



# FCC RF Test Report

**APPLICANT** : TCT Mobile Limited  
**EQUIPMENT** : GSM Quad-band, UMTS Quad-band, LTE  
Penta-band mobile phone  
**BRAND NAME** : Alcatel  
**MODEL NAME** : 6039Y  
**FCC ID** : RAD546  
**STANDARD** : 47 CFR Part 2, 27(M)  
**CLASSIFICATION** : PCS Licensed Transmitter Held to Ear (PCE)

The product was received on Jan. 14, 2015 and completely tested on Mar. 17, 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.

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Reviewed by: Joseph Lin / Supervisor

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Approved by: Jones Tsai / Manager



**SPORTON INTERNATIONAL (KUNSHAN) INC.**  
**No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P. R. China**



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REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG511303-01B	Rev. 01	Initial issue of report	Apr. 10, 2015

## SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	Reporting Only	PASS	-
3.5	N/A	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§27.50(h)(2)	Equivalent Isotropic Radiated Power (Band 7)	EIRP < 2Watt	PASS	-
3.7	§2.1049 §27.53(m)(6)	99% Occupied Bandwidth and 26dB Bandwidth	Reporting Only	PASS	-
3.8	§2.1051 §27.53(m)(4)	Conducted Band Edge Measurement (Band 7)	< 5MHz: -10 dBm 5 MHz~6MHz or 26dB(BW): -13 dBm ≥6MHz or 26dB(BW): -25 dBm	PASS	-
3.9	§2.1053 §27.53(m)(4)	Conducted Spurious Emission (Band 7)	< 55+10log <sub>10</sub> (P[Watts])	PASS	-
3.10	§2.1055 §27.54	Frequency Stability Temperature & Voltage	Within Authorized Band	PASS	
4.5	§2.1053 §27.53(m)(4)	Radiated Spurious Emission (Band 7)	< 55+10log <sub>10</sub> (P[Watts])	PASS	Under limit 19.22 dB at 10128.000 MHz

# 1 General Description

## 1.1 Applicant

**TCT Mobile Limited**

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

## 1.2 Manufacturer

**TCT Mobile Limited**

5F, C building, No. 232, Liang Jing Road ZhangJiang High-Tech Park, Pudong Area Shanghai, P. R. China. 201203

## 1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	GSM Quad-band, UMTS Quad-band, LTE Penta-band mobile phone
Brand Name	Alcatel
Model Name	6039Y
FCC ID	RAD546
EUT supports Radios application	GSM/GPRS/EGPRS/WCDMA/HSPA/ HSPA+(Downlink Only)/DC-HSDPA/LTE/NFC/ WLAN2.4GHz 802.11b/g/n HT20/ Bluetooth v3.0+EDR/Bluetooth v4.1 LE
HW Version	BAB34D000GCX
SW Version	vA5M
EUT Stage	Identical Prototype

**Remark:**

1. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.
2. The device has two acoustic receives function, when a voice call is coming, user can choose any one receiver to response. And only when receiver on the bottom of the EUT is enabled, the power reduction will be activated to limit the maximum power of any cellular band.

## 1.4 Product Specification subjective to this standard

Product Specification subjective to this standard	
Tx Frequency	LTE Band 7 : 2502.5 MHz ~ 2567.5 MHz
Rx Frequency	LTE Band 7 : 2622.5MHz ~ 2687.5 MHz
Bandwidth	LTE Band 7 : 5MHz/ 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 7 : 23.38 dBm
Type of Modulation	QPSK / 16QAM

## 1.5 Modification of EUT

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

## 1.6 Maximum Emission Designator, Frequency Tolerance, and EIRP Power

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	4M52G7D	-	0.8222	4M51W7D	-	0.7244
10	9M11G7D	0.0048	0.8551	9M05W7D	-	0.6966
15	13M5G7D	-	0.8551	13M5W7D	-	0.6792
20	18M5G7D	-	0.8299	18M5W7D	-	0.7311



## 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.			FCC Registration No.
	TH01-KS	03CH01-KS	OTA01-KS	149928

## 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, 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

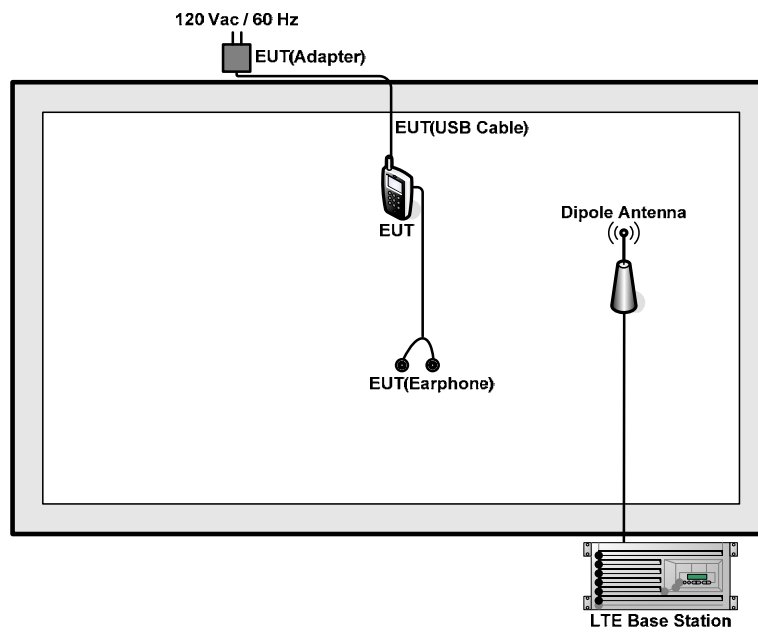
### 2.1 Test Mode

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	7	-	-	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peak-to-Average Ratio	7	-	-				✓	✓	✓	✓		✓	✓	✓	✓
26dB and 99% Bandwidth	7	-	-	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓
Conducted Band Edge	7	-	-	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓
Conducted Spurious Emission	7	-	-	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Frequency Stability	7	-	-		✓			✓				✓		✓	
E.I.R.P.	7	-	-	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Radiated Spurious Emission	7	-	-	✓	✓	✓	✓	✓		✓				✓	
Note	<ol style="list-style-type: none"> <li>The mark "✓" means that this configuration is chosen for testing</li> <li>The mark "-" means that this bandwidth is not supported.</li> <li>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.</li> <li>According the functionality of the EUT, the maximum power levels are chosen to test all test cases listed in this report as the worst case configuration is when top acoustic receiver works.</li> </ol>														

## 2.2 Connection Diagram of Test System



## 2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW INSTEK	GPD-2303S	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 5.5 dB.

Example :

$$\begin{aligned} Offset(dB) &= RF\ cable\ loss(dB) \\ &= 5.5\ (dB) \end{aligned}$$

### 3 Conducted Test Items

#### 3.1 Measuring Instruments

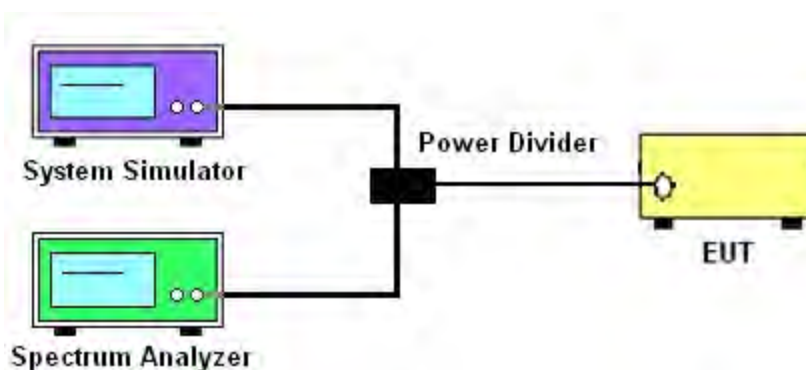
See list of measuring instruments of this test report.

#### 3.2 Test Setup

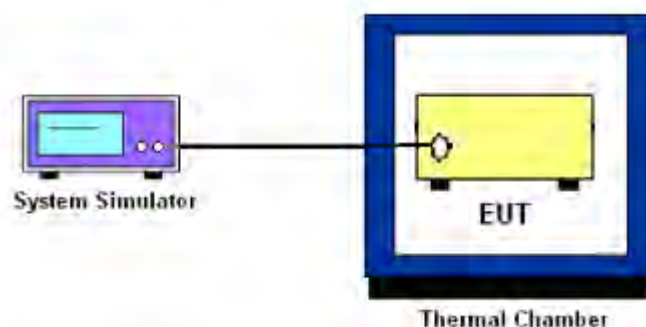
##### 3.2.1 Conducted Output Power



##### 3.2.2 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 Effective Isotropic Radiated Power

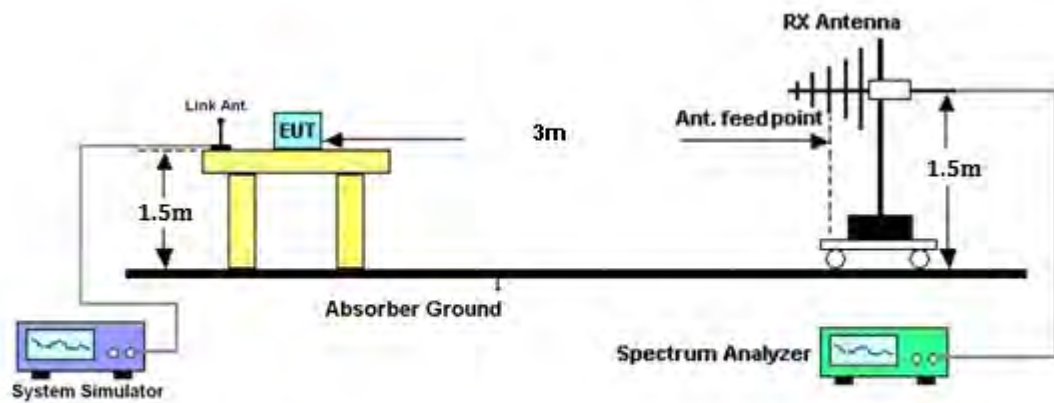
#### 3.6.1 Description of the EIRP Measurement

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 7.

#### 3.6.2 Test Procedures

1. The EUT was placed on a turntable with 1.5 meter height in a fully anechoic chamber.
2. The EUT was set at 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer which used a channel power option across EUT's signal bandwidth per section 4.0 of KDB 971168 D01.
4. The table was rotated 360 degrees to determine the position of the highest radiated power.
5. The height of the receiving antenna is adjusted to look for the maximum EIRP.
6. Taking the record of maximum EIRP.
7. A dipole antenna was substituted in place of the EUT and was driven by a signal generator.
8. The conducted power at the terminal of the dipole antenna is measured.
9. Repeat step 3 to step 5 to get the maximum EIRP of the substitution antenna.
10.  $EIRP = P_s + E_t - E_s + G_s = P_s + R_t - R_s + G_s$   
     $P_s$  (dBm) : Input power to substitution antenna.  
     $G_s$  (dBi or dBd) : Substitution antenna Gain.  
     $E_t = R_t + AF$   
     $E_s = R_s + AF$   
     $AF$  (dB/m) : Receive antenna factor  
     $R_t$  : The highest received signal in spectrum analyzer for EUT.  
     $R_s$  : The highest received signal in spectrum analyzer for substitution antenna.

### 3.6.3 Test Setup



### **3.7 99% Occupied Bandwidth and 26dB Bandwidth Measurement**

#### **3.7.1 Description of 99% Occupied Bandwidth and 26dB Bandwidth Measurement**

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

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

#### **3.7.2 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.

### 3.8 Conducted Band Edge

#### 3.8.1 Description of Conducted Band Edge Measurement

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 than  $43 + 10 \log (P)$  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.

#### 3.8.2 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 band edges of low and high channels for the highest RF powers were measured. Set RBW  $\geq 1\%$  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. For Band 7

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

$$= P(W) - [55 + 10 \log (P)] \text{ (dB)}$$

$$= [30 + 10 \log (P)] \text{ (dBm)} - [55 + 10 \log (P)] \text{ (dB)}$$

$$= -25 \text{ dBm.}$$

### 3.9 Conducted Spurious Emission

#### 3.9.1 Description of Conducted Spurious Emission Measurement

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<sup>th</sup> harmonic.

#### 3.9.2 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. For Band 7

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [55 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
= -25dBm.

### 3.10 Frequency Stability

#### 3.10.1 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  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

#### 3.10.2 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  $-30^{\circ}\text{C}$  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  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . 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.

#### 3.10.3 Test Procedures for Voltage Variation

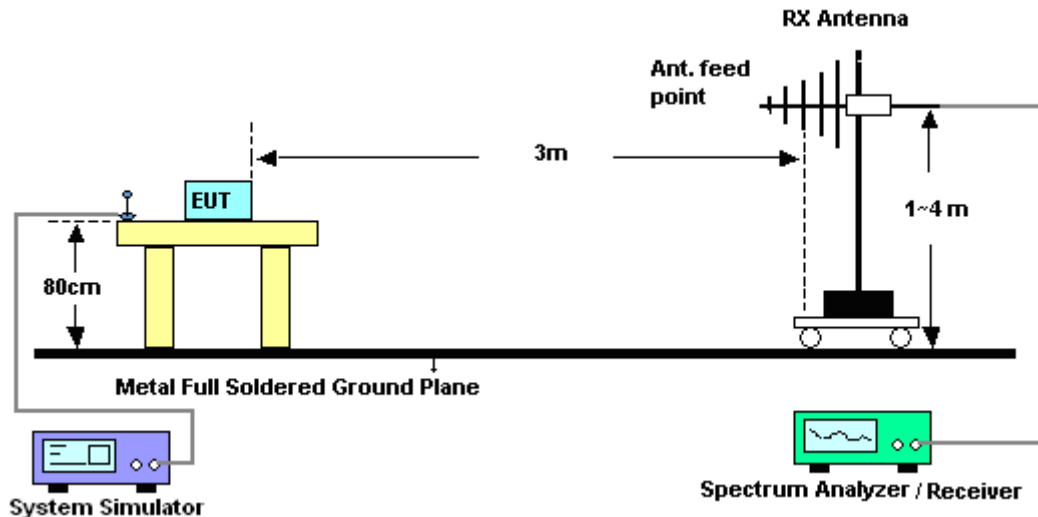
1. The testing follows FCC KDB 971168 v02r02 Section 9.0.
2. The EUT was placed in a temperature chamber at  $25\pm 5^{\circ}\text{C}$  and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
4. The variation in frequency was measured for the worst case.

## 4 Radiated Test Items

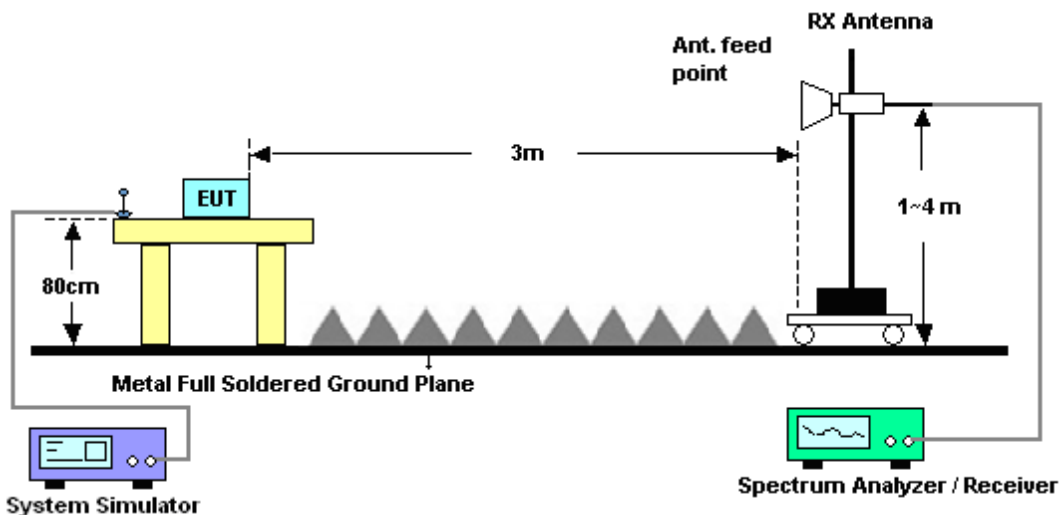
### 4.1 Measuring Instruments

See list of measuring instruments of this test report.

#### 4.1.1 For radiated test from 30MHz to 1GHz



#### 4.1.2 For radiated test above 1GHz



## 4.2 Test Result of Radiated Test

Please refer to Appendix B.

## 4.3 Radiated Spurious Emission

### 4.3.1 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  $55 + 10 \log (P)$  dB.

### 4.3.2 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.

For Band 7:

The limit line is derived from  $55 + 10\log(P)$ dB below the transmitter power P(Watts)  
=  $P(W) - [55 + 10\log(P)]$  (dB)  
=  $[30 + 10\log(P)]$  (dBm) -  $[55 + 10\log(P)]$  (dB)  
= -25dBm.

