

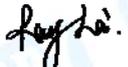
# FCC Radio Test Report

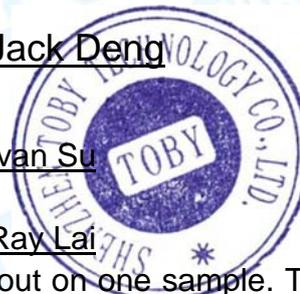
## FCC ID: 2AX4E-Q10107L

### Original Grant

Report No. : TB-FCC176115  
 Applicant : Vitek Electronics International Co., Ltd  
 Equipment Under Test (EUT)  
 EUT Name : 10.1inch Tablet PC  
 Model No. : Q10107L-ME  
 Series Model No. : VK1001G, VK1002G, VK1003G, VK1004G, VK1005G, VK1006G, VK1007G, VK1008G  
 Brand Name : AOC, VTEX  
 Sample ID : TBBJ-20200916-08-5#& TBBJ-20200916-08-6#  
 Receipt Date : 2020-09-14  
 Test Date : 2020-09-15 to 2020-11-17  
 Issue Date : 2020-11-18  
 Standards : 47 CFR Part 2, 22(H), 24(E), 27  
 Test Method : ANSI C63.26 2015  
 Conclusions : **PASS**

In the configuration tested, the EUT complied with the standards specified above,

Test/Witness Engineer :  Jack Deng  
 Engineer Supervisor :  Ivan Su  
 Engineer Manager :  Ray Lai



This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in the report.

## Contents

<b>CONTENTS.....</b>	<b>2</b>
<b>1. GENERAL INFORMATION ABOUT EUT .....</b>	<b>5</b>
1.1 Client Information.....	5
1.2 General Description of EUT (Equipment Under Test) .....	5
1.3 Block Diagram Showing the Configuration of System Tested.....	8
1.4 Description of Support Units .....	9
1.5 Description of Test Mode.....	9
1.6 Measurement Uncertainty .....	10
1.7 Test Facility.....	10
<b>2. TEST SUMMARY .....</b>	<b>11</b>
<b>3. TEST EQUIPMENT.....</b>	<b>12</b>
<b>4. CONDUCTED RF OUTPUT POWER.....</b>	<b>13</b>
4.1 Test Standard and Limit.....	13
4.2 Test Setup.....	13
4.3 Test Procedure.....	13
4.4 EUT Operating Condition .....	13
4.5 Deviation From Test Standard.....	13
4.6 Test Data.....	13
<b>5. PEAK-AVERAGE RATIO.....</b>	<b>14</b>
5.1 Test Standard and Limit.....	14
5.2 Test Setup.....	14
5.3 Test Procedure.....	14
5.4 EUT Operating Condition .....	14
5.5 Deviation From Test Standard.....	14
5.6 Test Data.....	14
<b>6. OCCUPIED BANDWIDTH.....</b>	<b>15</b>
6.1 Test Standard and Limit.....	15
6.2 Test Setup.....	15
6.3 Test Procedure.....	15
6.4 EUT Operating Condition .....	16
6.5 Deviation From Test Standard.....	16
6.6 Test Data.....	16
<b>7. OUT OF BAND EMISSION AT ANTENNA TERMINALS.....</b>	<b>17</b>
7.1 Test Standard and Limit.....	17
7.2 Test Setup.....	17
7.3 Test Procedure.....	18
7.4 EUT Operating Condition .....	18
7.5 Deviation From Test Standard.....	18
7.6 Test Data.....	18

---

---

<b>8.</b>	<b>BAND EDGE TEST .....</b>	<b>19</b>
	8.1 Test Standard and Limit.....	19
	8.2 Test Setup.....	19
	8.3 Test Procedure.....	19
	8.4 EUT Operating Condition .....	20
	8.5 Deviation From Test Standard.....	20
	8.6 Test Data.....	20
<b>9.</b>	<b>RADIATED OUTPUT POWER .....</b>	<b>21</b>
	9.1 Test Standard and Limit.....	21
	9.2 Test Setup.....	21
	9.3 Test Procedure.....	22
	9.4 EUT Operating Condition .....	22
	9.5 Deviation From Test Standard.....	23
	9.6 Test Data.....	23
<b>10.</b>	<b>RADIATED OUT BAND OF EMISSIONS.....</b>	<b>24</b>
	10.1 Test Standard and Limit .....	24
	10.2 Test Setup.....	24
	10.3 Test Procedure.....	24
	10.4 EUT Operating Condition .....	25
	10.5 Deviation From Test Standard.....	25
	10.6 Test Data.....	25
<b>11.</b>	<b>FREQUENCY STABILITY .....</b>	<b>26</b>
	11.1 Test Standard and Limit .....	26
	11.2 Test Setup.....	26
	11.3 Test Procedure.....	27
	11.4 EUT Operating Condition .....	27
	11.5 Deviation From Test Standard.....	27
	11.6 Test Data.....	27
	<b>ATTACHMENT A--CONDUCTED RF OUTPUT POWER .....</b>	<b>28</b>
	<b>ATTACHMENT B--PEAK-AVERAGE RATIO .....</b>	<b>36</b>
	<b>ATTACHMENT C--OCCUPY BANDWIDTH .....</b>	<b>40</b>
	<b>ATTACHMENT D--OUT OF BAND EMISSION AT ANTENNA TERMINALS .....</b>	<b>59</b>
	<b>ATTACHMENT E--BAND EDGE TEST .....</b>	<b>75</b>
	<b>ATTACHMENT F--RADIATED OUTPUT POWER .....</b>	<b>91</b>
	<b>ATTACHMENT G--RADIATED OUT BAND OF EMISSIONS .....</b>	<b>99</b>
	<b>ATTACHMENT H--FREQUENCY STABILITY .....</b>	<b>107</b>



## 1. General Information about EUT

### 1.1 Client Information

<b>Applicant</b>	:	Vitek Electronics International Co., Ltd
<b>Address</b>	:	Room 1104, 11/F., Witty Commercial Building, 1A-1L, Tung Choit St, Mong Kok, Kowloon, Hong Kong
<b>Manufacturer</b>	:	Vitek Electronics International Co., Ltd
<b>Address</b>	:	Room 1104, 11/F., Witty Commercial Building, 1A-1L, Tung Choit St, Mong Kok, Kowloon, Hong Kong

### 1.2 General Description of EUT (Equipment Under Test)

<b>EUT Name</b>	:	10.1inch Tablet PC
<b>Models No.</b>	:	Q10107L-ME , VK1001G, VK1002G, VK1003G, VK1004G, VK1005G, VK1006G, VK1007G, VK1008G
<b>Model Difference</b>	:	All these models are identical in the same PCB, layout and electrical circuit, The only difference is appearance.
<b>Product Description</b>	:	Frequency Bands: LTE Band 2:TX: 1850MHz-1910MHz, RX: 1930MHz-1990MHz LTE Band 4:TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 7:TX: 2500MHz~2570MHz, RX: 2620MHz~2690MHz
	:	Antenna Type: 2.0dBi PIFA Antenna
	:	Modulation Type: QPSK, 16QAM
	:	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
<b>Power Rating</b>	:	Adapter(HTY15-0502000U) Input: AC 100-240V, 50/60Hz Output: DC 5V 2A DC 3.7V by 5000mAh Li-ion battery
<b>Software Version</b>	:	android 10.0 S107
<b>Hardware Version</b>	:	S706-9863A
<b>Connecting I/O Port(S)</b>	:	Please refer to the User's Manual
<b>Remark</b>	:	The antenna gain and adapter provided by the applicant, the verified for the RF conduction test provided by TOBY test lab.

**Note:**

(1) For a more detailed features description, please refer to the manufacturer's specifications or

the User's Manual.

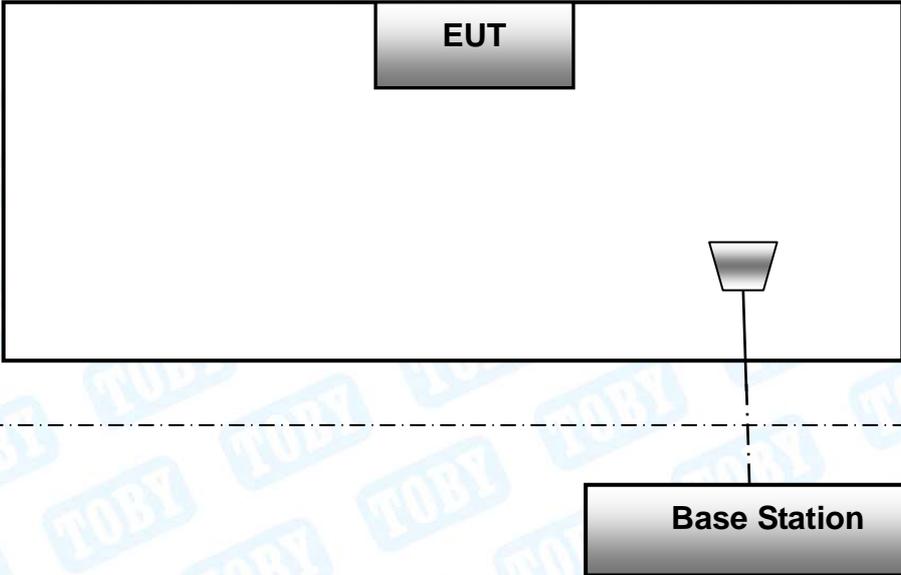
(2) Channel List

LTE Band 2(1.4MHz)		LTE Band 2(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>18607</b>	<b>1850.70</b>	<b>18607</b>	<b>1850.70</b>
18608	1850.80	18608	1850.80
.....	.....	.....	.....
18899	1879.90	18899	1879.90
<b>18900</b>	<b>1880.00</b>	<b>18900</b>	<b>1880.00</b>
18901	1880.10	18901	1880.10
.....	.....	.....	.....
19192	1909.20	19192	1909.20
<b>19193</b>	<b>1909.30</b>	<b>19193</b>	<b>1909.30</b>
LTE Band 2(5MHz)		LTE Band 2(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>18615</b>	<b>1851.50</b>	<b>18625</b>	<b>1855.00</b>
18616	1851.60	18626	1854.90
.....	.....	.....	.....
18899	1879.90	18899	1879.90
<b>18900</b>	<b>1880.00</b>	<b>18900</b>	<b>1880.00</b>
18901	1880.10	18901	1880.10
.....	.....	.....	.....
19154	1908.40	19174	1907.90
<b>19185</b>	<b>1908.50</b>	<b>19175</b>	<b>1905.00</b>
LTE Band 2(15MHz)		LTE Band 2(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>18675</b>	<b>1857.50</b>	<b>18700</b>	<b>1860.00</b>
18676	1857.60	18701	1860.10
.....	.....	.....	.....
18899	1879.90	18899	1879.90
<b>18900</b>	<b>1880.00</b>	<b>18900</b>	<b>1880.00</b>
18901	1880.10	18901	1880.10
.....	.....	.....	.....
19124	1902.40	19099	1899.90
<b>19125</b>	<b>1902.50</b>	<b>19100</b>	<b>1900.00</b>

LTE Band 4(1.4MHz)		LTE Band 4(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>19957</b>	<b>1710.70</b>	<b>19965</b>	<b>1711.50</b>
19958	1710.80	19966	1711.60
.....	.....	.....	.....
20174	1732.40	20174	1732.40
<b>20175</b>	<b>1732.50</b>	<b>20175</b>	<b>1732.50</b>
20176	1732.60	20176	1732.60
.....	.....	.....	.....
20392	1754.20	20384	1753.40
<b>20393</b>	<b>1754.30</b>	<b>20385</b>	<b>1753.50</b>
LTE Band 4(5MHz)		LTE Band 4(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>19975</b>	<b>1712.50</b>	<b>20000</b>	<b>1715.00</b>
19976	1712.60	20001	1715.10
.....	.....	.....	.....
20174	1732.40	20174	1732.40
<b>20175</b>	<b>1732.50</b>	<b>20175</b>	<b>1732.50</b>
20176	1732.60	20176	1732.60
.....	.....	.....	.....
20374	1752.40	20349	1749.90
<b>20375</b>	<b>1752.50</b>	<b>20350</b>	<b>1750.00</b>
LTE Band 4(15MHz)		LTE Band 4(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>20025</b>	<b>1717.50</b>	<b>20050</b>	<b>1720.00</b>
20026	1717.60	20051	1720.10
.....	.....	.....	.....
20174	1732.40	20174	1732.40
<b>20175</b>	<b>1732.50</b>	<b>20175</b>	<b>1732.50</b>
20176	1732.60	20176	1732.60
.....	.....	.....	.....
20324	1747.40	20299	1744.90
<b>20325</b>	<b>1747.50</b>	<b>20300</b>	<b>1745.00</b>

LTE Band 7(5MHz)		LTE Band 7(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>20775</b>	<b>2502.50</b>	<b>20800</b>	<b>2505.00</b>
20776	2502.60	20801	2505.10
.....	.....	.....	.....
21099	2534.90	21099	2534.90
<b>21100</b>	<b>2535.00</b>	<b>21100</b>	<b>2535.00</b>
21101	2535.10	21101	2535.10
.....	.....	.....	.....
21424	2567.40	21399	2561.90
<b>21425</b>	<b>2567.50</b>	<b>21400</b>	<b>2565.00</b>
LTE Band 7(15MHz)		LTE Band 7(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
<b>20825</b>	<b>2505.70</b>	<b>20850</b>	<b>2510.00</b>
20826	2505.80	20851	2510.10
.....	.....	.....	.....
21099	2534.90	21099	2534.90
<b>21100</b>	<b>2535.00</b>	<b>21100</b>	<b>2535.00</b>
21101	2535.10	21101	2535.10
.....	.....	.....	.....
21374	2562.40	21349	2559.90
<b>21375</b>	<b>2562.50</b>	<b>21350</b>	<b>2560.00</b>

1.3 Block Diagram Showing the Configuration of System Tested



The above block diagram of setup is the normal mode. And more detail please refer to the test setup of each test item of bellow.

## 1.4 Description of Support Units

The EUT has been tested as an independent unit.

## 1.5 Description of Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 v03r01 and ANSI C63.26 2015 Power Meas. License Digital Systems with maximum output power. Radiated measurements are performed by rotating the EUT in three different or tho-gonal test planes to find the maximum emission.

Remark:

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

ITEMS	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
RF 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
	4	--	--	--	--	--	V	V	V			V	V	V	V
	7	--	--	--	--	--	V	V	V			V	V	V	V
99% & -26 dB Occupied 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
Spurious Emissions at Antenna Terminal	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
Field Strength of Spurious Radiation	2	V	V	V	V	V	V	V		V				V	
	4	V	V	V	V	V	V	V		V				V	
	7	--	--	V	V	V	V	V		V				V	
Out of band emission, Band Edge	2	V	V	V	V	V	V	V				V	V		V
	4	V	V	V	V	V	V	V				V	V		V
	7	--	--	V	V	V	V	V				V	V		V
Frequency stability	2	--	--	--	--	--	V	V	V	V				V	
	4	--	--	--	--	--	V	V	V	V				V	
	7	--	--	--	--	--	V	V	V	V				V	

**Note:** (1) During the testing procedure, the EUT is in link mode with base station emulator at maximum power level in each test mode.

(2) The EUT is considered a portable unit; it was pre-tested on the positioned of each 3

axis, X-plane, Y-plane and Z-plane. The worst case was found positioned on Z-plane as the normal use. Therefore only the test data of this Z-plane was used for radiated emission measurement test.

- (3) For the Conducted Emission and Radiated test used the EUT-1(TBBJ-20200916-08-3#).  
For the RF Conduction test used the EUT-2(TBBJ-20200916-08-3#).

### 1.6 Measurement Uncertainty

Test Item	Parameters	Expanded Uncertainty (U <sub>Lab</sub> )
RF Power, conducted	/	±0.82 dB
Radiated Emission	Level Accuracy: 9kHz to 30 MHz	±4.60 dB
Radiated Emission	Level Accuracy: 30MHz to 1000 MHz	±4.40 dB
Radiated Emission	Level Accuracy: Above 1000MHz	±4.20 dB

### 1.7 Test Facility

The testing report were performed by the Shenzhen Toby Technology Co., Ltd., in their facilities located at 1A/F., Bldg.6, Yusheng Industrial Zone, The National Road No.107 Xixiang Section 467, Xixiang, Bao'an, Shenzhen, Guangdong, China. At the time of testing, the following bodies accredited the Laboratory:

#### **CNAS (L5813)**

The Laboratory has been accredited by CNAS to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the competence in the field of testing. And the Registration No.: CNAS L5813.

#### **A2LA Certificate No.: 4750.01**

The laboratory has been accredited by American Association for Laboratory Accreditation(A2LA) to ISO/IEC 17025: 2017 General Requirements for the Competence of Testing and Calibration Laboratories for the technical competence in the field of Electrical Testing. And the A2LA Certificate No.: 4750.01.FCC Accredited Test Site Number: 854351.

#### **IC Registration No.: (11950A)**

The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing. The site registration: Site# 11950A.

## 2. Test Summary

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 22.913(a)(2) Part 24.232(c) Part 27.50 (b)(10) Part 27.50 (d)(4) Part 27.50 (h)(2)	<b>PASS</b>
Peak-to-Average Ratio	Part 24.232(d) Part 27.50(d)(5)	<b>PASS</b>
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(a) Part 24.238(b) Part 27.53(h) Part 27.53(m)	<b>PASS</b>
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 24.238(a) Part 27.53 (h) Part 27.53(m)	<b>PASS</b>
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917(a) Part 24.238(a) Part 27.53 (h) Part 27.53(m)	<b>PASS</b>
Out of band emission, Band Edge	Part 24.238(a) Part 22.917(a) Part 27.53 (h) Part 27.53(m)	<b>PASS</b>
Frequency stability vs. temperature	Part 27.54 Part 24.235 Part 22.355 Part 2.1055(a)(1)(b)	<b>PASS</b>
Frequency stability vs. voltage	Part 27.54 Part 24.235 Part 22.355 Part 2.1055(d)(2)	<b>PASS</b>
<b>Pass: The EUT complies with the essential requirements in the standard.</b>		

### 3. Test Equipment

Radiation Emission Test					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
EMI Test Receiver	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102197	Jul. 06, 2020	Jul. 05, 2021
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	144382	Sep. 11, 2020	Sep. 10, 2021
Universal Radio Communication Tester	Rohde&Schwarz	CMU200	103903	Jul. 06, 2020	Jul. 05, 2021
Bilog Antenna	ETS-LINDGREN	3142E	00117537	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	3117	00143207	Mar.01, 2020	Feb. 28, 2022
Horn Antenna	ETS-LINDGREN	BBHA 9170	BBHA9170582	Mar.01, 2020	Feb. 28, 2022
Loop Antenna	SCHWARZBECK	FMZB 1519 B	1519B-059	Jul. 07, 2020	Jul. 06, 2021
Pre-amplifier	Sonoma	310N	185903	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	HP	8449B	3008A00849	Mar.01, 2020	Feb. 28, 2021
Pre-amplifier	SKET	LNPA_1840G-50	SK201904032	Mar.01, 2020	Feb. 28, 2021
Cable	HUBER+SUHNER	100	SUCOFLEX	Mar.01, 2020	Feb. 28, 2021
Positioning Controller	ETS-LINDGREN	2090	N/A	N/A	N/A
Antenna Conducted Emission					
Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Due Date
Spectrum Analyzer	Agilent	E4407B	MY45106456	Jul. 06, 2020	Jul. 05, 2021
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	144382	Sep. 11, 2020	Sep. 10, 2021
Universal Radio Communication Tester	Rohde&Schwarz	CMU200	103903	Jul. 06, 2020	Jul. 05, 2021
Spectrum Analyzer	Rohde & Schwarz	ESPI	100010/007	Jul. 06, 2020	Jul. 05, 2021
MXA Signal Analyzer	Agilent	N9020A	MY49100060	Sep. 11, 2020	Sep. 10, 2021
Vector Signal Generator	Agilent	N5182A	MY50141294	Sep. 11, 2020	Sep. 10, 2021
Analog Signal Generator	Agilent	N5181A	MY50141953	Sep. 11, 2020	Sep. 10, 2021
RF Power Sensor	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO26	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO29	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO31	Sep. 11, 2020	Sep. 10, 2021
	DARE!! Instruments	RadiPowerRPR3006W	17100015SNO33	Sep. 11, 2020	Sep. 10, 2021

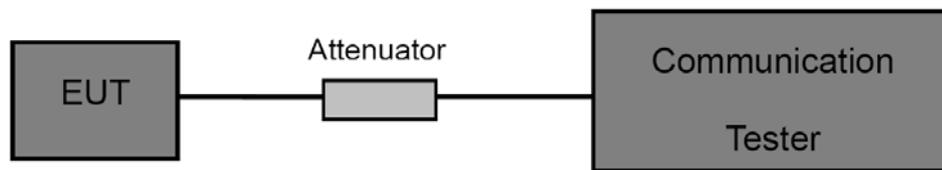
## 4. Conducted RF Output Power

### 4.1 Test Standard and Limit

#### 4.1.1 Test Standard

FCC part 2.1046, FCC part 22.913(a)(2),  
FCC part 24.232(c), FCC Part 27.50(b)&(d),  
FCC Part 27.50 (h)

### 4.2 Test Setup



### 4.3 Test Procedure

- (1) The EUT is coupled to the Base Station with the suitable Attenuator, the path loss is calibrated to correct the reading.
- (2) A call is set up by the Base Station to the generic call set up procedure.
- (3) Set EUT at maximum power level through base station by power level command.
- (4) Then read record the power value from the Base Station in dBm.

### 4.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

### 4.5 Deviation From Test Standard

No deviation

### 4.6 Test Data

Please refer to the Attachment A.

## 5. Peak-Average Ratio

### 5.1 Test Standard and Limit

#### 5.1.1 Test Standard

FCC part 24.232(d)

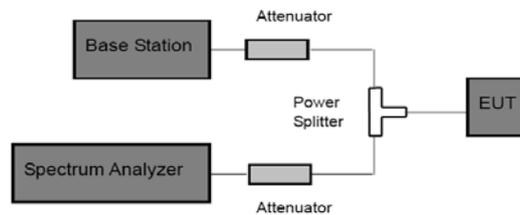
FCC Part 27.50(d), FCC Part 27.50 (h)

#### 5.1.2 Test Limit

#### Peak-to-Average Ratio

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

### 5.2 Test Setup



### 5.3 Test Procedure

According with KDB 971168

- (1) The signal analyzer's CCDF measurement profile is enabled.
- (2) Frequency = carrier center frequency.
- (3) Measurement BW > Emission bandwidth of signal.
- (4) The signal analyzer was set to collect one million samples to generate the CCDF curve.
- (5) Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level.
- (6) The measurement interval was set depending on the type of signal analyzed. For continuous signals (>98% duty cycle), the measurement interval was set to 1ms. For burst transmissions, the spectrum analyzer is set to use an internal "RF Burst" trigger that is synced with an incoming pulse and the measurement interval is set to less than the duration of the "on time" of one burst to ensure that energy is only captured during a time in which of the transmitter is operating at maximum power.

### 5.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

### 5.5 Deviation From Test Standard

No deviation

### 5.6 Test Data

Please refer to the Attachment B.

## 6. Occupied Bandwidth

### 6.1 Test Standard and Limit

#### 6.1.1 Test Standard

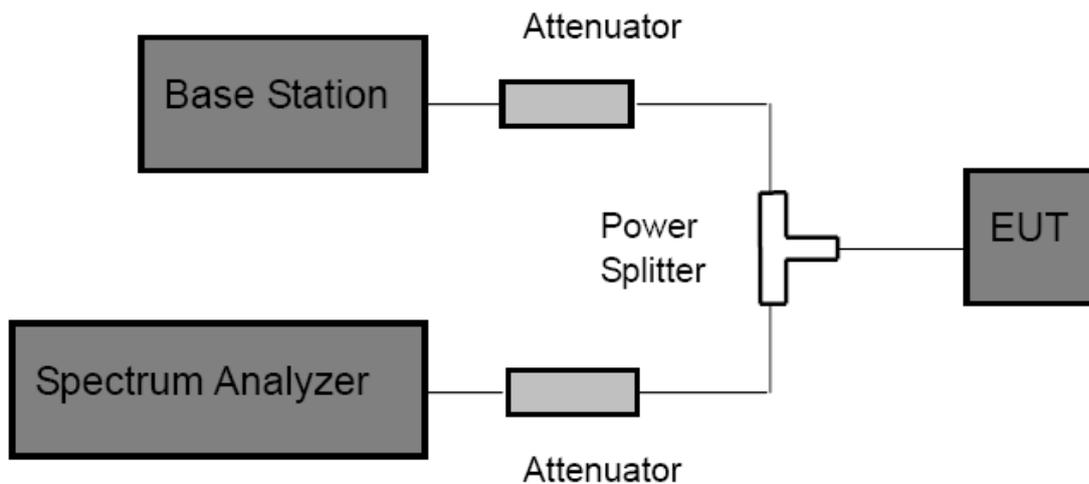
FCC Part 2: 2.1049, FCC Part 22.917(a),  
FCC part 24.238(b)  
FCC Part 27.53(h)  
FCC Part 27.53(m)

#### 6.1.2 Test Requirement

According to FCC section 2.1049, the occupied bandwidth is the frequency bandwidth such that below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Occupied bandwidth is also known as 99% power and -26dBC occupied bandwidths.

### 6.2 Test Setup



### 6.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) The resolution bandwidth of the Spectrum Analyzer is set to at least 1% of the occupied bandwidth. VBW= 3 times RBW.
- (3) The low, middle and the high channels are selected to perform tests respectively.
- (4) Set the frequency range of the Spectrum Analyzer suitably to capture the waveform; search peak; make a line whose value is 26dB lower than the peak; mark two points which the line intersected the waveform at; finally record the delta of the two points as the occupied bandwidth and the plot.
- (5) Set the Spectrum Analyzer Occupied bandwidth function to measure the 99% occupied

bandwidth.

#### 6.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

#### 6.5 Deviation From Test Standard

No deviation

#### 6.6 Test Data

Please refer to the Attachment C.

## 7. Out of Band Emission at Antenna Terminals

### 7.1 Test Standard and Limit

#### 7.1.1 Test Standard

FCC Part 2: 2.1051, 2.1057

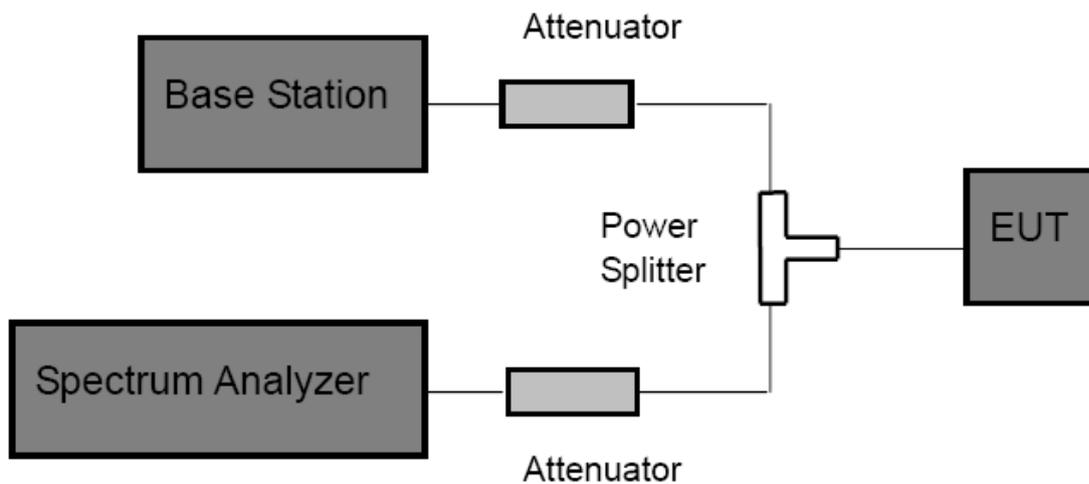
FCC Part 22.917(a), FCC part 24.238(a)

FCC Part 27.53 (h), FCC Part 27.53(m)

#### 7.1.2 Test Limit

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. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least  $43+10\log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

### 7.2 Test Setup



### 7.3 Test Procedure

- 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation.
- 2 The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10<sup>th</sup> harmonic.
- 3 For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic.
- 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter.

### 7.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

### 7.5 Deviation From Test Standard

No deviation

### 7.6 Test Data

Please refer to the Attachment D.

## 8. Band Edge Test

### 8.1 Test Standard and Limit

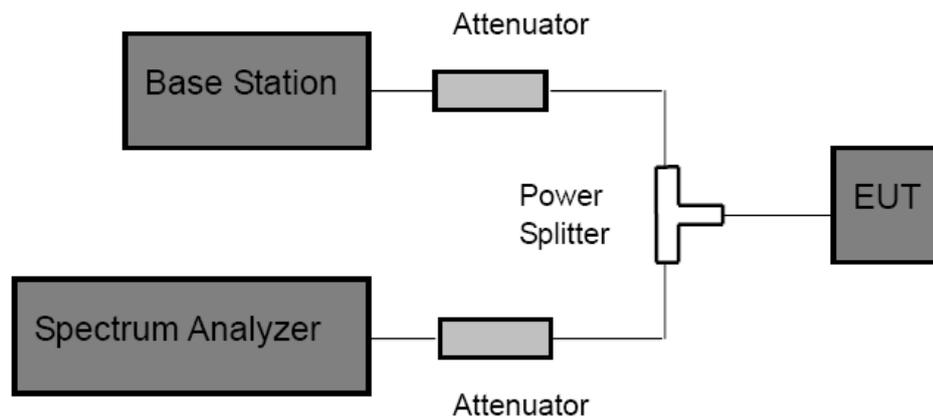
#### 8.1.1 Test Standard

FCC Part 2: 2.1051, 2.1057  
FCC Part 22.917(a), FCC part 24.238(a)  
FCC Part 27.53 (h), FCC Part 27.53(m)

#### 8.1.2 Test Limit

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. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least  $43+10\log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

### 8.2 Test Setup



### 8.3 Test Procedure

- (1) The EUT was directly connected to the spectrum analyzer and Base station via power splitter as show in the block diagram above.
- (2) Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter.

#### 8.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

#### 8.5 Deviation From Test Standard

No deviation

#### 8.6 Test Data

Please refer to the Attachment E.

## 9. Radiated Output Power

### 9.1 Test Standard and Limit

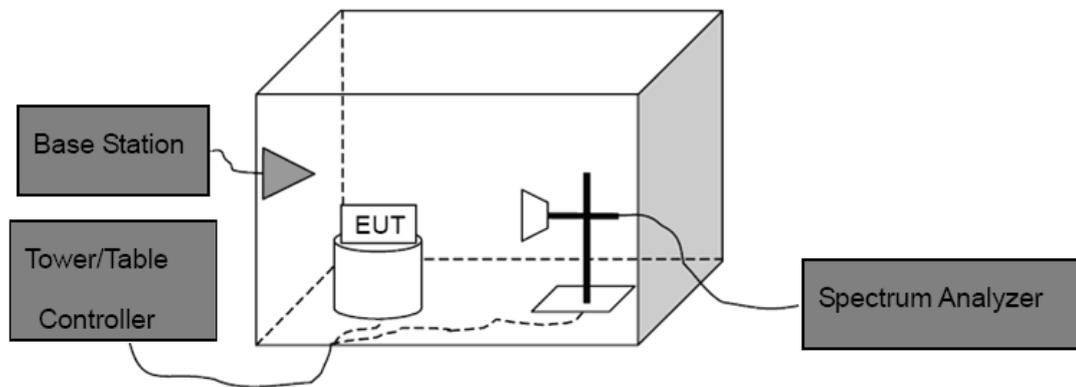
#### 9.1.1 Test Standard

FCC Part 2.1046, FCC Part 22.913(a)(2),  
FCC part 24.232(c)  
FCC part 27.50(c), FCC part 27.50(d)

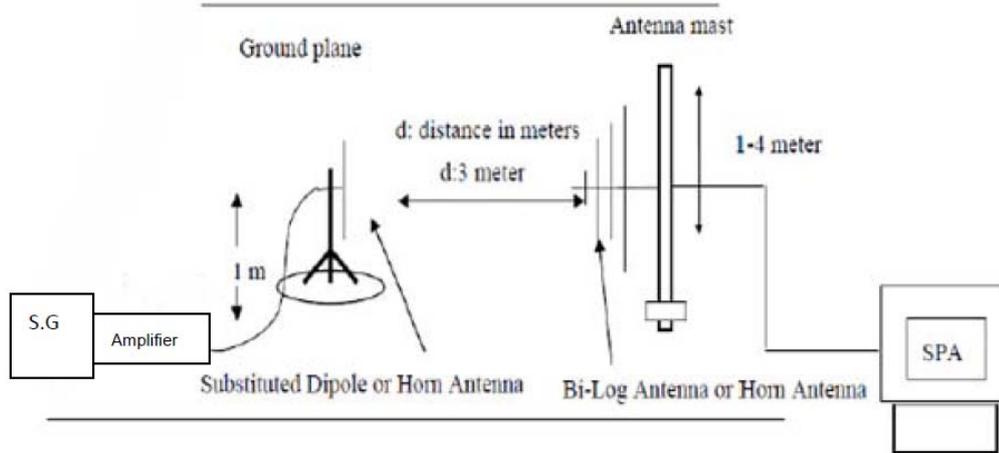
#### 9.1.2 Test Limit

<b>E.I.R.P</b>	<b>E.I.R.P</b>	<b>E.R.P</b>	<b>E.I.R.P</b>
<b>LTE Band 2</b>	<b>LTE Band 4</b>	<b>LTE Band 5</b>	<b>LTE Band 7</b>
2W(33 dBm)	1W(30 dBm)	7W(38.45dBm)	2W(33 dBm)
<b>E.R.P</b>	<b>E.I.R.P</b>	<b>E.I.R.P</b>	<b>E.R.P</b>
<b>LTE Band 12</b>	<b>LTE Band 13</b>	<b>LTE Band 25</b>	<b>LTE Band 26</b>
3W(34.77dBm)	3W(34.77dBm)	2W(33 dBm)	7W(38.45dBm)

### 9.2 Test Setup



Above 1G



### Substituted Method

#### 9.3 Test Procedure

- (1) The EUT was placed on a non-conductive rotating platform with 0.8 meter height in an anechoic chamber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and a spectrum analyzer with RBW=3 MHz, VBW=3 MHz and peak detector settings.
- (2) During the measurement, the EUT was enforced in maximum power and linked with the Base Station. The highest was recorded from analyzer power level (LVT) from the 360 degrees rotation of the turntable and the test antenna raised and lowered over a range from 1 to 4 meters in both horizontally and vertically polarized orientations.
- (3) Effective Isotropic Radiated Power (EIRP) was measured by substitution method according to C63.26. The EUT was replaced by dipole antenna (for frequency below 1 GHz) or Horn antenna (for frequency above 1 GHz) at same location with same polarize of receiver antenna and then a known power of each measure frequency from S.G. was applied into the dipole antenna or Horn antenna through a TX cable, and then recorded the maximum Analyzer reading through raised and lowered the test antenna.

**Note:** In test, the S.G Connect the Pre-amplifier(Sonoma 310N Pre-amplifier for frequency below 1 GHz, HP 8449B Pre-amplifier for frequency above 1 GHz )

Then the EUT's EIRP and ERP was calculated with the correction factor:

$$ERP = S.G.Level + Antenna Gain Cord.(dBd) - Cable Loss(dB)$$

$$EIRP = S.G.Level + Antenna Gain Cord.(dBi) - Cable Loss(dB)$$

#### 9.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

## 9.5 Deviation From Test Standard

No deviation

## 9.6 Test Data

Please refer to the Attachment F.  
Measurement Data (worst case)

## 10. Radiated Out Band of Emissions

### 10.1 Test Standard and Limit

#### 10.1.1 Test Standard

FCC Part 2: 2.1053, FCC Part 22.917(a)

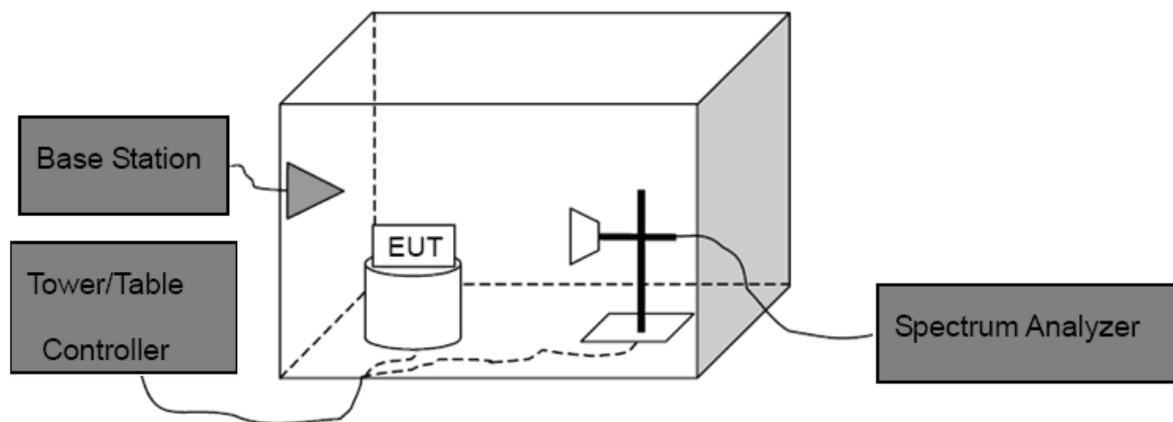
FCC part 24.238(a)

FCC Part 27.53 (h), FCC Part 27.53(m)

#### 10.1.2 Test Limit

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power(P) by a factor of at least  $43+10\log(P)$  dB. For all power levels +30 dBm to 0 dBm, this becomes a constant specification limit of -13 dBm.

### 10.2 Test Setup



### 10.3 Test Procedure

- (1) The test system setup as show in the block diagram above.
- (2) The EUT was placed on an non-conductive rotating platform in an anechoic chamber. The radiated spurious emissions from 30MHz to 10<sup>th</sup> harmonious of fundamental frequency were measured at 3 m with a test antenna and a spectrum analyzer with RBW=1 MHz, VBW=1 MHz, peak detector settings.
- (3) During the measurement, the EUT was enforced in maximum power and linked with a base station. All the spurious emissions at 3m were measured by 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) When found the maximum level of emissions from the EUT. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB=10 log(TX power in Watts/0.001)-the absolute level

Spurious attenuation limit in dB=43+10 log(power out in Watts)

#### 10.4 EUT Operating Condition

The EUT was continuously connected with the Base station and transmitting in the max power during the test.

#### 10.5 Deviation From Test Standard

No deviation

#### 10.6 Test Data

Please refer to the Attachment G.  
Measurement Data (worst case)

## 11. Frequency Stability

### 11.1 Test Standard and Limit

#### 11.1.1 Test Standard

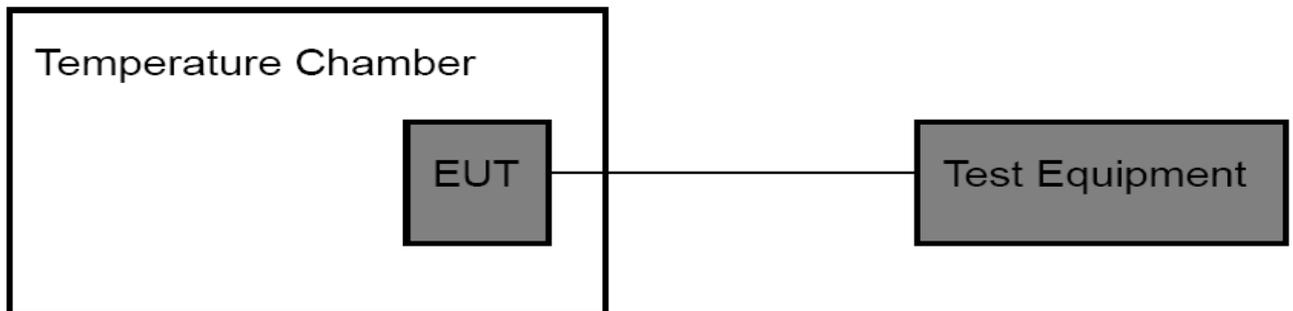
FCC Part 2.1055(a)(1)(b) FCC Part 22.355  
FCC Part 24.235, Part 27.54

#### 11.1.2 Limit

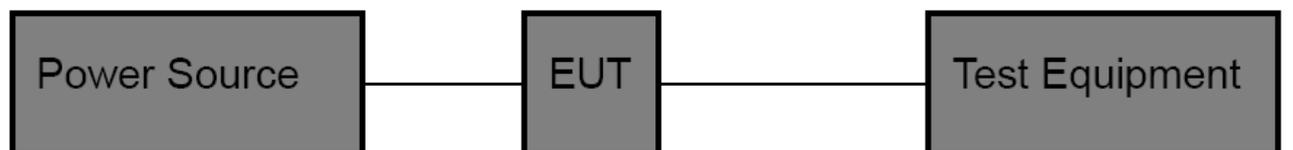
Limit
$\pm 2.5\text{ppm}$

### 11.2 Test Setup

For Temperature Test:



For Voltage Test:



### 11.3 Test Procedure

Test Procedures for Temperature Variation:

- (1) The EUT was set up in the thermal chamber and connected with the base station.
- (2) With power off, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
- (3) With power off, the temperature was raised in  $10^{\circ}\text{C}$  set up to  $50^{\circ}\text{C}$  and the EUT was stabilized for three hours. Power was applied and the maximum change in frequency was recorded within one minute.
- (4) If the EUT cannot be turned on at  $-30^{\circ}\text{C}$ , the testing lowest temperature will be raised in  $10^{\circ}\text{C}$  step until the EUT can be turned on.

Test Procedures for Voltage Variation:

- (1) The EUT was placed in a temperature chamber at  $25 \pm 5^{\circ}\text{C}$  and connected with the base station.
- (2) Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
- (3) The variation in frequency was measured for the worst case.

### 11.4 EUT Operating Condition

The Equipment Under Test was set to Communication with the Base Station.

### 11.5 Deviation From Test Standard

No deviation

### 11.6 Test Data

Please refer to the Attachment H.

## ATTACHMENT A--CONDUCTED RF OUTPUT POWER

FDD-LTE Band 2						
Channel Bandwidth: 1.4 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.82	24.04	24.33	PASS
	1	3	23.84	24.03	24.28	PASS
	1	5	23.88	24.07	24.28	PASS
	3	0	23.82	24.10	24.43	PASS
	3	1	23.86	24.16	24.41	PASS
	3	3	23.87	24.12	24.41	PASS
	6	0	22.91	23.09	23.40	PASS
16QAM	1	0	23.11	22.73	23.68	PASS
	1	3	23.10	22.73	23.63	PASS
	1	5	23.11	22.73	23.72	PASS
	3	0	23.19	22.96	23.77	PASS
	3	1	23.16	22.89	23.76	PASS
	3	3	23.20	22.84	23.76	PASS
	6	0	22.08	22.15	22.51	PASS
Channel Bandwidth: 3 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.78	24.04	24.26	PASS
	1	7	23.85	24.00	24.38	PASS
	1	14	23.80	24.01	24.38	PASS
	8	0	22.79	23.10	23.32	PASS
	8	4	22.82	23.20	23.35	PASS
	8	7	22.97	23.19	23.30	PASS
	15	0	22.92	23.14	23.33	PASS
16QAM	1	0	23.17	22.74	23.61	PASS
	1	7	23.15	22.72	23.59	PASS
	1	14	23.20	22.72	23.71	PASS
	8	0	22.01	22.25	22.37	PASS
	8	4	22.07	22.22	22.37	PASS
	8	7	22.17	22.22	22.29	PASS
	15	0	21.99	22.13	22.28	PASS

FDD-LTE Band 2						
Channel Bandwidth: 5 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.82	24.12	24.33	PASS
	1	12	23.81	24.27	24.30	PASS
	1	24	23.78	24.23	24.34	PASS
	12	0	22.80	23.05	23.27	PASS
	12	6	22.89	23.15	23.31	PASS
	12	11	23.01	23.07	23.32	PASS
	25	0	22.87	22.99	23.32	PASS
16QAM	1	0	22.65	22.83	23.29	PASS
	1	12	22.71	22.81	23.26	PASS
	1	24	22.64	22.92	23.35	PASS
	12	0	22.00	22.10	22.39	PASS
	12	6	21.96	22.10	22.28	PASS
	12	11	21.97	22.14	22.30	PASS
	25	0	21.98	22.07	22.39	PASS
Channel Bandwidth: 10 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.80	24.04	24.26	PASS
	1	24	23.89	24.04	24.35	PASS
	1	49	23.87	24.16	24.36	PASS
	25	0	22.92	22.98	23.23	PASS
	25	12	22.97	23.10	23.25	PASS
	25	24	22.89	23.16	23.33	PASS
	50	0	22.82	23.14	23.23	PASS
16QAM	1	0	23.16	23.35	23.80	PASS
	1	24	23.18	23.37	23.74	PASS
	1	49	23.24	23.36	23.90	PASS
	25	0	22.04	22.10	22.51	PASS
	25	12	22.09	22.22	22.59	PASS
	25	24	22.03	22.23	22.53	PASS
	50	0	21.89	22.17	22.34	PASS

FDD-LTE Band 2						
Channel Bandwidth: 15 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.87	23.88	24.09	PASS
	1	37	23.85	23.97	24.15	PASS
	1	74	23.89	24.01	24.24	PASS
	36	0	22.87	22.99	23.24	PASS
	36	16	22.92	23.10	23.37	PASS
	36	35	22.88	23.16	23.24	PASS
	75	0	22.87	23.06	23.18	PASS
16QAM	1	0	23.14	23.44	23.44	PASS
	1	37	23.16	23.47	23.51	PASS
	1	74	23.17	23.50	23.58	PASS
	36	0	21.93	22.12	22.38	PASS
	36	16	22.00	22.05	22.44	PASS
	36	35	21.98	22.25	22.45	PASS
	75	0	21.99	22.07	22.36	PASS
Channel Bandwidth: 20 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	23.93	24.17	24.29	PASS
	1	49	23.97	24.25	24.26	PASS
	1	99	24.01	24.42	24.39	PASS
	50	0	22.85	23.06	23.17	PASS
	50	24	22.89	23.03	23.24	PASS
	50	49	22.90	23.08	23.21	PASS
	100	0	22.89	23.15	23.25	PASS
16QAM	1	0	22.83	23.15	23.35	PASS
	1	49	22.91	23.26	23.36	PASS
	1	99	22.93	23.36	23.50	PASS
	50	0	22.05	22.14	22.33	PASS
	50	24	22.03	22.28	22.30	PASS
	50	49	22.07	22.19	22.33	PASS
	100	0	21.98	22.20	22.40	PASS

FDD-LTE Band 4						
Channel Bandwidth: 1.4 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.15	24.18	24.18	PASS
	1	2	24.20	24.22	24.14	PASS
	1	5	24.22	24.15	24.12	PASS
	3	0	24.12	24.24	24.19	PASS
	3	1	24.17	24.28	24.22	PASS
	3	2	24.21	24.24	24.09	PASS
	6	0	23.29	23.17	23.15	PASS
16QAM	1	0	24.02	23.92	23.82	PASS
	1	2	24.04	23.86	23.77	PASS
	1	5	24.07	23.90	23.82	PASS
	3	0	23.39	23.29	23.27	PASS
	3	1	23.42	23.33	23.24	PASS
	3	2	23.34	23.32	23.23	PASS
	6	0	22.51	22.36	22.41	PASS
Channel Bandwidth: 3 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.14	24.28	24.18	PASS
	1	7	24.17	24.41	24.24	PASS
	1	14	24.10	24.32	24.12	PASS
	8	0	23.17	23.20	23.19	PASS
	8	4	23.18	23.27	23.15	PASS
	8	7	23.13	23.24	23.16	PASS
	15	0	23.13	23.21	23.24	PASS
16QAM	1	0	23.44	24.10	23.79	PASS
	1	7	23.44	24.07	23.76	PASS
	1	14	23.46	24.08	23.80	PASS
	8	0	22.39	22.44	22.57	PASS
	8	4	22.33	22.40	22.62	PASS
	8	7	22.37	22.38	22.57	PASS
	15	0	22.24	22.40	22.29	PASS

FDD-LTE Band 4						
Channel Bandwidth: 5 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.01	24.31	23.95	PASS
	1	12	24.03	24.44	23.97	PASS
	1	24	24.09	24.33	23.96	PASS
	12	0	23.22	23.27	23.13	PASS
	12	6	23.21	23.20	23.18	PASS
	12	11	23.22	23.32	23.20	PASS
	25	0	23.23	23.30	23.30	PASS
16QAM	1	0	23.04	22.94	22.64	PASS
	1	12	22.97	22.97	22.63	PASS
	1	24	22.97	22.99	22.60	PASS
	12	0	22.25	22.29	22.05	PASS
	12	6	22.29	22.32	22.08	PASS
	12	11	22.25	22.31	22.04	PASS
	25	0	22.25	22.29	22.30	PASS
Channel Bandwidth: 10 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.09	24.21	24.21	PASS
	1	24	24.09	24.12	24.29	PASS
	1	49	24.18	24.25	24.28	PASS
	25	0	23.22	23.22	23.28	PASS
	25	12	23.23	23.31	23.26	PASS
	25	24	23.10	23.16	23.11	PASS
	50	0	23.11	23.28	23.14	PASS
16QAM	1	0	22.92	23.56	23.79	PASS
	1	24	23.00	23.57	23.79	PASS
	1	49	22.95	23.59	23.78	PASS
	25	0	22.28	22.32	22.39	PASS
	25	12	22.27	22.41	22.45	PASS
	25	24	22.36	22.34	22.45	PASS
	50	0	22.26	22.30	22.33	PASS

FDD-LTE Band 4						
Channel Bandwidth: 15 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.14	24.19	24.17	PASS
	1	37	24.11	24.24	24.17	PASS
	1	74	24.06	24.14	24.22	PASS
	36	0	23.16	23.28	23.12	PASS
	36	16	23.26	23.21	23.20	PASS
	36	35	23.24	23.27	23.20	PASS
	75	0	23.26	23.18	23.25	PASS
16QAM	1	0	23.46	23.52	23.76	PASS
	1	37	23.49	23.61	23.70	PASS
	1	74	23.53	23.61	23.67	PASS
	36	0	22.24	22.28	22.28	PASS
	36	16	22.27	22.29	22.23	PASS
	36	35	22.27	22.34	22.22	PASS
	75	0	22.32	22.36	22.20	PASS
Channel Bandwidth: 20 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.27	24.20	24.32	PASS
	1	49	24.28	24.28	24.33	PASS
	1	99	24.45	24.26	23.24	PASS
	50	0	23.19	23.11	23.18	PASS
	50	24	23.19	23.17	23.14	PASS
	50	49	23.30	23.23	23.15	PASS
	100	0	23.26	23.19	24.04	PASS
16QAM	1	0	22.88	23.35	24.04	PASS
	1	49	22.88	23.40	24.04	PASS
	1	99	22.94	23.42	22.15	PASS
	50	0	22.31	22.35	22.15	PASS
	50	24	22.30	22.36	22.24	PASS
	50	49	22.28	22.39	22.31	PASS
	100	0	22.32	24.25	24.32	PASS

