

FCC CFR47 PART 22H, 27 CERTIFICATION TEST REPORT FCC ID: 2ASHJPT7003

Product: POS Terminal

Trade Mark: N/A

Model Number: PT7003

Family Model: PT7003S, PT7003M, PT7003MS

Report No.: S18110702302E006

Prepared for

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Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : Tousei Anlinx Co.,Ltd.

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Manufacturer's Name..... : Tousei Anlinx Co.,Ltd.

Address..... : 2nd floor,No.248,HuaQing road,QingHu, LongHua district,Shenzhen City,China 518109

Product name..... : POS Terminal

Model and/or type reference .. : PT7003

Family Model: PT7003S, PT7003M, PT7003MS

Standards..... : FCC CFR 47 Part 22H, Part 27

Test procedure: ANSI C63.26:2015
ANSI/TIA-603-E-2016

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Date of Test

Date (s) of performance of tests..... 08 Nov. 2018 ~ 26 Mar. 2019

Date of Issue 26 Mar. 2019

Test Result..... **Pass**

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1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	POS Terminal
Trade Mark	N/A
Model Name	PT7003
Family Model	PT7003S, PT7003M, PT7003MS
Model Difference	All the model are the same circuit and RF module, except the appearance and color.
FCC ID:	2ASHJPT7003
Frequency Bands:	U.S. Bands: ☒ LTE FDD Band 5,7; LTE TDD Band 41
Frequency Range:	LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE FDD Band 7 Uplink: 2500MHz-2570MHz, Downlink: 2620MHz-2690MHz; LTE TDD Band 41 Note2
Type of Modulation:	QPSK/16QAM
Antenna:	PIFA Antenna
Antenna gain:	1.42dBi
Power Supply:	DC 7.4V from Battery or DC 9V from adapter.
Battery parameter:	DC 7.4V/3900mAh
Adapter:	Adapter 2: Model:FJ-SW20180902500D Input: 100-240V~50/60Hz 1.5A Max Output: 9.0V $\overline{\text{---}}$ 2500mA Adapter 1: Model:P24A090250 Input: 100-240V~50/60Hz 0.6A Output: 9.0V $\overline{\text{---}}$ 2.5A
Extreme Vol. Limits:	DC 6.3V to DC 8.5V (Nominal DC 7.4V) Note1
HW Version	V1.02
SW Version	V1.05
** Note: 1. The High Voltage DC 8.5V and Low Voltage 6.3V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

2. Frequency Range:

Test Frequency ID	Bandwidth(MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	40440	2575
	10	40465	2577.5
	15	40490	2580
	20	40515	2582.5
Mid Range	5/10/15/20	40620	2593
High Range	5	41040	2635
	10	41015	2632.5
	15	40990	2630
	20	40965	2627.5

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: 2ASHJPT7003** filing to comply with the FCC Part 22H&24E &27.

1.3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E-2016, FCC CFR 47 Part 2, Part 22, Part 27, ANSI C63.26:2015.

1.4 TEST FACILITY

The test site used to collect the radiated data is located at:

ShenZhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R.China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.26:2015& ANSI C63.4: 2014.

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.5dB

1.5 SPECIAL ACCESSORIES

The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

1.6 WORST-CASE CONFIGURATION AND MODE

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of: Band 5, Band 7, Band 41.

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

For the fundamental investigation of radiated emissions, the EUT is investigated for vertical and horizontal antenna orientations and X Y and Z orientations of the EUT alone. After the investigations the worst case was determined to be at X orientation for all LTE bands.

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

2.3 CONFIGURATION OF EUT SYSTEM

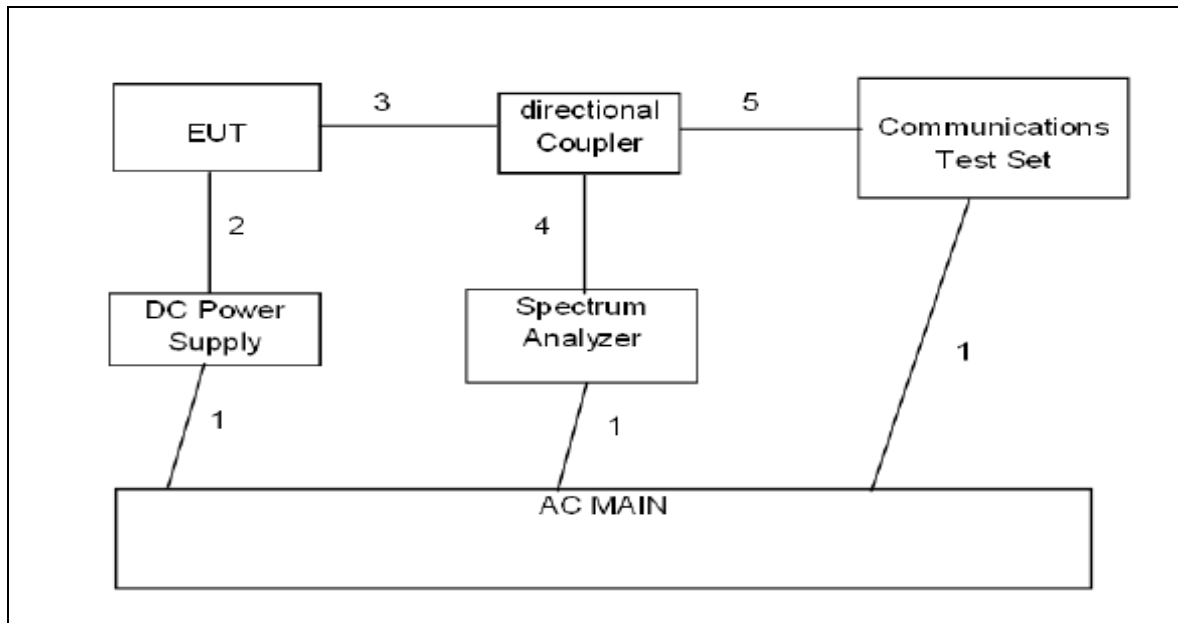
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	POS Terminal	PT7003	FCC ID: 2ASHJPT7003	EUT

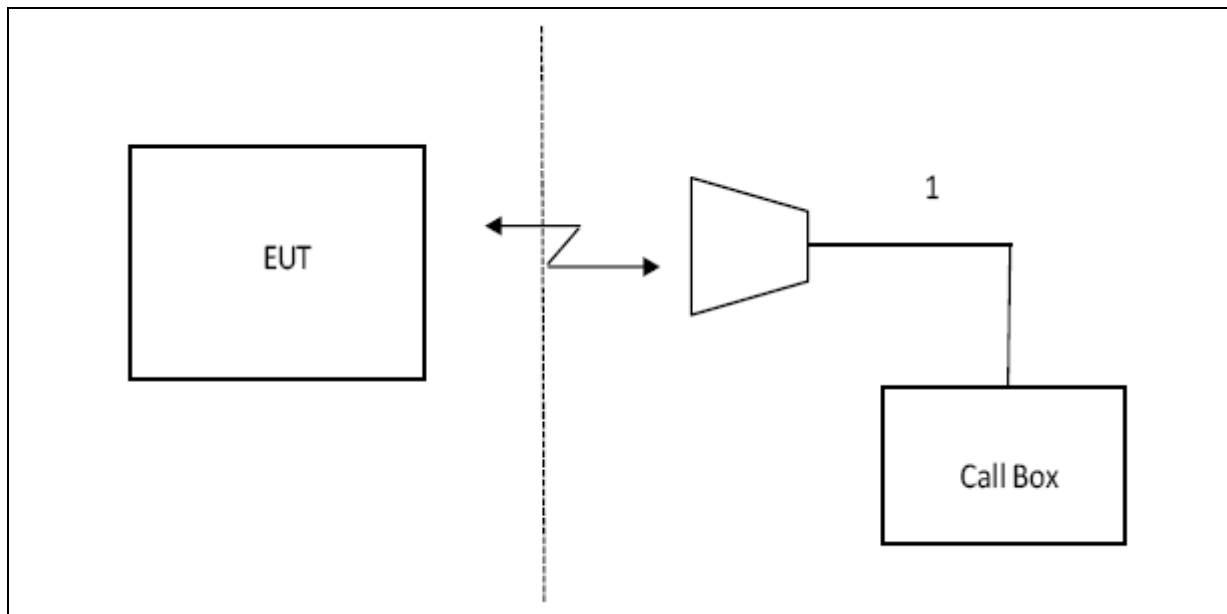
*Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.*

2.4 TEST SETUP

CONDUCTED SETUP DIAGRAM FOR TESTS



RADIATED SETUP DIAGRAM FOR TESTS



3.TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

NAME OF EQUIPMENT	MANUFACTURER	MODEL	SERIAL NUMBER	NEXT CAL. DATE
SPECTRUM ANALYZER	AGILENT	N9020A	MY49100060	2019.10.07
TEST RECEIVER	R&S	ESCI	101318	2019.05.18
COMMUNICATION TESTER	R&S	CMU200	117858	2019.05.18
COMMUNICATION TESTER	R&S	CMW500	148500	2019.05.18
TEST RECEIVER	R&S	FCKL1528	A0304230	2019.05.18
LISN	SCHWARZBECK	NSLK8127	A0304233	2019.05.18
CLIMATE CHAMBER	ALBATROSS	--	--	2019.05.18
Loop Antenna	Daze	ZN30900N	SEL0097	2019.05.18
Biological Antenna	A.H. Systems Inc.	SAS-521-4	N/A	2019.05.18
Horn Antenna	EM	EM-AH-10180	2011071402	2019.05.18
DC Power Source	N/A	PS-6005D	20170402923	2019.05.18

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set. The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS_01".³

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4, 10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10, 15, 20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23 ¹	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
..					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

4.2 LTE BAND 5

OUTPUT POWER FOR LTE BAND 5 (1.4MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 5	1.4MHz	20407	824.7	QPSK	1	Low	23.73	29.84
					1	Mid	23.77	29.87
					1	High	23.72	29.89
					3	Low	23.88	30.37
					3	High	23.85	30.49
					6	Low	22.70	29.77
				16QAM	1	Low	22.83	29.57
					1	Mid	22.87	29.67
					1	High	22.83	29.60
					3	Low	22.97	30.05
					3	High	22.99	30.10
					6	Low	21.80	30.20
	1.4MHz	20525	836.5	QPSK	1	Low	23.73	29.26
					1	Mid	23.82	29.34
					1	High	23.77	29.32
					3	Low	23.85	29.84
					3	High	23.37	30.00
					6	Low	22.77	29.20
				16QAM	1	Low	22.80	28.59
					1	Mid	22.89	28.72
					1	High	22.85	28.64
					3	Low	22.98	29.78
					3	High	22.99	29.90
					6	Low	21.77	29.32
	1.4MHz	20643	848.3	QPSK	1	Low	23.68	28.81
					1	Mid	23.66	28.60
					1	High	23.76	28.67
					3	Low	23.82	29.03
					3	High	23.86	29.00
					6	Low	22.66	28.93
				16QAM	1	Low	22.92	28.41
					1	Mid	22.91	28.32
					1	High	22.93	28.17
					3	Low	22.90	29.17
					3	High	22.89	29.17
					6	Low	21.77	29.05

OUTPUT POWER FOR LTE BAND 5 (3.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 5	3.0 MHz	20415	825.5	QPSK	1	Low	23.71	29.39
					1	Mid	23.67	29.45
					1	High	23.63	29.33
					8	Low	22.78	29.48
					8	High	22.76	29.46
					15	Low	22.78	29.53
				16QAM	1	Low	22.98	30.26
					1	Mid	22.97	30.31
					1	High	22.96	30.23
					8	Low	21.98	29.65
					8	High	21.99	29.59
					15	Low	21.91	29.34
	3.0 MHz	20525	836.5	QPSK	1	Low	23.75	29.22
					1	Mid	23.76	29.33
					1	High	23.74	29.35
					8	Low	22.81	29.67
					8	High	22.83	29.73
					15	Low	22.86	30.43
				16QAM	1	Low	22.80	28.57
					1	Mid	22.84	28.87
					1	High	22.85	28.93
					8	Low	21.93	29.04
					8	High	21.94	29.21
					15	Low	21.90	29.83
	3.0 MHz	20635	847.5	QPSK	1	Low	23.66	29.22
					1	Mid	23.69	28.72
					1	High	23.71	28.56
					8	Low	22.78	29.56
					8	High	22.76	29.40
					15	Low	22.78	29.20
				16QAM	1	Low	22.91	28.61
					1	Mid	22.93	28.41
					1	High	22.94	28.18
					8	Low	21.86	29.39
					8	High	21.83	29.00
					15	Low	21.83	29.14

OUTPUT POWER FOR LTE BAND 5 (5.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 5	5.0 MHz	20425	826.5	QPSK	1	Low	23.84	30.23
					1	Mid	23.80	30.14
					1	High	23.76	30.01
					12	Low	22.84	29.70
					12	High	22.82	29.70
					25	Low	22.79	30.13
				16QAM	1	Low	22.81	29.40
					1	Mid	22.75	29.39
					1	High	22.74	29.32
					12	Low	21.90	30.40
					12	High	21.88	30.39
					25	Low	21.89	30.67
	5.0 MHz	20525	836.5	QPSK	1	Low	23.83	29.49
					1	Mid	23.81	29.53
					1	High	23.77	29.74
					12	Low	22.86	29.38
					12	High	22.86	29.52
					25	Low	22.83	29.71
				16QAM	1	Low	22.95	29.50
					1	Mid	22.92	29.57
					1	High	22.91	29.73
					12	Low	21.88	29.33
					12	High	21.85	29.41
					25	Low	21.87	30.47
	5.0 MHz	20625	846.5	QPSK	1	Low	23.86	29.48
					1	Mid	23.81	28.99
					1	High	23.81	28.45
					12	Low	22.94	30.54
					12	High	22.90	29.87
					25	Low	22.90	30.31
				16QAM	1	Low	22.99	29.73
					1	Mid	22.98	29.24
					1	High	22.97	28.53
					12	Low	22.99	29.98
					12	High	21.98	29.63
					25	Low	21.97	29.94

OUTPUT POWER FOR LTE BAND 5 (10.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 5	10.0 MHz	20450	829.0	QPSK	1	Low	23.79	29.46
					1	Mid	23.73	29.43
					1	High	23.74	29.16
					25	Low	22.84	30.30
					25	High	22.82	30.12
					50	Low	22.85	30.15
				16QAM	1	Low	23.54	30.36
					1	Mid	23.46	30.17
					1	High	23.43	29.83
					25	Low	21.96	30.27
					25	High	21.93	29.98
					50	Low	21.87	30.58
	10.0 MHz	20525	836.5	QPSK	1	Low	23.79	29.22
					1	Mid	23.77	29.13
					1	High	23.79	29.53
					25	Low	22.80	29.83
					25	High	22.83	29.98
					50	Low	22.86	29.63
				16QAM	1	Low	23.49	29.92
					1	Mid	23.46	29.87
					1	High	23.55	30.41
					25	Low	21.95	29.72
					25	High	21.96	30.05
					50	Low	21.86	30.12
	10.0 MHz	20600	844.0	QPSK	1	Low	23.83	29.56
					1	Mid	23.79	29.54
					1	High	23.85	28.57
					25	Low	22.87	30.73
					25	High	22.90	30.22
					50	Low	22.90	30.09
				16QAM	1	Low	22.92	28.94
					1	Mid	22.92	29.18
					1	High	22.95	28.43
					25	Low	22.45	30.49
					25	High	22.47	30.07
					50	Low	21.99	30.72

4.3 LTE BAND 7

OUTPUT POWER FOR LTE BAND 7 (5.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 7	5.0MHz	20775	2502.5	QPSK	1	Low	22.86	26.10
					1	Mid	22.42	25.73
					1	High	22.31	25.44
					12	Low	21.83	26.40
					12	High	21.56	25.99
					25	Low	21.53	26.88
				16QAM	1	Low	21.71	25.64
					1	Mid	21.16	25.23
					1	High	21.26	24.97
					12	Low	20.70	26.42
					12	High	20.53	26.07
					25	Low	20.63	26.70
	5.0MHz	21100	2535.0	QPSK	1	Low	22.84	27.04
					1	Mid	22.71	27.20
					1	High	21.87	26.45
					12	Low	21.15	26.95
					12	High	21.26	27.21
					25	Low	21.07	28.06
				16QAM	1	Low	21.34	26.94
					1	Mid	21.31	26.94
					1	High	21.14	26.29
					12	Low	20.89	27.65
					12	High	20.72	27.40
					25	Low	20.20	28.26
	5.0MHz	21425	2567.5	QPSK	1	Low	21.90	26.07
					1	Mid	21.87	25.85
					1	High	21.80	25.61
					12	Low	20.94	26.90
					12	High	20.88	26.64
					25	Low	20.86	26.72
				16QAM	1	Low	21.20	26.09
					1	Mid	21.14	25.93
					1	High	21.06	25.73
					12	Low	19.97	26.36
					12	High	19.92	26.21
					25	Low	19.86	27.12

OUTPUT POWER FOR LTE BAND 7 (10.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 7	10.0 MHz	20800	2505.0	QPSK	1	Low	21.84	25.22
					1	Mid	21.98	24.59
					1	High	21.79	24.16
					25	Low	20.82	25.83
					25	High	20.85	25.28
					50	Low	20.86	26.21
				16QAM	1	Low	21.28	25.45
					1	Mid	21.21	24.86
					1	High	21.16	24.54
					25	Low	19.89	25.65
					25	High	19.88	25.21
					50	Low	19.89	26.33
	10.0 MHz	21100	2535.0	QPSK	1	Low	22.21	26.46
					1	Mid	22.21	26.22
					1	High	22.22	25.69
					25	Low	21.18	27.25
					25	High	21.19	26.86
					50	Low	21.19	27.01
				16QAM	1	Low	21.18	26.05
					1	Mid	21.16	25.90
					1	High	21.17	25.58
					25	Low	20.22	26.92
					25	High	20.27	26.77
					50	Low	20.18	27.37
	10.0 MHz	21400	2565.0	QPSK	1	Low	21.90	25.71
					1	Mid	21.89	25.93
					1	High	21.86	25.50
					25	Low	20.91	26.69
					25	High	20.94	26.60
					50	Low	20.93	26.89
				16QAM	1	Low	21.04	25.32
					1	Mid	21.07	25.54
					1	High	20.97	25.23
					25	Low	19.99	26.55
					25	High	19.94	26.48
					50	Low	19.95	26.71

OUTPUT POWER FOR LTE BAND 7 (15.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 7	15.0 MHz	20825	2507.5	QPSK	1	Low	22.06	25.03
					1	Mid	21.70	24.12
					1	High	22.18	24.36
					36	Low	21.19	25.64
					36	High	21.23	25.16
					75	Low	21.19	26.78
				16QAM	1	Low	21.39	25.24
					1	Mid	21.22	24.50
					1	High	21.34	24.69
					36	Low	20.10	25.72
					36	High	20.15	25.41
					75	Low	20.13	26.05
	15.0 MHz	21100	2535.0	QPSK	1	Low	22.20	26.34
					1	Mid	22.25	26.05
					1	High	21.96	25.13
					36	Low	21.27	27.07
					36	High	21.30	26.61
					75	Low	21.27	27.48
				16QAM	1	Low	21.55	26.10
					1	Mid	21.53	25.84
					1	High	21.44	25.30
					36	Low	20.20	27.04
					36	High	20.24	26.69
					75	Low	20.19	27.08
	15.0 MHz	21375	2562.5	QPSK	1	Low	22.11	25.16
					1	Mid	21.99	25.93
					1	High	21.94	25.40
					36	Low	21.08	26.46
					36	High	21.04	26.53
					75	Low	21.04	27.00
				16QAM	1	Low	21.13	24.94
					1	Mid	21.12	25.49
					1	High	21.02	25.11
					36	Low	20.07	26.71
					36	High	20.02	26.80
					75	Low	20.04	26.98

OUTPUT POWER FOR LTE BAND 7 (20.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 7	20.0 MHz	20850	2510.0	QPSK	1	Low	22.24	24.93
					1	Mid	22.22	24.07
					1	High	22.14	25.12
					50	Low	21.12	25.51
					50	High	21.18	25.55
					100	Low	21.05	26.35
				16QAM	1	Low	21.26	24.92
					1	Mid	20.99	24.17
					1	High	21.32	25.29
					50	Low	20.02	25.77
					50	High	20.07	25.69
					100	Low	20.05	26.66
	20.0 MHz	21100	2535.0	QPSK	1	Low	22.25	26.20
					1	Mid	22.25	25.89
					1	High	22.21	24.62
					50	Low	21.27	26.98
					50	High	21.25	26.43
					100	Low	21.24	27.25
				16QAM	1	Low	21.74	26.15
					1	Mid	21.70	25.93
					1	High	21.58	25.14
					50	Low	20.27	26.96
					50	High	20.28	26.49
					100	Low	20.23	27.10
	20.0 MHz	21350	2560.0	QPSK	1	Low	22.29	24.61
					1	Mid	22.24	25.73
					1	High	22.23	25.43
					50	Low	21.15	26.14
					50	High	21.11	26.63
					100	Low	21.01	26.83
				16QAM	1	Low	21.13	24.82
					1	Mid	21.20	25.90
					1	High	21.09	25.63
					50	Low	20.07	26.37
					50	High	20.06	26.55
					100	Low	20.07	26.93

4.4 LTE BAND 41

OUTPUT POWER FOR LTE BAND 41 (5MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 41	5.0 MHz	40440	2575	QPSK	1	Low	22.96	27.10
					1	Mid	22.97	27.18
					1	High	22.92	27.31
					12	Low	21.99	27.38
					12	High	21.98	27.49
					25	Low	21.93	27.77
				16QAM	1	Low	21.99	26.89
					1	Mid	22.02	26.98
					1	High	21.99	27.10
					12	Low	20.96	27.15
					12	High	20.95	27.40
					25	Low	20.92	28.09
	5.0 MHz	40620	2593	QPSK	1	Low	23.10	28.08
					1	Mid	23.10	28.06
					1	High	23.04	28.05
					12	Low	22.12	28.28
					12	High	22.11	28.36
					25	Low	22.08	28.48
				16QAM	1	Low	22.18	27.87
					1	Mid	22.22	27.89
					1	High	22.17	27.87
					12	Low	21.10	28.14
					12	High	21.06	28.21
					25	Low	21.15	28.81
	5.0 MHz	41040	2635	QPSK	1	Low	23.11	26.63
					1	Mid	23.15	26.62
					1	High	23.07	26.67
					12	Low	22.04	27.14
					12	High	22.01	27.11
					25	Low	21.97	27.35
				16QAM	1	Low	22.08	26.35
					1	Mid	22.13	26.36
					1	High	22.04	26.39
					12	Low	21.13	26.55
					12	High	20.98	26.41
					25	Low	20.94	27.41

OUTPUT POWER FOR LTE BAND 41 (10.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 41	10.0 MHz	40465	2577.5	QPSK	1	Low	22.99	27.28
					1	Mid	23.00	27.52
					1	High	23.02	27.95
					25	Low	21.97	27.52
					25	High	22.00	27.74
					50	Low	22.00	28.33
				16QAM	1	Low	21.98	27.12
					1	Mid	22.06	27.44
					1	High	22.11	27.76
					25	Low	20.97	27.69
					25	High	21.01	28.03
					50	Low	20.96	28.23
	10.0 MHz	40620	2593	QPSK	1	Low	23.16	27.94
					1	Mid	23.10	27.97
					1	High	23.14	28.07
					25	Low	22.05	28.82
					25	High	22.00	28.87
					50	Low	22.02	29.04
				16QAM	1	Low	22.35	27.83
					1	Mid	22.32	27.92
					1	High	22.35	27.92
					25	Low	21.03	27.93
					25	High	21.06	28.04
					50	Low	21.01	28.53
	10.0 MHz	41015	2632.5	QPSK	1	Low	23.18	26.71
					1	Mid	23.16	26.67
					1	High	23.15	26.68
					25	Low	22.05	26.96
					25	High	22.02	26.90
					50	Low	22.01	27.47
				16QAM	1	Low	21.95	26.67
					1	Mid	21.95	26.64
					1	High	21.92	26.64
					25	Low	20.99	26.67
					25	High	21.00	26.81
					50	Low	20.94	27.41

OUTPUT POWER FOR LTE BAND 41 (15.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 41	15.0 MHz	40490	2580	QPSK	1	Low	23.01	27.22
					1	Mid	23.07	27.64
					1	High	23.05	28.10
					36	Low	22.06	27.89
					36	High	22.08	28.16
					75	Low	22.07	28.33
				16QAM	1	Low	22.02	26.76
					1	Mid	22.16	27.26
					1	High	21.93	27.93
					36	Low	20.98	27.49
					36	High	21.01	27.99
					75	Low	21.00	28.30
	15.0 MHz	40620	2593	QPSK	1	Low	23.17	27.96
					1	Mid	23.18	28.15
					1	High	23.11	28.03
					36	Low	22.10	28.52
					36	High	22.10	28.67
					75	Low	22.09	29.01
				16QAM	1	Low	22.16	27.68
					1	Mid	22.20	27.90
					1	High	22.05	27.97
					36	Low	21.14	28.27
					36	High	21.16	28.40
					75	Low	21.09	28.82
	15.0 MHz	40990	2630	QPSK	1	Low	23.02	26.84
					1	Mid	23.03	26.68
					1	High	23.00	26.66
					36	Low	22.16	27.30
					36	High	22.13	27.15
					75	Low	22.18	28.03
				16QAM	1	Low	21.90	26.80
					1	Mid	21.90	26.67
					1	High	21.87	26.63
					36	Low	21.04	26.81
					36	High	21.02	26.88
					75	Low	21.06	27.68

OUTPUT POWER FOR LTE BAND 41 (20.0MHZ)

Band	Band Width	Channel	Frequency (MHz)	Modulation	RB Configuration		Average Power(dBm)	Peak Power(dBm)
					RB Size	RB Offset		
Band 41	20.0 MHz	40515	2582.5	QPSK	1	Low	23.10	26.91
					1	Mid	23.14	27.47
					1	High	23.17	27.94
					50	Low	22.01	27.87
					50	High	22.08	28.50
					100	Low	22.03	28.34
				16QAM	1	Low	22.10	26.62
					1	Mid	22.21	27.18
					1	High	22.35	27.74
					50	Low	20.96	27.46
					50	High	21.00	28.06
					100	Low	20.98	28.30
	20.0 MHz	40620	2593	QPSK	1	Low	23.19	28.02
					1	Mid	23.17	28.21
					1	High	23.15	28.09
					50	Low	22.16	28.62
					50	High	22.15	28.75
					100	Low	22.09	29.12
				16QAM	1	Low	22.23	27.49
					1	Mid	22.32	27.88
					1	High	22.28	27.90
					50	Low	21.05	28.27
					50	High	21.13	28.49
					100	Low	21.06	28.92
	20.0 MHz	40965	2627.5	QPSK	1	Low	23.05	26.97
					1	Mid	23.11	26.55
					1	High	23.12	26.59
					50	Low	22.04	27.22
					50	High	22.00	26.92
					100	Low	22.02	27.69
				16QAM	1	Low	21.94	26.97
					1	Mid	21.92	26.55
					1	High	21.99	26.42
					50	Low	21.01	27.28
					50	High	20.96	26.99
					100	Low	20.98	27.58

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

MODES TESTED

LTE Band 5
LTE Band 7
LTE Band 41

RESULTS

PASS

Test results:

Band	Mode	RB Size/RB Offset	Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26dBc Occupied Bandwidth (MHz)
LTE Band 5	1.4MHz BAND QPSK	6/0	836.5	1.09	1.24
	1.4MHz BAND 16QAM	6/0	836.5	1.09	1.25
	3.0MHz BAND QPSK	15/0	836.5	2.69	2.90
	3.0MHz BAND 16QAM	15/0	836.5	2.69	2.90
	5.0MHz BAND QPSK	25/0	836.5	4.50	4.86
	5.0MHz BAND 16QAM	25/0	836.5	4.50	4.82
	10.0MHz BAND QPSK	50/0	836.5	8.97	9.52
	10.0MHz BAND 16QAM	50/0	836.5	8.96	9.51

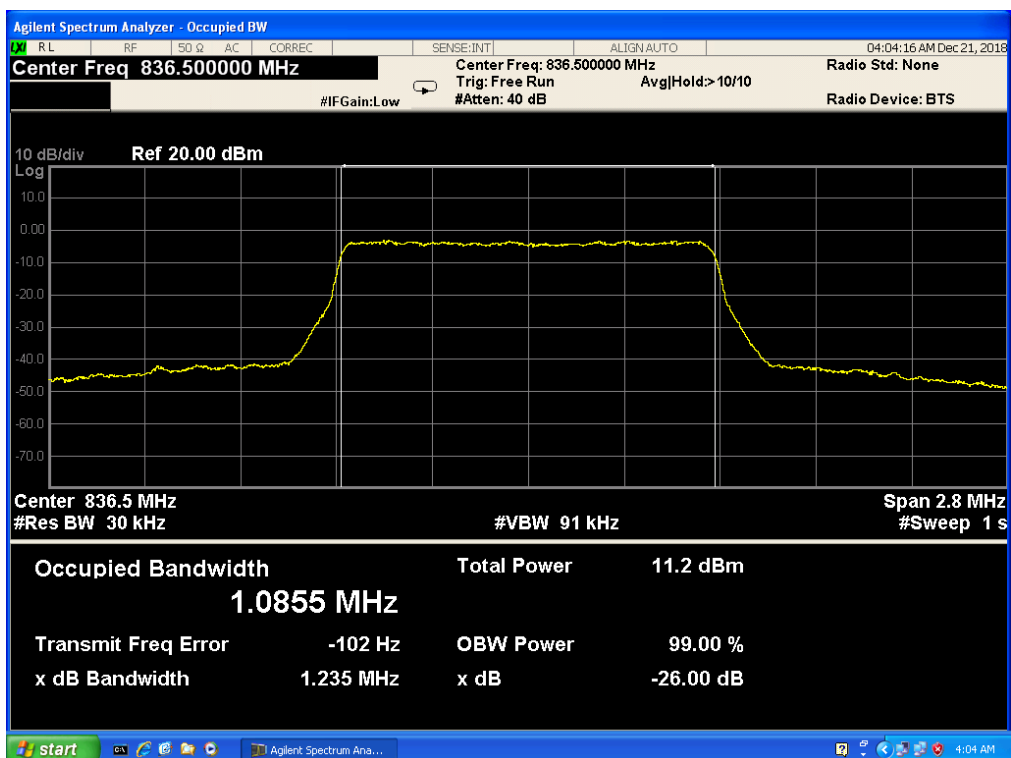
Band	Mode	RB Size/RB Offset	Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26dBc Occupied Bandwidth (MHz)
LTE Band 7	5.0MHz BAND QPSK	25/0	2535.0	4.50	4.83
	5.0MHz BAND 16QAM	25/0	2535.0	4.49	4.82
	10.0MHz BAND QPSK	50/0	2535.0	8.96	9.53
	10.0MHz BAND 16QAM	50/0	2535.0	8.95	9.50
	15.0MHz BAND QPSK	75/0	2535.0	13.43	14.22
	15.0MHz BAND 16QAM	75/0	2535.0	13.43	14.21
	20.0MHz BAND QPSK	100/0	2535.0	17.90	18.98
	20.0MHz BAND 16QAM	100/0	2535.0	17.89	18.98

Band	Mode	RB Size/RB Offset	Frequency (MHz)	99% Occupied Bandwidth (MHz)	-26dBc Occupied Bandwidth (MHz)
LTE Band 41	5.0MHz BAND QPSK	25/0	2593	4.49	4.84
	5.0MHz BAND 16QAM	25/0	2593	4.49	4.81
	10.0MHz BAND QPSK	50/0	2593	8.95	9.49
	10.0MHz BAND 16QAM	50/0	2593	8.96	9.50
	15.0MHz BAND QPSK	75/0	2593	13.46	14.22
	15.0MHz BAND 16QAM	75/0	2593	13.45	14.25
	20.0MHz BAND QPSK	100/0	2593	17.96	19.03
	20.0MHz BAND 16QAM	100/0	2593	17.96	19.02

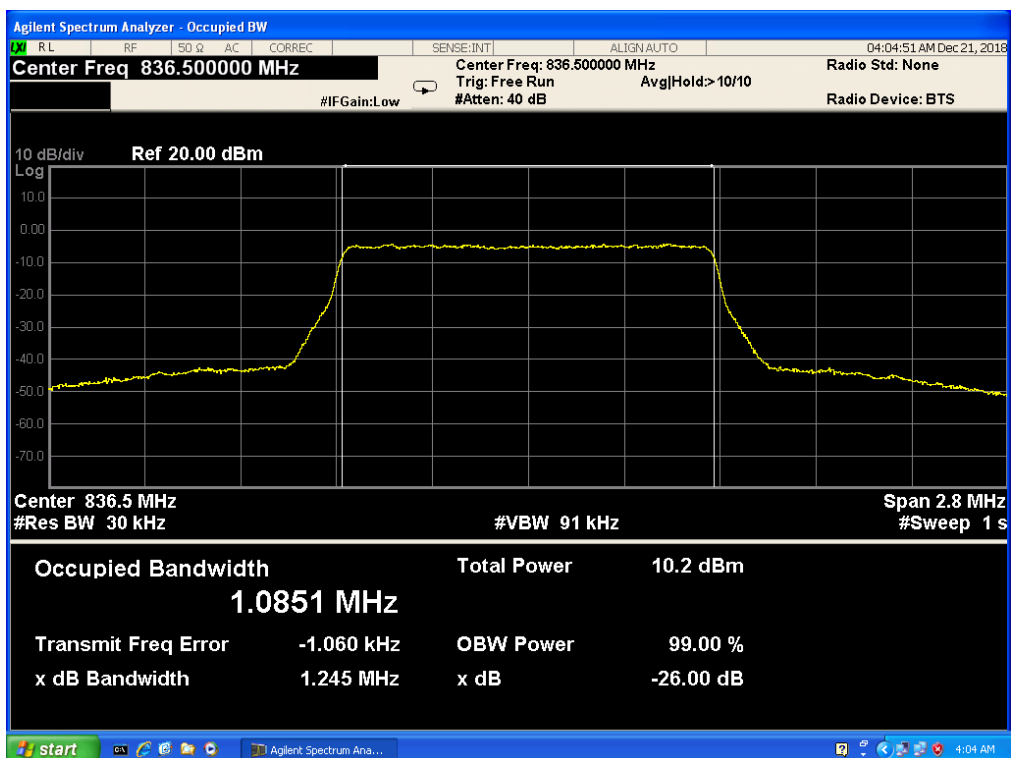
Note: This test was only measured at maximum RB allocation and at CENTER of band for each LTE BW

5.1 LTE BAND 5

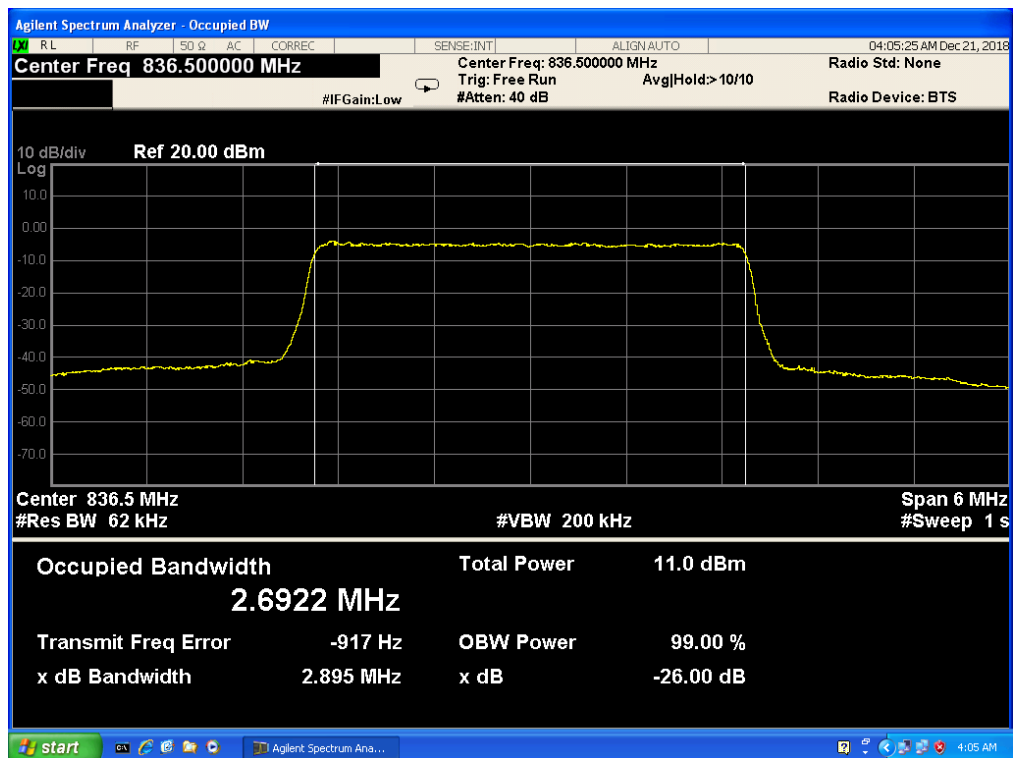
Band 5, UL Channel 20525, UL Frequency 836.5, BW 1.4, NO. RB 6, RB POS. Low, QPSK



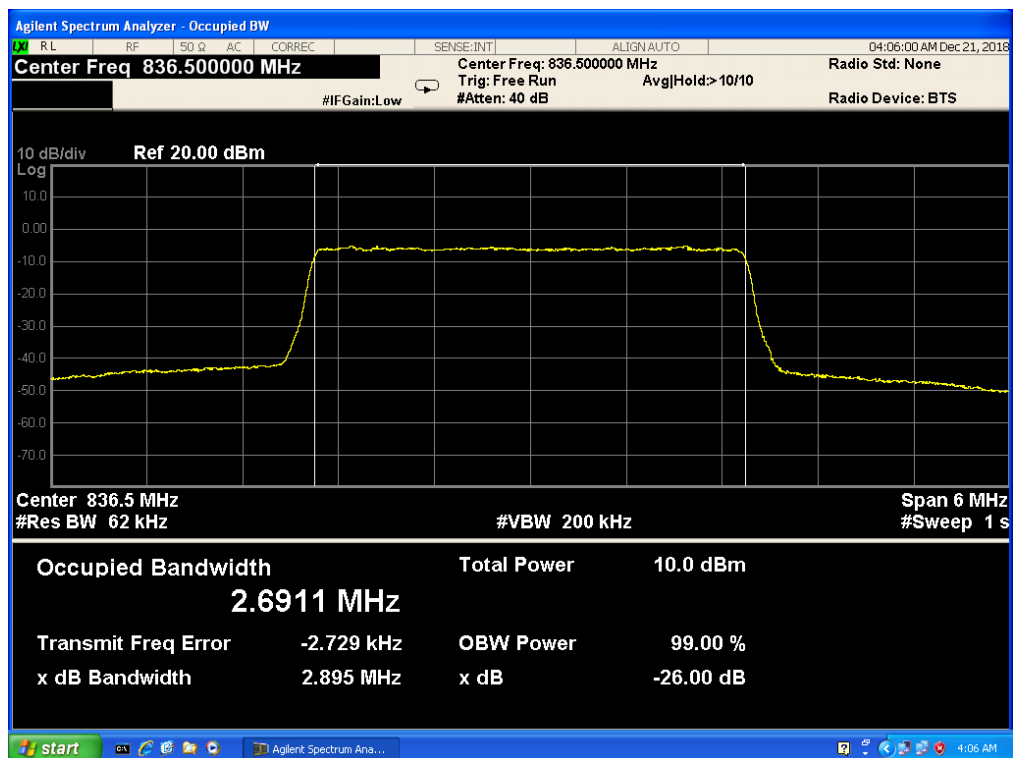
Band 5, UL Channel 20525, UL Frequency 836.5, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



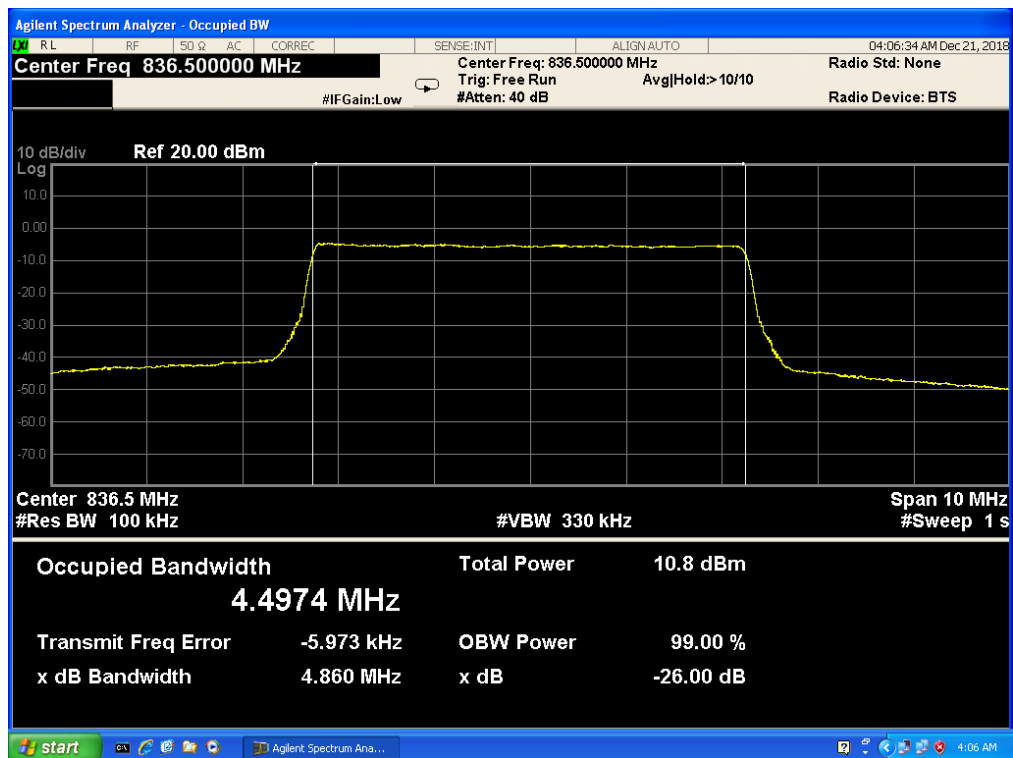
Band 5, UL Channel 20525, UL Frequency 836.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



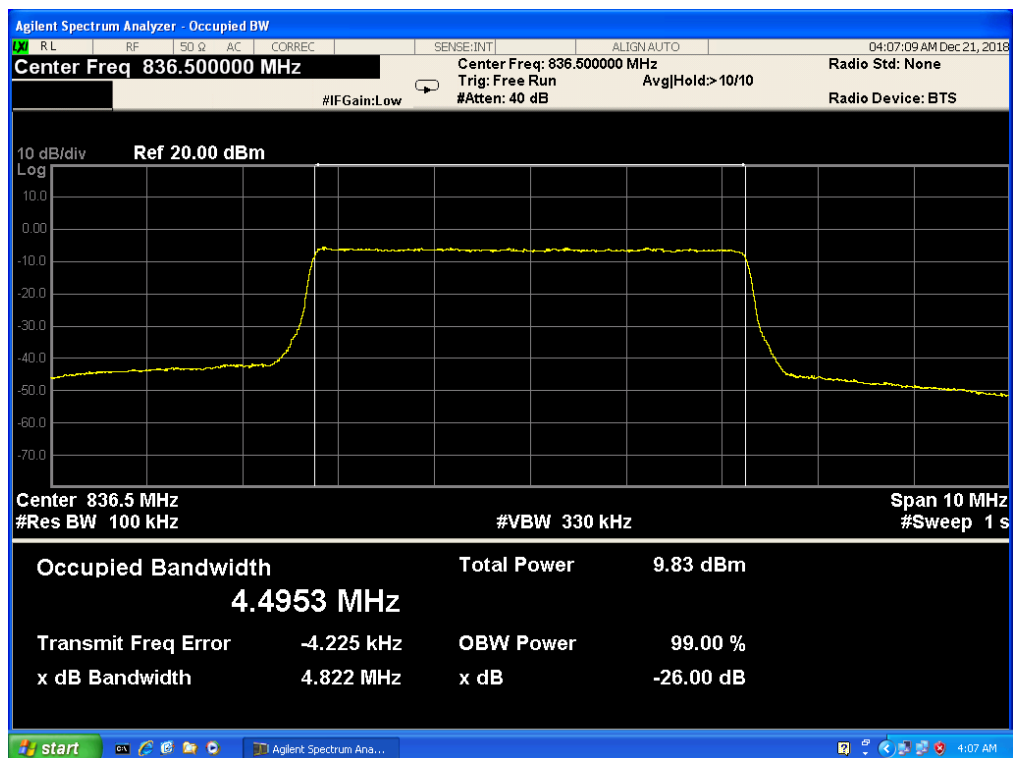
Band 5, UL Channel 20525, UL Frequency 836.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