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



## 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	Jan. 21, 2015~ Jan. 22, 2015	May 03, 2015	Conducted (TH01-KS)
Thermal Chamber	Ten Billion	TTC-B3S	TBN-960502	-40~+150°C	Oct. 25, 2014	Jan. 21, 2015~ Jan. 22, 2015	Oct. 24, 2015	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Oct. 25, 2014	Feb. 06, 2015	Oct. 24, 2015	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	101399	9kHz~30GHz	May 04, 2014	Feb. 06, 2015	May 03, 2015	Radiation (03CH01-KS)
Bilog Antenna	TeseQ	CBL6112D	37879	30Mhz-2Ghz	Sep. 13, 2014	Feb. 06, 2015	Sep. 12, 2015	Radiation (03CH01-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75957	1GHz~18GHz	Nov. 08, 2014	Feb. 06, 2015	Nov. 07, 2015	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701030	1GHz~18GHz	Nov. 08, 2014	Feb. 06, 2015	Nov. 07, 2015	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Mar. 10, 2014	Feb. 06, 2015	Mar. 09, 2015	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161073	1MHz~1GHz	May 04, 2014	Feb. 06, 2015	May 03, 2015	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02371	1GHz~26.5GHz	Oct. 28, 2014	Feb. 06, 2015	Oct. 27, 2015	Radiation (03CH01-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Feb. 06, 2015	NCR	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	NCR	Feb. 06, 2015	NCR	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	NCR	Feb. 06, 2015	NCR	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP 7	100819	9kHz~7GHz	May 04, 2014	Mar. 17, 2015	May 03, 2015	EIRP (OTA01-KS)
Switch Control Manframe	Agilent	3499A	MY42005452	N/A	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Dual 1-to-6(4) MW MUX	Agilent	N2276A	MY42000841	N/A	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Diagonal Dual Polarized Horn	ETS-Lindgren	3164-04	00066993	700MHz~6GHz	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Multi-Devices Controller	ETS-Lindgren	2090-OPT1	00066604	N/A	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Conical Log Spiral (Small)	ETS-Lindgren	3102	00066951	1~10GHz	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Limiting Amplifier	ETS-lindgren	109643	920326	10MHz~2.5GHz	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
EMQuest	ETS-Lindgren	EMQ-100	1125	N/A	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)
Medium Duty Holder	ETS-Lindgren	2015	N/A	N/A	N/A	Mar. 17, 2015	N/A	EIRP (OTA01-KS)



## 6 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2U_c(y)$ )	2.5 dB
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## Appendix A. Test Results of Conducted Test

### Conducted Output Power(Average power)

<Full Power Mode>:

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	23.05	22.80	23.16
5	1	12		23.08	23.08	23.05
5	1	24		22.80	22.68	23.09
5	12	0		22.08	21.97	22.28
5	12	6		22.06	21.96	22.27
5	12	11		22.04	21.89	22.21
5	25	0		22.02	21.95	22.30
5	1	0	16-QAM	22.64	22.83	22.57
5	1	12		22.30	22.67	22.36
5	1	24		22.26	22.34	22.15
5	12	0		21.07	20.97	21.26
5	12	6		21.10	20.88	21.12
5	12	11		21.05	20.91	21.30
5	25	0		21.09	21.23	21.19
10	1	0	QPSK	23.11	22.93	23.24
10	1	24		23.05	22.85	23.19
10	1	49		23.05	23.15	23.14
10	25	0		22.10	22.04	22.32
10	25	12		22.04	21.89	22.25
10	25	24		21.99	21.89	22.30
10	50	0		22.07	21.99	22.29
10	1	0	16-QAM	22.16	22.29	22.75
10	1	24		22.54	22.03	22.68
10	1	49		22.59	22.09	22.51
10	25	0		21.13	21.02	21.37
10	25	12		21.10	20.83	21.17
10	25	24		21.03	20.92	21.28
10	50	0		21.15	20.93	21.15



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	23.05	23.04	23.28
15	1	37		23.12	22.89	23.35
15	1	74		23.10	23.13	23.36
15	36	0		22.10	22.07	22.23
15	36	18		22.04	21.93	22.23
15	36	37		22.02	21.86	22.21
15	75	0		22.06	21.97	22.31
15	1	0	16-QAM	22.43	22.62	22.70
15	1	37		22.02	22.08	22.95
15	1	74		22.49	21.99	22.73
15	36	0		20.92	20.86	21.21
15	36	18		20.91	20.70	21.19
15	36	37		20.84	20.72	21.23
15	75	0		20.96	20.94	21.21
20	1	0	QPSK	23.10	23.15	23.22
20	1	49		23.15	23.38	23.28
20	1	99		22.82	23.26	23.25
20	50	0		22.03	22.36	22.30
20	50	24		22.10	21.97	22.20
20	50	49		21.97	22.00	22.28
20	100	0		22.00	22.20	22.18
20	1	0	16-QAM	22.15	22.77	22.25
20	1	49		22.22	22.61	22.30
20	1	99		21.98	22.70	22.26
20	50	0		21.08	21.03	21.16
20	50	24		21.07	20.98	21.08
20	50	49		20.98	20.92	21.10
20	100	0		20.98	21.08	21.18



## &lt;Reduced Power Mode&gt;:

LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
5	1	0	QPSK	13.66	13.72	13.79
5	1	12		14.10	13.93	14.27
5	1	24		13.53	13.64	13.64
5	12	0		13.60	13.77	13.83
5	12	6		13.59	13.78	13.87
5	12	11		13.58	13.76	13.84
5	25	0		13.64	13.82	13.82
5	1	0	16-QAM	13.95	13.73	14.19
5	1	12		14.13	13.74	14.15
5	1	24		13.91	14.19	14.12
5	12	0		13.59	13.84	13.82
5	12	6		13.59	13.74	13.82
5	12	11		13.59	13.72	13.80
5	25	0		13.64	13.84	13.91
10	1	0	QPSK	13.54	13.89	14.03
10	1	24		13.53	13.79	13.94
10	1	49		13.30	13.93	13.81
10	25	0		13.67	13.80	13.94
10	25	12		13.54	13.70	13.83
10	25	24		13.56	13.79	13.86
10	50	0		13.56	13.89	13.90
10	1	0	16-QAM	14.16	14.23	14.16
10	1	24		14.05	13.93	14.27
10	1	49		14.22	13.97	14.20
10	25	0		13.61	13.79	13.93
10	25	12		13.82	13.68	13.78
10	25	24		13.67	13.63	13.87
10	50	0		13.54	13.72	13.85



LTE Band 7 Maximum Average Power [dBm]						
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest
15	1	0	QPSK	13.71	13.87	13.92
15	1	37		13.45	13.64	13.70
15	1	74		13.38	13.70	13.71
15	36	0		13.68	13.92	14.00
15	36	18		13.56	13.81	13.95
15	36	37		13.48	13.66	13.85
15	75	0		13.53	13.80	13.81
15	1	0	16-QAM	13.77	14.25	14.25
15	1	37		13.72	14.05	14.15
15	1	74		13.71	14.07	14.06
15	36	0		13.71	13.87	13.92
15	36	18		13.59	13.74	13.87
15	36	37		13.43	13.60	13.78
15	75	0		13.49	13.69	13.79
20	1	0	QPSK	13.84	14.09	14.02
20	1	49		13.90	14.28	14.04
20	1	99		13.84	13.92	13.88
20	50	0		13.68	14.00	13.98
20	50	24		13.56	13.78	13.91
20	50	49		13.52	13.71	13.81
20	100	0		13.56	13.90	13.89
20	1	0	16-QAM	13.94	13.67	13.57
20	1	49		13.69	13.63	13.43
20	1	99		13.81	13.61	13.36
20	50	0		13.71	13.84	13.91
20	50	24		13.64	13.72	13.84
20	50	49		13.60	13.65	13.85
20	100	0		13.57	13.76	13.95

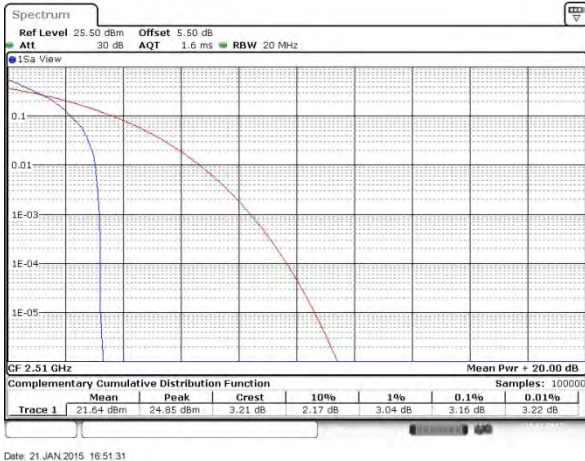
**Peak-to-Average Ratio**

Mode	LTE Band 7 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	RB Size	Result
Lowest CH	3.16	4.38	3.88	5.25	<b>PASS</b>
Middle CH	3.83	4.41	4.61	5.39	
Highest CH	3.28	4.26	4.12	5.19	

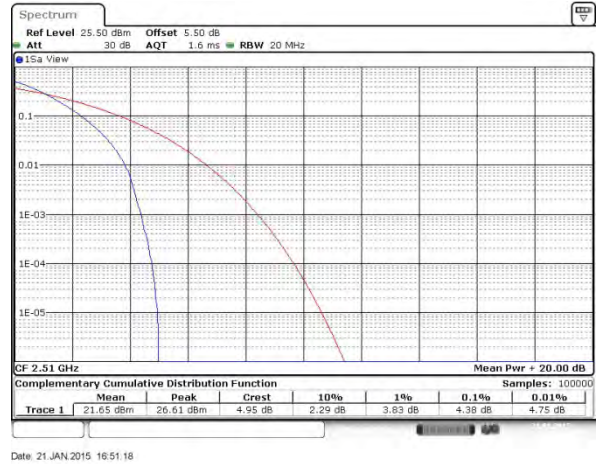


## LTE Band 7 / 20MHz / QPSK

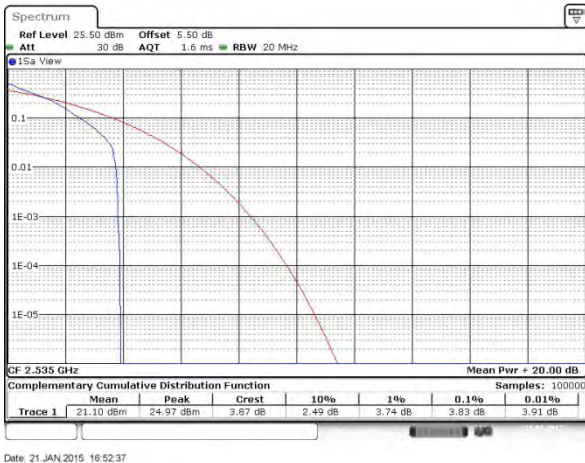
## Lowest Channel / 1RB



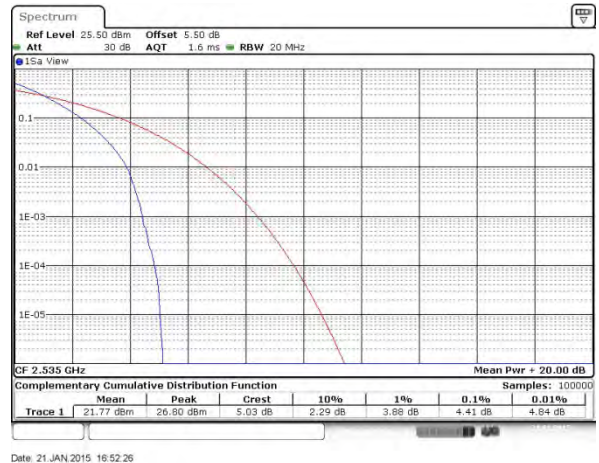
## Lowest Channel / Full RB



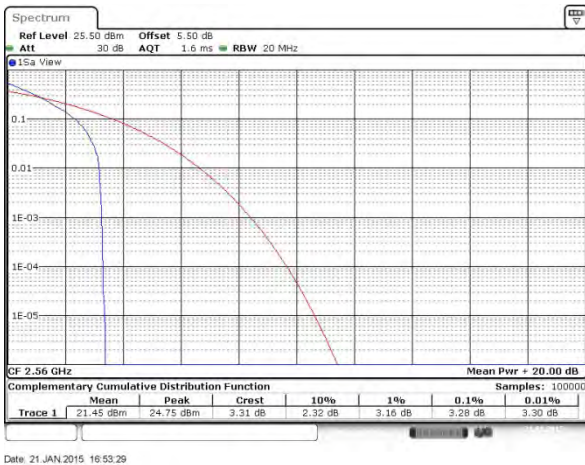
## Middle Channel / 1RB



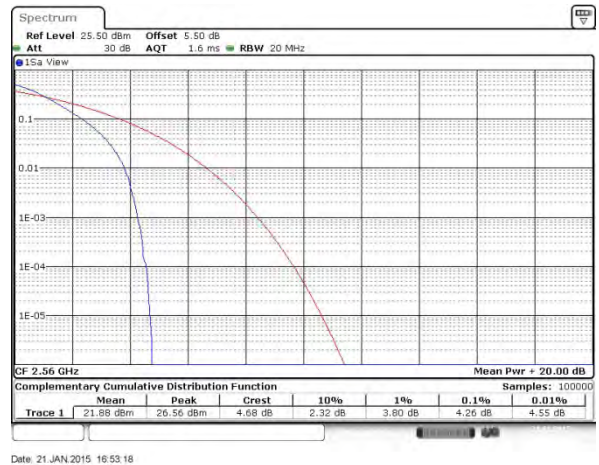
## Middle Channel / Full RB



## Highest Channel / 1RB



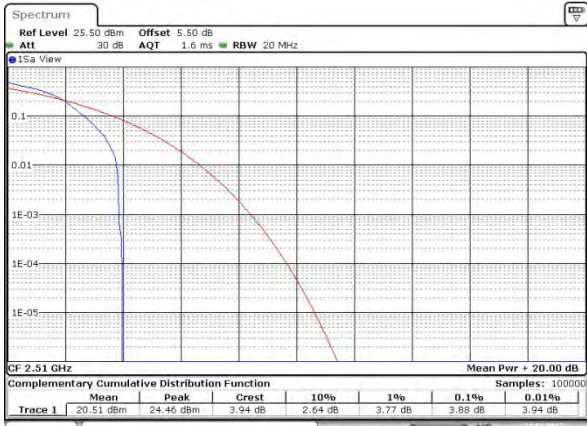
## Highest Channel / Full RB



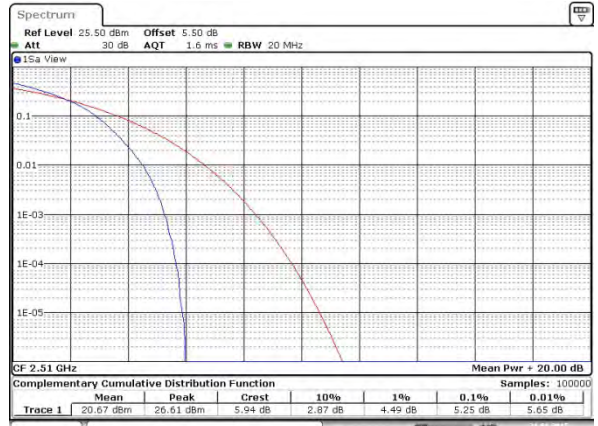


## LTE Band 7 / 20MHz / 16QAM

## Lowest Channel / 1RB



## Lowest Channel / Full RB



## Middle Channel / 1RB



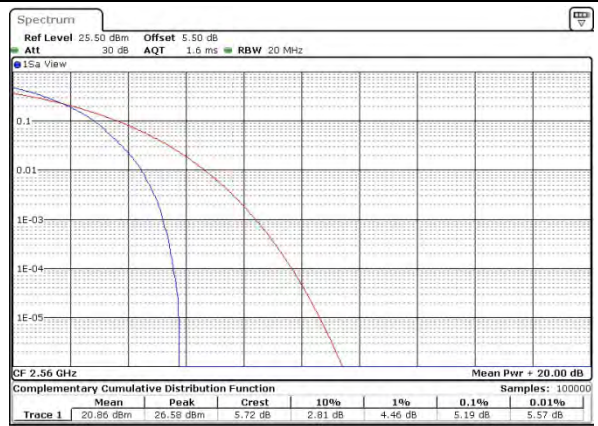
## Middle Channel / Full RB



## Highest Channel / 1RB



## Highest Channel / Full RB



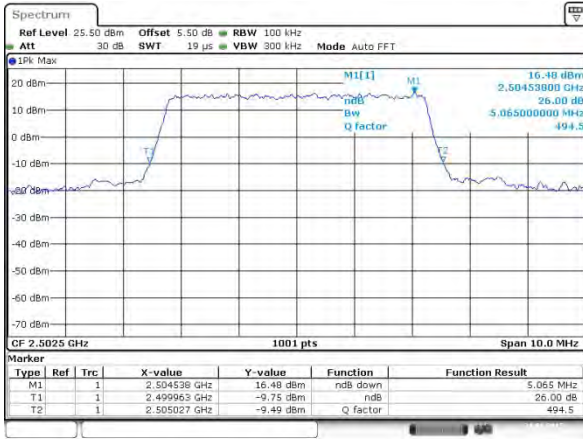
**26dB Bandwidth**

Mode	LTE Band 7 : 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	-	-	-	-	5.065	5.055	9.990	10.070	14.715	14.655	20.300	20.340
Middle CH	-	-	-	-	5.075	5.065	10.130	10.030	14.805	14.655	20.460	20.420
Highest CH	-	-	-	-	5.075	5.045	10.130	10.030	14.805	14.745	20.420	20.420

