



FCC REPORT

Report Reference No...... : **TRE1707007602** R/C.....: 76399

FCC ID..... : **QRP-AZUMIAX5**

Applicant's name..... : **Azumi S.A**

Address..... : Avenida Aquilino de la Guarcia con Calle 47, PH Ocean Plaza, Piso 16 of. 16-01, Marbella, Ciudad de Panama, Panama

Manufacturer..... : AZUMI HK LTD

Address..... : FLAT/RM 18 BLK 1 14/F GOLDEN INDUSTRIAL BUILDING 16-26 KWAI TAK STREET KWAI CHUNG,HK

Test item description : **Mobile phone**

Trade Mark : AZUMI

Model/Type reference..... : AX5

Listed Model(s) : -

Standard : **FCC Part 22: PUBLIC MOBILE SERVICES**
FCC Part 24: PERSONAL COMMUNICATIONS SERVICES
FCC Part 27: MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

Date of receipt of test sample..... : Jul.11, 2017

Date of testing..... : Jul.12, 2017- Aug.10, 2017

Date of issue..... : Aug.11, 2017

Result..... : **Pass**

Compiled by (position+printedname+signature)....:	File administrators Candy Liu	
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Approved by (position+printedname+signature).....:	Manager Hans Hu	

Testing Laboratory Name : **Shenzhen Huatongwei International Inspection Co., Ltd.**

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*The test report merely corresponds to the test sample.
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1. Test standards and Report version

1.1. Applicable Standards

The tests were performed according to following standards:

[FCC Part 22](#):PRIVATE LAND MOBILE RADIO SERVICES.

[FCC Part 24](#):PUBLIC MOBILE SERVICES

[FCC Part 27](#):MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES

[TIA/EIA 603 D June 2010](#):Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[FCC Part 2](#):FREQUENCY ALLOCA-TIONS AND RADIO TREATY MAT-TERS; GENERAL RULES AND REG-ULATIONS

[971168 D01 Power Meas License Digital Systems v02r02](#):provides a methodology for fully characterizing the fundamental power of wideband (> 1 MHz) digitally modulated RF signals acceptable to the FCC for demonstrating compliance for licensed transmitters.

1.2. Report version

Version No.	Date of issue	Description
00	Aug.11, 2017	Original

2. Test Description

Test Item	Section in CFR 47	Result
RF Output Power	Part 2.1046 Part 22.913(a) Part 24.232(c) Part 27.50	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b) Part 24.238(b)	Pass
Conducted Spurious Emissions	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
Band Edge	Part 2.1051 Part 22.917 Part 24.238 Part 27.53	Pass
ERP and EIRP	Part 22.913(a) Part 24.232(b)	Pass
Radiated Spurious Emissions	Part 2.1053 Part 22.917 Part 24.238 Part 27.53	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b) Part 22.255 Part 24.235 Part 27.54	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2) Part 22.255 Part 24.235 Part 27.54	Pass
Peak-Average Ratio	Part 24.232 Part 27.50	Pass

Note: The measurement uncertainty is not included in the test result.

3. SUMMARY

3.1. Client Information

Applicant:	Azumi S.A
Address:	Avenida Aquilino de la Guardia con Calle 47, PH Ocean Plaza, Piso 16 of. 16-01, Marbella, Ciudad de Panama, Panama
Manufacturer:	AZUMI HK LTD
Address:	FLAT/RM 18 BLK 1 14/F GOLDEN INDUSTRIAL BUILDING 16-26 KWAI TAK STREET KWAI CHUNG, HK

3.2. Product Description

Name of EUT:	Mobile phone
Trade Mark:	AZUMI
Model No.:	AX5
Listed Model(s):	-
IMEI:	354935080000713
Power supply:	DC 3.8V From internal battery
Adapter information:	Input: 100-240Va.c., 50/60Hz, 0.2A Output: 5Vd.c., 1A
Hardware version:	AZUMI_AX5_HW_V01
Software version:	AZUMI_AX5_CA_V02L
RF Technical Description	
<input checked="" type="checkbox"/> FDD Band 2	
Operation Frequency:	Uplink: 1850.7 MHz – 1909.3 MHz Downlink: 1930.7 MHz – 1989.3 MHz
Channel bandwidth:	<input checked="" type="checkbox"/> 1.4MHz <input checked="" type="checkbox"/> 3MHz <input checked="" type="checkbox"/> 5MHz <input checked="" type="checkbox"/> 10MHz <input checked="" type="checkbox"/> 15MHz <input checked="" type="checkbox"/> 20MHz
<input checked="" type="checkbox"/> FDD Band 4	
Operation Frequency:	Uplink: 1710.7 MHz – 1754.3 MHz Downlink: 2110.7 MHz – 2154.3 MHz
Channel bandwidth:	<input checked="" type="checkbox"/> 1.4MHz <input checked="" type="checkbox"/> 3MHz <input checked="" type="checkbox"/> 5MHz <input checked="" type="checkbox"/> 10MHz <input checked="" type="checkbox"/> 15MHz <input checked="" type="checkbox"/> 20MHz
<input checked="" type="checkbox"/> FDD Band 7	
Operation Frequency:	Uplink: 2502.5 MHz – 2567.5 MHz Downlink: 2622.5 MHz – 2687.5 MHz
Channel bandwidth:	<input type="checkbox"/> 1.4MHz <input type="checkbox"/> 3MHz <input checked="" type="checkbox"/> 5MHz <input checked="" type="checkbox"/> 10MHz <input type="checkbox"/> 15MHz <input type="checkbox"/> 20MHz
<input checked="" type="checkbox"/> FDD Band 12	
Operation Frequency:	Uplink: 699.7 MHz – 715.3 MHz Downlink: 729.7 MHz – 745.3 MHz
Channel bandwidth:	<input checked="" type="checkbox"/> 1.4MHz <input checked="" type="checkbox"/> 3MHz <input checked="" type="checkbox"/> 5MHz <input checked="" type="checkbox"/> 10MHz <input type="checkbox"/> 15MHz <input type="checkbox"/> 20MHz
<input checked="" type="checkbox"/> FDD Band 17	
Operation Frequency:	Uplink: 706.5 MHz – 713.5 MHz Downlink: 736.5 MHz – 743.5 MHz
Channel bandwidth:	<input type="checkbox"/> 1.4MHz <input type="checkbox"/> 3MHz <input checked="" type="checkbox"/> 5MHz <input checked="" type="checkbox"/> 10MHz <input type="checkbox"/> 15MHz <input type="checkbox"/> 20MHz
Power Class:	<input type="checkbox"/> Class 1 <input type="checkbox"/> Class 2 <input checked="" type="checkbox"/> Class 3 <input type="checkbox"/> Class 4
Modulation type:	<input checked="" type="checkbox"/> QPSK <input checked="" type="checkbox"/> 16QAM <input type="checkbox"/> 64QAM

3.3. Operation state

➤ Test frequency list

FDD Band 2

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	18607	1850.7	607	1930.7
	3	18615	1851.5	615	1931.5
	5	18625	1852.5	625	1932.5
	10	18650	1855	650	1935
	15 ^[1]	18675	1857.5	675	1937.5
	20 ^[1]	18700	1860	700	1940
Mid Range	1.4/3/5/10/15 ^[1] /20 ^[1]	18900	1880	900	1960
High Range	1.4	19193	1909.3	1193	1989.3
	3	19185	1908.5	1185	1988.5
	5	19175	1907.5	1175	1987.5
	10	19150	1905	1150	1985
	15 ^[1]	19125	1902.5	1125	1982.5
	20 ^[1]	19100	1900	1100	1980

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 4

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1745	2300	2145

FDD Band 7

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	5	20775	2502.5	2775	2622.5
	10	20800	2505	2800	2625
	15	20825	2507.5	2825	2627.5
	20 ^[1]	20850	2510	2850	2630
Mid Range	5/10/15/20 ^[1]	21100	2535	3100	2655
High Range	5	21425	2567.5	3425	2687.5
	10	21400	2565	3400	2685
	15	21375	2562.5	3375	2682.5
	20 ^[1]	21350	2560	3350	2680

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 12

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	1.4	23017	699.7	5017	729.7
	3	23025	700.5	5025	730.5
	5 ⁽¹⁾	23035	701.5	5035	731.5
	10 ⁽¹⁾	23060	704	5060	734
Mid Range	1.4/3 5 ⁽¹⁾ /10 ⁽¹⁾	23095	707.5	5095	737.5
High Range	1.4	23173	715.3	5173	745.3
	3	23165	714.5	5165	744.5
	5 ⁽¹⁾	23155	713.5	5155	743.5
	10 ⁽¹⁾	23130	711	5130	741

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

FDD Band 17

Test Frequency ID	Bandwidth [MHz]	N _{UL}	Frequency of Uplink [MHz]	N _{DL}	Frequency of Downlink [MHz]
Low Range	5 ⁽¹⁾	23755	706.5	5755	736.5
	10 ⁽¹⁾	23780	709	5780	739
Mid Range	5 ⁽¹⁾ /10 ⁽¹⁾	23790	710	5790	740
High Range	5 ⁽¹⁾	23825	713.5	5825	743.5
	10 ⁽¹⁾	23800	711	5800	741

NOTE 1: Bandwidth for which a relaxation of the specified UE receiver sensitivity requirement (TS 36.101 [27] Clause 7.3) is allowed.

3.4. EUT operation mode

For RF test items

The EUT has been tested under typical operating condition. The Applicant provides software to control the EUT for staying in continuous transmitting and receiving mode for testing.

Test Items	Band	Bandwidth (MHz)						Modulation		RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1	Half	Full	L	M	H
Max Output Power	2	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	v	v	v	v	v	v
	7	-	-	v	v	v	v	v	v	v	v	v	v	v	v
	12	v	v	v	v			v	v	v	v	v	v	v	v
	17	-	-	v	v	-	-	v	v	v	v	v	v	v	v
26dB and 99% Bandwidth	2	v	v	v	v	v	v	v	v			v	v	v	v
	4	v	v	v	v	v	v	v	v			v	v	v	v
	7	-	-	v	v	v	v	v	v			v	v	v	v
	12	v	v	v	v			v	v			v	v	v	v
	17	-	-	v	v	-	-	v	v			v	v	v	v
Conducted Band Edge	2	v	v	v	v	v	v	v	v	v		v	v		v
	4	v	v	v	v	v	v	v	v	v		v	v		v
	7	-	-	v	v	v	v	v	v	v		v	v		v
	12	v	v	v	v			v	v	v		v	v		v
	17	-	-	v	v	-	-	v	v	v		v	v		v
Conducted Spurious Emission	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12							v	v	v			v	v	v
	17	-	-	v	v	-	-	v	v	v			v	v	v
E.R.P./ E.I.R.P.	2	v	v	v	v	v	v	v	v	v			v	v	v
	4	v	v	v	v	v	v	v	v	v			v	v	v
	7	-	-	v	v	v	v	v	v	v			v	v	v
	12	v	v	v	v	v	v	v	v	v			v	v	v
	17			v	v	-	-	v	v	v			v	v	v
Radiated Spurious Emission	2	v	v	v	v	v	v	v		v			v	v	v
	4	v	v	v	v	v	v	v		v			v	v	v
	7	-	-	v	v	v	v	v		v			v	v	v
	12			v				v		v			v	v	v
	17			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	
	12				v			v	v			v		v	
	17				v			v	v			v		v	
Peak-to-Average Ratio	2						v	v	v	v		v	v	v	v
	4						v	v	v	v		v	v	v	v
	7						v	v	v	v		v	v	v	v
	12				v			v	v	v		v	v	v	v
	17				v			v	v	v		v	v	v	v

Remark	<ol style="list-style-type: none">1. The mark "v" means that this configuration is chosen for testing2. The mark "-" means that this bandwidth is not supported.3. The device is investigated from 30MHz to 10 times off fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst case emissions are reported.
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3.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

● - supplied by the manufacturer

○ - supplied by the lab

		Manufacturer :	
		Model No. :	

3.6. Modifications

No modifications were implemented to meet testing criteria.

4. TEST ENVIRONMENT

4.1. Address of the test laboratory

Laboratory: Shenzhen Huatongwei International Inspection Co., Ltd.

Address: 1/F, Bldg 3, Hongfa Hi-tech Industrial Park, Genyu Road, Tianliao, Gongming, Shenzhen, China

Phone: 86-755-26748019 Fax: 86-755-26748089

4.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1225

Shenzhen Huatongwei International Inspection Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories.

A2LA-Lab Cert. No.: 3902.01

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 762235

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 762235

IC-Registration No.: 5377B-1

Two 3m Alternate Test Site of Shenzhen Huatongwei International Inspection Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 5377B-1.

ACA

Shenzhen Huatongwei International Inspection Co., Ltd. EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our A2LA accreditation.

4.3. Equipments Used during the Test

Output Power(Conducted) &Occupied Bandwidth&EmissionBandwidth&Band Edge Compliance&Conducted Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13
3	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
4	MXA Signal Analyzer	Agilent Technologies	N9020A	MY5050187	2016/11/13
5	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Frequency Stability					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	WIDEB.RADIO COMM.TESRER	Rohde&Schwarz	CMW500	1201.0002K50	2016/11/13
3	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
4	Climate Chamber	ESPEC	EL-10KA	05107008	2016/11/13
5	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13

Output Power (Radiated) &Radiated Spurious Emission					
No.	Equipment	Manufacturer	Model No.	SerialNo.	Last Cal.
1	UNIVERSAL RADIO COMMUNICATION	Rohde&Schwarz	CMU200	112012	2016/11/13
2	Spectrum Analyzer	Rohde&Schwarz	FSU26	201141	2016/11/13
3	HORNANTENNA	ShwarzBeck	9120D	1012	2016/11/13
4	HORNANTENNA	ShwarzBeck	9120D	1011	2016/11/13
5	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	538	2016/11/13
6	Ultra-Broadband Antenna	ShwarzBeck	VULB9163	539	2016/11/13
7	TURNTABLE	MATURO	TT2.0	----	2016/11/13
8	ANTENNA MAST	MATURO	TAM-4.0-P	----	N/A
9	EMI Test Software	Audix	E3	N/A	N/A
10	EMI Test Receiver	Rohde&Schwarz	ESIB 26	100009	2016/11/13
11	RF Test Panel	Rohde&Schwarz	TS / RSP	335015/ 0017	2016/11/13
12	High pass filter	Compliance Direction systems	BSU-6	34202	2016/11/13
13	Splitter	Mini-Circuit	ZAPD-4	400059	2016/11/13
14	Horn Antenna	SCHWARZBECK	BBHA9170	25841	2016/11/13
15	Horn Antenna	SCHWARZBECK	BBHA9170	25842	2016/11/13
16	Preamplifier	ShwarzBeck	BBV 9718	BBV 9718	2016/11/13
17	Broadband Preamplifier	ShwarzBeck	BBV743	9743-0079	2016/11/13
18	Signal Generator	Rohde&Schwarz	SMF100A	101932	2016/11/13
19	Amplifier	Compliance Direction systems	PAP1-4060	120	2016/11/13
20	TURNTABLE	ETS	2088	2149	2016/11/13
21	ANTENNA MAST	ETS	2075	2346	2016/11/13
22	HORNANTENNA	Rohde&Schwarz	HF906	100068	2016/11/13
23	HORNANTENNA	Rohde&Schwarz	HF906	100039	2016/11/13
24	WIDEB.RADIO COMM.TESRER	R&S	CMW500	1201.0002K50	2016/11/13

The calibration interval was one year.

4.4. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature/Tnor:	15~35°C
Relative Humidity	30~60 %
Air Pressure	950-1050 hPa

4.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to TR-100028-01 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM); Uncertainties in the measurement of mobile radio equipment characteristics; Part 2" and is documented in the Shenzhen Huatongwei International Inspection Co., Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen Huatongwei laboratory is reported:

Test Items	Measurement Uncertainty	Notes
Frequency stability	25 Hz	(1)
Transmitter power conducted	0.57 dB	(1)
Transmitter power Radiated	2.20 dB	(1)
Conducted spurious emission 9KHz-12.75 GHz	1.60 dB	(1)
Conducted Emission 9KHz-30MHz	3.39 dB	(1)
Radiated Emission 30~1000MHz	4.24 dB	(1)
Radiated Emission 1~18GHz	5.16 dB	(1)
Radiated Emission 18-40GHz	5.54 dB	(1)
Occupied Bandwidth	-----	(1)
Emission Mask	-----	(1)
Modulation Characteristic	-----	(1)
Transmitter Frequency Behavior	-----	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=1.96$.

