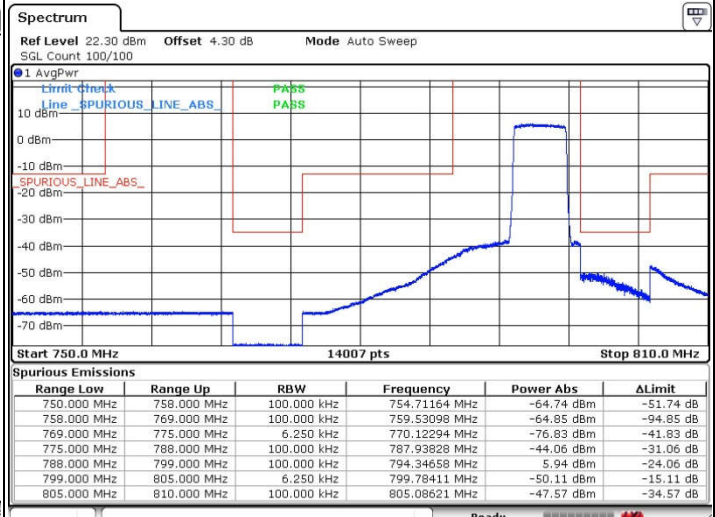
Highest Band Edge / 1 RB



Lowest Band Edge / Full RB



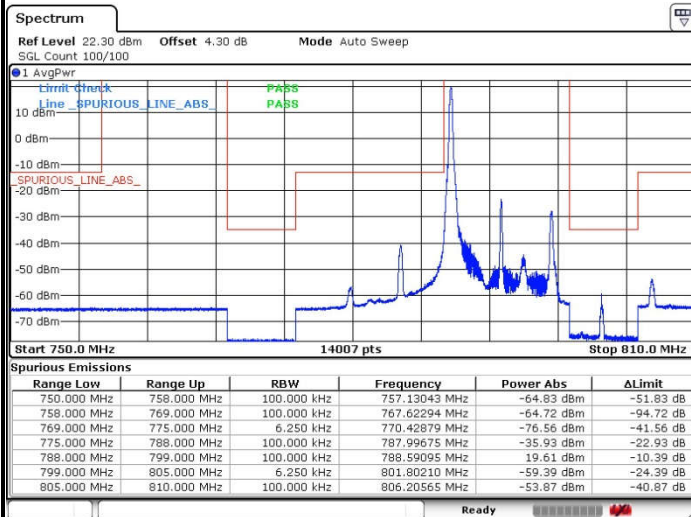
Highest Band Edge / Full RB



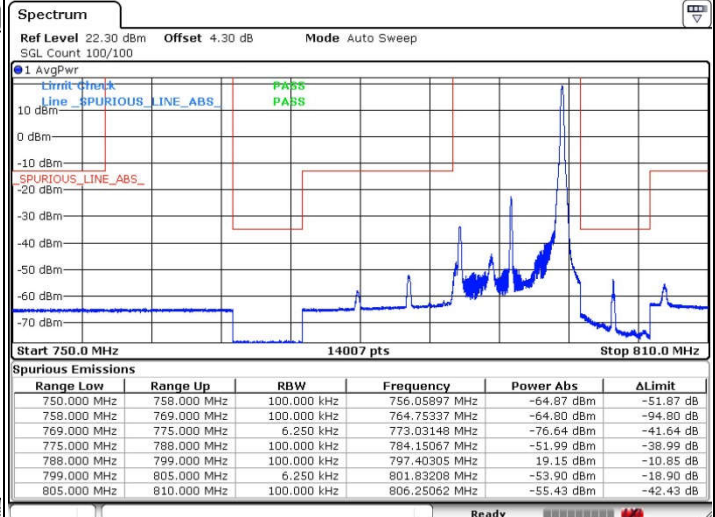


LTE Band 14 / 10MHz / QPSK

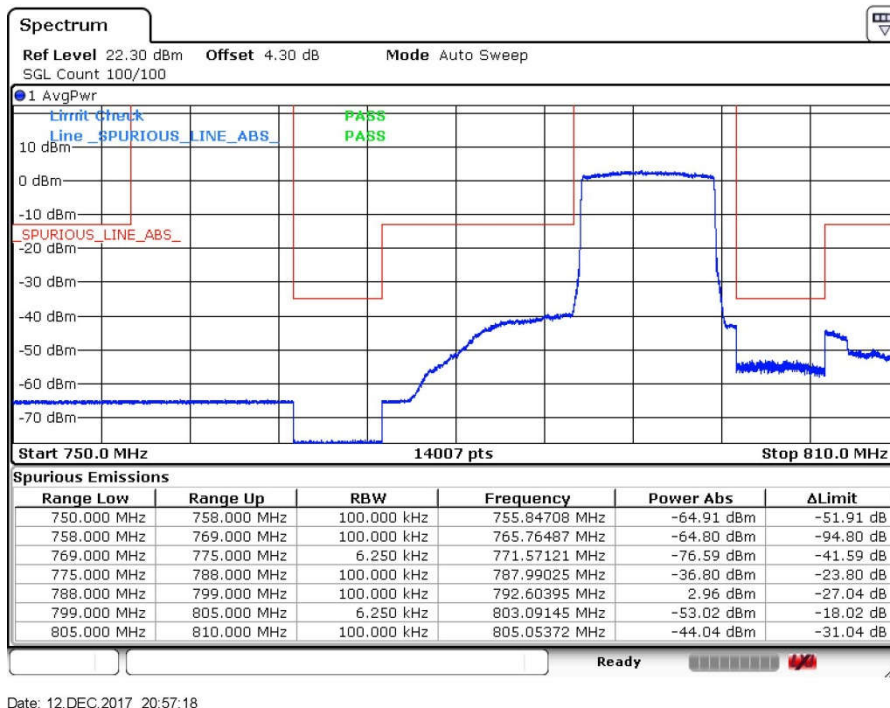
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



