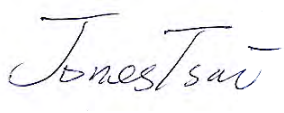
FCC RF Test Report

APPLICANT	**: CT Asia**
EQUIPMENT	**: Smart Phone**
BRAND NAME	**: BLU**
MODEL NAME	**: VIVO LTE**
FCC ID	**: YHLBLUVIVOLTE**
STANDARD	**: 47 CFR Part 2, 24(E), 27(L), 27(M)**
CLASSIFICATION	**: PCS Licensed Transmitter Held to Ear (PCE)**

The product was received on Mar. 10, 2015 and testing was completed on Apr. 25, 2015. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI / TIA / 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 (KUNSHAN) INC., the test report shall not be reproduced except in full.

Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG531001B	Rev. 01	Initial issue of report	May 11, 2015

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.4	§2.1046	RSS-Gen(6.12) RSS-133 (6.4) RSS-139 (6.4) RSS-199 (4.4)	Conducted Output Power	Reporting Only	PASS	-
3.5	§24.232(d)	RSS-133 (6.4) RSS-139 (6.4)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049 §24.238(b) §27.53(h)(3) §27.53(m)(6)	RSS-GEN(6.6) RSS-133 (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)	RSS-133 (6.5.1) RSS-139 (6.5)	Conducted Band Edge Measurement (Band 2) (Band 4)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	RSS-199 (4.5)	Conducted Band Edge Measurement (Band 7)	< 5MHz: -10 dBm 5 MHz~6MHz or 26dB(BW): -13 dBm ≥6MHz or 26dB(BW): -25 dBm	PASS	-

3.8	§2.1051 §24.238(a) §27.53(g)	RSS-133 (6.5.1) RSS-139 (6.5)	Conducted Spurious Emission (Band 2) (Band 4)	< 43+10log10(P[Watts])	PASS	-
	§2.1051 §27.53(m)(4)	RSS-GEN(4.9) RSS-199 (4.5)	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-139 (6.3) RSS-199 (4.3)	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	
4.4	§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	PASS	
	§27.50(d)(4)	RSS-139 (6.4) SRSP-513(5.1.2)	Equivalent Isotropic Radiated Power (Band 4)	EIRP < 1Watt		
4.5	§2.1053 §24.238(a) §27.53(h)	RSS-133 (6.5.1) RSS-139 (6.5)	Radiated Spurious Emission (Band 2) (Band 4)	< 43+10log$_{10}$(P[Watts])	PASS	Under limit 6.77 dB at 7696.000 MHz
	§2.1053 §27.53(m)(4)	RSS-199 (4.5)	Radiated Spurious Emission (Band 7)	< 55+10log$_{10}$(P[Watts])		

1 General Description

1.1 Applicant

CT Asia
Unit 01, 15/F, Seaview Centre, 139-141 Hoi bun road, Kwun Tong, Kowloon, Hongkong

1.2 Manufacturer

Longcheer Technology (Shanghai) Co., Ltd.
Building 1, No.401, Caobao Rd, Xuhui District, Shanghai, P.R.China

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Smart Phone
Brand Name	BLU
Model Name	VIVO LTE
FCC ID	YHLBLUVIVOLTE
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink only) /DC-HSDPA/LTE WLAN2.4GHz 802.11b/g/n HT20 Bluetooth v3.0+EDR/ Bluetooth v4.0 LE
HW Version	60
SW Version	BLU_V010Q_V04_GENERIC_150210_03:08
EUT Stage	Pre-Production

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
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
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
Maximum Output Power to Antenna	LTE Band 2 : 23.69 dBm LTE Band 4 : 22.96 dBm LTE Band 7 : 22.39 dBm
Antenna Type	Monopole Antenna
Type of Modulation	QPSK / 16QAM

1.5 Modification of EUT

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

1.6 Emission Designator

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	-	0.1368	1M10W7D	-	0.1016
3	2M73G7D	-	0.1213	2M73W7D	-	0.1050
5	4M50G7D	-	0.1400	4M50W7D	-	0.1104
10	9M07G7D	0.0032	0.1294	9M03W7D	-	0.1096
15	13M5G7D	-	0.1300	13M5W7D	-	0.1081
20	18M3G7D	-	0.1175	18M3W7D	-	0.1002
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	-	0.0912	1M10W7D	-	0.0661
3	2M73G7D	-	0.0891	2M73W7D	-	0.0667
5	4M50G7D	-	0.0879	4M50W7D	-	0.0675
10	9M03G7D	0.0064	0.0807	9M03W7D	-	0.0661
15	13M5G7D	-	0.0859	13M4W7D	-	0.0679
20	18M3G7D	-	0.0826	18M4W7D	-	0.0650
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)
5	4M51G7D	-	0.0918	4M51W7D	-	0.0741
10	9M13G7D	0.0047	0.1030	9M01W7D	-	0.0757
15	13M5G7D	-	0.0957	13M5W7D	-	0.0714
20	18M3G7D	-	0.1050	18M4W7D	-	0.0767

1.7 Testing Location

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.	
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958	
Test Site No.	**Sporton Site No.**	
	TH01-KS	

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 Registration No.**
	03CH10-HY	TW1022

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(L), 27(M)
- ANSI / TIA / EIA-603-C-2004
- FCC KDB 971168 D01 Power Meas. License Digital Systems v02r02

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

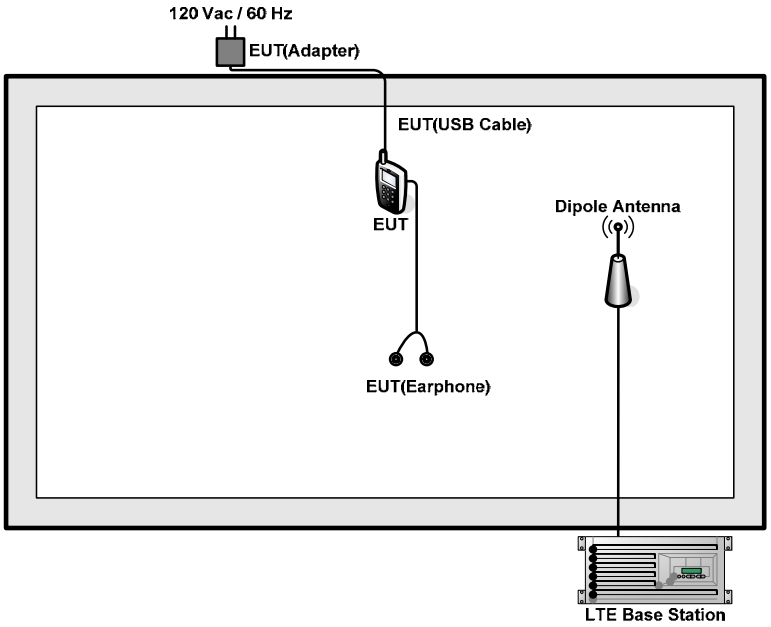
Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v02r02 with maximum output power.

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

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max. Output Power	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
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
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
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

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
	4	v	v	v	v	v	v	v	v	v			v	v	v
	7	-	-	v	v	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	
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
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
Note	1. The mark "v " means that this configuration is chosen for testing 2. The mark "-" means that this bandwidth is not supported. 3. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.														

2.2 Connection Diagram of Test System



2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	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

2.4 Measurement Results Explanation Example

For all conducted test items:

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

The spectrum analyzer offset is derived from RF cable loss.

Offset = RF cable loss.

Following shows an offset computation example with cable loss 5.0 dB.

Example :

Offset(dB) = RF cable loss(dB).

=5.0 (dB)

3 Conducted Test Items

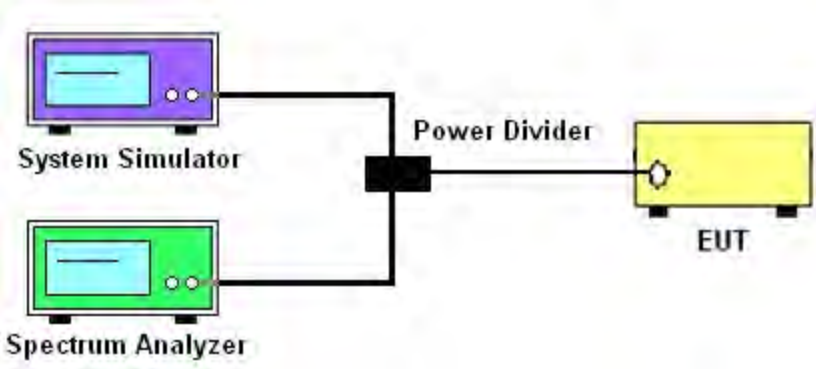
3.1 Measuring Instruments

See list of measuring instruments of this test report.

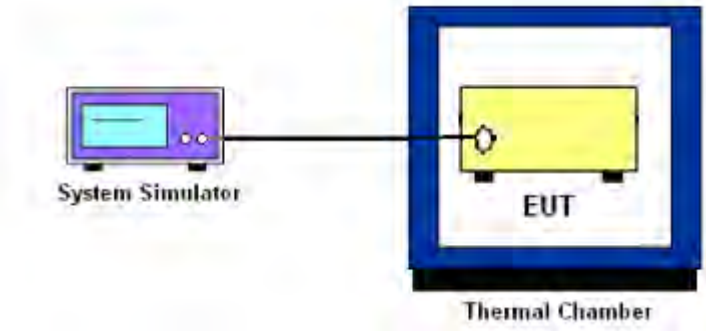
3.2 Test Setup

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 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

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

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

3.6.2 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 (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 10^{th} 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.
9. 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.

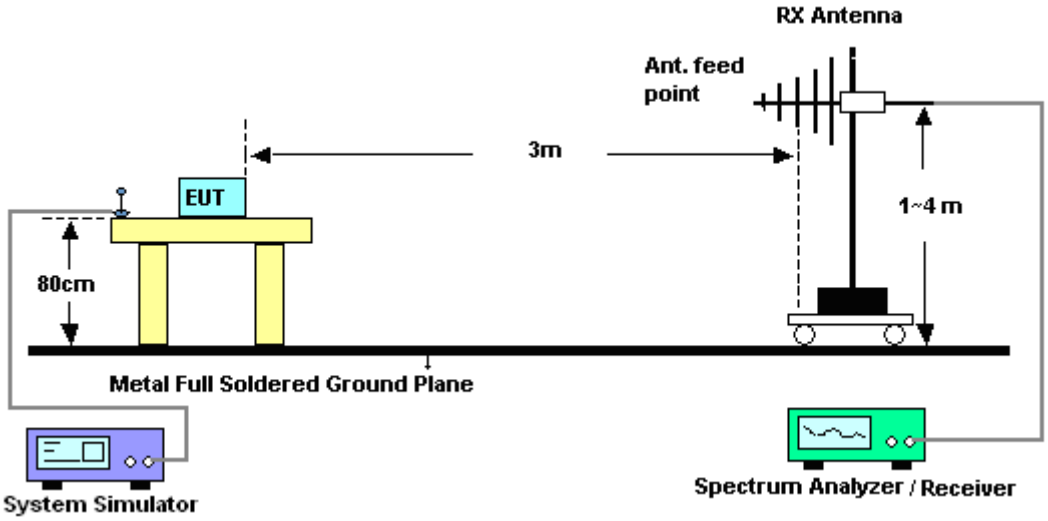
4 Radiated Test Items

4.1 Measuring Instruments

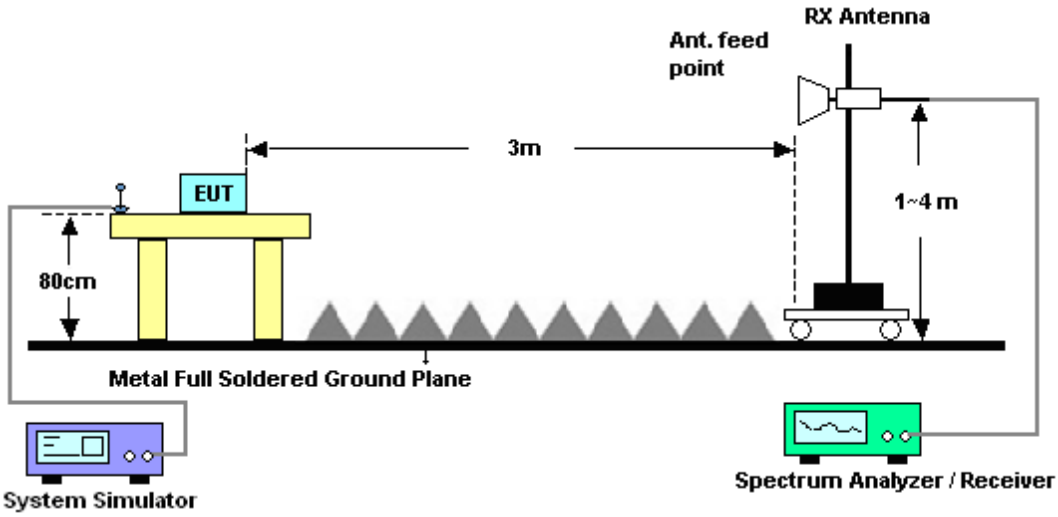
See list of measuring instruments of this test report.

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 Isotropic Radiated Power

4.4.1 Description of the EIRP Measurement

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 testing follows FCC KDB 971168 v02r02 Section 5.2.1. and ANSI / TIA-603-C-2004 Section 2.2.17.
2. 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.
3. 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.
4. 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					
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

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.

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	R&S	FSV30	101338	9kHz~30GHz	May 04, 2014	Mar. 27, 2015~ Mar. 31, 2015	May 03, 2015	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct. 25, 2014	Mar. 27, 2015~ Mar. 31, 2015	Oct. 24, 2015	Conducted (TH01-KS)
Spectrum Analyzer	Keysight	N9010A	MY54200485	10Hz ~ 44GHZ	Oct. 14, 2014	Apr. 22, 2015~ Apr. 25, 2015	Oct. 13, 2015	Radiation (03CH10-HY)
Bilog Antenna	TESEQ	CBL 6111D	35413	30MHz~1GHz	Oct. 24, 2014	Apr. 22, 2015~ Apr. 25, 2015	Oct. 23, 2015	Radiation (03CH10-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1325	1GHz ~ 18GHz	Oct. 03, 2014	Apr. 22, 2015~ Apr. 25, 2015	Oct. 02, 2015	Radiation (03CH10-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Oct. 02, 2014	Apr. 22, 2015~ Apr. 25, 2015	Oct. 01, 2015	Radiation (03CH10-HY)
Amplifier	SONOMA	310N	187311	9kHz~1GHz	Nov. 24, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 23, 2015	Radiation (03CH10-HY)
Preamplifier	Keysight	83017A	MY53270078	1GHz~26.5GHz	Nov. 20, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 19, 2015	Radiation (03CH10-HY)
Hygrometer	TECPEL	DTM-303B	TP140320	N/A	Nov. 17, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 16, 2015	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	25GHz~40GHz	Nov. 06, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 05, 2015	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	30MHz~1GHz	Nov. 06, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 05, 2015	Radiation (03CH10-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY249564 MY249524 MY283184	1GHz~25GHz	Nov. 06, 2014	Apr. 22, 2015~ Apr. 25, 2015	Nov. 05, 2015	Radiation (03CH10-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	NCR	Apr. 22, 2015~ Apr. 25, 2015	NCR	Radiation (03CH10-HY)
Turn Table	EMEC	TT 2200	N/A	0-360 degree	NCR	Apr. 22, 2015~ Apr. 25, 2015	NCR	Radiation (03CH10-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))	**4.9 dB**

APPENDIX A. TEST RESULTS OF CONDUCTED TEST

LTE Band 2

Conducted Output Power(Average power)

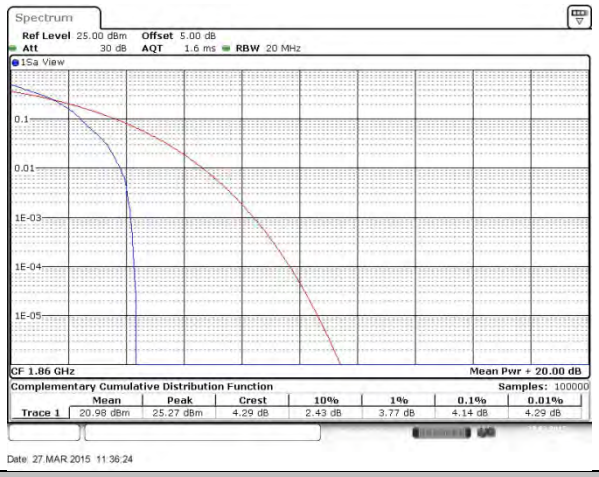
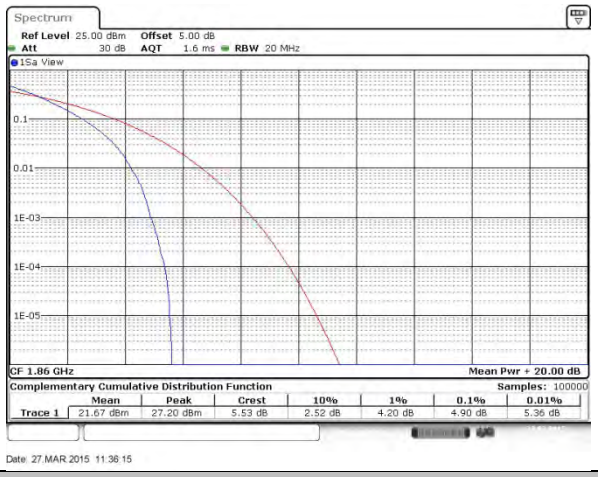
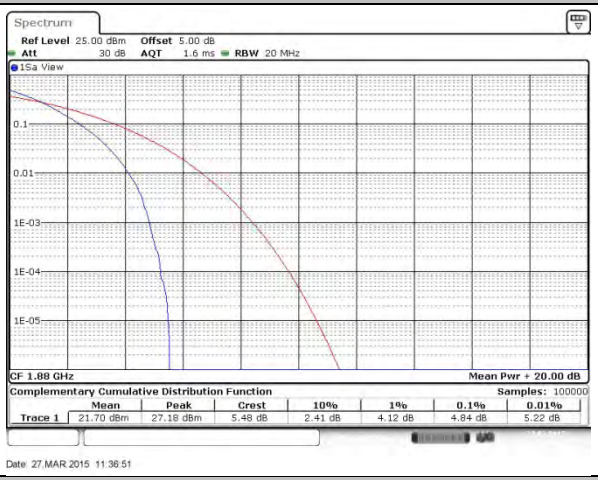
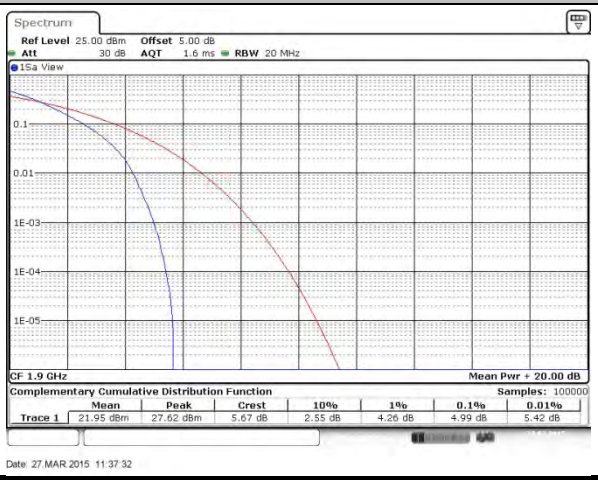
LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	23.41	23.20	23.64
1.4	1	2		23.28	23.18	23.57
1.4	1	5		23.31	23.22	23.58
1.4	3	0		23.36	23.11	23.58
1.4	3	1		23.30	23.17	23.66
1.4	3	2		23.28	23.14	23.62
1.4	6	0		22.57	22.36	22.80
1.4	1	0	16-QAM	22.40	22.21	22.64
1.4	1	2		22.37	22.22	22.71
1.4	1	5		22.41	22.30	22.74
1.4	3	0		22.49	22.25	22.66
1.4	3	1		22.52	22.25	22.69
1.4	3	2		22.45	22.32	22.76
1.4	6	0		21.71	21.51	21.95
3	1	0	QPSK	23.26	23.29	23.56
3	1	7		23.20	23.13	23.58
3	1	14		23.21	23.20	23.57
3	8	0		22.52	22.42	22.71
3	8	4		22.56	22.27	22.76
3	8	7		22.60	22.36	22.82
3	15	0		22.59	22.39	22.81
3	1	0	16-QAM	22.52	22.36	22.73
3	1	7		22.55	22.33	22.83
3	1	14		22.51	22.35	22.81
3	8	0		21.68	21.44	21.82
3	8	4		21.75	21.38	21.85
3	8	7		21.70	21.40	21.86
3	15	0		21.70	21.38	21.87

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.31	23.20	23.54
5	1	12		23.30	23.08	23.54
5	1	24		23.27	23.16	23.58
5	12	0		22.60	22.39	22.72
5	12	6		22.62	22.34	22.70
5	12	11		22.58	22.38	22.76
5	25	0		22.73	22.33	22.67
5	1	0	16-QAM	22.37	22.42	22.65
5	1	12		22.50	22.35	22.68
5	1	24		22.42	22.47	22.90
5	12	0		21.76	21.52	21.82
5	12	6		21.82	21.42	21.85
5	12	11		21.73	21.44	21.89
5	25	0		21.76	21.40	21.85
10	1	0	QPSK	23.39	23.32	23.56
10	1	24		23.29	23.19	23.59
10	1	49		23.22	23.22	23.58
10	25	0		22.70	22.45	22.70
10	25	12		22.49	22.29	22.78
10	25	24		22.52	22.50	22.73
10	50	0		22.59	22.42	22.79
10	1	0	16-QAM	22.39	22.46	22.63
10	1	24		22.54	22.31	22.66
10	1	49		22.41	22.50	22.83
10	25	0		21.84	21.58	21.83
10	25	12		21.70	21.42	21.89
10	25	24		21.70	21.57	21.91
10	50	0		21.68	21.58	21.97

LTE Band 2 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.39	23.26	23.59
15	1	37		23.35	23.08	23.56
15	1	74		23.17	23.18	23.49
15	36	0		22.50	22.44	22.66
15	36	18		22.55	22.32	22.65
15	36	37		22.47	22.42	22.69
15	75	0		22.45	22.50	22.69
15	1	0	16-QAM	22.47	22.40	22.61
15	1	37		22.44	22.19	22.65
15	1	74		22.26	22.44	22.74
15	36	0		21.74	21.56	21.89
15	36	18		21.80	21.49	21.95
15	36	37		21.69	21.51	21.84
15	75	0		21.65	21.61	21.86
20	1	0	QPSK	23.39	23.26	23.69
20	1	49		23.35	23.19	23.61
20	1	99		23.17	23.25	23.54
20	50	0		22.39	22.41	22.56
20	50	24		22.33	22.40	22.75
20	50	49		22.25	22.37	22.63
20	100	0		22.32	22.50	22.58
20	1	0	16-QAM	22.30	22.37	22.63
20	1	49		22.33	22.28	22.76
20	1	99		22.32	22.55	22.73
20	50	0		21.73	21.62	21.82
20	50	24		21.69	21.54	21.83
20	50	49		21.61	21.55	21.70
20	100	0		21.67	21.63	21.85

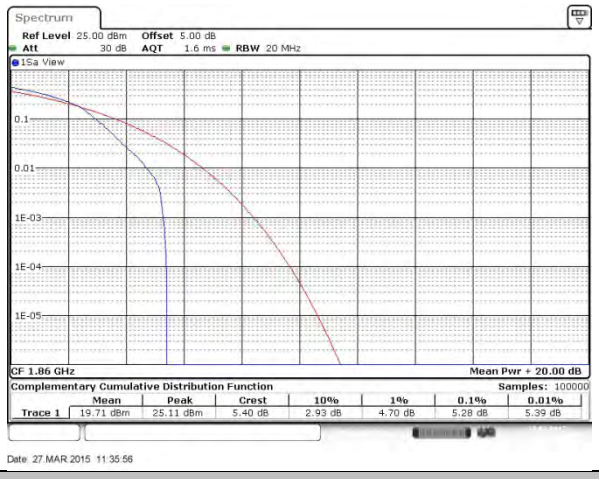
Peak-to-Average Ratio

Mode	LTE Band 2 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.14	4.9	5.28	5.94	PASS
Middle CH	4.87	4.84	5.86	5.97	
Highest CH	4.12	4.99	5.45	6.09	

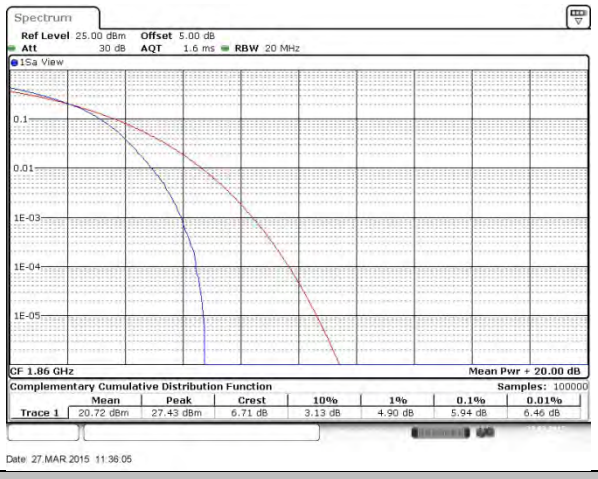
LTE Band 2 / 20MHz / QPSK	
Lowest Channel / 1RB	**Lowest Channel / Full RB**
	
Middle Channel / 1RB	**Middle Channel / Full RB**
	
Highest Channel / 1RB	**Highest Channel / Full RB**
	

LTE Band 2 / 20MHz / 16QAM

Lowest Channel / 1RB

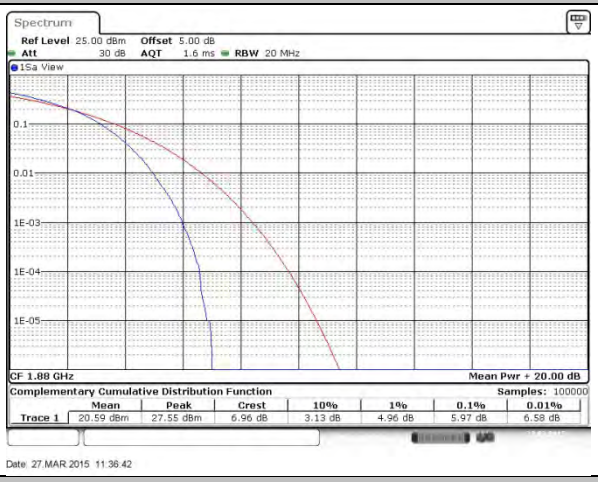


Lowest Channel / Full RB



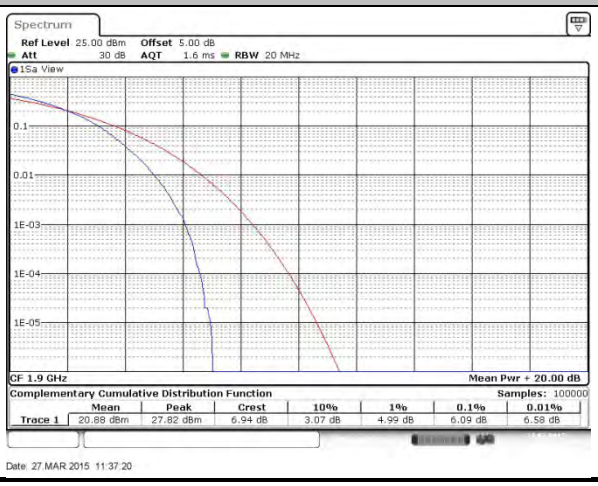
Middle Channel / 1RB

Middle Channel / Full RB



Highest Channel / 1RB

Highest Channel / Full RB

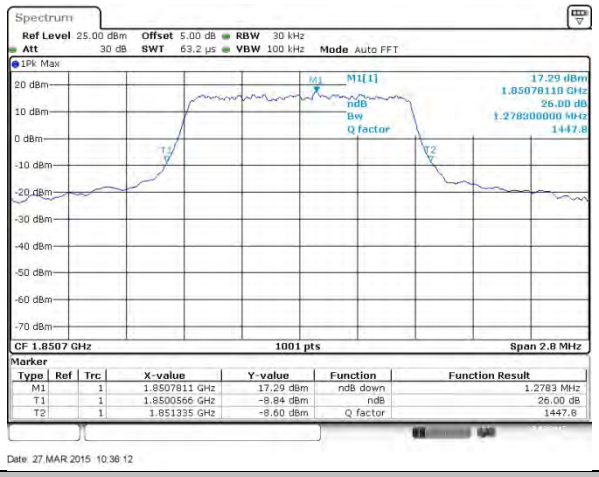


26dB Bandwidth

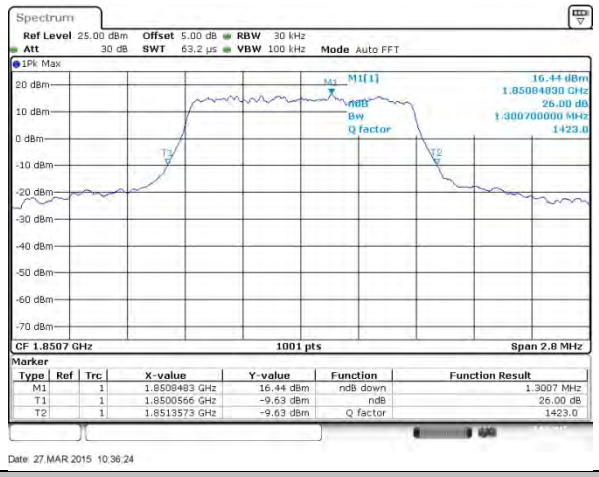
Mode	LTE Band 2 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.28	1.30	3.04	3.05	5.03	5.02	10.01	9.91	14.63	14.60	20.42	20.06
Middle CH	1.29	1.29	3.04	3.05	5.04	5.02	10.03	9.87	14.57	14.72	20.18	20.06
Highest CH	1.29	1.30	3.05	3.06	5.05	5.00	10.03	9.93	14.69	14.69	20.22	20.18