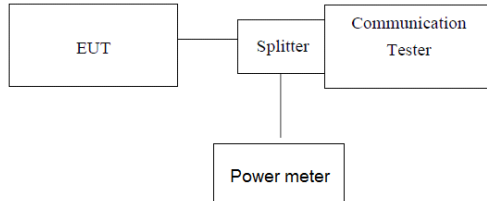
5. TEST CONDITIONS AND RESULTS

5.1. Conducted Output Power

LIMIT

N/A

TEST CONFIGURATION



Note: Measurement setup for testing on Antenna connector

TEST PROCEDURE

1. The transmitter output port was connected to base station.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement.
3. Set EUT at maximum power through base station.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure the maximum burst average power.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed **Not Applicable**

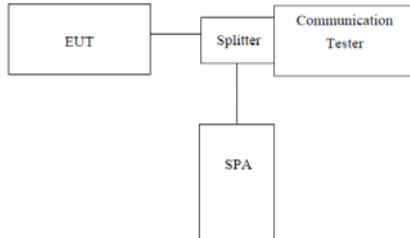
EUT Mode	Frequency (MHz)	Max Avg.Power QPSK (dBm)	Max Avg.Power 16QAM (dBm)
LTE Band 2	1850.7 - 1909.3	23.59	22.89
LTE Band 4	1710.7 - 1754.3	23.09	22.15
LTE Band 7	2502.5 - 2567.5	21.95	21.64
LTE Band 12	669.7-715.3	21.95	21.04
LTE Band 17	706.5-713.5	21.73	21.38

5.2. 99% & -26 dB Occupied Bandwidth

LIMIT

N/A

TEST CONFIGURATION



Note: Measurement setup for testing on Antenna connector

TEST PROCEDURE

1. The EUT’s output RF connector was connected with a short cable to the spectrum analyzer
2. RBW was set to about 1% of emission BW, VBW= 3 times RBW.
3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST MODE:

Please refer to the clause 3.3

TEST RESULTS

Passed **Not Applicable**

LTE Band 2					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.075	1.082	1.232	1.251
	Mid	1.081	1.076	1.252	1.227
	High	1.084	1.078	1.236	1.226
3MHz	Low	2.683	2.678	2.889	2.944
	Mid	2.684	2.677	2.905	2.924
	High	2.683	2.684	2.898	2.918
5MHz	Low	4.484	4.477	4.969	4.948
	Mid	4.487	4.477	4.943	4.914
	High	4.466	4.482	4.928	4.964
10MHz	Low	8.950	8.939	9.775	9.710
	Mid	8.933	8.940	9.648	9.605
	High	8.928	8.928	9.603	9.752
15MHz	Low	13.423	13.422	14.550	14.460
	Mid	13.398	13.398	14.500	14.530
	High	13.432	13.443	14.500	14.570
20MHz	Low	17.863	17.906	19.100	19.260
	Mid	17.832	17.881	19.140	19.260
	High	17.895	17.881	19.440	19.220

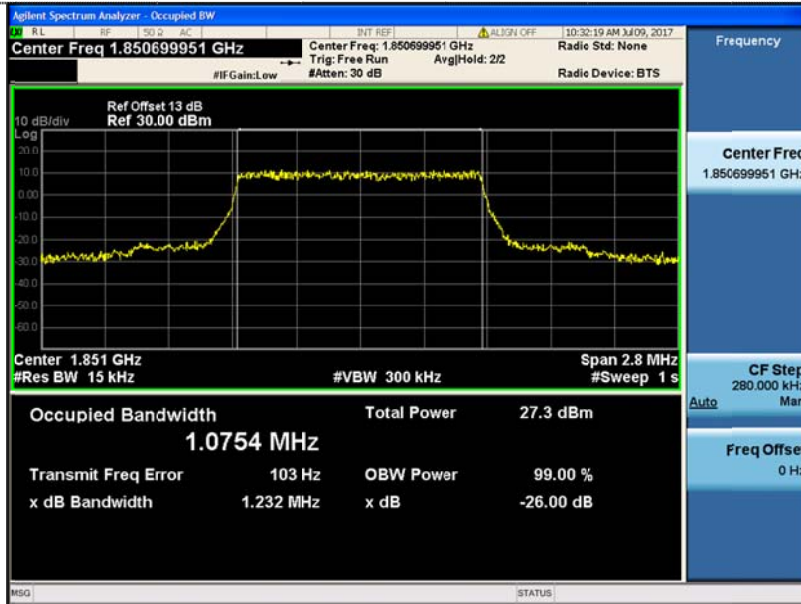
LTE Band 4					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.077	1.080	1.220	1.251
	Mid	1.079	1.077	1.248	1.232
	High	1.083	1.077	1.225	1.220
3MHz	Low	2.682	2.682	2.922	2.917
	Mid	2.681	2.686	2.905	2.899
	High	2.683	2.682	2.924	2.884
5MHz	Low	4.476	4.477	4.961	4.899
	Mid	4.483	4.483	4.922	4.957
	High	4.474	4.480	4.877	4.997
10MHz	Low	8.933	8.934	9.664	9.694
	Mid	8.936	8.940	9.660	9.656
	High	8.938	8.939	9.641	9.604
15MHz	Low	13.416	13.403	14.530	14.420
	Mid	13.393	13.417	14.420	14.520
	High	13.386	13.390	14.600	14.500
20MHz	Low	17.834	17.894	19.030	19.190
	Mid	17.869	17.888	19.230	19.290
	High	17.843	17.822	19.210	19.090

LTE Band 7					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
5MHz	Low	4.525	4.535	5.101	5.113
	Mid	4.515	4.525	5.089	5.097
	High	4.525	4.535	5.120	5.125
10MHz	Low	8.951	8.951	9.768	9.811
	Mid	8.951	8.951	9.871	9.653
	High	8.951	8.951	9.841	9.779
15MHz	Low	13.457	13.516	15.057	14.924
	Mid	13.546	13.516	14.981	14.943
	High	13.546	13.546	15.149	15.085
20MHz	Low	17.902	17.982	19.526	19.658
	Mid	17.982	18.022	19.498	19.652
	High	18.022	17.982	20.226	19.571

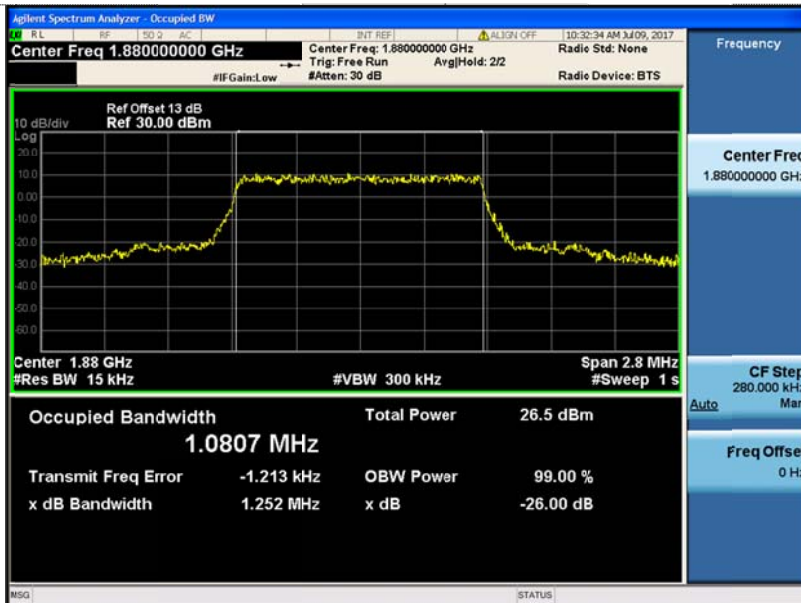
LTE Band 12					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
1.4MHz	Low	1.077	1.084	1.234	1.251
	Mid	1.081	1.077	1.267	1.225
	High	1.080	1.079	1.222	1.236
3MHz	Low	2.679	2.682	2.914	2.918
	Mid	2.682	2.679	2.918	2.900
	High	2.684	2.678	2.891	2.893
5MHz	Low	4.472	4.465	4.903	4.888
	Mid	4.485	4.497	4.929	4.955
	High	4.480	4.468	4.923	4.893
10MHz	Low	8.902	8.893	9.608	9.557
	Mid	8.978	8.976	9.759	9.593
	High	8.960	8.957	9.775	9.710

LTE Band 17					
Bandwidth	Channel	99% Occupy bandwidth (MHz)		-26dB bandwidth (MHz)	
		QPSK	16QAM	QPSK	16QAM
5MHz	Low	4.470	4.477	4.918	4.957
	Mid	4.494	4.481	4.980	4.917
	High	4.481	4.477	4.957	4.845
10MHz	Low	8.986	8.964	9.708	9.706
	Mid	8.977	8.965	9.731	9.725
	High	8.991	8.963	9.761	9.712