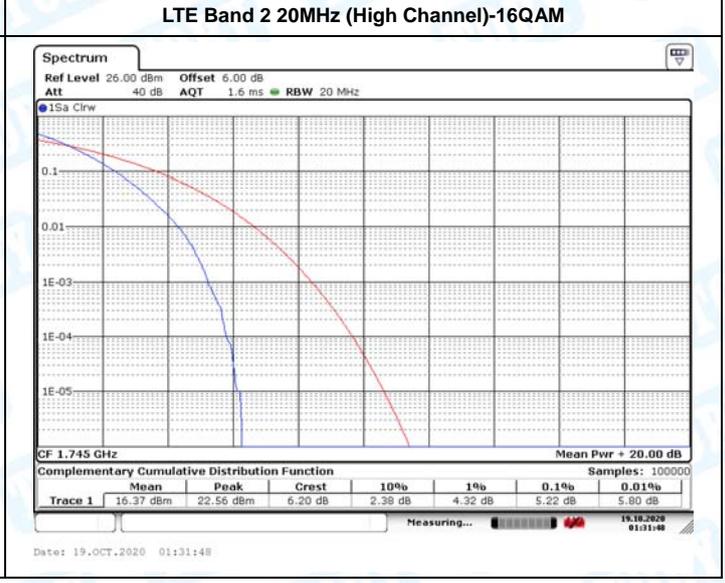
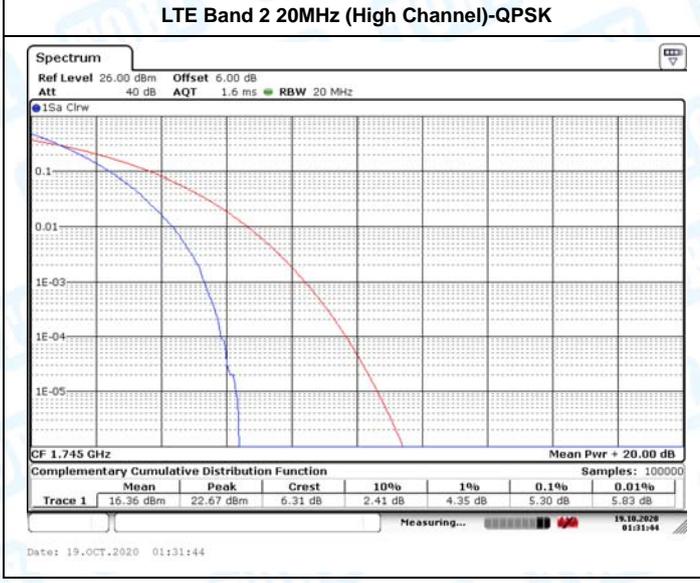
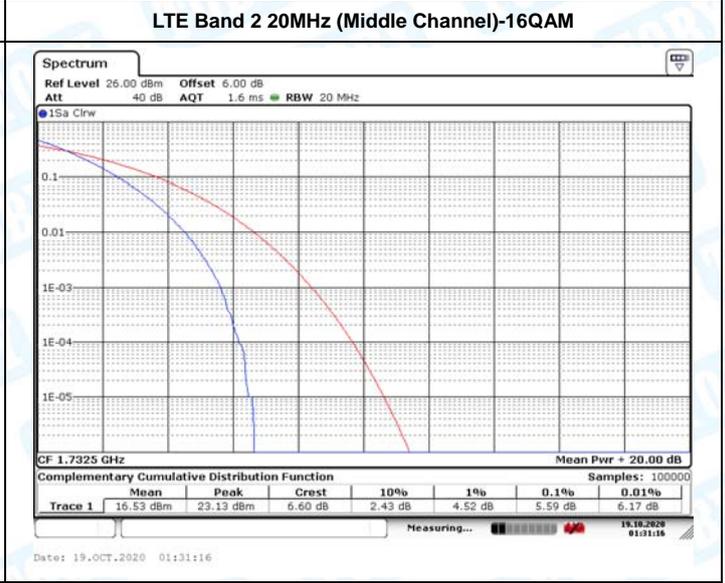
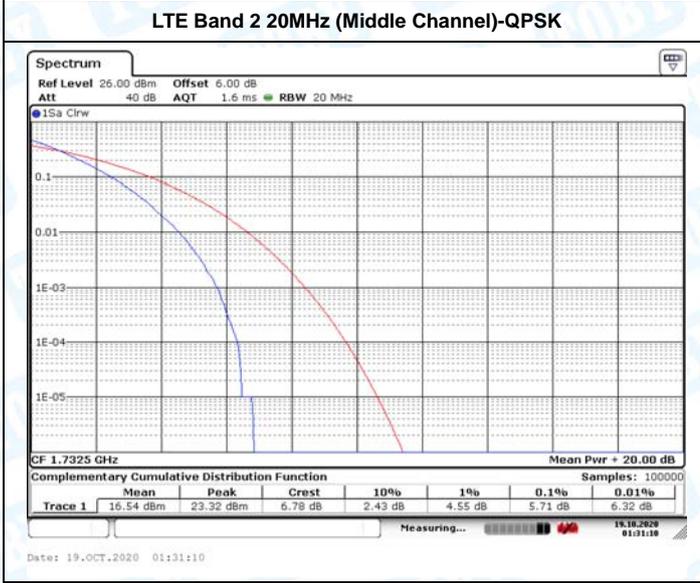
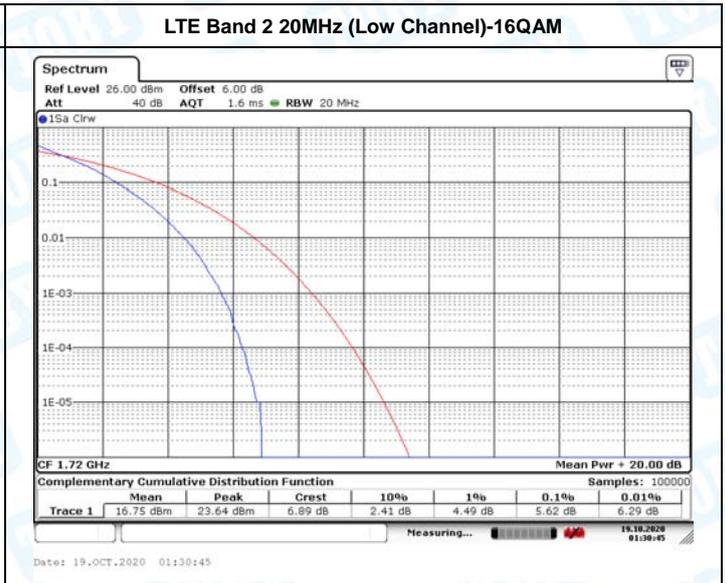
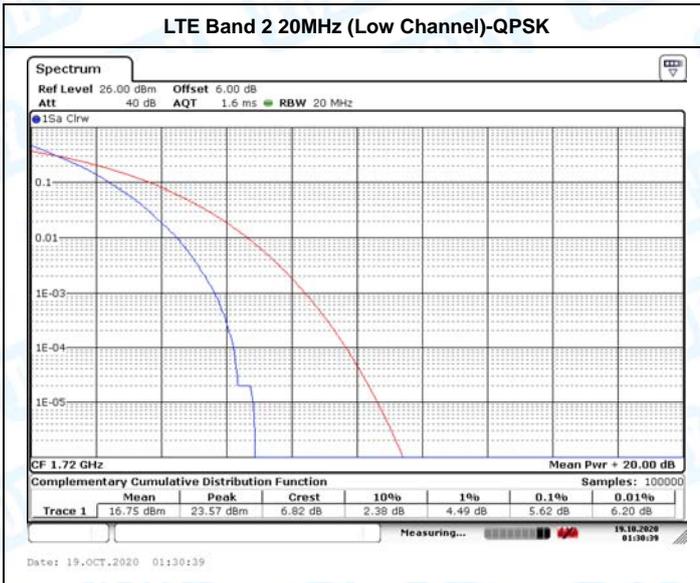
FDD-LTE Band 7						
Channel Bandwidth: 5 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.19	24.18	23.75	PASS
	1	12	24.13	24.22	23.67	PASS
	1	24	24.15	24.20	23.74	PASS
	12	0	23.22	23.24	23.02	PASS
	12	6	23.24	23.11	23.04	PASS
	12	11	23.12	23.06	22.93	PASS
	25	0	23.24	23.18	23.05	PASS
16QAM	1	0	22.91	22.89	22.37	PASS
	1	12	22.82	22.81	22.36	PASS
	1	24	23.21	22.85	22.37	PASS
	12	0	22.29	22.21	21.85	PASS
	12	6	22.20	22.22	21.85	PASS
	12	11	22.24	22.21	21.90	PASS
	25	0	22.31	22.20	22.11	PASS
Channel Bandwidth: 10 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.03	24.14	24.04	PASS
	1	24	24.05	24.11	24.00	PASS
	1	49	24.10	24.20	24.13	PASS
	25	0	23.24	23.05	22.92	PASS
	25	12	23.26	23.19	23.07	PASS
	25	24	23.18	23.14	22.99	PASS
	50	0	23.27	23.11	22.93	PASS
16QAM	1	0	23.47	23.96	23.54	PASS
	1	24	23.56	23.93	23.54	PASS
	1	49	23.48	23.94	23.61	PASS
	25	0	22.31	22.18	22.35	PASS
	25	12	22.36	22.16	22.34	PASS
	25	24	22.31	22.12	22.33	PASS
	50	0	22.31	22.36	22.13	PASS

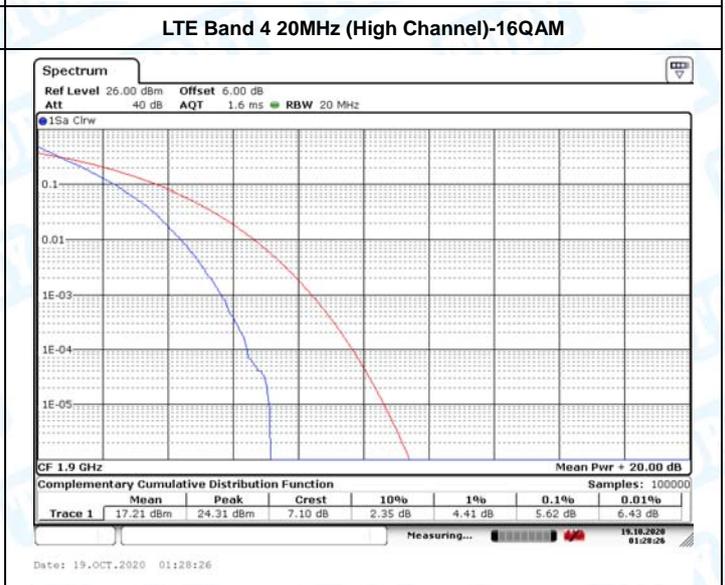
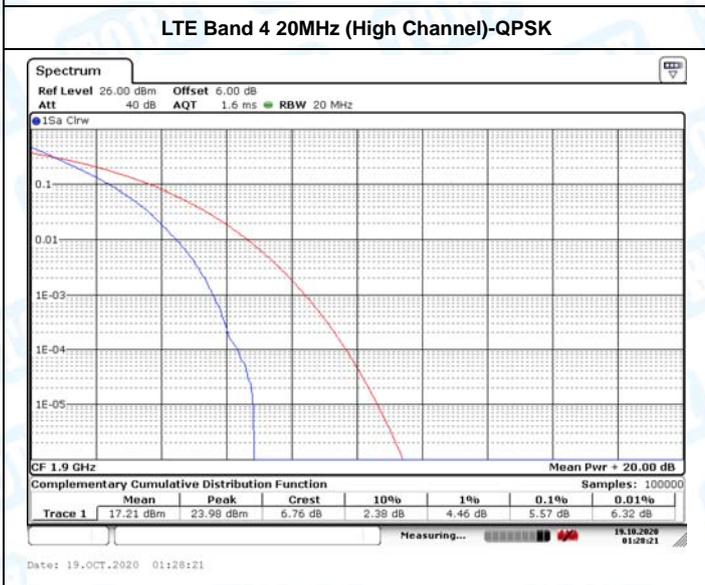
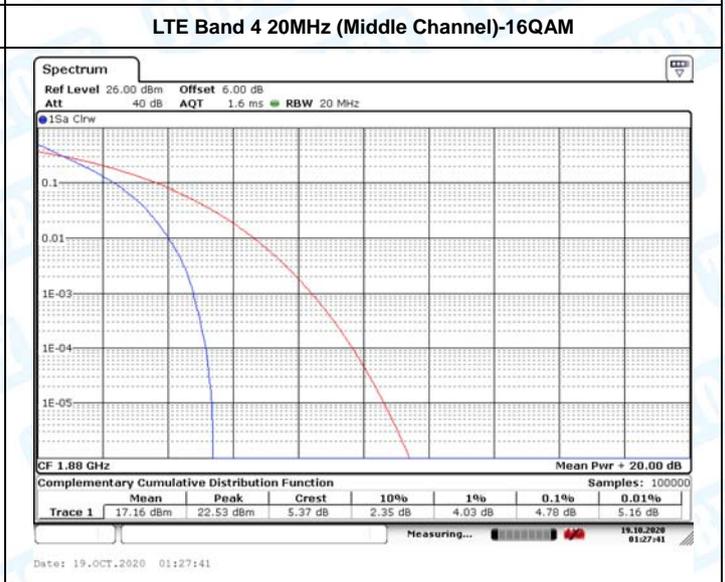
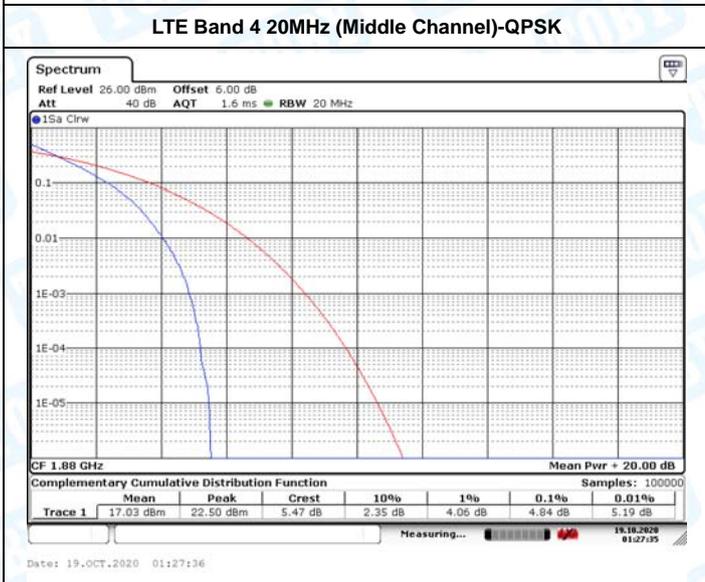
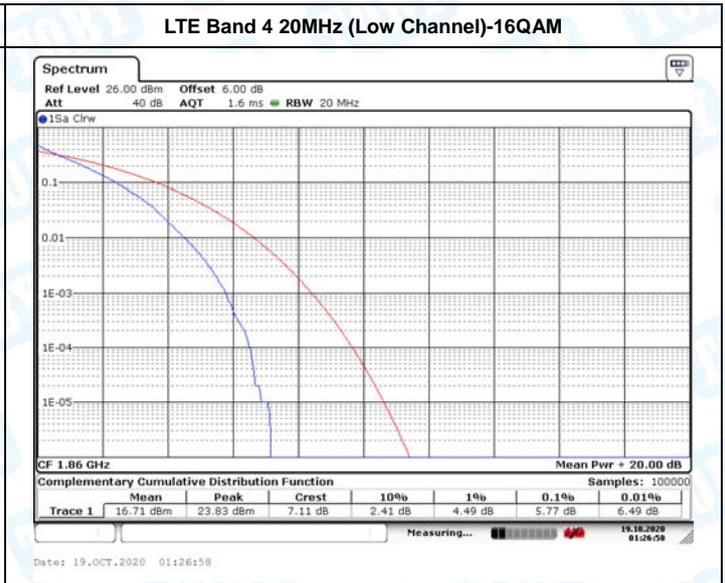
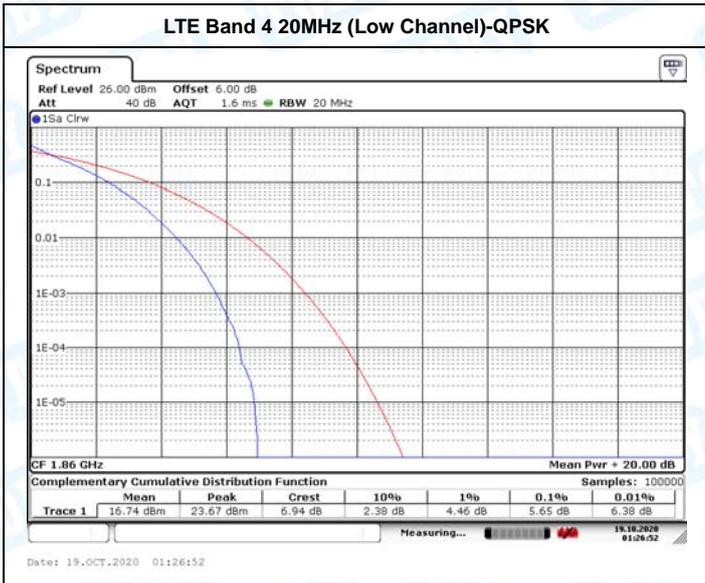
FDD-LTE Band 7						
Channel Bandwidth: 15 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.06	24.12	24.13	PASS
	1	37	24.13	24.00	24.05	PASS
	1	74	24.06	24.15	24.10	PASS
	36	0	23.13	23.25	22.98	PASS
	36	16	23.14	23.11	23.07	PASS
	36	35	23.18	23.08	23.09	PASS
	75	0	23.19	23.20	23.04	PASS
16QAM	1	0	22.95	23.59	24.20	PASS
	1	37	22.77	23.60	24.09	PASS
	1	74	22.90	23.52	24.14	PASS
	36	0	22.35	22.19	22.05	PASS
	36	16	22.35	22.28	22.16	PASS
	36	35	22.38	22.23	22.11	PASS
	75	0	22.30	22.24	22.14	PASS
Channel Bandwidth: 20 MHz						
Modulation	RB Size	RB Offset	Conducted Power (dBm)			Result
			Low CH	Middle CH	High CH	
QPSK	1	0	24.35	24.28	24.22	PASS
	1	49	24.23	24.25	24.22	PASS
	1	99	24.19	24.40	24.19	PASS
	50	0	23.22	23.15	23.14	PASS
	50	24	23.24	23.07	23.02	PASS
	50	49	23.18	23.13	22.96	PASS
	100	0	23.17	23.21	23.06	PASS
16QAM	1	0	22.95	23.05	23.94	PASS
	1	49	22.96	23.11	23.93	PASS
	1	99	22.98	23.13	23.91	PASS
	50	0	22.24	22.29	22.17	PASS
	50	24	22.23	22.25	22.06	PASS
	50	49	22.19	22.26	22.09	PASS
	100	0	22.29	22.24	22.19	PASS

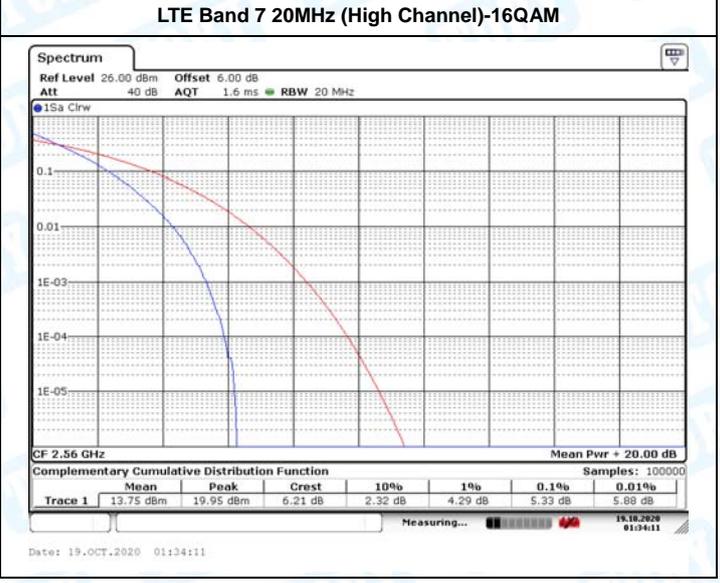
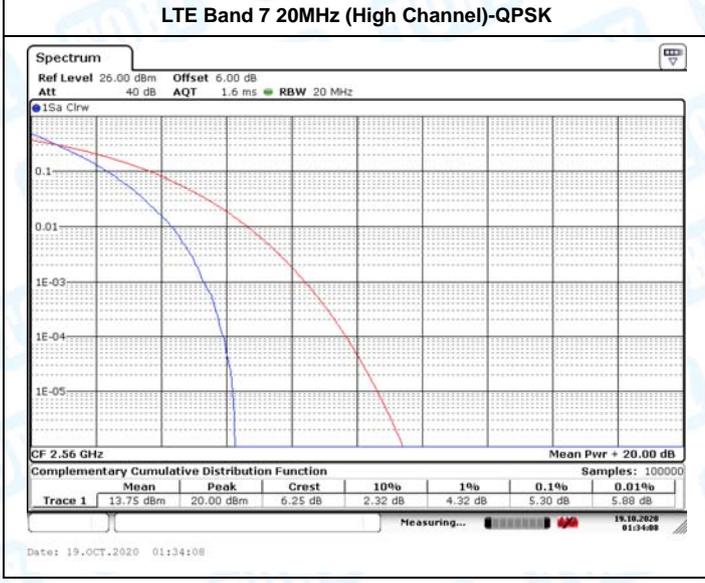
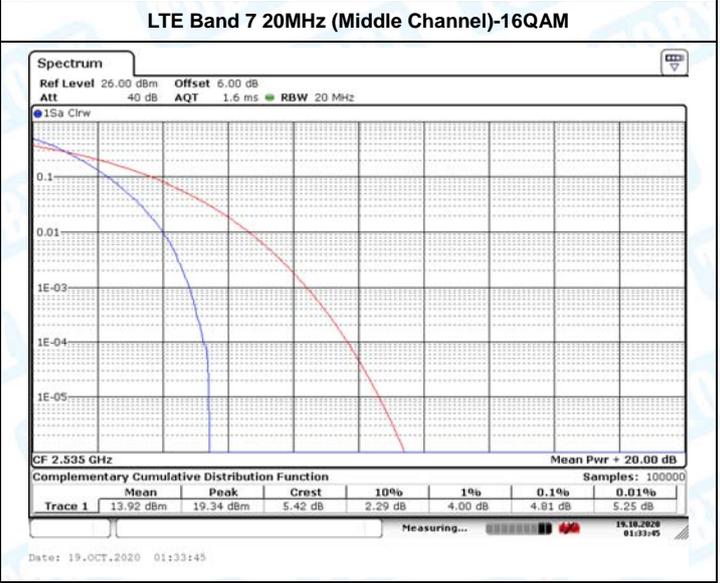
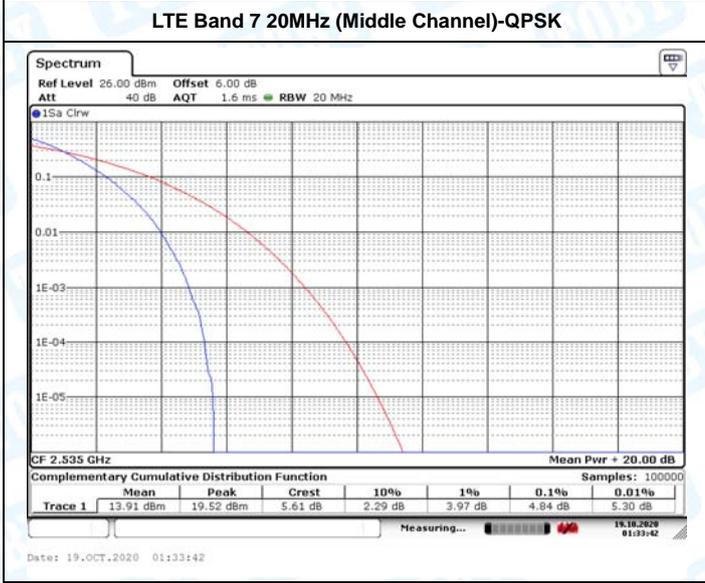
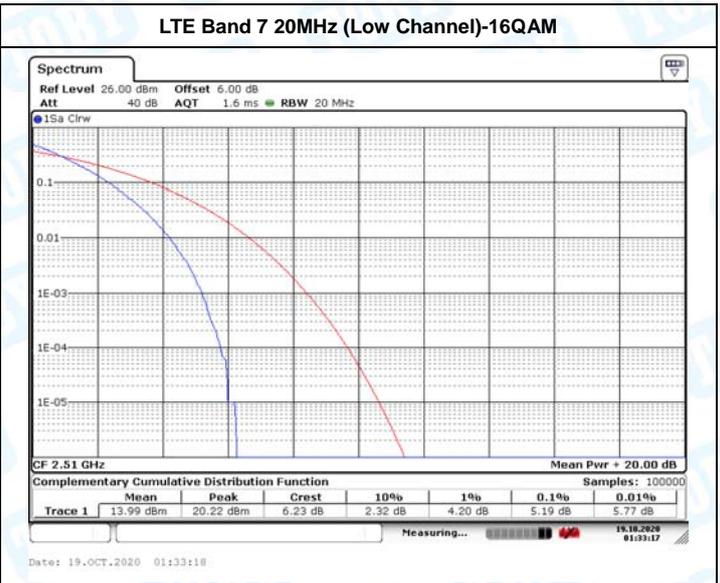
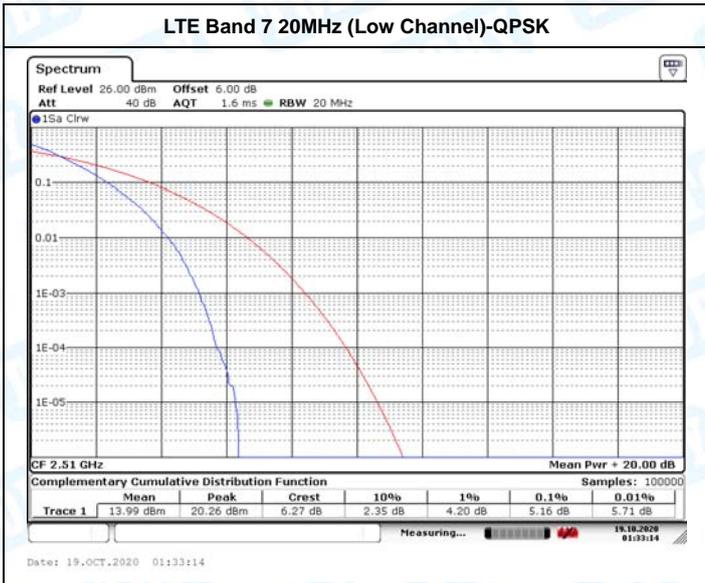
## ATTACHMENT B--PEAK-AVERAGE RATIO

Test Mode	Modulation	RB Size	RB Offset	PAPR with 0.1% probability (dB)	Limit (dB)	Result
LTE BAND 2 20MHz (Low Channel)	QPSK	100	0	<b>5.62</b>	≤13	PASS
	16QAM	100	0	<b>5.62</b>	≤13	PASS
LTE BAND 2 20MHz (Middle Channel)	QPSK	100	0	<b>5.71</b>	≤13	PASS
	16QAM	100	0	<b>5.59</b>	≤13	PASS
LTE BAND 2 20MHz (High Channel)	QPSK	100	0	<b>5.30</b>	≤13	PASS
	16QAM	100	0	<b>5.22</b>	≤13	PASS
LTE BAND 4 20MHz (Low Channel)	QPSK	100	0	<b>5.65</b>	≤13	PASS
	16QAM	100	0	<b>5.77</b>	≤13	PASS
LTE BAND 4 20MHz (Middle Channel)	QPSK	100	0	<b>4.84</b>	≤13	PASS
	16QAM	100	0	<b>4.78</b>	≤13	PASS
LTE BAND 4 20MHz (High Channel)	QPSK	100	0	<b>5.57</b>	≤13	PASS
	16QAM	100	0	<b>5.62</b>	≤13	PASS
LTE BAND 7 20MHz (Low Channel)	QPSK	100	0	<b>5.16</b>	≤13	PASS
	16QAM	100	0	<b>5.19</b>	≤13	PASS
LTE BAND 7 20MHz (Middle Channel)	QPSK	100	0	<b>4.84</b>	≤13	PASS
	16QAM	100	0	<b>4.81</b>	≤13	PASS
LTE BAND 7 20MHz (High Channel)	QPSK	100	0	<b>5.30</b>	≤13	PASS
	16QAM	100	0	<b>5.33</b>	≤13	PASS

**Note: Only show the worst case data.**







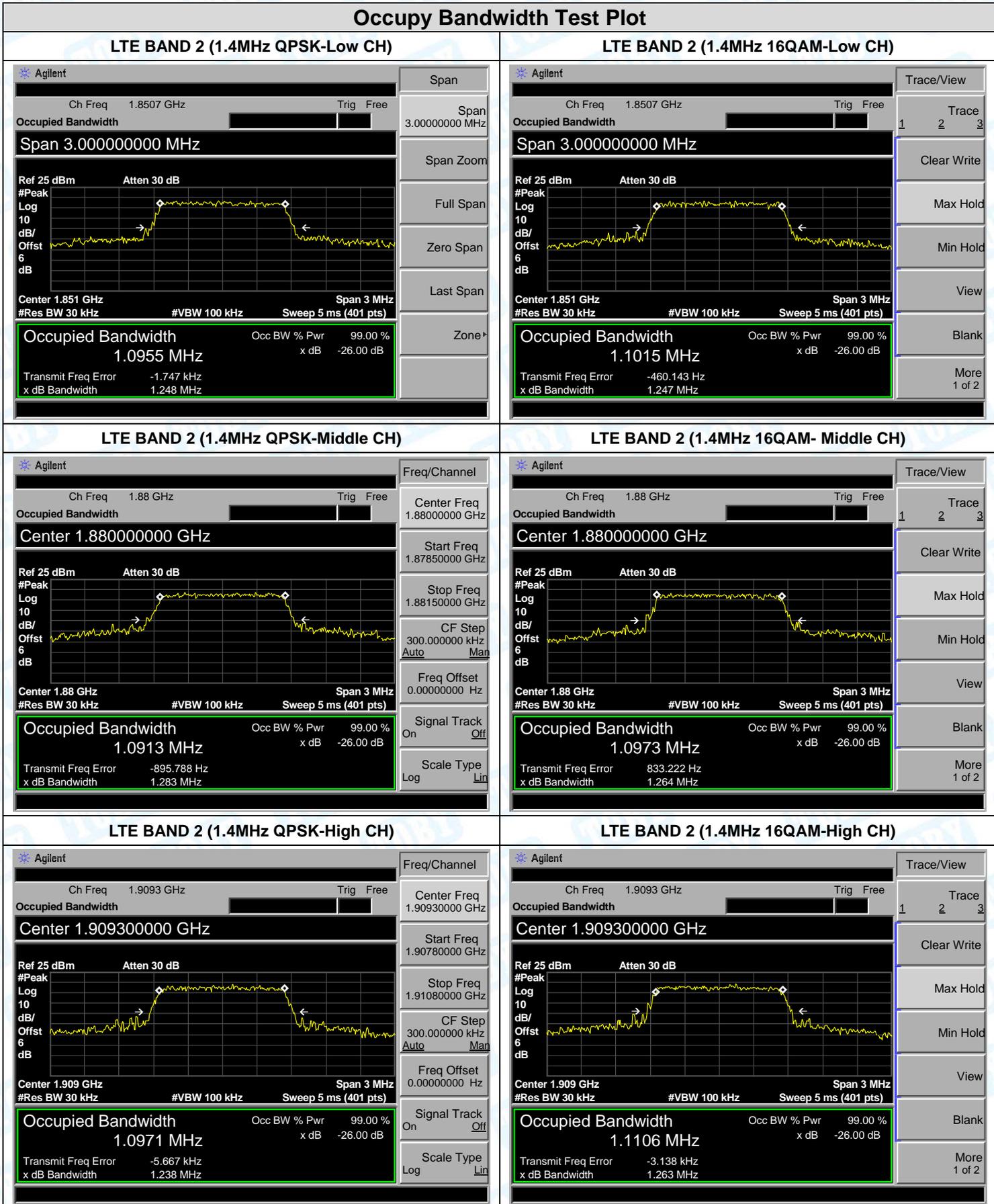
## ATTACHMENT C--OCCUPY BANDWIDTH

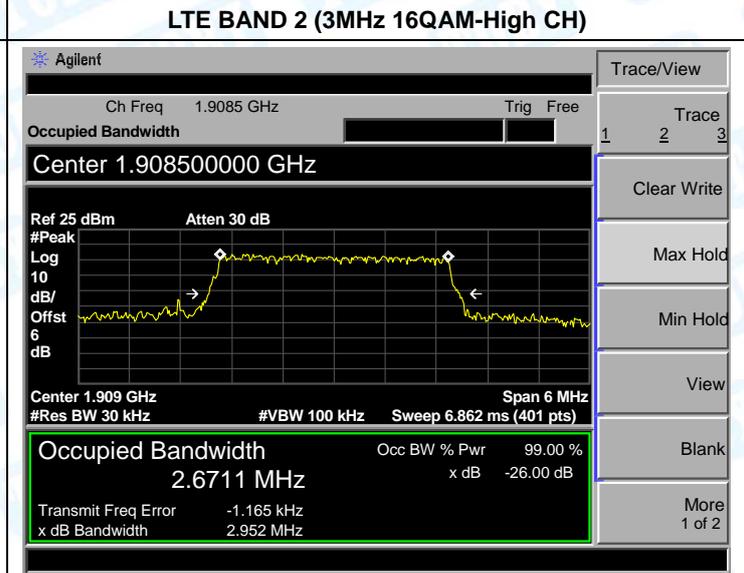
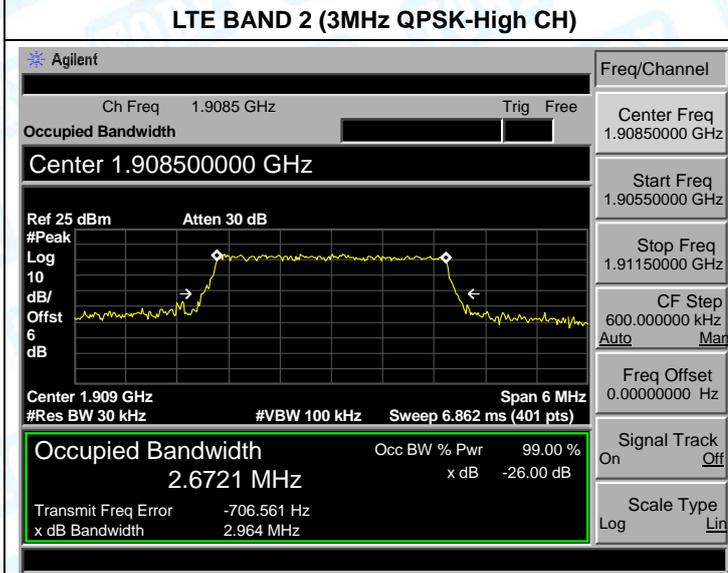
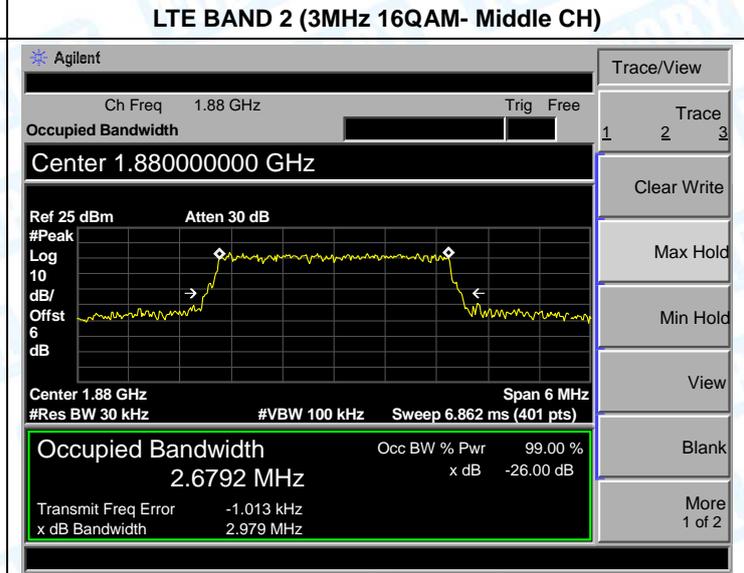
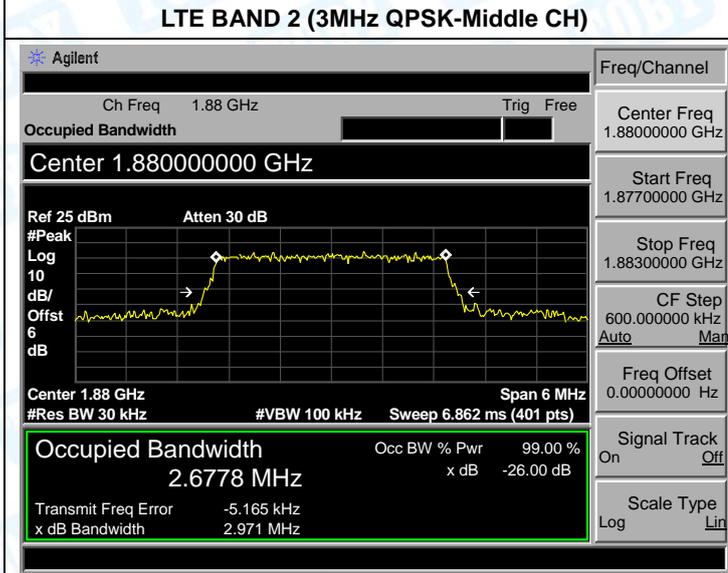
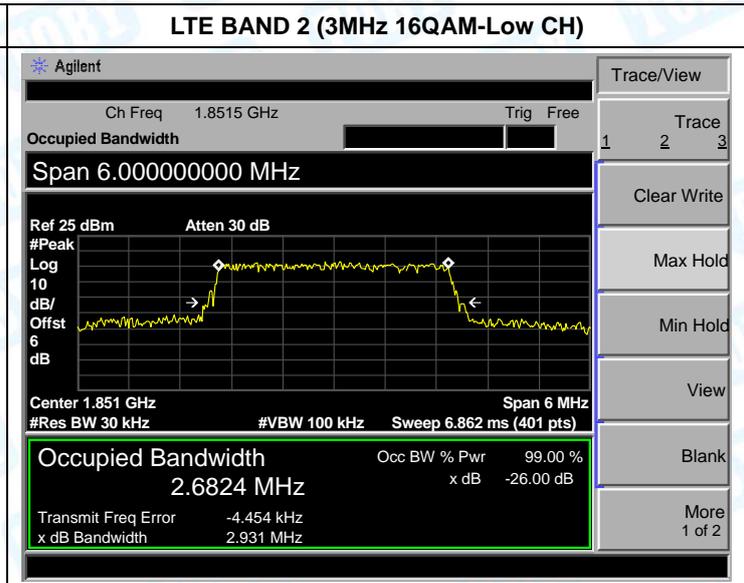
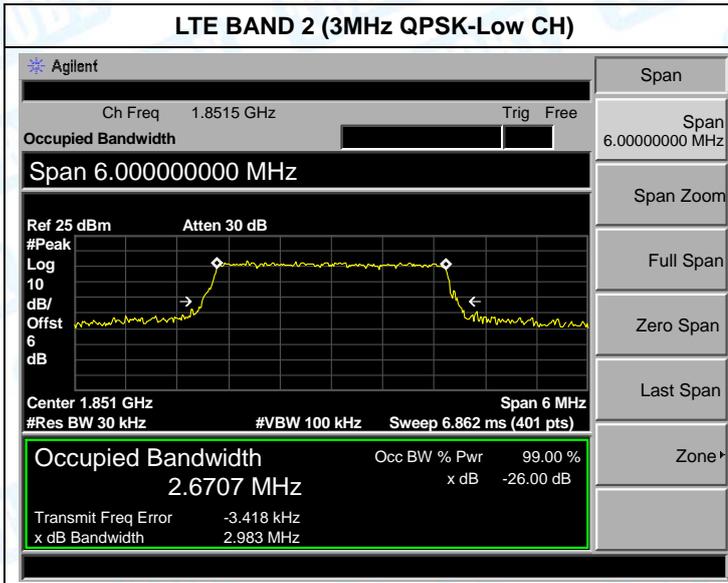
LTE Band 2					
Mode	Channel	Frequency (MHz)	Modulation	99% OBW (MHz)	-26dB Bandwidth (MHz)
1.4MHz	18607	1850.70	QPSK	1.0955	1.248
			16QAM	1.1015	1.247
	18900	1880.00	QPSK	1.0913	1.283
			16QAM	1.0973	1.264
	19193	1909.30	QPSK	1.0971	1.238
			16QAM	1.1106	1.263
3MHz	18615	1851.50	QPSK	2.6707	2.983
			16QAM	2.6824	2.931
	18900	1880.00	QPSK	2.6778	2.971
			16QAM	2.6732	2.979
	19185	1908.50	QPSK	2.6721	2.964
			16QAM	2.6711	2.952
5MHz	18625	1852.50	QPSK	4.5279	5.318
			16QAM	4.5056	5.459
	18900	1880.00	QPSK	4.4937	5.273
			16QAM	4.4971	5.110
	19175	1907.50	QPSK	4.4932	4.979
			16QAM	4.4982	5.127
10MHz	18650	1855.00	QPSK	8.9628	9.788
			16QAM	8.9507	9.701
	18900	1880.00	QPSK	8.9392	9.979
			16QAM	8.9272	9.731
	19150	1905.00	QPSK	8.8935	9.646
			16QAM	8.9024	9.744
15MHz	18675	1857.50	QPSK	13.5185	14.760
			16QAM	13.5142	14.736
	18900	1880.00	QPSK	13.3888	14.750
			16QAM	13.4017	14.631
	19125	1902.50	QPSK	13.4115	14.525
			16QAM	13.4473	14.684
20MHz	18700	1860.00	QPSK	17.9766	19.367
			16QAM	17.9577	19.837
	18900	1880.00	QPSK	17.8051	19.276
			16QAM	17.9033	19.203
	19100	1900.00	QPSK	17.8925	19.411
			16QAM	17.8830	19.390

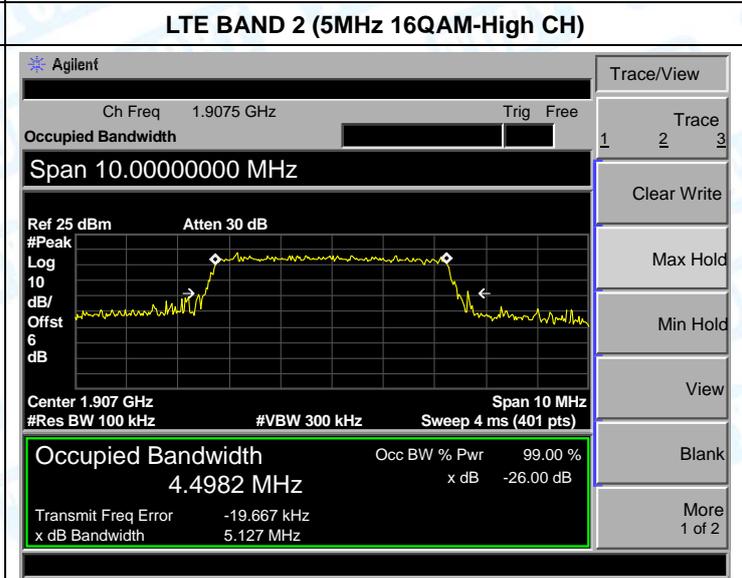
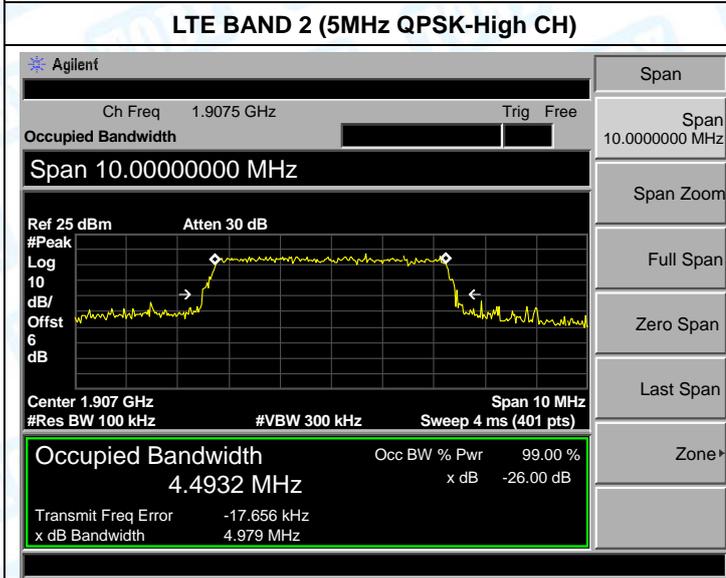
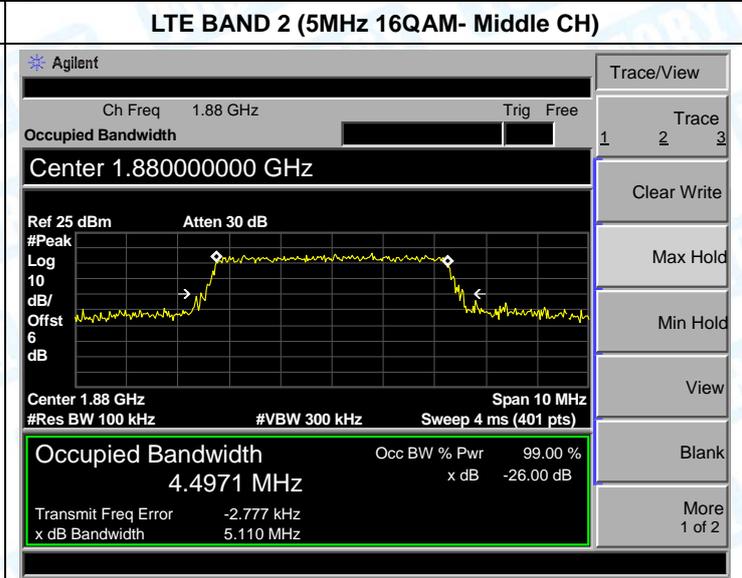
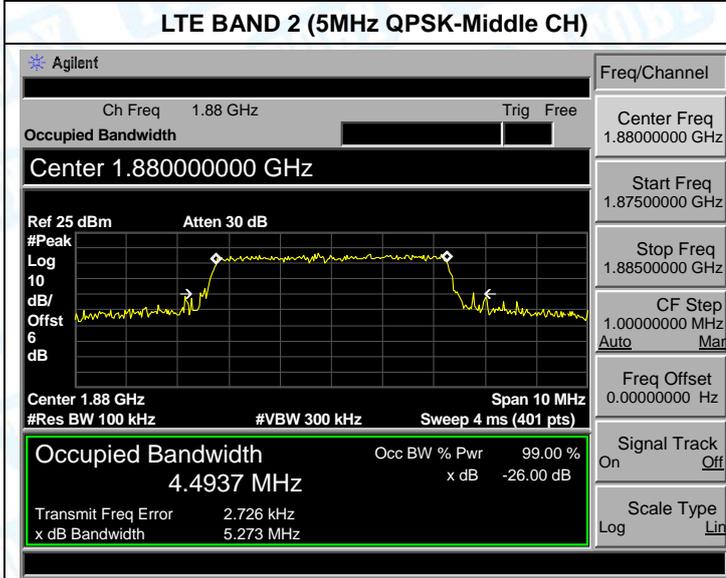
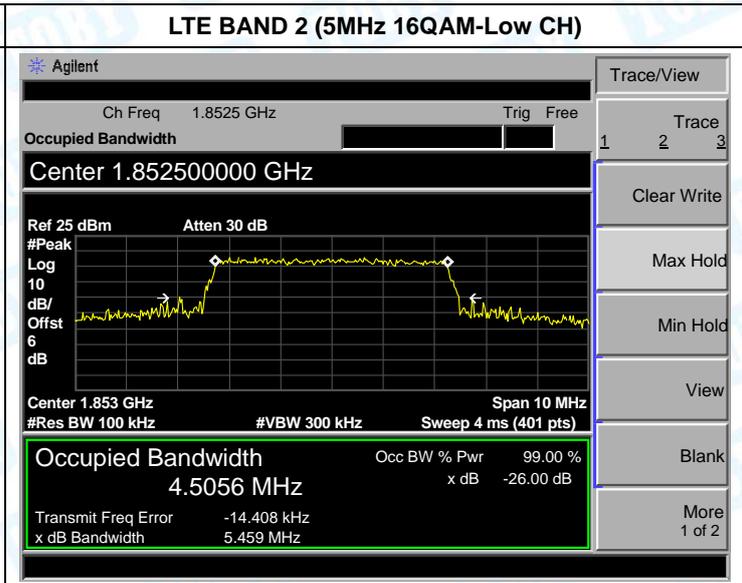
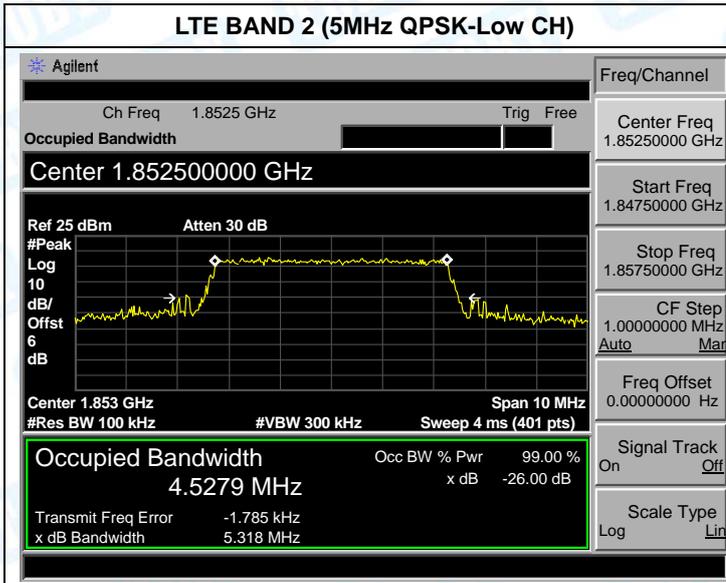
LTE Band 4					
Mode	Channel	Frequency (MHz)	Modulation	99% OBW (MHz)	-26dB Bandwidth (MHz)
1.4MHz	19957	1710.70	QPSK	1.0879	1.247
			16QAM	1.0931	1.239
	20175	1732.50	QPSK	1.0816	1.244
			16QAM	1.1076	1.278
	20393	1754.30	QPSK	1.0943	1.233
			16QAM	1.0975	1.230
3MHz	19965	1711.50	QPSK	2.6702	2.973
			16QAM	2.6708	2.986
	20175	1732.50	QPSK	2.6756	2.974
			16QAM	2.6858	2.935
	20385	1753.50	QPSK	2.6931	2.961
			16QAM	2.6648	2.961
5MHz	19975	1712.50	QPSK	4.4911	5.063
			16QAM	4.4675	4.947
	20175	1732.50	QPSK	4.5048	4.895
			16QAM	4.4898	5.042
	20375	1752.50	QPSK	4.4848	5.067
			16QAM	4.4921	4.981
10MHz	20000	1715.00	QPSK	8.9388	9.569
			16QAM	8.9111	9.662
	20175	1732.50	QPSK	8.9145	9.503
			16QAM	8.9366	9.443
	20350	1750.00	QPSK	8.9229	9.471
			16QAM	8.9385	9.800
15MHz	20025	1717.50	QPSK	13.4963	14.851
			16QAM	13.4840	14.668
	20175	1732.50	QPSK	13.4800	14.841
			16QAM	13.4624	15.168
	20325	1747.50	QPSK	13.4146	15.239
			16QAM	13.4230	15.014
20MHz	20050	1720.00	QPSK	17.9402	19.428
			16QAM	17.9327	19.115
	20175	1732.50	QPSK	17.9123	19.325
			16QAM	17.9030	20.059
	20300	1745.00	QPSK	17.8945	19.454
			16QAM	17.9318	19.621