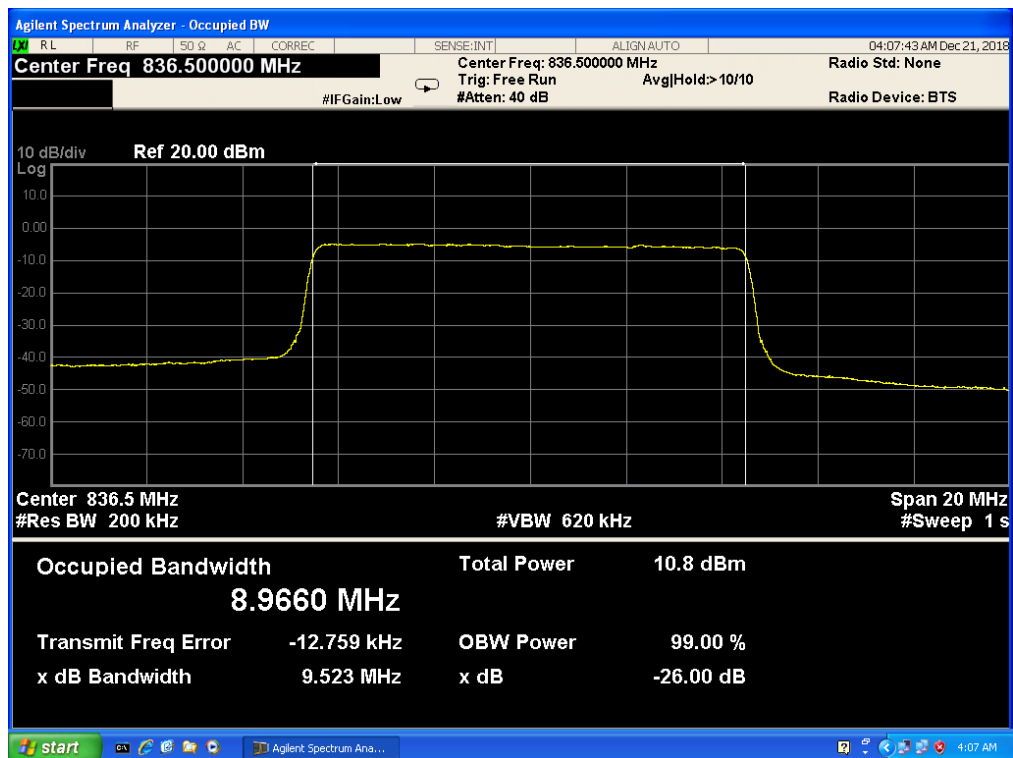
Band 5, UL Channel 20525, UL Frequency 836.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



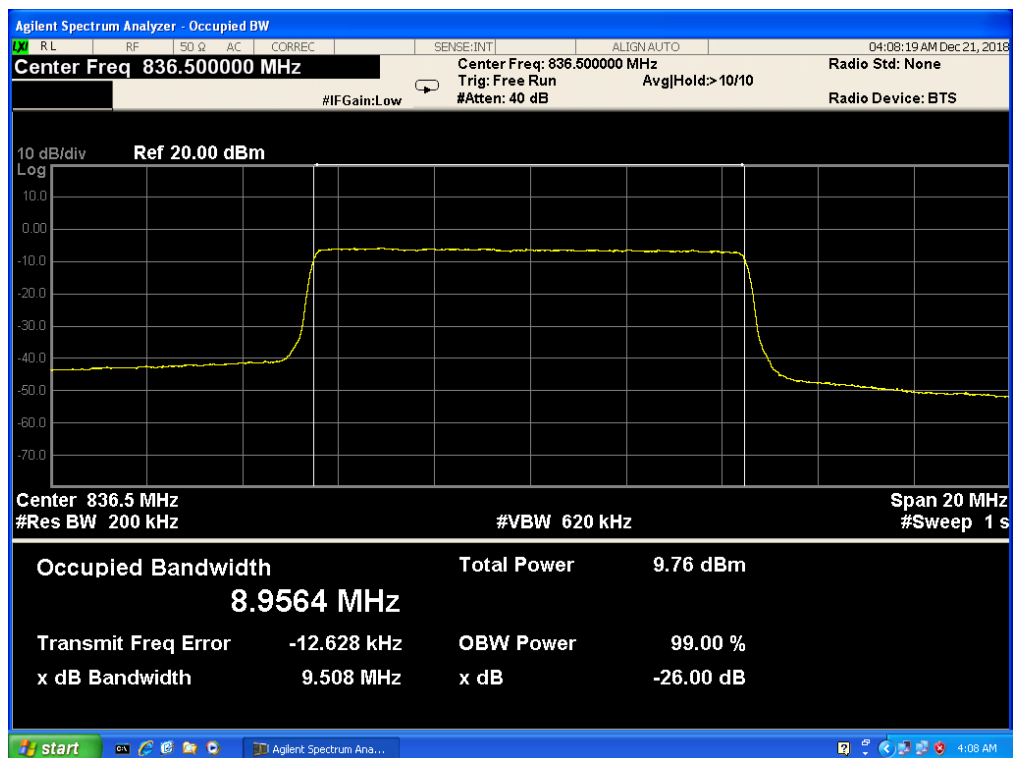
Band 5, UL Channel 20525, UL Frequency 836.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



Band 5, UL Channel 20525, UL Frequency 836.5, BW 10.0, NO. RB 50, RB POS. Low, QPSK

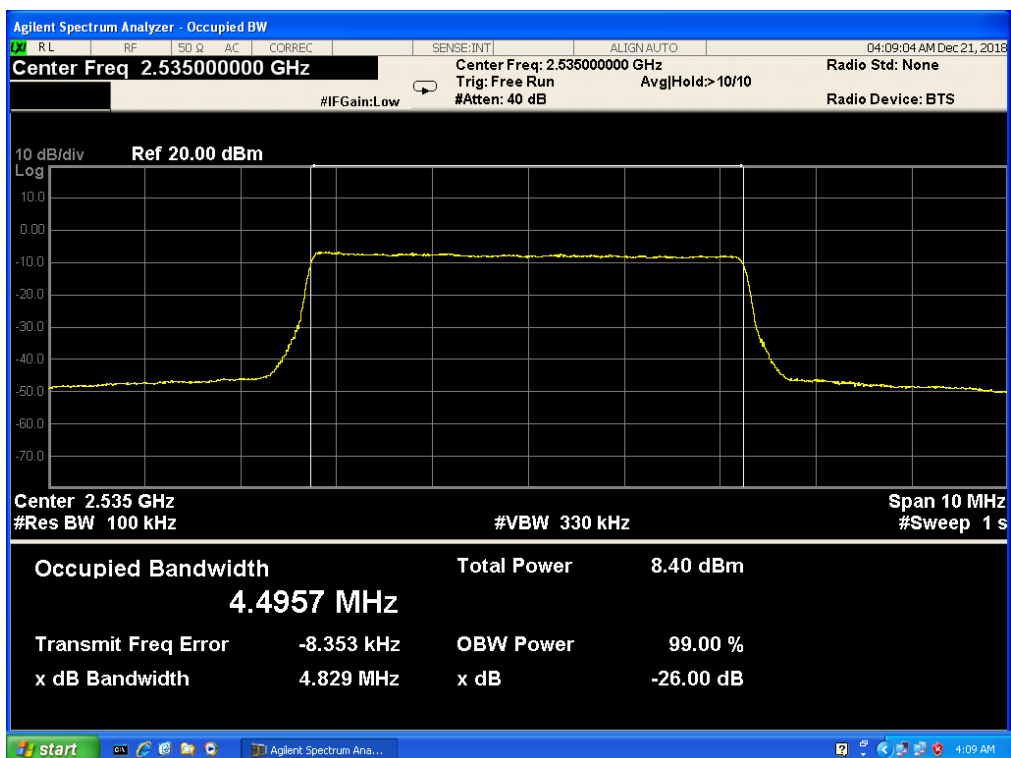


Band 5, UL Channel 20525, UL Frequency 836.5, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM

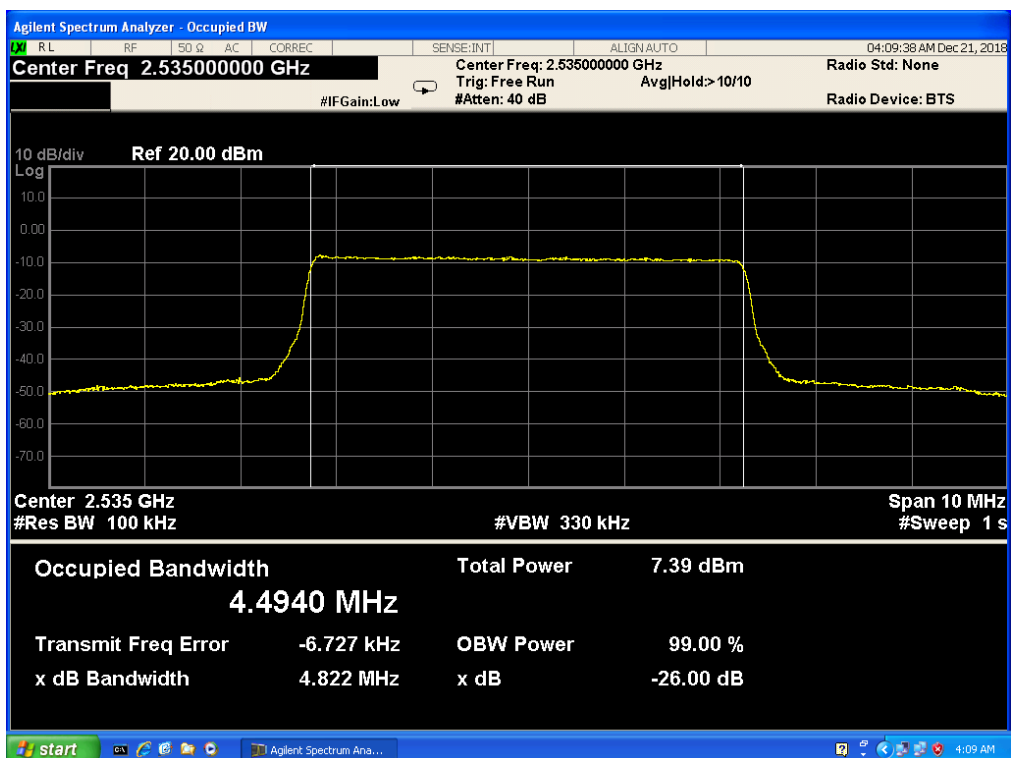


5.2 LTE BAND 7

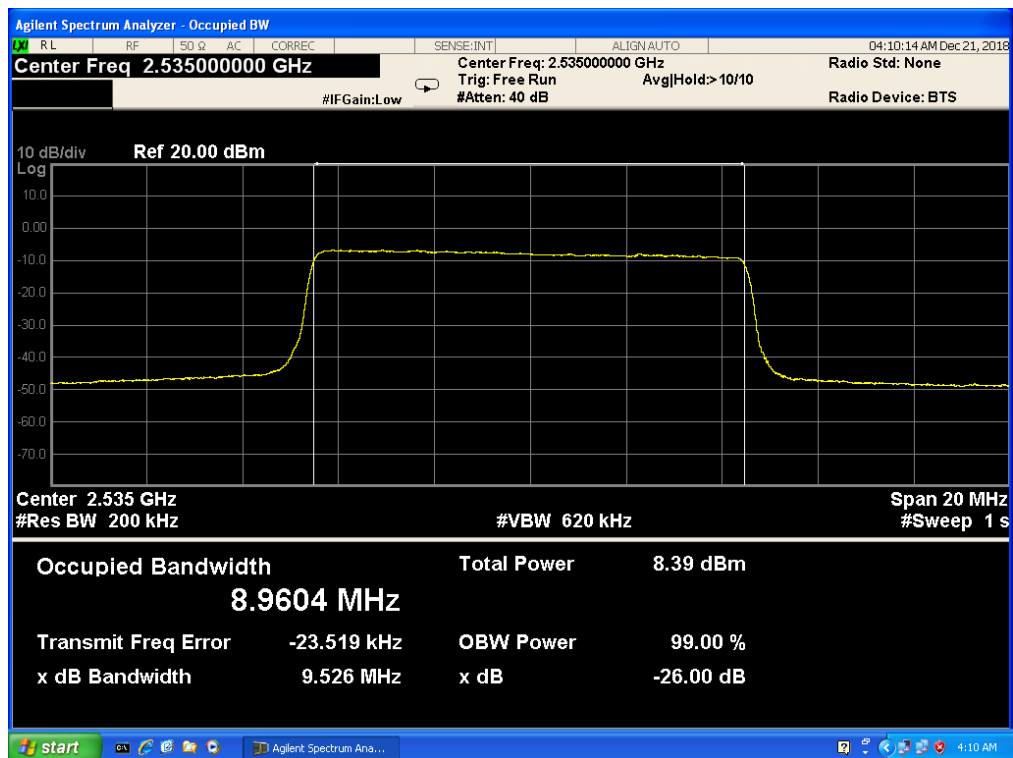
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 5.0, NO. RB 25, RB POS. Low, QPSK



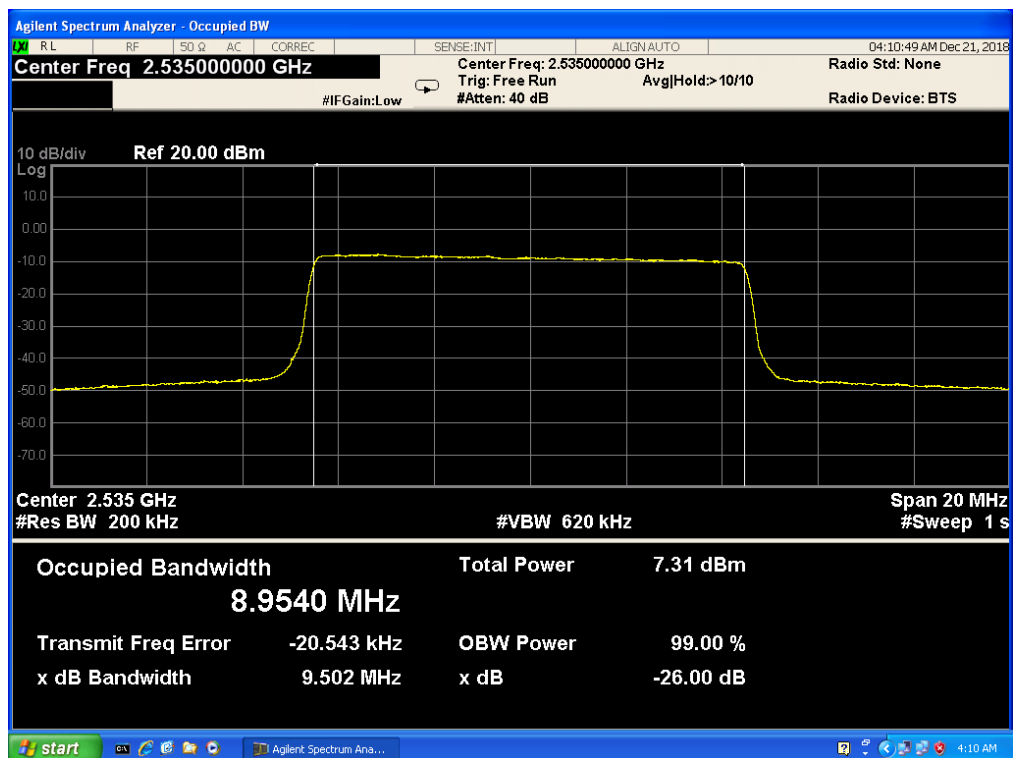
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



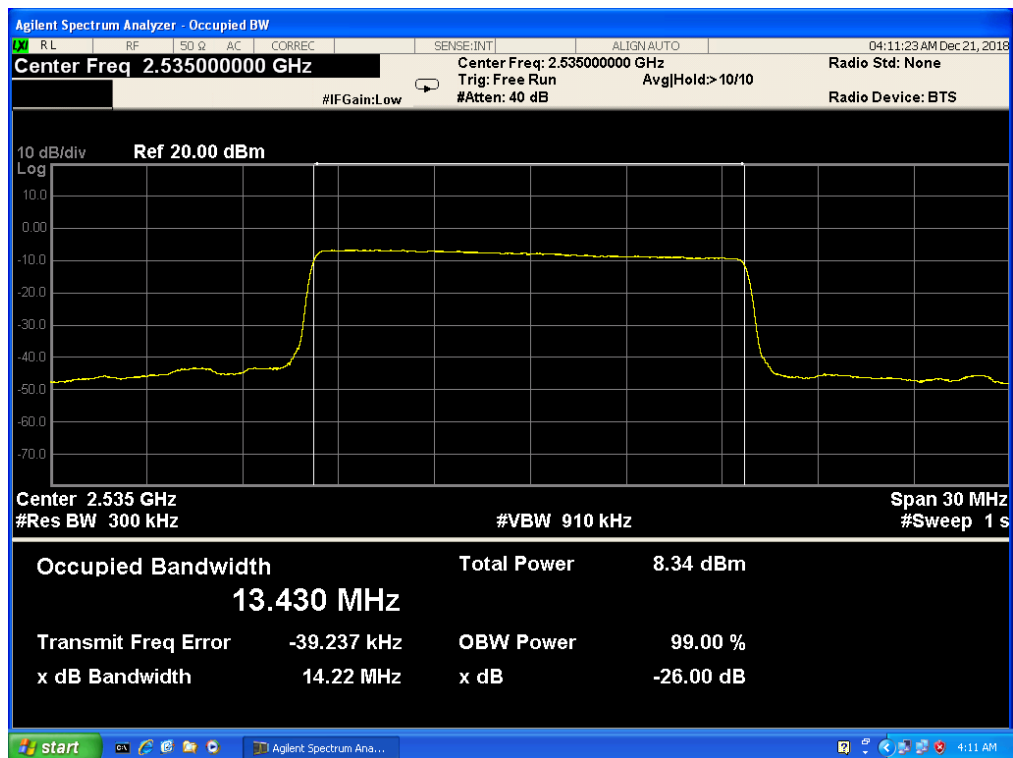
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



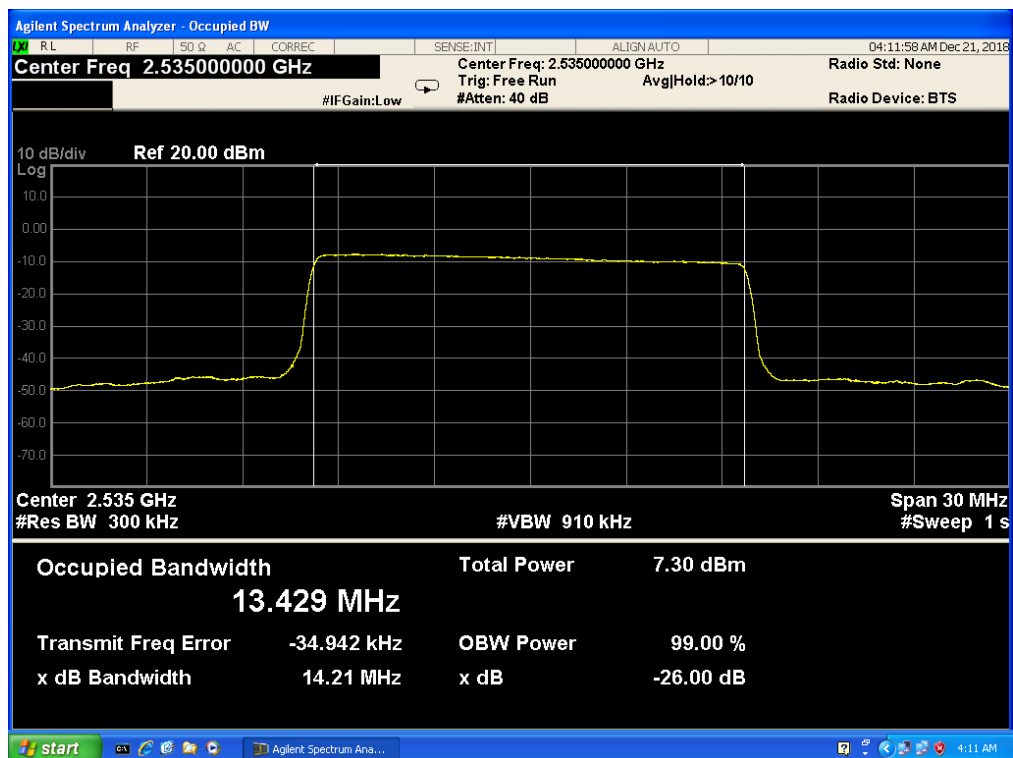
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM



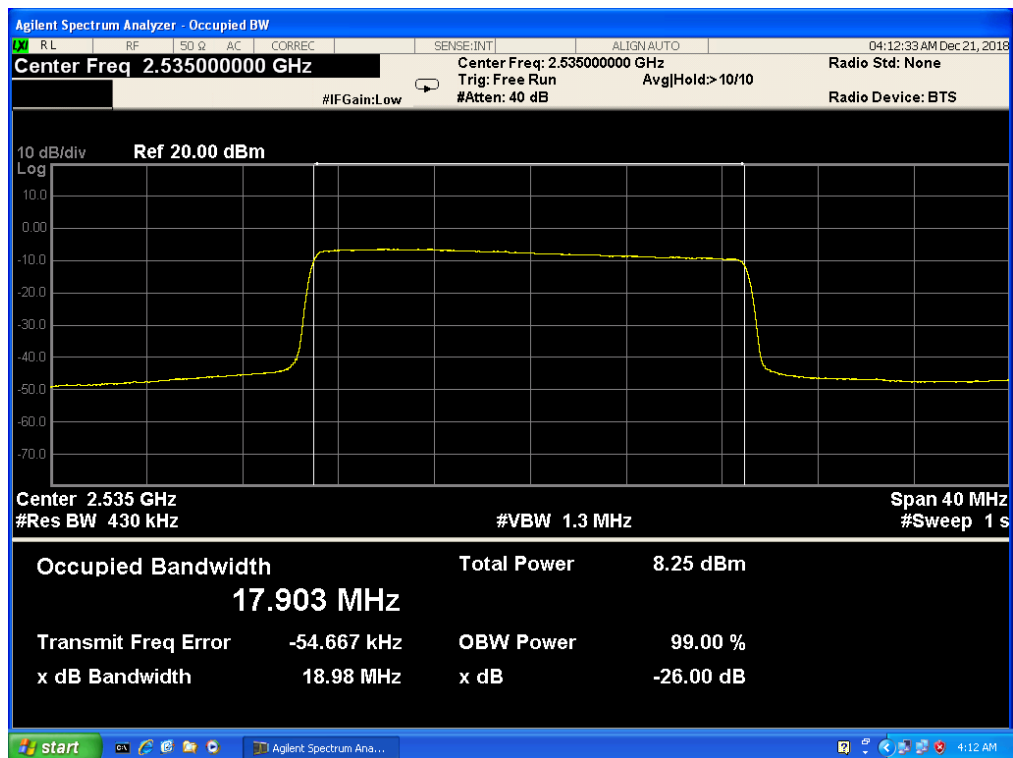
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 15.0, NO. RB 75, RB POS. Low, QPSK



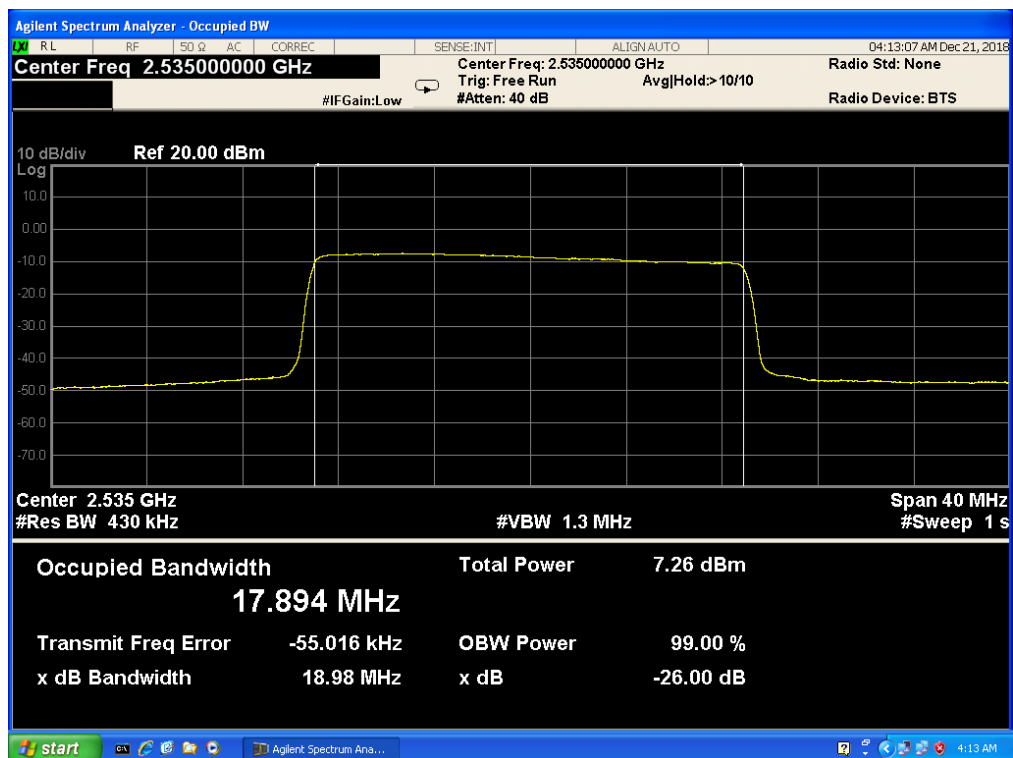
Band 7, UL Channel 21100, UL Frequency 2535.0, BW 15.0, NO. RB 75, RB POS. Low, 16-QAM



Band 7, UL Channel 21100, UL Frequency 2535.0, BW 20.0, NO. RB 100, RB POS. Low, QPSK

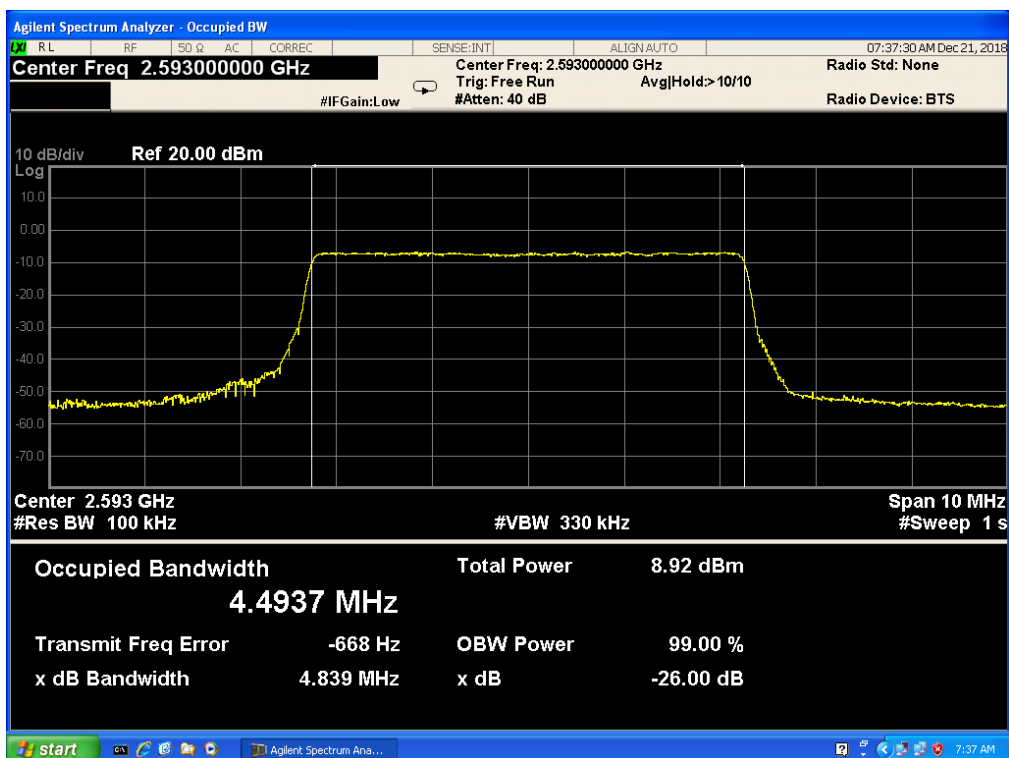


Band 7, UL Channel 21100, UL Frequency 2535.0, BW 20.0, NO. RB 100, RB POS. Low, 16-QAM

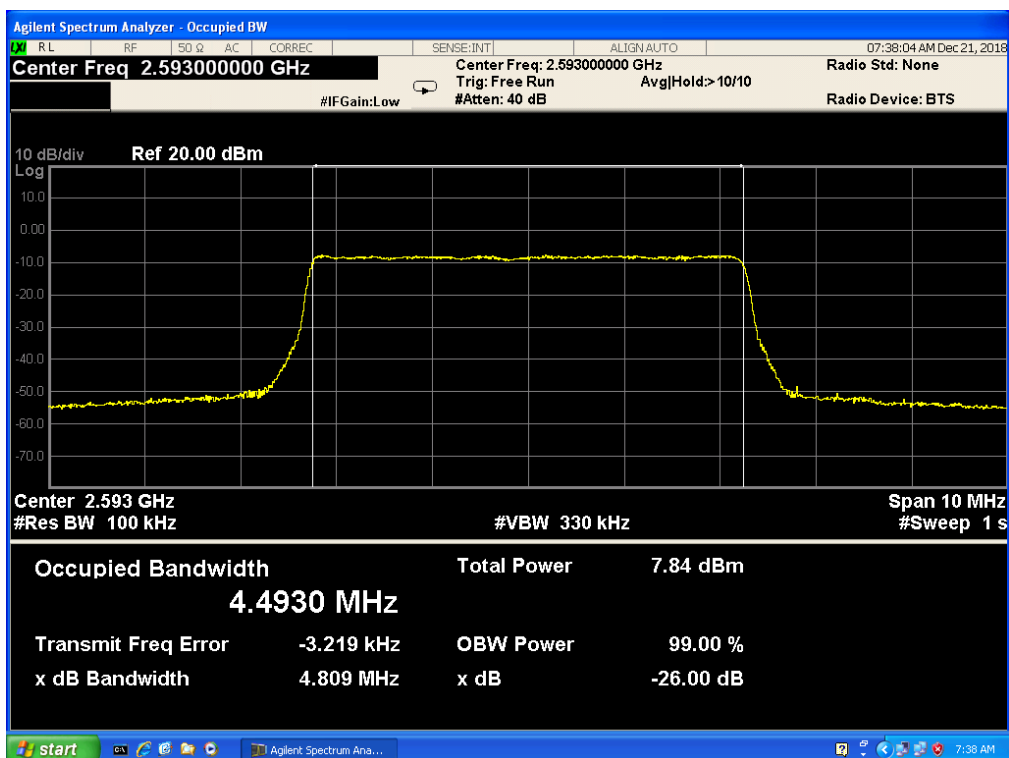


5.3 LTE BAND 41

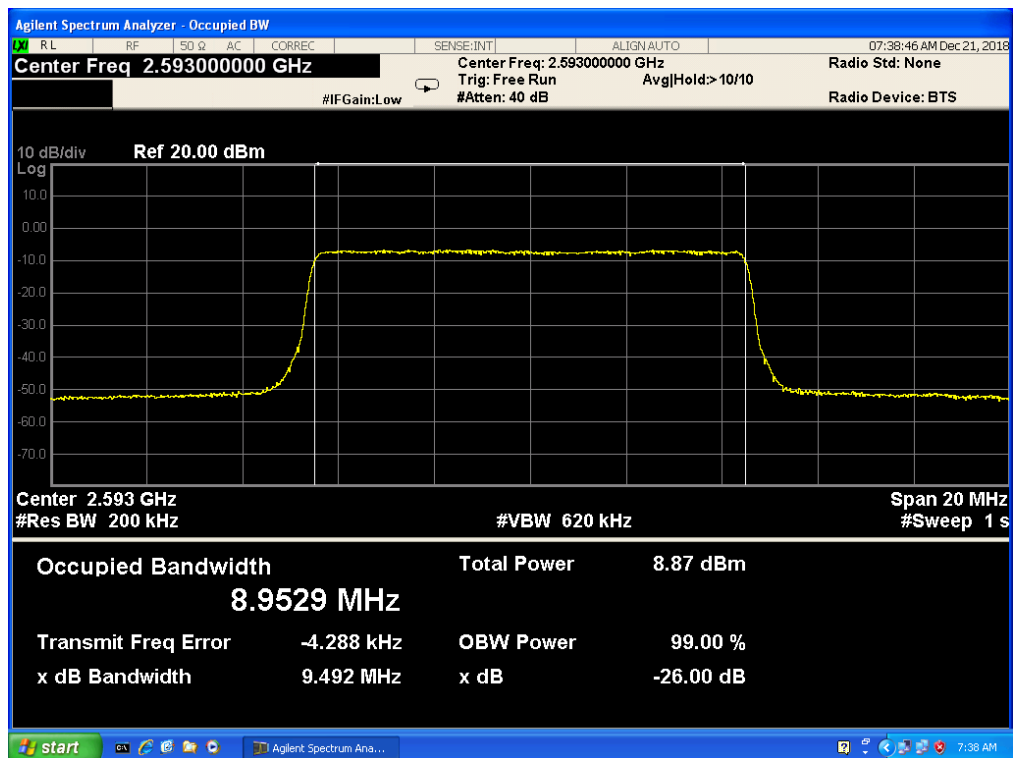
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 5.0, NO. RB 25, RB POS. Low, QPSK



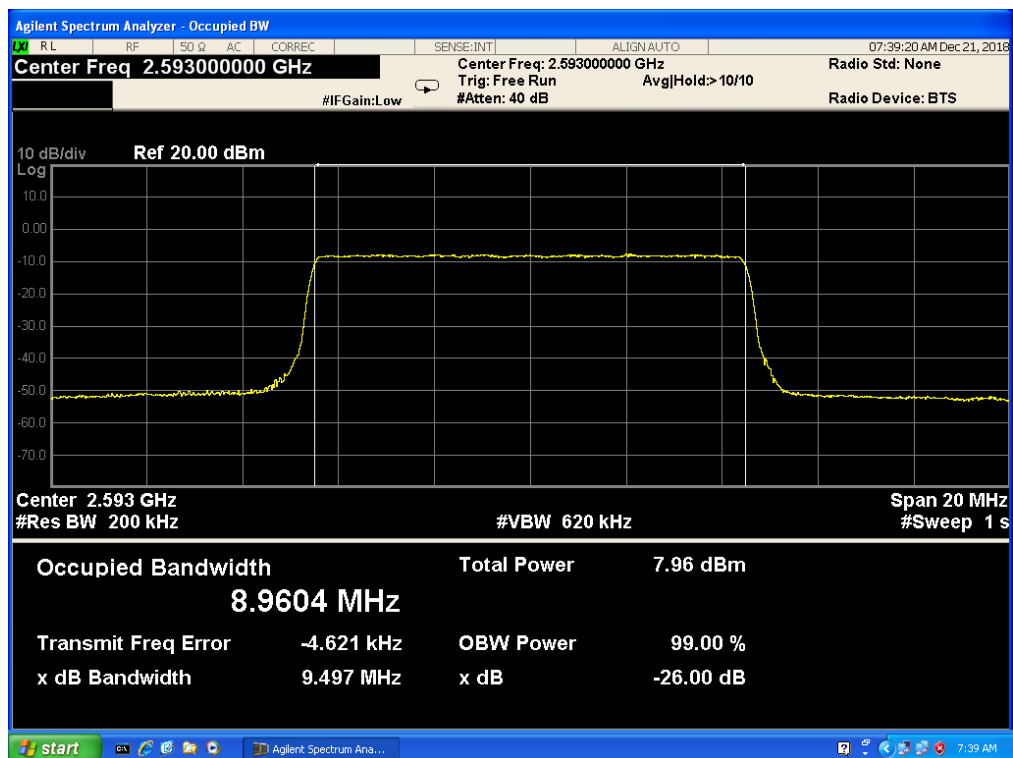
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



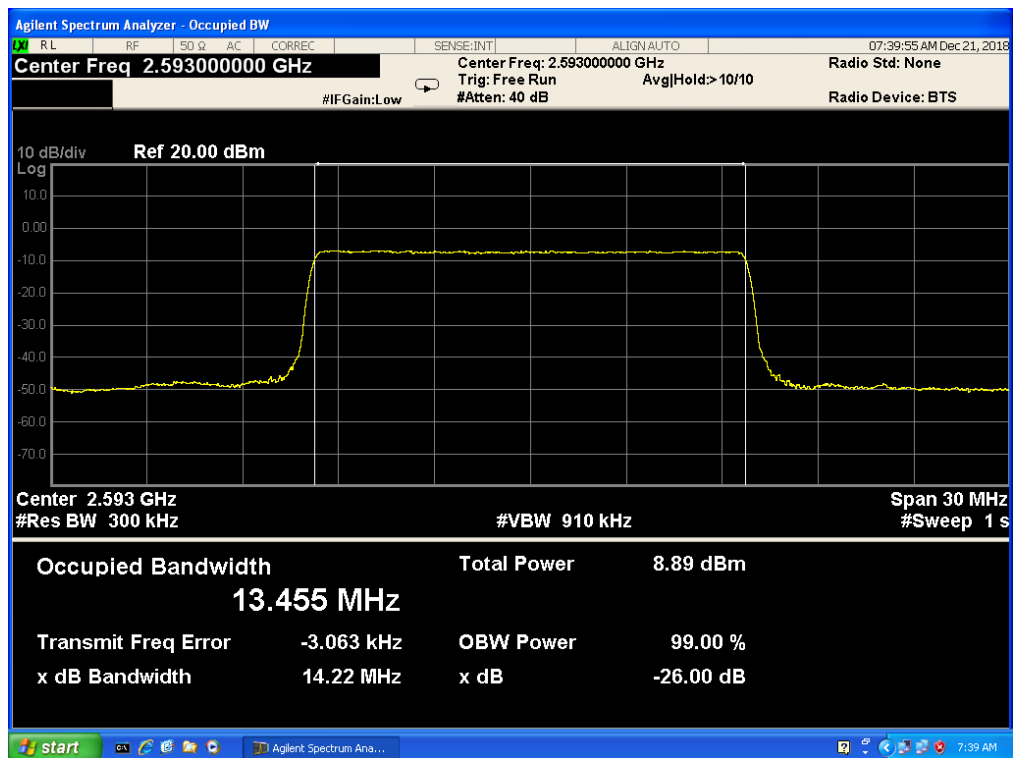
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



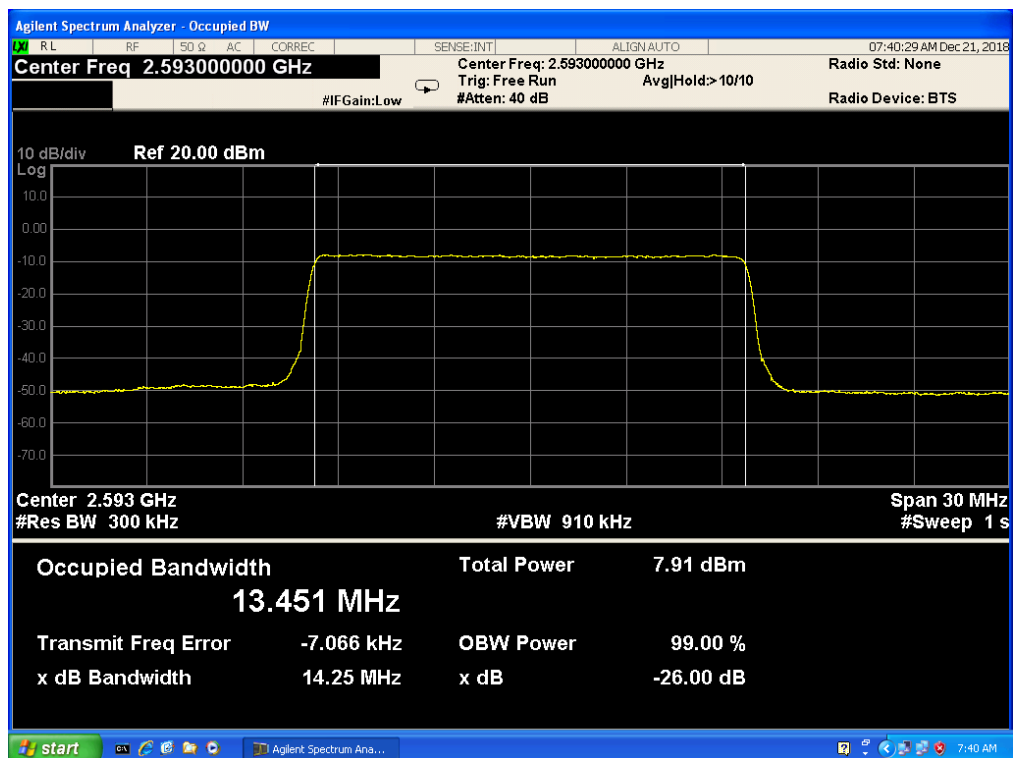
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM



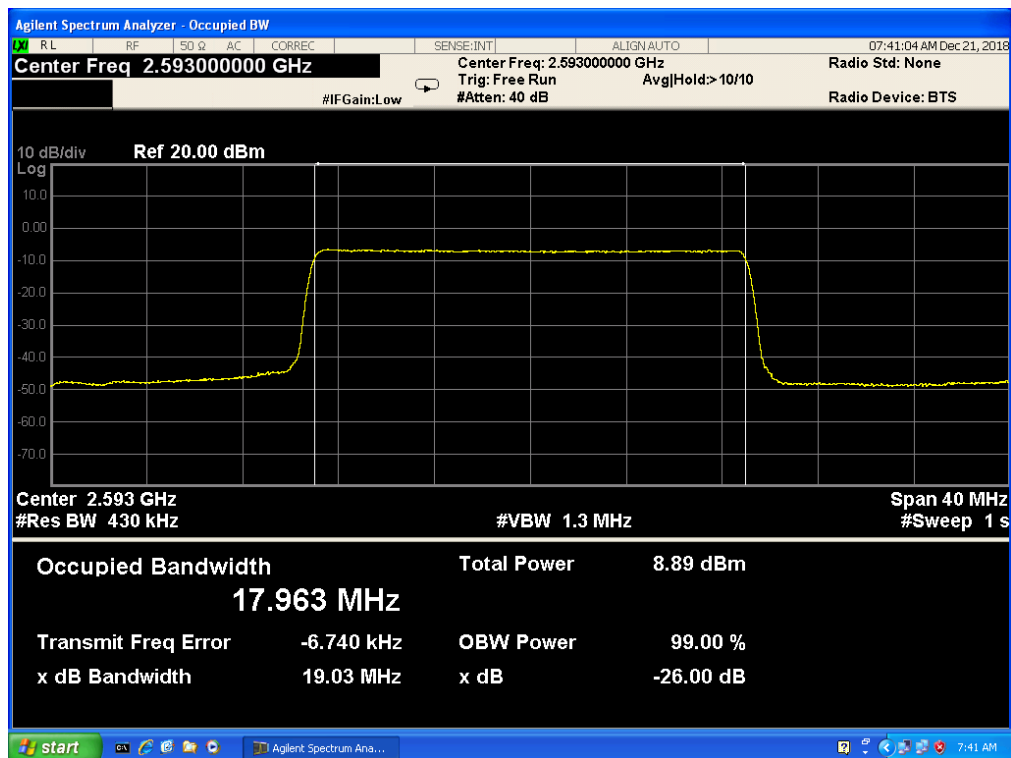
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 15.0, NO. RB 75, RB POS. Low, QPSK



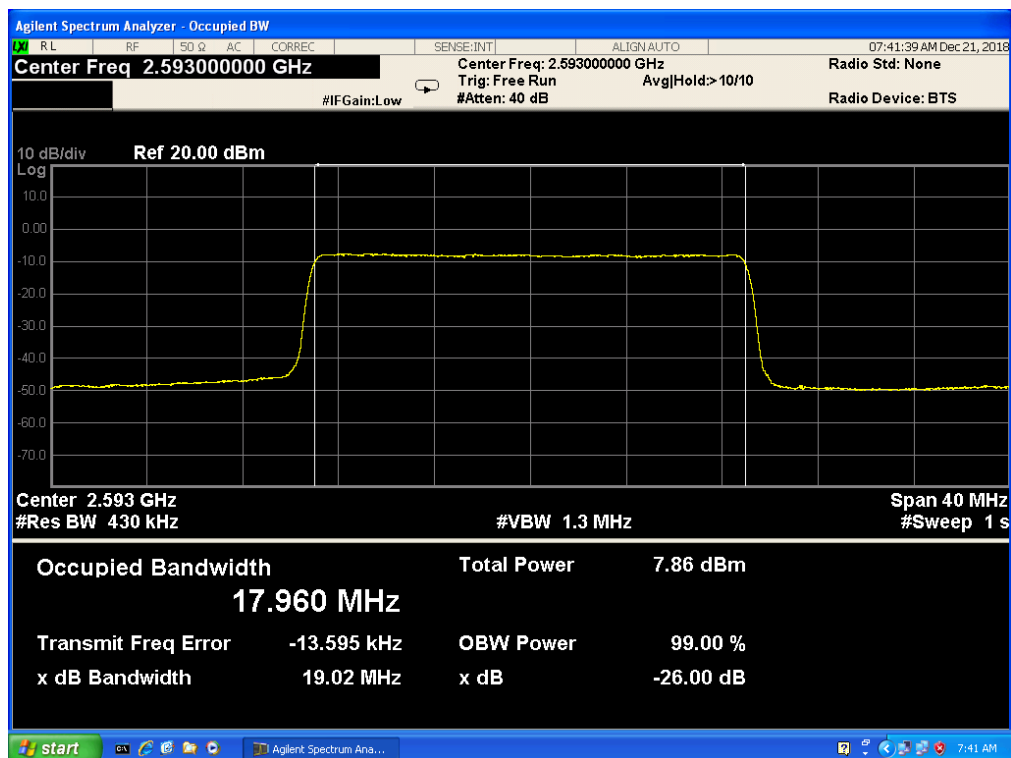
Band 41, UL Channel 40620, UL Frequency 2593.0, BW 15.0, NO. RB 75, RB POS. Low, 16-QAM



Band 41, UL Channel 40620, UL Frequency 2593.0, BW 20.0, NO. RB 100, RB POS. Low, QPSK



Band 41, UL Channel 40620, UL Frequency 2593.0, BW 20.0, NO. RB 100, RB POS. Low, 16-QAM



6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §27.53

FCC: §22.359

LIMITS

FCC: §22.359, §24.238, §27.53

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.