LTE Band 2

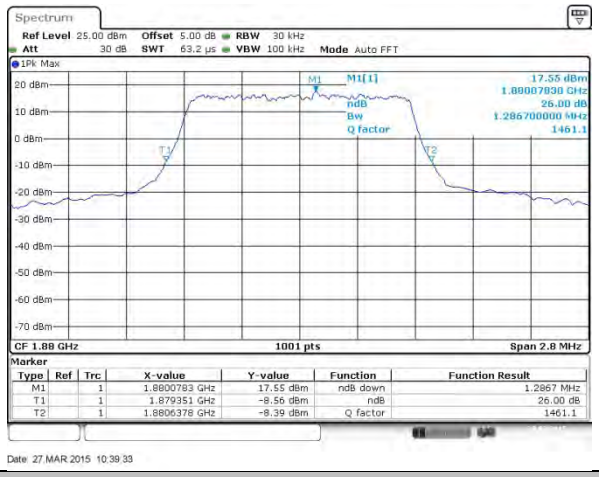
Lowest Channel / 1.4MHz / QPSK



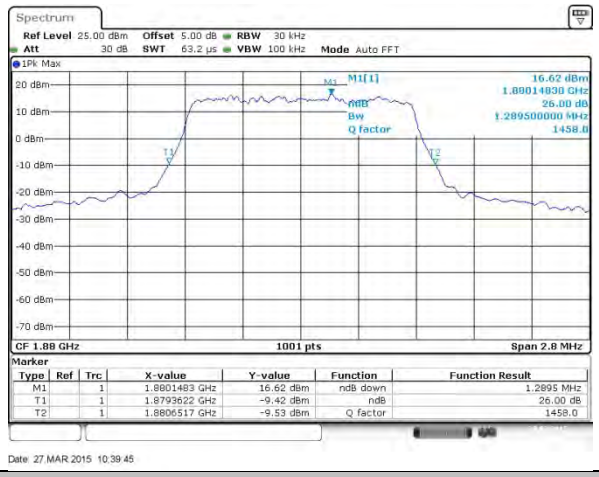
Lowest Channel / 1.4MHz / 16QAM



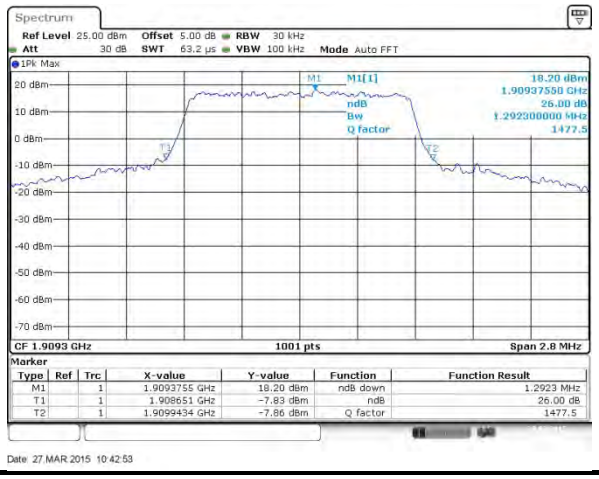
Middle Channel / 1.4MHz / QPSK



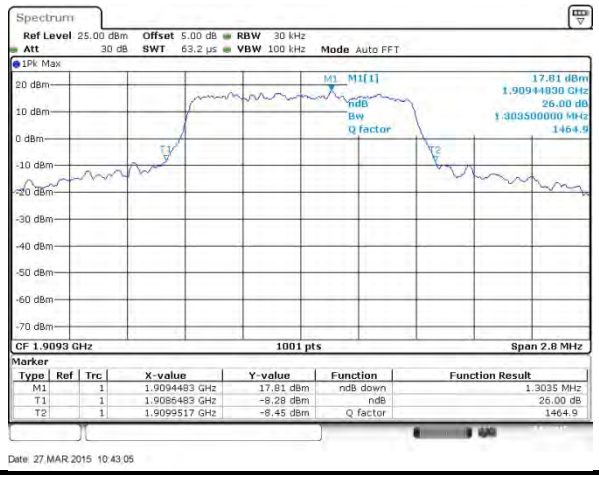
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

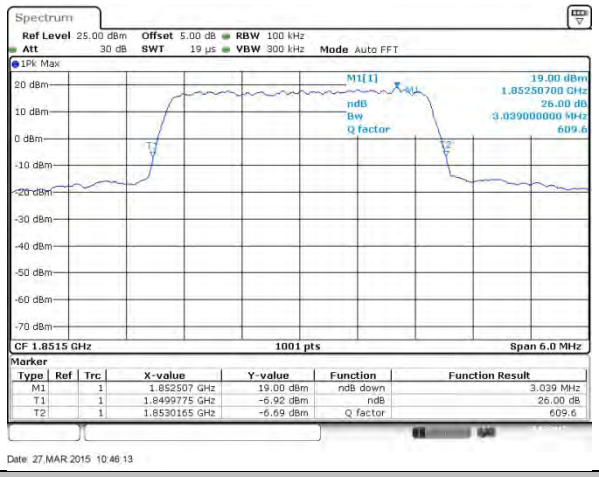


Highest Channel / 1.4MHz / 16QAM

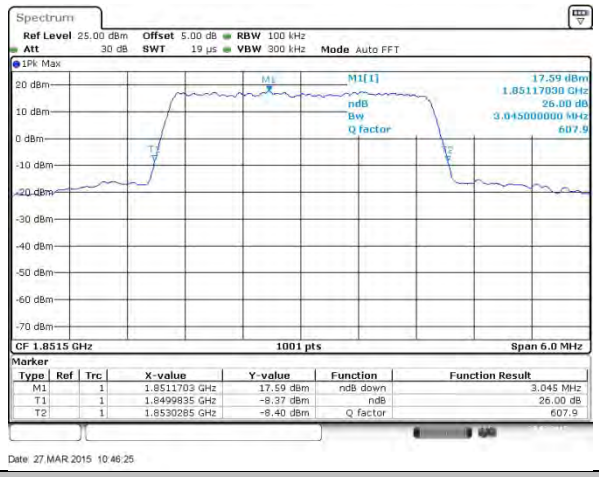


LTE Band 2

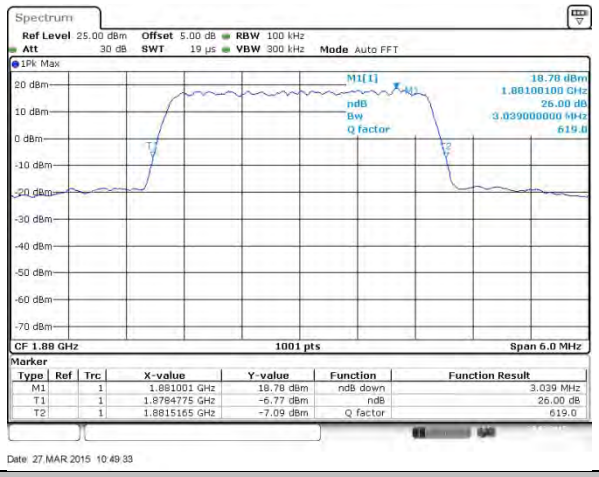
Lowest Channel / 3MHz / QPSK



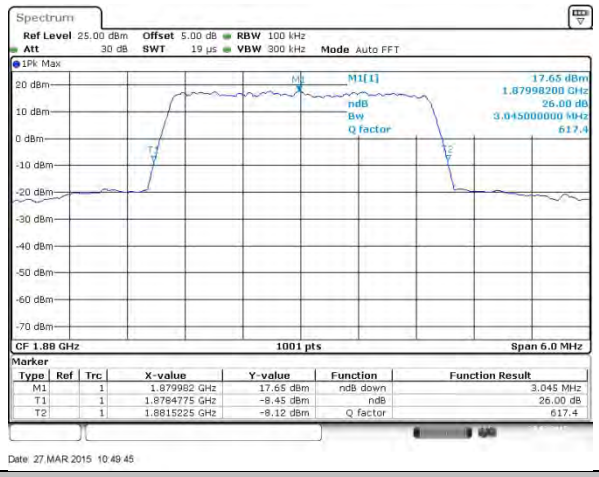
Lowest Channel / 3MHz / 16QAM



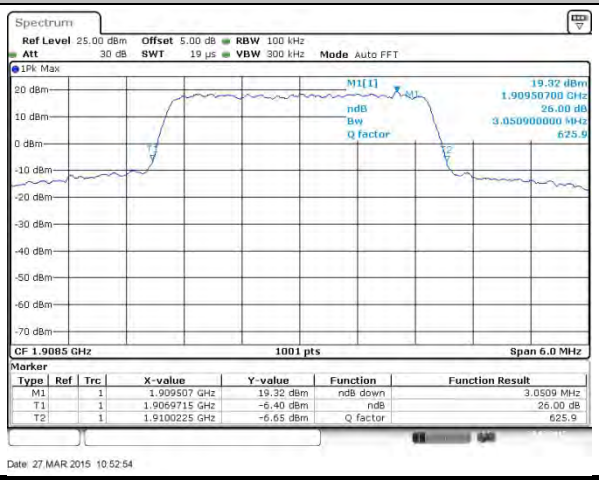
Middle Channel / 3MHz / QPSK



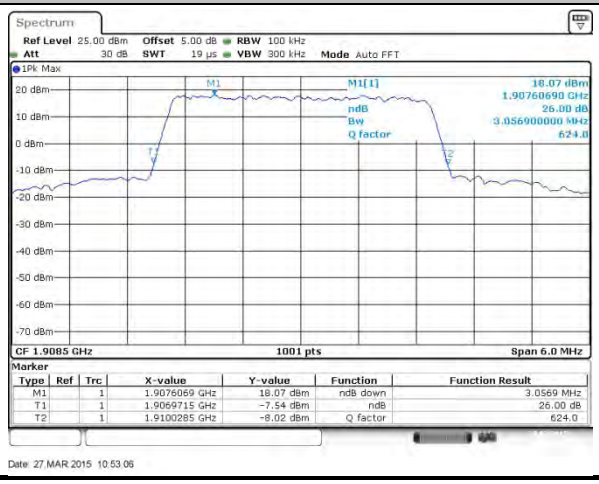
Middle Channel /3MHz / 16QAM



Highest Channel /3MHz / QPSK

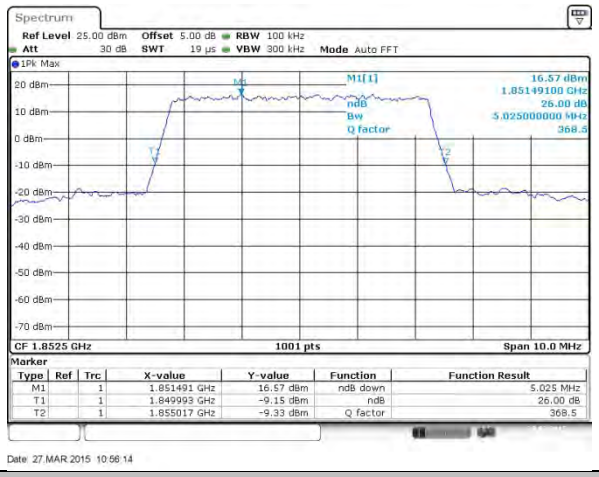


Highest Channel /3MHz / 16QAM

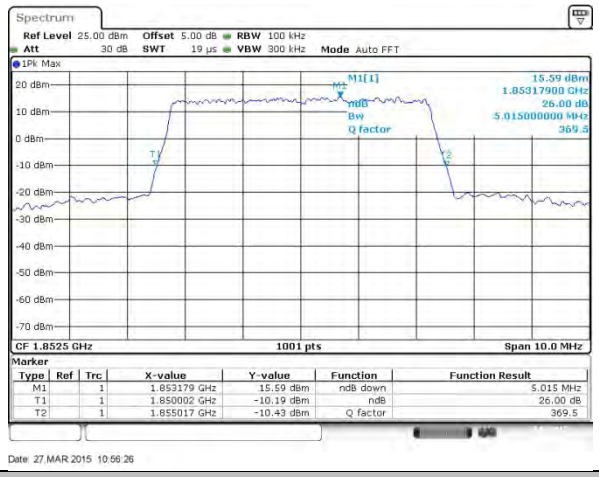


LTE Band 2

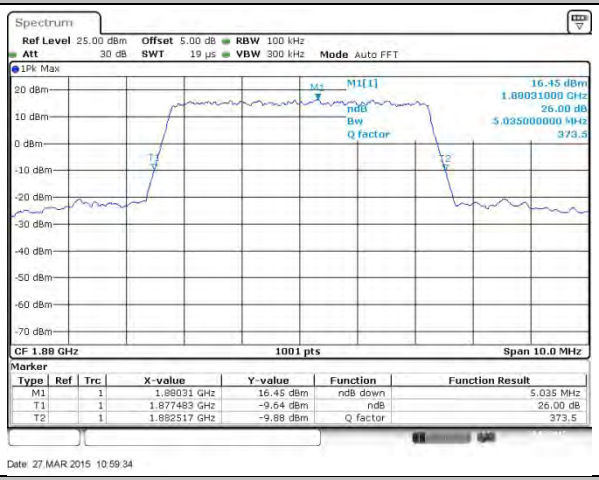
Lowest Channel / 5MHz / QPSK



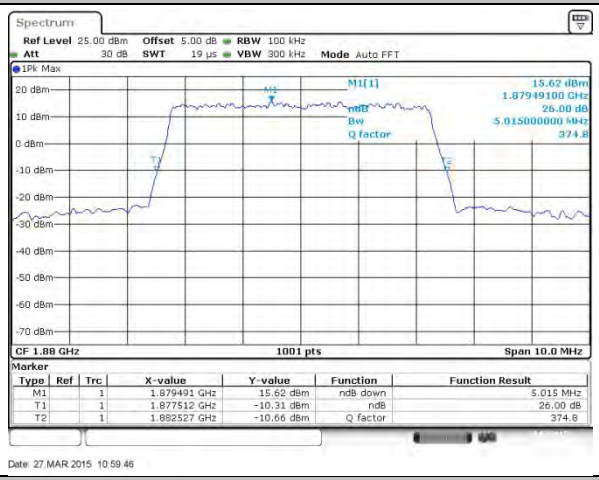
Lowest Channel / 5MHz / 16QAM



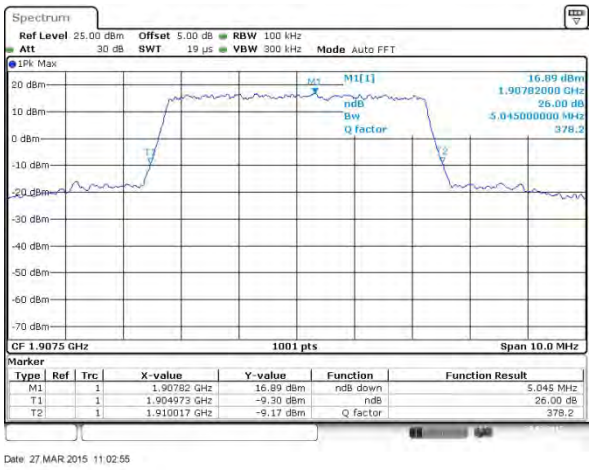
Middle Channel / 5MHz / QPSK



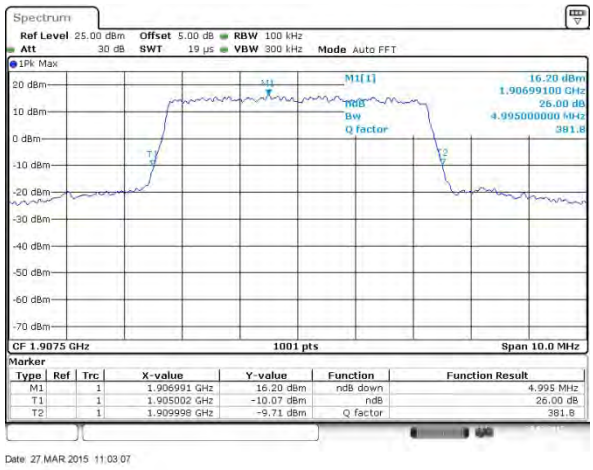
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

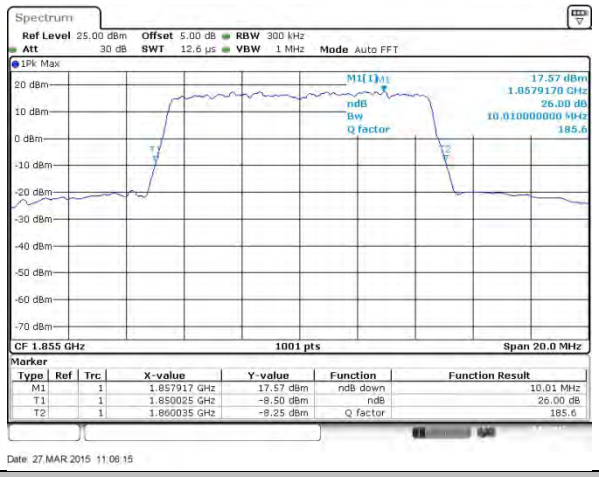


Highest Channel / 5MHz / 16QAM

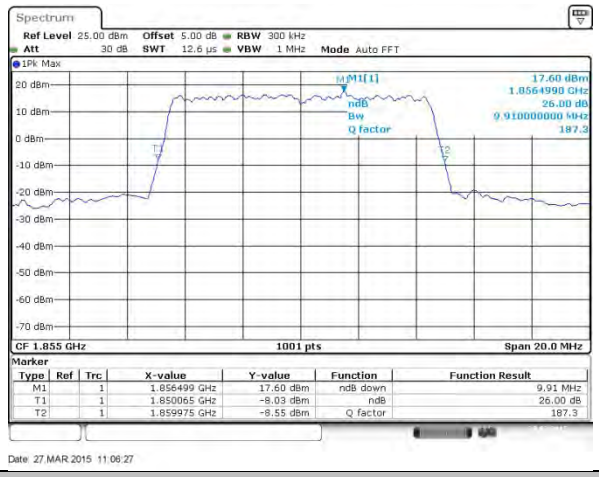


LTE Band 2

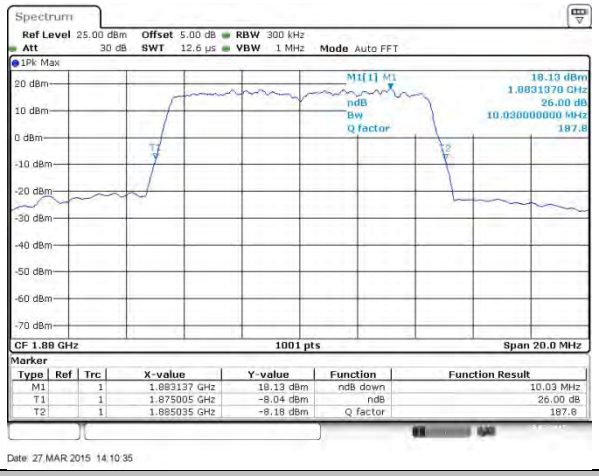
Lowest Channel / 10MHz / QPSK



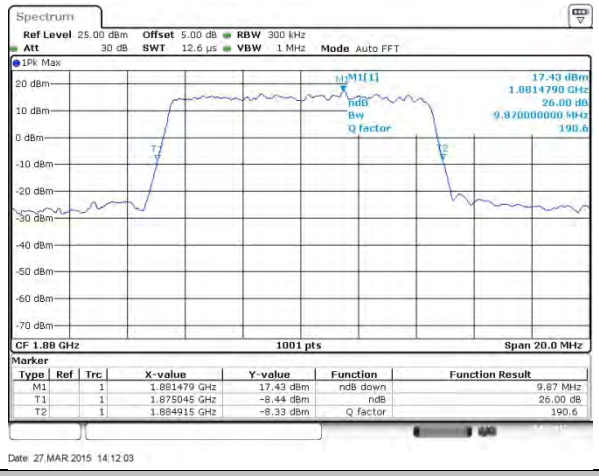
Lowest Channel / 10MHz / 16QAM



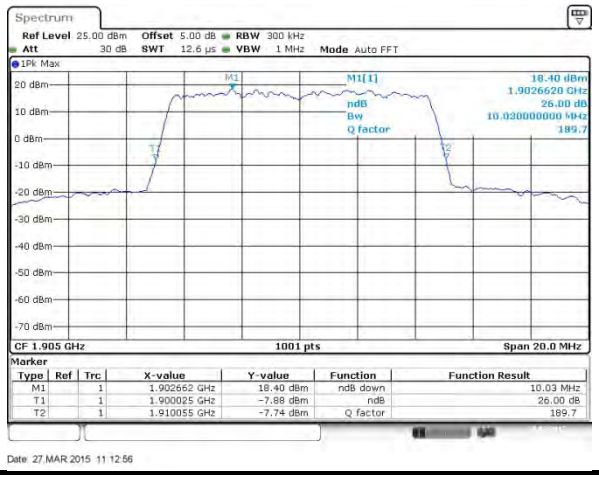
Middle Channel / 10MHz / QPSK



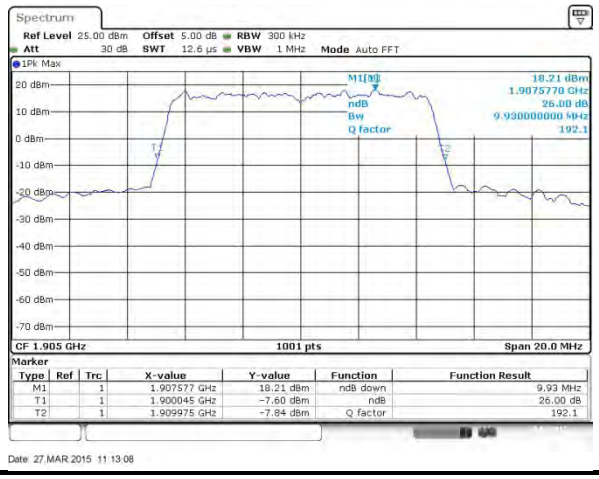
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

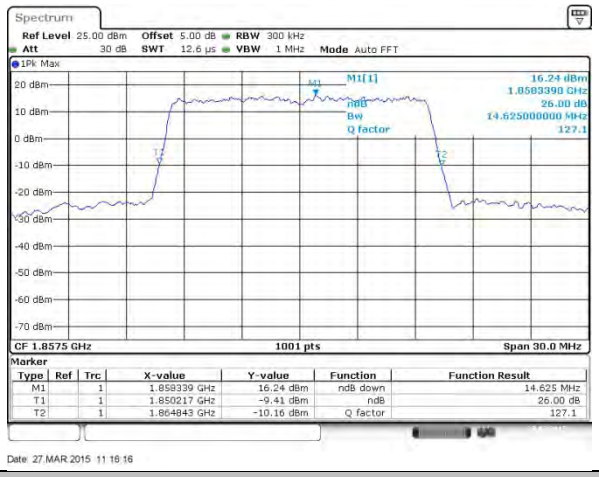


Highest Channel / 10MHz / 16QAM

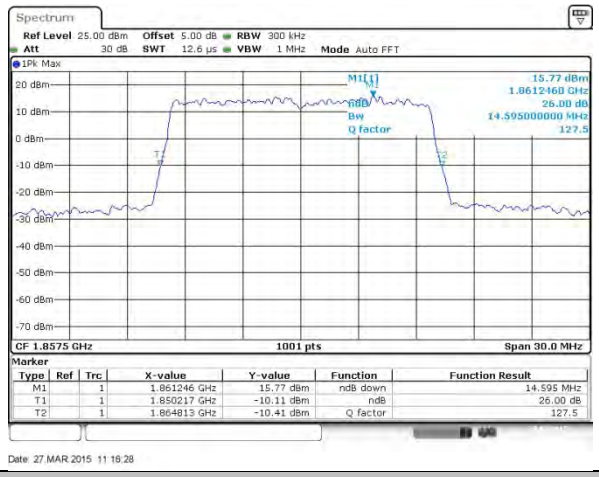


LTE Band 2

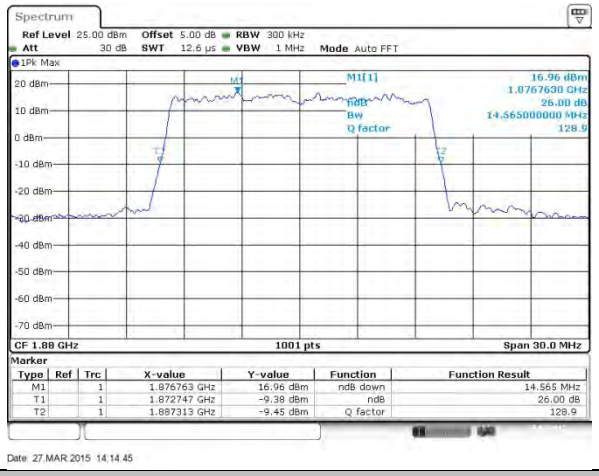
Lowest Channel / 15MHz / QPSK



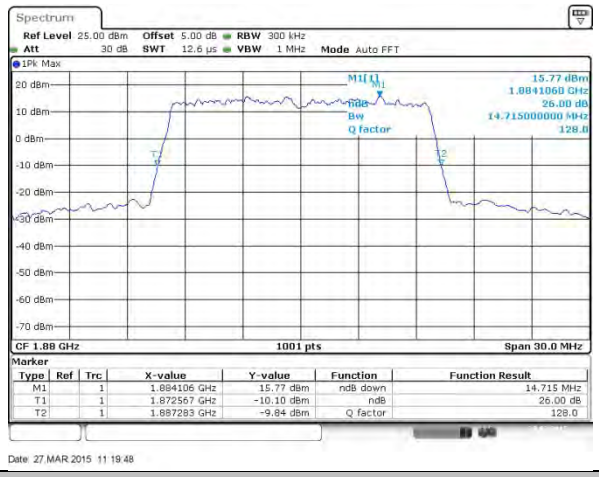
Lowest Channel / 15MHz / 16QAM



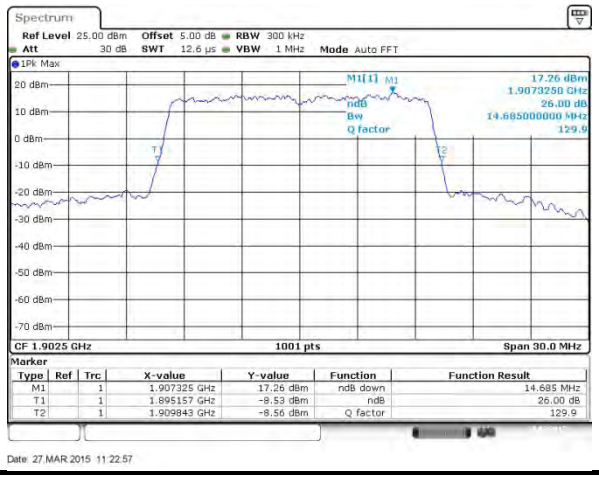
Middle Channel / 15MHz / QPSK



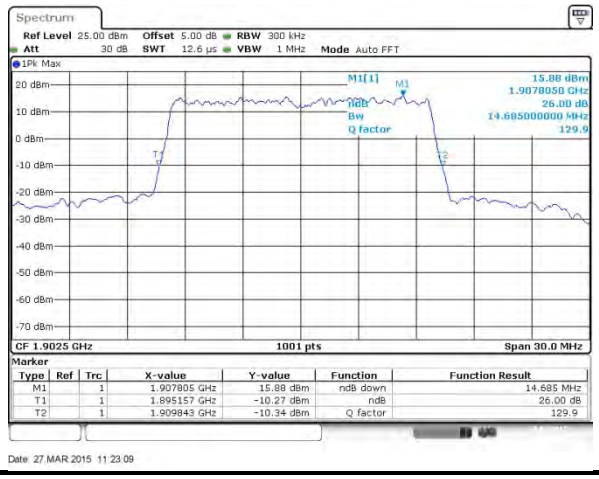
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