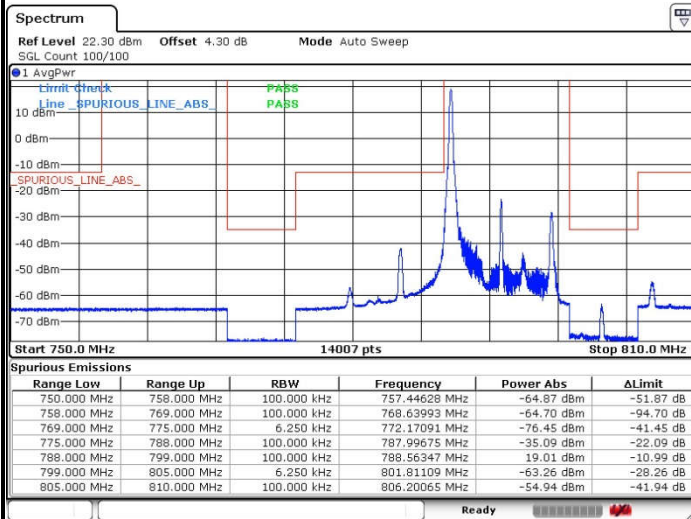
Band Edge / Full RB



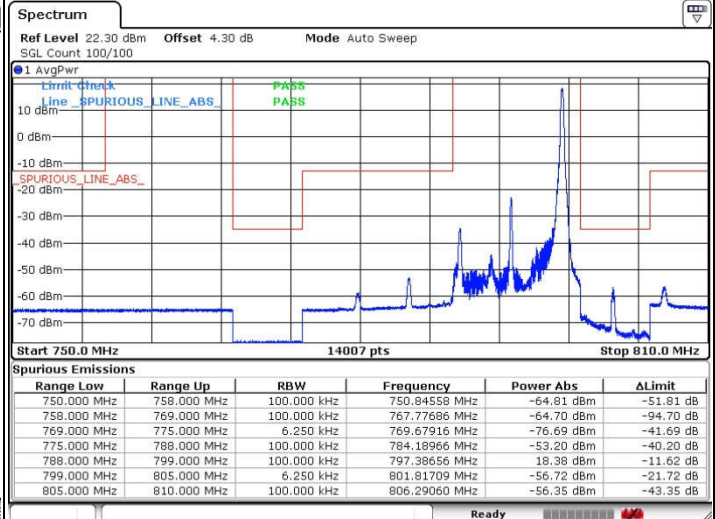


LTE Band 14 / 10MHz / 16QAM

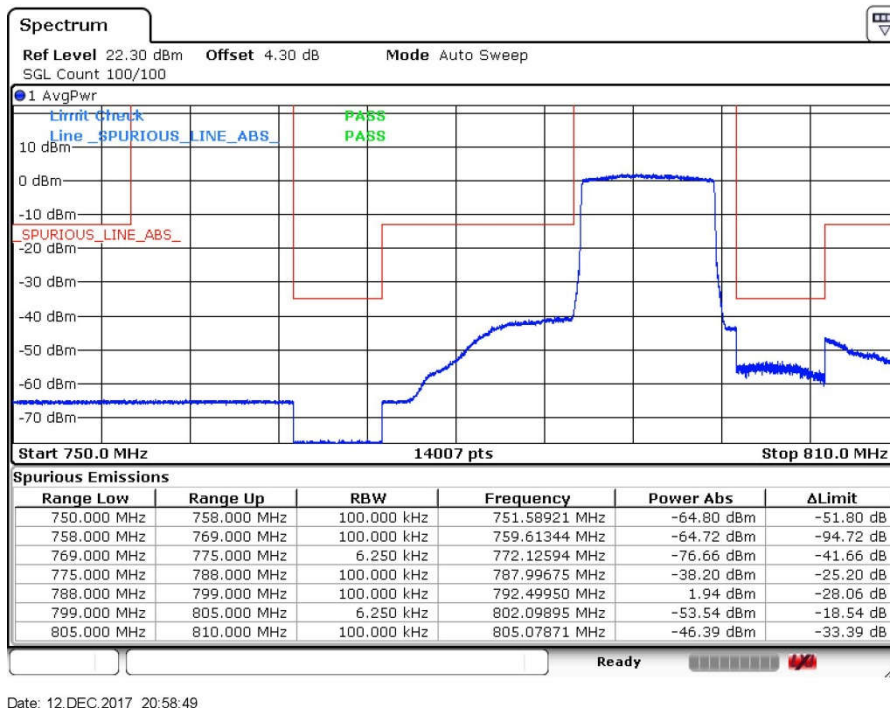
Lowest Band Edge / 1 RB



Highest Band Edge / 1 RB



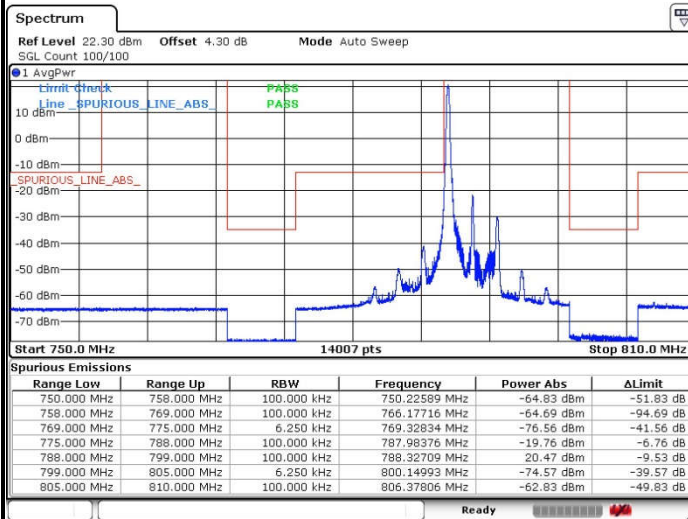
Band Edge / Full RB





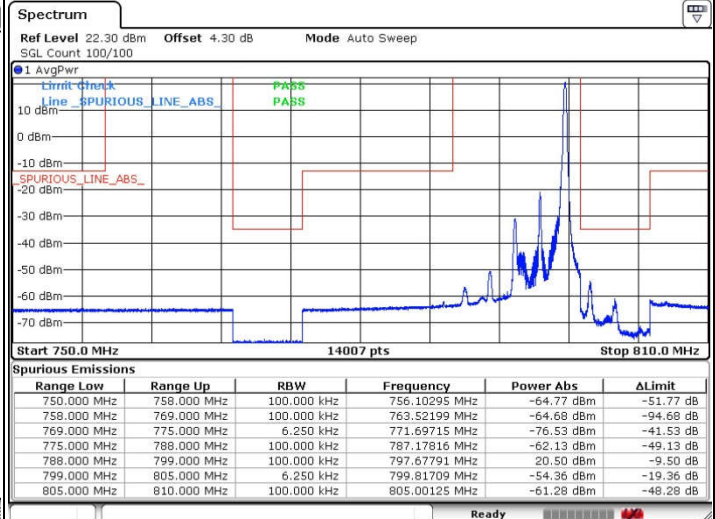
LTE Band 14 / 5MHz / 64QAM

Lowest Band Edge / 1 RB



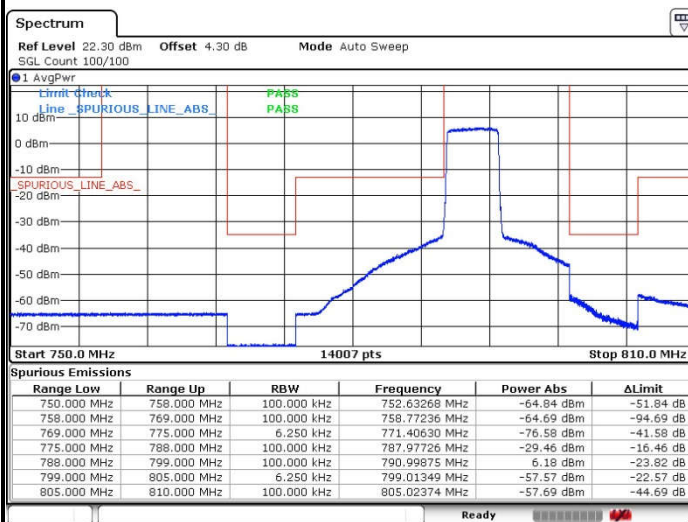
