FCC RF Test Report

APPLICANT	:	**CT Asia (HK) Ltd**
EQUIPMENT	:	**Smartphone**
BRAND NAME	:	**BLU**
MODEL NAME	:	**STUDIO 7.0 LTE**
MARKETING NAME	:	**STUDIO 7.0 LTE**
FCC ID	:	**YHLBLUST70LTE**
STANDARD	:	**47 CFR Part 2, 24(E), 27(M), 27(L), 27(H)**
CLASSIFICATION	:	**PCS Licensed Transmitter (PCB)**

The product was received on May 19, 2015 and completely tested on Jun. 31, 2015. 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 / EIA-603-C-2004 and the testing has shown the tested sample to be in 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 INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory
1190

SPORTON INTERNATIONAL INC.

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG551902B	Rev. 01	Initial issue of report	Jul. 30, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.4	§2.1046	RSS-Gen(6.12) RSS-130(4.4) RSS-133 (6.4) RSS-139 (6.5) RSS-199 (4.4)	Conducted Output Power	Reporting Only	PASS	-
3.5	§24.232(d)	RSS-130(4.4) RSS-133 (6.4) RSS-139 (6.5)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	RSS-GEN(6.6) RSS-133 (3.1) RSS-130 (3.1) RSS-139 (3.1) RSS-199 (4.2)	99% Occupied Bandwidth and 26dB Bandwidth	Reporting Only	PASS	-
3.7	§2.1051 §24.238(a) §27.53(g) §27.53(h)	RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.6)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	RSS-199 (4.6)	Conducted Band Edge Measurement (Band 7)	< 5MHz: -10 dBm 5 MHz~6MHz or 26dB(BW): -13 dBm ≥6MHz or 26dB(BW): -25 dBm		

3.8	§2.1051 §24.238(a) §27.53(g)	RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.6)	Conducted Spurious Emission (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	RSS-199 (4.6)	Conducted Spurious Emission (Band 7)	< 55+10log$_{10}$(P[Watts])		
3.9	§2.1055 §24.235 §27.54	RSS-GEN(6.11) RSS-133(6.3) RSS-130(4.3) RSS-139 (6.4) RSS-199 (4.3)	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	-
4.4	§27.50(c)(10)	N/A	Effective Radiated Power (Band 12) (Band 17)	ERP < 3 Watt	PASS	-
	§24.232(c) §27.50(h)(2)	RSS-133 (6.4) SRSP-510(5.1.2) RSS-199 (4.4)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)	EIRP < 2Watt		
	§27.50(d)(4)	RSS-139 (6.5) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
4.5	§2.1053 §24.238(a) §27.53(g) §27.53(h)	RSS-133 (6.5.1) RSS-130(4.6) RSS-139 (6.6)	Radiated Spurious Emission (Band 2) (Band 4) (Band 12) (Band 17)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 3.05 dB at 12504.000 MHz
	§2.1053 §27.53(m)(4)	RSS-199 (4.6)	Radiated Spurious Emission (Band 7)	< 55+10log$_{10}$(P[Watts])		

1 General Description

1.1 Applicant

CT Asia (HK) Ltd
Unit1309-11, 13th Floor 9 Wing Hong Street Cheung Sha Wan Kowloon, Hong Kong

1.2 Manufacturer

QUANTA COMPUTER INC.
211, Wen Hwa 2nd Rd., Guishan Dist., Tao Yuan City 33377, Taiwan

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Brand Name	BLU
Model Name	STUDIO 7.0 LTE
Marketing Name	STUDIO 7.0 LTE
FCC ID	YHLBLUST70LTE
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/DC-HSDPA/ HSPA+(Downlink only)/LTE WLAN2.4GHz 802.11b/g/n HT20 Bluetooth v3.0+EDR Bluetooth v4.0 LE
IMEI Code	Conducted: 357264048640396/357264048638911 Radiation: 357264048640362 ERP/EIRP: 357264048640362
HW Version	C
SW Version	BLU-S0010QU 05-29-2015 14:11
EUT Stage	Production Unit

1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 2 : 1850.7 MHz ~ 1909.3 MHz LTE Band 4 : 1710.7 MHz ~ 1754.3 MHz LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz LTE Band 12 : 699.7 MHz ~ 715.3 MHz LTE Band 17 : 706.5 MHz ~ 713.5 MHz
Rx Frequency	LTE Band 2 : 1930.7 MHz ~ 1989.3 MHz LTE Band 4 : 2110.7 MHz ~ 2154.3 MHz LTE Band 7 : 2622.5MHz ~ 2687.5 MHz LTE Band 12 : 729.7 MHz ~ 745.3 MHz LTE Band 17 : 736.5 MHz ~ 743.5 MHz
Bandwidth	LTE Band 2 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz LTE Band 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 17 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.48 dBm LTE Band 4 : 23.49 dBm LTE Band 7 : 23.13 dBm LTE Band 12 : 23.10 dBm LTE Band 17 : 23.18 dBm
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

1.6 Maximum Emission Designator, Frequency Tolerance, and ERP/EIRP Power

LTE Band 2	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1M10G7D	-	0.2366	1M10W7D	-	0.1633
3	2M73G7D	-	0.2249	2M73W7D	-	0.1585
5	4M51G7D	-	0.2183	4M50W7D	-	0.1563
10	9M09G7D	0.0081	0.2366	9M05W7D	-	0.1560
15	13M5G7D	-	0.2265	13M5W7D	-	0.1374
20	18M5G7D	-	0.2427	18M5W7D	-	0.1517
LTE Band 4	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)
1.4	1M10G7D	-	0.2523	1M10W7D	-	0.2178
3	2M74G7D	-	0.2588	2M75W7D	-	0.2280
5	4M51G7D	-	0.2618	4M50W7D	-	0.2244
10	9M09G7D	0.0045	0.2588	9M05W7D	-	0.2213
15	13M5G7D	-	0.2466	13M5W7D	-	0.2023
20	18M4G7D	-	0.2377	18M4W7D	-	0.2004

LTE Band 7	QPSK				16QAM			
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)		Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum EIRP(W)	
			AVG.	PEAK			AVG.	PEAK
5	4M51G7D	-	0.1977	0.7551	4M50W7D	-	0.1334	0.4285
10	9M05G7D	0.0066	0.1714	0.5598	9M05W7D	-	0.1250	0.4093
15	13M5G7D	-	0.1493	0.5521	13M5W7D	-	0.1194	0.3837
20	18M4G7D	-	0.1403	0.4365	18M4W7D	-	0.1054	0.3428

LTE Band 12	QPSK			16QAM		
BW(MHz)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)	Emission Designator (99%OBW)	Frequency Tolerance (ppm)	Maximum ERP(W)
1.4	1M10G7D	-	0.0491	1M10W7D	-	0.0354
3	2M73G7D	-	0.0450	2M73W7D	-	0.0362
5	4M51G7D	-	0.0459	4M51W7D	-	0.0373
10	9M11G7D	0.0066	0.0476	9M05W7D	-	0.0365
LTE Band 17	**QPSK**			**16QAM**		
BW(MHz)	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**	**Emission Designator (99%OBW)**	**Frequency Tolerance (ppm)**	**Maximum ERP(W)**
5	4M52G7D	-	0.0485	4M51W7D	-	0.0378
10	9M07G7D	0.0055	0.0490	9M03W7D	-	0.0386

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan District, Tao Yuan City, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	TH05-HY	03CH11-HY	TW1022/4086B

Note: The test site complies with ANSI C63.4 2009 requirement.

1.8 Applicable Standards

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

- 47 CFR Part 2, 24(E), 27(M), 27(L), 27(H)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02
- IC RSS-130 Issue1
- IC RSS-133 Issue 6
- IC RSS-139 Issue 3
- IC RSS-199 Issue 2
- IC RSS-Gen Issue 4

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

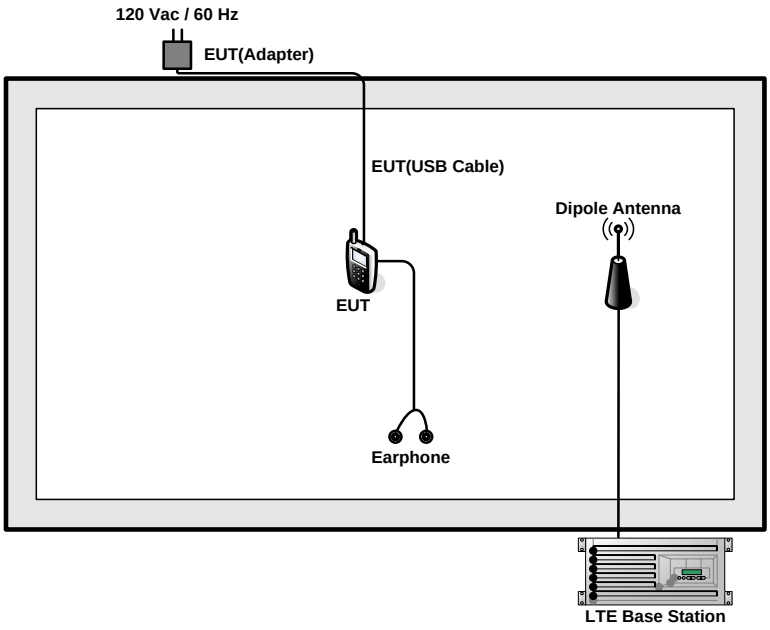
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

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	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v
Peak-to-Average Ratio	2						v	v	v	v		v	v	v	v
	4						v	v	v	v		v	v	v	v
	7	-	-				v	v	v	v		v	v	v	v
	12				v	-	-	v	v	v		v	v	v	v
	17	-	-		v	-	-	v	v	v		v	v	v	v
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v			v	v	v	v
	4	v	v	v	v	v	v	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v	-	-	v	v			v	v	v	v
	17	-	-	v	v	-	-	v	v			v	v	v	v
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v		v	v		v
	4	v	v	v	v	v	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v	-	-	v	v	v		v	v		v
	17	-	-	v	v	-	-	v	v	v		v	v		v

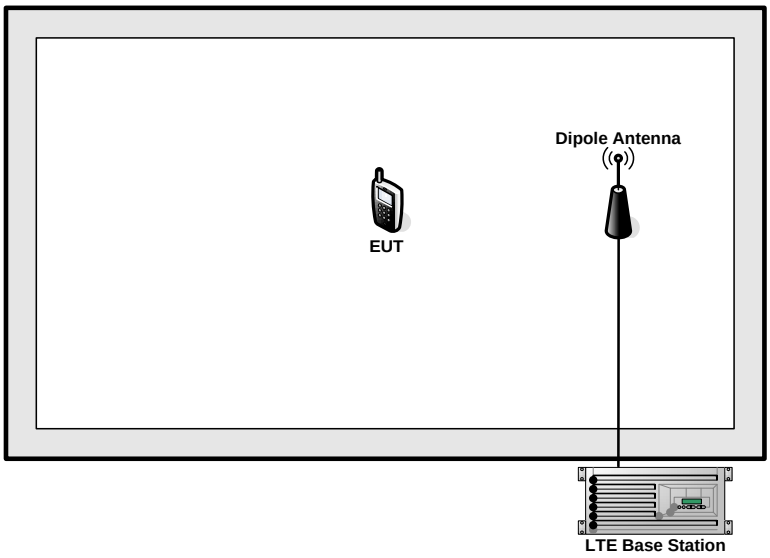
Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v	v		v	v	v
	4	v	v	v	v	v	v	v	v	v	v		v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	-	-	v	v	v	v		v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Frequency Stability	2				v			v				v		v	
	4				v			v				v		v	
	7	-	-		v			v				v		v	
	12				v	-	-	v				v		v	
	17	-	-		v	-	-	v				v		v	
E.R.P./ E.I.R.P.	2	v	v	v	v	v	v	v	v	v	v		v	v	v
	4	v	v	v	v	v	v	v	v	v	v		v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	v	v	v	v	v	v		v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v			v	v	v
	4	v	v	v	v	v	v	v		v			v	v	v
	7	-	-	v	v	v	v	v		v			v	v	v
	12	v	v	v	v	-	-	v		v			v	v	v
	17	-	-	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

For 24E/27L/27H(LTE Band 17)



For 27M/27H(LTE Band 12)



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	DC Power Supply	GW INSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	Earphone	Lenovo	SH100	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 2.3 dB and 10dB attenuator.

Example :

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

= 2.3 + 10 = 12.3 (dB)

3 Conducted Test Items

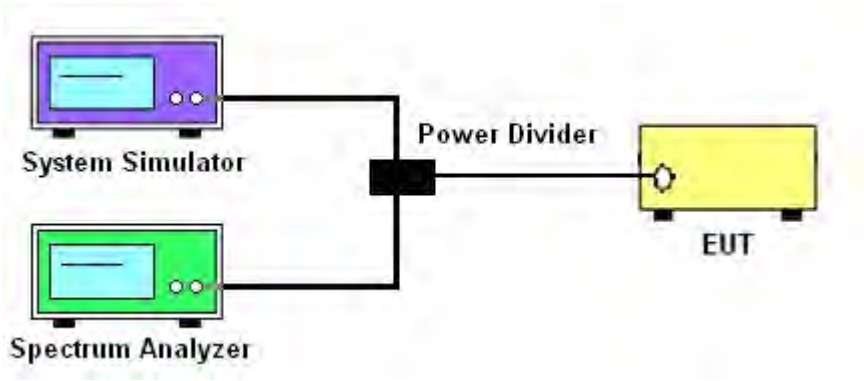
3.1 Measuring Instruments

See list of measuring instruments of this test report.

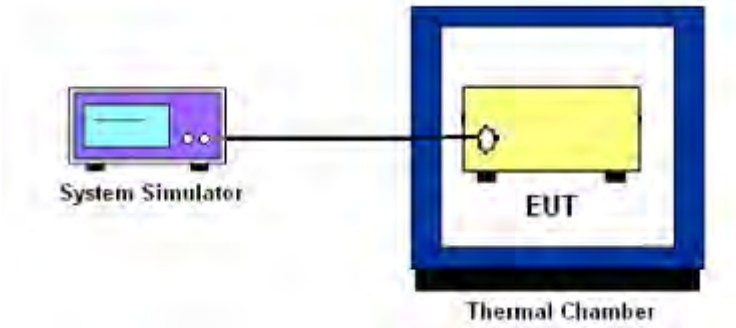
3.2 Test Setup

3.2.1 Conducted Output Power

3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted 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

3.4.1 Description of the Conducted Output Power Measurement

A system simulator was used to establish communication with the EUT. Its parameters were set to force the EUT transmitting at maximum output 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 the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

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

3.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.7.1.
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 99% Occupied Bandwidth and 26dB Bandwidth Measurement

3.6.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth 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 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.

3.6.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 4.2.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

24.238 (a) for Band 2

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (g) for Band 12,17

For operations in the 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h) for Band 4

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53(m)(4) for Band 7

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

3.7.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. 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.

   <For Band 7>

   The limit line is derived from 55+ 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [55 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)

   = -25dBm

3.8 Conducted Spurious Emission

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.

For Band 7

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 55 + 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.

3.8.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
8. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

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

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

   = -13dBm.

   For Band 7

   The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [55 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)

   = -25dBm

3.9 Frequency Stability

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 ±0.00025% (±2.5ppm) 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 system simulator.
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 testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at 25±5° C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

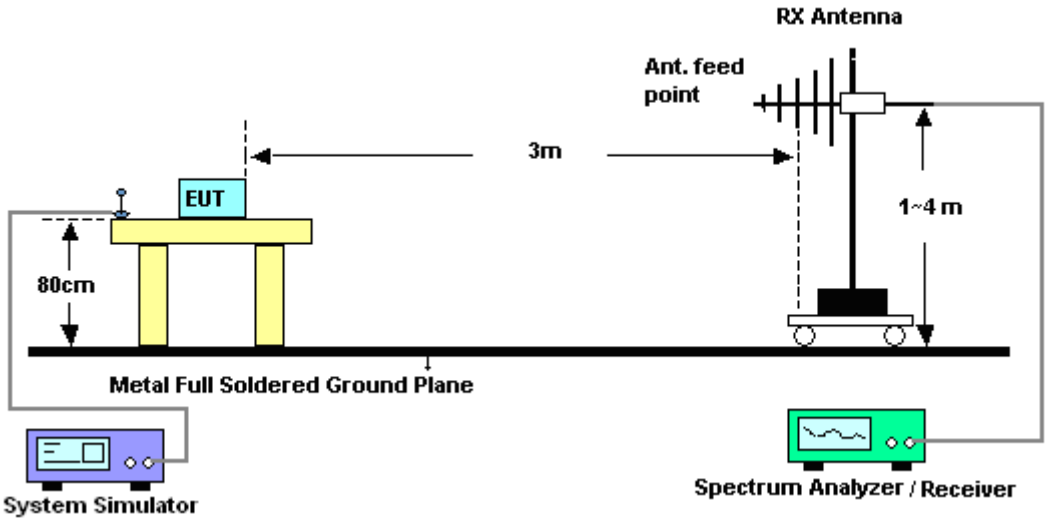
4 Radiated Test Items

4.1 Measuring Instruments

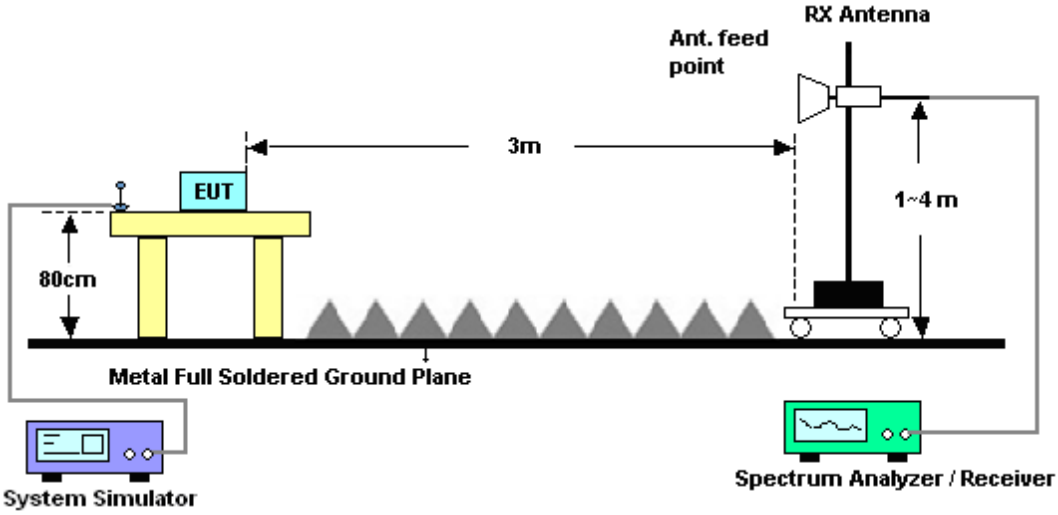
See list of measuring instruments of this test report.

4.2 Test Setup

4.2.1 For radiated test from 30MHz to 1GHz



4.2.2 For radiated test above 1GHz



4.3 Test Result of Radiated Test

Please refer to Appendix B.

4.4 Effective Radiated Power and Effective Isotropic Radiated Power

4.4.1 Description of the ERP/EIRP Measurement

Effective radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average 3 watts with LTE band 12 / 17.

Equivalent isotropic radiated power output measurements by substitution method according to ANSI / TIA / EIA-603-C-2004, and the spectrum analyzer configuration follows KDB 971168 D01 Power Meas. License Digital Systems v02r02. Mobile and portable (hand-held) stations operating are limited to average EIRP of 2 watts with LTE band 2 / 7 and 1 watt with LTE band 4.

4.4.2 Test Procedures

1. The EUT was placed on a non-conductive rotating platform 0.8 meters high in a semi-anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RMS detector per section 5. of KDB 971168 D01.
   Note: For IC RSS-199, set PEAK detector instead of RMS detector.
2. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power. The maximum emission was recorded from analyzer power level (LVL) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
3. Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to TIA/EIA-603-C. The EUT was replaced by the substitution antenna at same location, and then a known power from S.G. was applied into the dipole antenna through a Tx cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna. The correction factor (in dB) = S.G. - Tx Cable loss + Substitution antenna gain - Analyzer reading. Then the EUT's EIRP was calculated with the correction factor, EIRP = LVL + Correction factor and ERP = EIRP - 2.15. Take the record of the output power at substitution antenna.

	LTE Average					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	100kHz	100kHz	300kHz	300kHz	300kHz
VBW	100kHz	300kHz	300kHz	1MHz	1MHz	1MHz
Detector	RMS	RMS	RMS	RMS	RMS	RMS
Trace	Average	Average	Average	Average	Average	Average
Average Type	Power	Power	Power	Power	Power	Power
Sweep Count	100	100	100	100	100	100

	LTE Peak					
LTE BW	1.4M	3M	5M	10M	15M	20M
Span	3MHz	6MHz	10MHz	20MHz	30MHz	40MHz
RBW	30kHz	100kHz	100kHz	300kHz	300kHz	300kHz
VBW	100kHz	300kHz	300kHz	1MHz	1MHz	1MHz
Detector	Peak	Peak	Peak	Peak	Peak	Peak
Trace	Max Hold	Max Hold	Max Hold	Max Hold	Max Hold	Max Hold
Power	Channel	Channel	Channel	Channel	Channel	Channel

4.5 Radiated Spurious Emission

4.5.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. 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 Band 7

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 55 + 10 log (P) dB.

For LTE Band 12,17

For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions 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.

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

4.5.2 Test Procedures

1. The testing follows FCC KDB 971168 v02r02 Section 5.8 and ANSI / TIA-603-C-2004 Section 2.2.12.
2. The EUT was placed on a rotatable wooden table with 0.8 meter 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, taking the record of maximum spurious emission.
7. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
8. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
9. Taking the record of output power at antenna port.
10. Repeat step 7 to step 8 for another polarization.
11. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.
    <For Band 7>
    The limit line is derived from 55 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [55 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [55 + 10log(P)] (dB)
    = -25dBm
12. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
13. 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	Rohde & Schwarz	FSV40	101397	10Hz~40GHz	Sep. 17, 2014	Jun. 22, 2015 ~ Jul. 27, 2015	Sep. 16 2015	Conducted (TH05-HY)
Temperature Chamber	ESPEC	SH-641	92013720	-30℃~70℃	Dec. 04, 2014	Jun. 22, 2015 ~ Jul. 27, 2015	Dec. 03, 2015	Conducted (TH05-HY)
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170584	18GHz- 40GHz	Nov. 03, 2014	Jun.27, 2015~ Jun.31 2015	Nov. 02, 2015	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 03, 2014	Jun.27, 2015~ Jun.31 2015	Oct. 02, 2015	Radiation (03CH11-HY)
Bilog Antenna	TESEQ	CBL 6111D	35414	30MHz~1GHz	Oct. 24, 2014	Jun.27, 2015~ Jun.31 2015	Oct. 23, 2015	Radiation (03CH11-HY)
EMI Test Receiver	Keysight	N9038A	MY54130085	20Hz ~ 26.5GHz	Nov. 05, 2014	Jun.27, 2015~ Jun.31 2015	Nov. 04, 2015	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Nov. 24, 2014	Jun.27, 2015~ Jun.31 2015	Nov. 23, 2015	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Nov. 20, 2014	Jun.27, 2015~ Jun.31 2015	Nov. 19, 2015	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz ~ 44GHZ	Sep. 24, 2014	Jun.27, 2015~ Jun.31 2015	Sep. 23, 2015	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	NA	Jun.27, 2015~ Jun.31 2015	NA	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-450 0-B	N/A	1~4m	NA	Jun.27, 2015~ Jun.31 2015	NA	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0-360 degree	NA	Jun.27, 2015~ Jun.31 2015	NA	Radiation (03CH11-HY)

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))	4.9dB

Appendix A. Test Results of Conducted Test

LTE Band 2

Conducted Output Power(Average power)

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.03	22.88	22.94
1.4	1	2		23.06	22.90	22.92
1.4	1	5		22.86	22.91	22.63
1.4	3	0		22.91	22.98	22.91
1.4	3	1		23.08	23.01	22.90
1.4	3	2		23.04	22.91	22.86
1.4	6	0		21.82	21.92	21.97
1.4	1	0	16-QAM	22.21	22.28	22.15
1.4	1	2		22.17	22.21	22.13
1.4	1	5		22.24	22.25	22.06
1.4	3	0		22.09	22.06	22.05
1.4	3	1		22.12	21.96	22.05
1.4	3	2		22.13	22.17	22.01
1.4	6	0		20.71	20.78	20.93
3	1	0	QPSK	23.01	23.04	23.02
3	1	7		23.06	23.08	23.07
3	1	14		23.08	22.97	22.74
3	8	0		22.03	21.92	21.98
3	8	4		21.87	21.97	21.95
3	8	7		21.89	21.97	21.90
3	15	0		21.87	22.00	21.92
3	1	0	16-QAM	22.21	22.25	22.27
3	1	7		22.18	22.21	22.20
3	1	14		22.26	22.28	22.25
3	8	0		20.87	20.93	21.16
3	8	4		20.83	21.11	21.15
3	8	7		20.87	21.18	21.23
3	15	0		20.84	20.99	21.11

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.07	23.04	23.06
5	1	12		23.05	22.96	22.91
5	1	24		22.72	23.10	22.68
5	12	0		21.94	21.94	22.07
5	12	6		21.91	21.93	21.86
5	12	11		21.88	21.94	21.92
5	25	0		21.84	21.90	21.87
5	1	0	16-QAM	22.08	22.22	22.18
5	1	12		22.16	22.26	22.17
5	1	24		22.07	22.15	22.13
5	12	0		20.85	20.88	20.99
5	12	6		20.87	20.89	20.90
5	12	11		20.85	20.81	20.98
5	25	0		20.85	20.96	20.89
10	1	0	QPSK	23.14	23.06	23.02
10	1	24		23.00	22.94	23.20
10	1	49		22.94	23.01	22.84
10	25	0		21.91	22.02	21.93
10	25	12		21.97	21.97	21.95
10	25	24		21.94	21.96	21.98
10	50	0		21.93	22.00	21.99
10	1	0	16-QAM	22.30	22.27	22.29
10	1	24		22.27	22.05	22.22
10	1	49		22.04	22.26	22.23
10	25	0		20.89	21.00	20.93
10	25	12		20.96	20.95	20.97
10	25	24		20.91	21.03	20.98
10	50	0		20.93	20.90	20.97

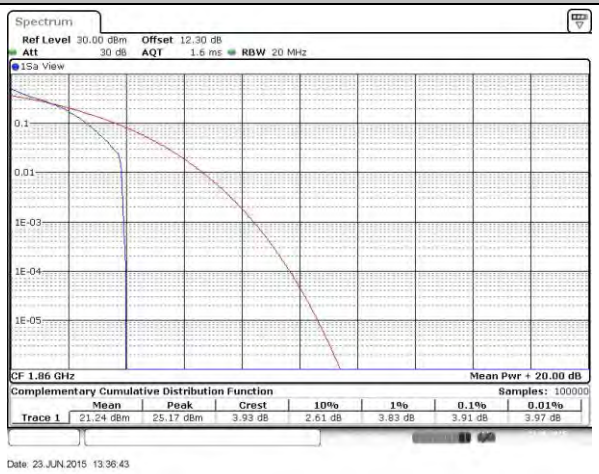
LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.12	22.96	22.81
15	1	37		23.36	22.92	23.02
15	1	74		23.00	22.83	22.88
15	36	0		21.97	22.08	21.83
15	36	18		22.02	21.99	21.94
15	36	37		21.92	21.95	22.06
15	75	0		21.96	21.93	22.00
15	1	0	16-QAM	22.33	22.35	22.31
15	1	37		22.26	22.23	22.37
15	1	74		22.40	22.22	22.19
15	36	0		20.90	21.02	20.89
15	36	18		20.99	20.86	20.98
15	36	37		20.97	20.84	20.97
15	75	0		20.80	20.90	20.95
20	1	0	QPSK	23.48	23.23	23.29
20	1	49		23.30	23.10	23.28
20	1	99		22.99	23.08	22.89
20	50	0		22.24	22.10	22.17
20	50	24		22.07	22.07	21.96
20	50	49		22.04	21.96	22.09
20	100	0		22.12	22.04	22.02
20	1	0	16-QAM	22.44	22.43	22.48
20	1	49		22.28	22.31	22.47
20	1	99		22.28	22.17	22.21
20	50	0		21.08	21.02	21.00
20	50	24		21.18	21.00	21.01
20	50	49		21.15	21.00	21.11
20	100	0		21.12	21.15	21.06

Peak-to-Average Ratio

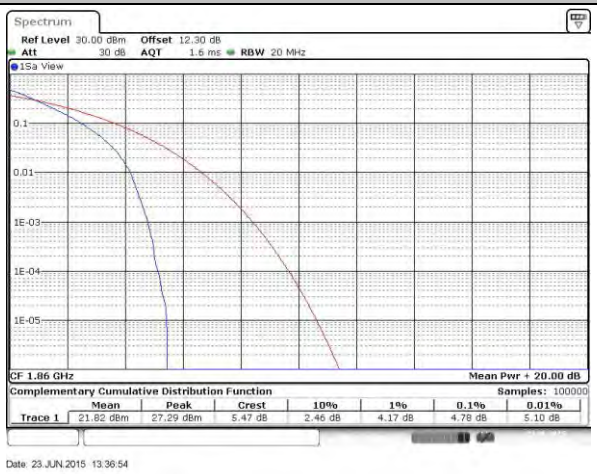
Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.91	4.78	4.72	5.74	PASS
Middle CH	3.94	4.75	5.22	5.77	
Highest CH	3.59	4.78	4.12	5.68	

