



FCC TEST REPORT

FCC ID: 2AEBCXPOS-I100

On Behalf of

ZHUHAI HONOR TECHNOLOGY CO.LTD

Smart handheld printer

Model No.: XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3

Prepared for : ZHUHAI HONOR TECHNOLOGY CO.LTD

Address : A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou
District,Zhuhai,China

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.

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TEST REPORT DECLARATION

Applicant : ZHUHAI HONOR TECHNOLOGY CO.LTD
 Address : A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou District,Zhuhai,China
 Manufacturer : ZHUHAI HONOR TECHNOLOGY CO.LTD
 Address : A 2nd Floor,Building 3,No. 639,Huayu Road,Xiangzhou District,Zhuhai,China
 EUT Description : Smart handheld printer

(A) Model No. : XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3

(B) Trademark : N/A

Measurement Standard Used:

- FCC CFR Title 47 Part 2**
- FCC CFR Title 47 Part22 Subpart H**
- FCC CFR Title 47 Part24 Subpart E**
- FCC CFR Title 47 Part27**
- ANSI C63.26:2015**

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....: Ella Liang
 Project Engineer 

Approved by (name + signature).....: Simple Guan
 Project Manager 

Date of issue..... : September 06, 2019

Revision History

Revision	Issue Date	Revisions	Revised By
V0	September 06, 2019	Initial released Issue	Simple Guan

1 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass* (Please refer to SAR Report)
RF Output Power	Part 2.1046 part22.913(a) (5) Part 24.232 (c) Part 27.50 (d)(4)	Pass
Peak-To-Average Ratio	Part 2.1046 Part 22.913(d) Part 24.232 (d) Part 27.50(d)	Pass
Modulation Characteristics	Part 2.1047	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917 Part 24.238 Part 27.53(a)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)	Pass
Out of band emission, Band Edge	Part 22.917 (a) Part 24.238 (a) Part 27.53(h)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

Pass: The EUT complies with the essential requirements in the standard.

2 General Information

2.1 General Description of EUT

Description of Device (EUT)

Description	: Smart handheld printer
Trademark	: N/A
Model Number	: XPOS-I100, XPOS-I100A, XPOS-I100B, XPOS-I100C, XPOS-I100D, XPOS-I100E, XPOS-I100F, XPOS-I100S, XPOS-I100P, XPOS-I100X, XPOS-I100C1, XPOS-I100C2, XPOS-I100C3, XPOS-I100S1, XPOS-I100S2, XPOS-I100S3, POS-I100, POS-I100A, POS-I100B, POS-I100C, POS-I100D, POS-I100E, POS-I100F, POS-I100S, POS-I100P, POS-I100X, POS-I100C1, POS-I100C2, POS-I100C3, POS-I100S1, POS-I100S2, POS-I100S3
DIFF.	: All model's the function, software and electric circuit are the same, except the model number difference. This report performs the model XPOS-I100.
Test Voltage	: DC 3.8V from battery or Input DC 5V/2A
Support Networks	: LTE
Support Bands	: LTE Band 1/2/3/4/5/7/20
Channel Bandwidth	: LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz
TX Frequency	: LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 4: 1710.7 MHz ~ 1754.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5MHz-2567.5MHz
Modulation type	: QPSK, 16QAM
Antenna Type	: PIFA antenna, Maximum Gain is 1.23dBi
Software version	: V1.0
Hardware version	: L5F1GB-V2

Remark 1: The worst-case simultaneous transmission configuration was evaluated with no non-compliance found. Results in this report are only for 4G function, and there is no other transmitter involved.

2.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules.

2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd
Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961

July 15, 2019 Certificated by IC
Registration Number: CN0085

2.4 Accessories of Device (EUT)

Accessories1	:	Switching power adapter
Manufacturer	:	Shenzhen Fangxin Technology Co., Ltd.
Model	:	FX2U-050200U
Input	:	AC 100-240V, 50/60Hz, 0.4A max
Output	:	DC 5V/2A
Accessories 2	:	USB Cable
Manufacturer	:	Dongguan jiulian Electronics Co., Ltd.
Model	:	/
Ratings	:	1m
Accessories 3	:	Charging base
Manufacturer	:	ZHUHAI HONOR TECHNOLOGY CO.LTD
Model	:	XPOS-I100 Charging base
Input	:	DC 5V/2A

2.5 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or DOC
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2.6 Test Conditions

Items	Required	Actual
Temperature range:	15-35°C	24°C
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7 Measurement Uncertainty

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	2.74dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB(Polarize: V)
	2.57dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	4.16dB(Polarize: H)
	4.13dB(Polarize: V)
Uncertainty for radio frequency	5.4×10^{-8}
Uncertainty for conducted RF Power	0.37dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3 Test Instruments list

Equipment	Manufacturer	Model No.	Serial No.	Last cal.	Cal Interval
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	2018.04.13	2Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120	2018.04.13	2Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	00059	2018.09.26	2Year
Filter	KANGMAI	ZLPF-LDC-1000-1959	1209002075	2018.09.21	1Year
Filter	WAINWRIGHT	WHKX2.80 /18G-12SS	SN1	2018.09.21	1Year
Filter	WAINWRIGHT	WHKX1.0G/15G -10SS	SN40	2018.09.21	1Year
RF Cable	Resenberger	Cable 4	N/A	2018.09.21	1Year
CMU200	ROHDE&SCHWARZ	CMU200	116785	2018.09.11	1Year
CMW500	ROHDE&SCHWARZ	CMW500	1201.0002K50-117239-sM	2018.09.21	1Year
Signal Analyzer	Agilent	E4407B	MY49510055	2018.09.21	1Year
Signal Analyzer	Agilent	N9020A	MY499100060	2018.09.21	1Year
vector Signal Generator	Agilent	N5182A	MY49060042	2018.09.11	1Year
vector Signal Generator	Agilent	E4438C	US44271917	2018.09.11	1Year
Amplifier	Agilent	8449B	3008A02664	2018.09.21	1Year
Test Receiver	ROHDE&SCHWARZ	ESR	1316.3003K03-102082-Wa	2018.09.21	1Year
9*6*6 anechoic chamber	CHENYU	9*6*6	N/A	/	/
RF Cable	Resenberger	Cable 1	N/A	2018.09.21	1Year
RF Cable	Resenberger	Cable 2	N/A	2018.09.21	1Year
RF Cable	Resenberger	Cable 3	N/A	2018.09.21	1Year
Power Sensor	Power Radio	RPR3006W	15100041SNO91	2018.09.21	1Year
20dB Attenuator	ICPROBING	IATS1	82347	2018.09.21	1Year
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2018.09.21	1Year
POWER DIVIDER	Mini-circuits	PD-2SF-0010	N/A	2018.09.21	1Year
Temperature& Humidity test chamber	GZGONGWEN	GDS-250	080821	2018.10.21	1Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	BBHA 9120 D(1207)	2018.04.13	2Year
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-627	2018.09.24	2Year

4 System test configuration

4.1 Test mode

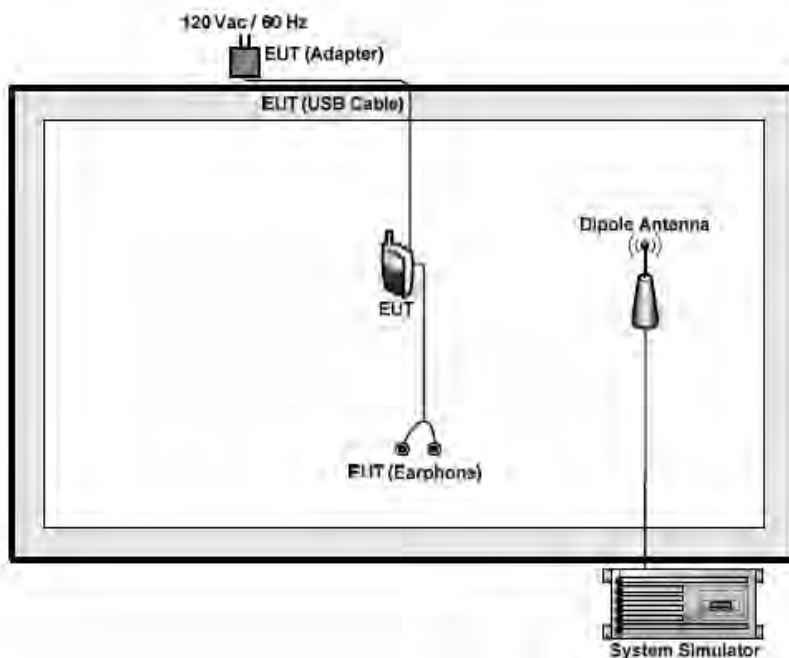
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
LTE Band 2	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 4	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 5	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 7	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link

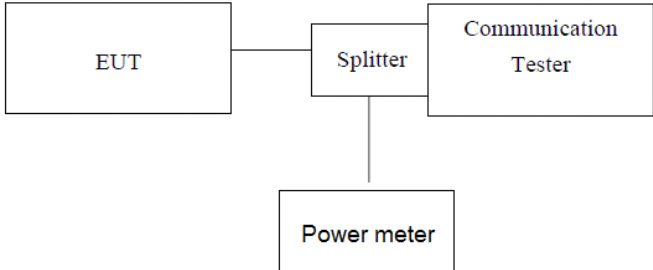
Note: Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas License Digital Systems v03r1 with maximum output power.

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

4.2 Configuration of Tested System



4.3 Conducted Output Power

Test Requirement:	FCC part22.913(a) (5), FCC part24.232(b) and FCC Part 27.50 (d)(4)
Test Method:	ANSI C63.26:2015
Limit:	LTE Band 2: 2W LTE Band 4: 1W LTE Band 5: 7W LTE Band 7: 2W
Test setup:	 <pre> graph LR EUT[EUT] --- Splitter[Splitter] Splitter --- CT[Communication Tester] Splitter --- PM[Power meter] </pre> <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 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 Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

LTE Band2

BW (MHz)	Frequency (MHz)	RB Configuration		Average Power [dBm]	
		Size	Offset	QPSK	16QAM
1.4	1850.7	1	0	23.40	23.33
		1	3	23.40	23.29
		1	5	23.00	22.80
		3	0	23.52	23.22
		3	2	22.66	22.58
		3	3	22.72	22.64
		6	0	22.69	23.02
	1880.0	1	0	23.58	22.86
		1	3	23.55	22.26
		1	5	22.41	22.65
		3	0	22.25	20.90
		3	2	21.76	22.34
		3	3	21.96	21.21
		6	0	21.58	22.21
	1909.3	1	0	22.50	21.51
		1	3	22.52	22.35
		1	5	21.93	22.00
		3	0	21.97	22.25
		3	2	22.49	21.77
		3	3	22.17	22.17
		6	0	22.46	21.70
3	1851.5	1	0	22.83	23.08
		1	7	23.77	23.62
		1	14	24.04	23.29
		8	0	21.97	22.18
		8	4	22.06	22.41
		8	7	22.28	21.52
		15	0	21.62	21.39
	1880.0	1	0	22.68	22.22
		1	7	22.65	22.87
		1	14	22.27	21.18
		8	0	21.02	21.51
		8	4	21.57	20.36
		8	7	20.83	20.29
		15	0	21.63	20.73
	1908.5	1	0	22.44	22.06
		1	7	22.31	21.68
		1	14	22.10	21.23
		8	0	22.92	21.28
		8	4	22.61	22.40
		8	7	22.31	22.24
		15	0	21.55	22.58
5	1852.5	1	0	23.42	22.79
		1	12	24.11	23.21
		1	24	23.48	23.17

		12	0	22.15	22.04
		12	6	23.06	22.32
		12	13	22.04	21.98
		25	0	22.00	22.32
	1880.0	1	0	24.07	23.53
		1	12	22.60	22.71
		1	24	21.94	21.74
		12	0	21.43	20.98
		12	6	20.66	21.12
		12	13	21.24	21.36
		25	0	21.82	21.23
		1907.5	1	0	22.66
	1		12	22.21	21.93
	1		24	22.59	21.53
	12		0	22.87	22.39
	12		6	21.40	22.75
	12		13	21.44	21.43
	25		0	22.87	22.06
	10	1855.0	1	0	23.55
1			24	22.82	23.02
1			49	22.90	22.73
25			0	22.41	22.01
25			12	22.23	21.34
25			25	22.99	22.97
50			0	22.45	22.38
1880.0		1	0	22.72	23.48
		1	24	23.17	23.67
		1	49	21.96	21.58
		25	0	22.25	21.37
		25	12	21.35	21.06
		25	25	20.91	21.12
		50	0	21.26	20.87
1905.0		1	0	22.92	21.94
		1	24	21.66	22.15
		1	49	22.70	22.36
		25	0	22.45	22.40
		25	12	22.61	22.61
	25	25	22.86	21.98	
	50	0	22.23	22.04	
15	1857.5	1	0	23.07	23.88
		1	37	22.86	22.68
		1	74	22.85	22.42
		37	0	23.05	22.05
		37	18	21.73	22.77
		37	38	21.45	21.89
		75	0	22.67	22.48
	1880.0	1	0	23.13	23.03
		1	37	23.98	22.81
		1	74	23.01	21.49
		37	0	21.42	20.68

		37	18	22.15	22.45
		37	38	22.49	22.66
		75	0	22.11	21.62
	1902.5	1	0	22.20	22.20
		1	37	22.46	21.33
		1	74	23.20	22.40
		37	0	21.04	20.66
		37	18	21.48	21.63
		37	38	22.49	21.25
		75	0	21.35	21.84
20	1860.0	1	0	24.02	22.96
		1	49	23.05	23.00
		1	99	22.62	23.25
		50	0	22.75	21.91
		50	25	23.11	22.59
		50	50	21.40	21.42
		100	0	22.78	22.03
	1880.0	1	0	23.08	23.46
		1	49	23.99	23.10
		1	99	21.82	22.10
		50	0	21.43	21.83
		50	25	21.85	21.86
		50	50	22.23	22.19
		100	0	21.69	21.64
	1900.0	1	0	21.80	22.08
		1	49	22.76	22.54
		1	99	22.13	21.61
		50	0	22.42	21.50
		50	25	20.96	20.80
		50	50	21.11	19.82
		100	0	21.68	21.10

LTE Band4

BW (MHz)	Frequency (MHz)	RB Configuration		Average Power [dBm]	
		Size	Offset	QPSK	16QAM
1.4	1710.7	1	0	24.77	23.36
		1	3	23.69	23.26
		1	5	24.06	24.39
		3	0	24.38	22.66
		3	2	23.82	23.24
		3	3	23.72	23.44
		6	0	22.47	22.59
	1732.5	1	0	23.54	24.02
		1	3	23.72	23.04
		1	5	21.97	22.75
		3	0	23.14	22.18
		3	2	22.29	22.54
		3	3	22.19	22.91
		6	0	21.63	21.51
	1754.3	1	0	23.20	22.29
		1	3	22.73	22.20
		1	5	22.74	22.18
		3	0	22.78	22.48
		3	2	22.74	22.73
		3	3	21.95	23.12
		6	0	21.73	21.82
3	1711.5	1	0	24.02	23.38
		1	7	24.22	23.73
		1	14	23.36	23.23
		8	0	23.40	22.01
		8	4	22.61	22.50
		8	7	23.17	22.48
		15	0	23.58	22.52
	1732.5	1	0	23.34	23.66
		1	7	24.07	23.30
		1	14	22.39	22.40
		8	0	21.43	21.42
		8	4	21.26	21.29
		8	7	22.04	20.29
		15	0	21.84	20.30
	1753.5	1	0	22.88	22.06
		1	7	22.60	23.01
		1	14	23.56	21.82
		8	0	21.54	21.81
		8	4	22.50	21.24
		8	7	21.66	21.56
		15	0	21.60	22.77
5	1712.5	1	0	23.54	23.41
		1	12	23.24	23.59
		1	24	23.88	22.98

		12	0	24.03	23.72
		12	6	23.32	22.90
		12	13	24.16	23.62
		25	0	23.18	23.37
	1732.5	1	0	23.52	22.84
		1	12	23.76	22.99
		1	24	22.07	21.45
		12	0	20.76	20.75
		12	6	21.65	20.87
		12	13	22.35	21.88
		25	0	21.76	21.87
	1752.5	1	0	21.84	21.67
		1	12	23.30	22.38
		1	24	22.62	22.05
		12	0	22.00	21.03
		12	6	22.21	21.45
		12	13	21.92	22.12
		25	0	21.88	21.51
	10	1715.0	1	0	23.34
1			24	24.08	23.35
1			49	24.98	23.33
25			0	22.73	21.94
25			12	22.31	22.17
25			25	22.78	23.24
50			0	23.35	22.46
1732.5		1	0	23.92	24.10
		1	24	24.32	23.29
		1	49	21.48	22.09
		25	0	21.78	21.55
		25	12	22.28	22.28
		25	25	22.22	21.62
		50	0	21.92	21.65
1750.0		1	0	22.19	21.28
		1	24	22.38	22.49
		1	49	22.91	23.36
		25	0	21.49	21.30
		25	12	21.76	22.01
	25	25	21.57	20.68	
	50	0	21.53	21.10	
15	1717.5	1	0	24.50	24.66
		1	37	23.93	23.90
		1	74	23.46	24.17
		37	0	23.48	22.79
		37	18	23.45	22.85
		37	38	23.53	22.62
		75	0	22.98	21.71
	1732.5	1	0	24.69	23.67
		1	37	23.92	23.10
		1	74	22.31	21.90
		37	0	22.30	21.73

		37	18	21.97	21.14
		37	38	21.97	20.96
		75	0	21.55	20.77
	1747.5	1	0	22.64	22.98
		1	37	23.11	22.28
		1	74	22.72	22.67
		37	0	20.78	22.10
		37	18	21.74	21.58
		37	38	21.43	20.71
		75	0	21.90	21.10
20	1720.0	1	0	23.79	22.74
		1	49	24.37	24.01
		1	99	24.73	23.41
		50	0	23.97	22.85
		50	25	22.64	22.61
		50	50	23.40	22.42
		100	0	23.06	22.25
	1732.5	1	0	24.01	24.14
		1	49	24.81	23.57
		1	99	21.91	21.37
		50	0	22.44	21.70
		50	25	21.07	21.38
		50	50	20.94	21.83
		100	0	21.63	21.56
	1745.0	1	0	22.49	21.75
		1	49	23.62	22.69
		1	99	22.13	23.05
		50	0	22.06	21.46
		50	25	22.06	20.84
		50	50	22.02	21.29
		100	0	21.83	21.34

LTE Band5

BW (MHz)	Frequency (MHz)	RB Configuration		Average Power [dBm]	
		Size	Offset	QPSK	16QAM
1.4	824.7	1	0	23.57	22.34
		1	3	22.54	22.09
		1	5	22.30	22.21
		3	0	23.09	22.42
		3	2	22.53	21.58
		3	3	22.85	22.55
		6	0	22.87	23.00
	836.5	1	0	23.35	23.53
		1	3	23.49	21.89
		1	5	22.10	22.11
		3	0	22.96	22.24
		3	2	21.82	22.26
		3	3	21.53	22.10
		6	0	22.57	21.95
	848.3	1	0	21.82	21.28
		1	3	22.15	21.37
		1	5	21.52	22.19
		3	0	21.93	21.87
		3	2	22.08	22.04
		3	3	22.56	21.15
		6	0	22.09	20.44
3	825.5	1	0	22.42	22.34
		1	7	23.13	23.30
		1	14	22.99	22.55
		8	0	22.37	22.10
		8	4	23.89	22.26
		8	7	22.83	22.85
		15	0	22.59	22.85
	836.5	1	0	23.65	21.92
		1	7	22.92	22.90
		1	14	21.71	20.71
		8	0	22.42	22.42
		8	4	21.91	20.88
		8	7	21.94	21.55
		15	0	21.63	21.22
	847.5	1	0	22.17	22.22
		1	7	21.61	22.08
		1	14	21.56	20.42
		8	0	22.31	22.11
		8	4	22.18	22.61
		8	7	21.54	22.02
		15	0	21.43	21.88
5	826.5	1	0	23.18	22.72
		1	12	22.83	22.59
		1	24	23.08	22.79

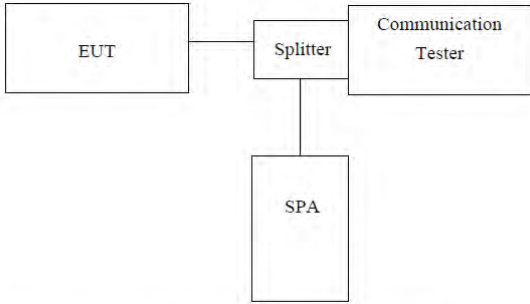
		12	0	22.80	22.51
		12	6	22.59	22.49
		12	13	22.88	22.18
		25	0	23.70	23.07
	836.5	1	0	22.93	22.66
		1	12	22.33	23.18
		1	24	23.00	22.30
		12	0	21.59	22.19
		12	6	23.04	21.94
		12	13	22.30	21.50
		25	0	21.64	21.92
	846.5	1	0	21.27	21.42
		1	12	21.25	22.18
		1	24	22.55	21.53
		12	0	21.19	22.05
		12	6	22.01	20.91
		12	13	21.10	20.75
25		0	22.41	20.85	
10	829.0	1	0	22.88	22.82
		1	24	22.78	23.12
		1	49	23.42	23.38
		25	0	23.28	22.98
		25	12	23.45	22.78
		25	25	24.18	22.91
		50	0	23.98	23.39
	836.5	1	0	24.23	23.36
		1	24	23.36	22.33
		1	49	22.37	21.75
		25	0	22.89	22.40
		25	12	21.89	22.26
		25	25	22.78	21.83
		50	0	21.47	21.42
	844.0	1	0	22.71	22.83
		1	24	22.69	22.59
		1	49	22.44	22.90
		25	0	21.40	21.61
		25	12	22.82	21.59
		25	25	23.02	22.11
		50	0	22.02	21.34

LTE Band7

BW (MHz)	Frequency (MHz)	RB Configuration		Average Power [dBm]	
		Size	Offset	QPSK	16QAM
5	2502.5	1	0	22.85	23.39
		1	12	23.26	22.89
		1	24	22.58	22.05
		12	0	23.48	23.25
		12	6	23.97	23.01
		12	13	23.03	21.32
		25	0	23.62	21.98
	2535.0	1	0	23.80	23.08
		1	12	23.09	22.09
		1	24	21.80	21.39
		12	0	23.12	20.98
		12	6	21.94	21.71
		12	13	22.61	20.64
		25	0	22.13	20.46
	2567.5	1	0	22.02	20.85
		1	12	22.06	22.50
		1	24	20.89	20.27
		12	0	21.79	21.17
		12	6	22.63	21.32
		12	13	21.65	20.22
		25	0	22.35	20.54
10	2505.0	1	0	23.06	23.90
		1	24	23.01	22.28
		1	49	22.90	23.04
		25	0	24.06	22.70
		25	12	24.33	22.41
		25	25	23.15	22.47
		50	0	23.98	22.70
	2535.0	1	0	22.97	23.42
		1	24	23.55	22.92
		1	49	23.10	22.90
		25	0	23.17	21.81
		25	12	22.11	22.08
		25	25	21.57	20.90
		50	0	22.92	22.04
	2565.0	1	0	22.83	22.61
		1	24	22.87	22.32
		1	49	21.86	22.42
		25	0	22.00	21.78
		25	12	22.25	22.56
		25	25	23.14	22.40
		50	0	22.05	21.04
15	2507.5	1	0	22.56	23.07
		1	37	23.24	23.52
		1	74	22.98	22.86

		37	0	22.97	21.80	
		37	18	22.66	22.07	
		37	38	22.70	22.55	
		75	0	22.66	23.03	
	2535.0	1	0	22.60	22.45	
		1	37	23.20	22.37	
		1	74	20.84	21.44	
		37	0	22.56	21.97	
		37	18	21.76	21.76	
		37	38	22.11	21.53	
		75	0	21.59	21.96	
		2562.5	1	0	22.81	21.79
	1		37	21.52	20.90	
	1		74	21.78	20.69	
	37		0	21.48	20.50	
	37		18	23.13	20.06	
	37		38	21.92	21.52	
	75		0	21.08	20.95	
	20	2510.0	1	0	23.35	23.77
			1	49	23.40	21.81
1			99	23.45	22.24	
50			0	23.37	21.41	
50			25	23.21	21.47	
50			50	22.49	21.34	
100			0	23.00	22.40	
2535.0		1	0	22.89	22.63	
		1	49	22.74	23.21	
		1	99	22.05	20.76	
		50	0	21.38	21.30	
		50	25	21.62	21.45	
		50	50	22.58	20.98	
		100	0	22.13	21.58	
2560		1	0	22.05	21.39	
		1	49	21.66	21.34	
		1	99	22.25	20.99	
		50	0	21.46	21.39	
		50	25	21.64	20.16	
		50	50	20.87	20.93	
	100	0	22.35	20.82		

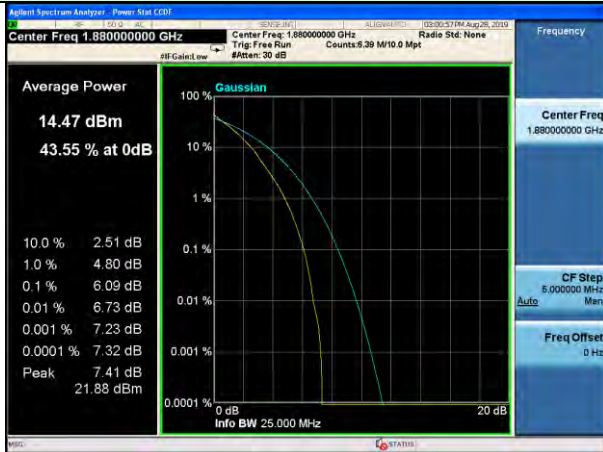
4.4 Peak-to-Average Ratio

Test Requirement:	Part 22.913(d), FCC part24.232(d) and FCC part27.50(d)(5)
Test Method:	ANSI C63.26:2015
Test Limit:	Used complementary cumulative distribution function (CCDF) of analyzer to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time
Test setup:	 <p style="text-align: center;"><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7.. 2. The EUT was connected to spectrum and system simulator via a power divider 3. Using the CCDF measurement of spectrum analyzer; 4. Set $RBW \geq OBW$ or specified reference bandwidth; 5. Set the number of counts to a value that stabilizes the measured CCDF curve; 6. Set the measurement interval as 1ms 7. Record the maximum PAPR level associated with a probability of 0.1%.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Test plots are listed as below:

Test mode	Peak to Average Ratio (dB)	Limit (dB)	Result
LTE Band 2 Middle channel/20MHz/QPSK	6.09	13	PASS
LTE Band 2 Middle channel/20MHz/16-QAM	6.32	13	PASS
LTE Band 4 Middle channel/20MHz/QPSK	6.56	13	PASS
LTE Band 4 Middle channel/20MHz/16-QAM	6.85	13	PASS
LTE Band 5 Middle channel/10MHz/QPSK	5.94	13	PASS
LTE Band 5 Middle channel/10MHz/16-QAM	6.28	13	PASS
LTE Band 7 Middle channel/20MHz/QPSK	3.33	13	PASS
LTE Band 7 Middle channel/20MHz/16-QAM	4.33	13	PASS

Test Mode: LTE Band 2
Middle channel/20MHz/QPSK



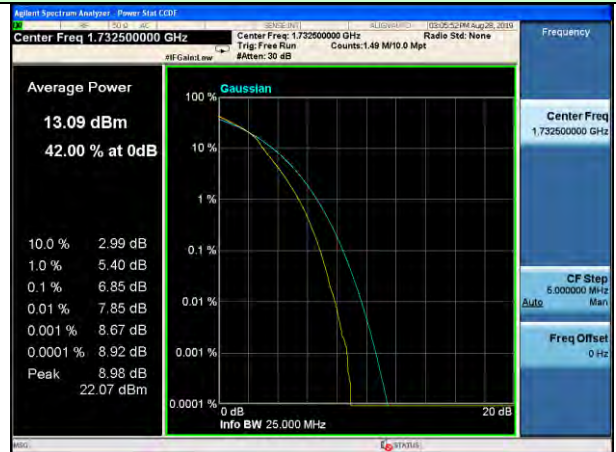
Test Mode: LTE Band 2
Middle channel/20MHz/16-QAM



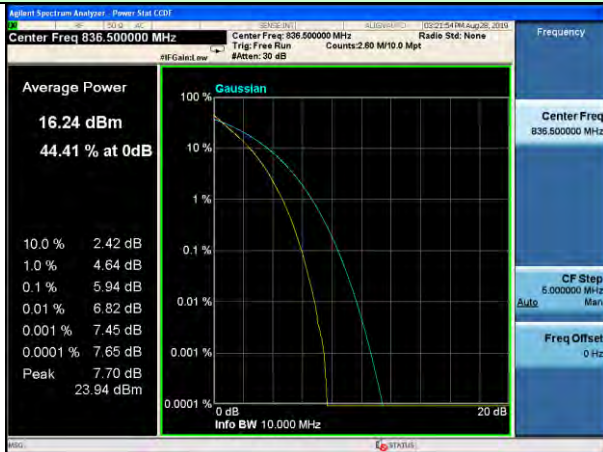
Test Mode: LTE Band 4
Middle channel/20MHz/QPSK



Test Mode: LTE Band 4
Middle channel/20MHz/16-QAM



Test Mode: LTE Band 5
Middle channel/10MHz/QPSK



Test Mode: LTE Band 5
Middle channel/10MHz/16-QAM



Test Mode: LTE Band 7 Middle channel/20MHz/QPSK	Test Mode: LTE Band 7 Middle channel/20MHz/16-QAM
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Note: All bandwidth and modulation are tested, only the worst results are reported.