Date: 12 DEC 2017 20:45:12

Highest Band Edge / 1 RB



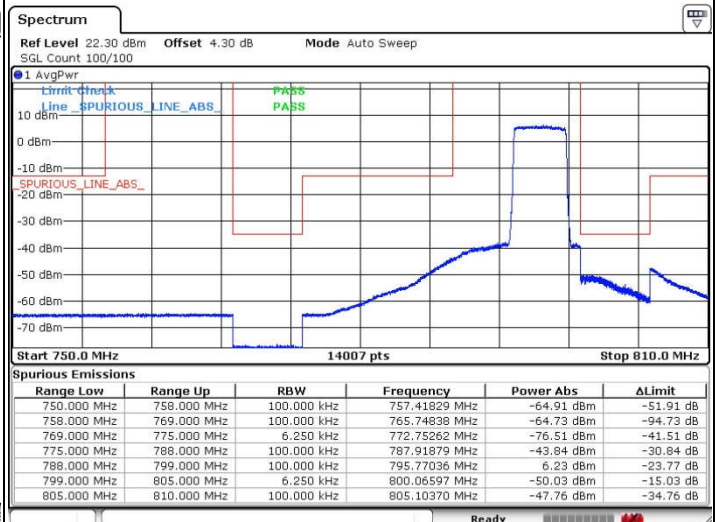
Date: 12 DEC 2017 20:34:48

Lowest Band Edge / Full RB



Date: 12 DEC 2017 20:51:39

Highest Band Edge / Full RB

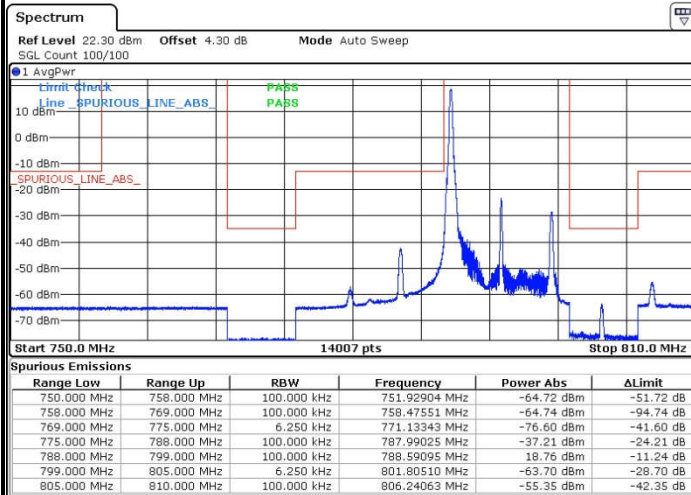


Date: 12 DEC 2017 20:33:06



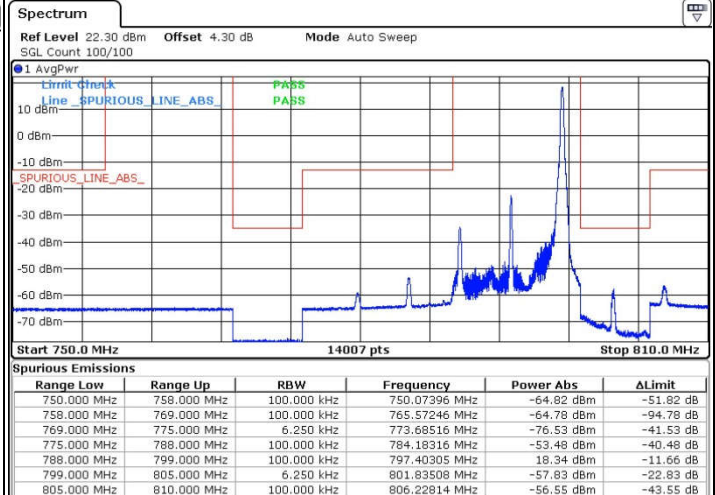
LTE Band 14 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