LTE Band 2 / 20MHz / QPSK

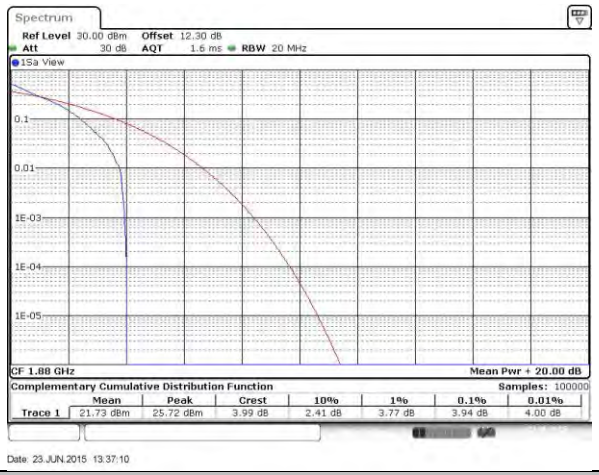
Lowest Channel / 1RB



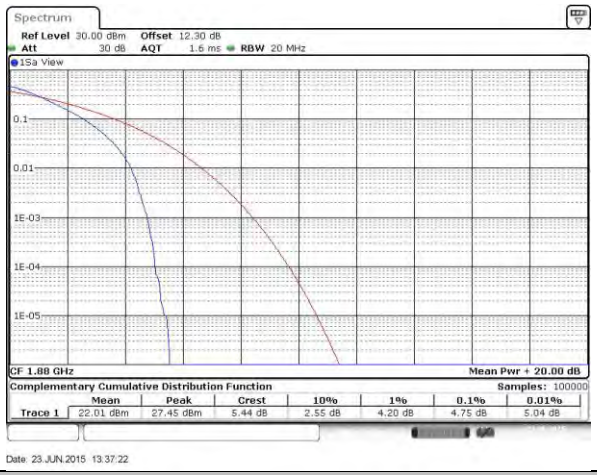
Lowest Channel / Full RB



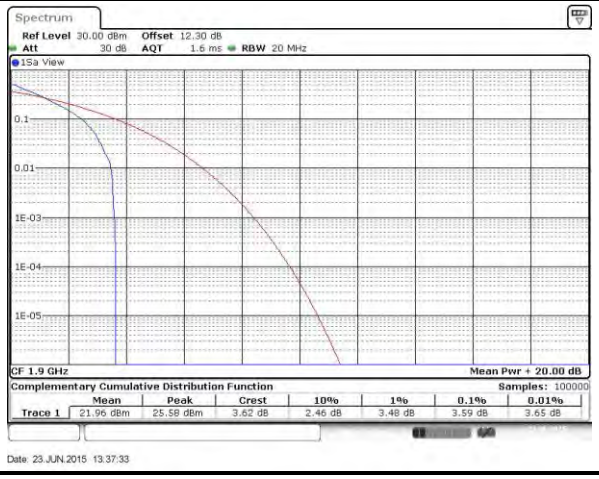
Middle Channel / 1RB



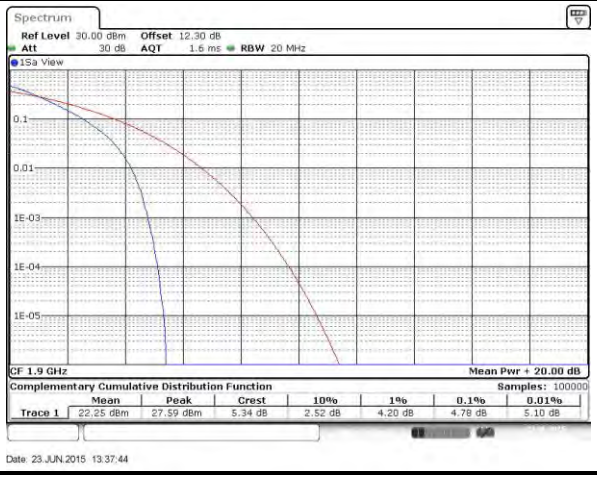
Middle Channel / Full RB



Highest Channel / 1RB

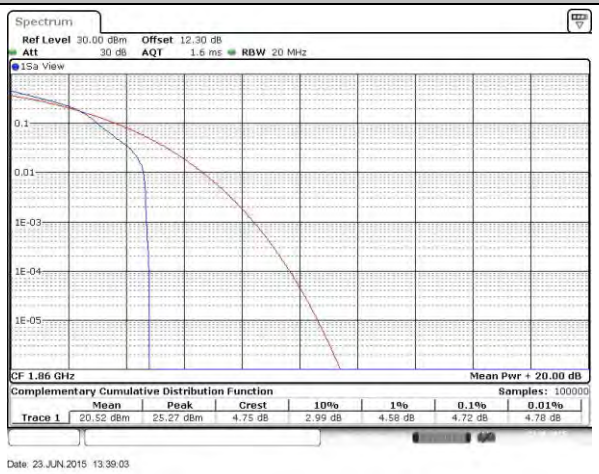


Highest Channel / Full RB

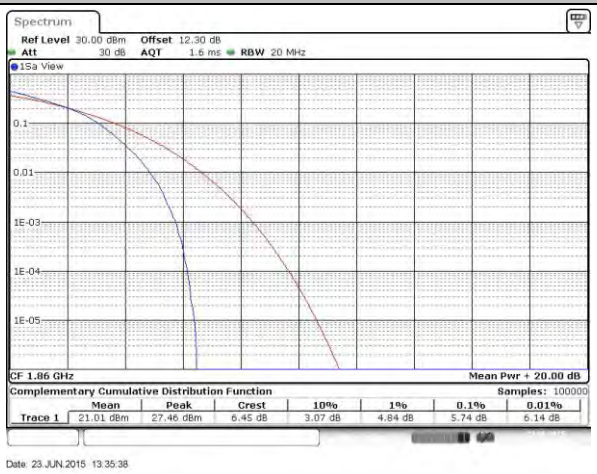


LTE Band 2 / 20MHz / 16QAM

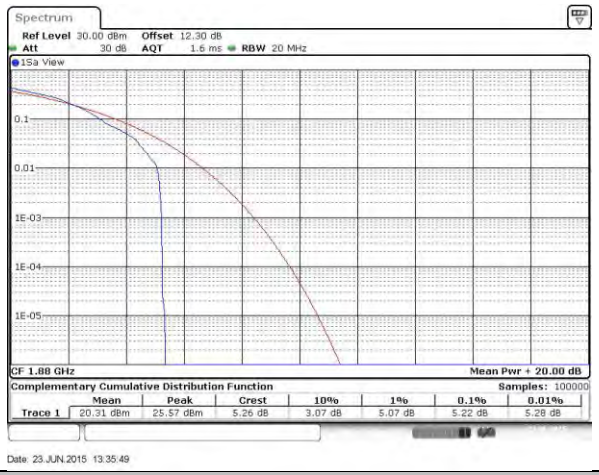
Lowest Channel / 1RB



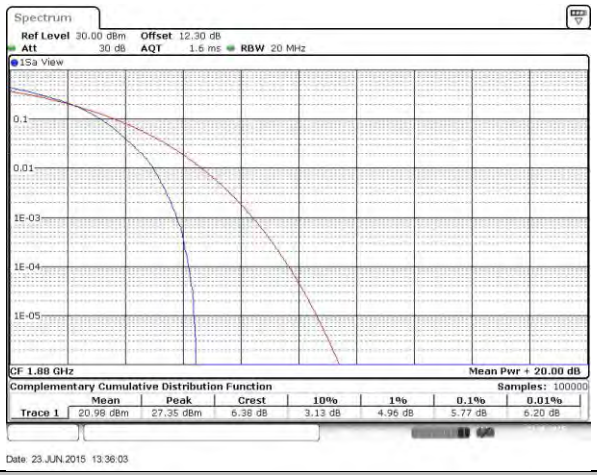
Lowest Channel / Full RB



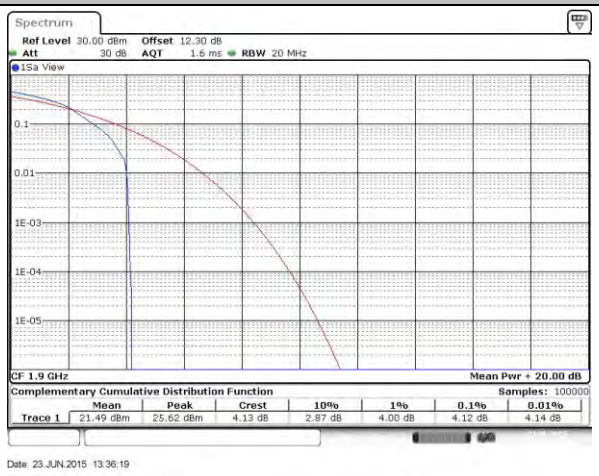
Middle Channel / 1RB



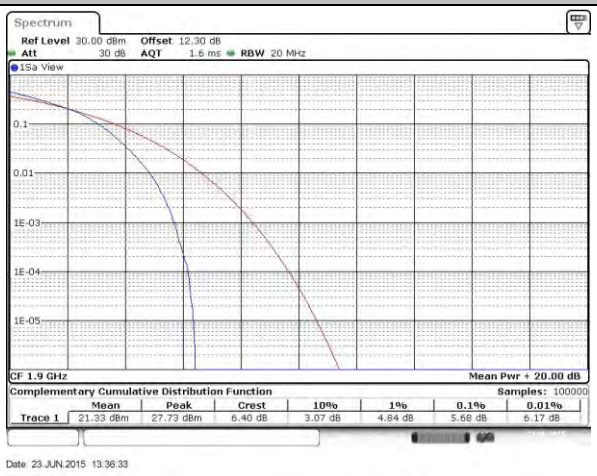
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

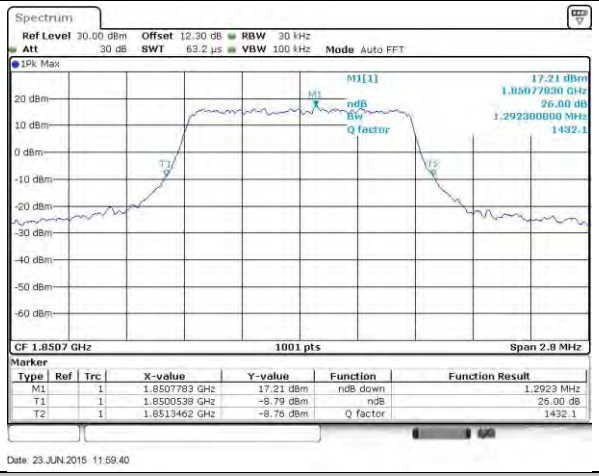


26dB Bandwidth

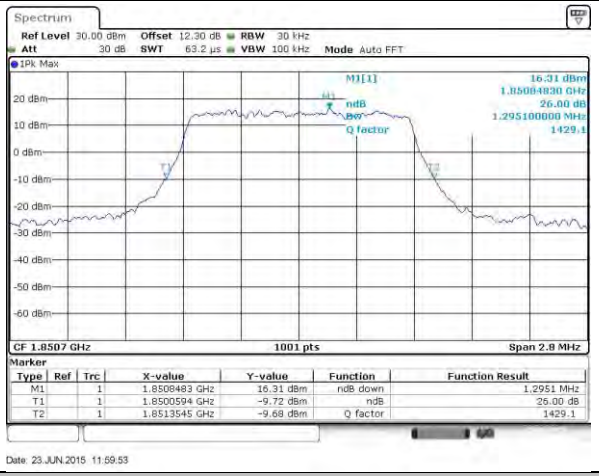
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.29	1.30	3.05	3.06	5.07	5.06	10.01	10.05	14.66	14.87	20.26	20.14
Middle CH	1.30	1.30	3.05	3.05	5.06	5.05	10.01	9.95	14.72	14.69	20.30	20.30
Highest CH	1.30	1.31	3.03	3.05	5.05	5.05	10.13	10.01	14.72	14.78	20.22	20.34

LTE Band 2

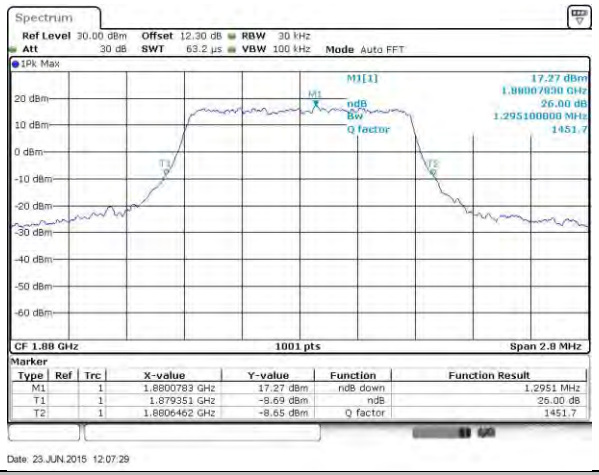
Lowest Channel / 1.4MHz / QPSK



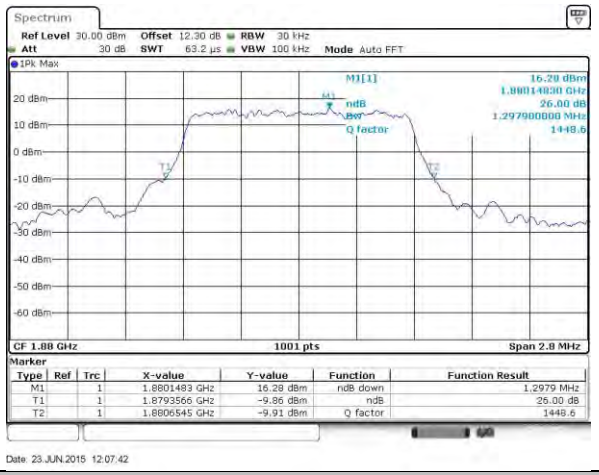
Lowest Channel / 1.4MHz / 16QAM



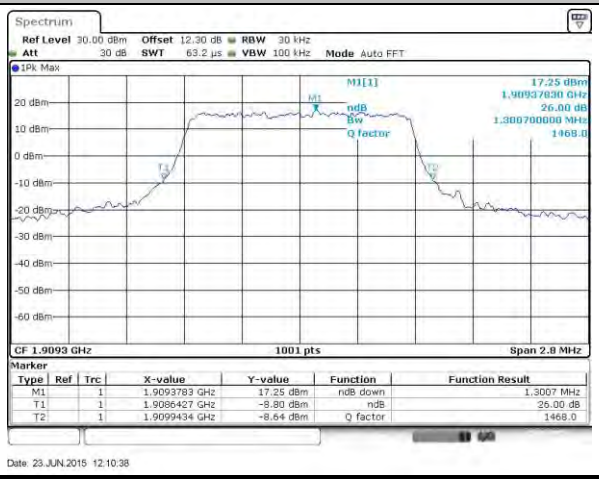
Middle Channel / 1.4MHz / QPSK



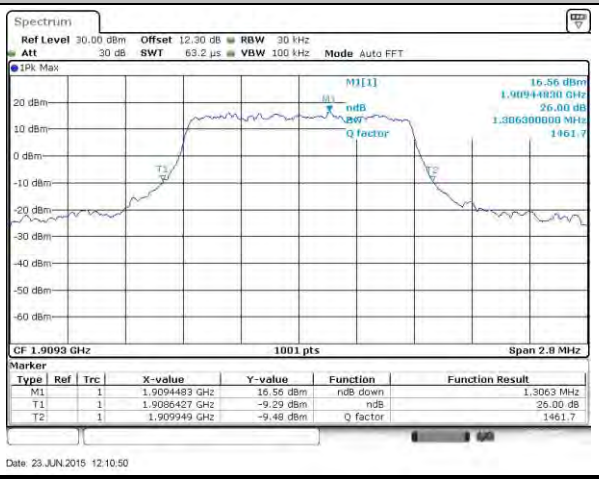
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

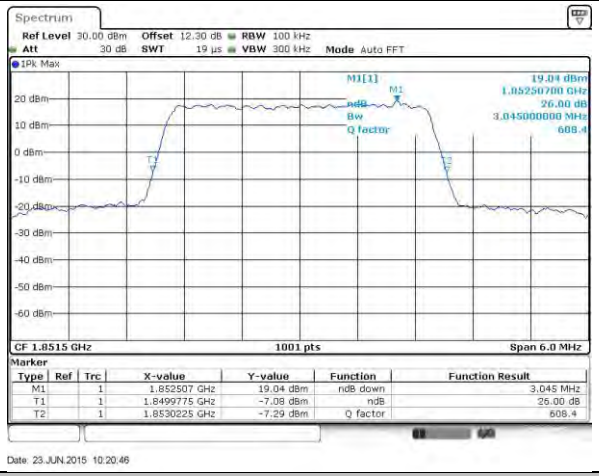


Highest Channel / 1.4MHz / 16QAM

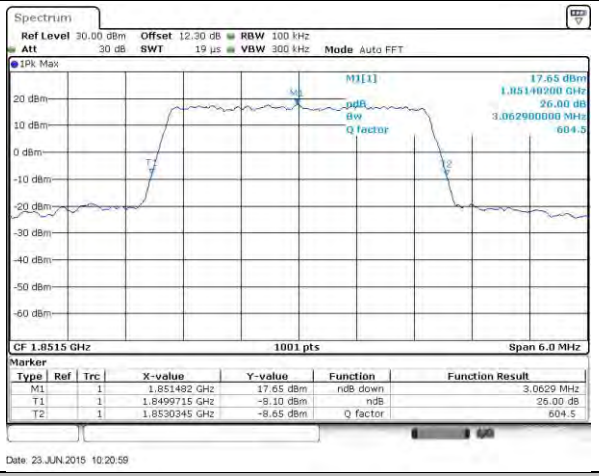


LTE Band 2

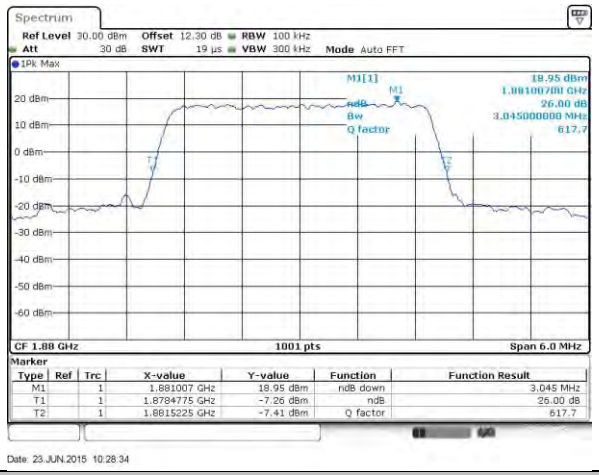
Lowest Channel / 3MHz / QPSK



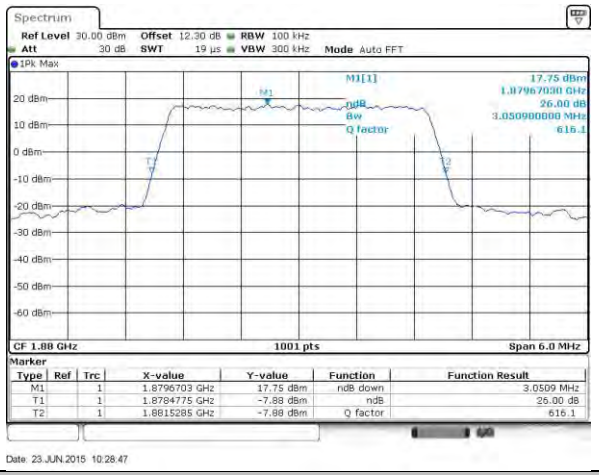
Lowest Channel / 3MHz / 16QAM



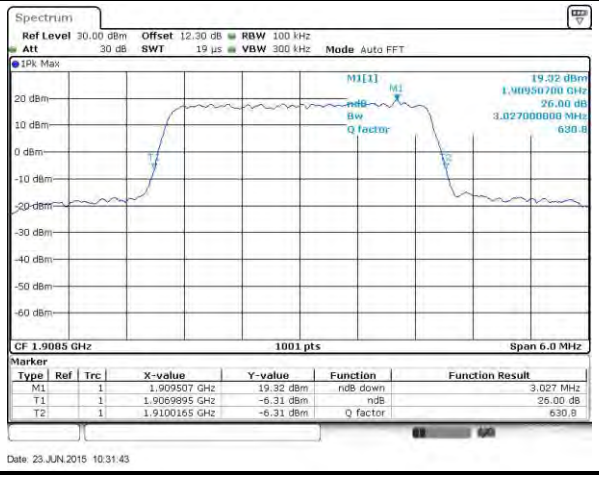
Middle Channel / 3MHz / QPSK



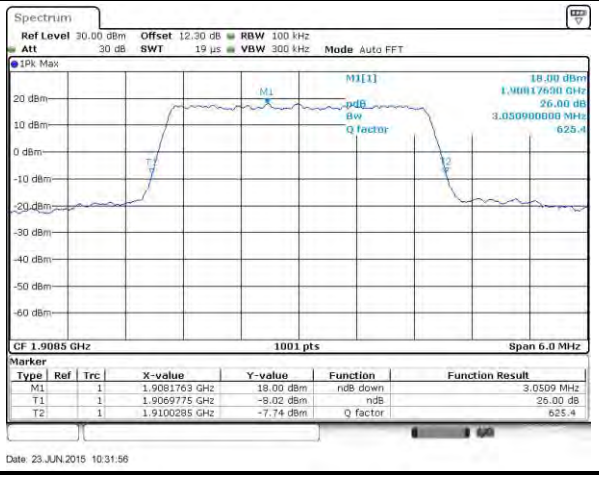
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

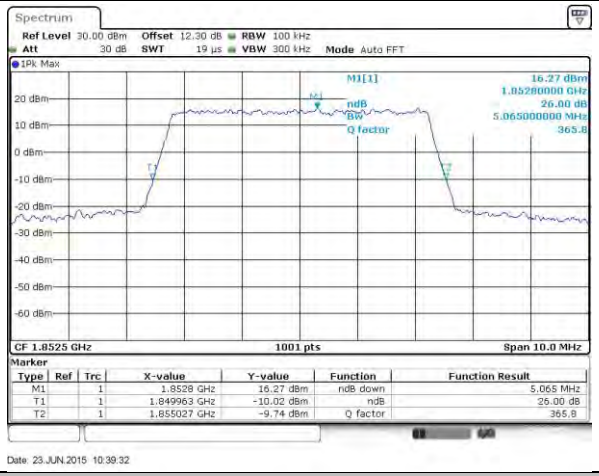


Highest Channel /3MHz / 16QAM

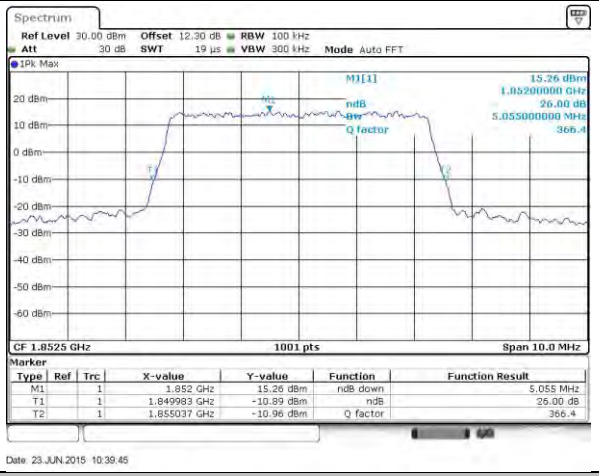


LTE Band 2

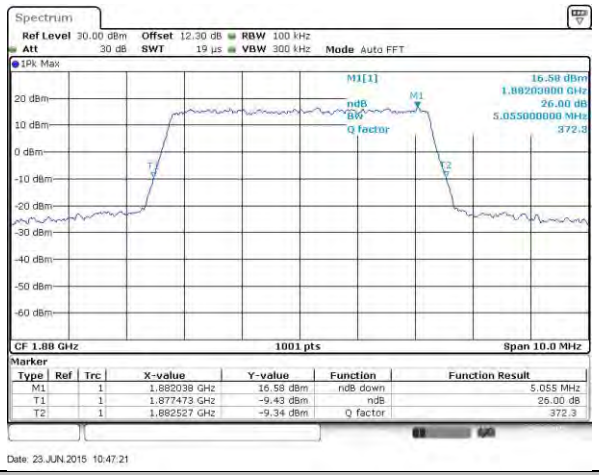
Lowest Channel / 5MHz / QPSK



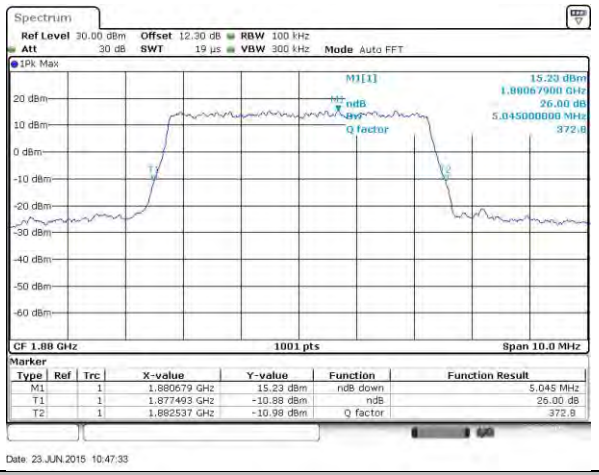
Lowest Channel / 5MHz / 16QAM



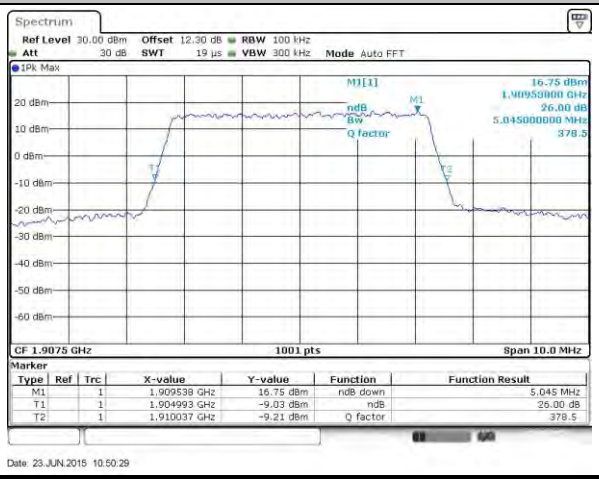
Middle Channel / 5MHz / QPSK



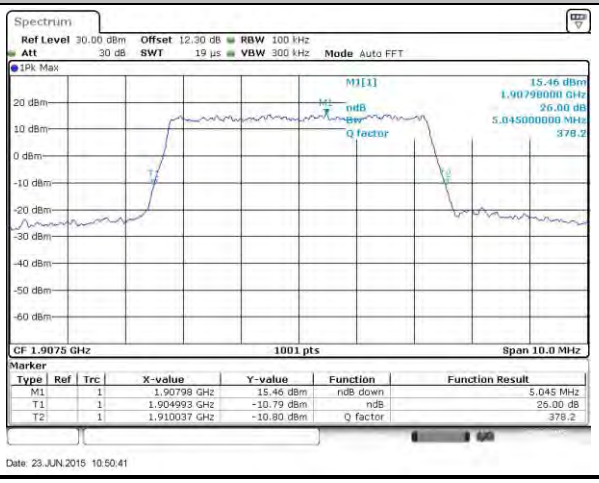
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

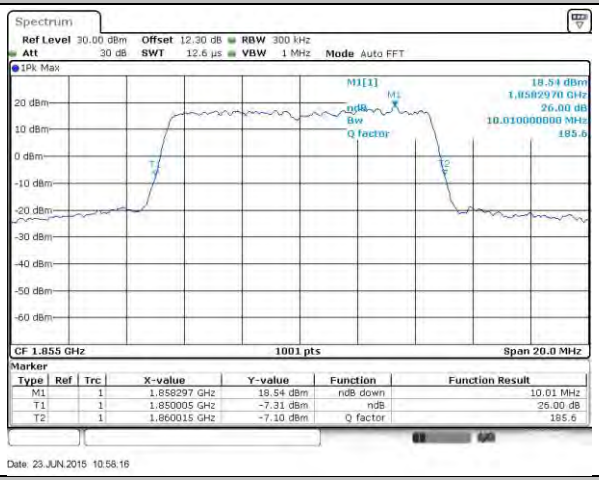


Highest Channel / 5MHz / 16QAM

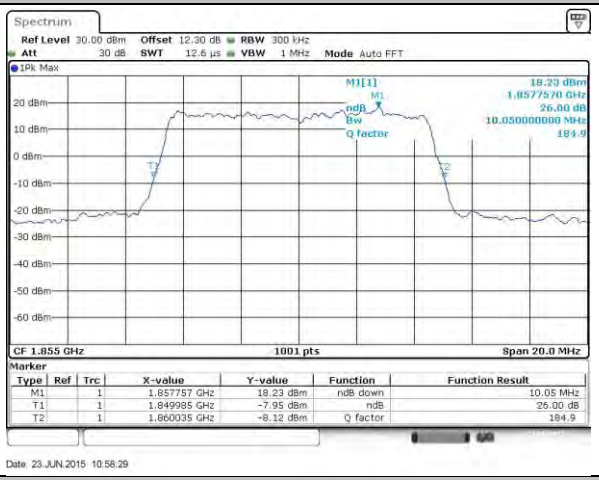


LTE Band 2

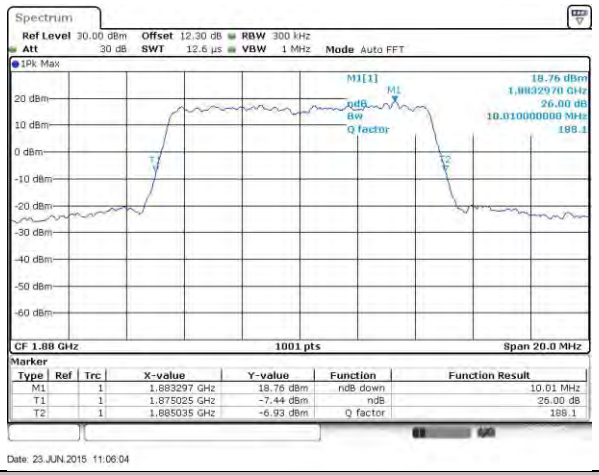
Lowest Channel / 10MHz / QPSK



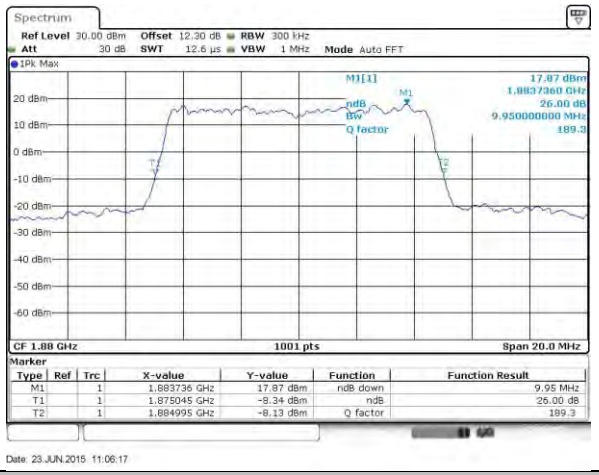
Lowest Channel / 10MHz / 16QAM



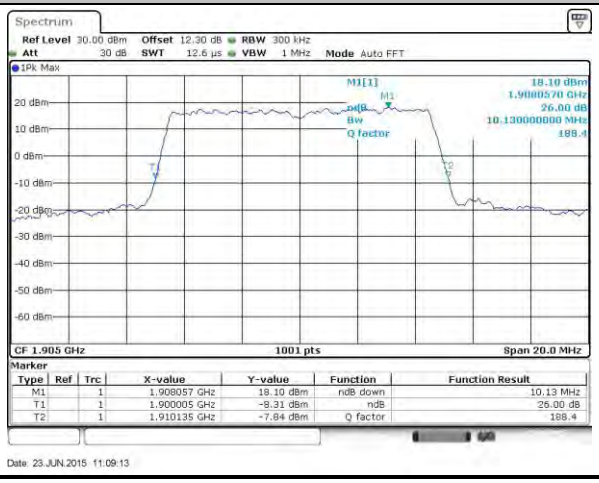
Middle Channel / 10MHz / QPSK



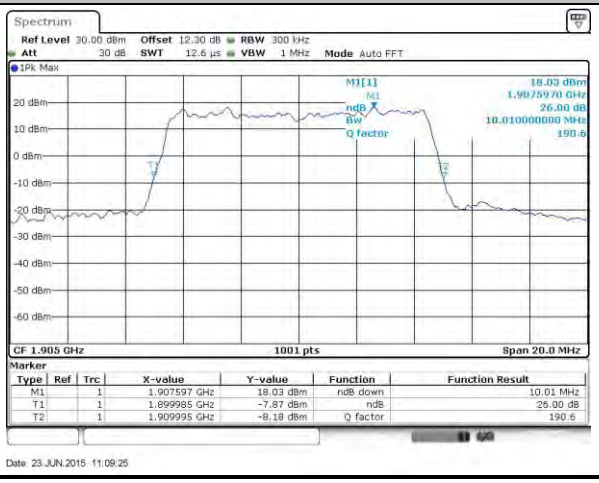
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