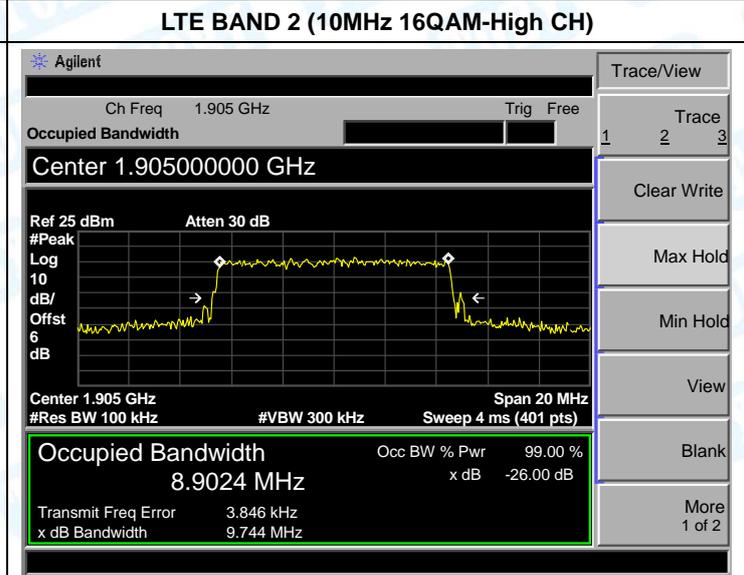
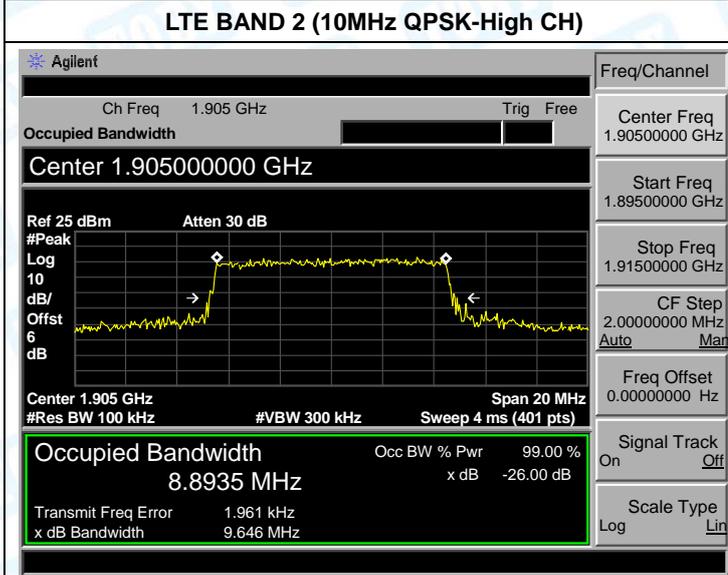
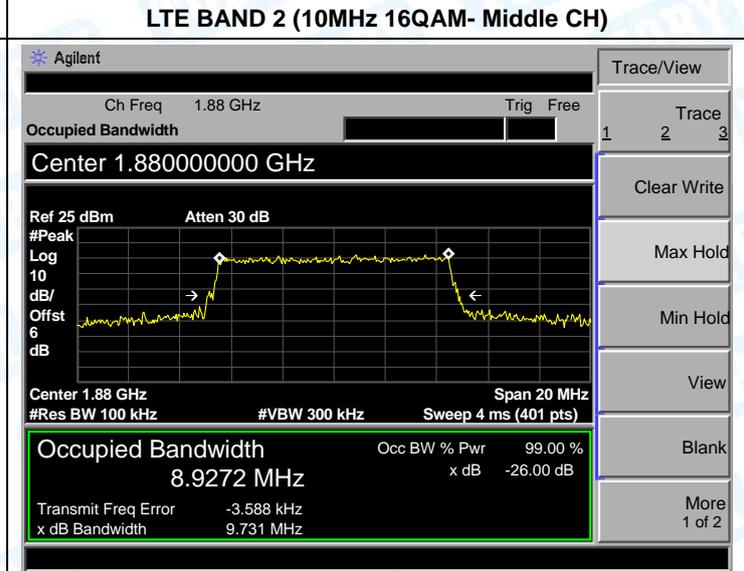
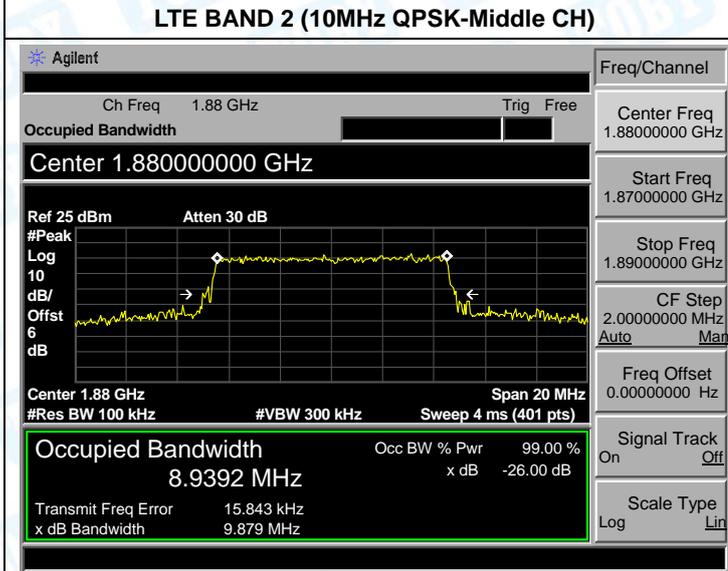
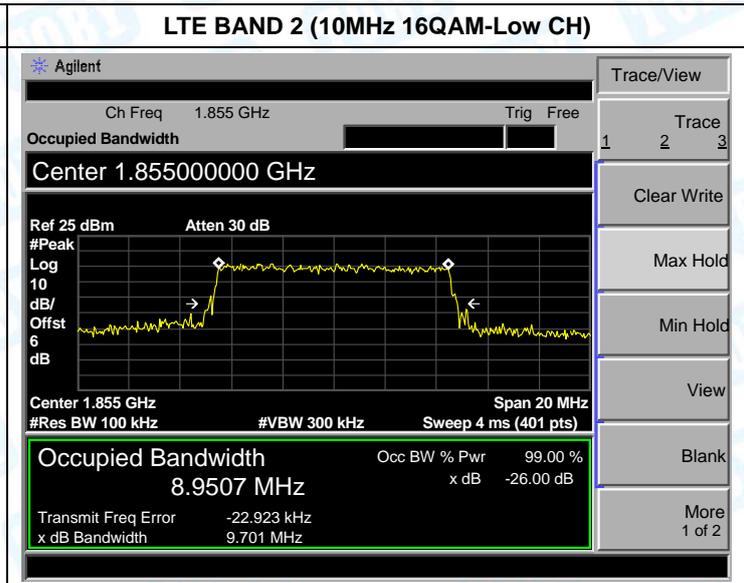
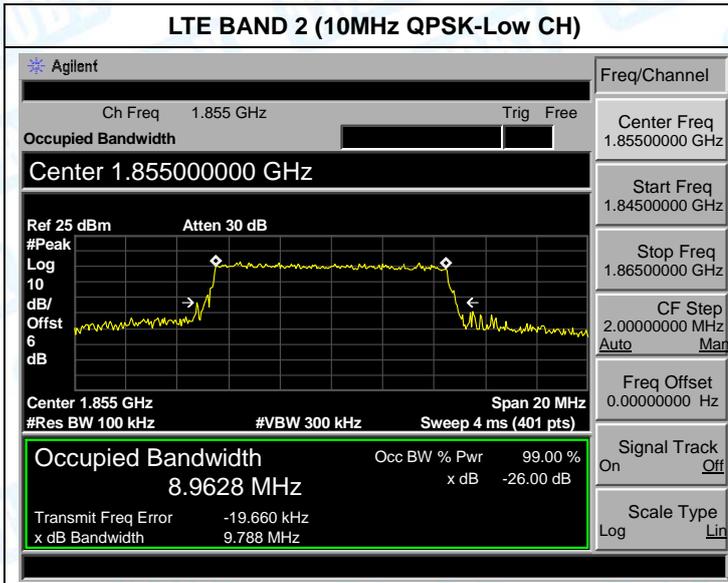
LTE Band 7					
Mode	Channel	Frequency (MHz)	Modulation	99% OBW (MHz)	-26dB Bandwidth (MHz)
5MHz	20775	2502.50	QPSK	4.4959	5.305
			16QAM	4.5112	4.970
	21100	2535.00	QPSK	4.4959	4.975
			16QAM	4.5171	5.055
	21425	2567.50	QPSK	4.5149	5.034
			16QAM	4.5153	4.942
10MHz	20800	2505.00	QPSK	8.9073	9.671
			16QAM	8.9562	9.563
	21100	2535.00	QPSK	8.9365	9.667
			16QAM	8.9078	9.638
	21400	2565.00	QPSK	8.9374	9.636
			16QAM	8.9379	9.664
15MHz	20825	2507.50	QPSK	13.4734	14.918
			16QAM	13.4607	15.039
	21100	2535.00	QPSK	13.4458	14.904
			16QAM	13.4379	14.882
	21375	2562.50	QPSK	13.4859	15.099
			16QAM	13.4593	15.129
20MHz	20850	2510.00	QPSK	17.9077	19.491
			16QAM	17.9280	19.368
	21100	2535.00	QPSK	17.8697	19.134
			16QAM	17.8739	19.479
	21350	2560.00	QPSK	17.9831	19.612
			16QAM	17.9309	19.715

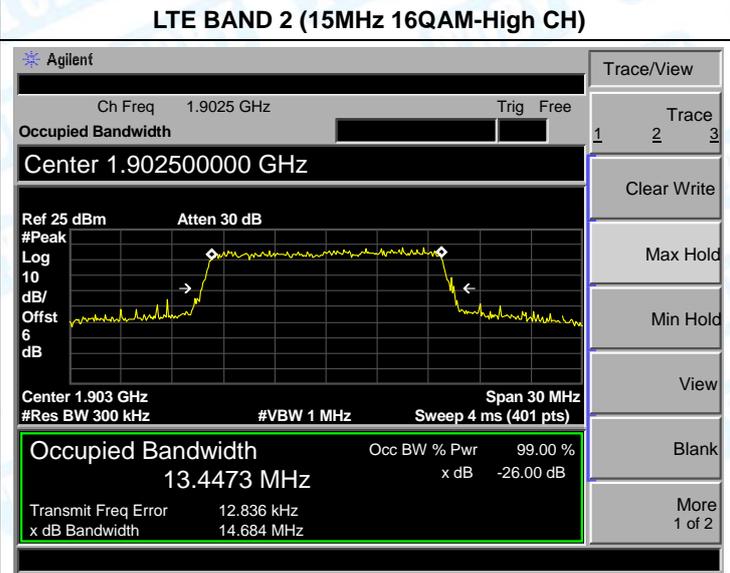
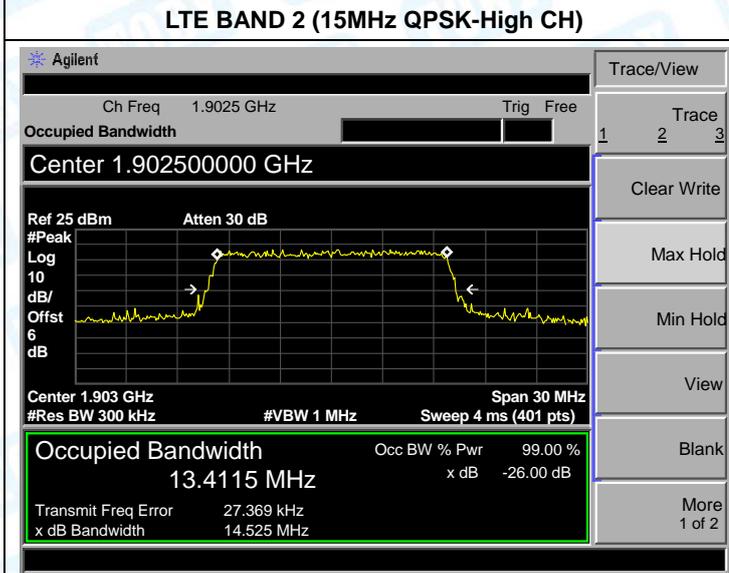
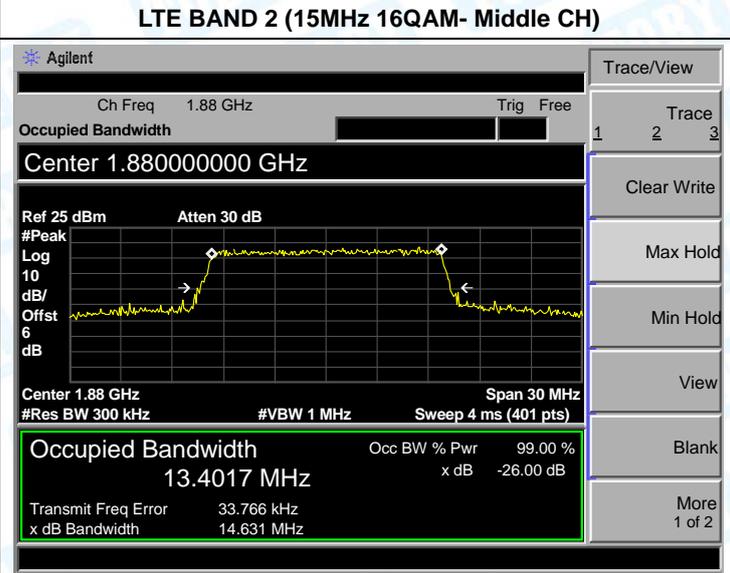
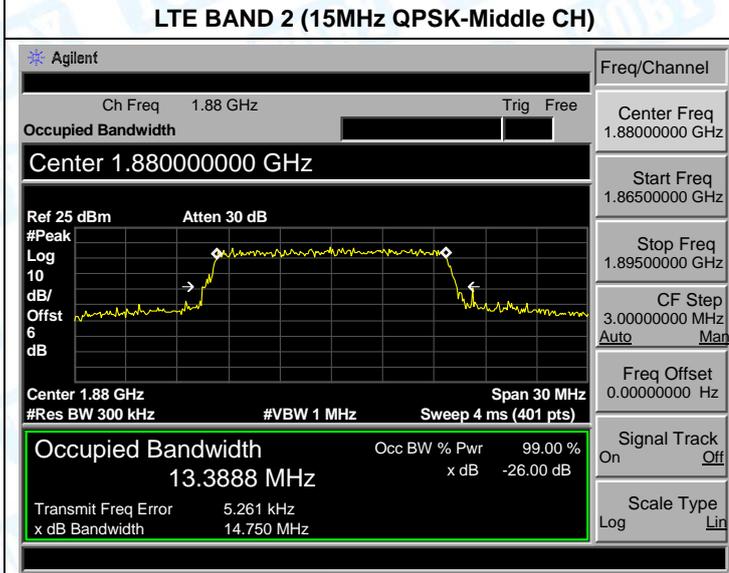
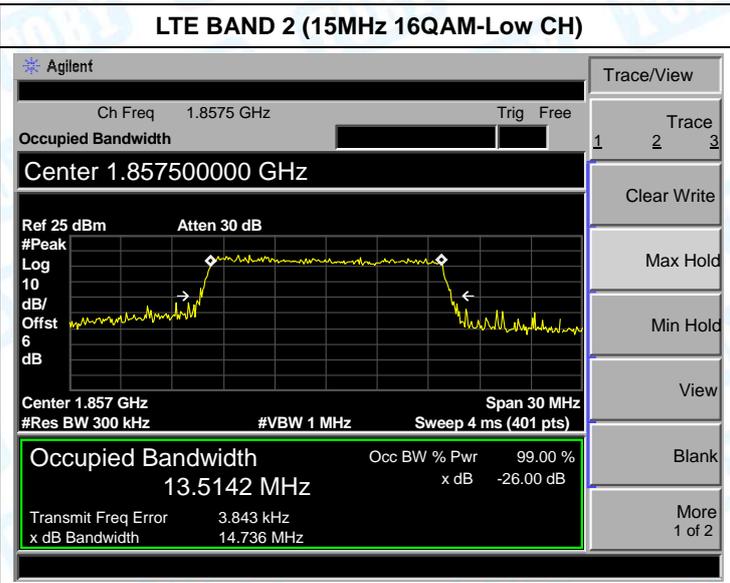
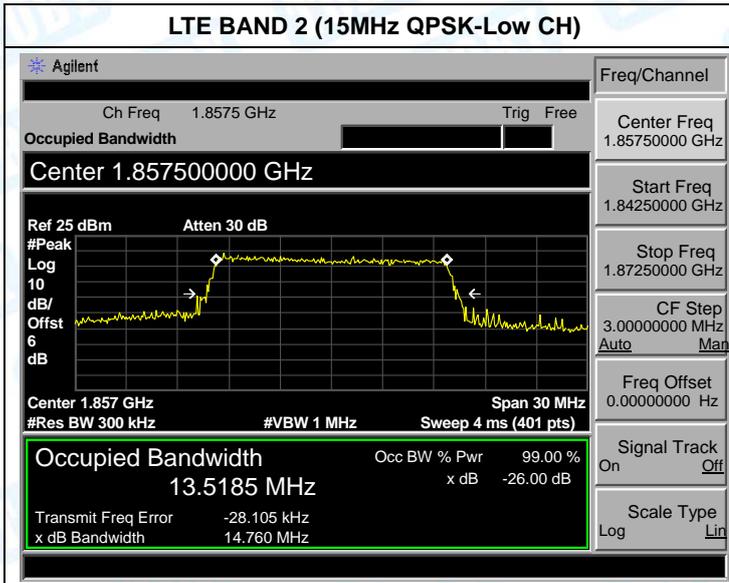
**Occupancy Bandwidth Test Plot**

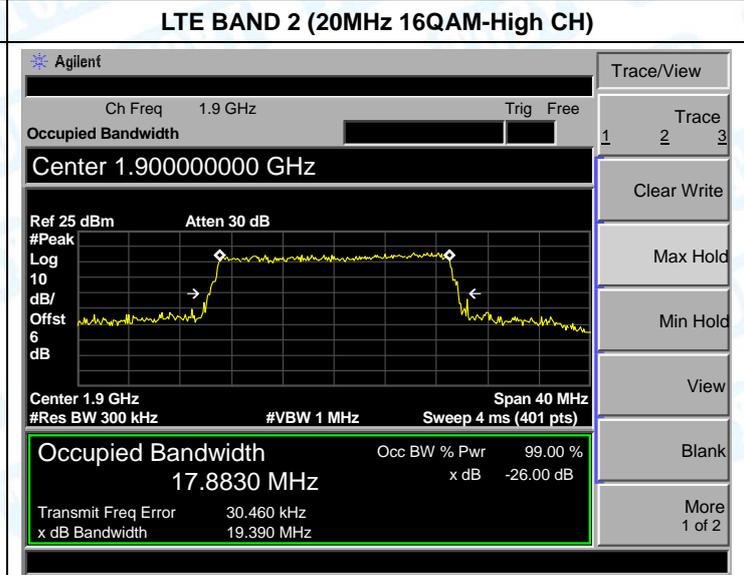
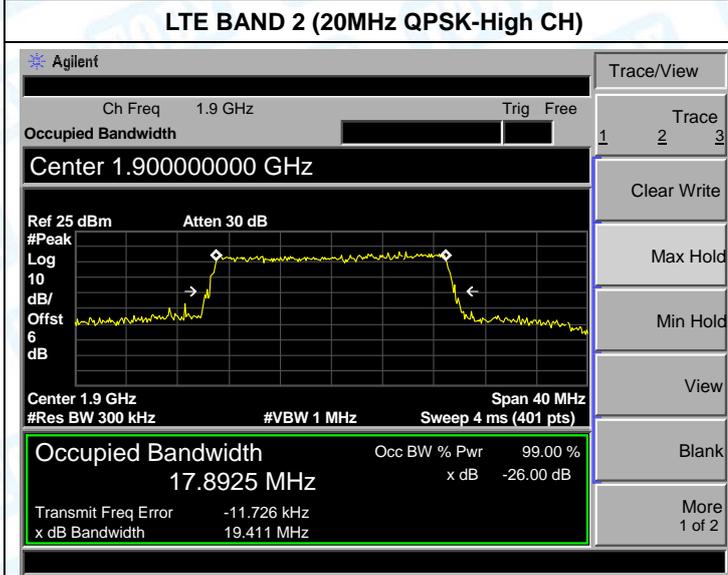
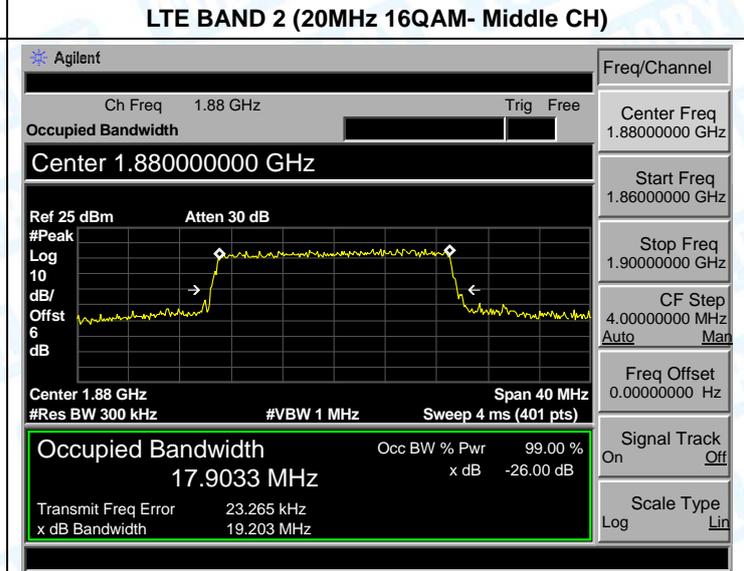
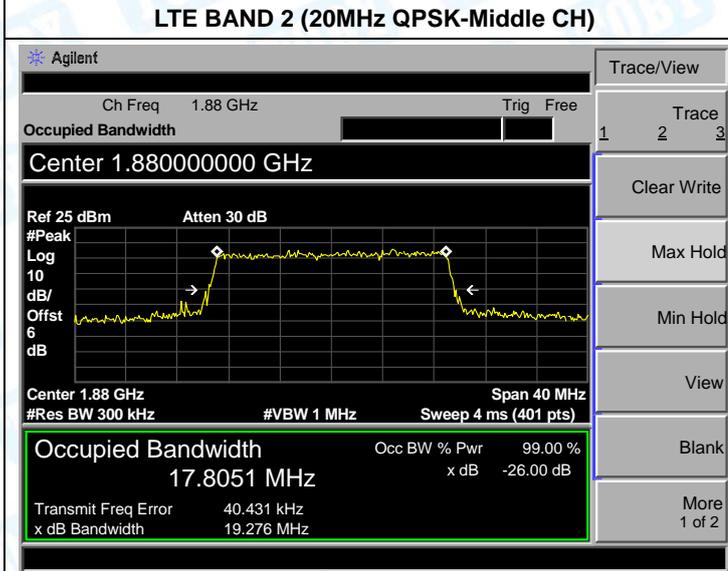
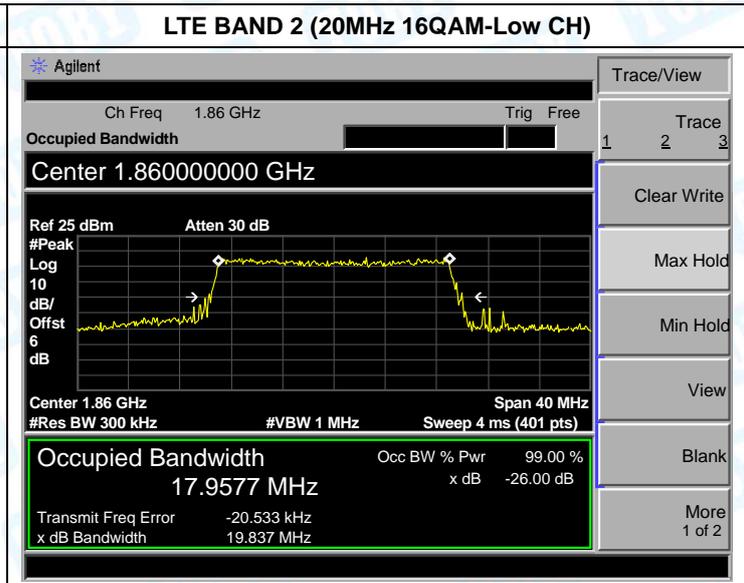
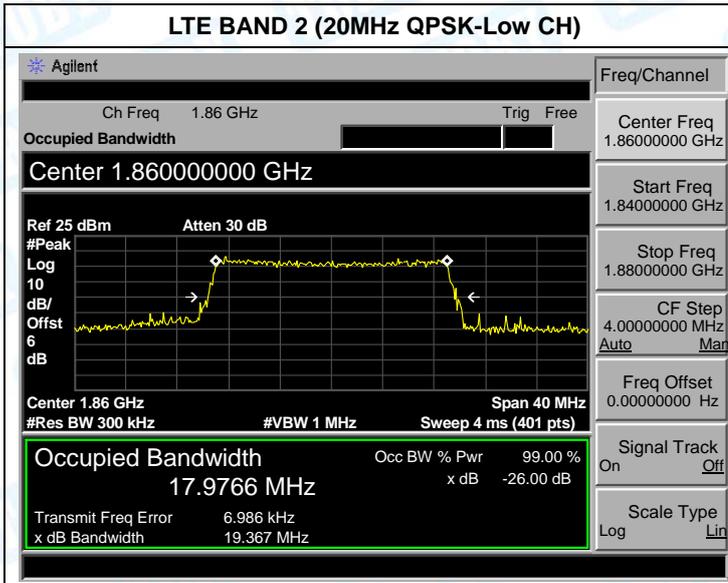




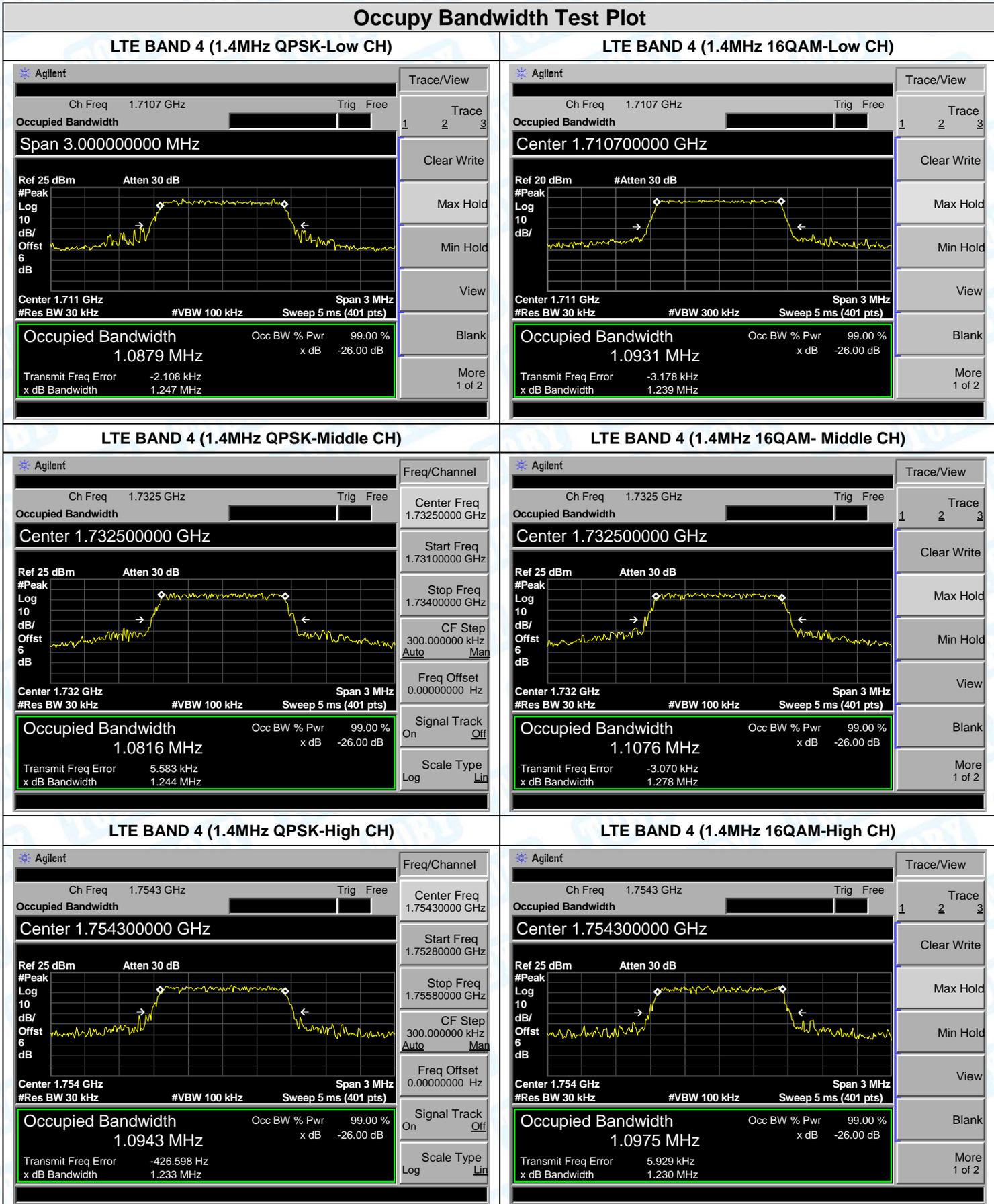


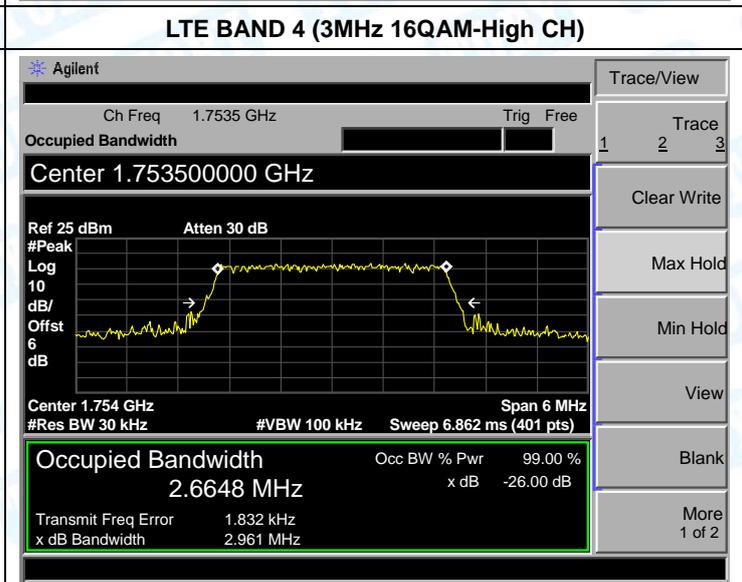
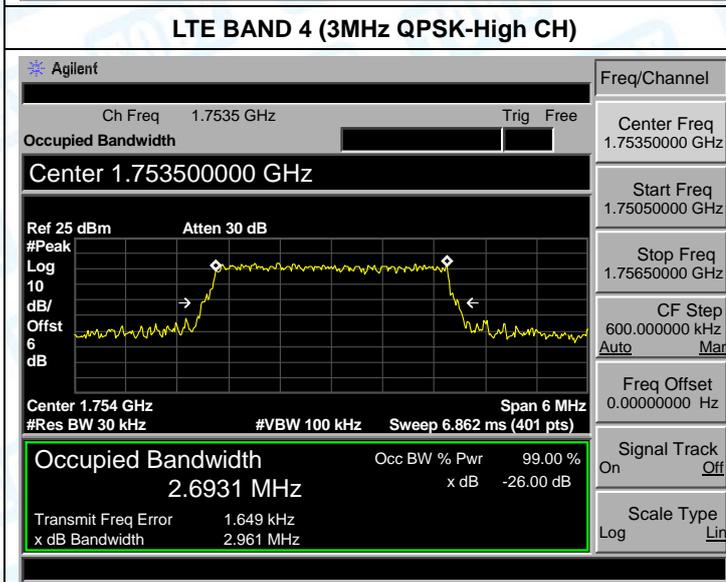
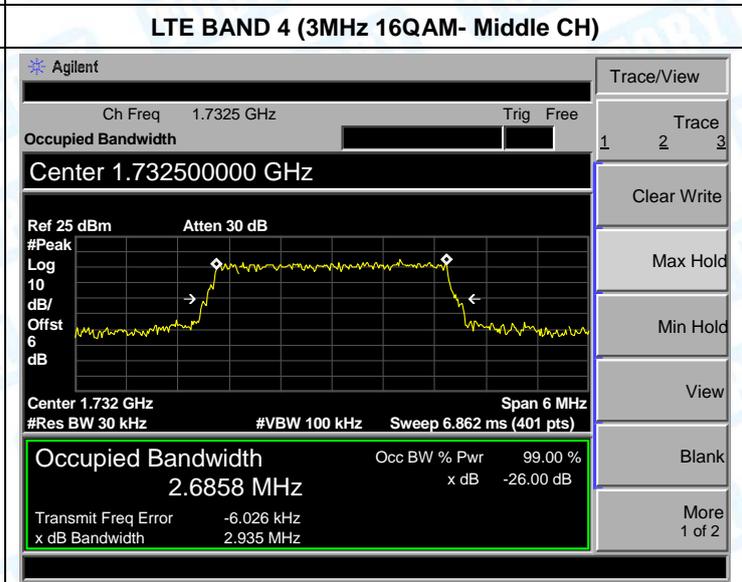
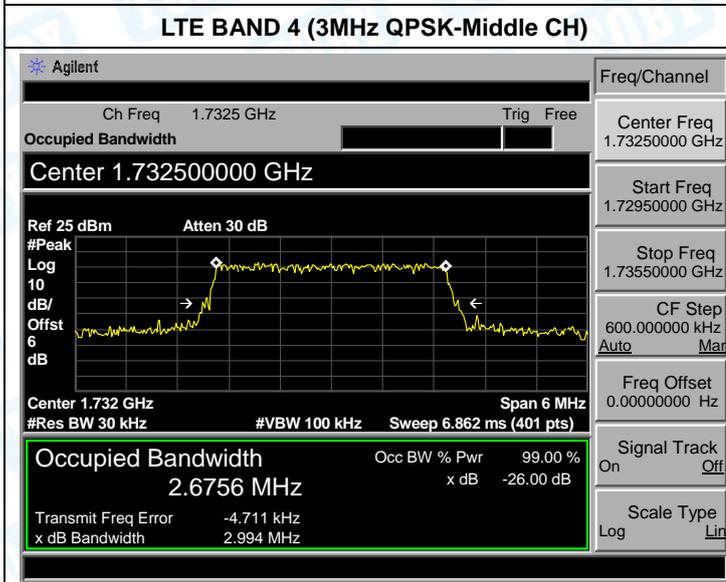
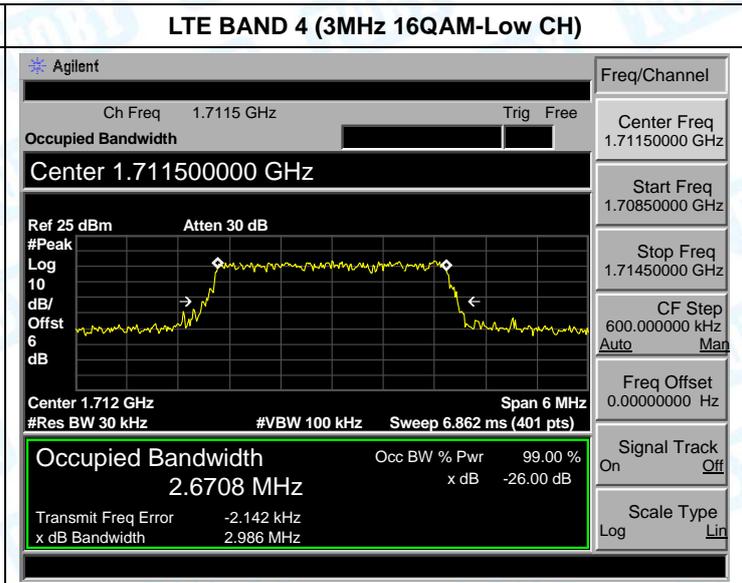
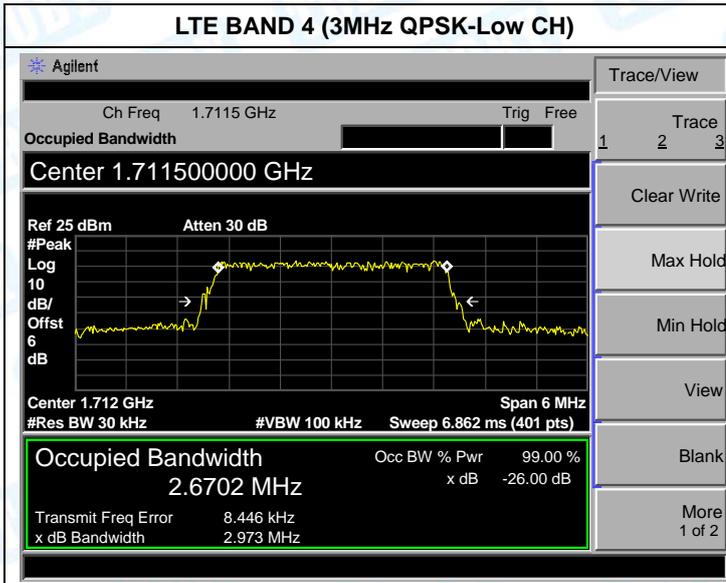


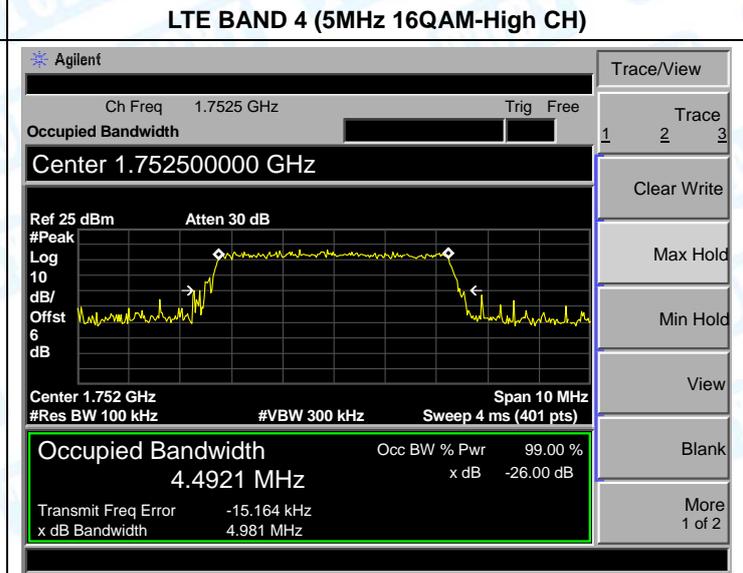
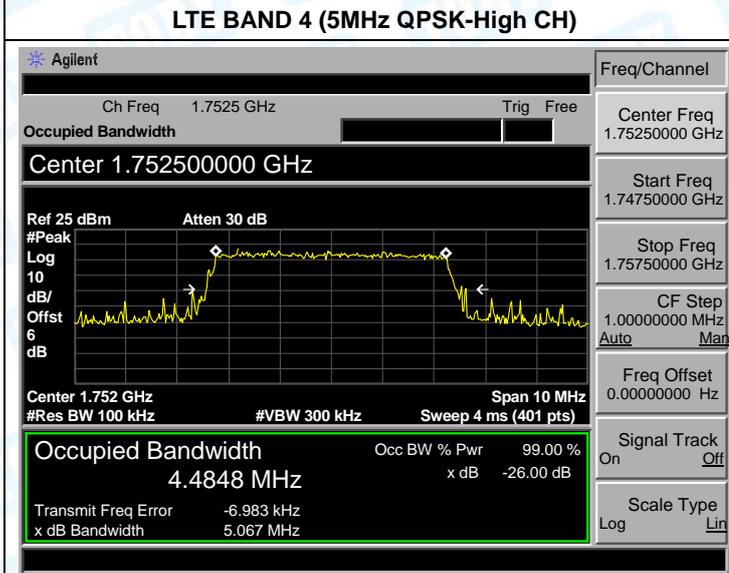
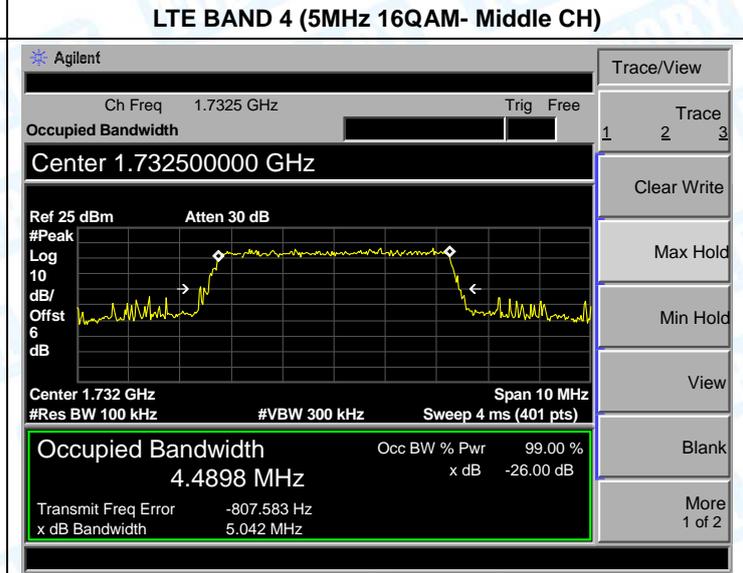
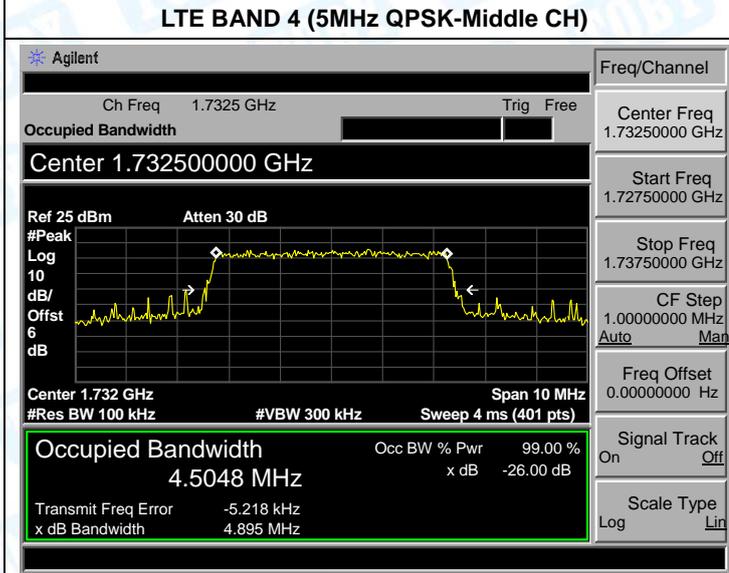
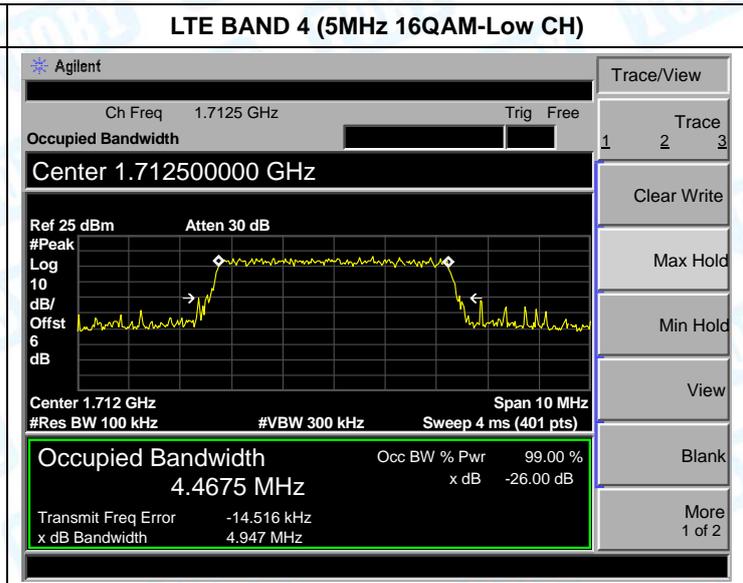
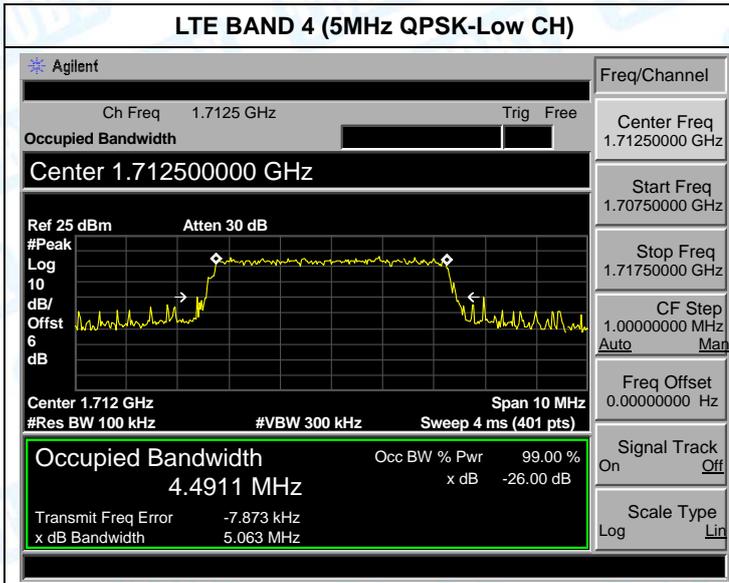