4.5 Occupy Bandwidth

Test Requirement:	FCC part22.913(a), FCC part24.232(b) and FCC part27.53(a)
Test Method:	ANSI C63.26:2015
Test setup:	<pre> graph LR EUT[EUT] --- Splitter[Splitter] Splitter --- CT[Communication Tester] Splitter --- SPA[SPA] </pre> <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 1.The EUT's output RF connector was connected with a short cable to the spectrum analyzer, set center frequency to channel center frequency. 2.RBW was set to about 1%-5% of emission OBW, VBW \geq 3 X RBW. 3.Set spectrum analyzer detection mode to peak, and the trace mode to max hold. 4. Use the 99% OBW function, The 99% power OBW can be found on the plot, determine the "-26dB amplitude" as equal to reference value -26dB.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

EUT Mode	Channel Bandwidth	Mode	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 2	1.4MHz	QPSK	6	0	1099.9	1287.00
		16-QAM	6	0	1097.8	1268.00
	3MHz	QPSK	15	0	2686.5	2917.00
		16-QAM	15	0	2685.0	2909.00
	5MHz	QPSK	25	0	4550.2	5081.00
		16-QAM	25	0	4530.3	5042.00
	10MHz	QPSK	50	0	8947.2	9803.00
		16-QAM	50	0	8930.0	9589.00
	15MHz	QPSK	75	0	13507.6	15013.00
		16-QAM	75	0	13474.0	14948.00
	20MHz	QPSK	100	0	17910.7	19759.00
		16-QAM	100	0	17908.3	19437.00

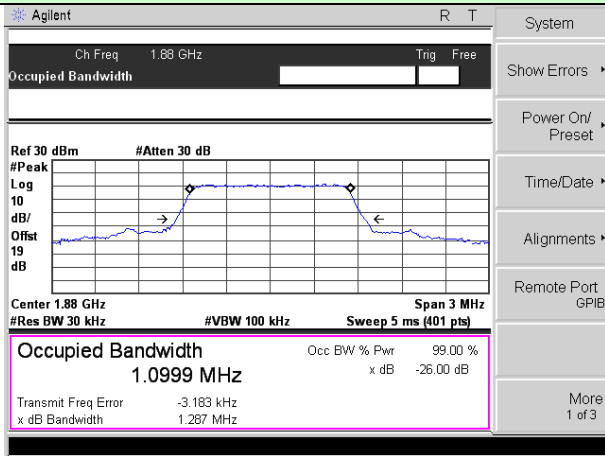
EUT Mode	Channel Bandwidth	Mode	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 4	1.4MHz	QPSK	6	0	1097.9	1276.00
		16-QAM	6	0	1103.9	1272.00
	3MHz	QPSK	15	0	2686.5	2902.00
		16-QAM	15	0	2690.0	2951.00
	5MHz	QPSK	25	0	4459.1	4919.00
		16-QAM	25	0	4459.7	4908.00
	10MHz	QPSK	50	0	9072.4	10297.00
		16-QAM	50	0	9077.2	10229.00
	15MHz	QPSK	75	0	13501.0	14860.00
		16-QAM	75	0	13478.9	14953.00
	20MHz	QPSK	100	0	17947.6	19549.00
		16-QAM	100	0	17891.7	19460.00

EUT Mode	Channel Bandwidth	Mode	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 5	1.4MHz	QPSK	6	0	1096.7	1273.00
		16-QAM	6	0	1101.4	1283.00
	3MHz	QPSK	15	0	2688.4	2934.00
		16-QAM	15	0	2685.8	2900.00
	5MHz	QPSK	25	0	4557.8	5100.00
		16-QAM	25	0	4546.5	5107.00
	10MHz	QPSK	50	0	9107.0	10156.00
		16-QAM	50	0	9117.1	10330.00

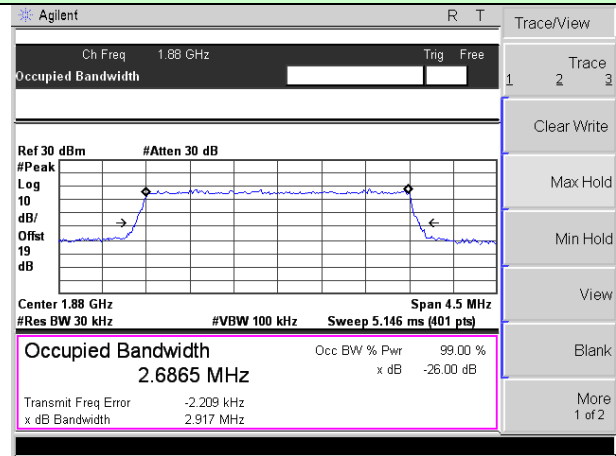
EUT Mode	Channel Bandwidth	Mode	RB Configure		99% Occupy bandwidth (KHz)	-26dB bandwidth (KHz)
			RB Size	RB Offset		
LTE Band 7	5MHz	QPSK	25	0	4536.7	5105.00
		16-QAM	25	0	4549.9	5085.00
	10MHz	QPSK	50	0	9063.1	10249.00
		16-QAM	50	0	9085.3	10203.00
	15MHz	QPSK	75	0	13484.6	15085.00
		16-QAM	75	0	13476.5	14963.00
	20MHz	QPSK	100	0	17919.2	19538.00
		16-QAM	100	0	17887.9	19662.00

Test plot as follows:

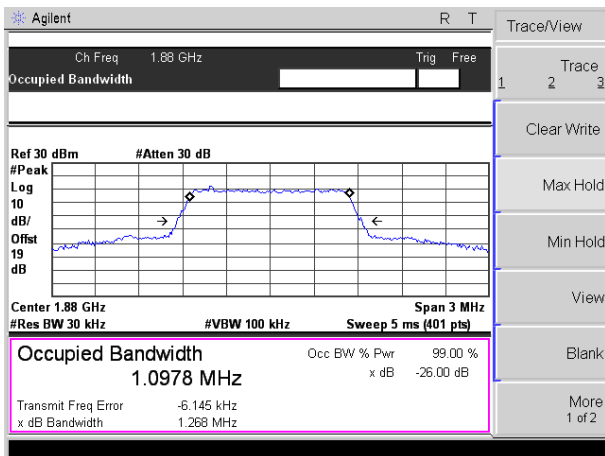
Test Mode: LTE Band 2 Channel Bandwidth: 1.4MHz	Test Mode: LTE Band 2 Channel Bandwidth: 3MHz
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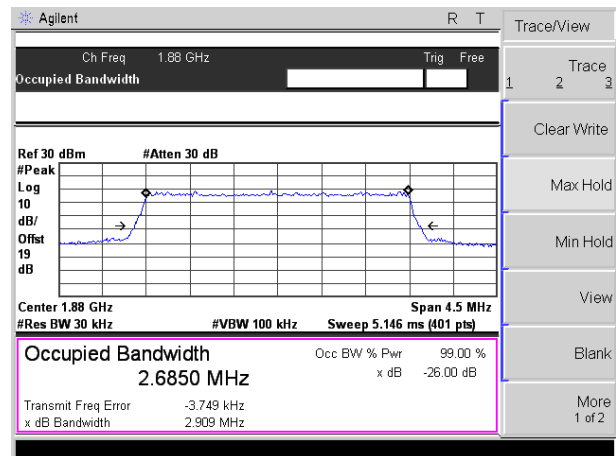
QPSK



QPSK



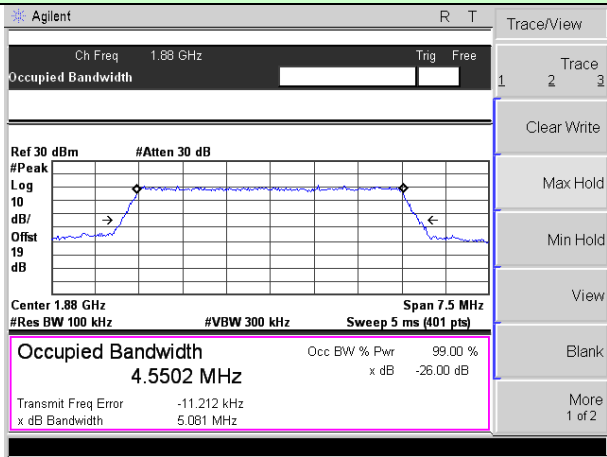
16-QAM



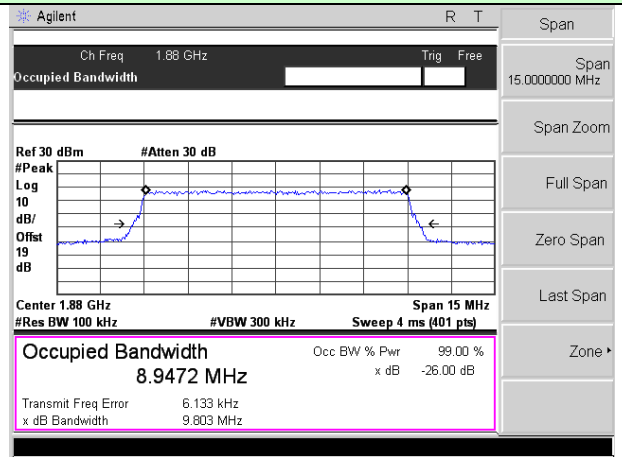
16-QAM

Test Mode: LTE Band 2 Channel Bandwidth: 5MHz

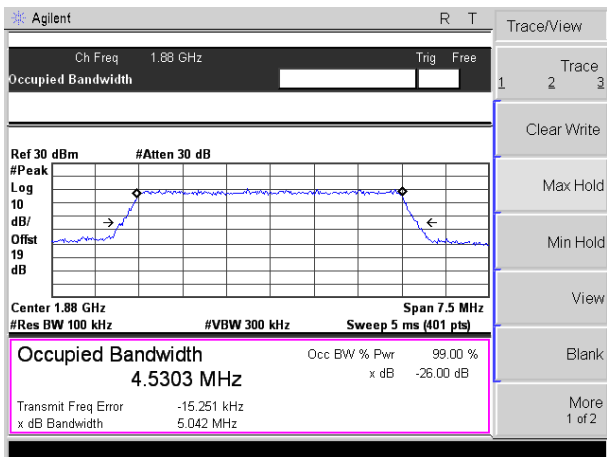
Test Mode: LTE Band 2 Channel Bandwidth: 10MHz



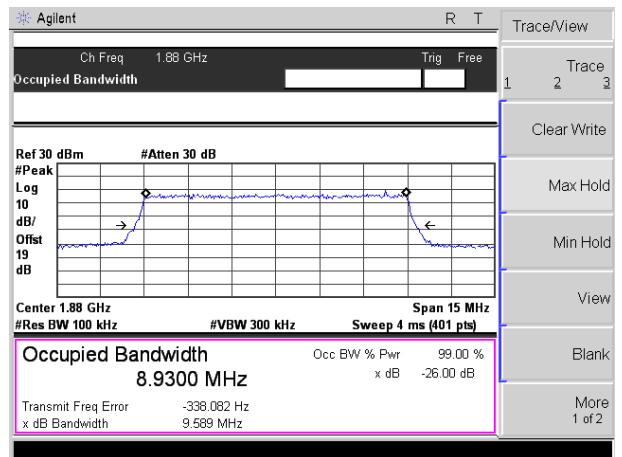
QPSK



QPSK

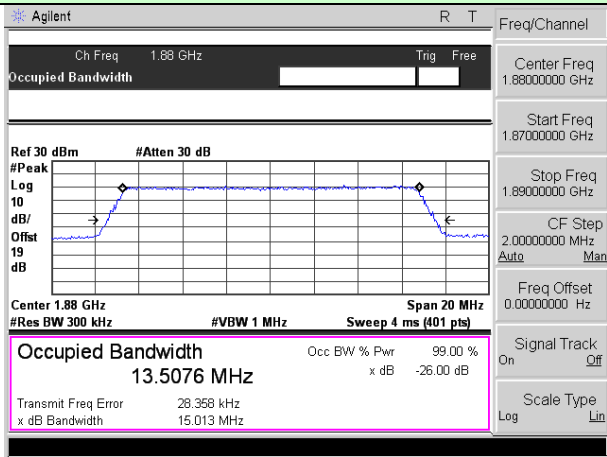


16-QAM



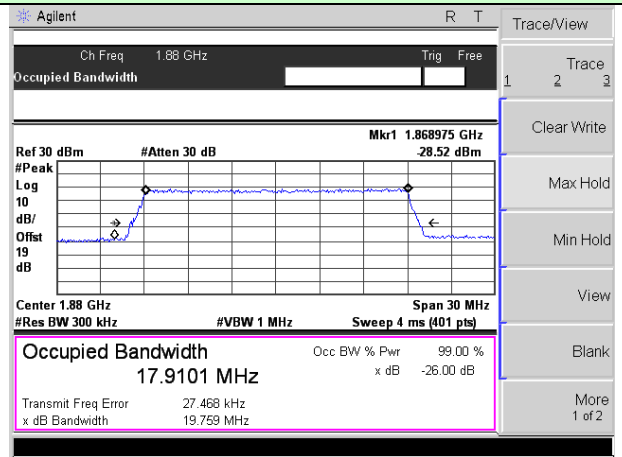
16-QAM

Test Mode: LTE Band 2 Channel Bandwidth: 15MHz

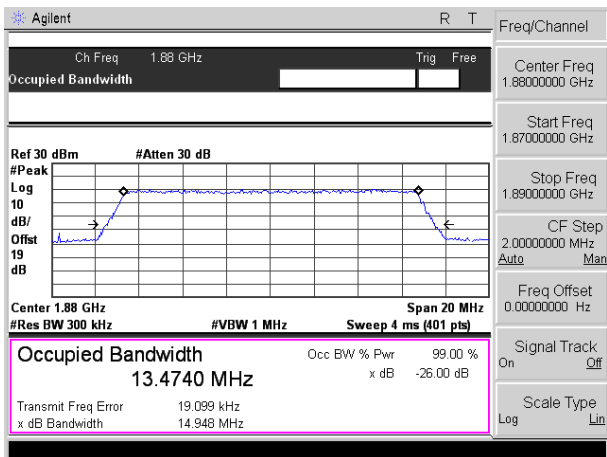


QPSK

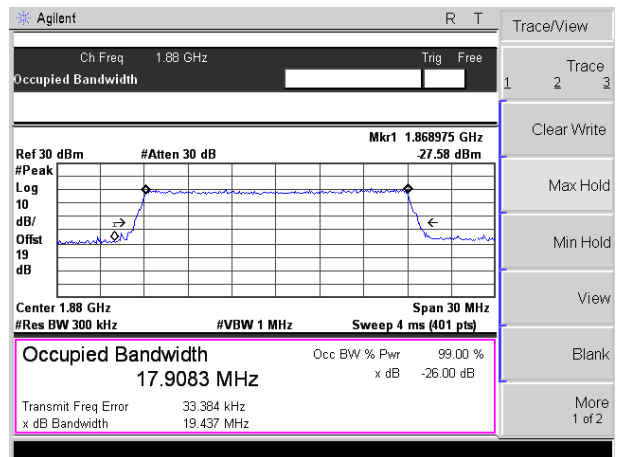
Test Mode: LTE Band 2 Channel Bandwidth: 20MHz



QPSK



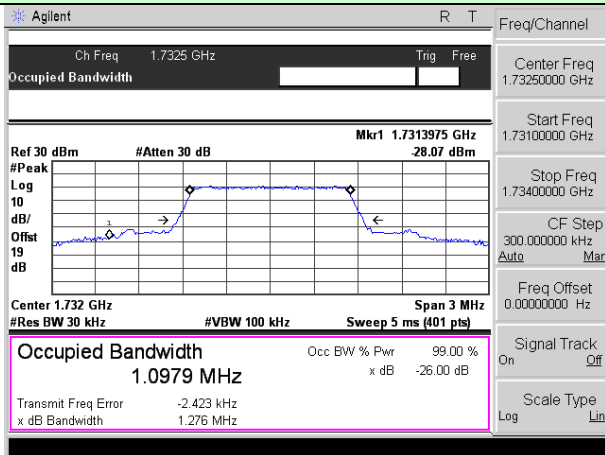
16-QAM



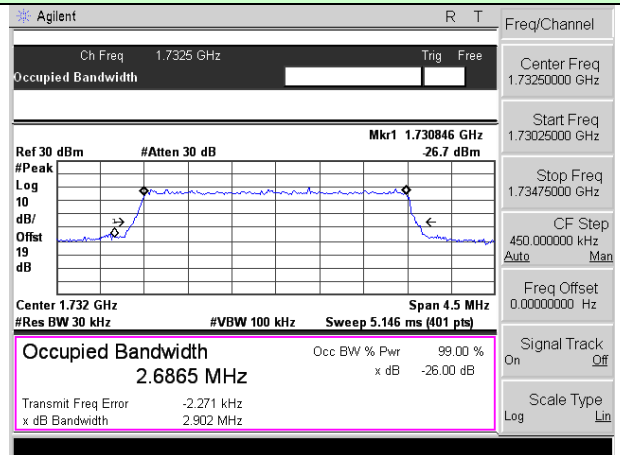
16-QAM

Test Mode: LTE Band 4 Channel Bandwidth: 1.4MHz

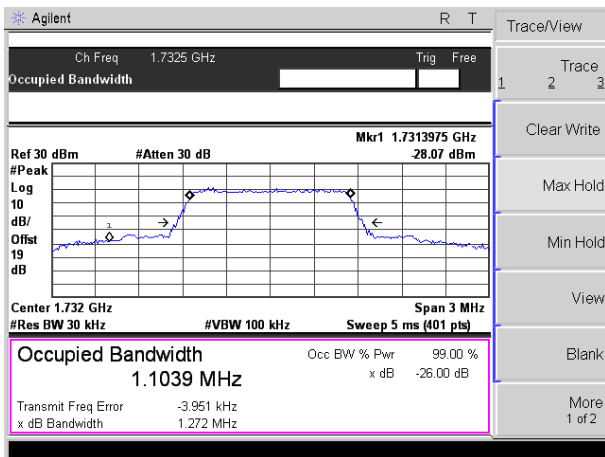
Test Mode: LTE Band 4 Channel Bandwidth: 3MHz



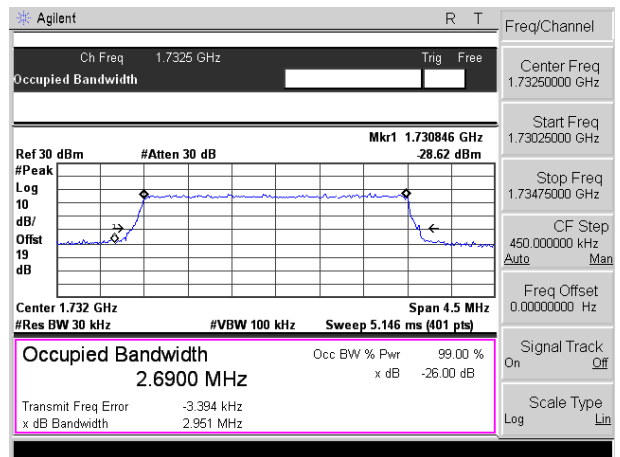
QPSK



QPSK

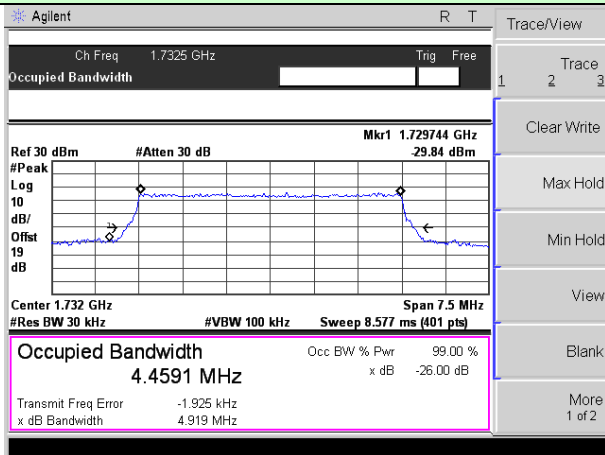


16-QAM

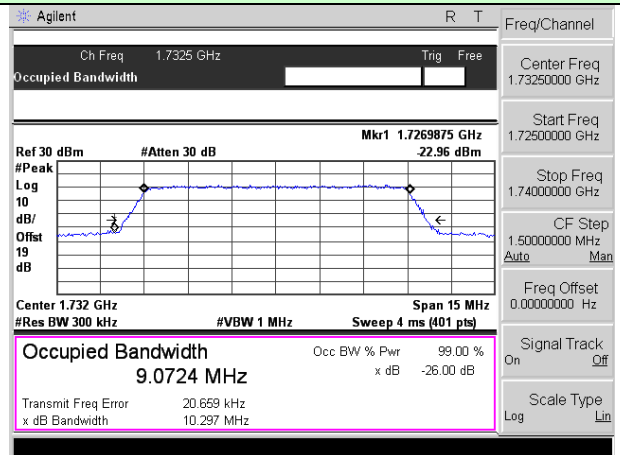


16-QAM

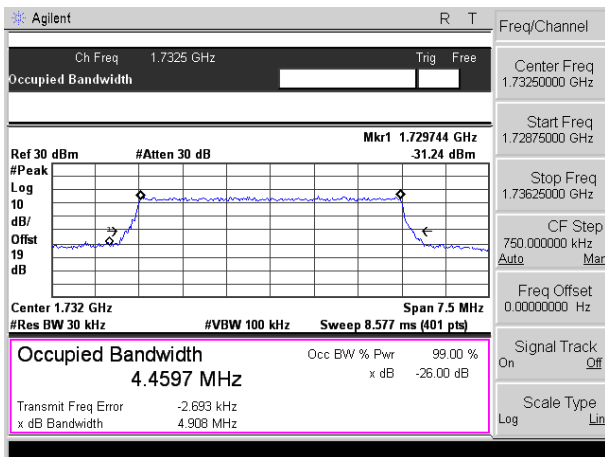
Test Mode: LTE Band 4 Channel Bandwidth: 5MHz	Test Mode: LTE Band 4 Channel Bandwidth: 10MHz
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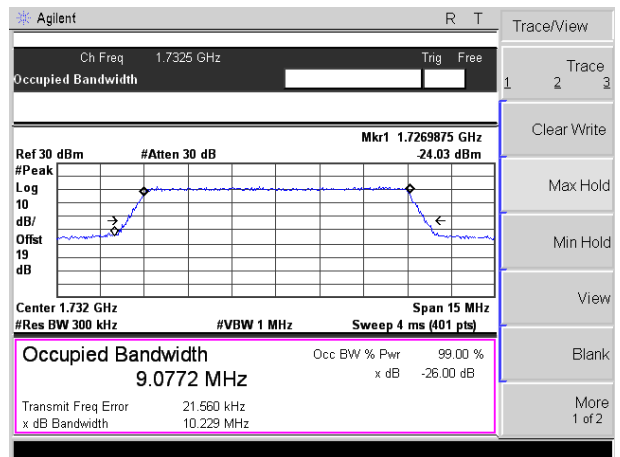
QPSK



QPSK

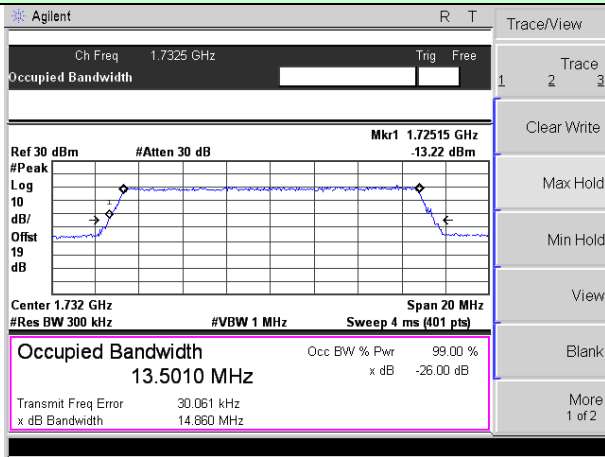


16-QAM

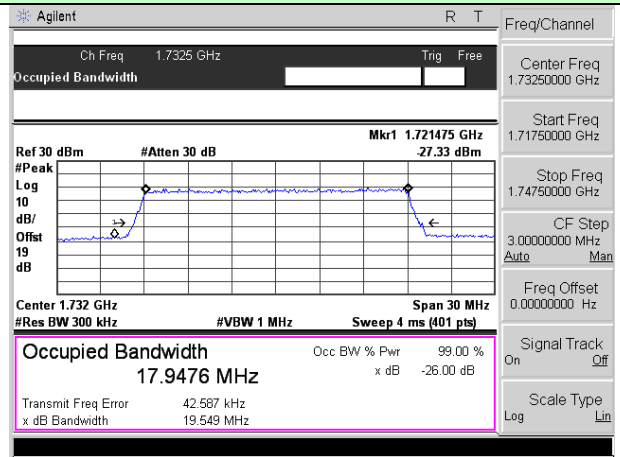


16-QAM

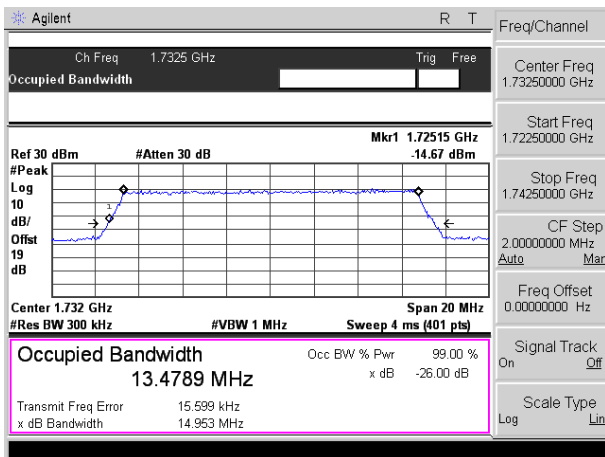
Test Mode: LTE Band 4 Channel Bandwidth: 15MHz	Test Mode: LTE Band 4 Channel Bandwidth: 20MHz
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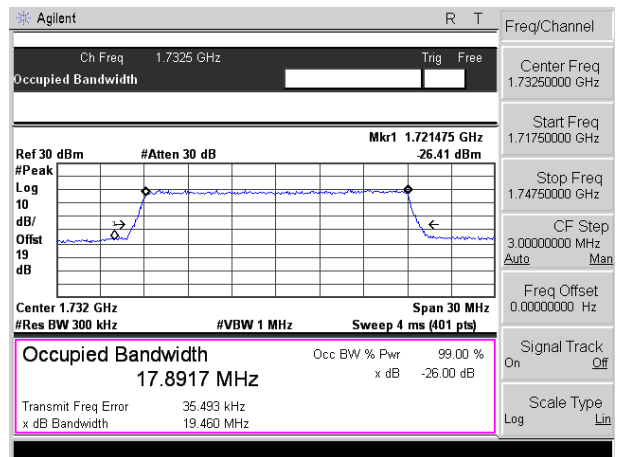
QPSK



QPSK



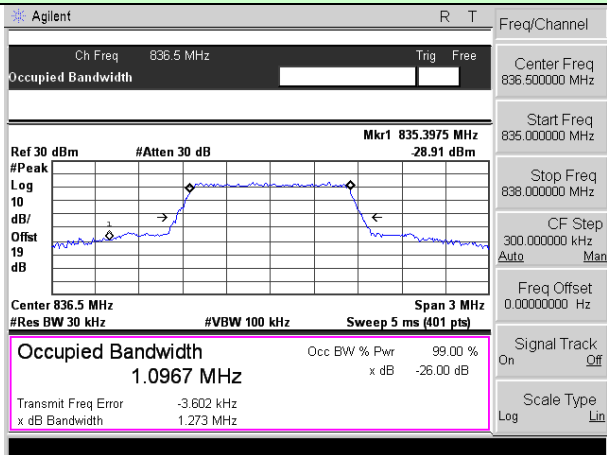
16-QAM



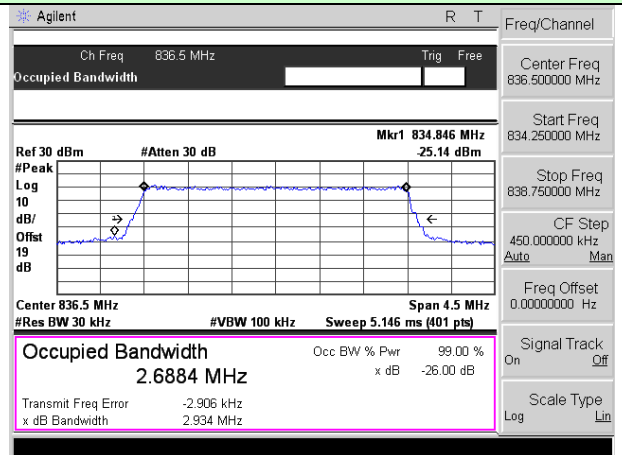
16-QAM

Test Mode: LTE Band 5 Channel Bandwidth: 1.4MHz

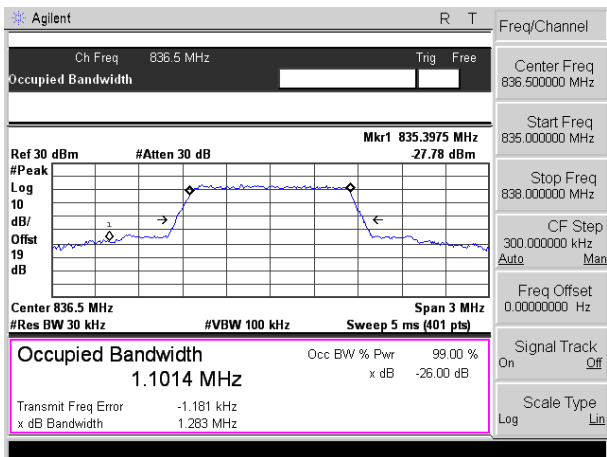
Test Mode: LTE Band 5 Channel Bandwidth: 3MHz