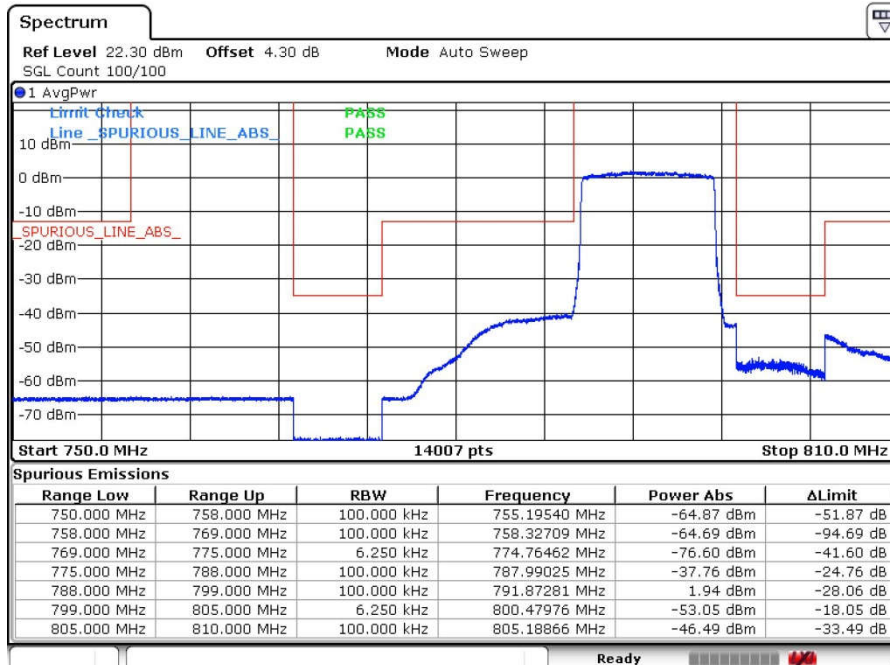
Date: 12.DEC.2017 21:01:01

Highest Band Edge / 1 RB



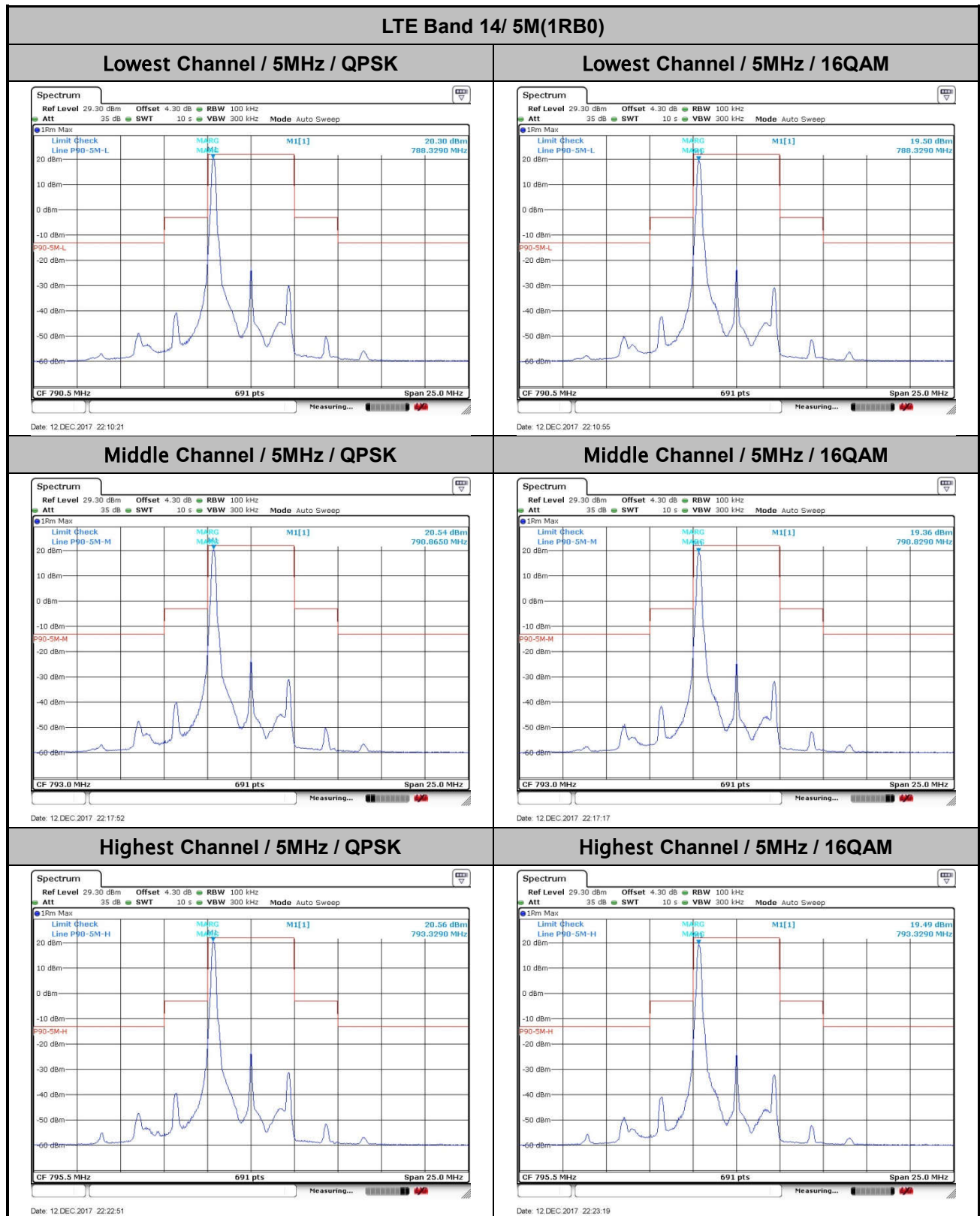
Date: 12.DEC.2017 21:07:37