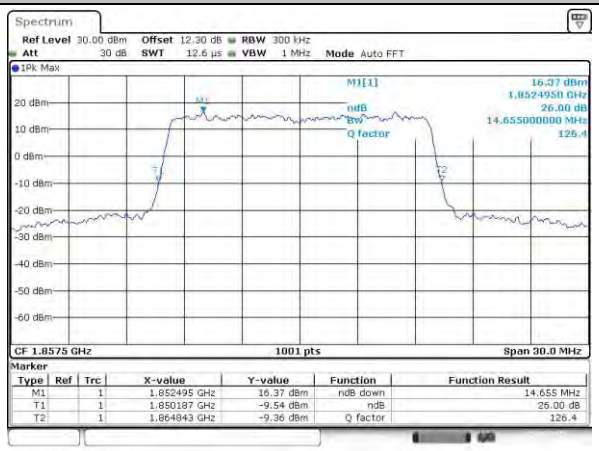


Highest Channel / 10MHz / 16QAM

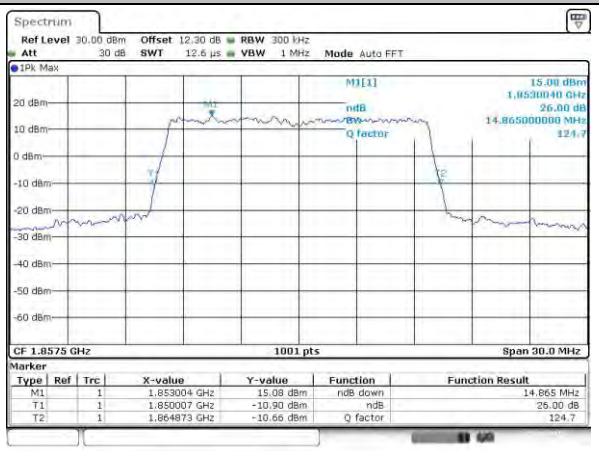


LTE Band 2

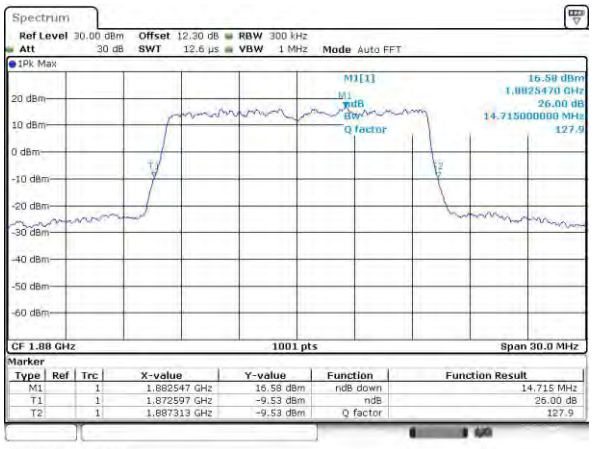
Lowest Channel / 15MHz / QPSK



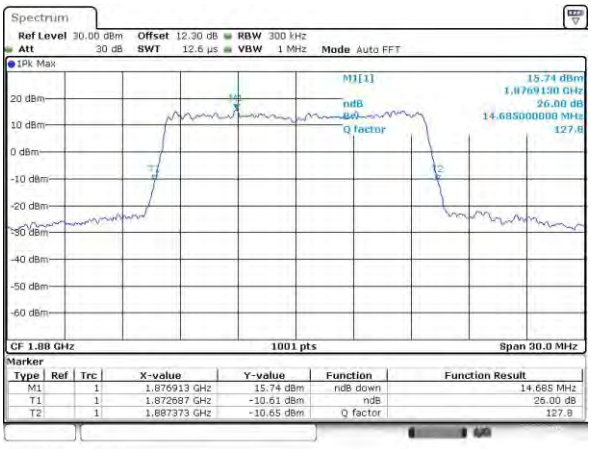
Lowest Channel / 15MHz / 16QAM



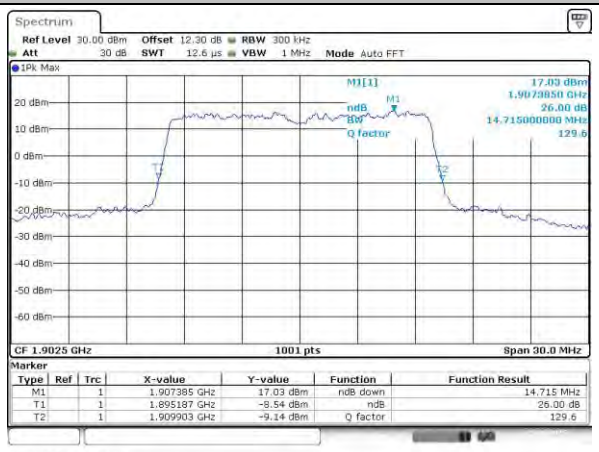
Middle Channel / 15MHz / QPSK



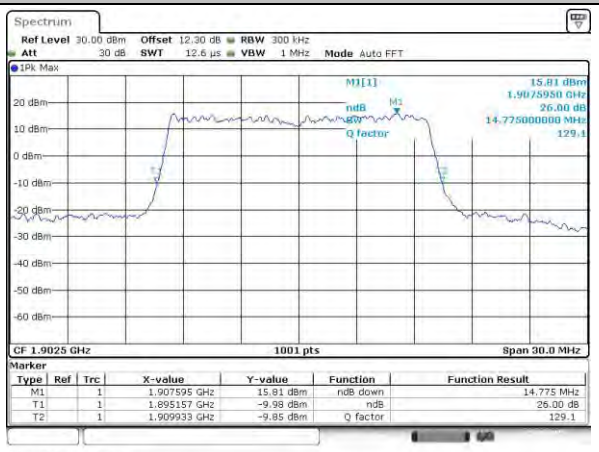
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

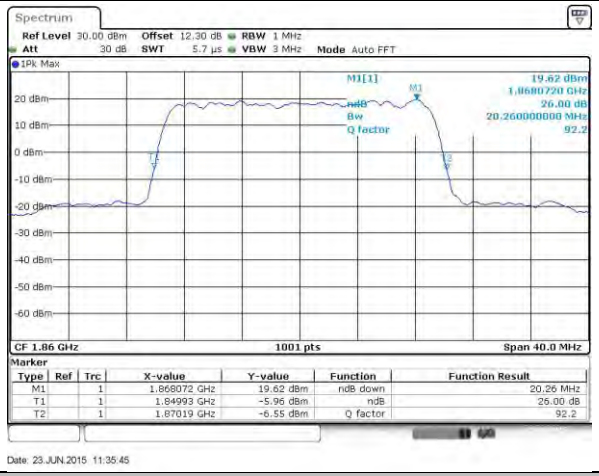


Highest Channel / 15MHz / 16QAM

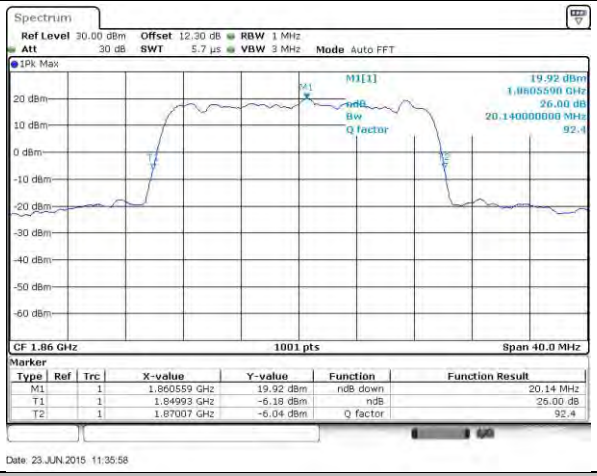


LTE Band 2

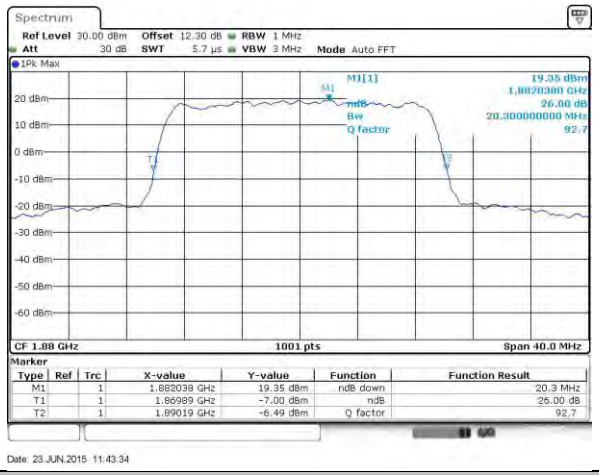
Lowest Channel / 20MHz / QPSK



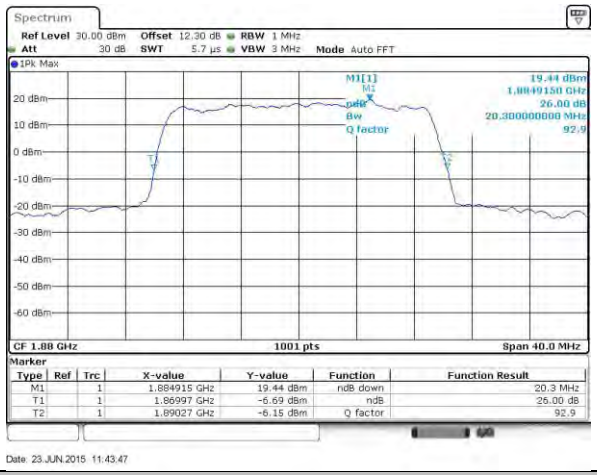
Lowest Channel / 20MHz / 16QAM



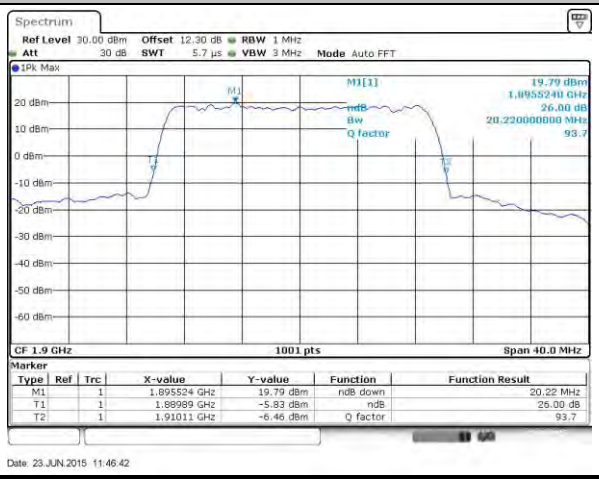
Middle Channel / 20MHz / QPSK



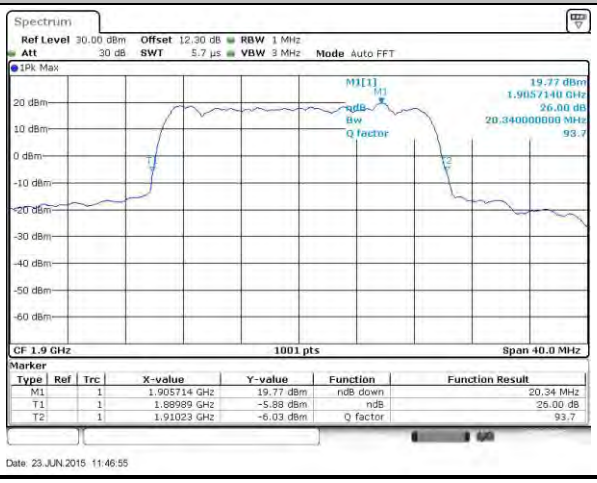
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

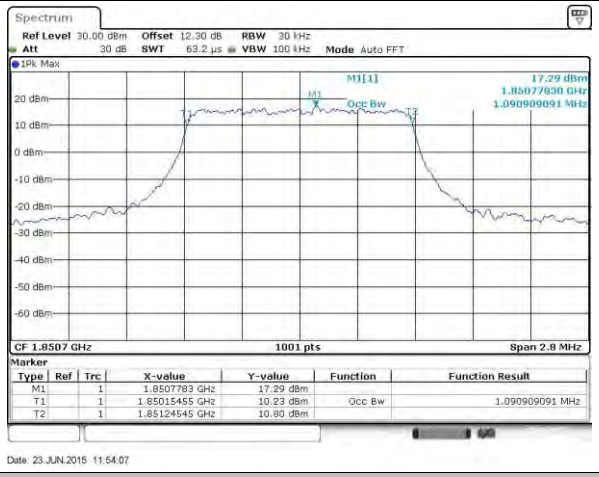


Occupied Bandwidth

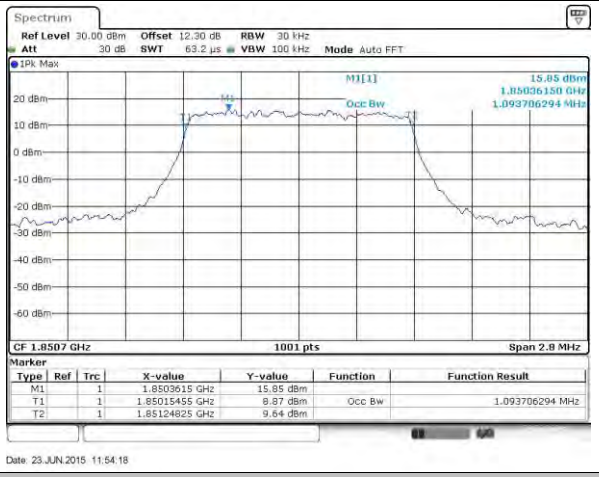
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.73	2.73	4.51	4.50	9.09	9.03	13.49	13.46	18.38	18.5
Middle CH	1.10	1.10	2.72	2.72	4.50	4.50	9.05	9.01	13.43	13.46	18.26	18.38
Highest CH	1.10	1.10	2.73	2.72	4.50	4.50	9.07	9.05	13.49	13.49	18.50	18.42

LTE Band 2

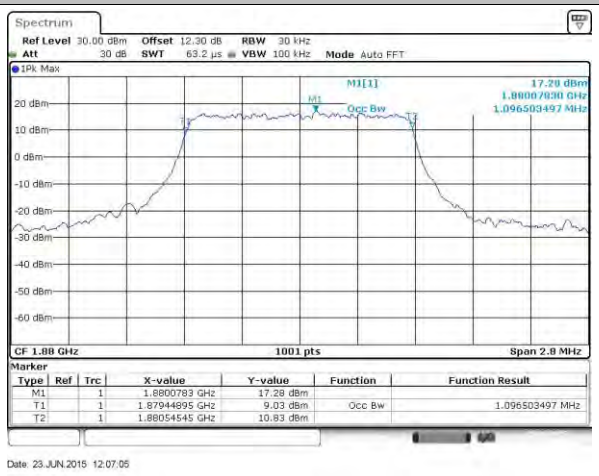
Lowest Channel / 1.4MHz / QPSK



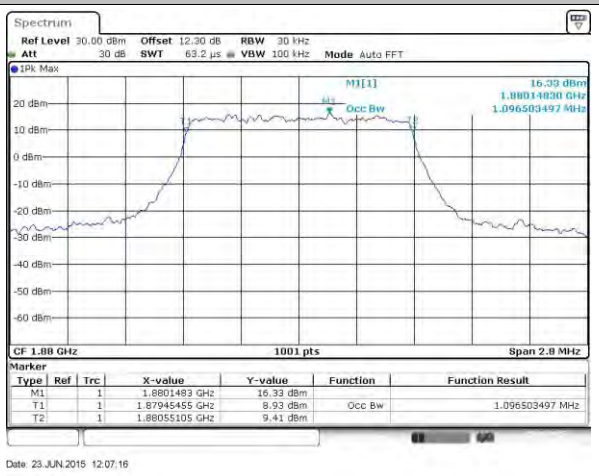
Lowest Channel / 1.4MHz / 16QAM



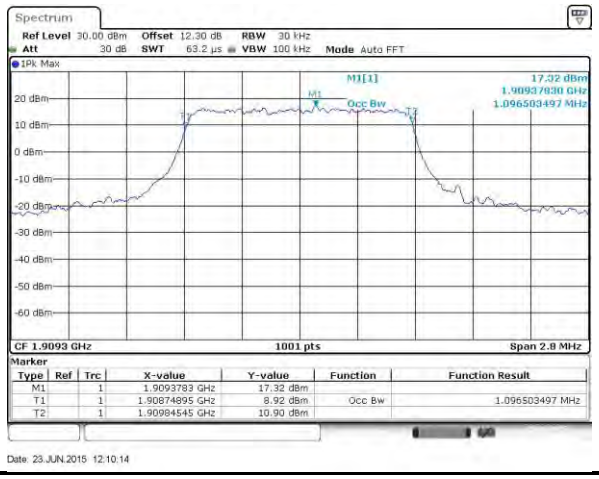
Middle Channel / 1.4MHz / QPSK



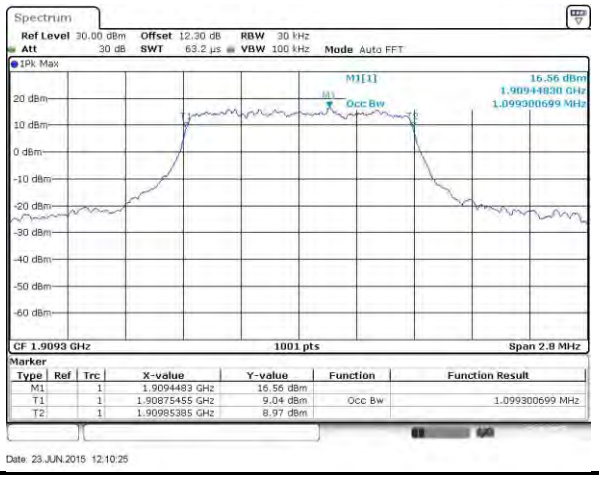
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

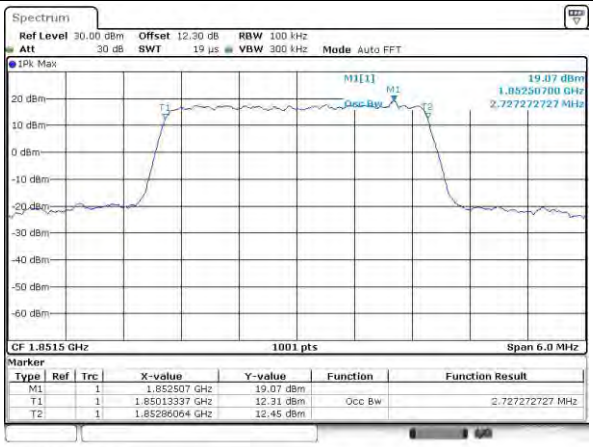


Highest Channel / 1.4MHz / 16QAM

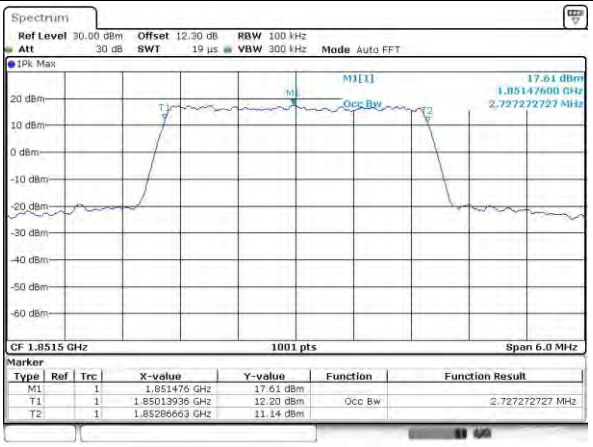


LTE Band 2

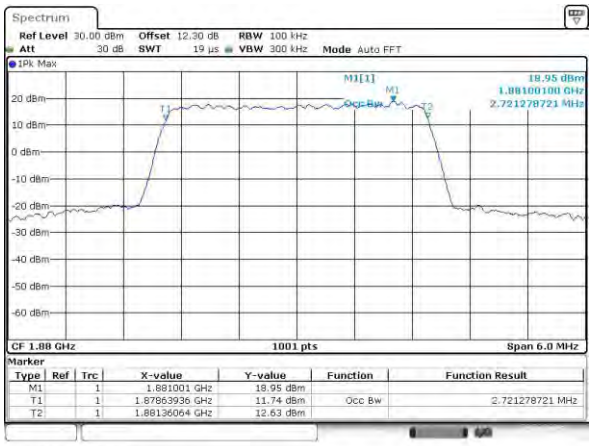
Lowest Channel / 3MHz / QPSK



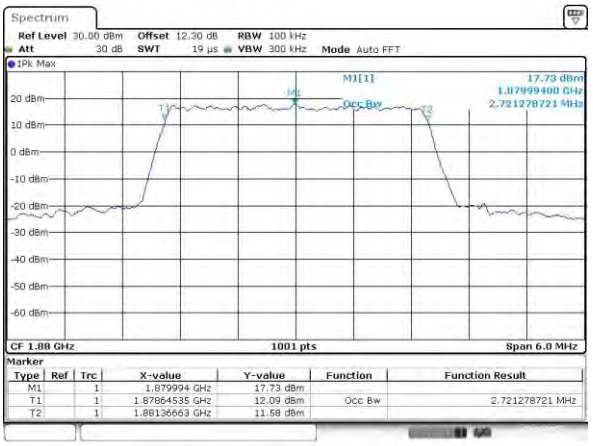
Lowest Channel / 3MHz / 16QAM



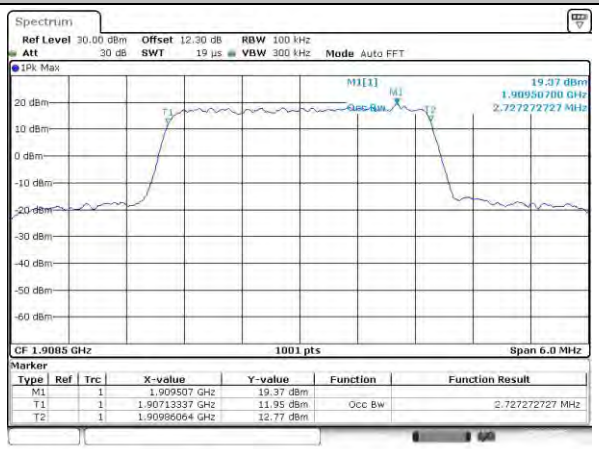
Middle Channel / 3MHz / QPSK



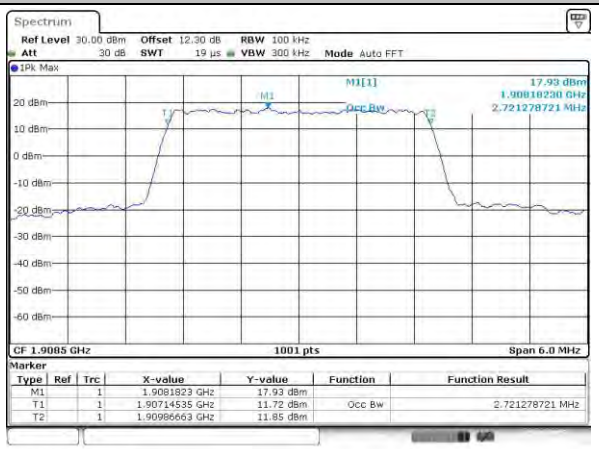
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

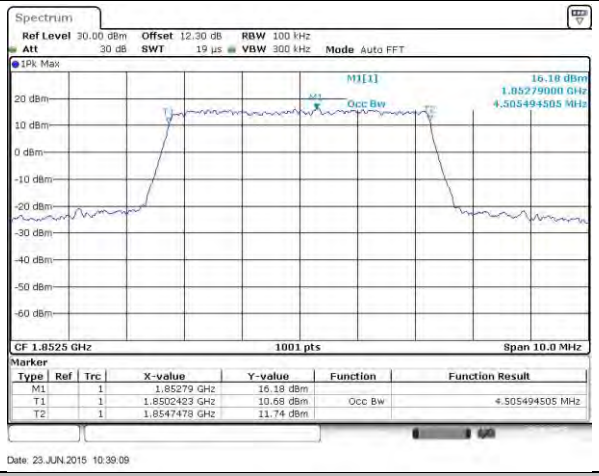


Highest Channel / 3MHz / 16QAM

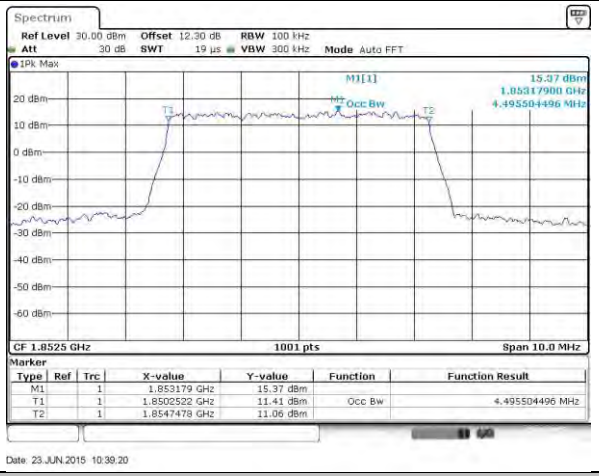


LTE Band 2

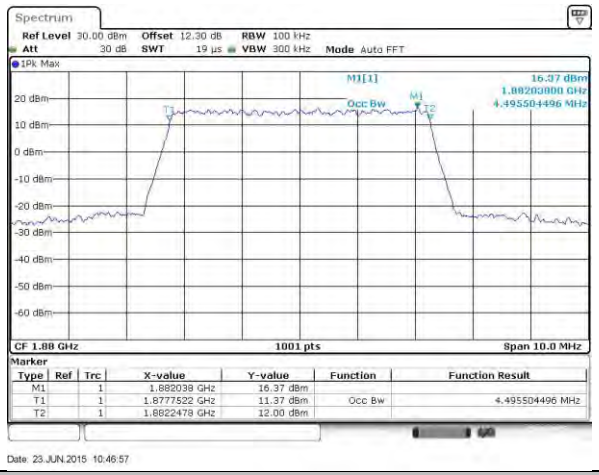
Lowest Channel / 5MHz / QPSK



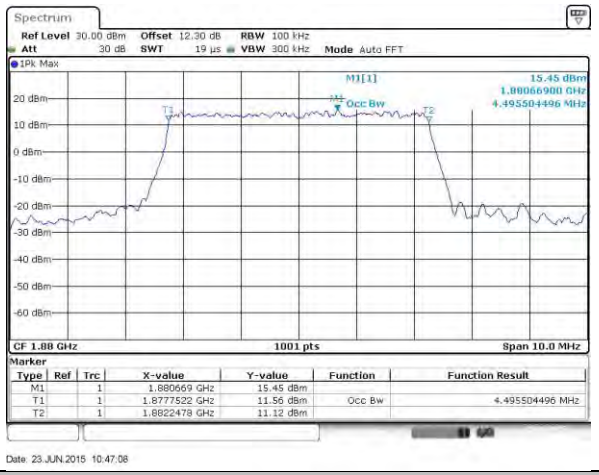
Lowest Channel / 5MHz / 16QAM



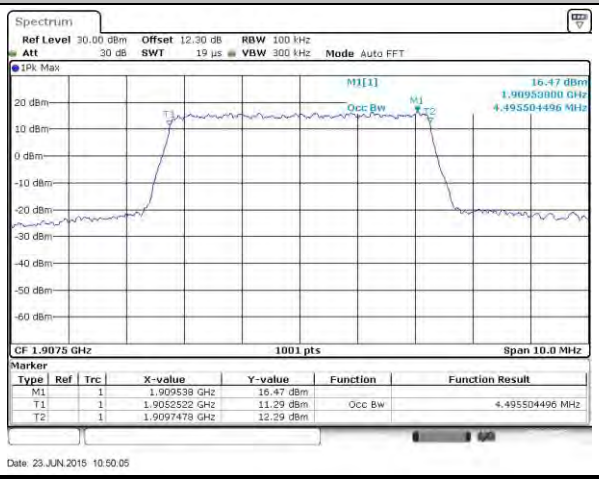
Middle Channel / 5MHz / QPSK



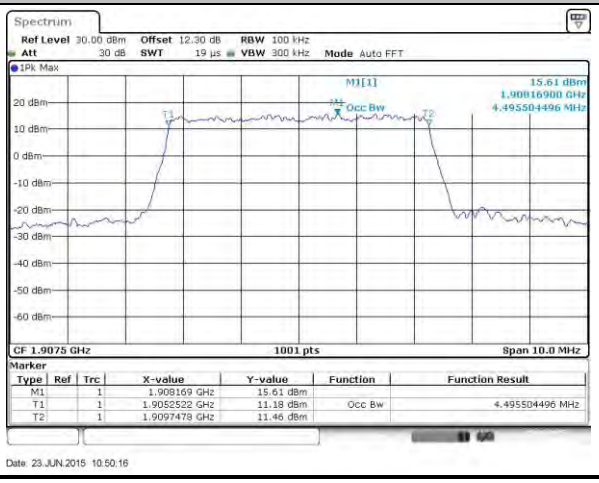
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