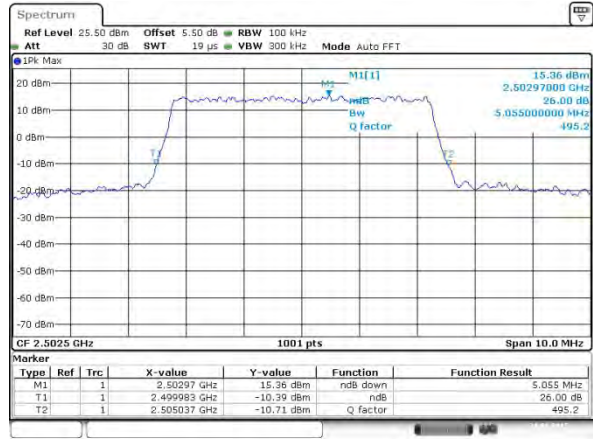


## LTE Band 7

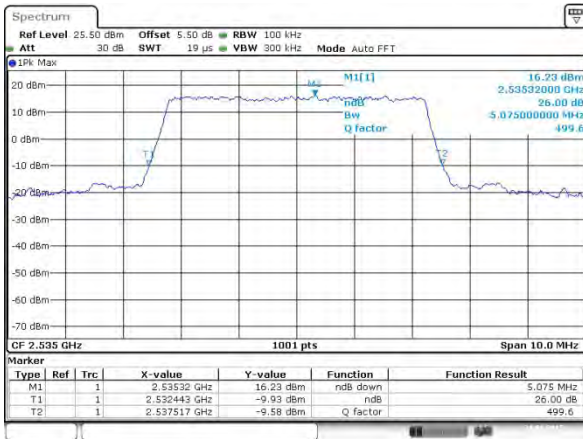
## Lowest Channel / 5MHz / QPSK



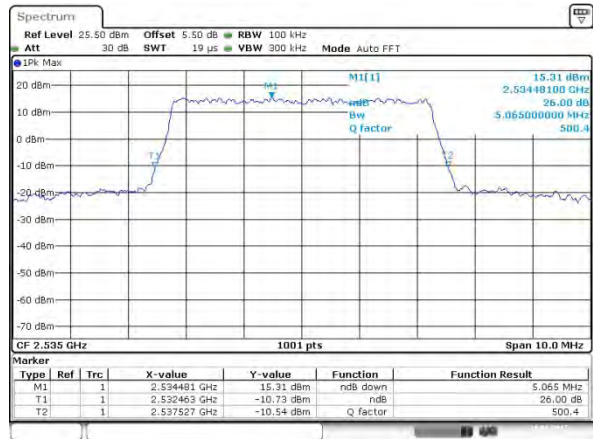
## Lowest Channel / 5MHz / 16QAM



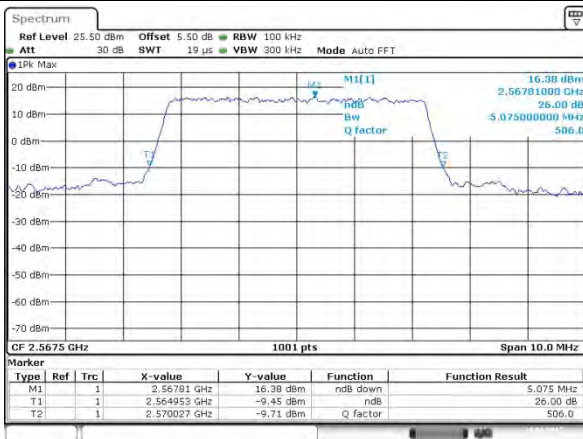
## Middle Channel / 5MHz / QPSK



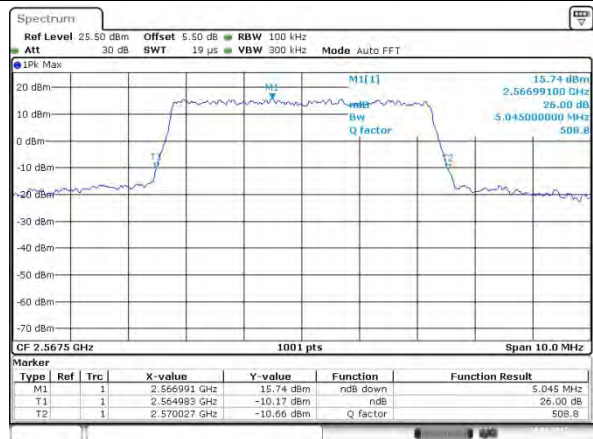
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



## Highest Channel / 5MHz / 16QAM





## LTE Band 7

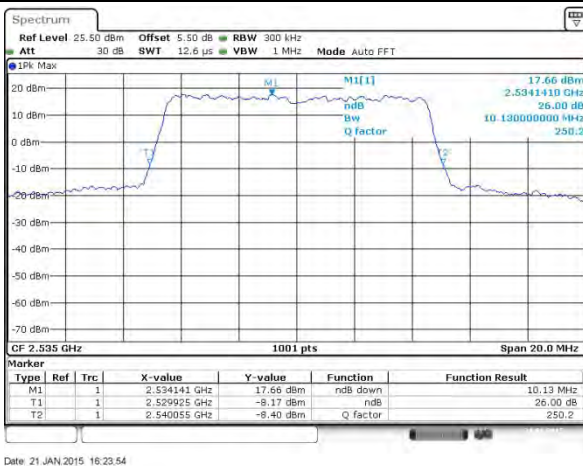
## Lowest Channel / 10MHz / QPSK



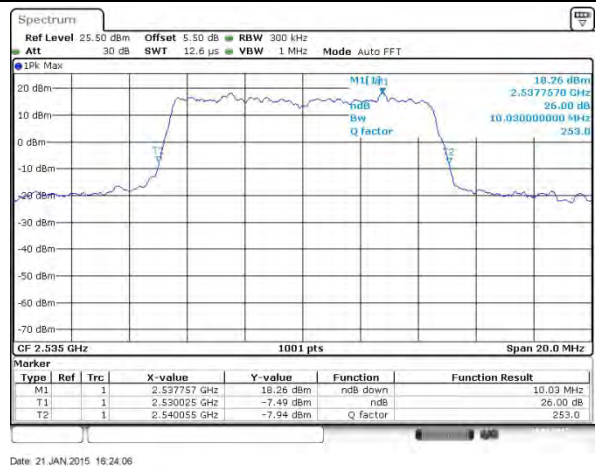
## Lowest Channel / 10MHz / 16QAM



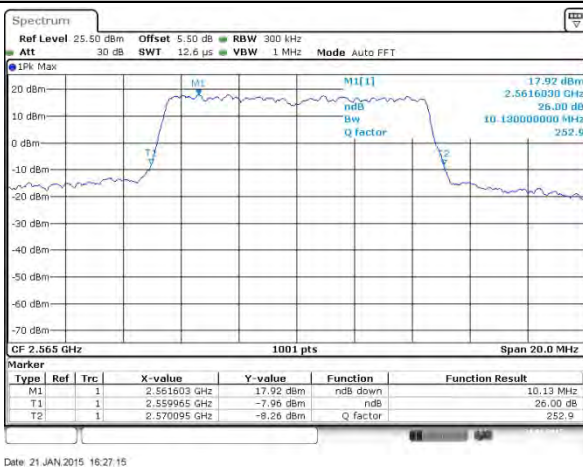
## Middle Channel / 10MHz / QPSK



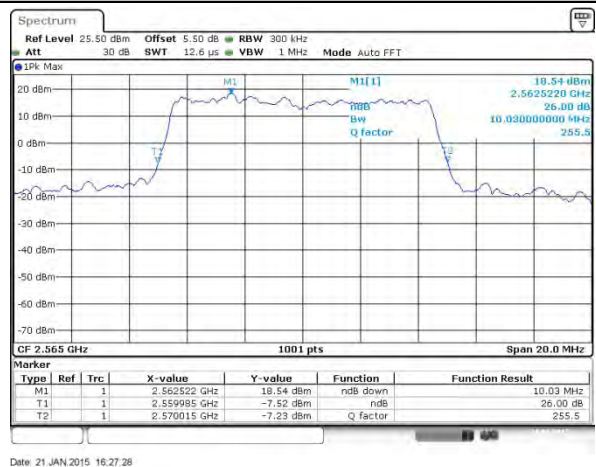
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