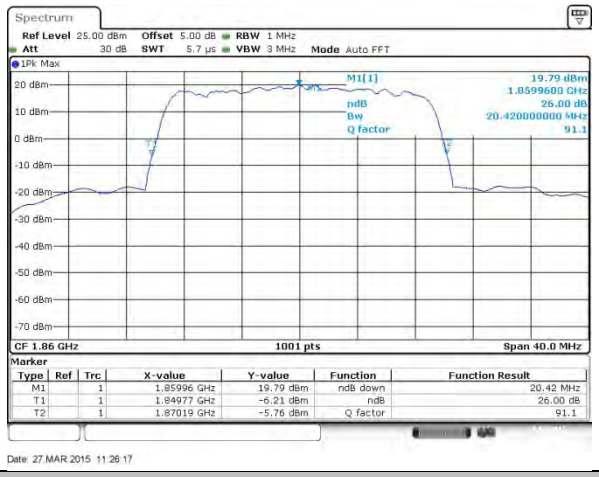


Highest Channel / 15MHz / 16QAM

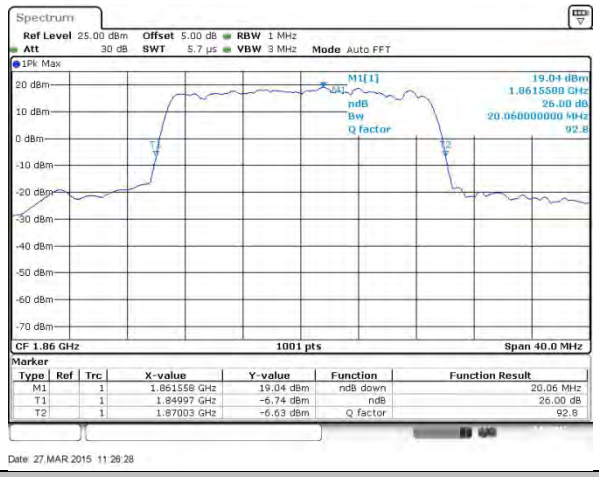


LTE Band 2

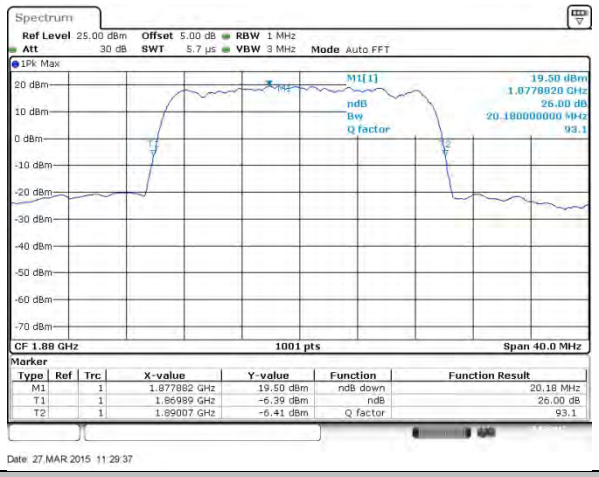
Lowest Channel / 20MHz / QPSK



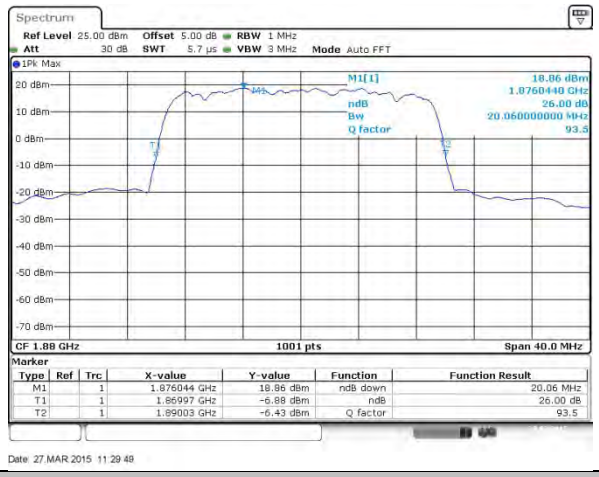
Lowest Channel / 20MHz / 16QAM



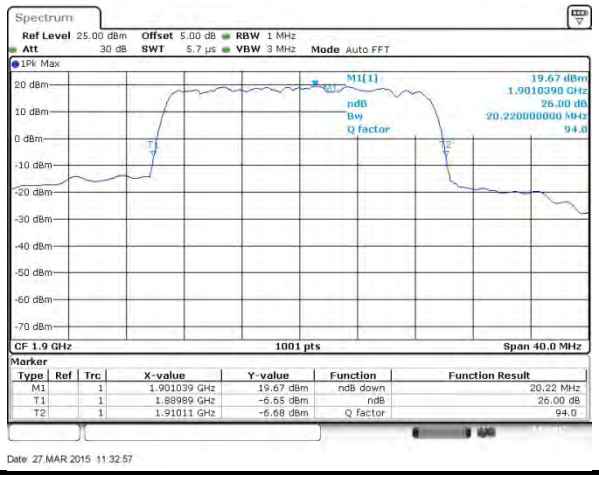
Middle Channel / 20MHz / QPSK



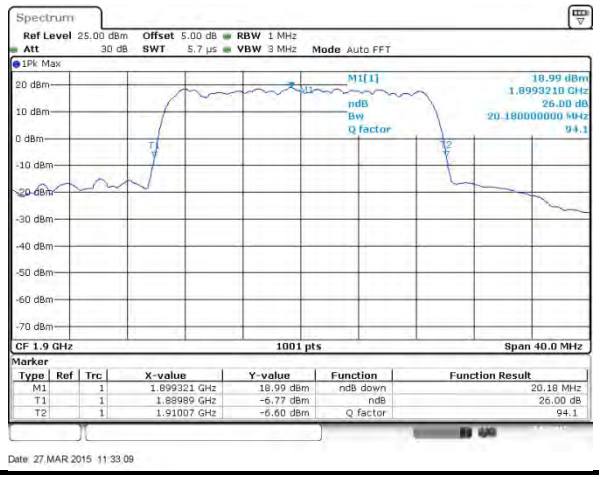
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM

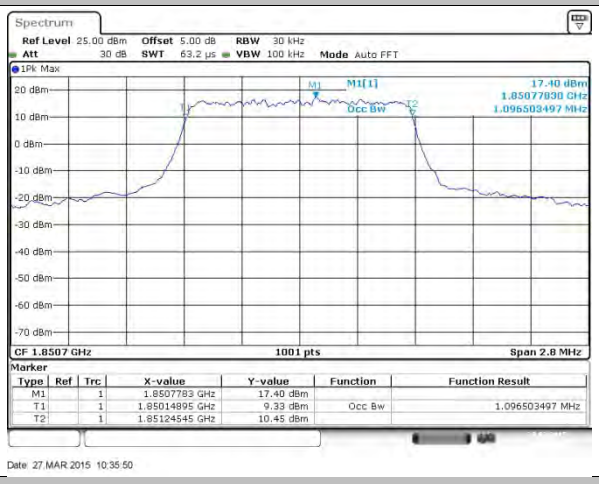


Occupied Bandwidth

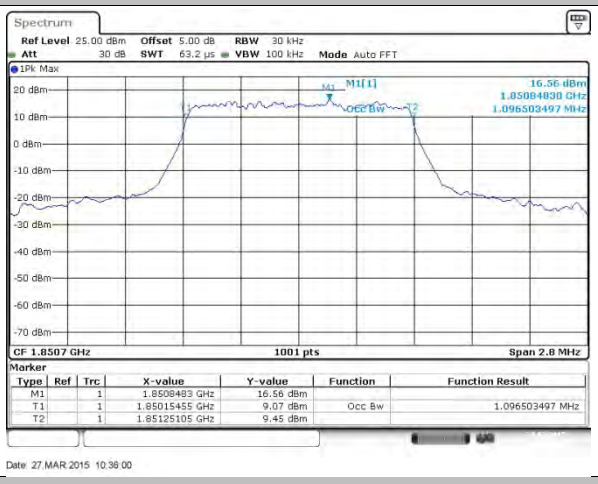
Mode	LTE Band 2 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.10	1.10	2.73	2.73	4.50	4.50	9.01	9.01	13.37	13.43	18.26	18.22
Middle CH	1.10	1.10	2.72	2.73	4.49	4.49	9.03	8.99	13.43	13.43	18.26	18.34
Highest CH	1.10	1.10	2.73	2.72	4.49	4.50	9.07	9.03	13.49	13.46	18.26	18.26

LTE Band 2

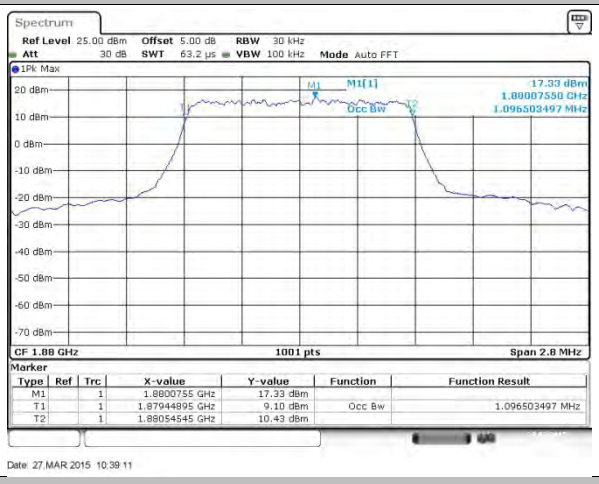
Lowest Channel / 1.4MHz / QPSK



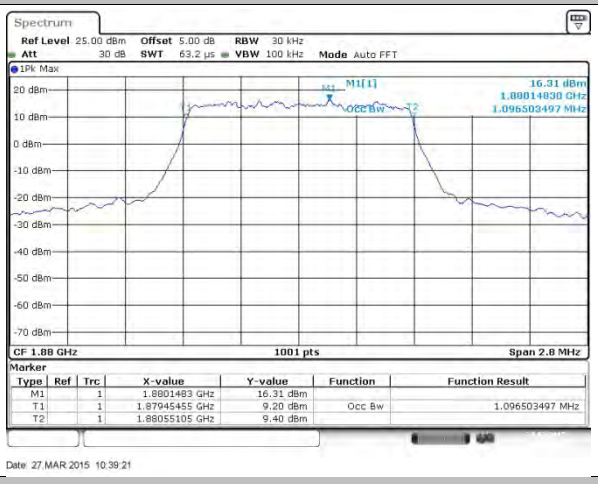
Lowest Channel / 1.4MHz / 16QAM



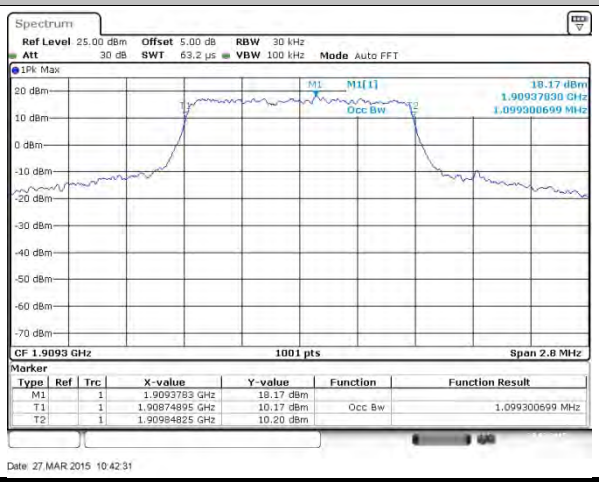
Middle Channel / 1.4MHz / QPSK



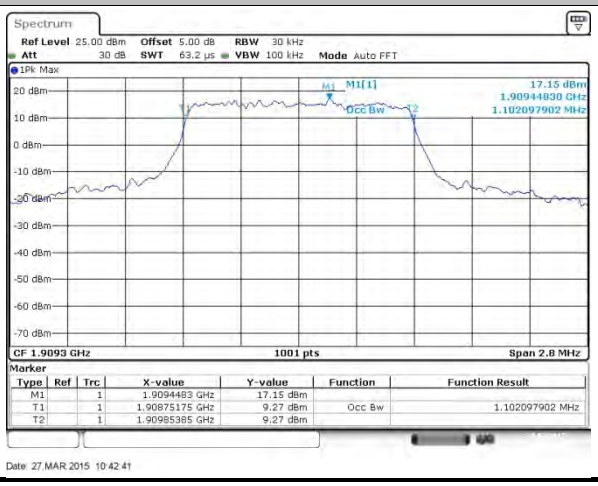
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

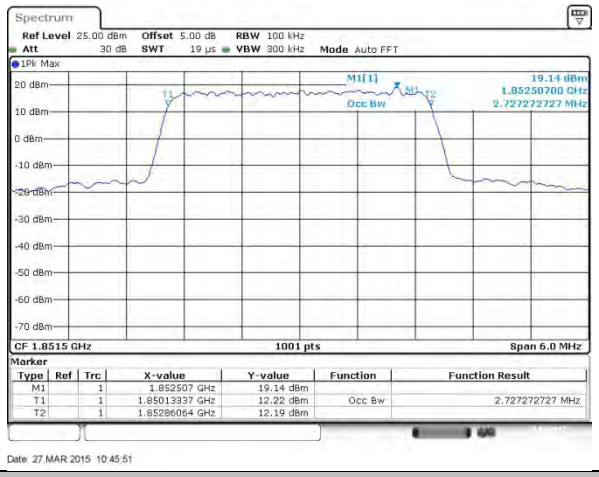


Highest Channel / 1.4MHz / 16QAM

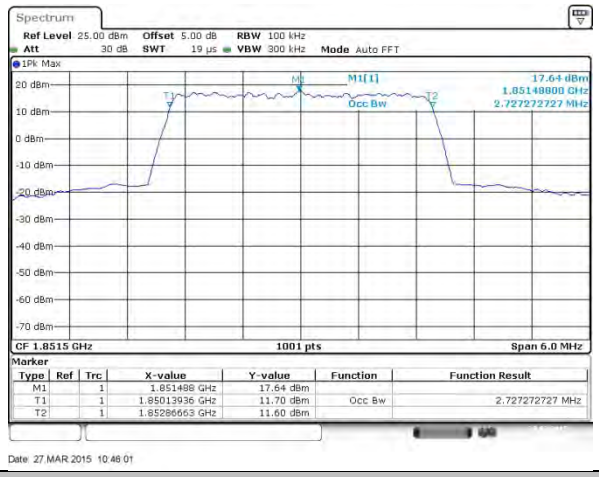


LTE Band 2

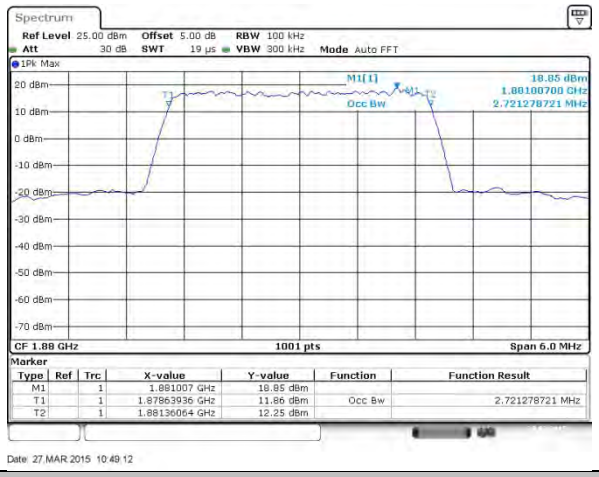
Lowest Channel / 3MHz / QPSK



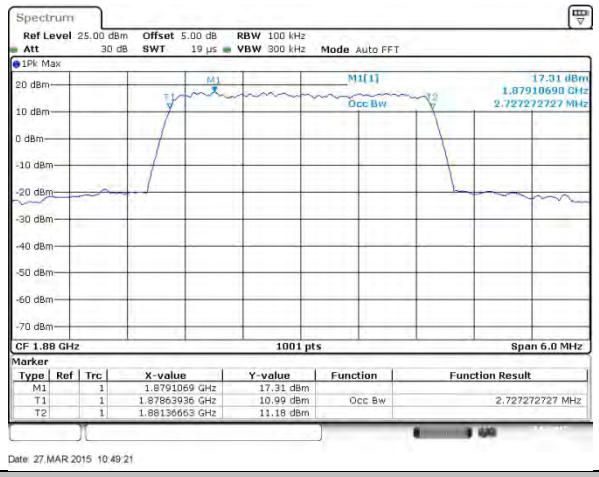
Lowest Channel / 3MHz / 16QAM



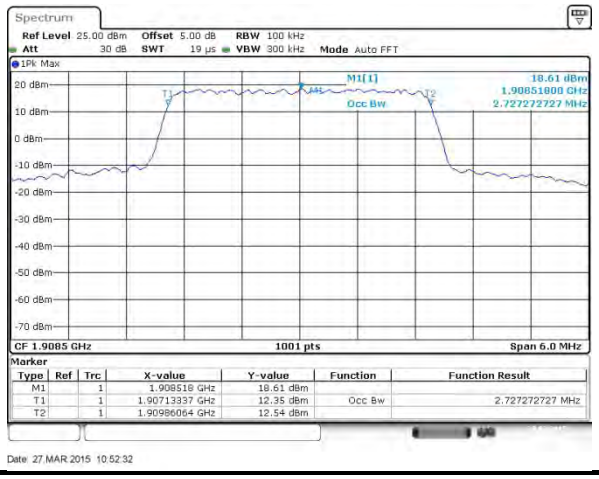
Middle Channel / 3MHz / QPSK



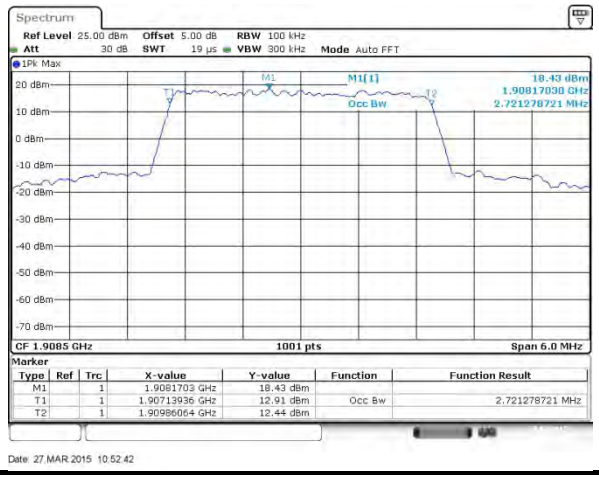
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

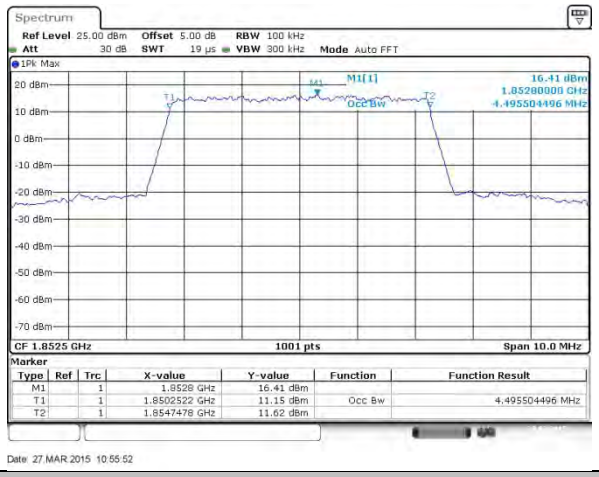


Highest Channel / 3MHz / 16QAM

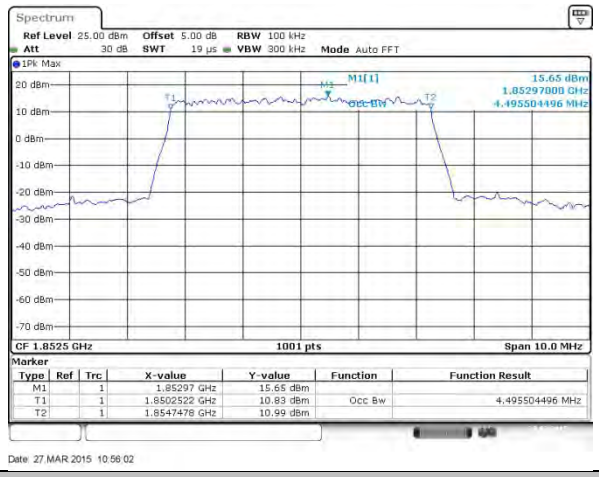


LTE Band 2

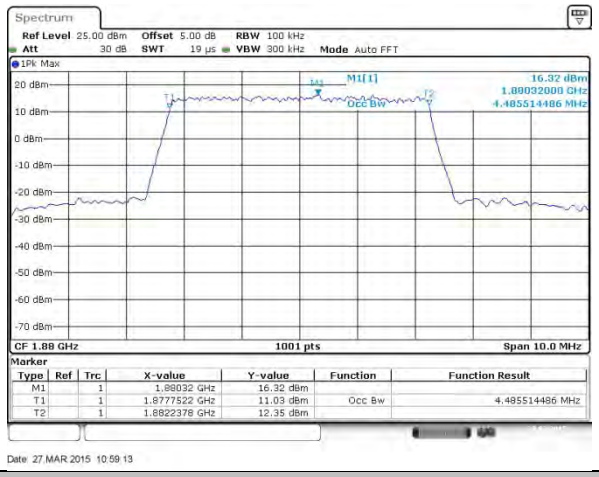
Lowest Channel / 5MHz / QPSK



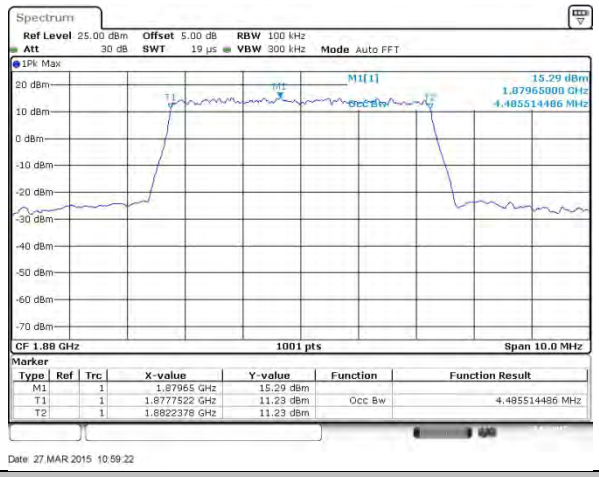
Lowest Channel / 5MHz / 16QAM



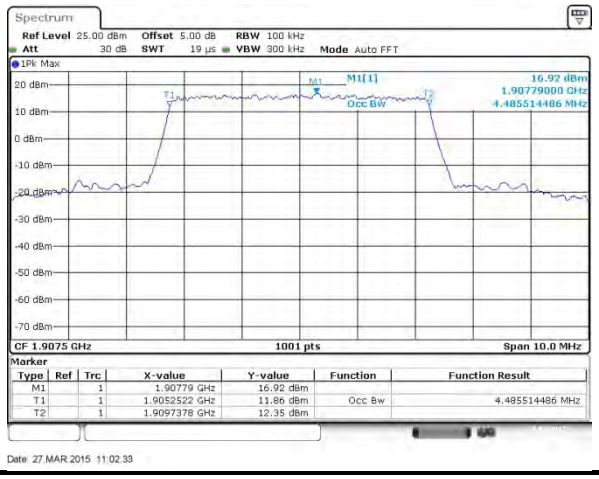
Middle Channel / 5MHz / QPSK



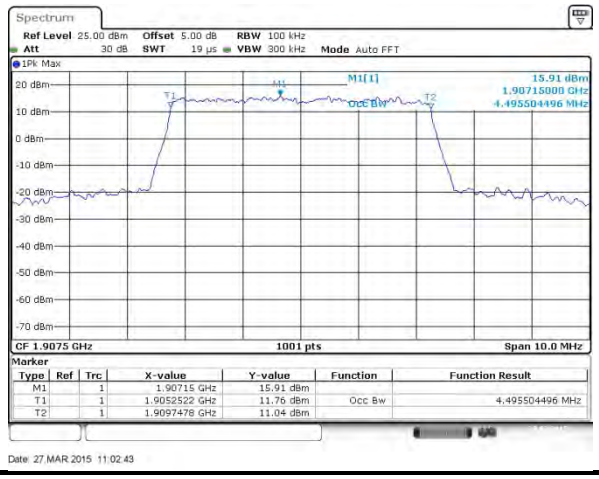
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

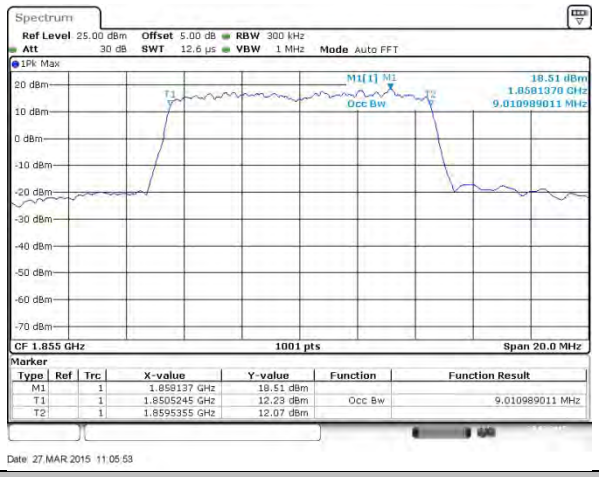


Highest Channel / 5MHz / 16QAM

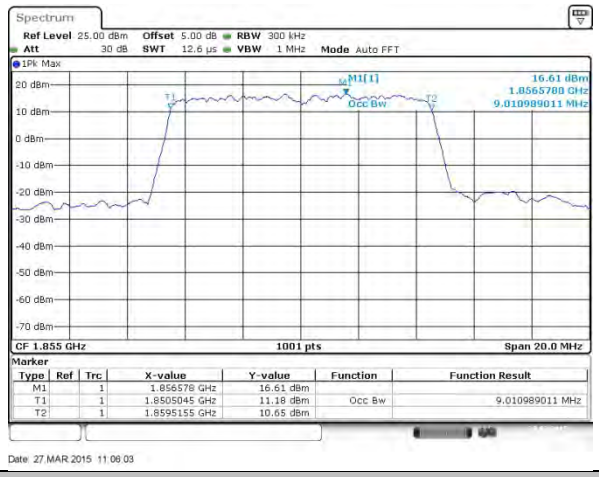


LTE Band 2

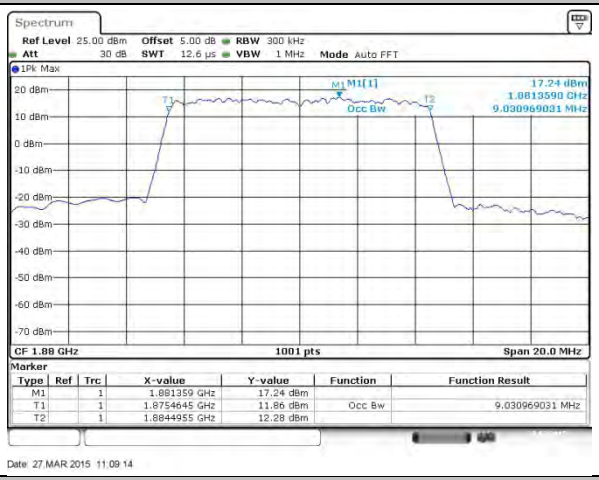
Lowest Channel / 10MHz / QPSK



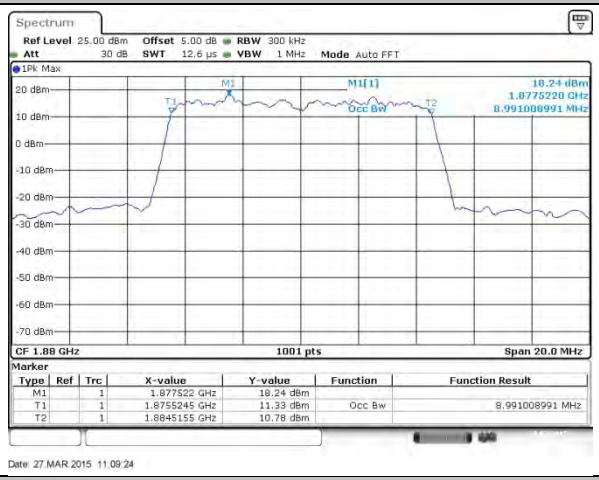
Lowest Channel / 10MHz / 16QAM



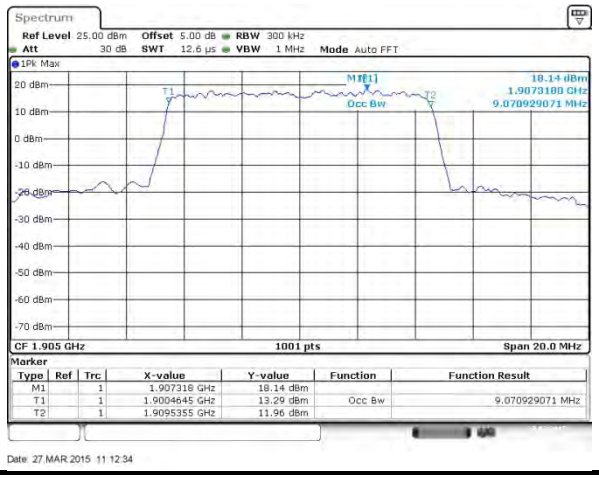
Middle Channel / 10MHz / QPSK



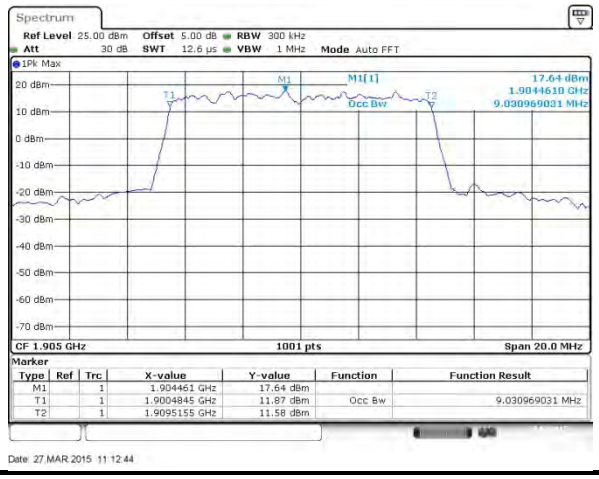
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