Band Edge / Full RB



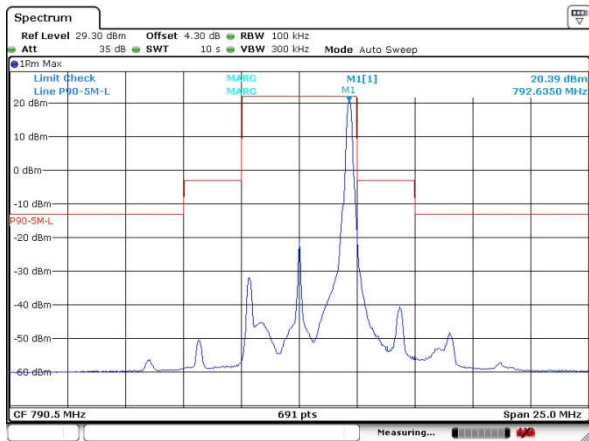
Date: 12.DEC.2017 20:59:50

Emission Mask

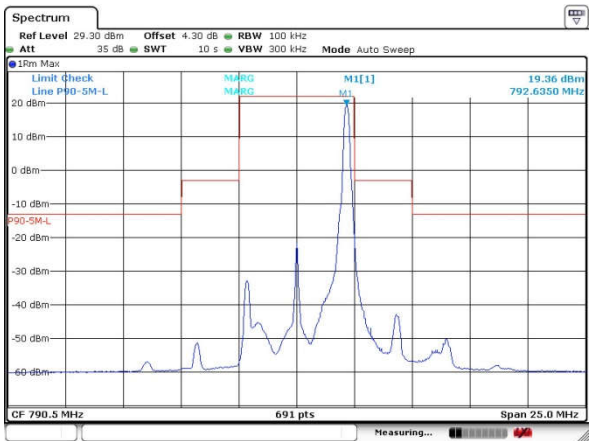


LTE Band 14/ 5M(1RBmax)