(m)(4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees. Show citation box.

FCC: §27.53

(m)(6) *Measurement procedure.* Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed; for mobile digital stations, in the 1 megahertz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 megahertz or 1 percent of emission bandwidth, as specified; or 1 megahertz or 2 percent for mobile digital stations, except in the band 2495-2496 MHz). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power. With respect to television operations, measurements must be made of the separate visual and aural operating powers at sufficiently frequent intervals to ensure compliance with the rules.

TEST PROCEDURE

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum

power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency.

Set a marker to point the corresponding band edge frequency in each test case.

Set display line at -13 dBm

Set resolution bandwidth to at least 1% of emission bandwidth.

MODES TESTED

LTE Band 5

LTE Band 7

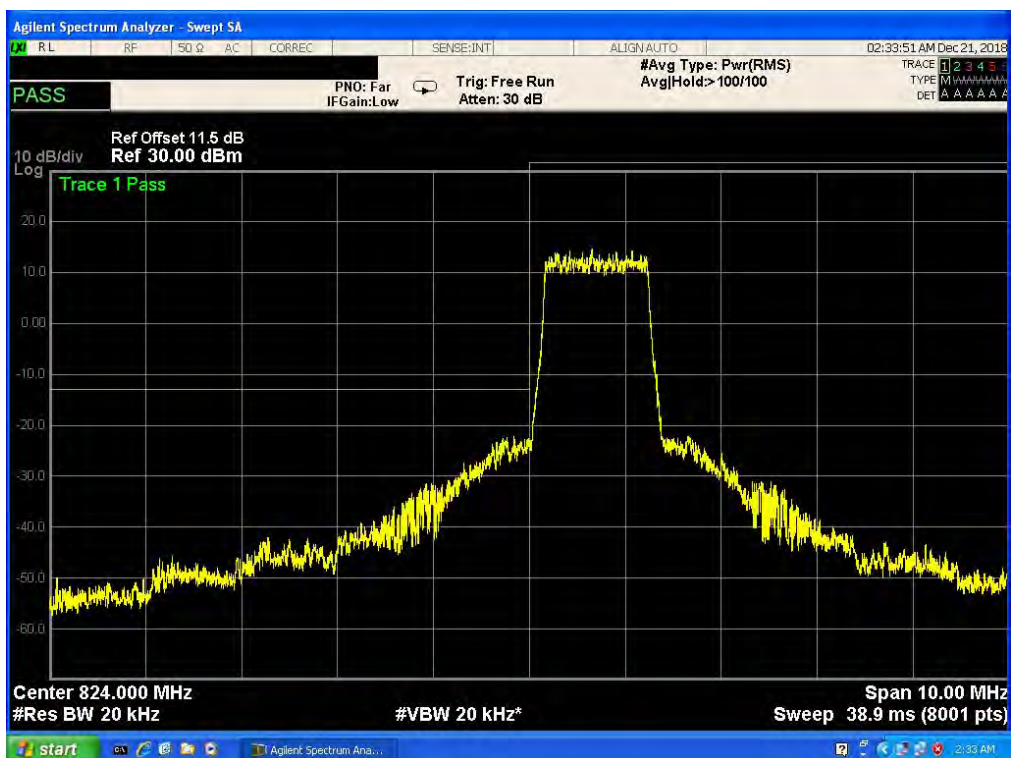
LTE Band 41

RESULTS

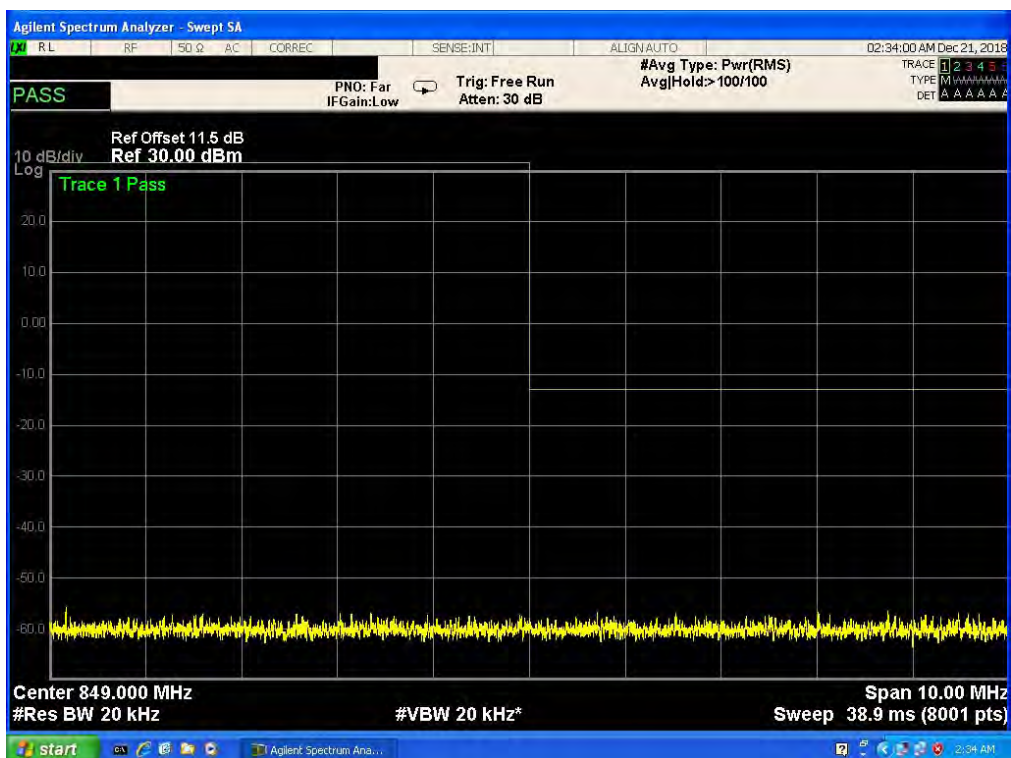
Pass

6.1 LTE BAND 5

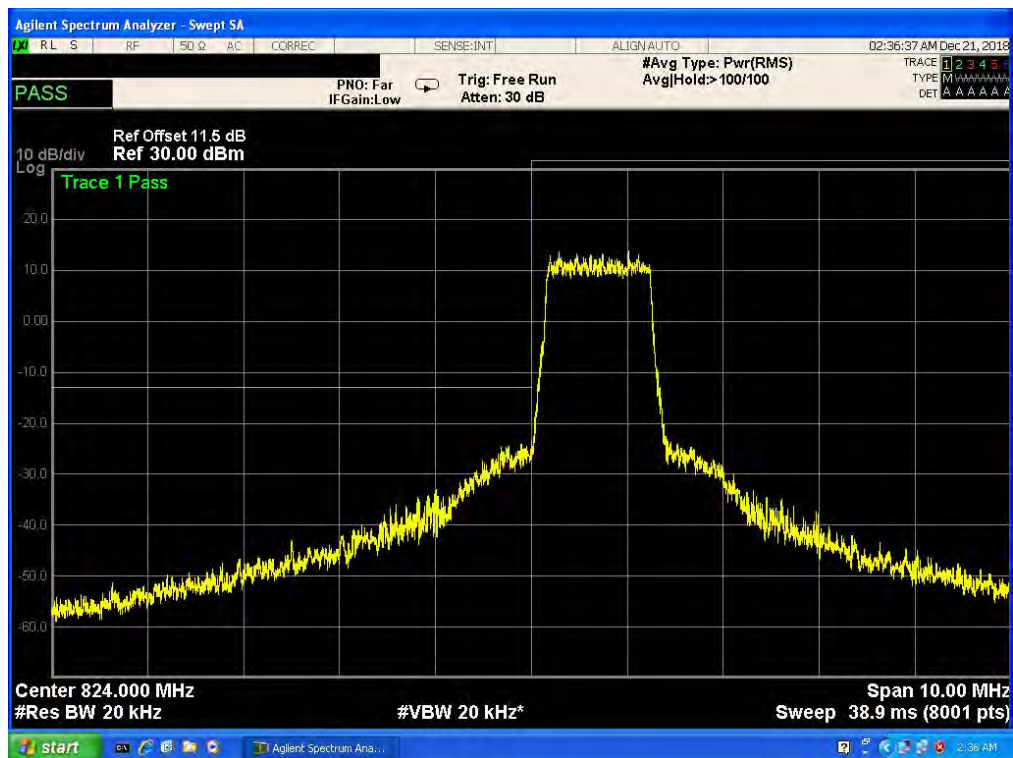
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK



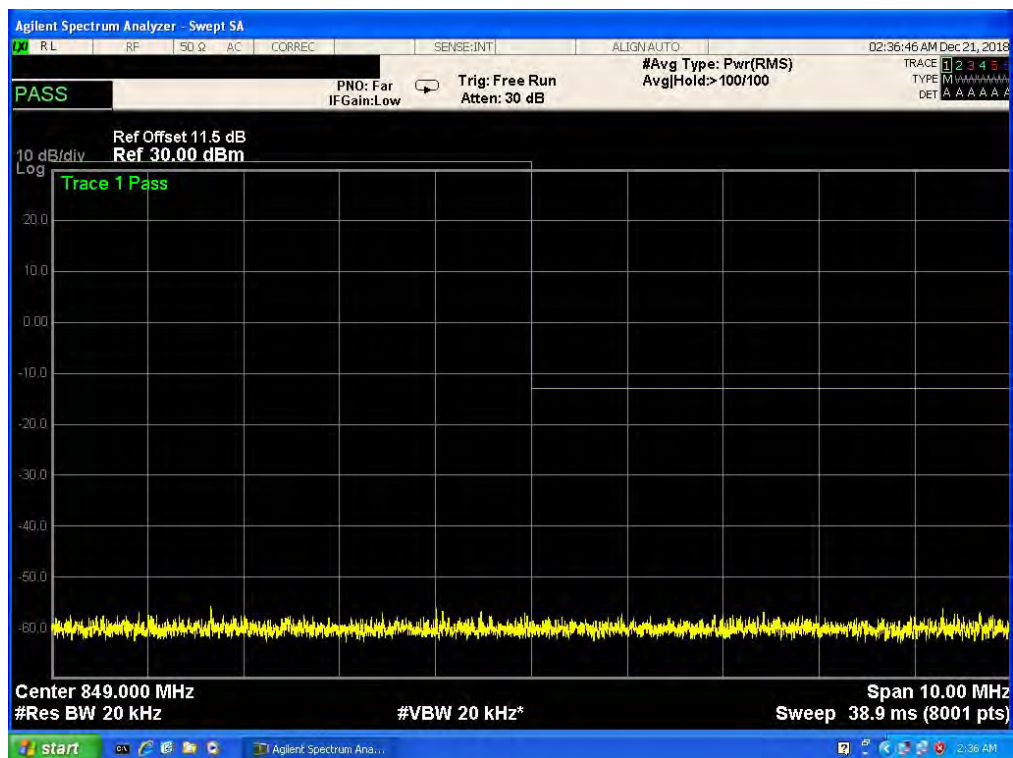
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK



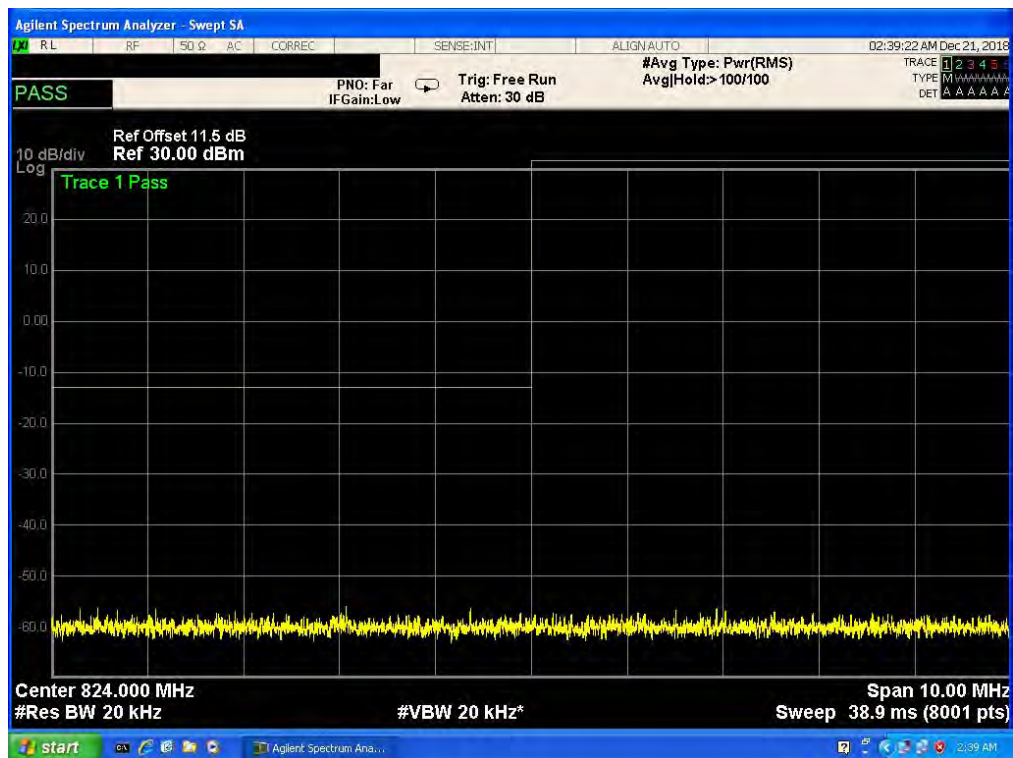
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



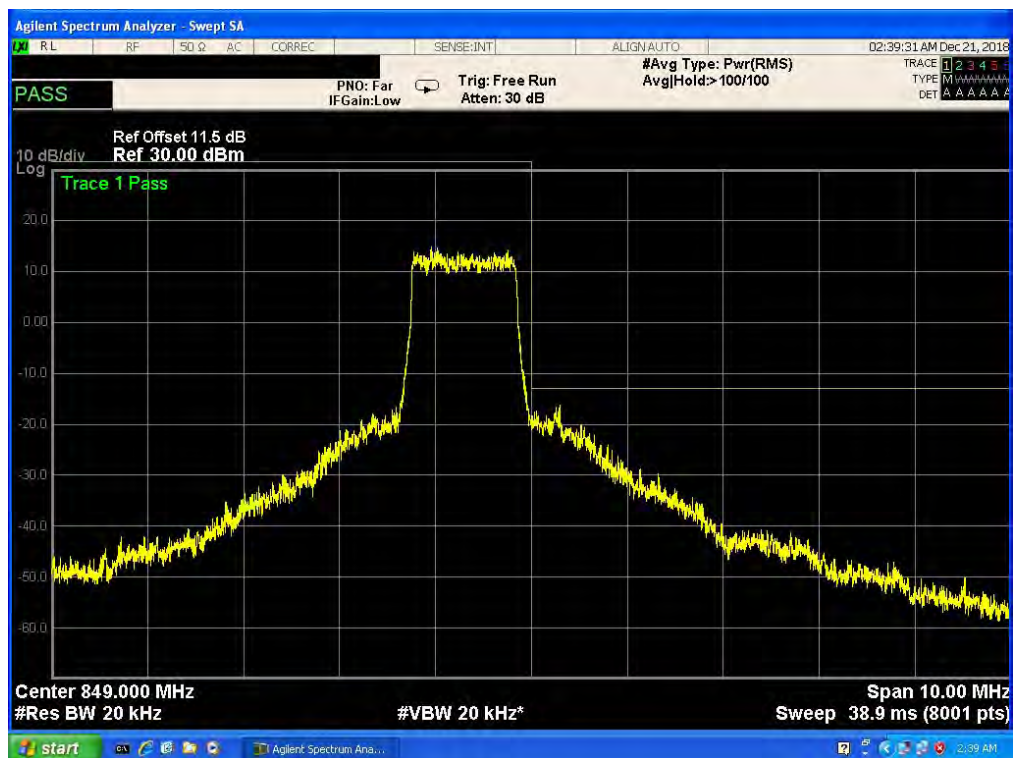
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



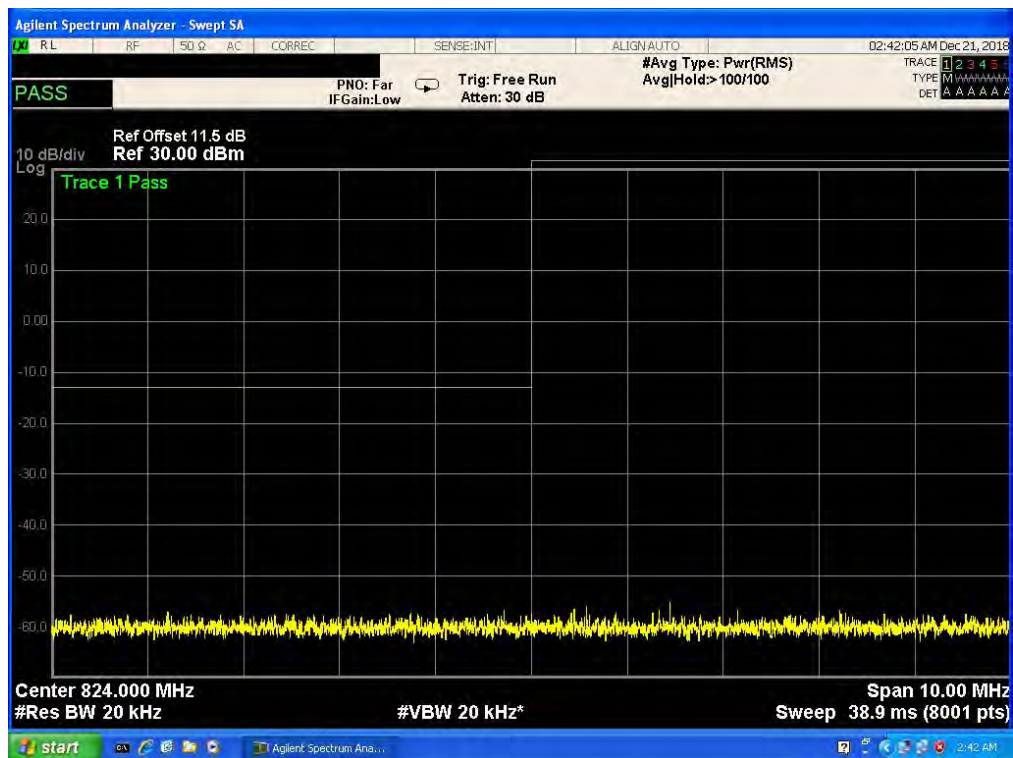
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, QPSK



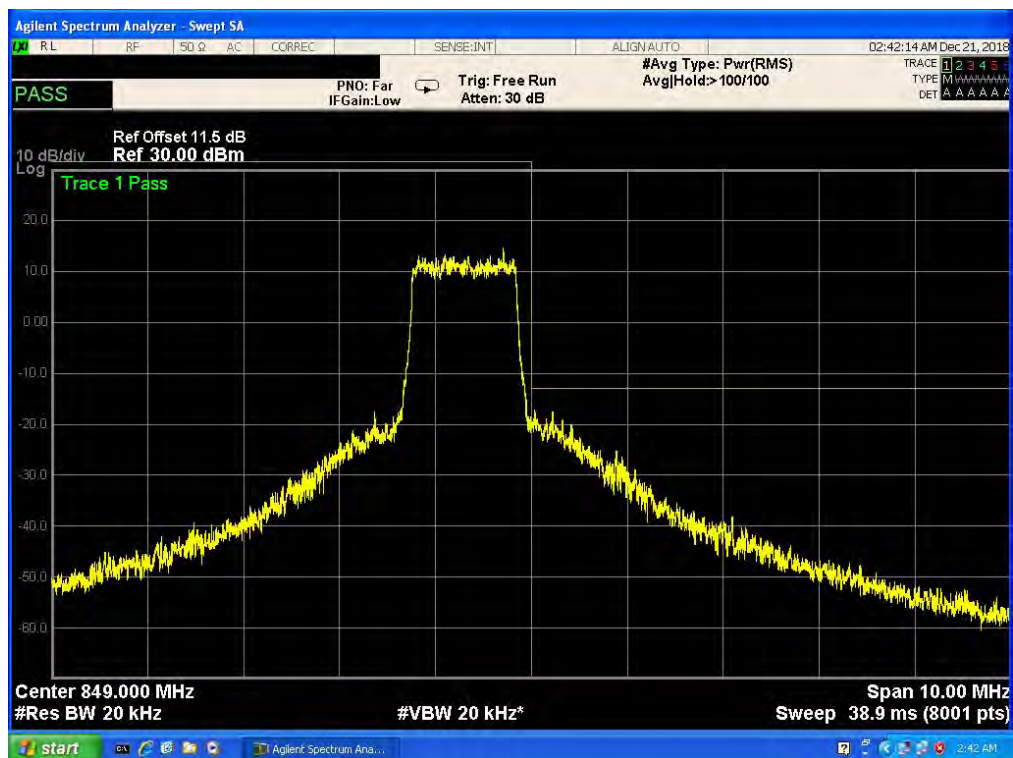
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, QPSK



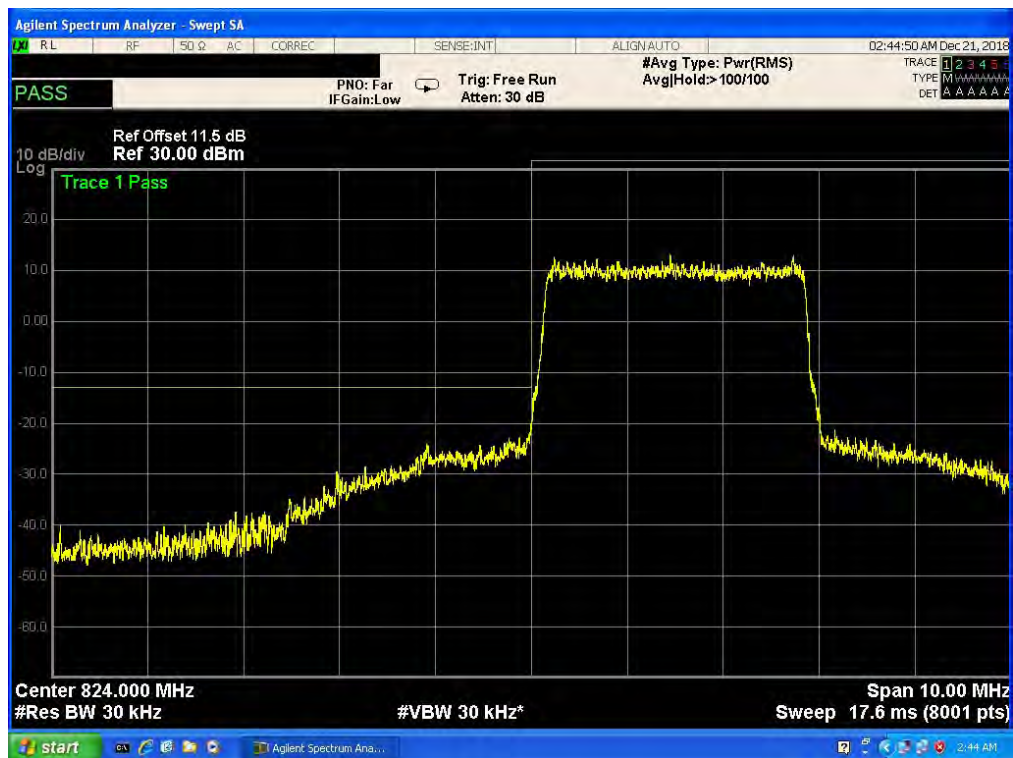
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



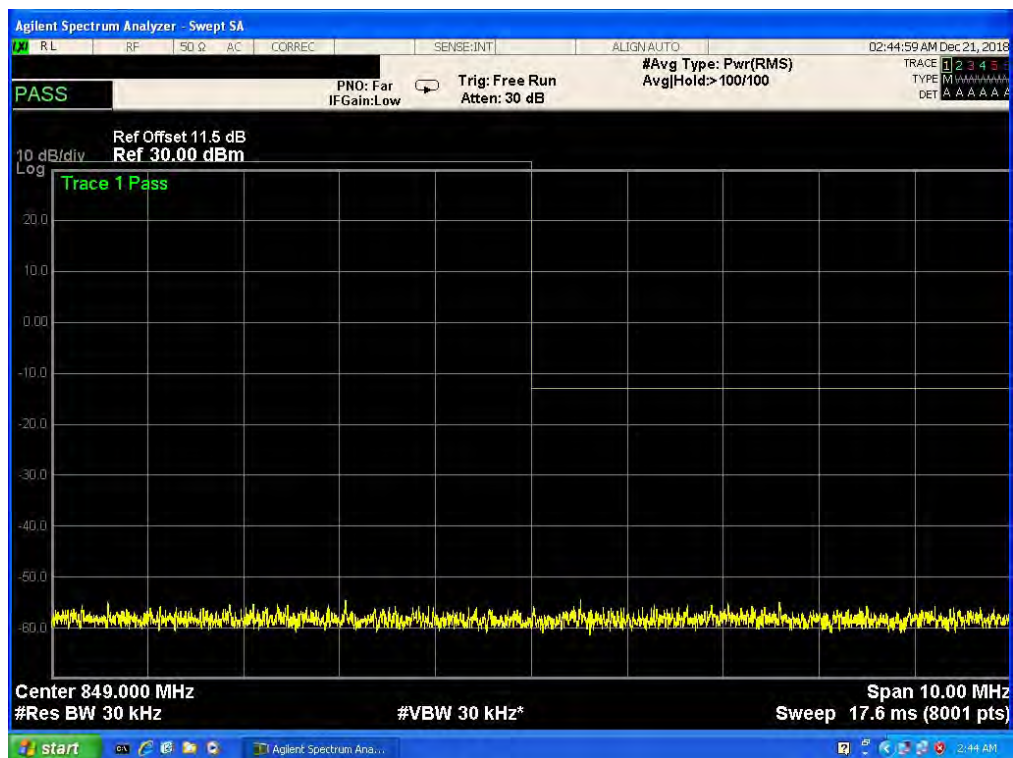
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



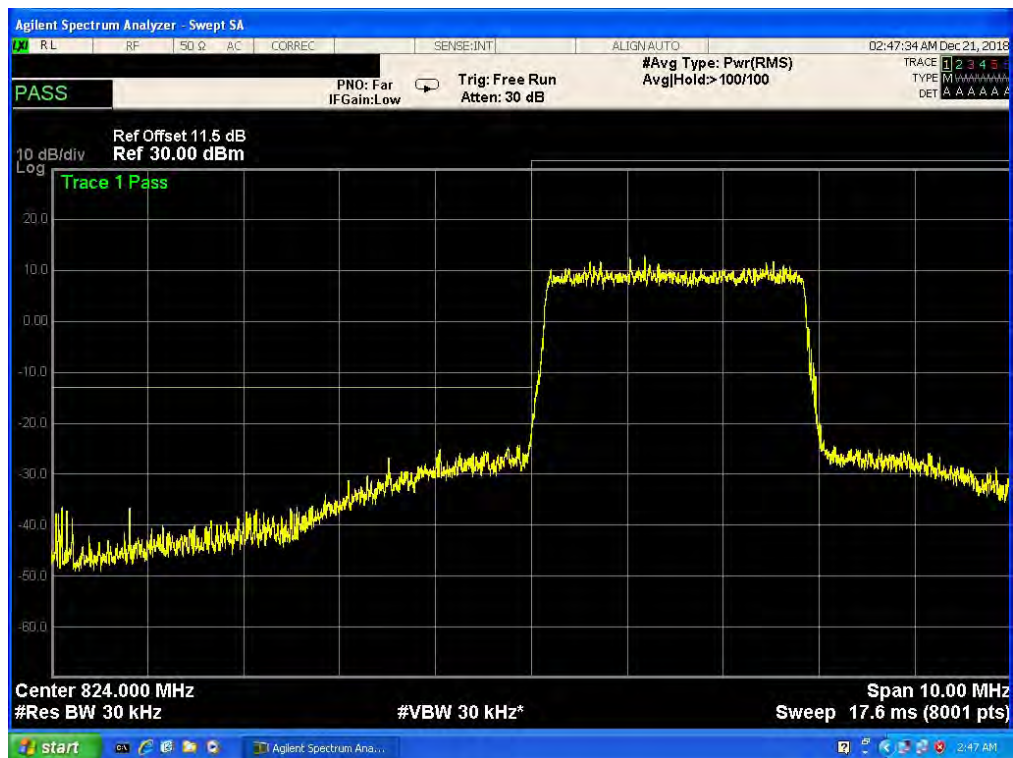
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



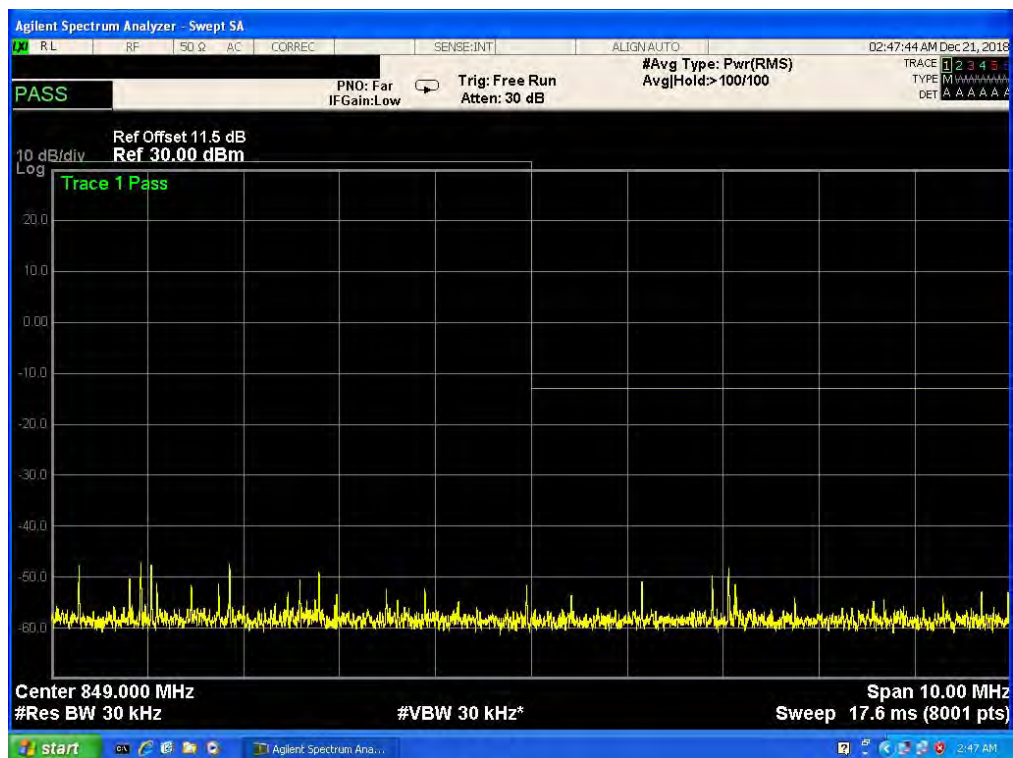
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



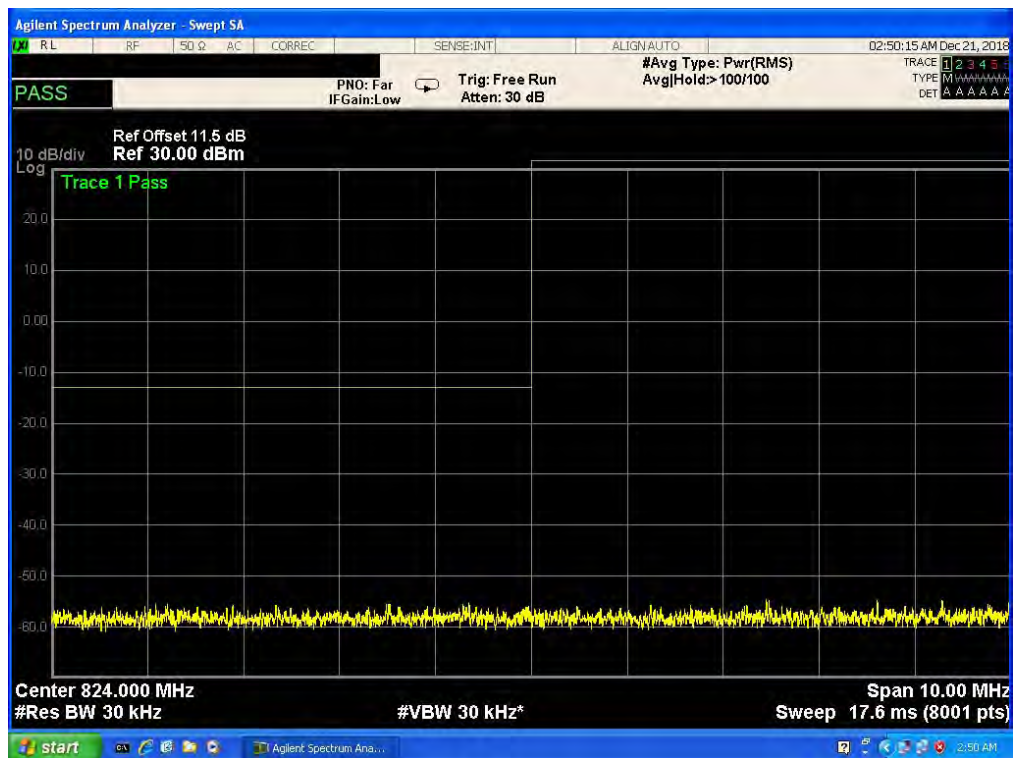
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



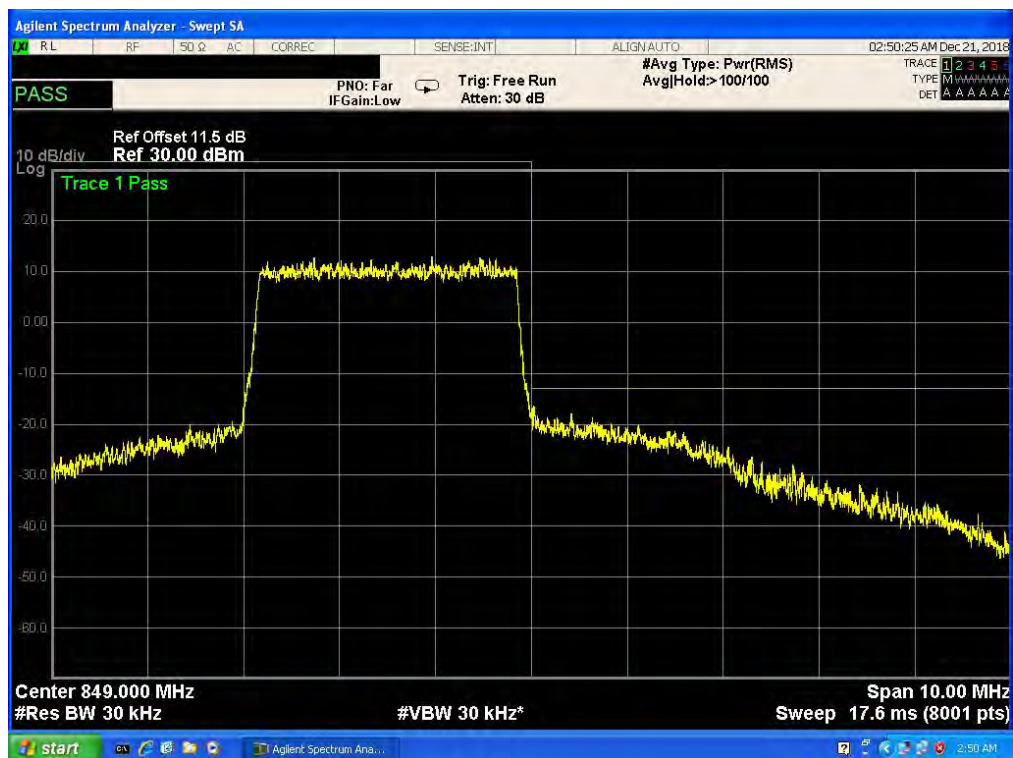
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



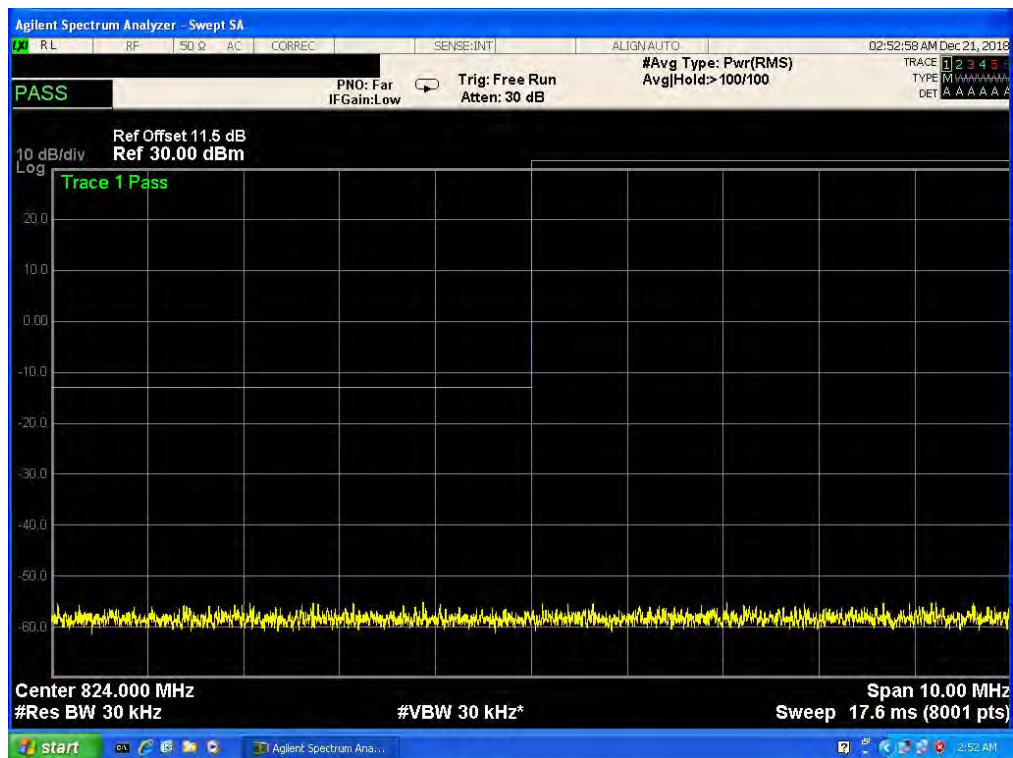
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



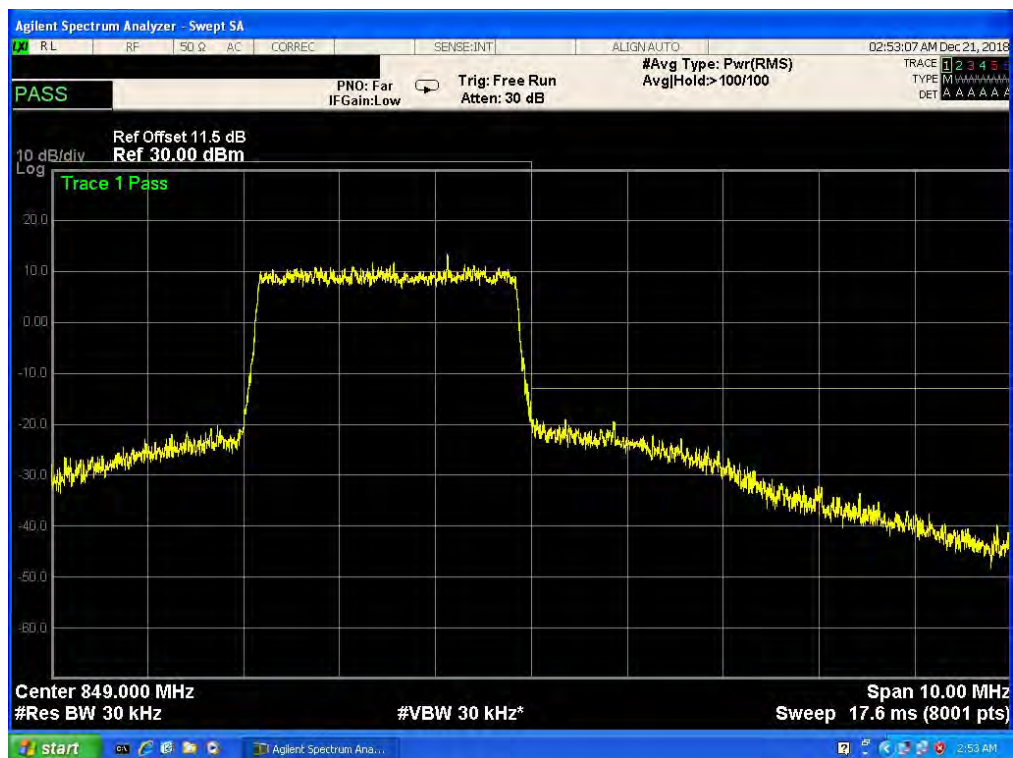
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