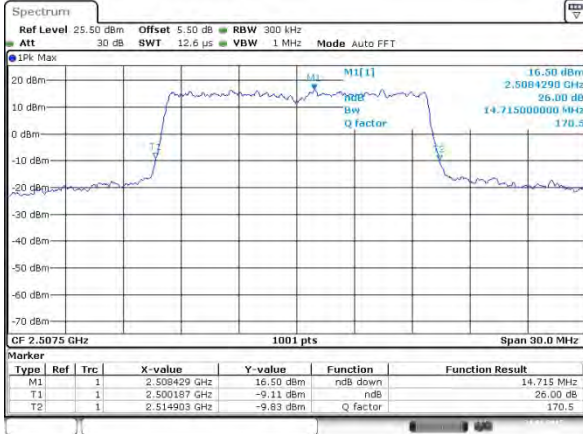
## Highest Channel / 10MHz / 16QAM





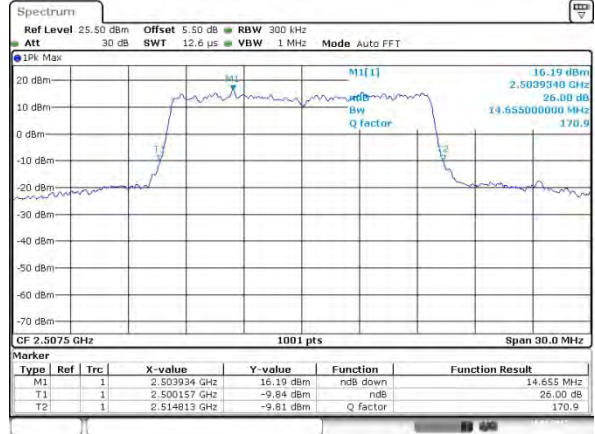
## LTE Band 7

## Lowest Channel / 15MHz / QPSK



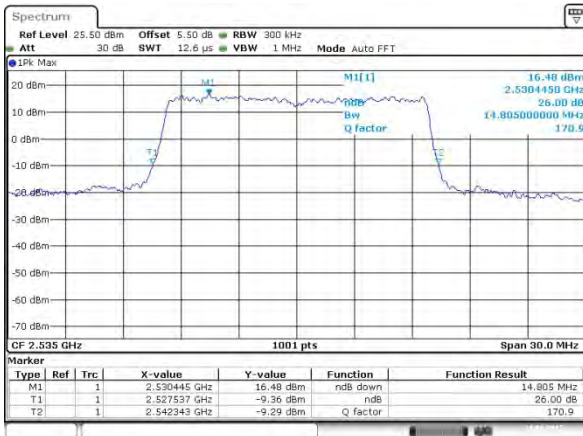
Date: 21 JAN 2015 16:30:37

## Lowest Channel / 15MHz / 16QAM



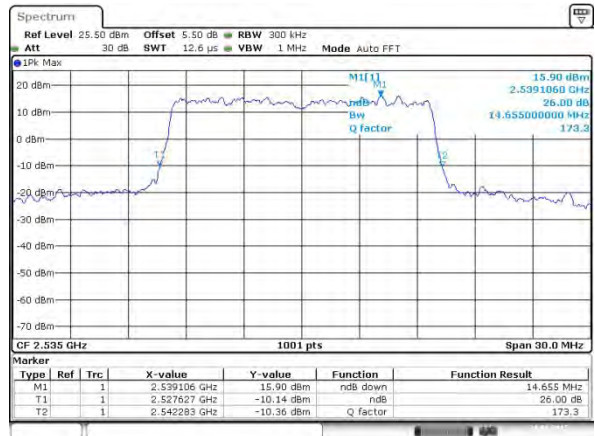
Date: 21 JAN 2015 16:30:48

## Middle Channel / 15MHz / QPSK



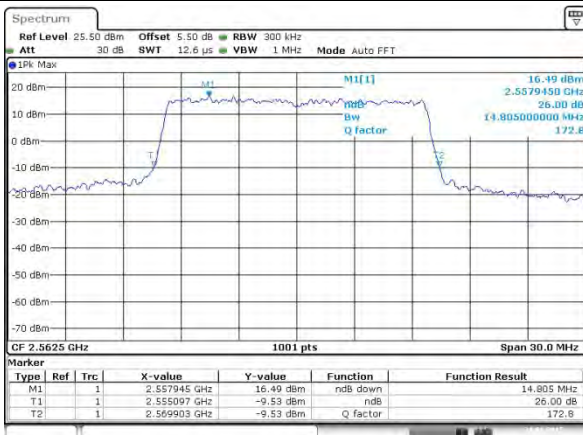
Date: 21 JAN 2015 16:33:59

## Middle Channel / 15MHz / 16QAM



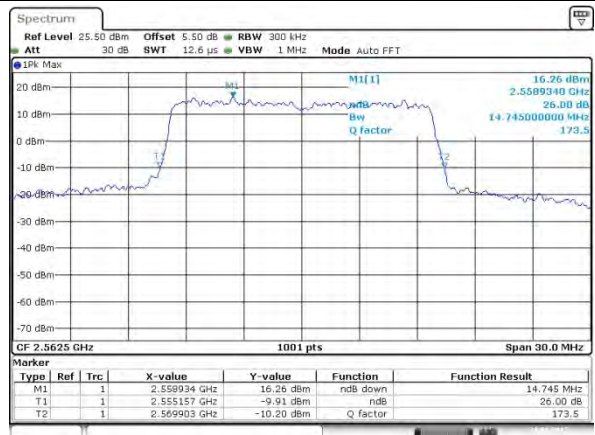
Date: 21 JAN 2015 16:34:11

## Highest Channel / 15MHz / QPSK



Date: 21 JAN 2015 16:37:20

## Highest Channel / 15MHz / 16QAM

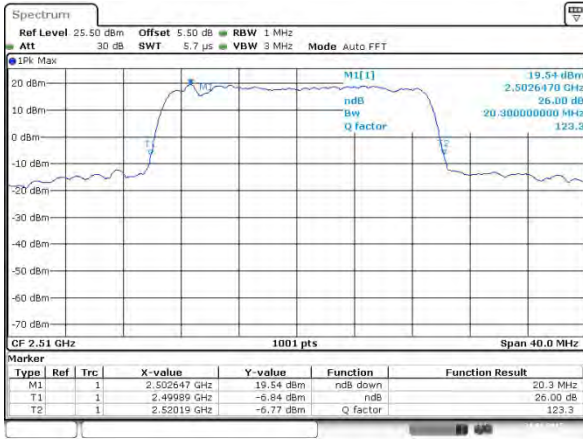


Date: 21 JAN 2015 16:37:32

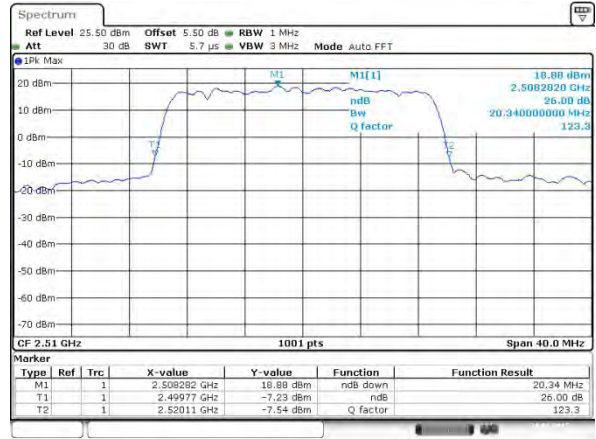


## LTE Band 7

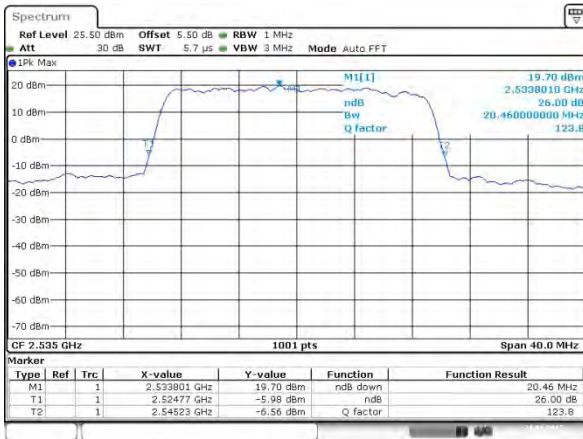
## Lowest Channel / 20MHz / QPSK



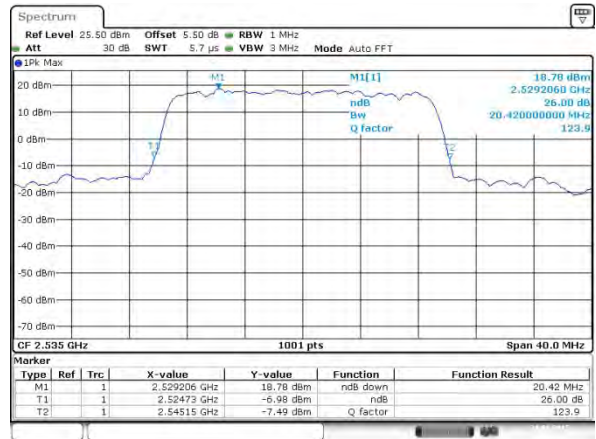
## Lowest Channel / 20MHz / 16QAM



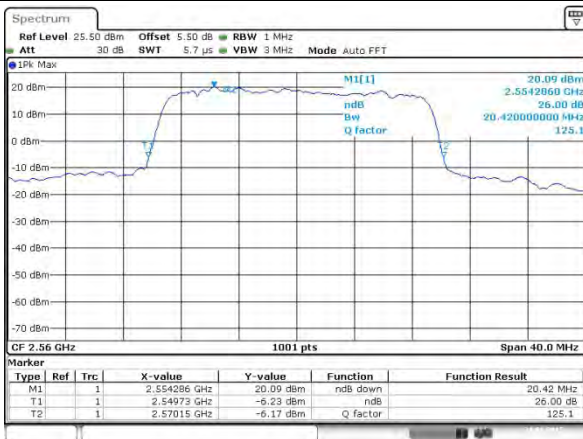
## Middle Channel / 20MHz / QPSK



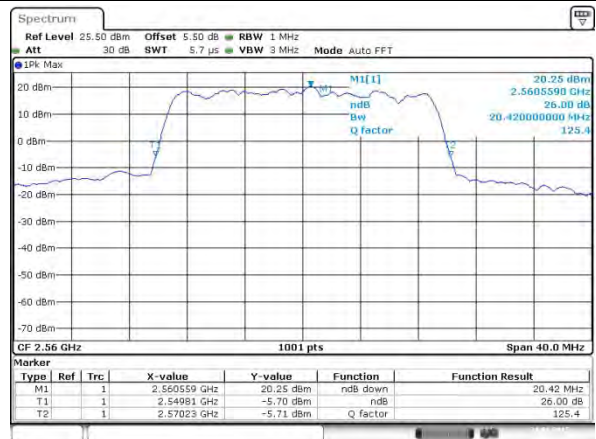
## Middle Channel / 20MHz / 16QAM



## Highest Channel / 20MHz / QPSK



## Highest Channel / 20MHz / 16QAM



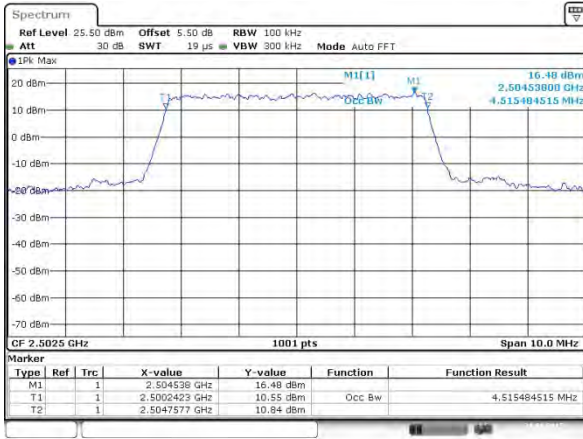
**Occupied Bandwidth**

Mode	LTE Band 7 : 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	-	-	-	-	4.515	4.496	9.051	9.051	13.487	13.487	18.422	18.382
Middle CH	-	-	-	-	4.505	4.496	9.071	9.031	13.487	13.427	18.382	18.462
Highest CH	-	-	-	-	4.505	4.505	9.111	9.051	13.457	13.427	18.462	18.302