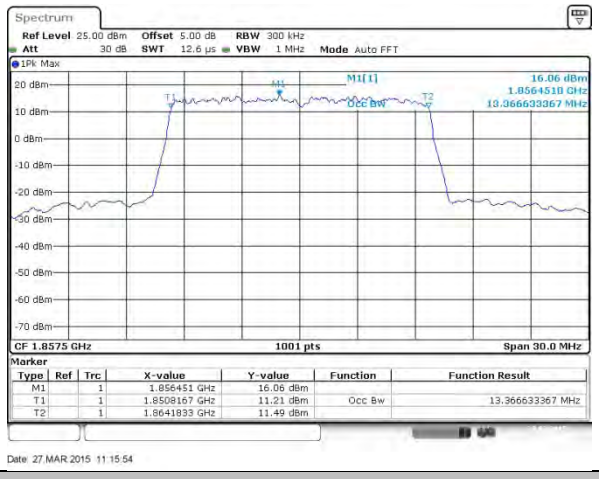


Highest Channel / 10MHz / 16QAM

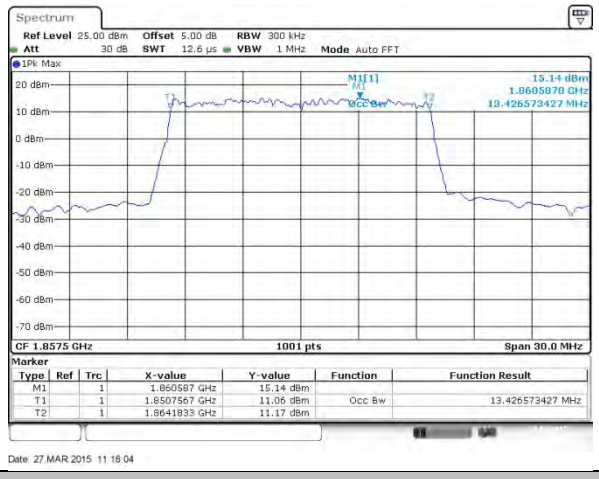


LTE Band 2

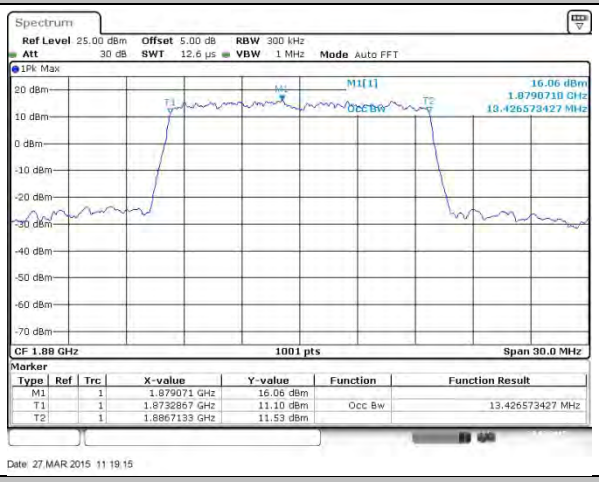
Lowest Channel / 15MHz / QPSK



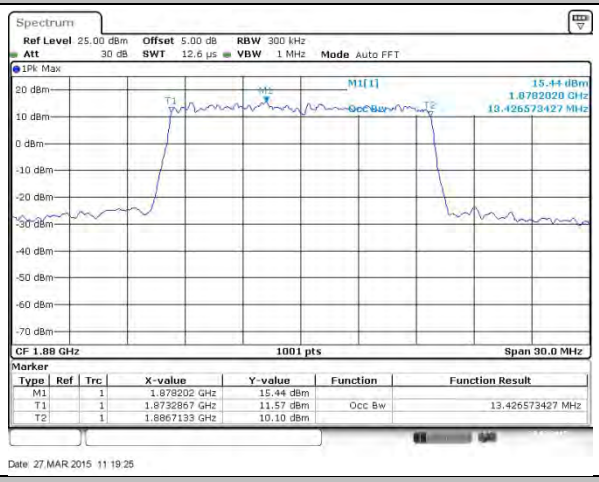
Lowest Channel / 15MHz / 16QAM



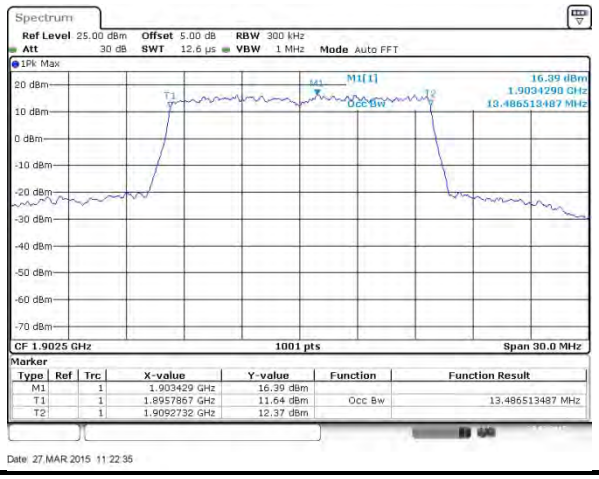
Middle Channel / 15MHz / QPSK



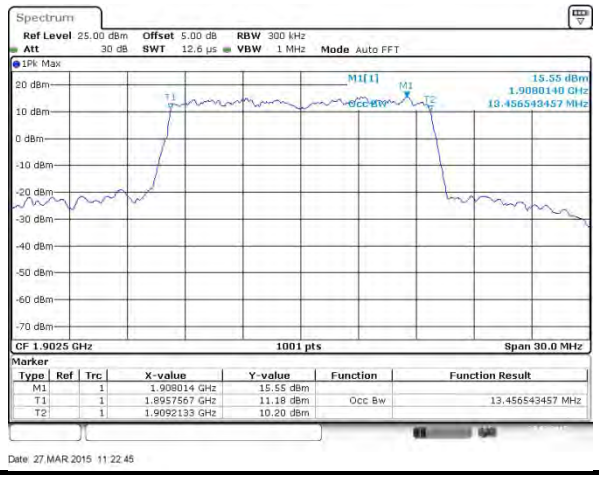
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

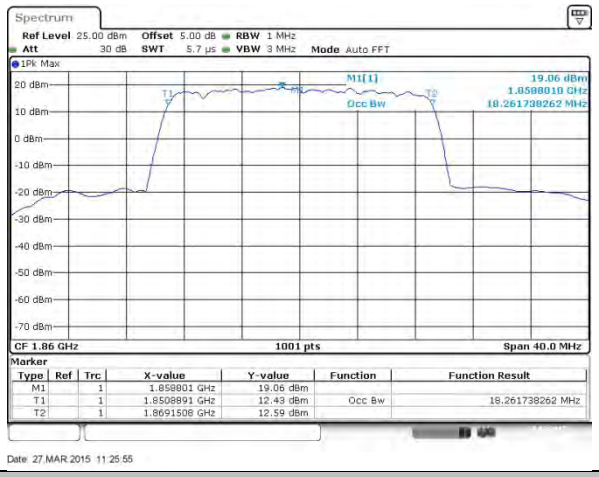


Highest Channel / 15MHz / 16QAM

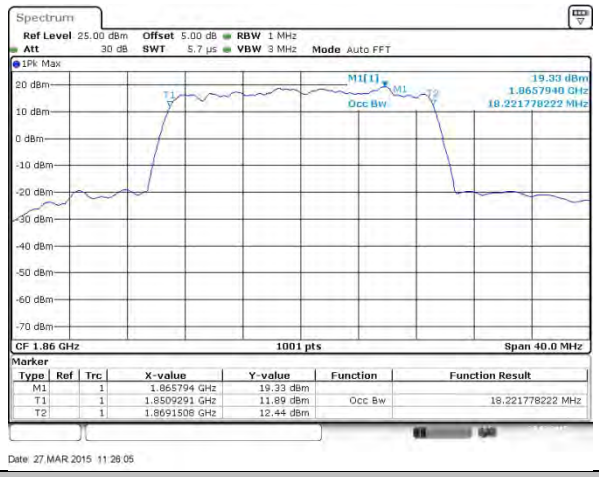


LTE Band 2

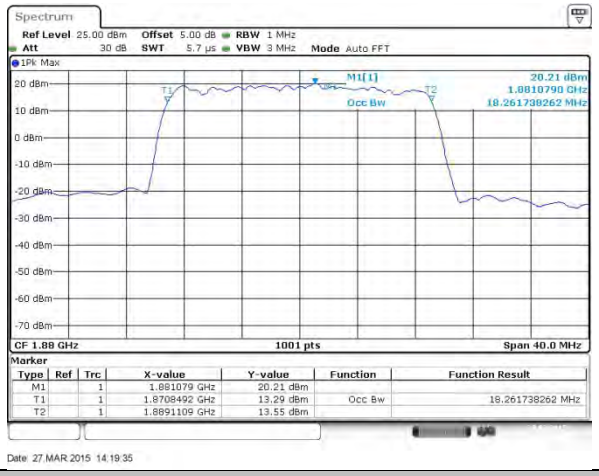
Lowest Channel / 20MHz / QPSK



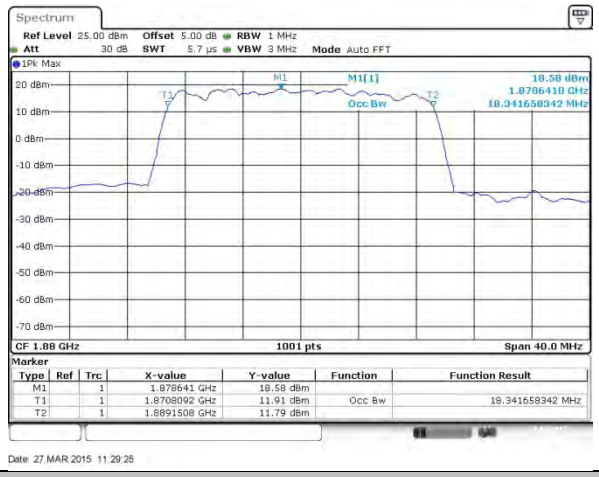
Lowest Channel / 20MHz / 16QAM



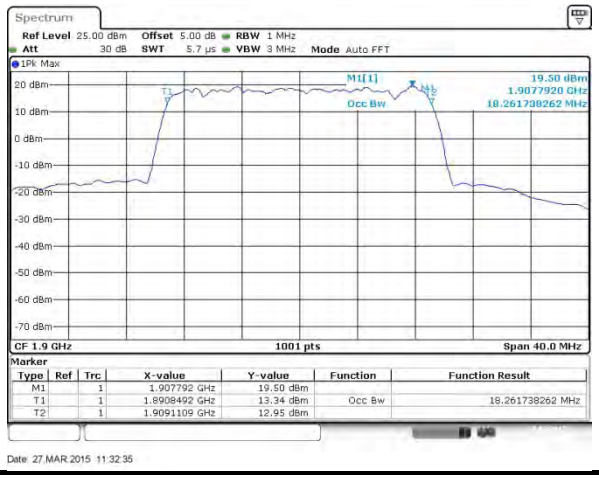
Middle Channel / 20MHz / QPSK



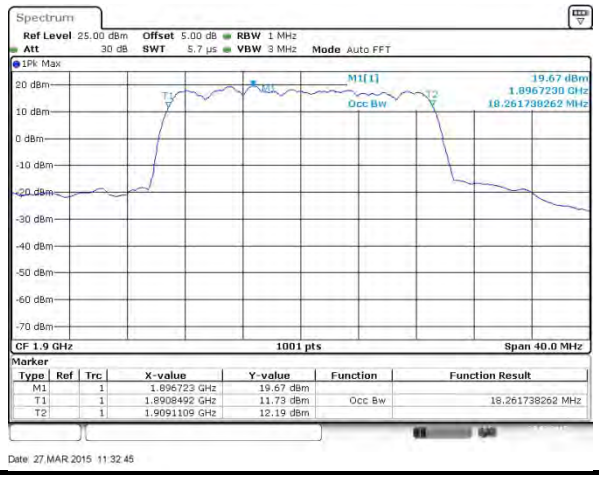
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



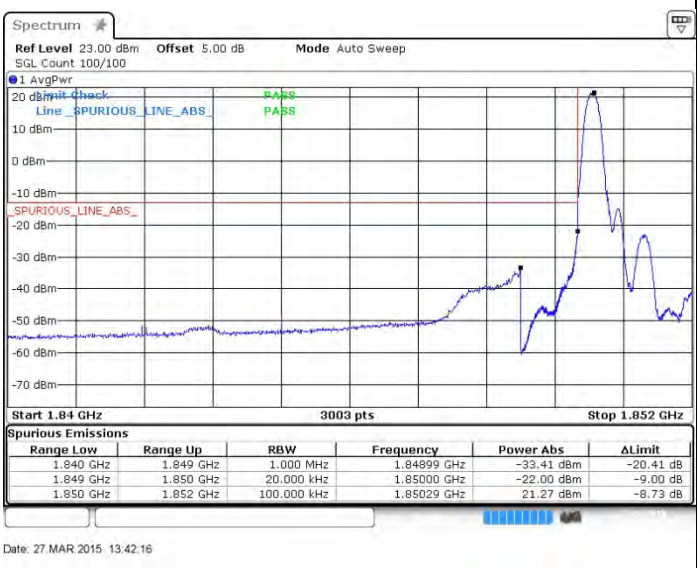
Highest Channel / 20MHz / 16QAM



Conducted Band Edge

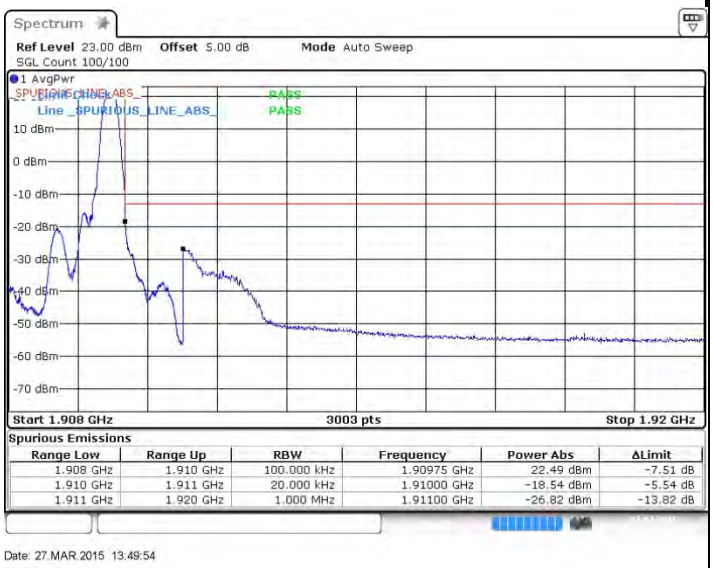
LTE Band 2 / 1.4MHz / QPSK

Lowest Band Edge / 1RB



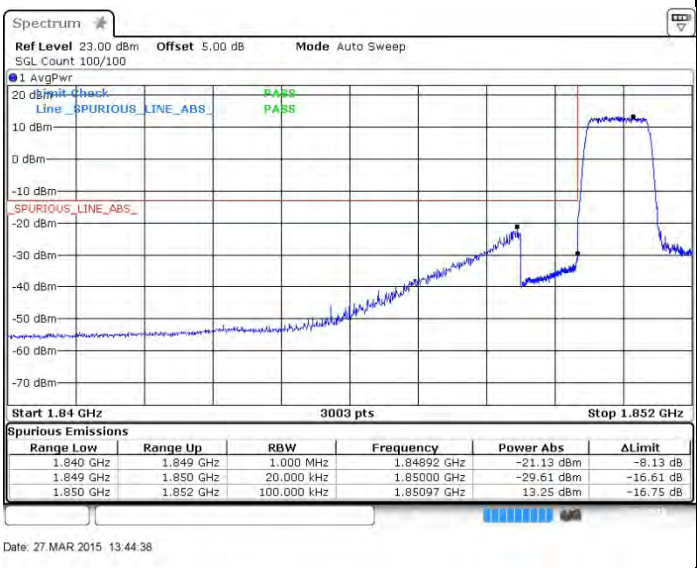
Date: 27.MAR.2015 13:42:16

Highest Band Edge / 1RB



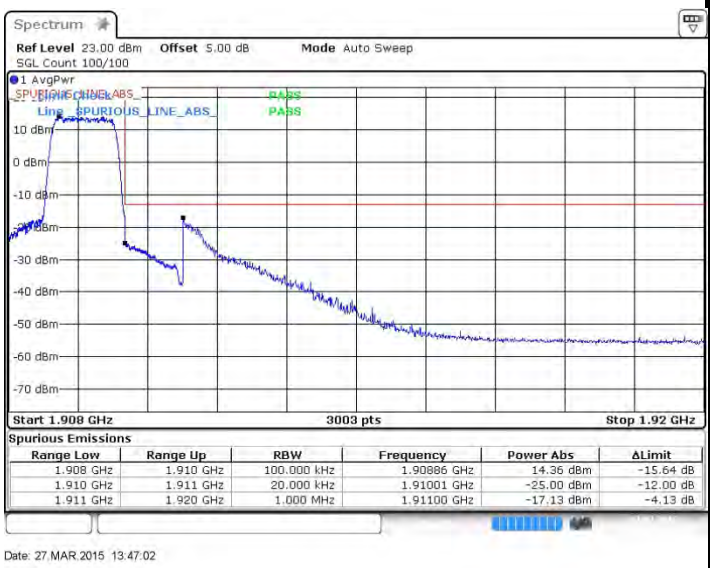
Date: 27.MAR.2015 13:49:54

Lowest Band Edge / Full RB



Date: 27.MAR.2015 13:44:38

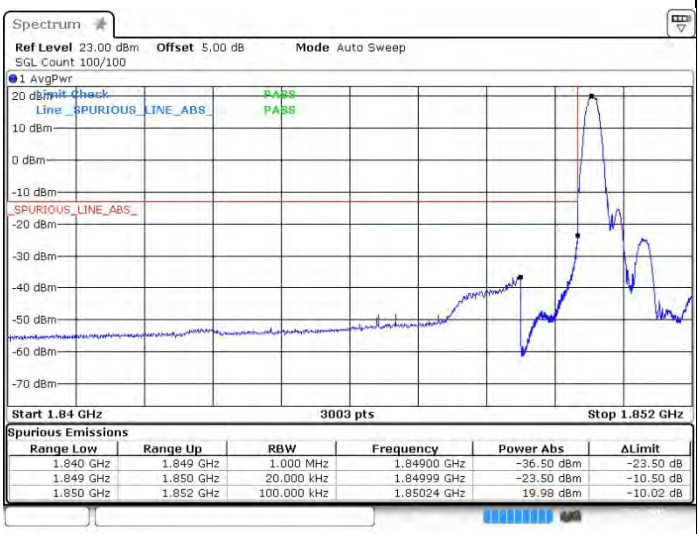
Highest Band Edge / Full RB



Date: 27.MAR.2015 13:47:02

LTE Band 2 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

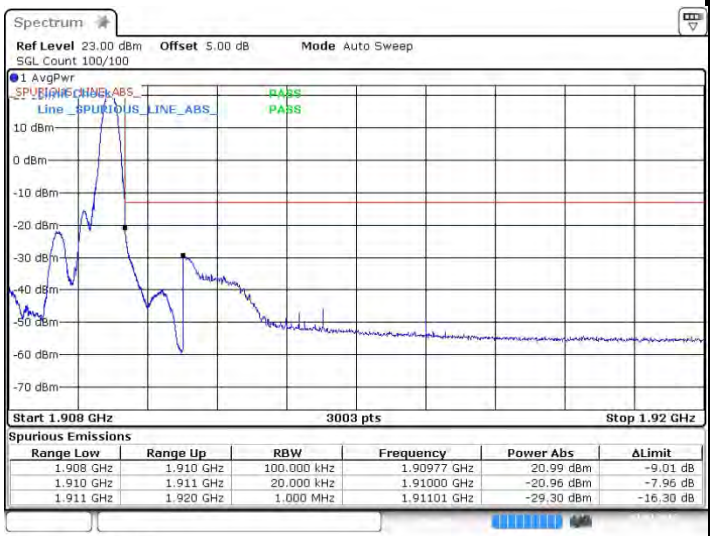


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84900 GHz	-36.50 dBm	-23.50 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.84999 GHz	-23.50 dBm	-10.50 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85024 GHz	19.98 dBm	-10.02 dB

Date: 27.MAR.2015 13:43:27

Highest Band Edge / 1 RB

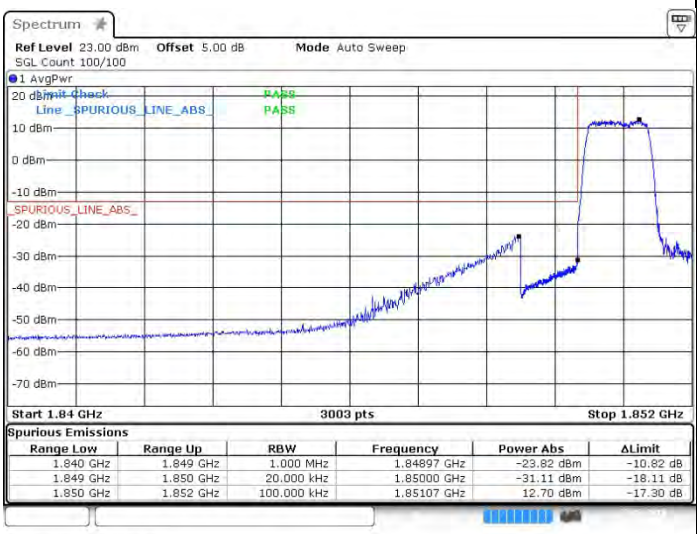


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90977 GHz	20.99 dBm	-9.01 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-20.96 dBm	-7.96 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91101 GHz	-29.30 dBm	-16.30 dB

Date: 27.MAR.2015 13:51:20

Lowest Band Edge / Full RB

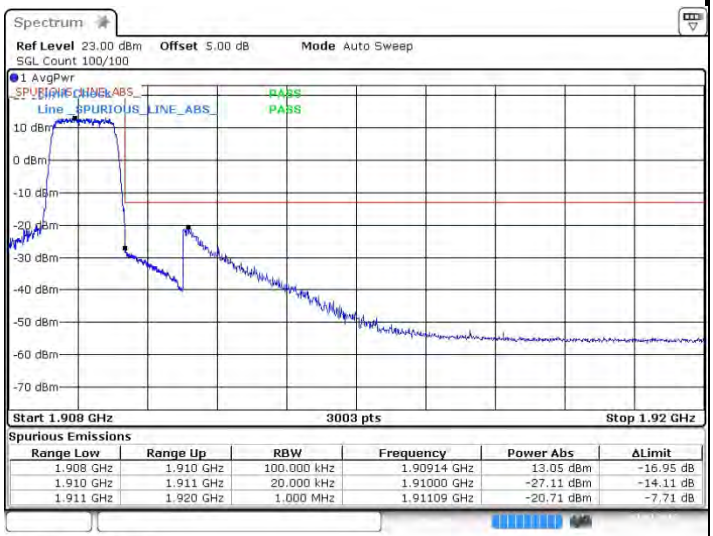


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84897 GHz	-23.82 dBm	-10.82 dB
1.849 GHz	1.850 GHz	20.000 kHz	1.85000 GHz	-31.11 dBm	-18.11 dB
1.850 GHz	1.852 GHz	100.000 kHz	1.85107 GHz	12.70 dBm	-17.30 dB

Date: 27.MAR.2015 13:45:47

Highest Band Edge / Full RB



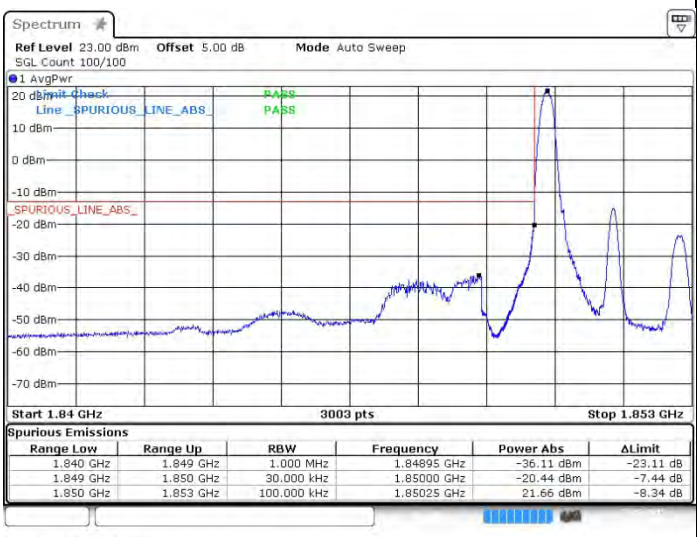
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.908 GHz	1.910 GHz	100.000 kHz	1.90914 GHz	13.05 dBm	-16.95 dB
1.910 GHz	1.911 GHz	20.000 kHz	1.91000 GHz	-27.11 dBm	-14.11 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91109 GHz	-20.71 dBm	-7.71 dB

Date: 27.MAR.2015 13:48:18

LTE Band 2 / 3MHz / QPSK

Lowest Band Edge / 1RB

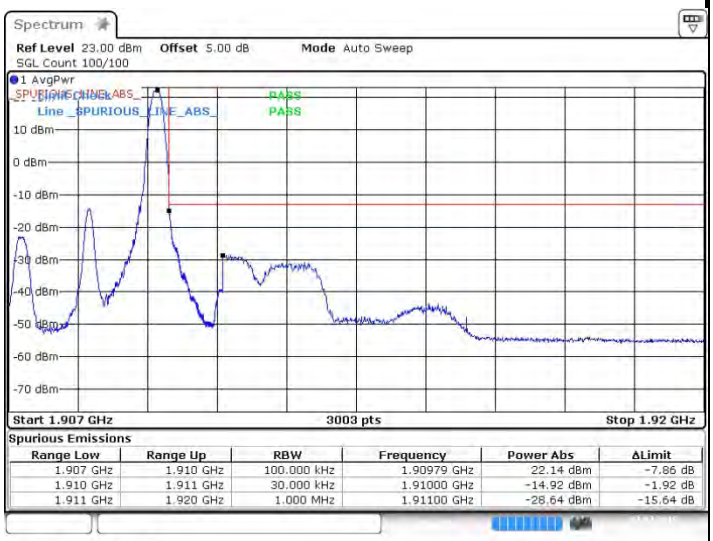


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84895 GHz	-36.11 dBm	-23.11 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-20.44 dBm	-7.44 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85025 GHz	21.66 dBm	-8.34 dB

Date: 27.MAR.2015 13:16:00

Highest Band Edge / 1 RB

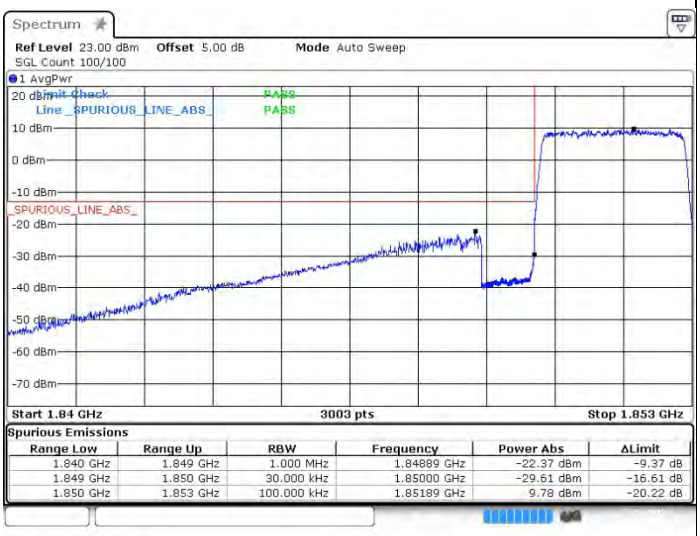


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90979 GHz	22.14 dBm	-7.86 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-14.92 dBm	-1.92 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-28.64 dBm	-15.64 dB

Date: 27.MAR.2015 13:29:35

Lowest Band Edge / Full RB

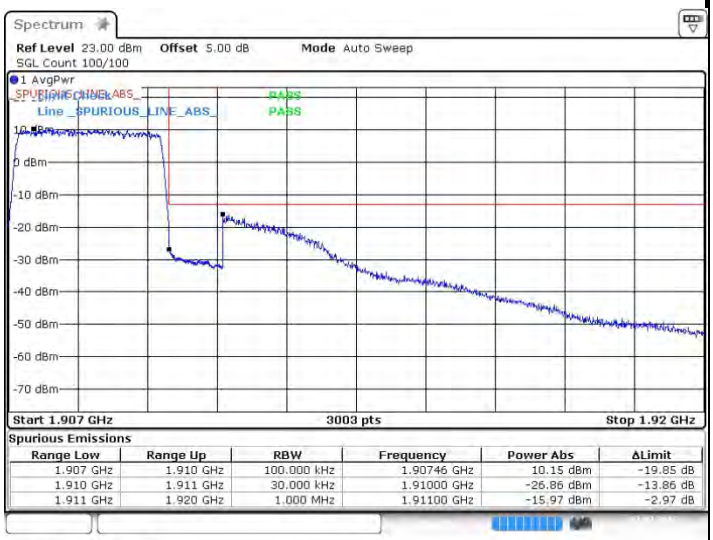


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84889 GHz	-22.37 dBm	-9.37 dB
1.849 GHz	1.850 GHz	30.000 kHz	1.85000 GHz	-29.61 dBm	-16.61 dB
1.850 GHz	1.853 GHz	100.000 kHz	1.85189 GHz	9.78 dBm	-20.22 dB

Date: 27.MAR.2015 13:17:29

Highest Band Edge / Full RB



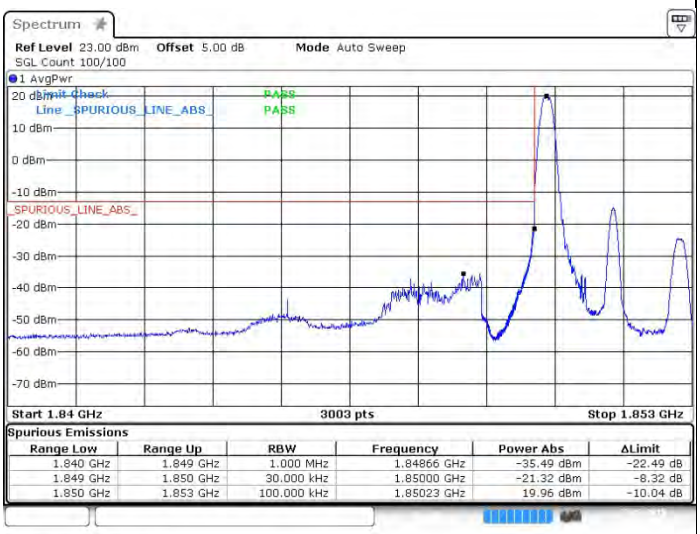
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.907 GHz	1.910 GHz	100.000 kHz	1.90746 GHz	10.15 dBm	-19.85 dB
1.910 GHz	1.911 GHz	30.000 kHz	1.91000 GHz	-26.86 dBm	-13.86 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91100 GHz	-15.97 dBm	-2.97 dB