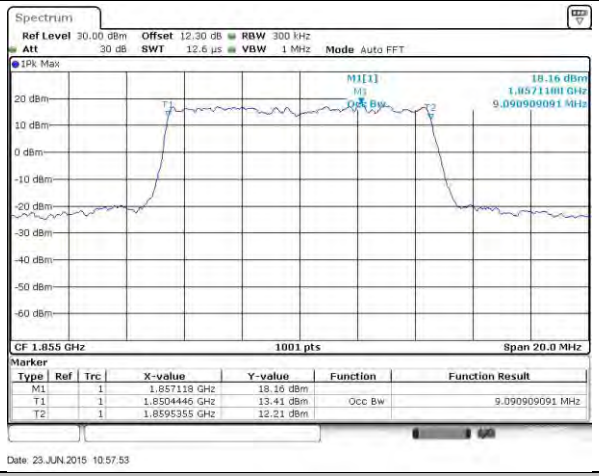


Highest Channel / 5MHz / 16QAM

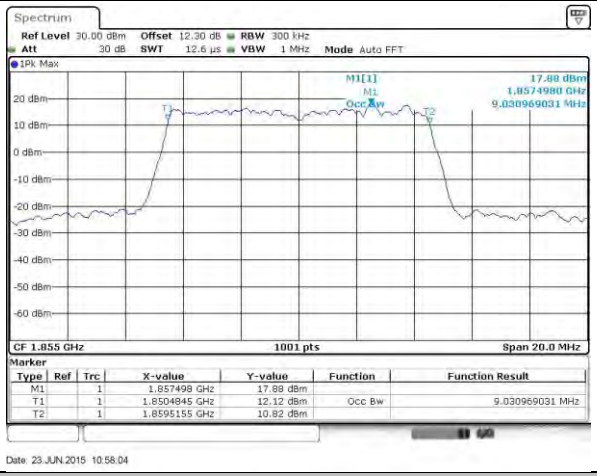


LTE Band 2

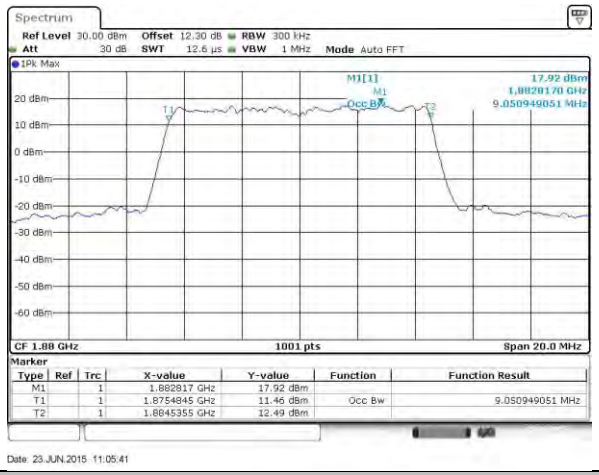
Lowest Channel / 10MHz / QPSK



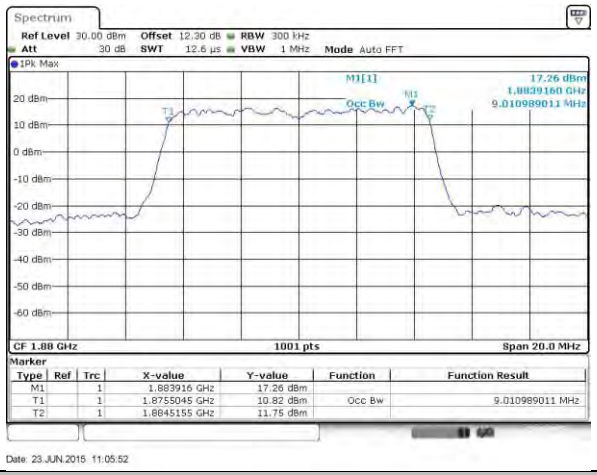
Lowest Channel / 10MHz / 16QAM



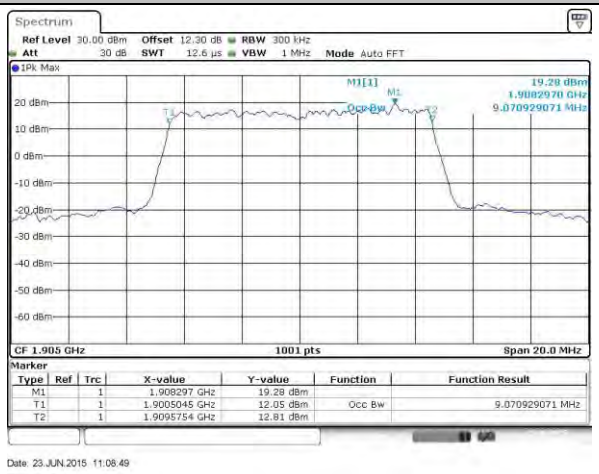
Middle Channel / 10MHz / QPSK



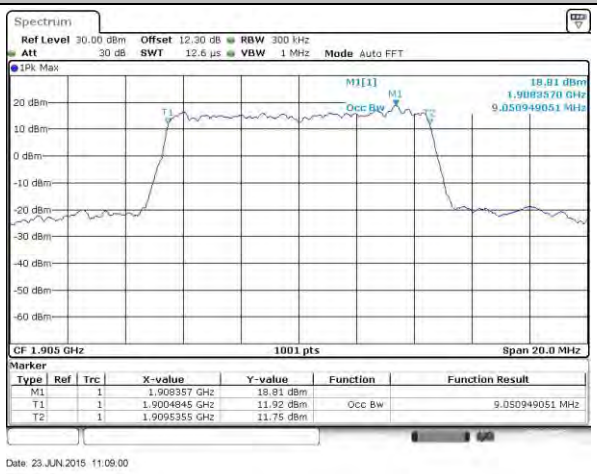
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

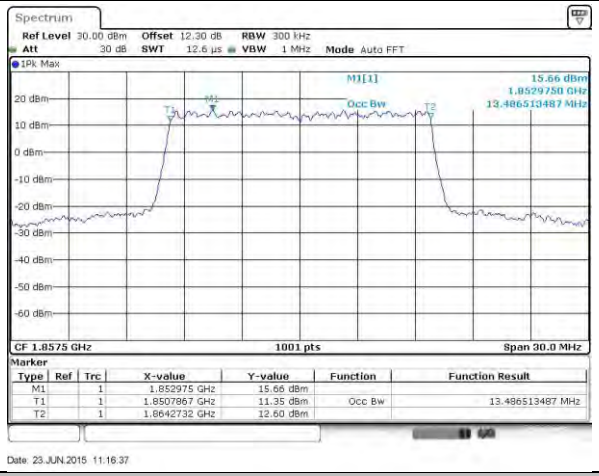


Highest Channel / 10MHz / 16QAM

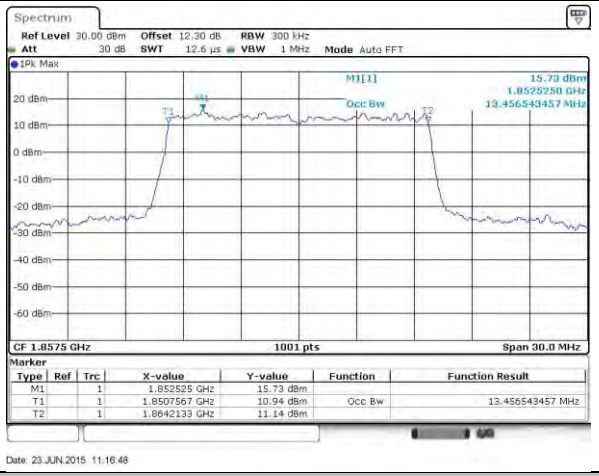


LTE Band 2

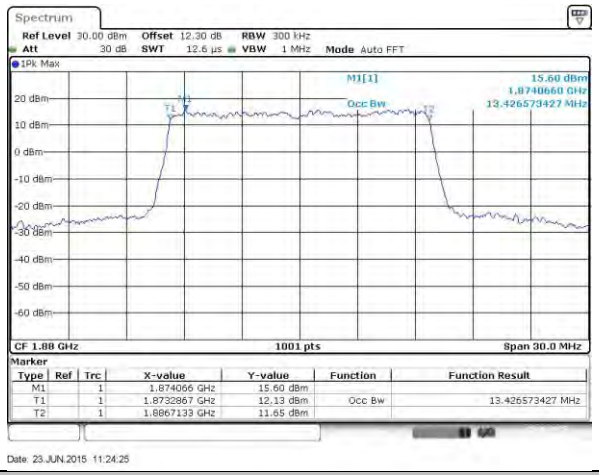
Lowest Channel / 15MHz / QPSK



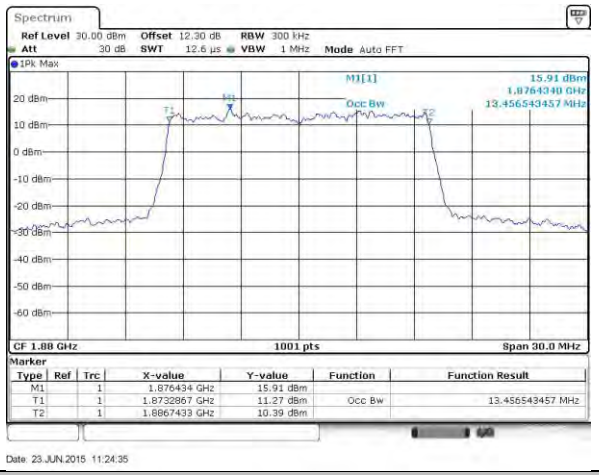
Lowest Channel / 15MHz / 16QAM



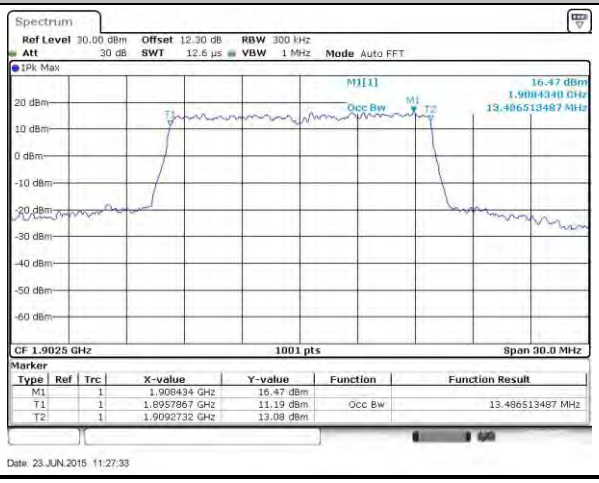
Middle Channel / 15MHz / QPSK



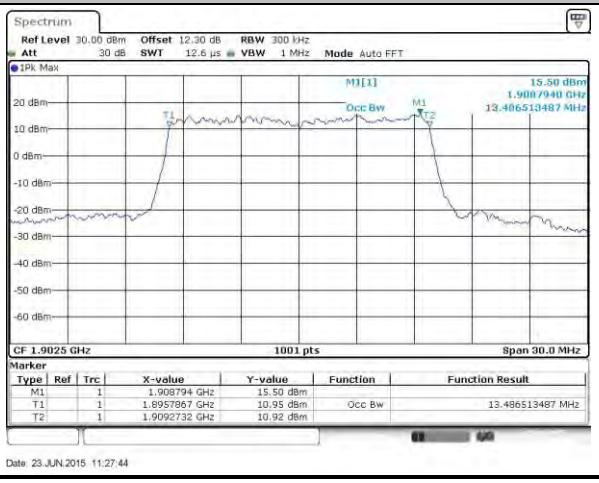
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

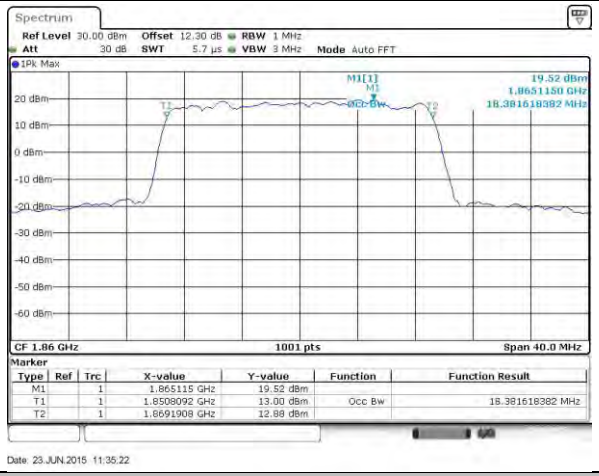


Highest Channel / 15MHz / 16QAM

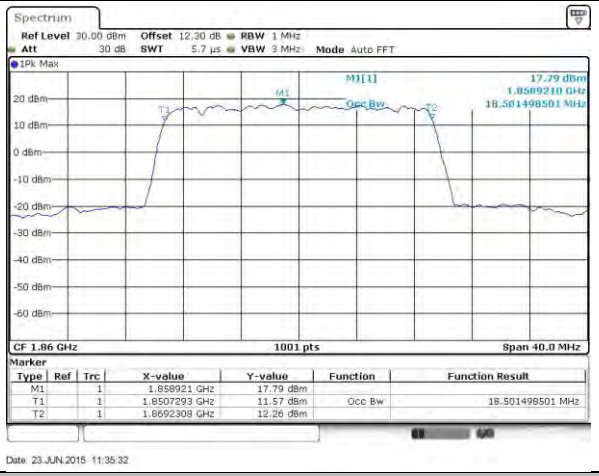


LTE Band 2

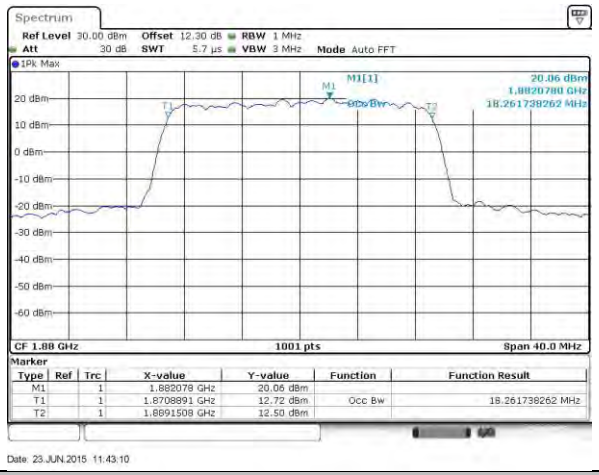
Lowest Channel / 20MHz / QPSK



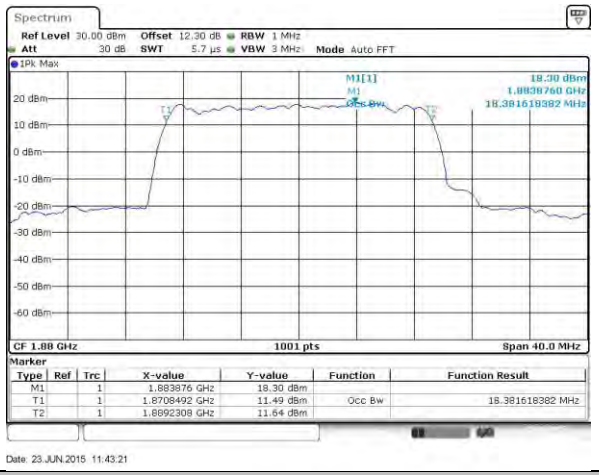
Lowest Channel / 20MHz / 16QAM



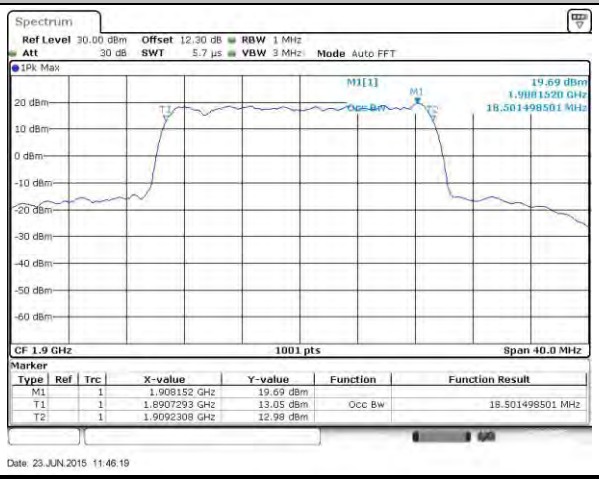
Middle Channel / 20MHz / QPSK



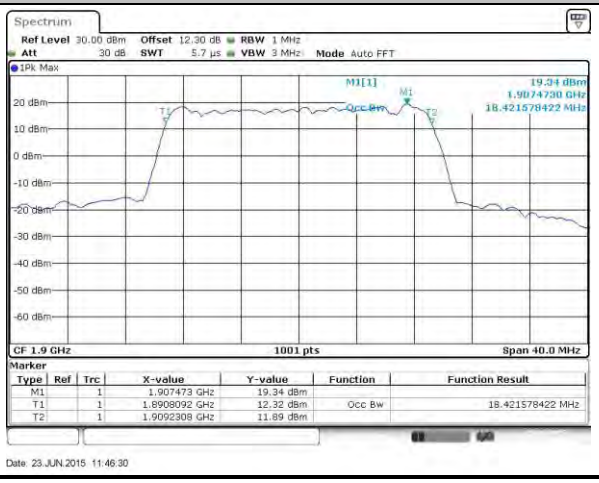
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



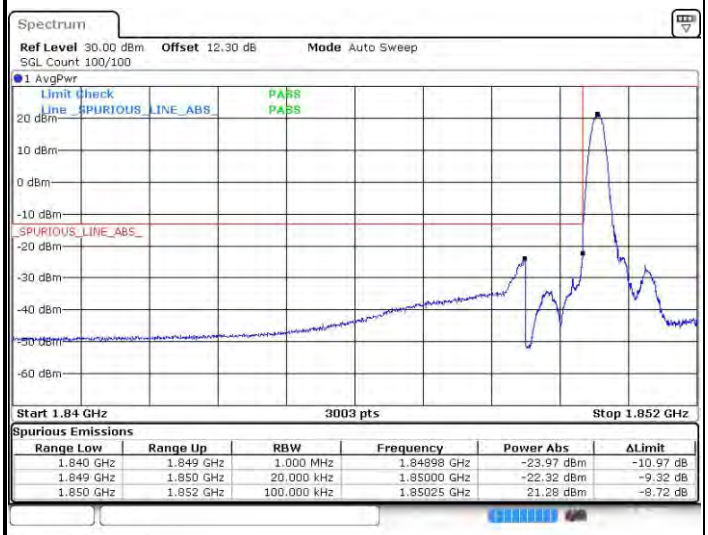
Highest Channel / 20MHz / 16QAM



Conducted Band Edge

LTE Band 2 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

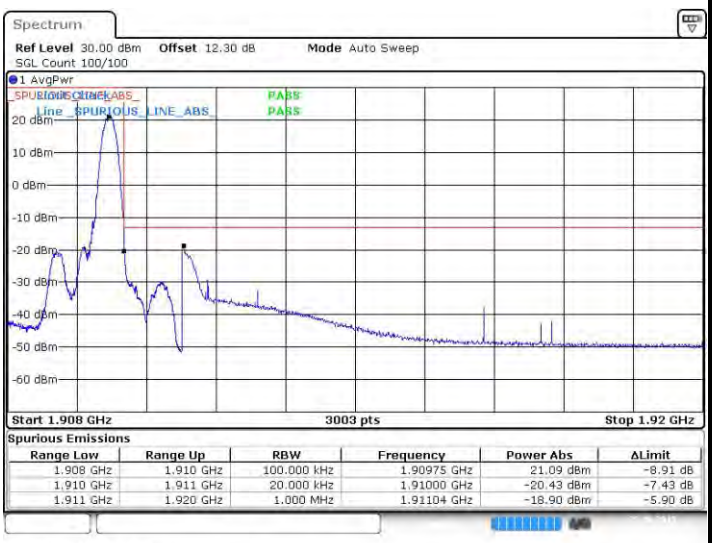


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84898 GHz	-23.97 dBm	-10.97 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-22.32 dBm	-9.32 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85025 GHz	21.28 dBm	-8.72 dB

Date: 23.JUN.2015 12:01:02

Highest Band Edge / 1RB

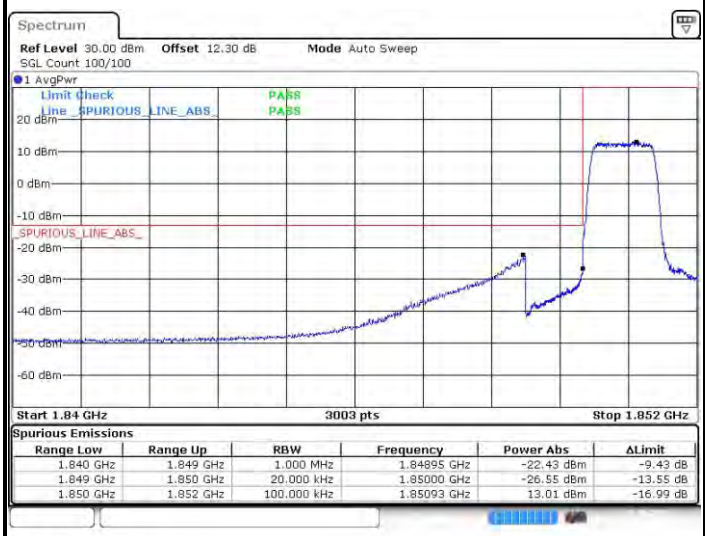


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90975 GHz	21.09 dBm	-8.91 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-20.43 dBm	-7.43 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91104 GHz	-18.90 dBm	-5.90 dB

Date: 23.JUN.2015 12:12:00

Lowest Band Edge / Full RB

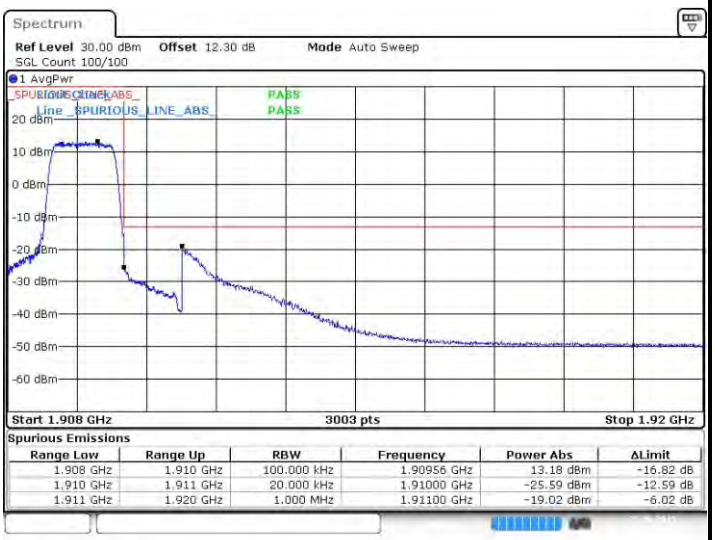


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84895 GHz	-22.43 dBm	-9.43 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-26.55 dBm	-13.55 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85093 GHz	13.01 dBm	-16.99 dB

Date: 23.JUN.2015 12:03:22

Highest Band Edge / Full RB



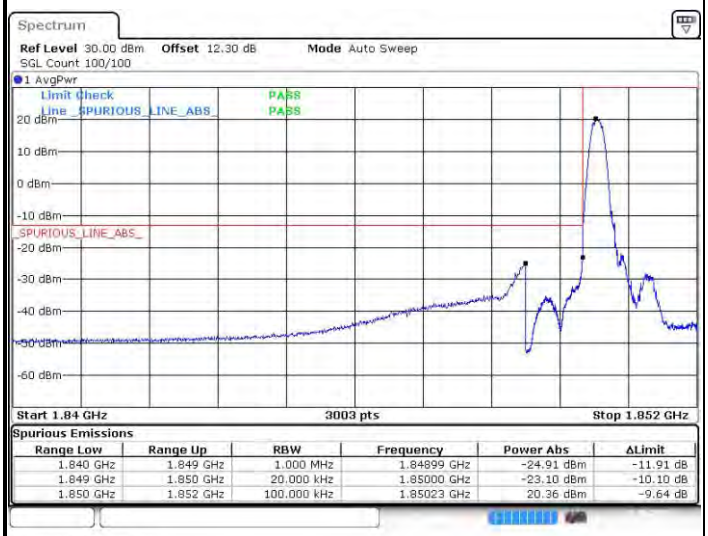
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90956 GHz	13.18 dBm	-16.82 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-25.59 dBm	-12.59 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-19.02 dBm	-6.02 dB

Date: 23.JUN.2015 12:14:20

LTE Band 2 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

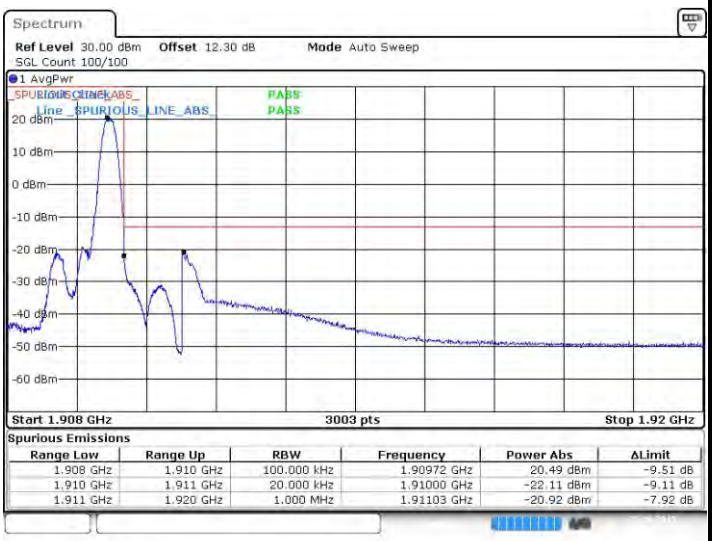


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-24.91 dBm	-11.91 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-23.10 dBm	-10.10 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85023 GHz	20.36 dBm	-9.64 dB

Date: 23.JUN.2015 12:02:12

Highest Band Edge / 1 RB

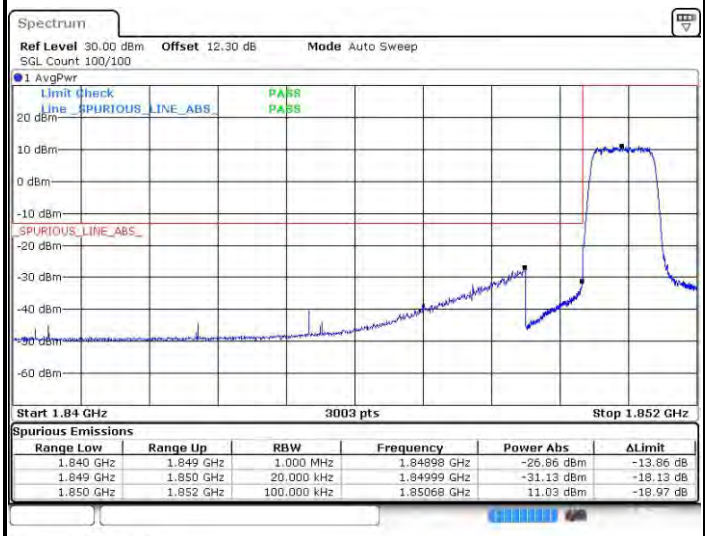


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90972 GHz	20.49 dBm	-9.51 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-22.11 dBm	-9.11 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91103 GHz	-20.92 dBm	-7.92 dB

Date: 23.JUN.2015 12:13:10

Lowest Band Edge / Full RB

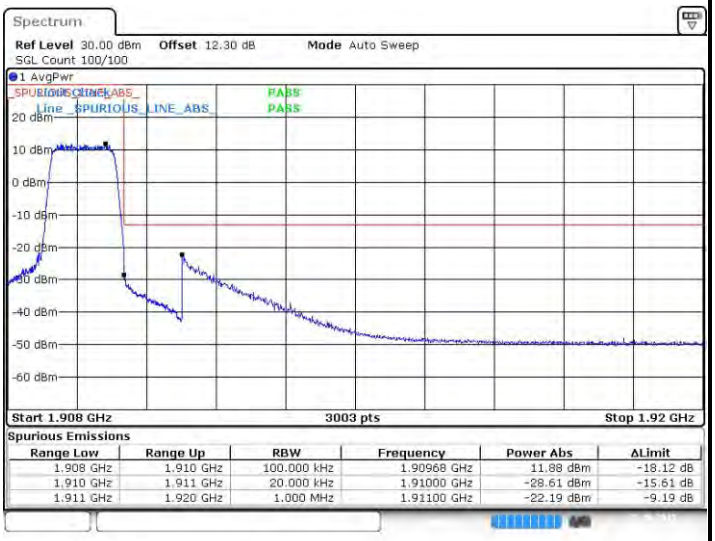


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84898 GHz	-26.86 dBm	-13.86 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.84999 GHz	-31.13 dBm	-18.13 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85068 GHz	11.03 dBm	-18.97 dB

Date: 23.JUN.2015 12:04:32

Highest Band Edge / Full RB



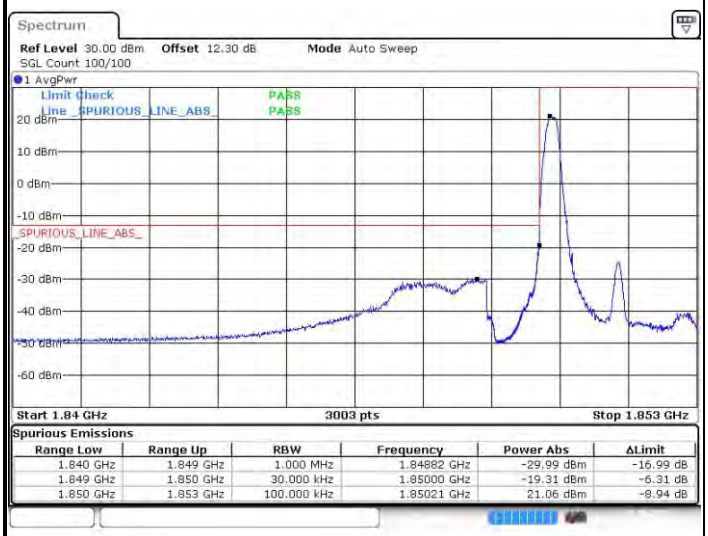
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90968 GHz	11.88 dBm	-18.12 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-28.61 dBm	-15.61 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-22.19 dBm	-9.19 dB