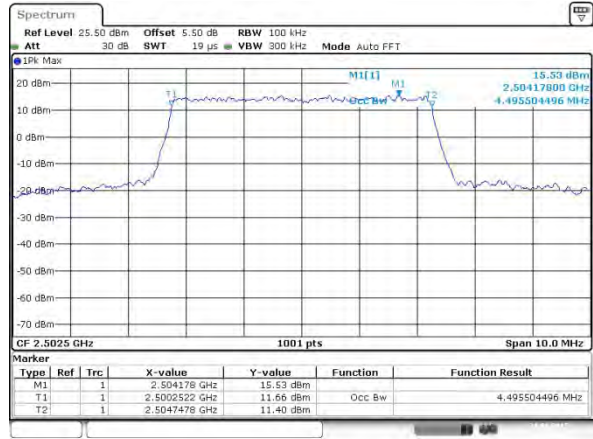


## LTE Band 7

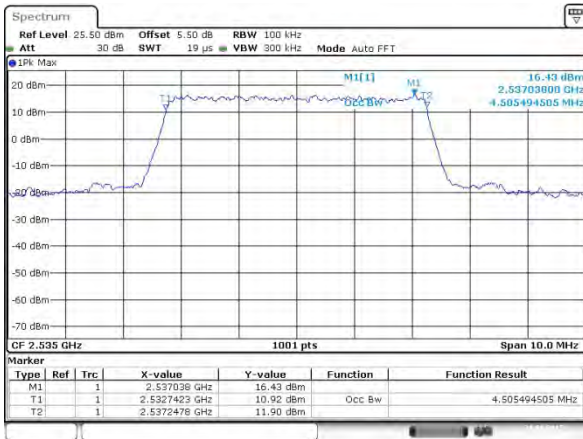
## Lowest Channel / 5MHz / QPSK



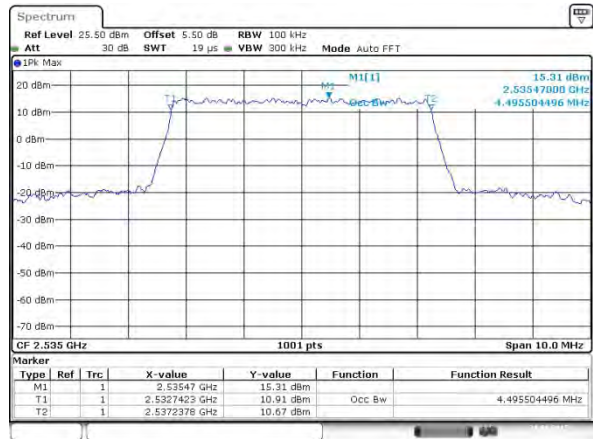
## Lowest Channel / 5MHz / 16QAM



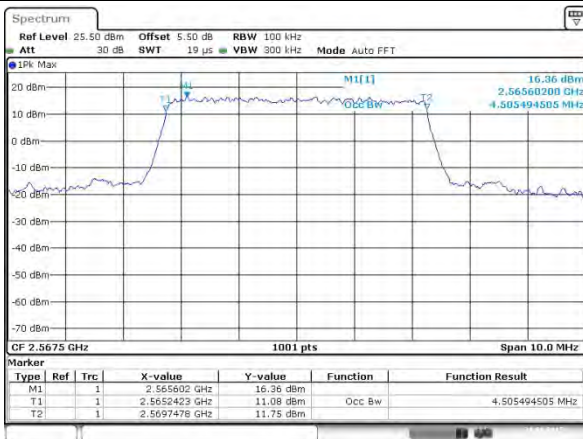
## Middle Channel / 5MHz / QPSK



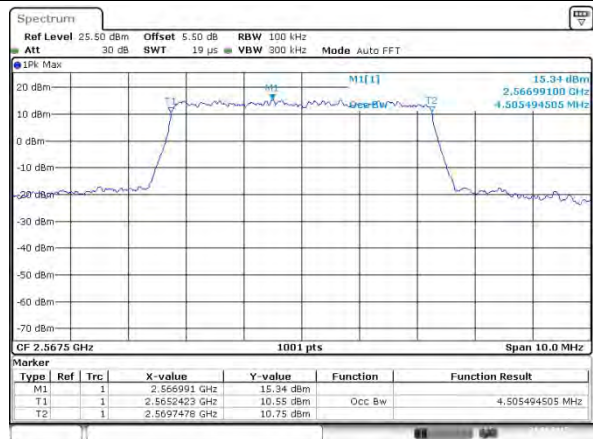
## Middle Channel / 5MHz / 16QAM



## Highest Channel / 5MHz / QPSK



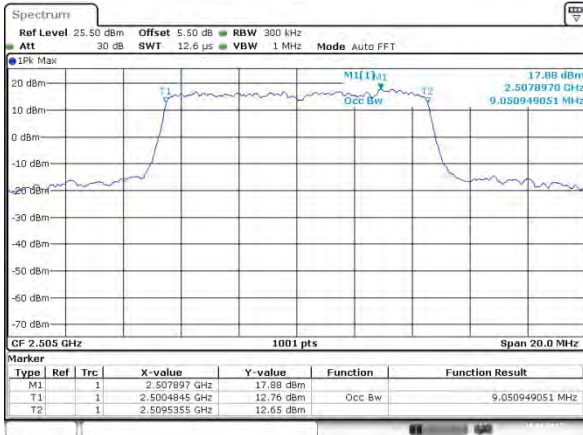
## Highest Channel / 5MHz / 16QAM



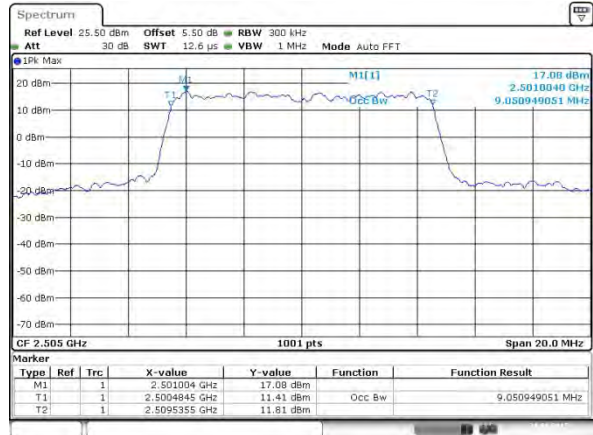


## LTE Band 7

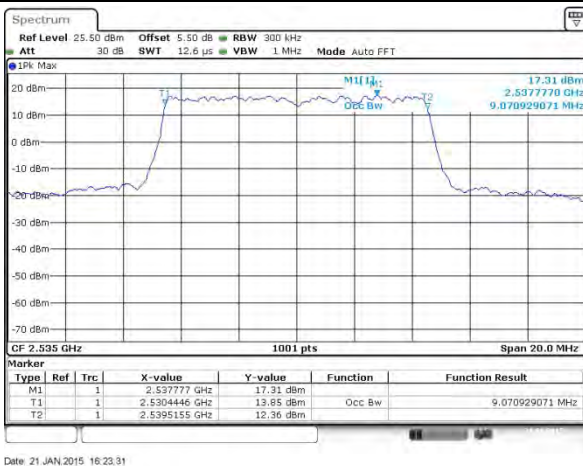
## Lowest Channel / 10MHz / QPSK



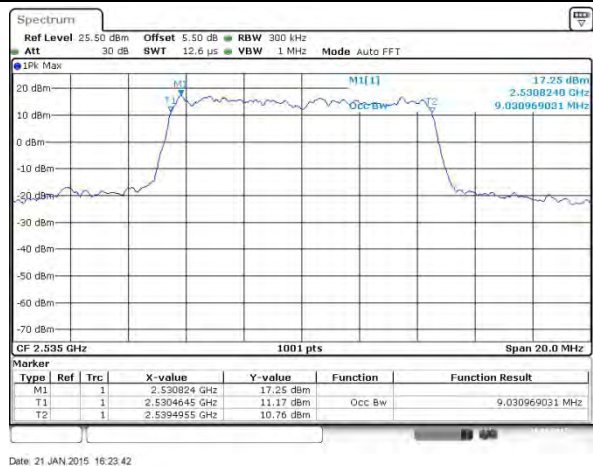
## Lowest Channel / 10MHz / 16QAM



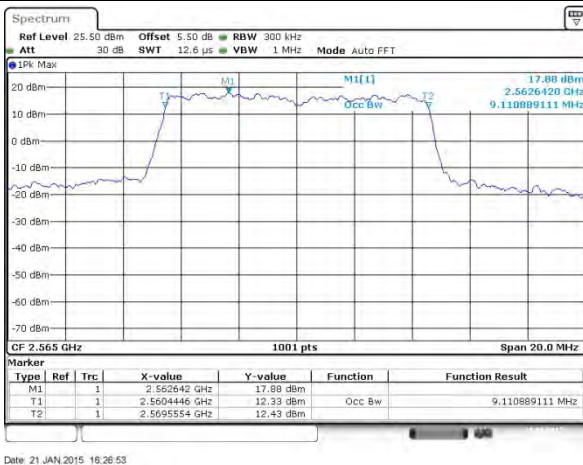
## Middle Channel / 10MHz / QPSK



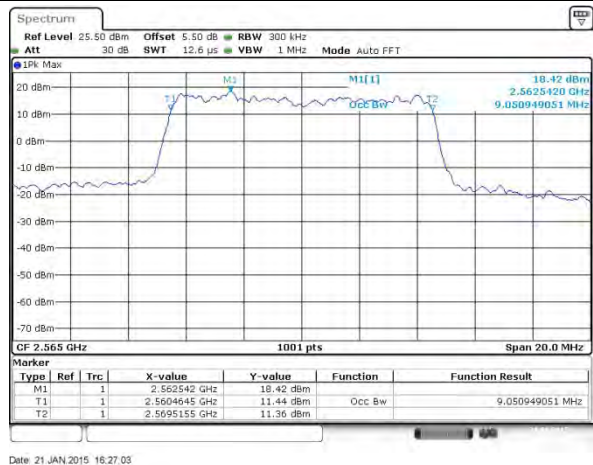
## Middle Channel / 10MHz / 16QAM



## Highest Channel / 10MHz / QPSK



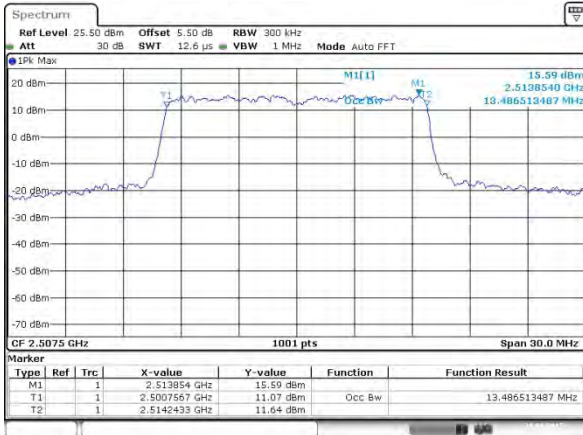
## Highest Channel / 10MHz / 16QAM





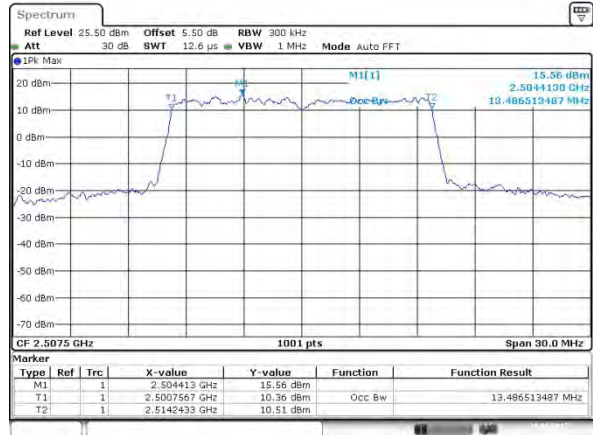
## LTE Band 7

## Lowest Channel / 15MHz / QPSK



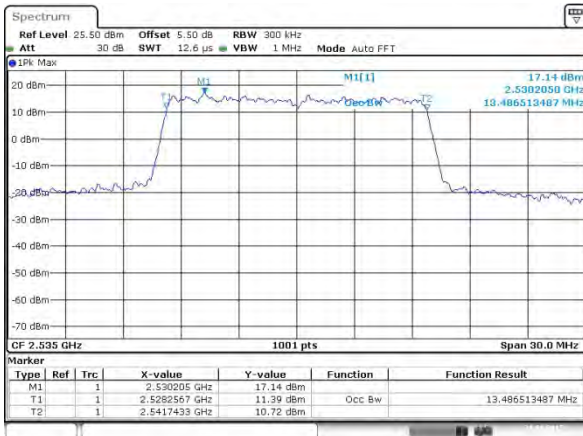
Date: 21 JAN 2015 16:30:15

## Lowest Channel / 15MHz / 16QAM



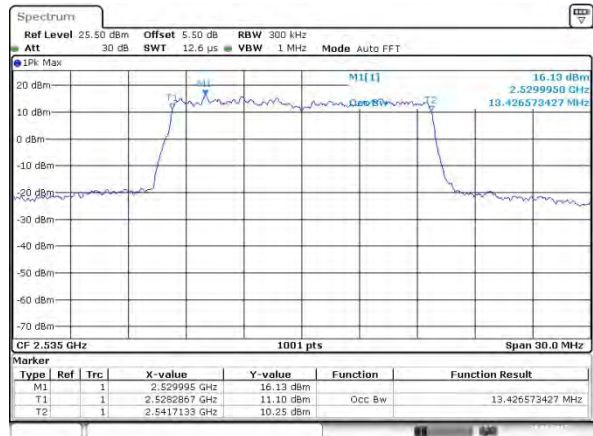
Date: 21 JAN 2015 16:30:25

## Middle Channel / 15MHz / QPSK



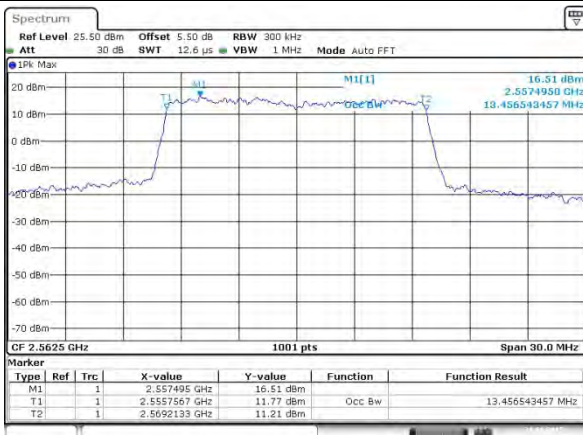
Date: 21 JAN 2015 16:33:36

## Middle Channel / 15MHz / 16QAM



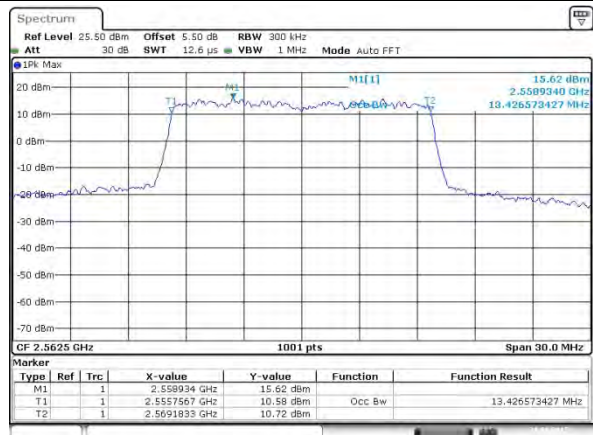
Date: 21 JAN 2015 16:33:47

## Highest Channel / 15MHz / QPSK



Date: 21 JAN 2015 16:35:58

## Highest Channel / 15MHz / 16QAM

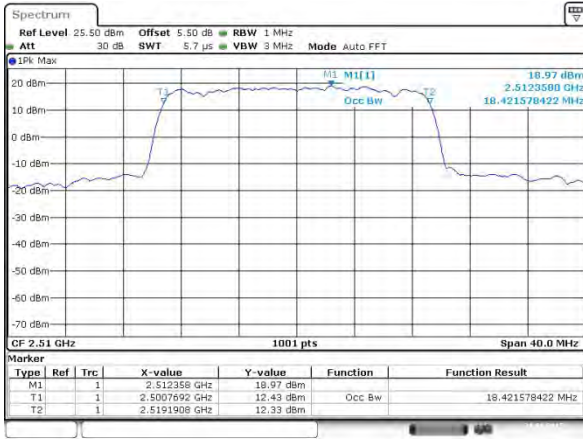


Date: 21 JAN 2015 16:37:06

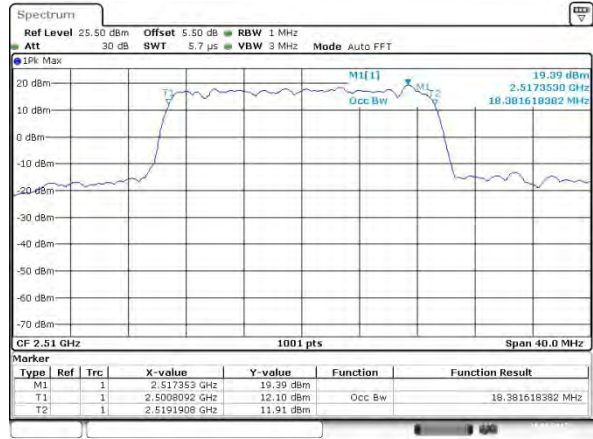


## LTE Band 7

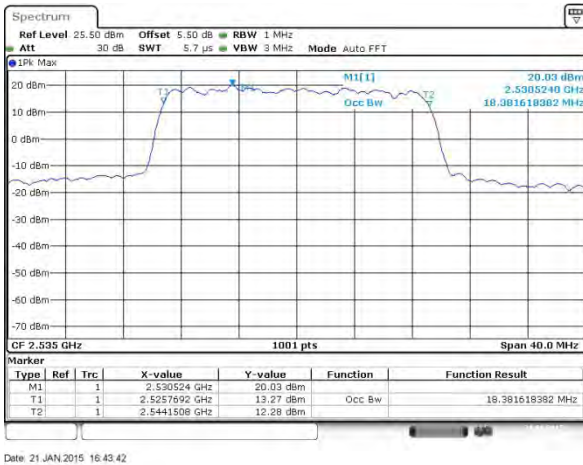
## Lowest Channel / 20MHz / QPSK



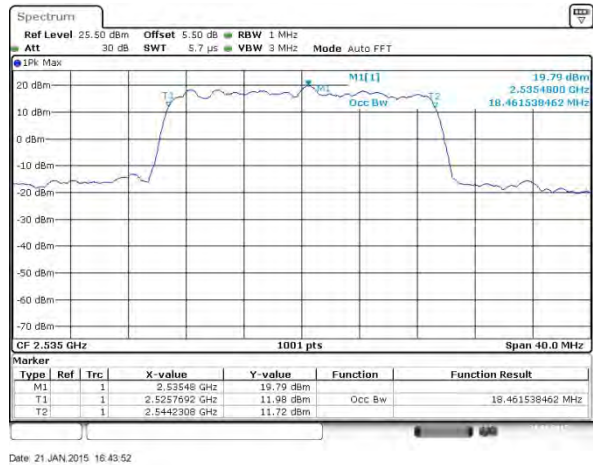
## Lowest Channel / 20MHz / 16QAM



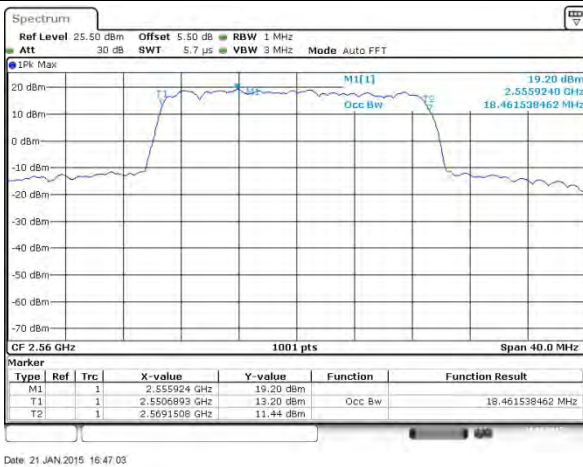
## Middle Channel / 20MHz / QPSK



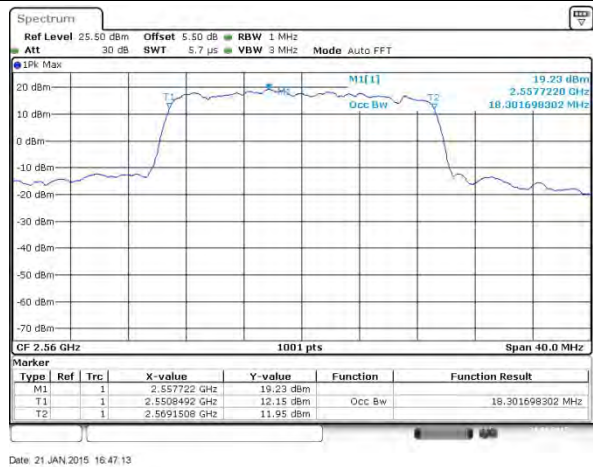
## Middle Channel / 20MHz / 16QAM

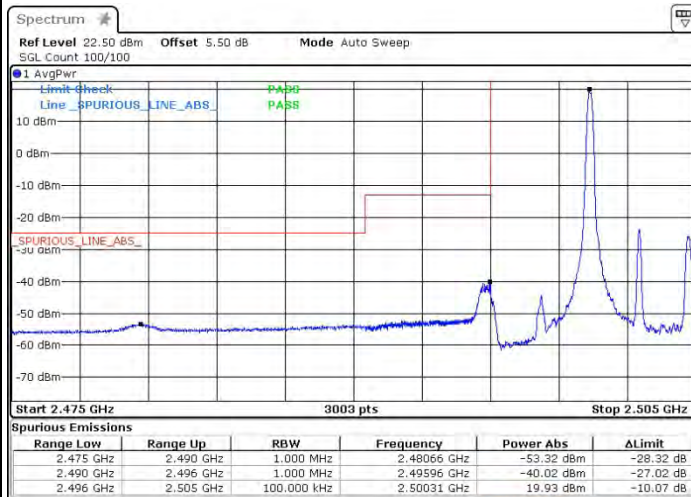


## Highest Channel / 20MHz / QPSK



## Highest Channel / 20MHz / 16QAM

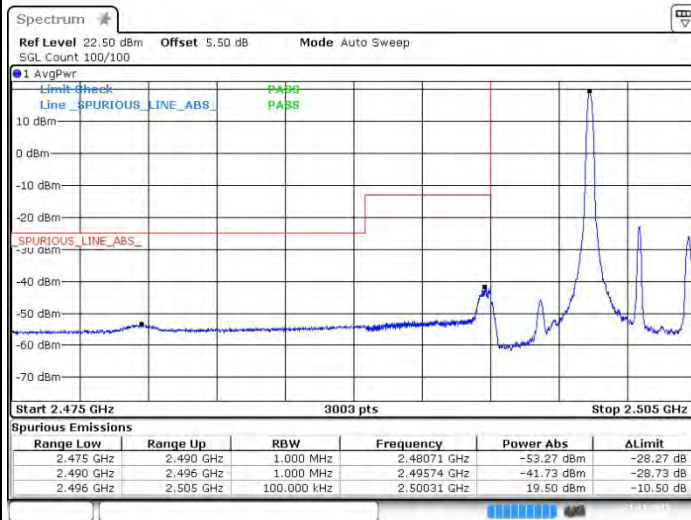


**Conducted Band Edge****LTE Band 7 / 5MHz / QPSK****Lowest Band Edge / 1 RB****Highest Band Edge / 1 RB****Lowest Band Edge / Full RB****Highest Band Edge / Full RB**

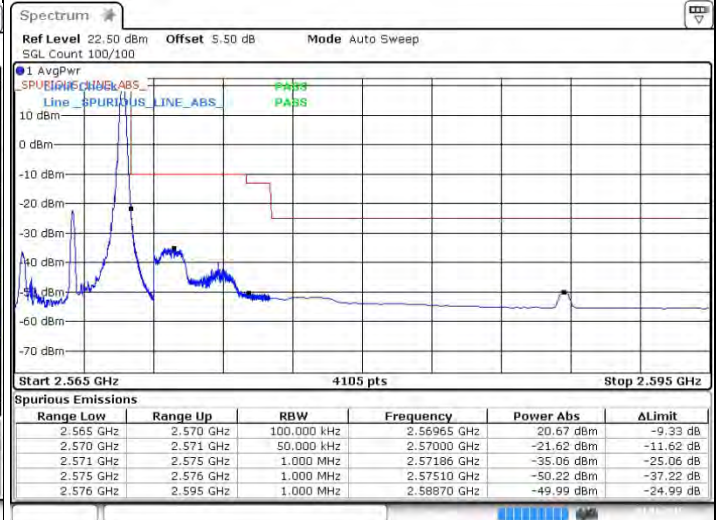


## LTE Band 7 / 5MHz / 16QAM

## Lowest Band Edge / 1 RB



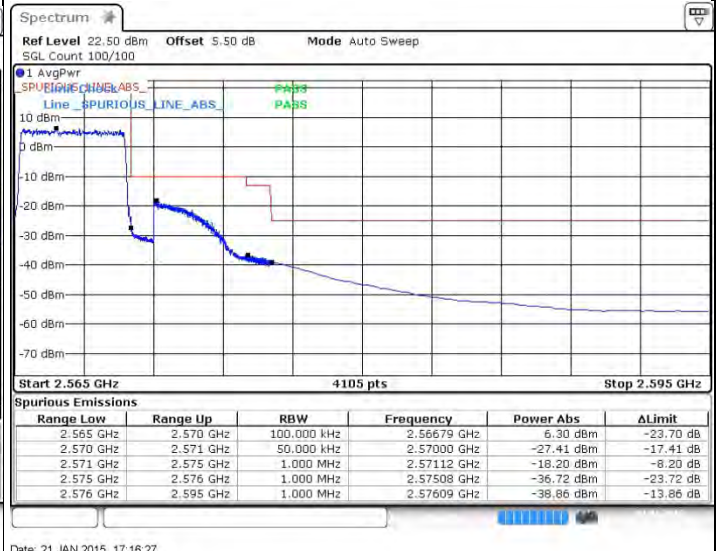
## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



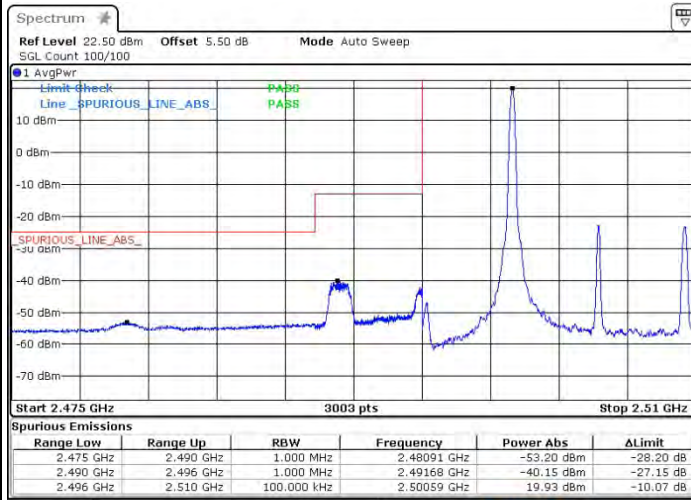
## Highest Band Edge / Full RB





## LTE Band 7 / 10MHz / QPSK

## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



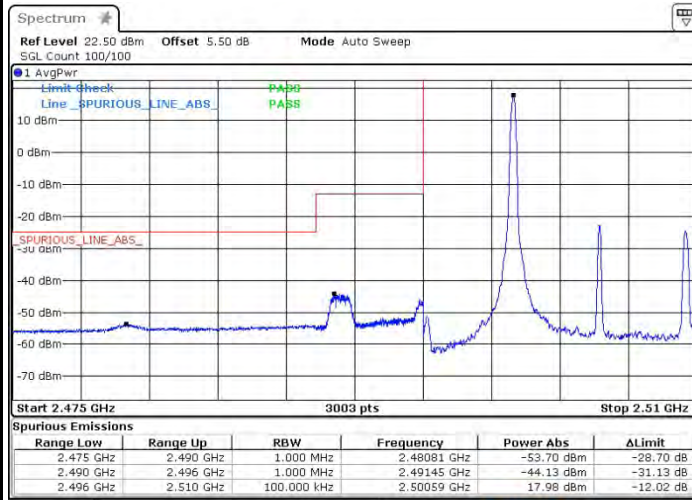
## Highest Band Edge / Full RB





## LTE Band 7 / 10MHz / 16QAM

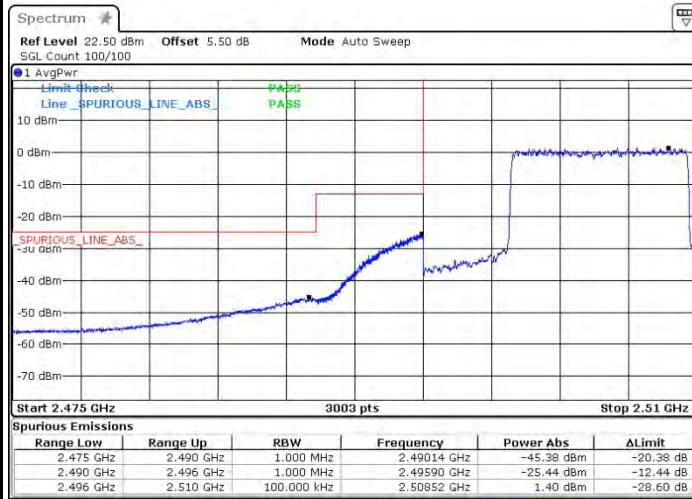
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