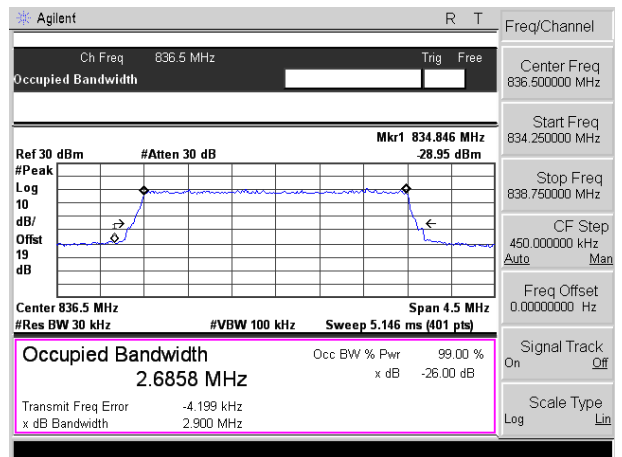
QPSK



QPSK

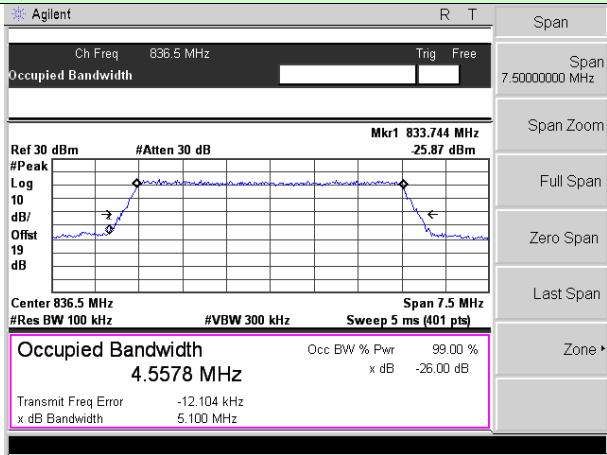


16-QAM

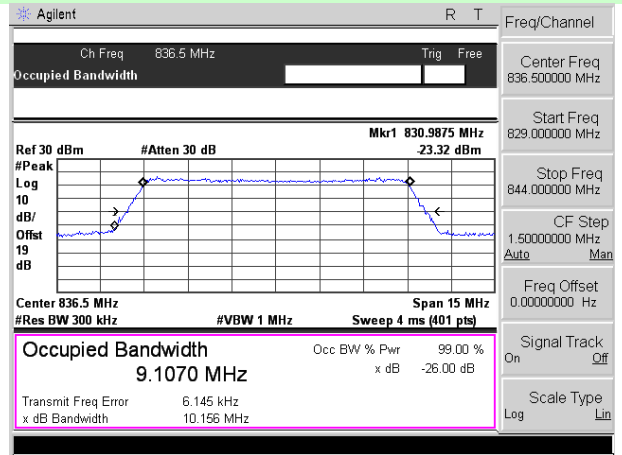


16-QAM

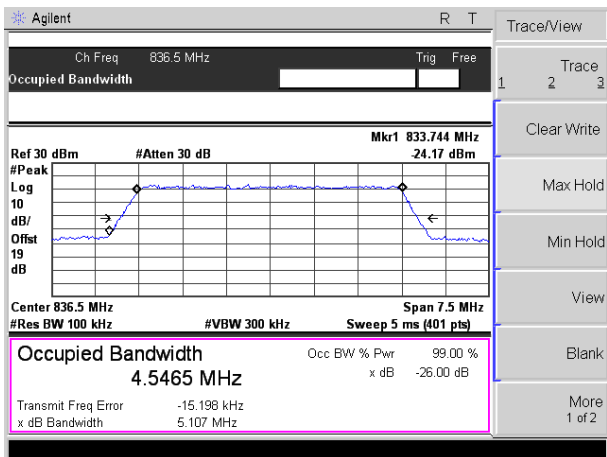
Test Mode: LTE Band 5
Channel Bandwidth: 5MHz **Test Mode: LTE Band 5**
Channel Bandwidth: 10MHz



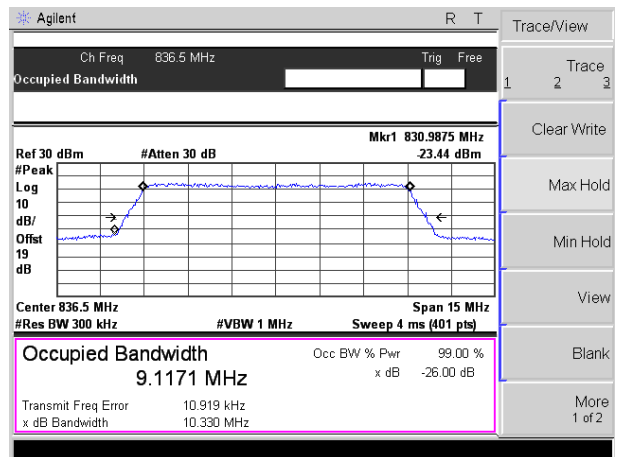
QPSK



QPSK

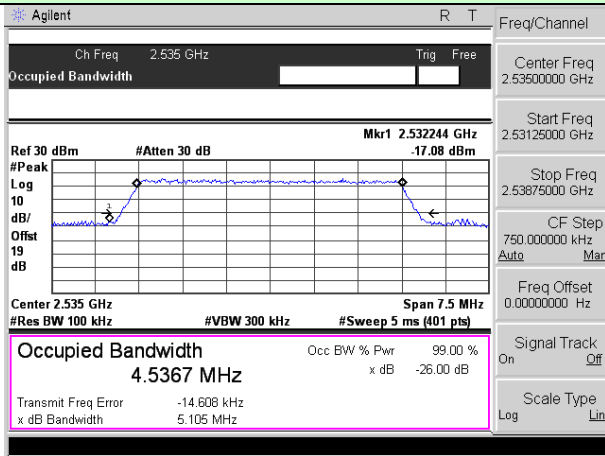


16-QAM

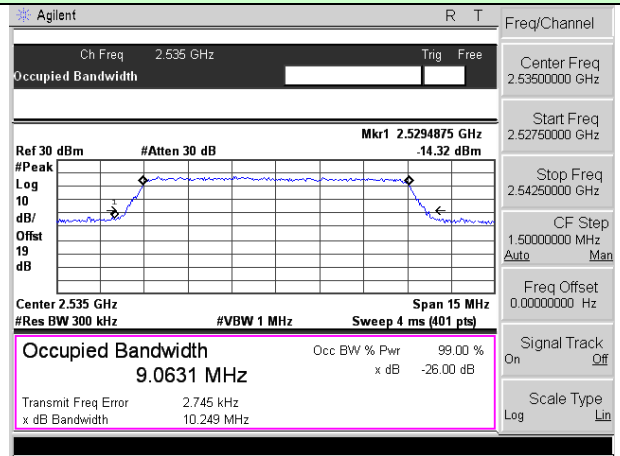


16-QAM

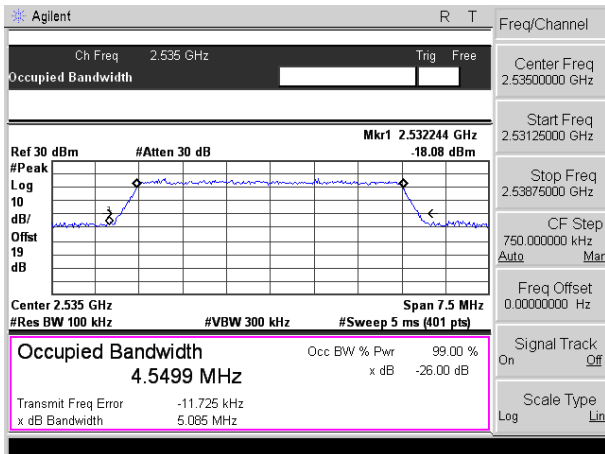
Test Mode: LTE Band 7 Channel Bandwidth: 5MHz	Test Mode: LTE Band 7 Channel Bandwidth: 10MHz
--	---



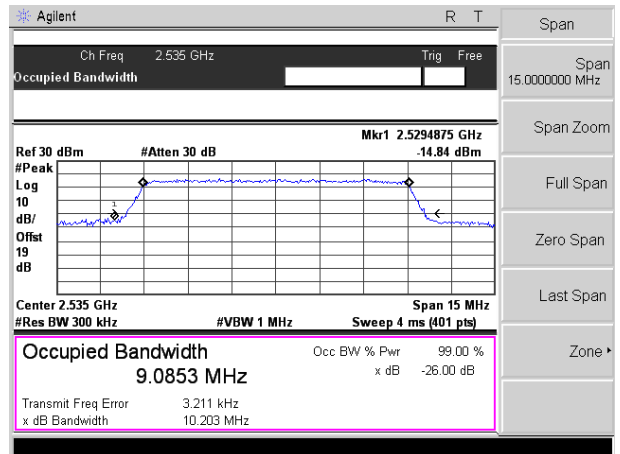
QPSK



QPSK

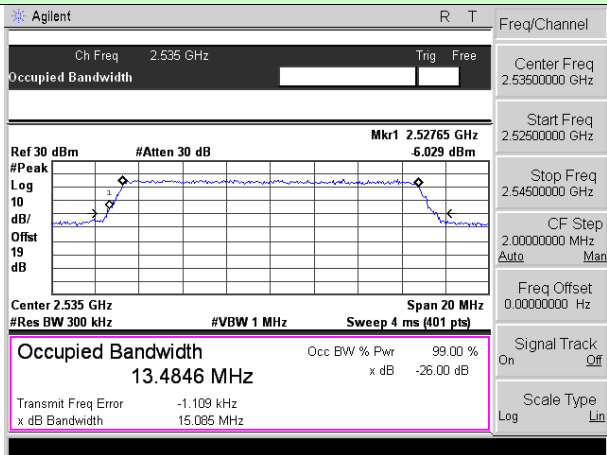


16-QAM



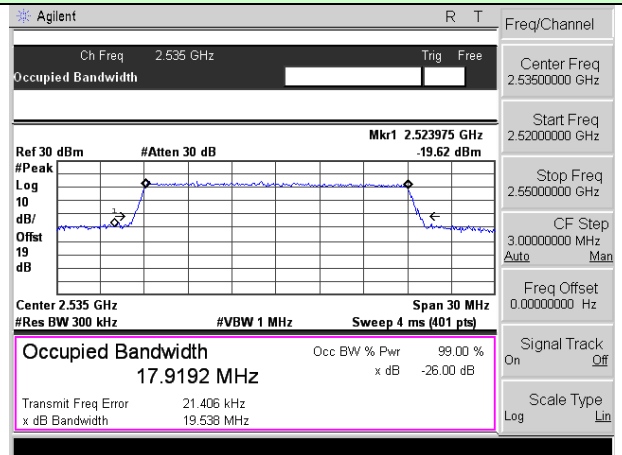
16-QAM

Test Mode: LTE Band 7
Channel Bandwidth: 15MHz

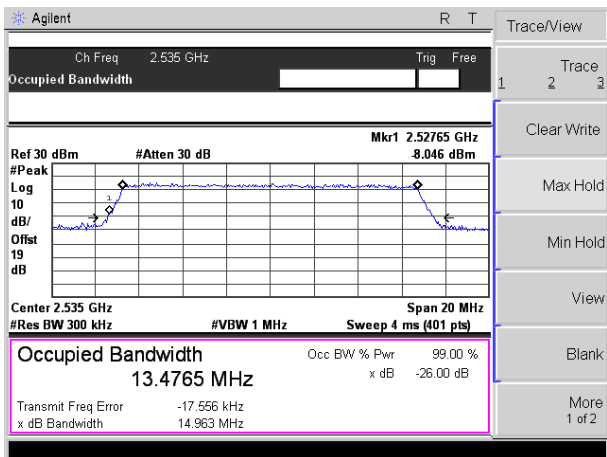


QPSK

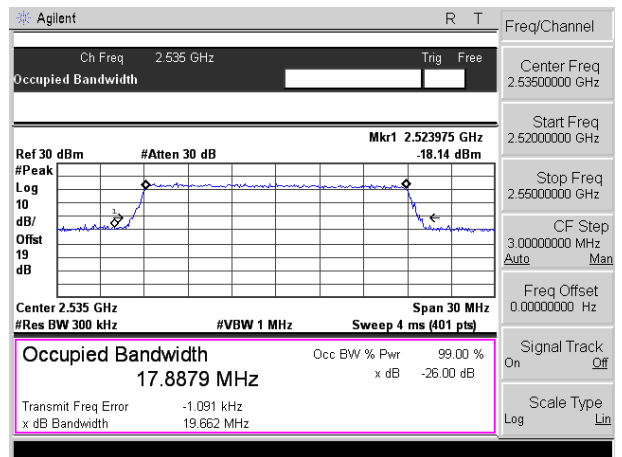
Test Mode: LTE Band 7
Channel Bandwidth: 20MHz



QPSK



16-QAM



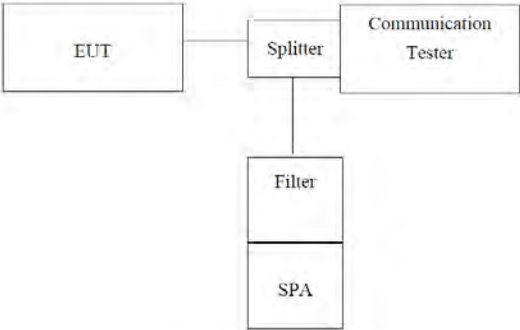
16-QAM

Note: All bandwidth and modulation are tested, only the worst results are reported.

4.6 MODULATION CHARACTERISTIC

According to FCC § 2.1047(d), Part 24E & Part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

4.7 Out of band emission at antenna terminals

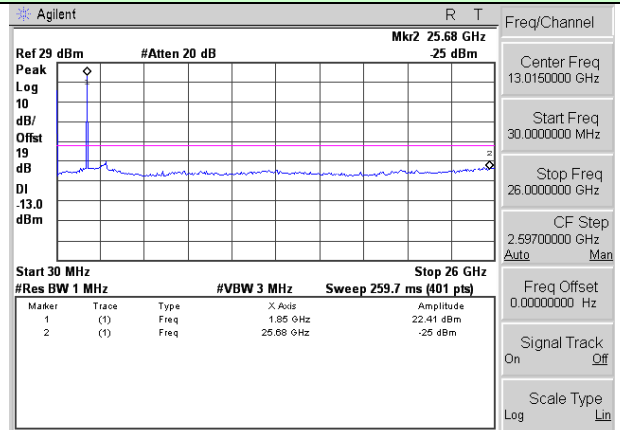
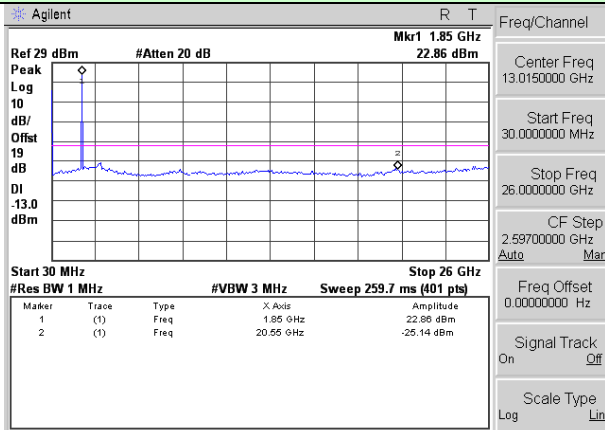
Test Requirement:	FCC part22.913(a), FCC part24.238(a) and FCC part27.53(h)
Test Method:	ANSI C63.26:2015
Limit:	-13dBm Band 7: -26dBm
Test setup:	 <p><i>Note: Measurement setup for testing on Antenna connector</i></p>
Test Procedure:	<ol style="list-style-type: none"> 1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 1MHz, sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=1MHz, VBW = 3MHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Test plot as follows:

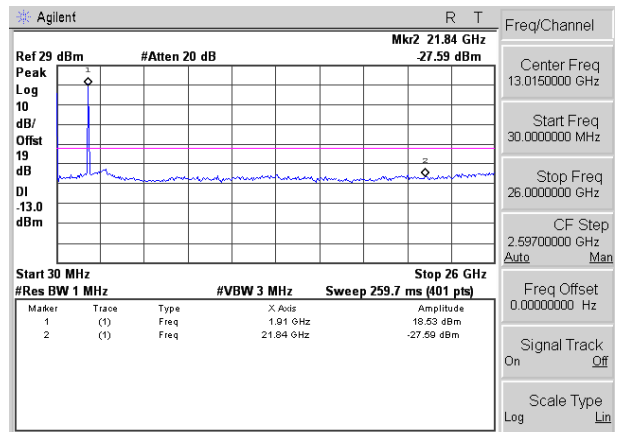
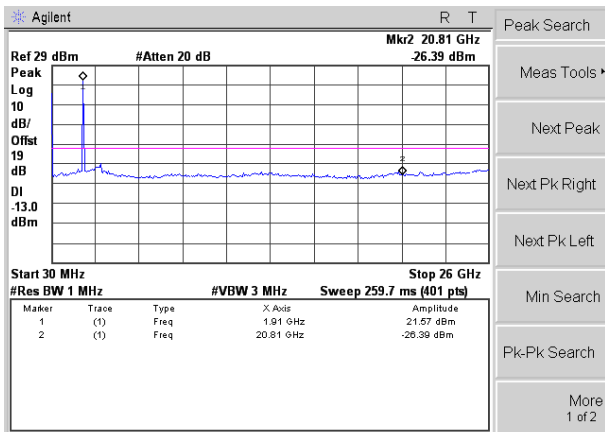
Conducted Spurious Emission:

Test Mode: LTE Band 2 / 1.4MHz /1RB

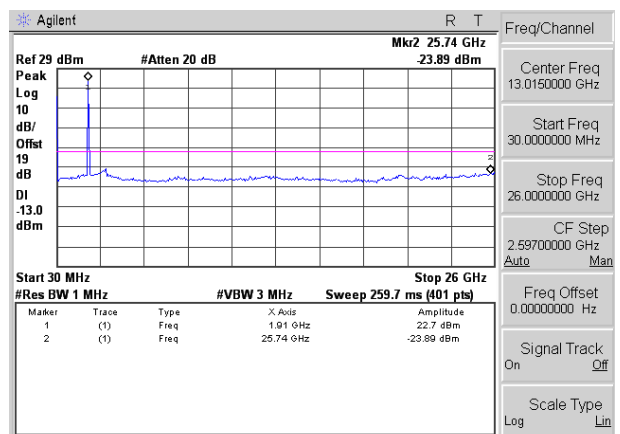
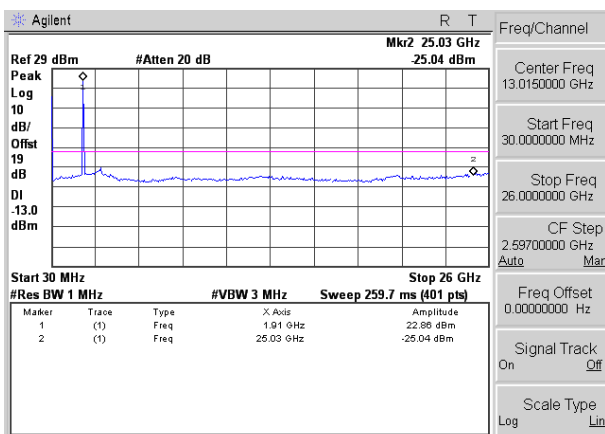
Test Mode: LTE Band 2 / 1.4MHz /6RB



Lowest channel

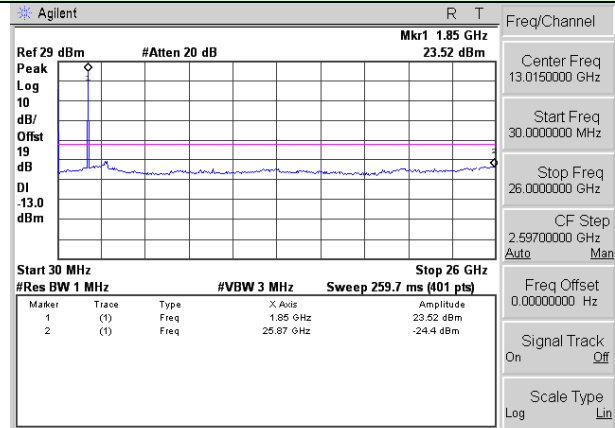
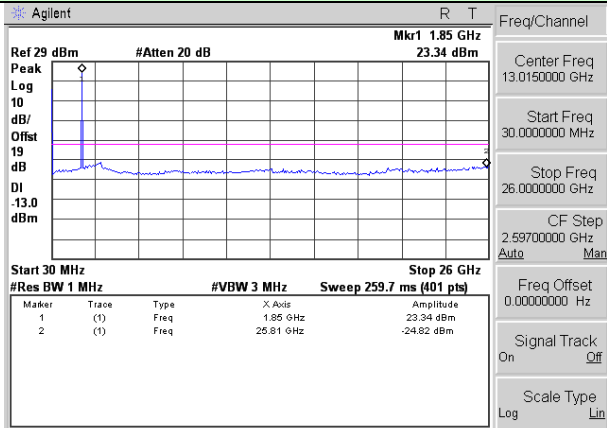


Middle channel

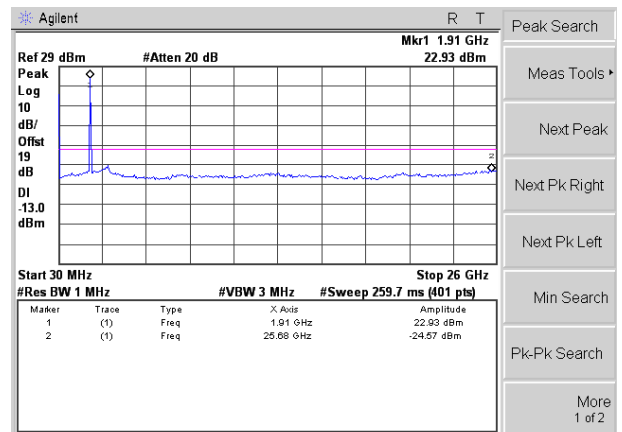
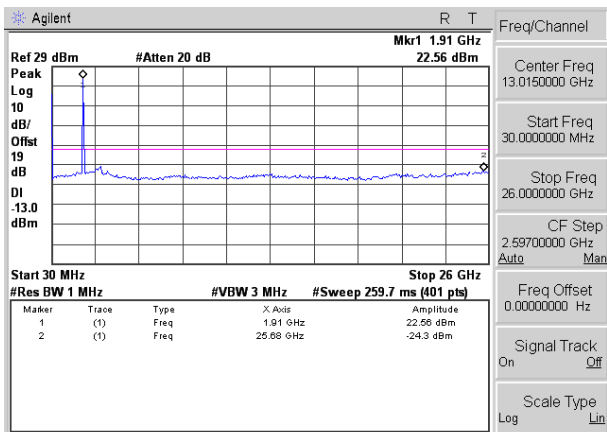


Highest channel

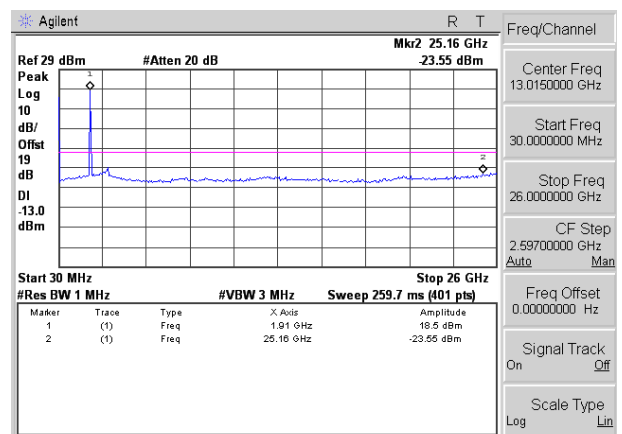
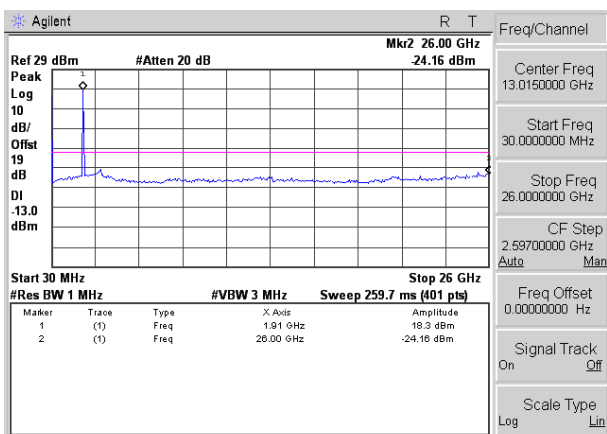
Test Mode: LTE Band 2 / 3MHz /1RB Test Mode: LTE Band 2 / 3MHz /15RB



Lowest channel

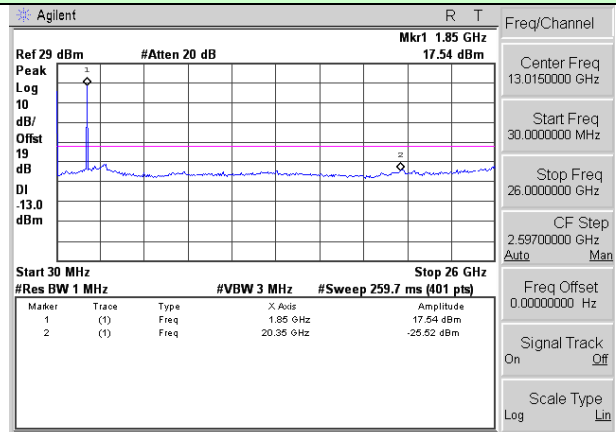
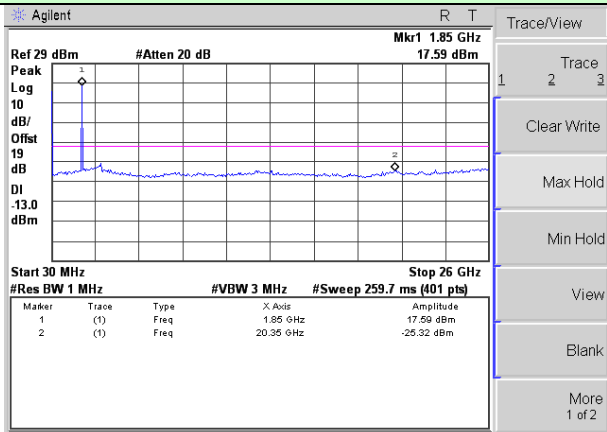


Middle channel

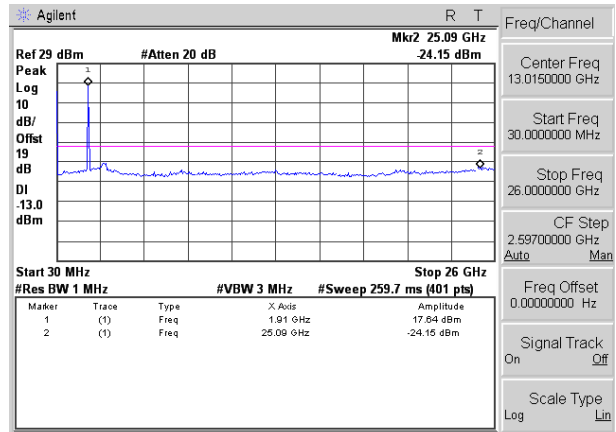
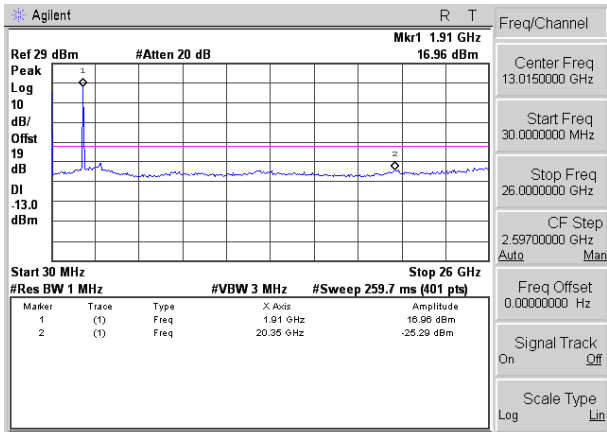