Date: 23.JUN.2015 12:15:30

LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB

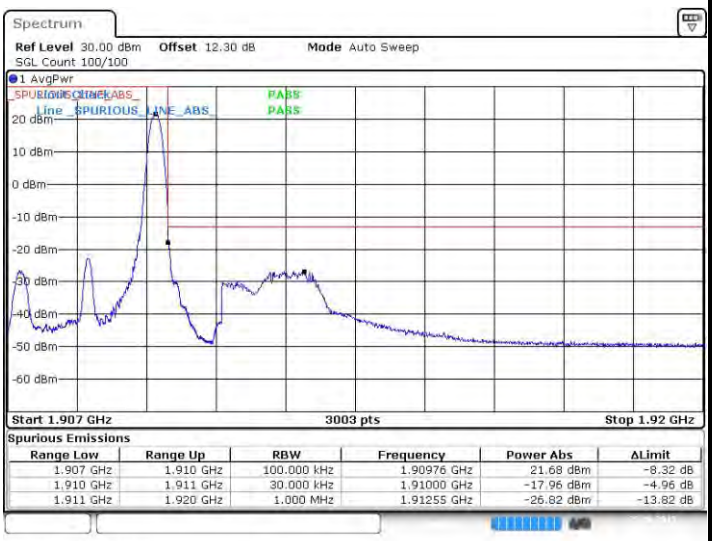


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84882 GHz	-29.99 dBm	-16.99 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-19.31 dBm	-6.31 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85021 GHz	21.06 dBm	-8.94 dB

Date: 23.JUN.2015 10:22:08

Highest Band Edge / 1 RB

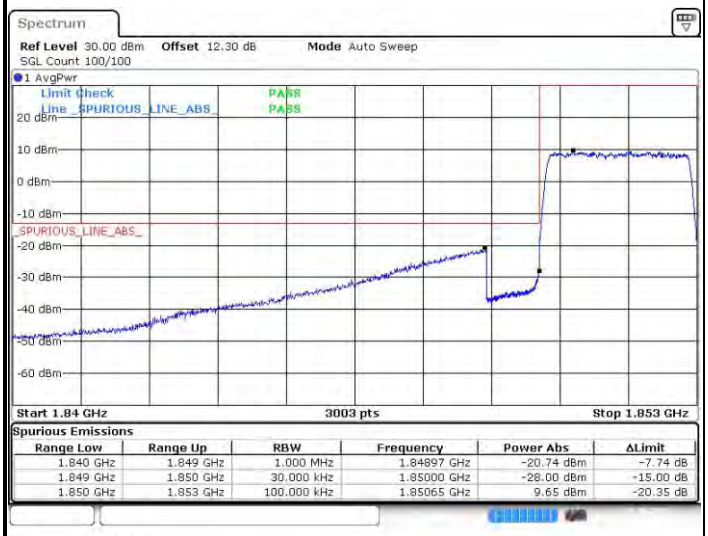


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90976 GHz	21.68 dBm	-8.32 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-17.96 dBm	-4.96 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91255 GHz	-26.82 dBm	-13.82 dB

Date: 23.JUN.2015 10:33:05

Lowest Band Edge / Full RB

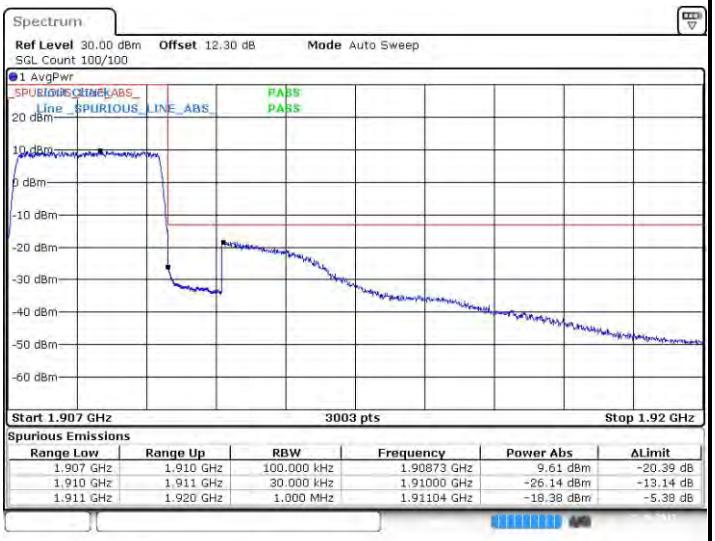


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84897 GHz	-20.74 dBm	-7.74 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-26.00 dBm	-15.00 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85065 GHz	9.65 dBm	-20.35 dB

Date: 23.JUN.2015 10:24:28

Highest Band Edge / Full RB



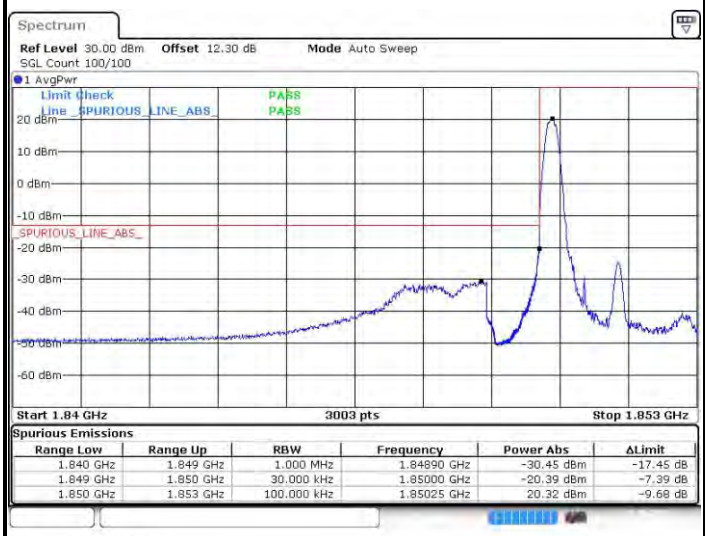
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90873 GHz	9.61 dBm	-20.39 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-26.14 dBm	-13.14 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91104 GHz	-18.38 dBm	-5.38 dB

Date: 23.JUN.2015 10:35:25

LTE Band 2 / 3MHz / 16QAM

Lowest Band Edge / 1 RB

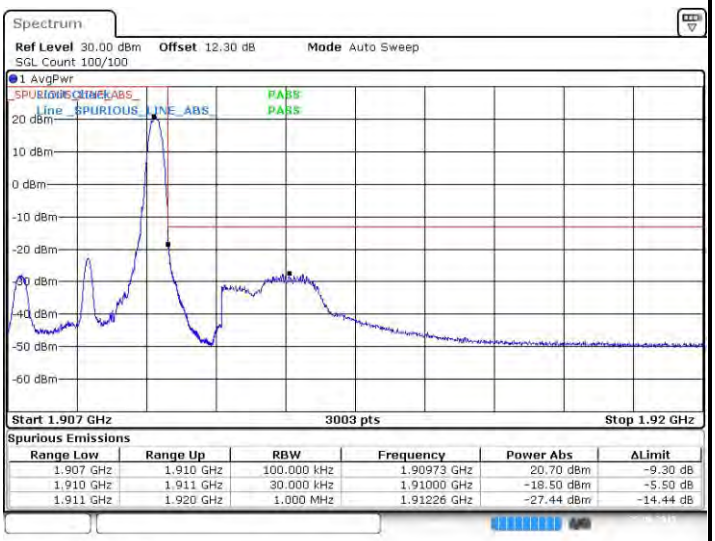


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84890 GHz	-30.45 dBm	-17.45 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-20.39 dBm	-7.39 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85025 GHz	20.32 dBm	-9.68 dB

Date: 23.JUN.2015 10:23:18

Highest Band Edge /1 RB

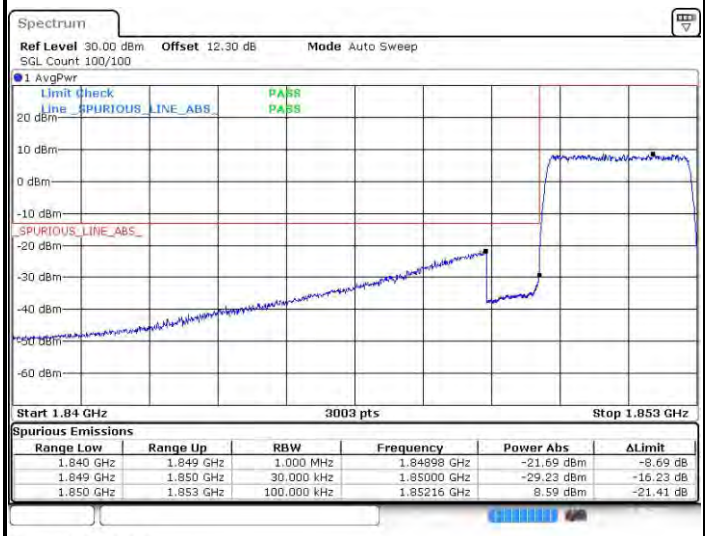


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90973 GHz	20.70 dBm	-9.30 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-18.50 dBm	-5.50 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91226 GHz	-27.44 dBm	-14.44 dB

Date: 23.JUN.2015 10:34:15

Lowest Band Edge / Full RB

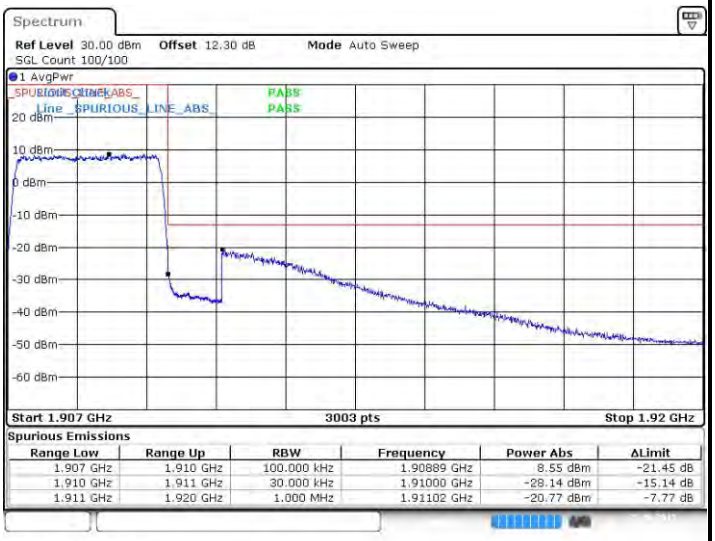


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84898 GHz	-21.69 dBm	-8.69 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-29.23 dBm	-16.23 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85216 GHz	8.59 dBm	-21.41 dB

Date: 23.JUN.2015 10:25:38

Highest Band Edge / Full RB



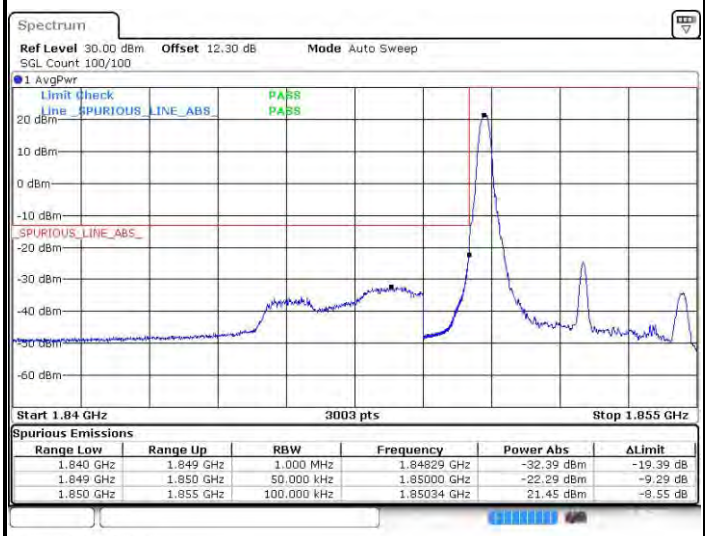
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90889 GHz	8.55 dBm	-21.45 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-28.14 dBm	-15.14 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91102 GHz	-20.77 dBm	-7.77 dB

Date: 23.JUN.2015 10:36:36

LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1 RB

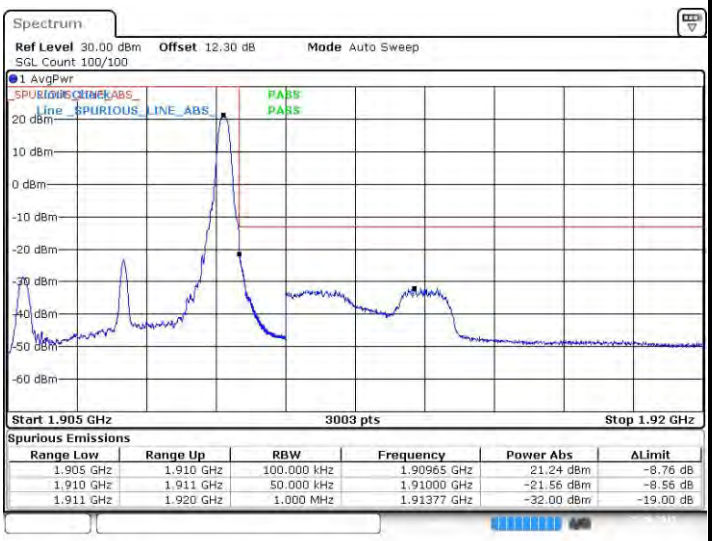


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84829 GHz	-32.39 dBm	-19.39 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-22.29 dBm	-9.29 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85034 GHz	21.45 dBm	-8.55 dB

Date: 23.JUN.2015 10:40:54

Highest Band Edge / 1 RB

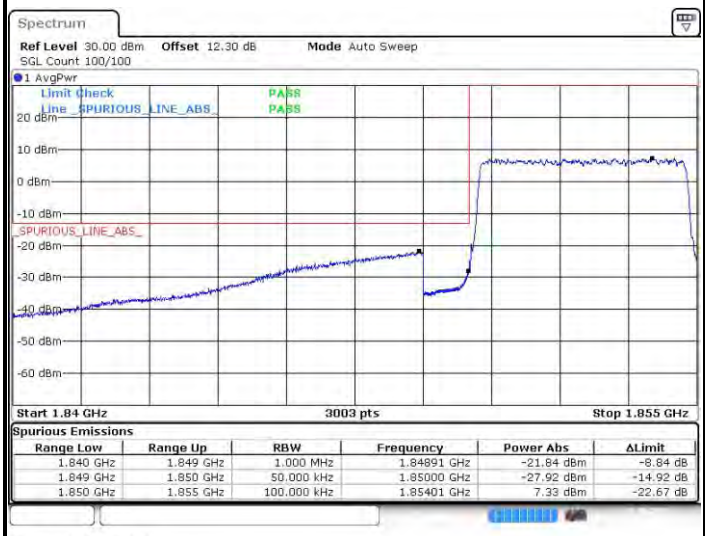


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90965 GHz	21.24 dBm	-8.76 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-21.56 dBm	-8.56 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91377 GHz	-32.00 dBm	-19.00 dB

Date: 23.JUN.2015 10:51:50

Lowest Band Edge / Full RB

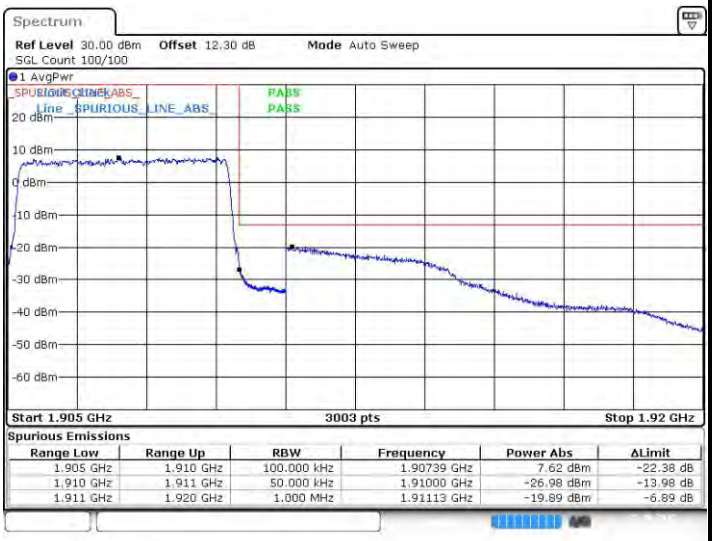


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84891 GHz	-21.84 dBm	-8.84 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-27.92 dBm	-14.92 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85401 GHz	7.33 dBm	-22.67 dB

Date: 23.JUN.2015 10:43:14

Highest Band Edge / Full RB



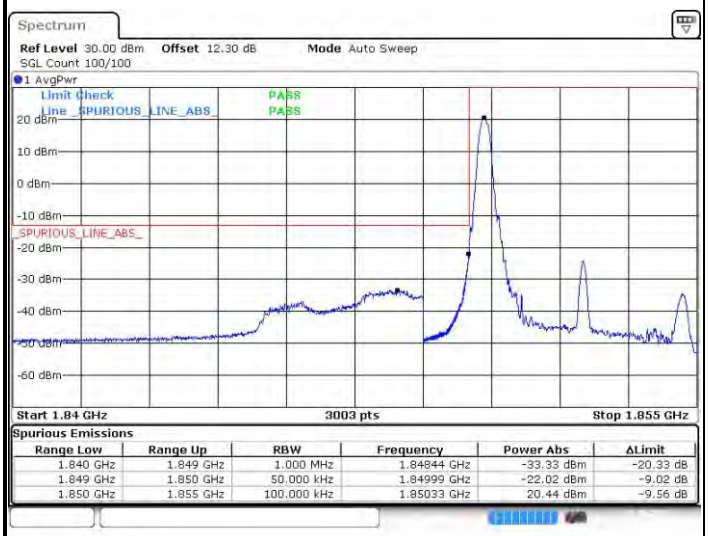
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90739 GHz	7.62 dBm	-22.38 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-26.98 dBm	-13.98 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91113 GHz	-19.89 dBm	-6.89 dB

Date: 23.JUN.2015 10:54:10

LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / 1RB

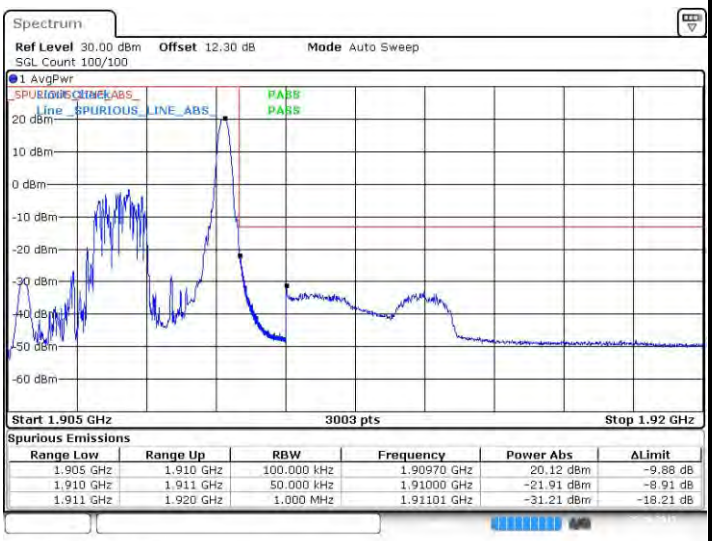


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84844 GHz	-33.33 dBm	-20.33 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.84999 GHz	-22.02 dBm	-9.02 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85033 GHz	20.44 dBm	-9.56 dB

Date: 23.JUN.2015 10:42:04

Highest Band Edge / 1 RB

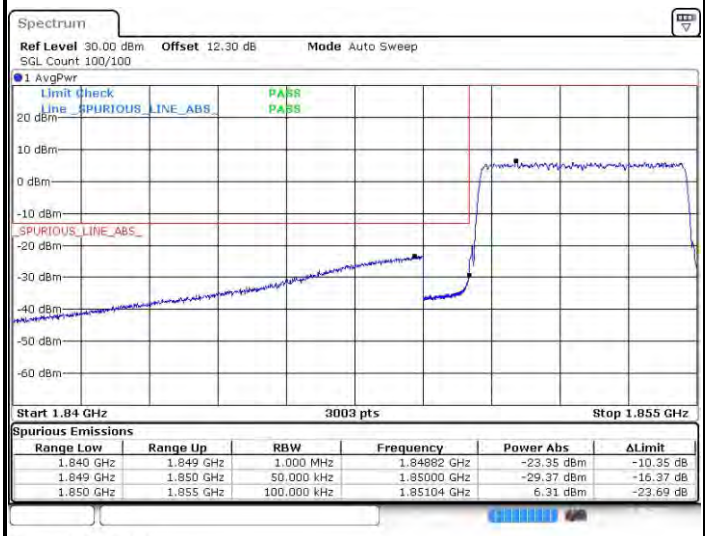


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90970 GHz	20.12 dBm	-9.88 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-21.91 dBm	-8.91 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91101 GHz	-31.21 dBm	-18.21 dB

Date: 23.JUN.2015 10:53:00

Lowest Band Edge / Full RB

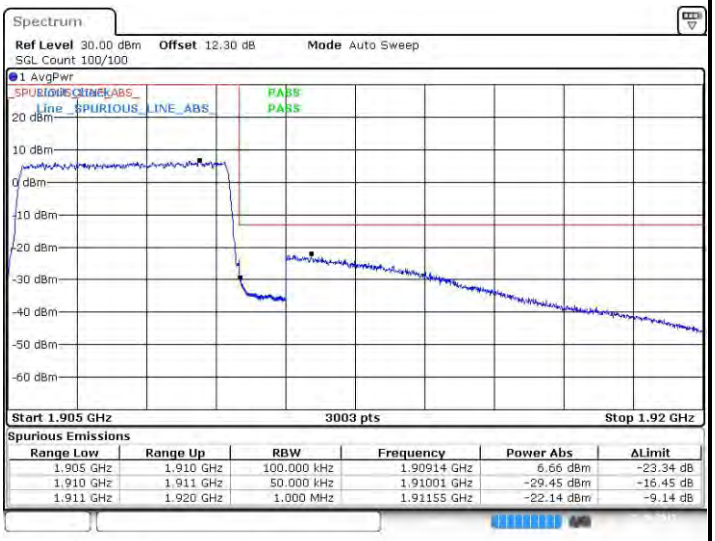


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84882 GHz	-23.35 dBm	-10.35 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-29.37 dBm	-16.37 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85104 GHz	6.31 dBm	-23.69 dB

Date: 23.JUN.2015 10:44:24

Highest Band Edge / Full RB



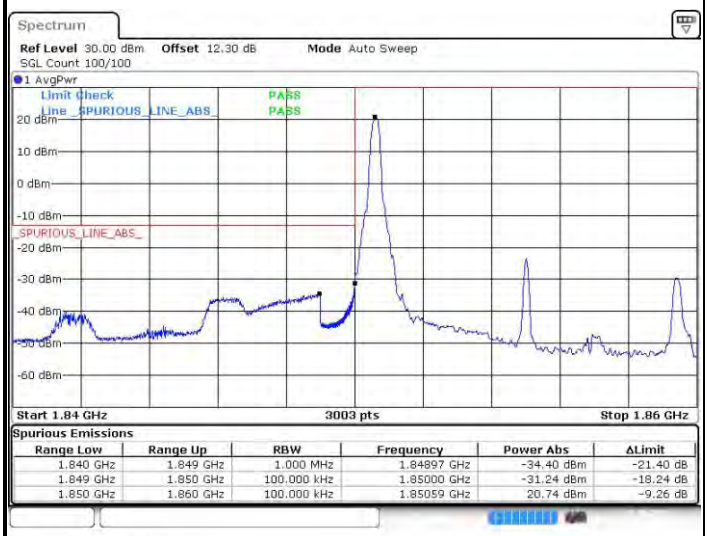
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90914 GHz	6.66 dBm	-23.34 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91001 GHz	-29.45 dBm	-16.45 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91155 GHz	-22.14 dBm	-9.14 dB

Date: 23.JUN.2015 10:55:20

LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1 RB

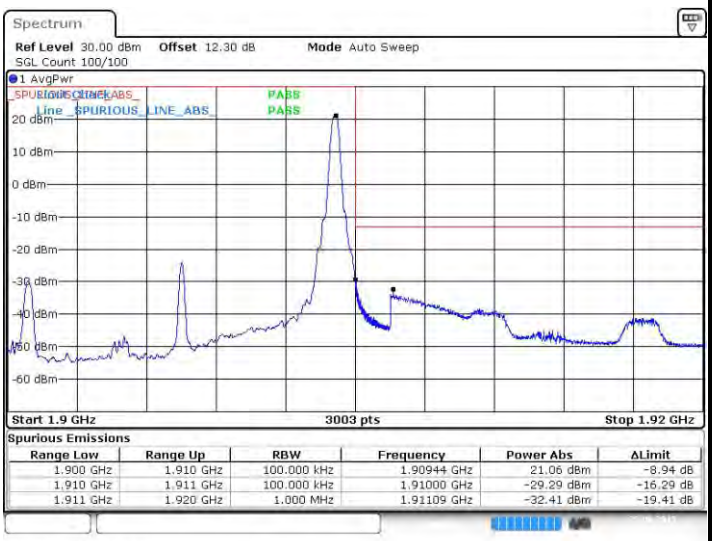


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84897 GHz	-34.40 dBm	-21.40 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-31.24 dBm	-18.24 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85059 GHz	20.74 dBm	-9.26 dB

Date: 23.JUN.2015 10:59:38

Highest Band Edge / 1 RB

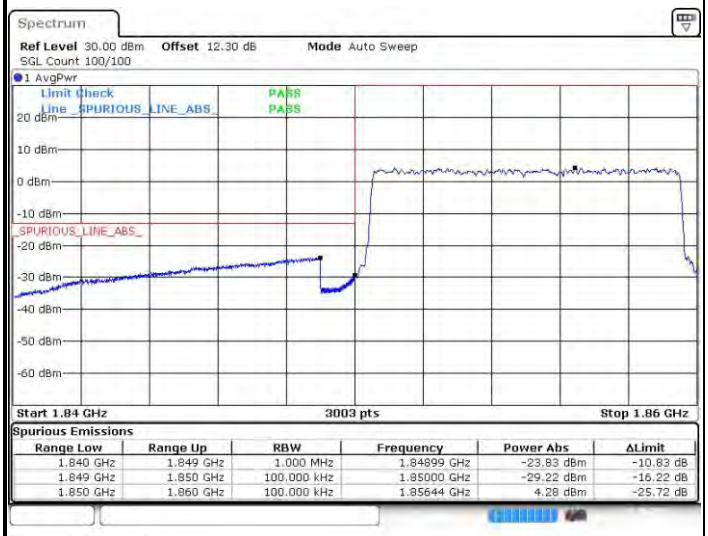


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90944 GHz	21.06 dBm	-8.94 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-29.29 dBm	-16.29 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91109 GHz	-32.41 dBm	-19.41 dB

Date: 23.JUN.2015 11:10:34

Lowest Band Edge / Full RB

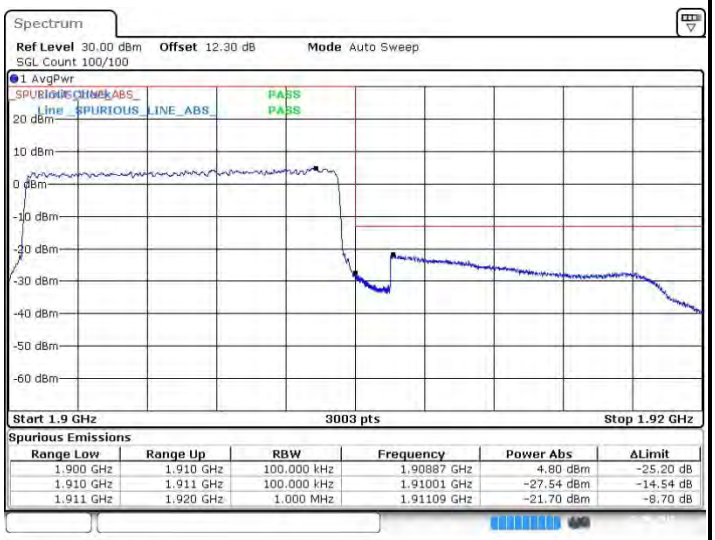


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84899 GHz	-23.83 dBm	-10.83 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-29.22 dBm	-16.22 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85644 GHz	4.28 dBm	-25.72 dB

Date: 23.JUN.2015 11:01:58

Highest Band Edge / Full RB



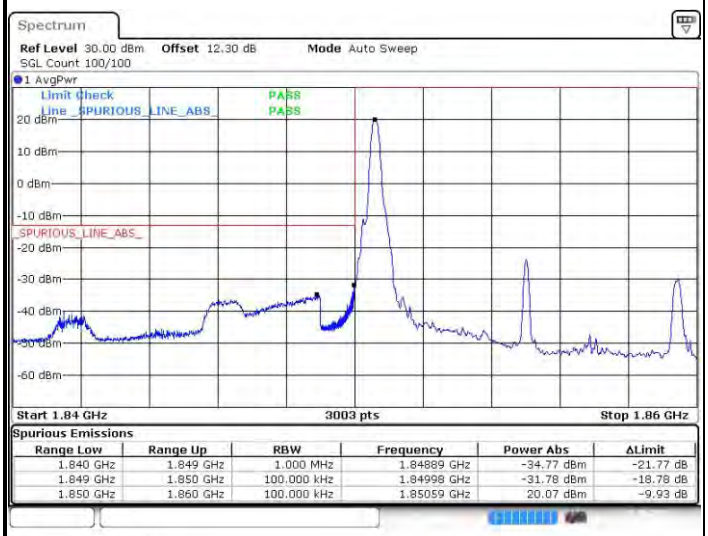
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90887 GHz	4.80 dBm	-25.20 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-27.54 dBm	-14.54 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91109 GHz	-21.70 dBm	-8.70 dB

Date: 23.JUN.2015 11:12:54

LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

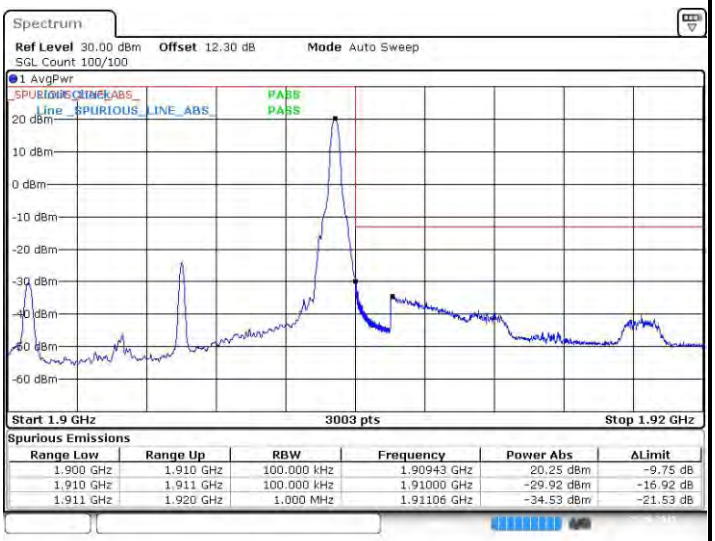


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84889 GHz	-34.77 dBm	-21.77 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.84998 GHz	-31.78 dBm	-18.78 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85059 GHz	20.07 dBm	-9.93 dB