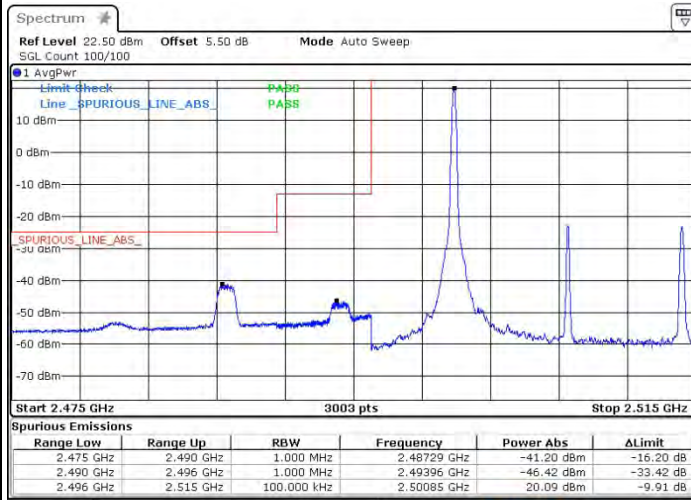
## Highest Band Edge / Full RB





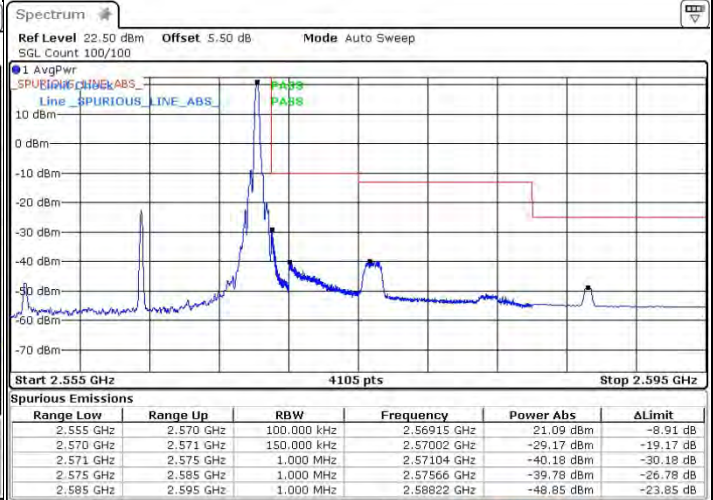
## LTE Band 7 / 15MHz / QPSK

## Lowest Band Edge / 1 RB



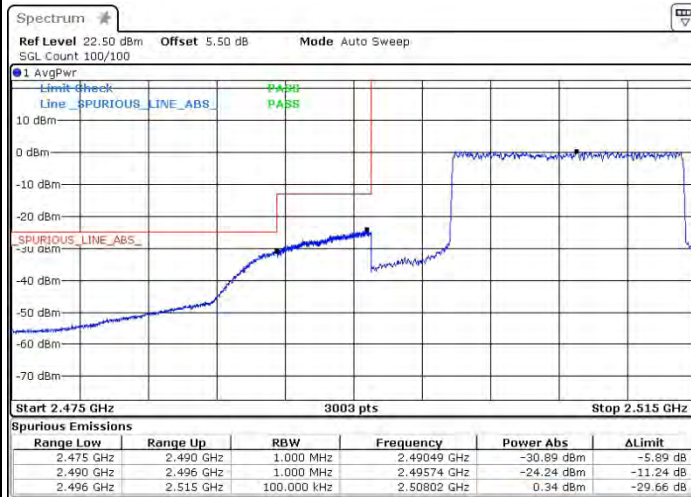
Date: 21 JAN 2015 17:22:55

## Highest Band Edge / 1 RB



Date: 22 JAN 2015 11:14:29

## Lowest Band Edge / Full RB



Date: 21 JAN 2015 17:23:14

## Highest Band Edge / Full RB

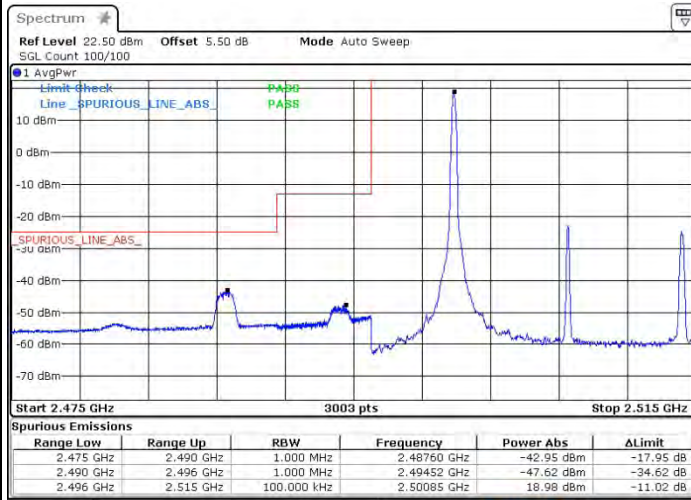


Date: 22 JAN 2015 11:13:09



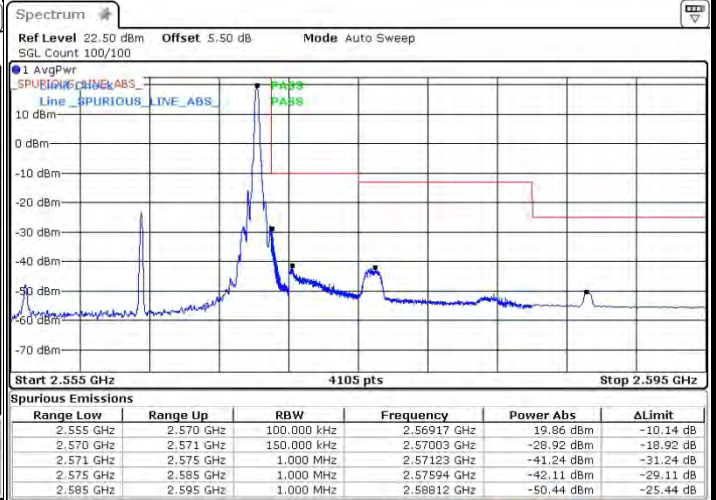
## LTE Band 7 / 15MHz / 16QAM

## Lowest Band Edge / 1 RB



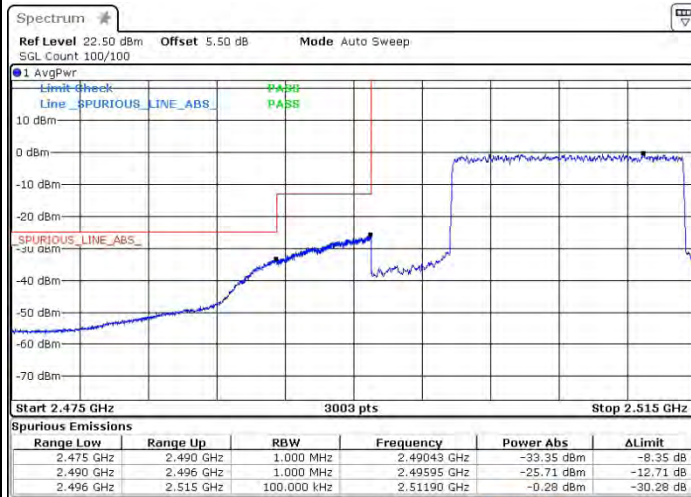
Date: 21 JAN 2015 17:22:39

## Highest Band Edge / 1 RB



Date: 22 JAN 2015 11:14:10

## Lowest Band Edge / Full RB



Date: 21 JAN 2015 17:23:43

## Highest Band Edge / Full RB

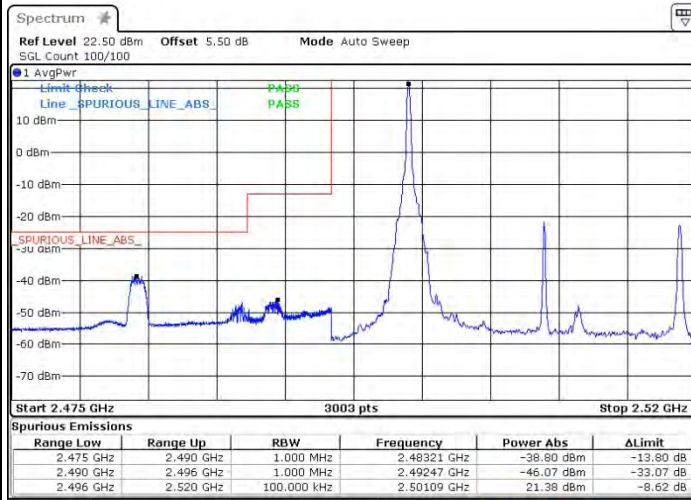


Date: 22 JAN 2015 11:13:34

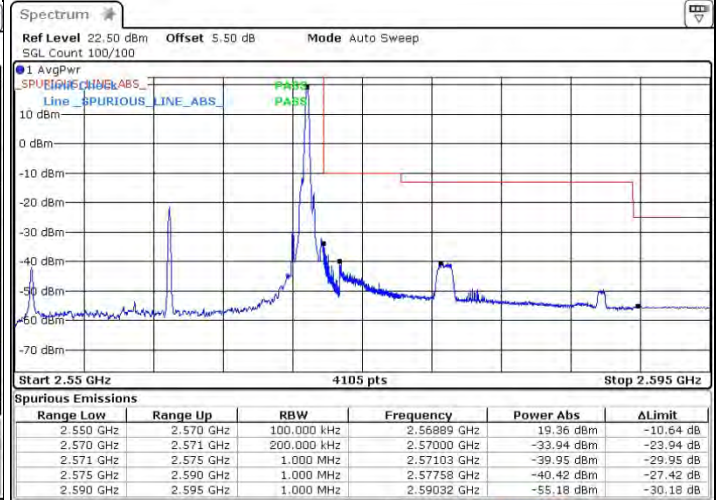


## LTE Band 7 / 20MHz / QPSK

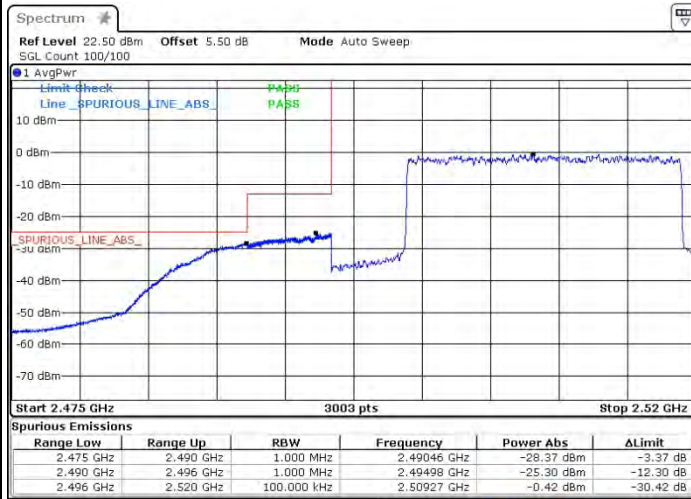
## Lowest Band Edge / 1 RB



## Highest Band Edge / 1 RB



## Lowest Band Edge / Full RB



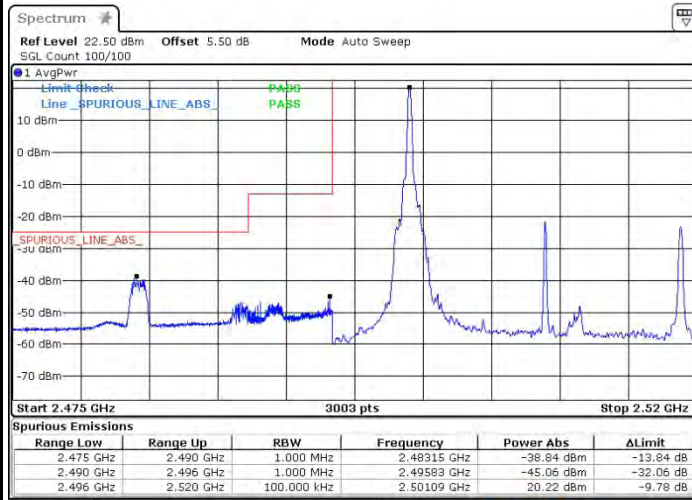
## Highest Band Edge / Full RB





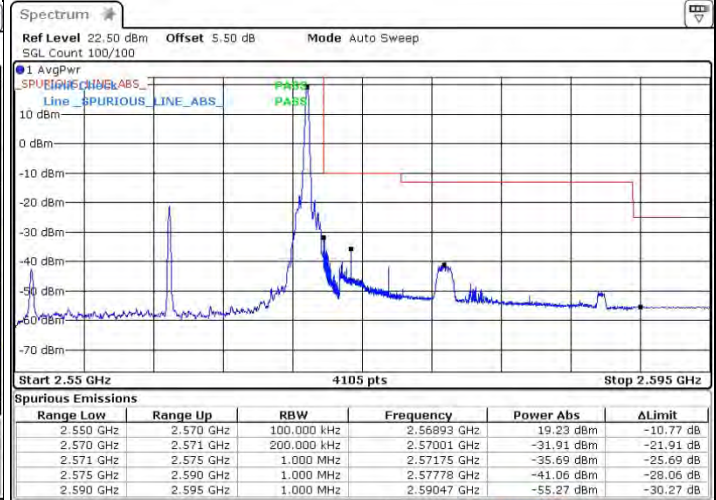
## LTE Band 7 / 20MHz / 16QAM

## Lowest Band Edge / 1 RB



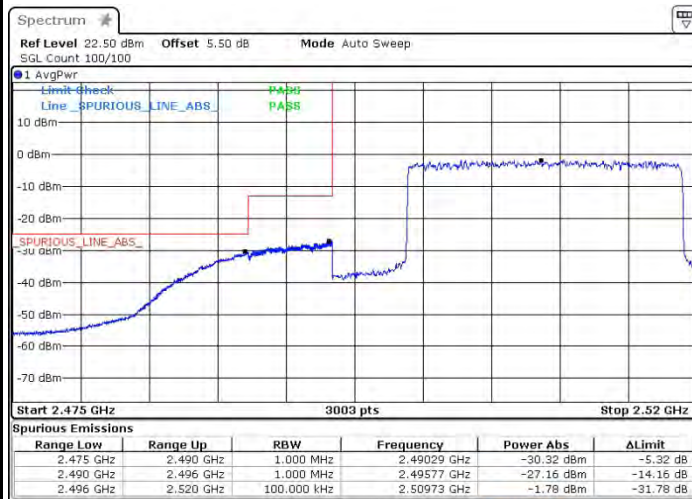
Date: 21 JAN 2015 17:29:26

## Highest Band Edge / 1RB



Date: 21 JAN 2015 17:33:10

## Lowest Band Edge / Full RB



Date: 21 JAN 2015 17:30:51

## Highest Band Edge / Full RB



Date: 21 JAN 2015 17:31:41

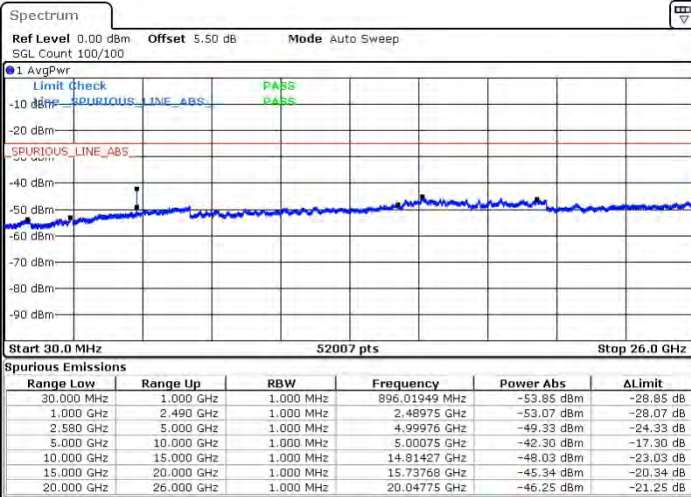


## Conducted Spurious Emission

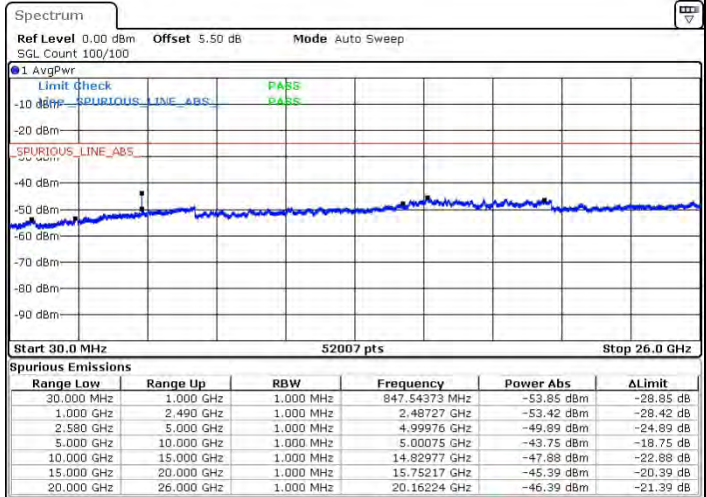
### LTE Band 7 / 5MHz

#### Lowest Channel / QPSK

#### Lowest Channel / 16QAM



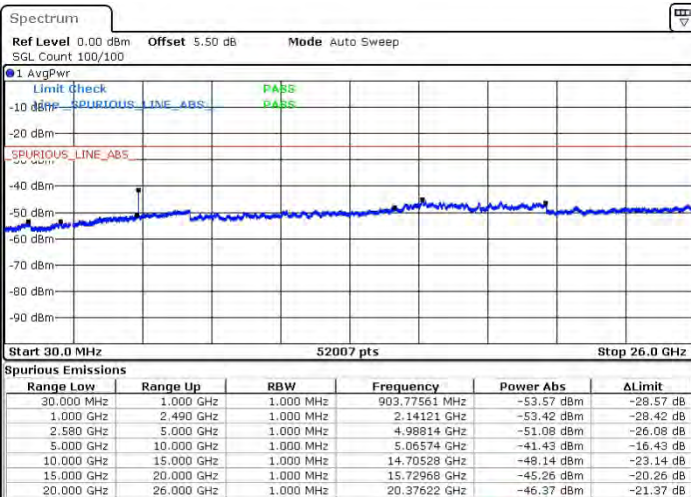
Date: 21 JAN 2015 17:02:08



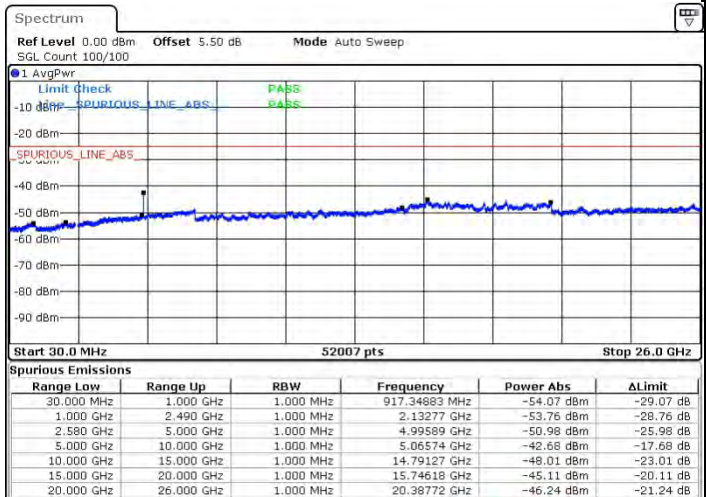
Date: 21 JAN 2015 17:03:27

#### Middle Channel / QPSK

#### Middle Channel / 16QAM



Date: 21 JAN 2015 17:05:30

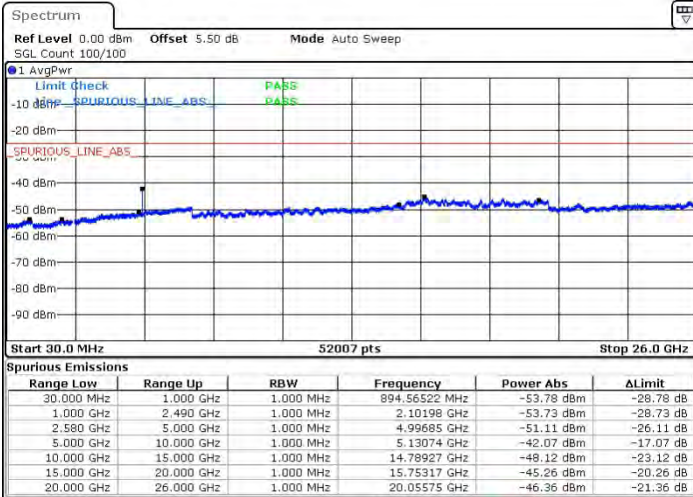


Date: 21 JAN 2015 17:06:49



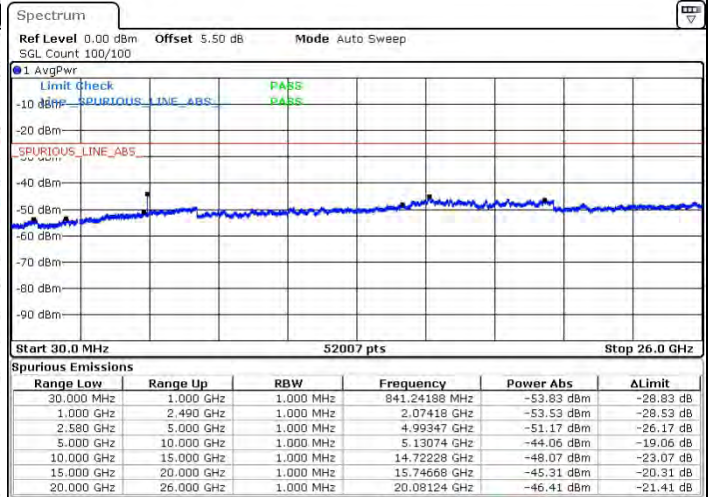
## LTE Band 7 / 5MHz

## Highest Channel / QPSK



Date: 21 JAN 2015 17:08:52

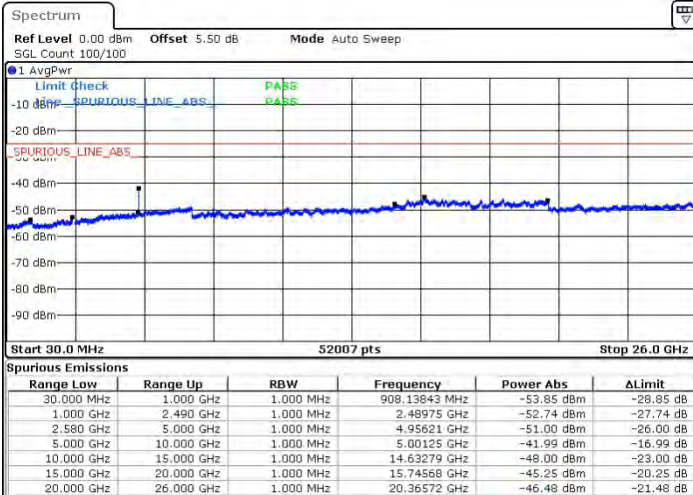
## Highest Channel / 16QAM



Date: 21 JAN 2015 17:10:10

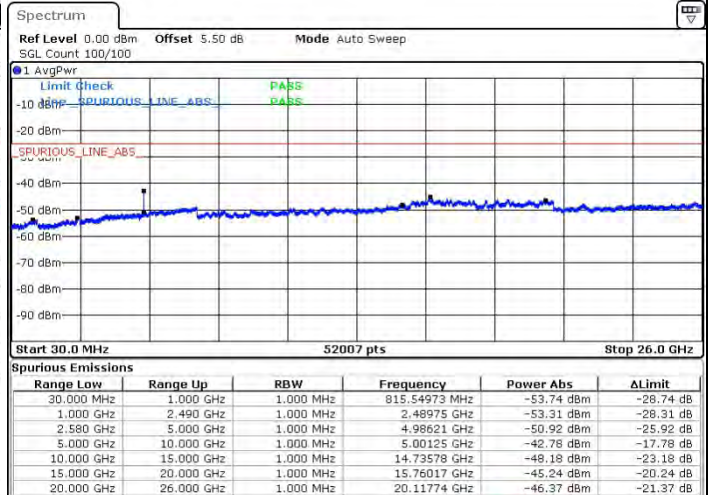
## LTE Band 7 / 10MHz

## Lowest Channel / QPSK



Date: 21 JAN 2015 16:21:52

## Lowest Channel / 16QAM



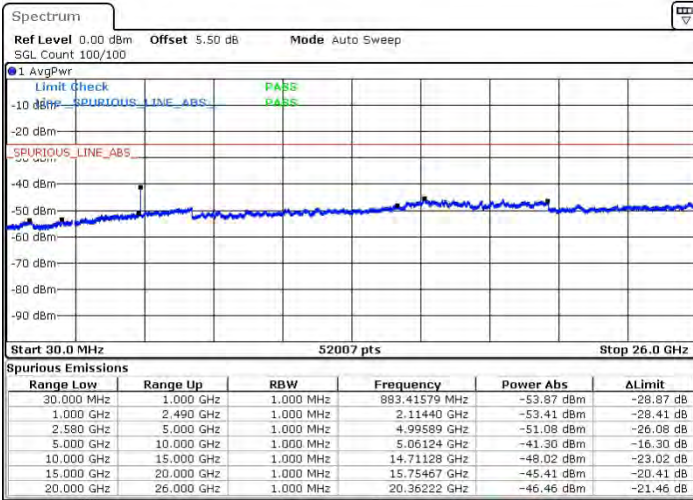
Date: 21 JAN 2015 16:23:11



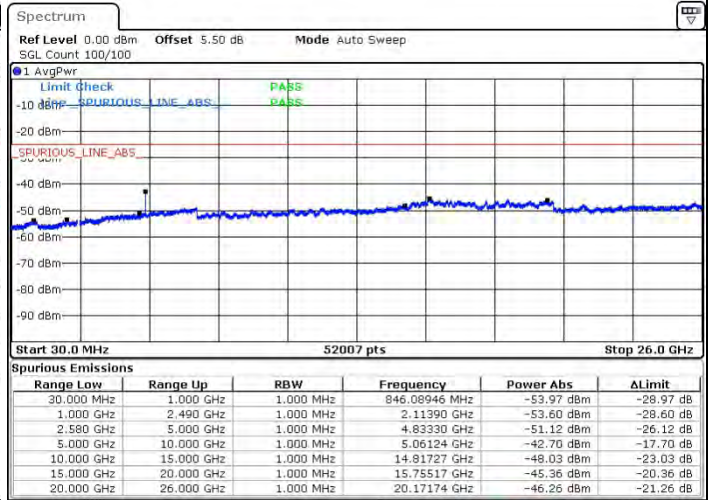
## LTE Band 7 / 10MHz

## Middle Channel / QPSK

## Middle Channel / 16QAM



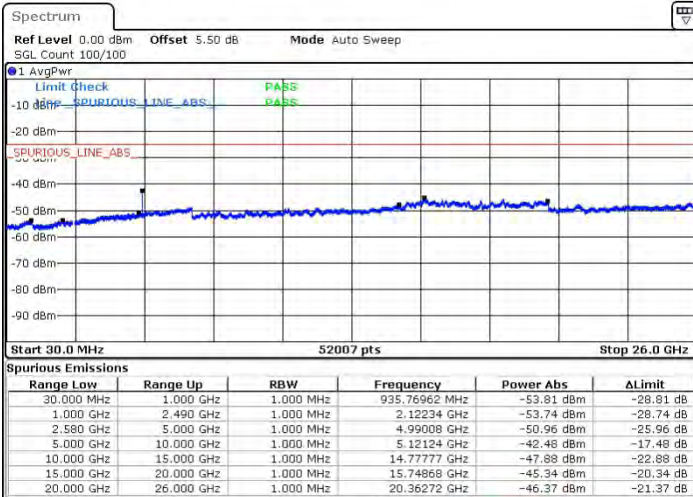
Date: 21 JAN 2015 16:25:14



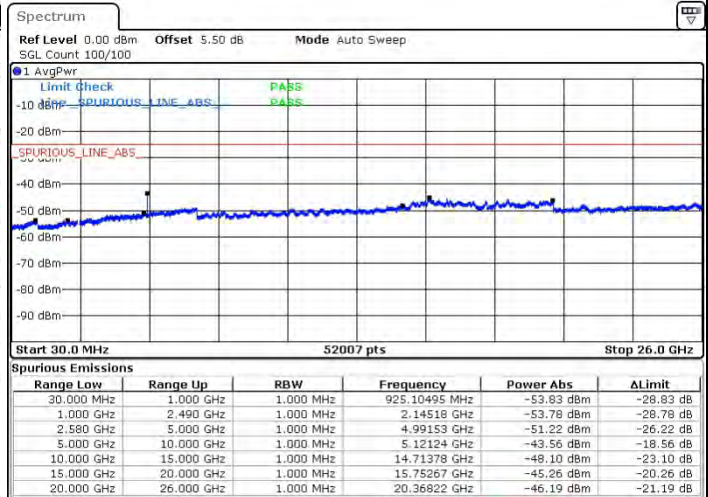
Date: 21 JAN 2015 16:26:33

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 21 JAN 2015 16:28:36



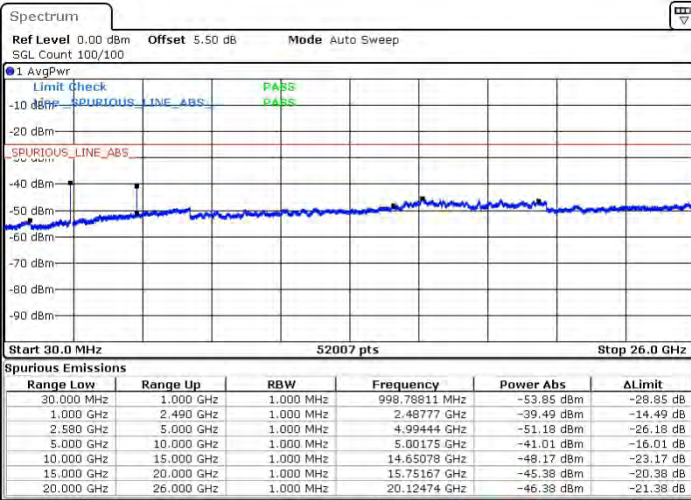
Date: 21 JAN 2015 16:29:54



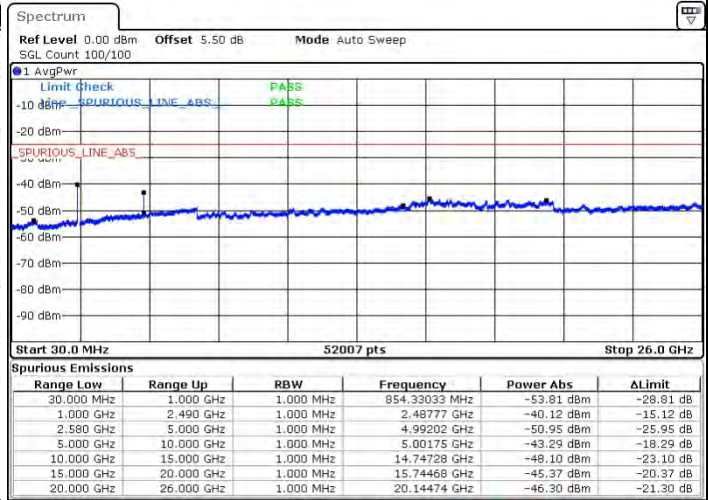
## LTE Band 7 / 15MHz

## Lowest Channel / QPSK

## Lowest Channel / 16QAM



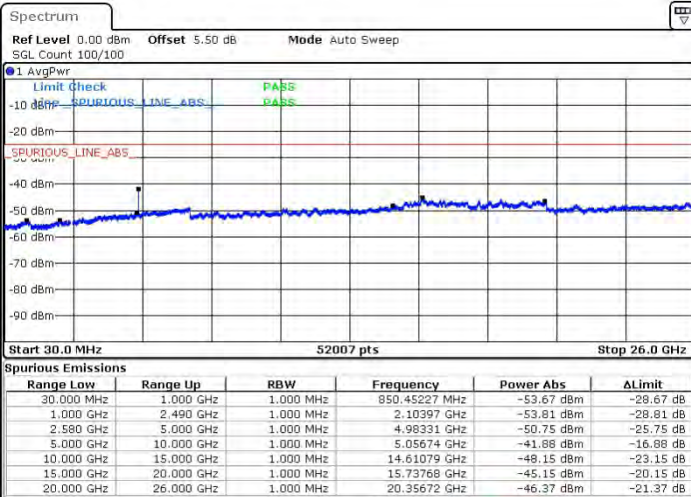
Date: 21 JAN 2015 16:31:57



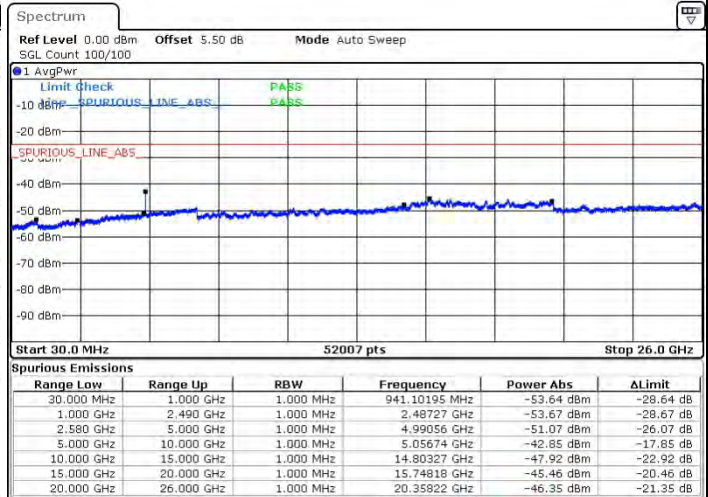
Date: 21 JAN 2015 16:33:16

## Middle Channel / QPSK

## Middle Channel / 16QAM



Date: 21 JAN 2015 16:35:19



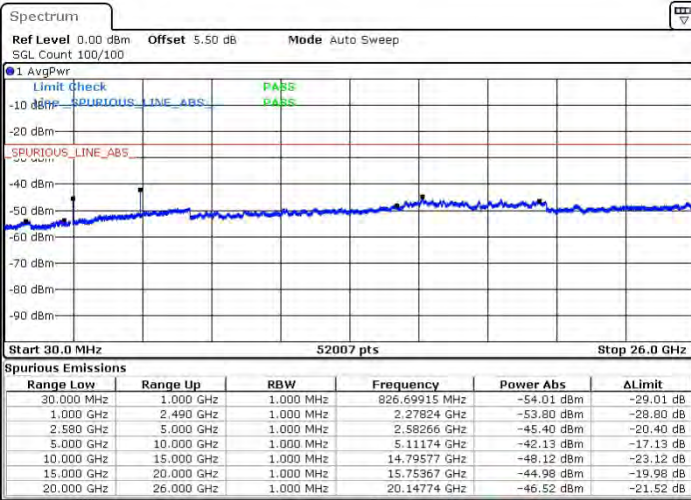
Date: 21 JAN 2015 16:36:38



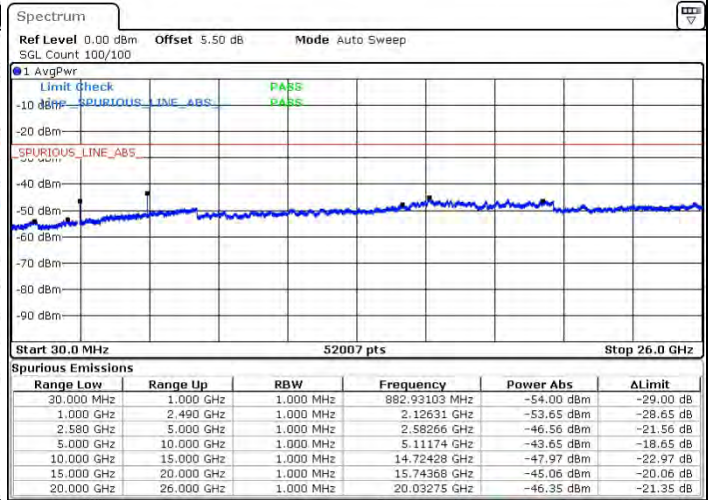