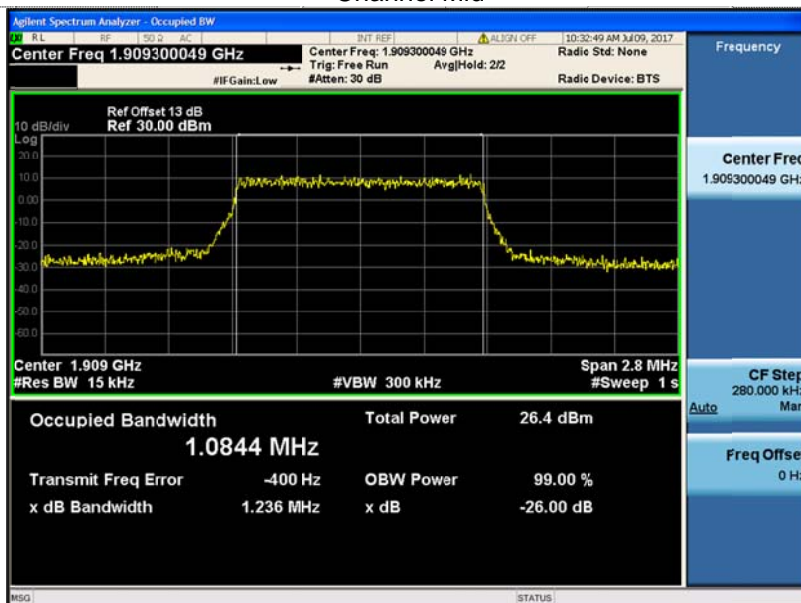
LTE Band 2-1.4MHz
QPSK



Channel Low

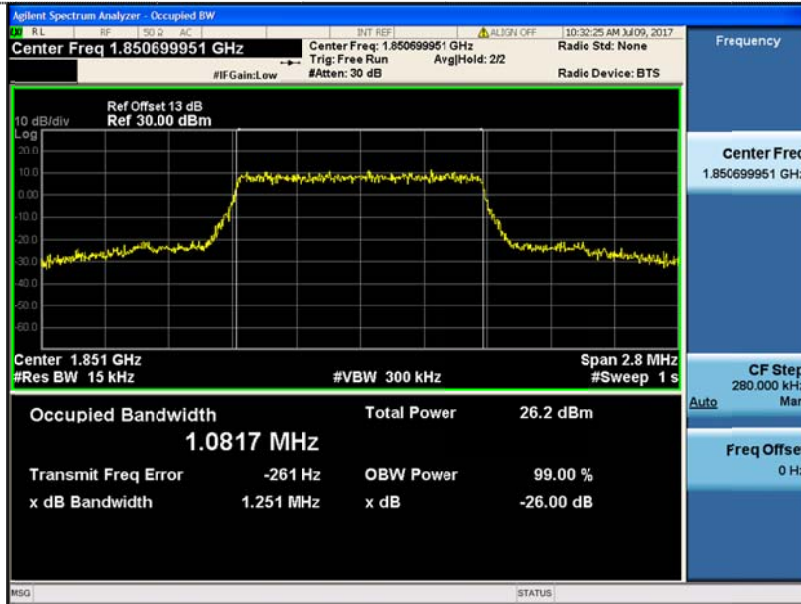


Channel Mid

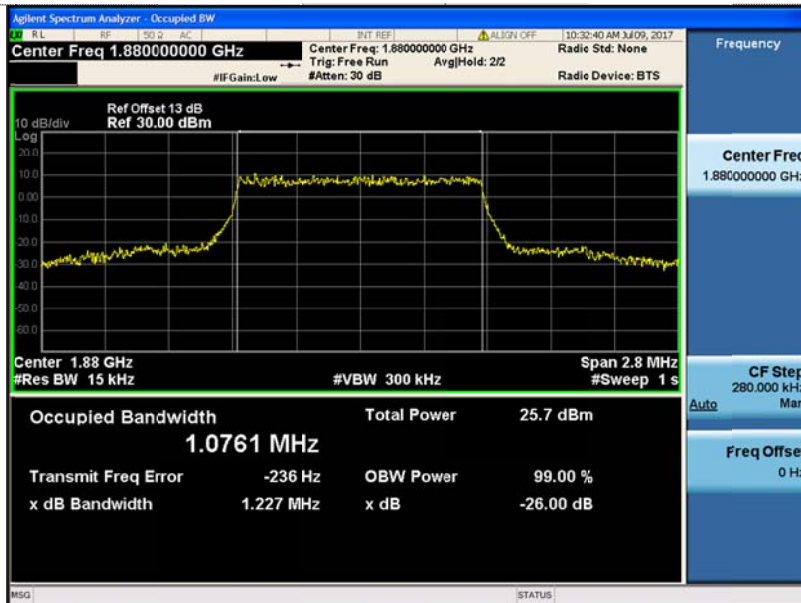


Channel High

LTE Band 2-1.4MHz
16QAM



Channel Low

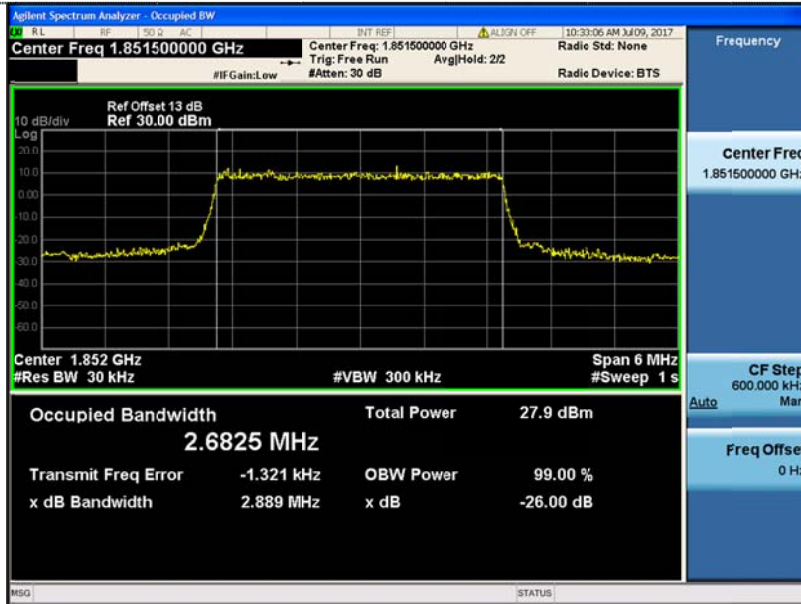


Channel Mid

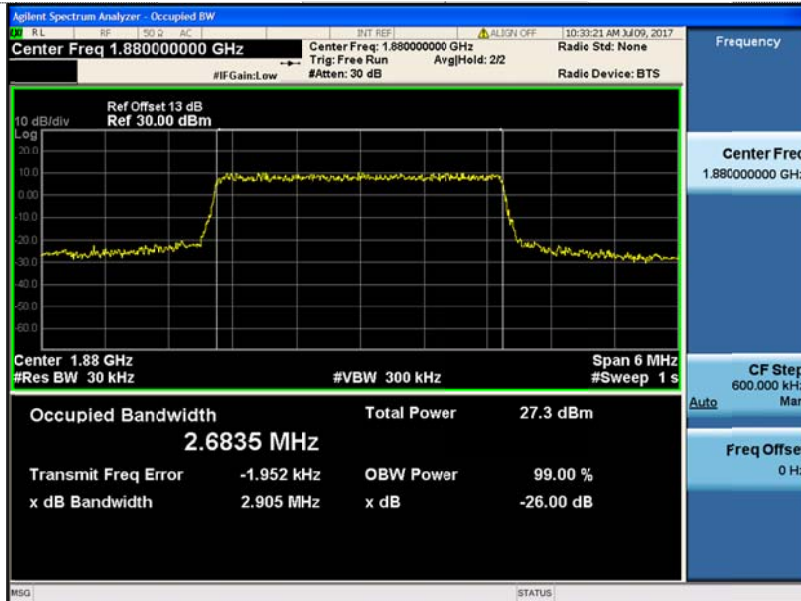


Channel High

LTE Band 2-3MHz
QPSK



Channel Low

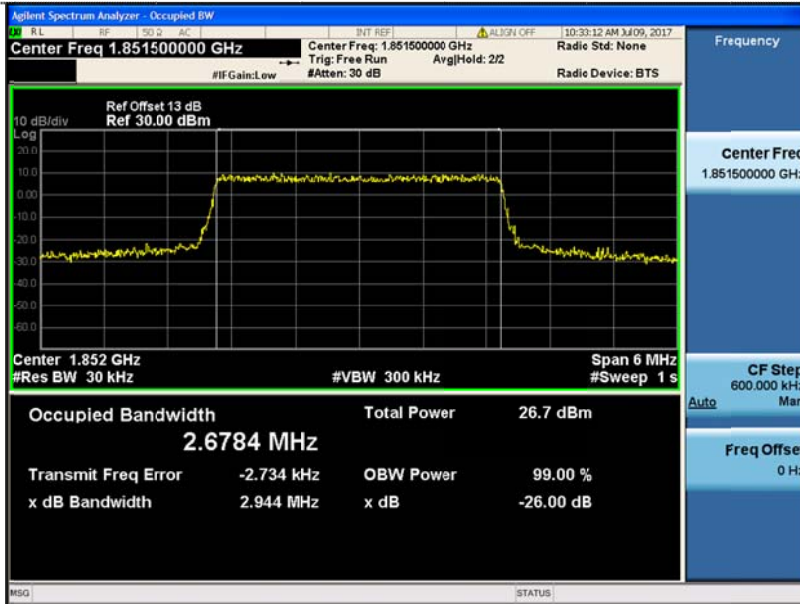


Channel Mid



Channel High

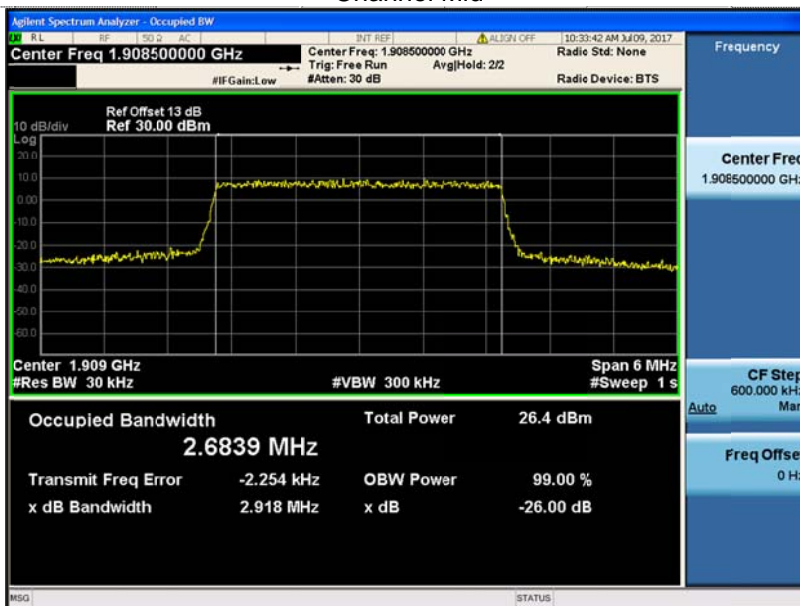
LTE Band 2-3MHz
16QAM



Channel Low

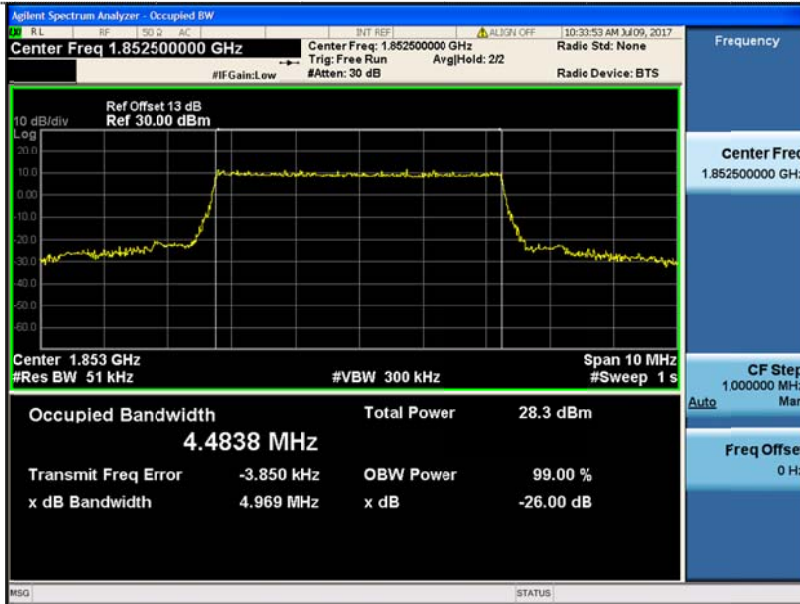


Channel Mid



Channel High

LTE Band 2-5MHz
QPSK



Channel Low

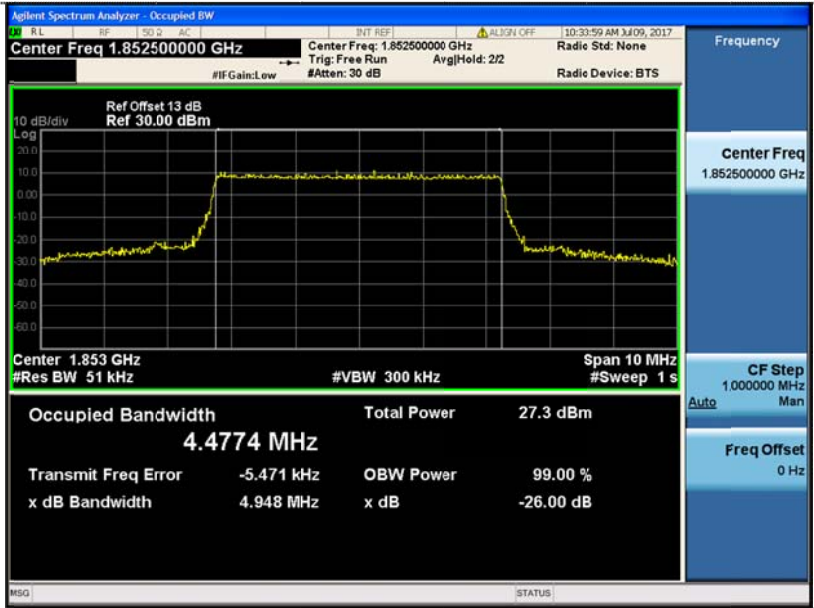


Channel Mid

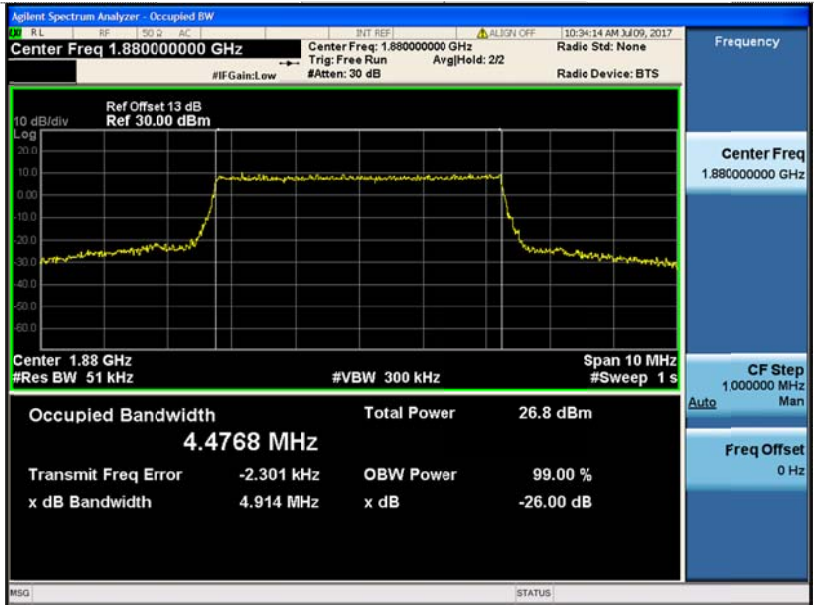


Channel High

LTE Band 2-5MHz
16QAM



Channel Low



Channel Mid