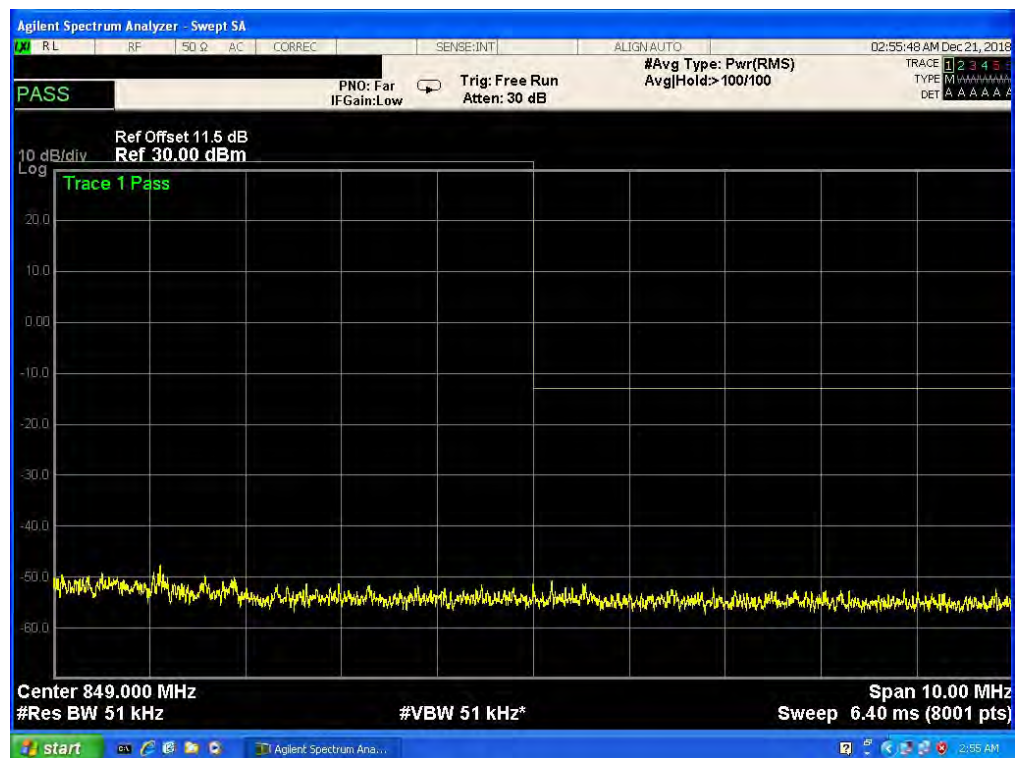
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



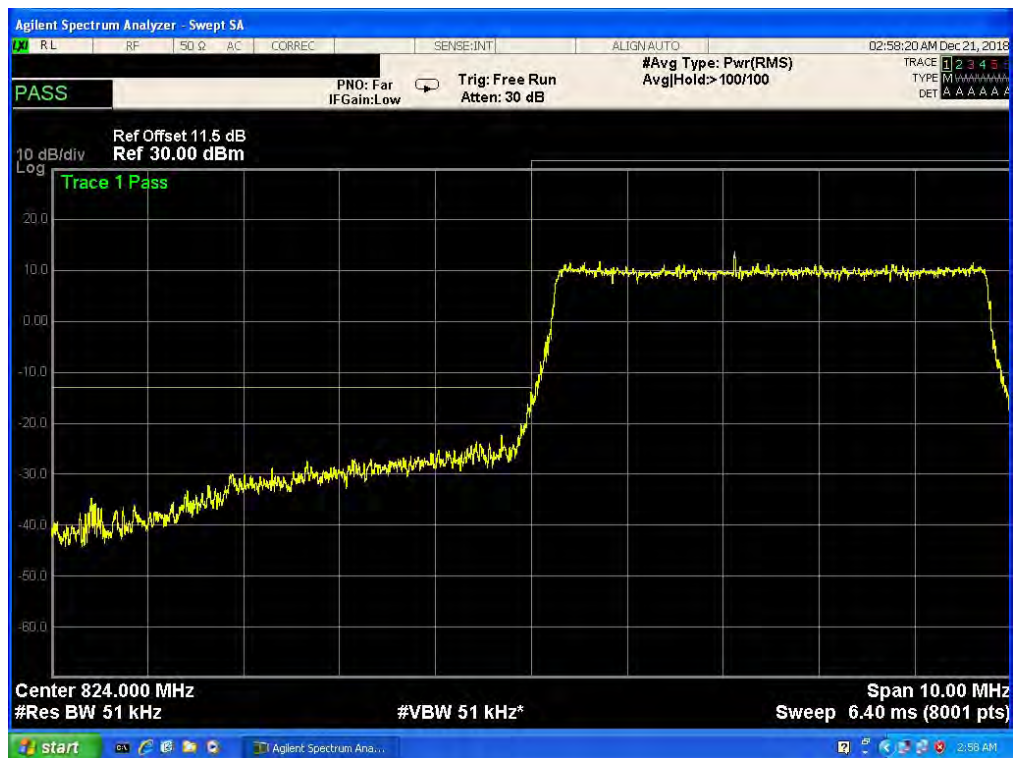
Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



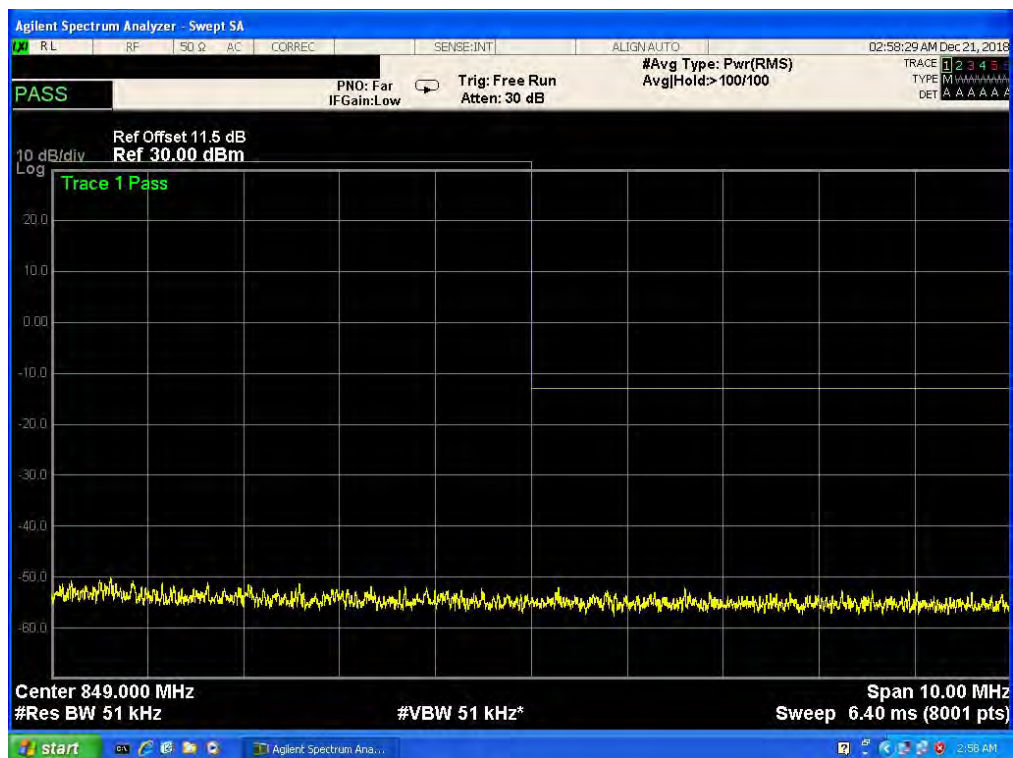
Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



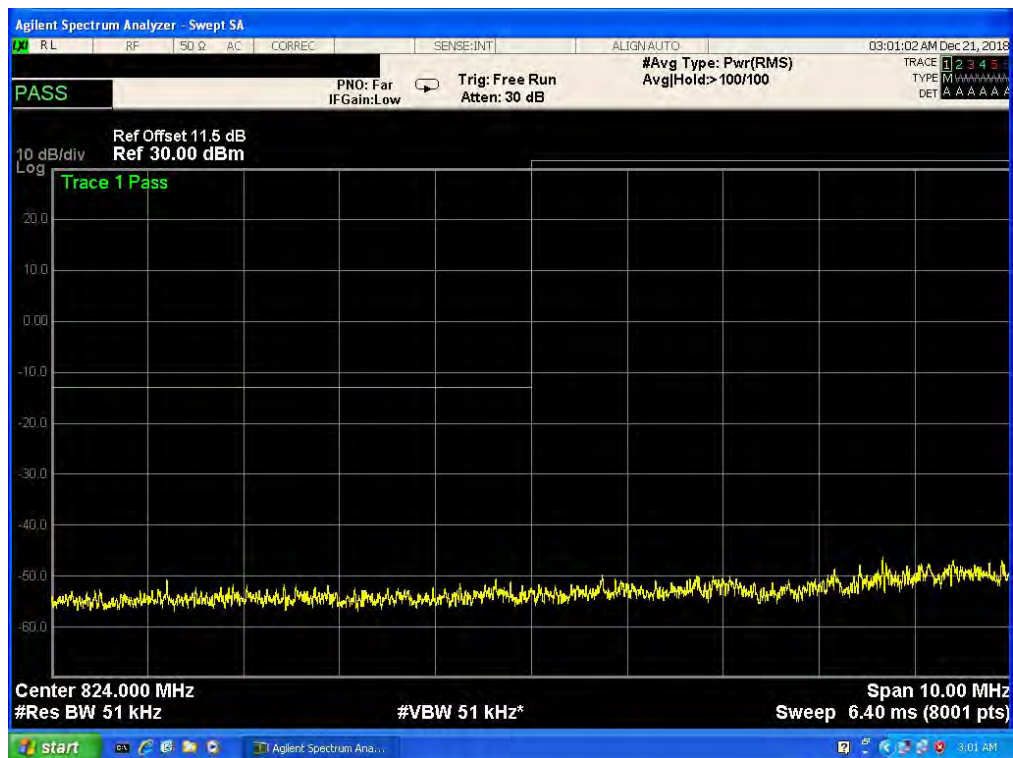
Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



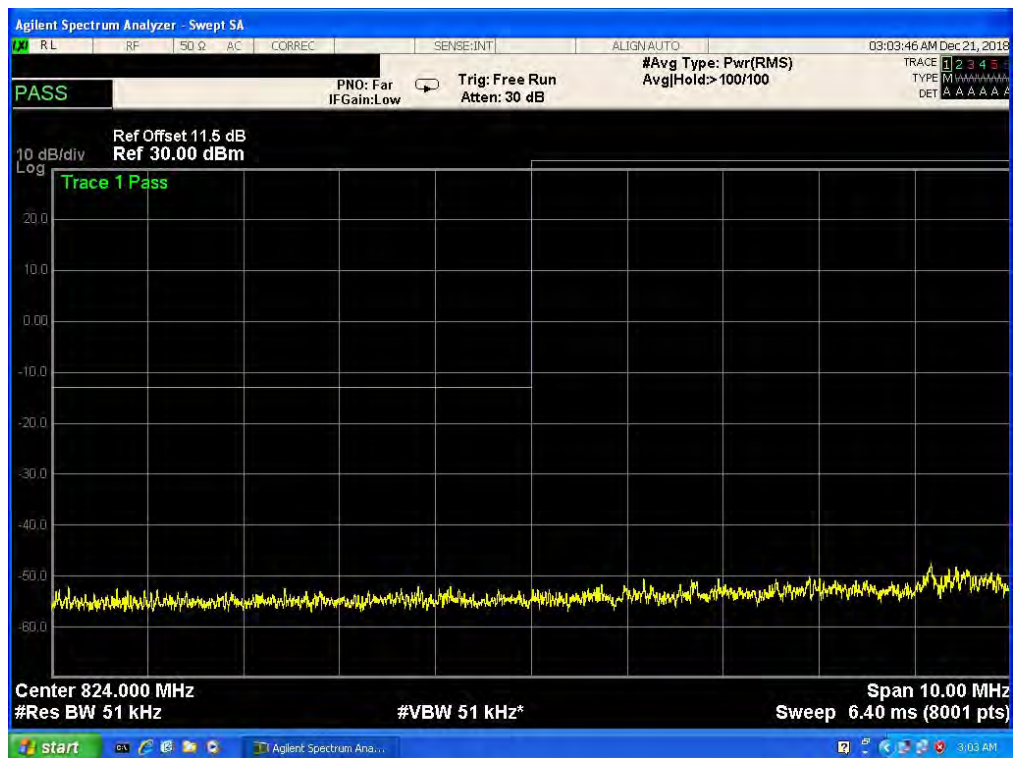
Band 5, UL Channel 20625, UL Frequency 846.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



Band 5, UL Channel 20625, UL Frequency 846.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



Band 5, UL Channel 20625, UL Frequency 846.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



Band 5, UL Channel 20625, UL Frequency 846.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



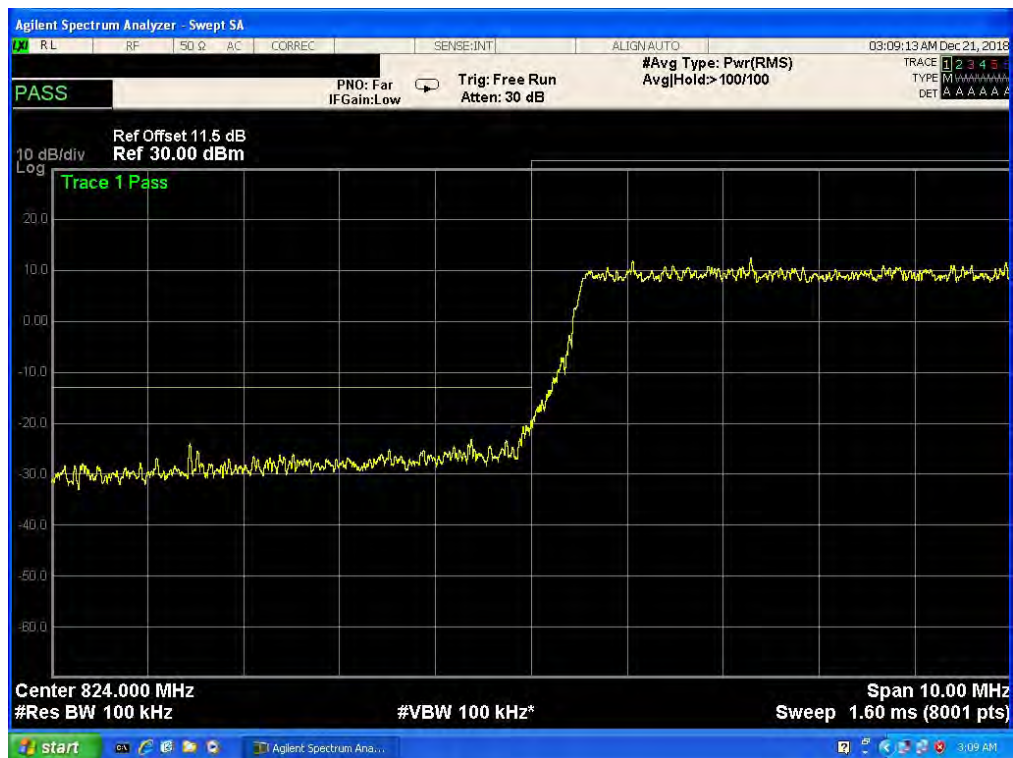
Band 5, UL Channel 20450, UL Frequency 829.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



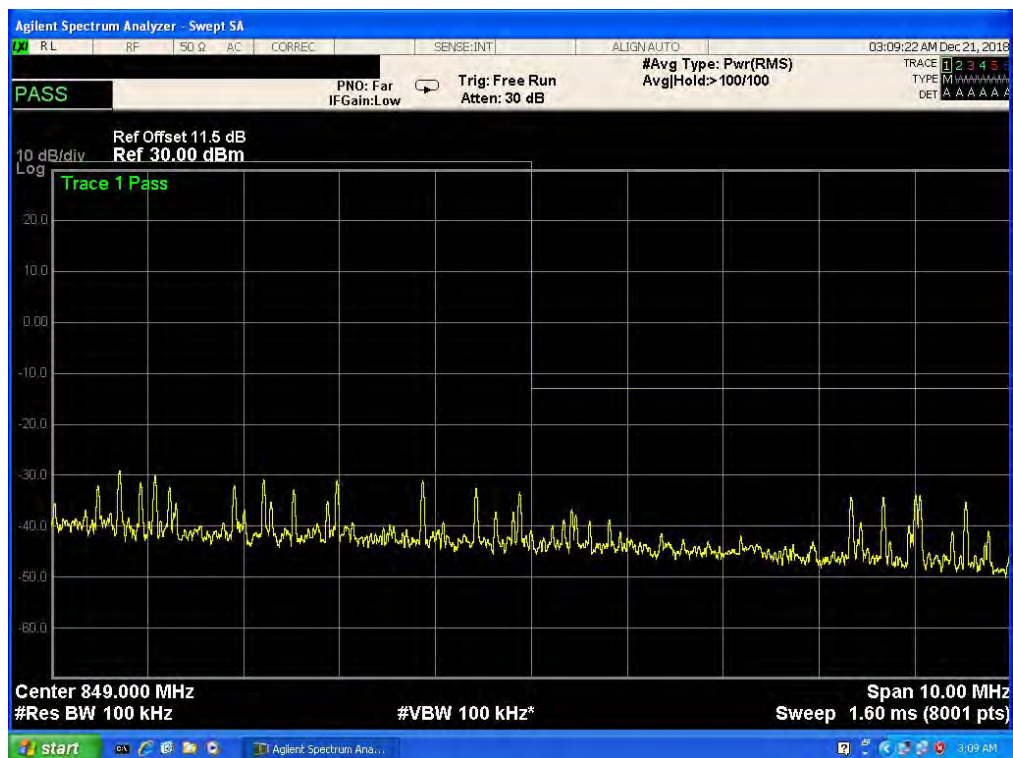
Band 5, UL Channel 20450, UL Frequency 829.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



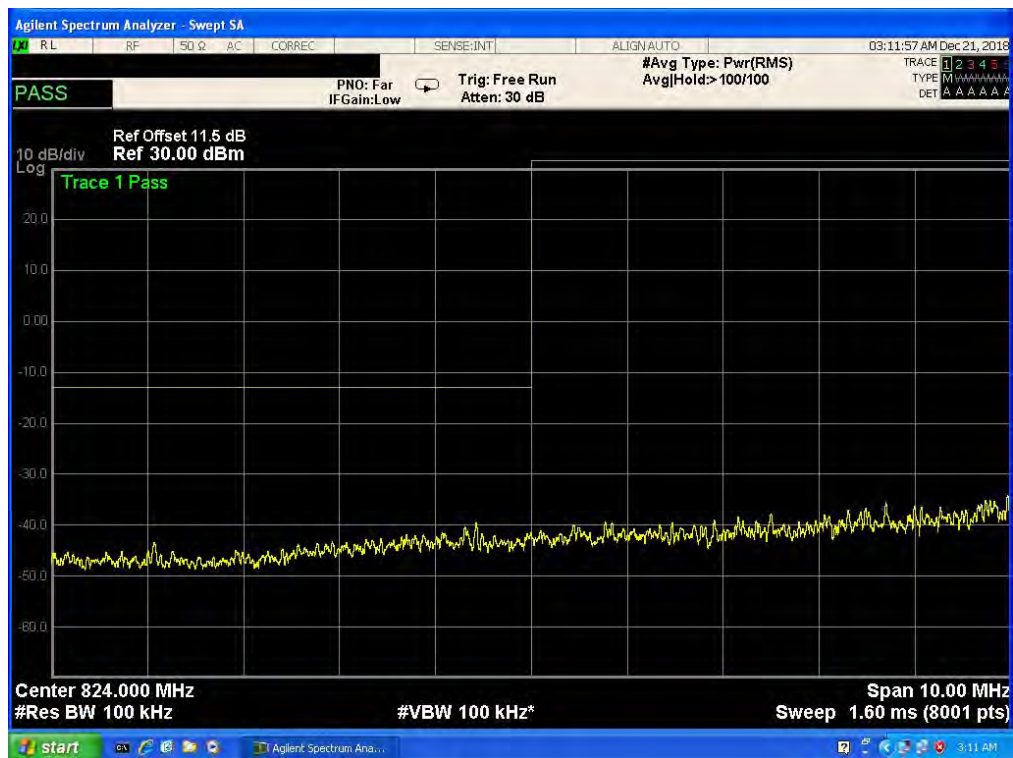
Band 5, UL Channel 20450, UL Frequency 829.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM



Band 5, UL Channel 20450, UL Frequency 829.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM



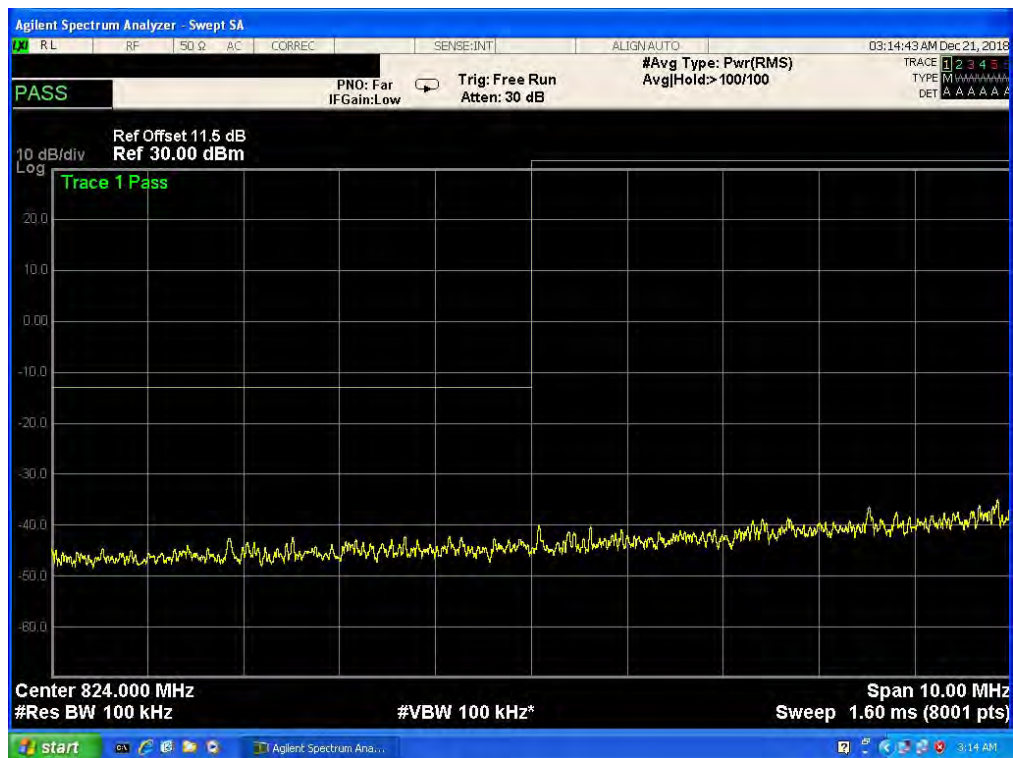
Band 5, UL Channel 20600, UL Frequency 844.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



Band 5, UL Channel 20600, UL Frequency 844.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



Band 5, UL Channel 20600, UL Frequency 844.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM

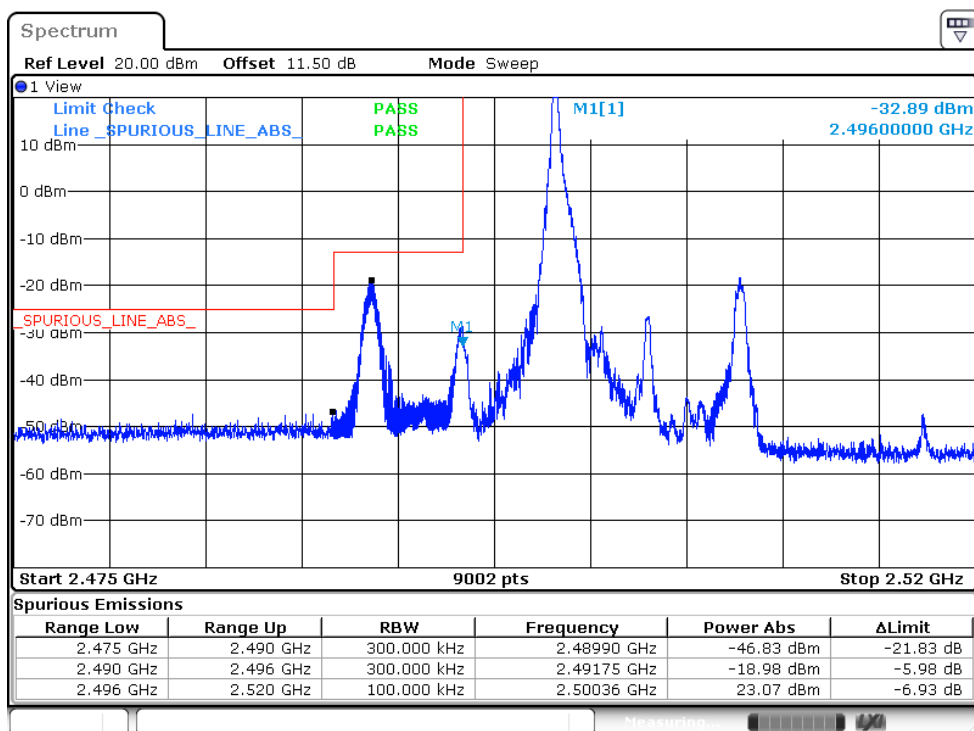


Band 5, UL Channel 20600, UL Frequency 844.0, BW 10.0, NO. RB 50, RB POS. Low, 16-QAM

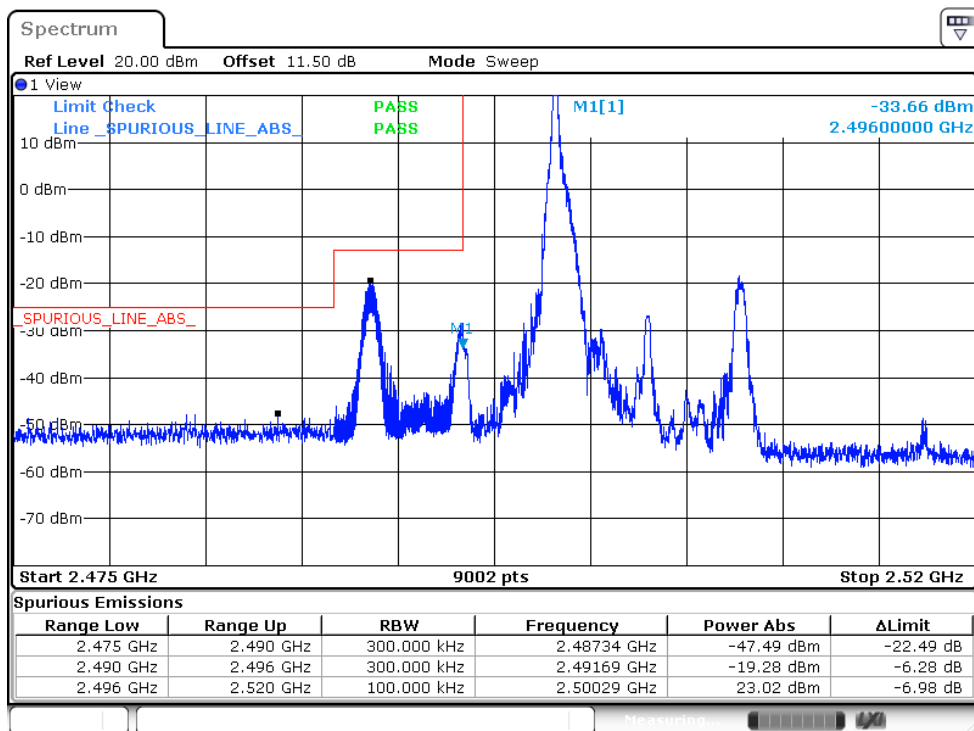


6.2 LTE BAND 7

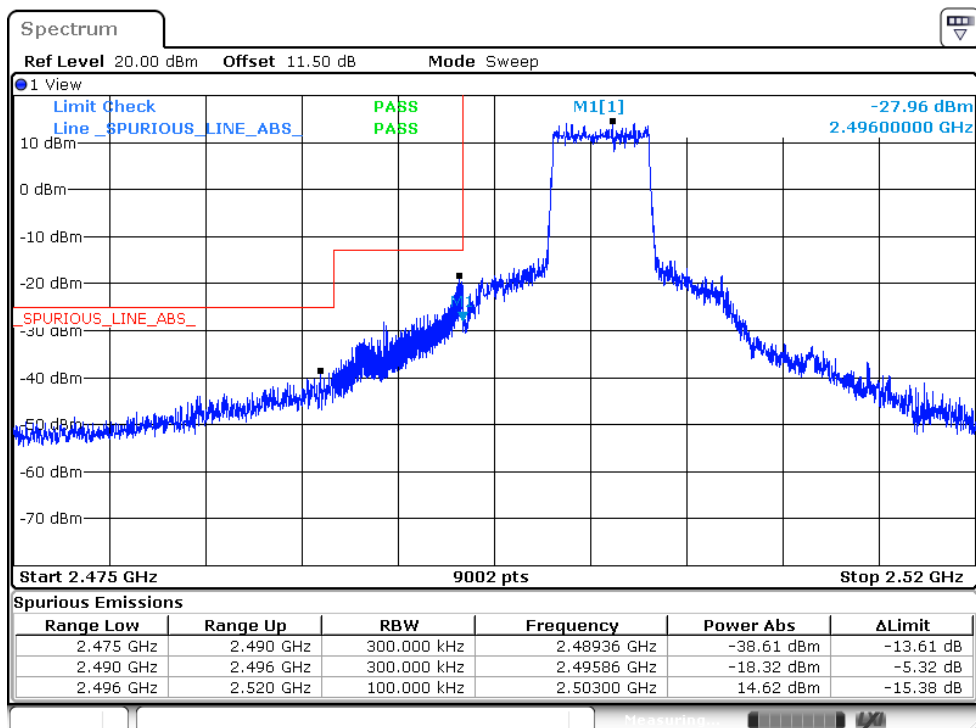
Band 7, UL Channel 20775, UL Frequency 2502.5, BW 5.0, NO. RB 1, RB POS. Low, QPSK



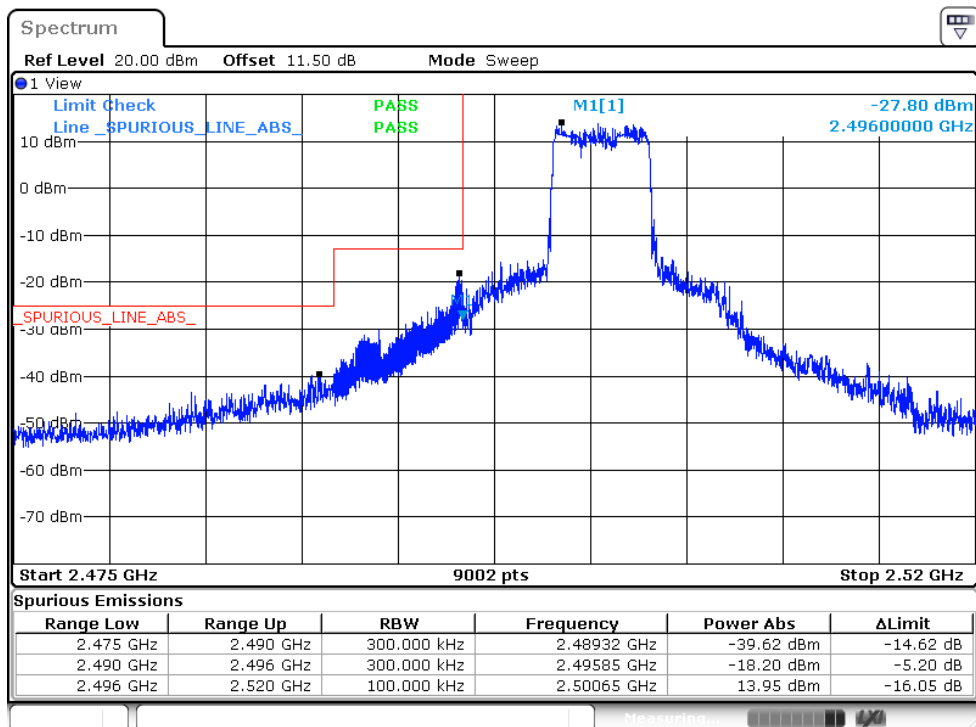
Band 7, UL Channel 20775, UL Frequency 2502.5, BW 5.0, NO. RB 1, RB POS. Low, 16QAM



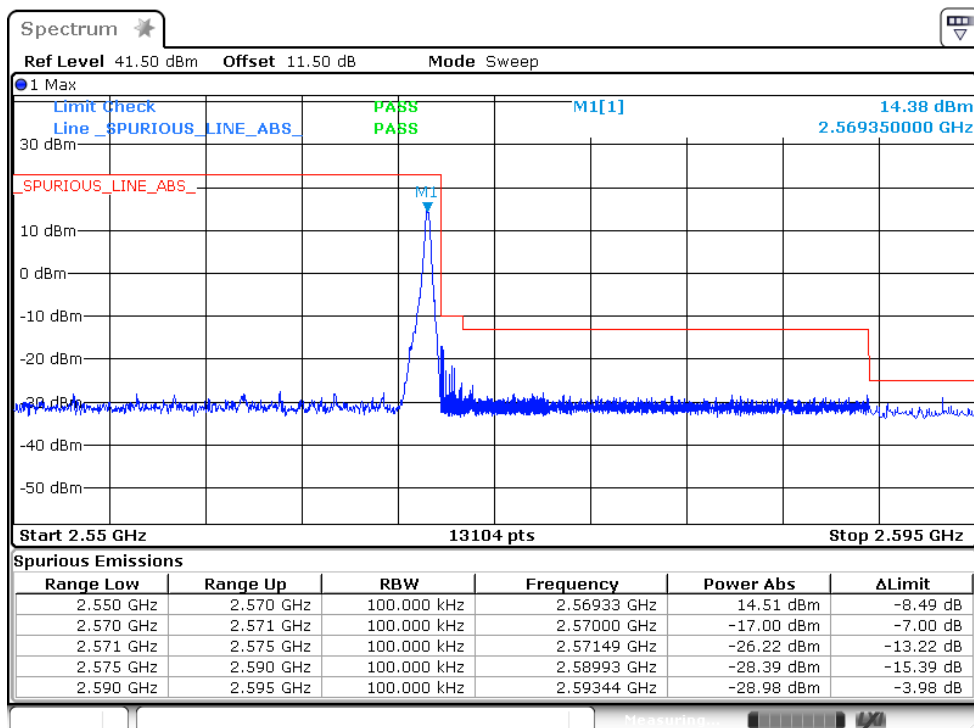
Band 7, UL Channel 20775, UL Frequency 2502.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



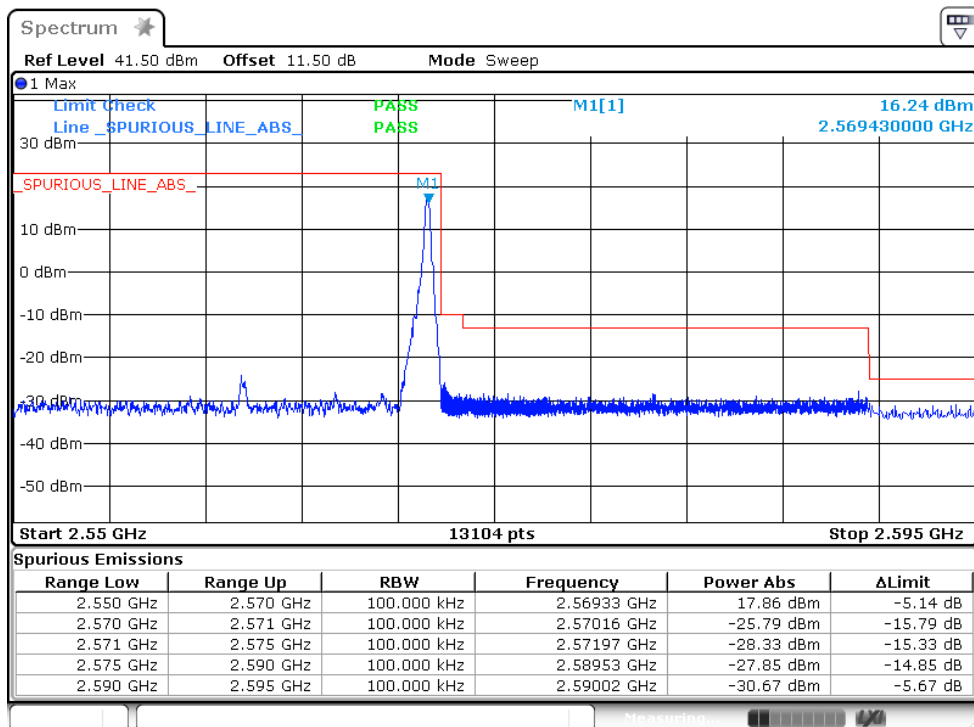
Band 7, UL Channel 20775, UL Frequency 2502.5, BW 5.0, NO. RB 25, RB POS. Low, 16QAM



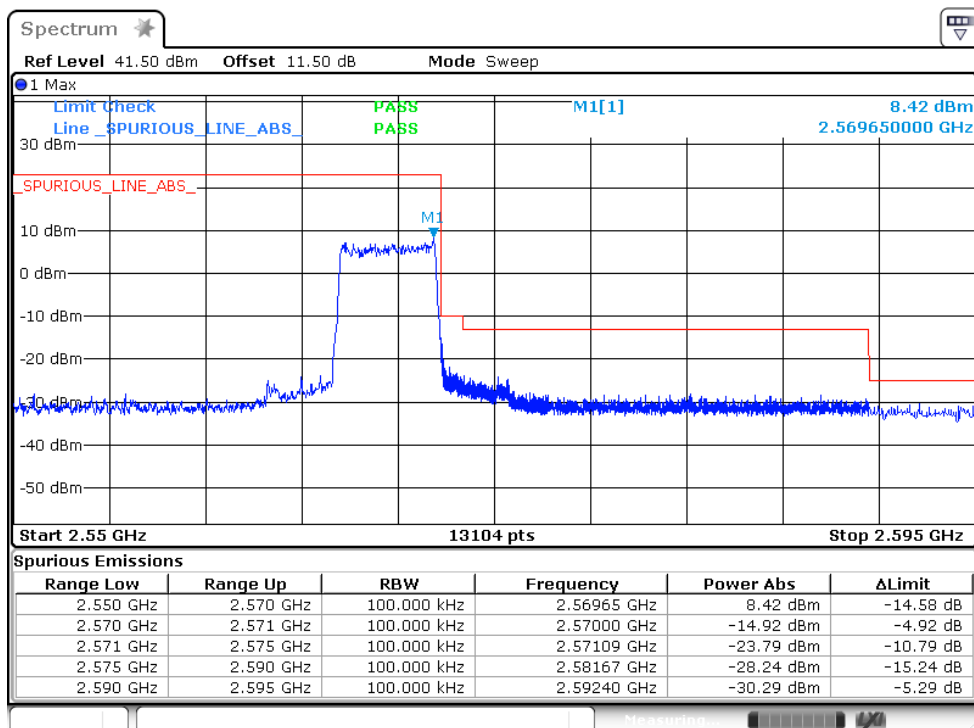
Band 7, UL Channel 21425, UL Frequency 2567.5, BW 5.0, NO. RB 1, RB POS. High, QPSK



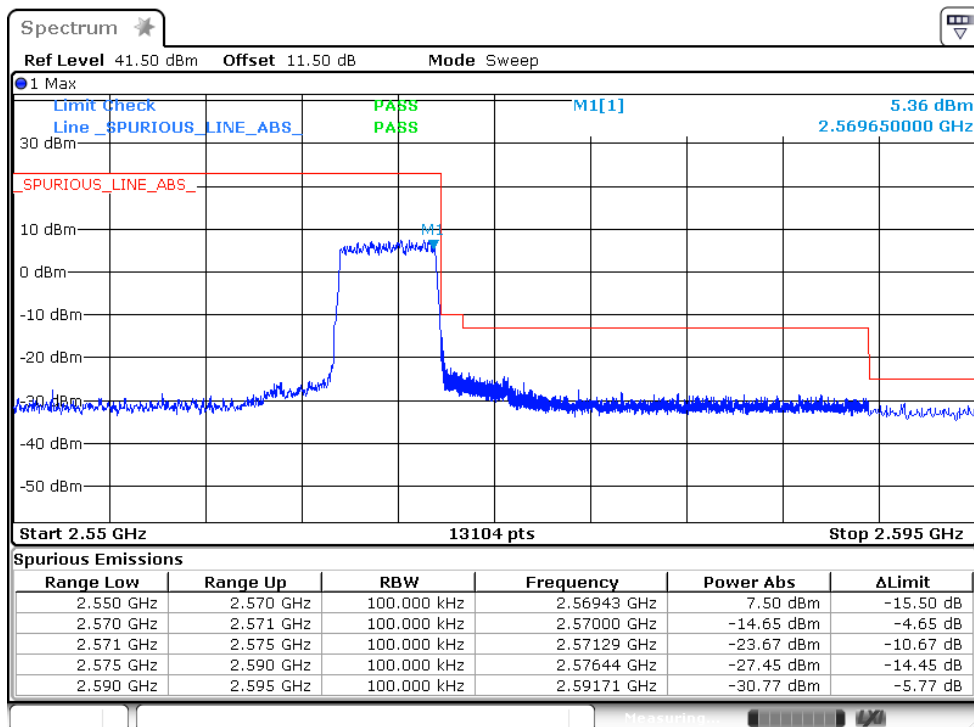
Band 7, UL Channel 21425, UL Frequency 2567.5, BW 5.0, NO. RB 1, RB POS. High, 16QAM



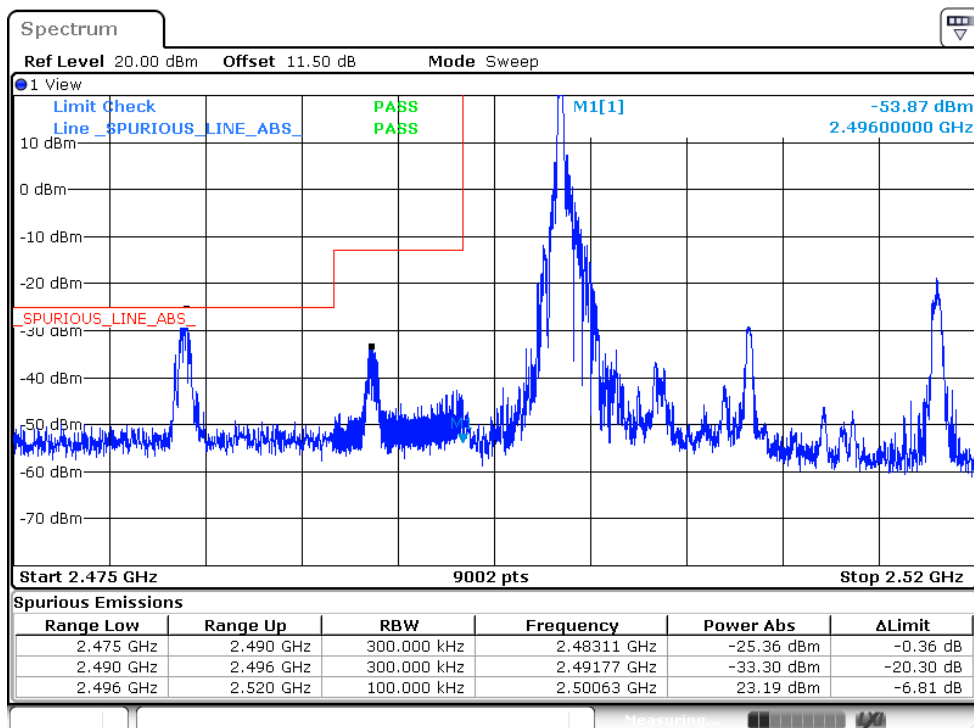
Band 7, UL Channel 21425, UL Frequency 2567.5, BW 5.0, NO. RB 25, RB POS. High, QPSK