Date: 23.JUN.2015 11:00:48

Highest Band Edge / 1 RB

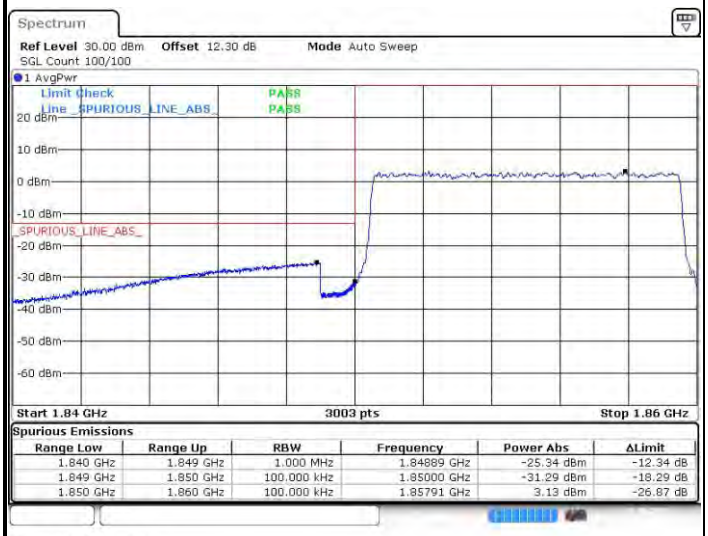


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90943 GHz	20.25 dBm	-9.75 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91000 GHz	-29.92 dBm	-16.92 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91106 GHz	-34.53 dBm	-21.53 dB

Date: 23.JUN.2015 11:11:44

Lowest Band Edge / Full RB

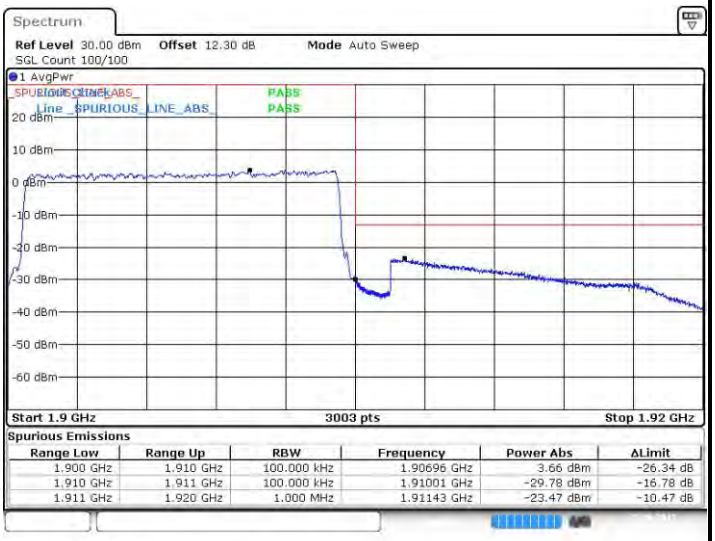


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84889 GHz	-25.34 dBm	-12.34 dB
1.849 GHz	1.850 GHz	100.000 kHz	1.85000 GHz	-31.29 dBm	-18.29 dB
1.850 GHz	1.860 GHz	100.000 kHz	1.85791 GHz	3.13 dBm	-26.87 dB

Date: 23.JUN.2015 11:03:08

Highest Band Edge / Full RB



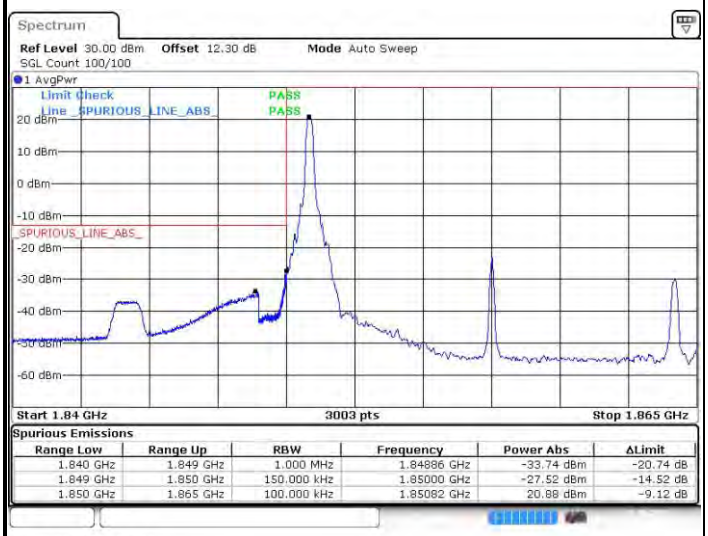
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.900 GHz	1.910 GHz	100.000 kHz	1.90696 GHz	3.66 dBm	-26.34 dB
1.910 GHz	1.911 GHz	100.000 kHz	1.91001 GHz	-29.78 dBm	-16.78 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91143 GHz	-23.47 dBm	-10.47 dB

Date: 23.JUN.2015 11:14:04

LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / 1 RB

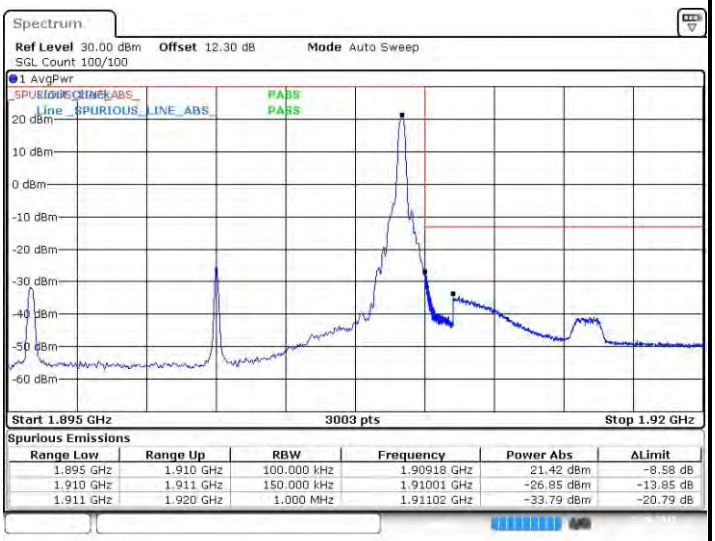


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84886 GHz	-33.74 dBm	-20.74 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.85000 GHz	-27.52 dBm	-14.52 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85082 GHz	20.88 dBm	-9.12 dB

Date: 23.JUN.2015 11:18:22

Highest Band Edge / 1 RB

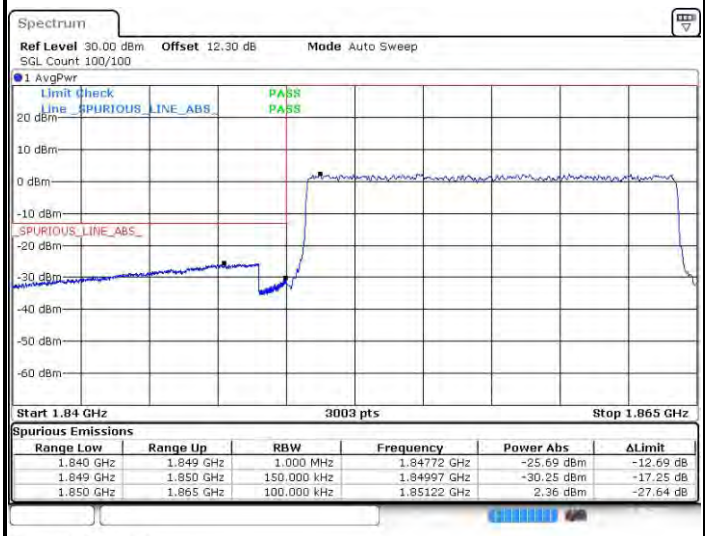


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90918 GHz	21.42 dBm	-8.58 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91001 GHz	-26.85 dBm	-13.85 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91102 GHz	-33.79 dBm	-20.79 dB

Date: 23.JUN.2015 11:29:19

Lowest Band Edge / Full RB

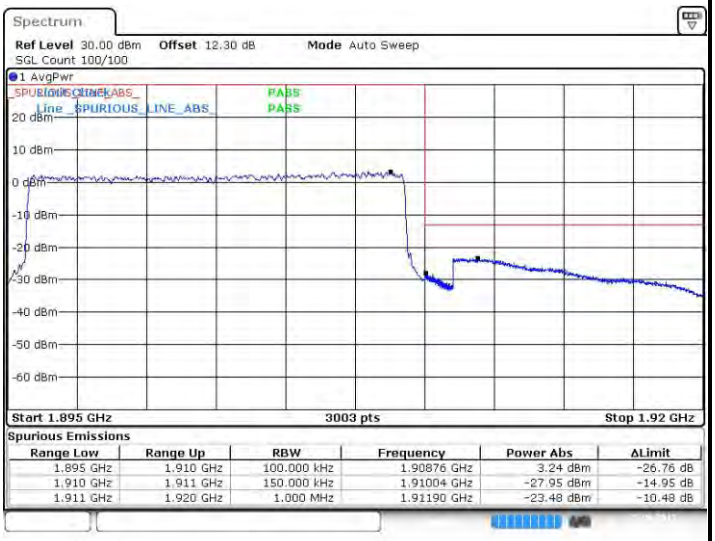


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84772 GHz	-25.69 dBm	-12.69 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.84997 GHz	-30.25 dBm	-17.25 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85122 GHz	2.36 dBm	-27.64 dB

Date: 23.JUN.2015 11:20:42

Highest Band Edge / Full RB



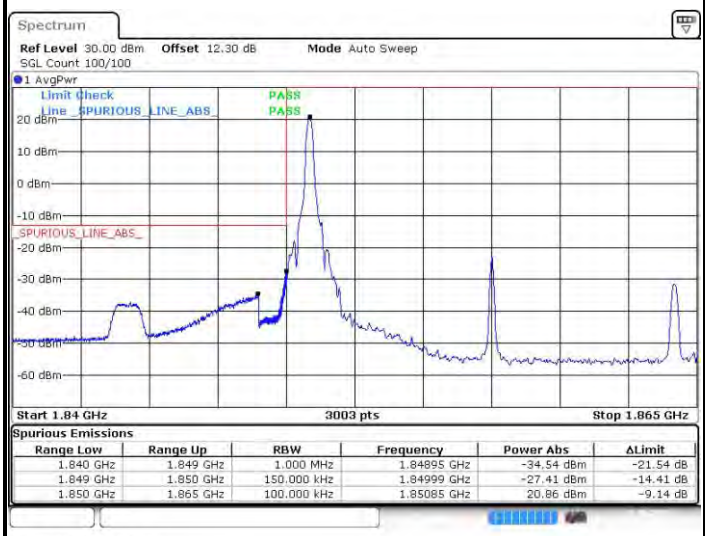
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90876 GHz	3.24 dBm	-26.76 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91004 GHz	-27.95 dBm	-14.95 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91190 GHz	-23.48 dBm	-10.48 dB

Date: 23.JUN.2015 11:31:39

LTE Band 2 / 15MHz / 16QAM

Lowest Band Edge / 1 RB

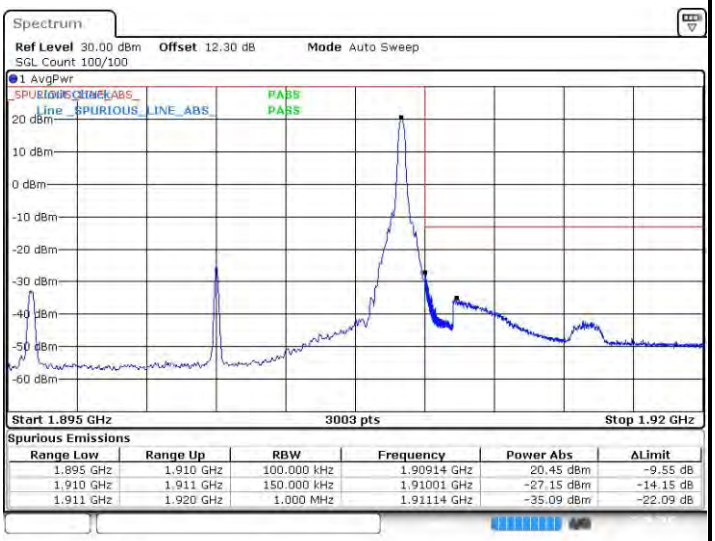


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84895 GHz	-34.54 dBm	-21.54 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.84999 GHz	-27.41 dBm	-14.41 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85085 GHz	20.86 dBm	-9.14 dB

Date: 23.JUN.2015 11:19:32

Highest Band Edge / 1 RB

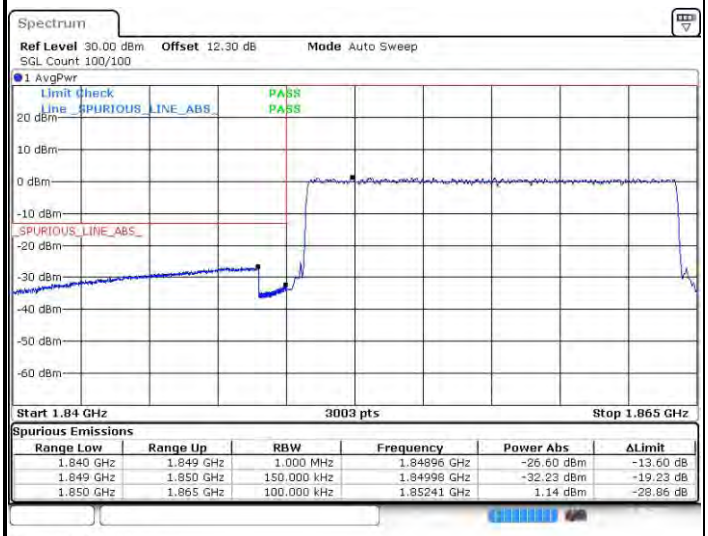


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90914 GHz	20.45 dBm	-9.55 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91001 GHz	-27.15 dBm	-14.15 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91114 GHz	-35.09 dBm	-22.09 dB

Date: 23.JUN.2015 11:30:29

Lowest Band Edge / Full RB

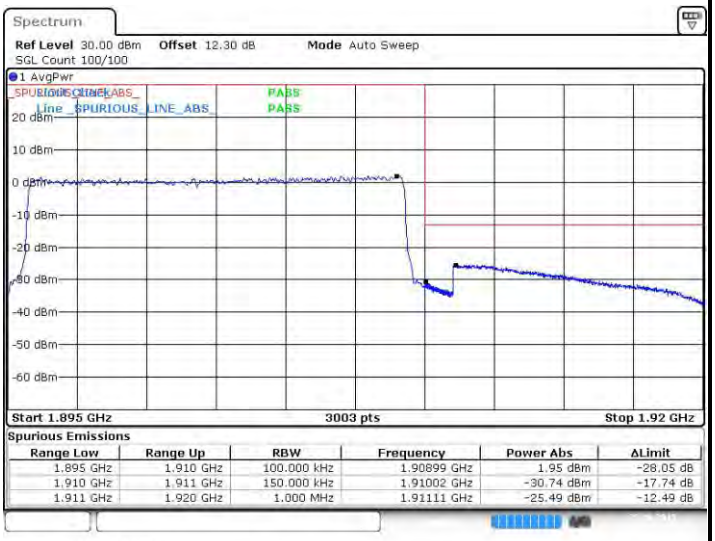


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84896 GHz	-26.60 dBm	-13.60 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.84998 GHz	-32.23 dBm	-19.23 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85241 GHz	1.14 dBm	-28.86 dB

Date: 23.JUN.2015 11:21:52

Highest Band Edge / Full RB



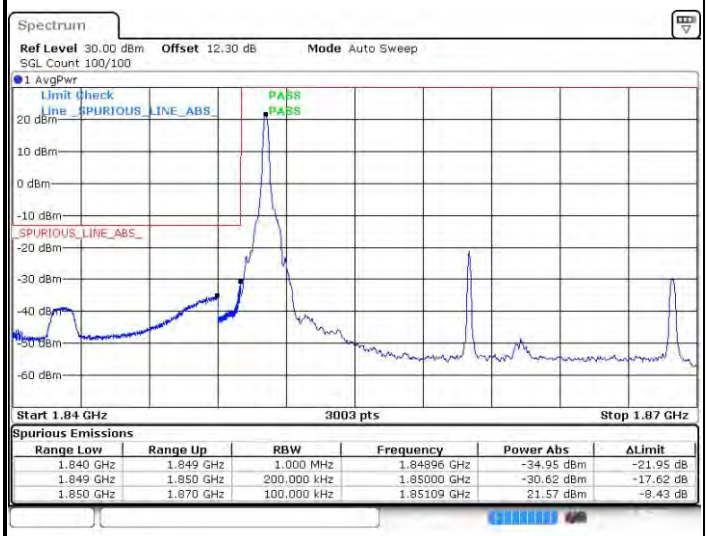
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90899 GHz	1.95 dBm	-28.05 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91002 GHz	-30.74 dBm	-17.74 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91111 GHz	-25.49 dBm	-12.49 dB

Date: 23.JUN.2015 11:32:49

LTE Band 2 / 20MHz / QPSK

Lowest Band Edge / 1 RB

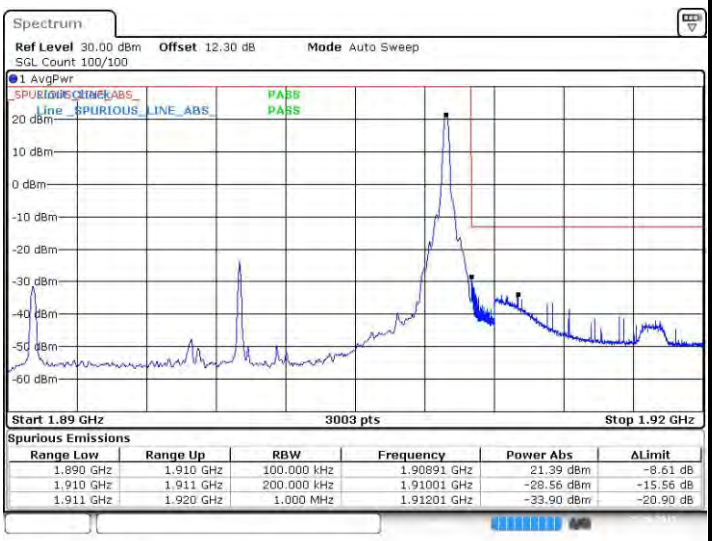


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84896 GHz	-34.95 dBm	-21.95 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.85000 GHz	-30.62 dBm	-17.62 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85109 GHz	21.57 dBm	-8.43 dB

Date: 23.JUN.2015 11:37:07

Highest Band Edge / 1 RB

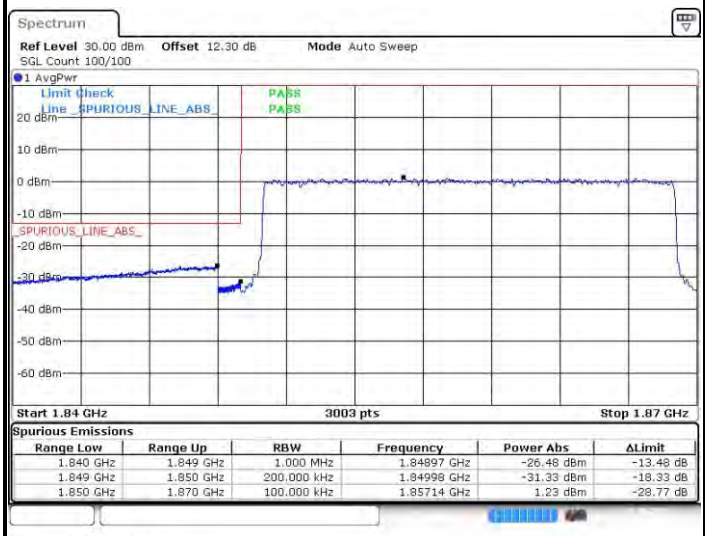


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90891 GHz	21.39 dBm	-8.61 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-28.56 dBm	-15.56 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91201 GHz	-33.90 dBm	-20.90 dB

Date: 23.JUN.2015 11:48:05

Lowest Band Edge / Full RB

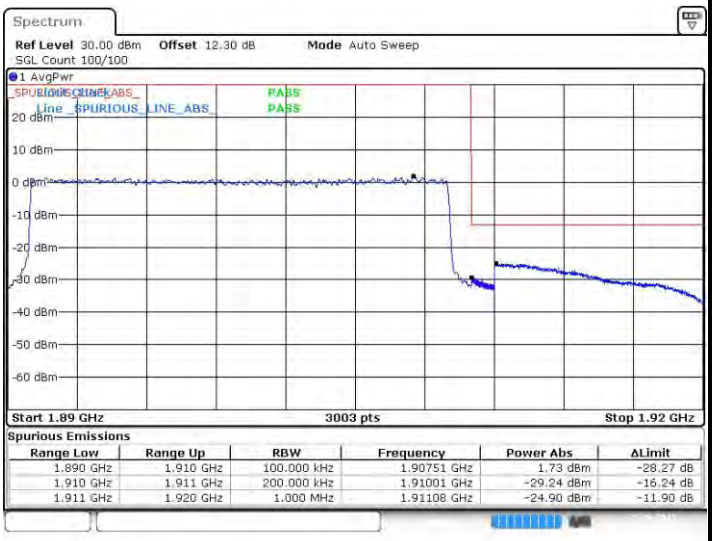


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84897 GHz	-26.48 dBm	-13.48 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84998 GHz	-31.33 dBm	-18.33 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85714 GHz	1.23 dBm	-28.77 dB

Date: 23.JUN.2015 11:39:27

Highest Band Edge / Full RB



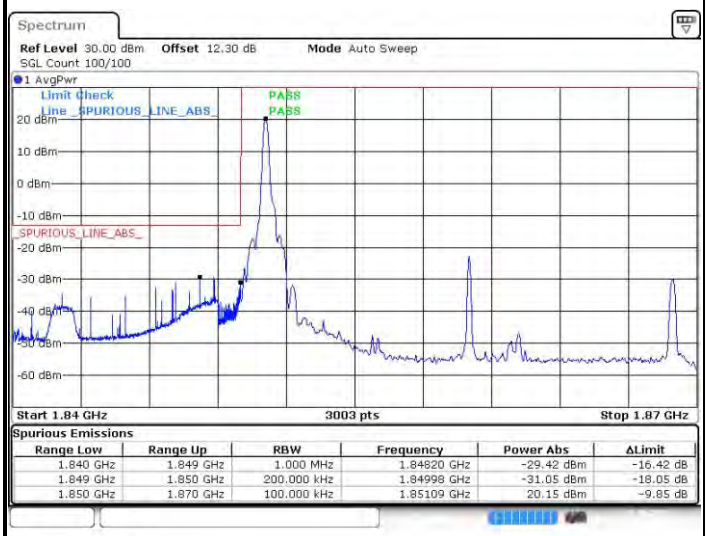
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90751 GHz	1.73 dBm	-28.27 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91001 GHz	-29.24 dBm	-16.24 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91108 GHz	-24.90 dBm	-11.90 dB

Date: 23.JUN.2015 11:50:25

LTE Band 2 / 20MHz / 16QAM

Lowest Band Edge / 1 RB

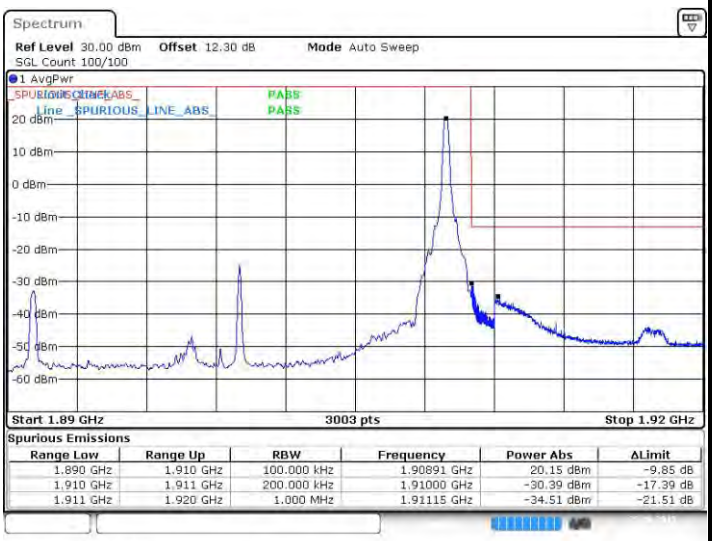


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84820 GHz	-29.42 dBm	-16.42 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84998 GHz	-31.05 dBm	-18.05 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.85109 GHz	20.15 dBm	-9.85 dB

Date: 23.JUN.2015 11:38:17

Highest Band Edge / 1 RB

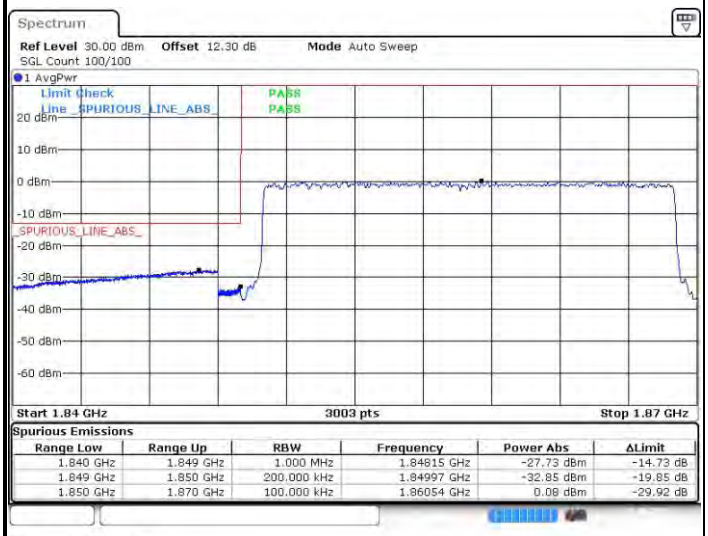


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90891 GHz	20.15 dBm	-9.85 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91000 GHz	-30.39 dBm	-17.39 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91115 GHz	-34.51 dBm	-21.51 dB

Date: 23.JUN.2015 11:49:15

Lowest Band Edge / Full RB

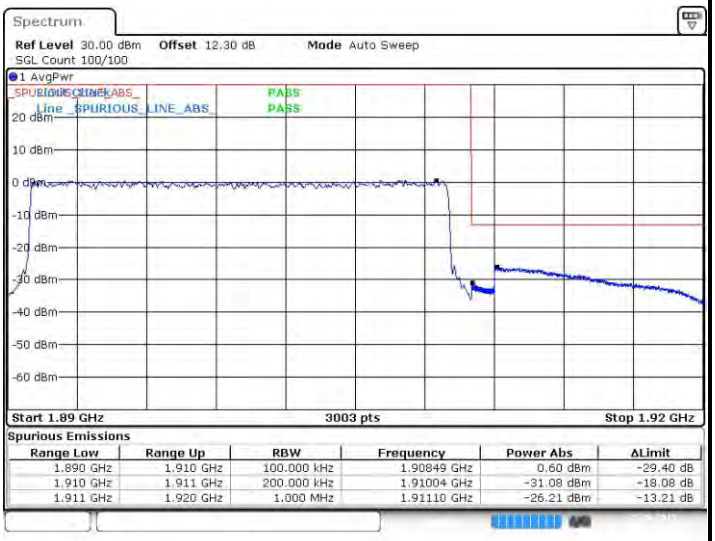


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84815 GHz	-27.73 dBm	-14.73 dB
1.849 GHz	1.850 GHz	200.000 kHz	1.84997 GHz	-32.85 dBm	-19.85 dB
1.850 GHz	1.870 GHz	100.000 kHz	1.86054 GHz	0.08 dBm	-29.92 dB

Date: 23.JUN.2015 11:40:37

Highest Band Edge / Full RB



Spurious Emissions

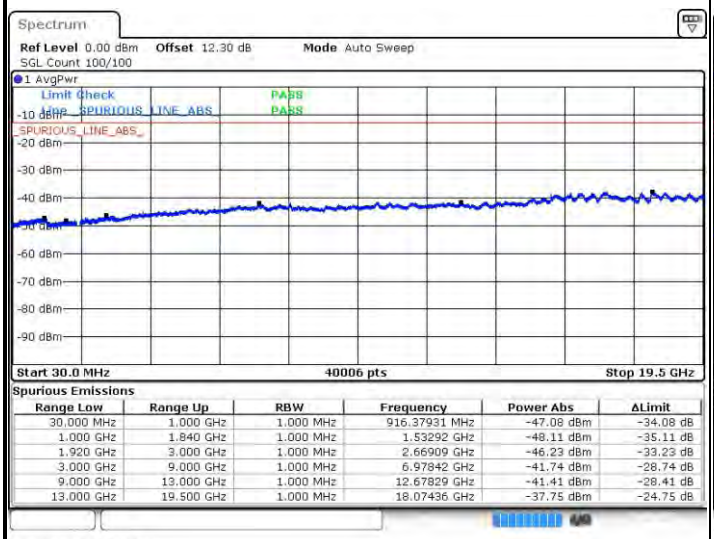
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.890 GHz	1.910 GHz	100.000 kHz	1.90849 GHz	0.60 dBm	-29.40 dB
1.910 GHz	1.911 GHz	200.000 kHz	1.91004 GHz	-31.08 dBm	-18.08 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91110 GHz	-26.21 dBm	-13.21 dB

Date: 23.JUN.2015 11:51:35

Conducted Spurious Emission

LTE Band 2 / 1.4MHz

Lowest Channel / QPSK

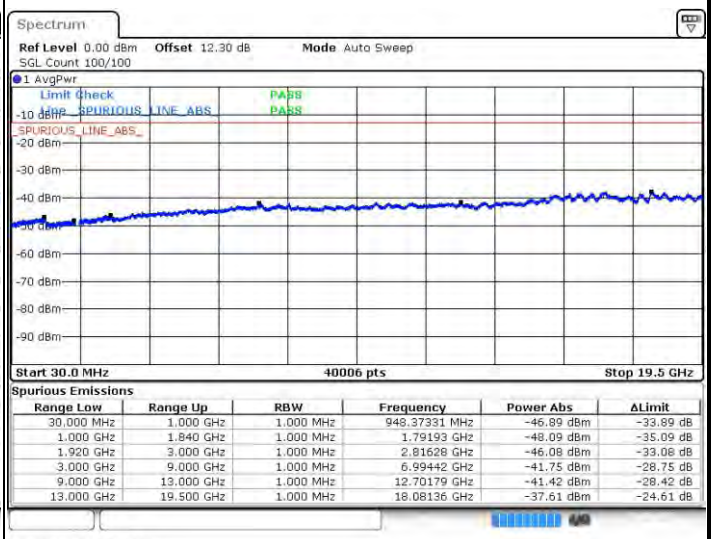


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	916.37931 MHz	-47.08 dBm	-34.08 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.53292 GHz	-48.11 dBm	-35.11 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.66909 GHz	-46.23 dBm	-33.23 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.97842 GHz	-41.74 dBm	-28.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.67829 GHz	-41.41 dBm	-28.41 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07436 GHz	-37.75 dBm	-24.75 dB