Highest channel

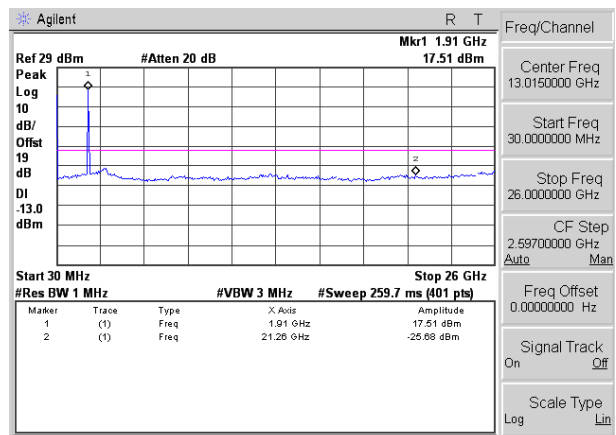
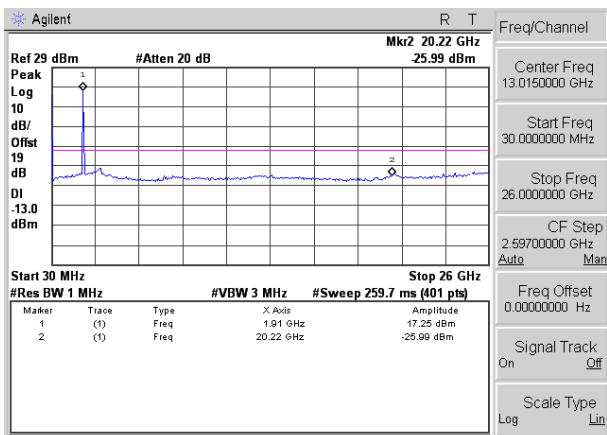
Test Mode: LTE Band 2 / 5MHz /1RB **Test Mode: LTE Band 2 / 5MHz /25RB**



Lowest channel

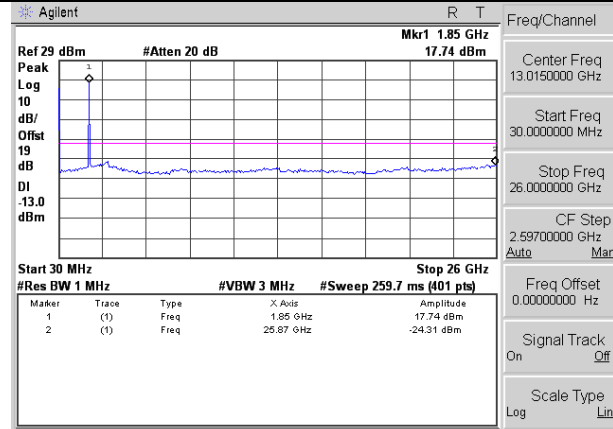
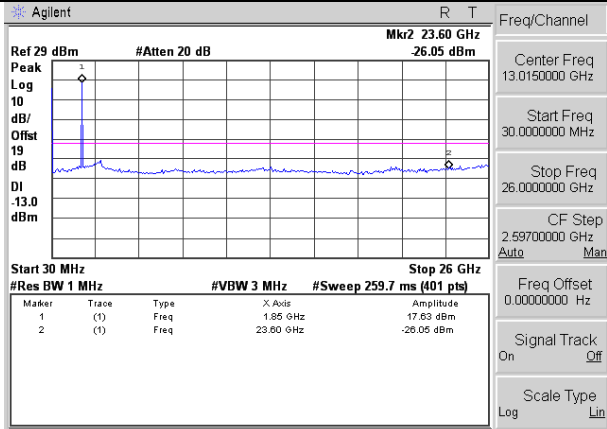


Middle channel

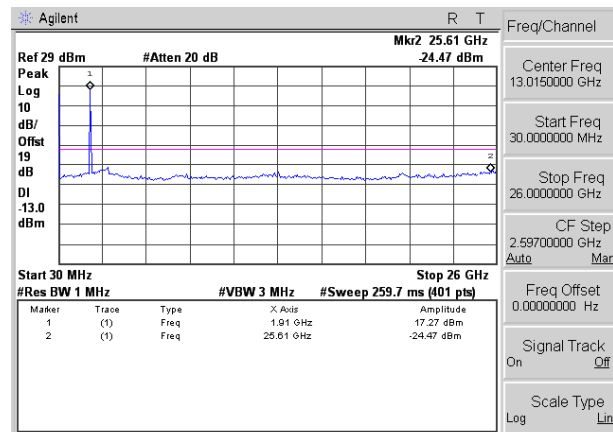
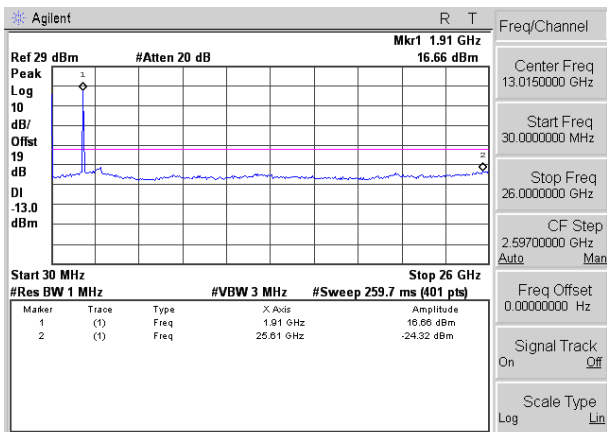


Highest channel

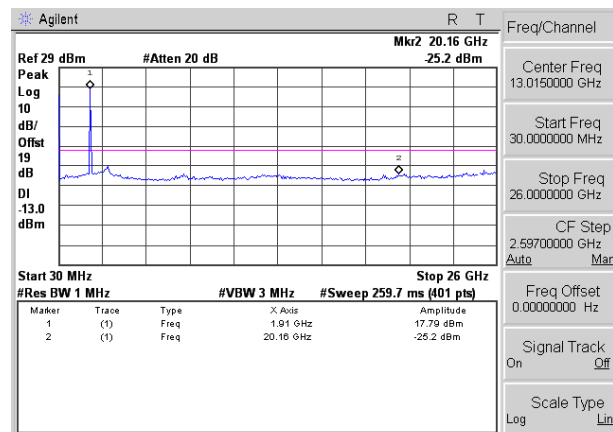
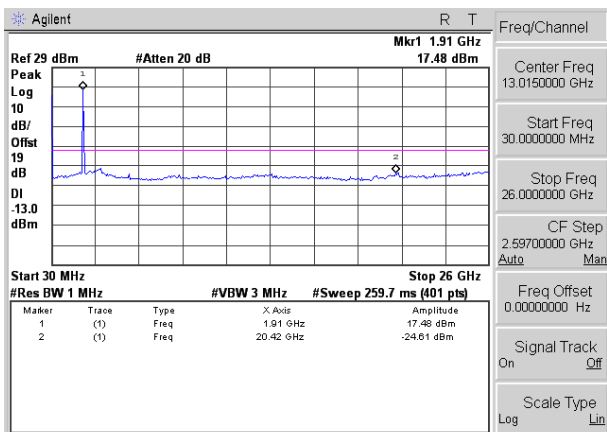
Test Mode: LTE Band 2 / 10MHz /1RB Test Mode: LTE Band 2 / 10MHz /50RB



Lowest channel



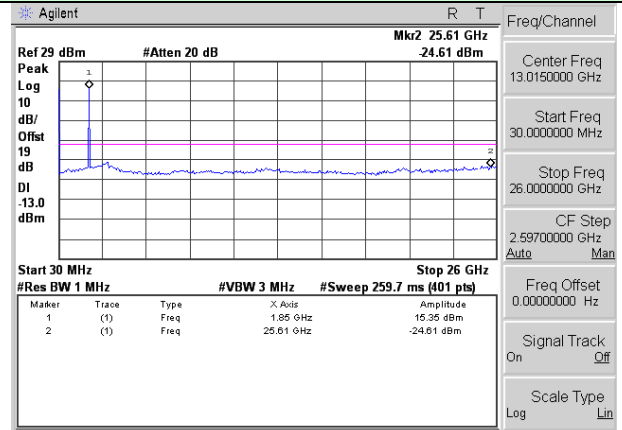
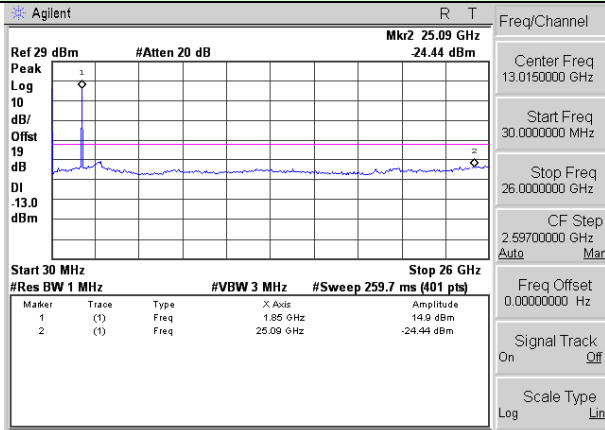
Middle channel



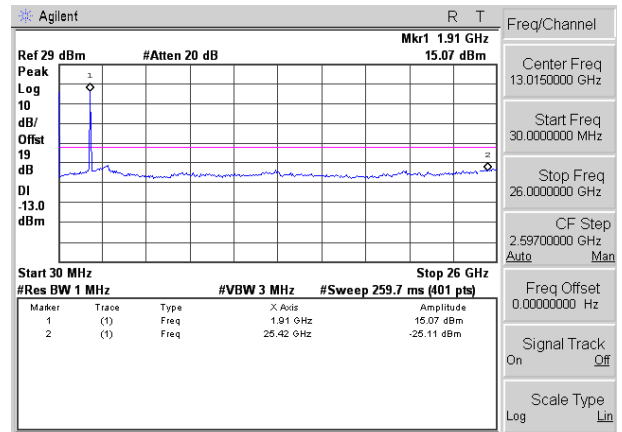
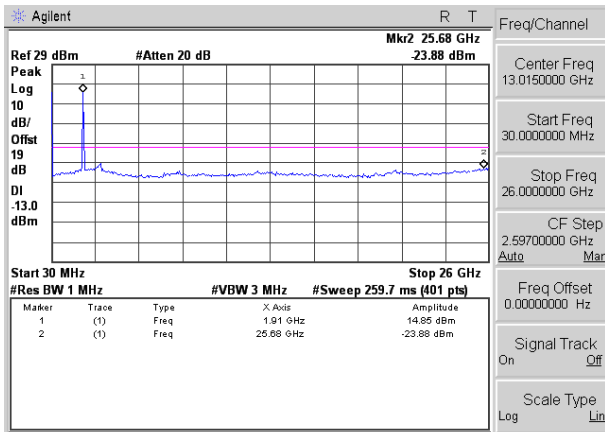
Highest channel

Test Mode: LTE Band 2 / 15MHz /1RB

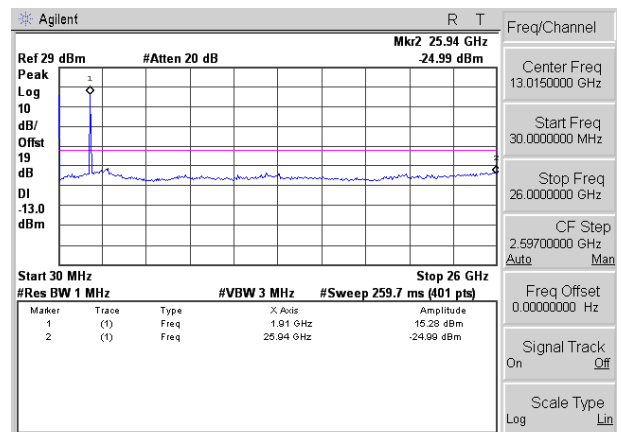
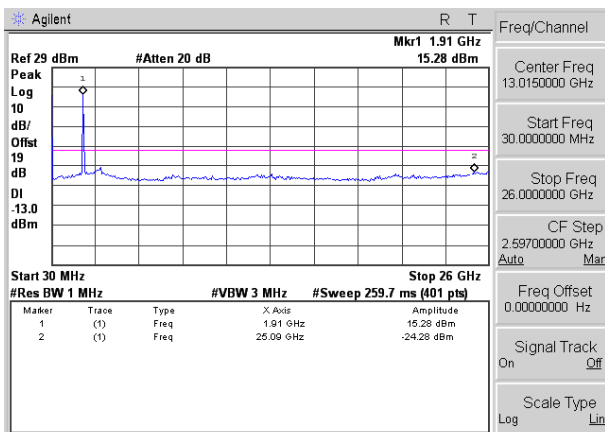
Test Mode: LTE Band 2 / 15MHz /75RB



Lowest channel

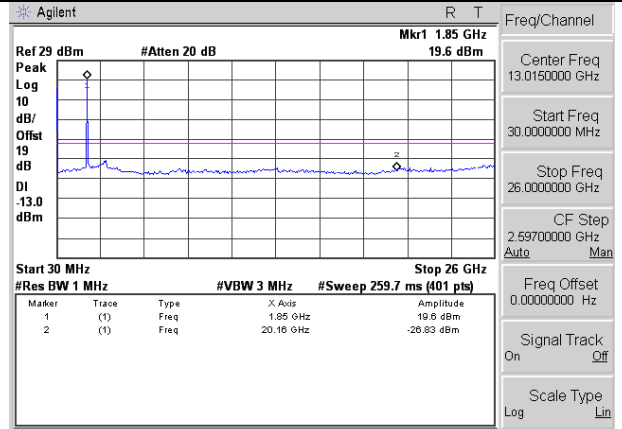
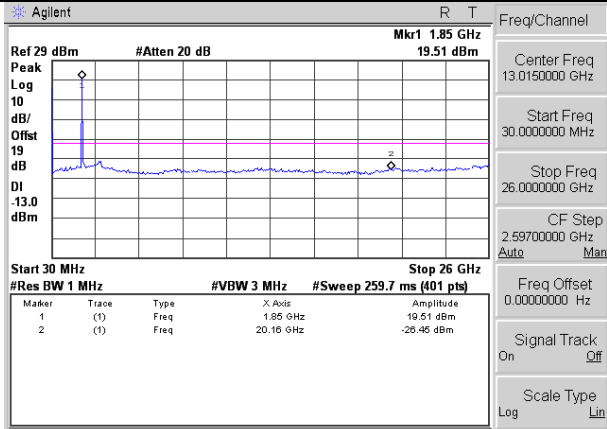


Middle channel

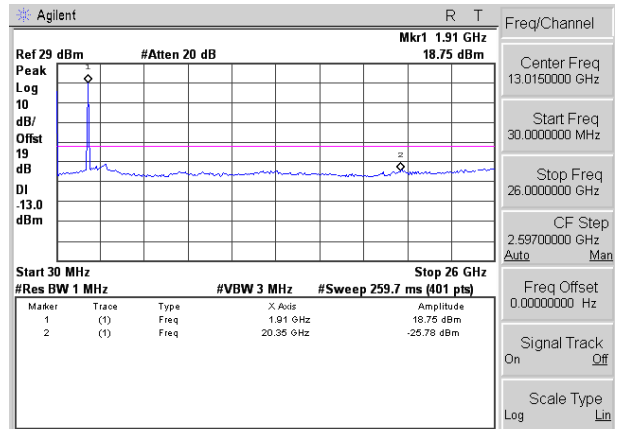
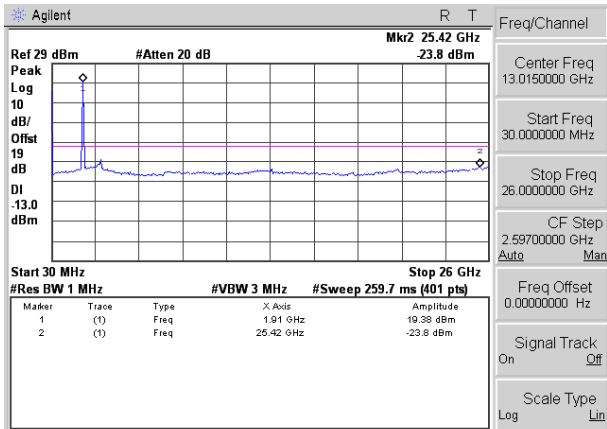


Highest channel

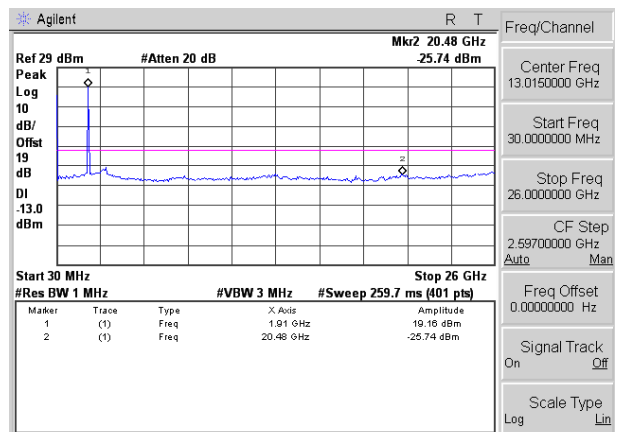
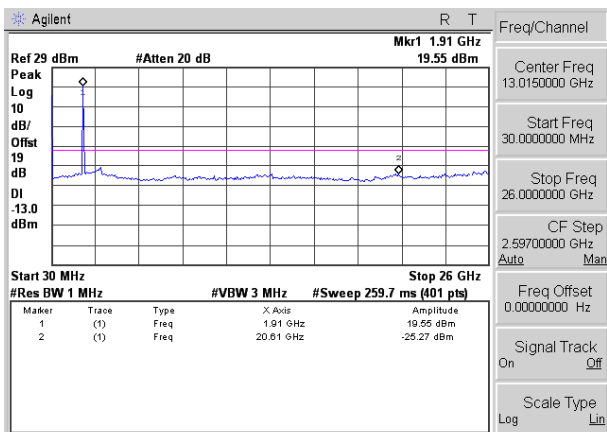
Test Mode: LTE Band 2 / 20MHz /1RB **Test Mode: LTE Band 2 / 20MHz /100RB**



Lowest channel

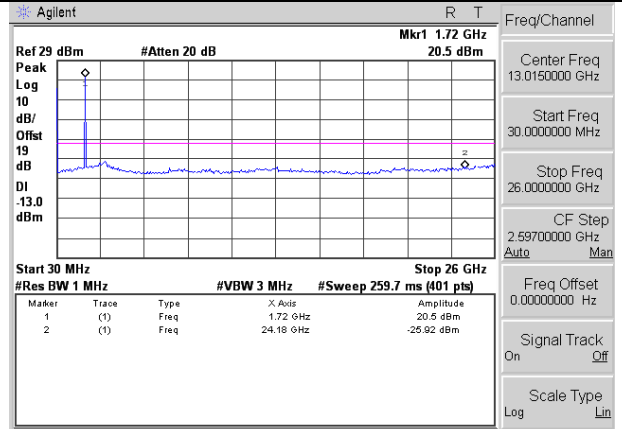
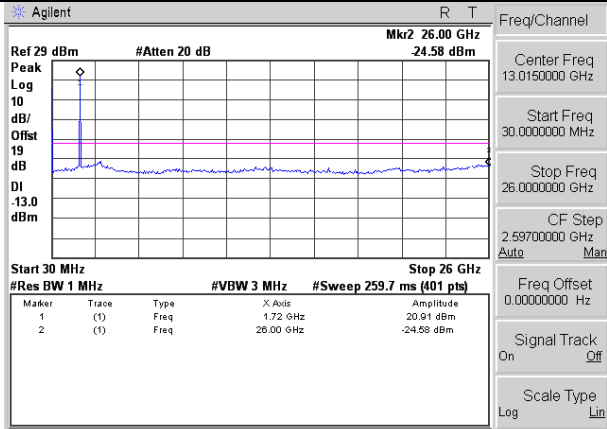


Middle channel

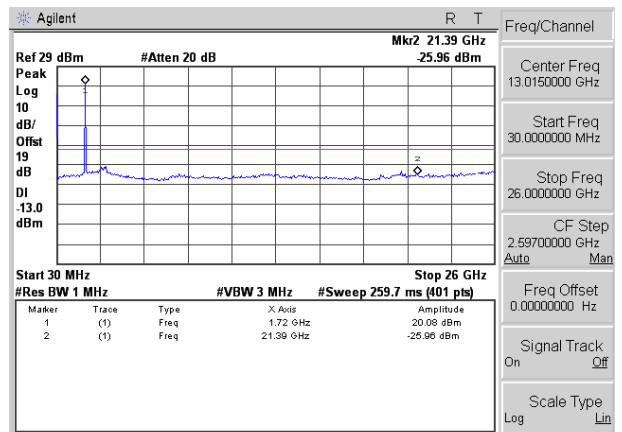
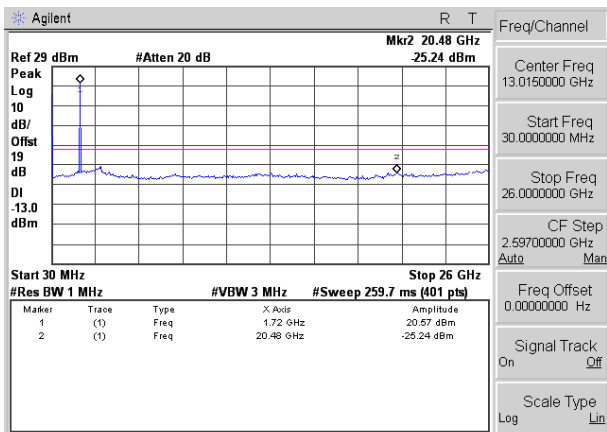


Highest channel

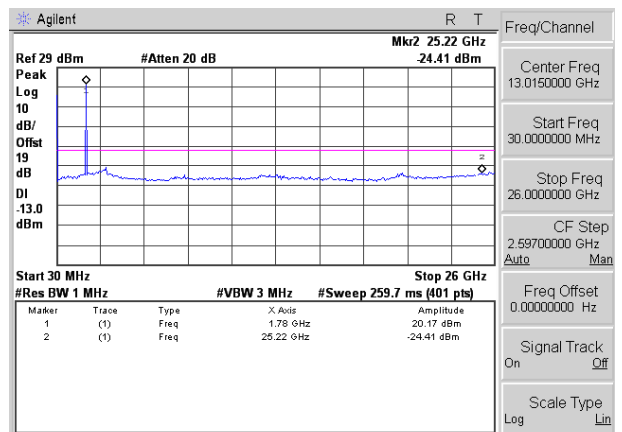
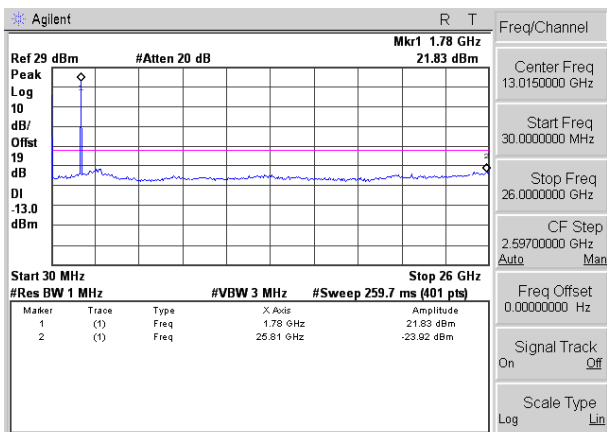
Test Mode: LTE Band 4 / 1.4MHz /1RB Test Mode: LTE Band 4 / 1.4MHz /6RB



Lowest channel

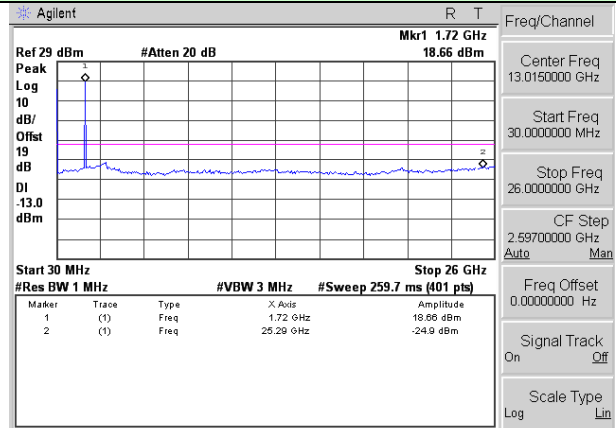
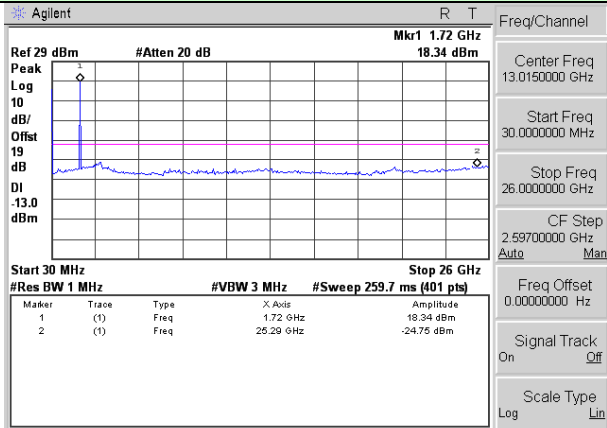


Middle channel

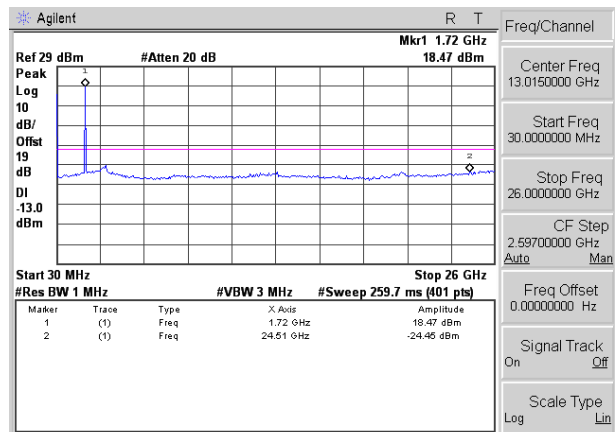
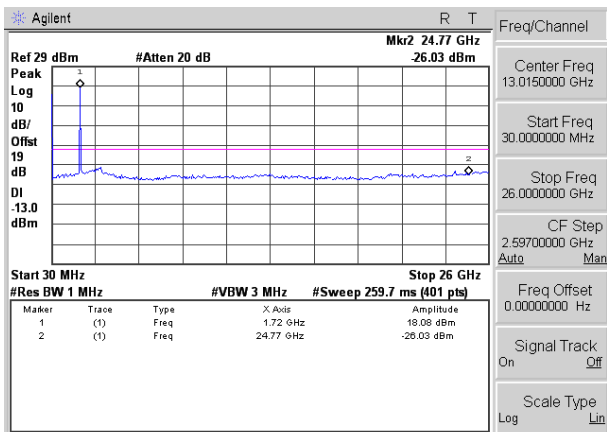


Highest channel

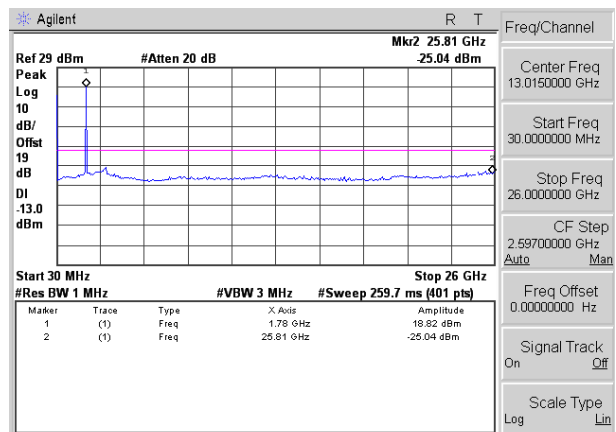
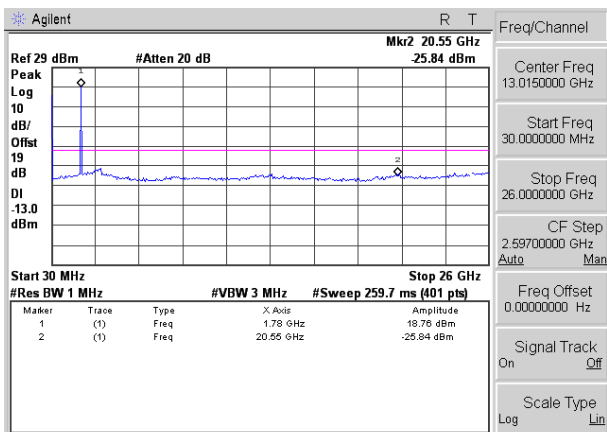
Test Mode: LTE Band 4 / 3MHz /1RB Test Mode: LTE Band 4 / 3MHz /15RB