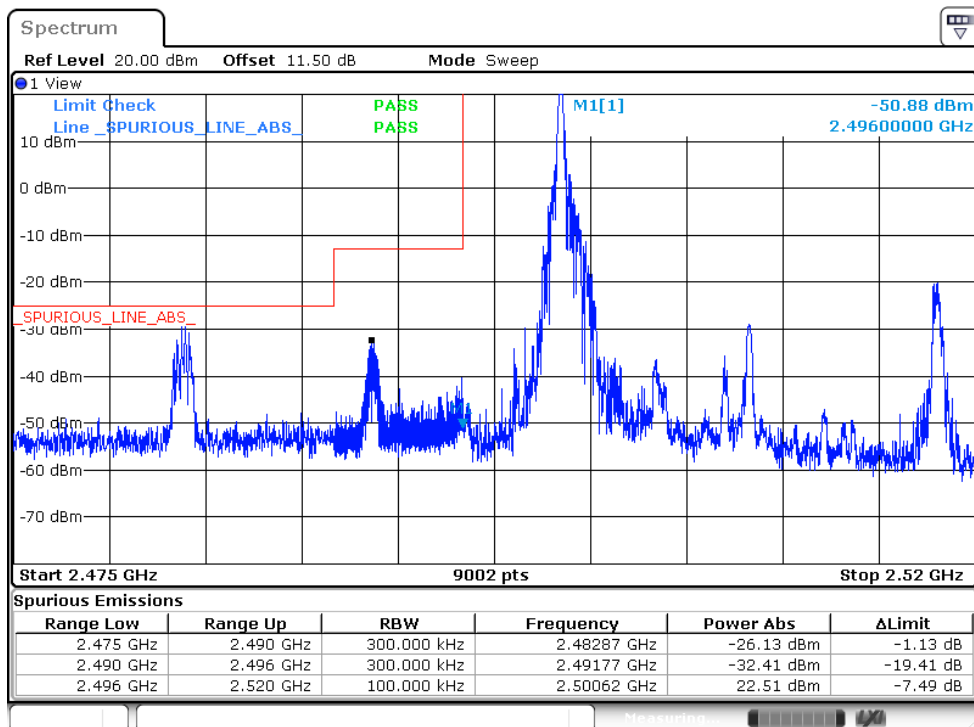
Band 7, UL Channel 21425, UL Frequency 2567.5, BW 5.0, NO. RB 25, RB POS. High, 16QAM



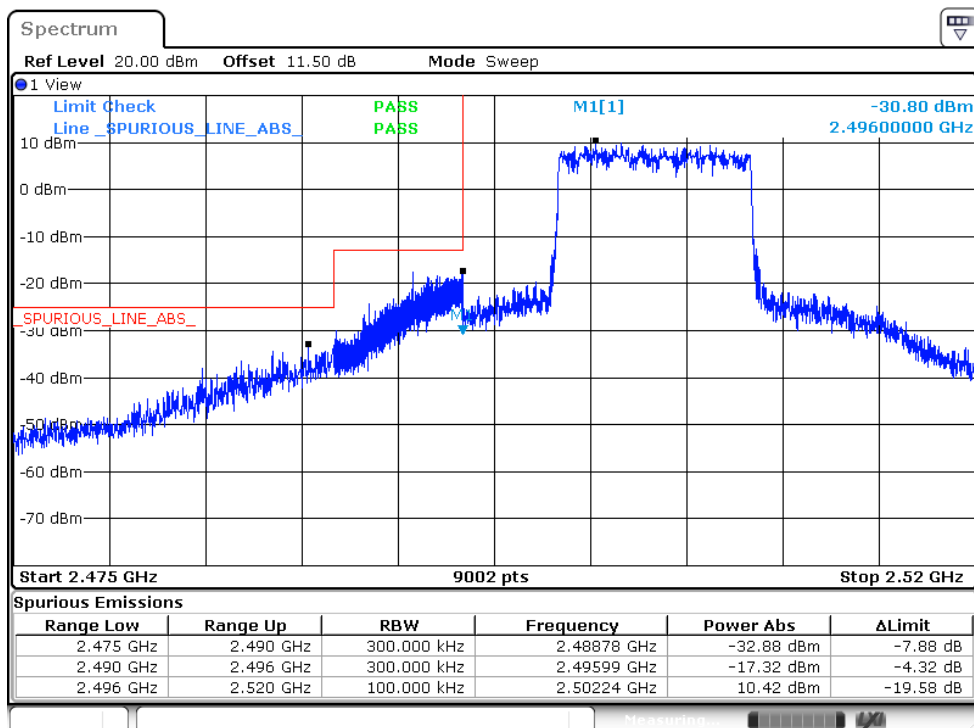
Band 7, UL Channel 20800, UL Frequency 2505.0, BW 10.0, NO. RB 1, RB POS. Low, QPSK



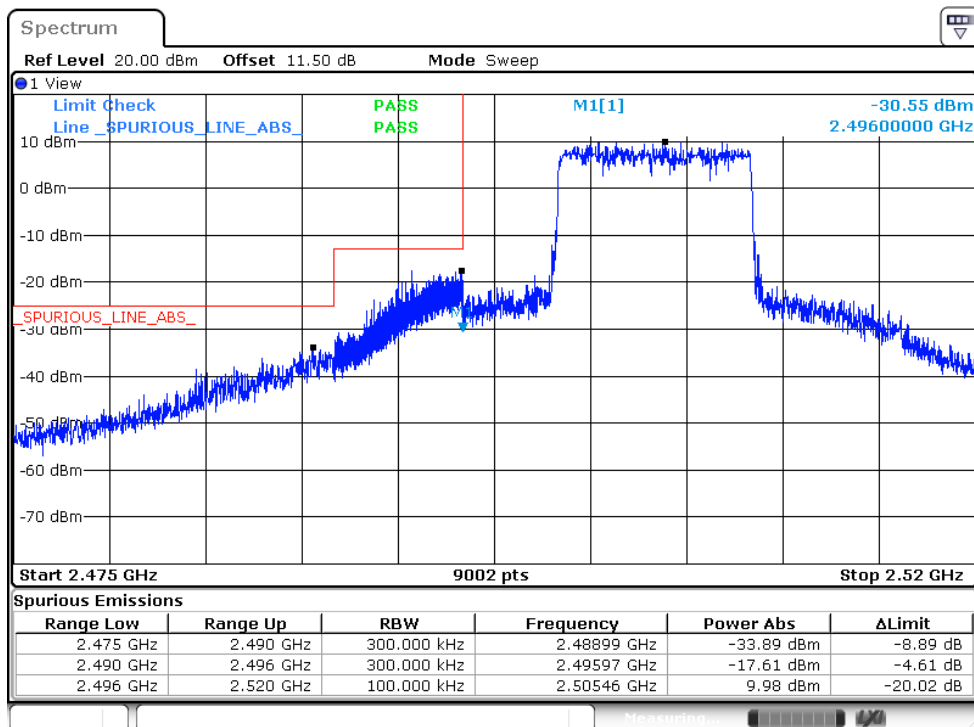
Band 7, UL Channel 20800, UL Frequency 2505.0, BW 10.0, NO. RB 1, RB POS. Low, 16QAM



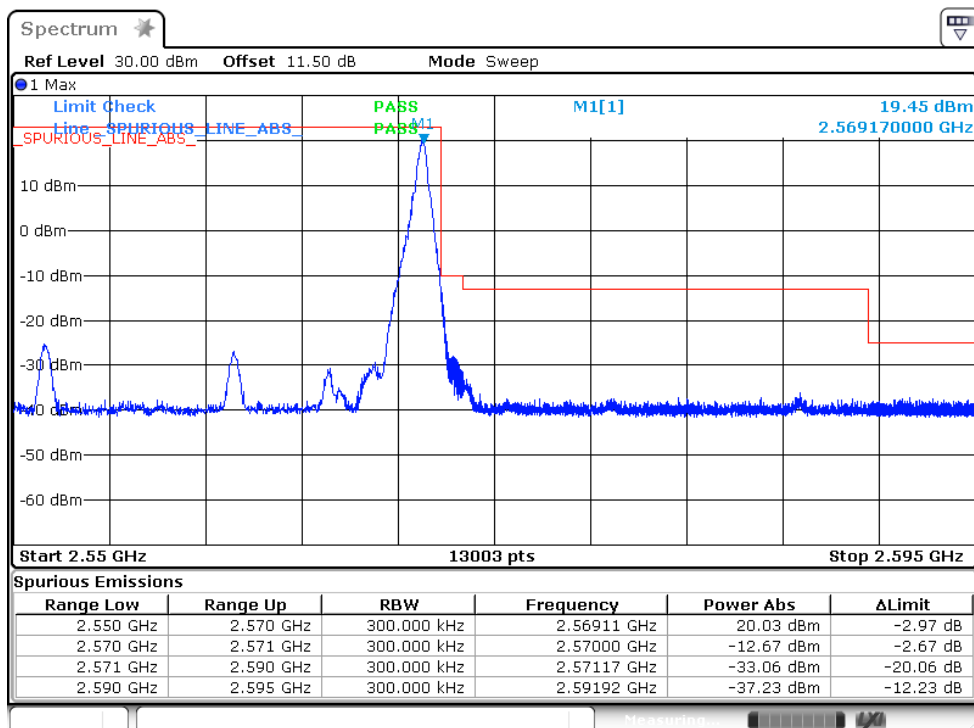
Band 7, UL Channel 20800, UL Frequency 2505.0, BW 10.0, NO. RB 50, RB POS. Low, QPSK



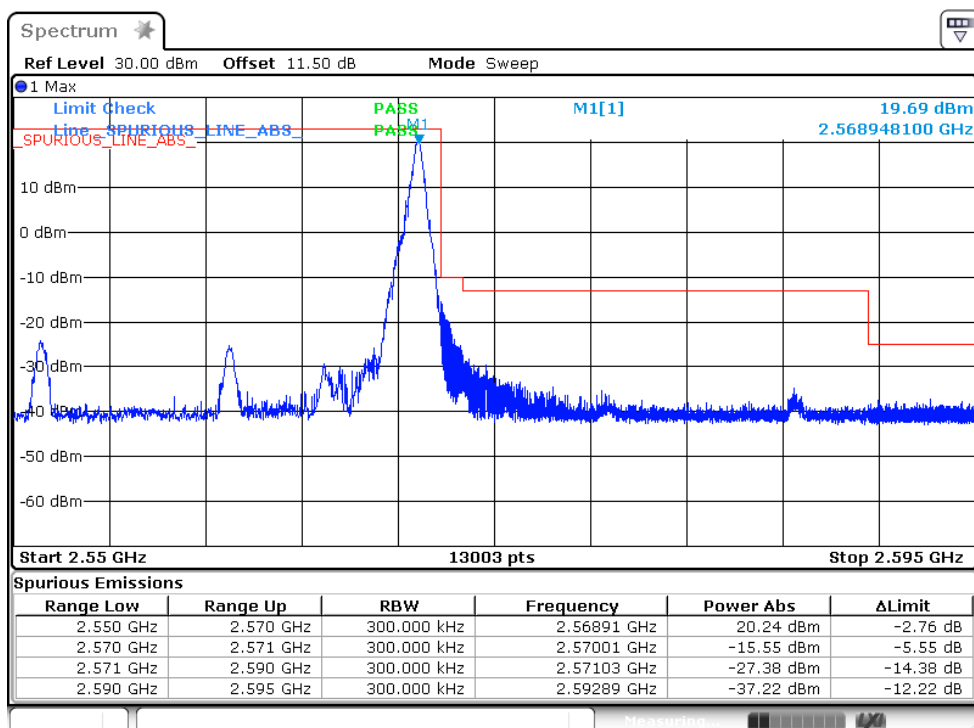
Band 7, UL Channel 20800, UL Frequency 2505.0, BW 10.0, NO. RB 50, RB POS. Low, 16QAM



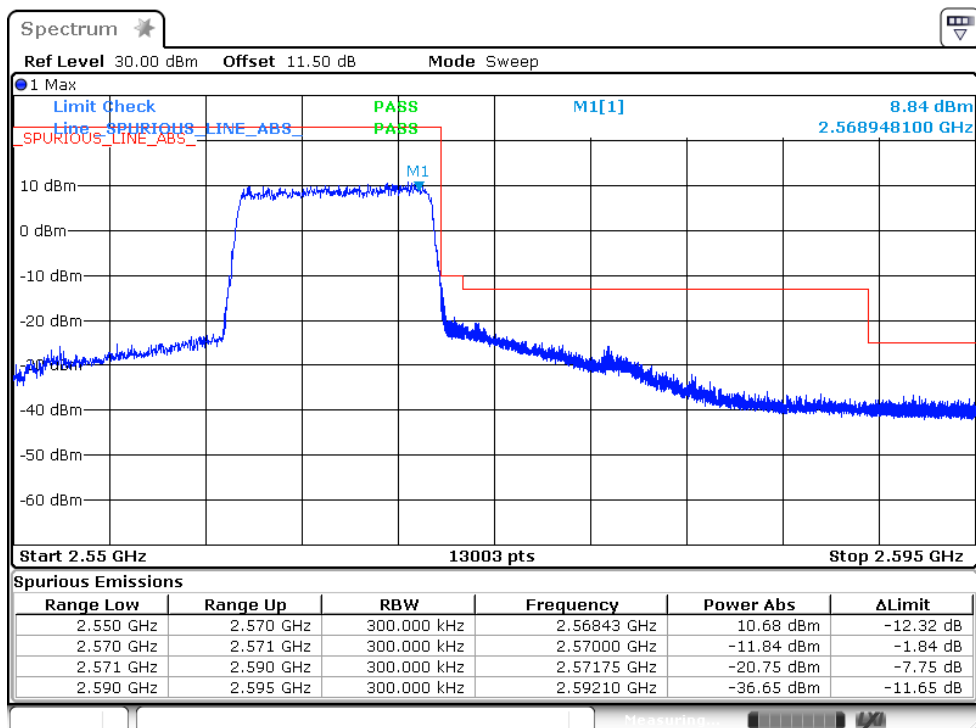
Band 7, UL Channel 21400, UL Frequency 2565.0, BW 10.0, NO. RB 1, RB POS. High, QPSK



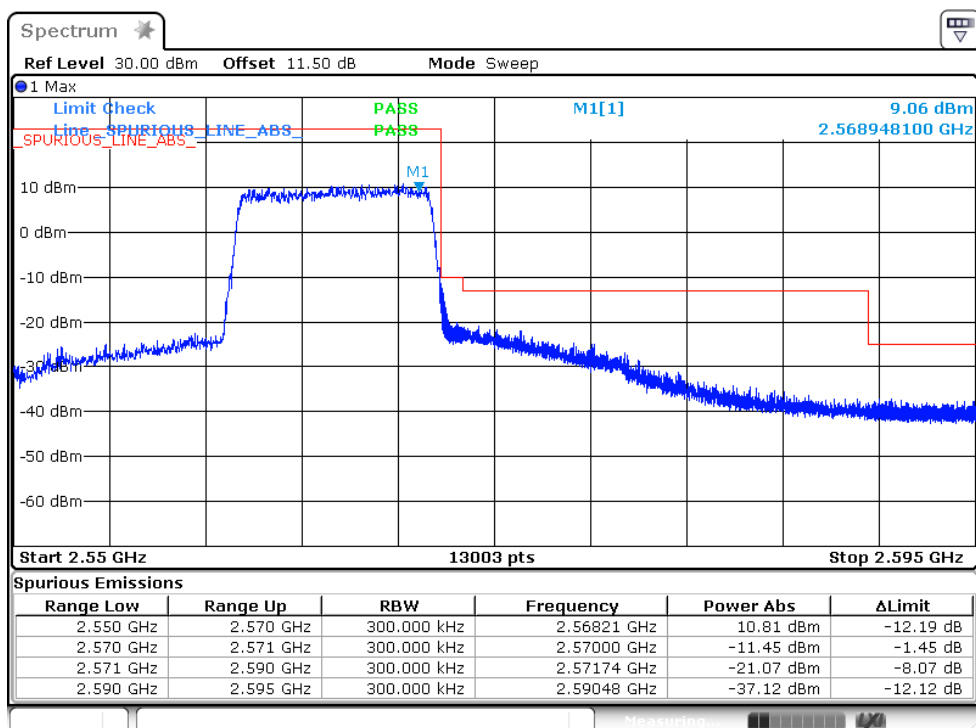
Band 7, UL Channel 21400, UL Frequency 2565.0, BW 10.0, NO. RB 1, RB POS. High, 16QAM



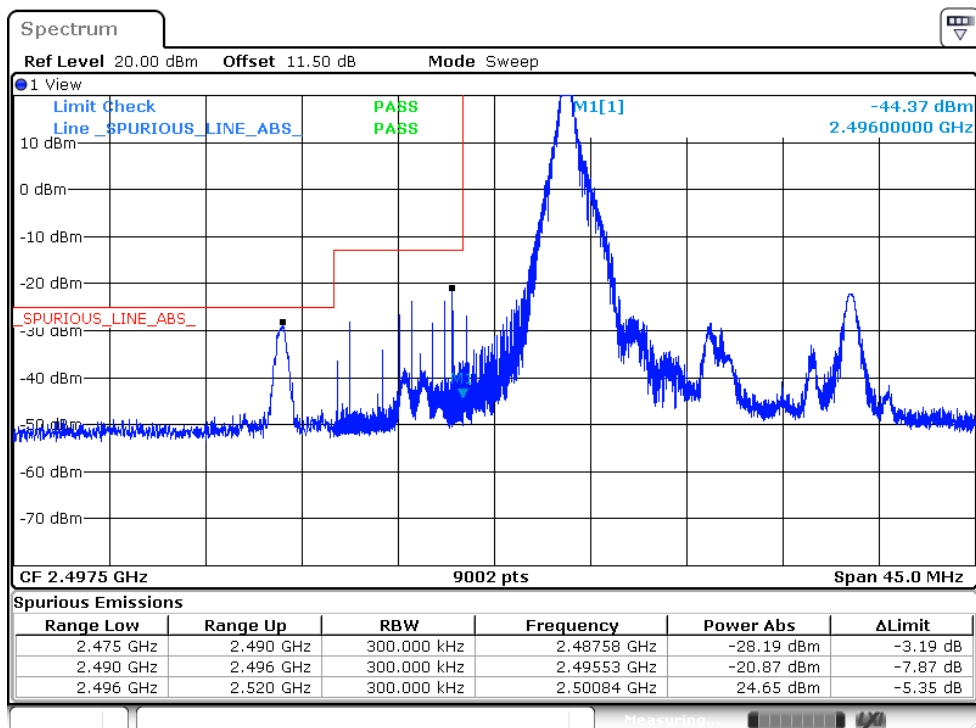
Band 7, UL Channel 21400, UL Frequency 2565.0, BW 10.0, NO. RB 50, RB POS. High, QPSK



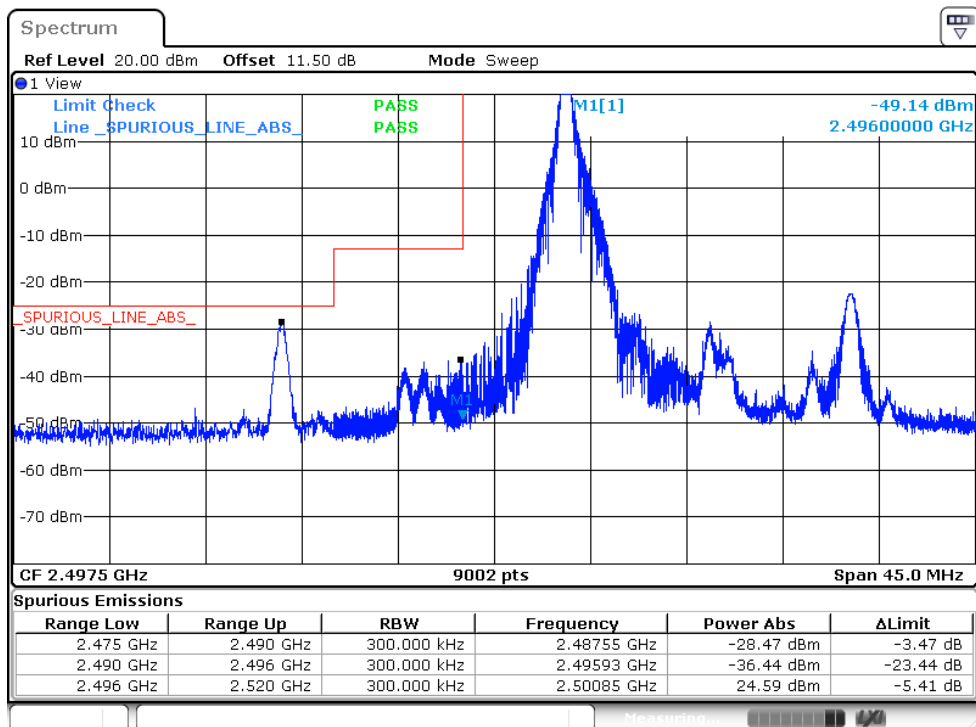
Band 7, UL Channel 21400, UL Frequency 2565.0, BW 10.0, NO. RB 50, RB POS. High, 16QAM



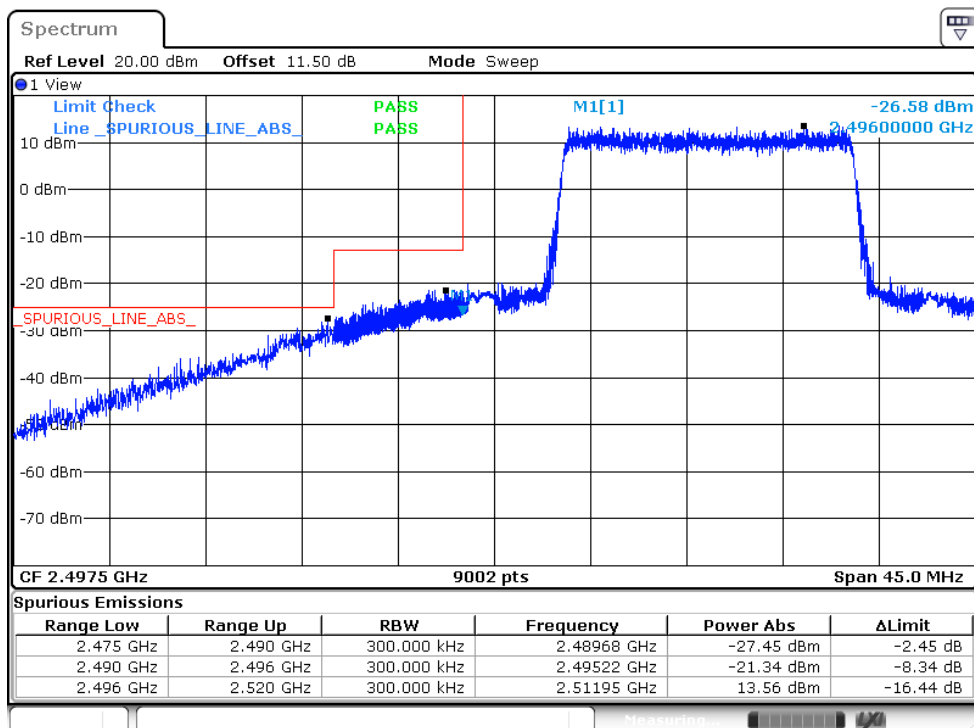
Band 7, UL Channel 20825, UL Frequency 2507.5, BW 15.0, NO. RB 1, RB POS. Low, QPSK



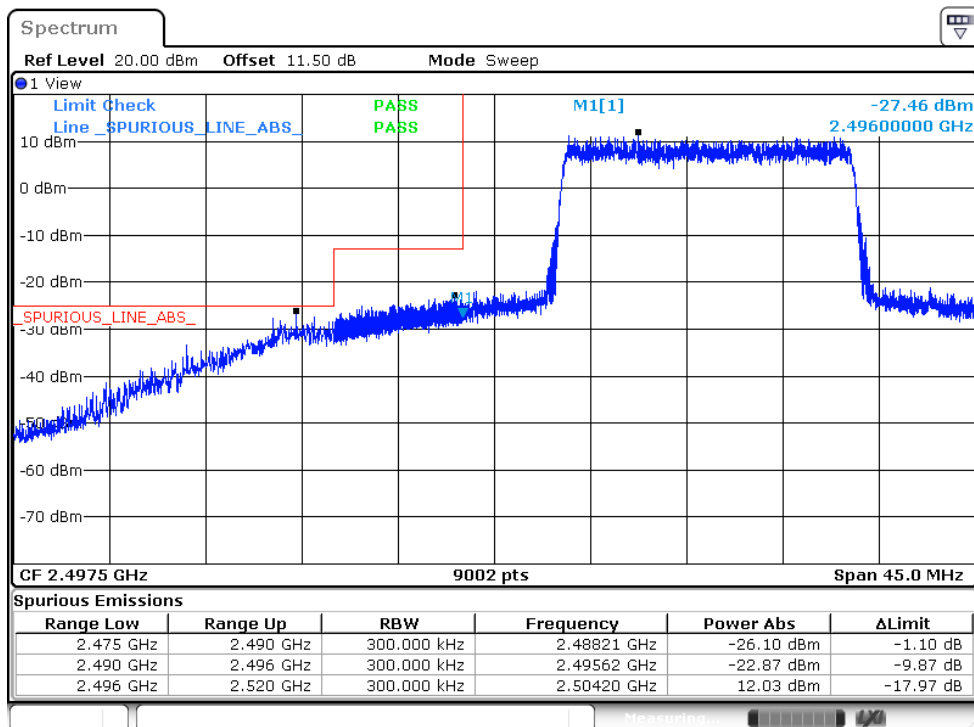
Band 7, UL Channel 20825, UL Frequency 2507.5, BW 15.0, NO. RB 1, RB POS. Low, 16QAM



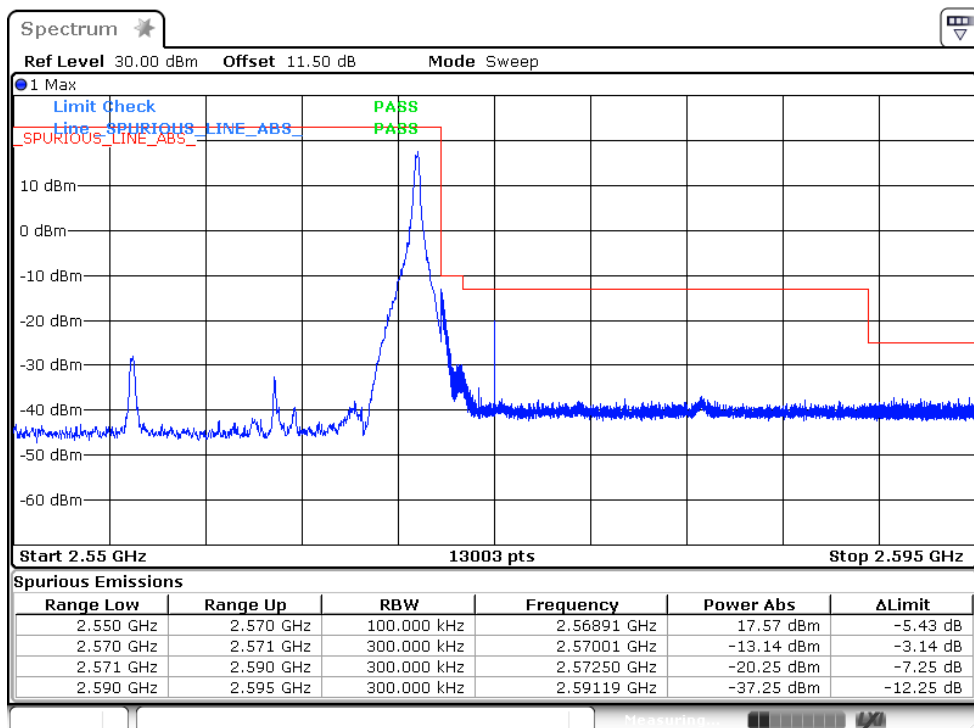
Band 7, UL Channel 20825, UL Frequency 2507.5, BW 15.0, NO. RB 75, RB POS. Low, QPSK



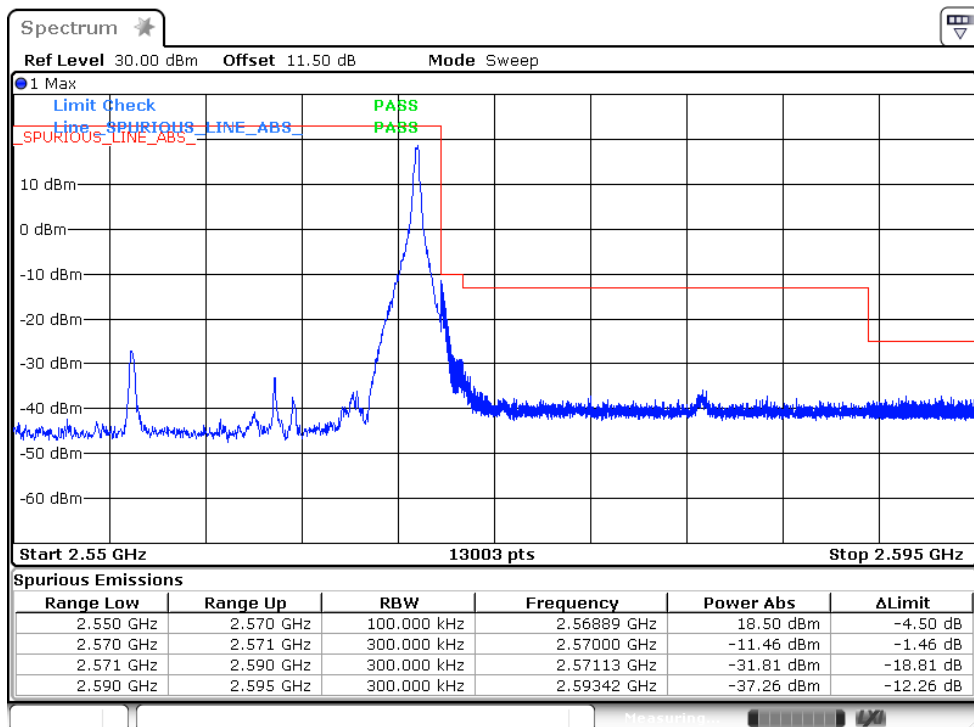
Band 7, UL Channel 20825, UL Frequency 2507.5, BW 15.0, NO. RB 75, RB POS. Low, 16QAM



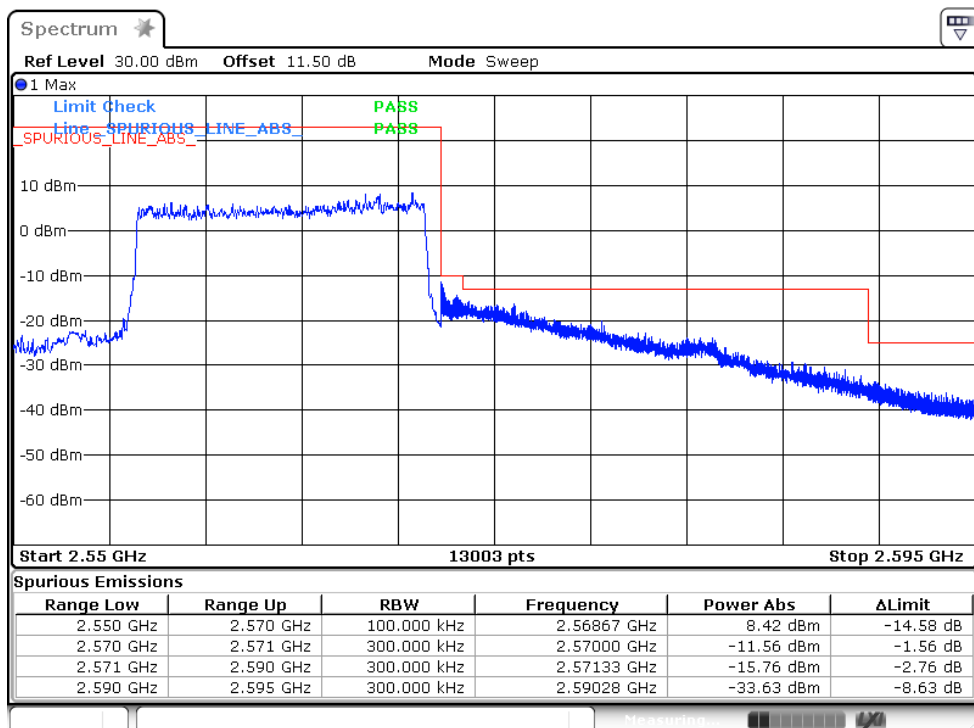
Band 7, UL Channel 21375, UL Frequency 2562.5, BW 15.0, NO. RB 1, RB POS. High, QPSK



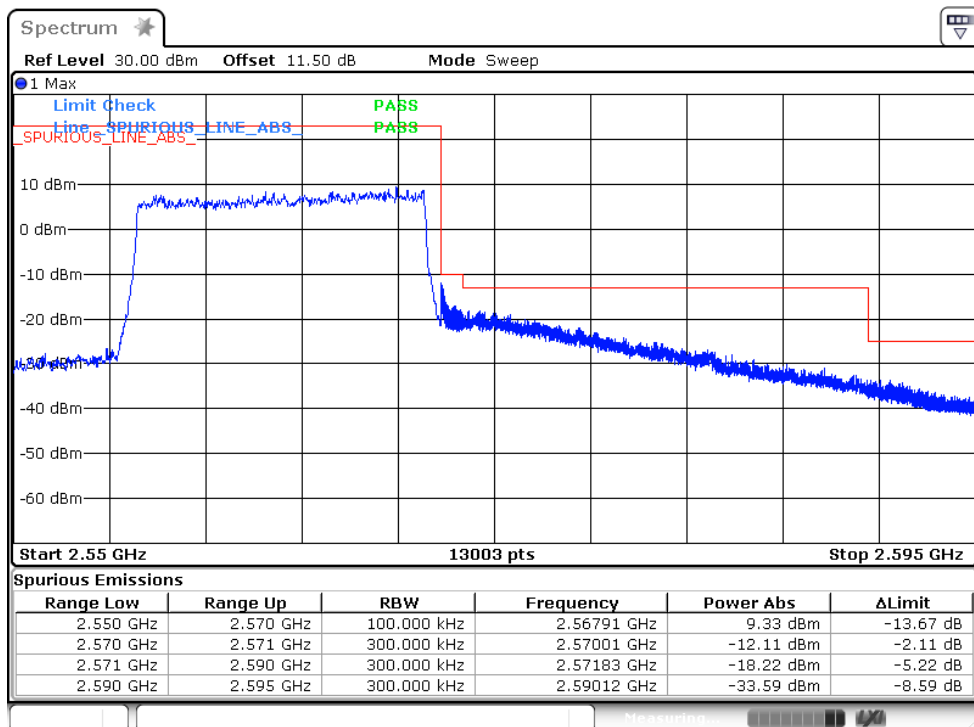
Band 7, UL Channel 21375, UL Frequency 2562.5, BW 15.0, NO. RB 1, RB POS. High, 16QAM



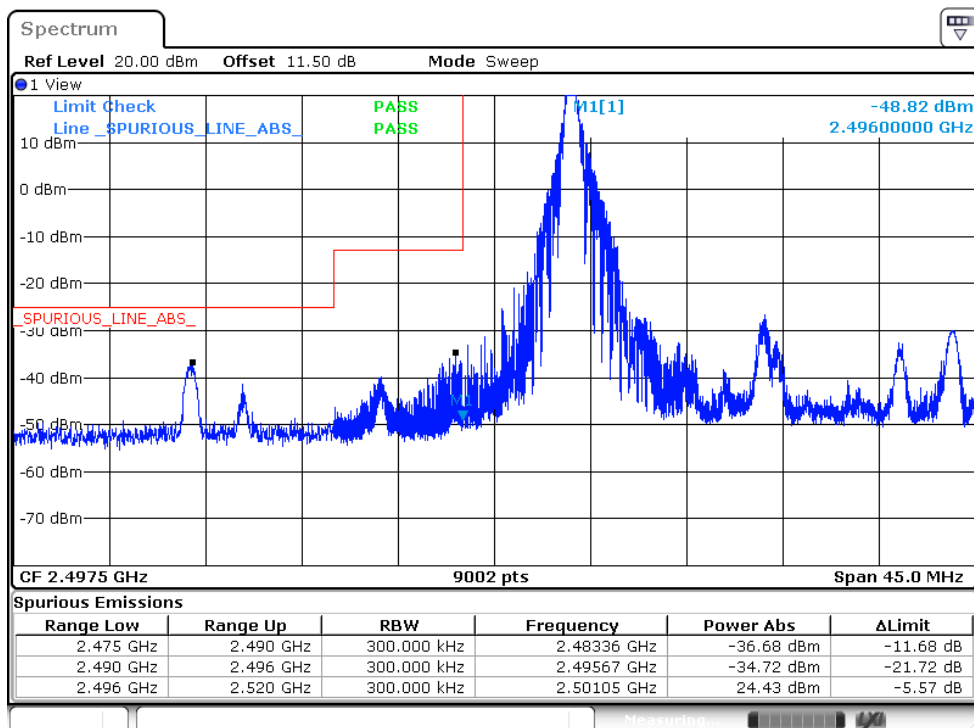
Band 7, UL Channel 21375, UL Frequency 2562.5, BW 15.0, NO. RB 75, RB POS. High, QPSK



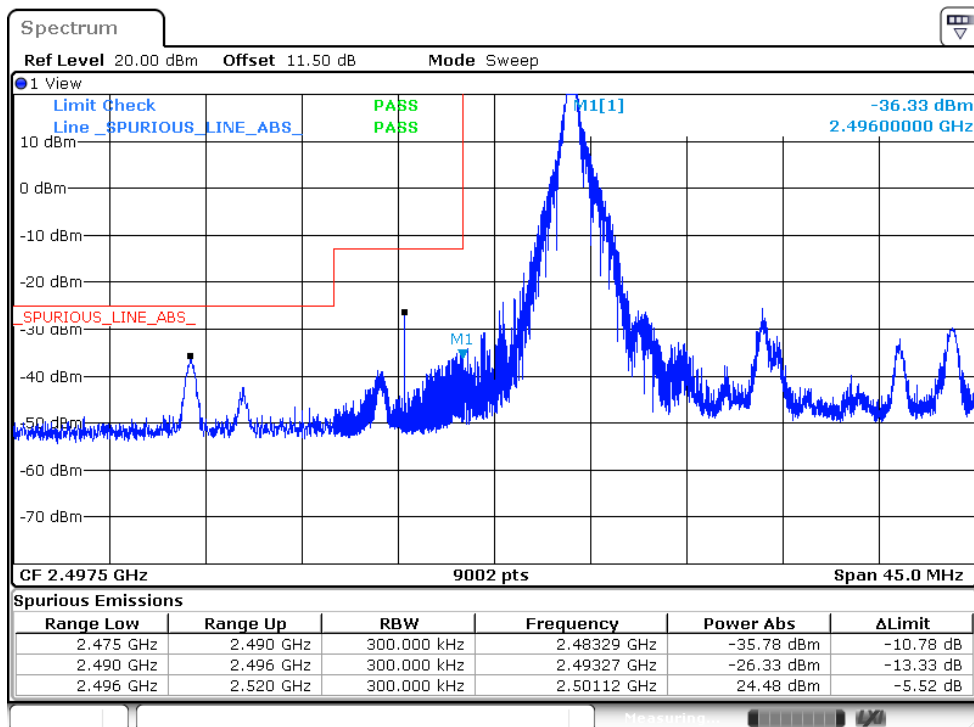
Band 7, UL Channel 21375, UL Frequency 2562.5, BW 15.0, NO. RB 75, RB POS. High, 16QAM



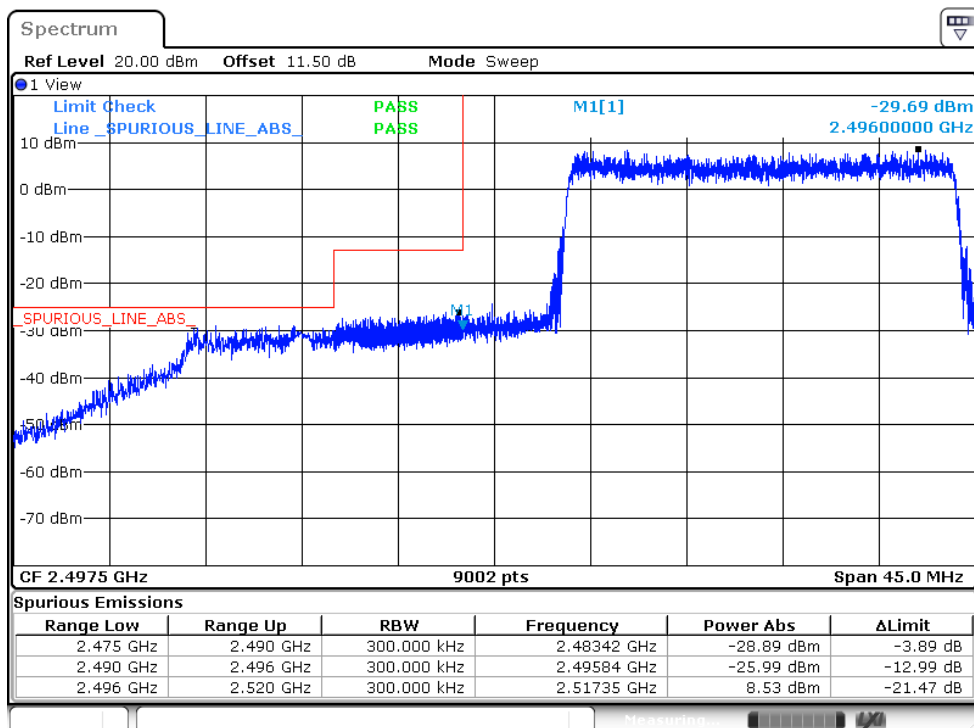
Band 7, UL Channel 20850, UL Frequency 2510.0, BW 20.0, NO. RB 1, RB POS. Low, QPSK



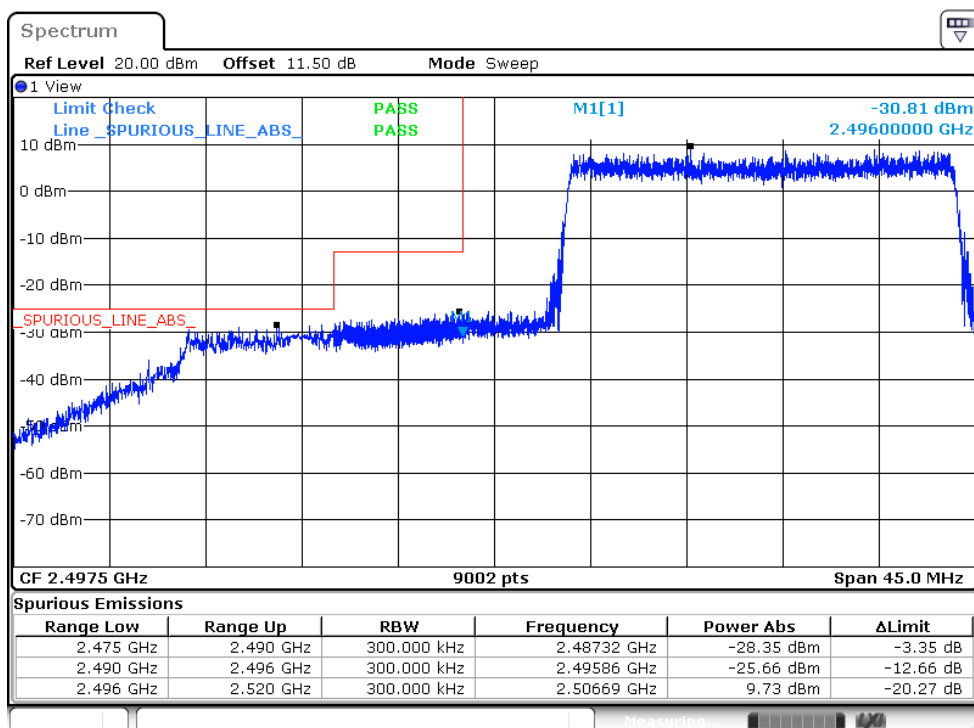
Band 7, UL Channel 20850, UL Frequency 2510.0, BW 20.0, NO. RB 1, RB POS. Low, 16QAM