Date: 27.MAR.2015 13:30:35

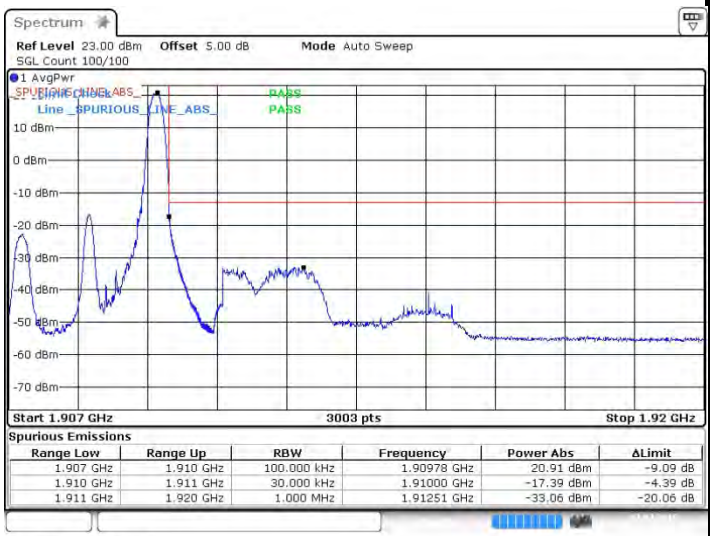
LTE Band 2 / 3MHz / 16QAM

Lowest Band Edge / 1 RB



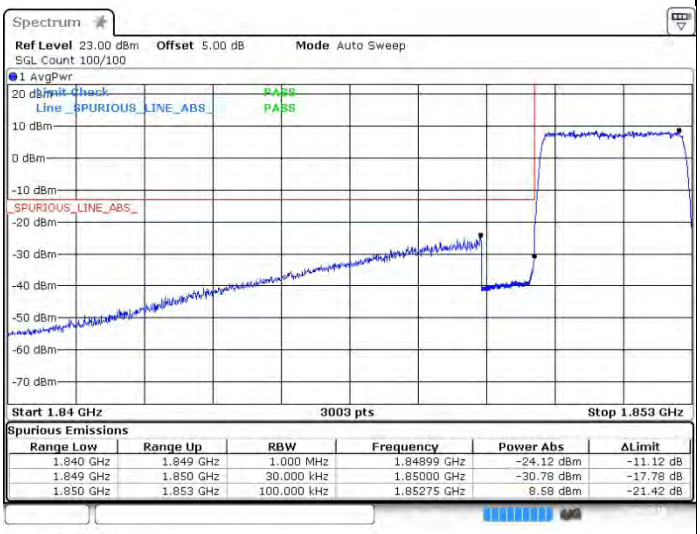
Date: 27.MAR.2015 13:16:39

Highest Band Edge /1 RB



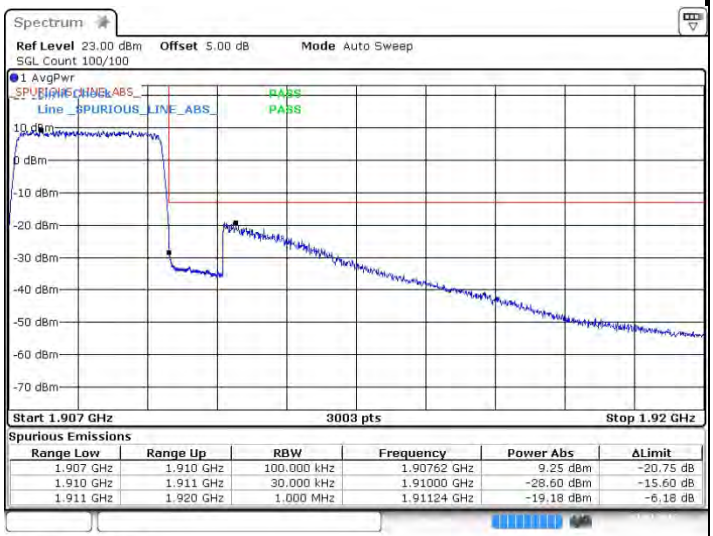
Date: 27.MAR.2015 13:28:41

Lowest Band Edge / Full RB



Date: 27.MAR.2015 13:22:20

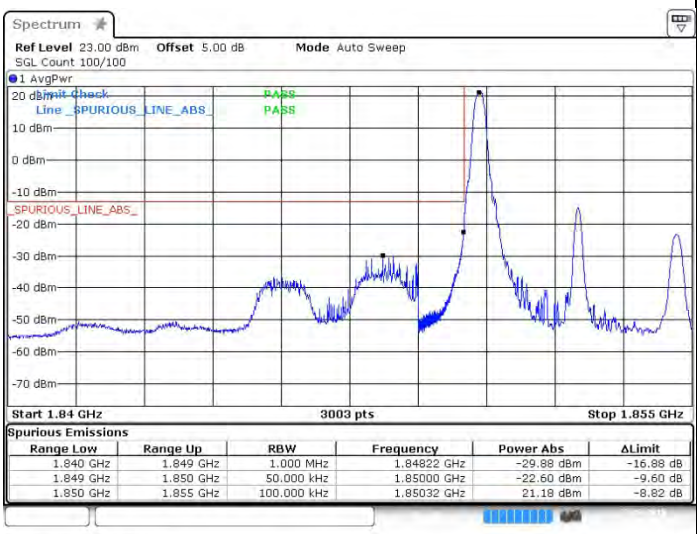
Highest Band Edge / Full RB



Date: 27.MAR.2015 13:32:38

LTE Band 2 / 5MHz / QPSK

Lowest Band Edge / 1 RB

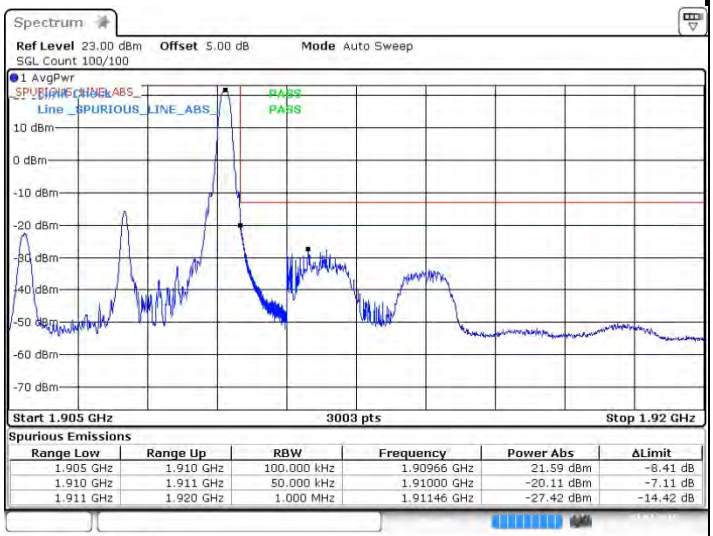


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84822 GHz	-29.88 dBm	-16.88 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-22.60 dBm	-9.60 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85032 GHz	21.18 dBm	-8.82 dB

Date: 27.MAR.2015 12:03:33

Highest Band Edge / 1 RB

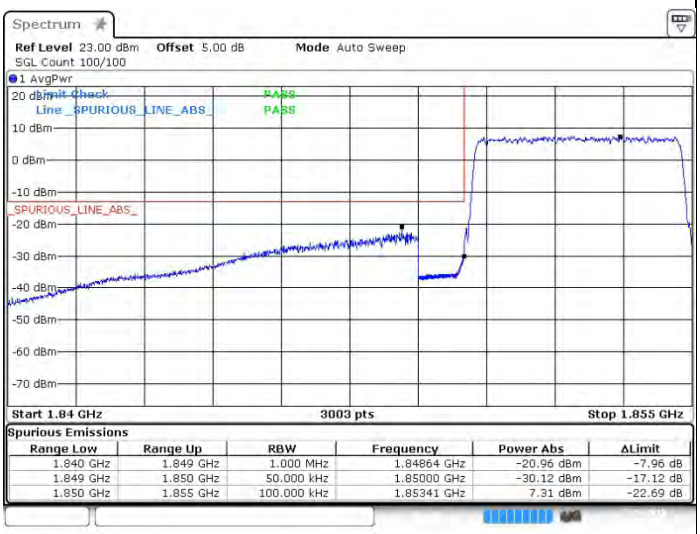


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90966 GHz	21.59 dBm	-8.41 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-20.11 dBm	-7.11 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91146 GHz	-27.42 dBm	-14.42 dB

Date: 27.MAR.2015 12:06:35

Lowest Band Edge / Full RB

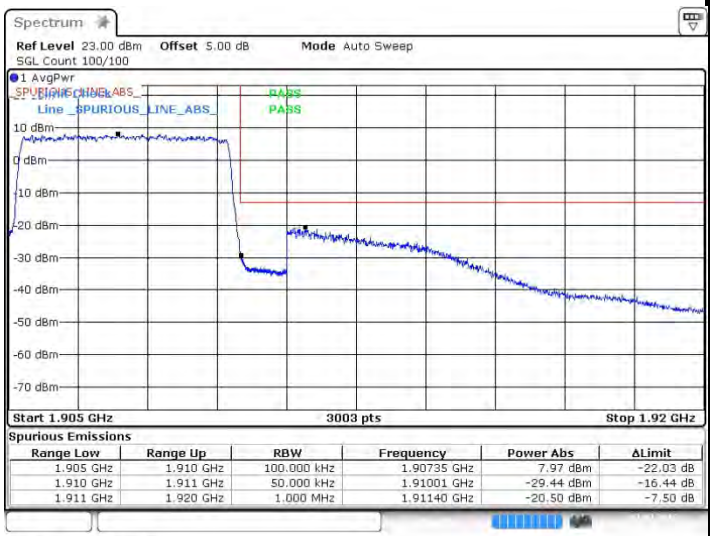


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84864 GHz	-20.96 dBm	-7.96 dB
1.849 GHz	1.850 GHz	50.000 kHz	1.85000 GHz	-30.12 dBm	-17.12 dB
1.850 GHz	1.855 GHz	100.000 kHz	1.85341 GHz	7.31 dBm	-22.69 dB

Date: 27.MAR.2015 12:04:53

Highest Band Edge / Full RB



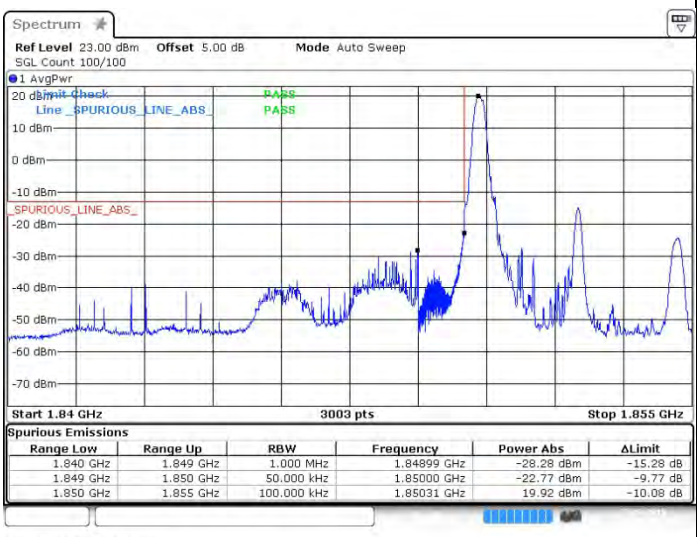
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90735 GHz	7.97 dBm	-22.03 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91001 GHz	-29.44 dBm	-16.44 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91140 GHz	-20.50 dBm	-7.50 dB

Date: 27.MAR.2015 13:13:56

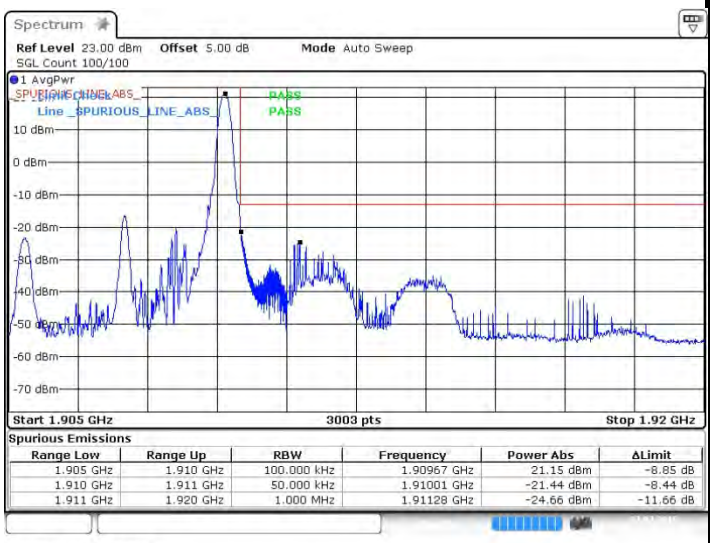
LTE Band 2 / 5MHz / 16QAM

Lowest Band Edge / 1RB



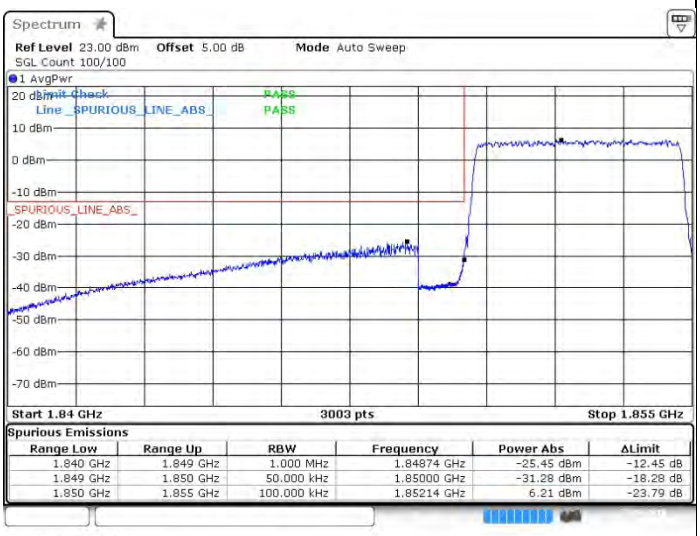
Date: 27.MAR.2015 12:04:16

Highest Band Edge / 1 RB



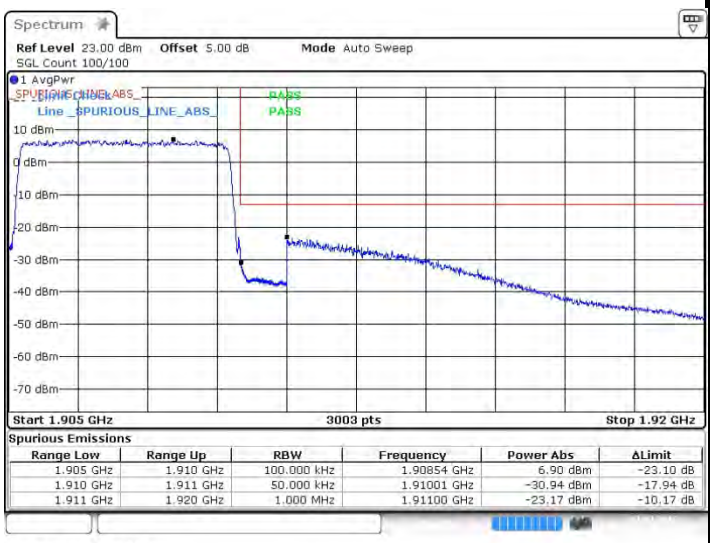
Date: 27.MAR.2015 13:12:26

Lowest Band Edge / Full RB



Date: 27.MAR.2015 12:05:25

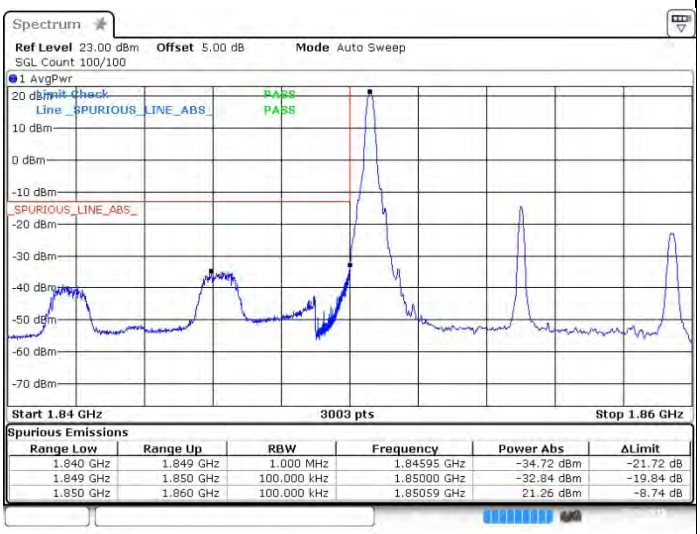
Highest Band Edge / Full RB



Date: 27.MAR.2015 13:14:40

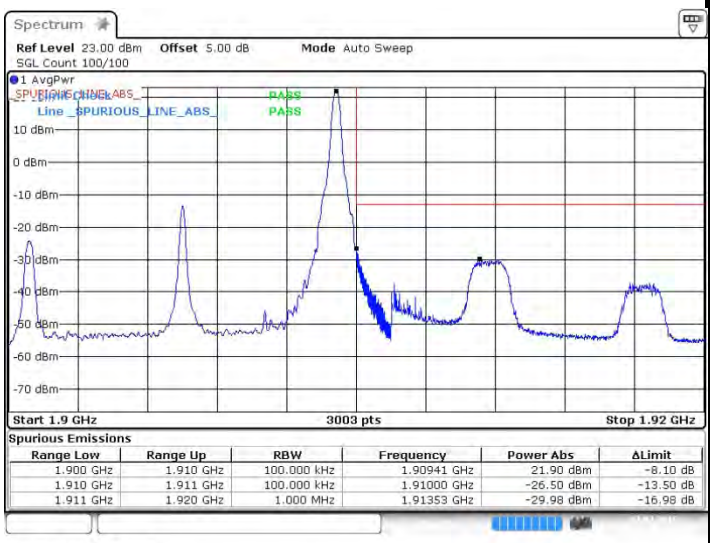
LTE Band 2 / 10MHz / QPSK

Lowest Band Edge / 1 RB



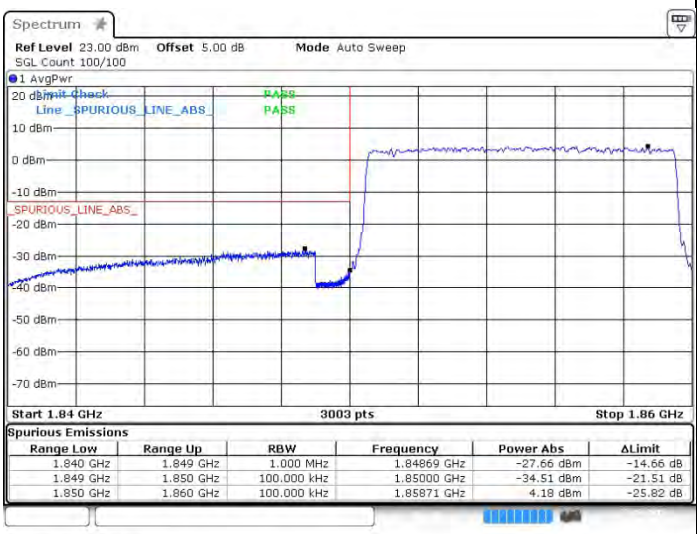
Date: 27.MAR.2015 11:55:02

Highest Band Edge / 1 RB



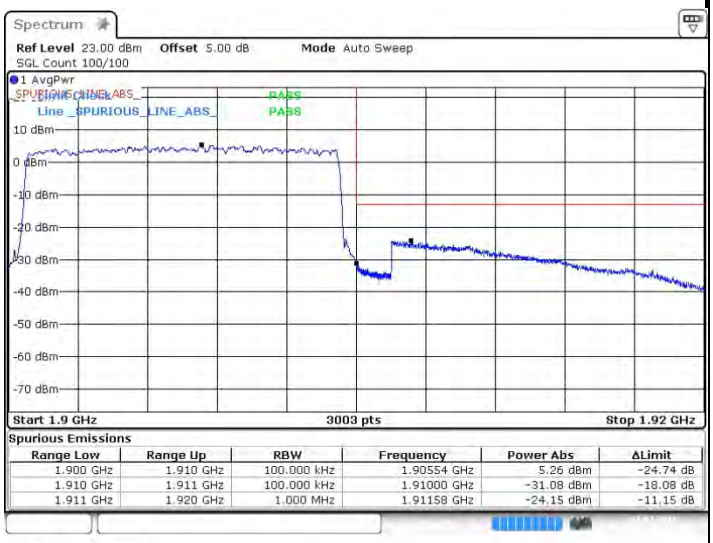
Date: 27.MAR.2015 11:59:05

Lowest Band Edge / Full RB



Date: 27.MAR.2015 11:57:18

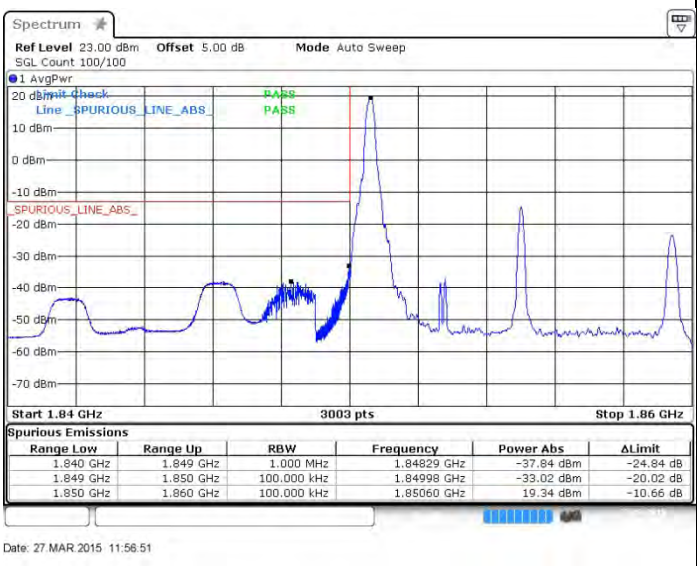
Highest Band Edge / Full RB



Date: 27.MAR.2015 12:01:04

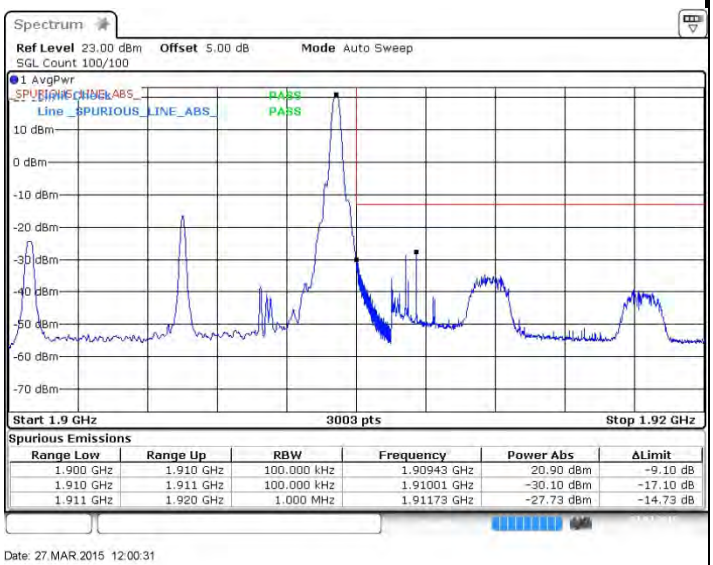
LTE Band 2 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



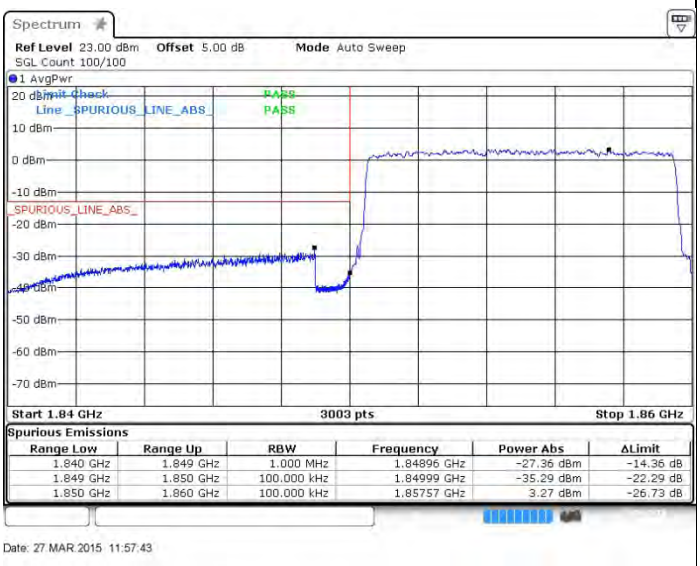
Date: 27.MAR.2015 11:56:51

Highest Band Edge / 1 RB



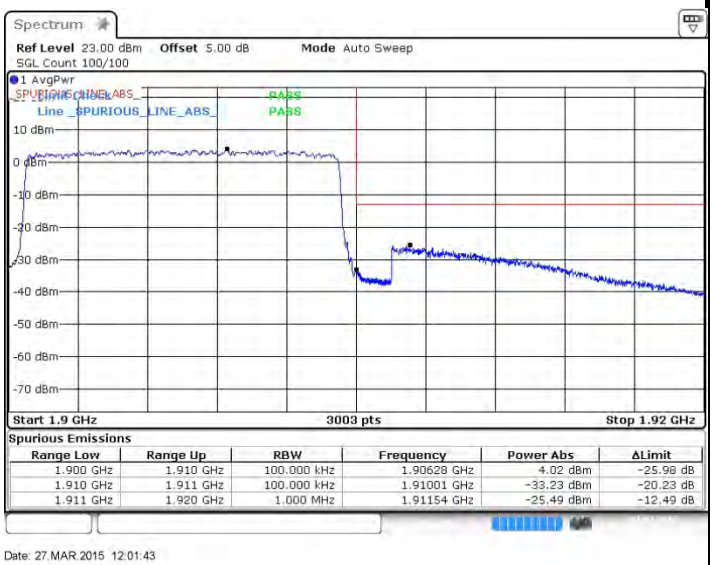
Date: 27.MAR.2015 12:00:31

Lowest Band Edge / Full RB



Date: 27.MAR.2015 11:57:43

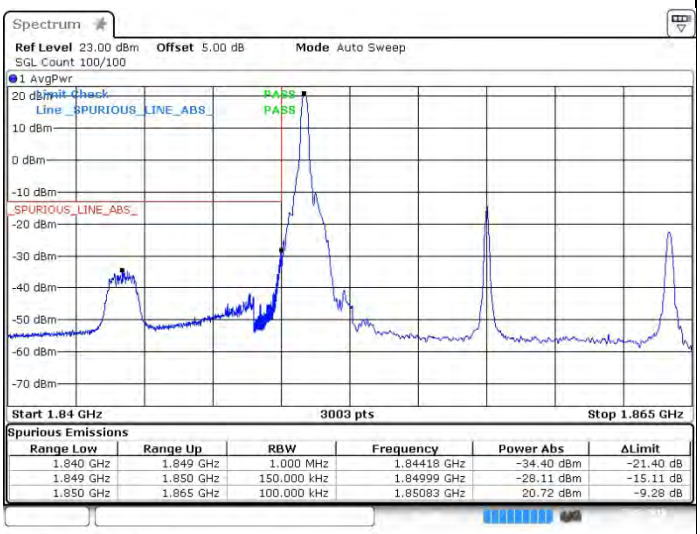
Highest Band Edge / Full RB



Date: 27.MAR.2015 12:01:43

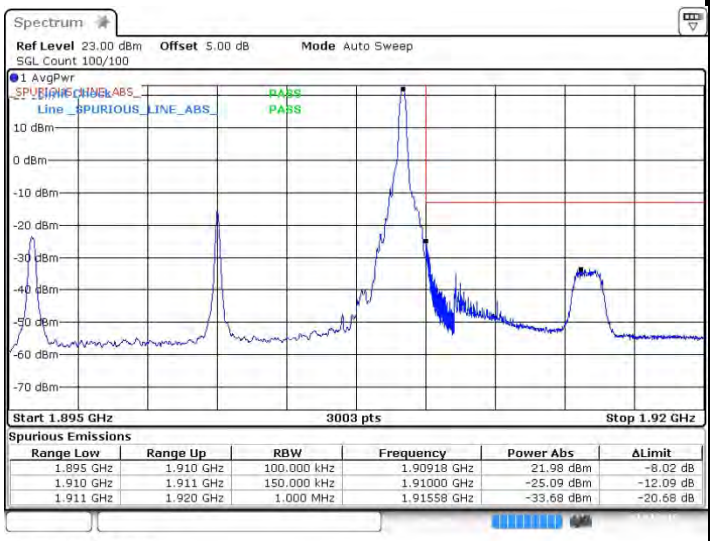
LTE Band 2 / 15MHz / QPSK

Lowest Band Edge / 1 RB



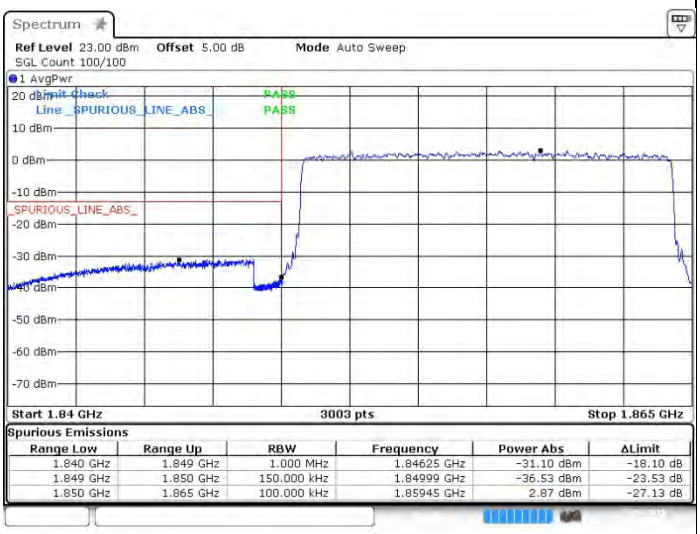
Date: 27.MAR.2015 11:47:26

Highest Band Edge / 1 RB



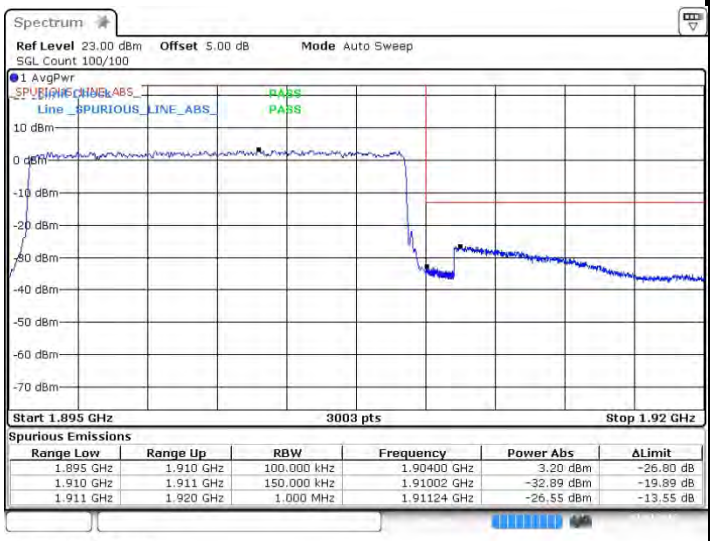
Date: 27.MAR.2015 11:52:52

Lowest Band Edge / Full RB



Date: 27.MAR.2015 11:51:17

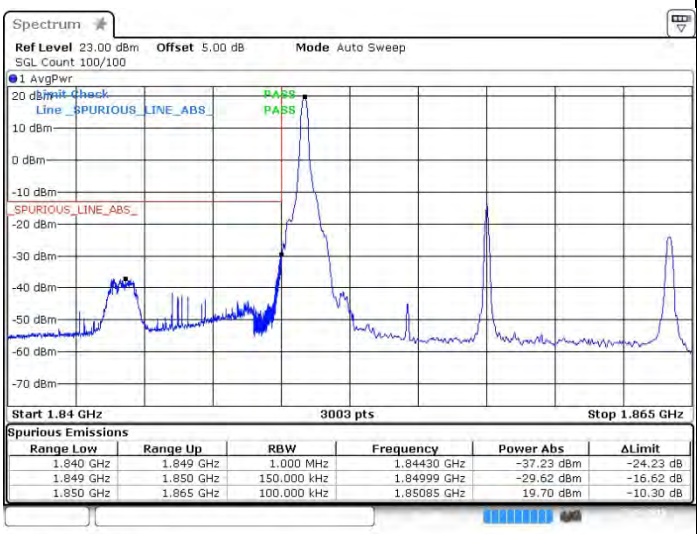
Highest Band Edge / Full RB



Date: 27.MAR.2015 11:53:53

LTE Band 2 / 15MHz / 16QAM

Lowest Band Edge / 1 RB

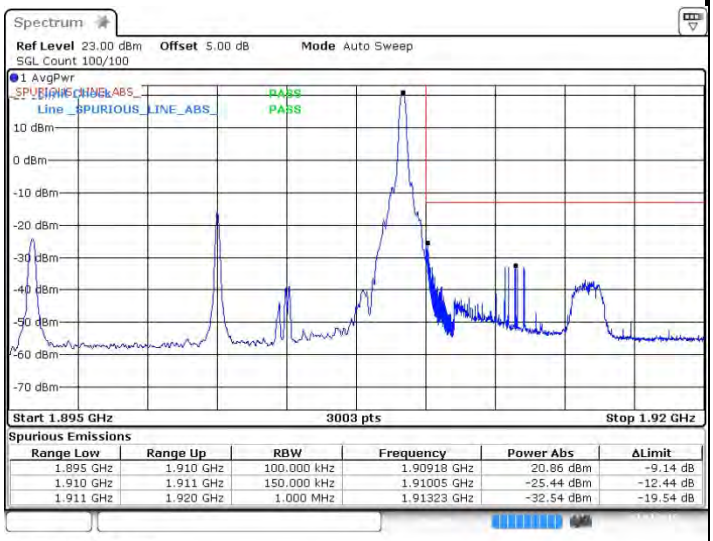


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84430 GHz	-37.23 dBm	-24.23 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.84999 GHz	-29.62 dBm	-16.62 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85085 GHz	19.70 dBm	-10.30 dB