Lowest channel

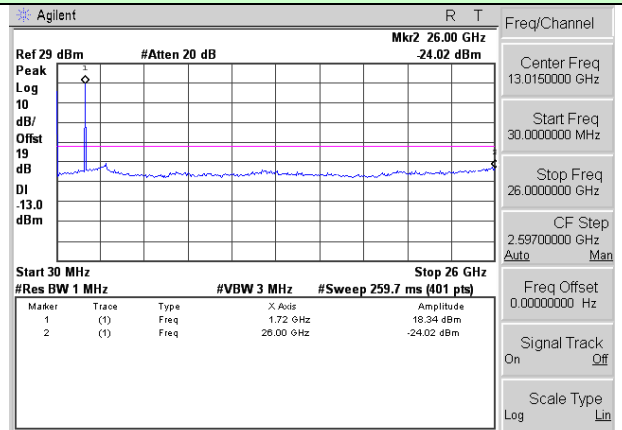
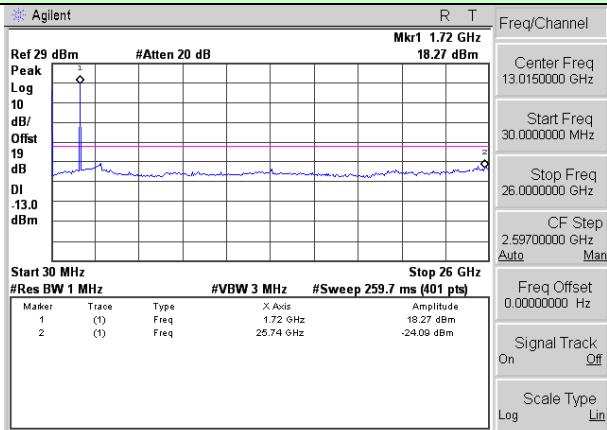


Middle channel

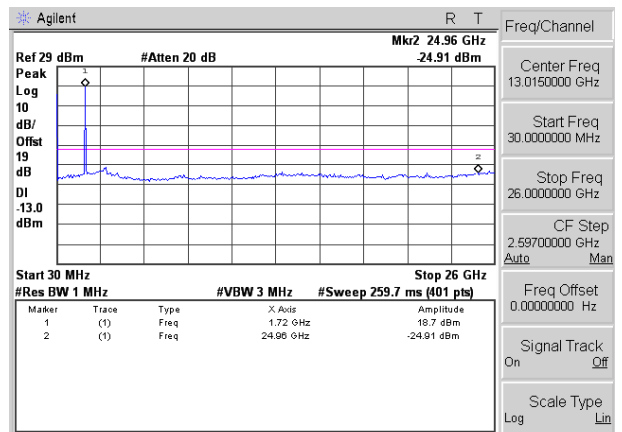
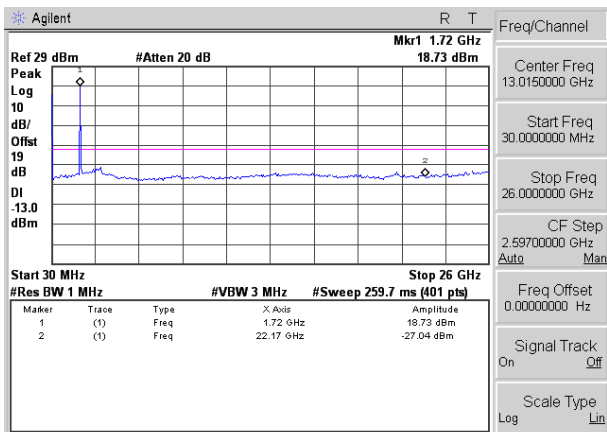


Highest channel

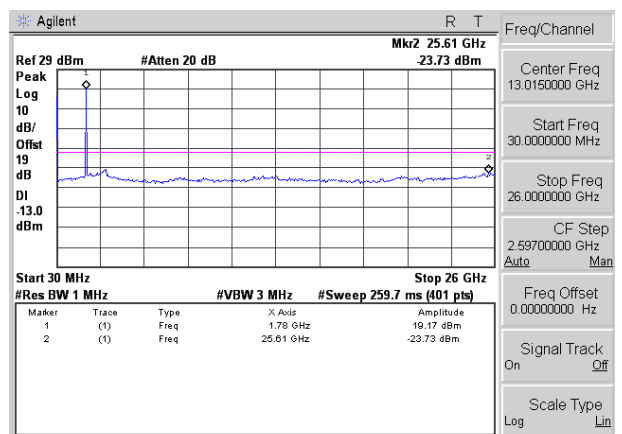
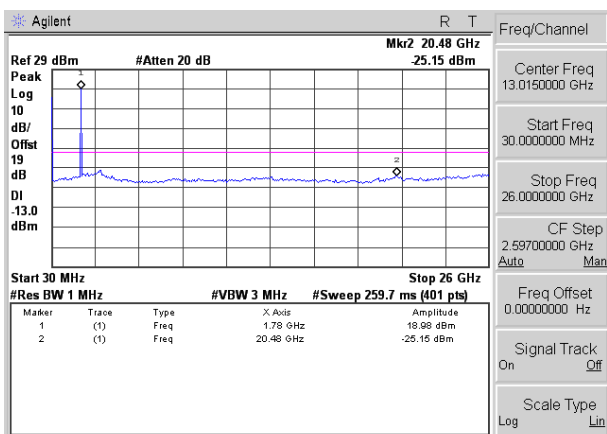
Test Mode: LTE Band 4 / 5MHz /1RB **Test Mode: LTE Band 4 / 5MHz /25RB**



Lowest channel

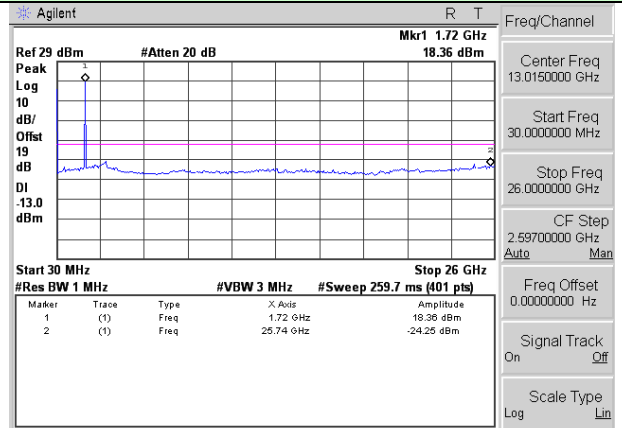
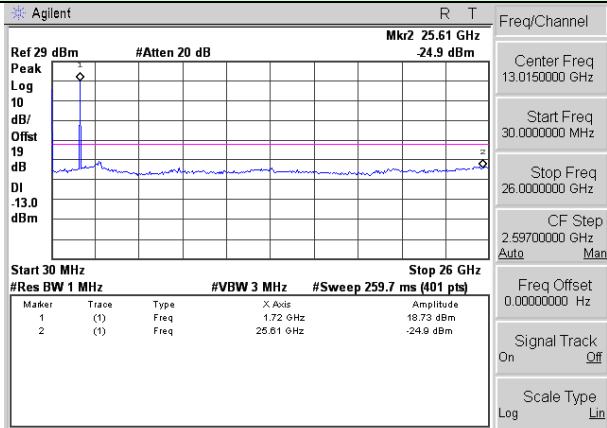


Middle channel

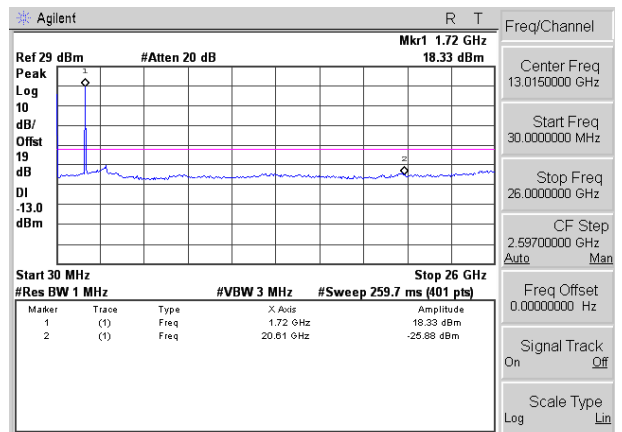
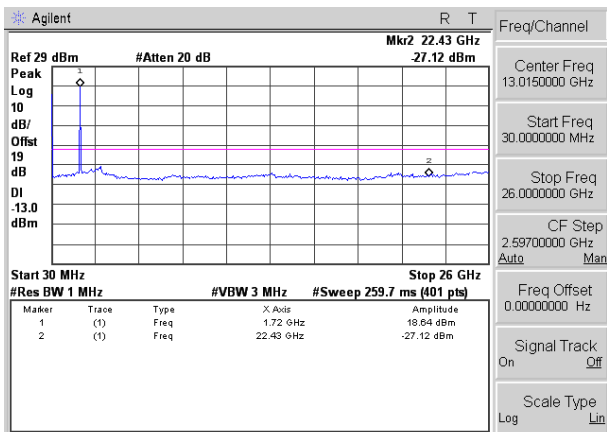


Highest channel

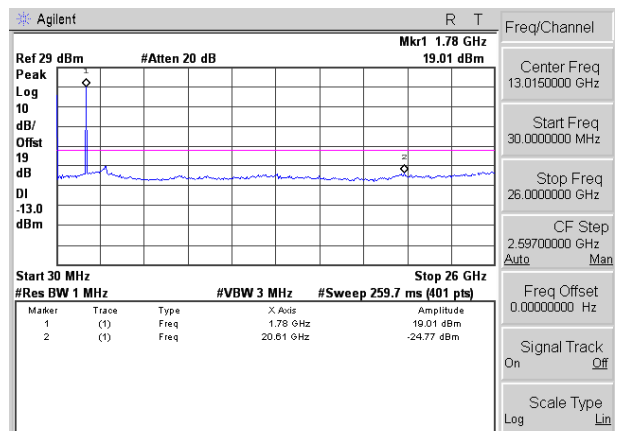
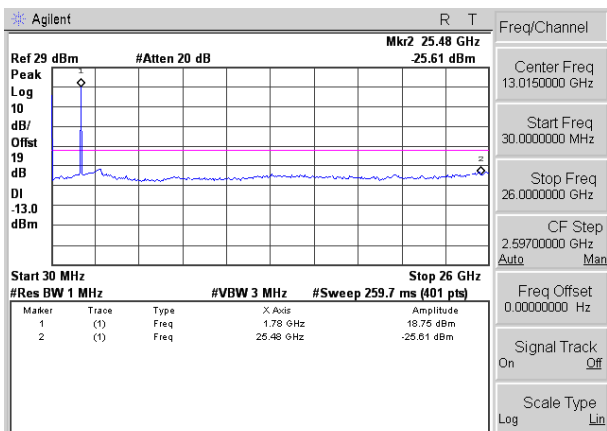
Test Mode: LTE Band 4 / 10MHz /1RB Test Mode: LTE Band 4 / 10MHz /50RB



Lowest channel

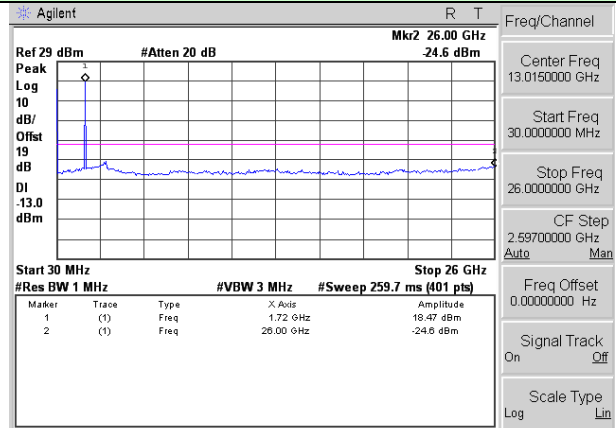
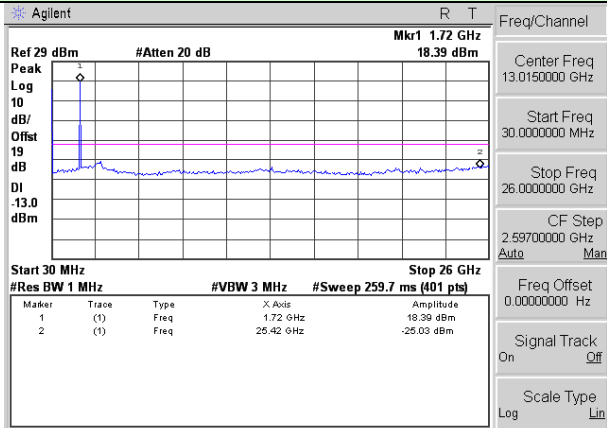


Middle channel

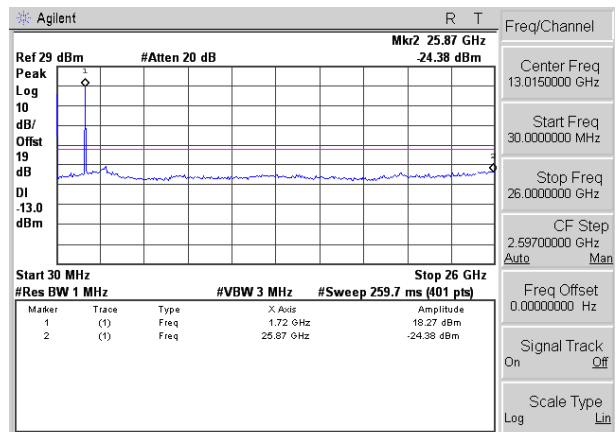
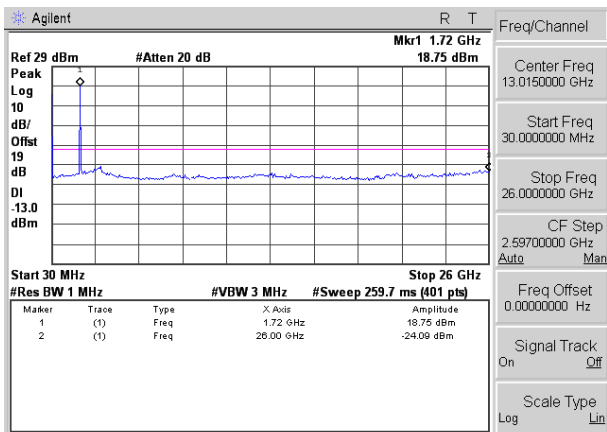


Highest channel

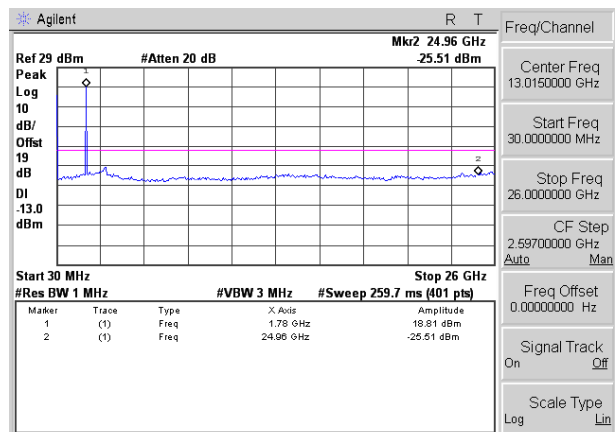
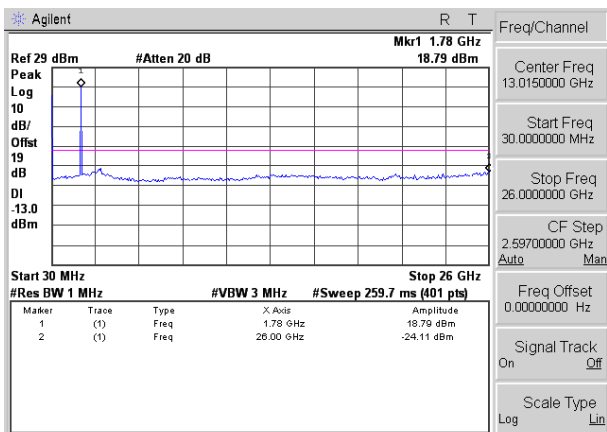
Test Mode: LTE Band 4 / 15MHz /1RB Test Mode: LTE Band 4 / 15MHz /75RB



Lowest channel

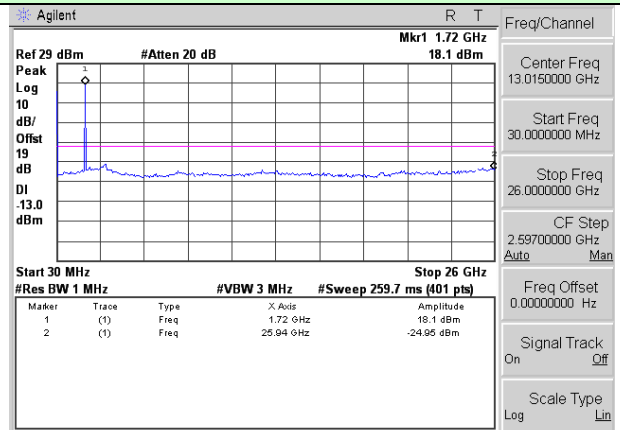
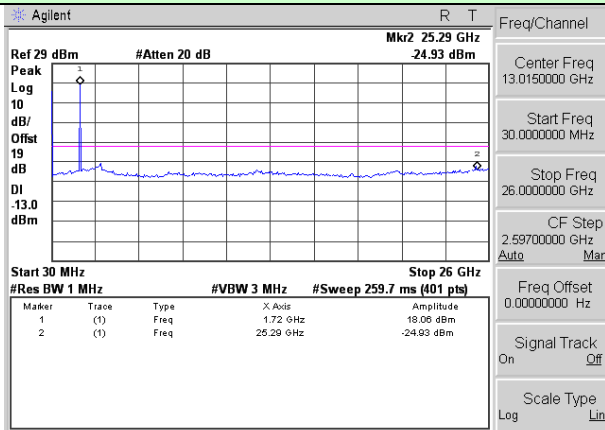


Middle channel

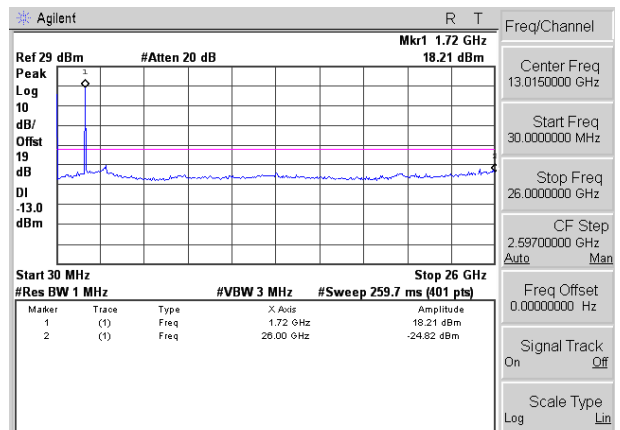
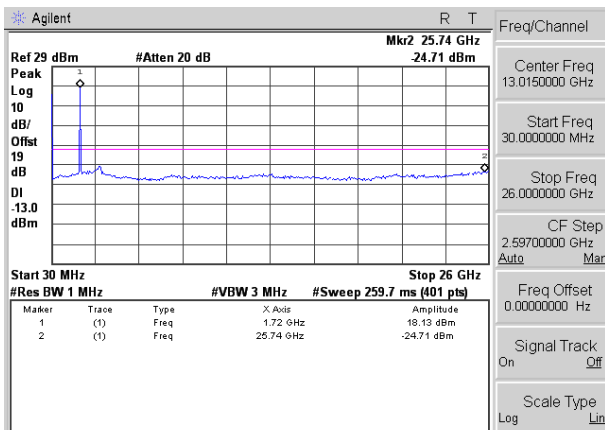


Highest channel

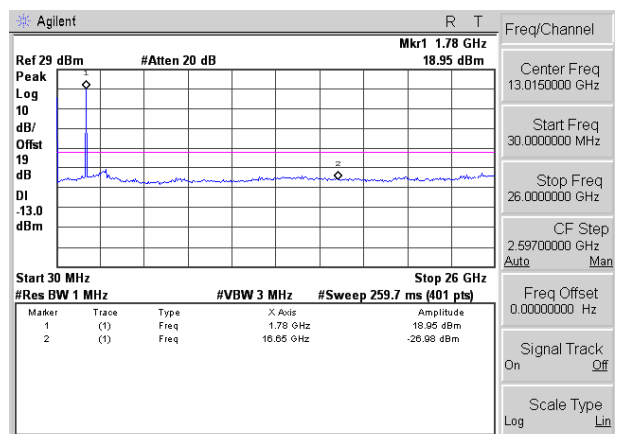
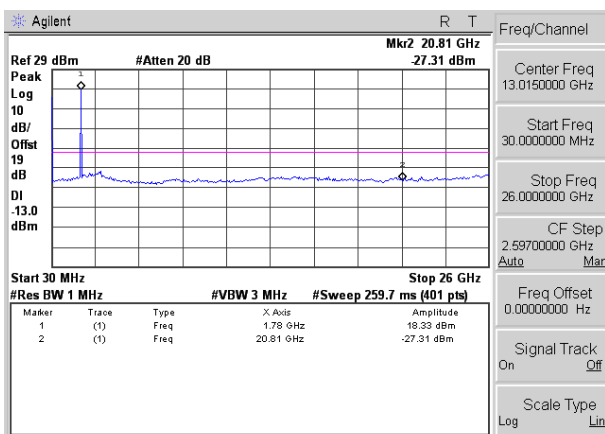
Test Mode: LTE Band 4 / 20MHz /1RB **Test Mode: LTE Band 4 / 20MHz /100RB**



Lowest channel

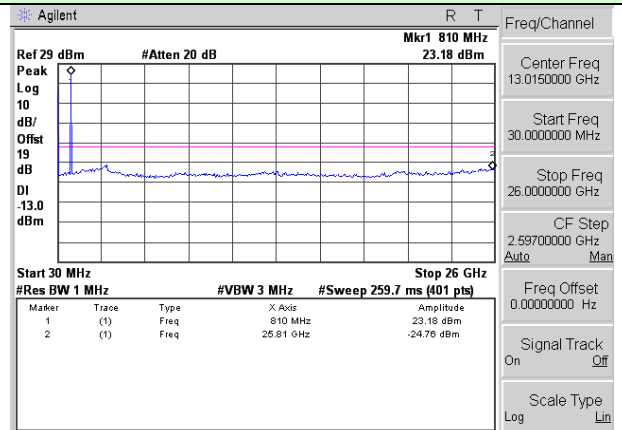
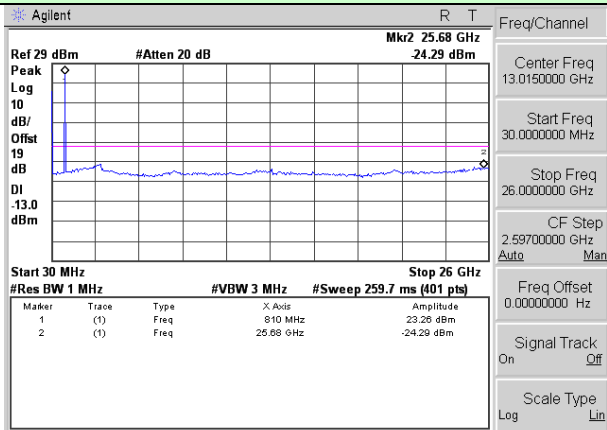


Middle channel

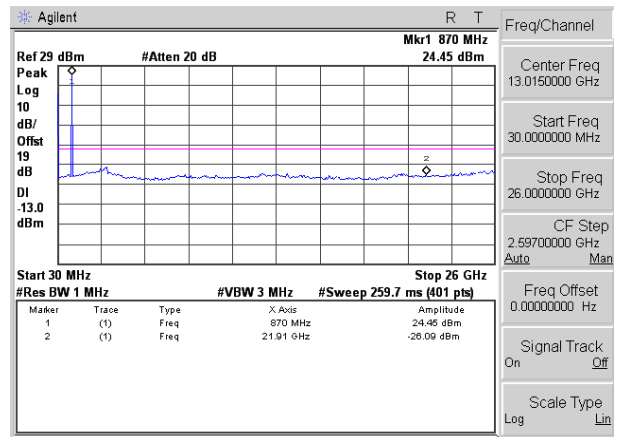
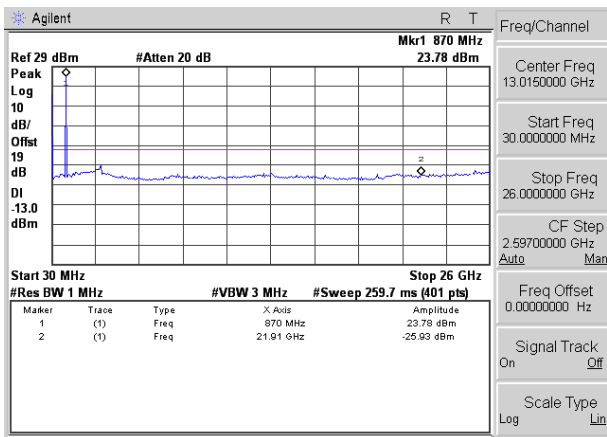


Highest channel

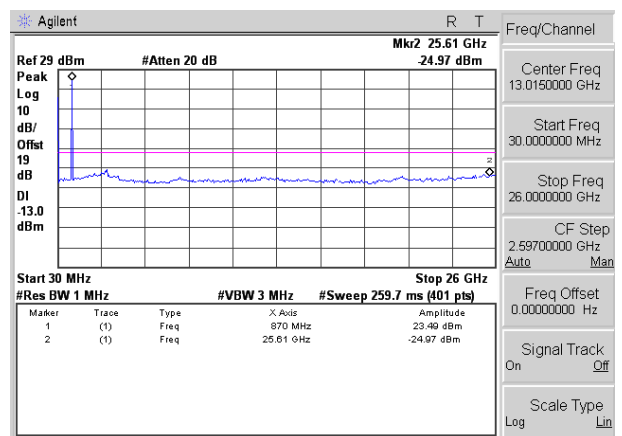
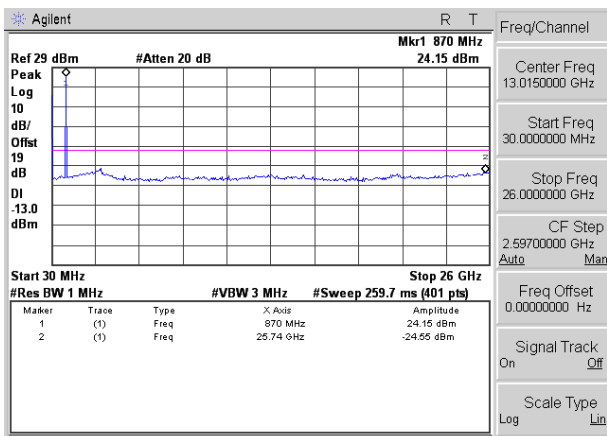
Test Mode: LTE Band 5 / 1.4MHz /1RB Test Mode: LTE Band 5 / 1.4MHz /6RB



Lowest channel



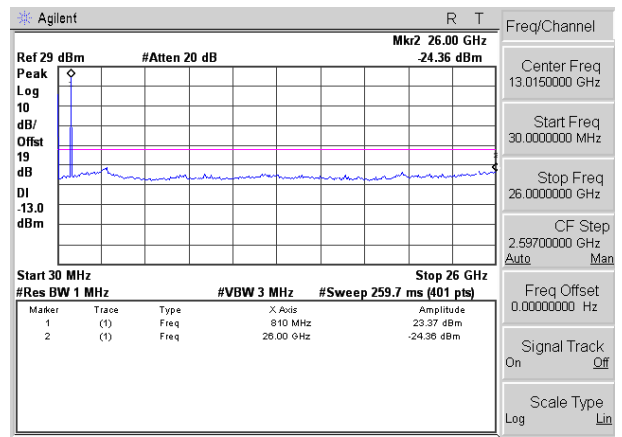
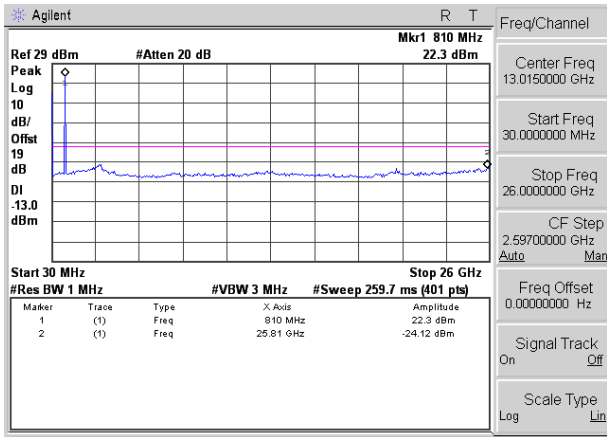
Middle channel