Channel High

LTE Band 2-10MHz
QPSK



Channel Low



Channel Mid



Channel High

LTE Band 2-10MHz
16QAM



Channel Low

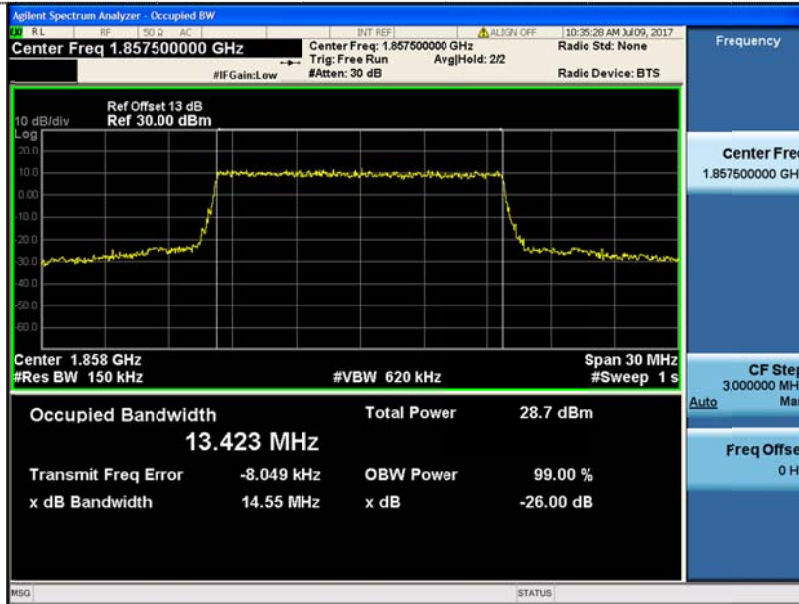


Channel Mid



Channel High

LTE Band 2-15MHz
QPSK



Channel Low

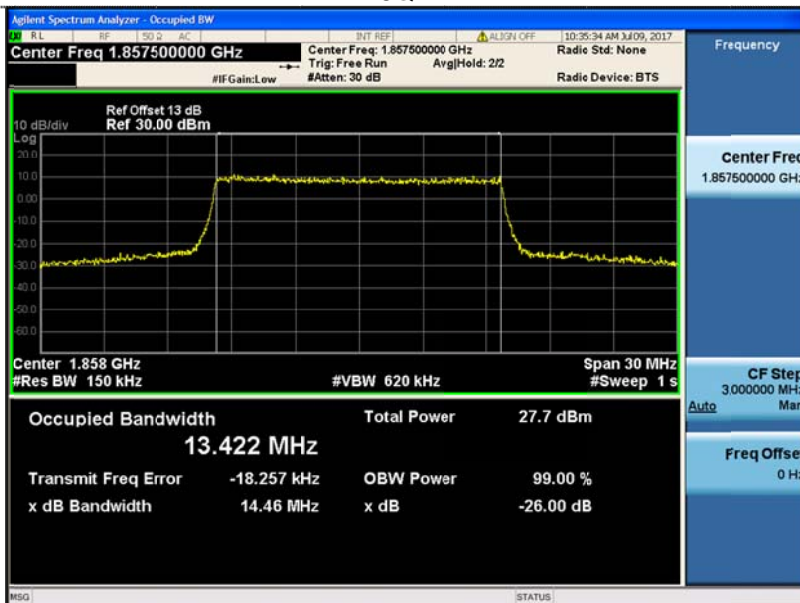


Channel Mid



Channel High

LTE Band 2-15MHz
16QAM



Channel Low

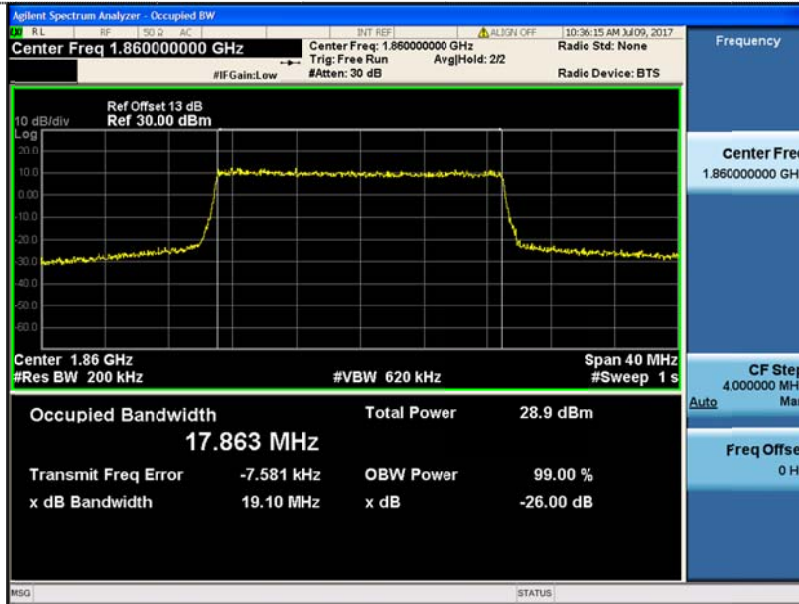


Channel Mid

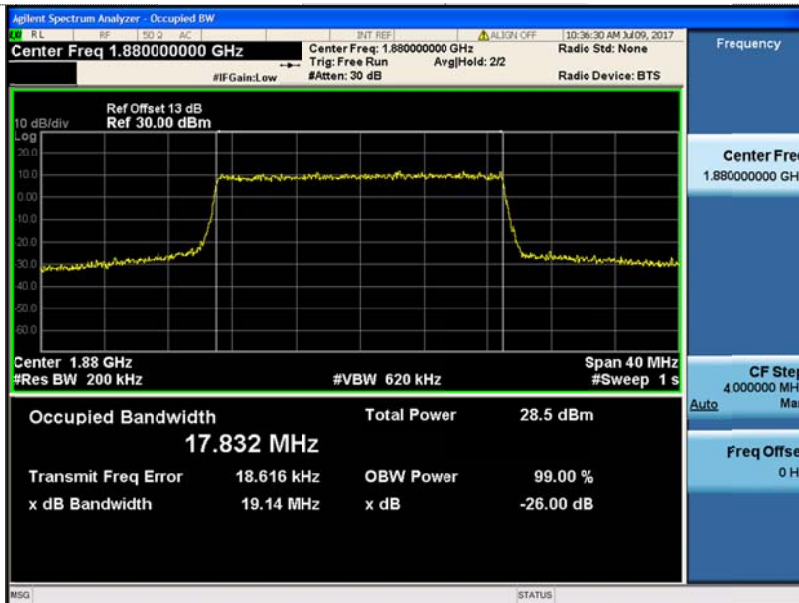


Channel High

LTE Band 2-20MHz
QPSK



Channel Low

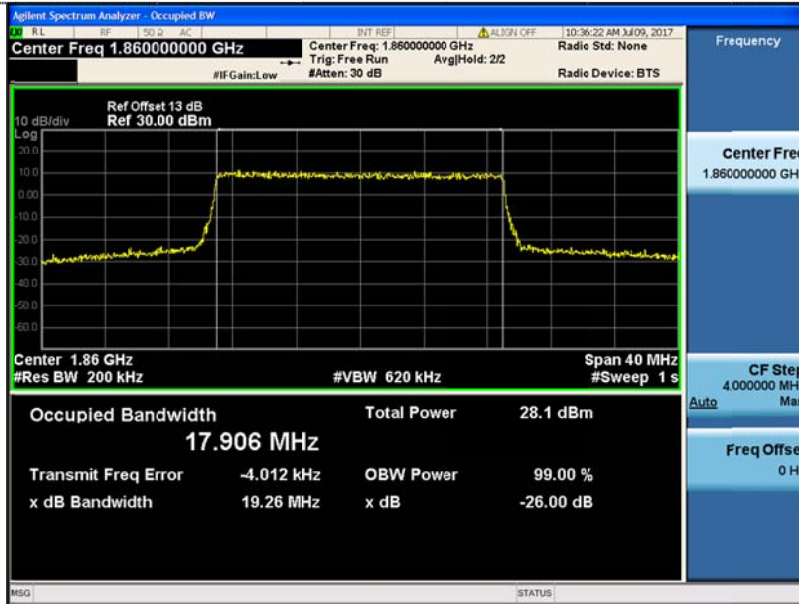


Channel Mid



Channel High

LTE Band 2-20MHz
16QAM



Channel Low

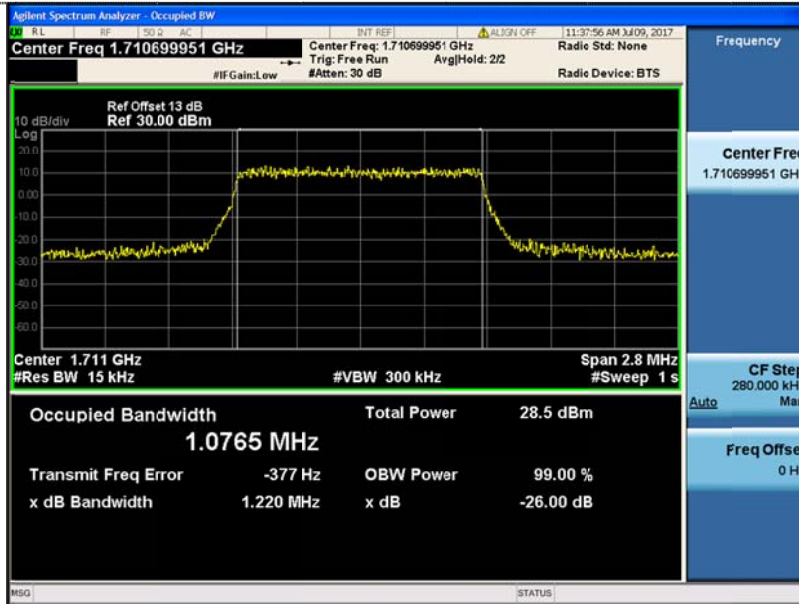


Channel Mid

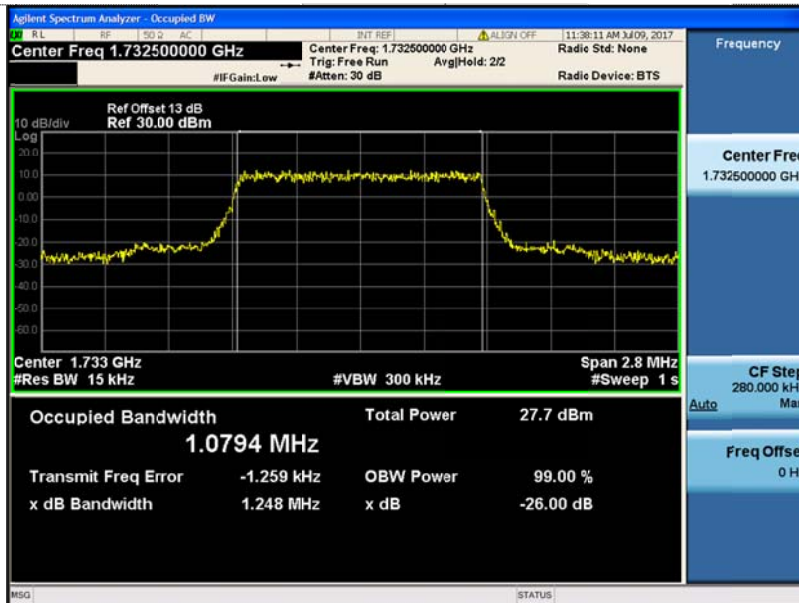


Channel High

LTE Band 4-1.4MHz
QPSK



Channel Low

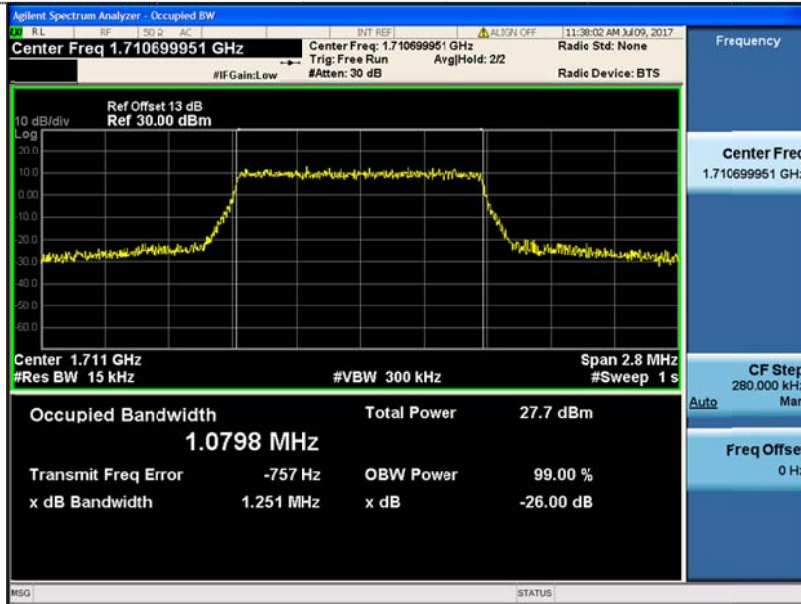


Channel Mid