Date: 27.MAR.2015 11:50:48

Highest Band Edge / 1 RB

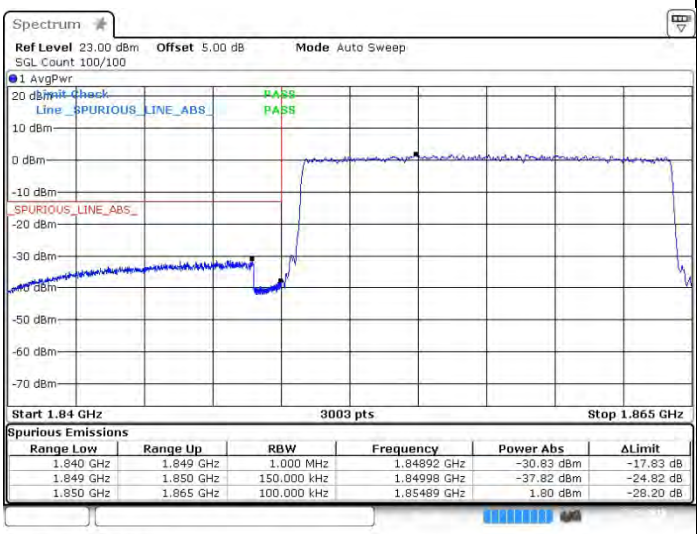


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90918 GHz	20.86 dBm	-9.14 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91005 GHz	-25.44 dBm	-12.44 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91323 GHz	-32.54 dBm	-19.54 dB

Date: 27.MAR.2015 11:53:17

Lowest Band Edge / Full RB

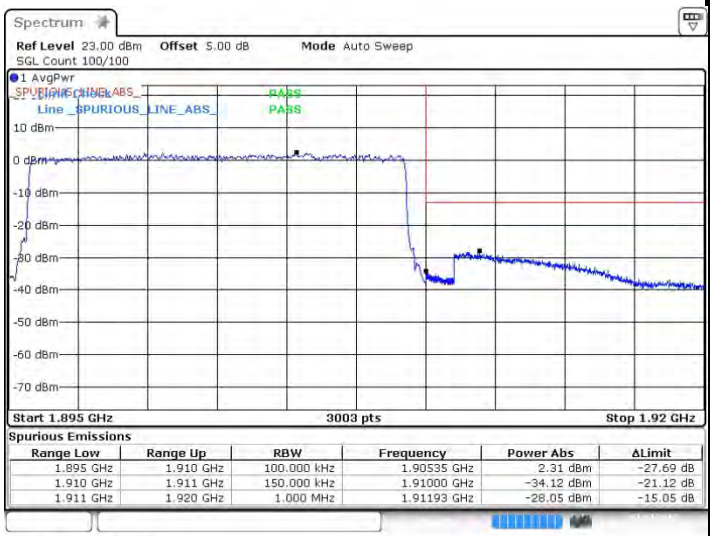


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.840 GHz	1.849 GHz	1.000 MHz	1.84892 GHz	-30.83 dBm	-17.83 dB
1.849 GHz	1.850 GHz	150.000 kHz	1.84998 GHz	-37.82 dBm	-24.82 dB
1.850 GHz	1.865 GHz	100.000 kHz	1.85489 GHz	1.80 dBm	-28.20 dB

Date: 27.MAR.2015 11:51:51

Highest Band Edge / Full RB



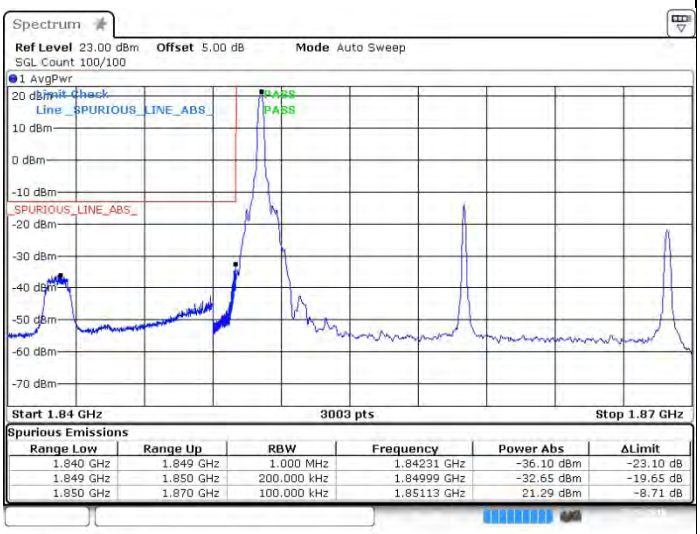
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.895 GHz	1.910 GHz	100.000 kHz	1.90535 GHz	2.31 dBm	-27.69 dB
1.910 GHz	1.911 GHz	150.000 kHz	1.91000 GHz	-34.12 dBm	-21.12 dB
1.911 GHz	1.920 GHz	1.000 MHz	1.91193 GHz	-28.05 dBm	-15.05 dB

Date: 27.MAR.2015 11:54:15

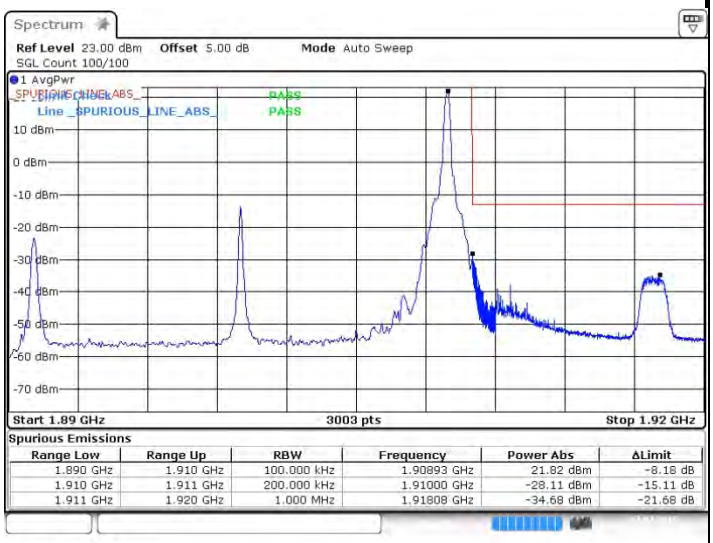
LTE Band 2 / 20MHz / QPSK

Lowest Band Edge / 1 RB



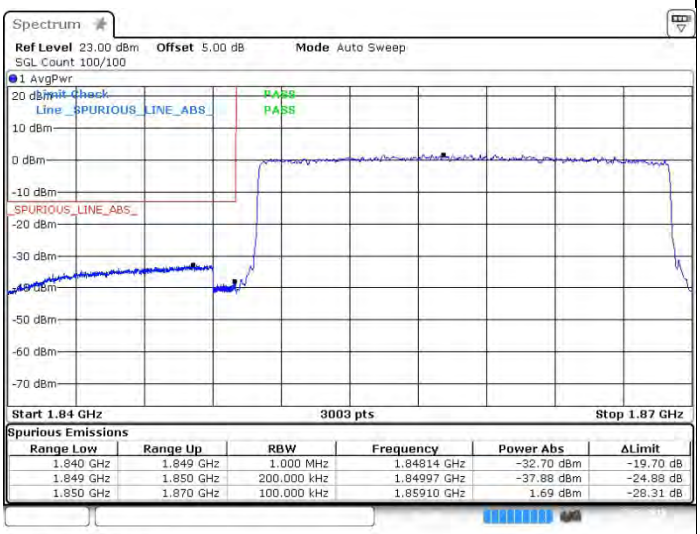
Date: 27.MAR.2015 11:38:45

Highest Band Edge / 1 RB



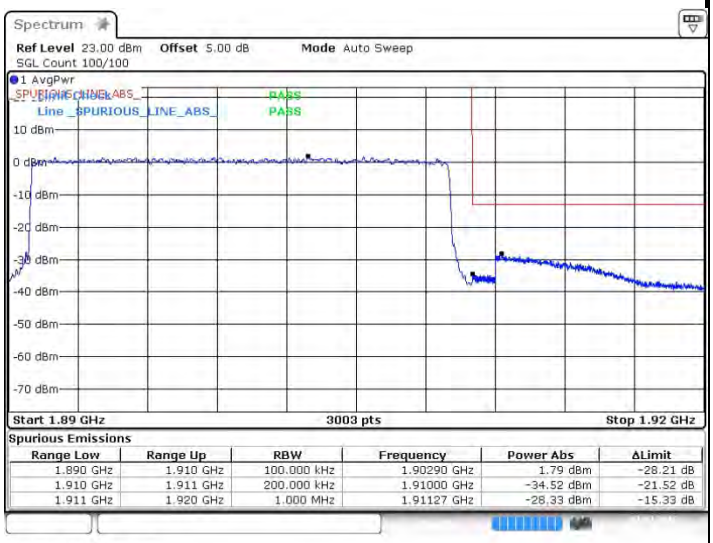
Date: 27.MAR.2015 11:43:16

Lowest Band Edge / Full RB



Date: 27.MAR.2015 11:41:53

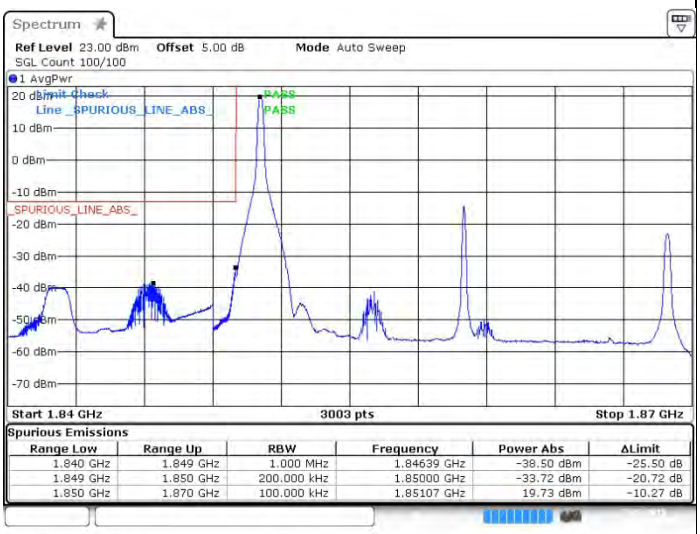
Highest Band Edge / Full RB



Date: 27.MAR.2015 11:46:10

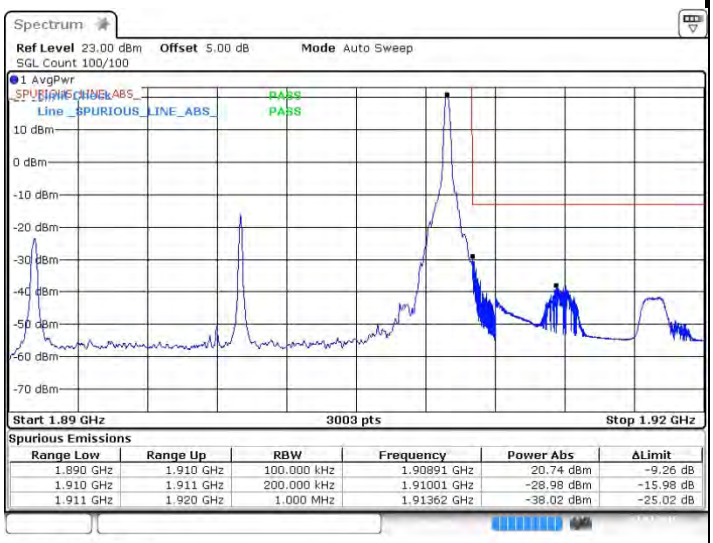
LTE Band 2 / 20MHz / 16QAM

Lowest Band Edge / 1 RB



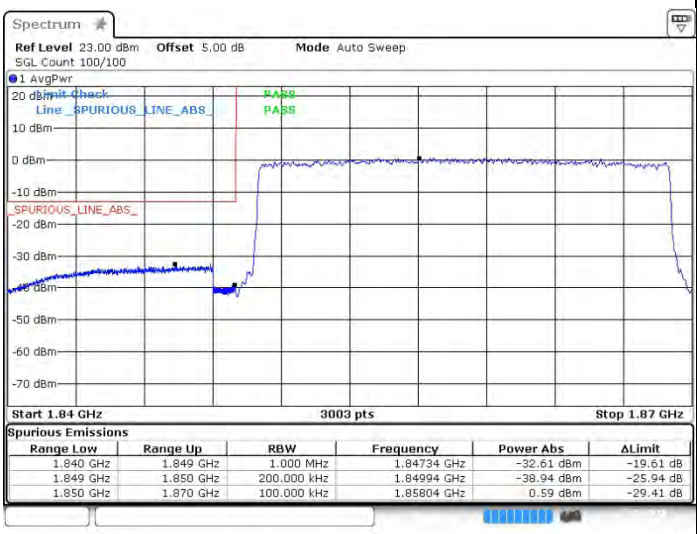
Date: 27.MAR.2015 11:41:23

Highest Band Edge / 1 RB



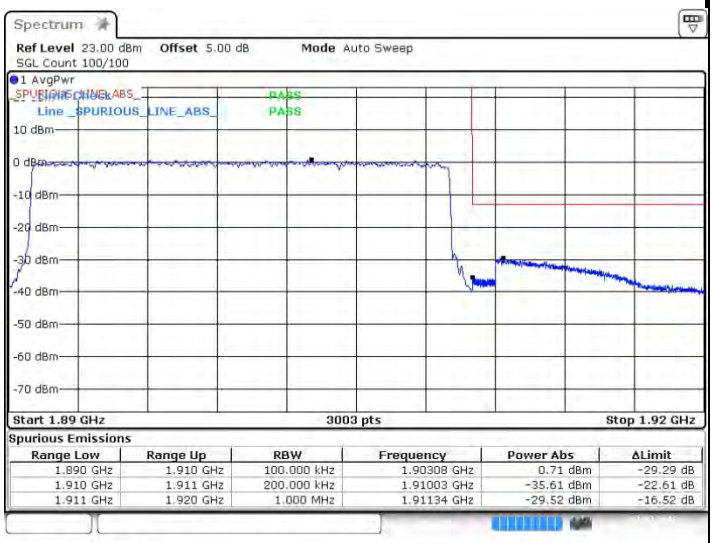
Date: 27.MAR.2015 11:45:42

Lowest Band Edge / Full RB



Date: 27.MAR.2015 11:42:21

Highest Band Edge / Full RB

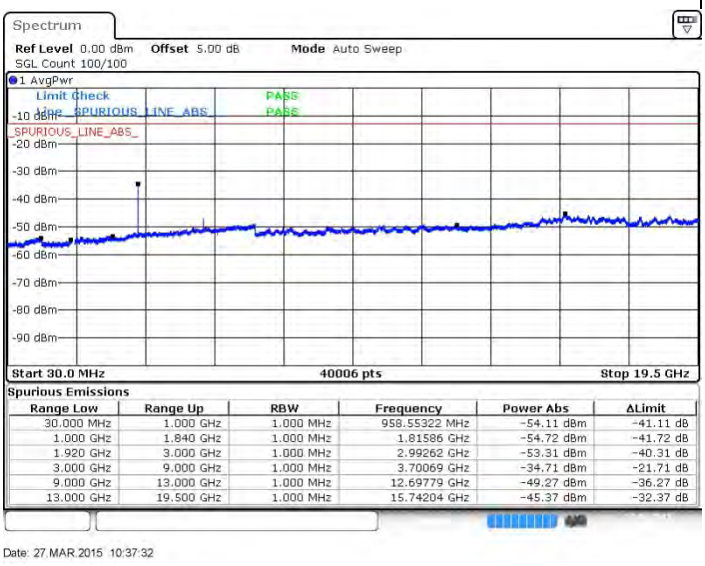


Date: 27.MAR.2015 11:46:34

Conducted Spurious Emission

LTE Band 2 / 1.4MHz

Lowest Channel / QPSK

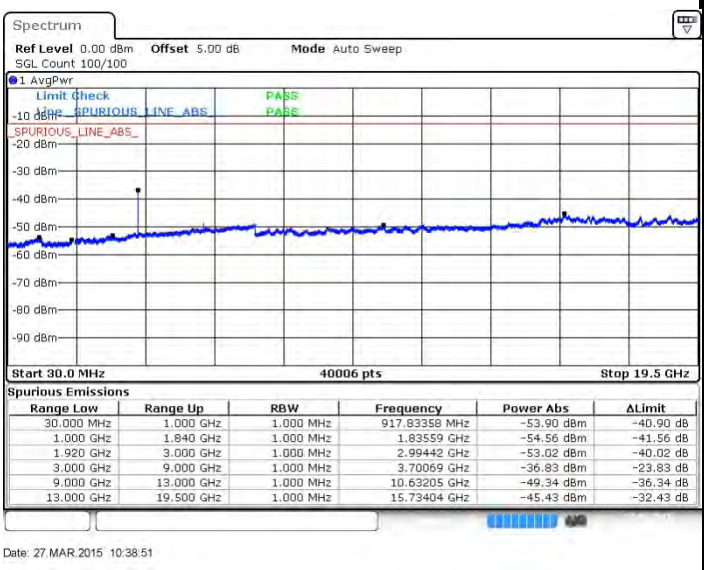


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	958.55322 MHz	-54.11 dBm	-41.11 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81586 GHz	-54.72 dBm	-41.72 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99262 GHz	-53.31 dBm	-40.31 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-34.71 dBm	-21.71 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69779 GHz	-49.27 dBm	-36.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74204 GHz	-45.37 dBm	-32.37 dB

Date: 27.MAR.2015 10:37:32

Lowest Channel / 16QAM

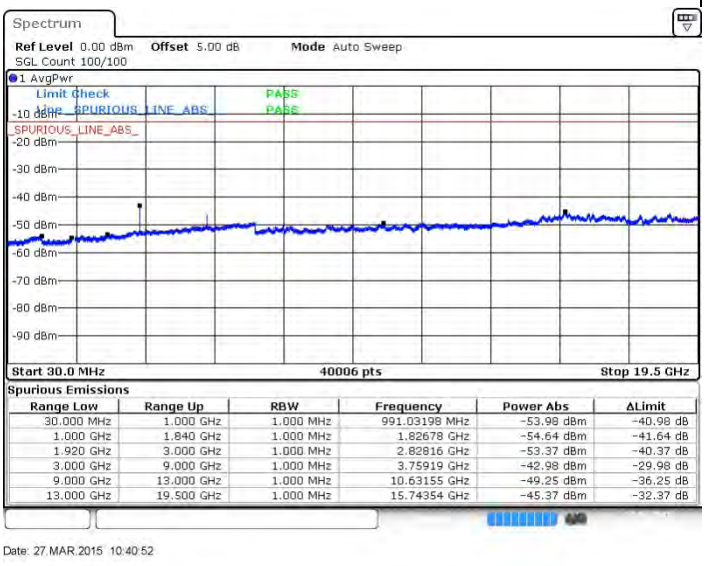


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	917.83358 MHz	-53.90 dBm	-40.90 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-54.56 dBm	-41.56 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99442 GHz	-53.02 dBm	-40.02 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-36.83 dBm	-23.83 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.63205 GHz	-49.34 dBm	-36.34 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73404 GHz	-45.43 dBm	-32.43 dB

Date: 27.MAR.2015 10:38:51

Middle Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	991.03198 MHz	-53.98 dBm	-40.98 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82678 GHz	-54.64 dBm	-41.64 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82816 GHz	-53.37 dBm	-40.37 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75919 GHz	-42.98 dBm	-29.98 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.63155 GHz	-49.25 dBm	-36.25 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74354 GHz	-45.37 dBm	-32.37 dB

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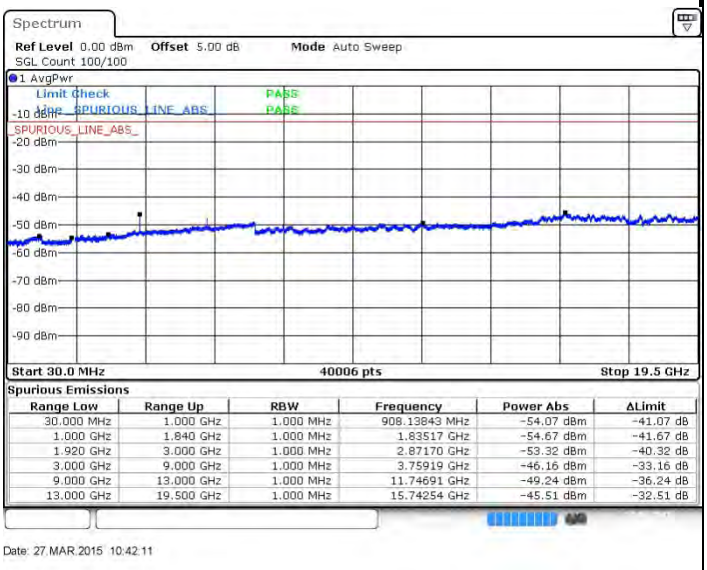
Middle Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	908.13843 MHz	-54.07 dBm	-41.07 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83517 GHz	-54.67 dBm	-41.67 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87170 GHz	-53.32 dBm	-40.32 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75919 GHz	-46.16 dBm	-33.16 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74691 GHz	-49.24 dBm	-36.24 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74254 GHz	-45.51 dBm	-32.51 dB

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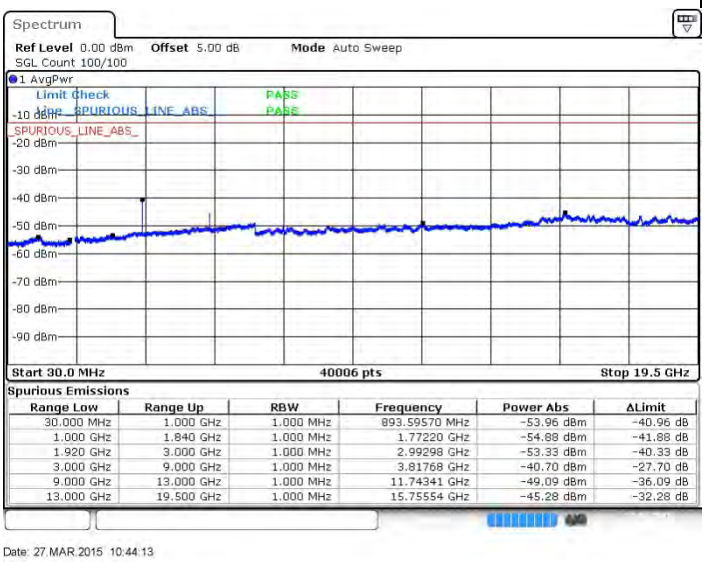
LTE Band 2 / 1.4MHz

Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	893.59570 MHz	-53.96 dBm	-40.96 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.77220 GHz	-54.88 dBm	-41.88 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99298 GHz	-53.33 dBm	-40.33 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.81768 GHz	-40.70 dBm	-27.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74341 GHz	-49.09 dBm	-36.09 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75554 GHz	-45.28 dBm	-32.28 dB

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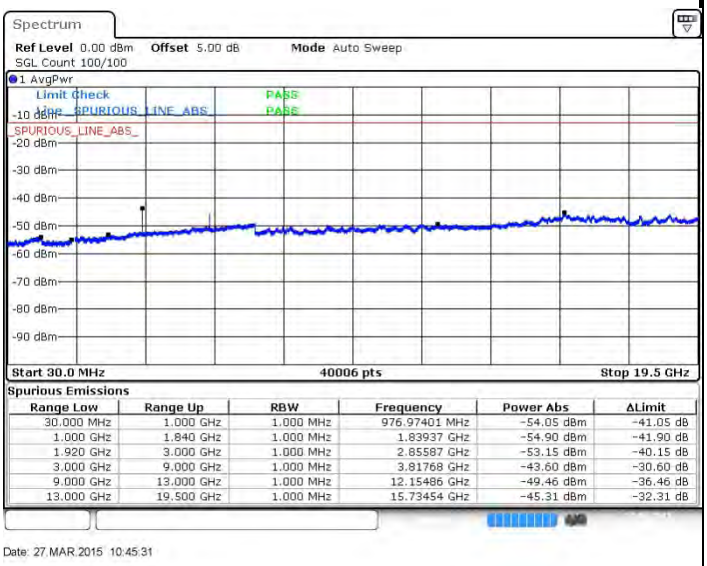
Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	976.97401 MHz	-54.05 dBm	-41.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83937 GHz	-54.90 dBm	-41.90 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.85587 GHz	-53.15 dBm	-40.15 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.81768 GHz	-43.60 dBm	-30.60 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.15486 GHz	-49.46 dBm	-36.46 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73454 GHz	-45.31 dBm	-32.31 dB

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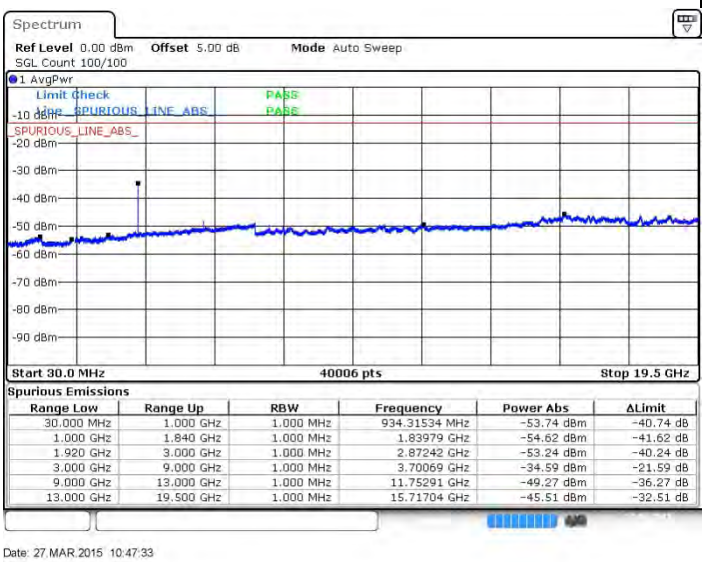
LTE Band 2 / 3MHz

Lowest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	934.31534 MHz	-53.74 dBm	-40.74 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83979 GHz	-54.62 dBm	-41.62 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87242 GHz	-53.24 dBm	-40.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-34.59 dBm	-21.59 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.75291 GHz	-49.27 dBm	-36.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.71704 GHz	-45.51 dBm	-32.51 dB

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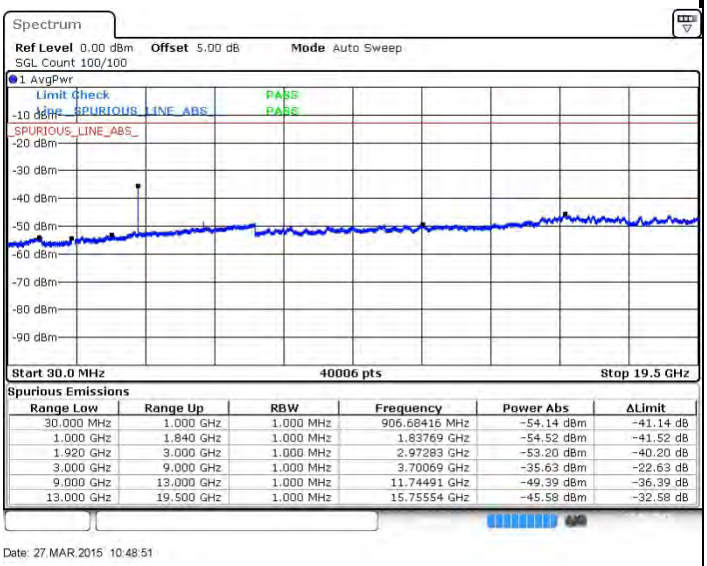
Lowest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	906.68416 MHz	-54.14 dBm	-41.14 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-54.52 dBm	-41.52 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97283 GHz	-53.20 dBm	-40.20 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-35.63 dBm	-22.63 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74491 GHz	-49.39 dBm	-36.39 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75554 GHz	-45.58 dBm	-32.58 dB