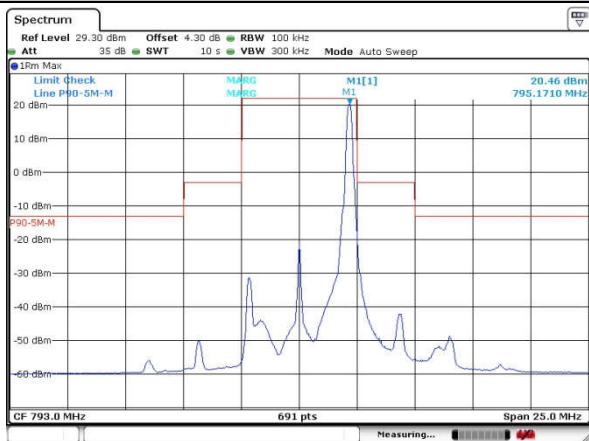
Lowest Channel / 5MHz / QPSK



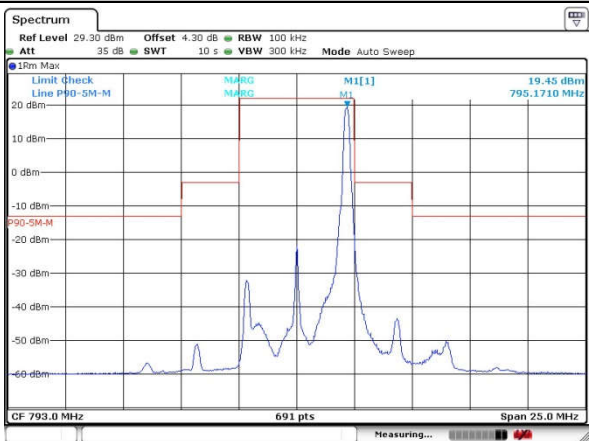
Lowest Channel / 5MHz / 16QAM



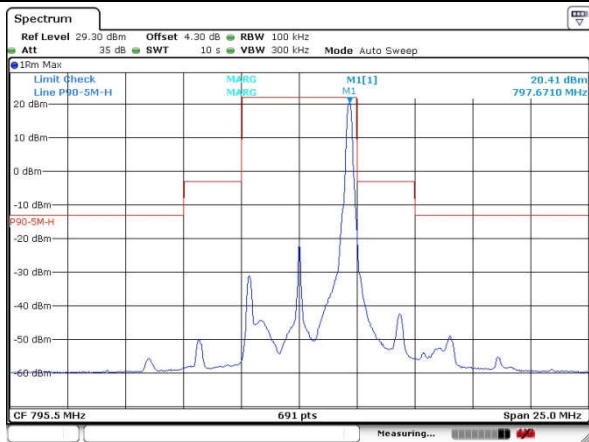
Middle Channel / 5MHz / QPSK



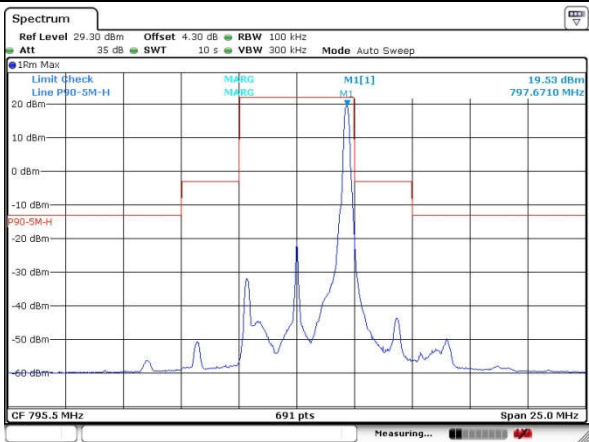
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