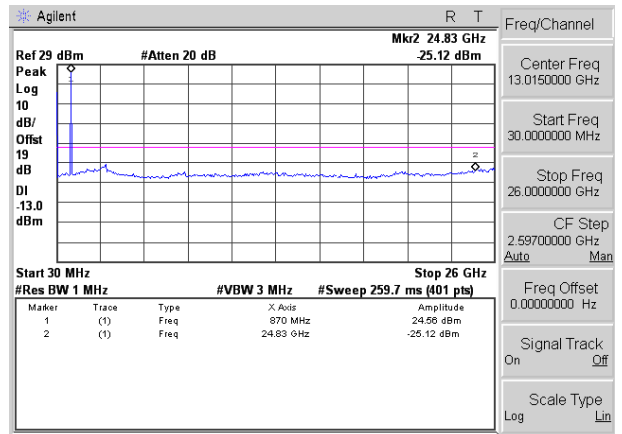
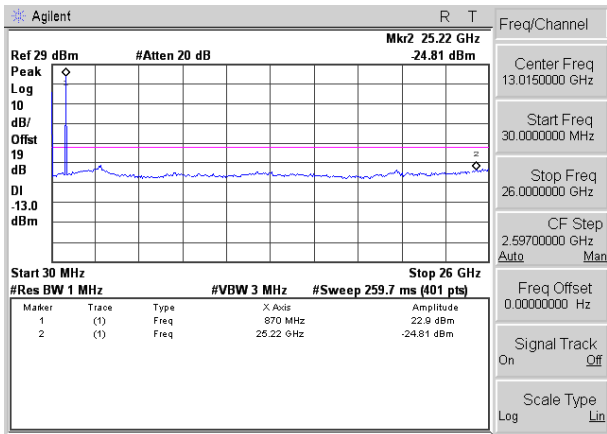
Highest channel

Test Mode: LTE Band 5 / 3MHz /1RB

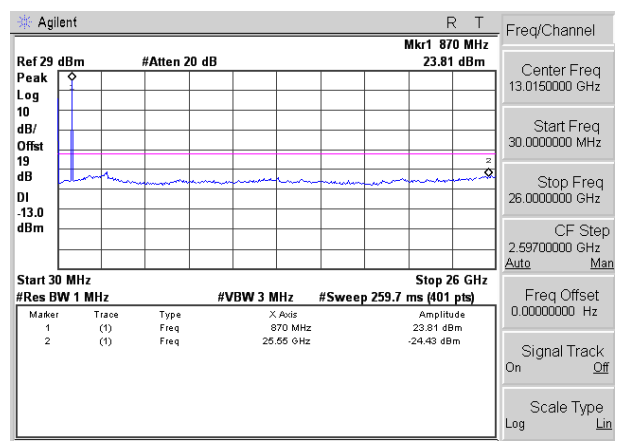
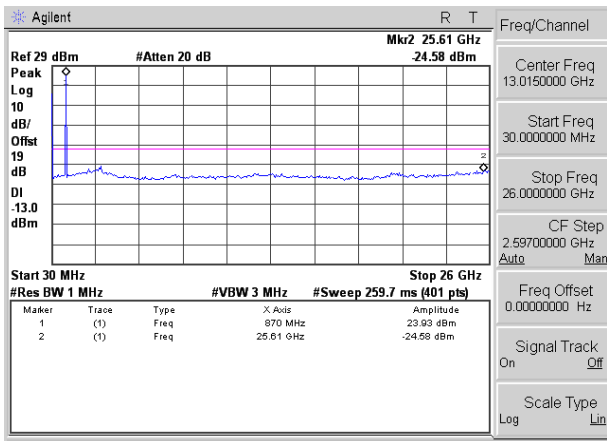
Test Mode: LTE Band 5 / 3MHz /15RB



Lowest channel

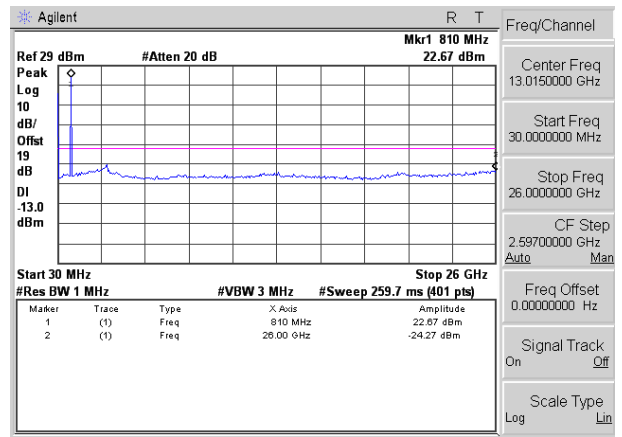
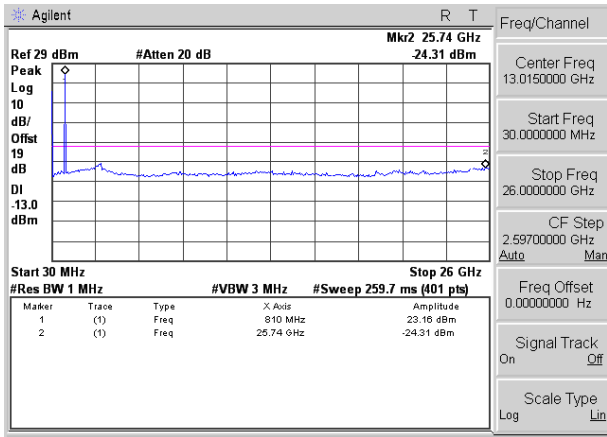


Middle channel

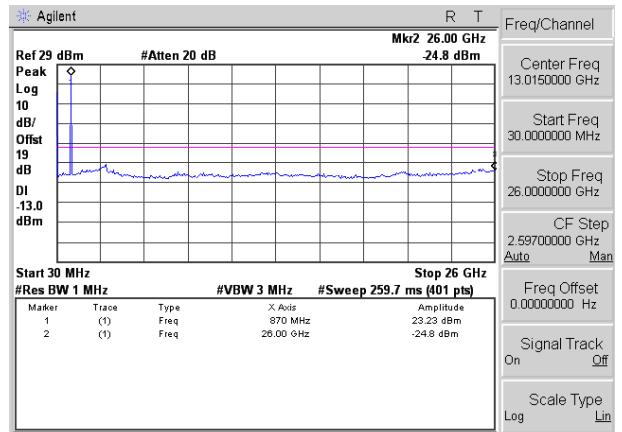
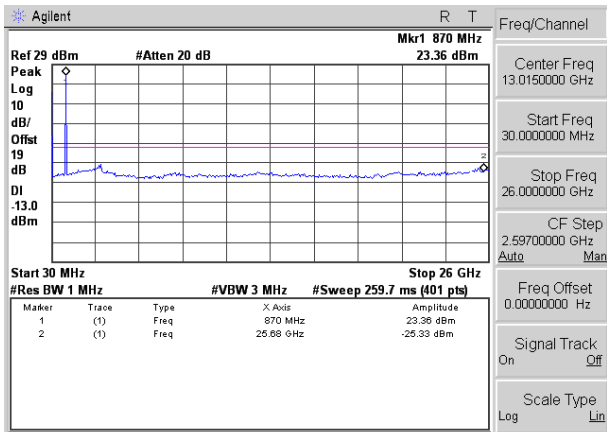


Highest channel

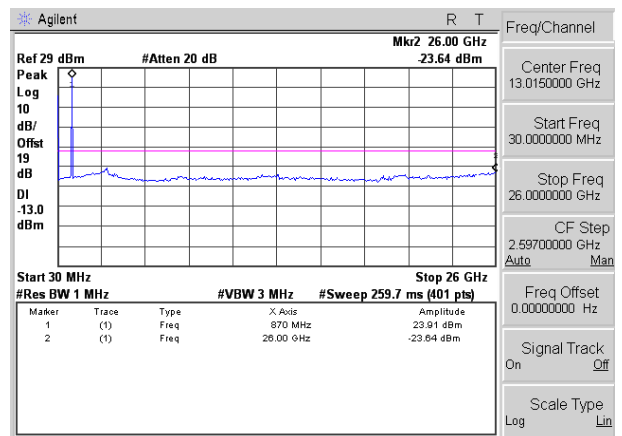
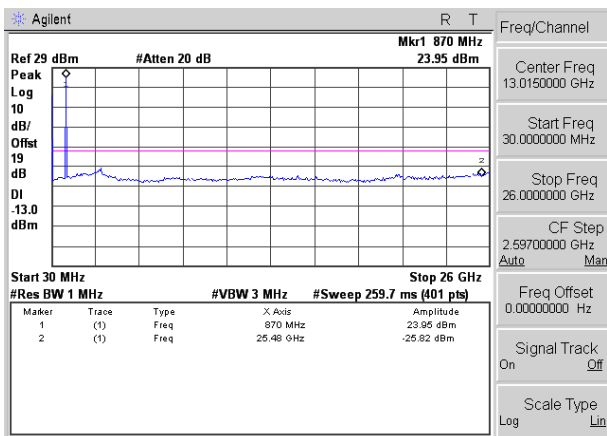
Test Mode: LTE Band 5 / 5MHz /1RB Test Mode: LTE Band 5 / 5MHz /25RB



Lowest channel

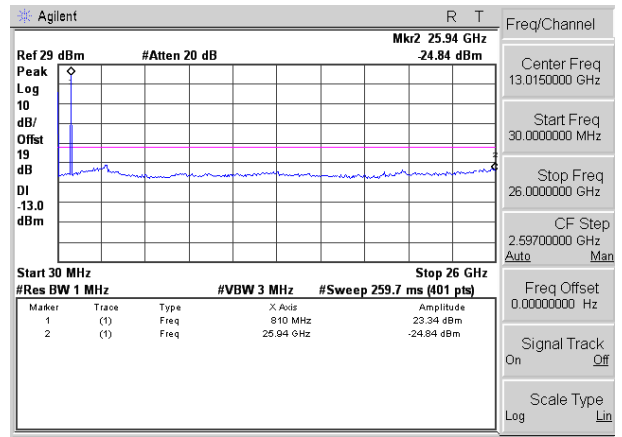
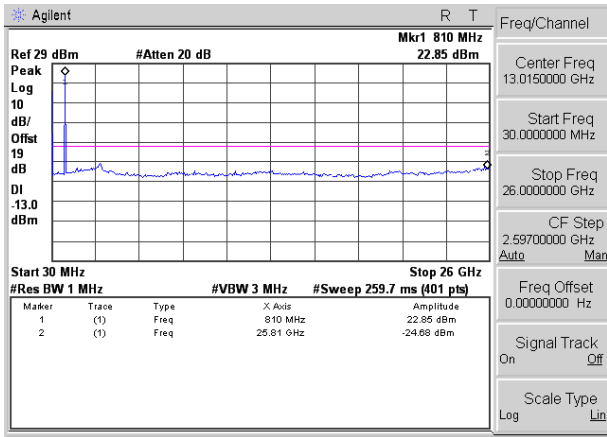


Middle channel

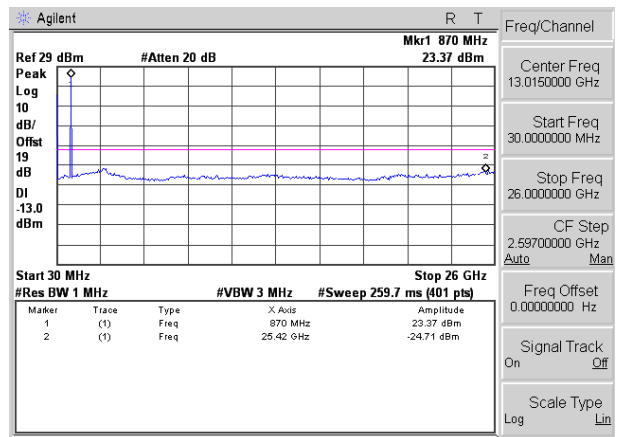
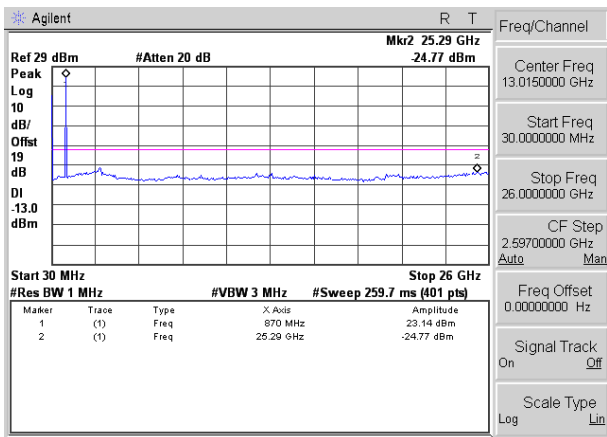


Highest channel

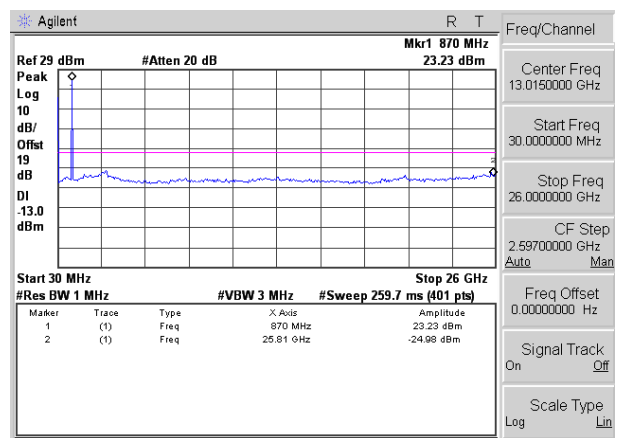
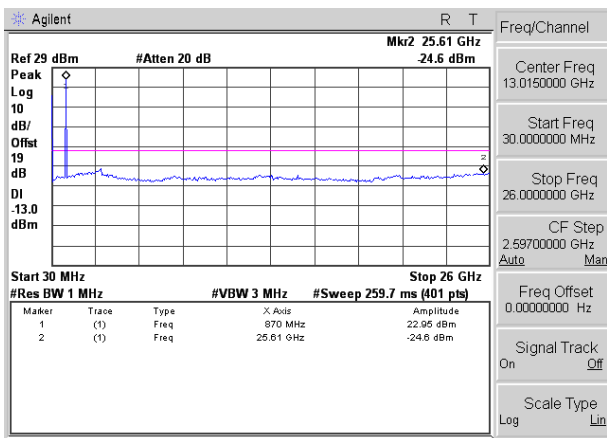
Test Mode: LTE Band 5/ 10MHz /1RB Test Mode: LTE Band 5/ 10MHz /50RB



Lowest channel

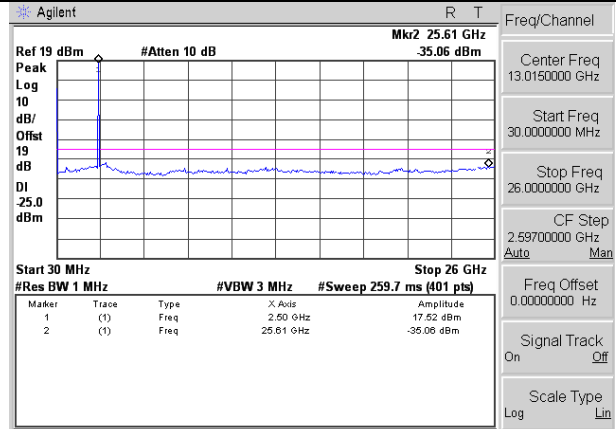
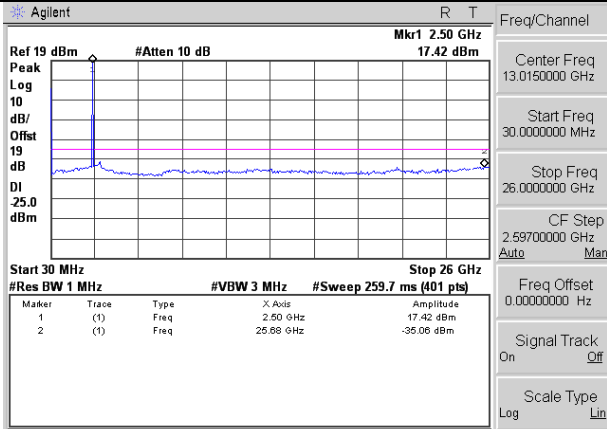


Middle channel

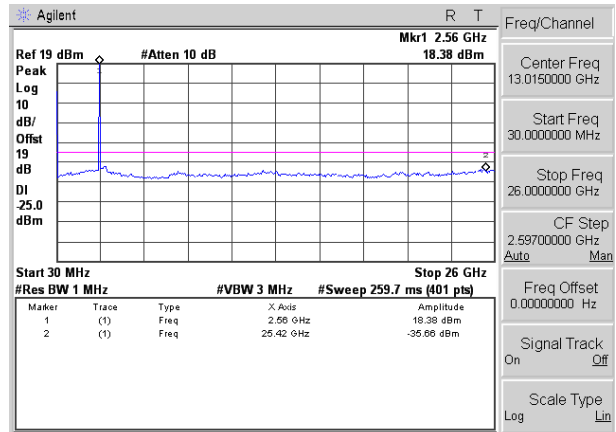
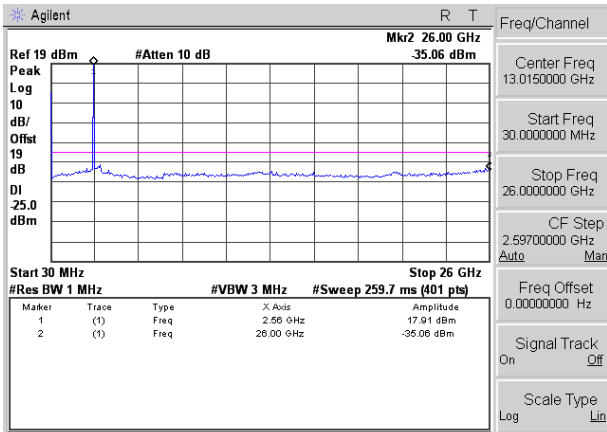


Highest channel

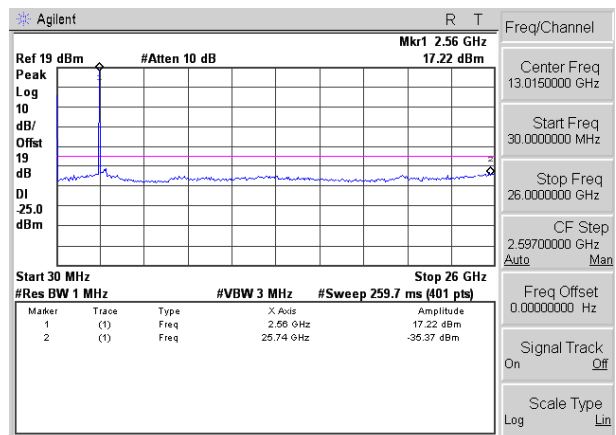
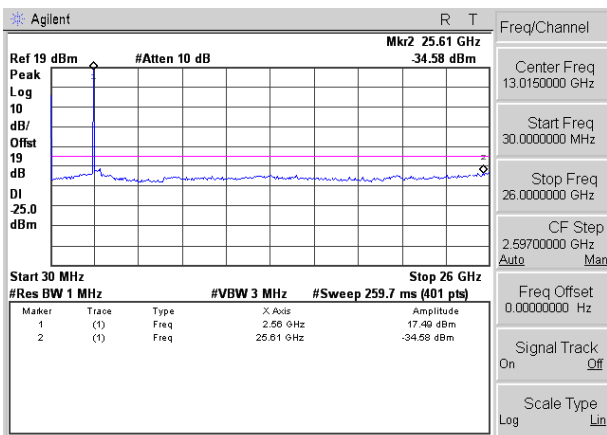
Test Mode: LTE Band 7 / 5MHz /1RB Test Mode: LTE Band 7 / 5MHz /25RB



Lowest channel

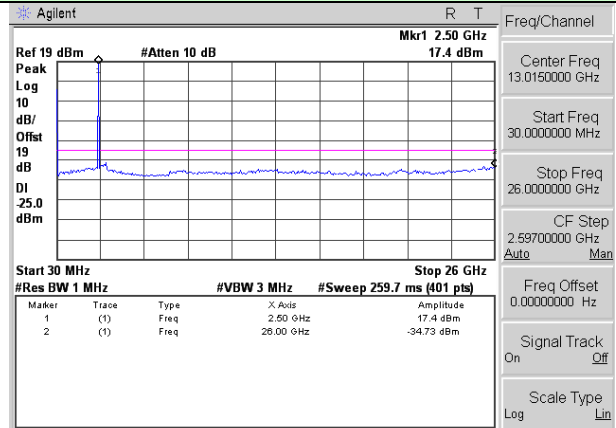
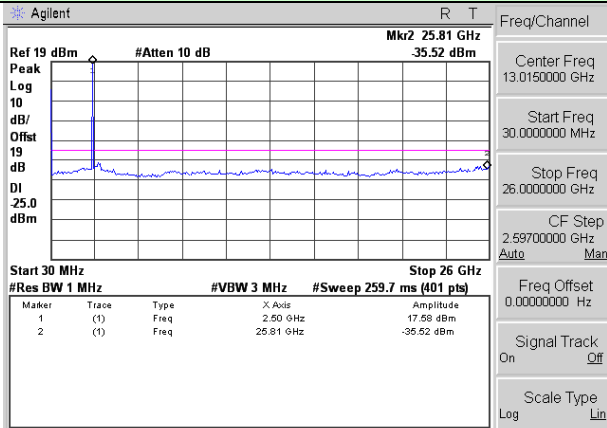


Middle channel

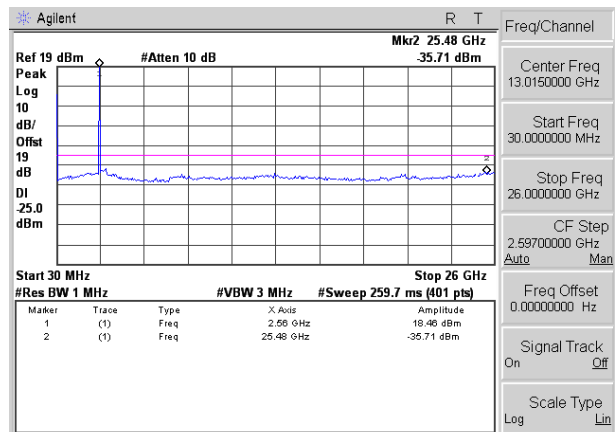
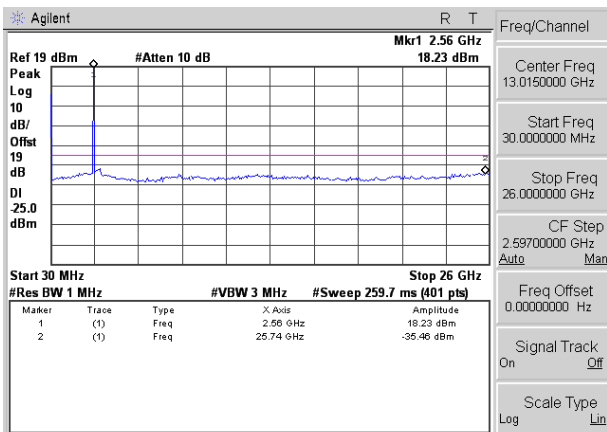


Highest channel

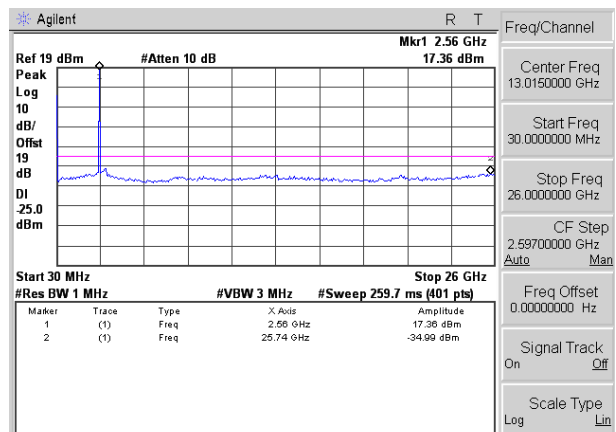
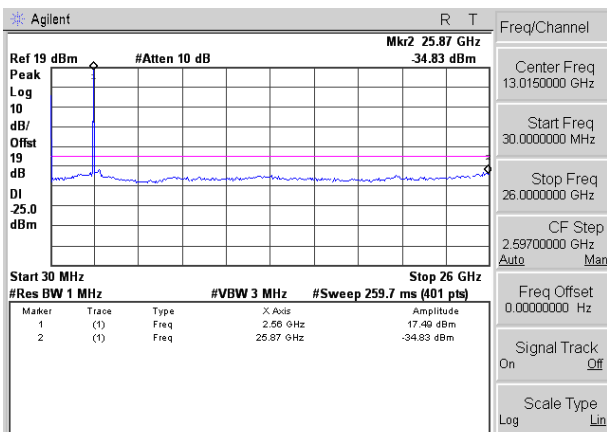
Test Mode: LTE Band 7 / 10MHz /1RB Test Mode: LTE Band 7 / 10MHz /50RB



Lowest channel

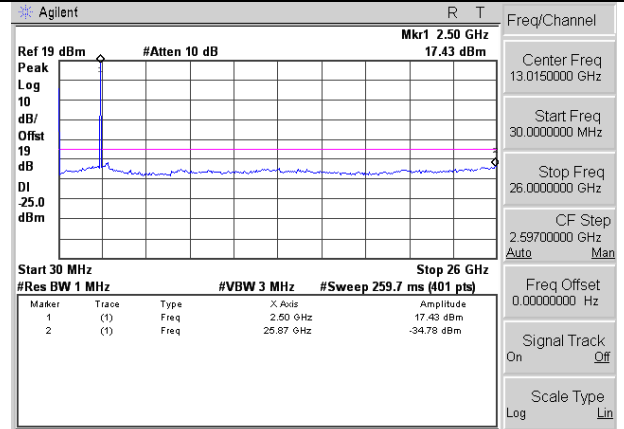
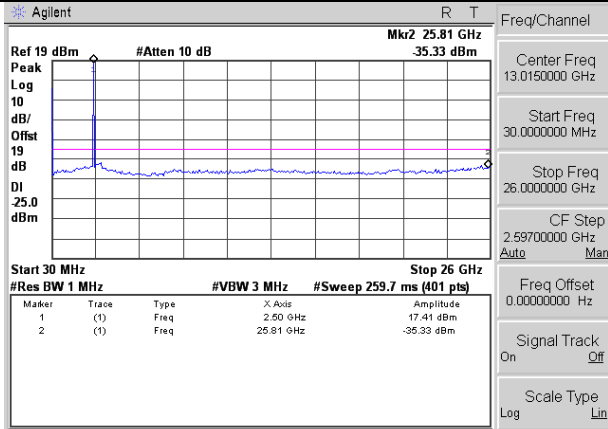


Middle channel

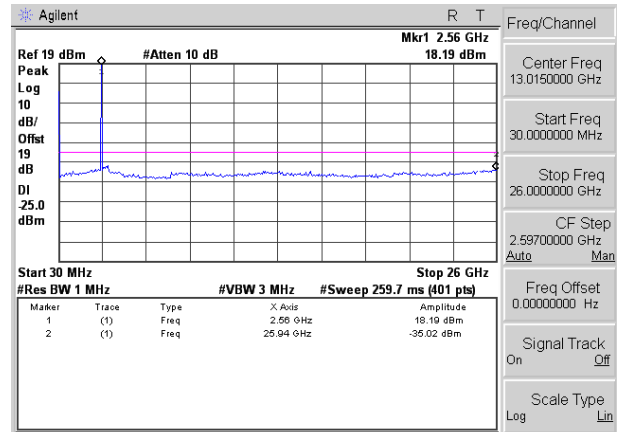
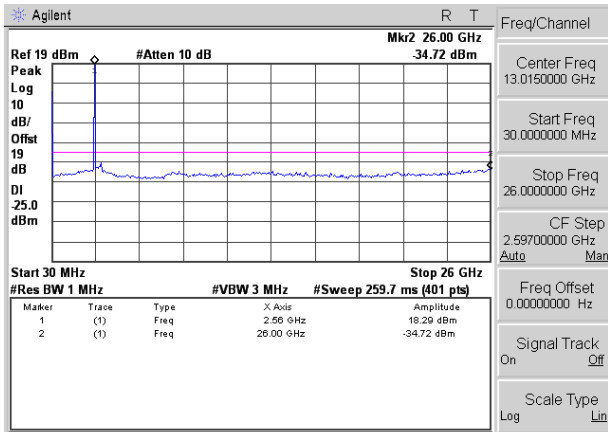