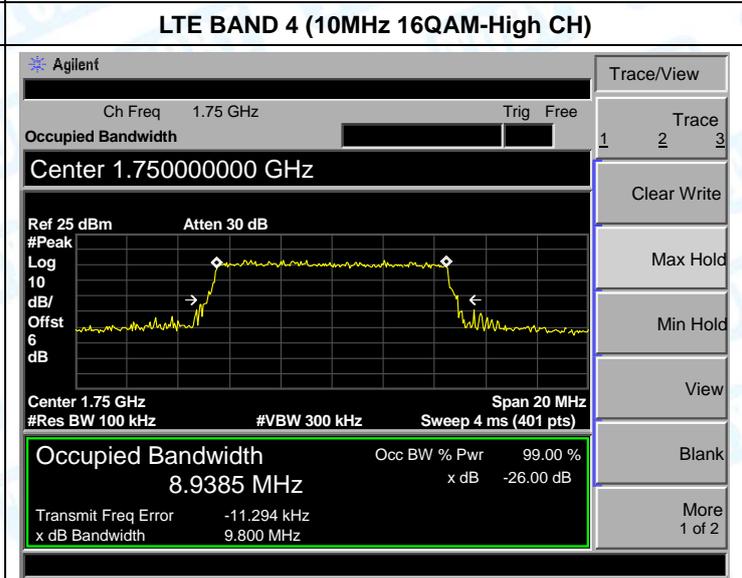
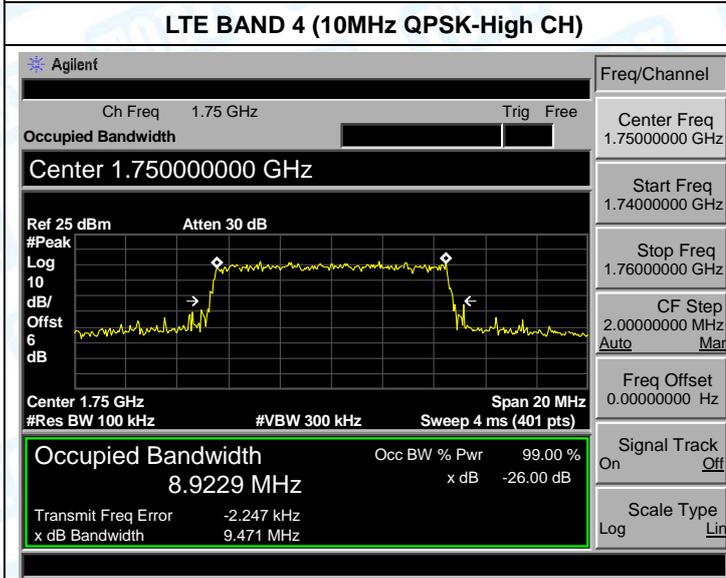
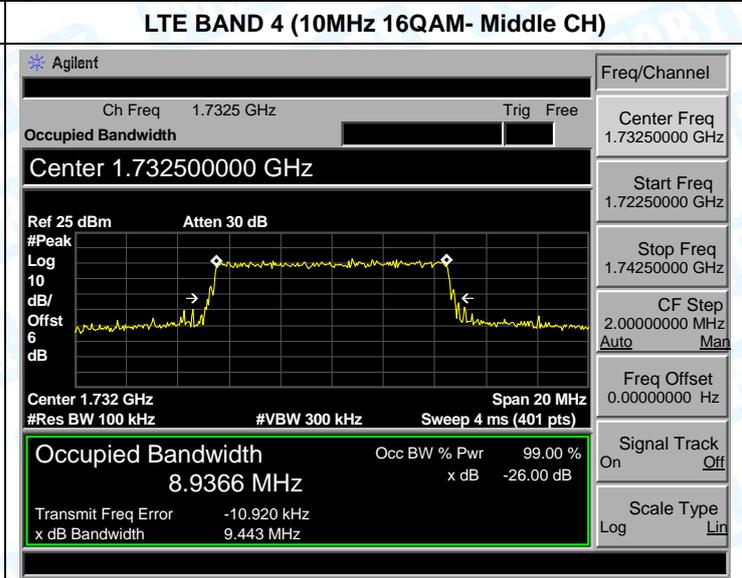
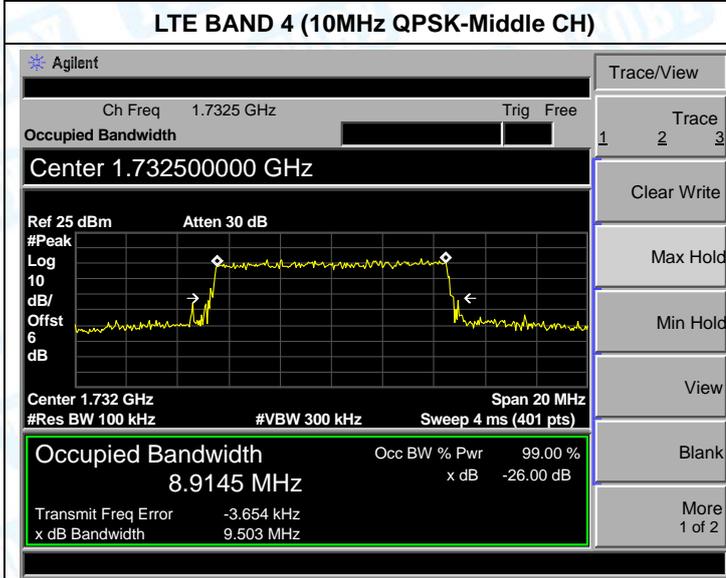
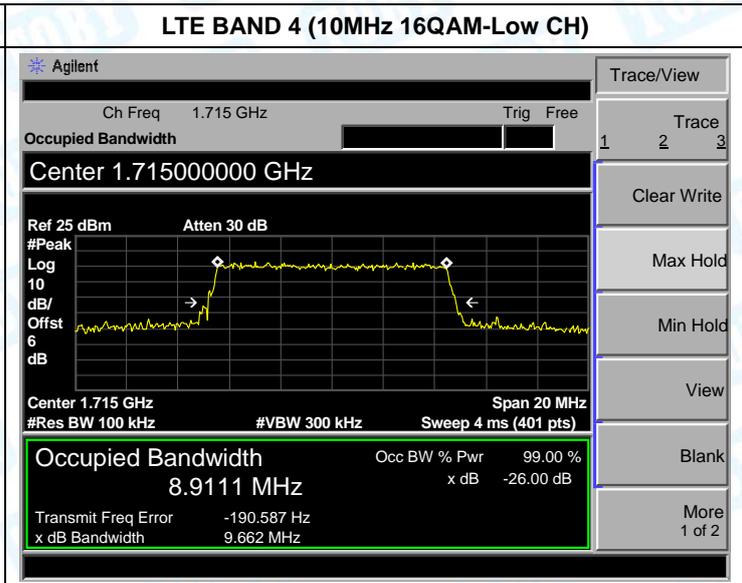
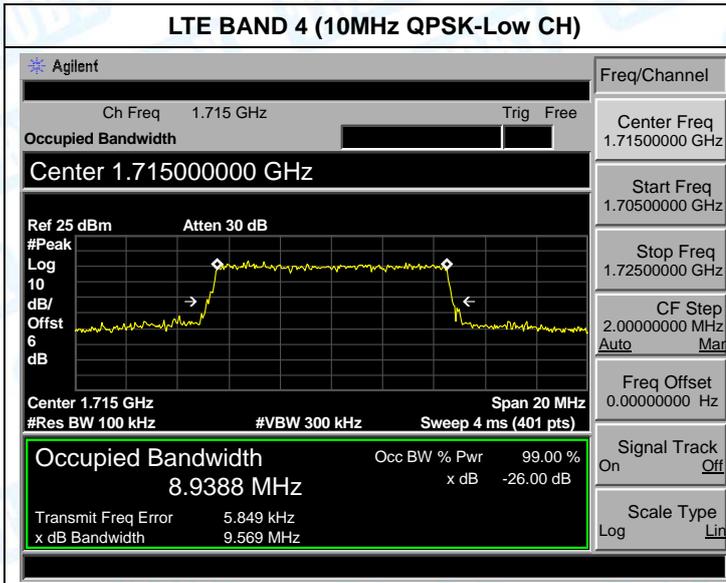


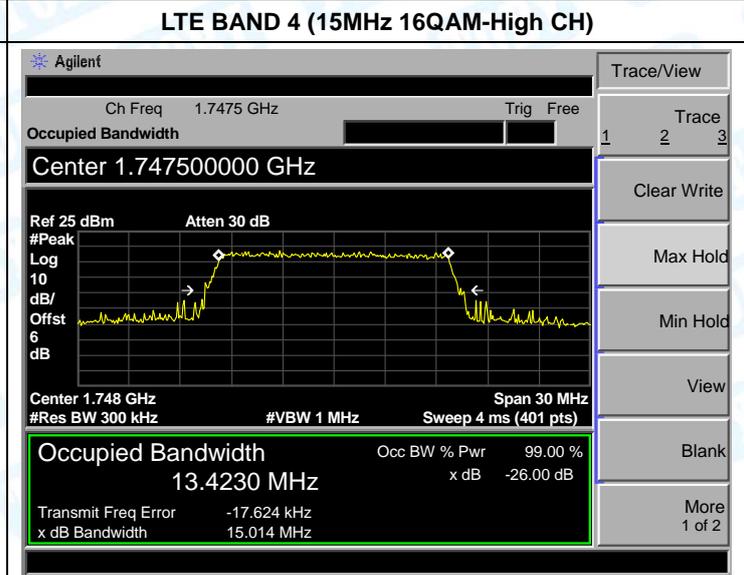
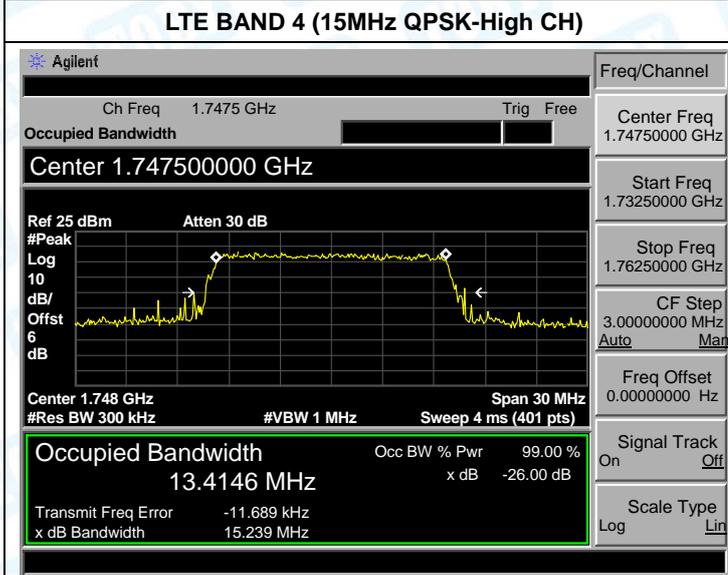
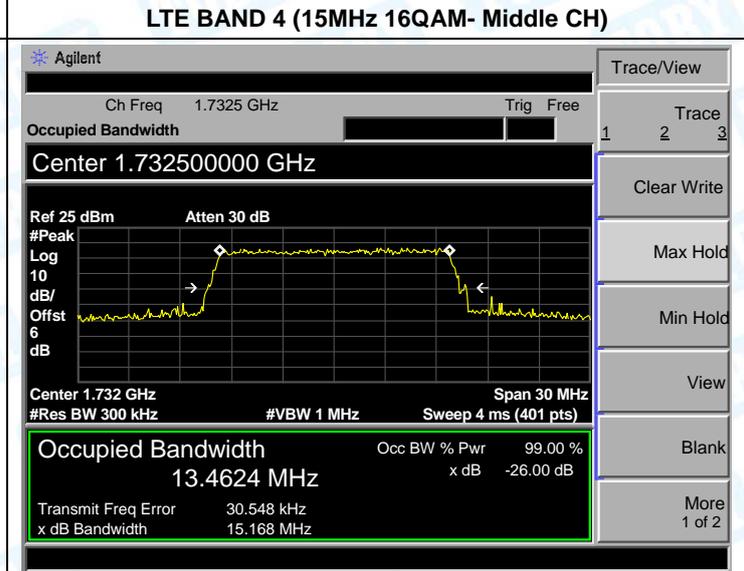
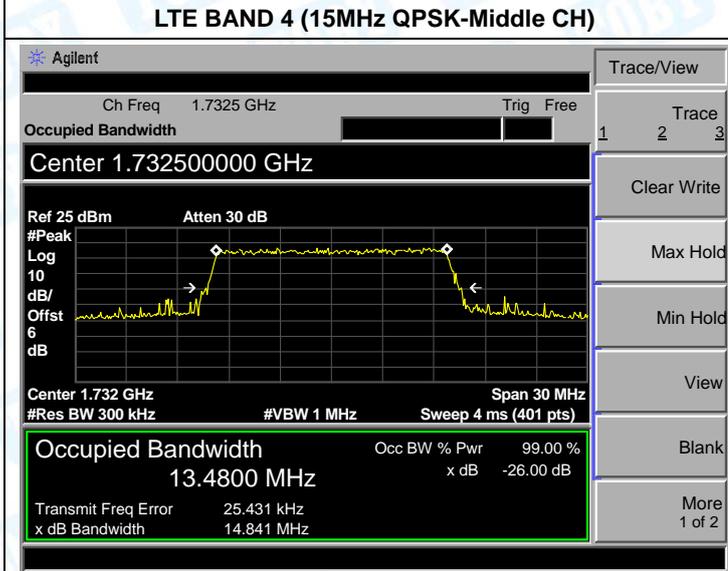
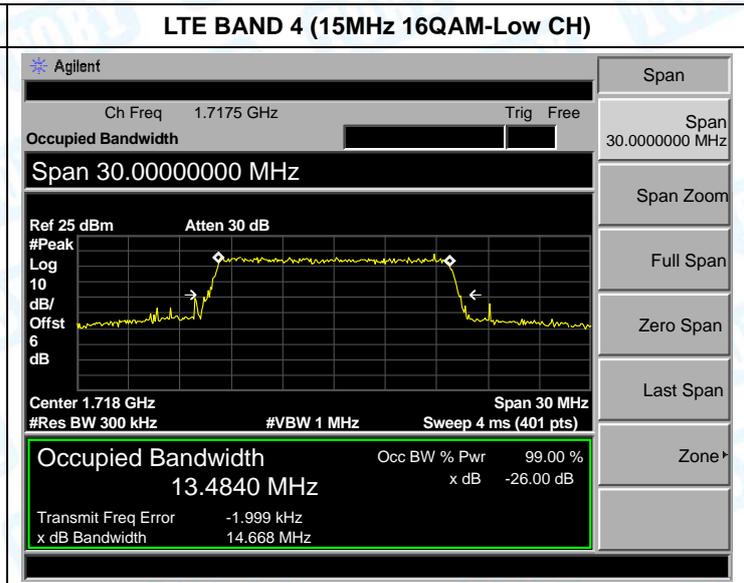
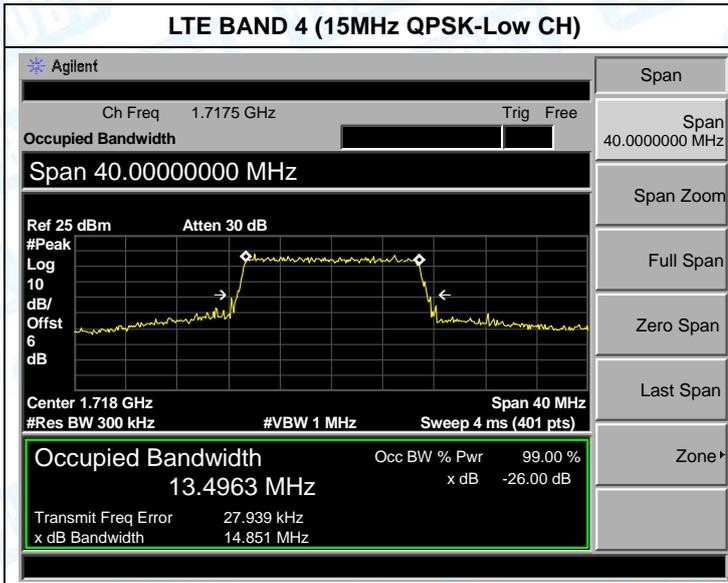
**Occupancy Bandwidth Test Plot**

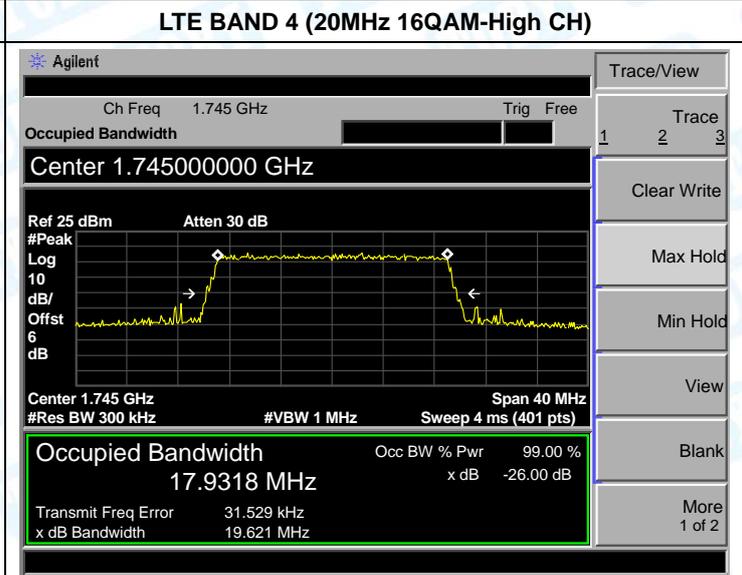
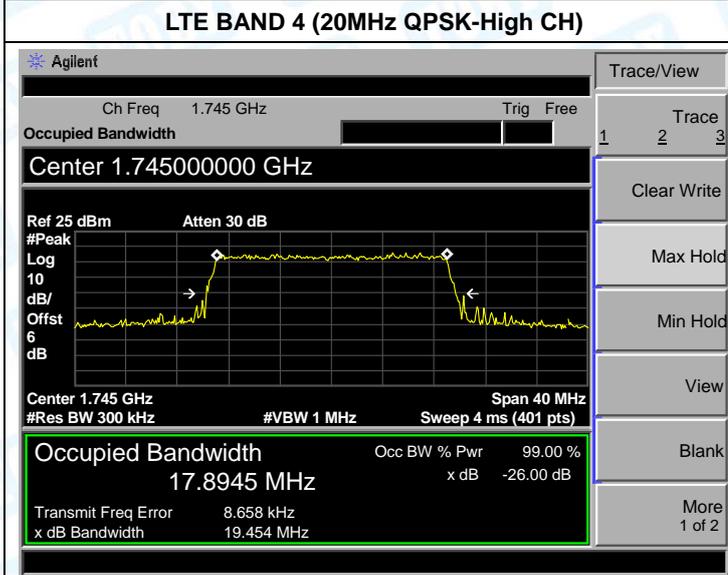
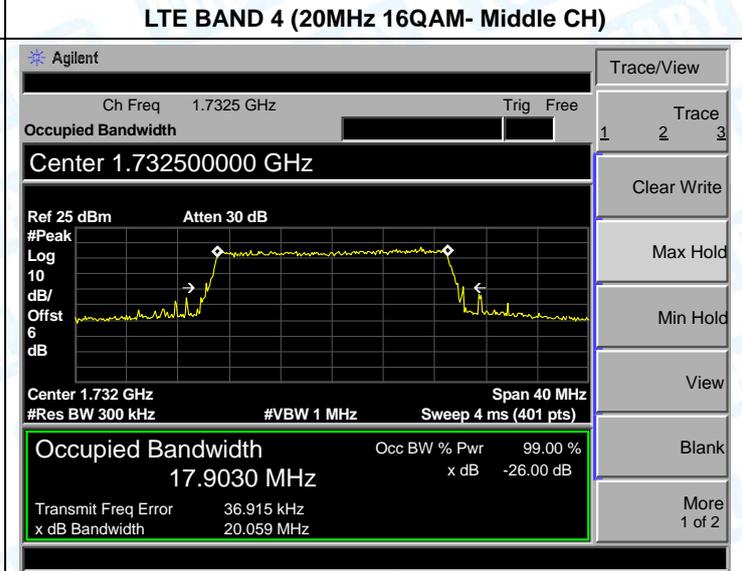
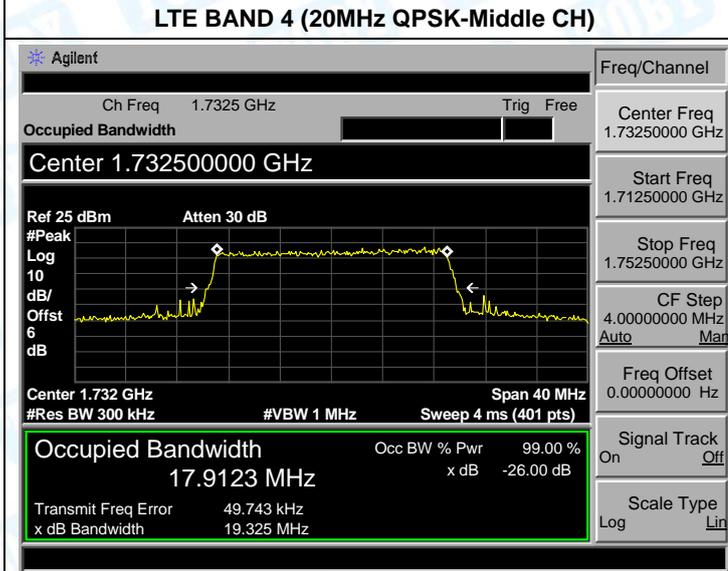
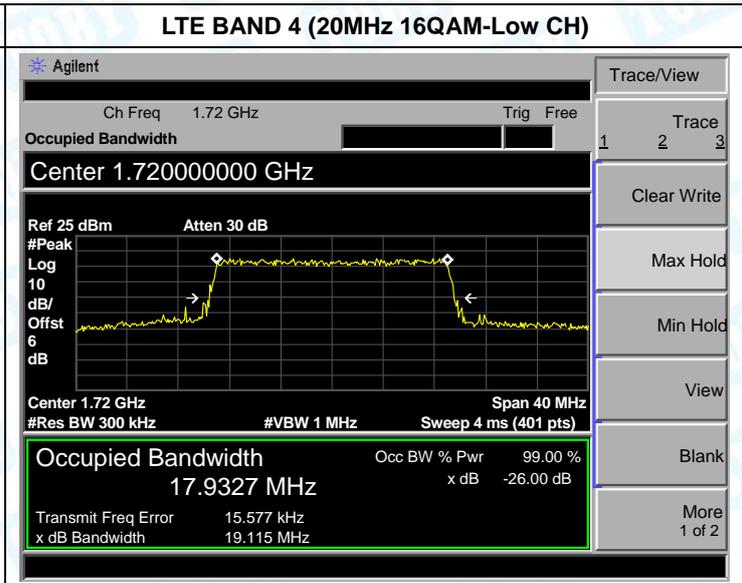
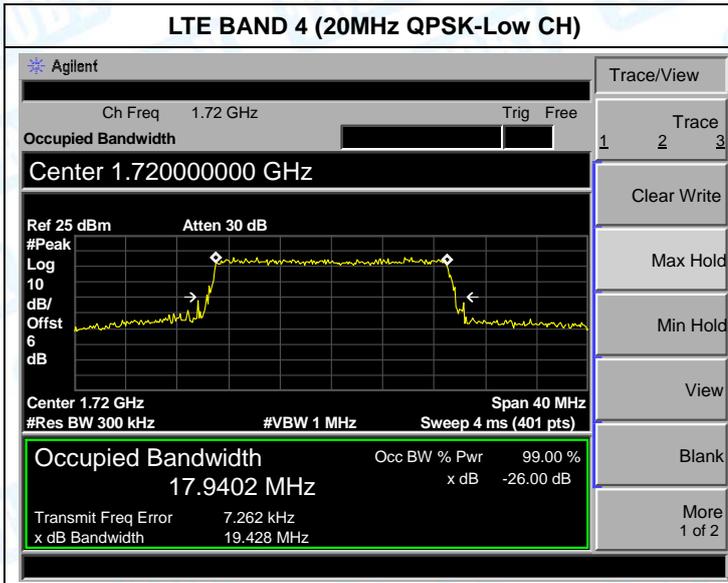




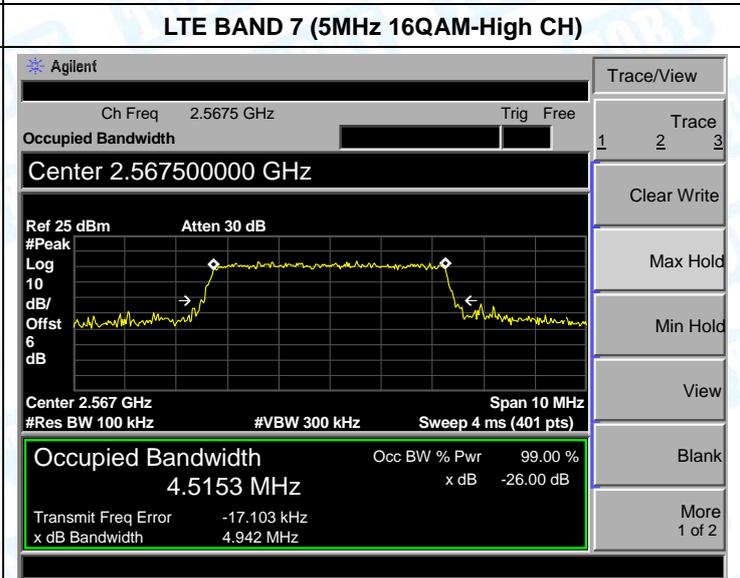
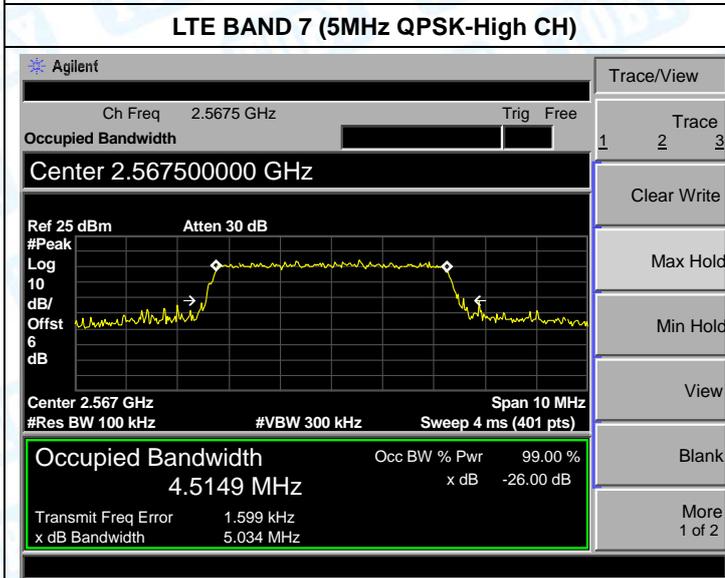
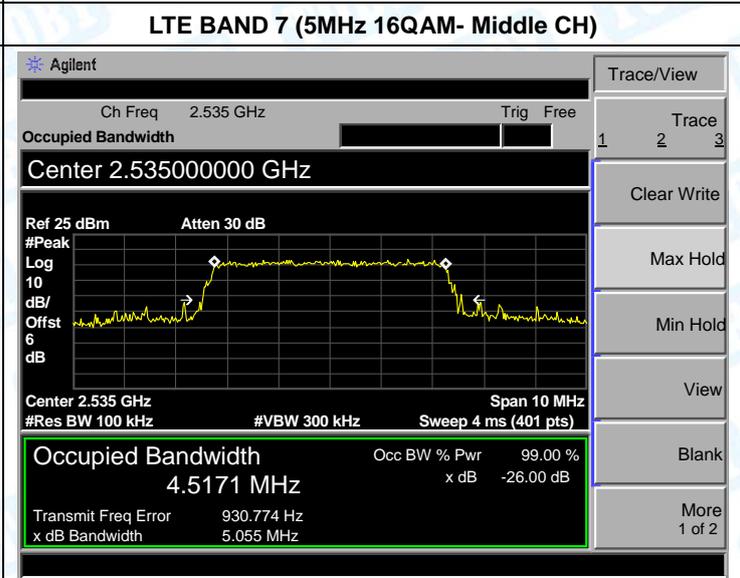
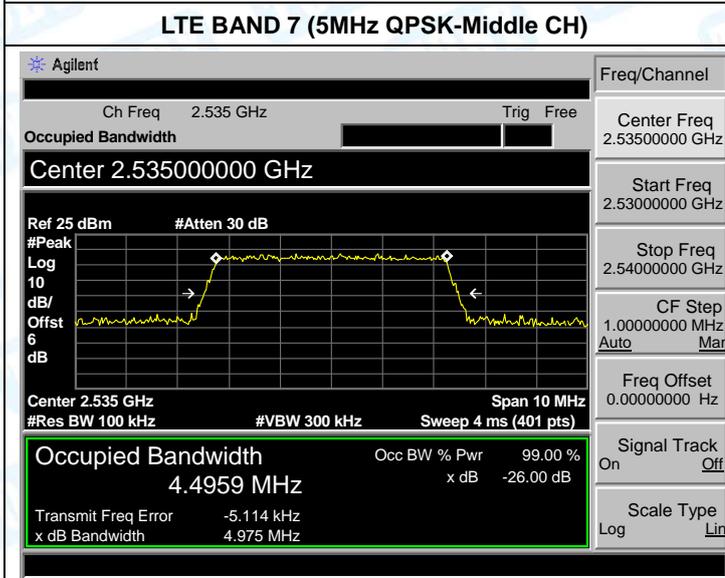
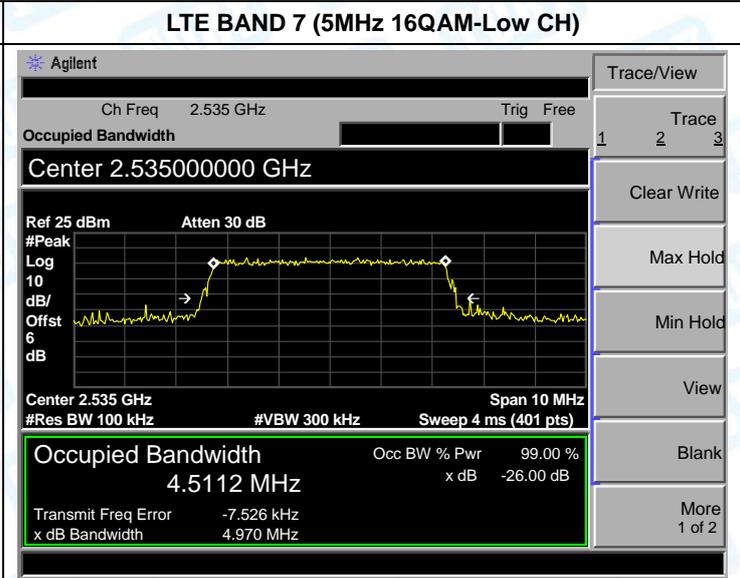
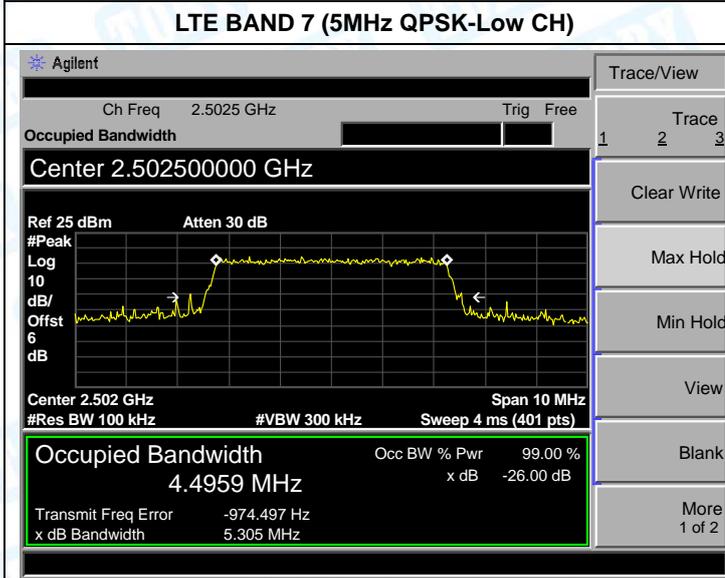


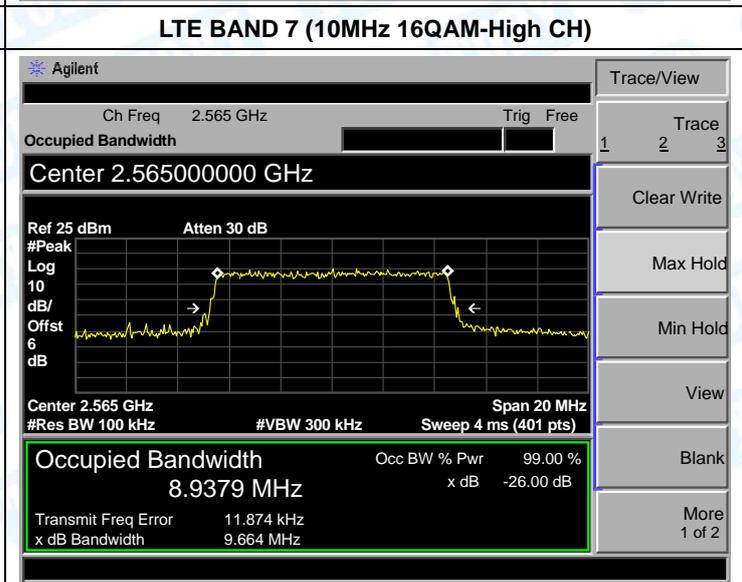
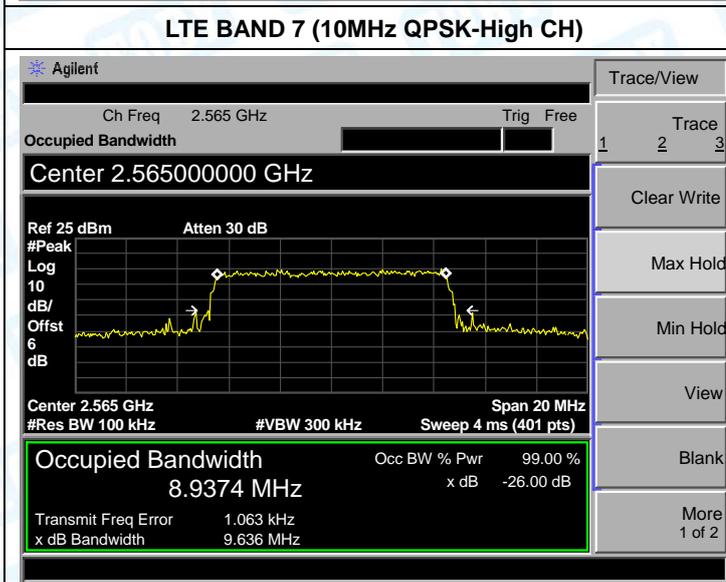
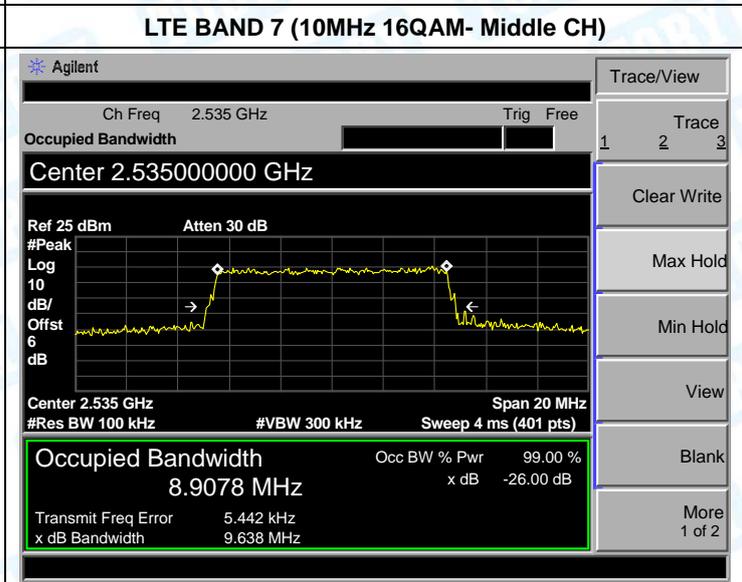
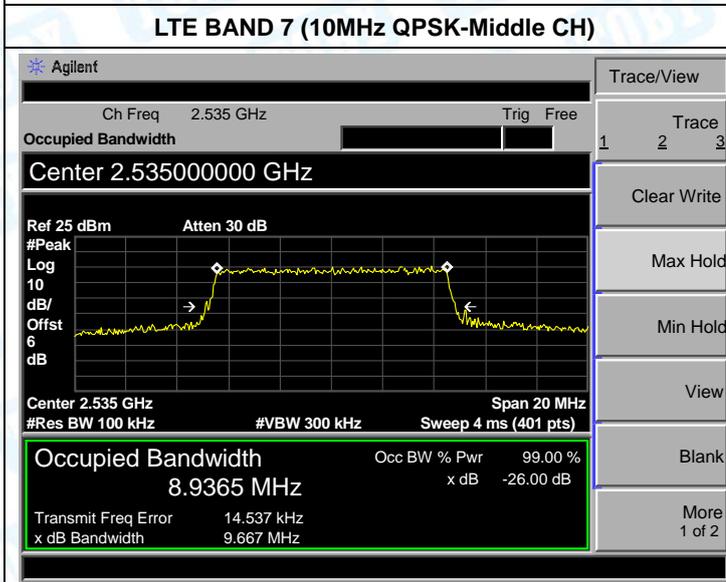
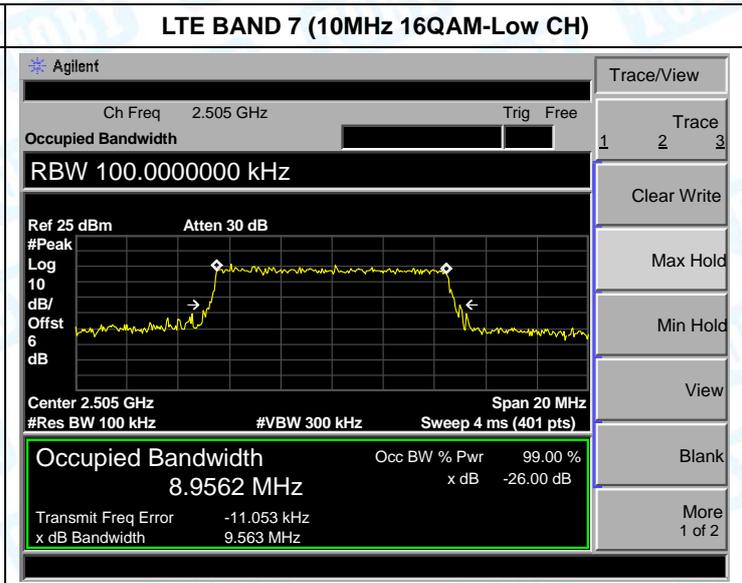
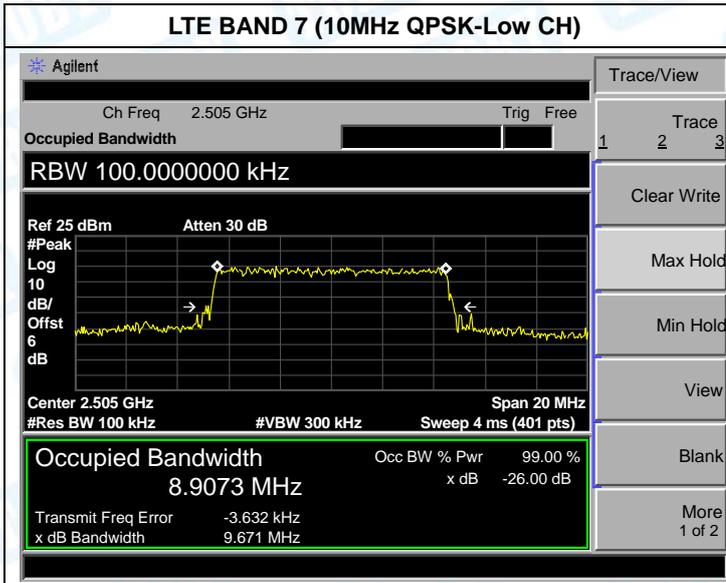


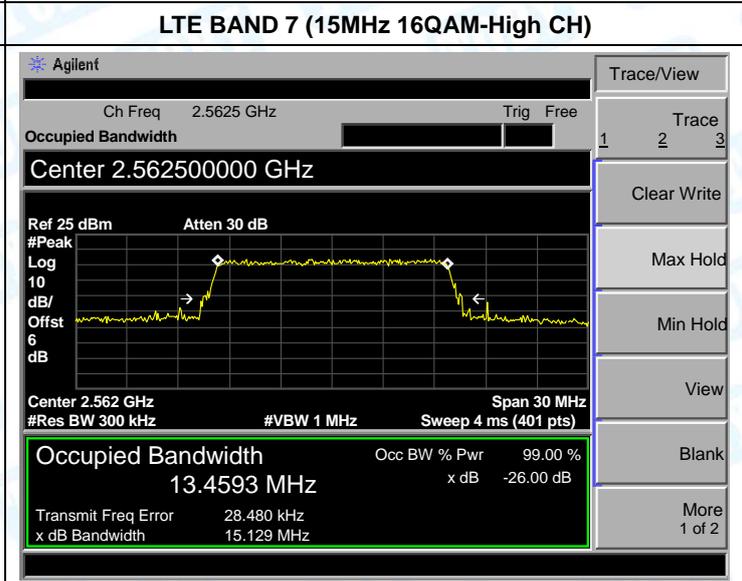
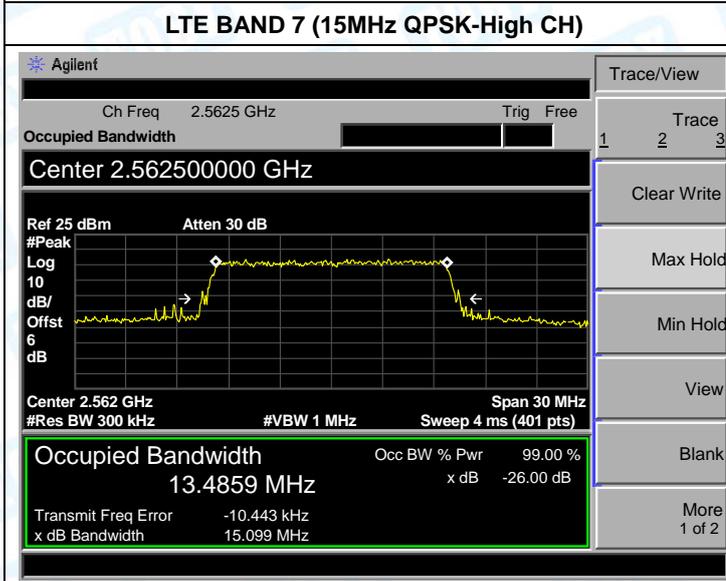
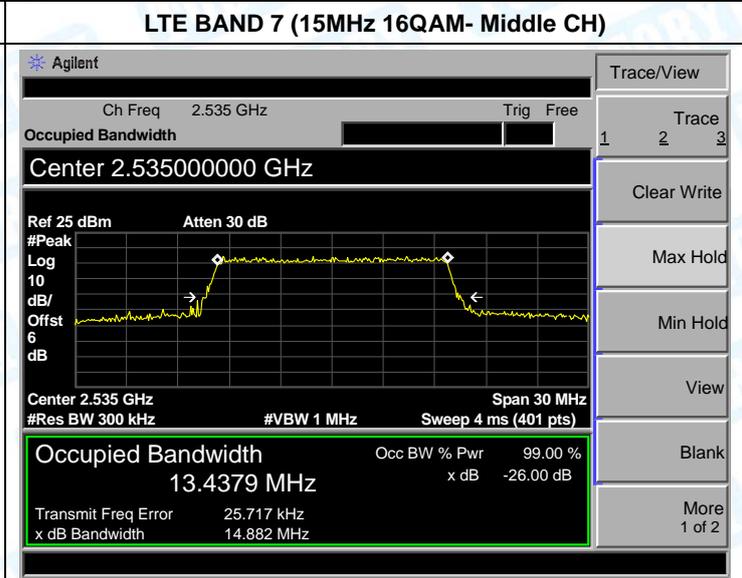
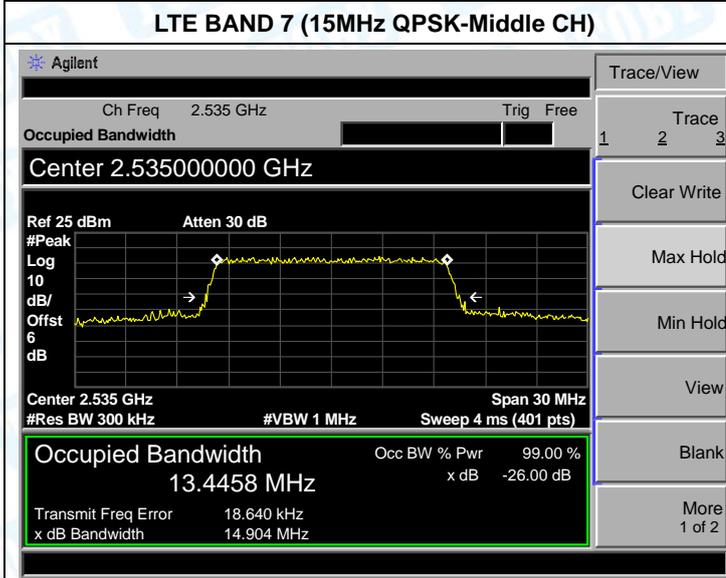
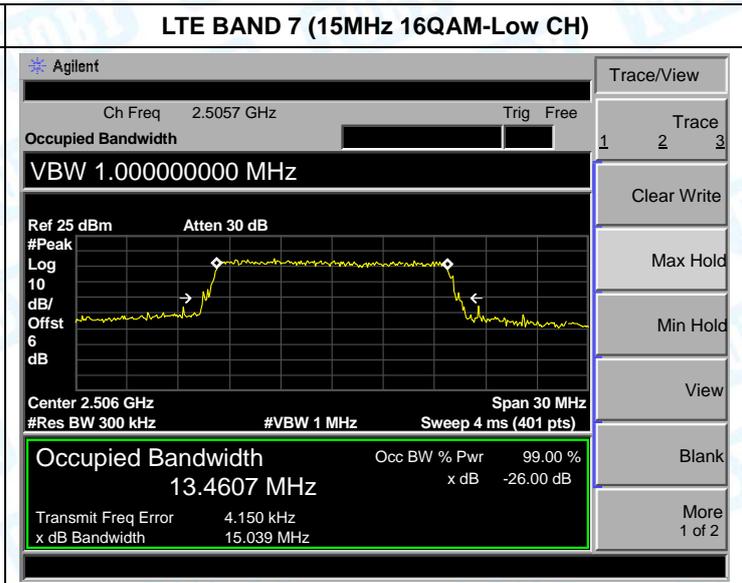
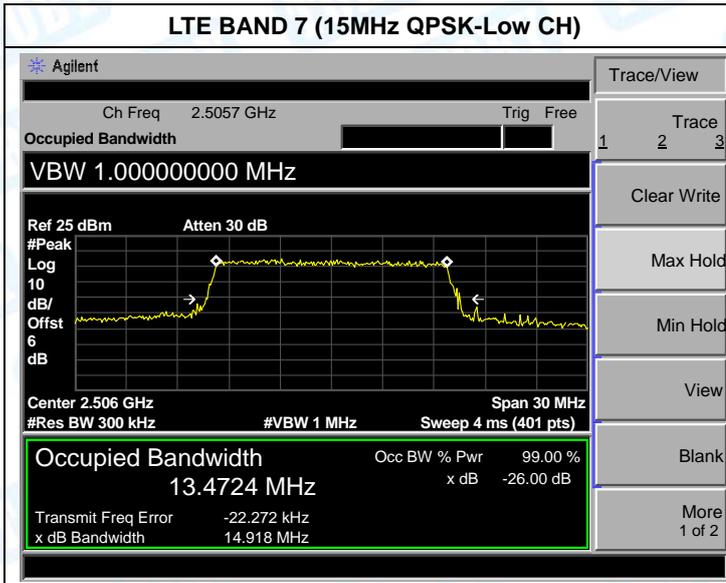


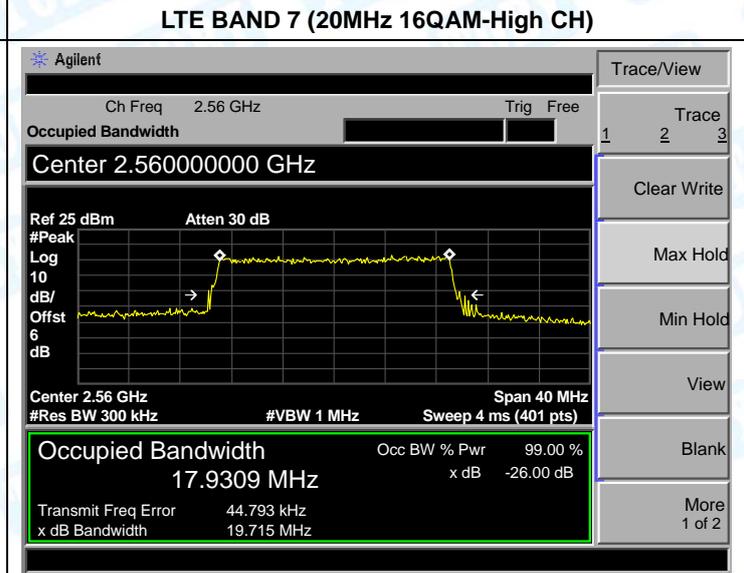
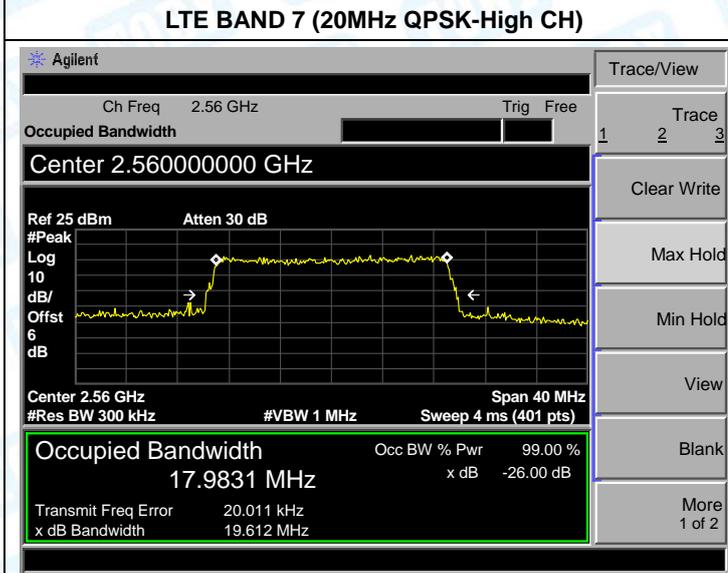
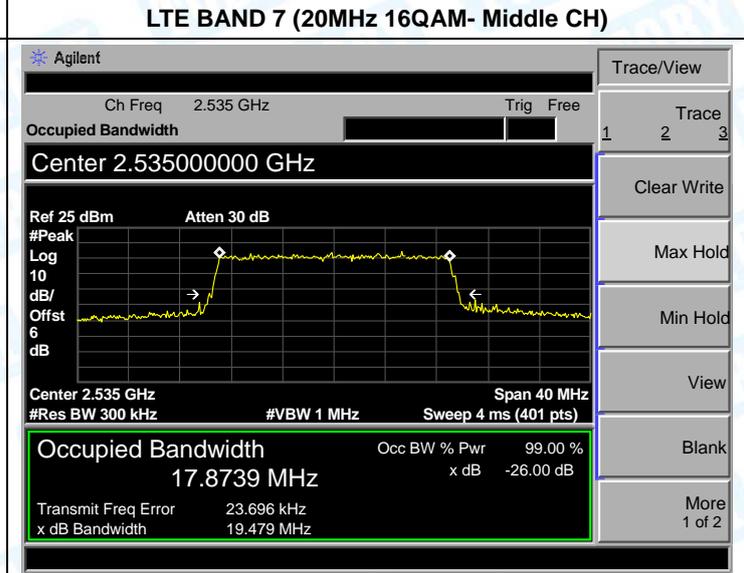
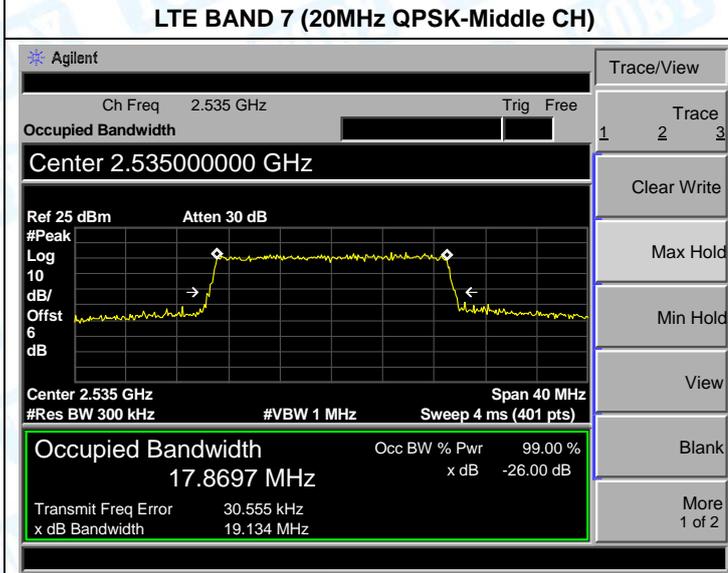
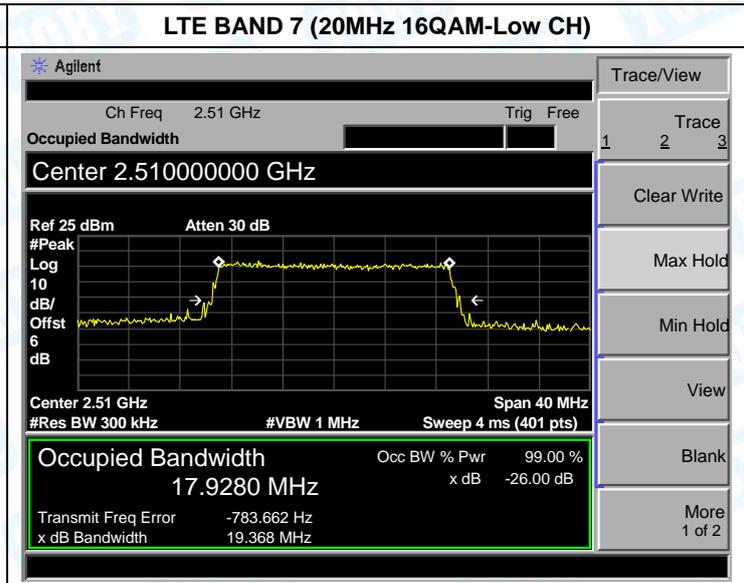
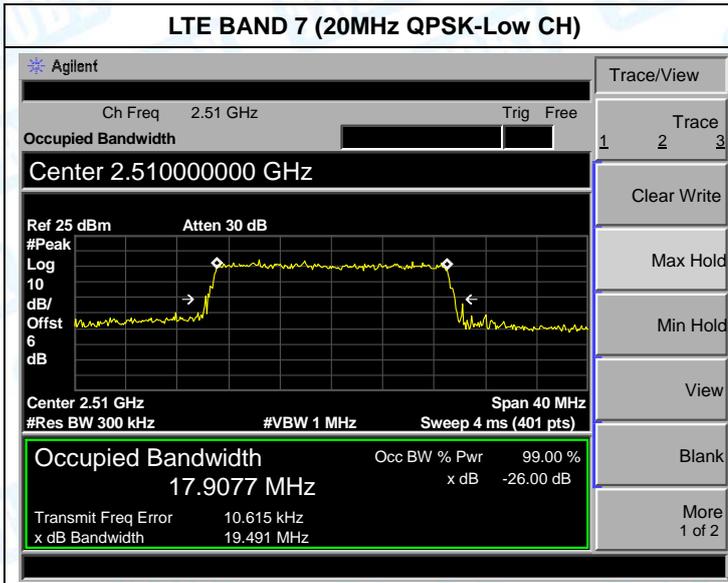