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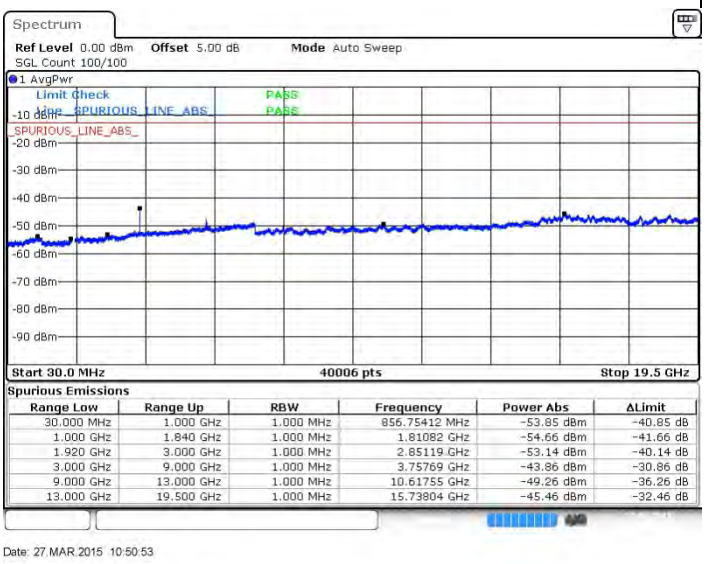
LTE Band 2 / 3MHz

Middle Channel / QPSK

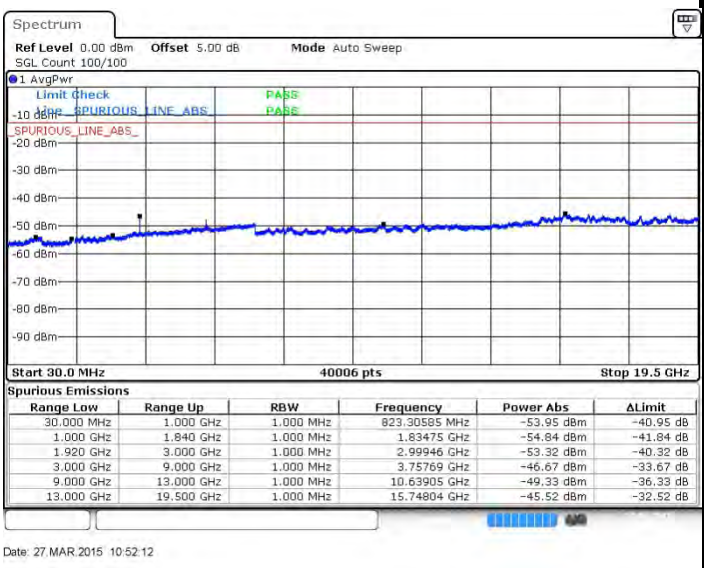


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	856.75412 MHz	-53.85 dBm	-40.85 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81082 GHz	-54.66 dBm	-41.66 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.85119 GHz	-53.14 dBm	-40.14 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75769 GHz	-43.86 dBm	-30.86 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.61755 GHz	-49.26 dBm	-36.26 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73804 GHz	-45.46 dBm	-32.46 dB

Date: 27.MAR.2015 10:50:53

Middle Channel / 16QAM

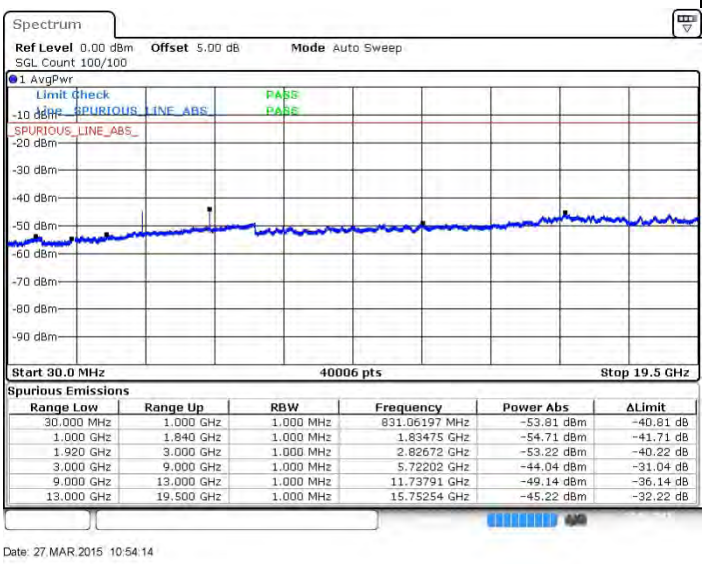


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	823.30585 MHz	-53.95 dBm	-40.95 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83475 GHz	-54.84 dBm	-41.84 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99946 GHz	-53.32 dBm	-40.32 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75769 GHz	-46.67 dBm	-33.67 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.63905 GHz	-49.33 dBm	-36.33 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74804 GHz	-45.52 dBm	-32.52 dB

Date: 27.MAR.2015 10:52:12

Highest Channel / QPSK

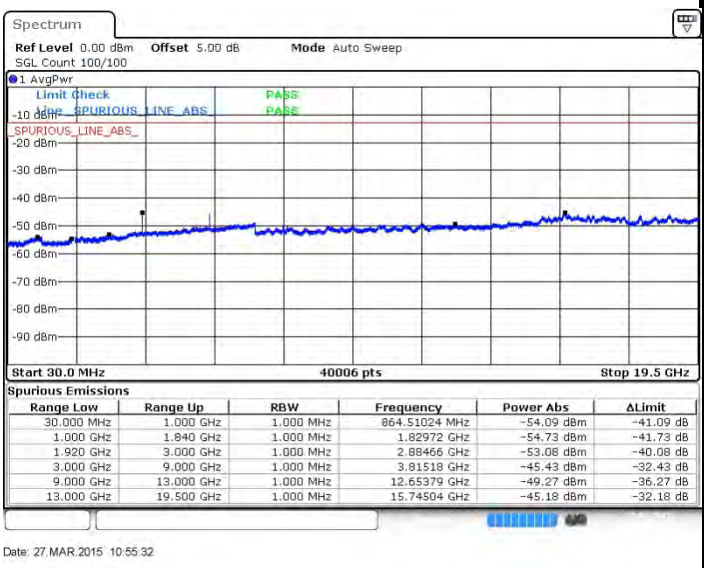


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	831.06197 MHz	-53.81 dBm	-40.81 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83475 GHz	-54.71 dBm	-41.71 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.82672 GHz	-53.22 dBm	-40.22 dB
3.000 GHz	9.000 GHz	1.000 MHz	5.72202 GHz	-44.04 dBm	-31.04 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.73791 GHz	-49.14 dBm	-36.14 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75254 GHz	-45.22 dBm	-32.22 dB

Date: 27.MAR.2015 10:54:14

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	864.51024 MHz	-54.09 dBm	-41.09 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82972 GHz	-54.73 dBm	-41.73 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.88466 GHz	-53.08 dBm	-40.08 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.81518 GHz	-45.43 dBm	-32.43 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.65379 GHz	-49.27 dBm	-36.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74504 GHz	-45.18 dBm	-32.18 dB

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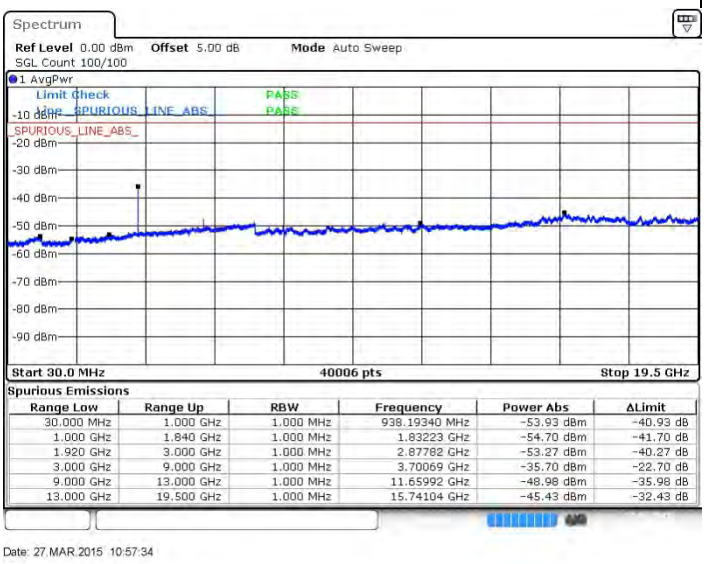
LTE Band 2 / 5MHz

Lowest Channel / QPSK

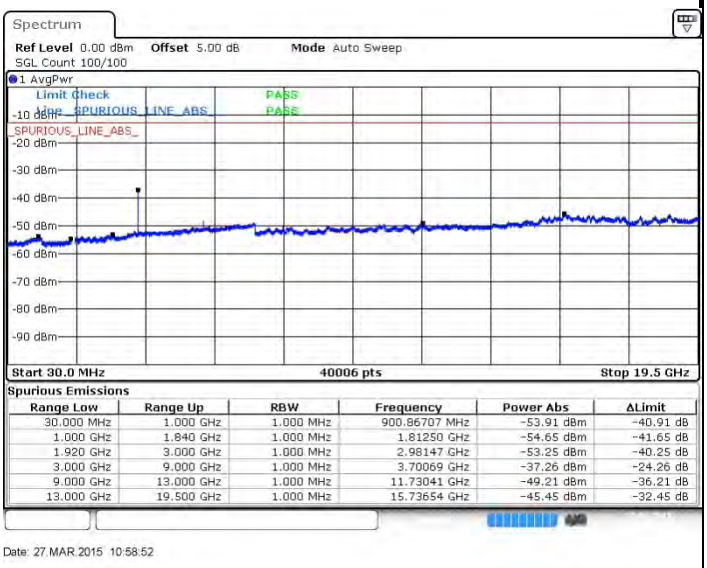


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	938.19340 MHz	-53.93 dBm	-40.93 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83223 GHz	-54.70 dBm	-41.70 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87782 GHz	-53.27 dBm	-40.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-35.70 dBm	-22.70 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.65992 GHz	-48.98 dBm	-35.98 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74104 GHz	-45.43 dBm	-32.43 dB

Date: 27.MAR.2015 10:57:34

Lowest Channel / 16QAM

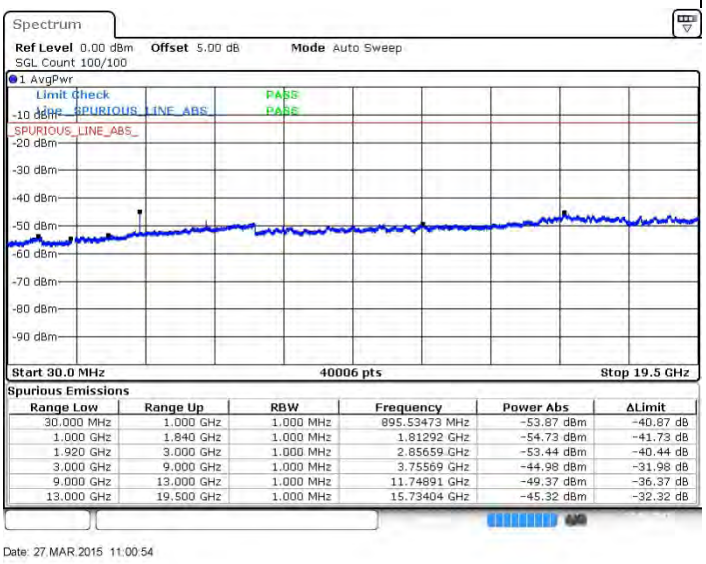


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	900.86707 MHz	-53.91 dBm	-40.91 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81250 GHz	-54.65 dBm	-41.65 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98147 GHz	-53.25 dBm	-40.25 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70069 GHz	-37.26 dBm	-24.26 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.73041 GHz	-49.21 dBm	-36.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73654 GHz	-45.45 dBm	-32.45 dB

Date: 27.MAR.2015 10:58:52

Middle Channel / QPSK

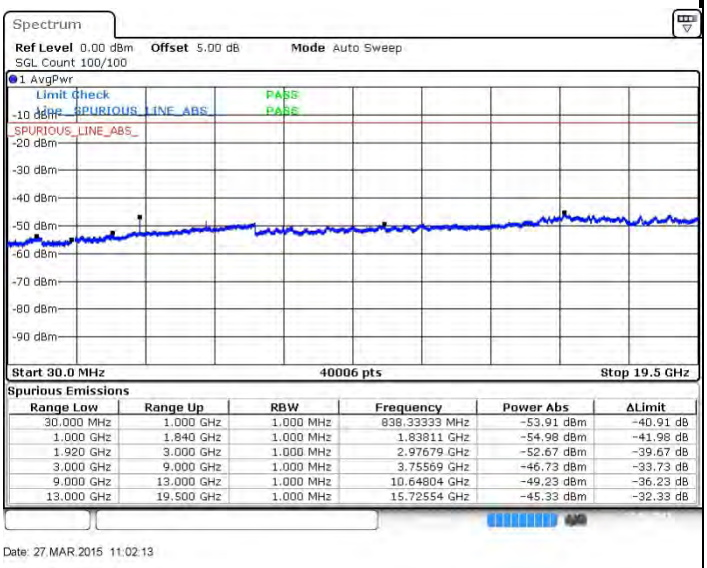


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	895.53473 MHz	-53.87 dBm	-40.87 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81292 GHz	-54.73 dBm	-41.73 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.85659 GHz	-53.44 dBm	-40.44 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75569 GHz	-44.98 dBm	-31.98 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74891 GHz	-49.37 dBm	-36.37 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73404 GHz	-45.32 dBm	-32.32 dB

Date: 27.MAR.2015 11:00:54

Middle Channel / 16QAM



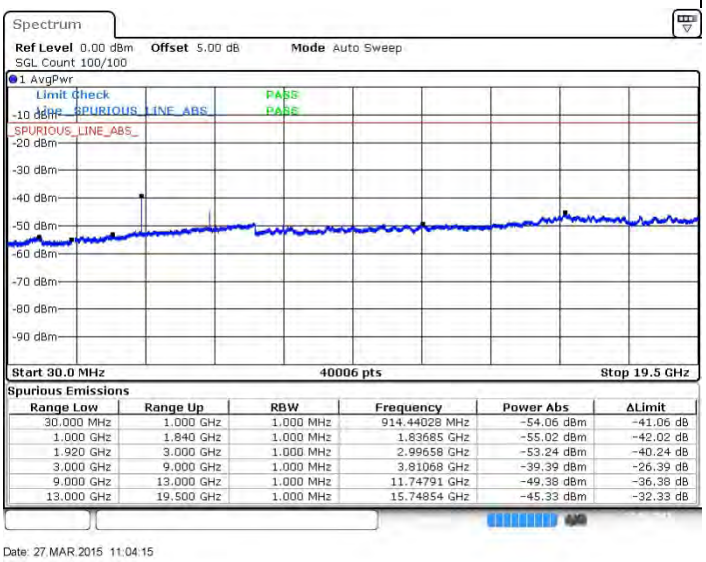
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	838.33333 MHz	-53.91 dBm	-40.91 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83811 GHz	-54.98 dBm	-41.98 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97679 GHz	-52.67 dBm	-39.67 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75569 GHz	-46.73 dBm	-33.73 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.64804 GHz	-49.23 dBm	-36.23 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.72554 GHz	-45.33 dBm	-32.33 dB

Date: 27.MAR.2015 11:02:13

LTE Band 2 / 5MHz

Highest Channel / QPSK

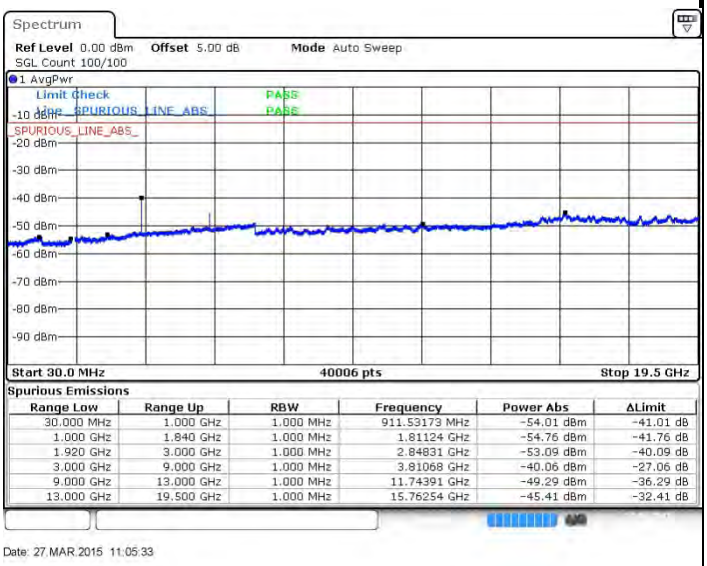


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	914.44028 MHz	-54.06 dBm	-41.06 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83685 GHz	-55.02 dBm	-42.02 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.99658 GHz	-53.24 dBm	-40.24 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.81068 GHz	-39.39 dBm	-26.39 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74791 GHz	-49.38 dBm	-36.38 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74854 GHz	-45.33 dBm	-32.33 dB

Date: 27.MAR.2015 11:04:15

Highest Channel / 16QAM



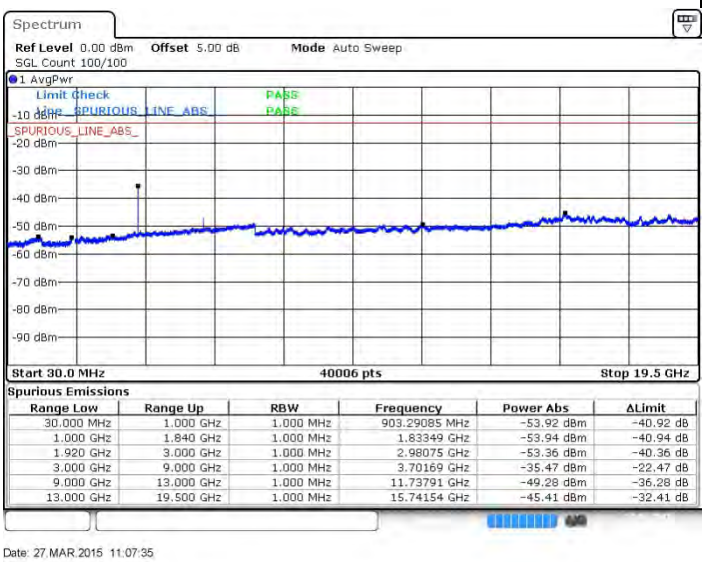
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	911.53173 MHz	-54.01 dBm	-41.01 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81124 GHz	-54.76 dBm	-41.76 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.84831 GHz	-53.09 dBm	-40.09 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.81068 GHz	-40.06 dBm	-27.06 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74391 GHz	-49.29 dBm	-36.29 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.76254 GHz	-45.41 dBm	-32.41 dB

Date: 27.MAR.2015 11:05:33

LTE Band 2 / 10MHz

Lowest Channel / QPSK

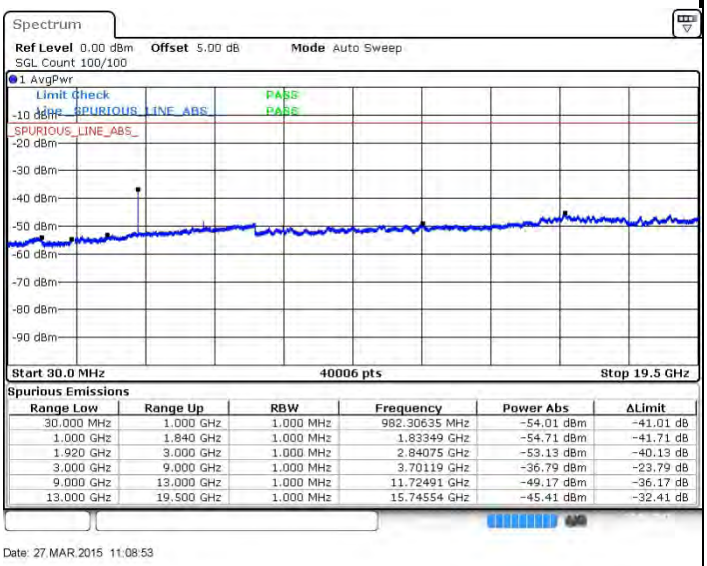


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	903.29085 MHz	-53.92 dBm	-40.92 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-53.94 dBm	-40.94 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98075 GHz	-53.36 dBm	-40.36 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70169 GHz	-35.47 dBm	-22.47 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.73791 GHz	-49.28 dBm	-36.28 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74154 GHz	-45.41 dBm	-32.41 dB

Date: 27.MAR.2015 11:07:35

Lowest Channel / 16QAM



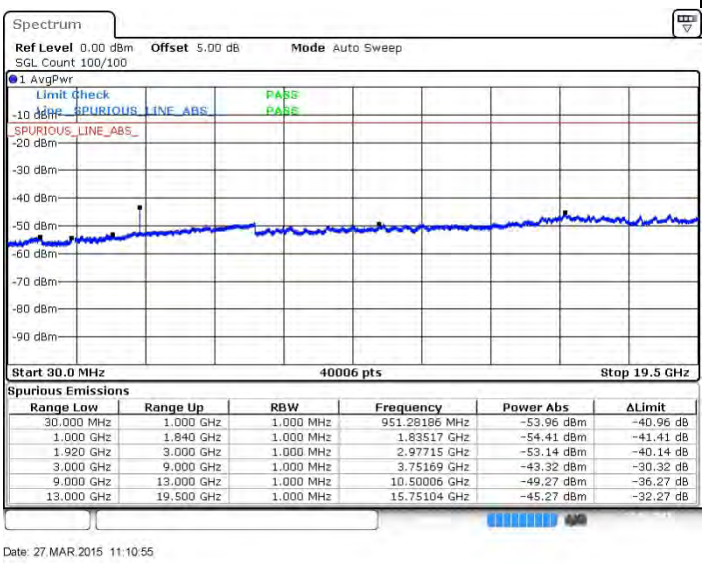
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	982.30635 MHz	-54.01 dBm	-41.01 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-54.71 dBm	-41.71 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.84075 GHz	-53.13 dBm	-40.13 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70119 GHz	-36.79 dBm	-23.79 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.72491 GHz	-49.17 dBm	-36.17 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74554 GHz	-45.41 dBm	-32.41 dB

Date: 27.MAR.2015 11:08:53

LTE Band 2 / 10MHz

Middle Channel / QPSK

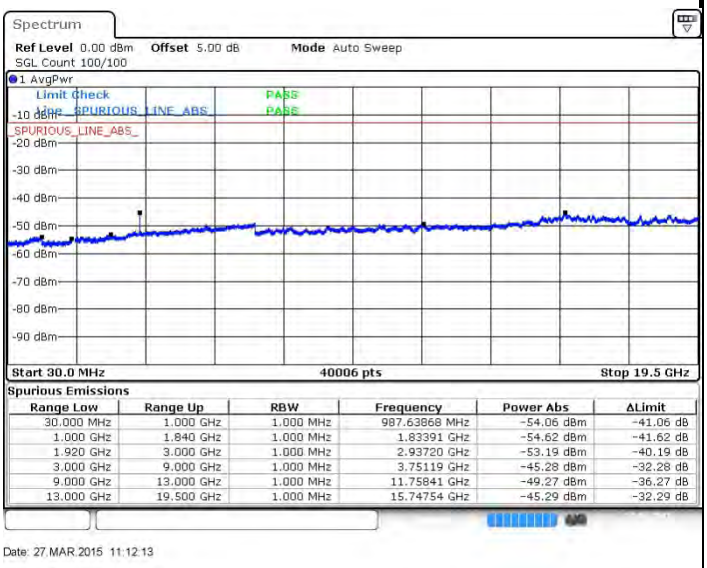


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	951.28186 MHz	-53.96 dBm	-40.96 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83517 GHz	-54.41 dBm	-41.41 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97715 GHz	-53.14 dBm	-40.14 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75169 GHz	-43.32 dBm	-30.32 dB
9.000 GHz	13.000 GHz	1.000 MHz	10.50006 GHz	-49.27 dBm	-36.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75104 GHz	-45.27 dBm	-32.27 dB

Date: 27.MAR.2015 11:10:55

Middle Channel / 16QAM

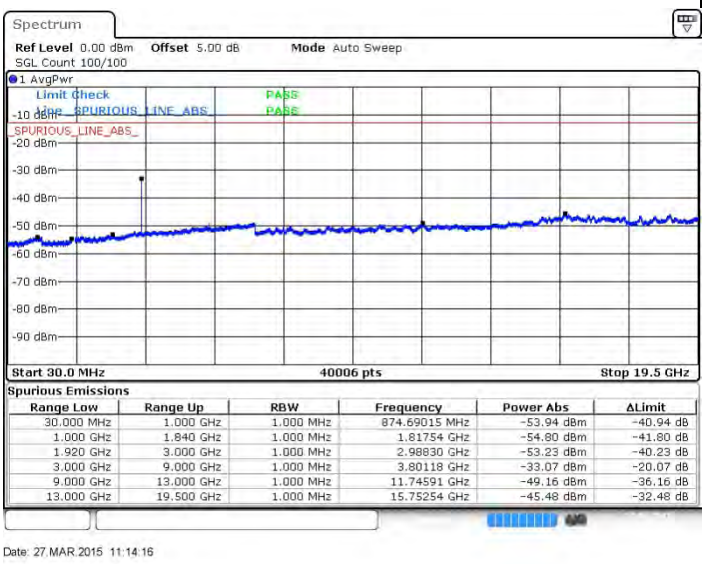


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	987.63868 MHz	-54.06 dBm	-41.06 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83391 GHz	-54.62 dBm	-41.62 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.93720 GHz	-53.19 dBm	-40.19 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.75119 GHz	-45.28 dBm	-32.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.75841 GHz	-49.27 dBm	-36.27 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74754 GHz	-45.29 dBm	-32.29 dB

Date: 27.MAR.2015 11:12:13

Highest Channel / QPSK

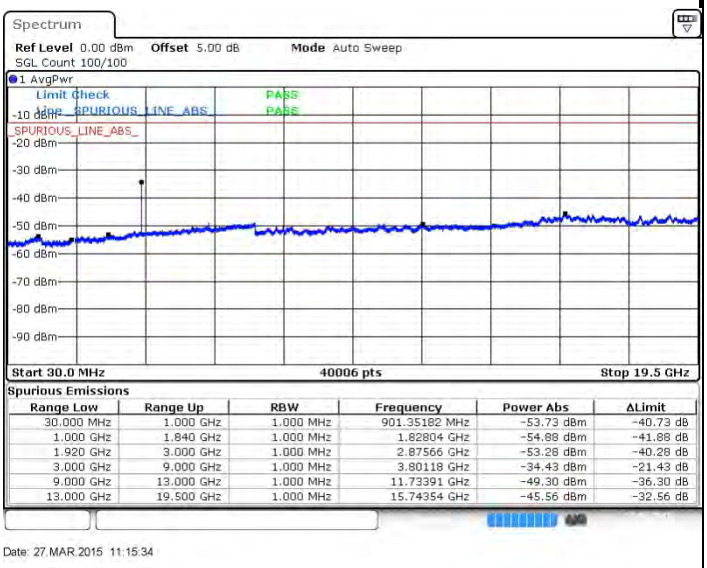


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	874.69015 MHz	-53.94 dBm	-40.94 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.81754 GHz	-54.80 dBm	-41.80 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98830 GHz	-53.23 dBm	-40.23 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.80118 GHz	-33.07 dBm	-20.07 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74591 GHz	-49.16 dBm	-36.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75254 GHz	-45.48 dBm	-32.48 dB

Date: 27.MAR.2015 11:14:16

Highest Channel / 16QAM



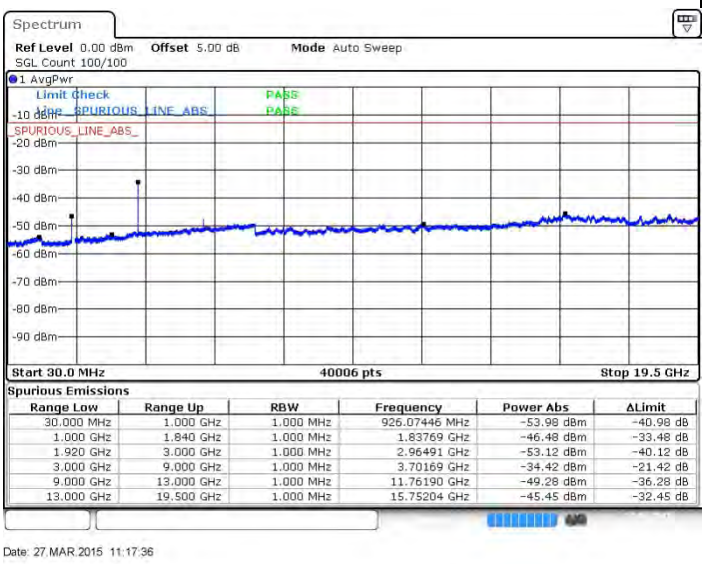
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	901.35182 MHz	-53.73 dBm	-40.73 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82804 GHz	-54.88 dBm	-41.88 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87566 GHz	-53.28 dBm	-40.28 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.80118 GHz	-34.43 dBm	-21.43 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.73391 GHz	-49.30 dBm	-36.30 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74354 GHz	-45.56 dBm	-32.56 dB