Highest channel

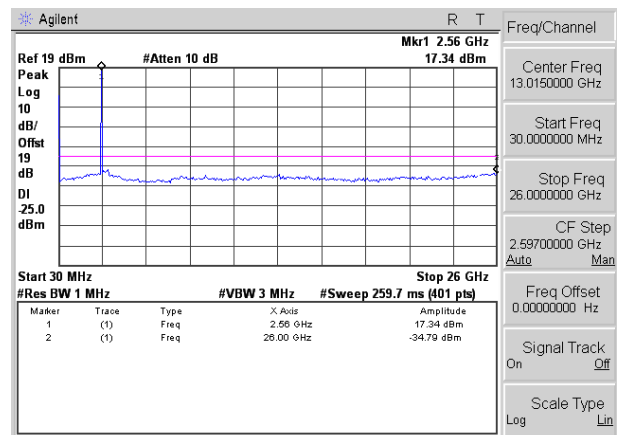
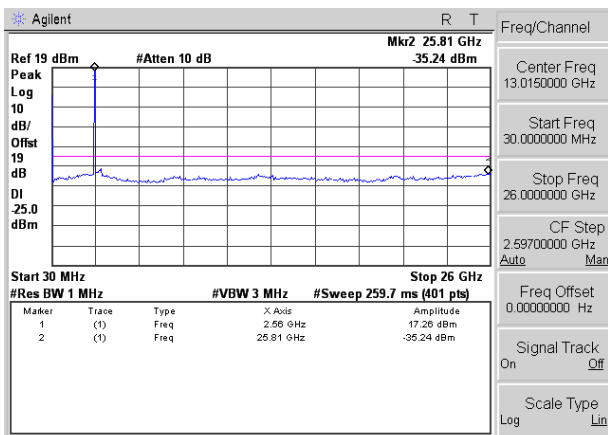
Test Mode: LTE Band 7 / 15MHz /1RB **Test Mode: LTE Band 7 / 15MHz /75RB**



Lowest channel

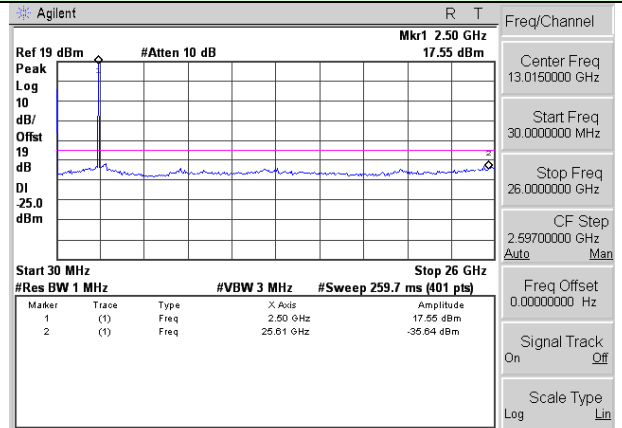
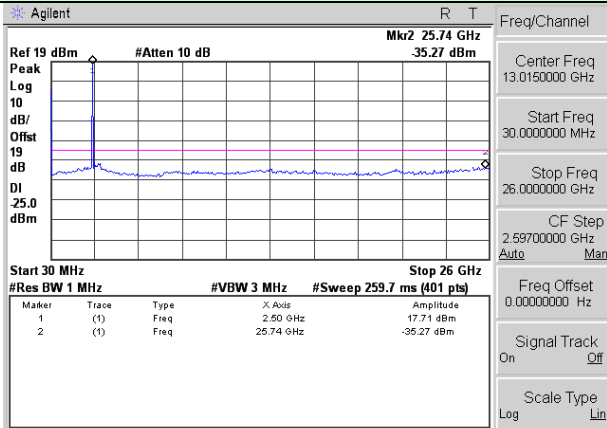


Middle channel

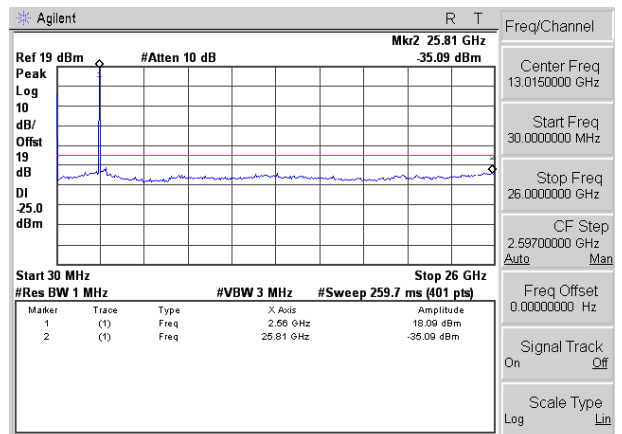
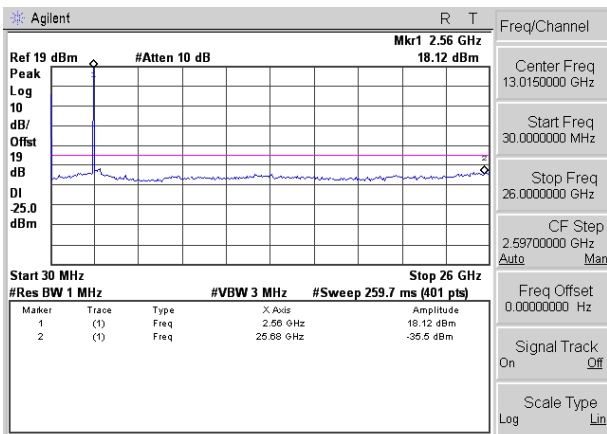


Highest channel

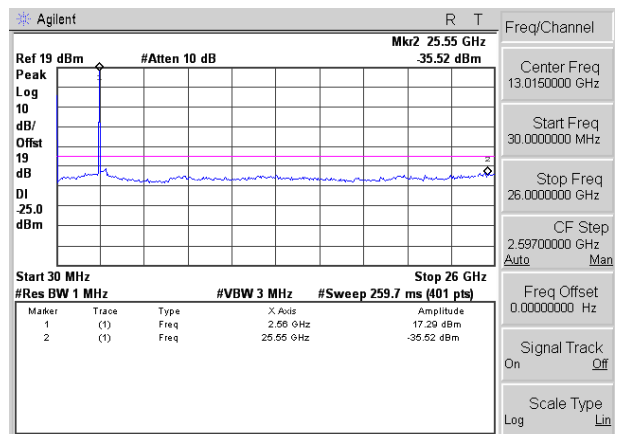
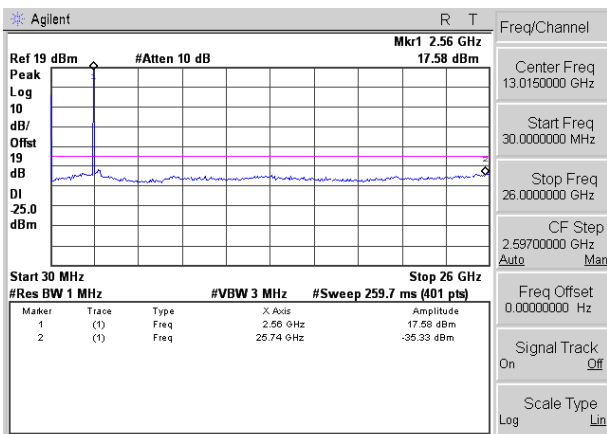
Test Mode: LTE Band 7 / 20MHz /1RB Test Mode: LTE Band 7 / 20MHz /100RB