**Occupancy Bandwidth Test Plot**



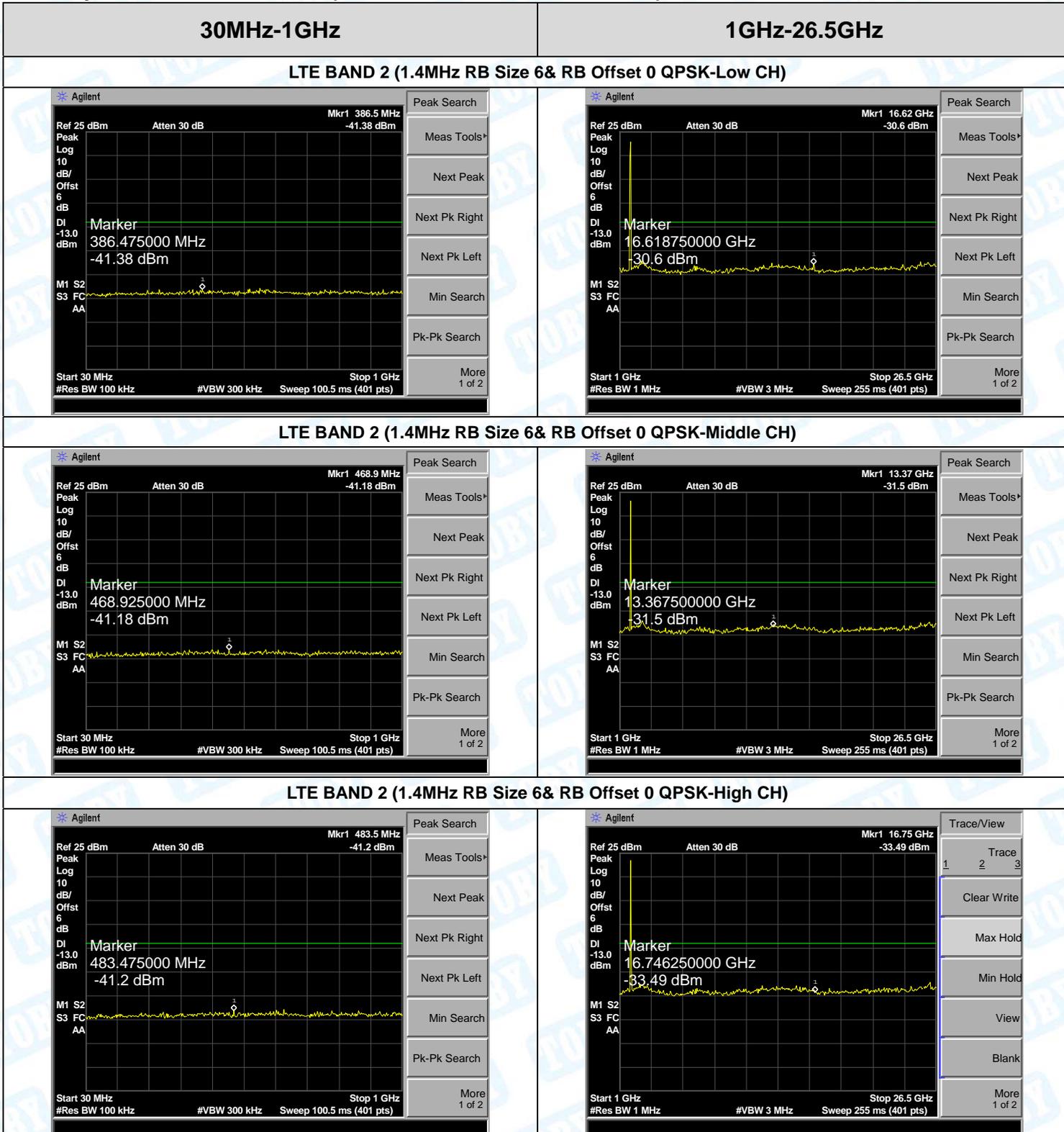






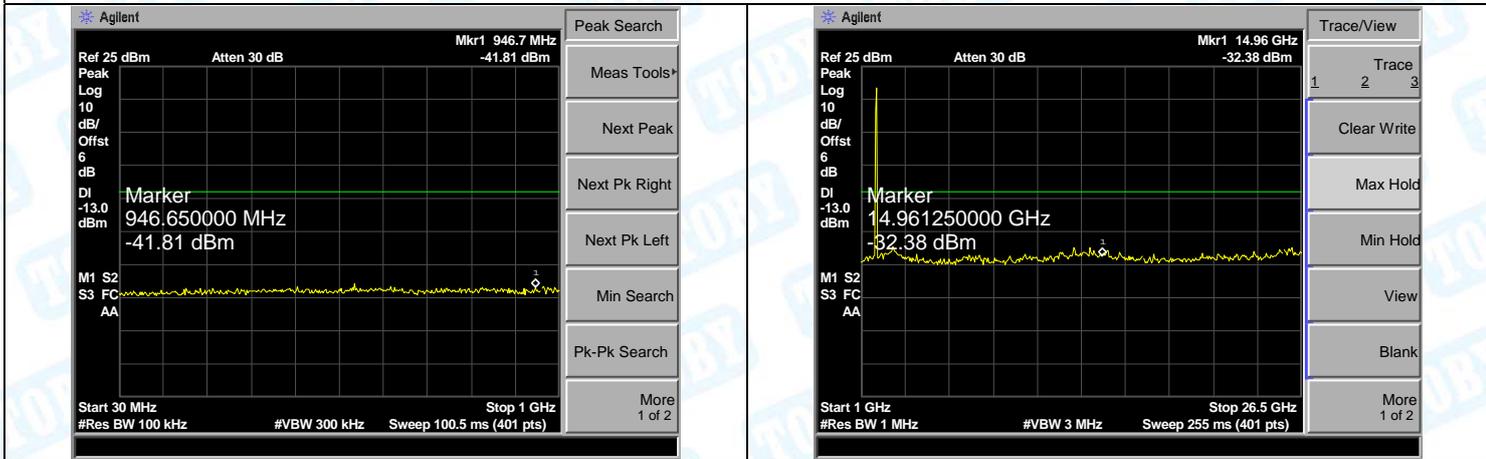
# ATTACHMENT D--OUT OF BAND EMISSION AT ANTENNA TERMINALS

Only show the worst case( LTE BAND 2/4/7 QPSK Mode)

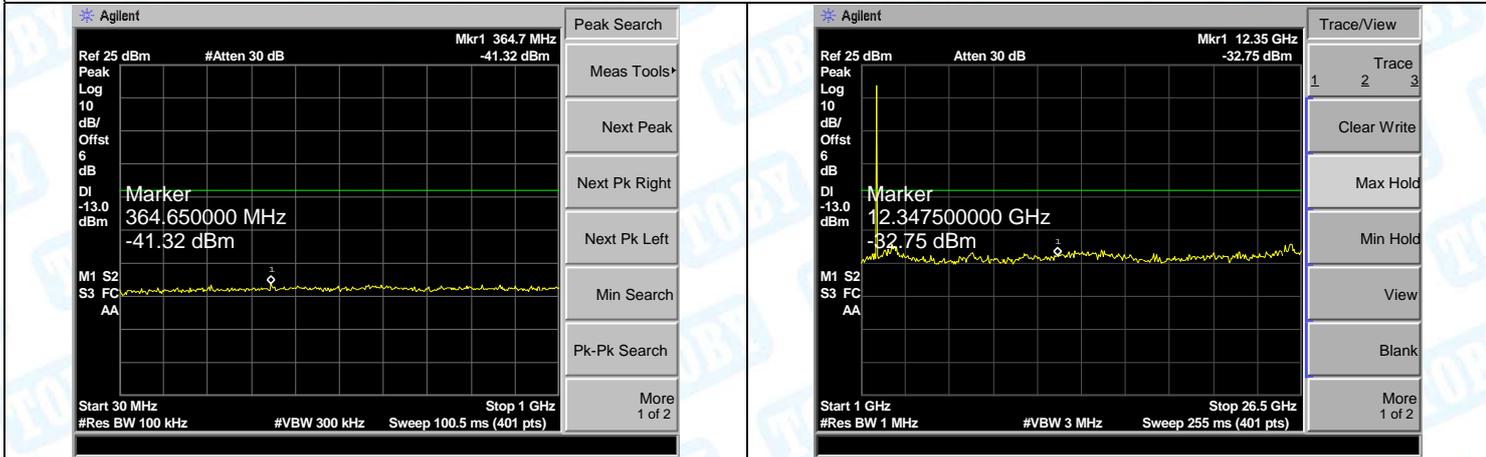


**30MHz-1GHz** **1GHz-26.5GHz**

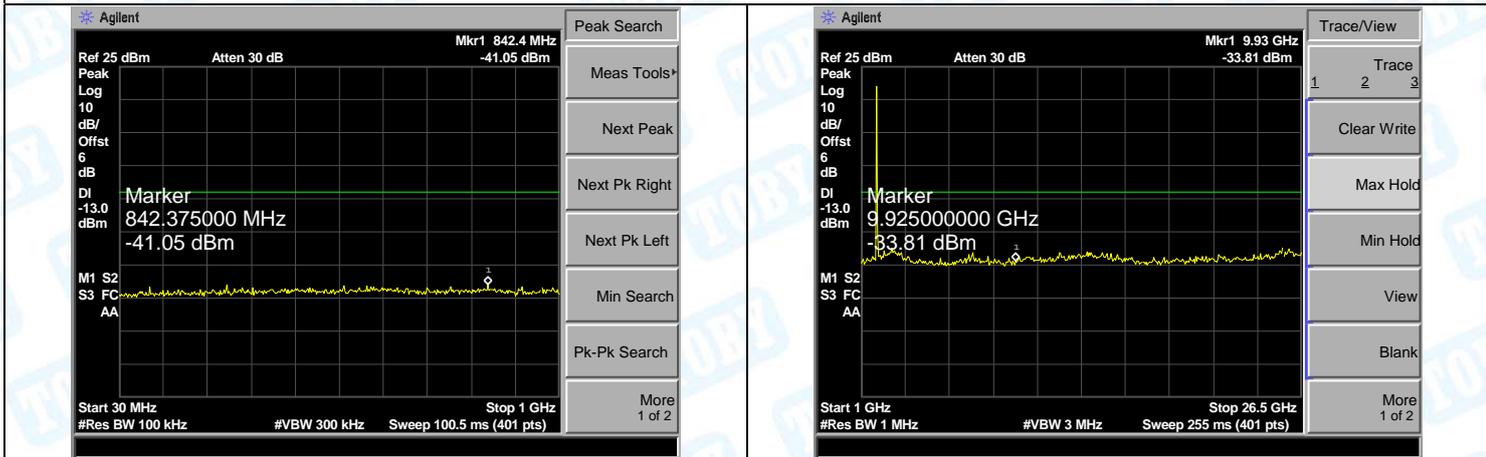
**LTE BAND 2 (3MHz RB Size 15& RB Offset 0 QPSK-Low CH)**



**LTE BAND 2 (3MHz RB Size 15& RB Offset 0 QPSK-Middle CH)**

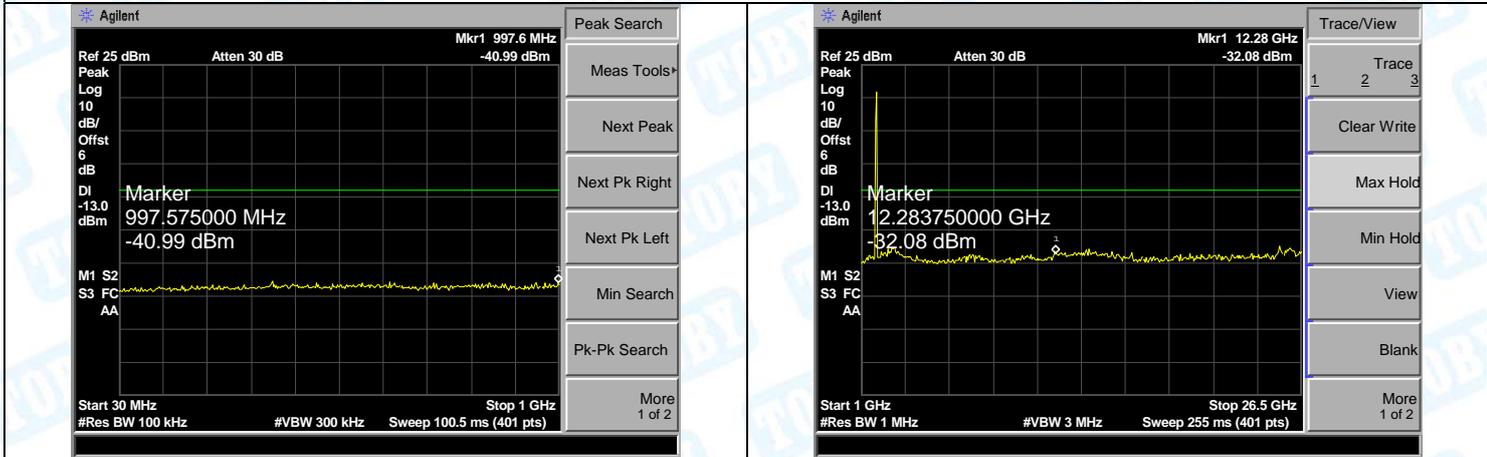


**LTE BAND 2 (3MHz RB Size 15& RB Offset 0 QPSK-High CH)**

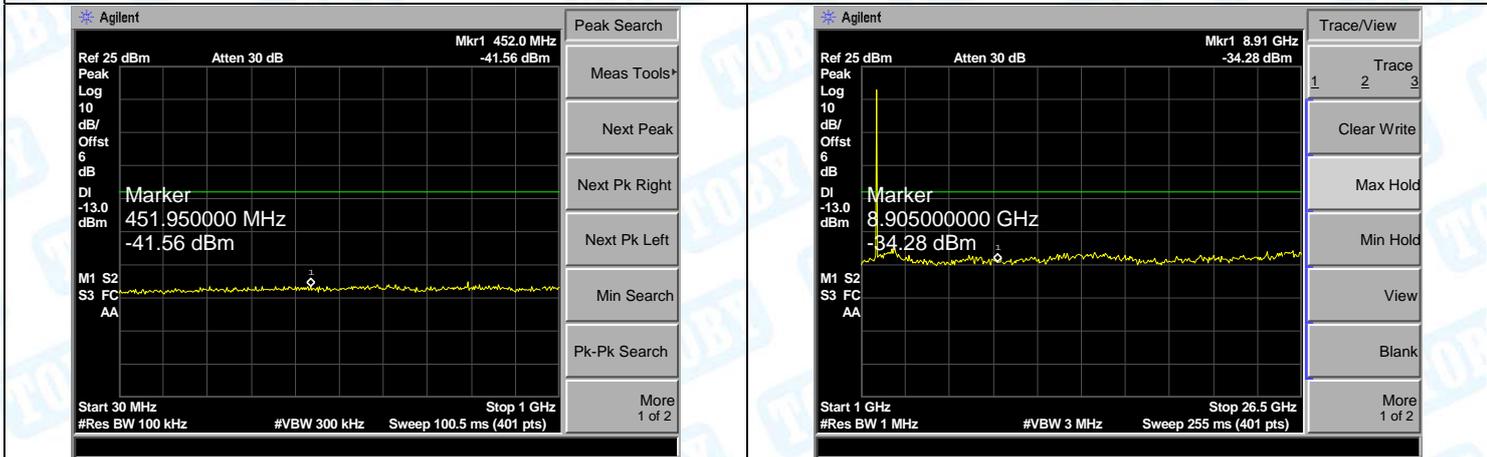


**30MHz-1GHz** **1GHz-26.5GHz**

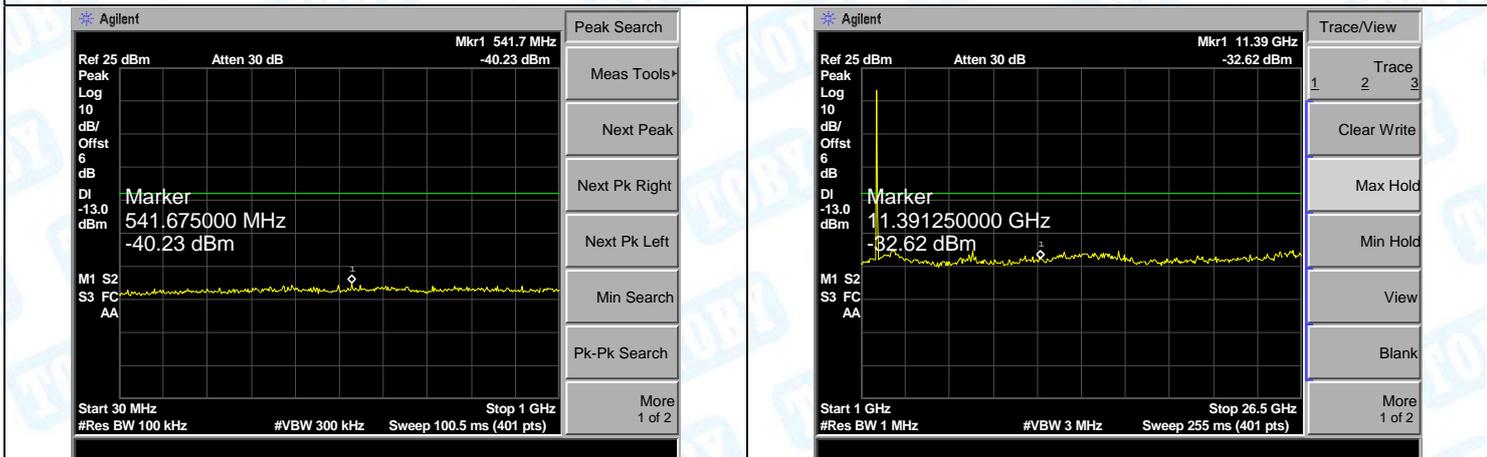
**LTE BAND 2 (5MHz RB Size 25& RB Offset 0 QPSK-Low CH)**



**LTE BAND 2 (5MHz RB Size 25& RB Offset 0 QPSK-Middle CH)**

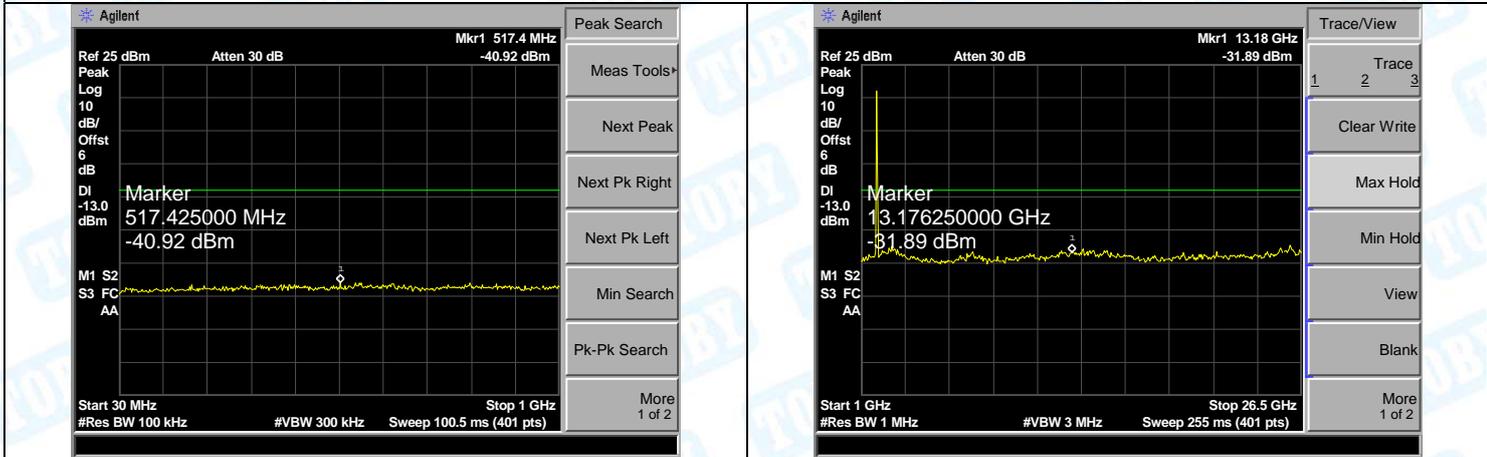


**LTE BAND 2 (5MHz RB Size 25& RB Offset 0 QPSK-High CH)**

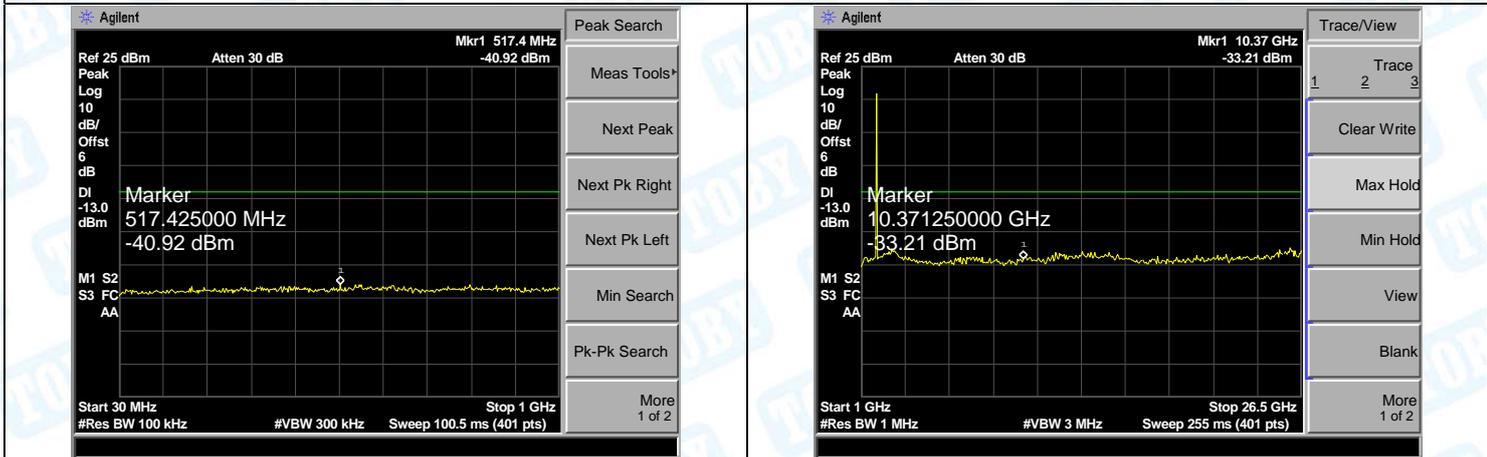


**30MHz-1GHz** **1GHz-26.5GHz**

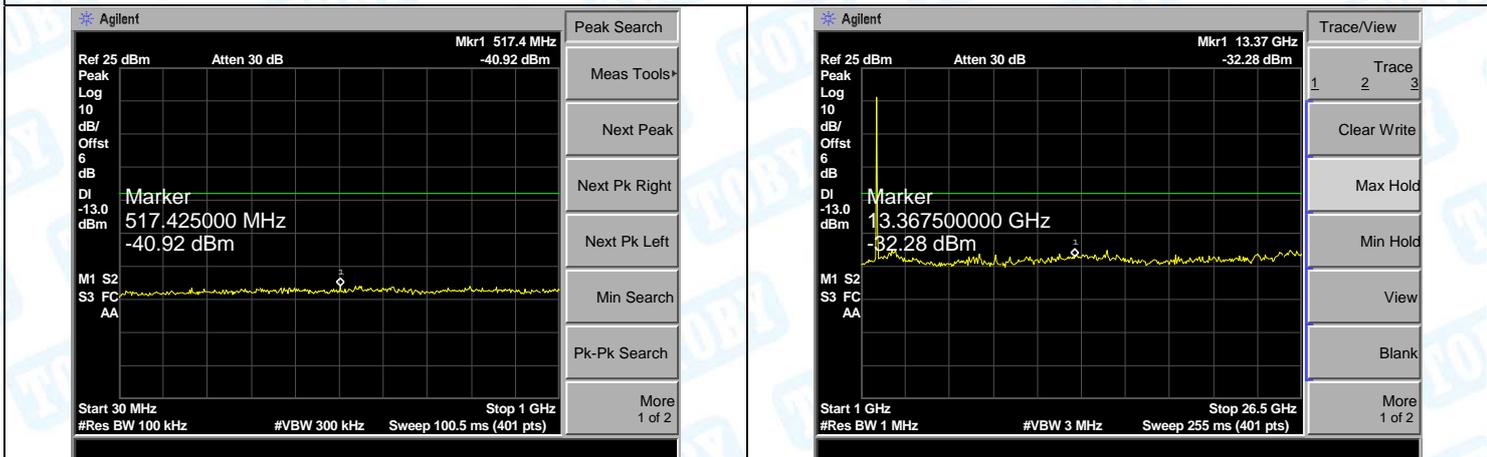
**LTE BAND 2 (10MHz RB Size 50& RB Offset 0 QPSK-Low CH)**



**LTE BAND 2 (10MHz RB Size 50& RB Offset 0 QPSK-Middle CH)**

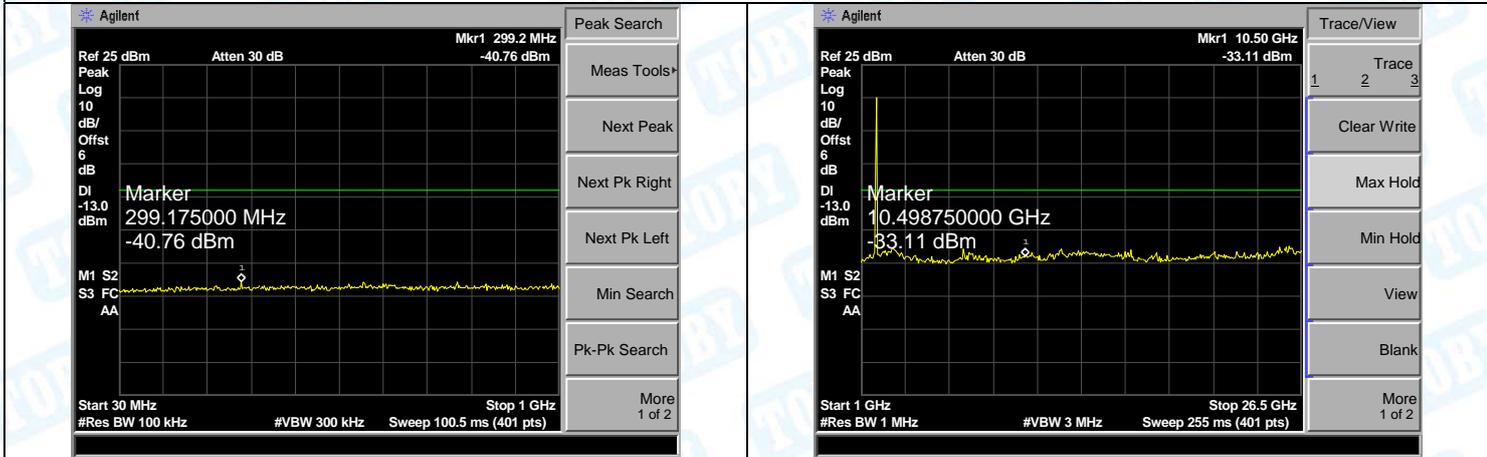


**LTE BAND 2 (10MHz RB Size 50& RB Offset 0 QPSK-High CH)**

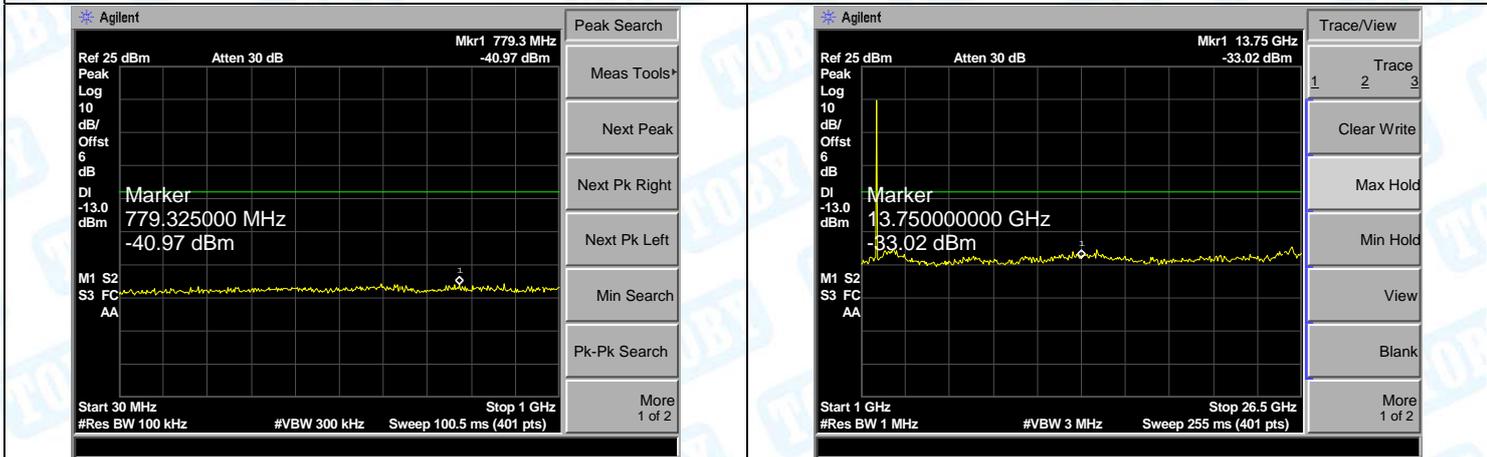


**30MHz-1GHz** **1GHz-26.5GHz**

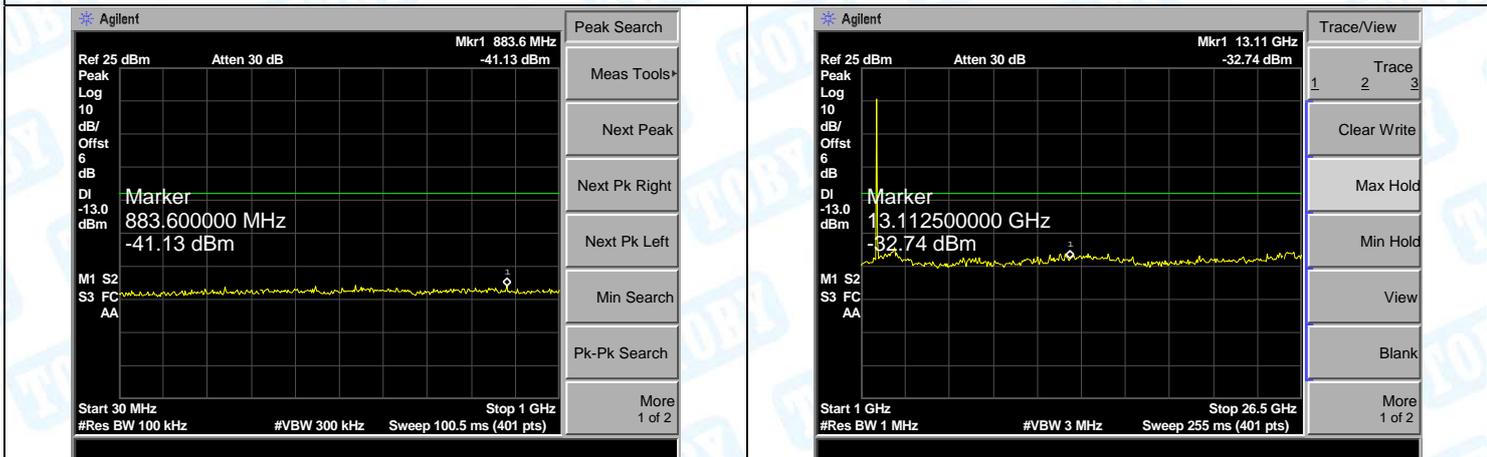
**LTE BAND 2 (15MHz RB Size 75& RB Offset 0 QPSK-Low CH)**



**LTE BAND 2 (15MHz RB Size 75& RB Offset 0 QPSK-Middle CH)**

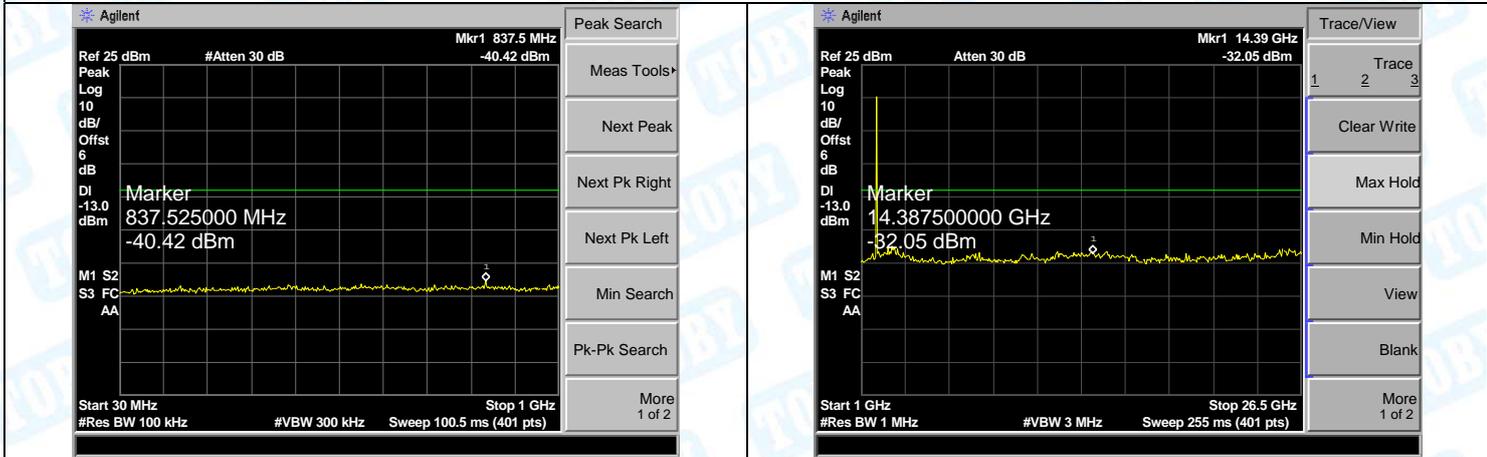


**LTE BAND 2 (15MHz RB Size 75& RB Offset 0 QPSK-High CH)**

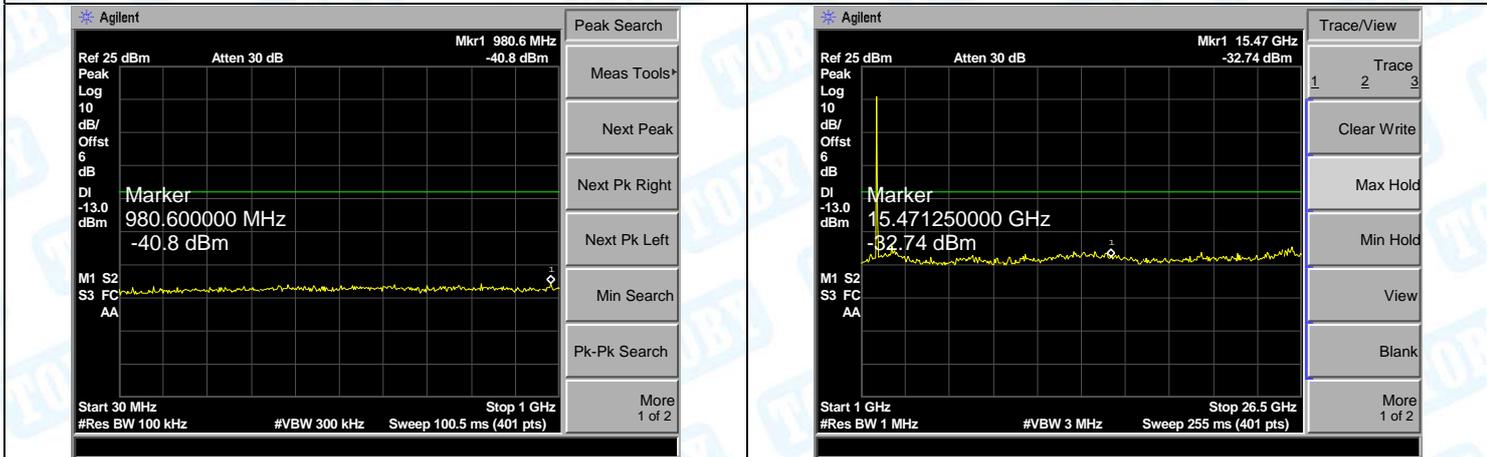


**30MHz-1GHz** **1GHz-26.5GHz**

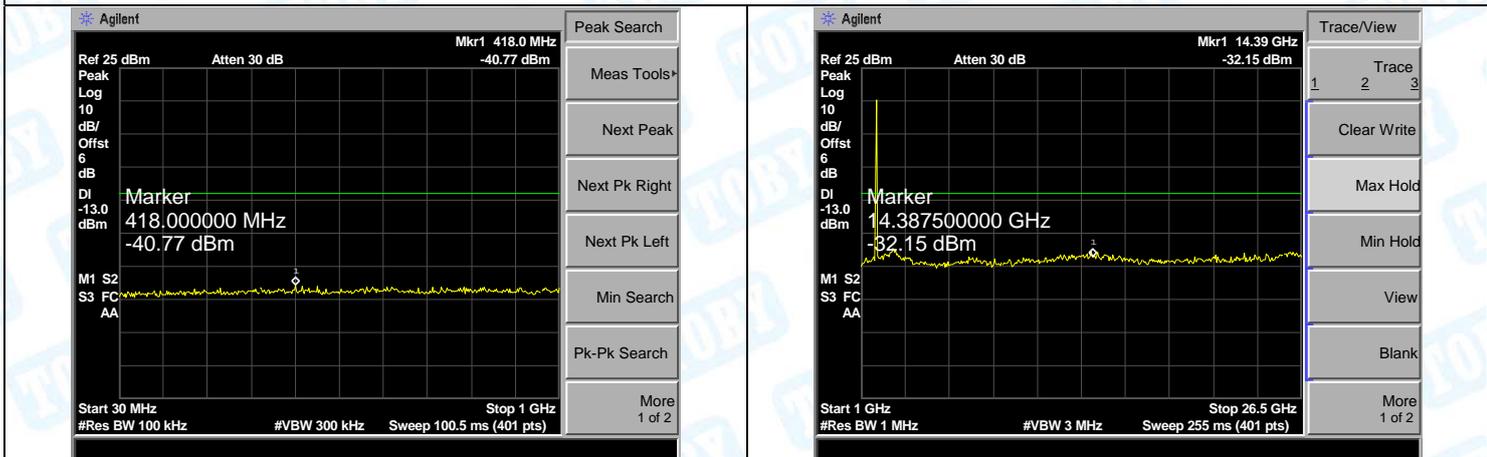
**LTE BAND 2 (20MHz RB Size 100& RB Offset 0 QPSK-Low CH)**

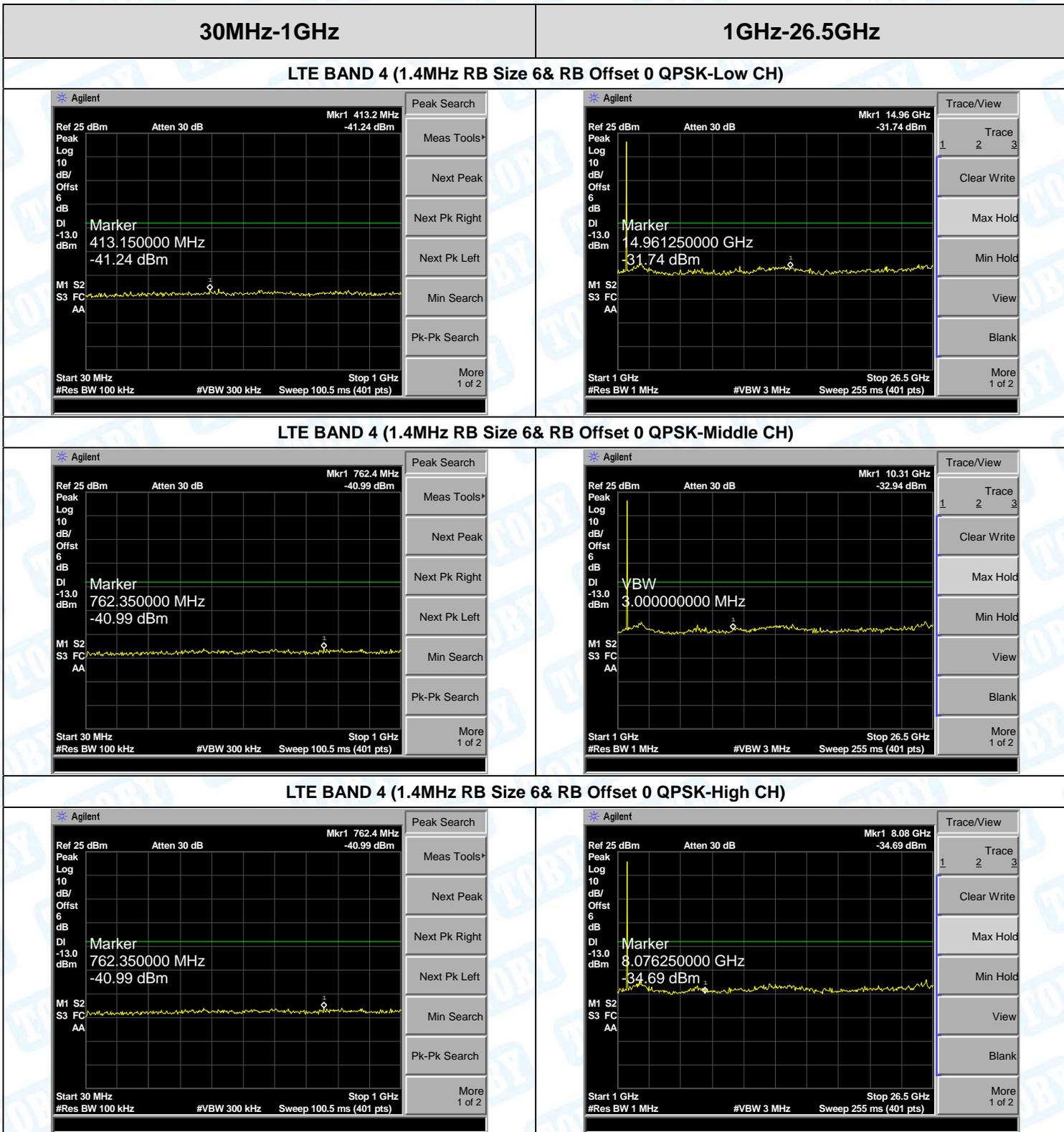


**LTE BAND 2 (20MHz RB Size 100& RB Offset 0 QPSK-Middle CH)**



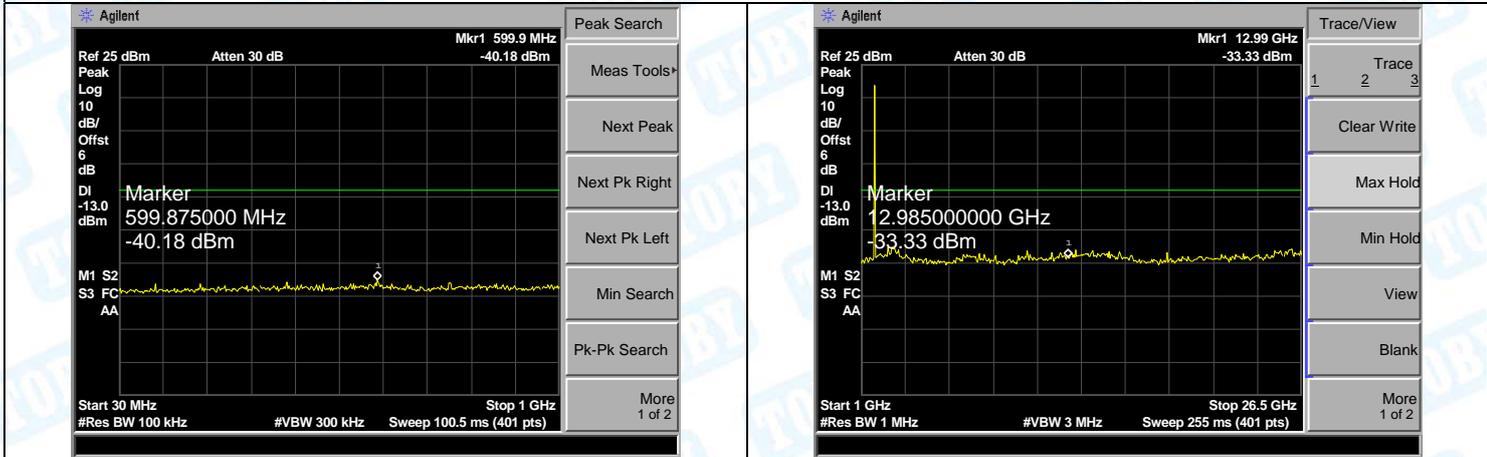
**LTE BAND 2 (20MHz RB Size 100& RB Offset 0 QPSK-High CH)**



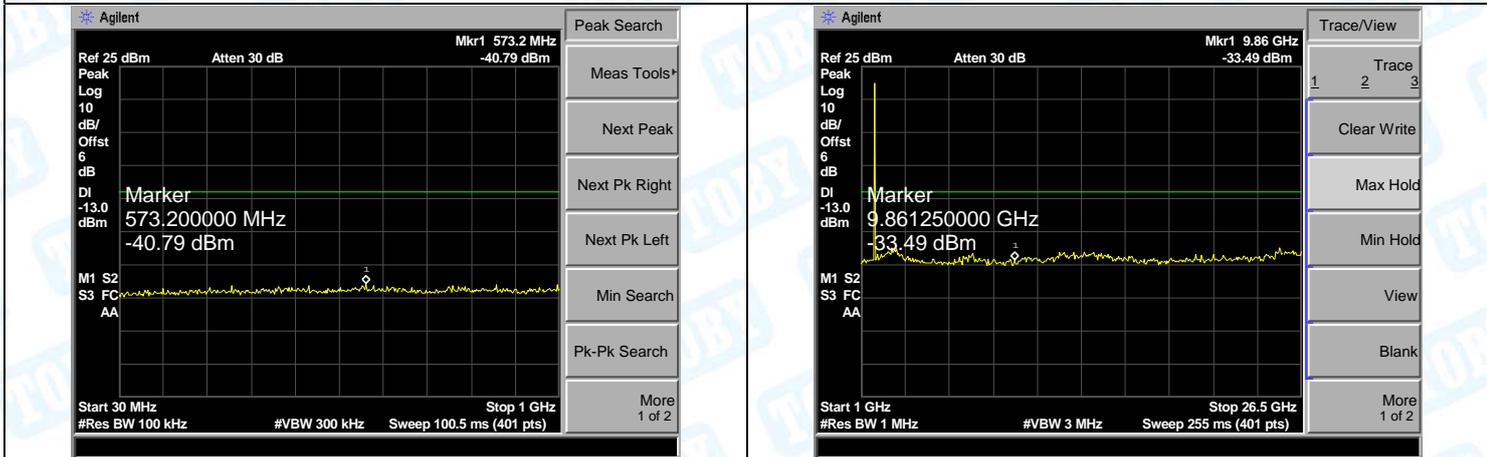


**30MHz-1GHz** **1GHz-26.5GHz**

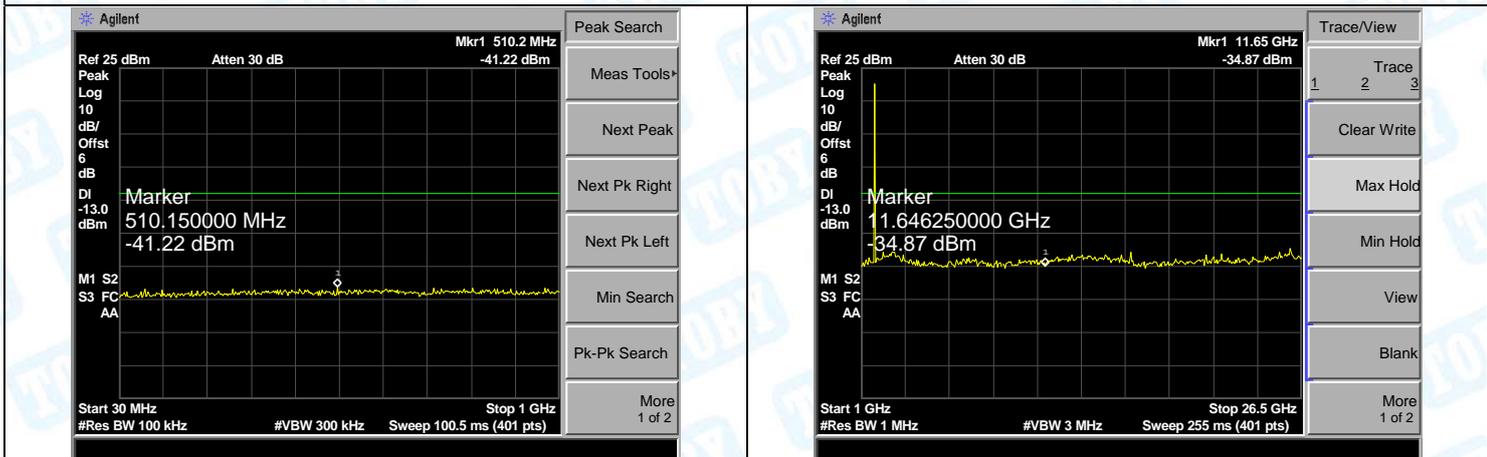
**LTE BAND 4 (3MHz RB Size 15& RB Offset 0 QPSK-Low CH)**