Date: 27.MAR.2015 11:15:34

LTE Band 2 / 15MHz

Lowest Channel / QPSK

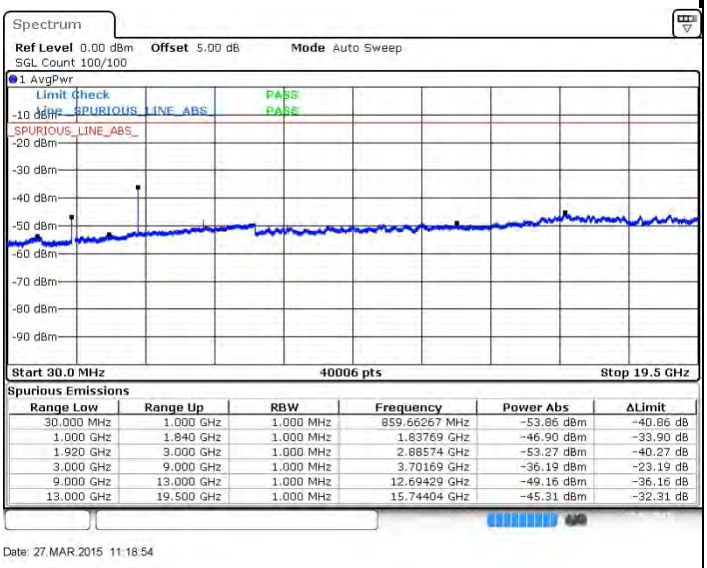


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	926.07446 MHz	-53.98 dBm	-40.98 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-46.48 dBm	-33.48 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96491 GHz	-53.12 dBm	-40.12 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70169 GHz	-34.42 dBm	-21.42 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.76190 GHz	-49.28 dBm	-36.28 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75204 GHz	-45.45 dBm	-32.45 dB

Date: 27.MAR.2015 11:17:36

Lowest Channel / 16QAM

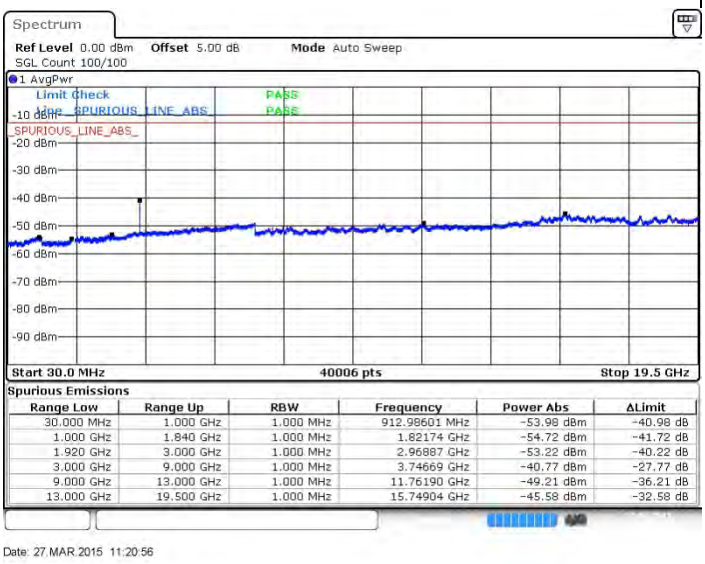


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	859.66267 MHz	-53.86 dBm	-40.86 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83769 GHz	-46.90 dBm	-33.90 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.68574 GHz	-53.27 dBm	-40.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70169 GHz	-36.19 dBm	-23.19 dB
9.000 GHz	13.000 GHz	1.000 MHz	12.69429 GHz	-49.16 dBm	-36.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74404 GHz	-45.31 dBm	-32.31 dB

Date: 27.MAR.2015 11:18:54

Middle Channel / QPSK

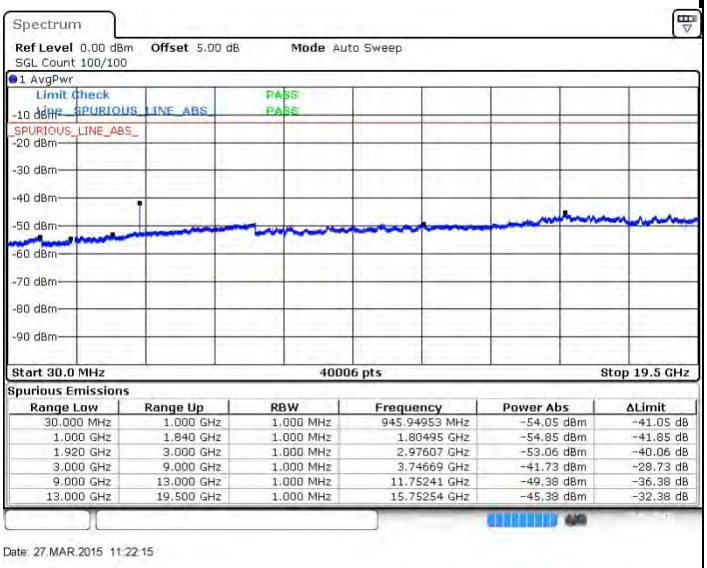


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	912.98601 MHz	-53.98 dBm	-40.98 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82174 GHz	-54.72 dBm	-41.72 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96887 GHz	-53.22 dBm	-40.22 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.74669 GHz	-40.77 dBm	-27.77 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.76190 GHz	-49.21 dBm	-36.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74904 GHz	-45.58 dBm	-32.58 dB

Date: 27.MAR.2015 11:20:56

Middle Channel / 16QAM



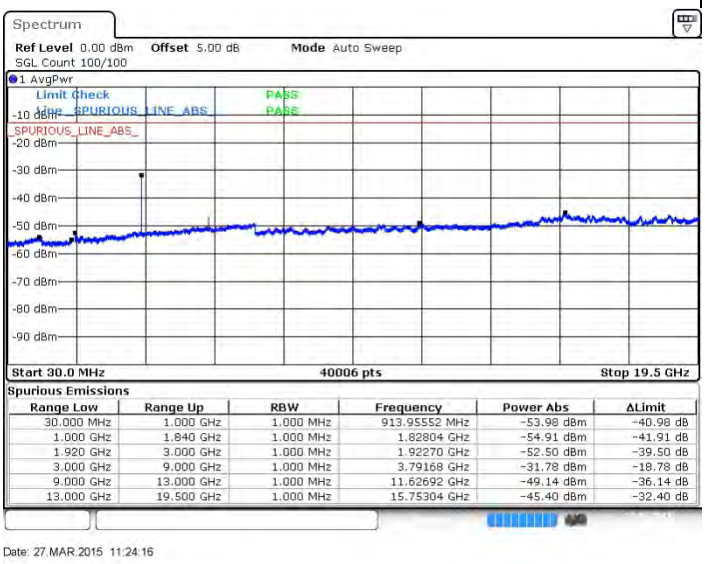
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	945.94953 MHz	-54.05 dBm	-41.05 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.80495 GHz	-54.85 dBm	-41.85 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.97607 GHz	-53.06 dBm	-40.06 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.74669 GHz	-41.73 dBm	-28.73 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.75241 GHz	-49.38 dBm	-36.38 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75254 GHz	-45.38 dBm	-32.38 dB

Date: 27.MAR.2015 11:22:15

LTE Band 2 / 15MHz

Highest Channel / QPSK

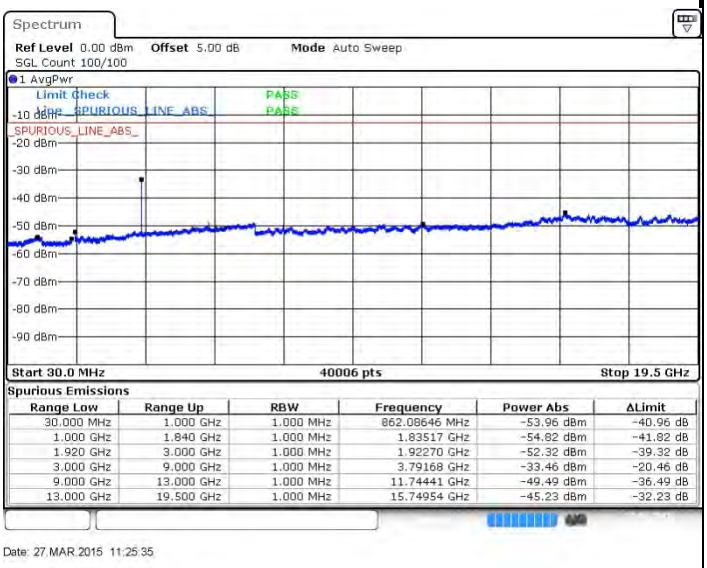


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	913.95552 MHz	-53.98 dBm	-40.98 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.82804 GHz	-54.91 dBm	-41.91 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92270 GHz	-52.50 dBm	-39.50 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.79168 GHz	-31.78 dBm	-18.78 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.62692 GHz	-49.14 dBm	-36.14 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.75304 GHz	-45.40 dBm	-32.40 dB

Date: 27.MAR.2015 11:24:16

Highest Channel / 16QAM



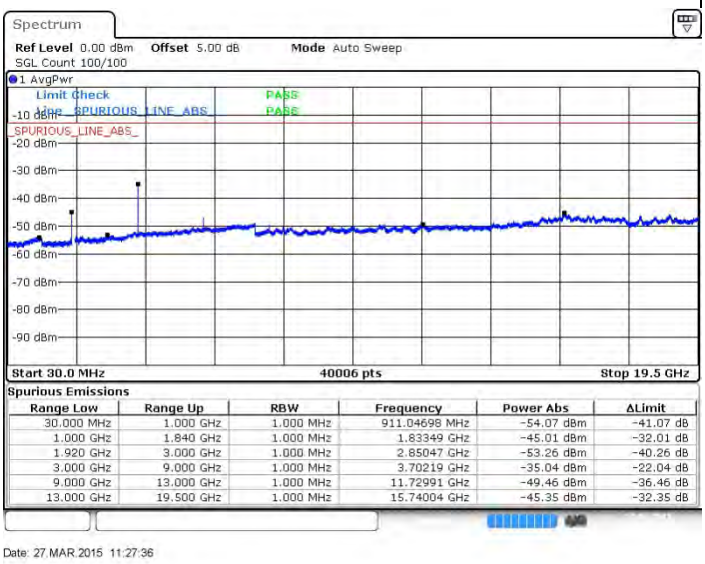
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	862.08646 MHz	-53.96 dBm	-40.96 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83517 GHz	-54.82 dBm	-41.82 dB
1.920 GHz	3.000 GHz	1.000 MHz	1.92270 GHz	-52.32 dBm	-39.32 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.79168 GHz	-33.46 dBm	-20.46 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74441 GHz	-49.49 dBm	-36.49 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74954 GHz	-45.23 dBm	-32.23 dB

Date: 27.MAR.2015 11:25:35

LTE Band 2 / 20MHz

Lowest Channel / QPSK

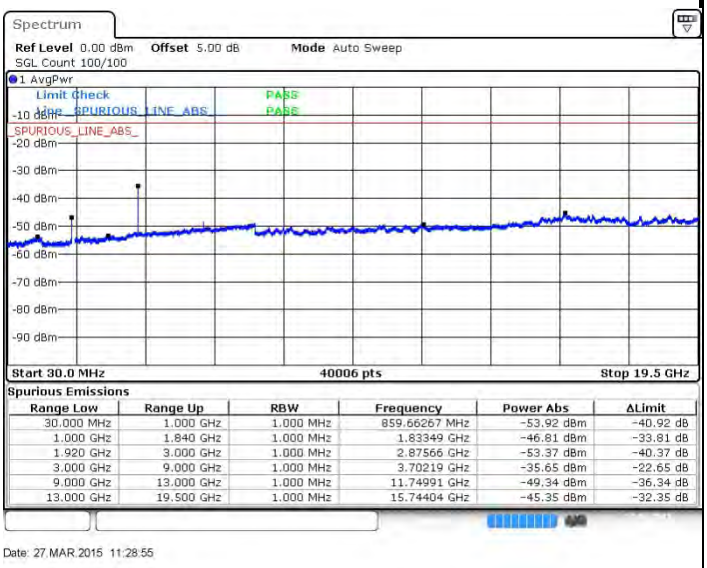


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	911.04698 MHz	-54.07 dBm	-41.07 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-45.01 dBm	-32.01 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.85047 GHz	-53.26 dBm	-40.26 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70219 GHz	-35.04 dBm	-22.04 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.72991 GHz	-49.46 dBm	-36.46 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74004 GHz	-45.35 dBm	-32.35 dB

Date: 27.MAR.2015 11:27:36

Lowest Channel / 16QAM



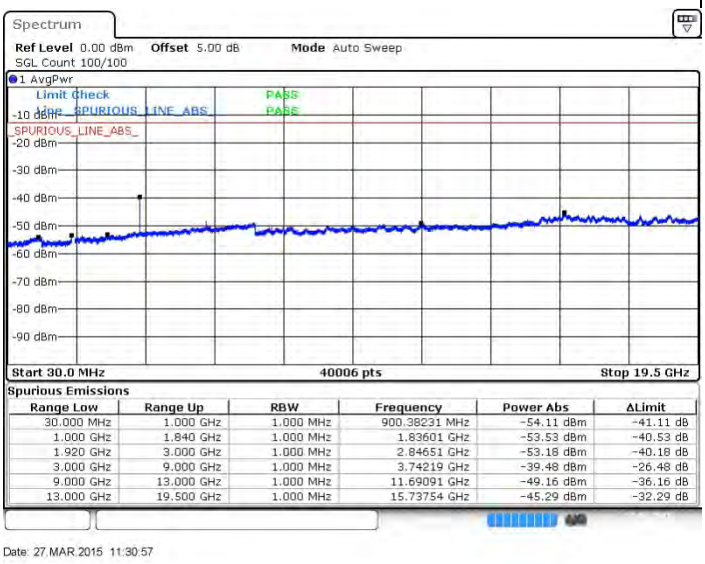
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	859.66267 MHz	-53.92 dBm	-40.92 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83349 GHz	-46.81 dBm	-33.81 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.87566 GHz	-53.37 dBm	-40.37 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.70219 GHz	-35.65 dBm	-22.65 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74991 GHz	-49.34 dBm	-36.34 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.74404 GHz	-45.35 dBm	-32.35 dB

Date: 27.MAR.2015 11:28:55

LTE Band 2 / 20MHz

Middle Channel / QPSK

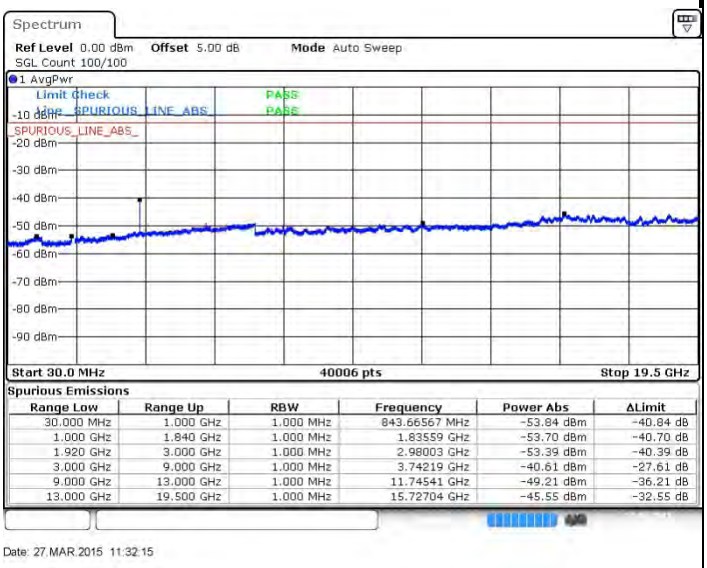


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	900.38231 MHz	-54.11 dBm	-41.11 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83601 GHz	-53.53 dBm	-40.53 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.84651 GHz	-53.18 dBm	-40.18 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.74219 GHz	-39.48 dBm	-26.48 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.69091 GHz	-49.16 dBm	-36.16 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.73754 GHz	-45.29 dBm	-32.29 dB

Date: 27.MAR.2015 11:30:57

Middle Channel / 16QAM

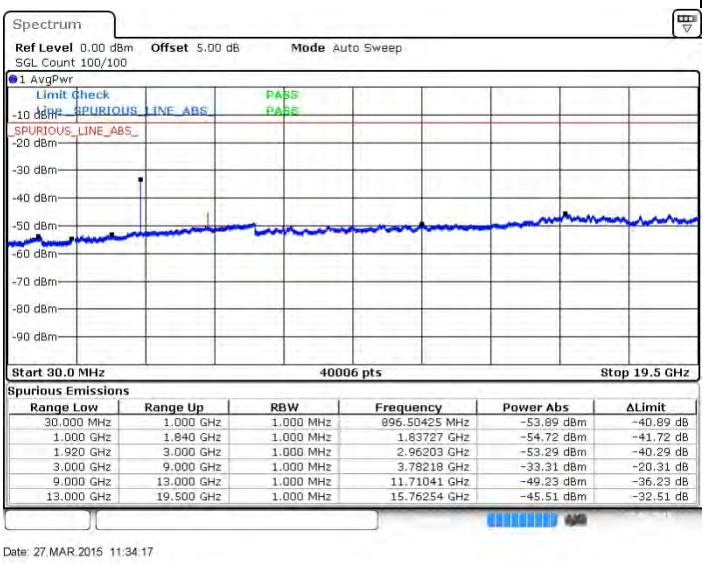


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	843.66567 MHz	-53.84 dBm	-40.84 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83559 GHz	-53.70 dBm	-40.70 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.98003 GHz	-53.39 dBm	-40.39 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.74219 GHz	-40.61 dBm	-27.61 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74541 GHz	-49.21 dBm	-36.21 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.72704 GHz	-45.55 dBm	-32.55 dB

Date: 27.MAR.2015 11:32:15

Highest Channel / QPSK

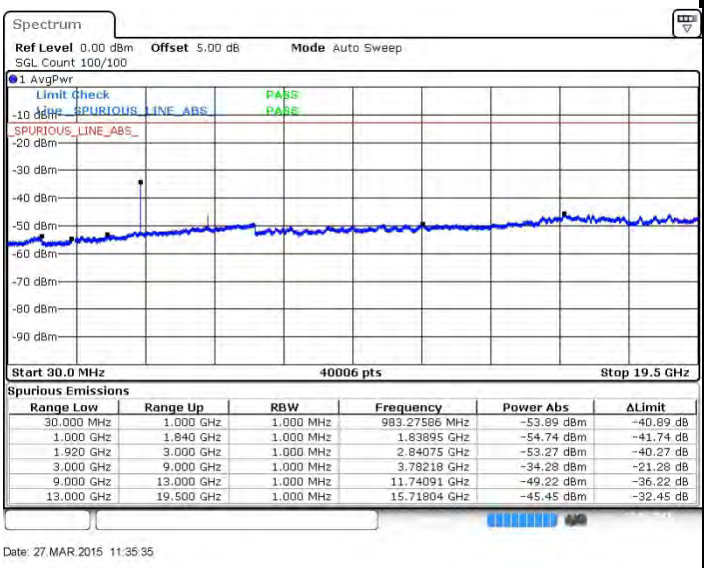


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	896.50425 MHz	-53.89 dBm	-40.89 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83727 GHz	-54.72 dBm	-41.72 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.96203 GHz	-53.29 dBm	-40.29 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.78218 GHz	-33.31 dBm	-20.31 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.71041 GHz	-49.23 dBm	-36.23 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.76254 GHz	-45.51 dBm	-32.51 dB

Date: 27.MAR.2015 11:34:17

Highest Channel / 16QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	983.27586 MHz	-53.89 dBm	-40.89 dB
1.000 GHz	1.840 GHz	1.000 MHz	1.83895 GHz	-54.74 dBm	-41.74 dB
1.920 GHz	3.000 GHz	1.000 MHz	2.84075 GHz	-53.27 dBm	-40.27 dB
3.000 GHz	9.000 GHz	1.000 MHz	3.78218 GHz	-34.28 dBm	-21.28 dB
9.000 GHz	13.000 GHz	1.000 MHz	11.74091 GHz	-49.22 dBm	-36.22 dB
13.000 GHz	19.500 GHz	1.000 MHz	15.71804 GHz	-45.45 dBm	-32.45 dB

Date: 27.MAR.2015 11:35:35

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	0.0002	PASS
40	Normal Voltage	0.0004	
30	Normal Voltage	0.0007	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0009	
0	Normal Voltage	0.0010	
-10	Normal Voltage	0.0004	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0002	
20	Maximum Voltage	0.0027	
20	Normal Voltage	0.0022	
20	Battery End Point	0.0032	

Note:

1. Normal Voltage = 3.8V. ；Battery End Point (BEP) = 3.7 V.；Maximum Voltage =4.2 V

2. Note: 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)

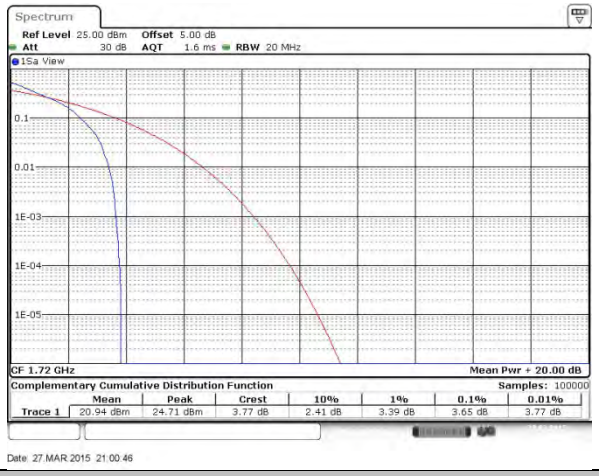
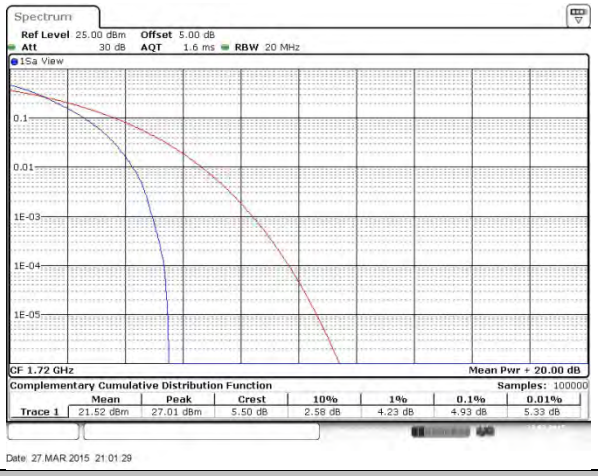
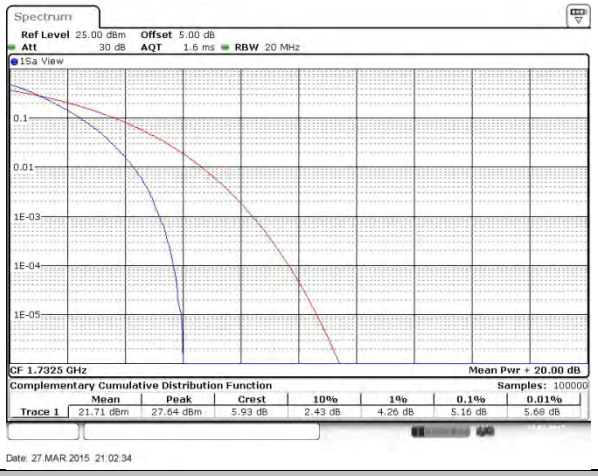
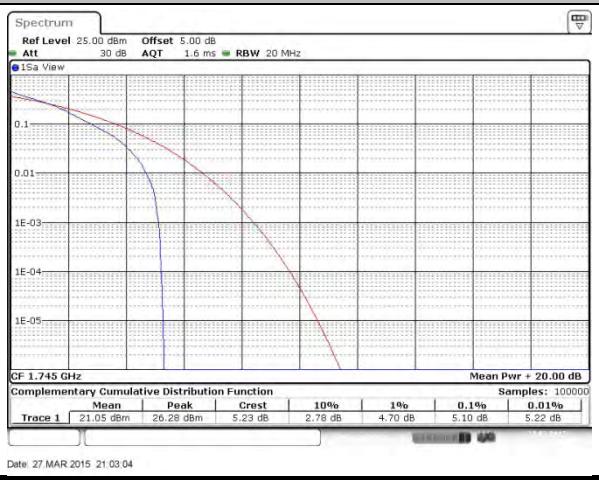
LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
1.4	1	0	QPSK	22.91	22.69	22.94
1.4	1	2		22.89	22.83	22.88
1.4	1	5		22.90	22.90	22.93
1.4	3	0		22.88	22.75	22.87
1.4	3	1		22.90	22.79	22.84
1.4	3	2		22.84	22.78	22.80
1.4	6	0		22.00	21.97	22.18
1.4	1	0	16-QAM	21.96	21.91	22.04
1.4	1	2		21.93	21.89	22.05
1.4	1	5		21.90	21.91	22.04
1.4	3	0		21.93	21.81	22.04
1.4	3	1		21.85	21.83	22.06
1.4	3	2		22.07	21.92	22.00
1.4	6	0		21.03	20.96	21.14
3	1	0	QPSK	22.69	22.74	22.89
3	1	7		22.79	22.89	22.85
3	1	14		22.65	22.74	22.67
3	8	0		21.95	21.95	22.01
3	8	4		21.82	21.90	21.79
3	8	7		21.73	21.79	21.92
3	15	0		21.90	21.89	21.83
3	1	0	16-QAM	21.76	21.83	21.73
3	1	7		21.65	21.81	21.73
3	1	14		21.66	21.68	21.92
3	8	0		20.95	20.97	20.82
3	8	4		20.82	20.81	20.81
3	8	7		21.01	20.80	20.82
3	15	0		20.93	20.85	20.78

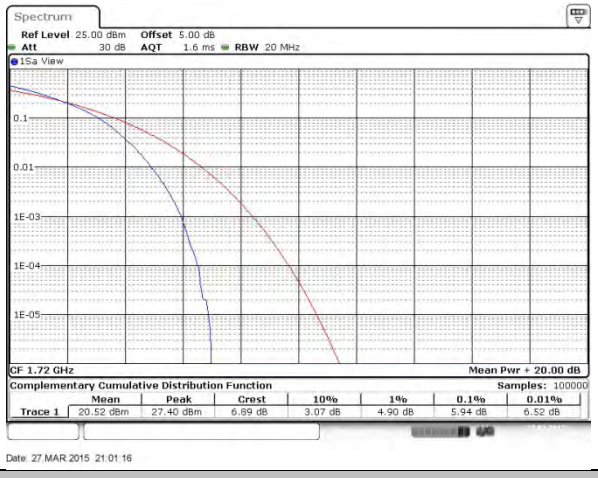
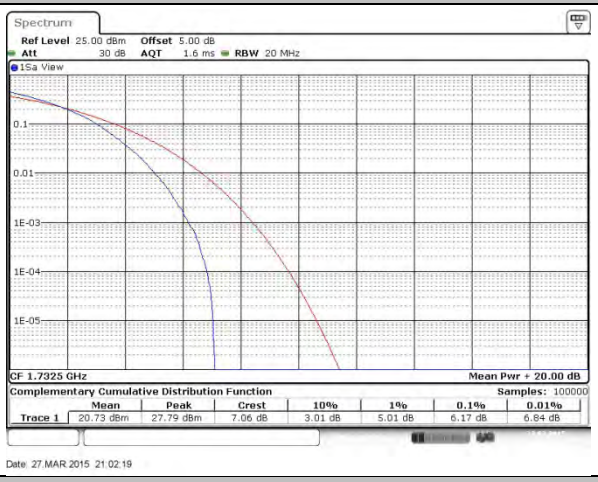
LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	22.90	22.71	22.69
5	1	12		22.80	22.90	22.61
5	1	24		22.63	22.68	22.62
5	12	0		21.84	21.79	21.88
5	12	6		21.79	21.65	21.88
5	12	11		21.71	21.79	21.79
5	25	0		21.71	21.74	21.91
5	1	0	16-QAM	21.93	21.93	21.88
5	1	12		21.71	21.93	21.80
5	1	24		21.58	21.62	21.89
5	12	0		20.71	20.81	20.90
5	12	6		20.82	20.76	20.91
5	12	11		20.83	20.78	20.90
5	25	0		20.81	20.76	20.84
10	1	0	QPSK	22.84	22.85	22.77
10	1	24		22.89	22.90	22.87
10	1	49		22.80	22.82	22.80
10	25	0		22.06	22.05	22.08
10	25	12		21.98	21.90	21.90
10	25	24		21.84	21.97	21.97
10	50	0		21.90	21.90	21.90
10	1	0	16-QAM	21.89	21.96	21.80
10	1	24		21.83	21.90	21.90
10	1	49		21.66	21.85	22.01
10	25	0		21.11	21.05	20.99
10	25	12		21.00	20.97	20.91
10	25	24		21.01	20.97	20.99
10	50	0		21.11	20.92	20.97

LTE Band 4 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	22.94	22.84	22.79
15	1	37		22.88	22.91	22.77
15	1	74		22.74	22.80	22.86
15	36	0		21.99	21.99	21.95
15	36	18		21.92	21.84	21.97
15	36	37		21.86	21.90	21.93
15	75	0		21.91	21.93	21.98
15	1	0	16-QAM	22.02	22.01	21.91
15	1	37		21.84	21.93	21.88
15	1	74		21.71	21.77	21.90
15	36	0		20.91	20.90	20.95
15	36	18		20.97	20.96	20.97
15	36	37		20.86	20.90	20.95
15	75	0		20.98	20.94	20.99
20	1	0	QPSK	22.96	22.88	22.87
20	1	49		22.89	22.79	22.83
20	1	99		22.76	22.75	22.83
20	50	0		21.89	21.79	21.82
20	50	24		21.78	21.74	21.74
20	50	49		21.76	21.64	21.80
20	100	0		21.90	21.89	21.78
20	1	0	16-QAM	22.01	21.88	21.89
20	1	49		21.89	21.93	21.92
20	1	99		21.86	21.82	21.89
20	50	0		21.07	21.10	21.01
20	50	24		21.02	20.95	20.80
20	50	49		20.88	20.86	20.90
20	100	0		21.00	20.87	20.93

Peak-to-Average Ratio

Mode	LTE Band 4 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	RB Size	Result
Lowest CH	3.65	4.93	4.93	5.94	PASS
Middle CH	4.81	5.16	5.83	6.17	
Highest CH	5.10	4.84	6.58	5.94	

LTE Band 4 / 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 4 / 20MHz / 16QAM	
Lowest Channel / 1RB	**Lowest Channel / Full RB**
	
Middle Channel / 1RB	**Middle Channel / Full RB**
	
Highest Channel / 1RB	**Highest Channel / Full RB**