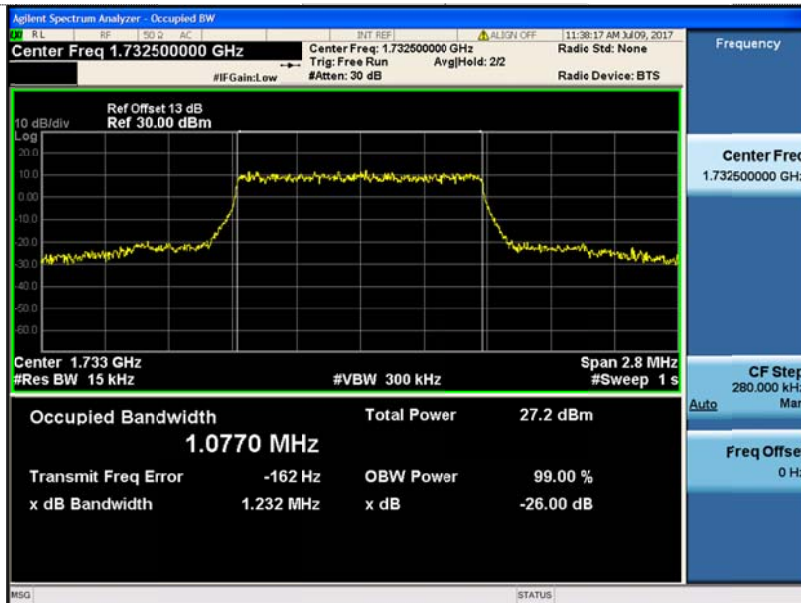


Channel High

LTE Band 4-1.4MHz
16QAM



Channel Low

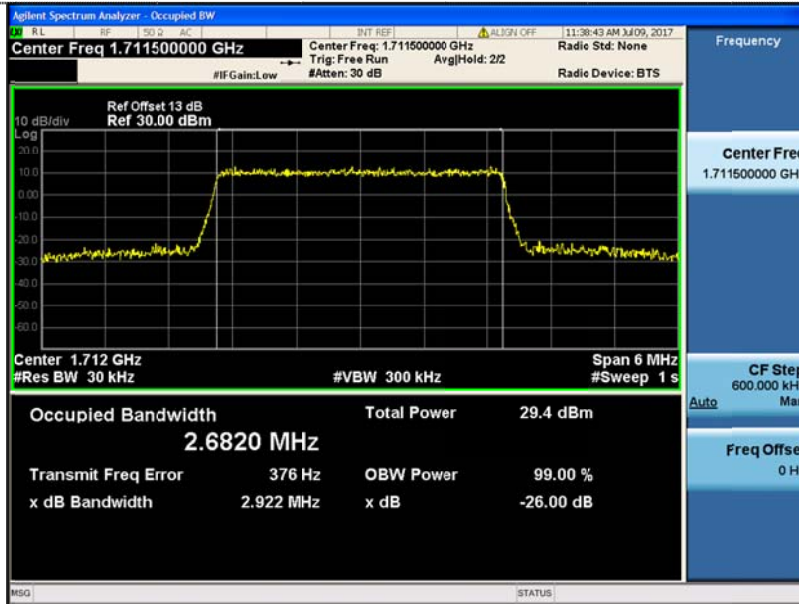


Channel Mid



Channel High

LTE Band 4-3MHz
QPSK



Channel Low

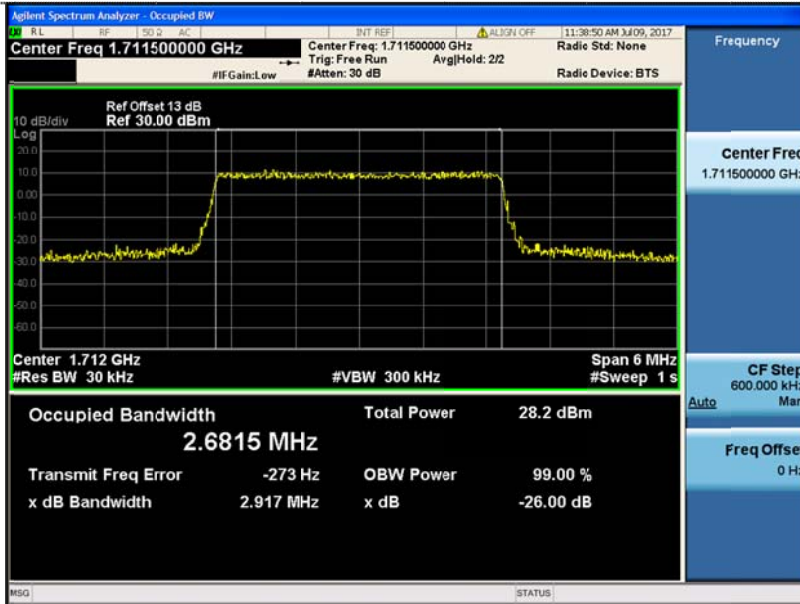


Channel Mid

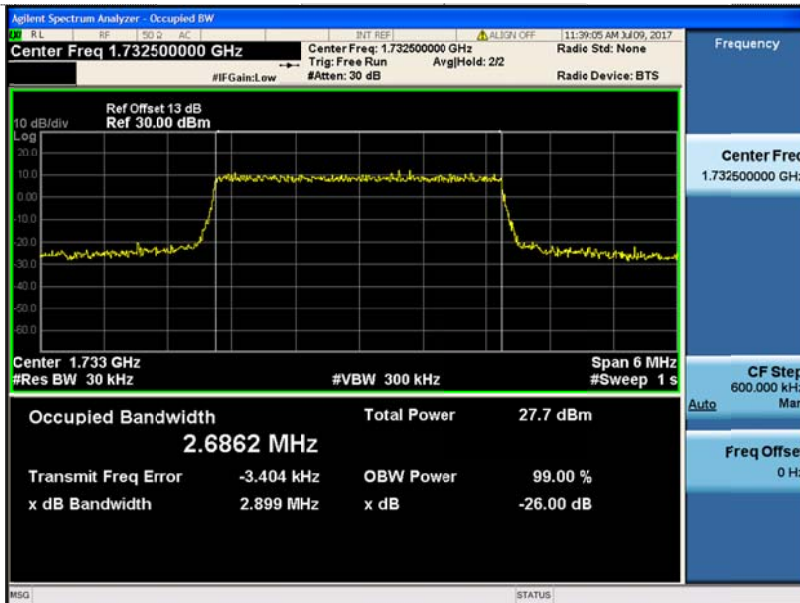


Channel High

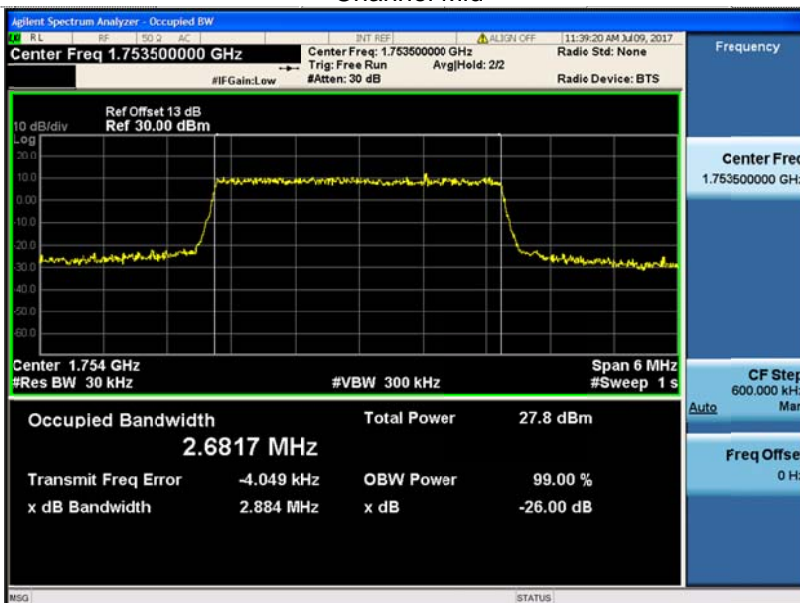
LTE Band 4-3MHz
16QAM



Channel Low

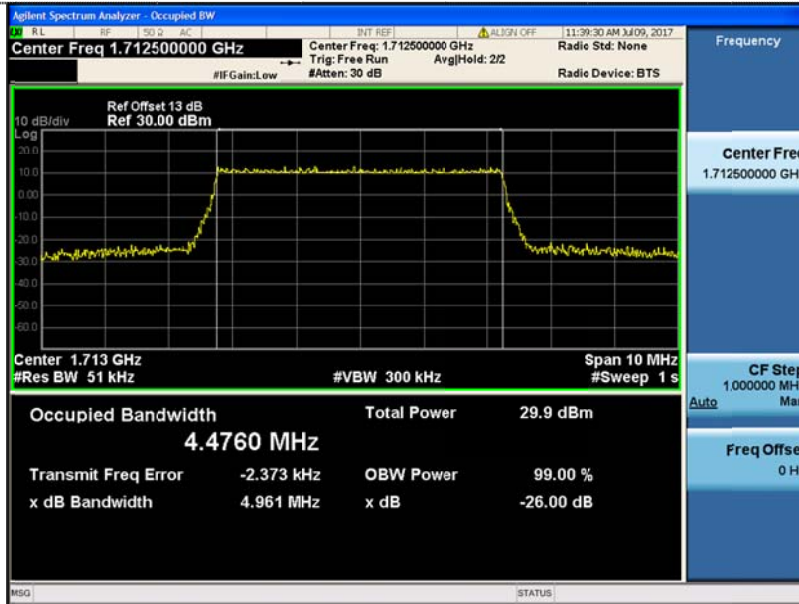


Channel Mid



Channel High

LTE Band 4-5MHz
QPSK



Channel Low

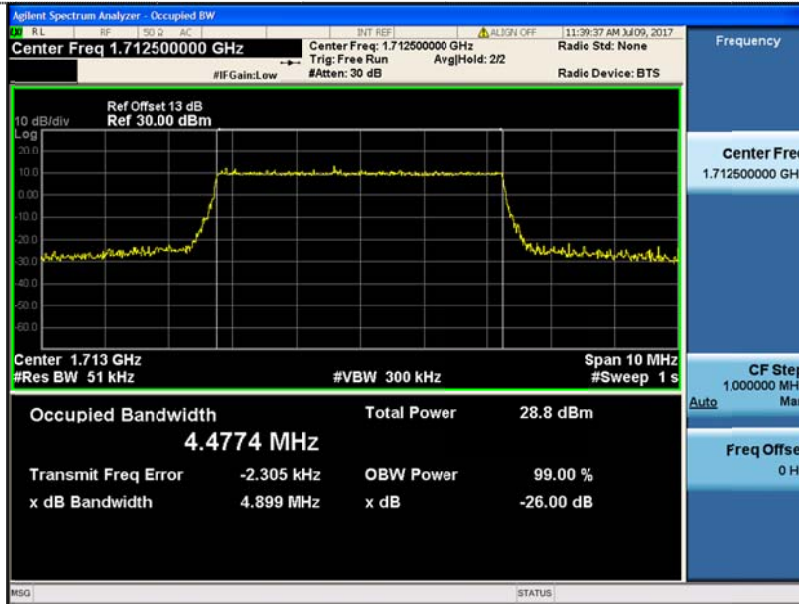


Channel Mid



Channel High

LTE Band 4-5MHz
16QAM



Channel Low

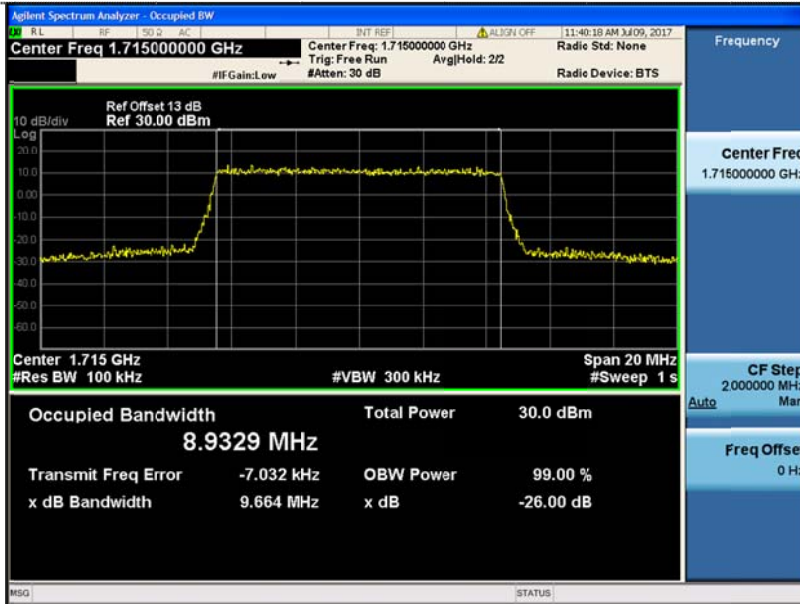


Channel Mid



Channel High

LTE Band 4-10MHz
QPSK



Channel Low

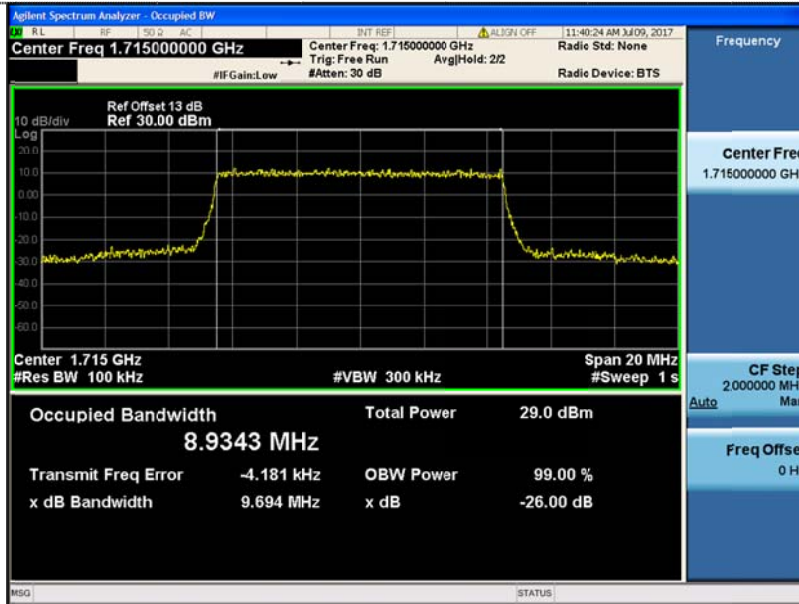


Channel Mid



Channel High

LTE Band 4-10MHz