**LTE BAND 4 (3MHz RB Size 15& RB Offset 0 QPSK-Middle CH)**

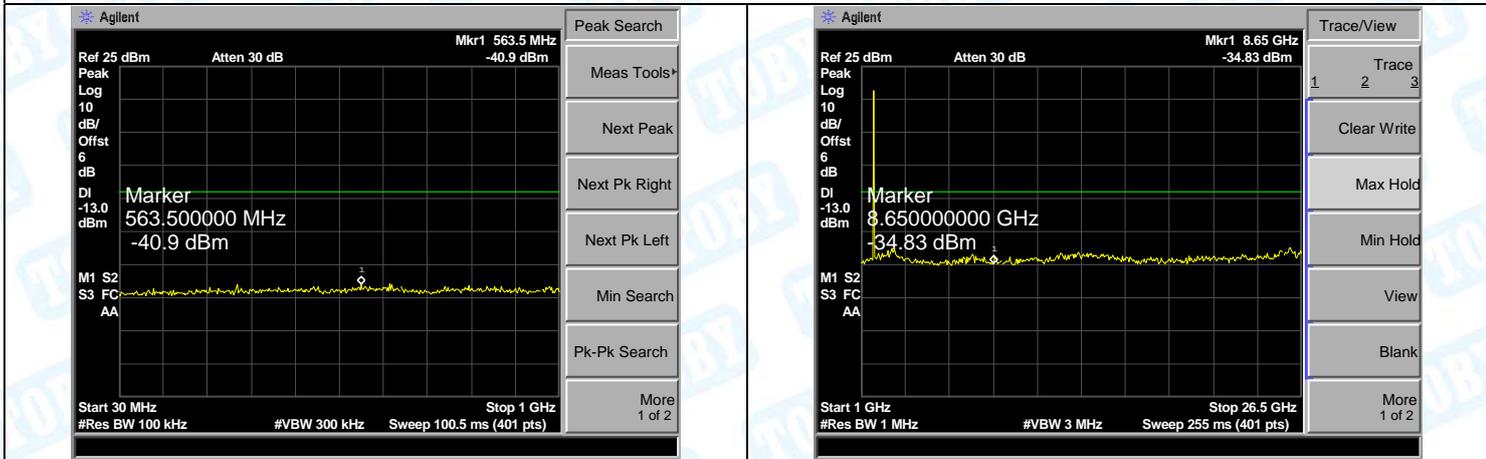


**LTE BAND 4 (3MHz RB Size 15& RB Offset 0 QPSK-High CH)**

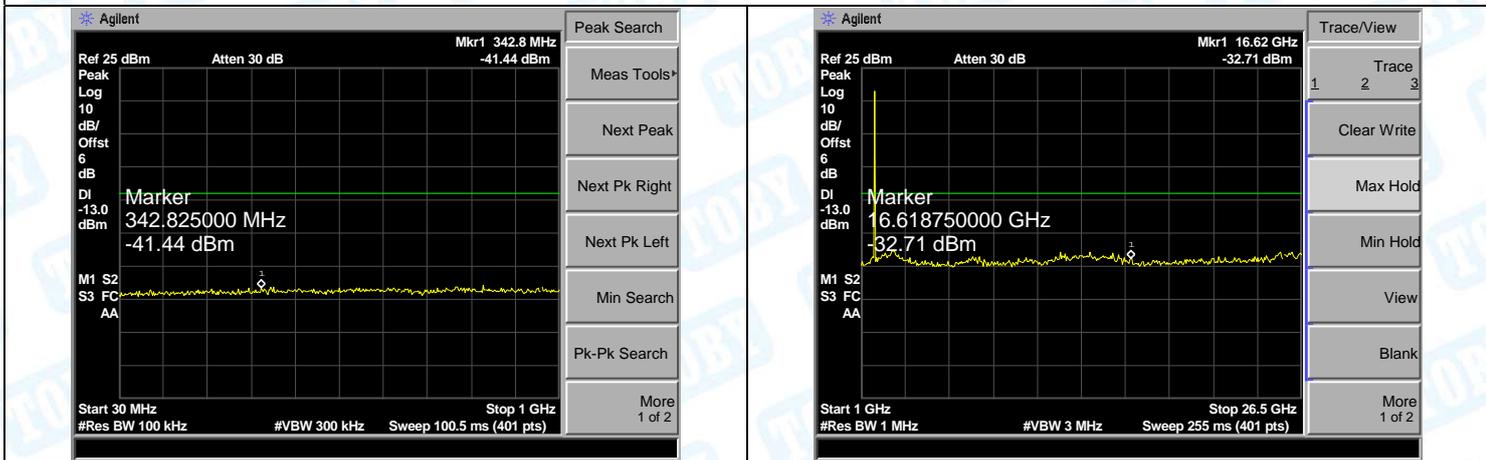


**30MHz-1GHz** **1GHz-26.5GHz**

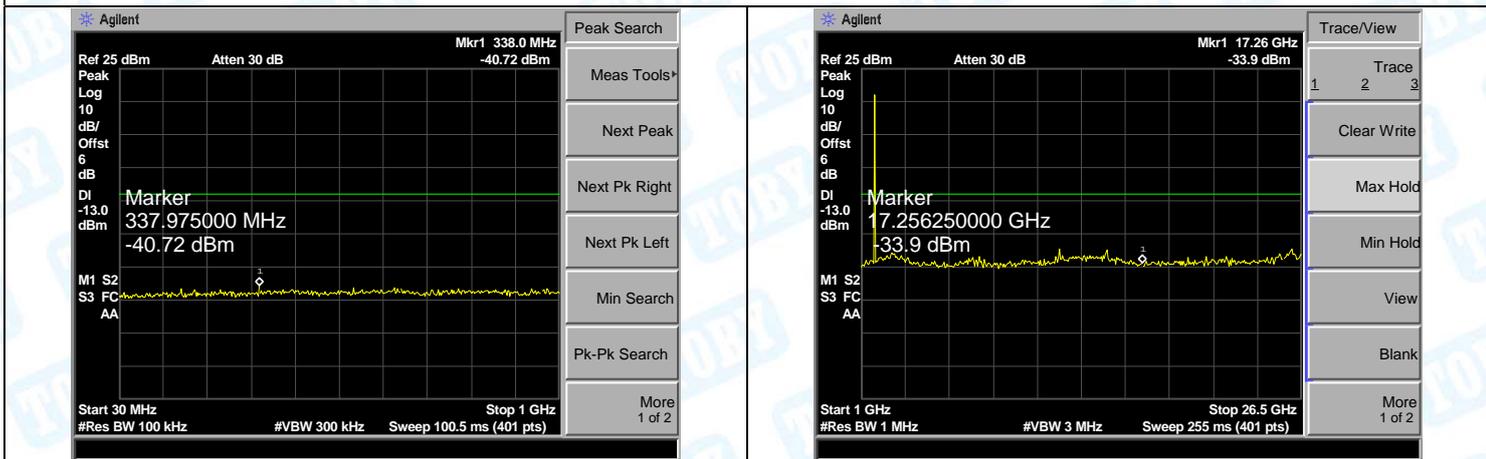
**LTE BAND 4 (5MHz RB Size 25& RB Offset 0 QPSK-Low CH)**



**LTE BAND 4 (5MHz RB Size 25& RB Offset 0 QPSK-Middle CH)**

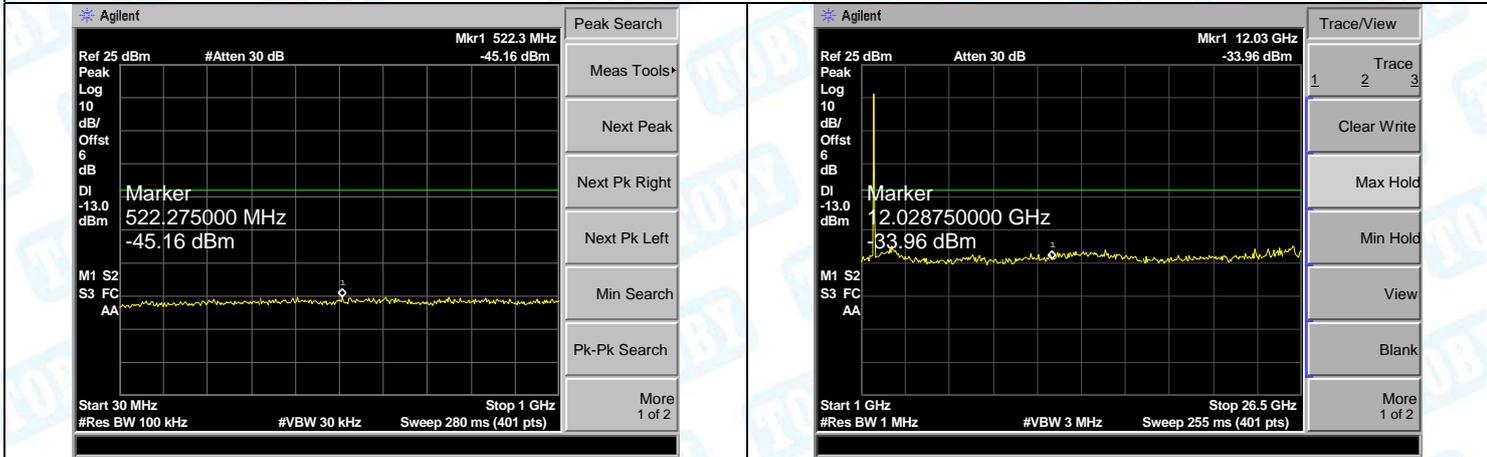


**LTE BAND 4 (5MHz RB Size 25& RB Offset 0 QPSK-High CH)**

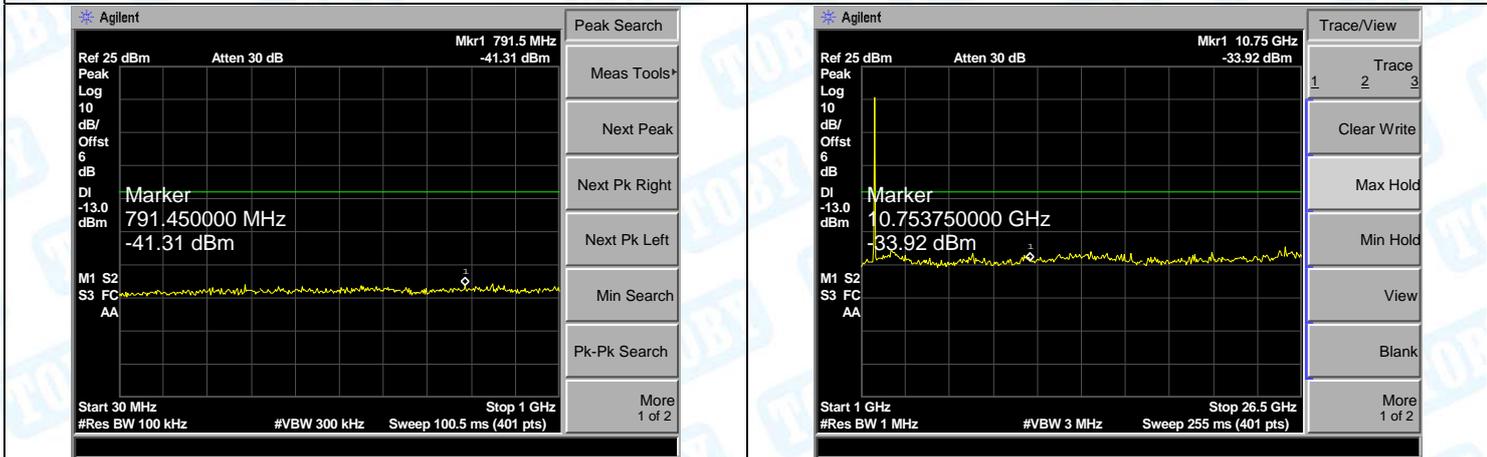


**30MHz-1GHz** **1GHz-26.5GHz**

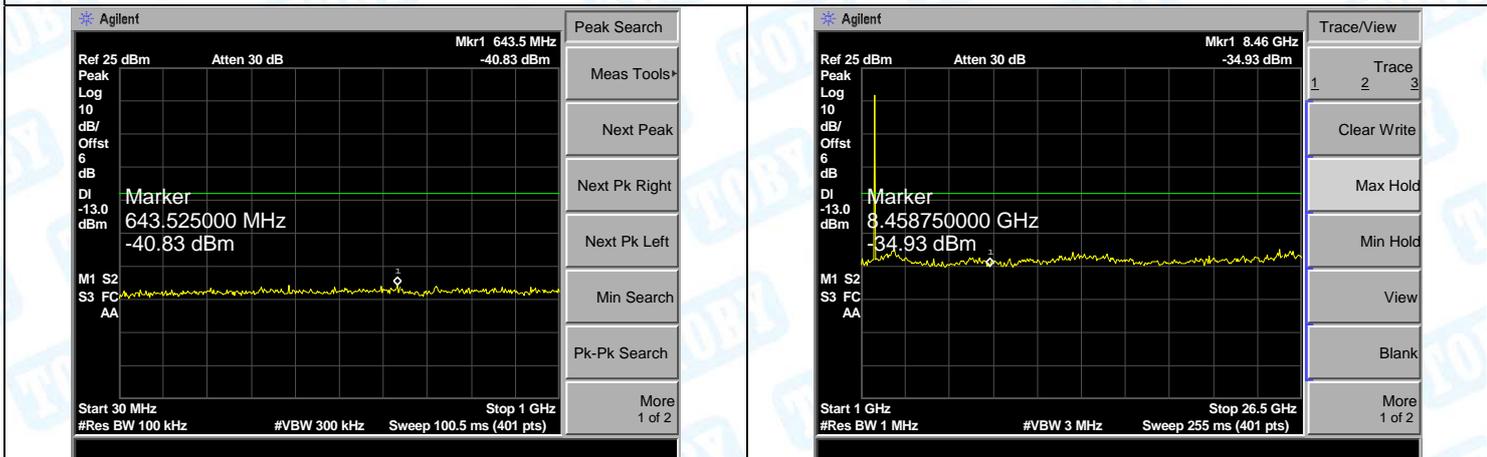
**LTE BAND 4 (10MHz RB Size 50& RB Offset 0 QPSK-Low CH)**



**LTE BAND 4 (10MHz RB Size 50& RB Offset 0 QPSK-Middle CH)**

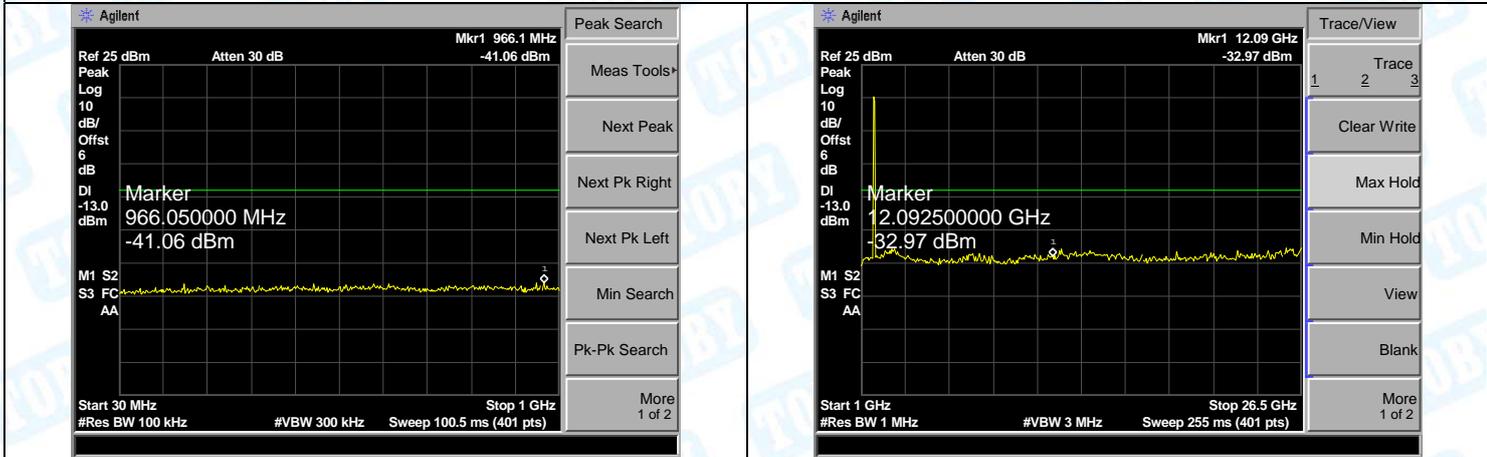


**LTE BAND 4 (10MHz RB Size 50& RB Offset 0 QPSK-High CH)**

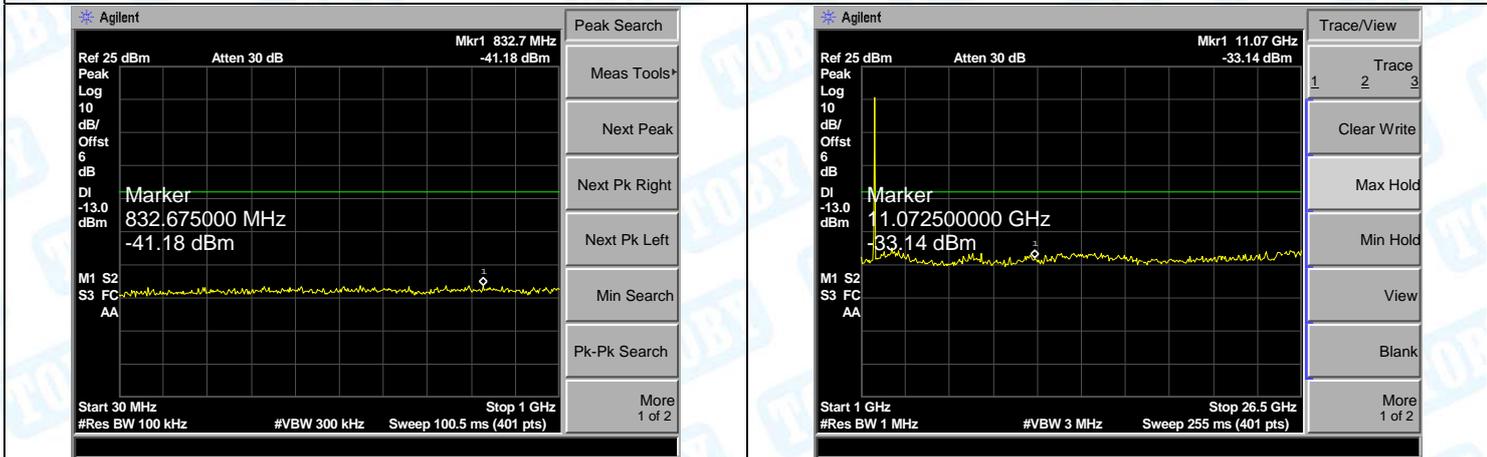


**30MHz-1GHz** **1GHz-26.5GHz**

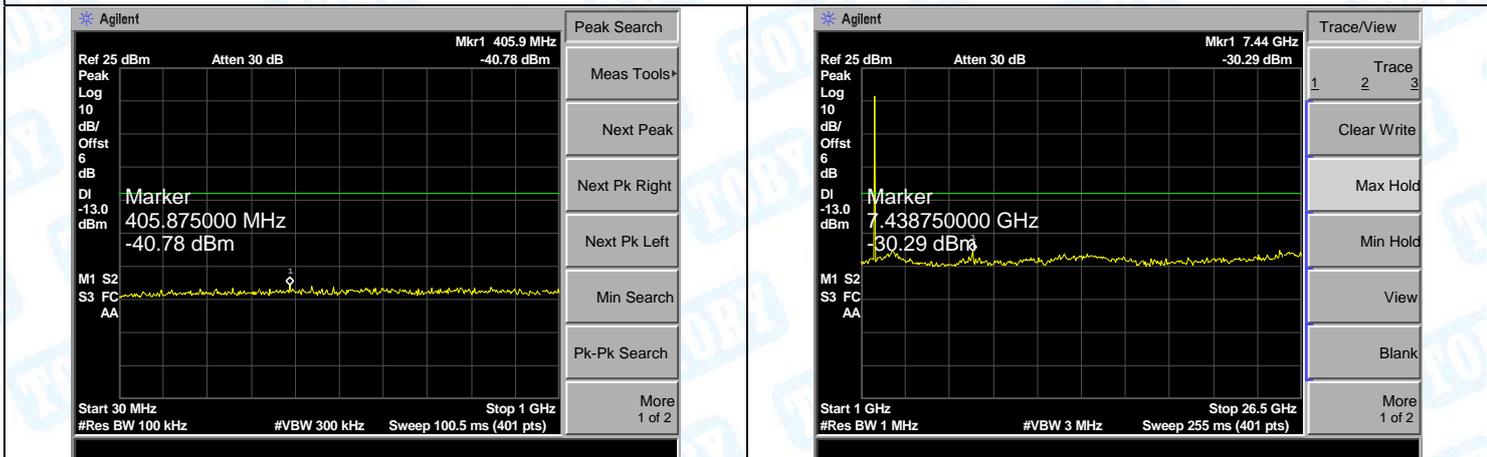
**LTE BAND 4 (15MHz RB Size 75& RB Offset 0 QPSK-Low CH)**



**LTE BAND 4 (15MHz RB Size 75& RB Offset 0 QPSK-Middle CH)**

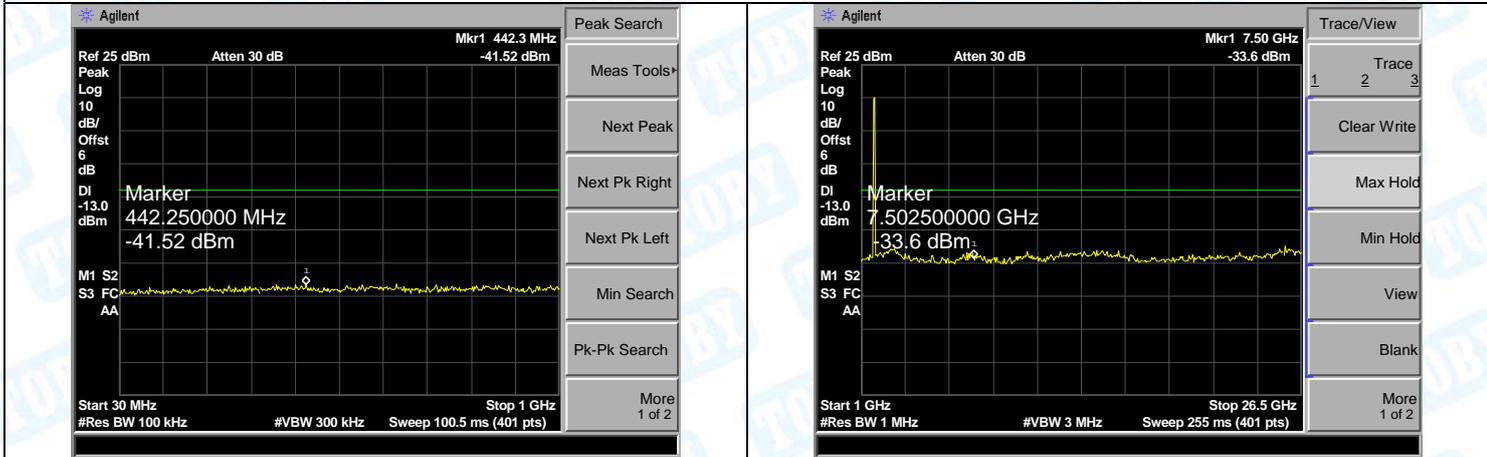


**LTE BAND 4 (15MHz RB Size 75& RB Offset 0 QPSK-High CH)**

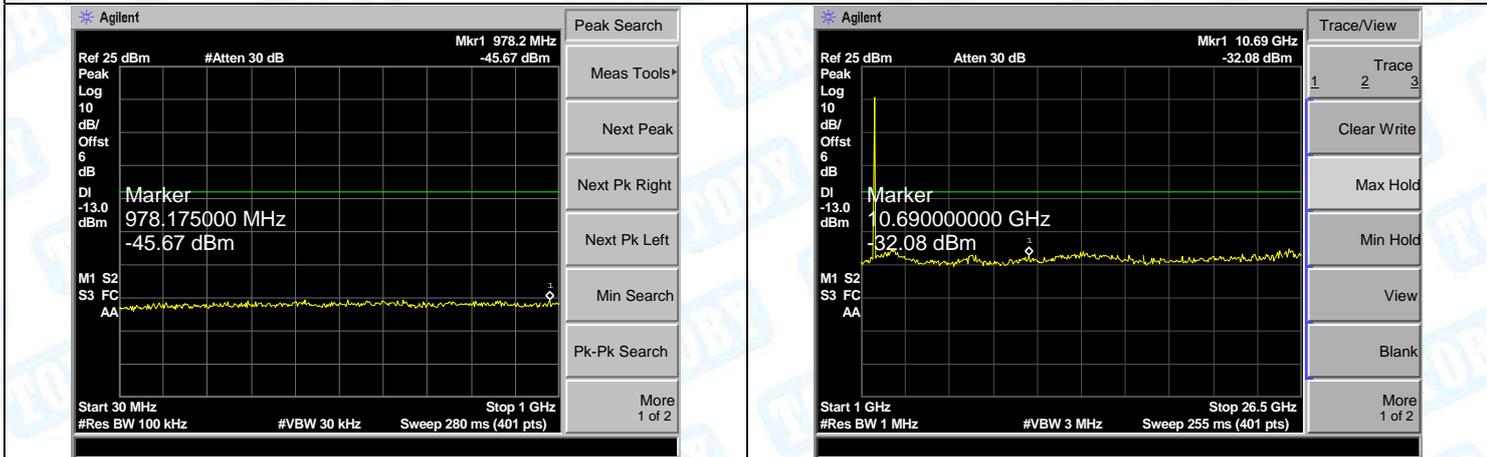


**30MHz-1GHz** **1GHz-26.5GHz**

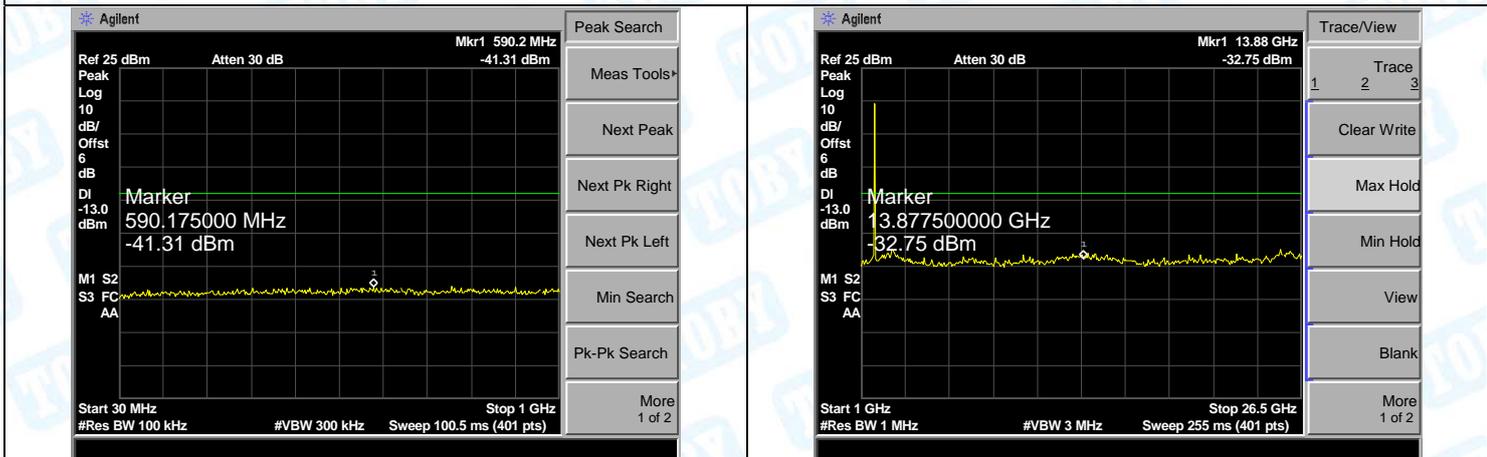
**LTE BAND 4 (20MHz RB Size 100& RB Offset 0 QPSK-Low CH)**



**LTE BAND 4 (20MHz RB Size 100& RB Offset 0 QPSK-Middle CH)**

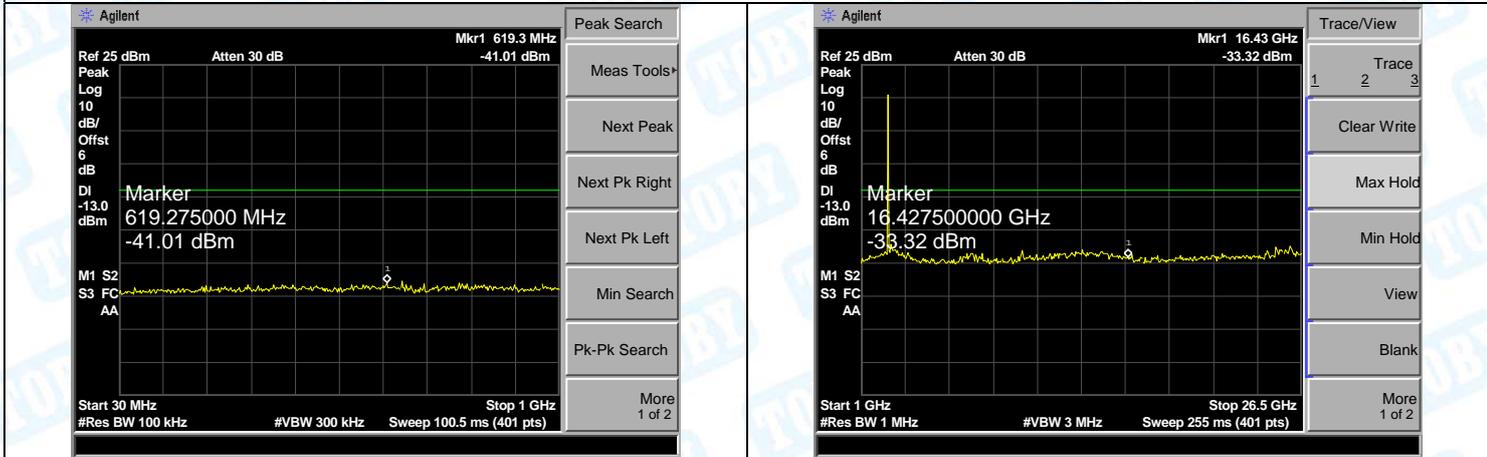


**LTE BAND 4 (20MHz RB Size 100& RB Offset 0 QPSK-High CH)**

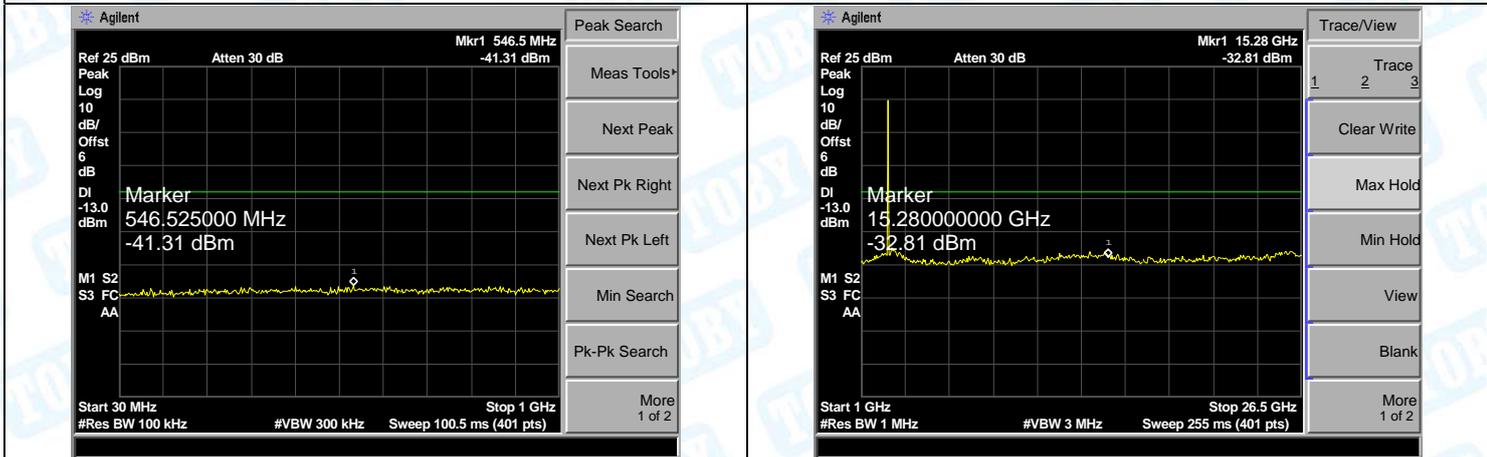


**30MHz-1GHz** **1GHz-26.5GHz**

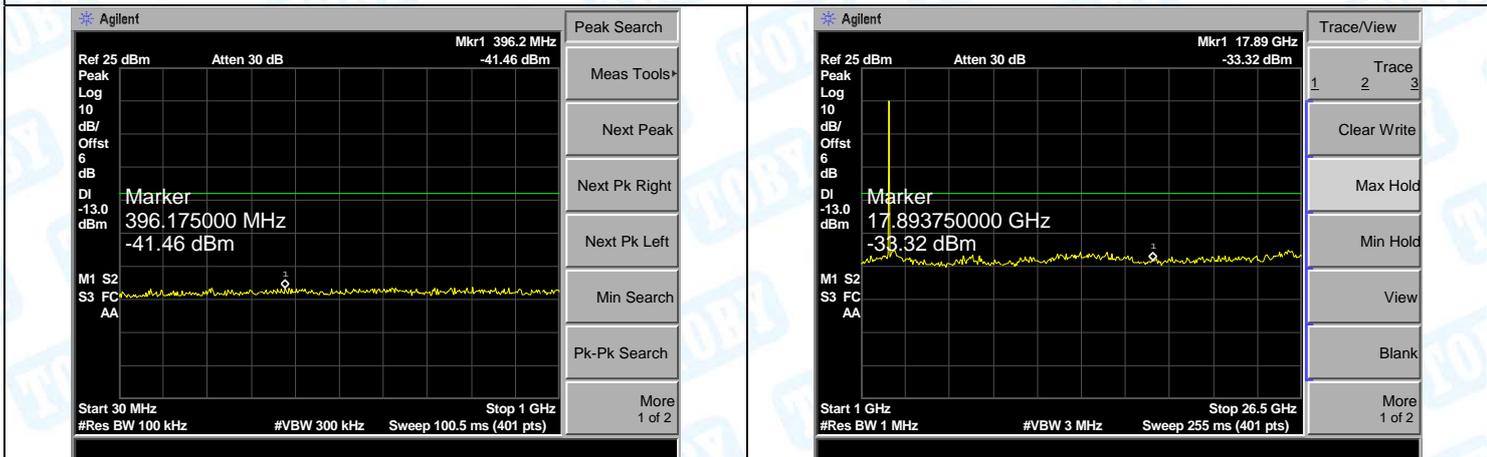
**LTE BAND 7 (5MHz RB Size 25& RB Offset 0 QPSK-Low CH)**



**LTE BAND 7 (5MHz RB Size 25& RB Offset 0 QPSK-Middle CH)**

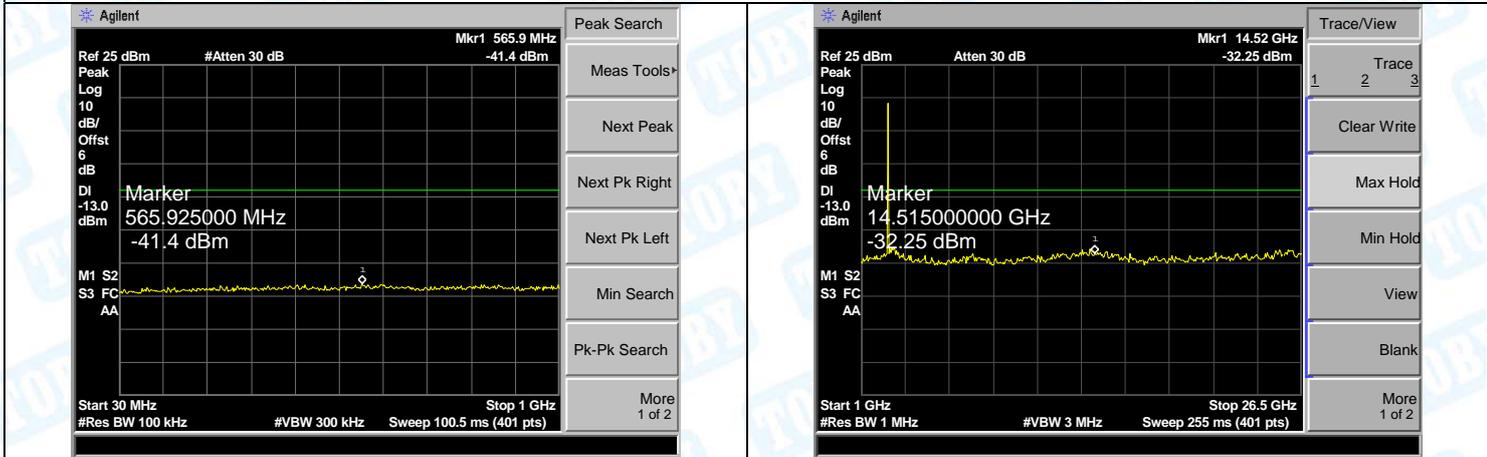


**LTE BAND 7 (5MHz RB Size 25& RB Offset 0 QPSK-High CH)**



**30MHz-1GHz** **1GHz-26.5GHz**

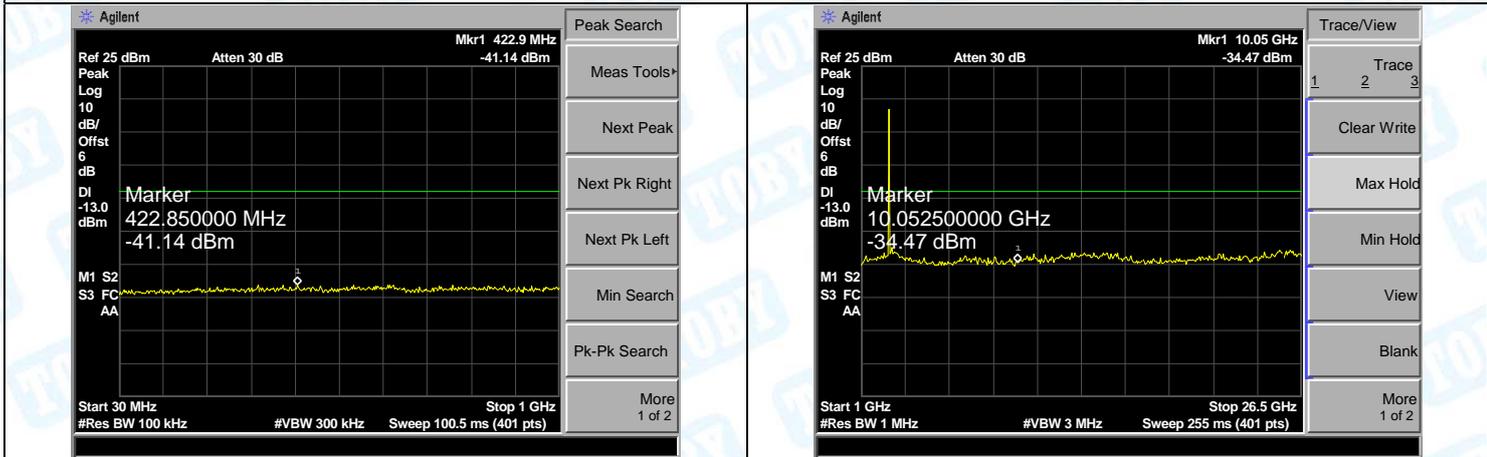
**LTE BAND 7 (10MHz RB Size 50& RB Offset 0 QPSK-Low CH)**



**LTE BAND 7 (10MHz RB Size 50& RB Offset 0 QPSK-Middle CH)**

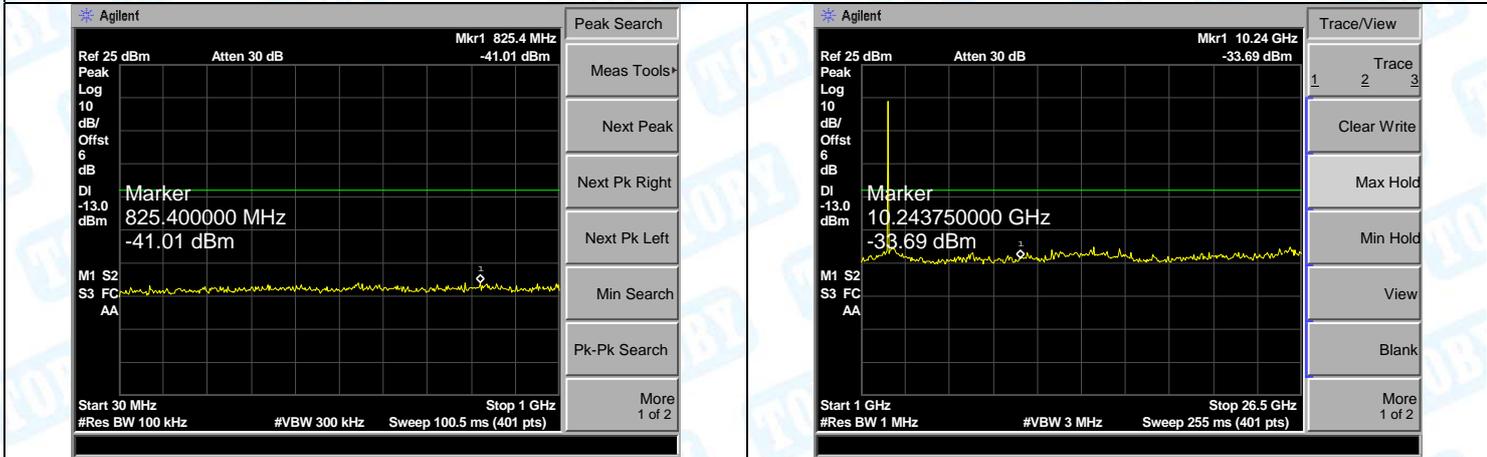


**LTE BAND 7 (10MHz RB Size 50& RB Offset 0 QPSK-High CH)**

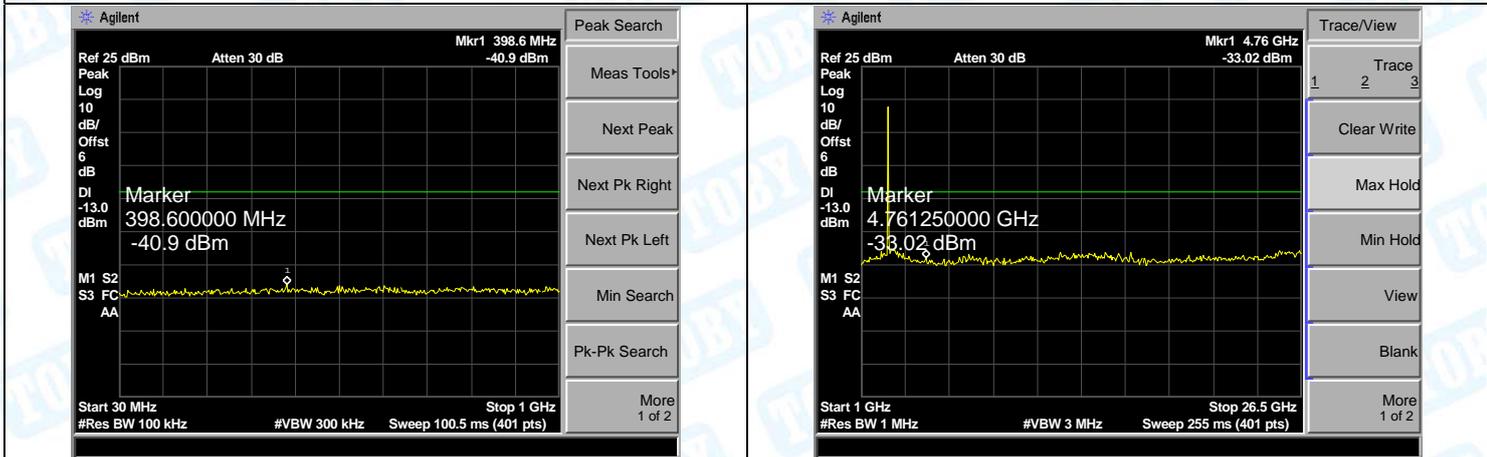


**30MHz-1GHz** **1GHz-26.5GHz**

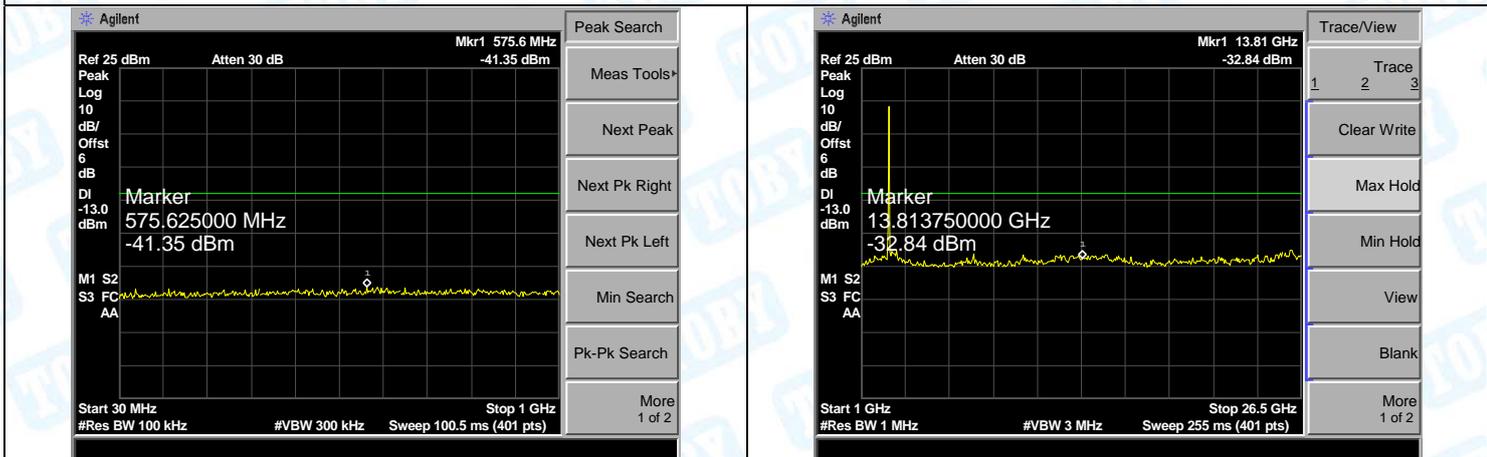
**LTE BAND 7 (15MHz RB Size 75& RB Offset 0 QPSK-Low CH)**