Date: 23.JUN.2015 12:05:43

Lowest Channel / 16QAM

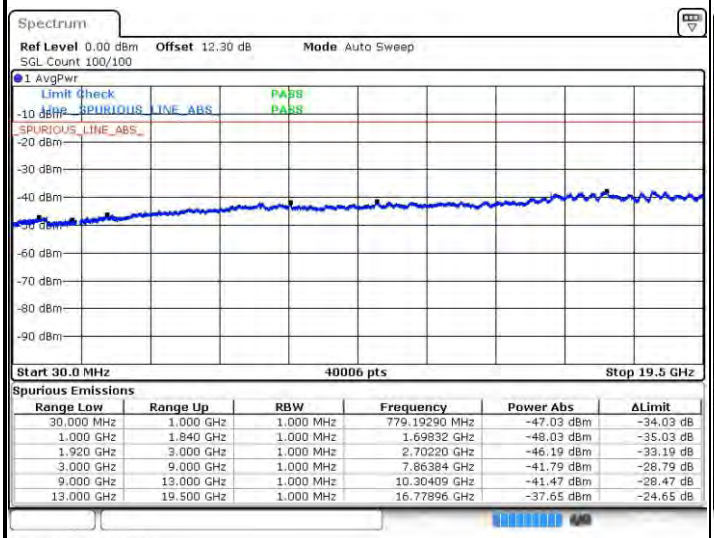


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	948.37331 MHz	-46.89 dBm	-33.89 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79193 GHz	-48.09 dBm	-35.09 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.81628 GHz	-46.08 dBm	-33.08 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99442 GHz	-41.75 dBm	-28.75 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70179 GHz	-41.42 dBm	-28.42 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08136 GHz	-37.61 dBm	-24.61 dB

Date: 23.JUN.2015 12:06:53

Middle Channel / QPSK

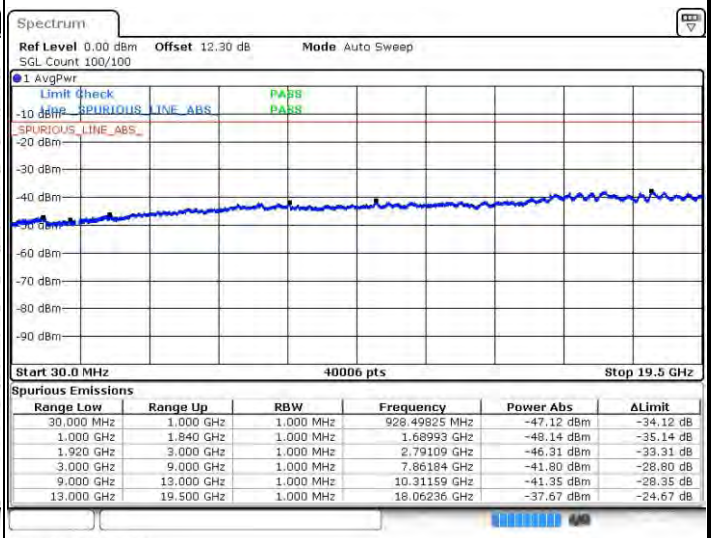


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	779.19290 MHz	-47.03 dBm	-34.03 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.69832 GHz	-48.03 dBm	-35.03 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.70220 GHz	-46.19 dBm	-33.19 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86384 GHz	-41.79 dBm	-28.79 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30409 GHz	-41.47 dBm	-28.47 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.77896 GHz	-37.65 dBm	-24.65 dB

Date: 23.JUN.2015 12:08:52

Middle Channel / 16QAM



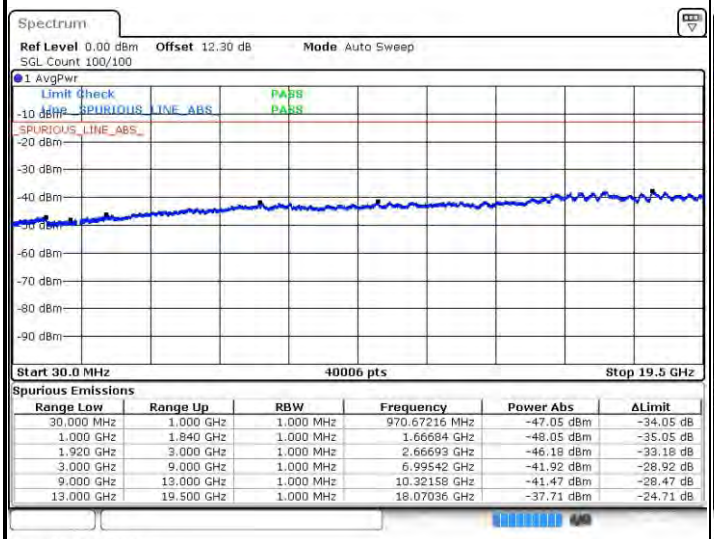
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	928.49825 MHz	-47.12 dBm	-34.12 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.68993 GHz	-48.14 dBm	-35.14 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.79109 GHz	-46.31 dBm	-33.31 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86184 GHz	-41.80 dBm	-28.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31159 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.06236 GHz	-37.67 dBm	-24.67 dB

Date: 23.JUN.2015 12:10:02

LTE Band 2 / 1.4MHz

Highest Channel / QPSK

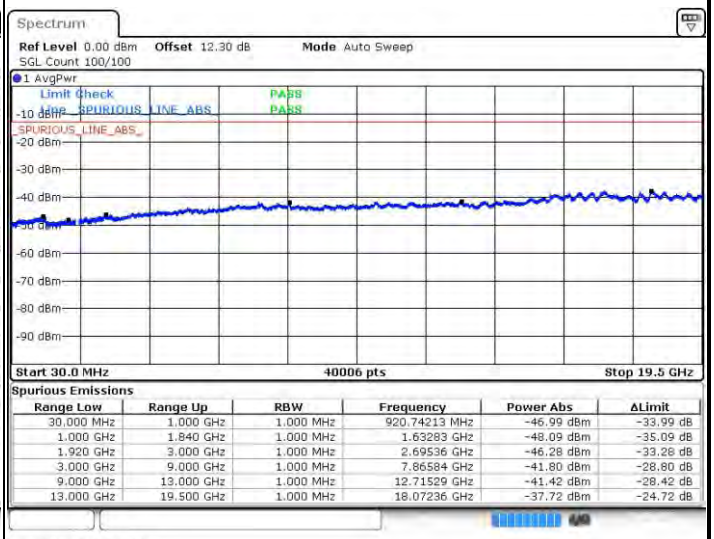


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	970.67216 MHz	-47.05 dBm	-34.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.66684 GHz	-48.05 dBm	-35.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.66693 GHz	-46.18 dBm	-33.18 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99542 GHz	-41.92 dBm	-28.92 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32158 GHz	-41.47 dBm	-28.47 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07036 GHz	-37.71 dBm	-24.71 dB

Date: 23.JUN.2015 12:16:41

Highest Channel / 16QAM



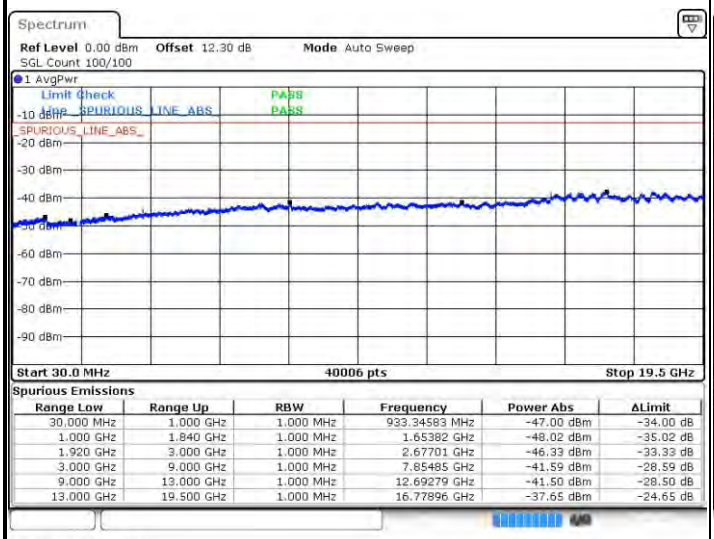
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	920.74213 MHz	-46.99 dBm	-33.99 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.63283 GHz	-48.09 dBm	-35.09 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.69536 GHz	-46.28 dBm	-33.28 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86584 GHz	-41.80 dBm	-28.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.71529 GHz	-41.42 dBm	-28.42 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07236 GHz	-37.72 dBm	-24.72 dB

Date: 23.JUN.2015 12:17:51

LTE Band 2 / 3MHz

Lowest Channel / QPSK

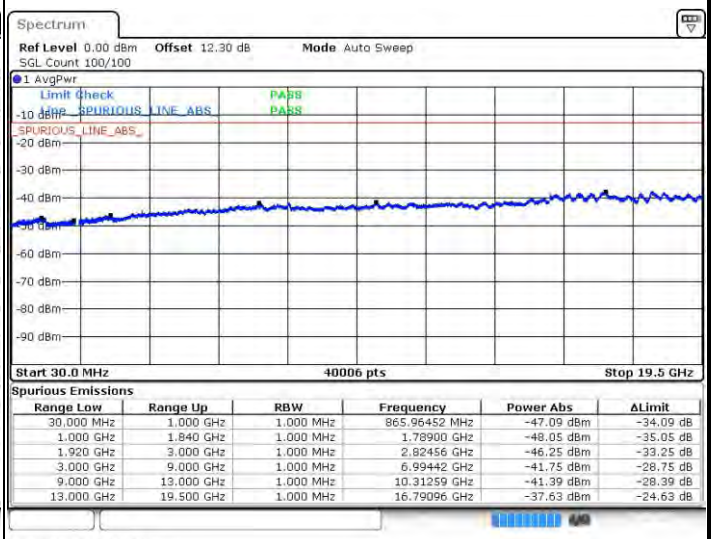


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	933.34583 MHz	-47.00 dBm	-34.00 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.65382 GHz	-48.02 dBm	-35.02 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.67701 GHz	-46.33 dBm	-33.33 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85485 GHz	-41.59 dBm	-28.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69279 GHz	-41.50 dBm	-28.50 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.77896 GHz	-37.65 dBm	-24.65 dB

Date: 23.JUN.2015 10:26:48

Lowest Channel / 16QAM



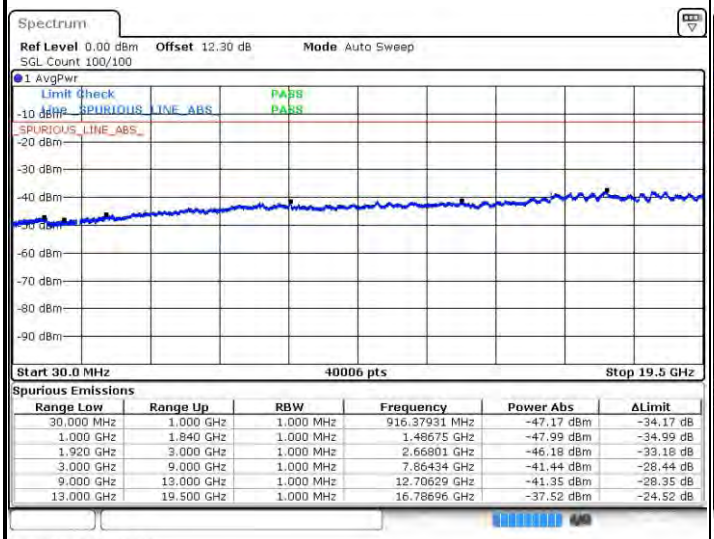
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	865.96452 MHz	-47.09 dBm	-34.09 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78900 GHz	-48.05 dBm	-35.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82456 GHz	-46.25 dBm	-33.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99442 GHz	-41.75 dBm	-28.75 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31259 GHz	-41.39 dBm	-28.39 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.79096 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 10:27:59

LTE Band 2 / 3MHz

Middle Channel / QPSK

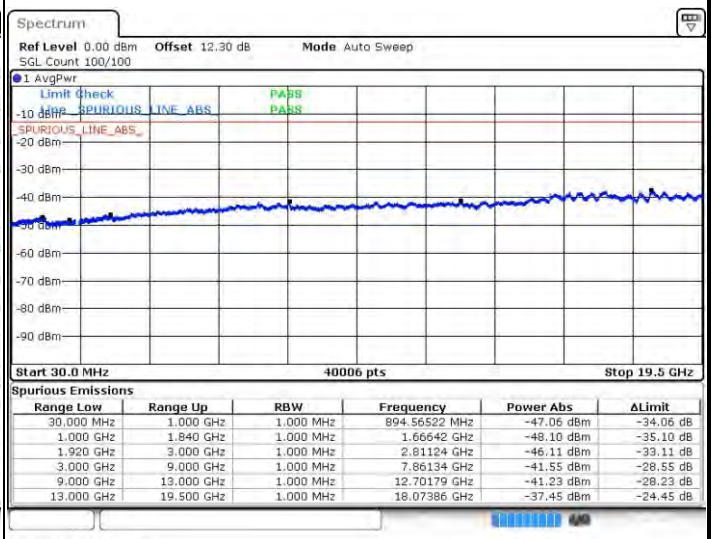


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	916.37931 MHz	-47.17 dBm	-34.17 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.48675 GHz	-47.99 dBm	-34.99 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.66801 GHz	-46.18 dBm	-33.18 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86434 GHz	-41.44 dBm	-28.44 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70629 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78696 GHz	-37.52 dBm	-24.52 dB

Date: 23.JUN.2015 10:29:57

Middle Channel / 16QAM

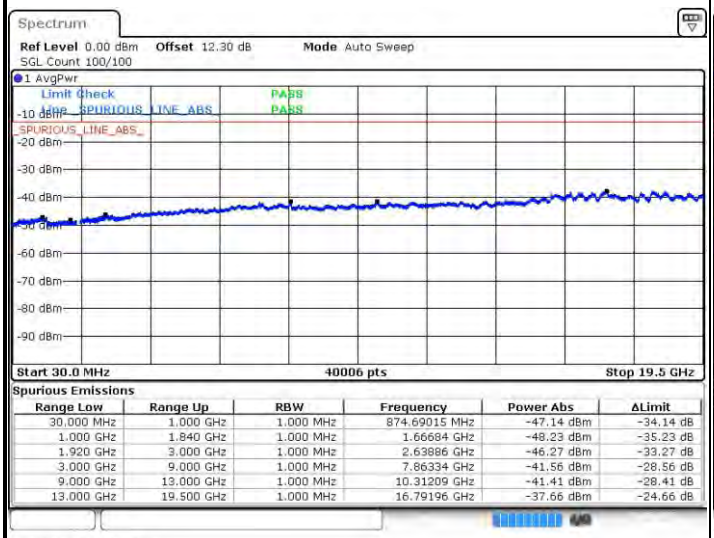


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	894.56522 MHz	-47.06 dBm	-34.06 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.66642 GHz	-48.10 dBm	-35.10 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.81124 GHz	-46.11 dBm	-33.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86134 GHz	-41.55 dBm	-28.55 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70179 GHz	-41.23 dBm	-28.23 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07386 GHz	-37.45 dBm	-24.45 dB

Date: 23.JUN.2015 10:31:08

Highest Channel / QPSK

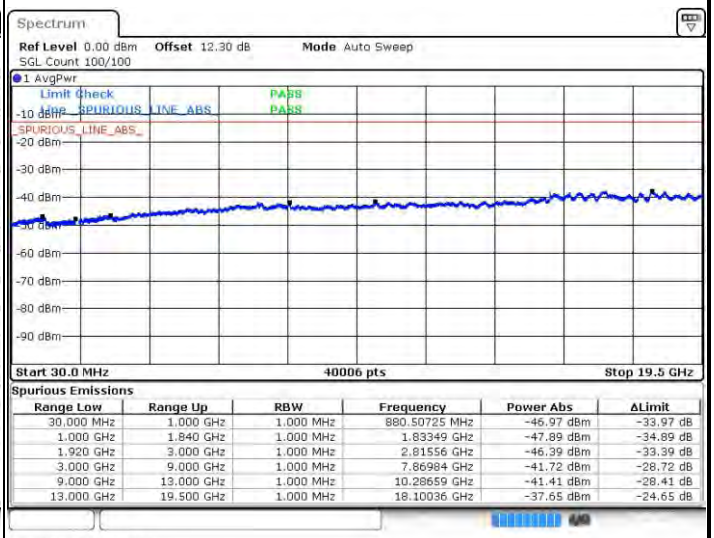


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	874.69015 MHz	-47.14 dBm	-34.14 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.66684 GHz	-48.23 dBm	-35.23 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.63886 GHz	-46.27 dBm	-33.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86334 GHz	-41.56 dBm	-28.56 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31209 GHz	-41.41 dBm	-28.41 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.79196 GHz	-37.66 dBm	-24.66 dB

Date: 23.JUN.2015 10:37:46

Highest Channel / 16QAM



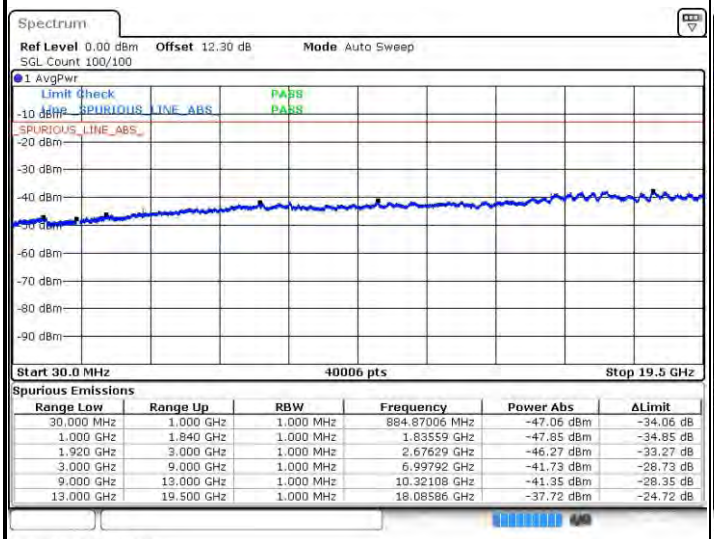
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	880.50725 MHz	-46.97 dBm	-33.97 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-47.89 dBm	-34.89 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.81556 GHz	-46.39 dBm	-33.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86984 GHz	-41.72 dBm	-28.72 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.28659 GHz	-41.41 dBm	-28.41 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.10036 GHz	-37.65 dBm	-24.65 dB

Date: 23.JUN.2015 10:38:57

LTE Band 2 / 5MHz

Lowest Channel / QPSK

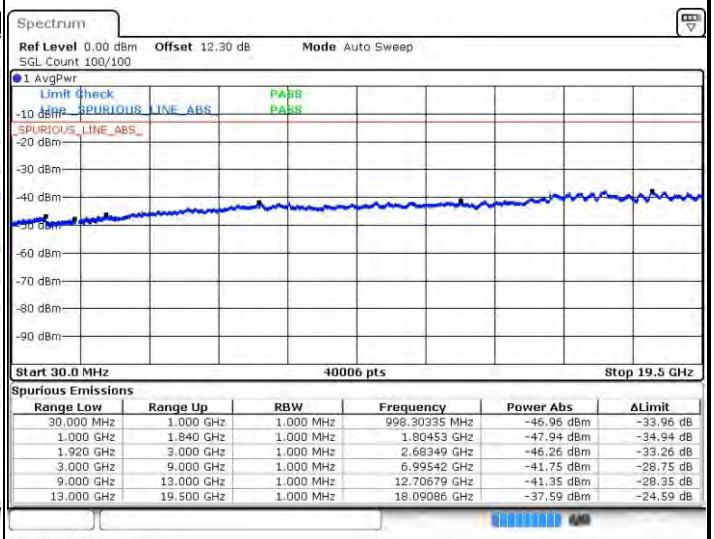


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	884.87006 MHz	-47.06 dBm	-34.06 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-47.85 dBm	-34.85 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.67629 GHz	-46.27 dBm	-33.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99792 GHz	-41.73 dBm	-28.73 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32108 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08586 GHz	-37.72 dBm	-24.72 dB

Date: 23.JUN.2015 10:45:35

Lowest Channel / 16QAM

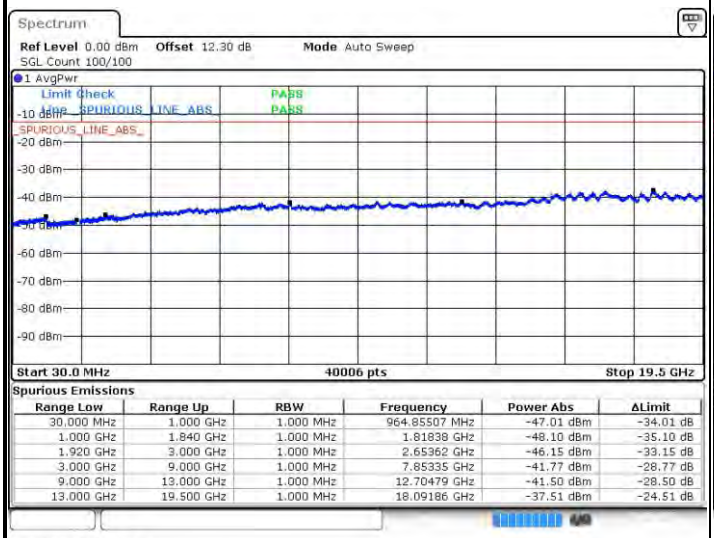


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	998.30335 MHz	-46.96 dBm	-33.96 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80453 GHz	-47.94 dBm	-34.94 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.68349 GHz	-46.26 dBm	-33.26 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99542 GHz	-41.75 dBm	-28.75 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70679 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.09086 GHz	-37.59 dBm	-24.59 dB

Date: 23.JUN.2015 10:46:45

Middle Channel / QPSK

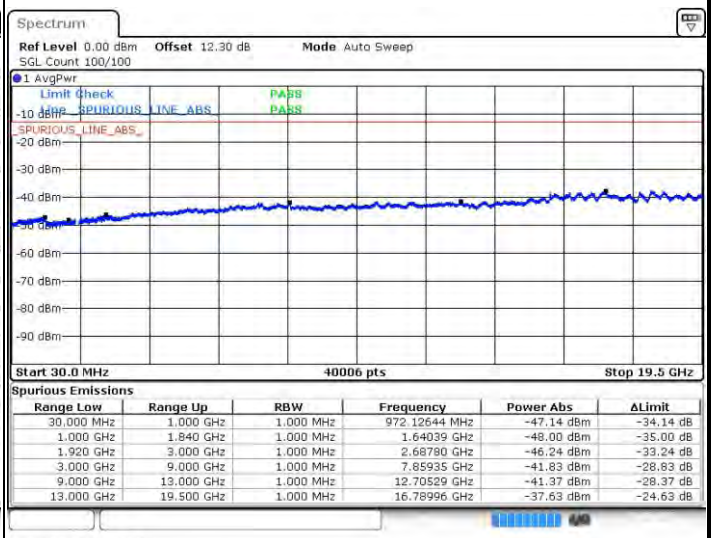


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	964.85507 MHz	-47.01 dBm	-34.01 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81838 GHz	-48.10 dBm	-35.10 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.65362 GHz	-46.15 dBm	-33.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85335 GHz	-41.77 dBm	-28.77 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70479 GHz	-41.50 dBm	-28.50 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.09186 GHz	-37.51 dBm	-24.51 dB

Date: 23.JUN.2015 10:48:43

Middle Channel / 16QAM



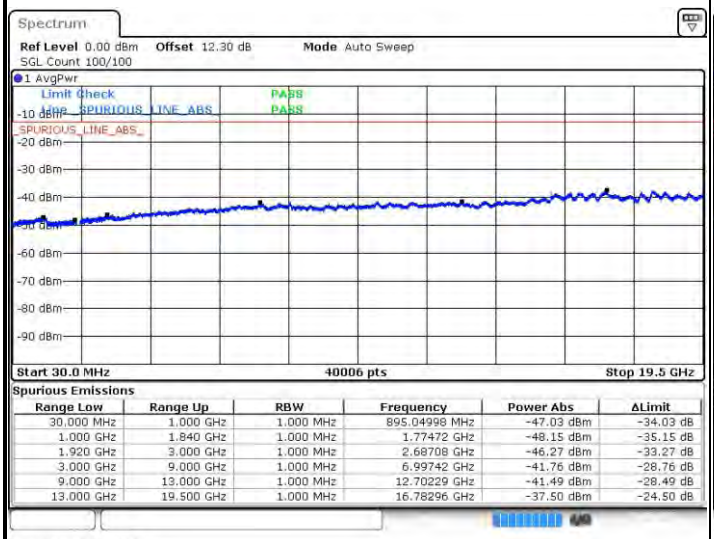
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	972.12644 MHz	-47.14 dBm	-34.14 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64039 GHz	-48.00 dBm	-35.00 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.68780 GHz	-46.24 dBm	-33.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85935 GHz	-41.83 dBm	-28.83 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70529 GHz	-41.37 dBm	-28.37 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78996 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 10:49:53

LTE Band 2 / 5MHz

Highest Channel / QPSK

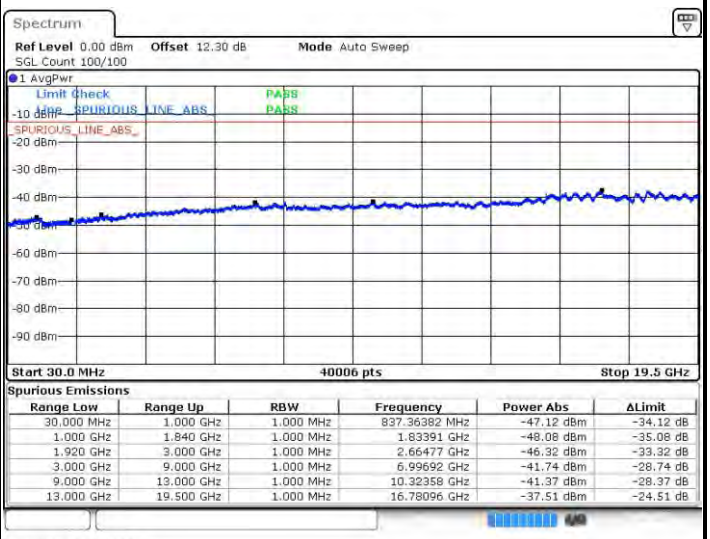


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	895.04998 MHz	-47.03 dBm	-34.03 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.77472 GHz	-48.15 dBm	-35.15 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.68708 GHz	-46.27 dBm	-33.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99742 GHz	-41.76 dBm	-28.76 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70229 GHz	-41.49 dBm	-28.49 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78296 GHz	-37.50 dBm	-24.50 dB

Date: 23.JUN.2015 10:56:31

Highest Channel / 16QAM



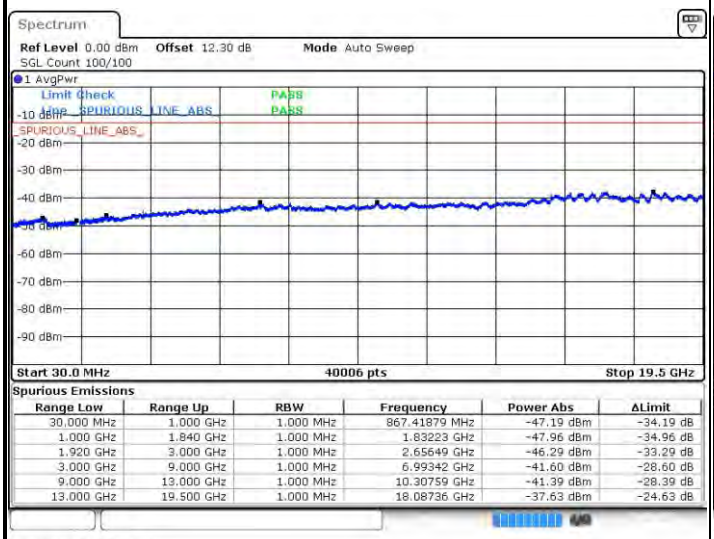
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	837.36382 MHz	-47.12 dBm	-34.12 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83391 GHz	-48.08 dBm	-35.08 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.66477 GHz	-46.32 dBm	-33.32 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99692 GHz	-41.74 dBm	-28.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32358 GHz	-41.37 dBm	-28.37 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78096 GHz	-37.51 dBm	-24.51 dB

Date: 23.JUN.2015 10:57:41

LTE Band 2 / 10MHz

Lowest Channel / QPSK

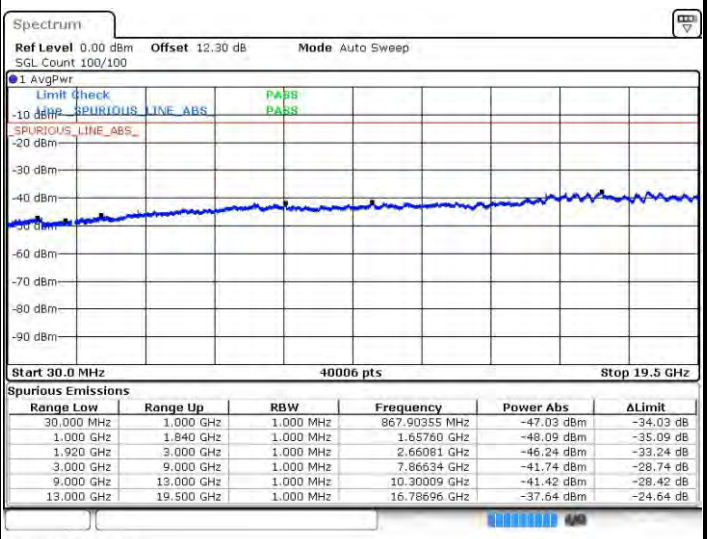


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	867.41879 MHz	-47.19 dBm	-34.19 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83223 GHz	-47.96 dBm	-34.96 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.65649 GHz	-46.29 dBm	-33.29 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99342 GHz	-41.60 dBm	-28.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30759 GHz	-41.39 dBm	-28.39 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08736 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 11:04:19