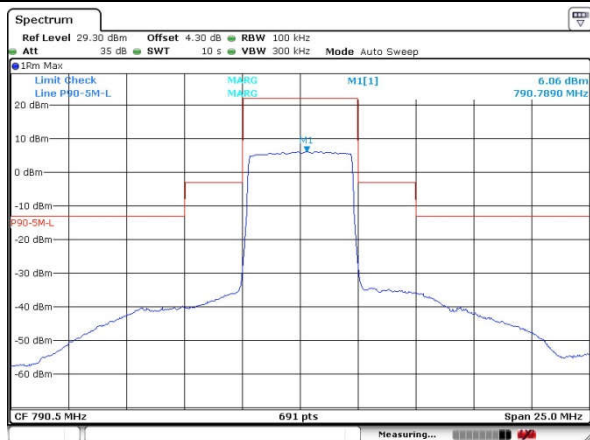


Highest Channel / 5MHz / 16QAM

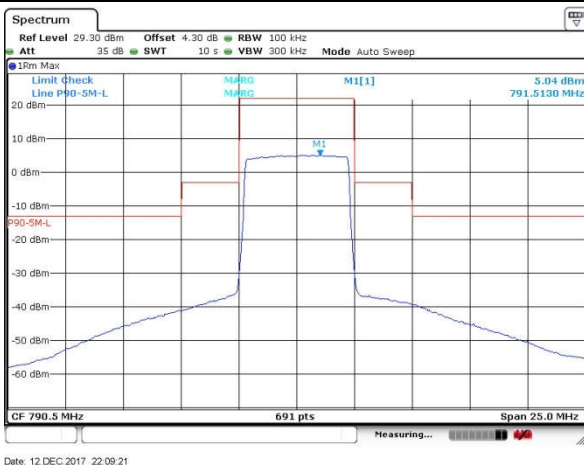


LTE Band 14/ 5M(fullIRB0)

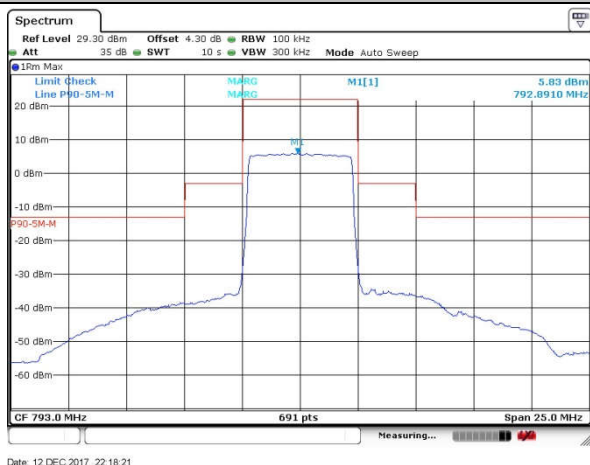
Lowest Channel / 5MHz / QPSK



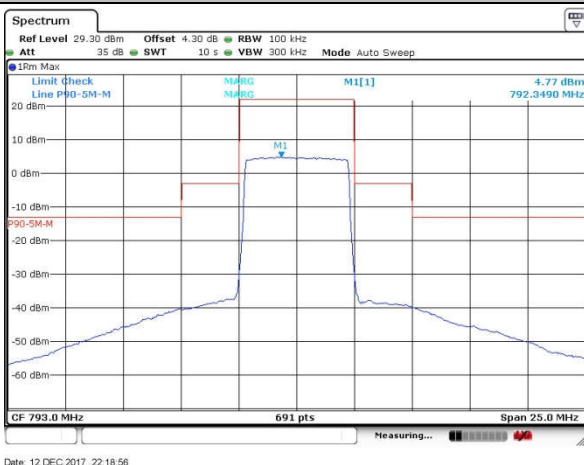
Lowest Channel / 5MHz / 16QAM



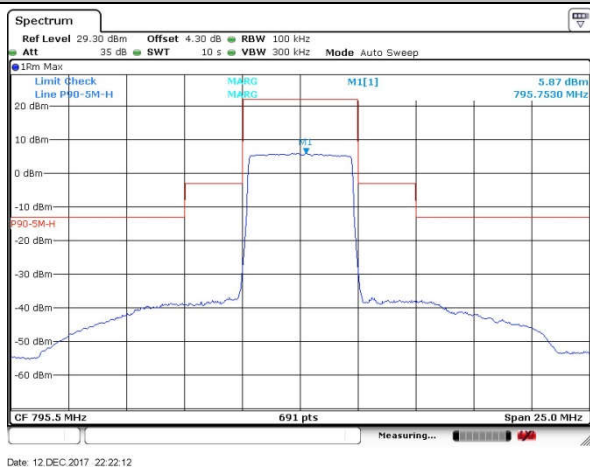
Middle Channel / 5MHz / QPSK



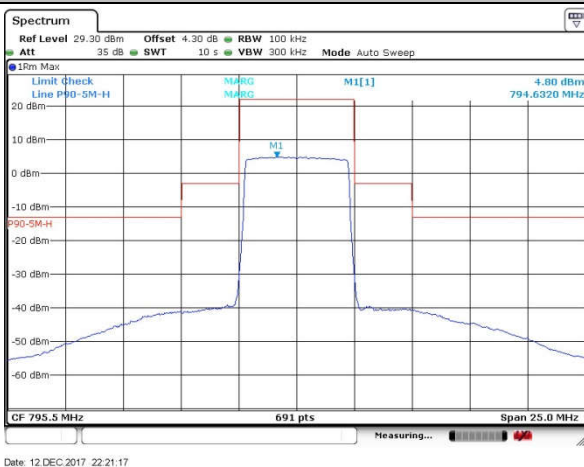
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