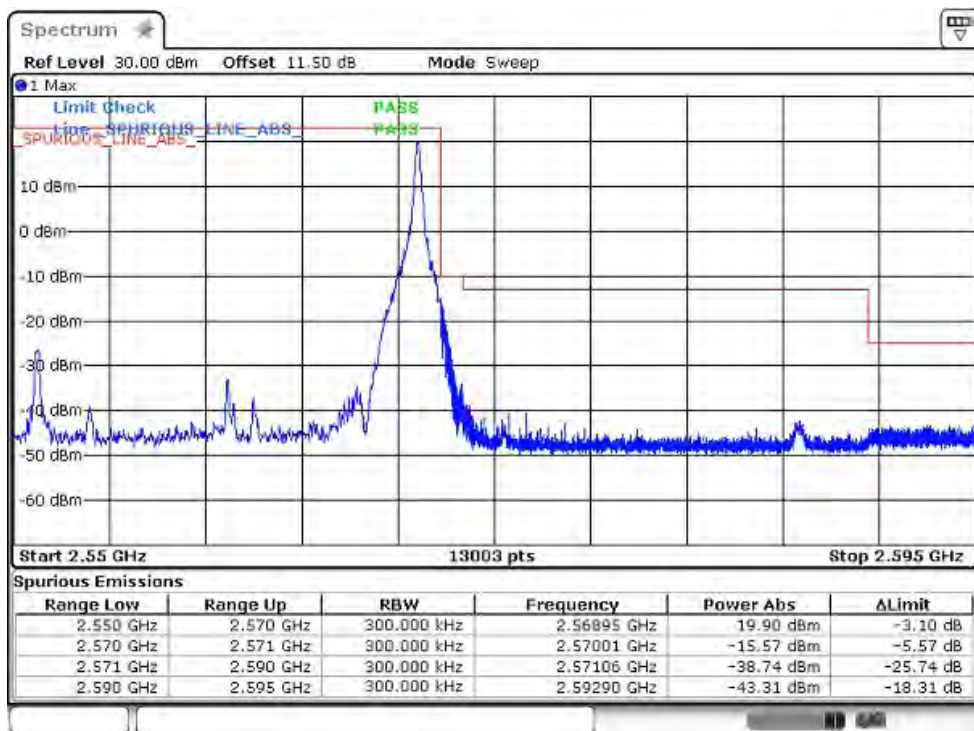
Band 7, UL Channel 20850, UL Frequency 2510.0, BW 20.0, NO. RB 100, RB POS. Low, QPSK



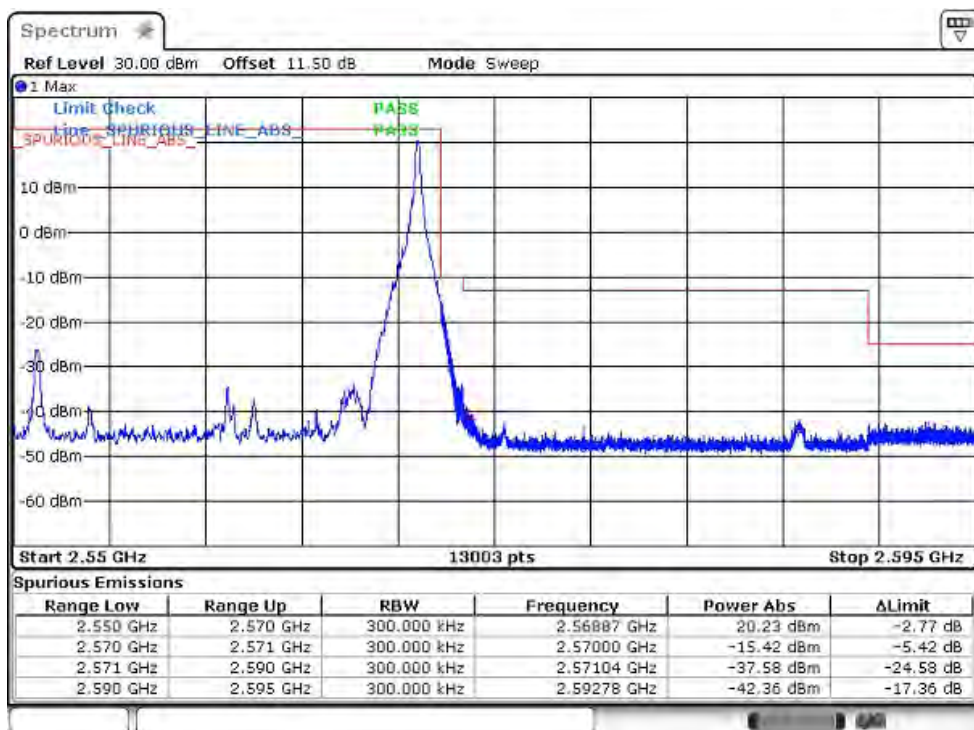
Band 7, UL Channel 20850, UL Frequency 2510.0, BW 20.0, NO. RB 100, RB POS. Low, 16QAM



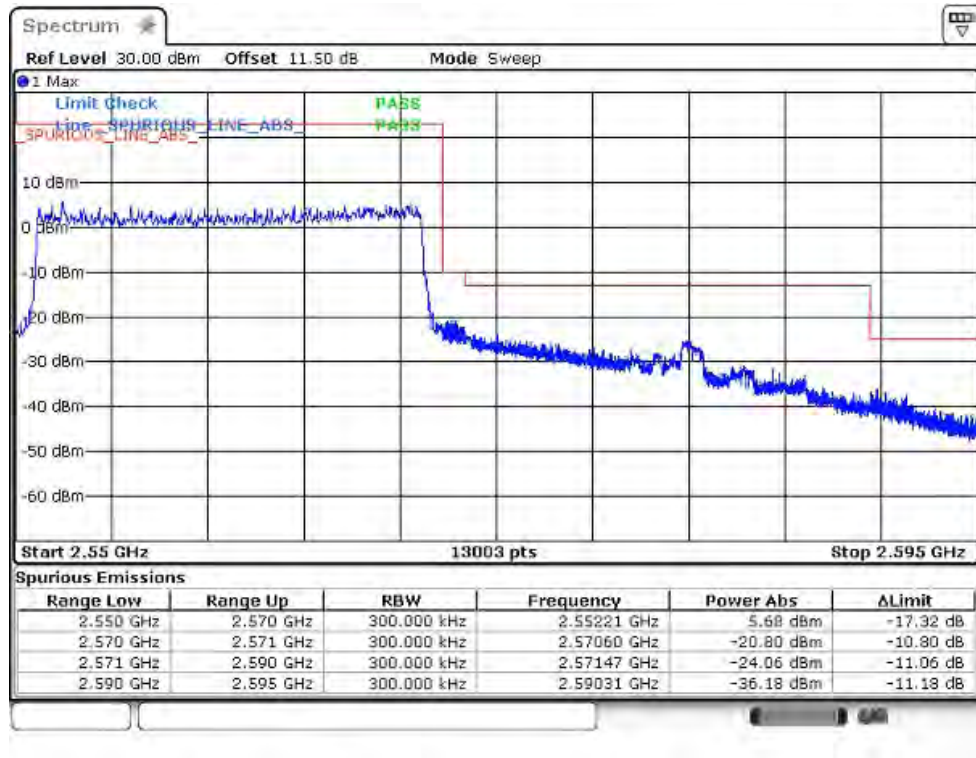
Band 7, UL Channel 21350, UL Frequency 2560.0, BW 20.0, NO. RB 1, RB POS. High, QPSK



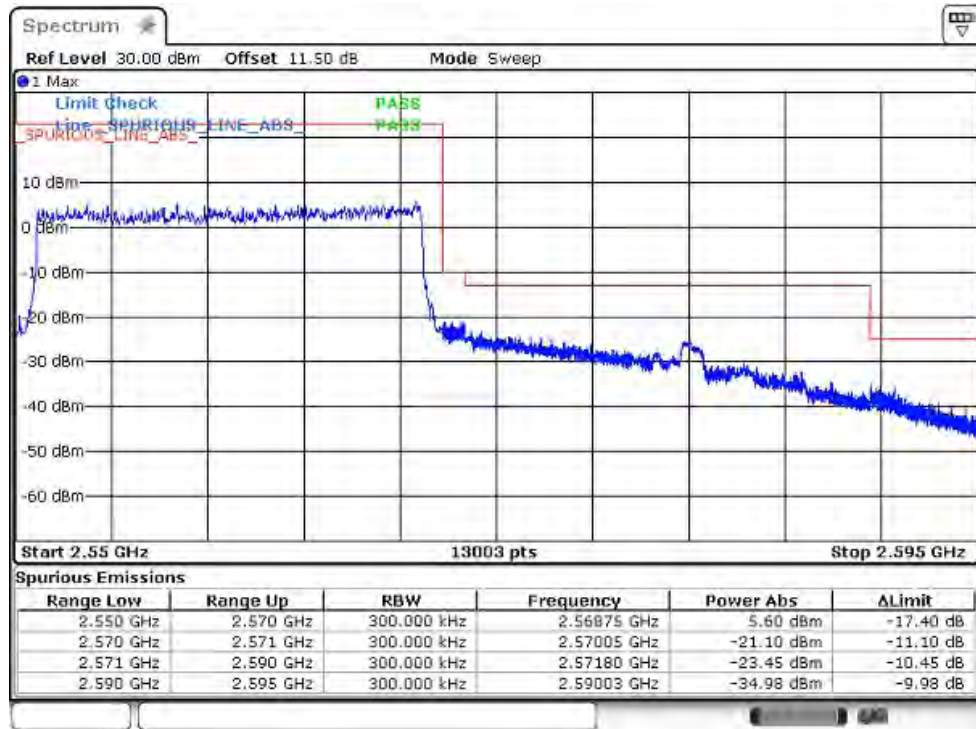
Band 7, UL Channel 21350, UL Frequency 2560.0, BW 20.0, NO. RB 1, RB POS. High, 16QAM



Band 7, UL Channel 21350, UL Frequency 2560.0, BW 20.0, NO. RB 100, RB POS. High, QPSK

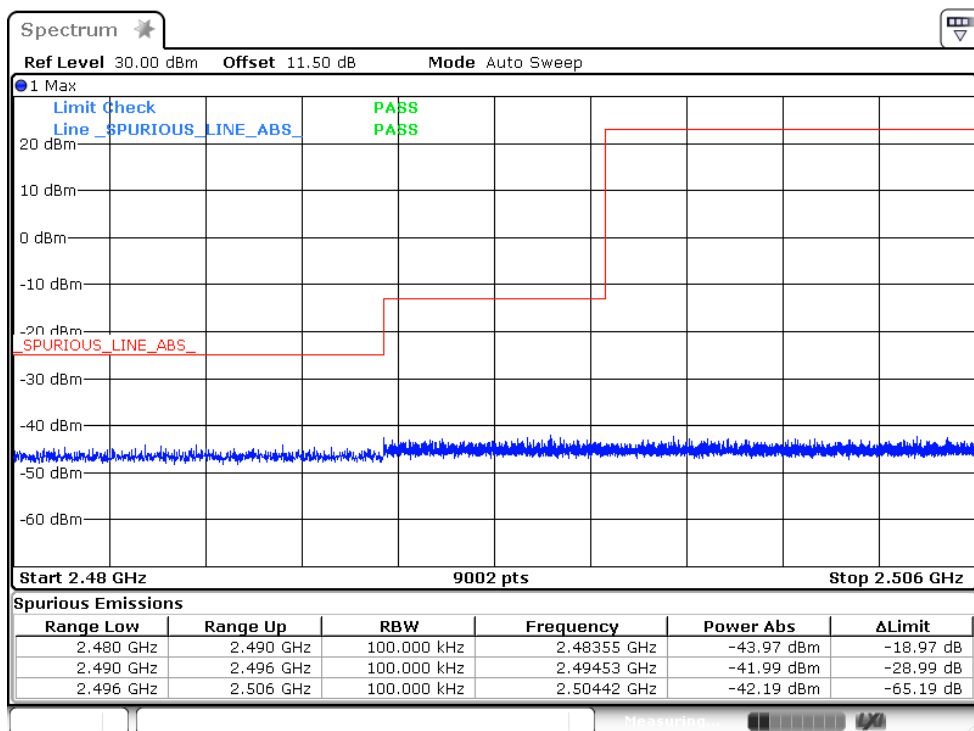


Band 7, UL Channel 21350, UL Frequency 2560.0, BW 20.0, NO. RB 100, RB POS. High, 16QAM

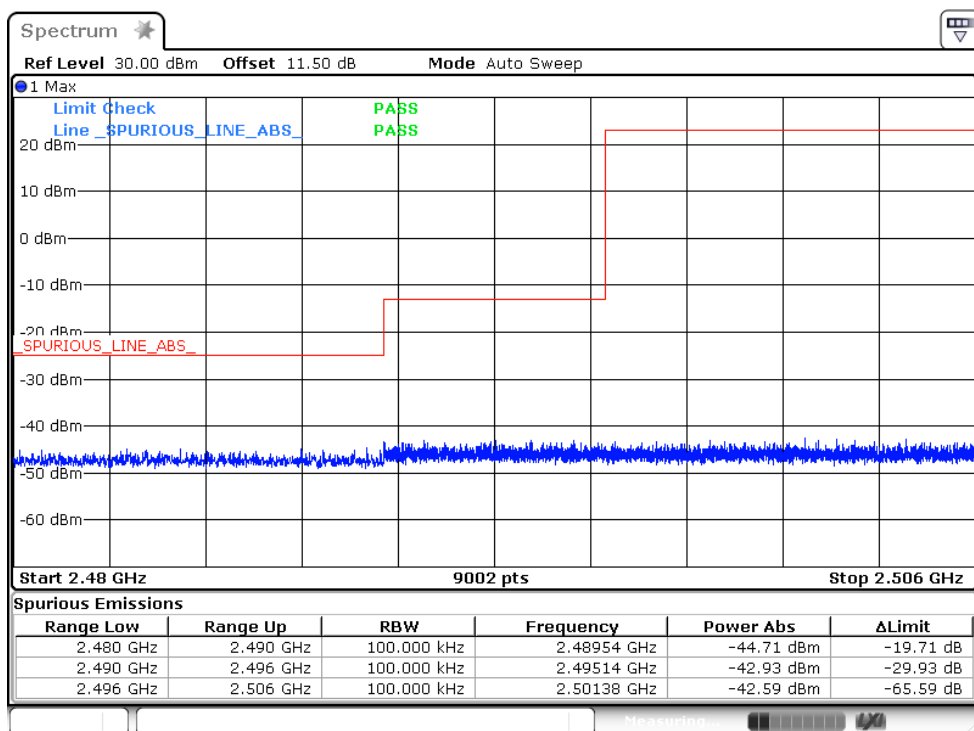


6.3 LTE BAND 41

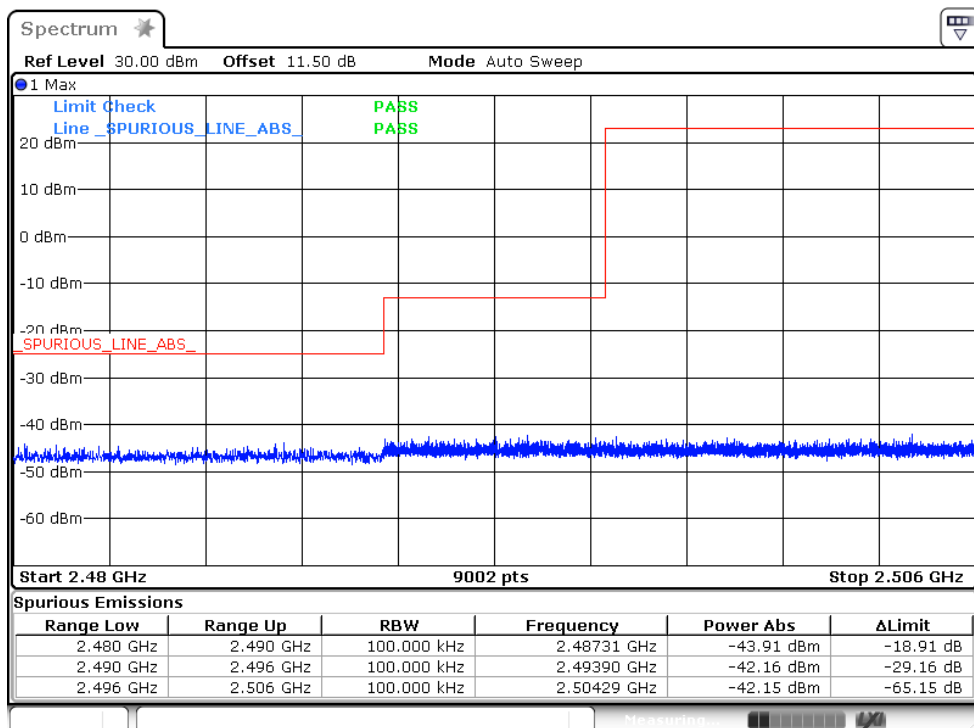
Band 41, UL Channel 40240, UL Frequency 2555.0, BW 5.0, NO. RB 1, RB POS. Low, QPSK



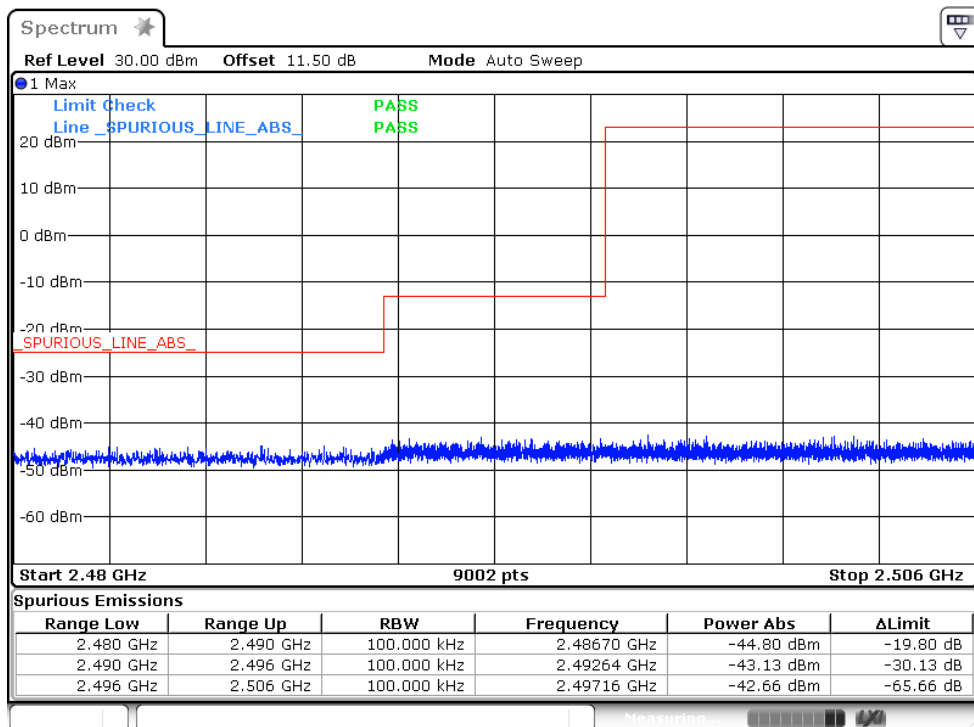
Band 41, UL Channel 40240, UL Frequency 2555.0, BW 5.0, NO. RB 1, RB POS. Low, 16QAM



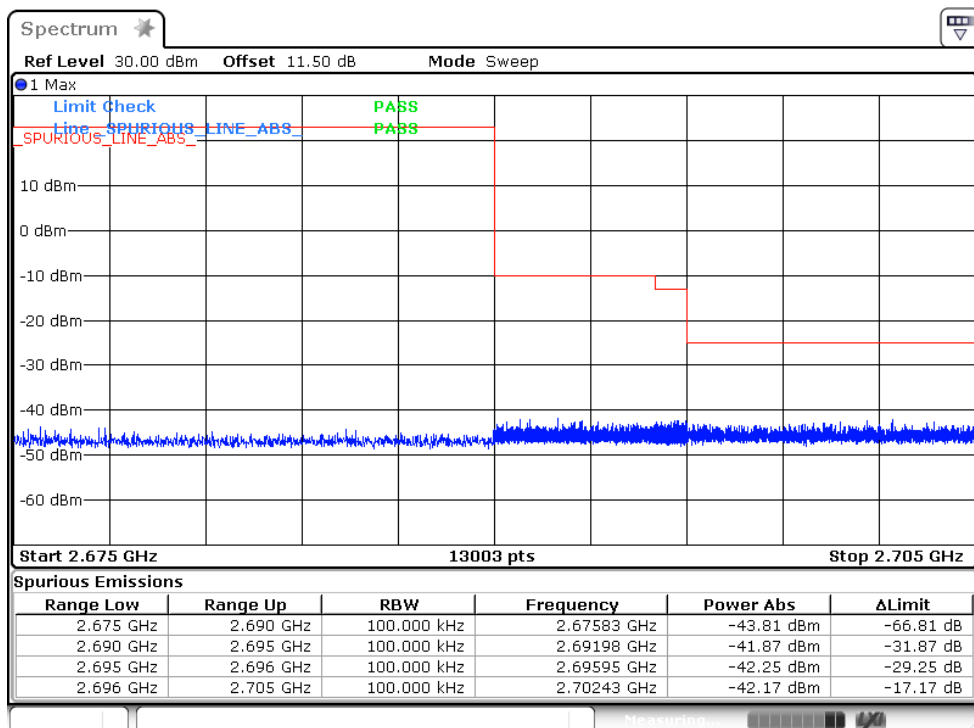
Band 41, UL Channel 40240, UL Frequency 2555.0, BW 5.0, NO. RB 25, RB POS. Low, QPSK



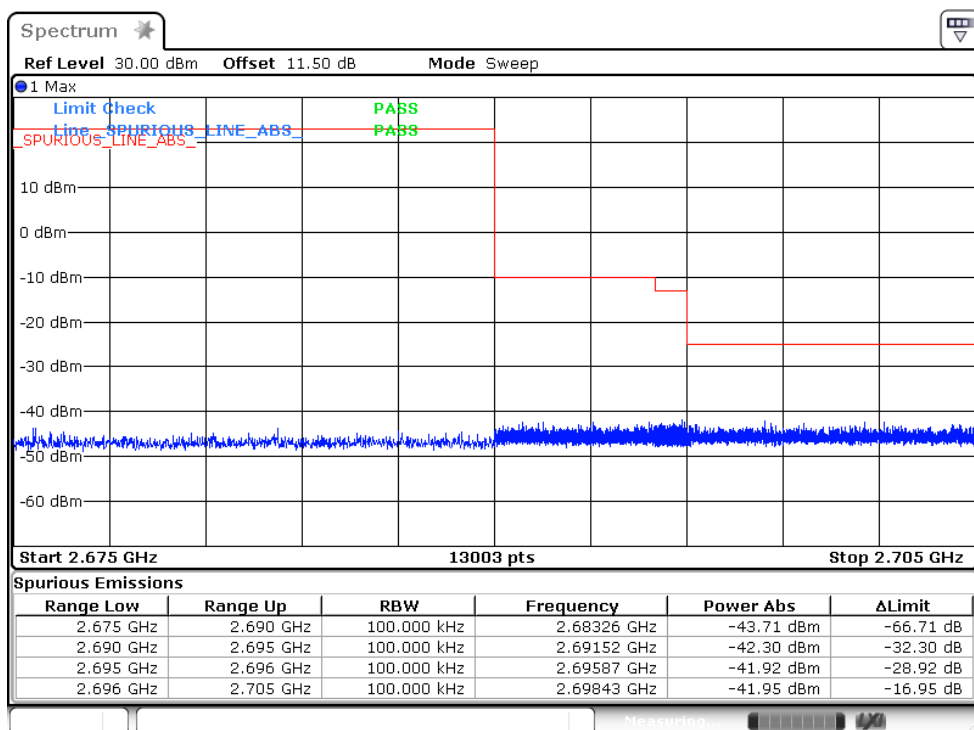
Band 41, UL Channel 40240, UL Frequency 2555.0, BW 5.0, NO. RB 25, RB POS. Low, 16QAM



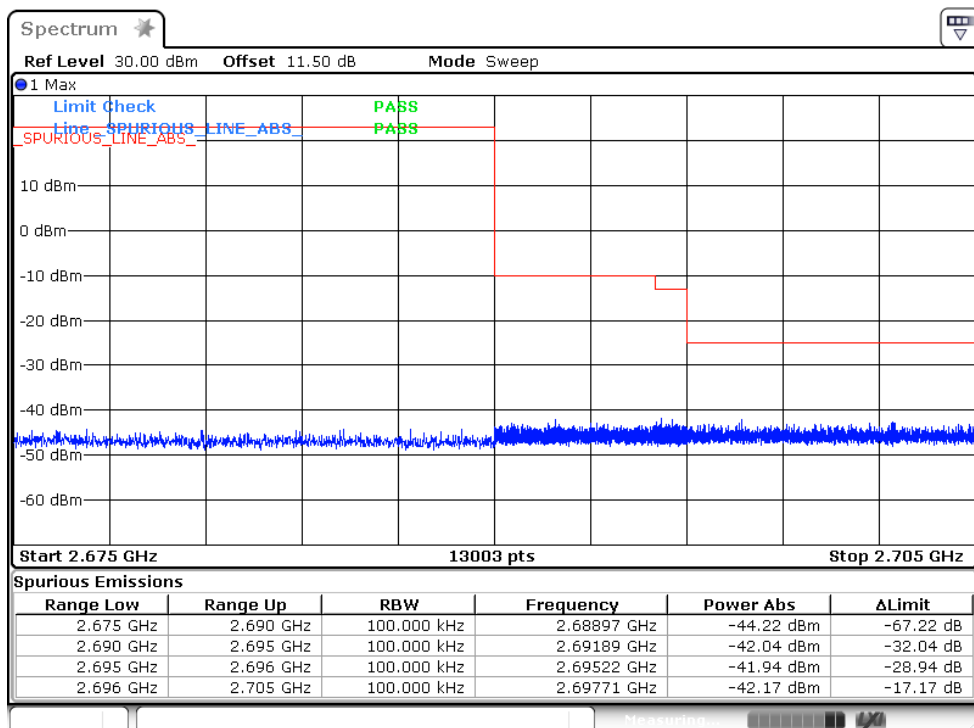
Band 41, UL Channel 41240, UL Frequency 2655.0, BW 5.0, NO. RB 1, RB POS. Low, QPSK



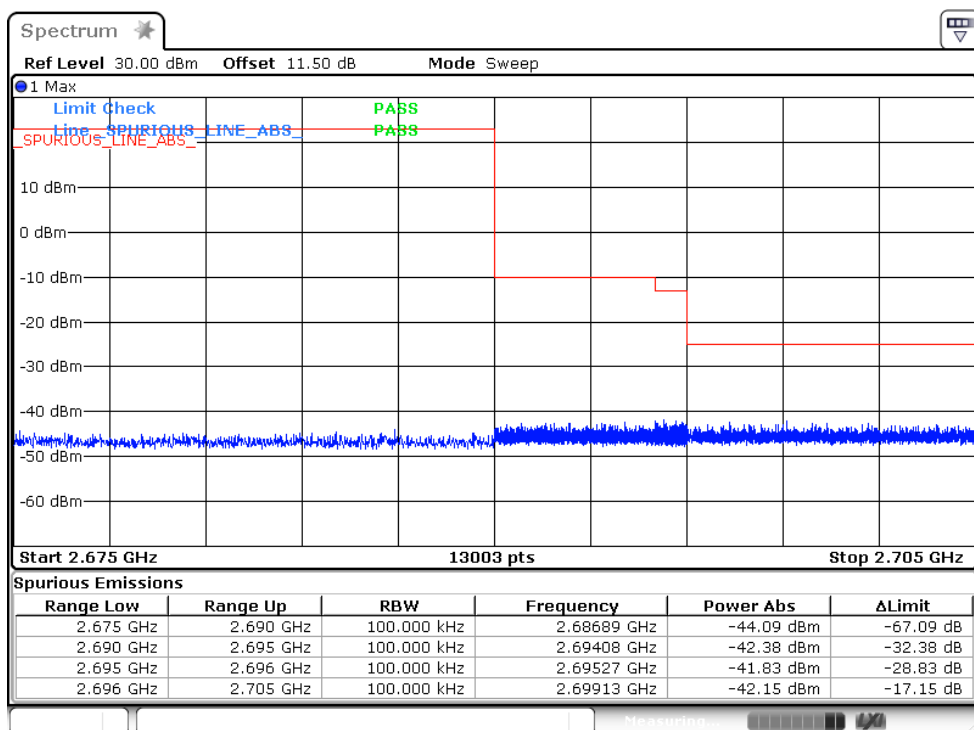
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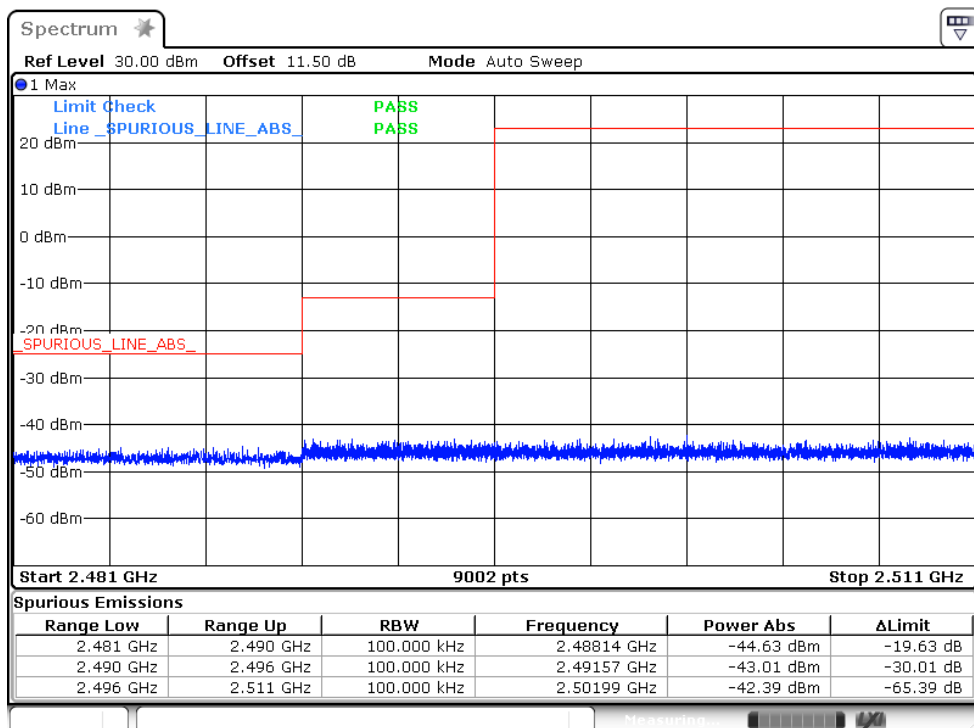
Band 41, UL Channel 41240, UL Frequency 2655.0, BW 5.0, NO. RB 25, RB POS. High, QPSK



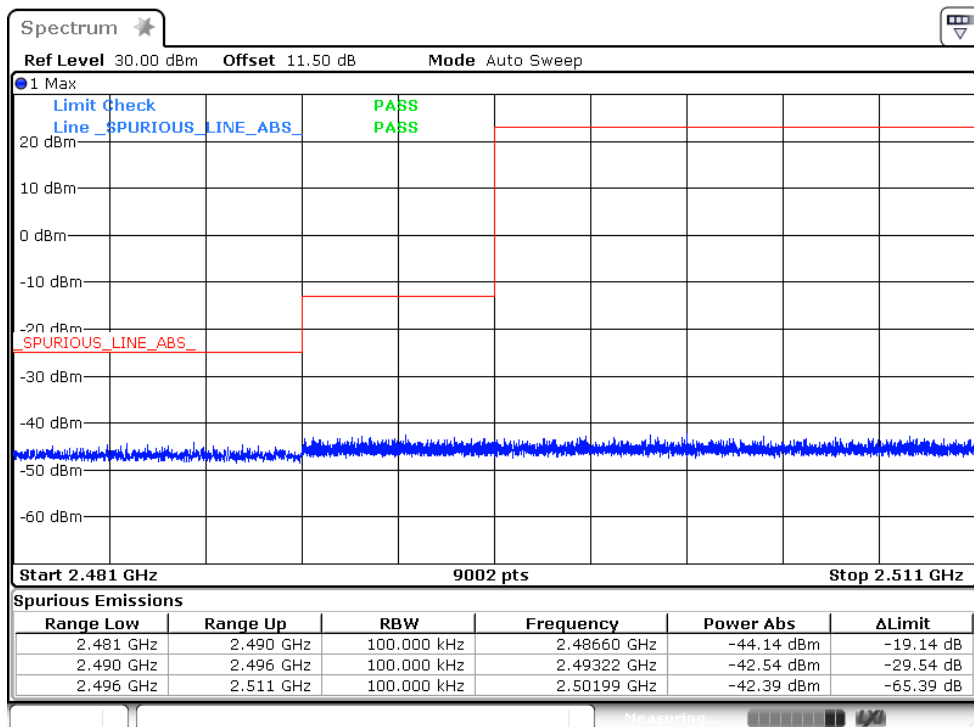
Band 41, UL Channel 41240, UL Frequency 2655.0, BW 5.0, NO. RB 25, RB POS. High, 16QAM



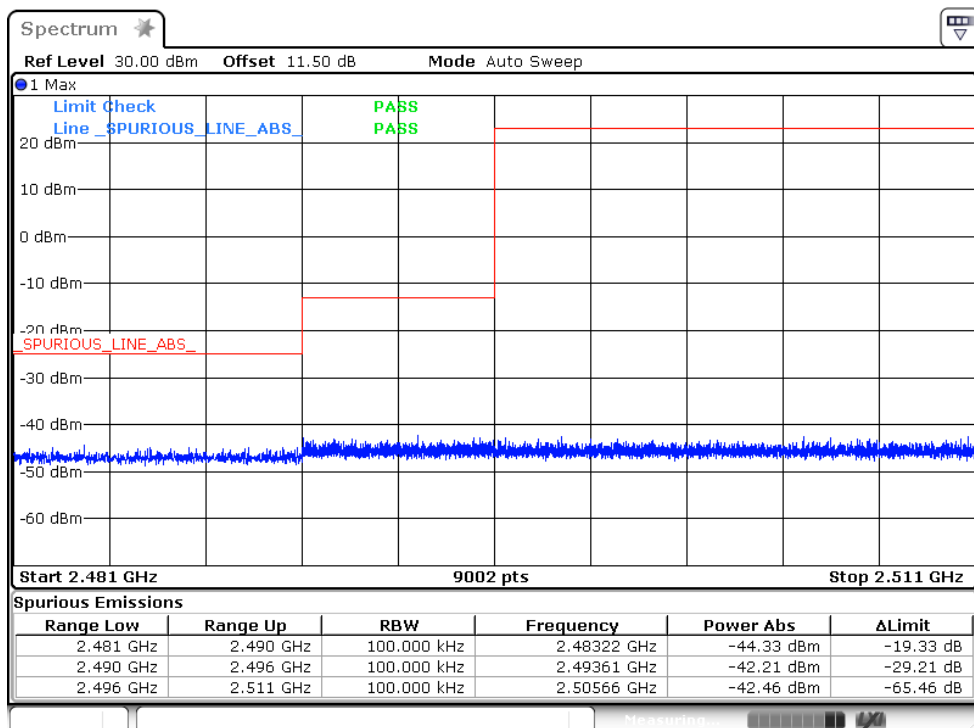
Band 41, UL Channel 40265, UL Frequency 2557.5, BW 10.0, NO. RB 1, RB POS. Low, QPSK



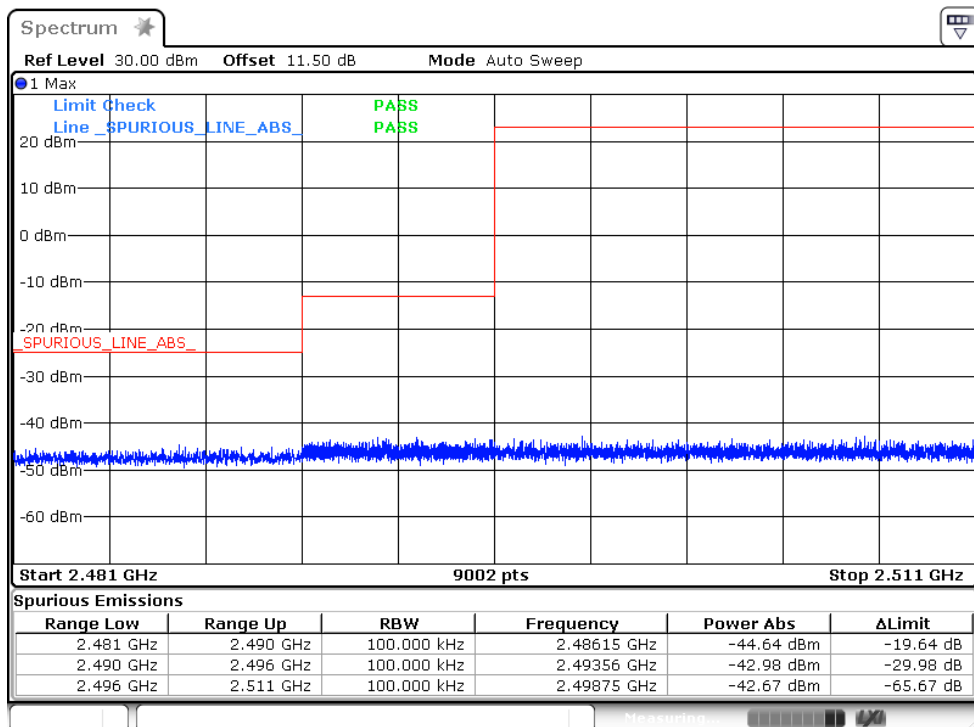
Band 41, UL Channel 40265, UL Frequency 2557.5, BW 10.0, NO. RB 1, RB POS. Low, 16QAM



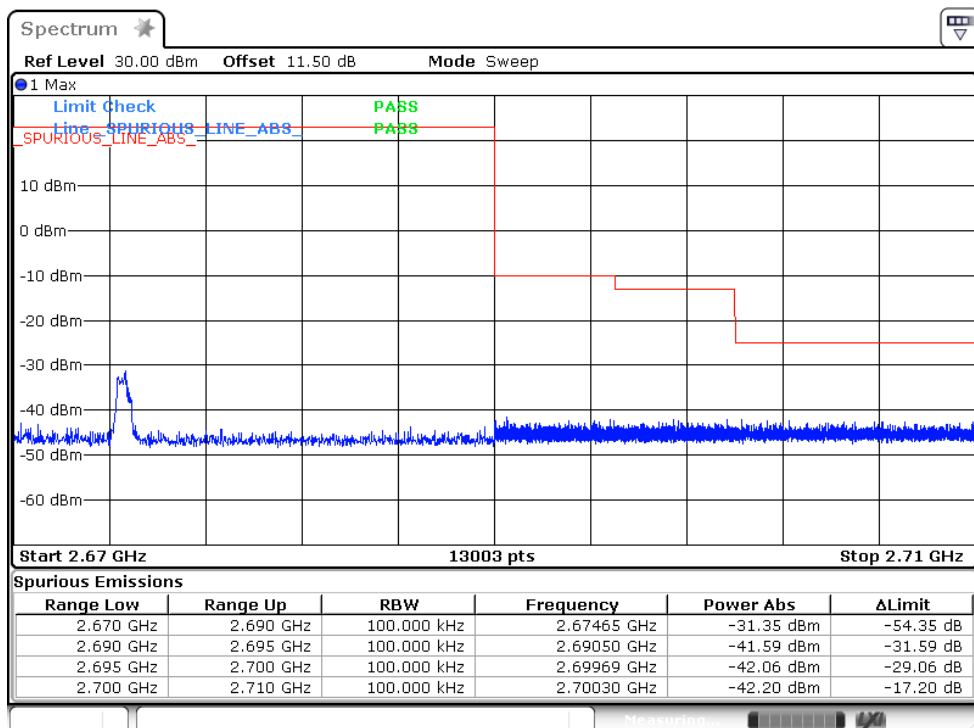
Band 41, UL Channel 40265, UL Frequency 2557.5, BW 10.0, NO. RB 50, RB POS. Low, QPSK



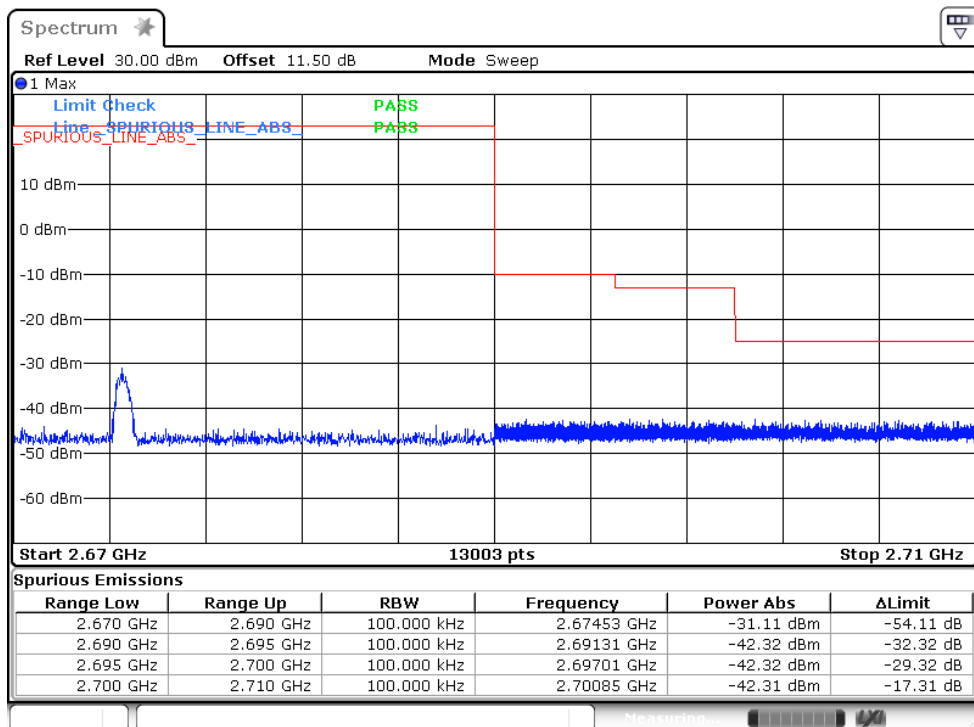
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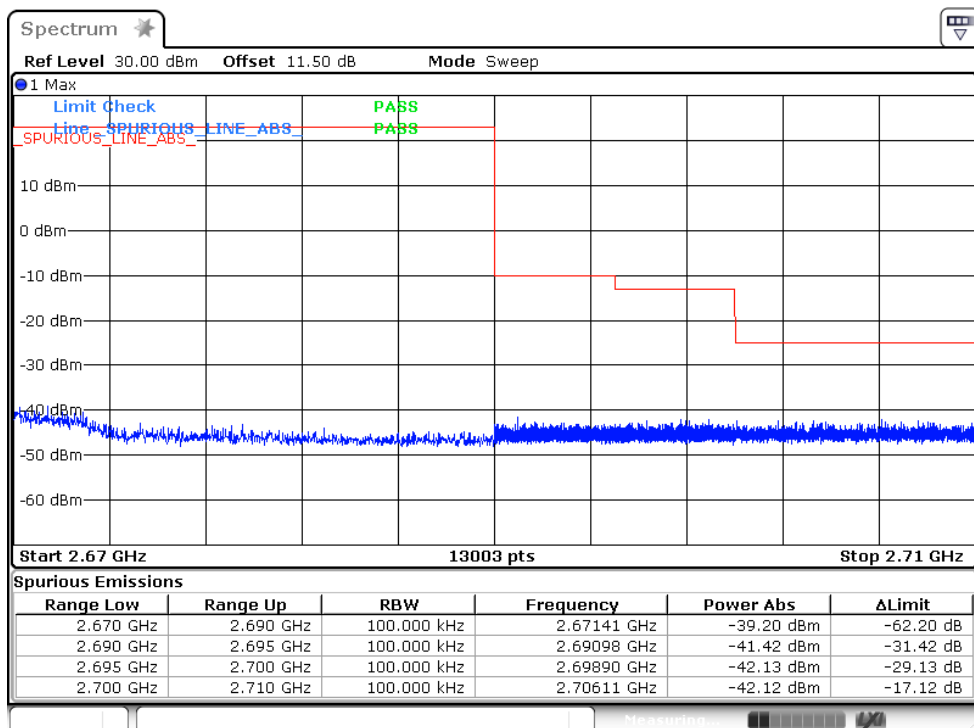
Band 41, UL Channel 41215, UL Frequency 2652.5, BW 10.0, NO. RB 1, RB POS. High, QPSK