**LTE BAND 7 (15MHz RB Size 75& RB Offset 0 QPSK-Middle CH)**

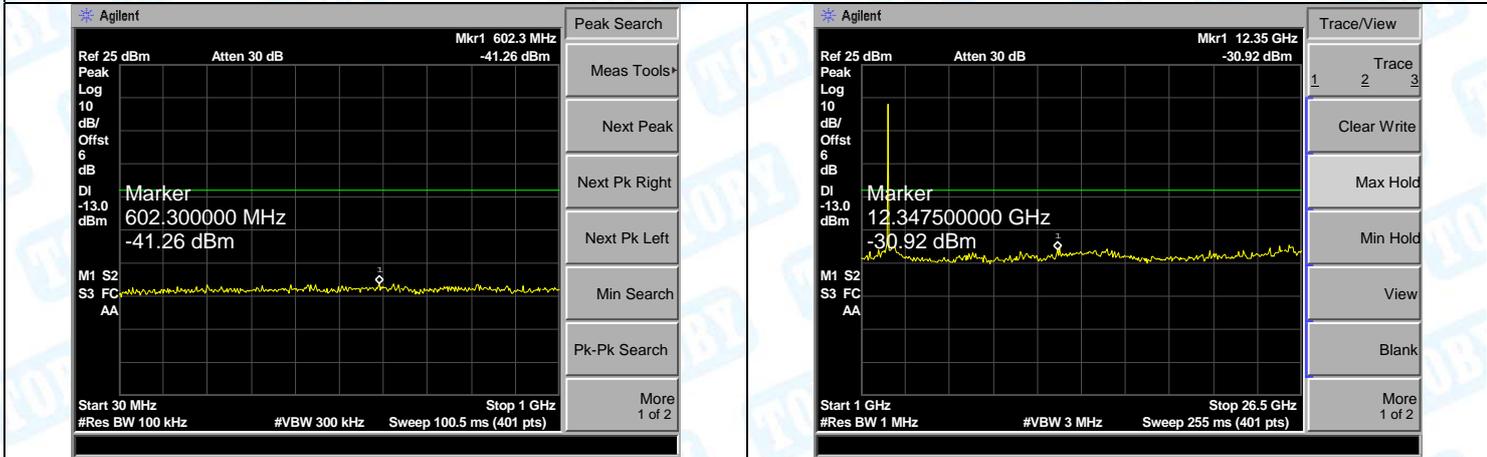


**LTE BAND 7 (15MHz RB Size 75& RB Offset 0 QPSK-High CH)**

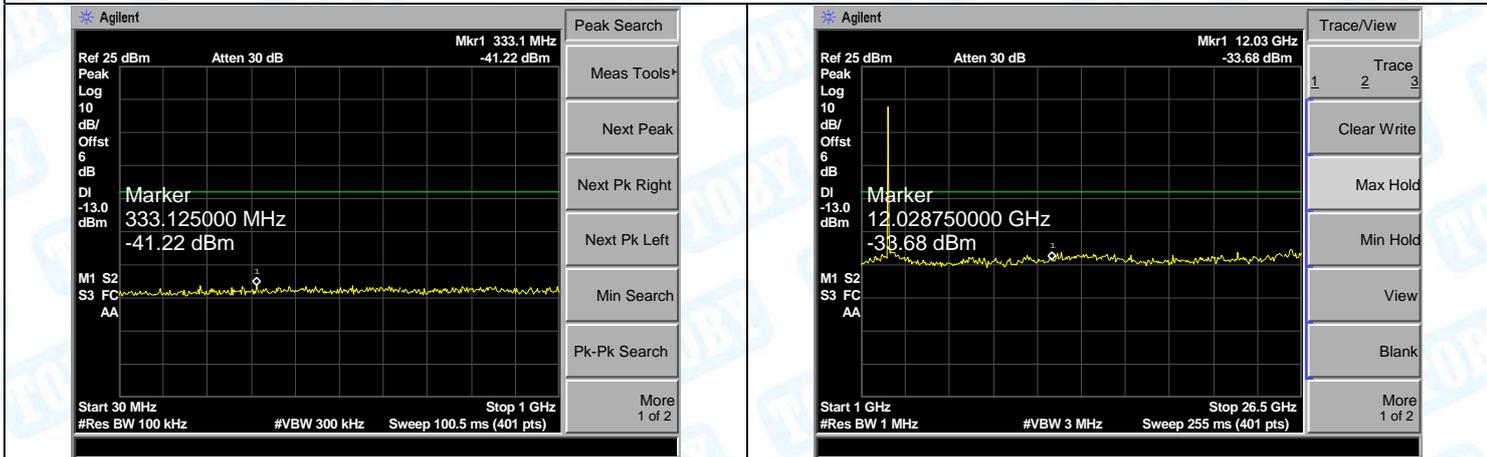


**30MHz-1GHz** **1GHz-26.5GHz**

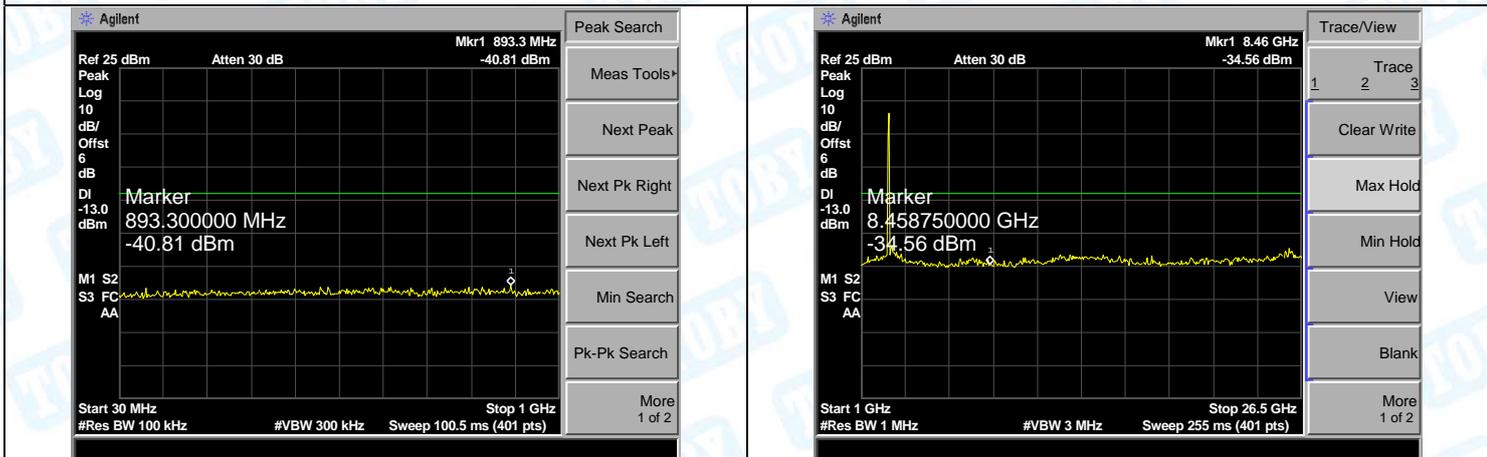
**LTE BAND 7 (20MHz RB Size 100& RB Offset 0 QPSK-Low CH)**



**LTE BAND 7 (20MHz RB Size 100& RB Offset 0 QPSK-Middle CH)**

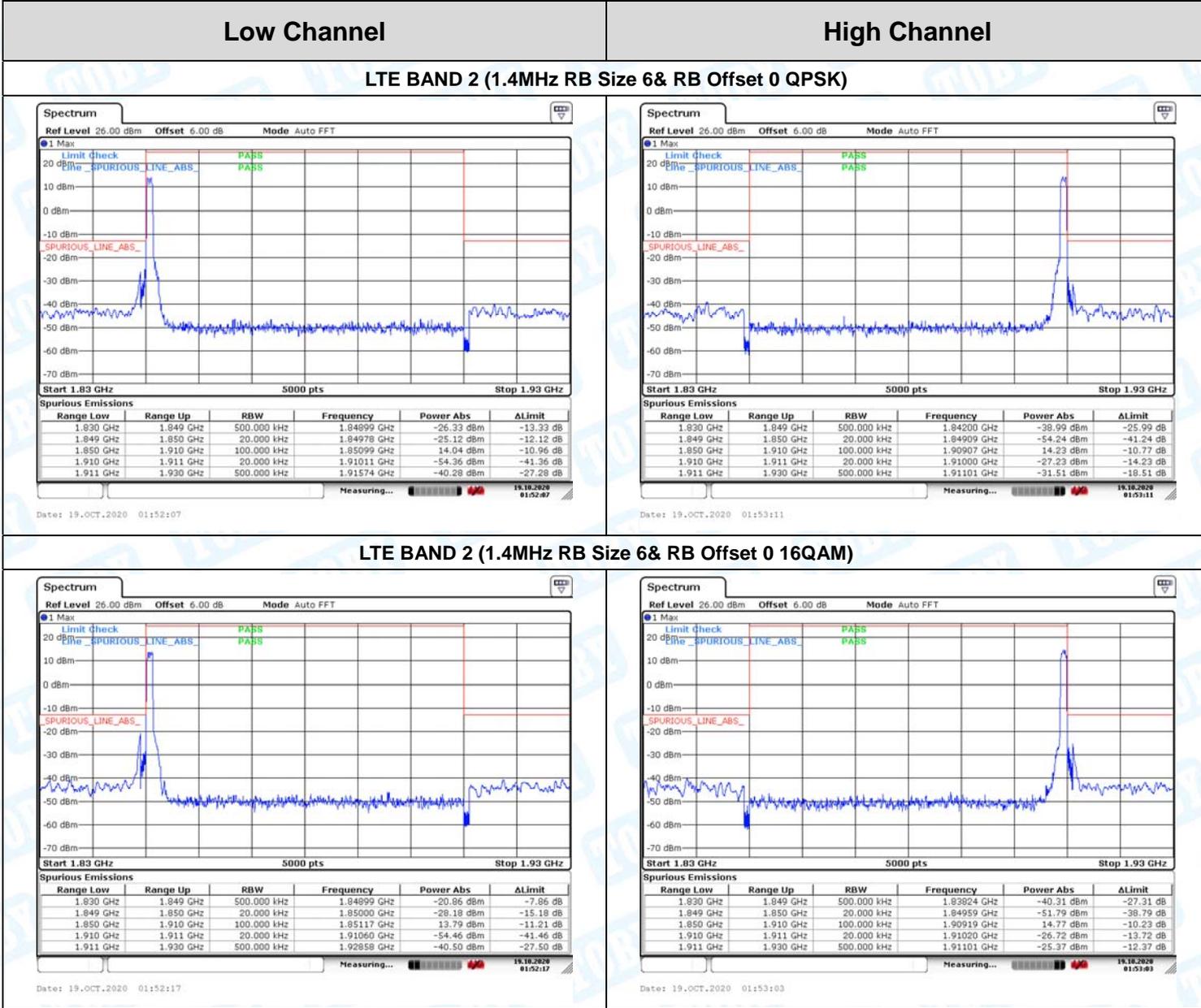


**LTE BAND 7 (20MHz RB Size 100& RB Offset 0 QPSK-High CH)**



# ATTACHMENT E--BAND EDGE TEST

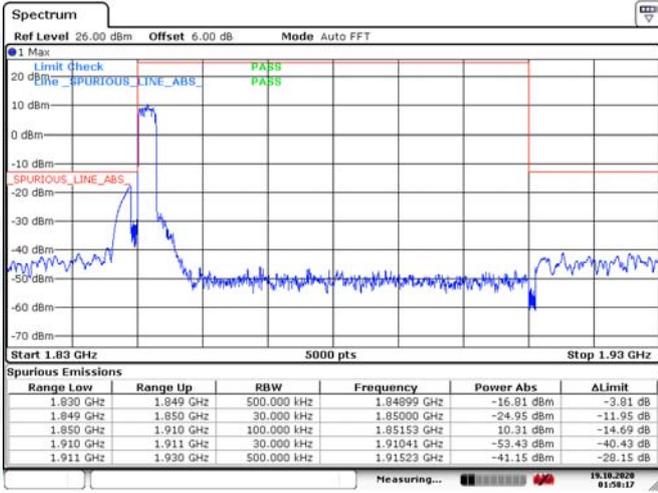
Only show the worst case(QPSK max RB size).



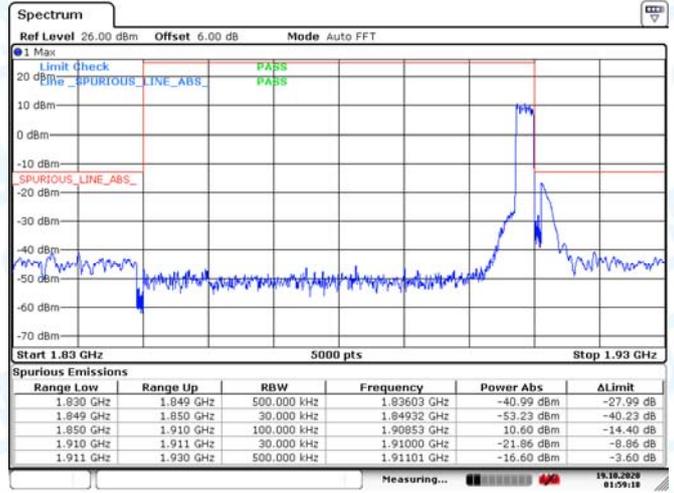
## Low Channel

## High Channel

### LTE BAND 2 (3MHz RB Size 15& RB Offset 0 QPSK)

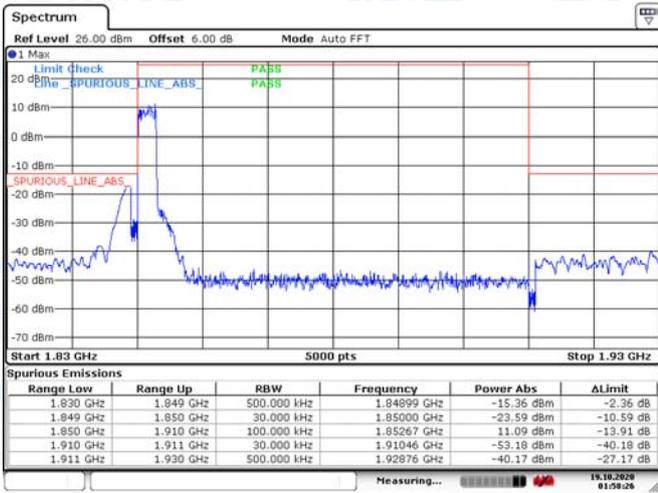


Date: 19.OCT.2020 01:58:17

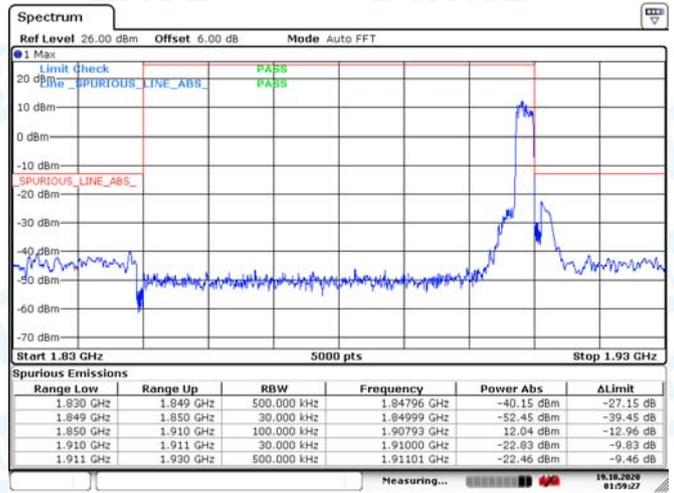


Date: 19.OCT.2020 01:59:18

### LTE BAND 2 (3MHz RB Size 15& RB Offset 0 16QAM)



Date: 19.OCT.2020 01:58:26

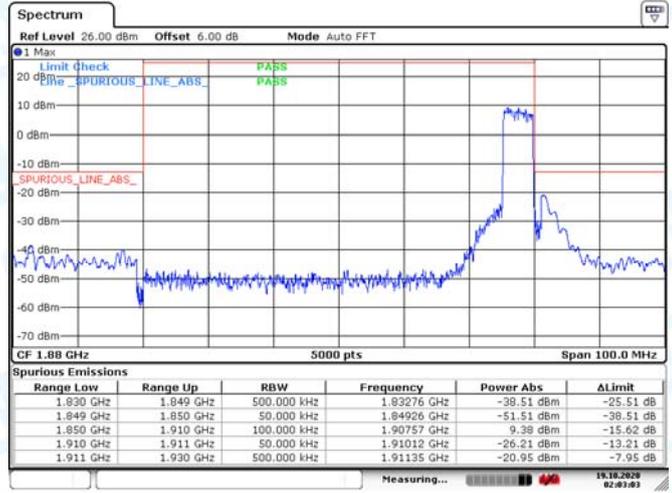
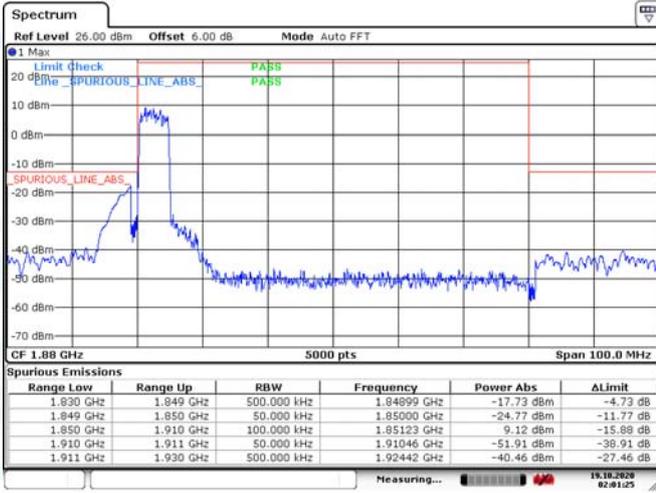


Date: 19.OCT.2020 01:59:27

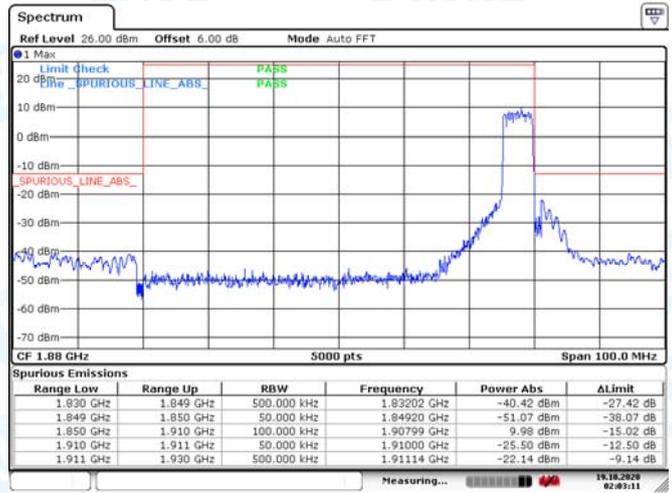
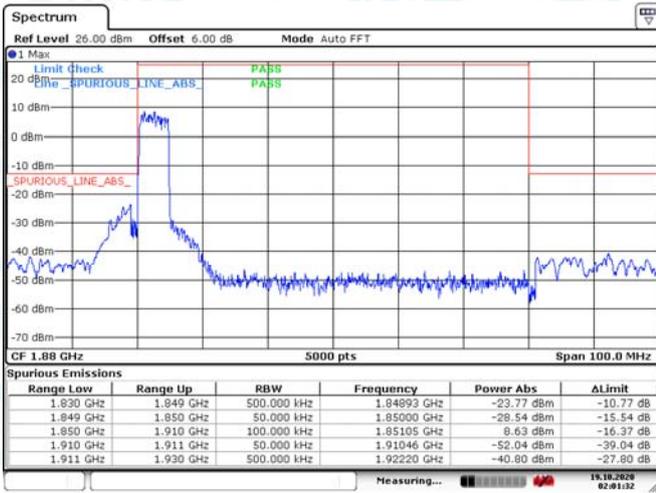
Low Channel

High Channel

LTE BAND 2 (5MHz RB Size 25& RB Offset 0 QPSK)



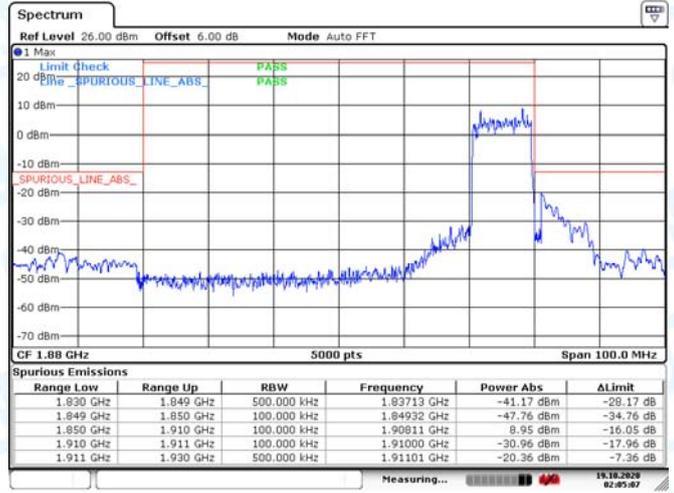
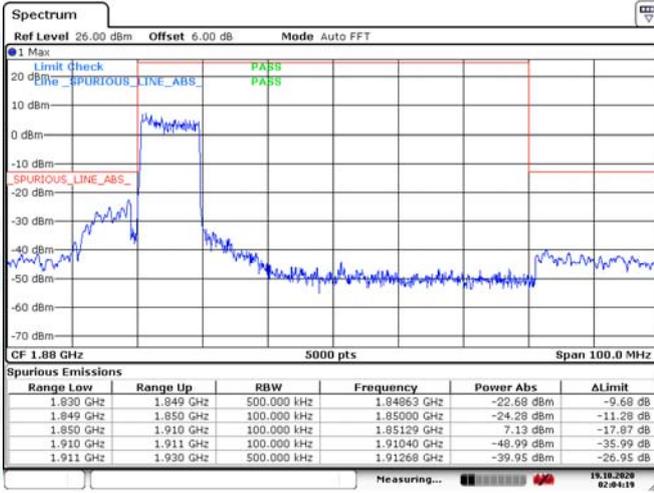
LTE BAND 2 (5MHz RB Size 25& RB Offset 0 16QAM)



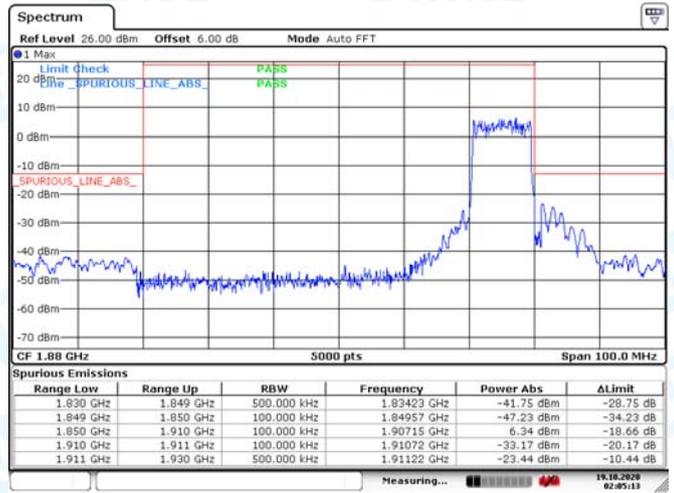
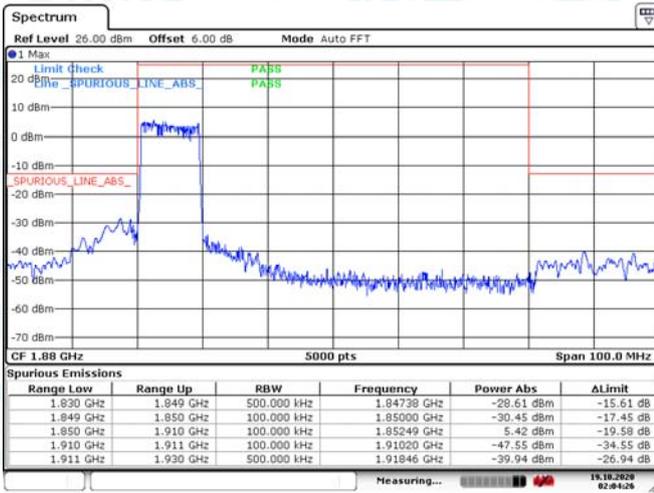
## Low Channel

## High Channel

### LTE BAND 2 (10MHz RB Size 50& RB Offset 0 QPSK)



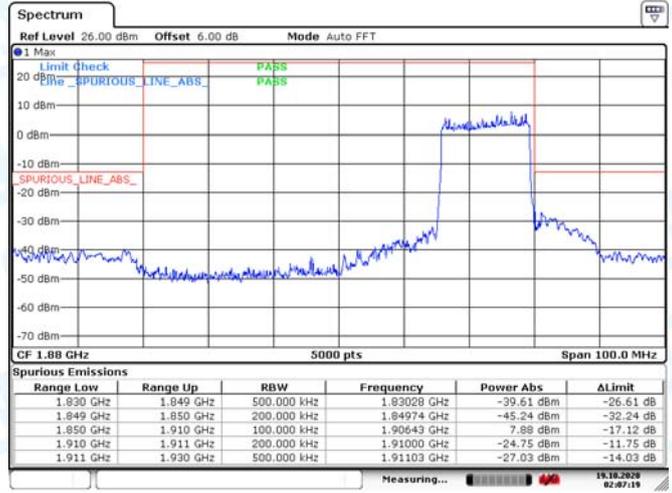
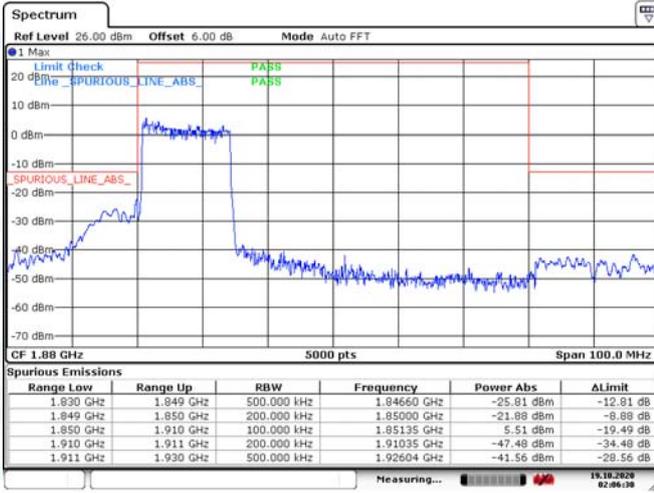
### LTE BAND 2 (10MHz RB Size 50& RB Offset 0 16QAM)



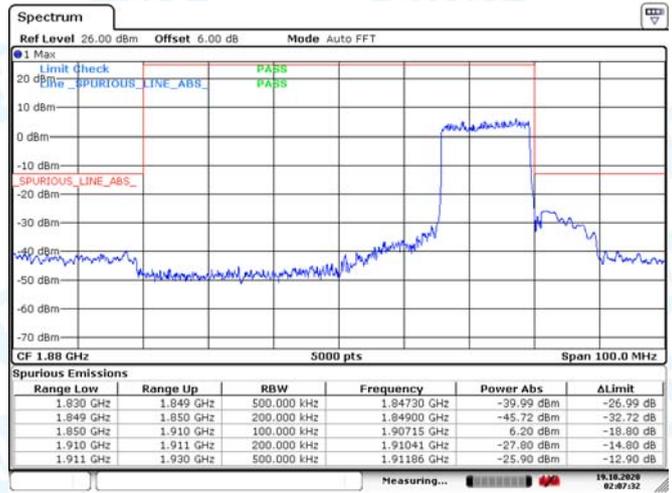
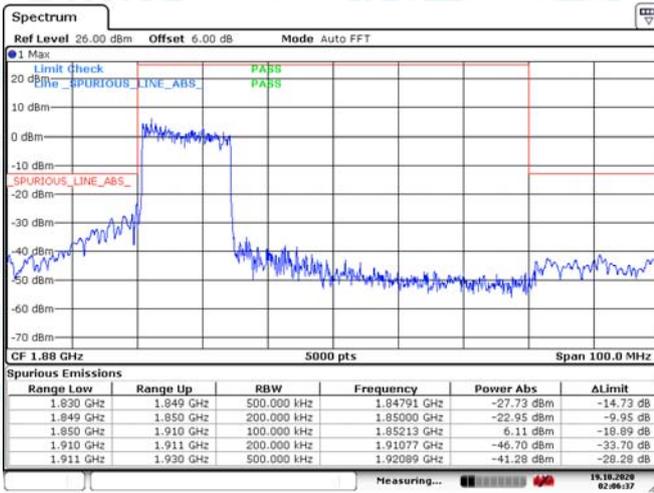
Low Channel

High Channel

LTE BAND 2 (15MHz RB Size 75& RB Offset 0 QPSK)



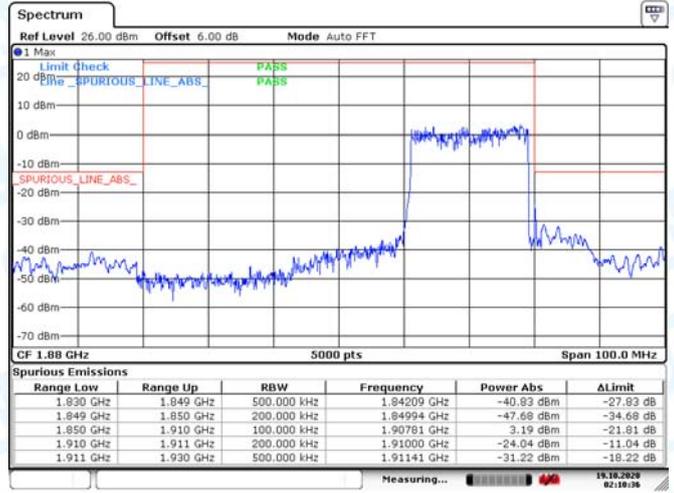
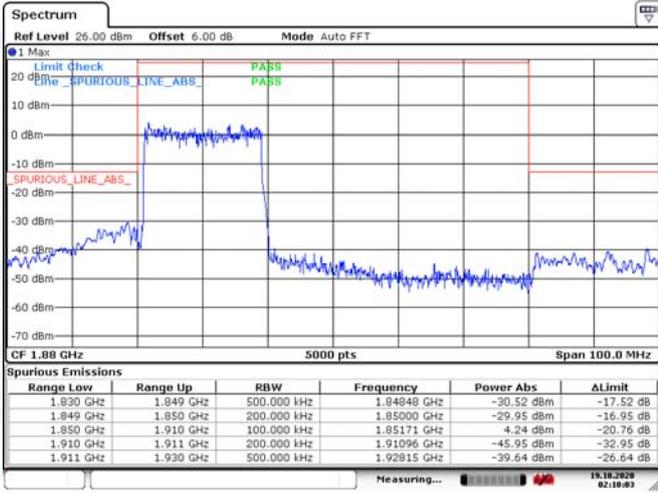
LTE BAND 2 (15MHz RB Size 75& RB Offset 0 16QAM)



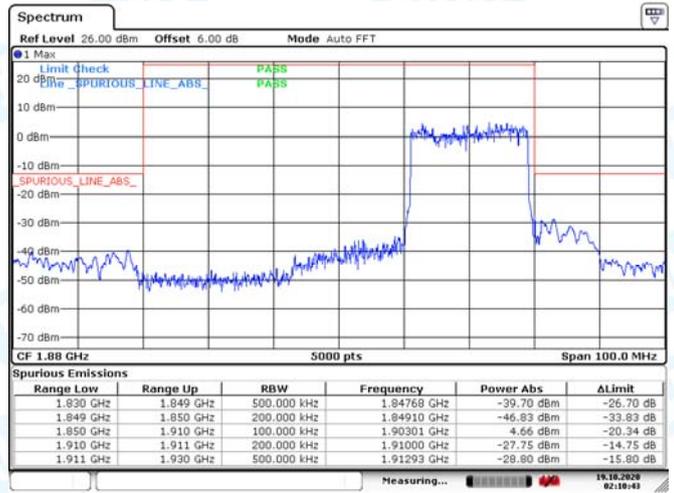
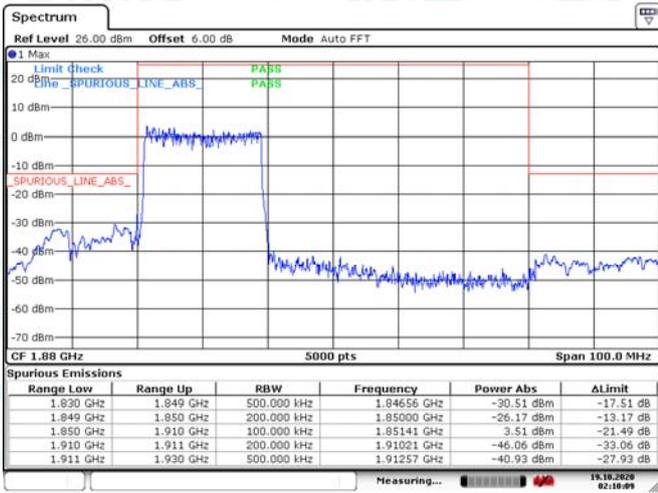
Low Channel

High Channel

LTE BAND 2 (20MHz RB Size 100& RB Offset 0 QPSK)



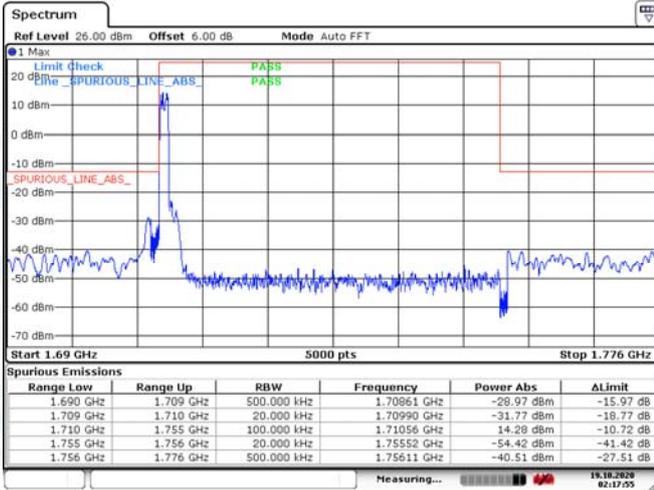
LTE BAND 2 (20MHz RB Size 100& RB Offset 0 16QAM)



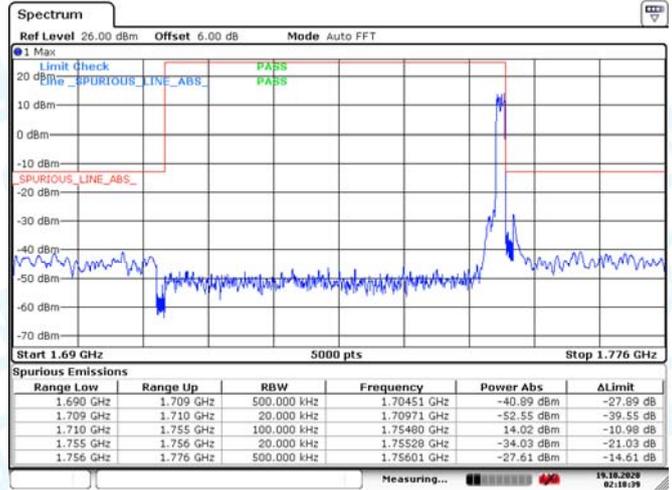
## Low Channel

## High Channel

### LTE BAND 4 (1.4MHz RB Size 6& RB Offset 0 QPSK)

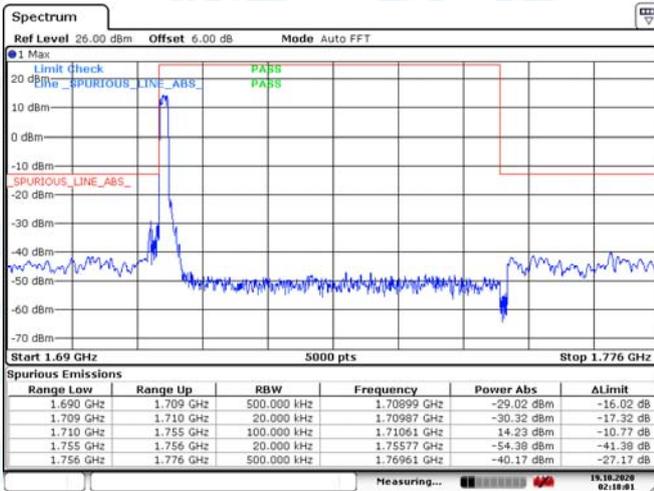


Date: 19.OCT.2020 02:17:56

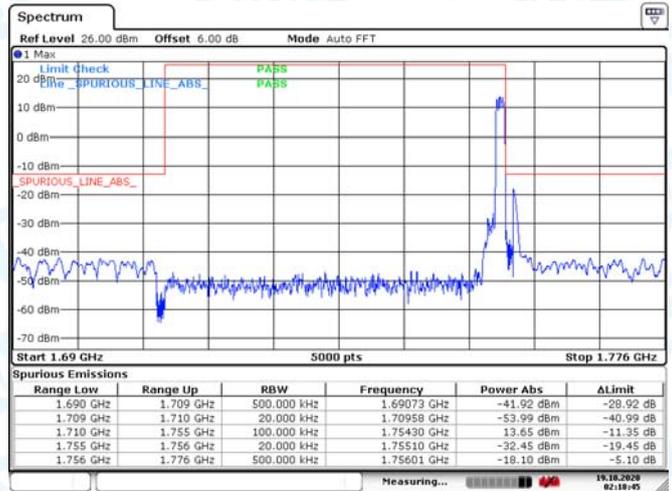


Date: 19.OCT.2020 02:18:39

### LTE BAND 4 (1.4MHz RB Size 6& RB Offset 0 16QAM)



Date: 19.OCT.2020 02:18:02

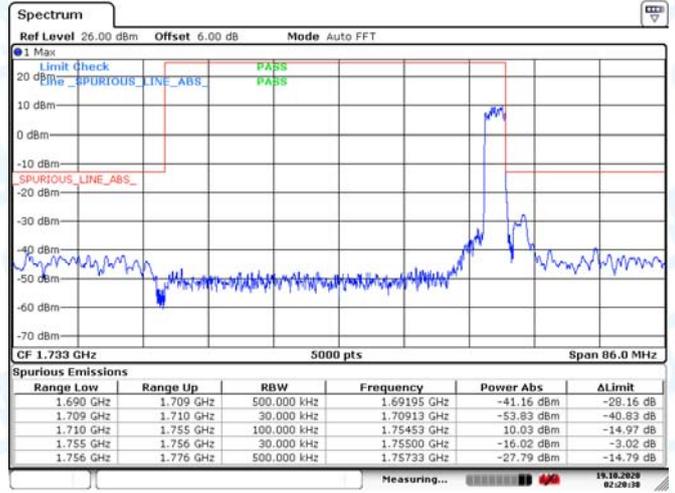
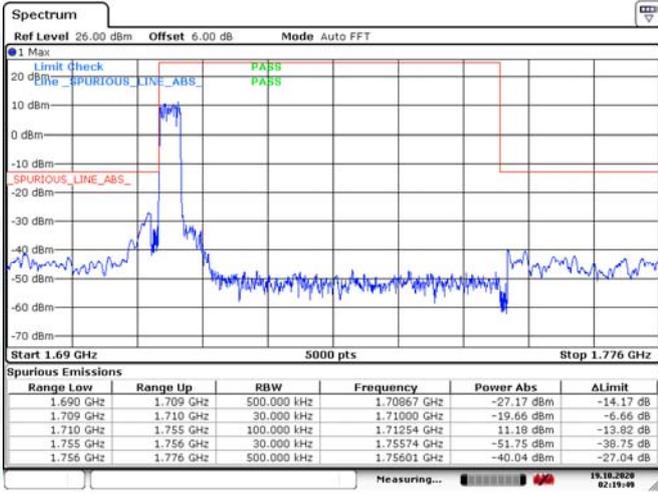


Date: 19.OCT.2020 02:18:45

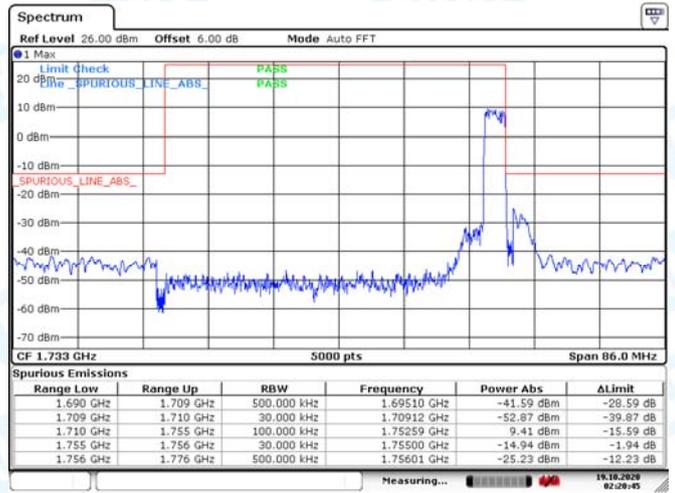
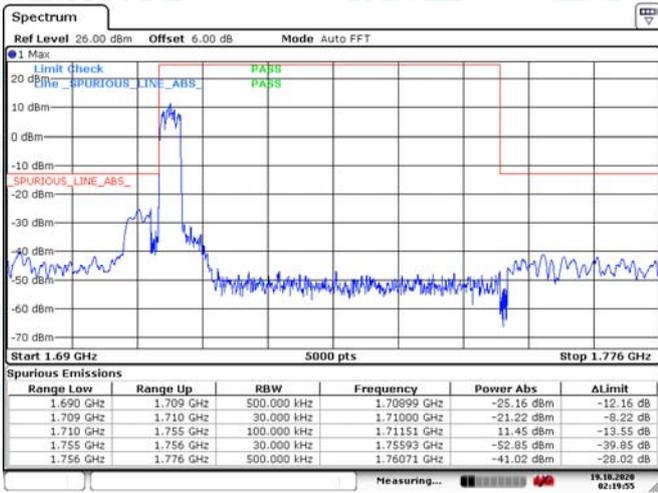
Low Channel

High Channel

LTE BAND 4 (3MHz RB Size 15& RB Offset 0 QPSK)



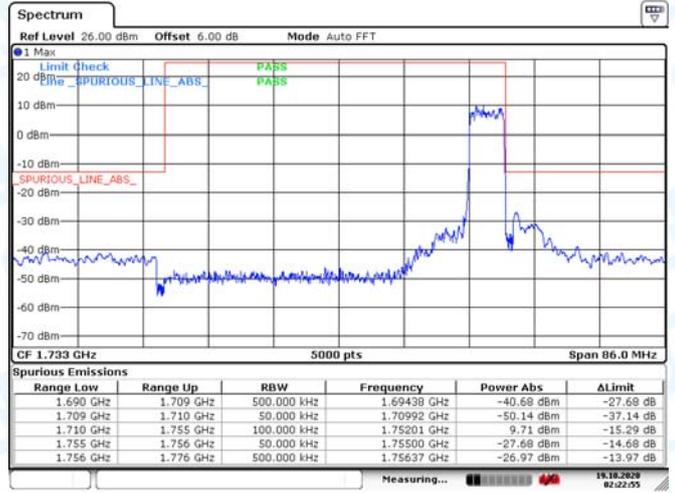
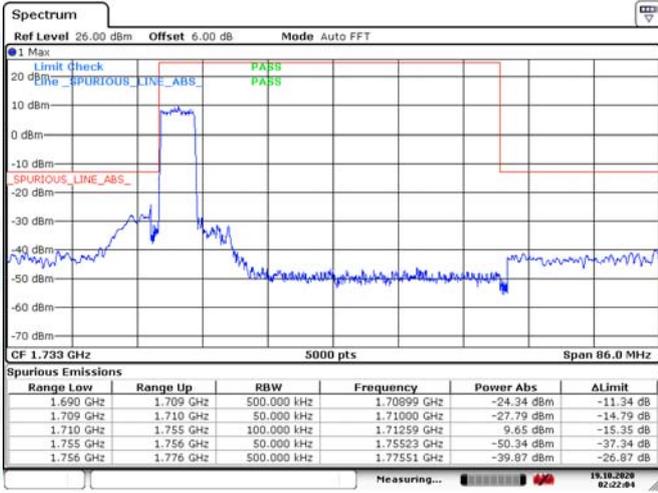
LTE BAND 4 (3MHz RB Size 15& RB Offset 0 16QAM)



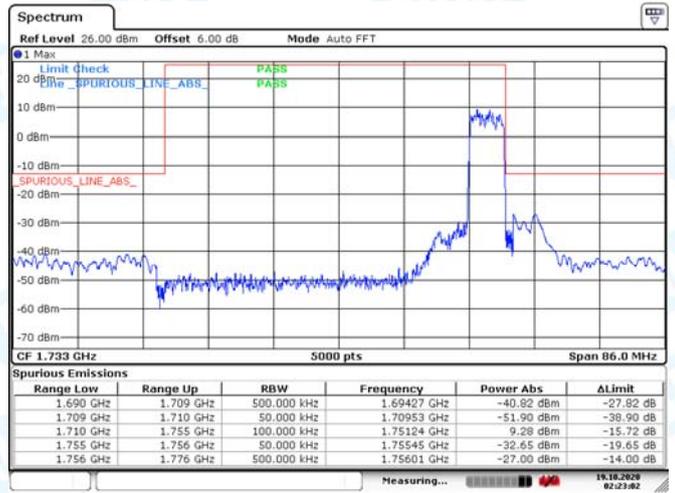
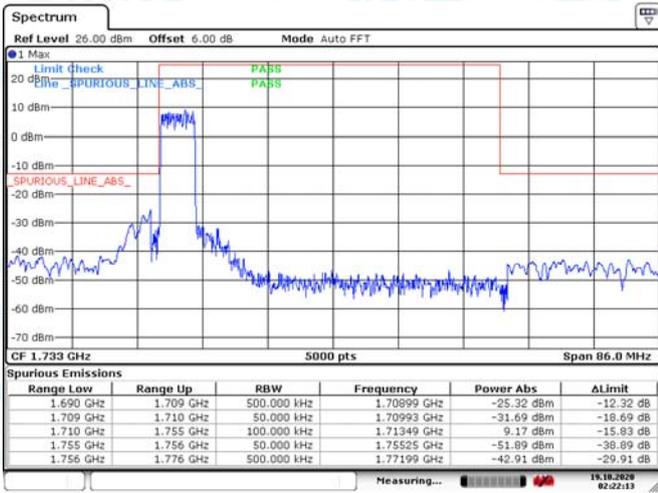
Low Channel

High Channel

LTE BAND 4 (5MHz RB Size 25& RB Offset 0 QPSK)



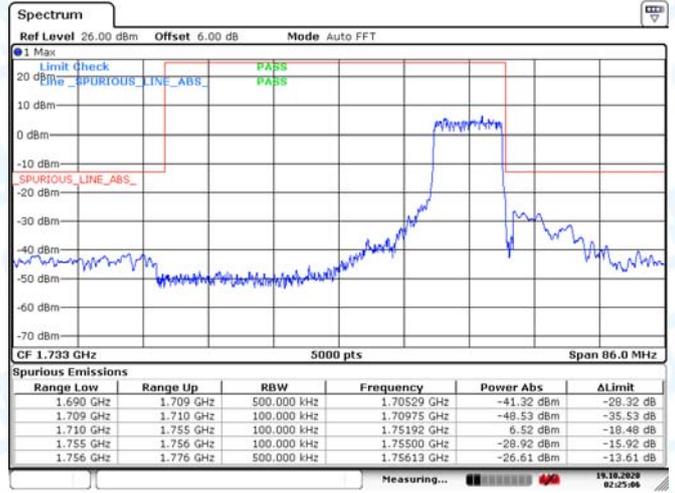
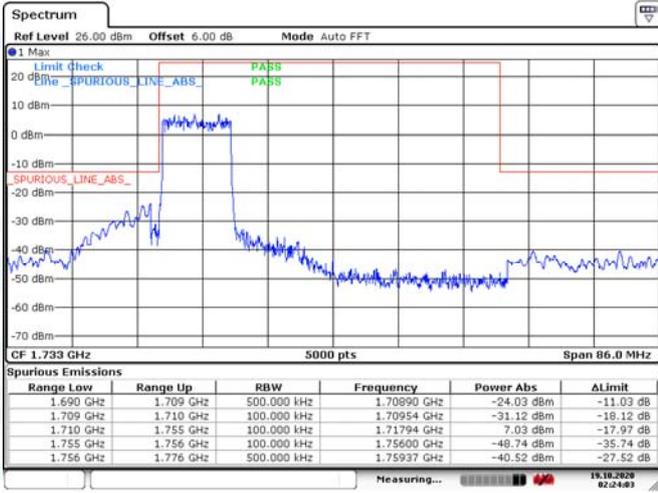
LTE BAND 4 (5MHz RB Size 25& RB Offset 0 16QAM)



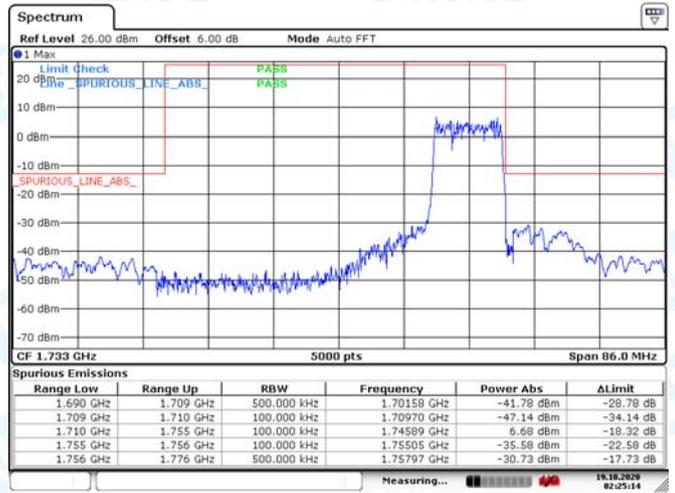
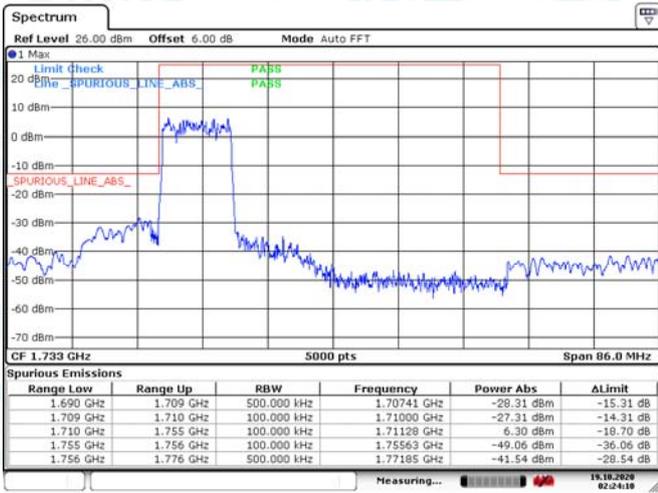
Low Channel

High Channel

LTE BAND 4 (10MHz RB Size 50& RB Offset 0 QPSK)



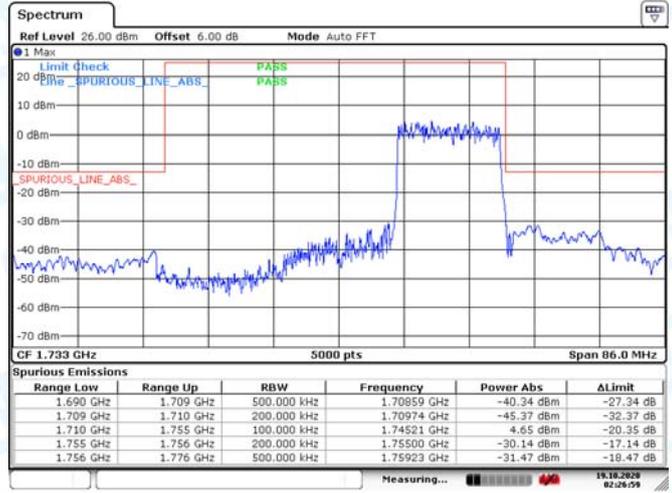
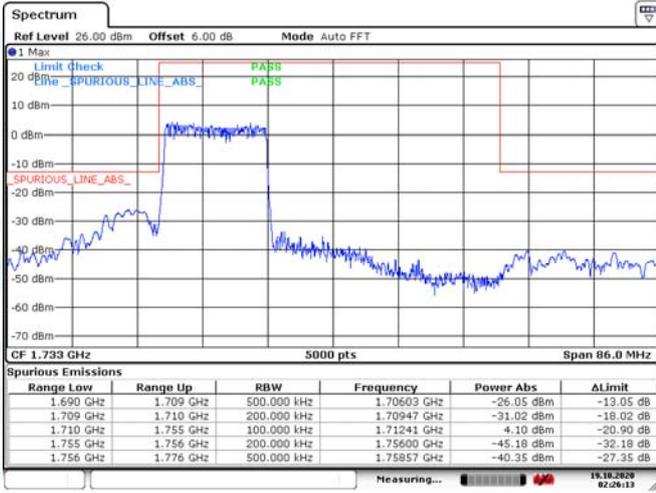
LTE BAND 4 (10MHz RB Size 50& RB Offset 0 16QAM)