16QAM



Channel Low

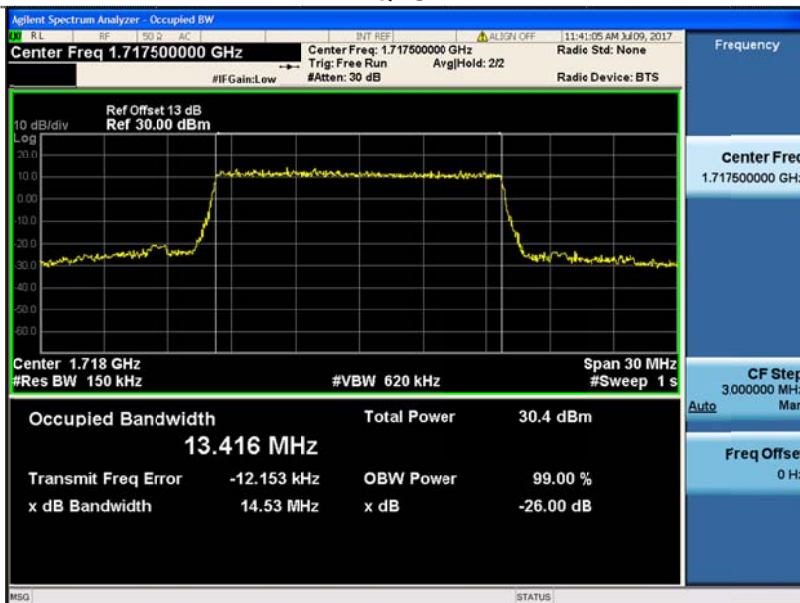


Channel Mid

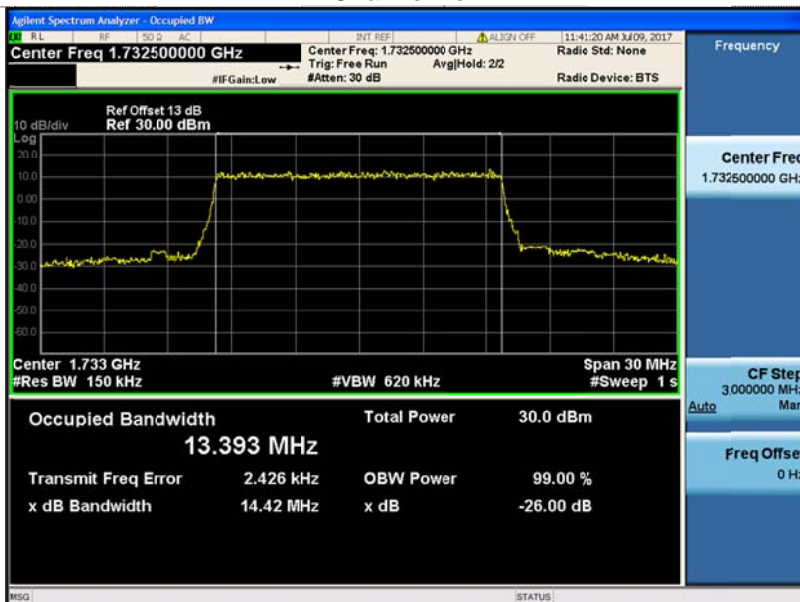


Channel High

LTE Band 4-15MHz
QPSK



Channel Low



Channel Mid

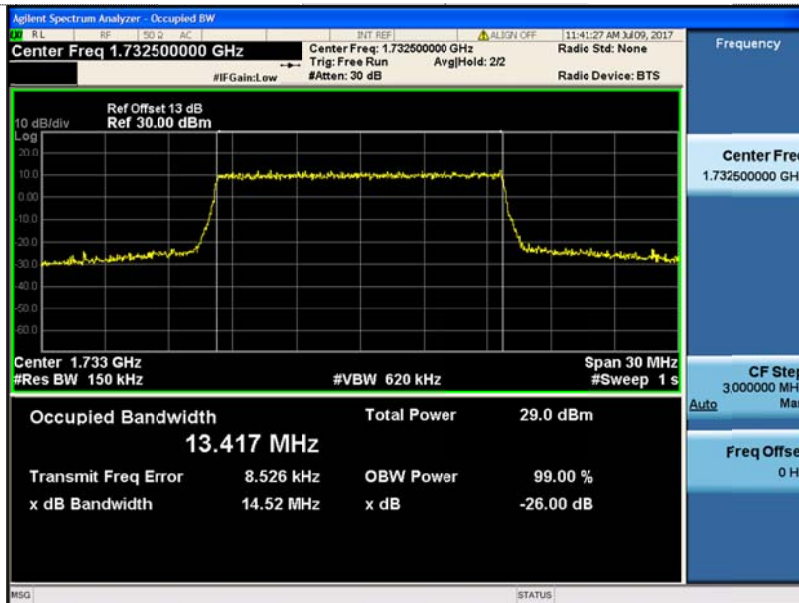


Channel High

LTE Band 4-15MHz
16QAM



Channel Low

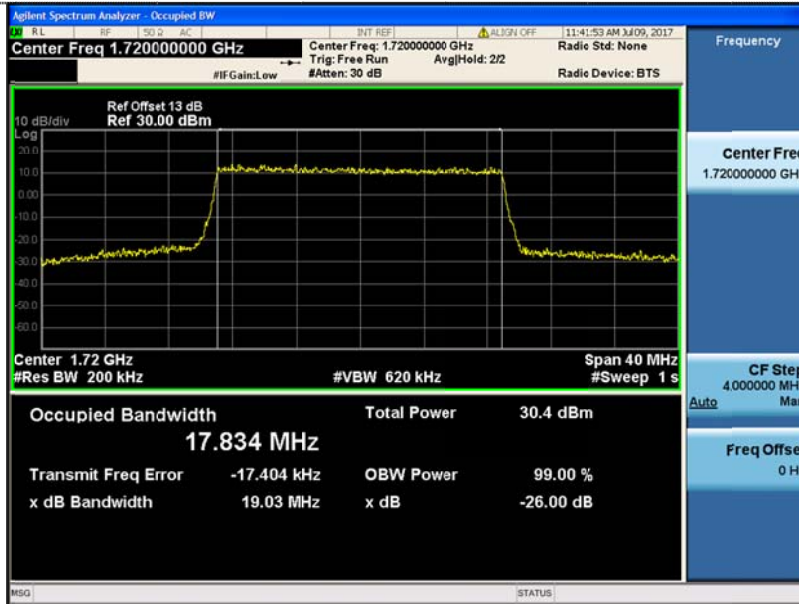


Channel Mid



Channel High

LTE Band 4-20MHz
QPSK



Channel Low

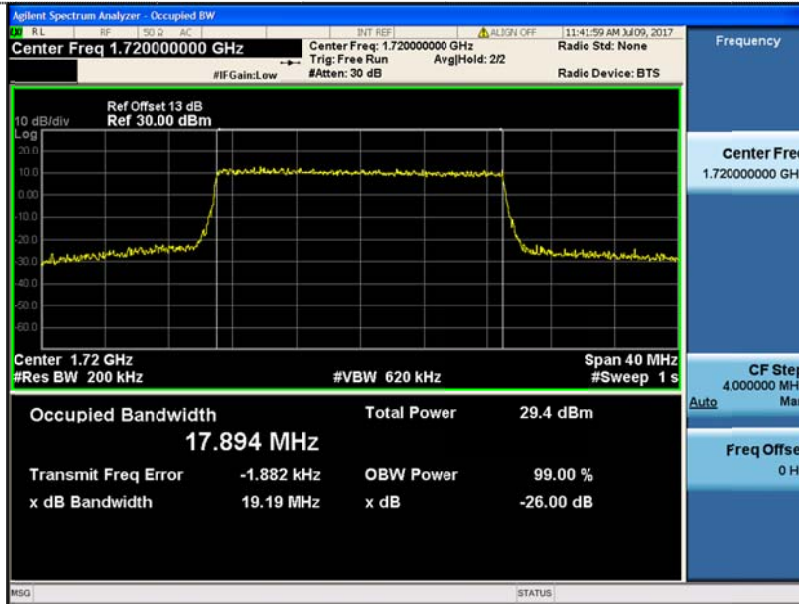


Channel Mid

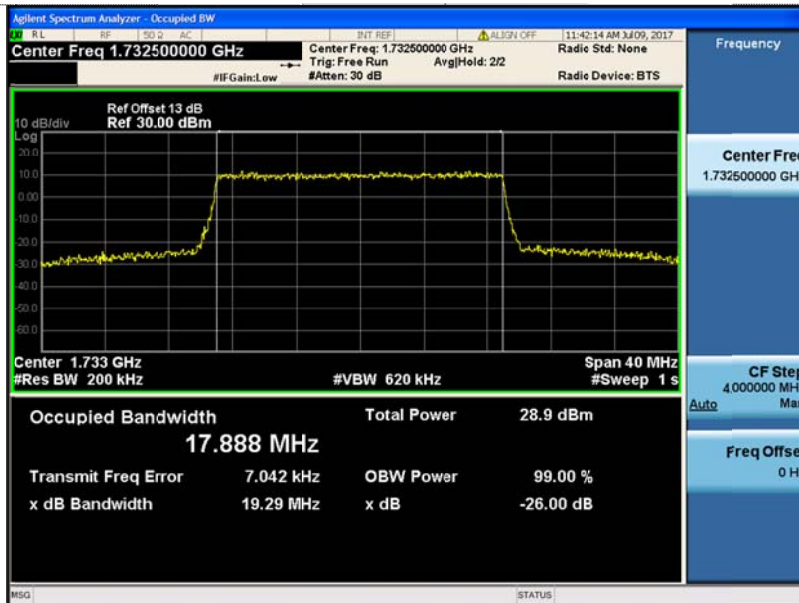


Channel High

LTE Band 4-20MHz
16QAM



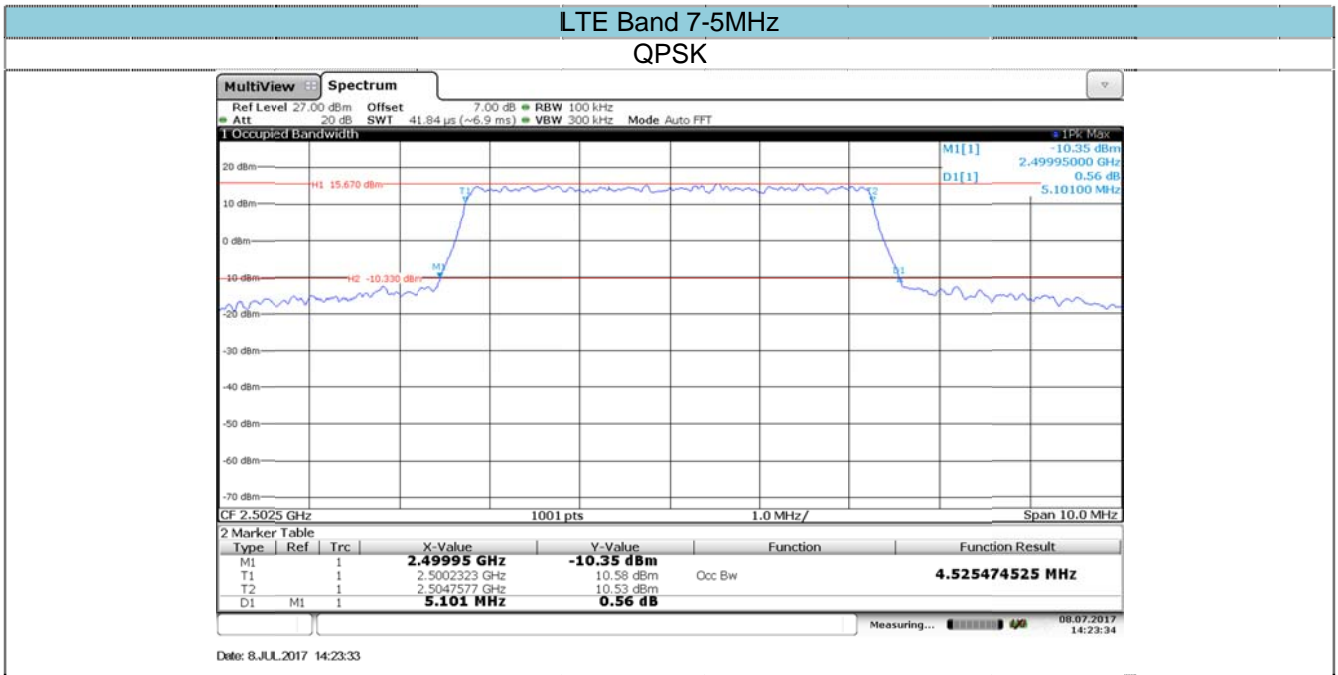
Channel Low



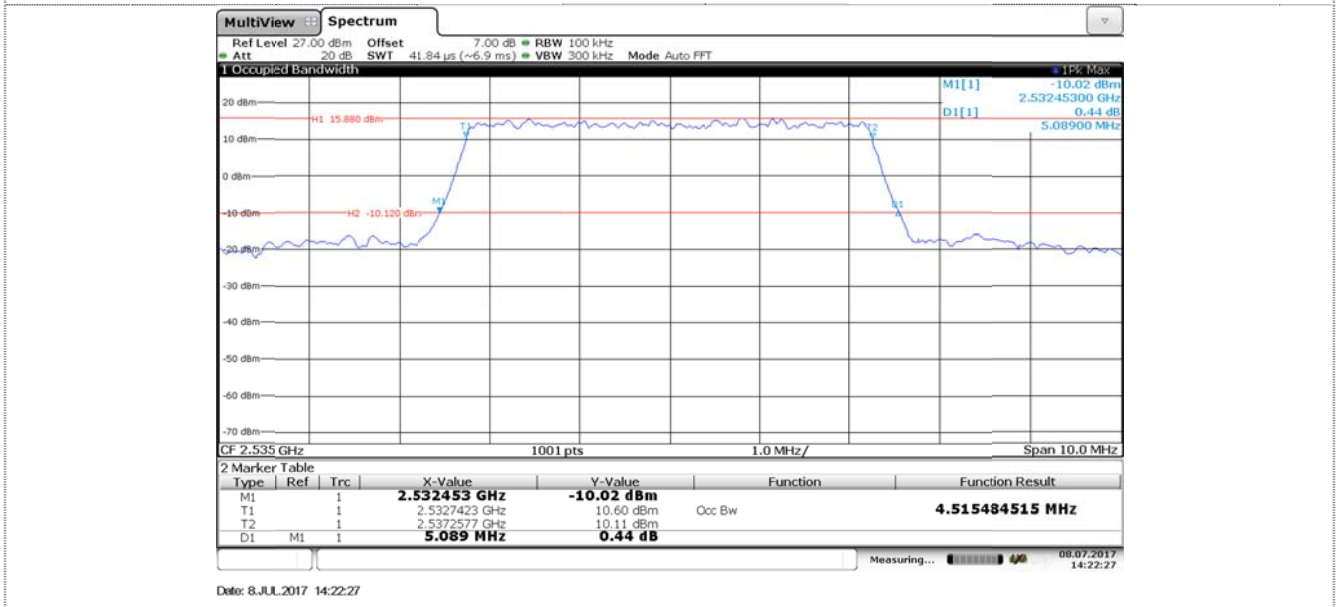
Channel Mid



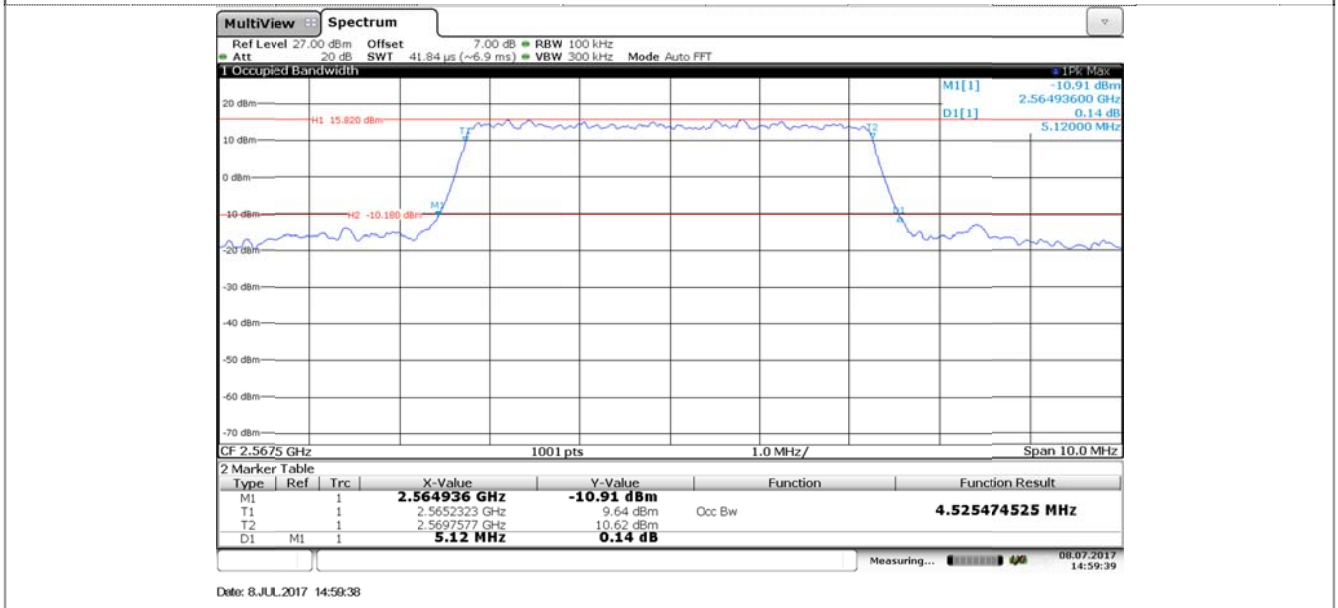
Channel High



Channel Low

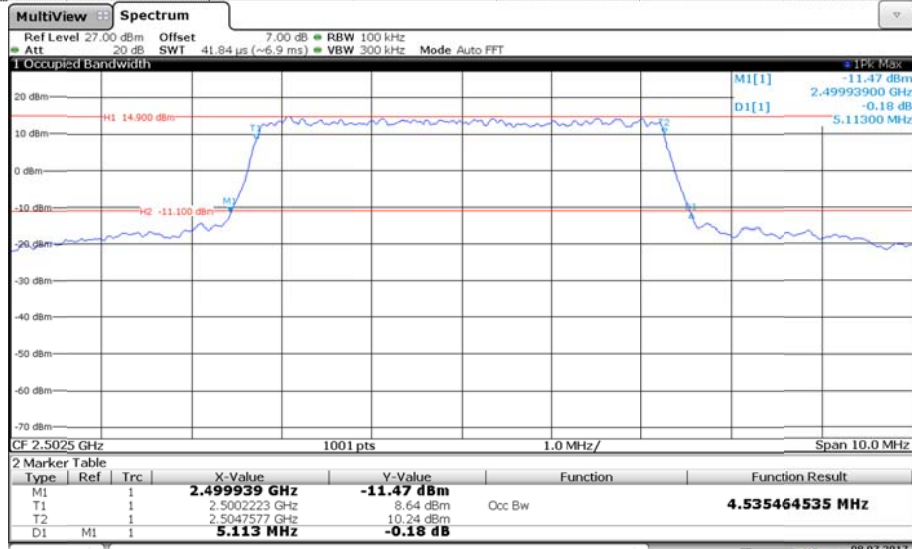


Channel Mid

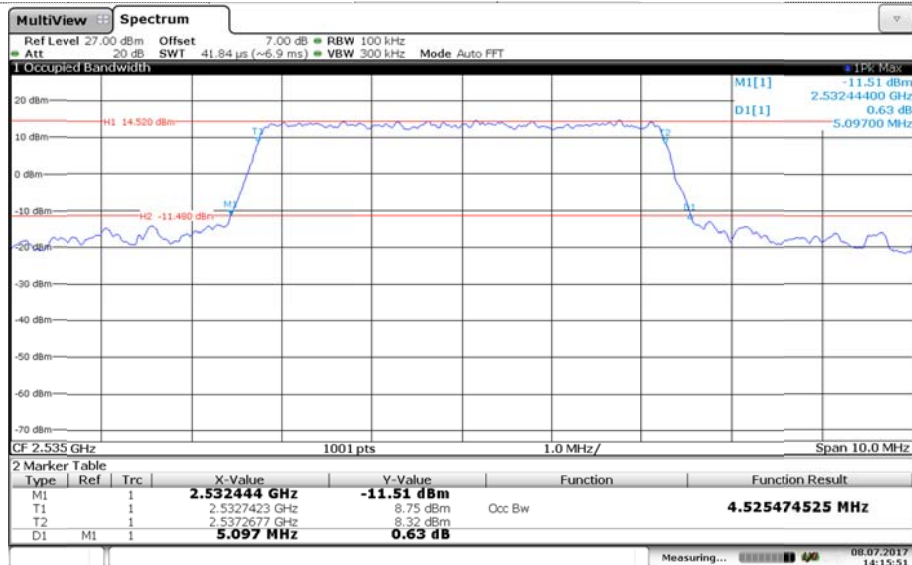