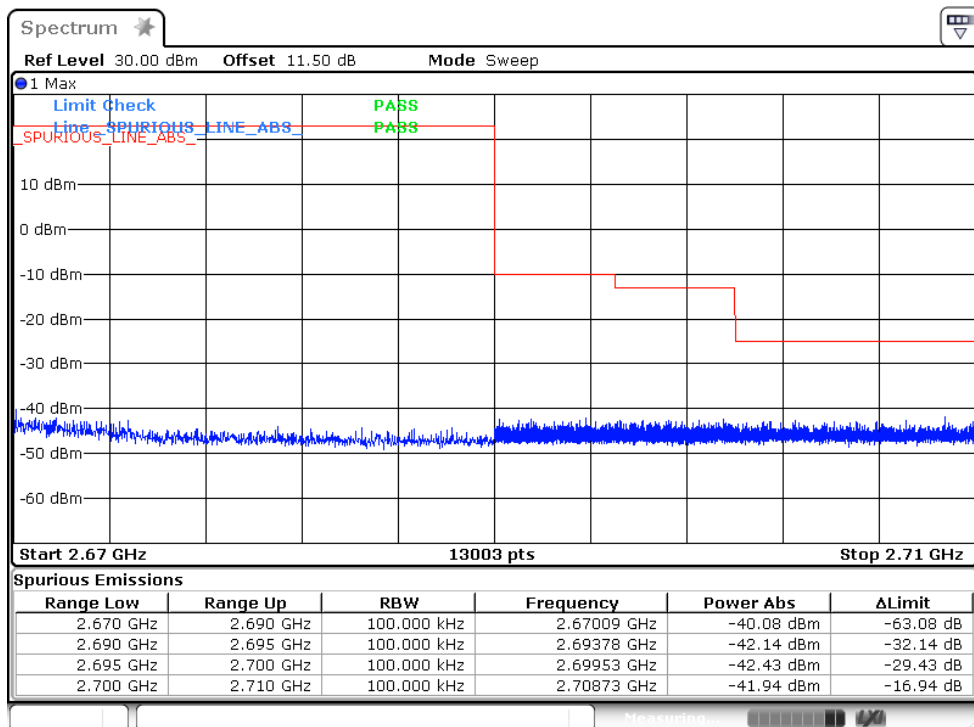
Band 41, UL Channel 41215, UL Frequency 2652.5, BW 10.0, NO. RB 1, RB POS. High, 16QAM



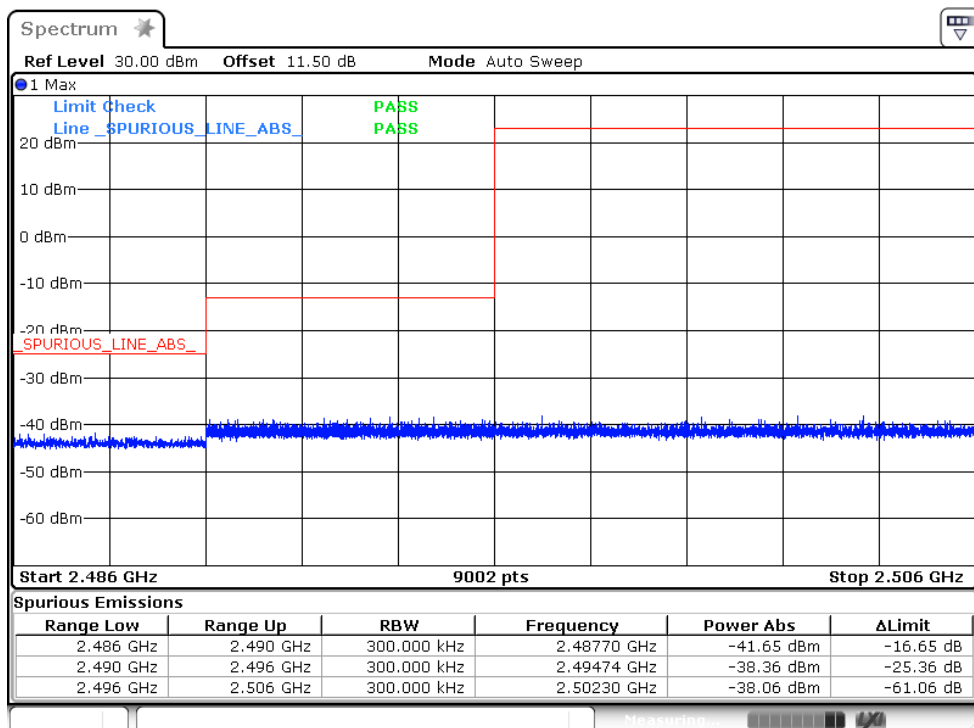
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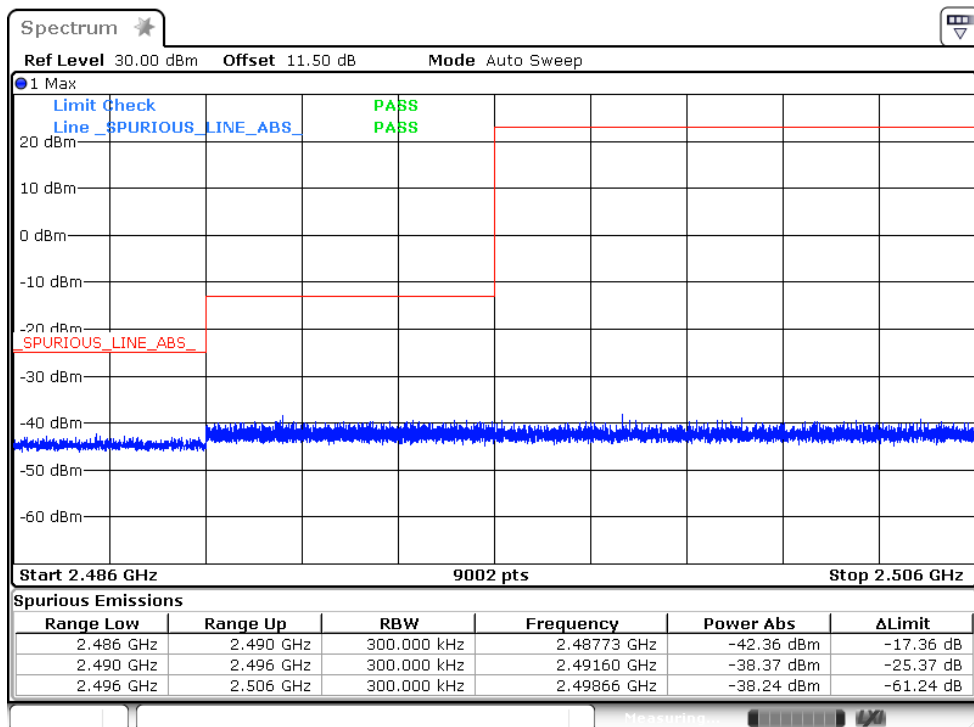
Band 41, UL Channel 41215, UL Frequency 2652.5, BW 10.0, NO. RB 50, RB POS. High, 16QAM



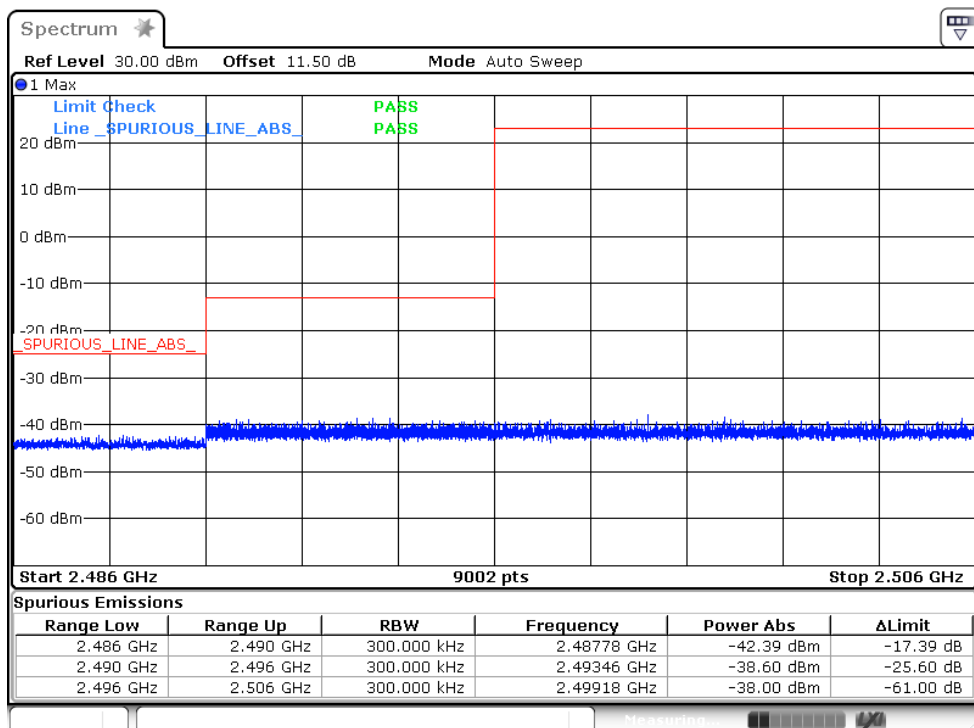
Band 41, UL Channel 40290, UL Frequency 2560.0, BW 15.0, NO. RB 1, RB POS. Low, QPSK



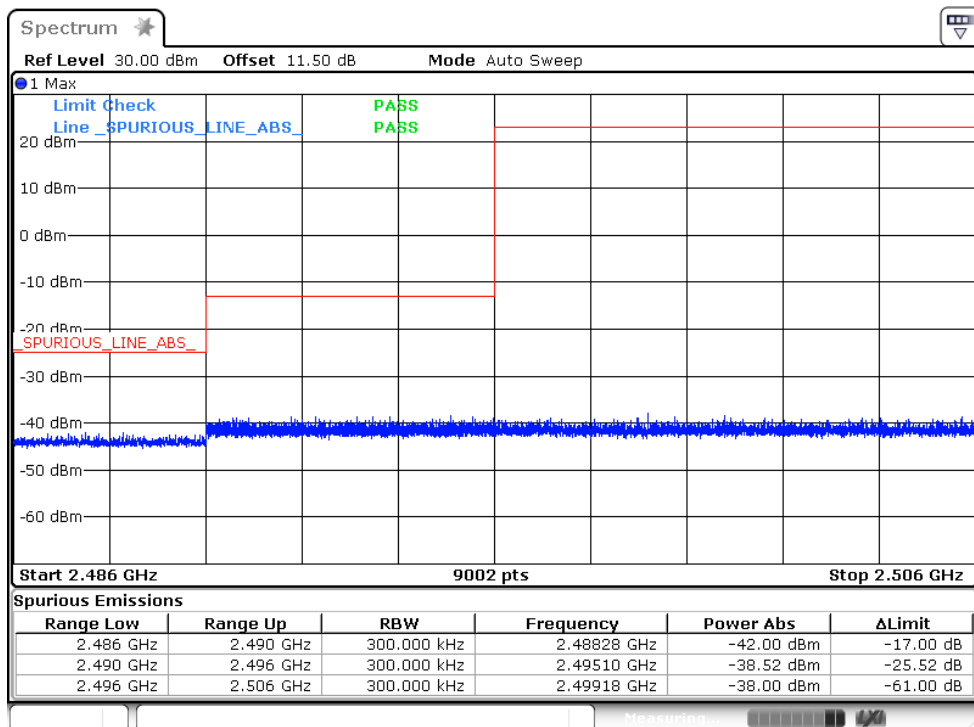
Band 41, UL Channel 40290, UL Frequency 2560.0, BW 15.0, NO. RB 1, RB POS. Low, 16QAM



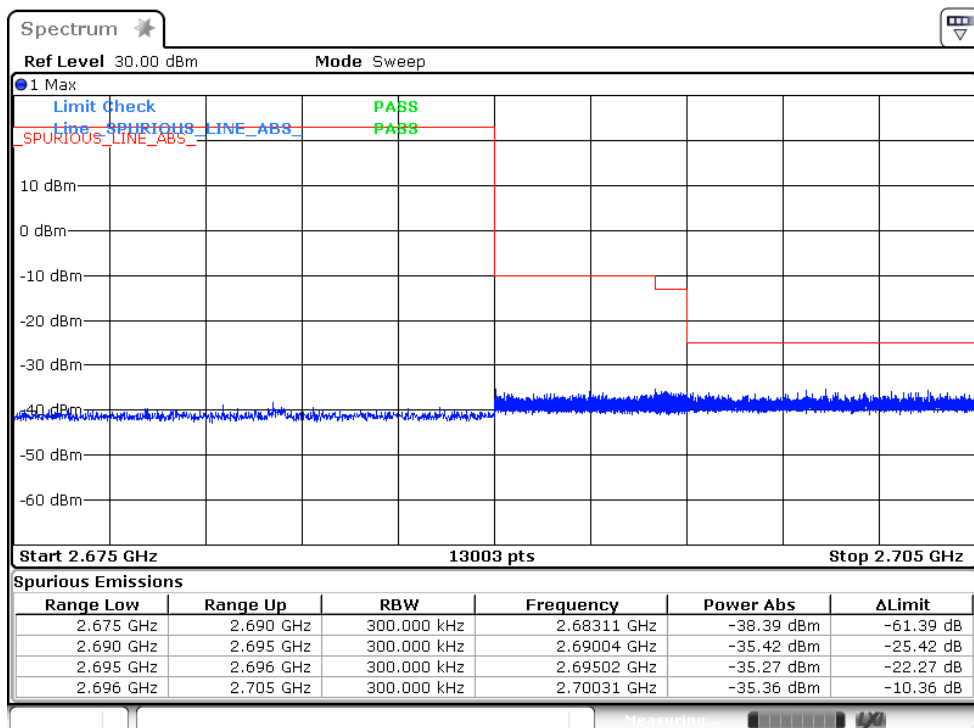
Band 41, UL Channel 40290, UL Frequency 2560.0, BW 15.0, NO. RB 75, RB POS. Low, QPSK



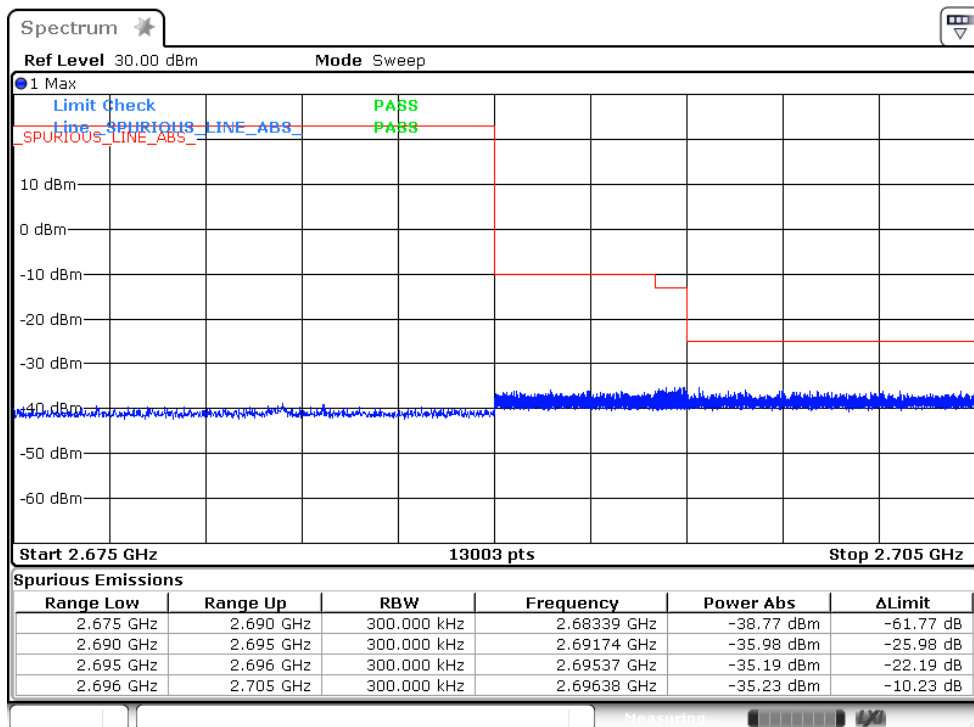
Band 41, UL Channel 40290, UL Frequency 2560.0, BW 15.0, NO. RB 75, RB POS. Low, 16QAM



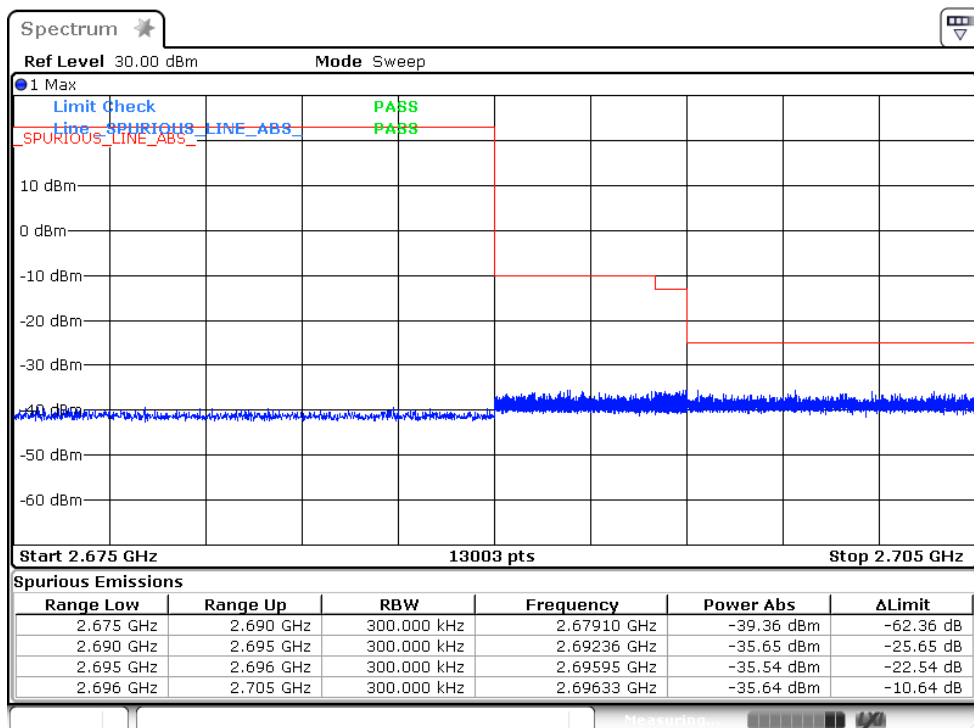
Band 41, UL Channel 41190, UL Frequency 2650.0, BW 15.0, NO. RB 1, RB POS. Low, QPSK



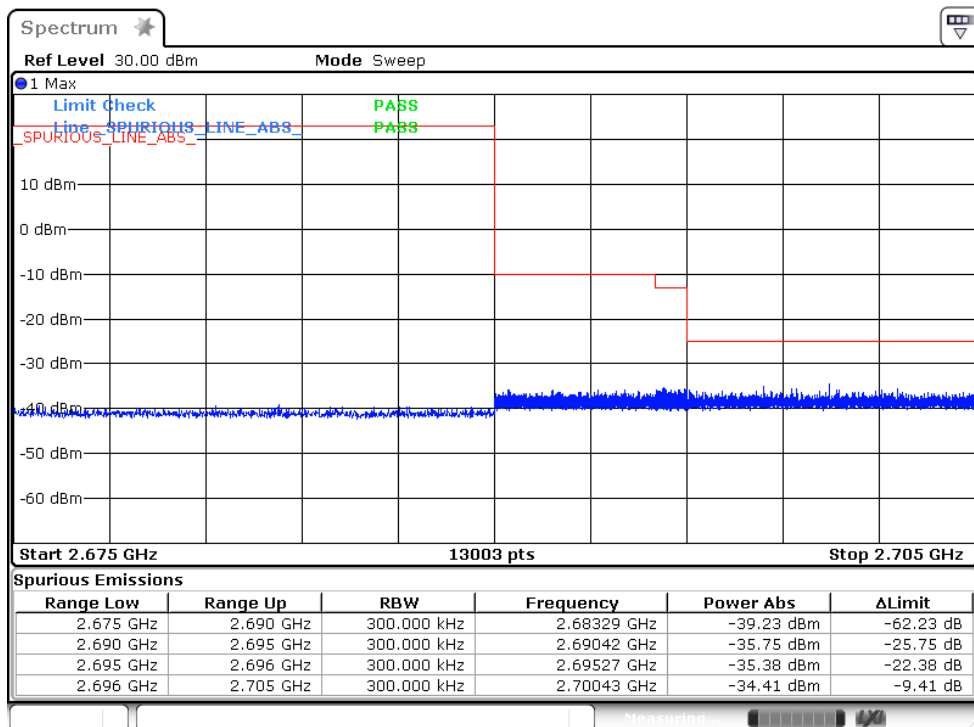
Band 41, UL Channel 41190, UL Frequency 2650.0, BW 15.0, NO. RB 1, RB POS. Low, 16QAM



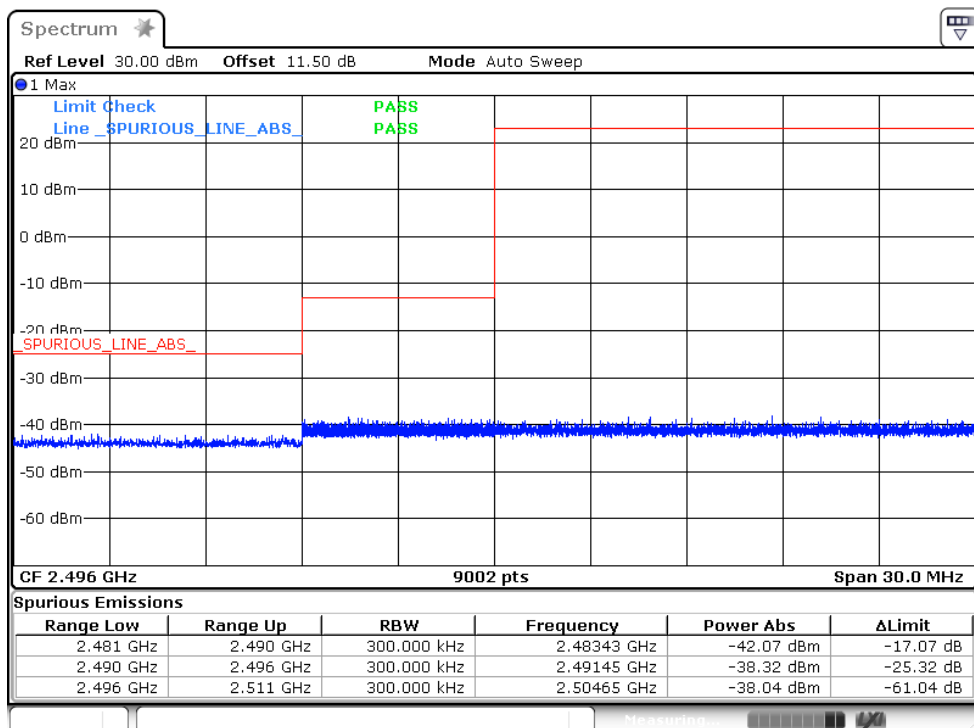
Band 41, UL Channel 41190, UL Frequency 2650.0, BW 15.0, NO. RB 75, RB POS. High, QPSK



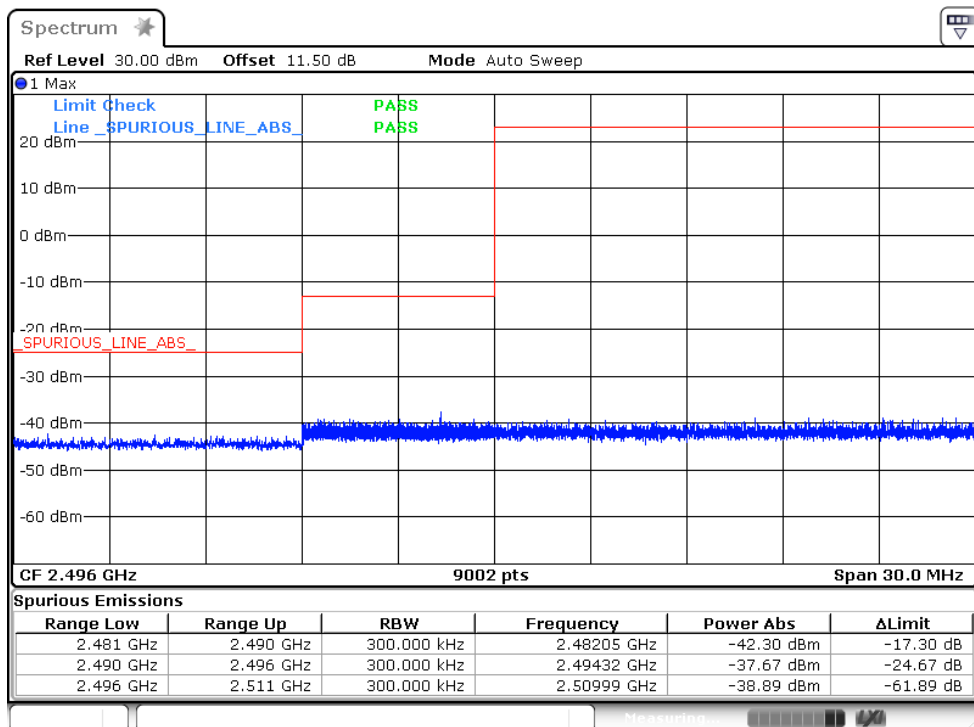
Band 41, UL Channel 41190, UL Frequency 2650.0, BW 15.0, NO. RB 75, RB POS. High, 16QAM



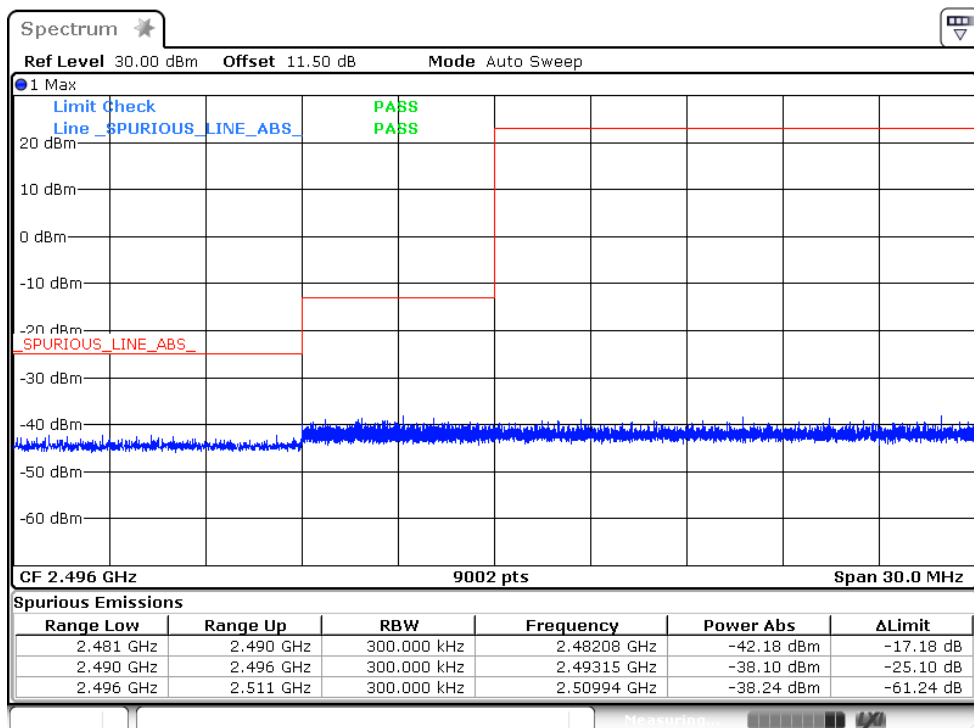
Band 41, UL Channel 40315, UL Frequency 2562.5, BW 20.0, NO. RB 1, RB POS. Low, QPSK



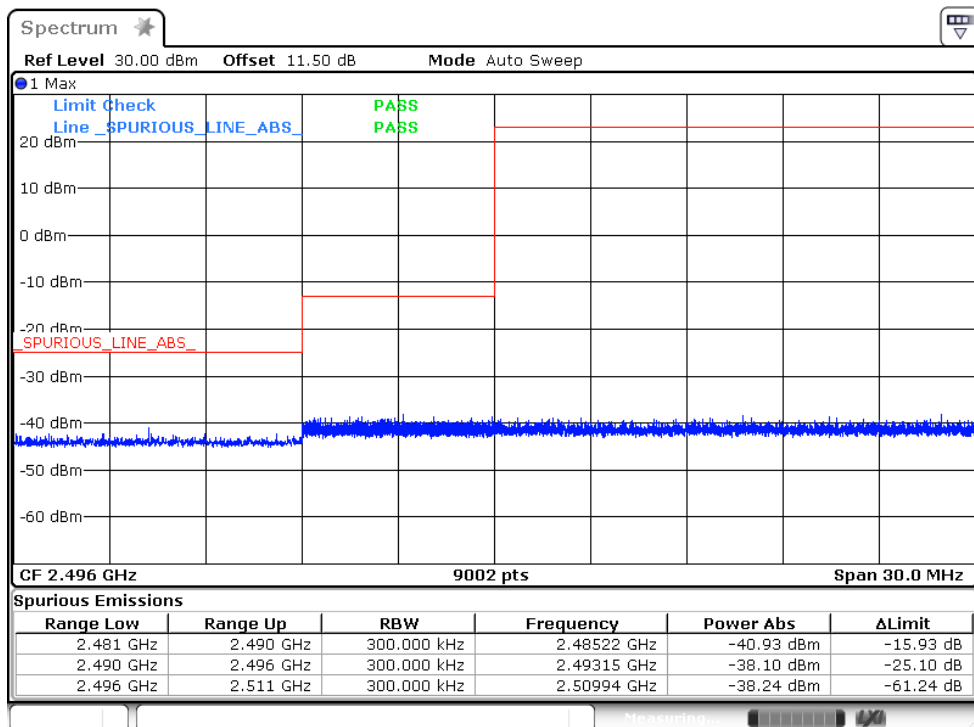
Band 41, UL Channel 40315, UL Frequency 2562.5, BW 20.0, NO. RB 1, RB POS. Low, 16QAM



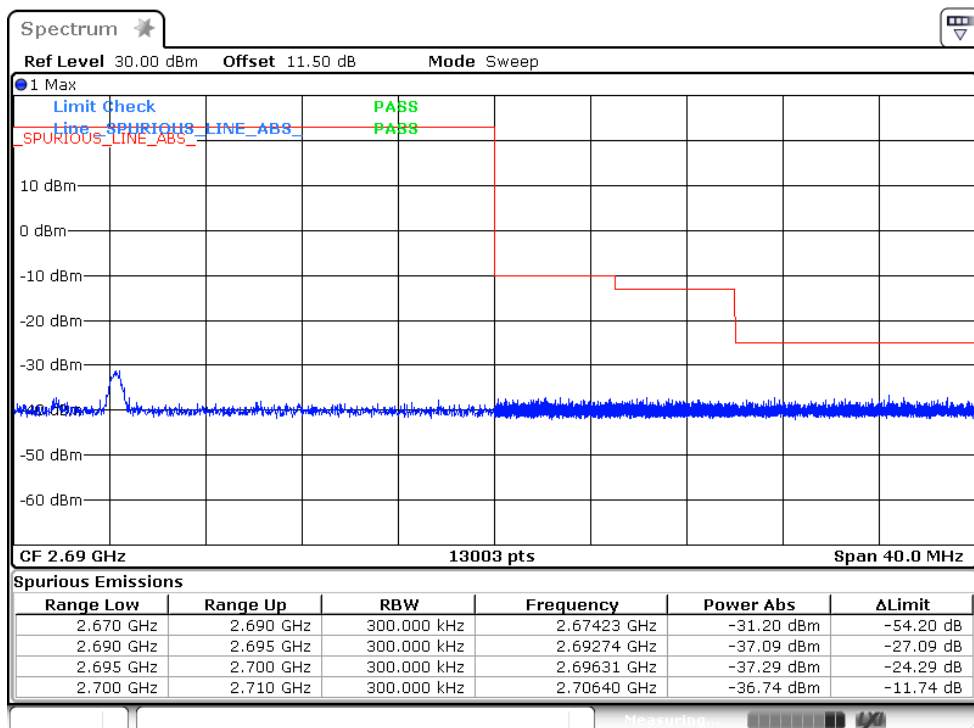
Band 41, UL Channel 40315, UL Frequency 2562.5, BW 20.0, NO. RB 100, RB POS. Low, QPSK



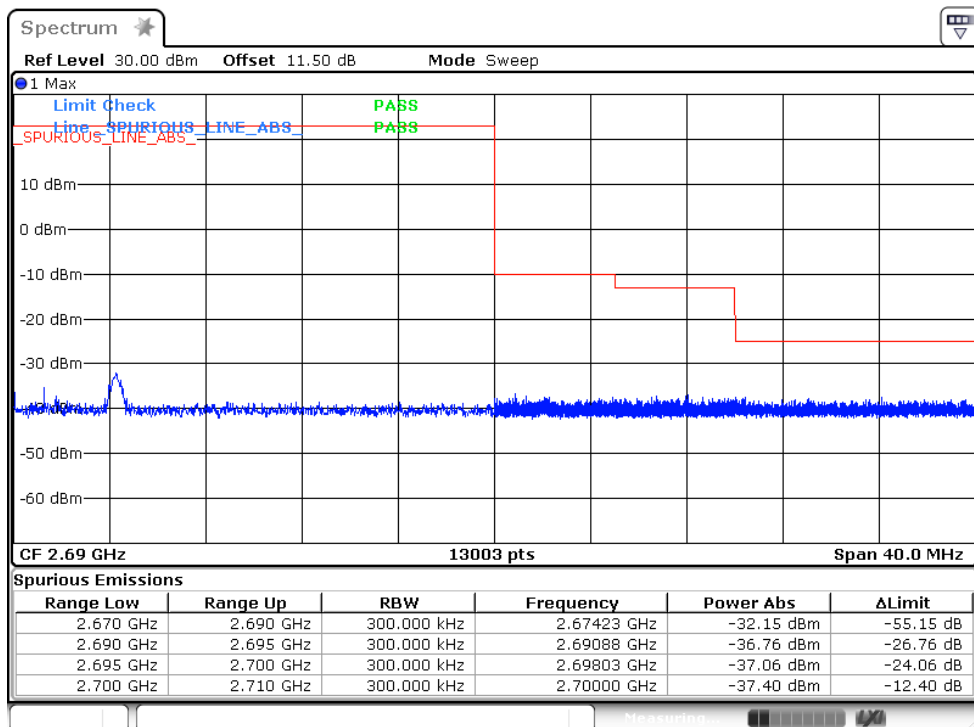
Band 41, UL Channel 40315, UL Frequency 2562.5, BW 20.0, NO. RB 100, RB POS. Low, 16QAM



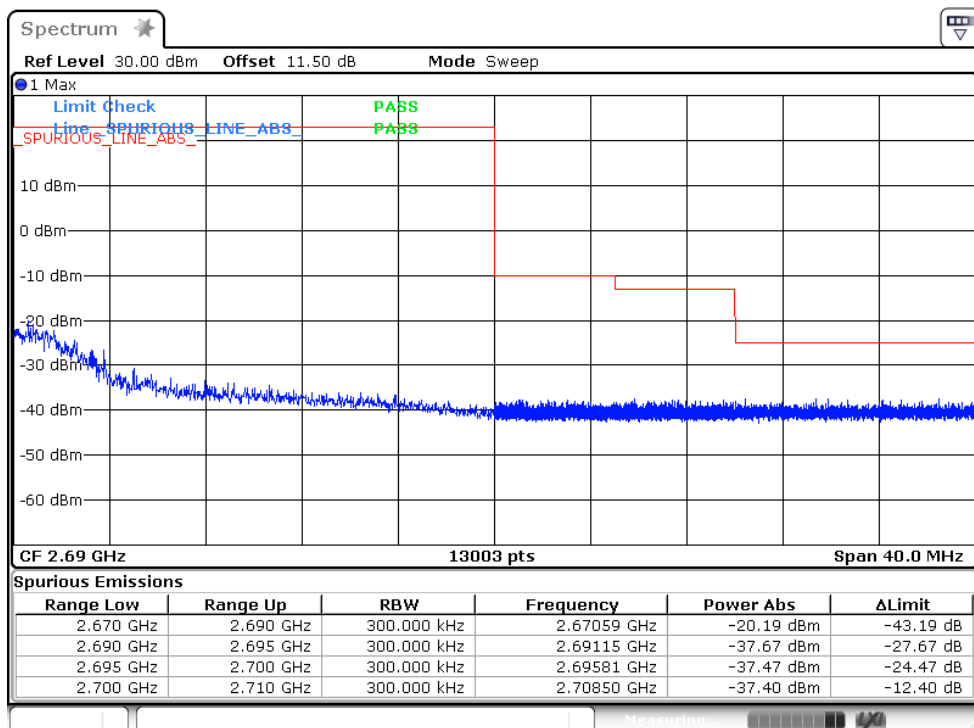
Band 41, UL Channel 41165, UL Frequency 2647.5, BW 20.0, NO. RB 1, RB POS. High, QPSK



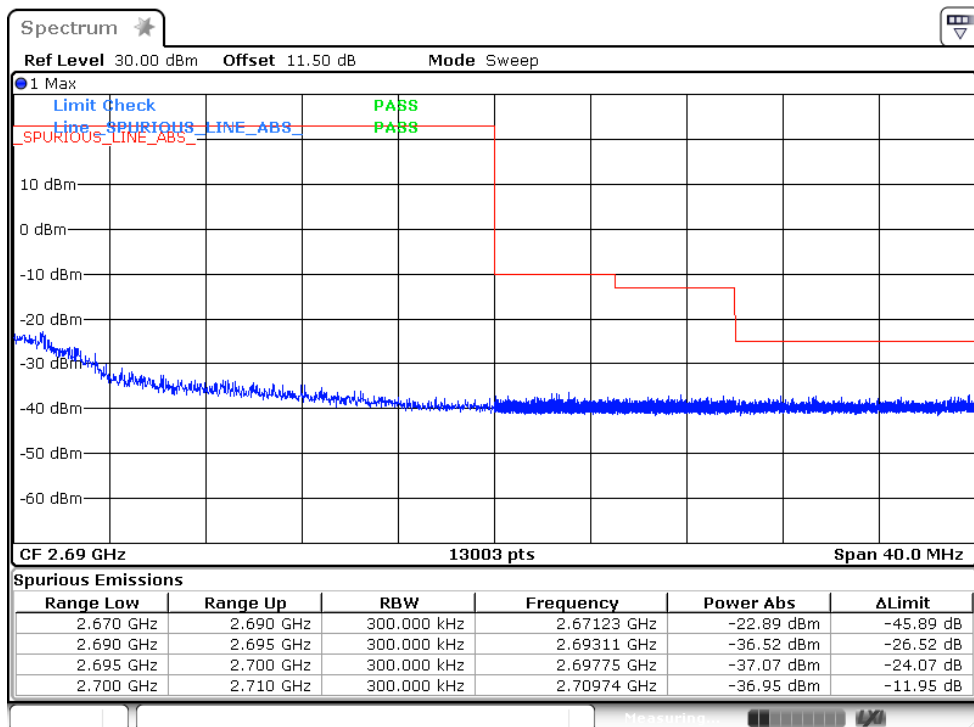
Band 41, UL Channel 41165, UL Frequency 2647.5, BW 20.0, NO. RB 1, RB POS. High, 16QAM



Band 41, UL Channel 41165, UL Frequency 2647.5, BW 20.0, NO. RB 100, RB POS. High, QPSK



Band 41, UL Channel 41165, UL Frequency 2647.5, BW 20.0, NO. RB 100, RB POS. High, 16QAM



7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917 and §27.53

LIMITS

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.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm

- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

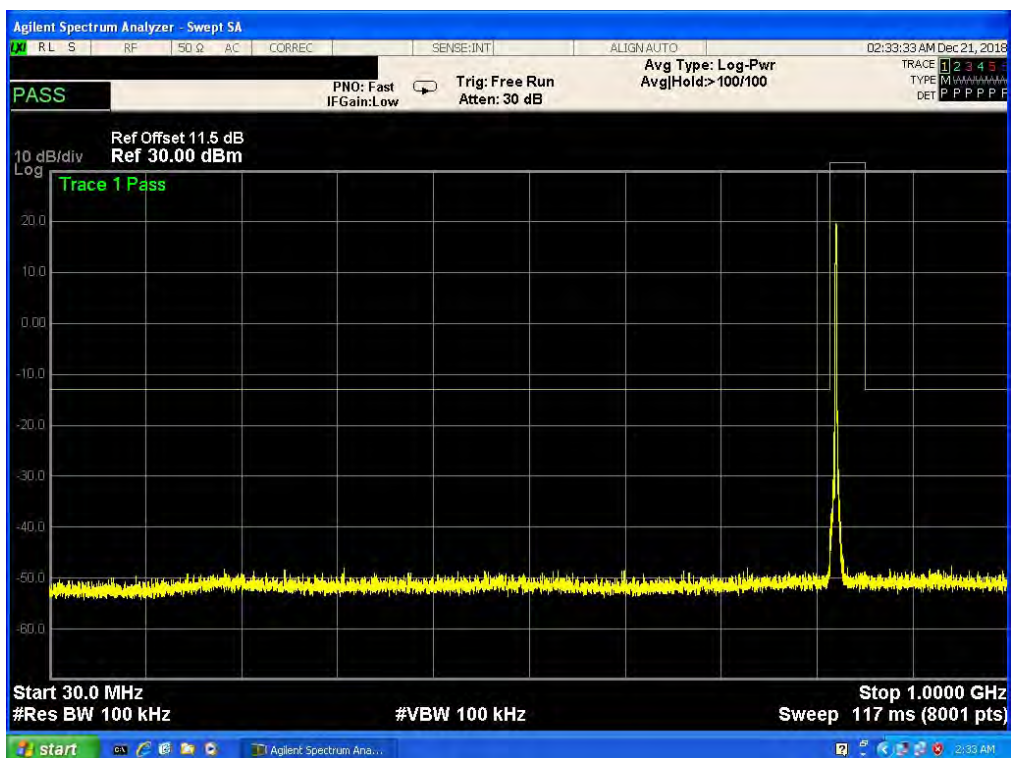
- LTE Band 5
- LTE Band 7
- LTE Band 41

7.1 MEASUREMENT METHOD

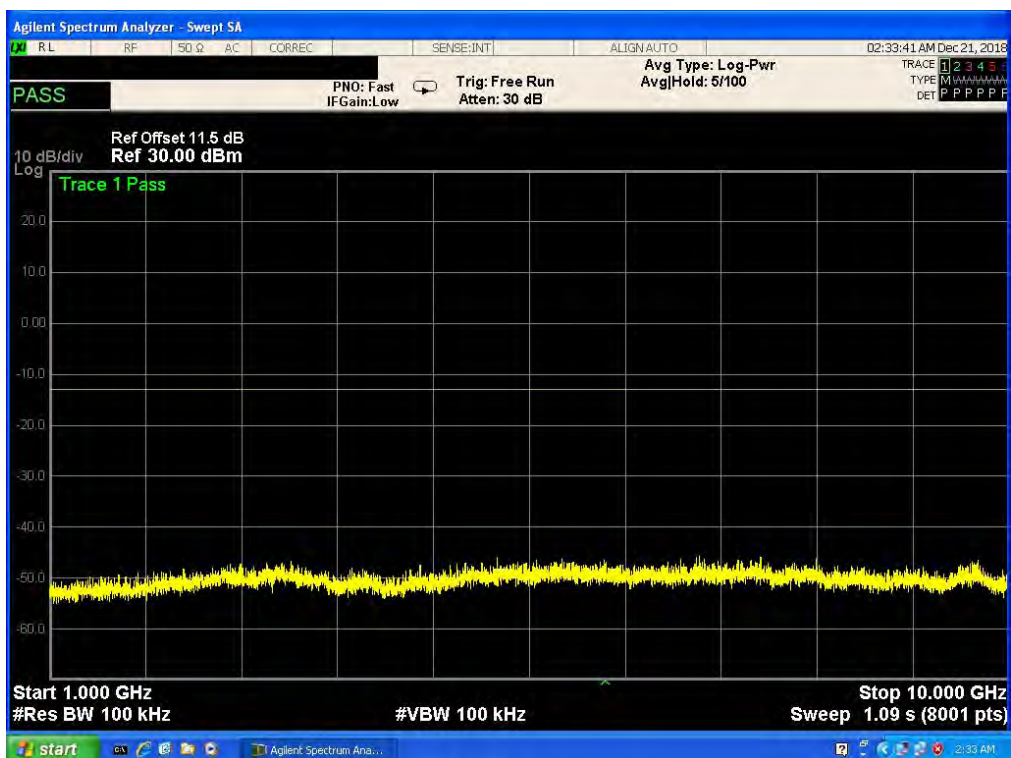
The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