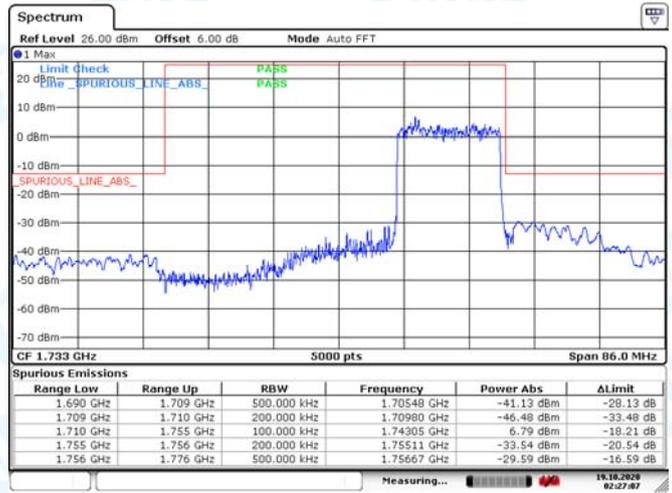
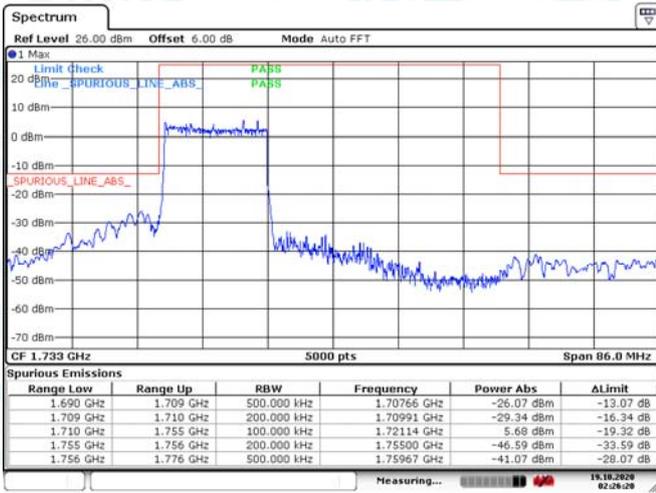
Low Channel

High Channel

LTE BAND 4 (15MHz RB Size 75& RB Offset 0 QPSK)



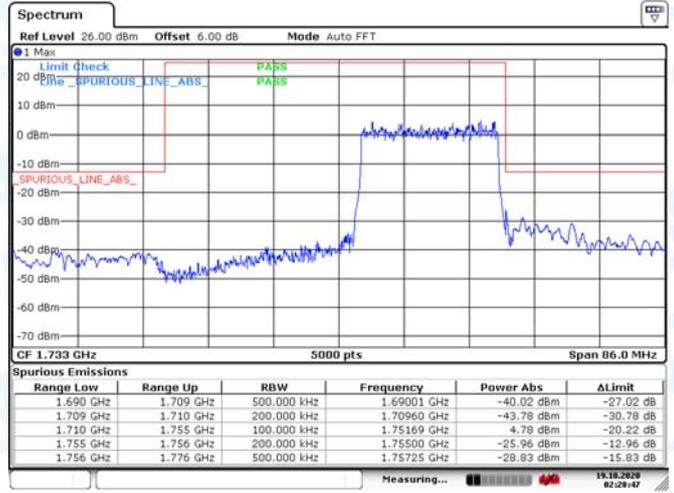
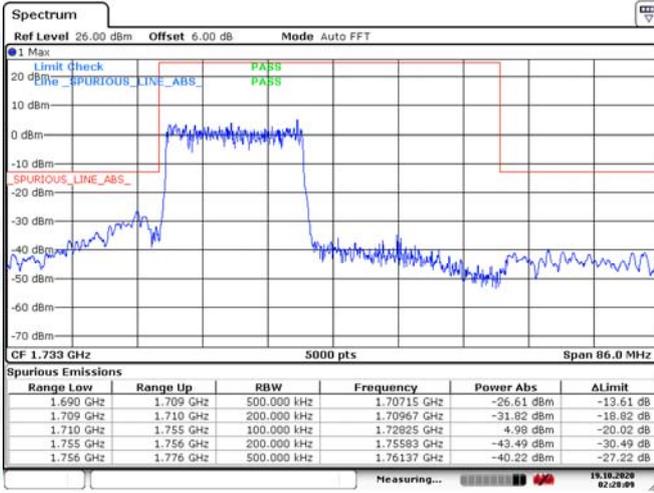
LTE BAND 4 (15MHz RB Size 75& RB Offset 0 QPSK)



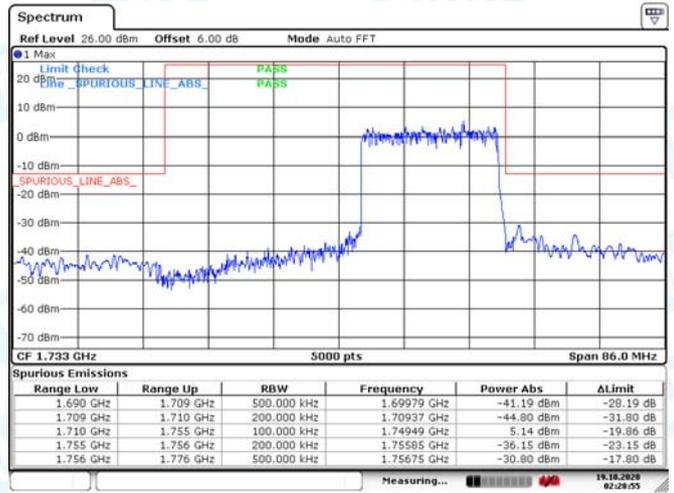
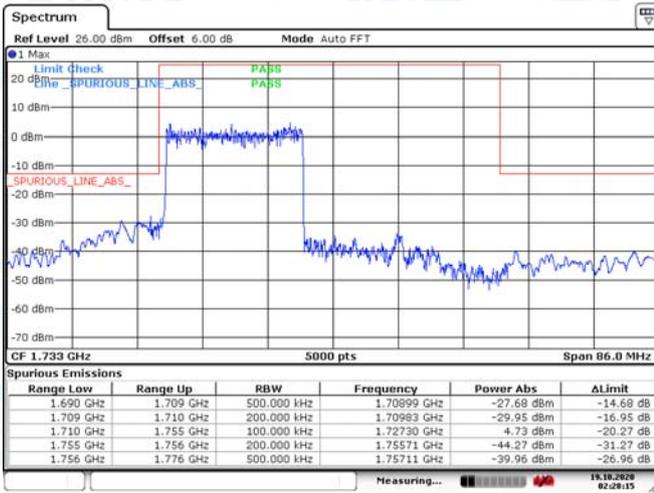
Low Channel

High Channel

LTE BAND 4 (20MHz RB Size 100& RB Offset 0 QPSK)



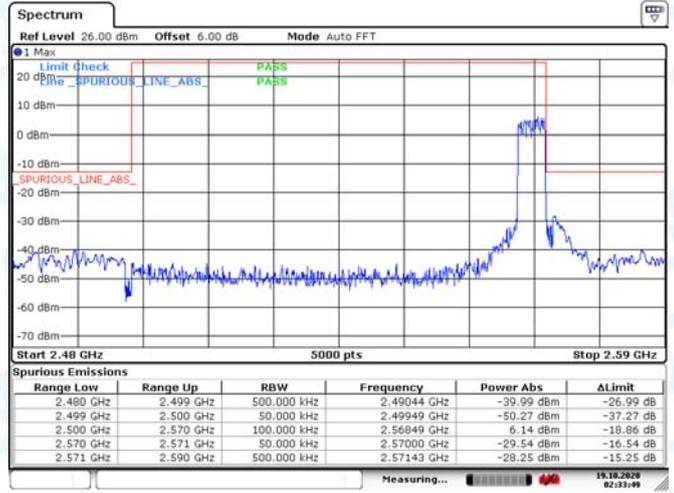
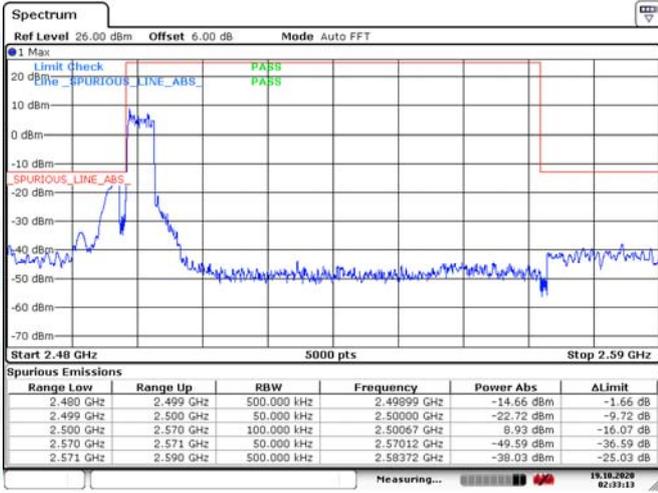
LTE BAND 4 (20MHz RB Size 100& RB Offset 0 16QAM)



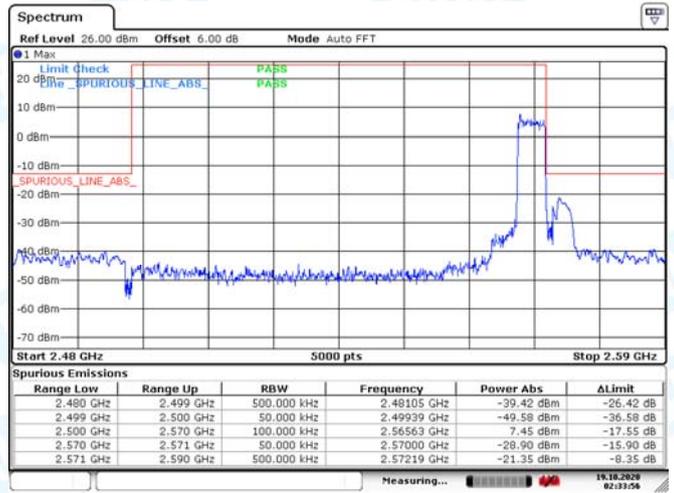
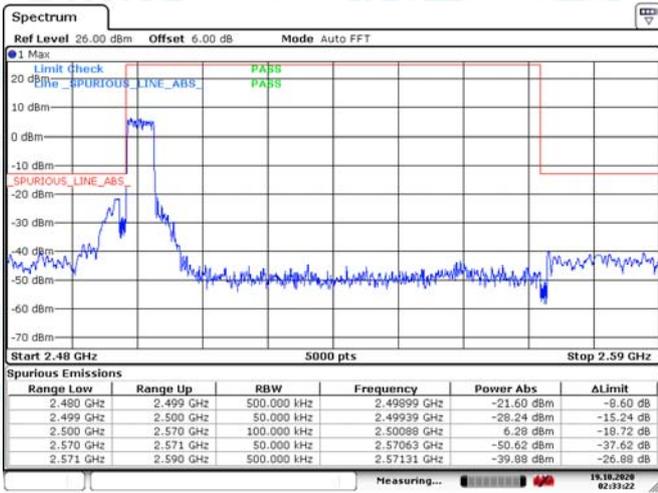
### Low Channel

### High Channel

#### LTE BAND 7 (5MHz RB Size 25& RB Offset 0 QPSK)



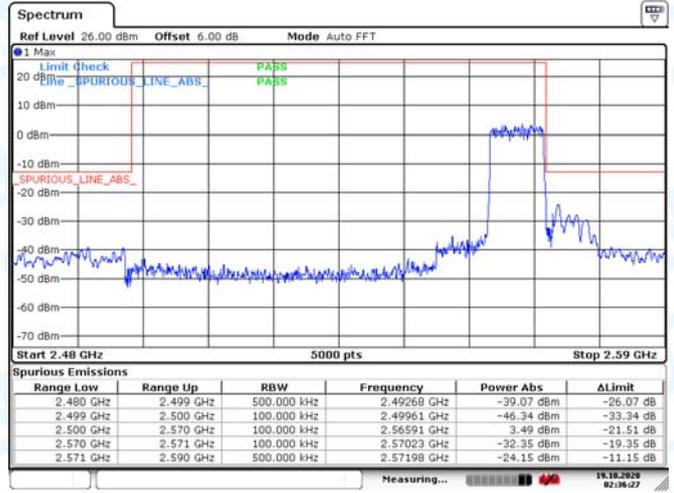
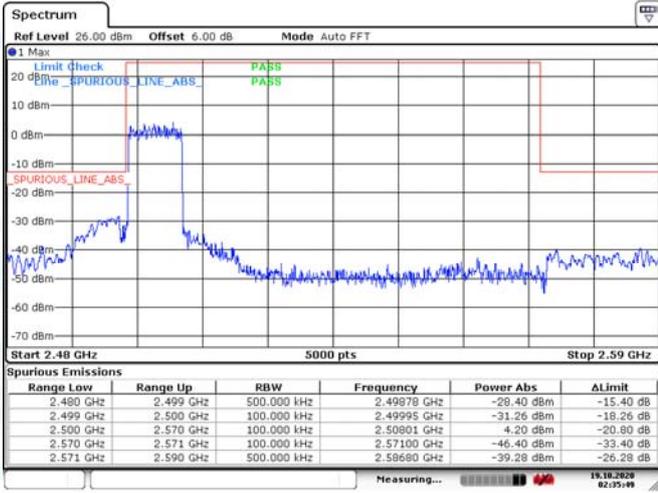
#### LTE BAND 7 (5MHz RB Size 25& RB Offset 0 16QAM)



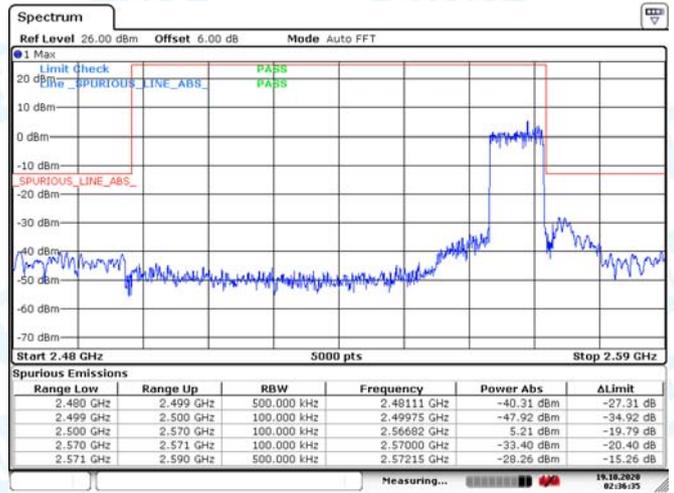
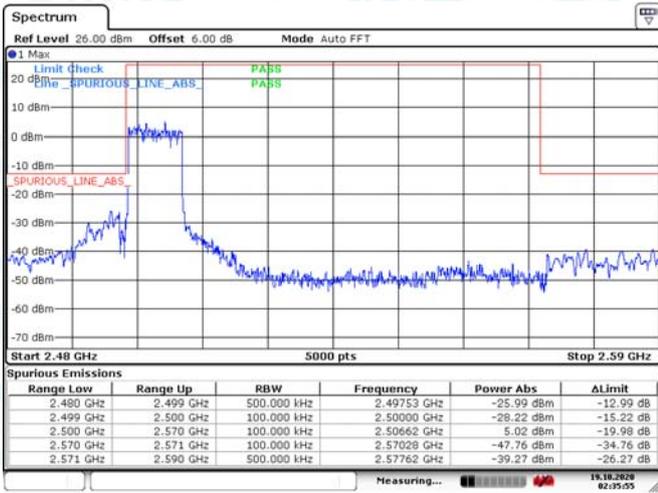
Low Channel

High Channel

LTE BAND 7 (10MHz RB Size 50& RB Offset 0 QPSK)



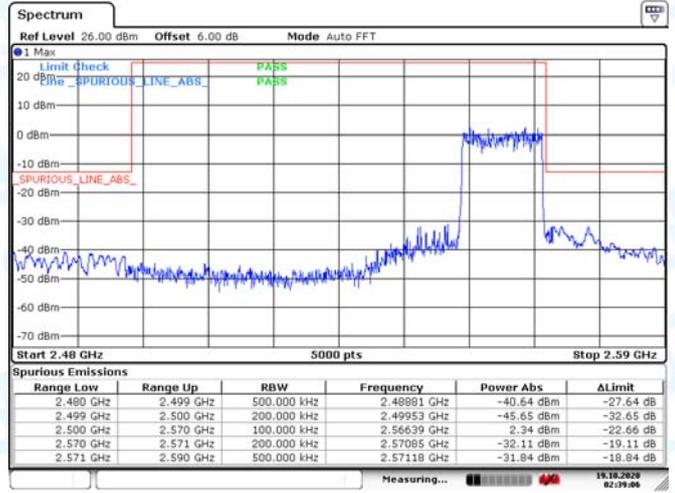
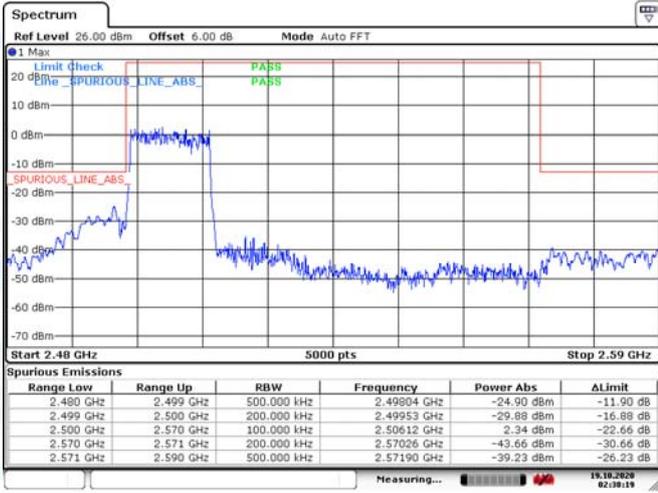
LTE BAND 7 (10MHz RB Size 50& RB Offset 0 QPSK)



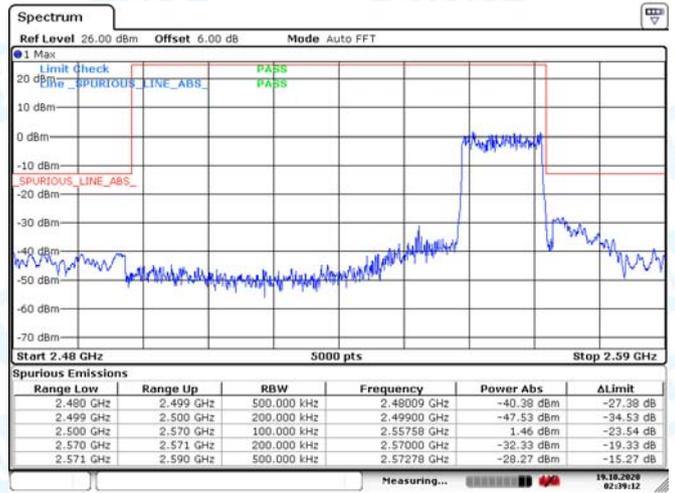
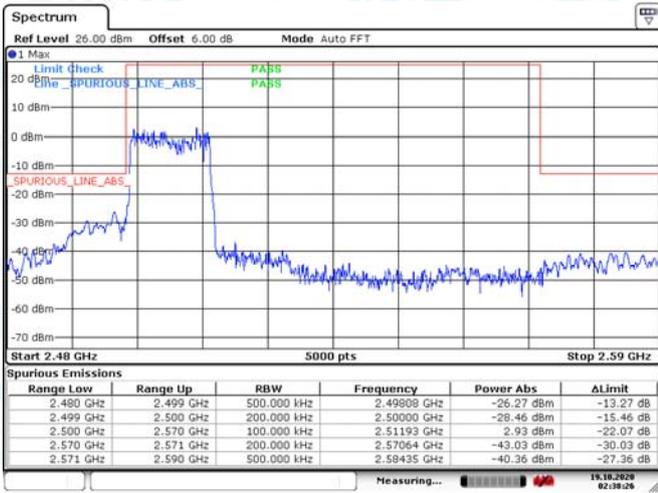
Low Channel

High Channel

LTE BAND 7 (15MHz RB Size 75& RB Offset 0 QPSK)



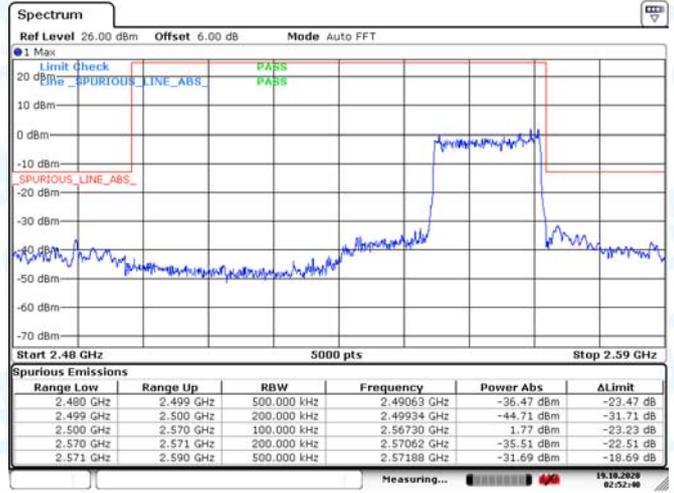
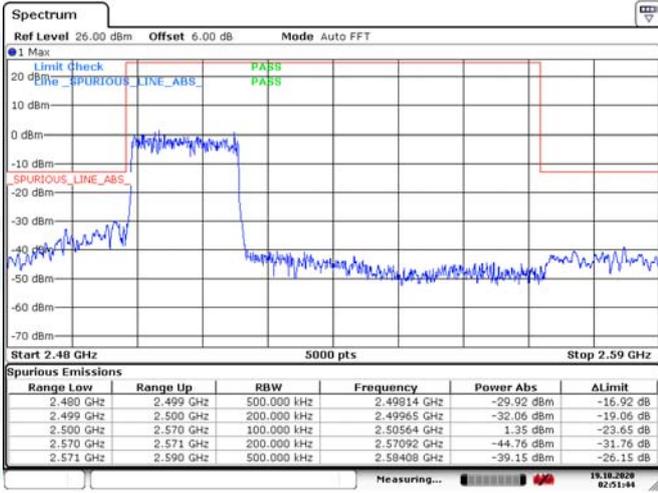
LTE BAND 7 (15MHz RB Size 75& RB Offset 0 16QAM)



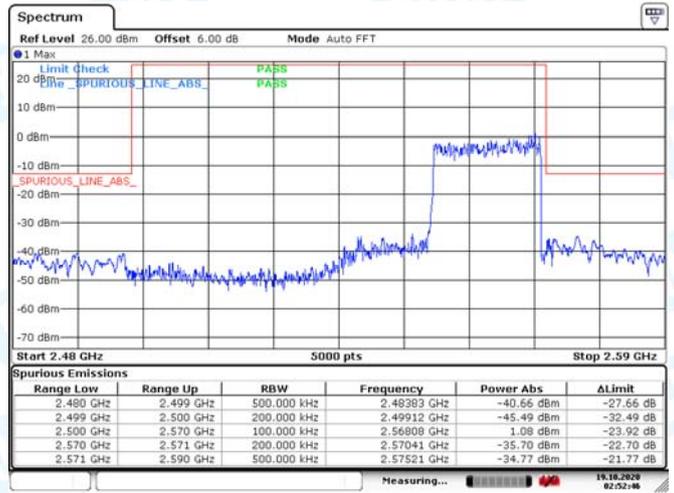
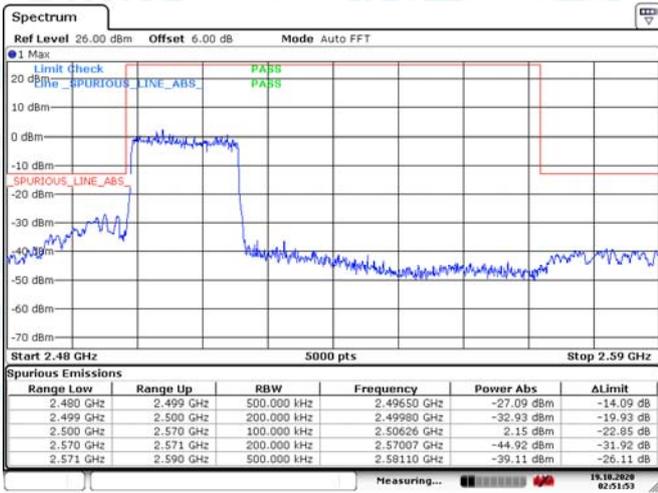
Low Channel

High Channel

LTE BAND 7 (20MHz RB Size 100& RB Offset 0 QPSK)



LTE BAND 7 (20MHz RB Size 100& RB Offset 0 QPSK)



## ATTACHMENT F--RADIATED OUTPUT POWER

Radiated Power (EIRP) for LTE Band 2 / 1.4M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.93	5.01	2.59	21.35	0.136
				V	17.10	5.01	2.59	19.52	0.090
	1	0	Middle	H	19.12	4.82	2.59	21.35	0.136
				V	17.02	4.82	2.59	19.25	0.084
	1	0	Highest	H	19.71	4.45	2.59	21.57	0.144
				V	17.49	4.45	2.59	19.35	0.086
16QAM	1	0	Lowest	H	18.87	5.01	2.59	21.29	0.135
				V	16.66	5.01	2.59	19.08	0.081
	1	0	Middle	H	19.10	4.82	2.59	21.33	0.136
				V	17.00	4.82	2.59	19.23	0.084
	1	0	Highest	H	19.99	4.45	2.59	21.85	0.153
				V	17.56	4.45	2.59	19.42	0.087
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 2 / 3M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.37	5.01	2.59	21.79	0.151
				V	16.84	5.01	2.59	19.26	0.084
	1	0	Middle	H	19.15	4.82	2.59	21.38	0.137
				V	16.85	4.82	2.59	19.08	0.081
	1	0	Highest	H	19.99	4.45	2.59	21.85	0.153
				V	17.13	4.45	2.59	18.99	0.079
16QAM	1	0	Lowest	H	19.27	5.01	2.59	21.69	0.148
				V	16.83	5.01	2.59	19.25	0.084
	1	0	Middle	H	19.65	4.82	2.59	21.88	0.154
				V	17.21	4.82	2.59	19.44	0.088
	1	0	Highest	H	19.89	4.45	2.59	21.75	0.150
				V	17.35	4.45	2.59	19.21	0.083
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 2 / 5M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.61	5.01	2.59	22.03	0.160
				V	17.46	5.01	2.59	19.88	0.097
	1	0	Middle	H	19.73	4.82	2.59	21.96	0.157
				V	17.42	4.82	2.59	19.65	0.092
	1	0	Highest	H	20.79	4.45	2.59	22.65	0.184
				V	17.82	4.45	2.59	19.68	0.093
16QAM	1	0	Lowest	H	19.46	5.01	2.59	21.88	0.154
				V	16.64	5.01	2.59	19.06	0.081
	1	0	Middle	H	18.75	4.82	2.59	20.98	0.125
				V	16.13	4.82	2.59	18.36	0.069
	1	0	Highest	H	20.00	4.45	2.59	21.86	0.153
				V	17.49	4.45	2.59	19.35	0.086
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 2 / 10M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.55	5.01	2.59	21.97	0.157
				V	16.82	5.01	2.59	19.24	0.084
	1	0	Middle	H	19.61	4.82	2.59	21.84	0.153
				V	17.00	4.82	2.59	19.23	0.084
	1	0	Highest	H	19.99	4.45	2.59	21.85	0.153
				V	17.09	4.45	2.59	18.95	0.079
16QAM	1	0	Lowest	H	18.83	5.01	2.59	21.25	0.133
				V	16.79	5.01	2.59	19.21	0.083
	1	0	Middle	H	19.41	4.82	2.59	21.64	0.146
				V	17.01	4.82	2.59	19.24	0.084
	1	0	Highest	H	19.70	4.45	2.59	21.56	0.143
				V	17.28	4.45	2.59	19.14	0.082
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 2 / 15M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.44	5.01	2.59	20.86	0.122
				V	15.92	5.01	2.59	18.34	0.068
	1	0	Middle	H	18.79	4.82	2.59	21.02	0.126
				V	16.81	4.82	2.59	19.04	0.080
	1	0	Highest	H	19.12	4.45	2.59	20.98	0.125
				V	16.73	4.45	2.59	18.59	0.072
16QAM	1	0	Lowest	H	18.82	5.01	2.59	21.24	0.133
				V	16.72	5.01	2.59	19.14	0.082
	1	0	Middle	H	19.18	4.82	2.59	21.41	0.138
				V	16.89	4.82	2.59	19.12	0.082
	1	0	Highest	H	19.23	4.45	2.59	21.09	0.129
				V	16.98	4.45	2.59	18.84	0.077
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 2 / 20M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.81	5.01	2.59	21.23	0.133
				V	16.54	5.01	2.59	18.96	0.079
	1	0	Middle	H	19.20	4.82	2.59	21.43	0.139
				V	17.55	4.82	2.59	19.78	0.095
	1	0	Highest	H	19.19	4.45	2.59	21.05	0.127
				V	17.17	4.45	2.59	19.03	0.080
16QAM	1	0	Lowest	H	19.21	5.01	2.59	21.63	0.146
				V	17.10	5.01	2.59	19.52	0.090
	1	0	Middle	H	20.63	4.82	2.59	22.86	0.193
				V	17.78	4.82	2.59	20.01	0.100
	1	0	Highest	H	19.99	4.45	2.59	21.85	0.153
				V	17.86	4.45	2.59	19.72	0.094
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 4 / 1.4M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.42	5.26	2.43	21.25	0.133
				V	16.59	5.26	2.43	19.42	0.087
	1	0	Middle	H	18.59	5.38	2.43	21.54	0.143
				V	16.31	5.38	2.43	19.26	0.084
	1	0	Highest	H	18.37	5.40	2.43	21.34	0.136
				V	16.25	5.40	2.43	19.22	0.084
16QAM	1	0	Lowest	H	18.90	5.26	2.43	21.73	0.149
				V	16.38	5.26	2.43	19.21	0.083
	1	0	Middle	H	18.70	5.38	2.43	21.65	0.146
				V	16.32	5.38	2.43	19.27	0.085
	1	0	Highest	H	18.61	5.40	2.43	21.58	0.144
				V	16.12	5.40	2.43	19.09	0.081
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 4 / 3M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.41	5.26	2.43	21.24	0.133
				V	16.49	5.26	2.43	19.32	0.086
	1	0	Middle	H	18.32	5.38	2.43	21.27	0.134
				V	16.10	5.38	2.43	19.05	0.080
	1	0	Highest	H	18.02	5.40	2.43	20.99	0.126
				V	15.68	5.40	2.43	18.65	0.073
16QAM	1	0	Lowest	H	18.13	5.26	2.43	20.96	0.125
				V	15.40	5.26	2.43	18.23	0.067
	1	0	Middle	H	18.74	5.38	2.43	21.69	0.148
				V	16.27	5.38	2.43	19.22	0.084
	1	0	Highest	H	19.34	5.40	2.43	22.31	0.170
				V	16.57	5.40	2.43	19.54	0.090
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 4 / 5M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.42	5.26	2.43	21.25	0.133
				V	16.25	5.26	2.43	19.08	0.081
	1	0	Middle	H	18.41	5.38	2.43	21.36	0.137
				V	16.16	5.38	2.43	19.11	0.081
	1	0	Highest	H	18.32	5.40	2.43	21.29	0.135
				V	16.02	5.40	2.43	18.99	0.079
16QAM	1	0	Lowest	H	19.21	5.26	2.43	22.04	0.160
				V	16.85	5.26	2.43	19.68	0.093
	1	0	Middle	H	18.14	5.38	2.43	21.09	0.129
				V	15.29	5.38	2.43	18.24	0.067
	1	0	Highest	H	18.28	5.40	2.43	21.25	0.133
				V	16.16	5.40	2.43	19.13	0.082
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 4 / 10M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.03	5.26	2.43	21.86	0.153
				V	16.71	5.26	2.43	19.54	0.090
	1	0	Middle	H	19.11	5.38	2.43	22.06	0.161
				V	16.68	5.38	2.43	19.63	0.092
	1	0	Highest	H	18.72	5.40	2.43	21.69	0.148
				V	16.27	5.40	2.43	19.24	0.084
16QAM	1	0	Lowest	H	18.26	5.26	2.43	21.09	0.129
				V	15.85	5.26	2.43	18.68	0.074
	1	0	Middle	H	18.90	5.38	2.43	21.85	0.153
				V	16.09	5.38	2.43	19.04	0.080
	1	0	Highest	H	19.01	5.40	2.43	21.98	0.158
				V	15.72	5.40	2.43	18.69	0.074
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 4 / 15M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.15	5.26	2.43	21.98	0.158
				V	16.50	5.26	2.43	19.33	0.086
	1	0	Middle	H	19.17	5.38	2.43	22.12	0.163
				V	16.79	5.38	2.43	19.74	0.094
	1	0	Highest	H	18.72	5.40	2.43	21.69	0.148
				V	16.27	5.40	2.43	19.24	0.084
16QAM	1	0	Lowest	H	19.03	5.26	2.43	21.86	0.153
				V	16.22	5.26	2.43	19.05	0.080
	1	0	Middle	H	18.99	5.38	2.43	21.94	0.156
				V	16.18	5.38	2.43	19.13	0.082
	1	0	Highest	H	17.88	5.40	2.43	20.85	0.122
				V	15.38	5.40	2.43	18.35	0.068
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 4 / 20M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.33	5.26	2.43	22.16	0.164
				V	16.40	5.26	2.43	19.23	0.084
	1	0	Middle	H	19.01	5.38	2.43	21.96	0.157
				V	16.29	5.38	2.43	19.24	0.084
	1	0	Highest	H	18.88	5.40	2.43	21.85	0.153
				V	16.26	5.40	2.43	19.23	0.084
16QAM	1	0	Lowest	H	18.15	5.26	2.43	20.98	0.125
				V	15.42	5.26	2.43	18.25	0.067
	1	0	Middle	H	18.90	5.38	2.43	21.85	0.153
				V	15.41	5.38	2.43	18.36	0.069
	1	0	Highest	H	19.11	5.40	2.43	22.08	0.161
				V	16.27	5.40	2.43	19.24	0.084
<b>Limit</b>								<b>30</b>	<b>1</b>

Radiated Power (EIRP) for LTE Band 7 / 5M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.75	4.76	2.65	21.86	0.153
				V	17.01	4.76	2.65	19.12	0.082
	1	0	Middle	H	19.32	4.91	2.65	21.58	0.144
				V	16.80	4.91	2.65	19.06	0.081
	1	0	Highest	H	19.69	5.00	2.65	22.04	0.160
				V	17.30	5.00	2.65	19.65	0.092
16QAM	1	0	Lowest	H	20.14	4.76	2.65	22.25	0.168
				V	17.45	4.76	2.65	19.56	0.090
	1	0	Middle	H	19.59	4.91	2.65	21.85	0.153
				V	16.99	4.91	2.65	19.25	0.084
	1	0	Highest	H	19.63	5.00	2.65	21.98	0.158
				V	16.64	5.00	2.65	18.99	0.079
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 7 / 10M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	18.97	4.76	2.65	21.08	0.128
				V	17.14	4.76	2.65	19.25	0.084
	1	0	Middle	H	19.47	4.91	2.65	21.73	0.149
				V	16.99	4.91	2.65	19.25	0.084
	1	0	Highest	H	19.54	5.00	2.65	21.89	0.155
				V	16.84	5.00	2.65	19.19	0.083
16QAM	1	0	Lowest	H	18.97	4.76	2.65	21.08	0.128
				V	16.90	4.76	2.65	19.01	0.080
	1	0	Middle	H	19.43	4.91	2.65	21.69	0.148
				V	17.59	4.91	2.65	19.85	0.097
	1	0	Highest	H	19.54	5.00	2.65	21.89	0.155
				V	17.13	5.00	2.65	19.48	0.089
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 7 / 15M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	19.62	4.76	2.65	21.73	0.149
				V	17.11	4.76	2.65	19.22	0.084
	1	0	Middle	H	19.79	4.91	2.65	22.05	0.160
				V	17.42	4.91	2.65	19.68	0.093
	1	0	Highest	H	19.51	5.00	2.65	21.86	0.153
				V	16.92	5.00	2.65	19.27	0.085
16QAM	1	0	Lowest	H	19.75	4.76	2.65	21.86	0.153
				V	16.95	4.76	2.65	19.06	0.081
	1	0	Middle	H	19.50	4.91	2.65	21.76	0.150
				V	16.72	4.91	2.65	18.98	0.079
	1	0	Highest	H	18.51	5.00	2.65	20.86	0.122
				V	15.90	5.00	2.65	18.25	0.067
<b>Limit</b>								<b>33</b>	<b>2</b>

Radiated Power (EIRP) for LTE Band 7 / 20M									
Modulation	RB		Channel	Antenna (H&V)	SG Level (dBm)	Antenna Factor (dBd)	Cable Loss (dB)	EIRP (dBm)	EIRP (W)
	Size	offset							
QPSK	1	0	Lowest	H	20.24	4.76	2.65	22.35	0.172
				V	17.73	4.76	2.65	19.84	0.096
	1	0	Middle	H	20.13	4.91	2.65	22.39	0.173
				V	16.98	4.91	2.65	19.24	0.084
	1	0	Highest	H	19.61	5.00	2.65	21.96	0.157
				V	16.89	5.00	2.65	19.24	0.084
16QAM	1	0	Lowest	H	19.75	4.76	2.65	21.86	0.153
				V	16.87	4.76	2.65	18.98	0.079
	1	0	Middle	H	19.59	4.91	2.65	21.85	0.153
				V	16.92	4.91	2.65	19.18	0.083
	1	0	Highest	H	18.64	5.00	2.65	20.99	0.126
				V	16.34	5.00	2.65	18.69	0.074
<b>Limit</b>								<b>33</b>	<b>2</b>

## ATTACHMENT G--RADIATED OUT BAND OF EMISSIONS

Measurement Data (worst case)

Test mode: LTE BAND 2 1.4MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-67.53	14.94	6.24	-46.35	-13.00	Pass
5640.20	H	-62.10	13.87	7.98	-40.25		
7519.60	H	-56.76	14.49	9.68	-32.59		
3759.90	Vertical	-67.84	15.97	6.24	-45.63	-13.00	Pass
5640.20	V	-63.17	13.94	7.98	-41.25		
7519.60	V	-57.23	13.87	9.68	-33.68		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 2 3MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-66.87	14.94	6.24	-45.69	-13.00	Pass
5640.20	H	-65.11	13.87	7.98	-43.26		
7519.60	H	-59.86	14.49	9.68	-35.69		
3759.90	Vertical	-68.46	15.97	6.24	-46.25	-13.00	Pass
5640.20	V	-66.18	13.94	7.98	-44.26		
7519.60	V	-60.40	13.87	9.68	-36.85		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 2 5MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-66.86	14.94	6.24	-45.68	-13.00	Pass
5640.20	H	-62.21	13.87	7.98	-40.36		
7519.60	H	-58.42	14.49	9.68	-34.25		
3759.90	Vertical	-69.06	15.97	6.24	-46.85	-13.00	Pass
5640.20	V	-62.77	13.94	7.98	-40.85		
7519.60	V	-58.80	13.87	9.68	-35.25		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
2, All other emissions more than 30 dB below the limit.  
3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 2 10MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-68.03	14.94	6.24	-46.85	-13.00	Pass
5640.20	H	-62.10	13.87	7.98	-40.25		
7519.60	H	-58.75	14.49	9.68	-34.58		
3759.90	Vertical	-69.44	15.97	6.24	-47.23	-13.00	Pass
5640.20	V	-63.28	13.94	7.98	-41.36		
7519.60	V	-59.17	13.87	9.68	-35.62		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
2, All other emissions more than 30 dB below the limit.  
3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 2 15MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-68.43	14.94	6.24	-47.25	-13.00	Pass
5640.20	H	-62.50	13.87	7.98	-40.65		
7519.60	H	-60.42	14.49	9.68	-36.25		
3759.90	Vertical	-70.44	15.97	6.24	-48.23	-13.00	Pass
5640.20	V	-62.78	13.94	7.98	-40.86		
7519.60	V	-58.80	13.87	9.68	-35.25		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
2, All other emissions more than 30 dB below the limit.  
3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 2 20MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3759.90	Horizontal	-67.50	14.94	6.24	-46.32	-13.00	Pass
5640.20	H	-62.21	13.87	7.98	-40.36		
7519.60	H	-59.43	14.49	9.68	-35.26		
3759.90	Vertical	-67.84	15.97	6.24	-45.63	-13.00	Pass
5640.20	V	-62.57	13.94	7.98	-40.65		
7519.60	V	-57.80	13.87	9.68	-34.25		

Remark: 1, The testing has been conformed to 10\*1880MHz=18800MHz.  
2, All other emissions more than 30 dB below the limit.  
3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 1.4MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle				Date of Test: 2020-09-18			
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-69.18	14.70	6.12	-48.36	-13.00	Pass
5198.98	H	-65.79	13.67	7.86	-44.26		
6932.13	H	-60.68	14.27	9.54	-36.87		
3465.99	Vertical	-70.98	15.81	6.12	-49.05	-13.00	Pass
5198.98	V	-68.03	13.80	7.86	-46.37		
6932.13	V	-60.21	13.40	9.54	-37.27		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 3MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle				Date of Test: 2020-09-18			
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-66.08	14.70	6.12	-45.26	-13.00	Pass
5198.98	H	-62.38	13.67	7.86	-40.85		
6932.13	H	-60.66	14.27	9.54	-36.85		
3465.99	Vertical	-67.21	15.81	6.12	-45.28	-13.00	Pass
5198.98	V	-63.31	13.80	7.86	-41.65		
6932.13	V	-59.81	13.40	9.54	-36.87		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 5MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle		Date of Test: 2020-09-18					
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-67.40	14.70	6.12	-46.58	-13.00	Pass
5198.98	H	-64.05	13.67	7.86	-42.52		
6932.13	H	-62.26	14.27	9.54	-38.45		
3465.99	Vertical	-68.82	15.81	6.12	-46.89	-13.00	Pass
5198.98	V	-65.31	13.80	7.86	-43.65		
6932.13	V	-60.18	13.40	9.54	-37.24		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 10MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle		Date of Test: 2020-09-18					
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-69.07	14.70	6.12	-48.25	-13.00	Pass
5198.98	H	-66.21	13.67	7.86	-44.68		
6932.13	H	-63.39	14.27	9.54	-39.58		
3465.99	Vertical	-70.61	15.81	6.12	-48.68	-13.00	Pass
5198.98	V	-66.78	13.80	7.86	-45.12		
6932.13	V	-60.58	13.40	9.54	-37.64		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 15MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-67.07	14.70	6.12	-46.25	-13.00	Pass
5198.98	H	-64.21	13.67	7.86	-42.68		
6932.13	H	-63.35	14.27	9.54	-39.54		
3465.99	Vertical	-69.58	15.81	6.12	-47.65	-13.00	Pass
5198.98	V	-66.02	13.80	7.86	-44.36		
6932.13	V	-59.52	13.40	9.54	-36.58		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 4 20MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
3465.99	Horizontal	-68.50	14.70	6.12	-47.68	-13.00	Pass
5198.98	H	-65.11	13.67	7.86	-43.58		
6932.13	H	-62.06	14.27	9.54	-38.25		
3465.99	Vertical	-70.58	15.81	6.12	-48.65	-13.00	Pass
5198.98	V	-66.92	13.80	7.86	-45.26		
6932.13	V	-58.81	13.40	9.54	-35.87		

Remark: 1, The testing has been conformed to  $10 \times 1732.5\text{MHz} = 17325\text{MHz}$ .  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 7 5MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
5070.00	Horizontal	-65.43	13.54	7.53	-44.36	-13.00	Pass
7605.00	H	-62.41	13.57	9.26	-39.58		
10140.00	H	-66.78	21.08	11.45	-34.25		
5070.00	Vertical	-64.32	13.54	7.53	-43.25	-13.00	Pass
7605.00	V	-61.79	13.57	9.26	-38.96		
10140.00	V	-65.78	21.08	11.45	-33.25		

Remark: 1, The testing has been conformed to 10\*2535.0MHz=25350MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 7 10MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
5070.00	Horizontal	-64.76	13.54	7.53	-43.69	-13.00	Pass
7605.00	H	-61.08	13.57	9.26	-38.25		
10140.00	H	-64.78	21.08	11.45	-32.25		
5070.00	Vertical	-63.76	13.54	7.53	-42.69	-13.00	Pass
7605.00	V	-60.39	13.57	9.26	-37.56		
10140.00	V	-66.78	21.08	11.45	-34.25		

Remark: 1, The testing has been conformed to 10\*2535.0MHz=25350MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 7 15MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
5070.00	Horizontal	-63.76	13.54	7.53	-42.69	-13.00	Pass
7605.00	H	-60.48	13.57	9.26	-37.65		
10140.00	H	-66.38	21.08	11.45	-33.85		
5070.00	Vertical	-64.05	13.54	7.53	-42.98	-13.00	Pass
7605.00	V	-61.08	13.57	9.26	-38.25		
10140.00	V	-67.18	21.08	11.45	-34.65		

Remark: 1, The testing has been conformed to 10\*2535.0MHz=25350MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

Test mode: LTE BAND 7 20MHz(RB size 1 & RB offset 0) for QPSK							
Channel: Middle			Date of Test: 2020-09-18				
Frequency (MHz)	Spurious Emission					Limit (dBm)	Result
	Polarization (H&V)	Read Level (dBm)	Antenna Correct Factor (dBi)	Cable Loss (dB)	Emission Level (dBm)		
5070.00	Horizontal	-64.43	13.54	7.53	-43.36	-13.00	Pass
7605.00	H	-59.41	13.57	9.26	-36.58		
10140.00	H	-62.78	21.08	11.45	-30.25		
5070.00	Vertical	-63.75	13.54	7.53	-42.68	-13.00	Pass
7605.00	V	-59.11	13.57	9.26	-36.28		
10140.00	V	-63.76	21.08	11.45	-31.23		

Remark: 1, The testing has been conformed to 10\*2535.0MHz=25350MHz.  
 2, All other emissions more than 30 dB below the limit.  
 3, Emission Level= Read Level+ Antenna Correct Factor +Cable Loss

## ATTACHMENT H--FREQUENCY STABILITY

Remark: We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7. recorded worst case for each Channel Bandwidth of LTE FDD Band 2, LTE FDD Band 4, LTE FDD Band 7.

Temperature Variation					
Reference Frequency: LTE Band 2 QPSK(10MHz) Middle channel=18900 Frequency=1880.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	96	0.0511	±2.5	Pass
	-20	79	0.0418		
	-10	129	0.0688		
	0	116	0.0619		
	10	99	0.0529		
	20	72	0.0381		
	30	111	0.0590		
	40	105	0.0560		
	50	114	0.0609		
Reference Frequency: LTE Band 2 16QAM(10MHz) Middle channel=18900 Frequency=1880.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	86	0.0457	±2.5	Pass
	-20	108	0.0576		
	-10	97	0.0517		
	0	78	0.0417		
	10	96	0.0511		
	20	54	0.0289		
	30	112	0.0595		
	40	125	0.0666		
	50	51	0.0270		

Temperature Variation					
Reference Frequency: LTE Band 4 QPSK(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	103	0.0595	±2.5	Pass
	-20	98	0.0564		
	-10	79	0.0457		
	0	81	0.0468		
	10	68	0.0392		
	20	133	0.0768		
	30	112	0.0646		
	40	89	0.0511		
	50	124	0.0717		
Reference Frequency: LTE Band 4 16QAM(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	79	0.0456	±2.5	Pass
	-20	69	0.0396		
	-10	64	0.0367		
	0	61	0.0354		
	10	117	0.0677		
	20	67	0.0386		
	30	60	0.0347		
	40	67	0.0388		
	50	113	0.0653		
Temperature Variation					
Reference Frequency: LTE Band 7 QPSK(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	93	0.0367	±2.5	Pass
	-20	99	0.0389		
	-10	70	0.0274		
	0	108	0.0425		
	10	121	0.0478		
	20	107	0.0421		
	30	86	0.0340		
	40	117	0.0463		
	50	67	0.0264		
Reference Frequency: LTE Band 7 16QAM(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.70	-30	112	0.0442	±2.5	Pass
	-20	132	0.0521		
	-10	91	0.0358		
	0	110	0.0435		
	10	98	0.0385		
	20	79	0.0310		
	30	100	0.0396		
	40	78	0.0306		
	50	139	0.0547		

Voltage Variation					
Reference Frequency: LTE Band 2 QPSK(10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	112	0.0597	±2.5	Pass
	3.70	75	0.0399		
	4.20	83	0.0441		
Reference Frequency: LTE Band 2 16QAM(10MHz) Middle channel=18900 Frequency=1880.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	108	0.0573	±2.5	Pass
	3.70	107	0.0569		
	4.20	140	0.0742		
Voltage Variation					
Reference Frequency: LTE Band 4 QPSK(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	126	0.0726	±2.5	Pass
	3.70	128	0.0738		
	4.20	97	0.0560		
Reference Frequency: LTE Band 4 16QAM(10MHz) Middle channel=20175 Frequency=1732.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	120	0.0695	±2.5	Pass
	3.70	118	0.0679		
	4.20	143	0.0826		
Voltage Variation					
Reference Frequency: LTE Band 7 QPSK(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	105	0.0414	±2.5	Pass
	3.70	91	0.0360		
	4.20	108	0.0427		
Reference Frequency: LTE Band 7 16QAM(10MHz) Middle channel=21100 Frequency=2535.0MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	3.50	120	0.0473	±2.5	Pass
	3.70	139	0.0550		
	4.20	145	0.0571		

-----End of Report-----