Channel High

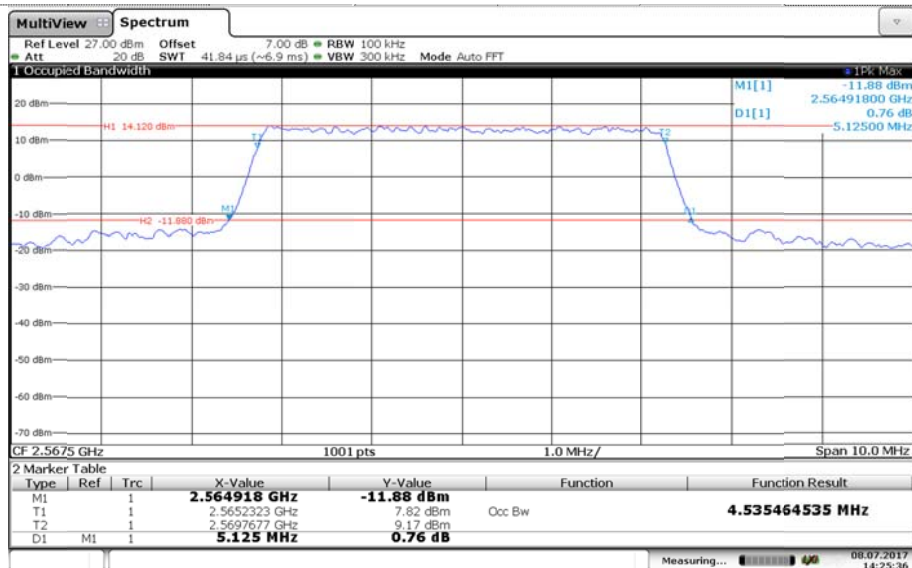
LTE Band 7-5MHz
16QAM



Channel Low

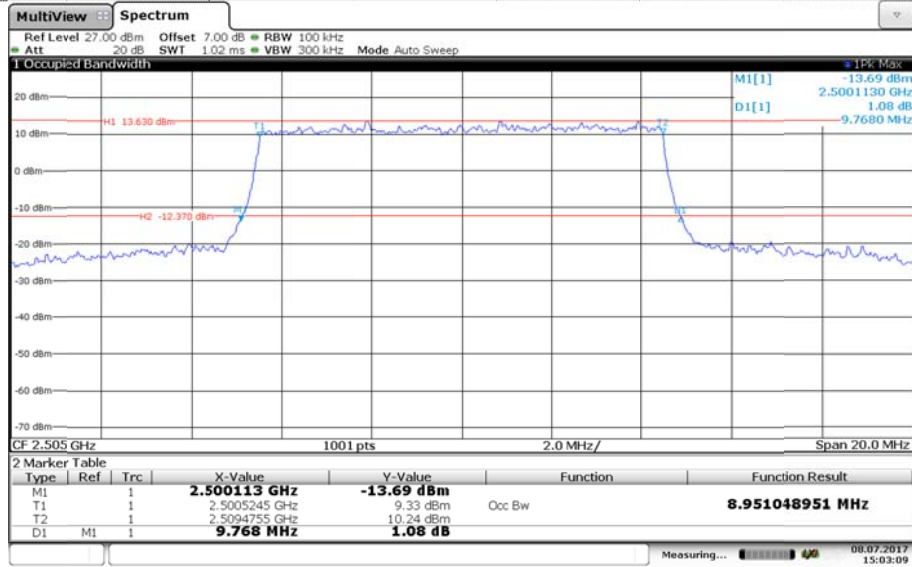


Channel Mid

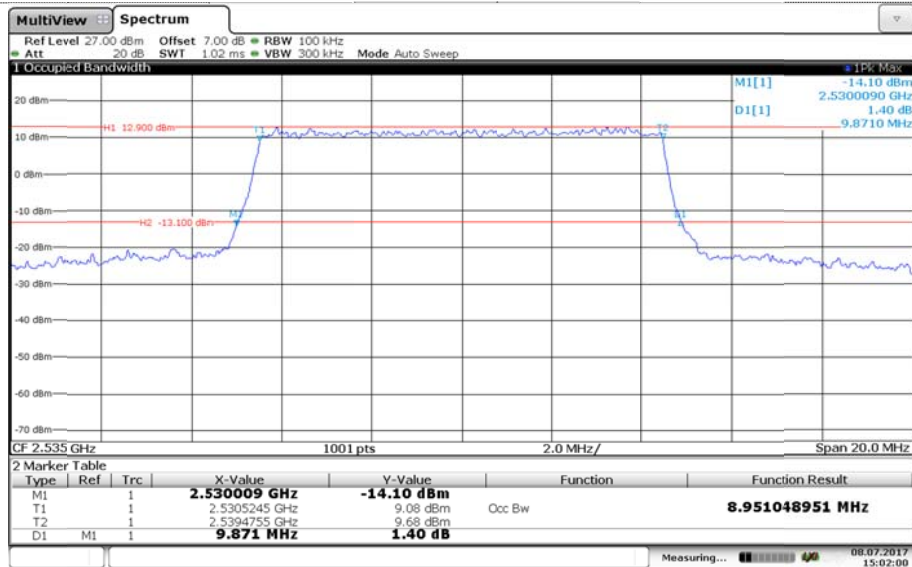


Channel High

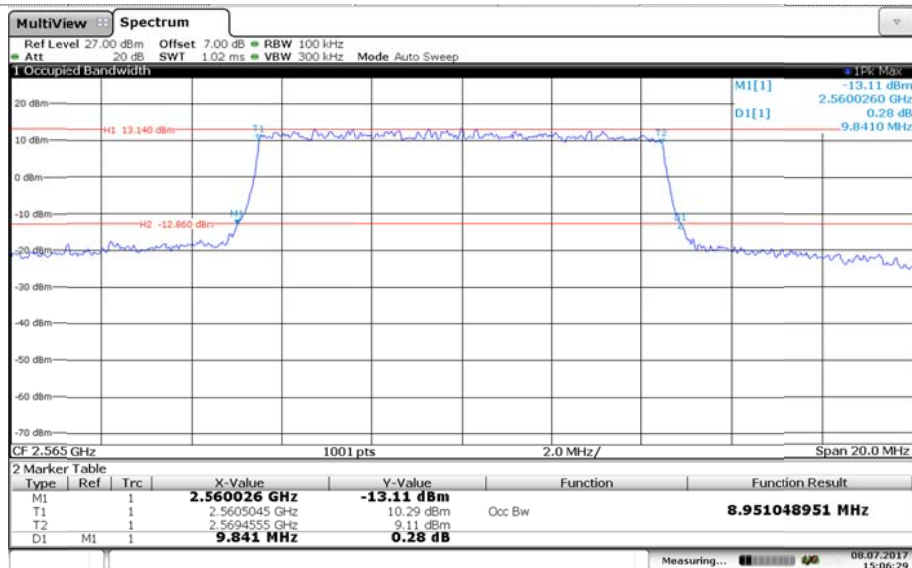
LTE Band 7-10MHz
QPSK



Channel Low

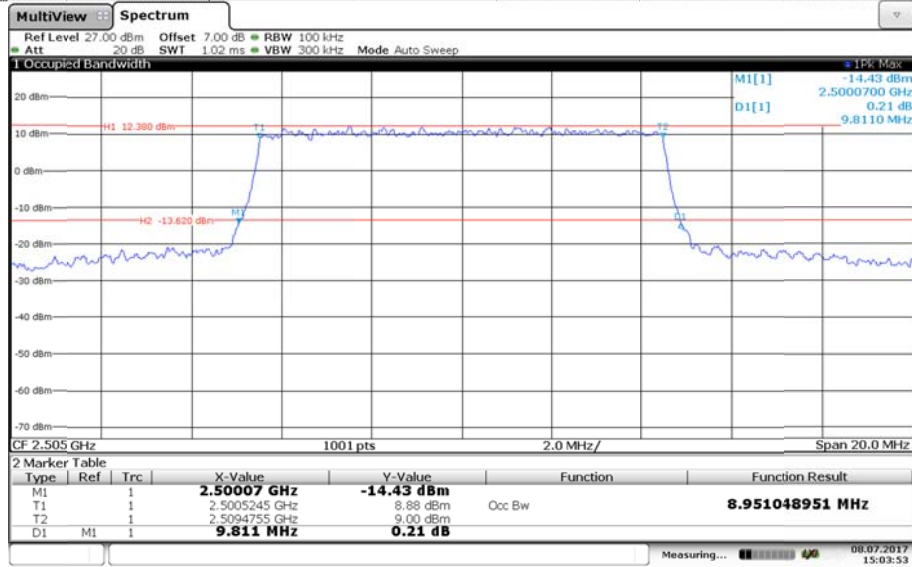


Channel Mid

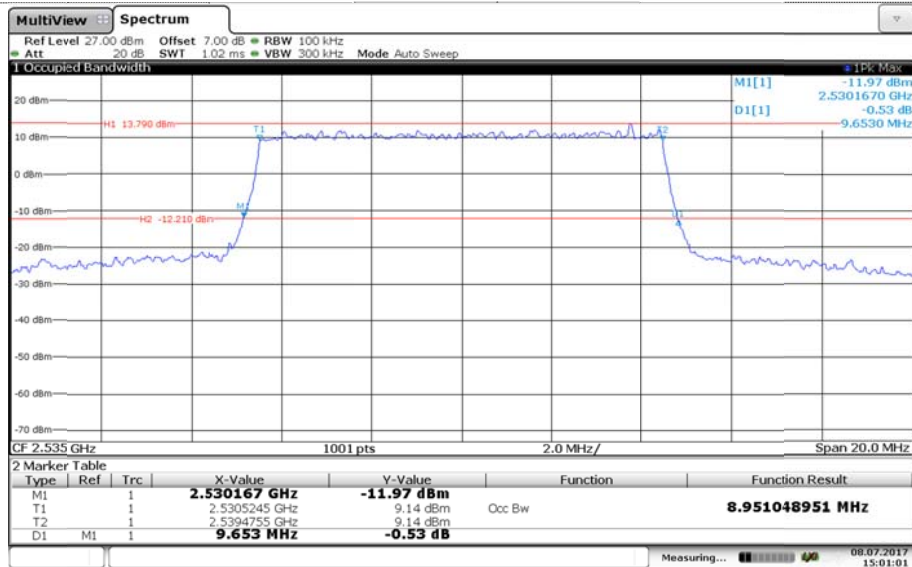


Channel High

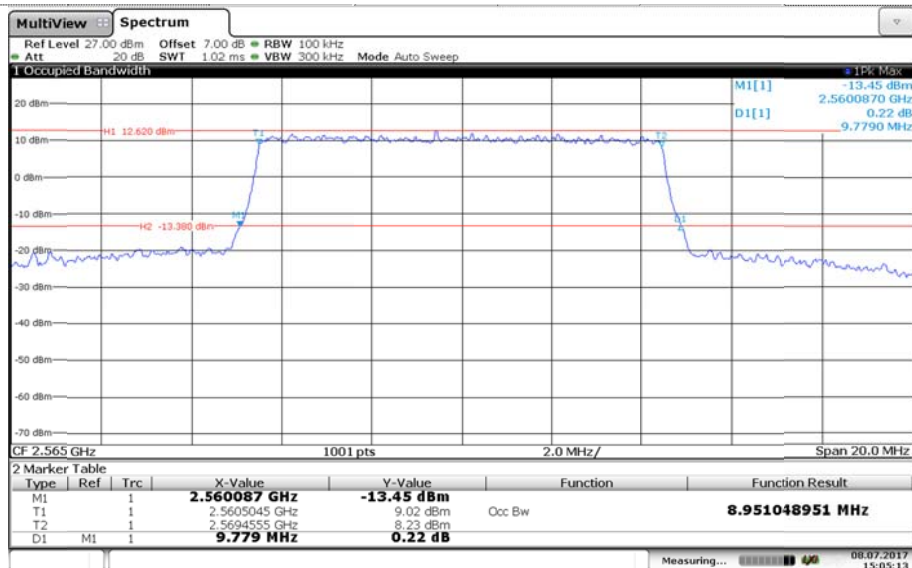
LTE Band 7-10MHz
16QAM



Channel Low

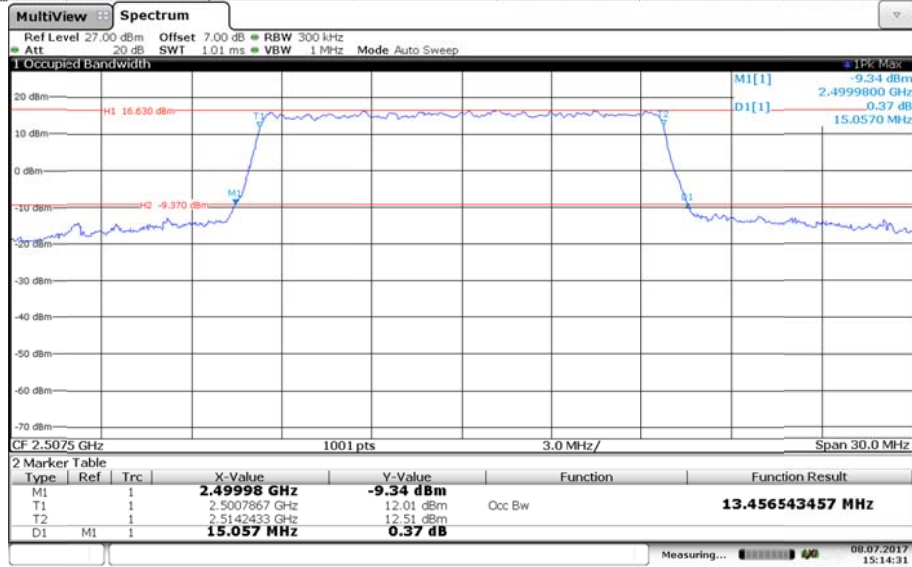


Channel Mid

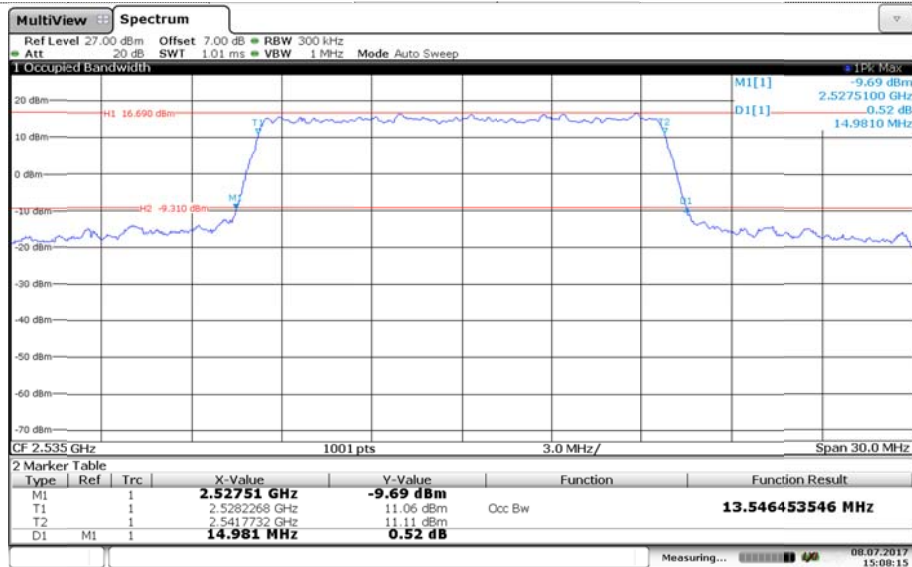


Channel High

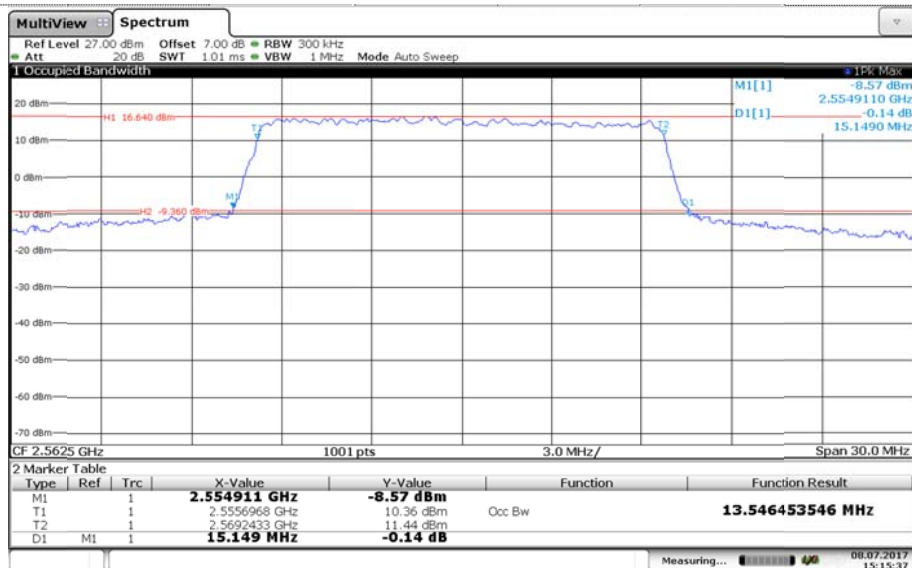
LTE Band 7-15MHz
QPSK



Channel Low

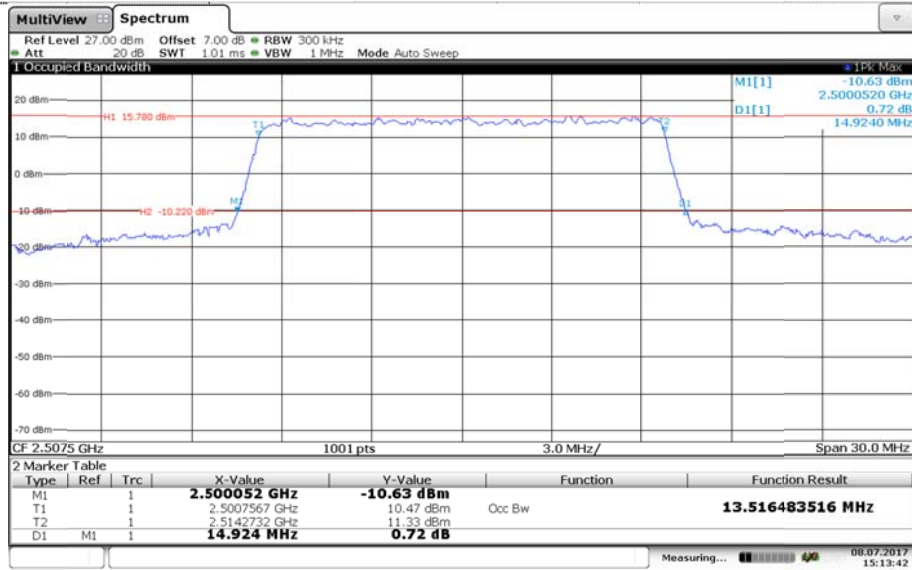


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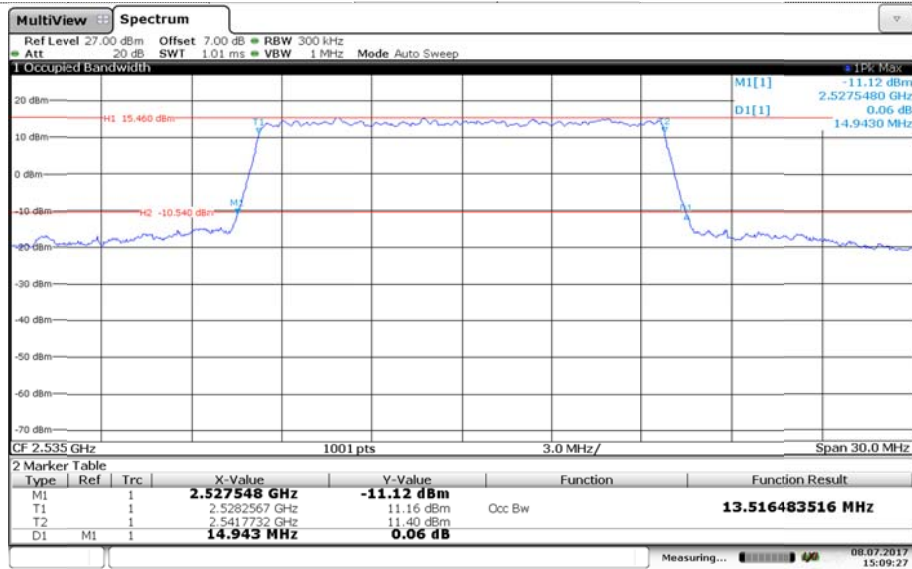