## LTE Band 7 / 15MHz

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 21 JAN 2015 16:38:41

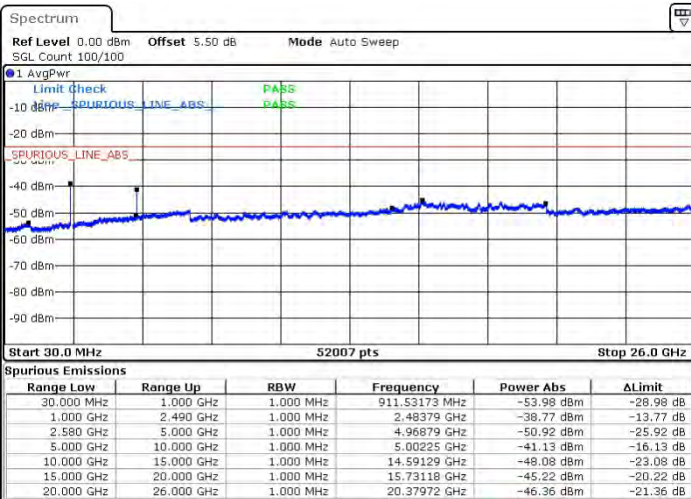


Date: 21 JAN 2015 16:39:59

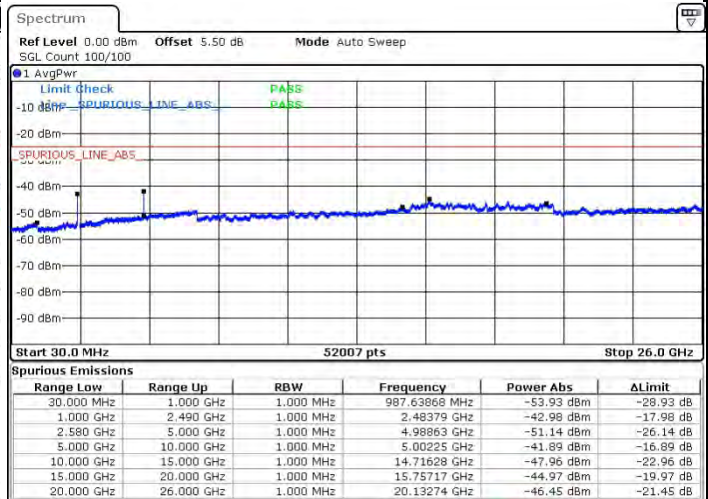
## LTE Band 7 / 20MHz

## Lowest Channel / QPSK

## Lowest Channel / 16QAM



Date: 21 JAN 2015 16:42:02



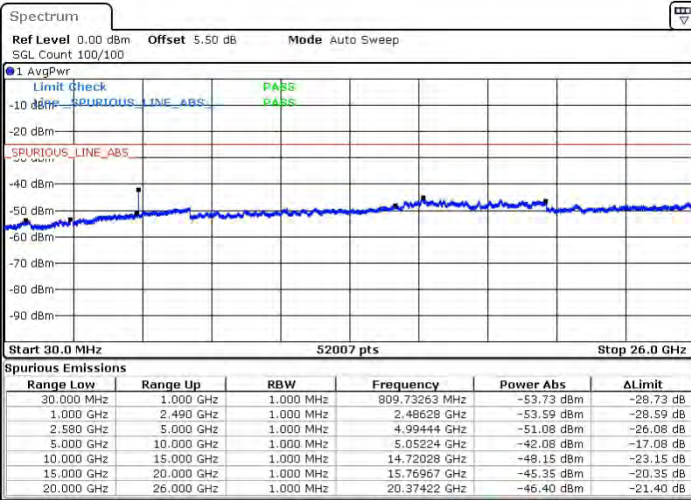
Date: 21 JAN 2015 16:43:21



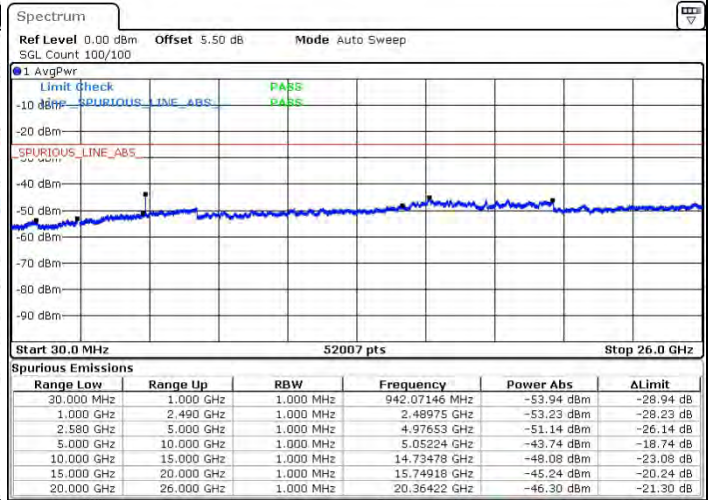
## LTE Band 7 / 20MHz

## Middle Channel / QPSK

## Middle Channel / 16QAM



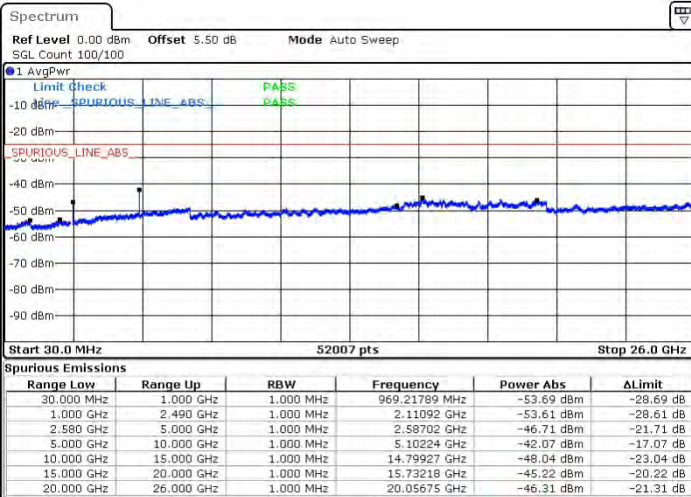
Date: 21 JAN 2015 16:45:24



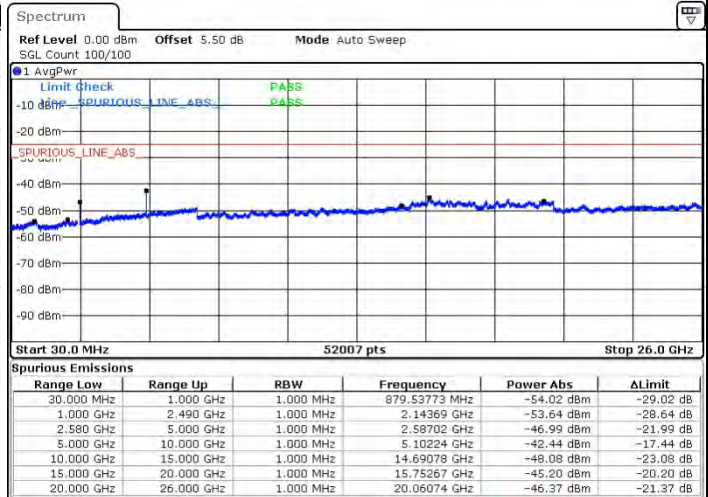
Date: 21 JAN 2015 16:46:42

## Highest Channel / QPSK

## Highest Channel / 16QAM



Date: 21 JAN 2015 16:48:45



Date: 21 JAN 2015 16:50:04

**Frequency Stability**

Test Conditions		LTE Band 7 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0027	PASS
40	Normal Voltage	0.0036	
30	Normal Voltage	0.0021	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0045	
0	Normal Voltage	0.0032	
-10	Normal Voltage	0.0018	
-20	Normal Voltage	0.0016	
-30	Normal Voltage	0.0033	
20	Maximum Voltage	0.0048	
20	Normal Voltage	0.0025	
20	Battery End Point	0.0044	

**Note:**

1. Normal Voltage = 3.80 V. ; Battery End Point (BEP) = 3.40 V. ; Maximum Voltage = 4.35 V
2. Note: The frequency fundamental emissions stay within the authorized frequency block based on the frequency deviation measured is small.

## Appendix B. Test Results of Radiated Test

### EIRP

LTE Band 7 / 5MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	12	28.31	0.6776	27.85	0.6095
Middle		1	12	29.15	0.8222	28.95	0.7852
Highest		1	0	28.32	0.6792	28.97	0.7889
Lowest	16QAM	1	0	26.45	0.4416	26.72	0.4699
Middle		1	0	27.97	0.6266	27.65	0.5821
Highest		1	0	27.80	0.6026	28.60	0.7244
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 10MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	0	27.80	0.6026	28.06	0.6397
Middle		1	49	28.67	0.7362	28.97	0.7889
Highest		1	0	28.68	0.7379	29.32	0.8551
Lowest	16QAM	1	49	27.61	0.5768	27.61	0.5768
Middle		1	0	27.72	0.5916	28.43	0.6966
Highest		1	0	28.08	0.6427	27.97	0.6266
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 15MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	37	28.55	0.7161	28.72	0.7447
Middle		1	74	29.00	0.7943	29.06	0.8054
Highest		1	74	28.45	0.6998	29.32	0.8551
Lowest	16QAM	1	74	28.04	0.6368	28.32	0.6792
Middle		1	0	27.33	0.5408	27.72	0.5916
Highest		1	37	27.27	0.5333	27.91	0.6180
Limit	EIRP < 2W			Result		PASS	

LTE Band 7 / 20MHz							
Channel	Modulation	RB		Horizontal		Vertical	
		Size	Offset	EIRP(dBm)	EIRP(W)	EIRP(dBm)	EIRP(W)
Lowest	QPSK	1	49	27.98	0.6281	28.22	0.6637
Middle		1	49	28.49	0.7063	29.06	0.8054
Highest		1	49	28.50	0.7079	29.19	0.8299
Lowest	16QAM	1	49	27.80	0.6026	28.06	0.6397
Middle		1	0	28.14	0.6516	28.64	0.7311
Highest		1	49	27.38	0.5470	28.06	0.6397
Limit	EIRP < 2W			Result		PASS	

## Radiated Spurious Emission

Band :	LTE Band 7					Temperature :	22~23°C		
Test Mode :	5MHz QPSK RB Size 1 Offset 0					Relative Humidity :	40~41%		
Test Engineer :	Nick Su					Polarization :	Horizontal		
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit ( dB )	Reading (dBm)	Power ( dBm )	loss ( dB )	Gain (dBi)	(H/V)	
5066	-53.95	-25	-28.95	-60.82	-58.94	3.49	8.48	H	Pass
7598	-51.60	-25	-26.60	-61.44	-58.46	4.28	11.15	H	Pass
10128	-44.22	-25	-19.22	-61.59	-52.07	5.1	12.94	H	Pass