Lowest Channel / 16QAM



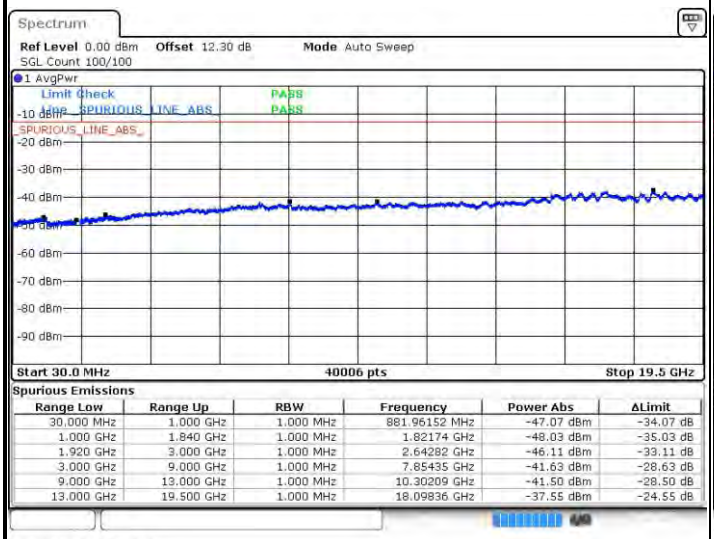
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	867.90355 MHz	-47.03 dBm	-34.03 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.65760 GHz	-48.09 dBm	-35.09 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.66081 GHz	-46.24 dBm	-33.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86634 GHz	-41.74 dBm	-28.74 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30009 GHz	-41.42 dBm	-28.42 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78696 GHz	-37.64 dBm	-24.64 dB

Date: 23.JUN.2015 11:05:29

LTE Band 2 / 10MHz

Middle Channel / QPSK

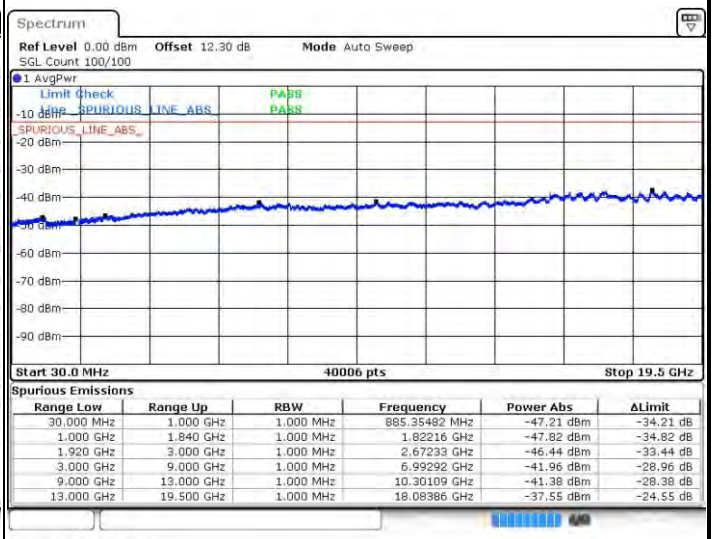


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.96152 MHz	-47.07 dBm	-34.07 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82174 GHz	-48.03 dBm	-35.03 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.64282 GHz	-46.11 dBm	-33.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85435 GHz	-41.63 dBm	-28.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30209 GHz	-41.50 dBm	-28.50 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.09836 GHz	-37.55 dBm	-24.55 dB

Date: 23.JUN.2015 11:07:27

Middle Channel / 16QAM

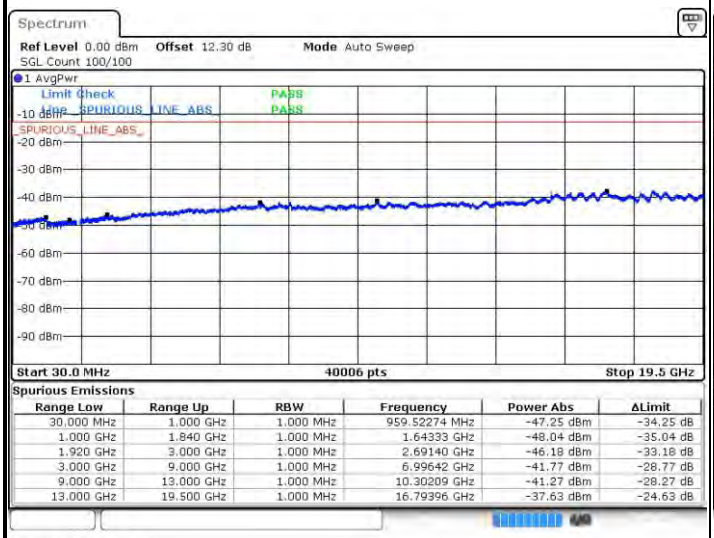


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	885.35482 MHz	-47.21 dBm	-34.21 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82216 GHz	-47.82 dBm	-34.82 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.67233 GHz	-46.44 dBm	-33.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99292 GHz	-41.96 dBm	-28.96 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30109 GHz	-41.38 dBm	-28.38 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08386 GHz	-37.55 dBm	-24.55 dB

Date: 23.JUN.2015 11:08:37

Highest Channel / QPSK

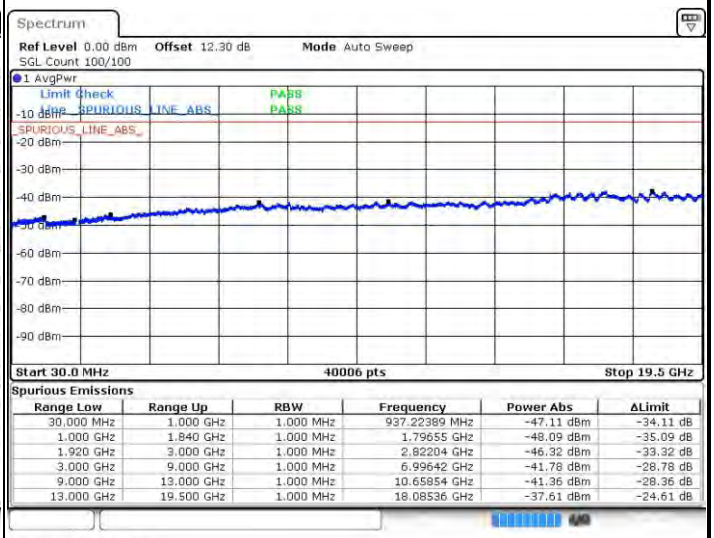


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	959.52274 MHz	-47.25 dBm	-34.25 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.64333 GHz	-48.04 dBm	-35.04 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.69140 GHz	-46.18 dBm	-33.18 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99642 GHz	-41.77 dBm	-28.77 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30209 GHz	-41.27 dBm	-28.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.79396 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 11:15:15

Highest Channel / 16QAM



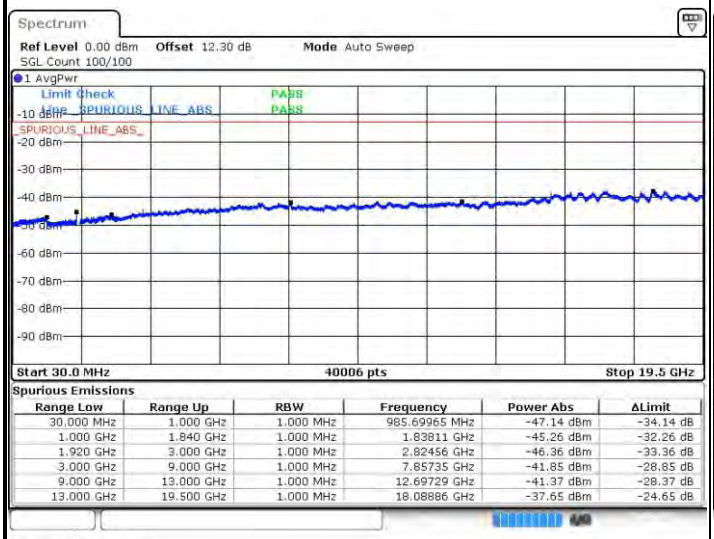
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	937.22389 MHz	-47.11 dBm	-34.11 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.79655 GHz	-48.09 dBm	-35.09 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82204 GHz	-46.32 dBm	-33.32 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99642 GHz	-41.78 dBm	-28.78 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.65854 GHz	-41.36 dBm	-28.36 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08536 GHz	-37.61 dBm	-24.61 dB

Date: 23.JUN.2015 11:16:26

LTE Band 2 / 15MHz

Lowest Channel / QPSK

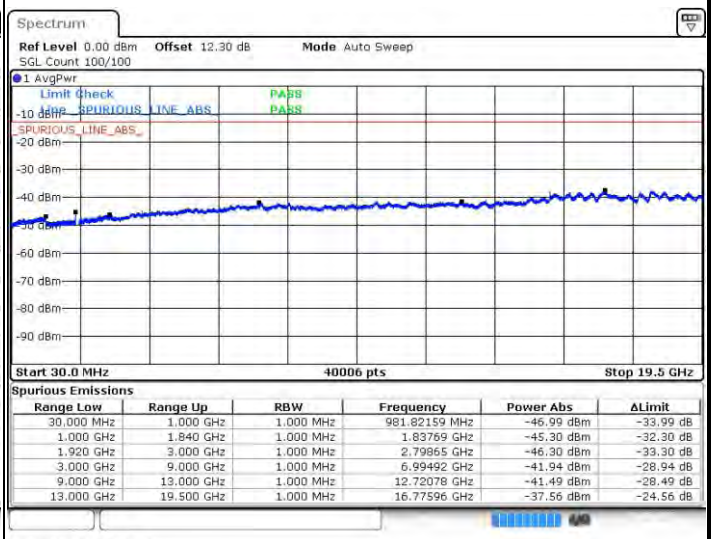


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	985.69965 MHz	-47.14 dBm	-34.14 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83811 GHz	-45.26 dBm	-32.26 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82456 GHz	-46.36 dBm	-33.36 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85735 GHz	-41.85 dBm	-28.85 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69729 GHz	-41.37 dBm	-28.37 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08886 GHz	-37.65 dBm	-24.65 dB

Date: 23.JUN.2015 11:23:03

Lowest Channel / 16QAM

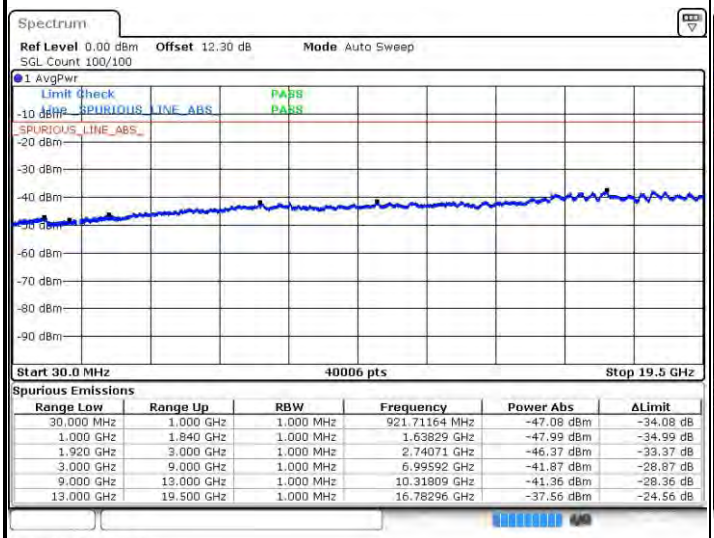


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	981.82159 MHz	-46.99 dBm	-33.99 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-45.30 dBm	-32.30 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.79865 GHz	-46.30 dBm	-33.30 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99492 GHz	-41.94 dBm	-28.94 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.72078 GHz	-41.49 dBm	-28.49 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.77596 GHz	-37.56 dBm	-24.56 dB

Date: 23.JUN.2015 11:24:13

Middle Channel / QPSK

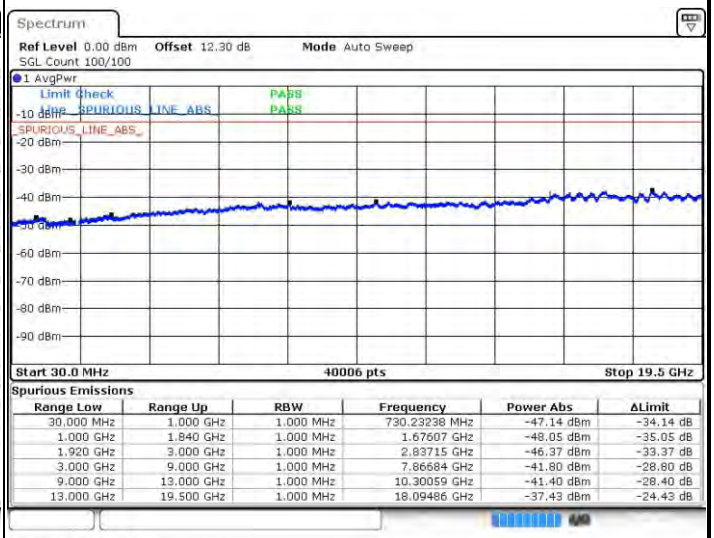


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	921.71164 MHz	-47.08 dBm	-34.08 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.63829 GHz	-47.99 dBm	-34.99 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.74071 GHz	-46.37 dBm	-33.37 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99592 GHz	-41.87 dBm	-28.87 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31809 GHz	-41.36 dBm	-28.36 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78296 GHz	-37.56 dBm	-24.56 dB

Date: 23.JUN.2015 11:26:11

Middle Channel / 16QAM



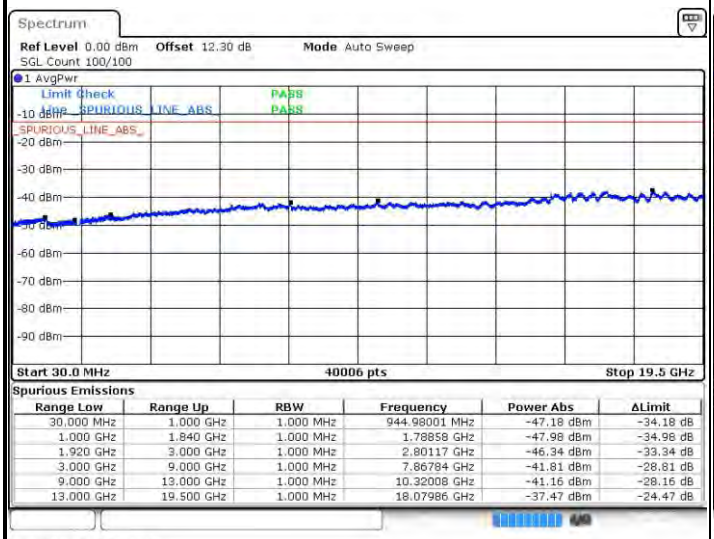
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	730.23238 MHz	-47.14 dBm	-34.14 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.67607 GHz	-48.05 dBm	-35.05 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.83715 GHz	-46.37 dBm	-33.37 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86684 GHz	-41.80 dBm	-28.80 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30059 GHz	-41.40 dBm	-28.40 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.09486 GHz	-37.43 dBm	-24.43 dB

Date: 23.JUN.2015 11:27:21

LTE Band 2 / 15MHz

Highest Channel / QPSK

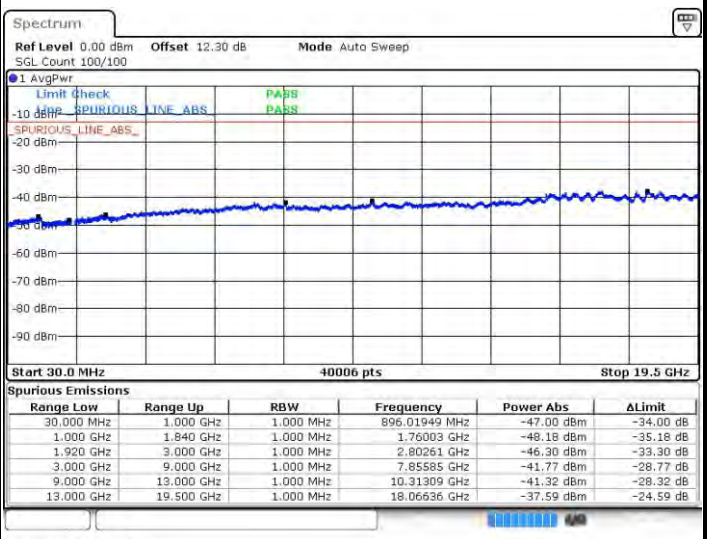


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	944.98001 MHz	-47.18 dBm	-34.18 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.78858 GHz	-47.98 dBm	-34.98 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.80117 GHz	-46.34 dBm	-33.34 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86784 GHz	-41.81 dBm	-28.81 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.32008 GHz	-41.16 dBm	-28.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07986 GHz	-37.47 dBm	-24.47 dB

Date: 23.JUN.2015 11:34:00

Highest Channel / 16QAM



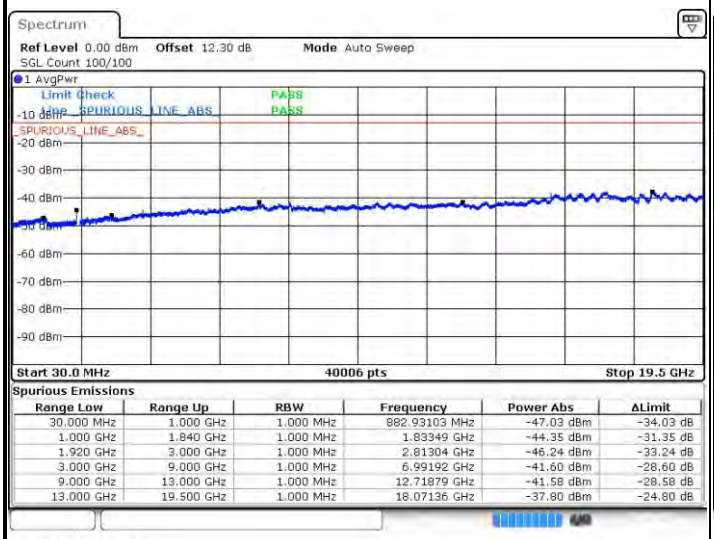
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	896.01949 MHz	-47.00 dBm	-34.00 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.76003 GHz	-48.18 dBm	-35.18 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.80261 GHz	-46.30 dBm	-33.30 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85585 GHz	-41.77 dBm	-28.77 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31309 GHz	-41.32 dBm	-28.32 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.06636 GHz	-37.59 dBm	-24.59 dB

Date: 23.JUN.2015 11:35:10

LTE Band 2 / 20MHz

Lowest Channel / QPSK

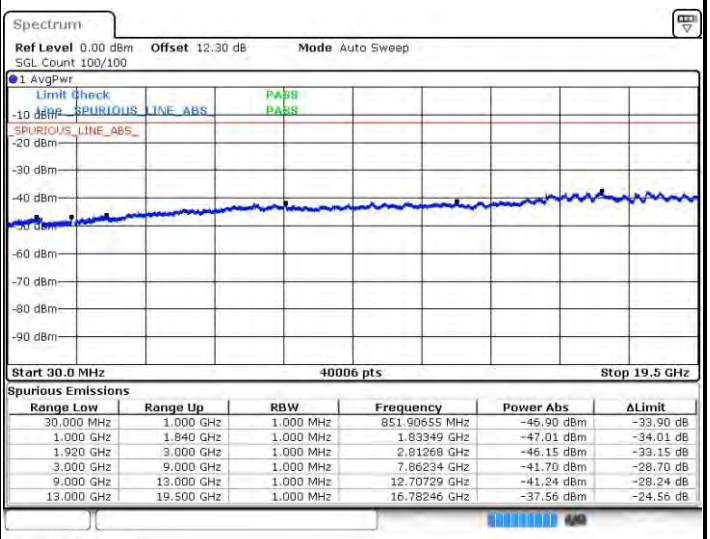


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	882.93103 MHz	-47.03 dBm	-34.03 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-44.35 dBm	-31.35 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.81304 GHz	-46.24 dBm	-33.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99192 GHz	-41.60 dBm	-28.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.71879 GHz	-41.58 dBm	-28.58 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.07136 GHz	-37.80 dBm	-24.80 dB

Date: 23.JUN.2015 11:41:48

Lowest Channel / 16QAM



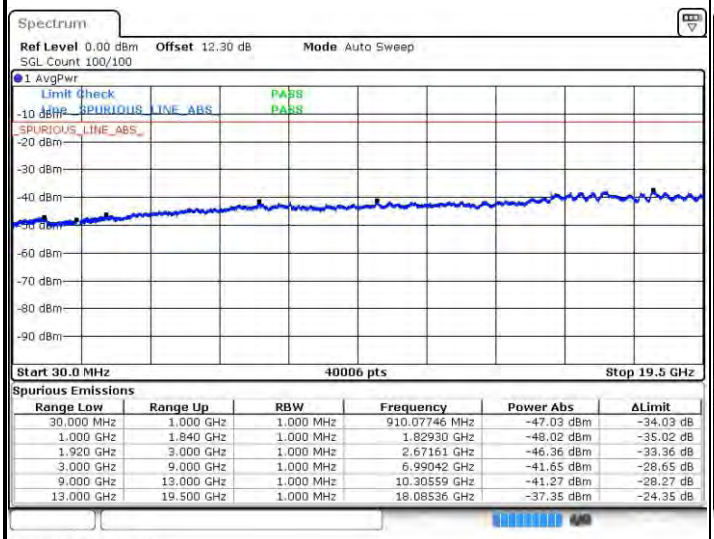
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	851.90655 MHz	-46.90 dBm	-33.90 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-47.01 dBm	-34.01 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.81268 GHz	-46.15 dBm	-33.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.86234 GHz	-41.70 dBm	-28.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.70729 GHz	-41.24 dBm	-28.24 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78246 GHz	-37.56 dBm	-24.56 dB

Date: 23.JUN.2015 11:42:58

LTE Band 2 / 20MHz

Middle Channel / QPSK

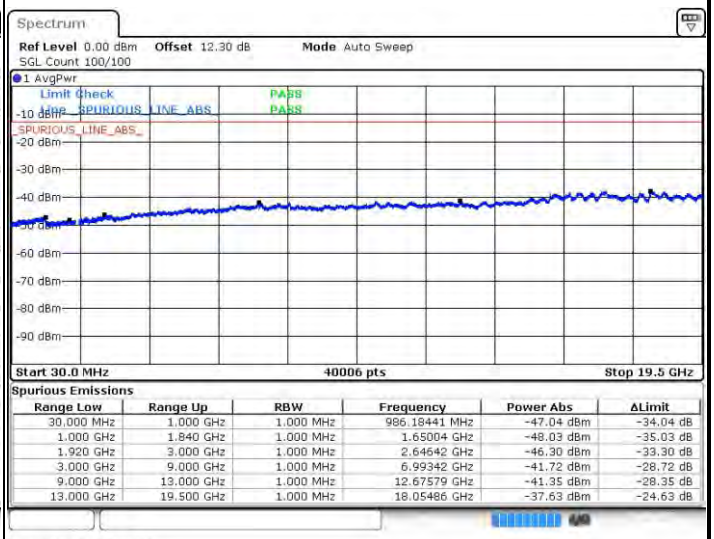


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	910.07746 MHz	-47.03 dBm	-34.03 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82930 GHz	-48.02 dBm	-35.02 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.67161 GHz	-46.36 dBm	-33.36 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99042 GHz	-41.65 dBm	-28.65 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30559 GHz	-41.27 dBm	-28.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08536 GHz	-37.35 dBm	-24.35 dB

Date: 23.JUN.2015 11:44:57

Middle Channel / 16QAM

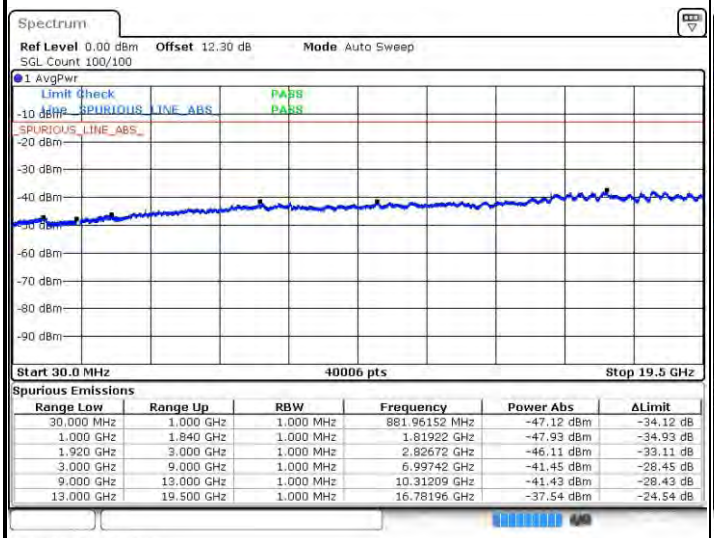


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	986.18441 MHz	-47.04 dBm	-34.04 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.65004 GHz	-48.03 dBm	-35.03 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.64642 GHz	-46.30 dBm	-33.30 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99342 GHz	-41.72 dBm	-28.72 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.67579 GHz	-41.35 dBm	-28.35 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.05486 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 11:46:07

Highest Channel / QPSK

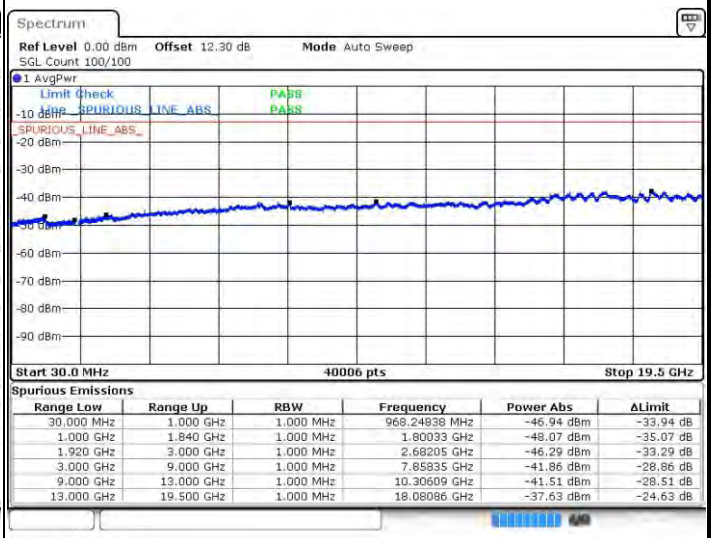


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	881.96152 MHz	-47.12 dBm	-34.12 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81922 GHz	-47.93 dBm	-34.93 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82672 GHz	-46.11 dBm	-33.11 dB
3.000 GHz	9.000 GHz	1.000 MHz	6.99742 GHz	-41.45 dBm	-28.45 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.31209 GHz	-41.43 dBm	-28.43 dB
13.000 GHz	19.500 GHz	1.000 MHz	16.78196 GHz	-37.54 dBm	-24.54 dB

Date: 23.JUN.2015 11:52:45

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	968.24838 MHz	-46.94 dBm	-33.94 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80033 GHz	-48.07 dBm	-35.07 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.68205 GHz	-46.29 dBm	-33.29 dB
3.000 GHz	9.000 GHz	1.000 MHz	7.85835 GHz	-41.86 dBm	-28.86 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.30609 GHz	-41.51 dBm	-28.51 dB
13.000 GHz	19.500 GHz	1.000 MHz	18.08086 GHz	-37.63 dBm	-24.63 dB

Date: 23.JUN.2015 11:53:56

Frequency Stability

Test Conditions		LTE Band 2 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0014	PASS
40	Normal Voltage	0.0002	
30	Normal Voltage	0.0010	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0001	
0	Normal Voltage	0.0009	
-10	Normal Voltage	0.0081	
-20	Normal Voltage	0.0013	
-30	Normal Voltage	0.0016	
20	Maximum Voltage	0.0074	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0006	

Note:

1. Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.3 V.；Maximum Voltage =4.35 V
2. The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

LTE Band 4

Conducted Output Power(Average power)

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.99	23.18	23.14
1.4	1	2		23.30	23.18	23.18
1.4	1	5		23.13	23.13	23.08
1.4	3	0		23.17	23.38	23.22
1.4	3	1		23.22	23.43	23.36
1.4	3	2		23.15	23.32	23.26
1.4	6	0		22.17	22.25	22.09
1.4	1	0	16-QAM	22.43	22.48	22.44
1.4	1	2		22.43	22.41	22.37
1.4	1	5		22.47	22.49	22.34
1.4	3	0		22.25	22.25	22.32
1.4	3	1		22.31	22.28	22.31
1.4	3	2		22.31	22.24	22.29
1.4	6	0		21.09	21.12	21.07
3	1	0	QPSK	23.13	23.19	23.00
3	1	7		23.16	23.31	23.19
3	1	14		22.99	23.24	23.27
3	8	0		22.22	22.25	22.11
3	8	4		22.07	22.28	22.11
3	8	7		22.12	22.26	22.12
3	15	0		22.07	22.18	22.03
3	1	0	16-QAM	22.37	22.41	22.36
3	1	7		22.36	22.45	22.39
3	1	14		22.41	22.44	22.25
3	8	0		21.21	21.29	21.14
3	8	4		21.19	21.22	21.14
3	8	7		21.14	21.23	21.23
3	15	0		20.86	21.21	21.03

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.31	23.16	22.99
5	1	12		23.11	23.33	23.17
5	1	24		23.14	23.09	23.25
5	12	0		22.06	22.25	22.07
5	12	6		22.17	22.12	22.02
5	12	11		22.13	22.12	22.05
5	25	0		22.08	22.18	22.07
5	1	0	16-QAM	22.43	22.44	22.27
5	1	12		22.33	22.49	22.24
5	1	24		22.30	22.42	22.29
5	12	0		21.13	21.03	20.88
5	12	6		20.95	21.04	20.90
5	12	11		20.96	21.04	20.92
5	25	0		21.03	21.28	20.95
10	1	0	QPSK	23.16	23.29	23.12
10	1	24		23.15	23.34	23.07
10	1	49		23.25	23.20	23.34
10	25	0		22.17	22.30	22.09
10	25	12		22.05	22.19	22.06
10	25	24		22.16	22.16	22.02
10	50	0		22.19	22.28	22.01
10	1	0	16-QAM	22.44	22.49	22.44
10	1	24		22.37	22.48	22.23
10	1	49		22.32	22.47	22.41
10	25	0		21.06	21.22	21.05
10	25	12		21.04	21.20	21.05
10	25	24		20.97	21.00	20.98
10	50	0		20.90	21.13	20.97