7.2 LTE BAND 5

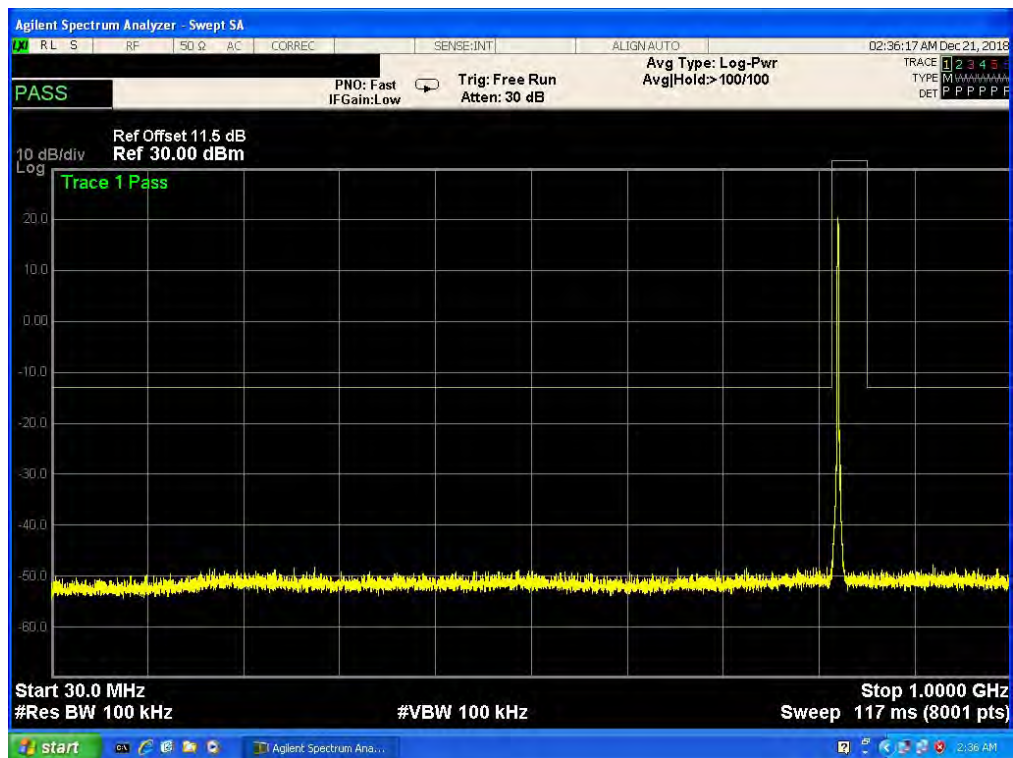
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK



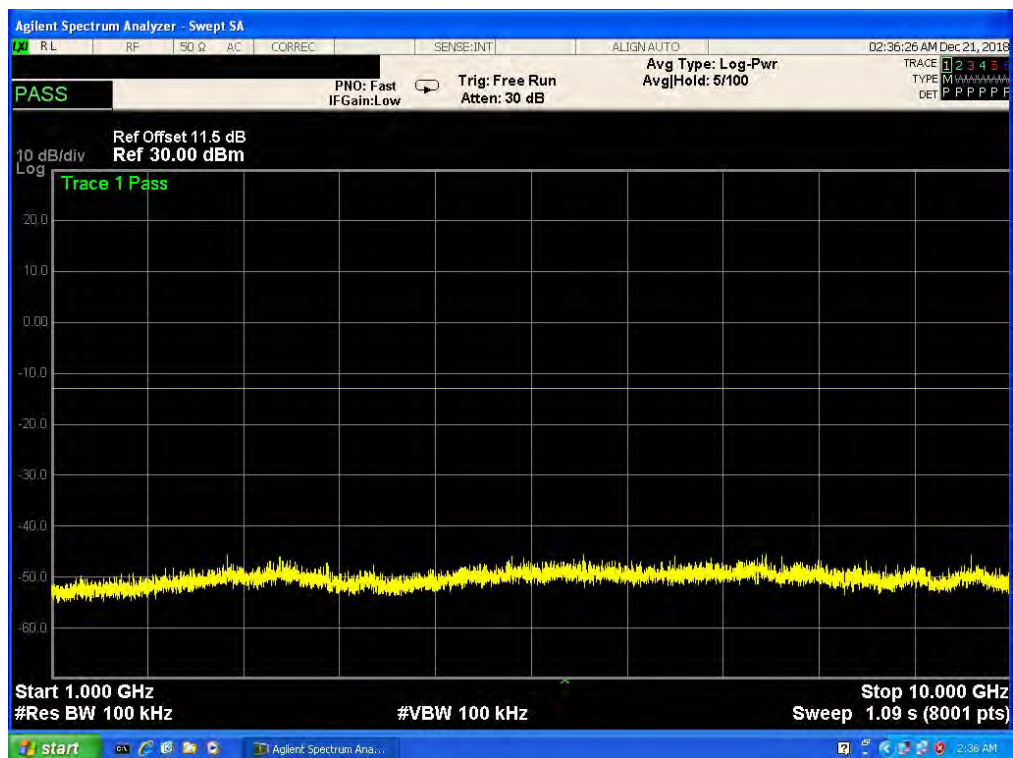
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, QPSK



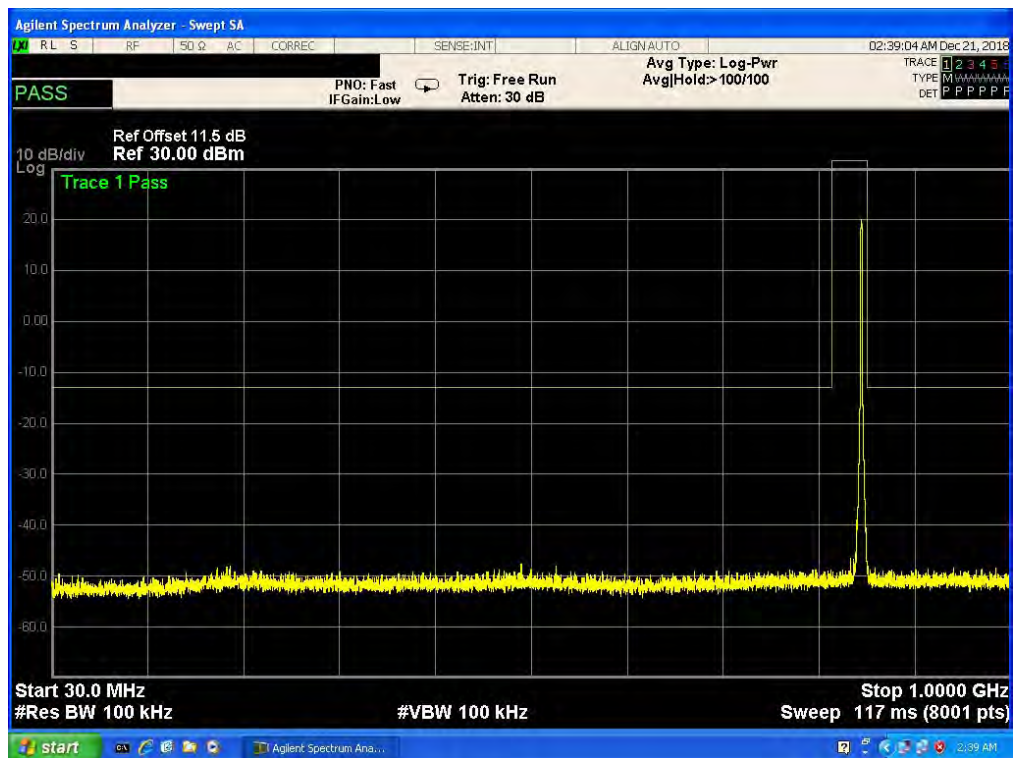
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



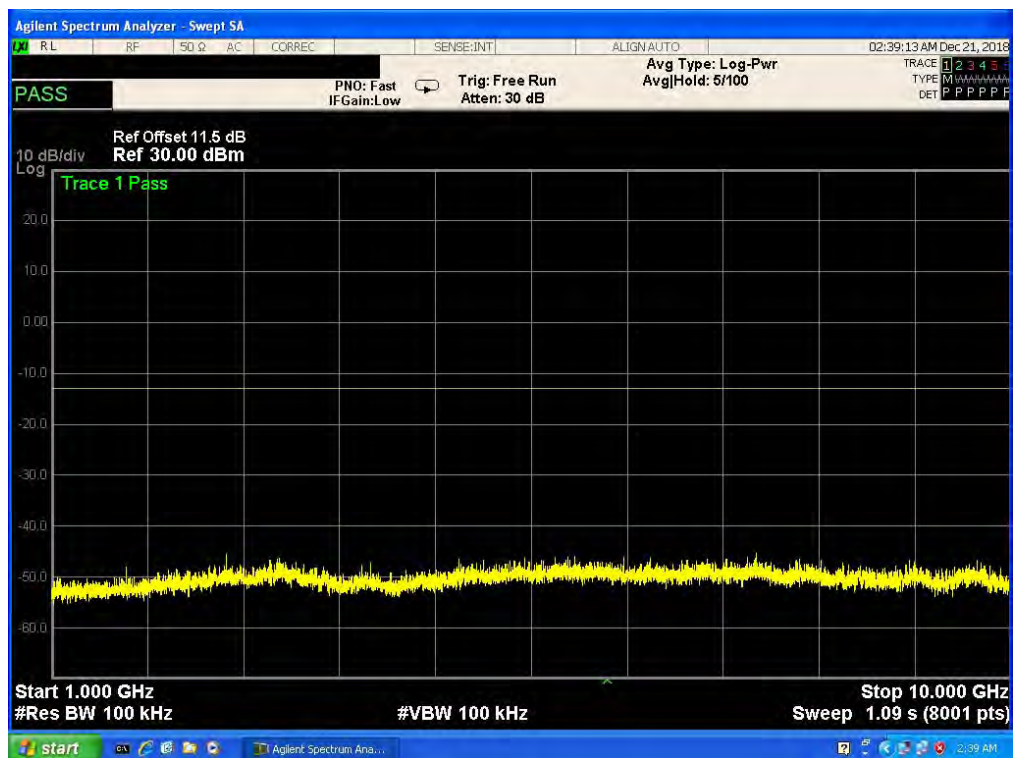
Band 5, UL Channel 20407, UL Frequency 824.7, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



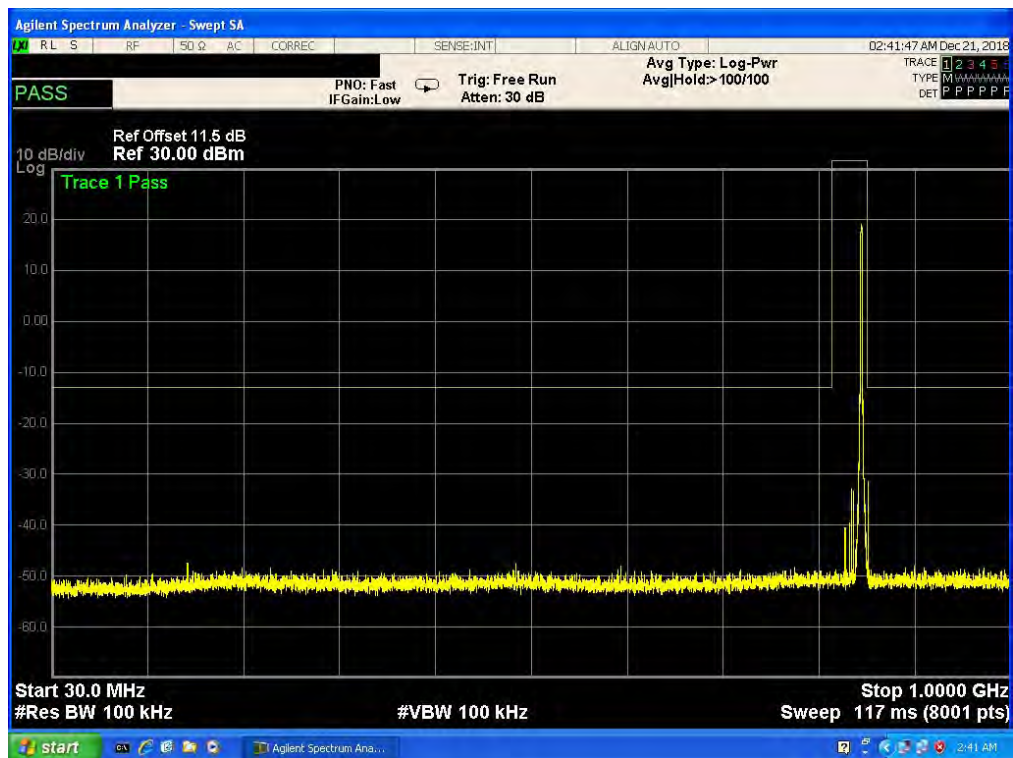
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, QPSK



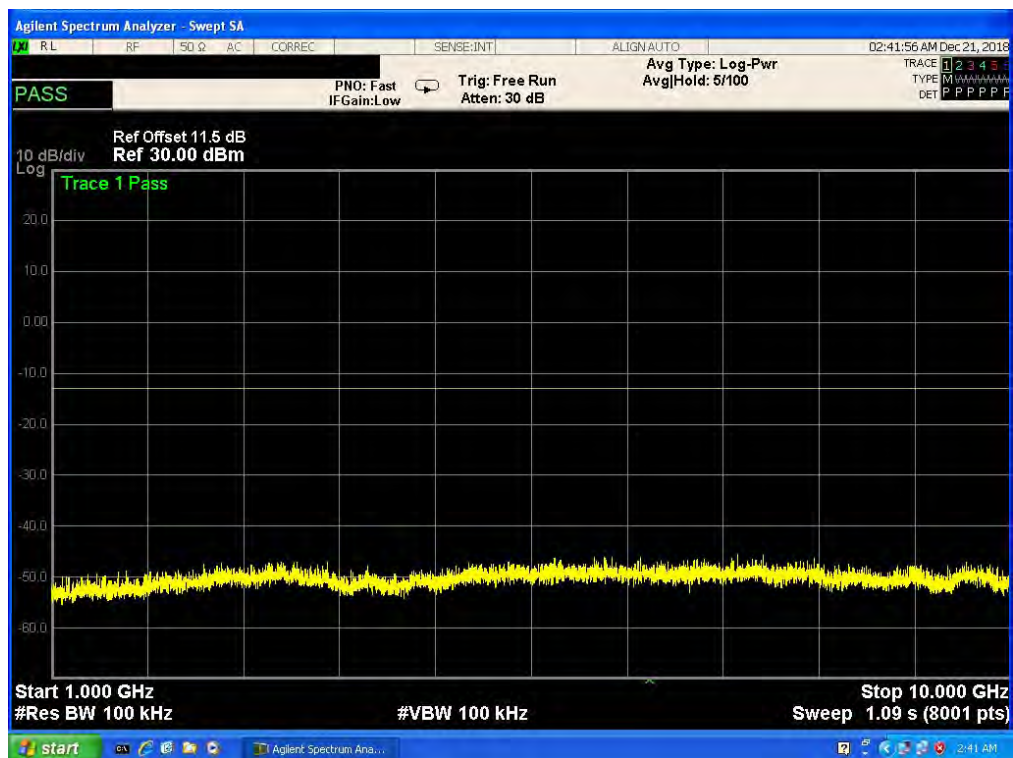
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, QPSK



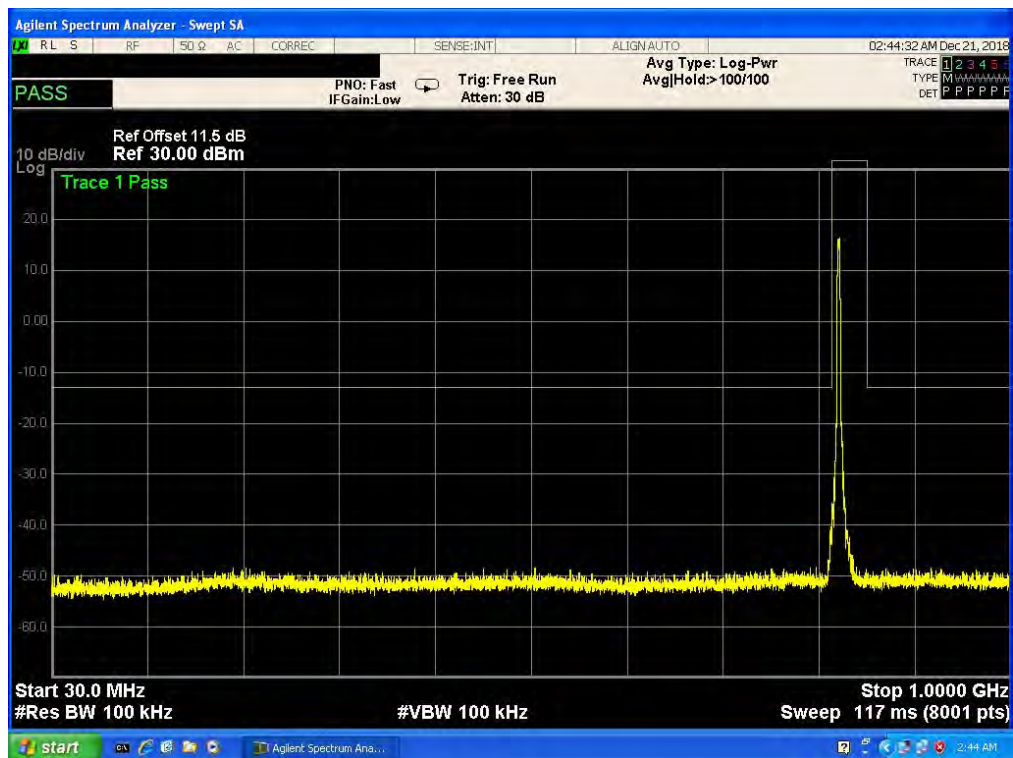
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



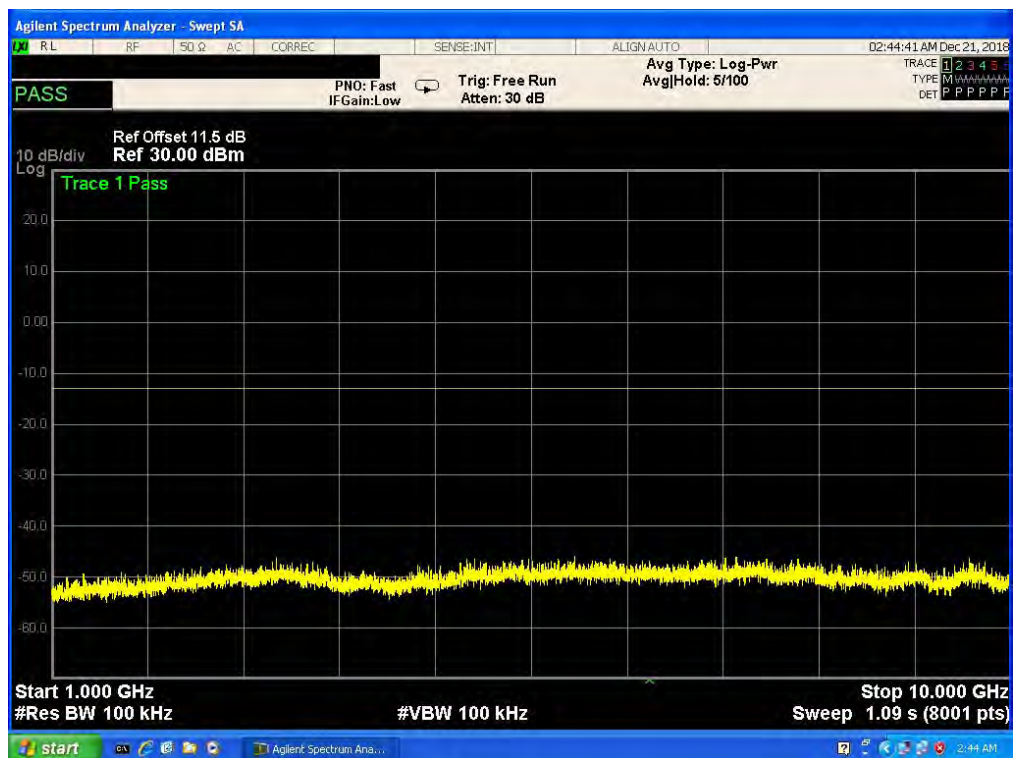
Band 5, UL Channel 20643, UL Frequency 848.3, BW 1.4, NO. RB 6, RB POS. Low, 16-QAM



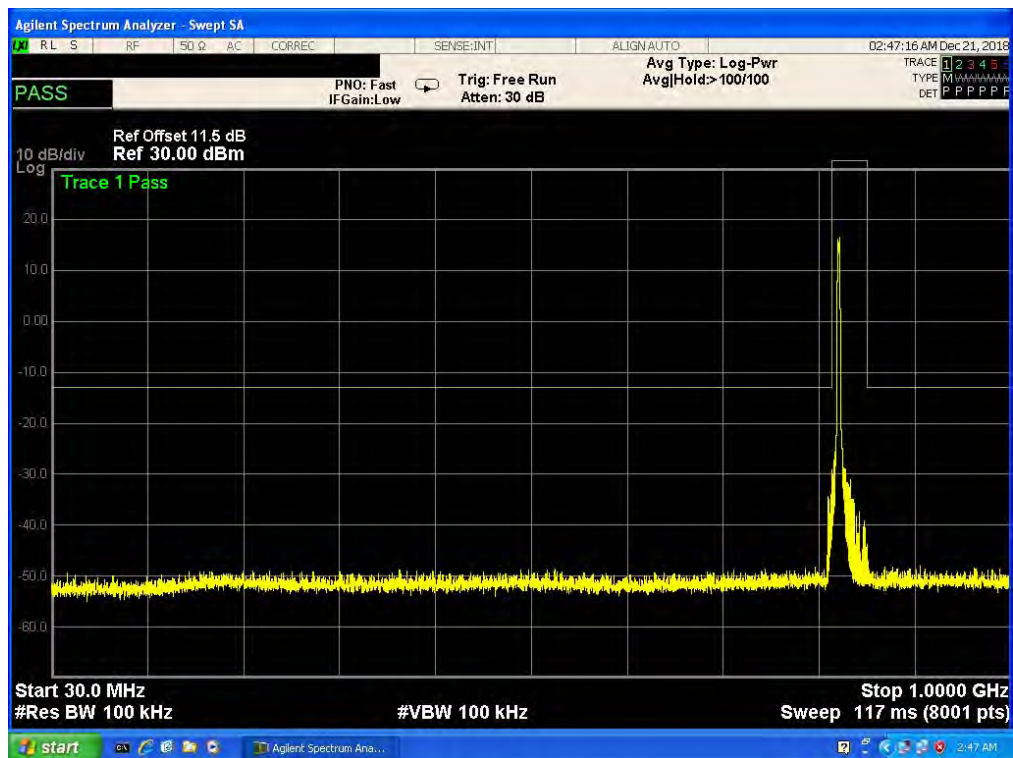
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



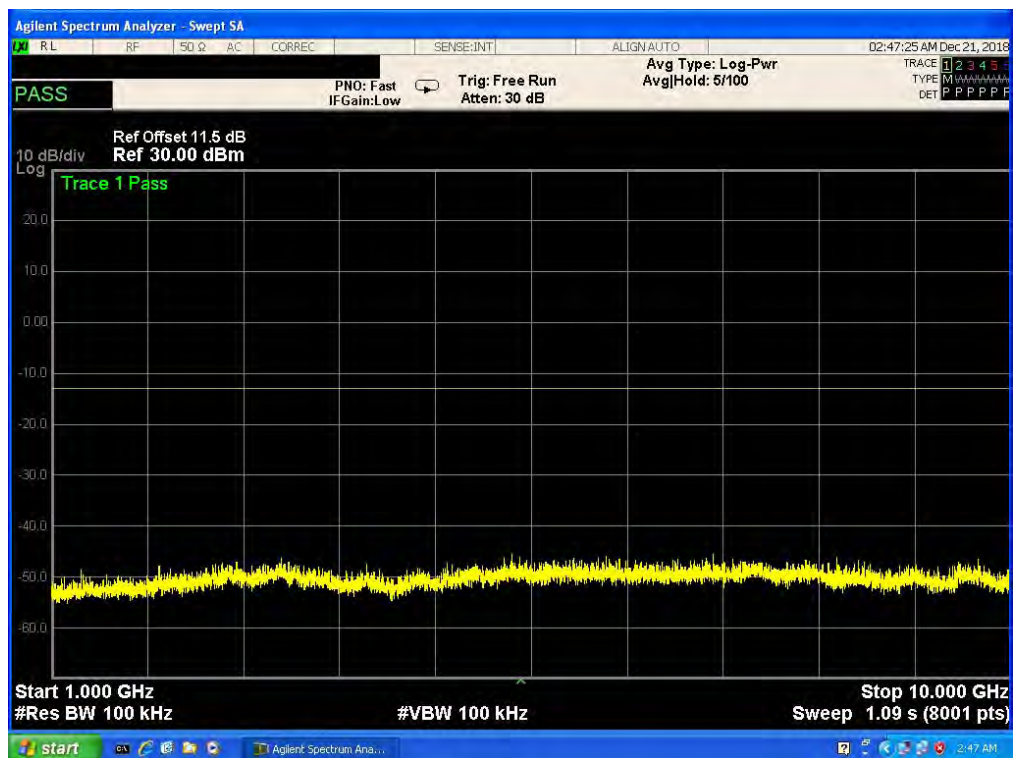
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



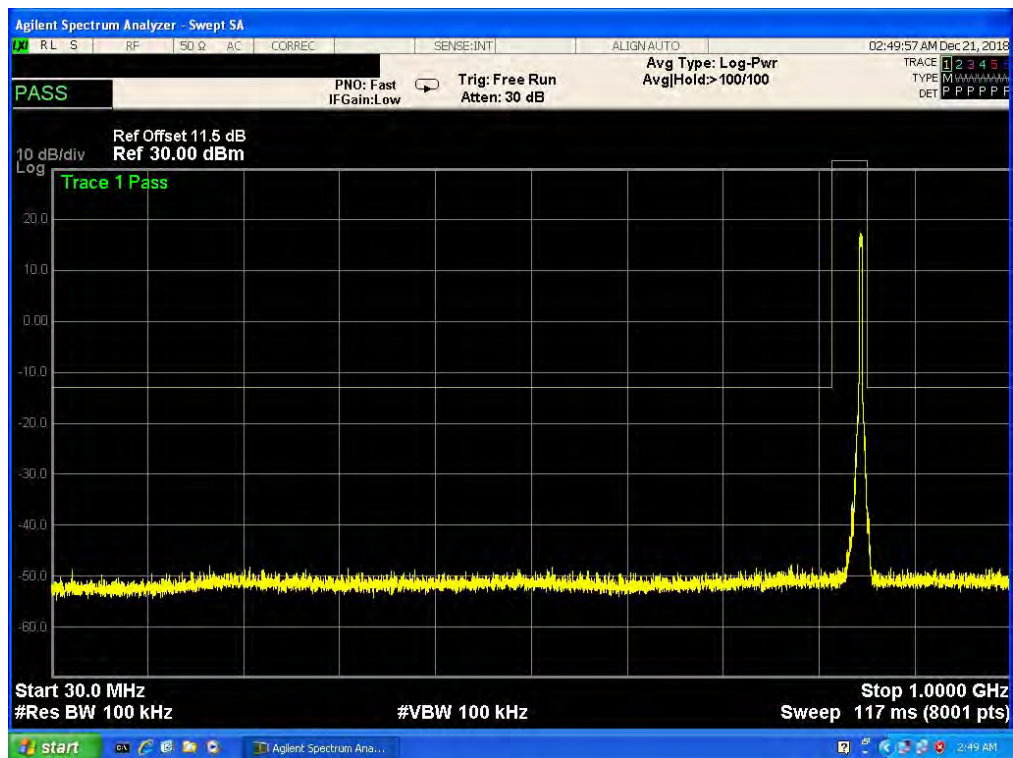
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



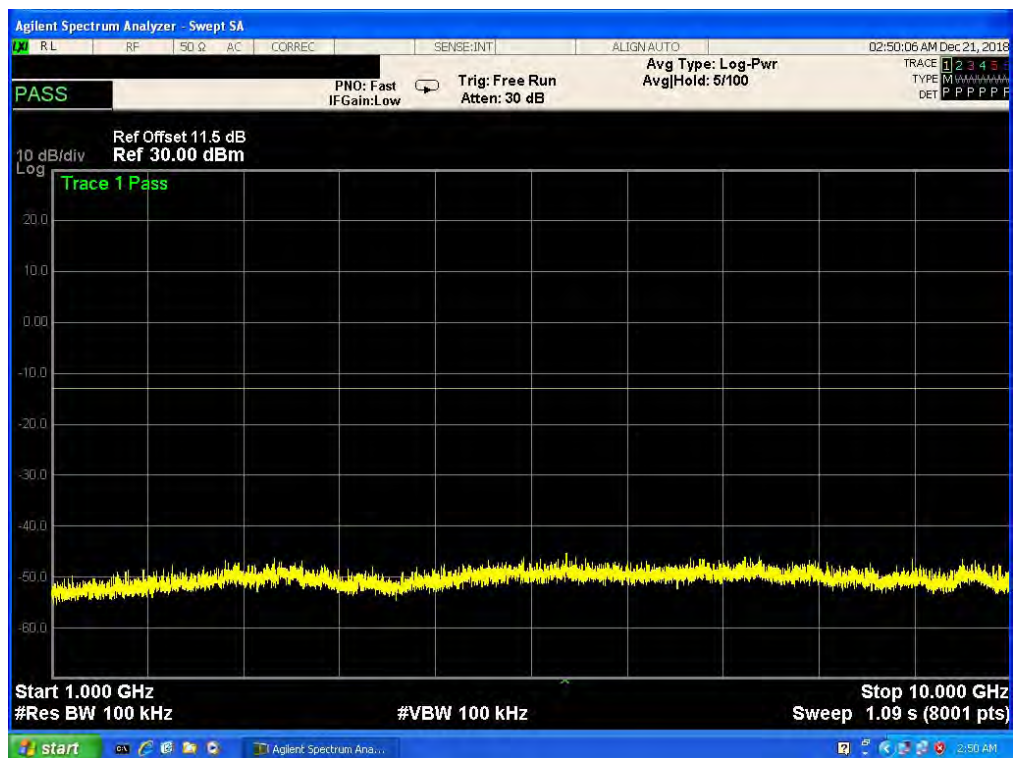
Band 5, UL Channel 20415, UL Frequency 825.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



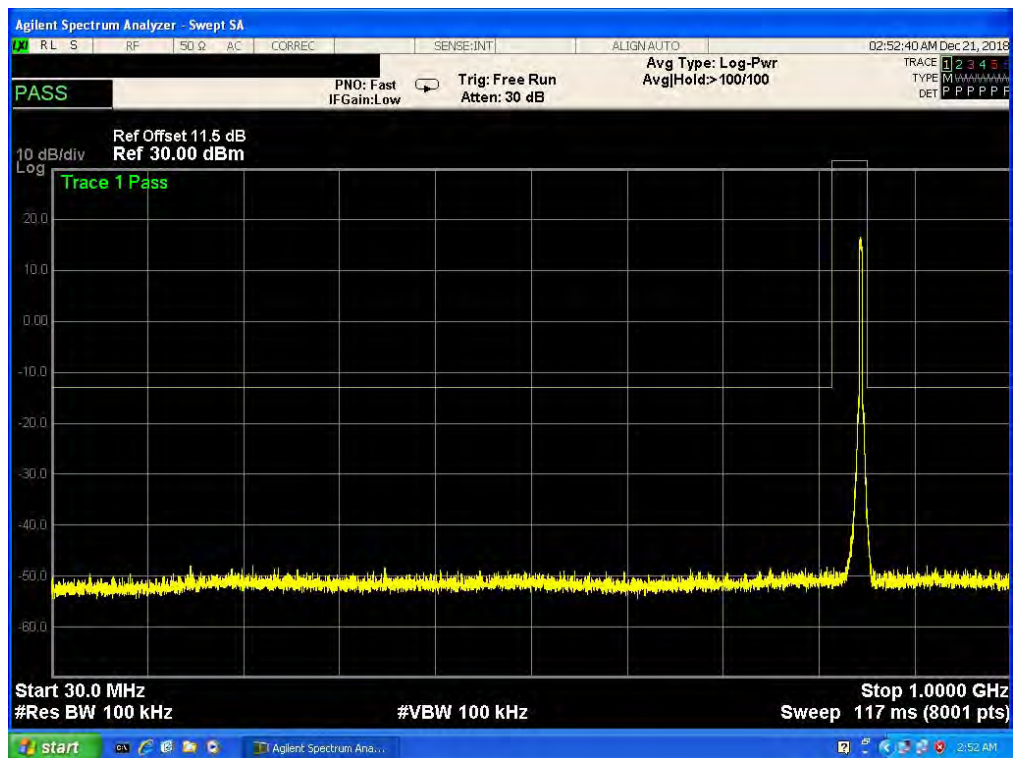
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



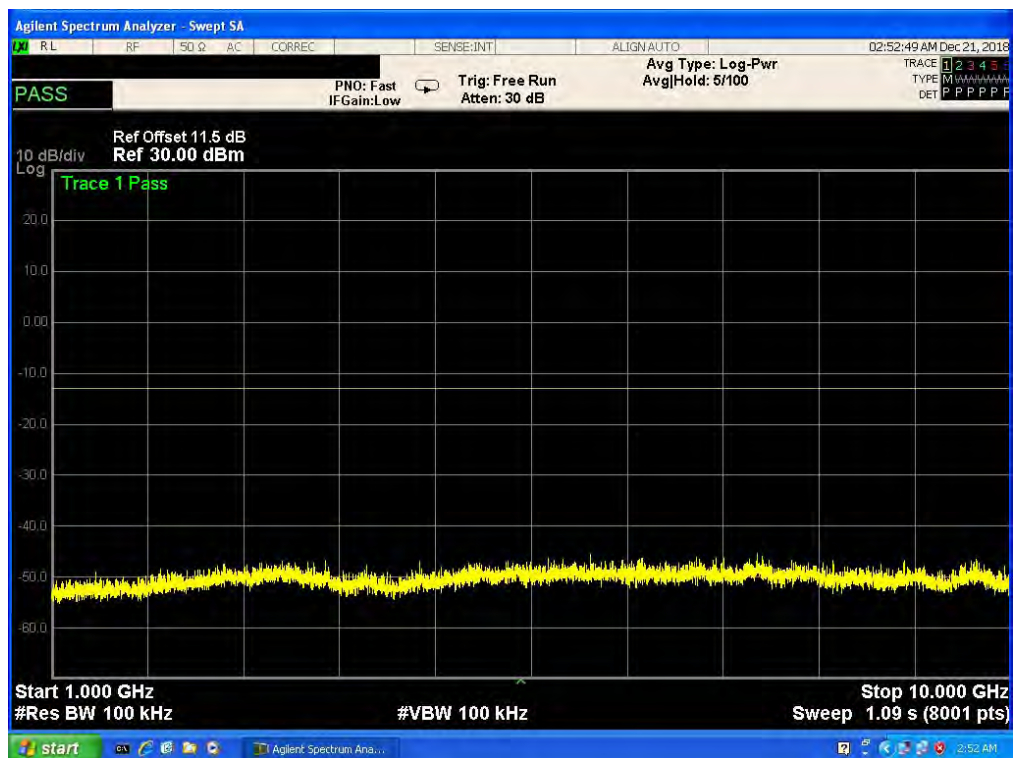
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, QPSK



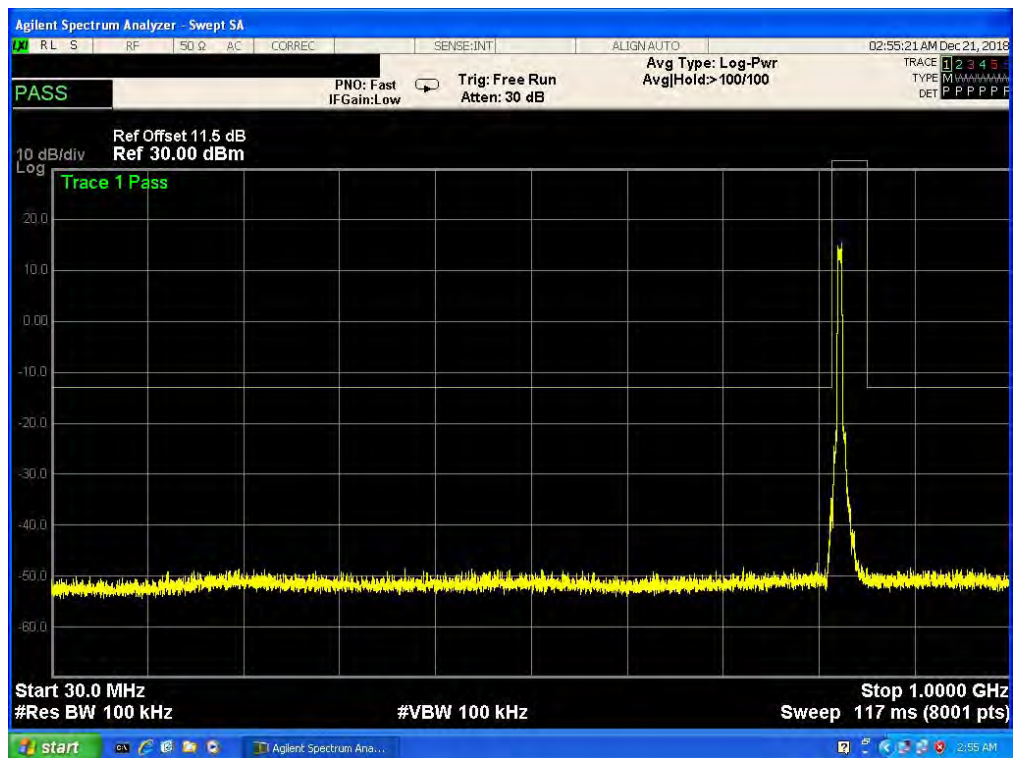
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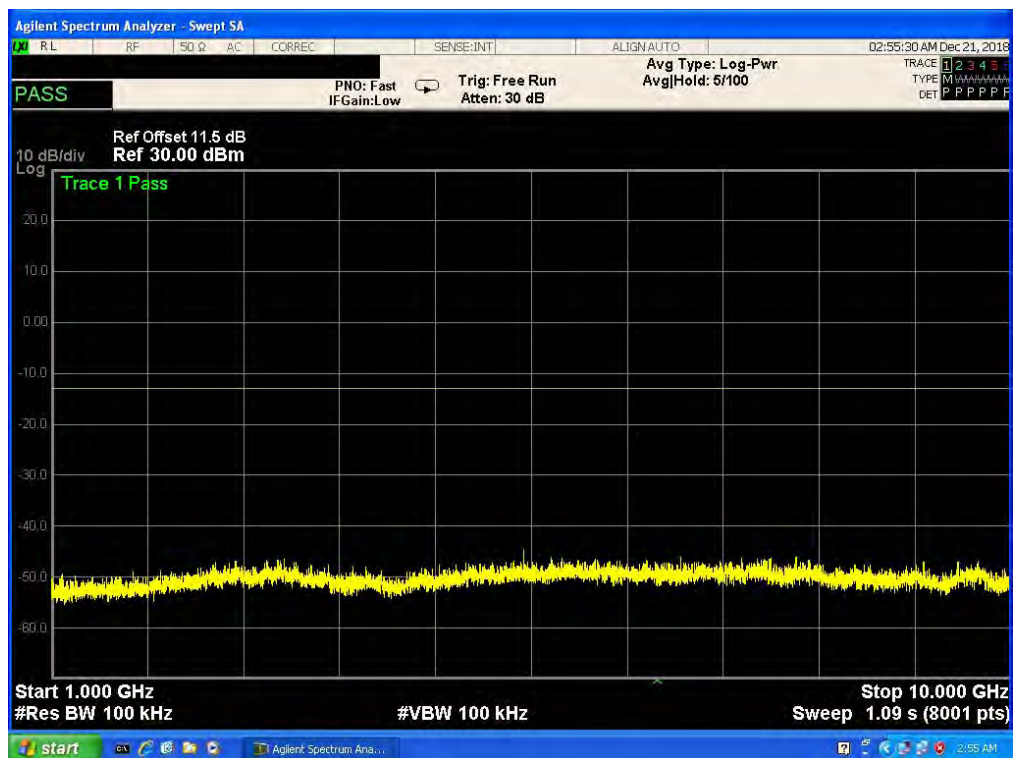
Band 5, UL Channel 20635, UL Frequency 847.5, BW 3.0, NO. RB 15, RB POS. Low, 16-QAM



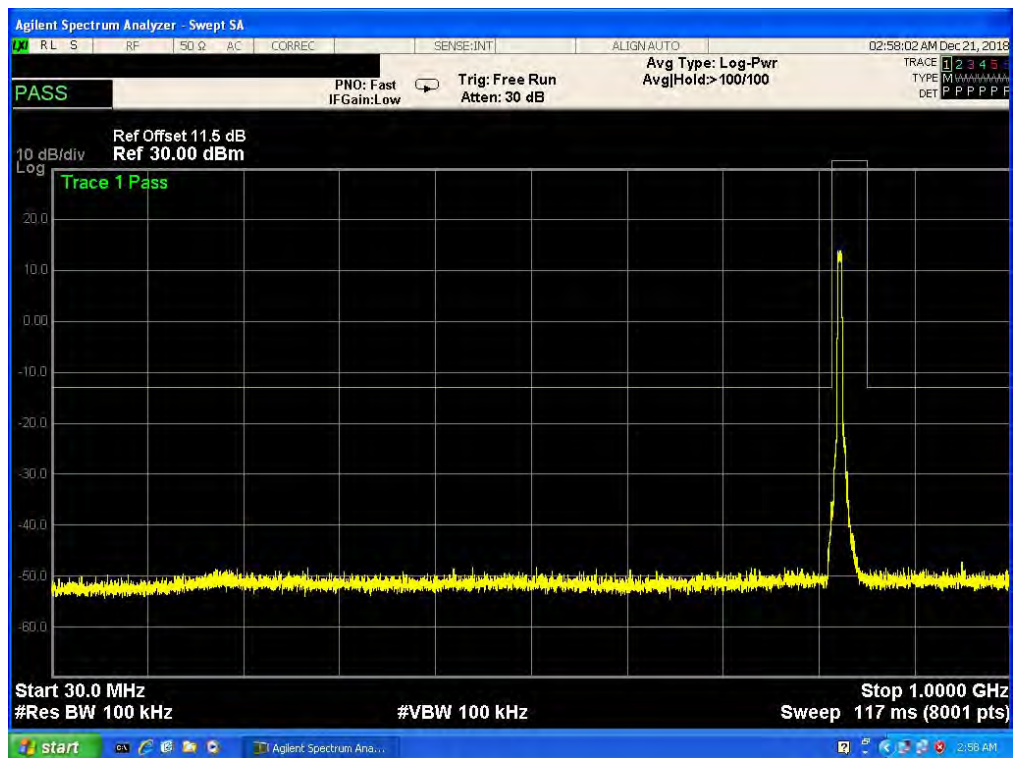
Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, QPSK



Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM



Band 5, UL Channel 20425, UL Frequency 826.5, BW 5.0, NO. RB 25, RB POS. Low, 16-QAM