Band :	LTE Band 7				Temperature :	22~23°C			
Test Mode :	5MHz QPSK RB Size 1 Offset 0				Relative Humidity :	40~41%			
Test Engineer :	Nick Su				Polarization :	Vertical			
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit ( dB )	Reading (dBm)	Power ( dBm )	loss ( dB )	Gain (dBi)	(H/V)	
5066	-56.75	-25	-31.75	-61.36	-61.74	3.49	8.48	V	Pass
7598	-48.49	-25	-23.49	-60.26	-55.36	4.28	11.15	V	Pass
10128	-45.85	-25	-20.85	-62.49	-53.69	5.1	12.94	V	Pass



Band :	LTE Band 7	Temperature :	22~23°C						
Test Mode :	10MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Nick Su	Polarization :	Horizontal						
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit	Reading	Power	loss	Gain	(H/V)	
5060	-56.06	-25	-31.06	-61.65	-61.05	3.49	8.48	H	Pass
7590	-49.62	-25	-24.62	-60.53	-56.48	4.28	11.15	H	Pass
10120	-49.90	-25	-24.90	-66.75	-57.74	5.1	12.94	H	Pass

Band :	LTE Band 7				Temperature :	22~23°C			
Test Mode :	10MHz QPSK RB Size 1 Offset 0				Relative Humidity :	40~41%			
Test Engineer :	Nick Su				Polarization :	Vertical			
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit ( dB )	Reading (dBm)	Power ( dBm )	loss ( dB )	Gain (dBi)	(H/V)	
5060	-56.31	-25	-31.31	-60.92	-61.30	3.49	8.48	V	Pass
7589	-47.66	-25	-22.66	-59.73	-54.53	4.28	11.15	V	Pass
10120	-45.64	-25	-20.64	-62.3	-53.49	5.1	12.94	V	Pass



Band :	LTE Band 7	Temperature :	22~23°C						
Test Mode :	15MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Nick Su	Polarization :	Horizontal						
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit	Reading	Power	loss	Gain		
( MHz )	( dBm )	( dBm )	( dB )	(dBm)	( dBm )	( dB )	(dBi)	(H/V)	
5054	-53.38	-25	-28.38	-60.48	-58.37	3.49	8.48	H	Pass
7583	-52.80	-25	-27.80	-61.81	-59.67	4.28	11.15	H	Pass
10112	-45.69	-25	-20.69	-62.66	-53.53	5.1	12.94	H	Pass

Band :	LTE Band 7					Temperature :	22~23°C		
Test Mode :	15MHz QPSK RB Size 1 Offset 0					Relative Humidity :	40~41%		
Test Engineer :	Nick Su					Polarization :	Vertical		
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit ( dB )	Reading ( dBm )	Power ( dBm )	loss ( dB )	Gain ( dBi )	(H/V)	
5054	-56.69	-25	-31.69	-61.3	-61.68	3.49	8.48	V	Pass
7583	-51.06	-25	-26.06	-61.63	-57.92	4.28	11.15	V	Pass
10112	-45.72	-25	-20.72	-62.37	-53.56	5.1	12.94	V	Pass



Band :	LTE Band 7	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0					Relative Humidity :	40~41%		
Test Engineer :	Nick Su					Polarization :	Horizontal		
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit	Reading	Power	loss	Gain	(H/V)	
			( dB )	(dBm)	( dBm )	( dB )	(dBi)		
5051	-53.16	-25	-28.16	-60.35	-58.15	3.49	8.48	H	Pass
7574	-50.35	-25	-25.35	-60.91	-57.22	4.28	11.15	H	Pass
10100	-45.08	-25	-20.08	-62.28	-52.92	5.1	12.94	H	Pass

Band :	LTE Band 7	Temperature :	22~23°C						
Test Mode :	20MHz QPSK RB Size 1 Offset 0	Relative Humidity :	40~41%						
Test Engineer :	Nick Su	Polarization :	Vertical						
Remark :	Spurious emissions below 1GHz were found more than 20dB below limit line.								
Frequency	EIRP	Limit	Over	SPA	S.G.	TX Cable	TX Antenna	Polarization	Result
( MHz )	( dBm )	( dBm )	Limit ( dB )	Reading ( dBm )	Power ( dBm )	loss ( dB )	Gain ( dBi )	(H/V)	
5051	-56.13	-25	-31.13	-60.74	-61.12	3.49	8.48	V	Pass
7575	-48.73	-25	-23.73	-60.43	-55.60	4.28	11.15	V	Pass
10100	-46.02	-25	-21.02	-62.65	-53.86	5.1	12.94	V	Pass