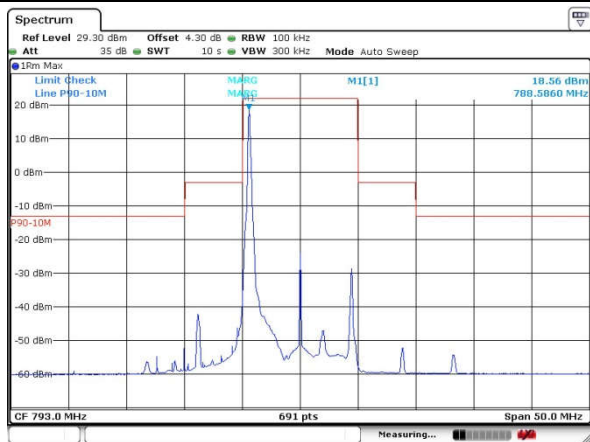


Highest Channel / 5MHz / 16QAM

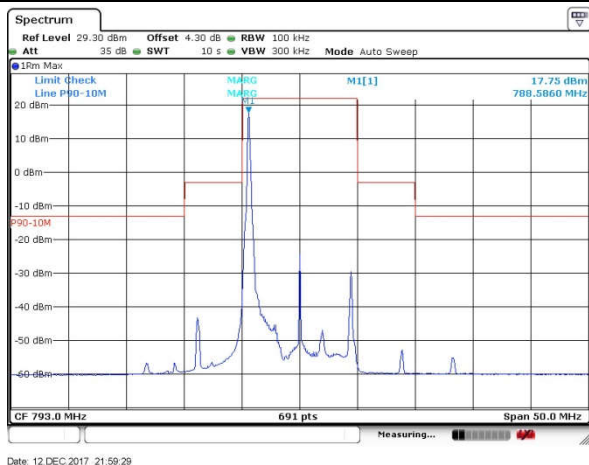


LTE Band 14/ 10MHz

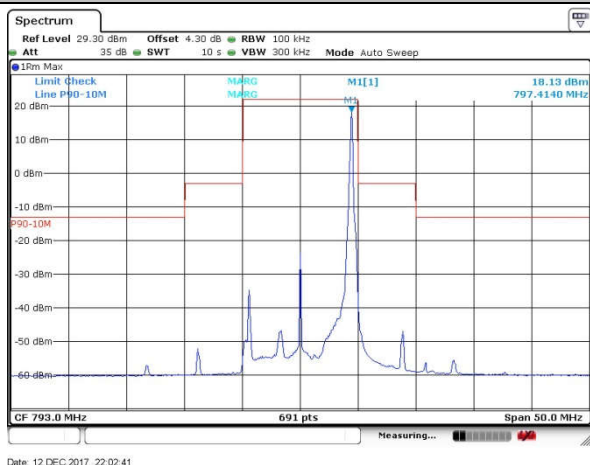
Middle Channel / 1RB0 / QPSK



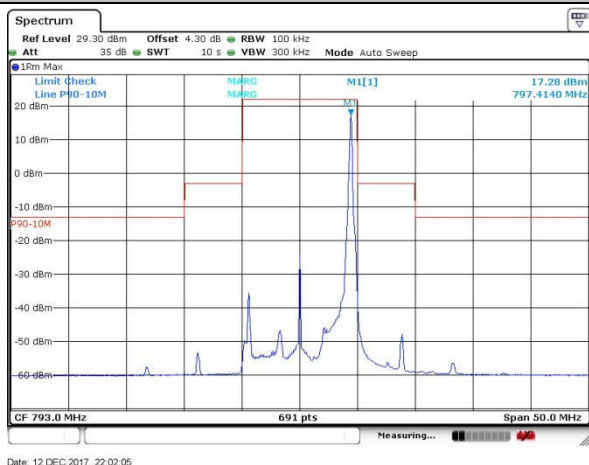
Middle Channel / 1RB0 / 16QAM



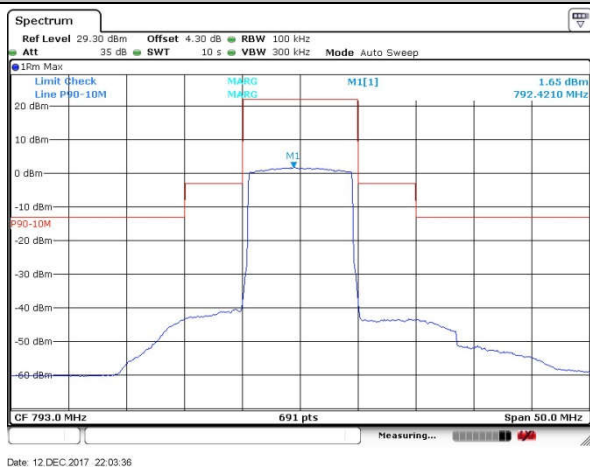
Middle Channel / 1RBmax / QPSK



Middle Channel / 1RBmax / 16QAM



Middle Channel / fullRB0 / QPSK



Middle Channel / fullRB0 / 16QAM