Channel High

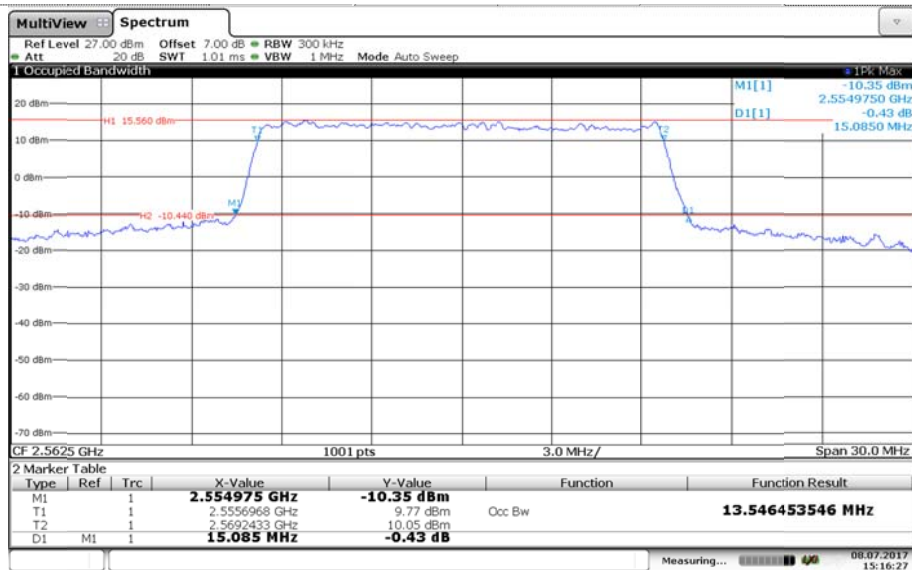
LTE Band 7-15MHz
16QAM



Channel Low

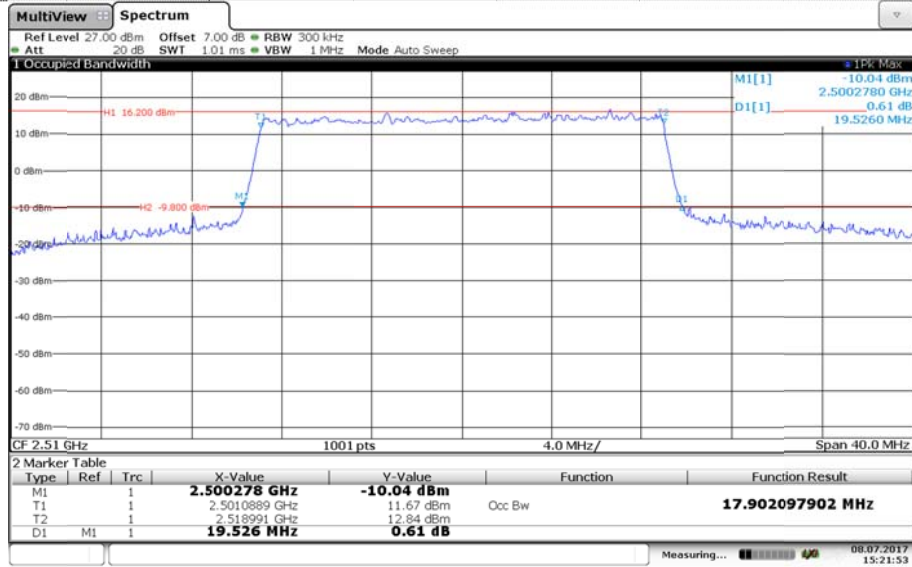


Channel Mid

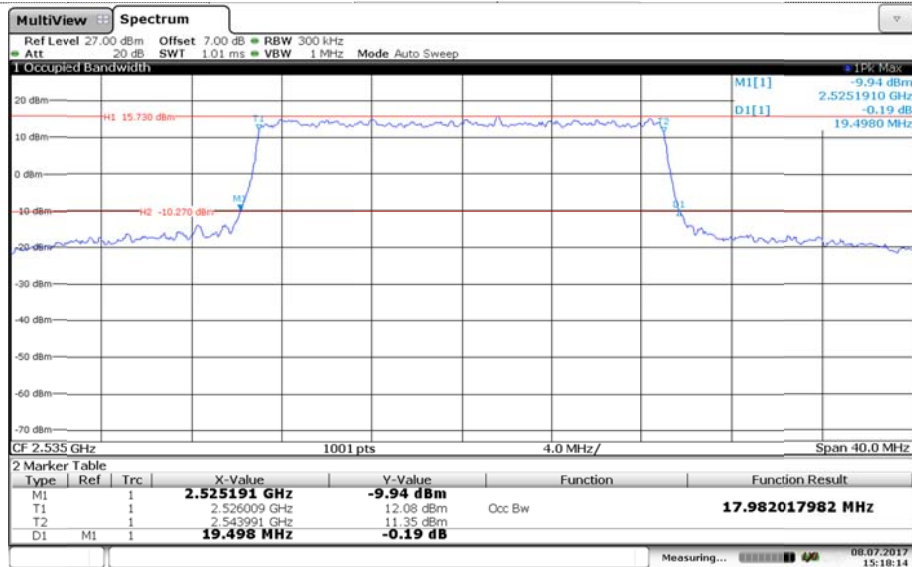


Channel High

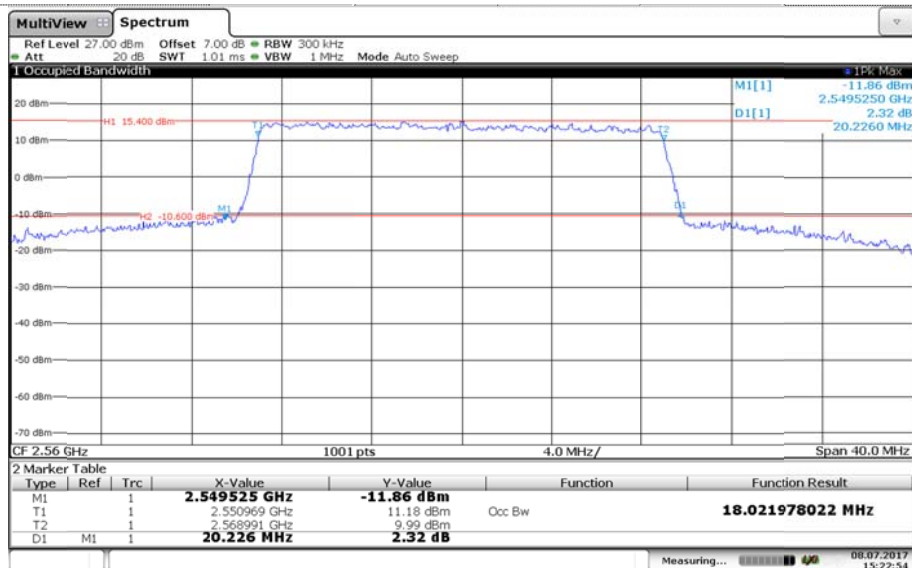
LTE Band 7-20MHz
QPSK



Channel Low

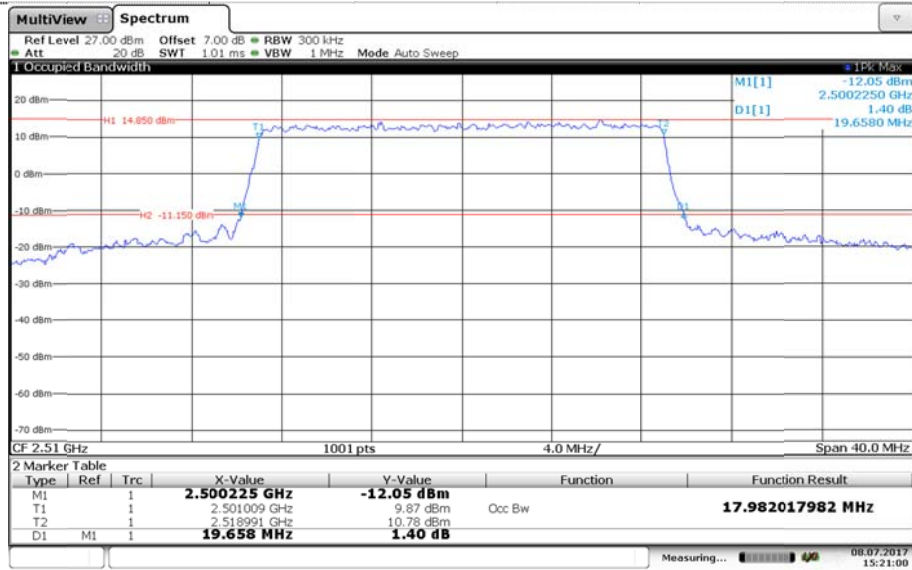


Channel Mid

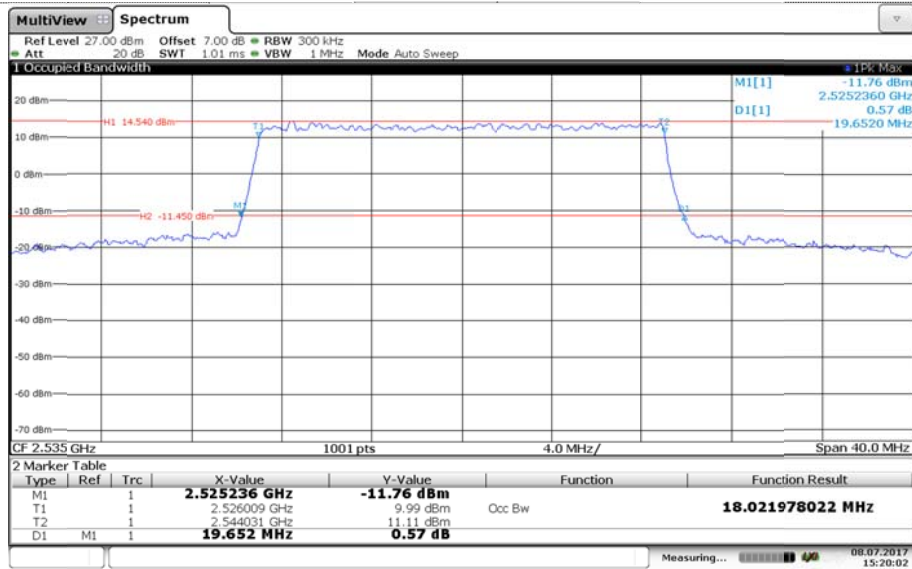


Channel High

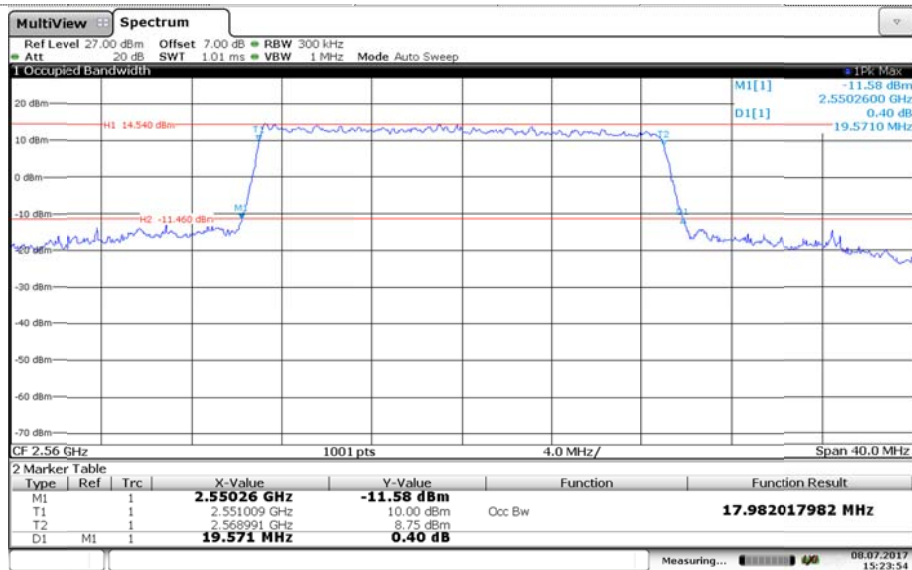
LTE Band 7-20MHz
16QAM



Channel Low



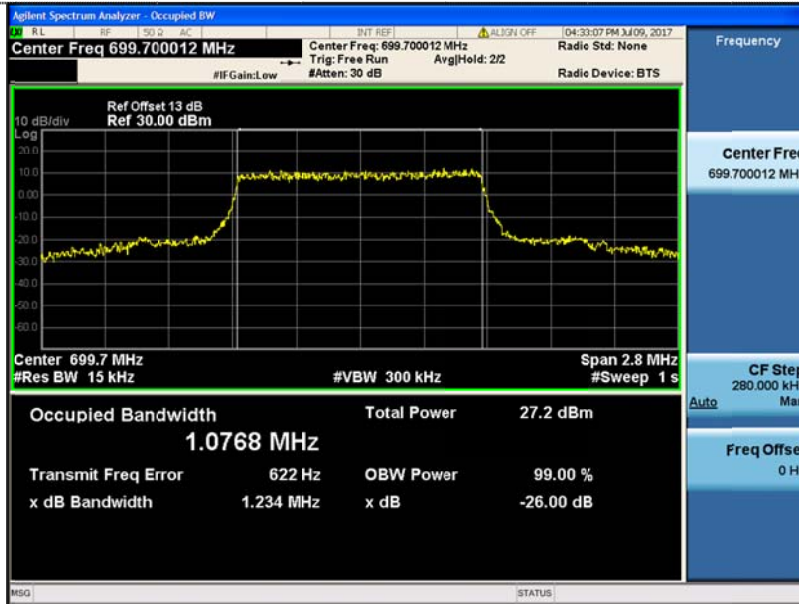
Channel Mid



Channel High

LTE Band 12-1.4MHz

QPSK



Channel Low



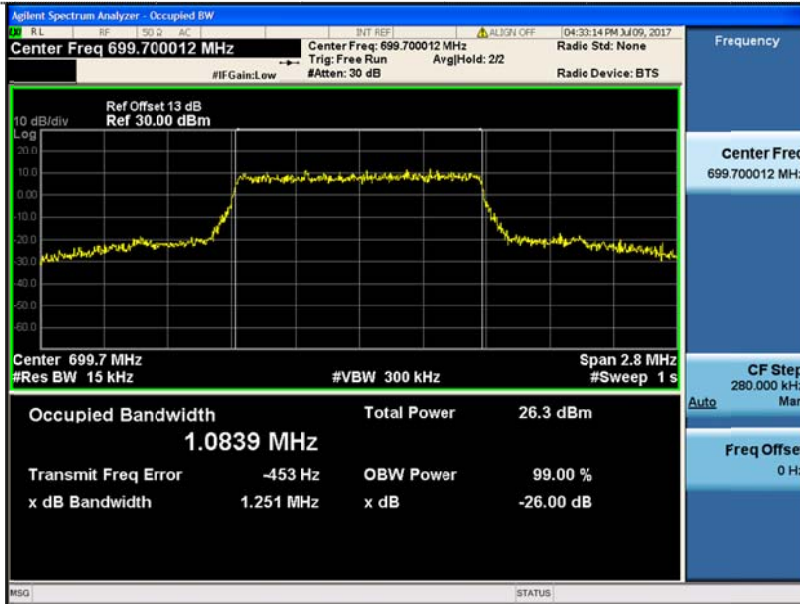
Channel Mid



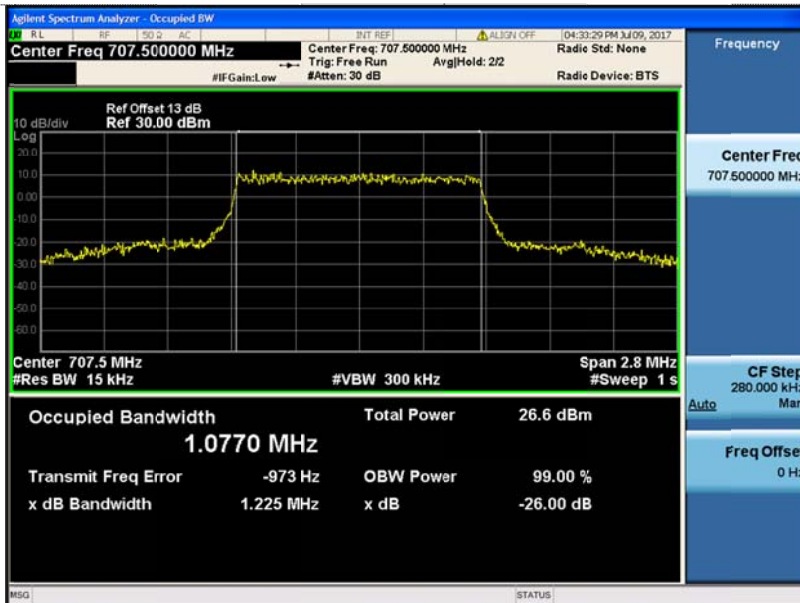
Channel High

LTE Band 12-1.4MHz

16QAM



Channel Low



Channel Mid



Channel High

LTE Band 12-3MHz
QPSK



Channel Low

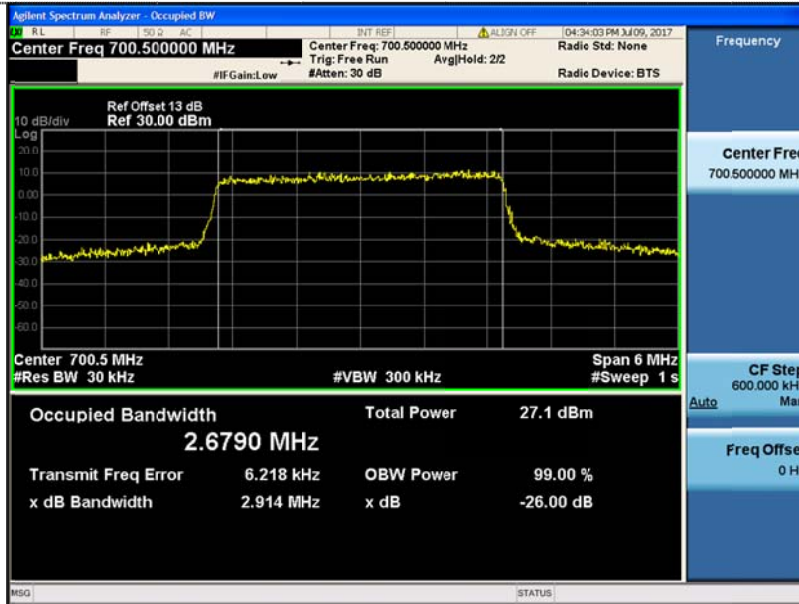


Channel Mid

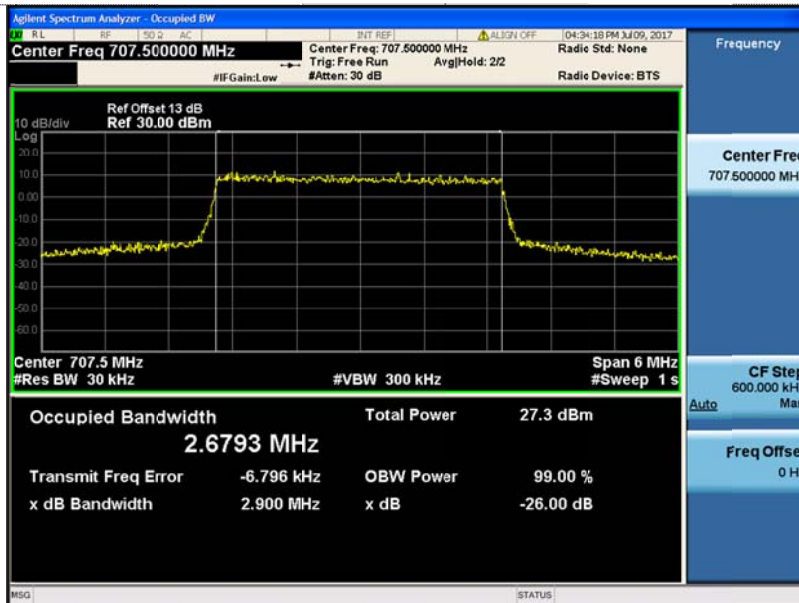


Channel High

LTE Band 12-3MHz
16QAM



Channel Low



Channel Mid



Channel High

LTE Band 12-5MHz
QPSK



Channel Low

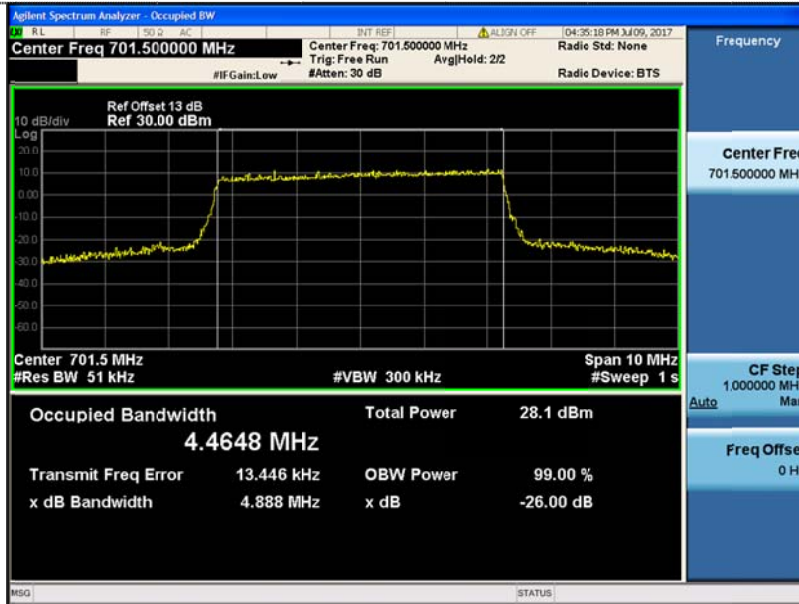


Channel Mid

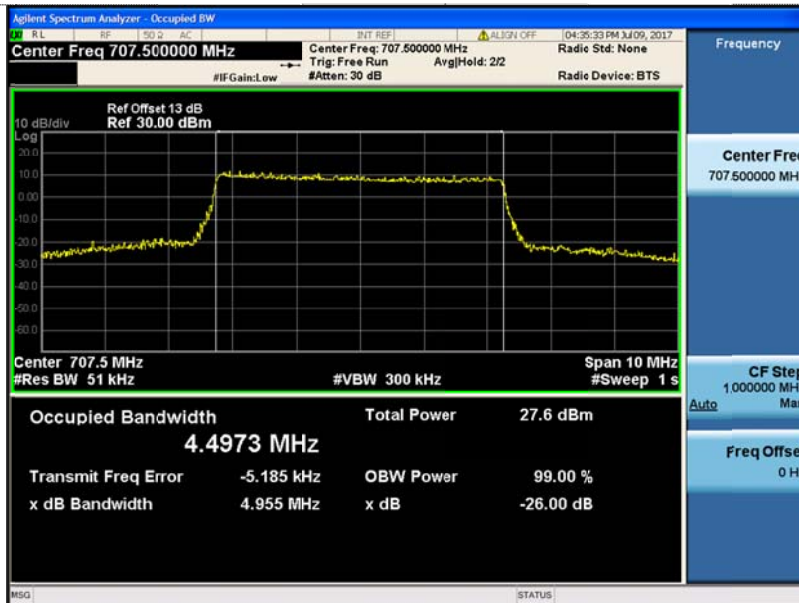


Channel High

LTE Band 12-5MHz
16QAM



Channel Low

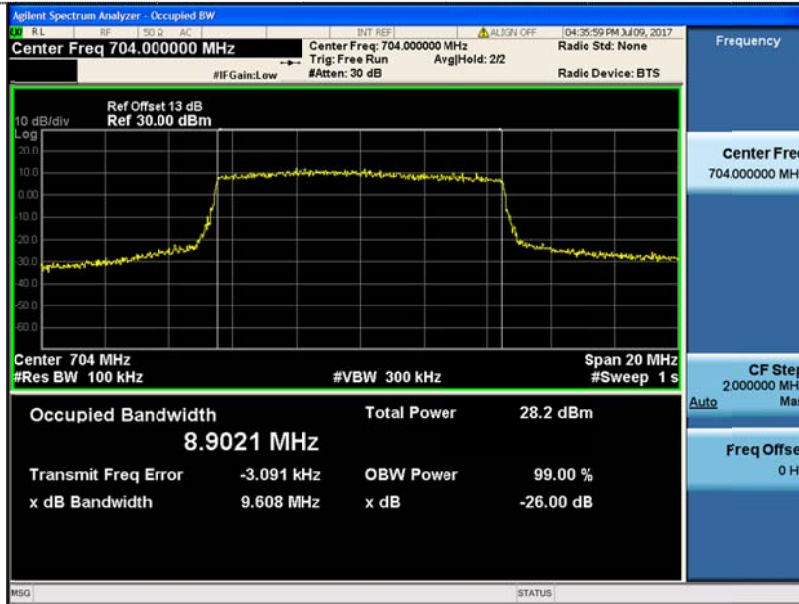


Channel Mid



Channel High

LTE Band 12-10MHz
QPSK



Channel Low



Channel Mid



Channel High

LTE Band 12-10MHz
16QAM



Channel Low



Channel Mid



Channel High