Lowest channel



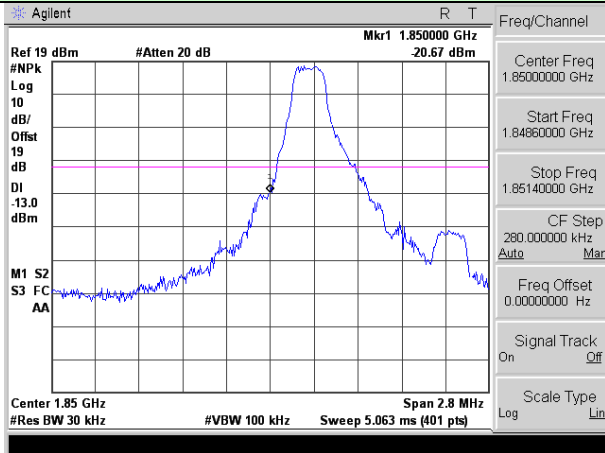
Middle channel



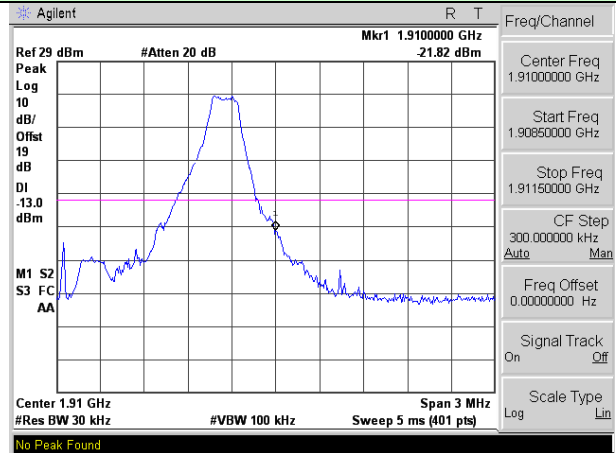
Highest channel

Band Edge

Test Mode: LTE Band 2 / 1.4MHz / 1RB / QPSK

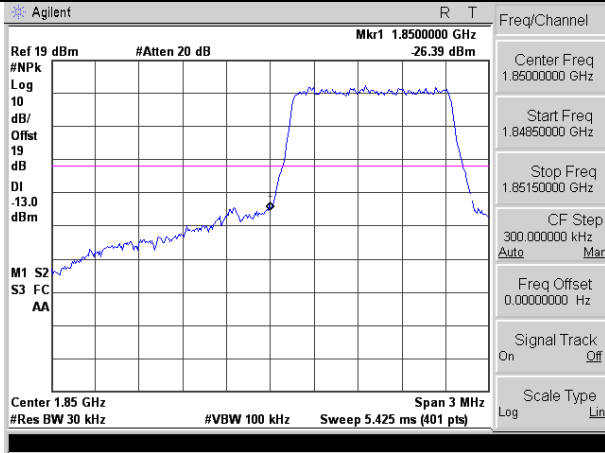


Lowest channel

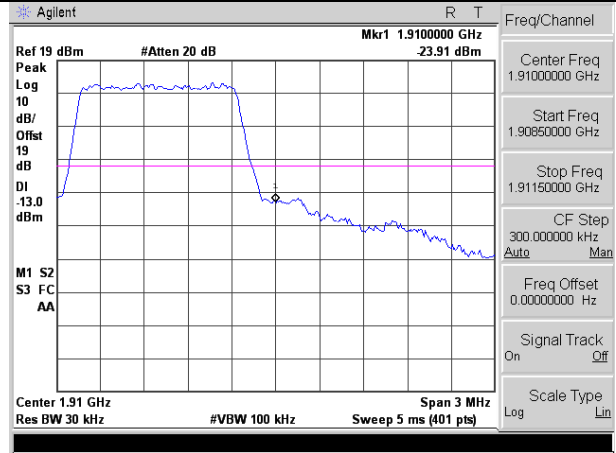


Highest channel

Test Mode: LTE Band 2 / 1.4MHz / 6RB / QPSK

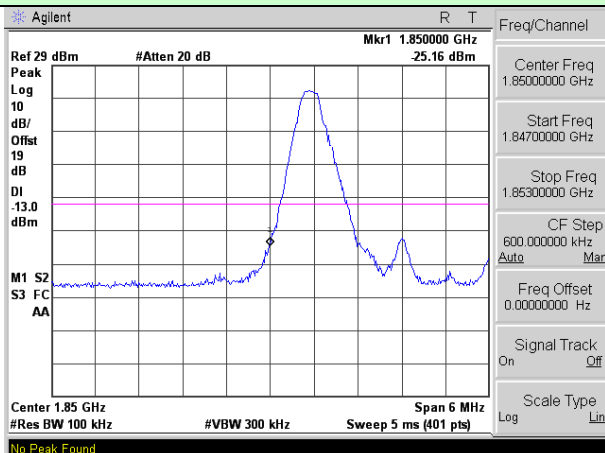


Lowest channel

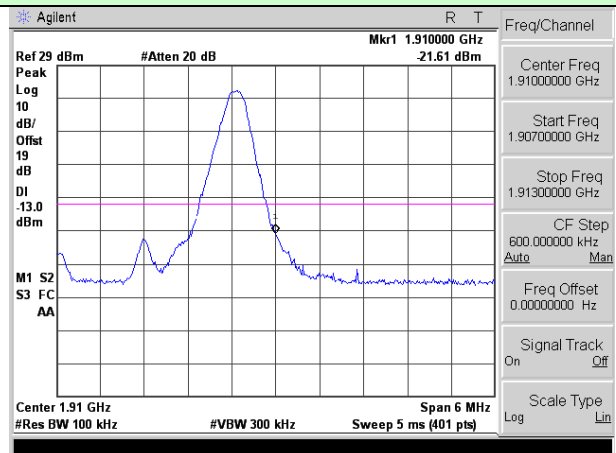


Highest channel

Test Mode: LTE Band 2 / 3MHz / 1RB / QPSK

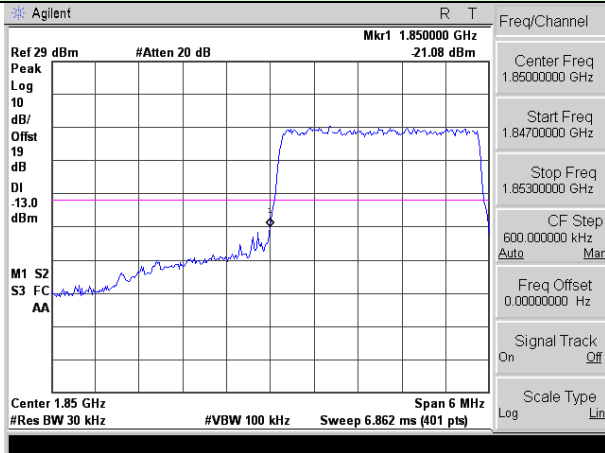


Lowest channel

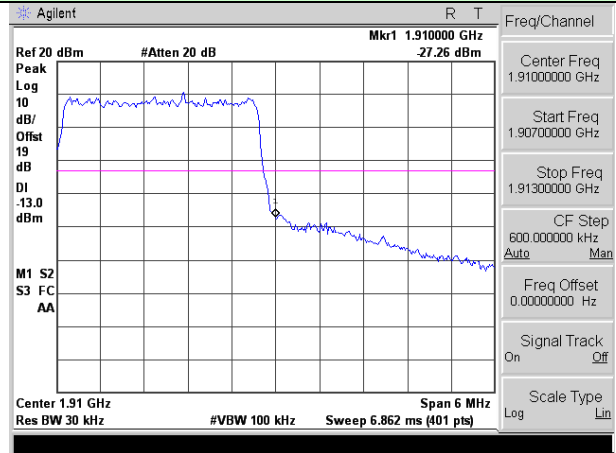


Highest channel

Test Mode: LTE Band 2 / 3MHz / 15RB / QPSK

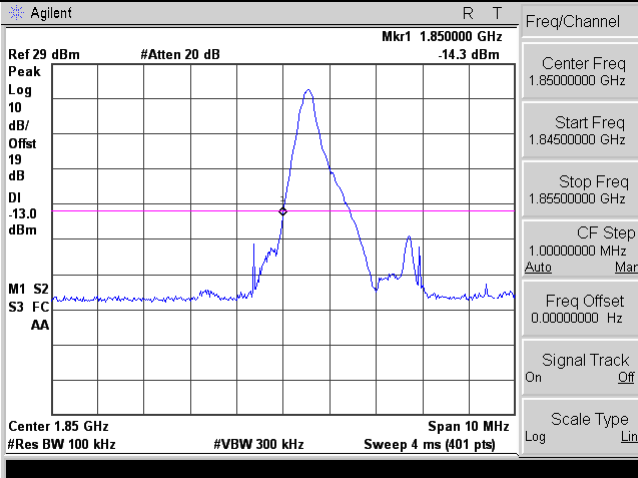


Lowest channel

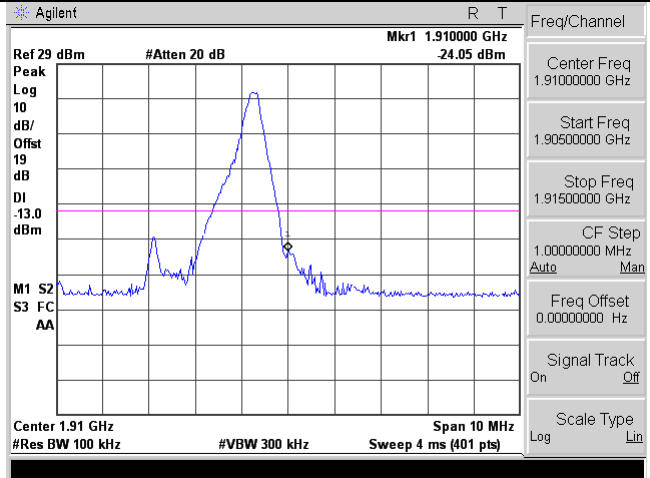


Highest channel

Test Mode: LTE Band 2 / 5MHz / 1RB / QPSK

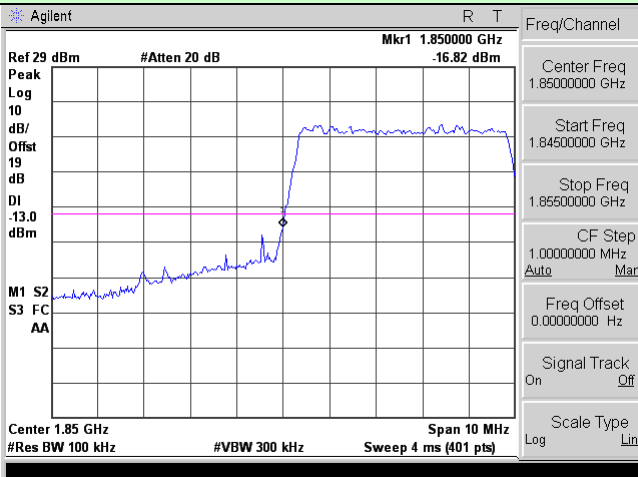


Lowest channel

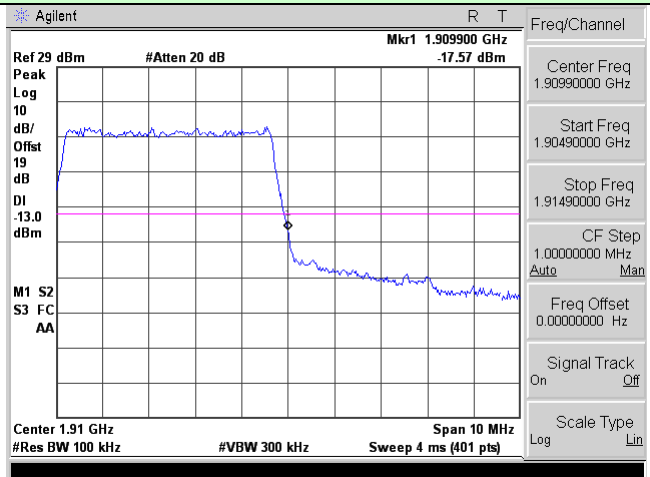


Highest channel

Test Mode: LTE Band 2 / 5MHz / 25RB / QPSK

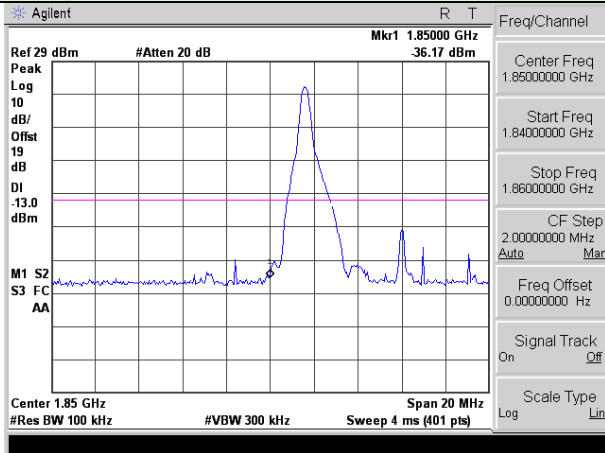


Lowest channel

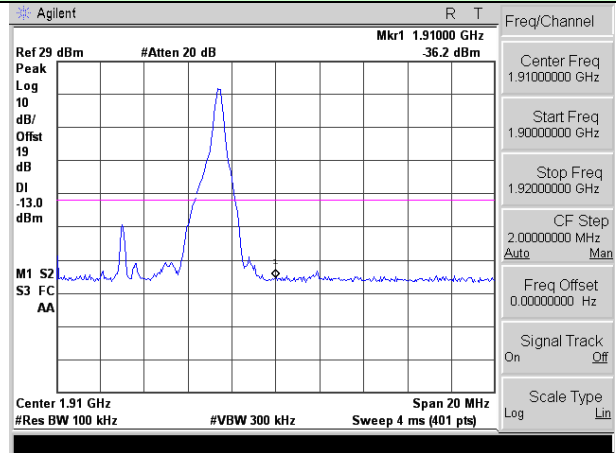


Highest channel

Test Mode: LTE Band 2 / 10MHz / 1RB / QPSK

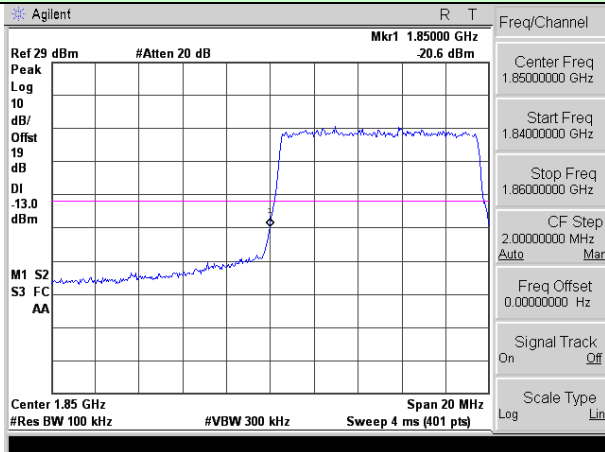


Lowest channel

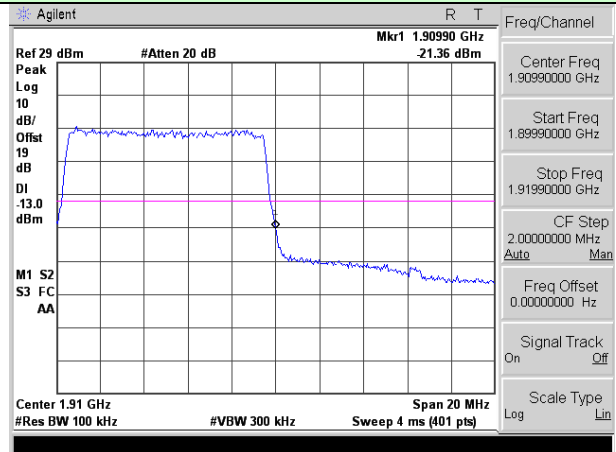


Highest channel

Test Mode: LTE Band 2 / 10MHz / 50RB / QPSK

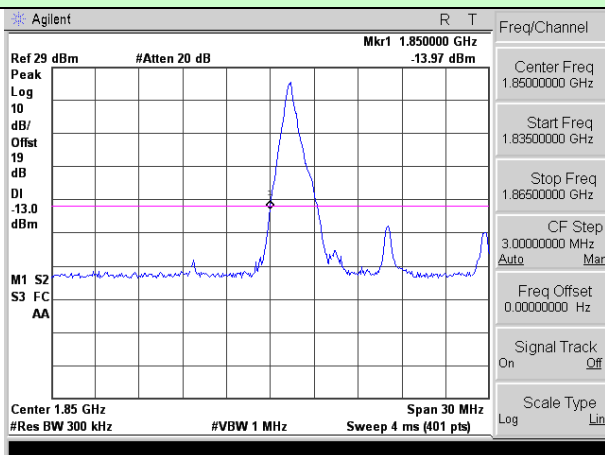


Lowest channel

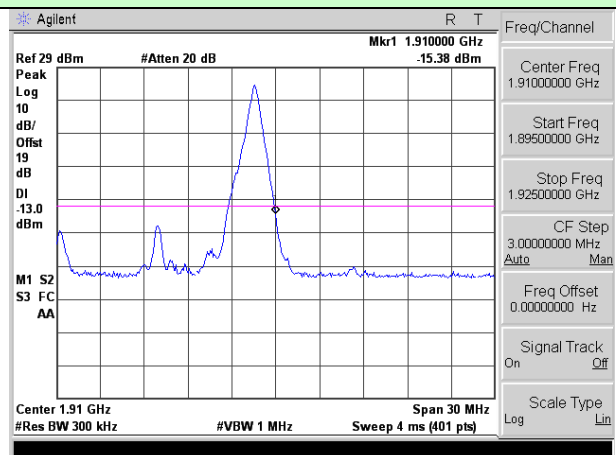


Highest channel

Test Mode: LTE Band 2 / 15MHz / 1RB / QPSK

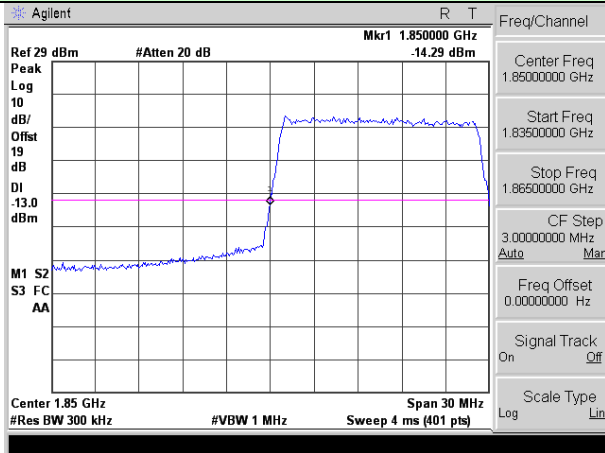


Lowest channel

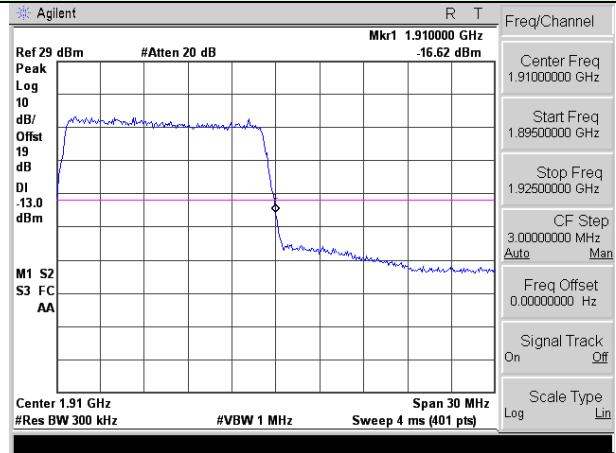


Highest channel

Test Mode: LTE Band 2 / 15MHz / 75RB / QPSK

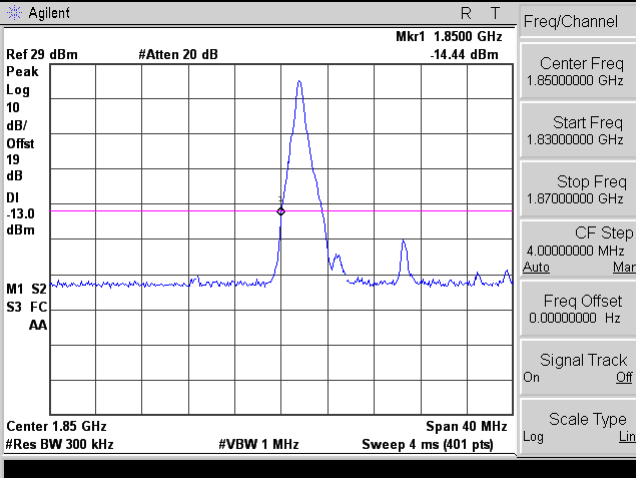


Lowest channel

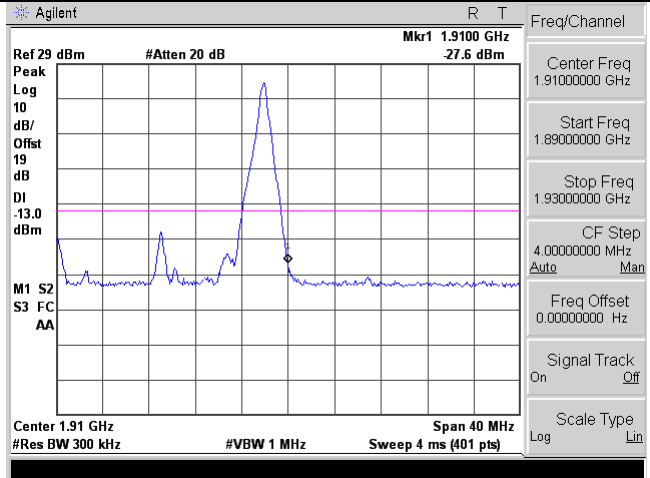


Highest channel

Test Mode: LTE Band 2 / 20MHz / 1RB / QPSK

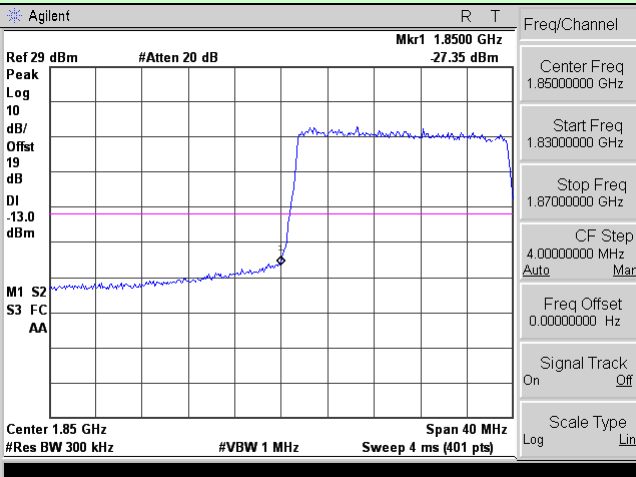


Lowest channel

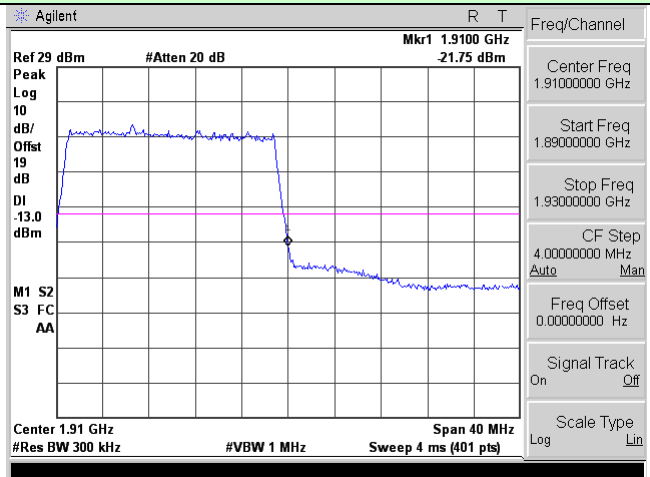


Highest channel

Test Mode: LTE Band 2 / 20MHz / 100RB / QPSK

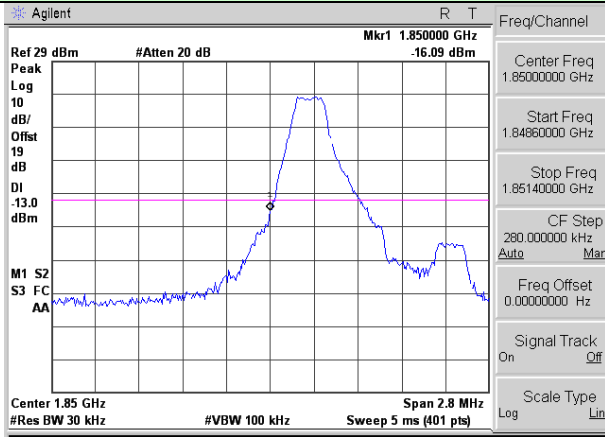


Lowest channel

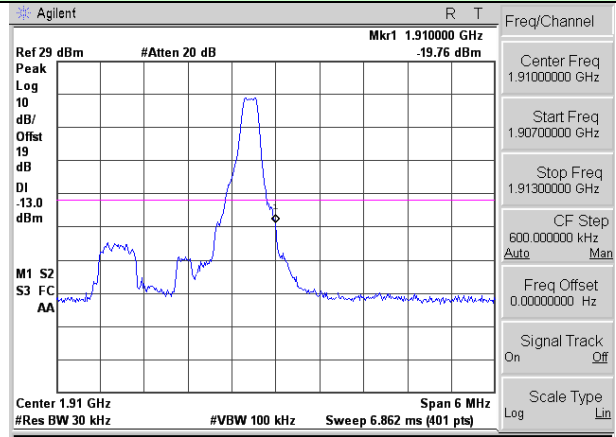


Highest channel

Test Mode: LTE Band 2 / 1.4MHz / 1RB / 16-QAM

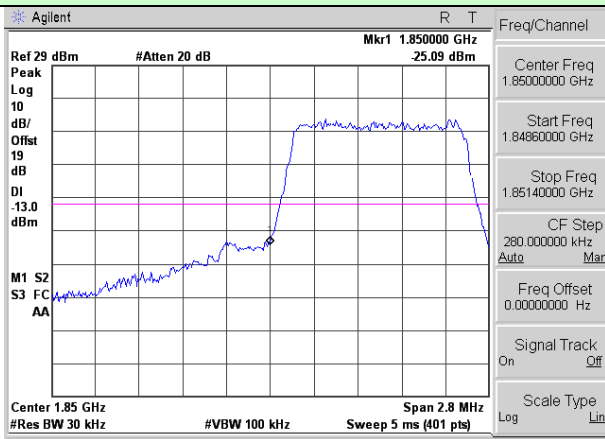


Lowest channel

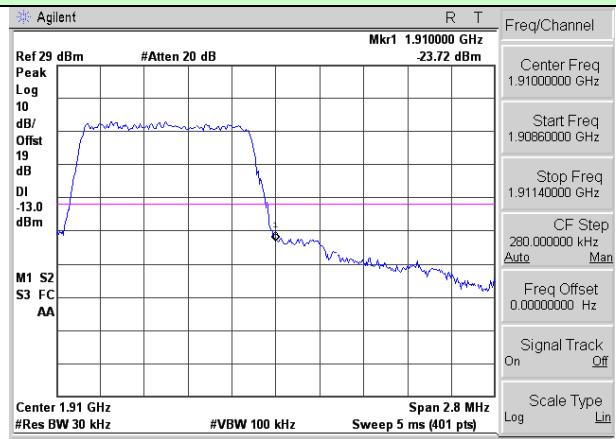


Highest channel

Test Mode: LTE Band 2 / 1.4MHz / 6RB / 16-QAM

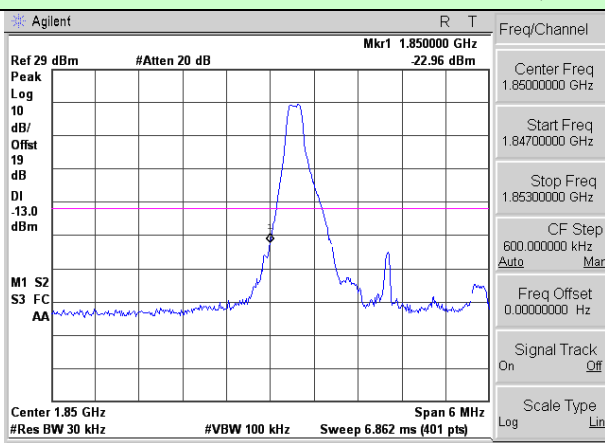


Lowest channel

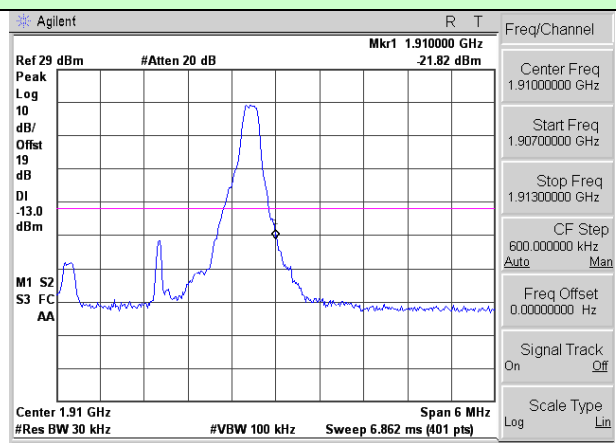


Highest channel

Test Mode: LTE Band 2 / 3MHz / 1RB / 16-QAM

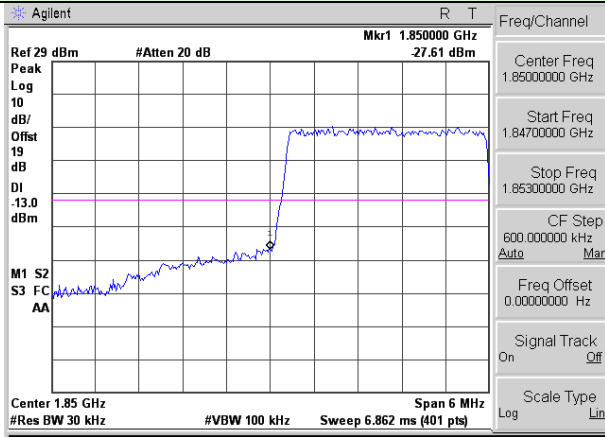


Lowest channel

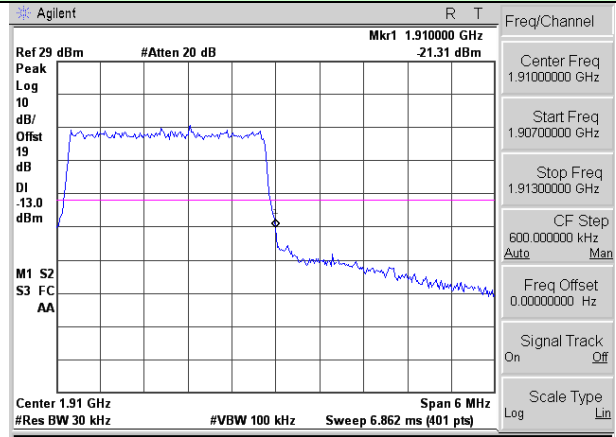


Highest channel

Test Mode: LTE Band 2 / 3MHz / 15RB / 16-QAM

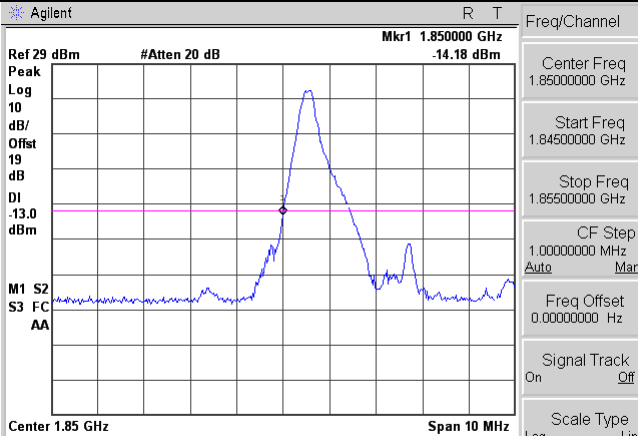


Lowest channel

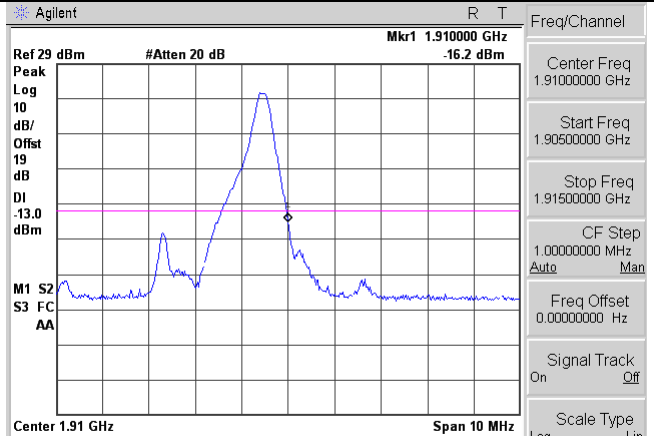


Highest channel

Test Mode: LTE Band 2 / 5MHz / 1RB / 16-QAM

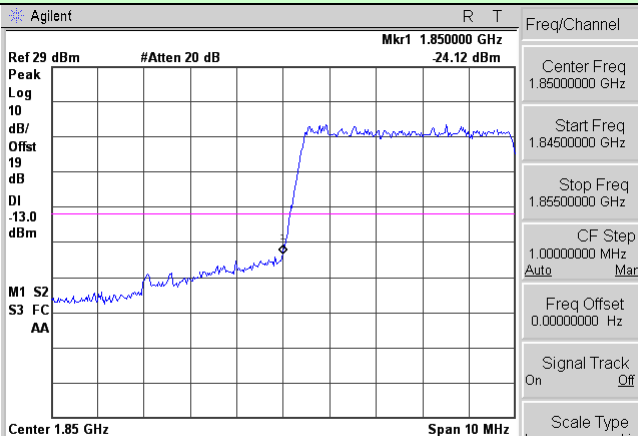


Lowest channel

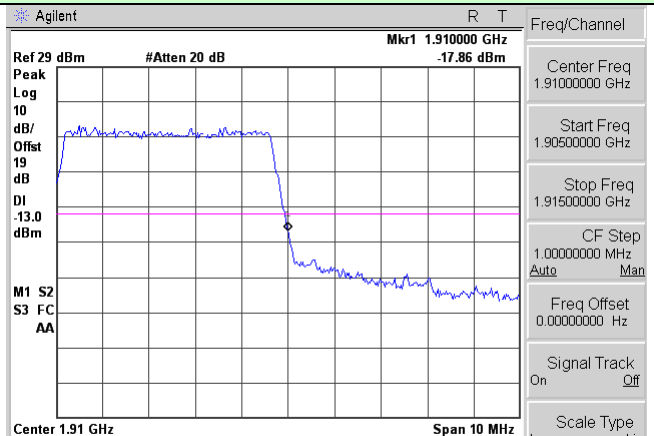


Highest channel

Test Mode: LTE Band 2 / 5MHz / 25RB / 16-QAM

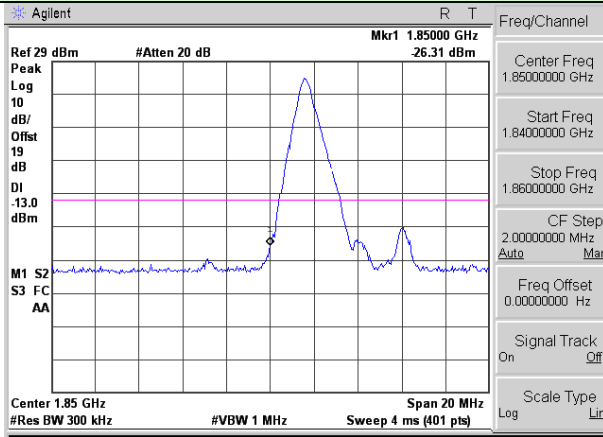


Lowest channel

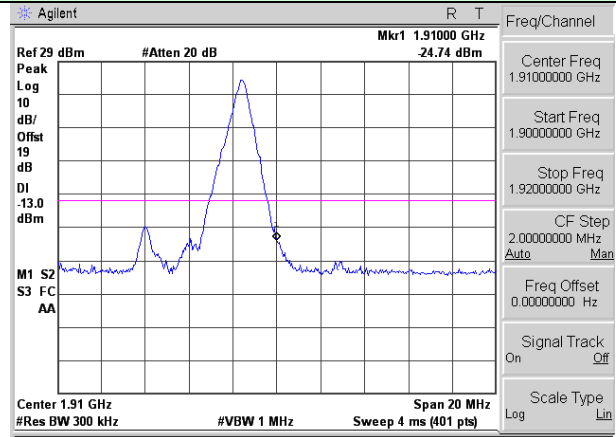


Highest channel

Test Mode: LTE Band 2 / 10MHz / 1RB / 16-QAM

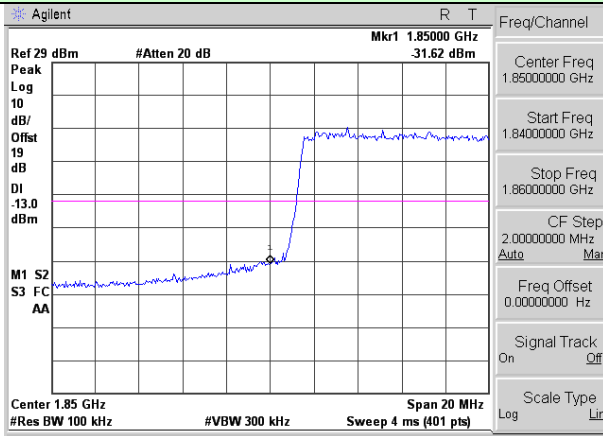


Lowest channel

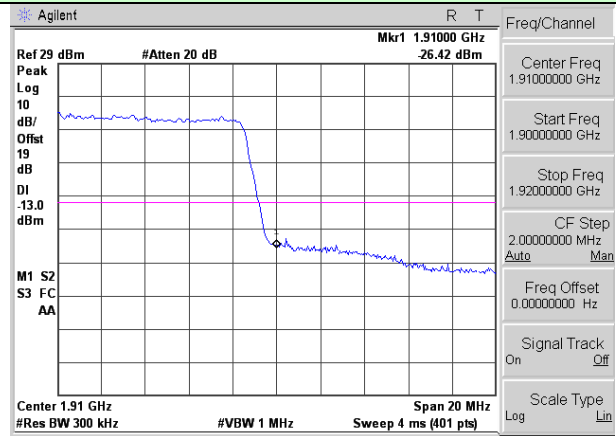


Highest channel

Test Mode: LTE Band 2 / 10MHz / 50RB / 16-QAM

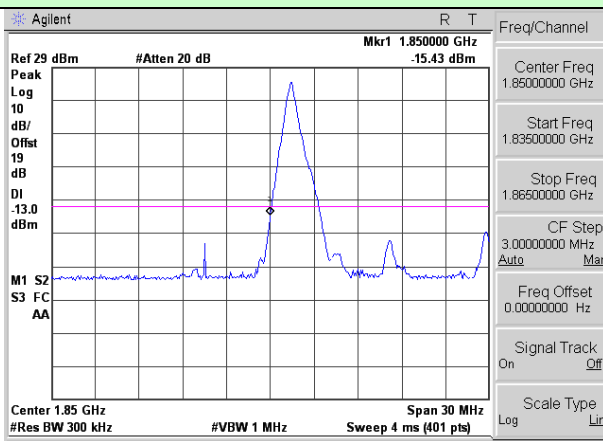


Lowest channel

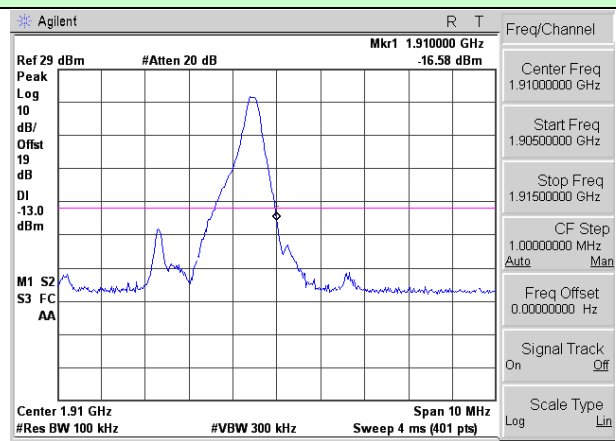


Highest channel

Test Mode: LTE Band 2 / 15MHz / 1RB / 16-QAM

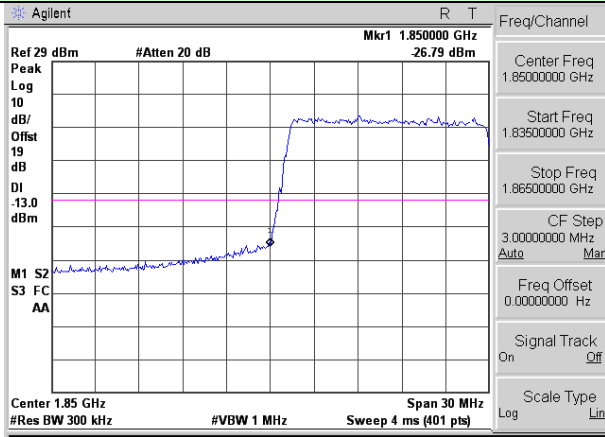


Lowest channel

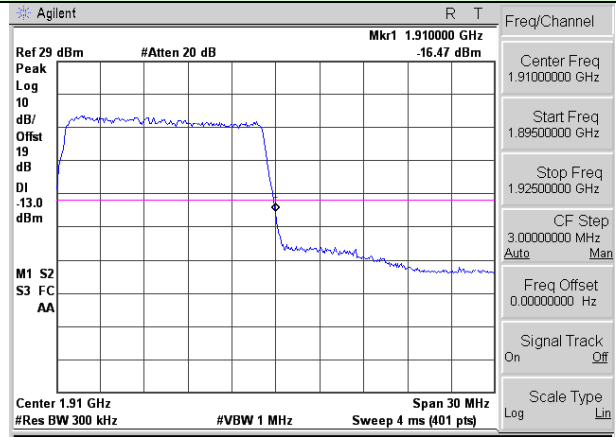


Highest channel

Test Mode: LTE Band 2 / 15MHz / 75RB / 16-QAM

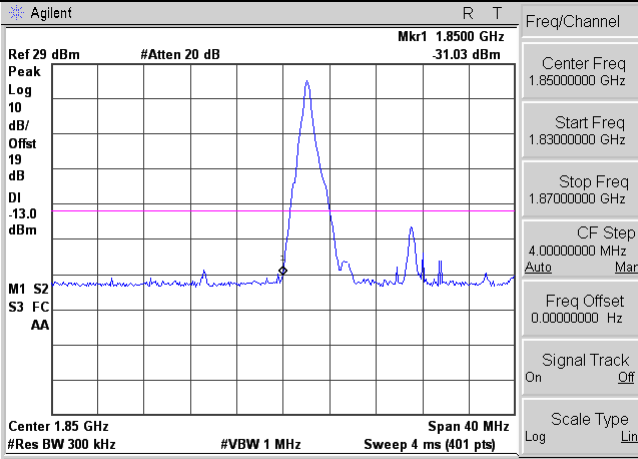


Lowest channel

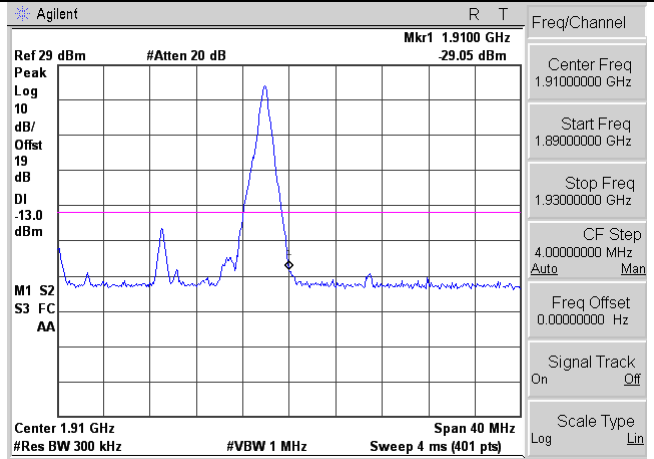


Highest channel

Test Mode: LTE Band 2 / 20MHz / 1RB / 16-QAM

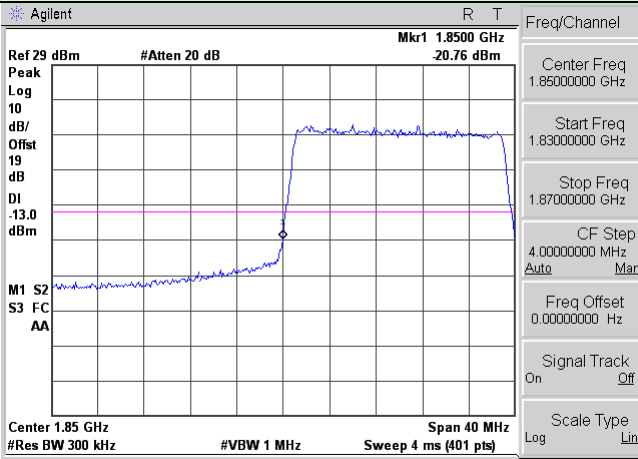


Lowest channel

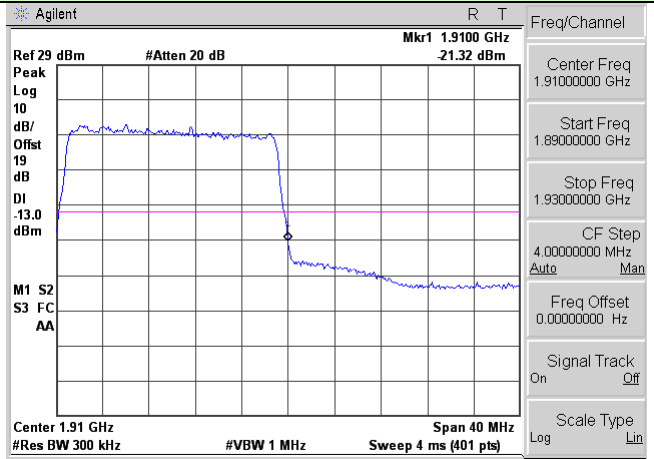


Highest channel

Test Mode: LTE Band 2 / 20MHz / 100RB / 16-QAM

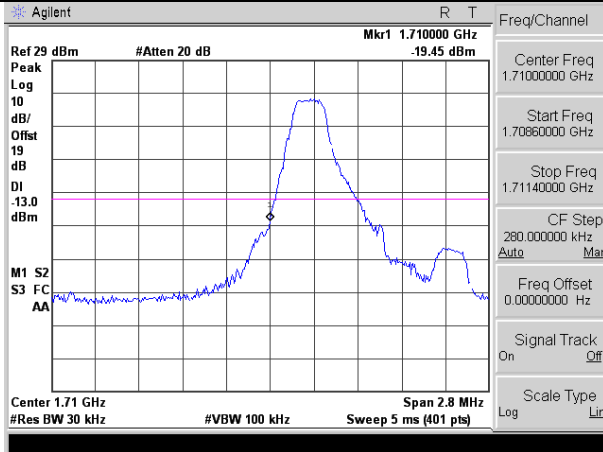


Lowest channel

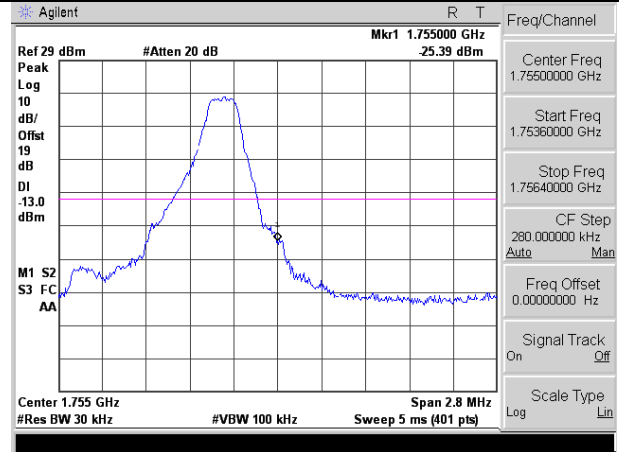


Highest channel

Test Mode: LTE Band 4 / 1.4MHz / 1RB / QPSK

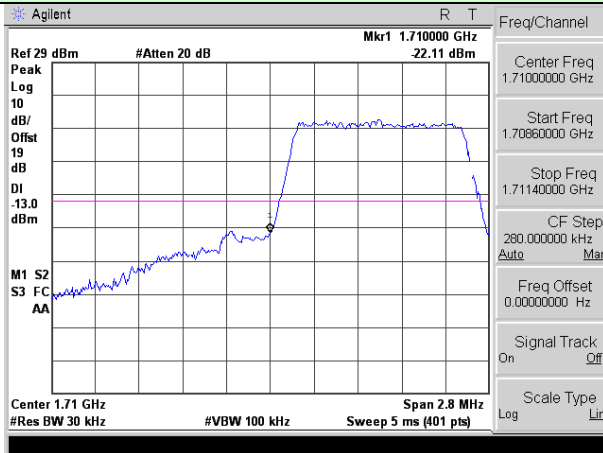


Lowest channel

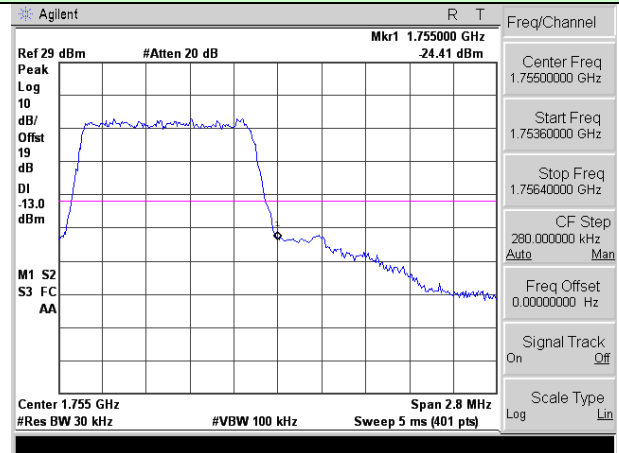


Highest channel

Test Mode: LTE Band 4 / 1.4MHz / 6RB / QPSK

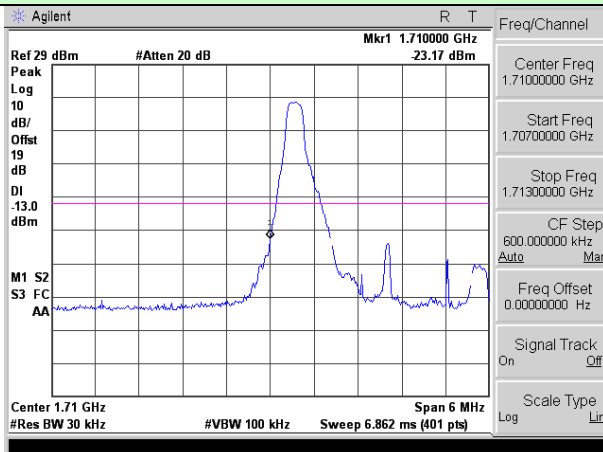


Lowest channel

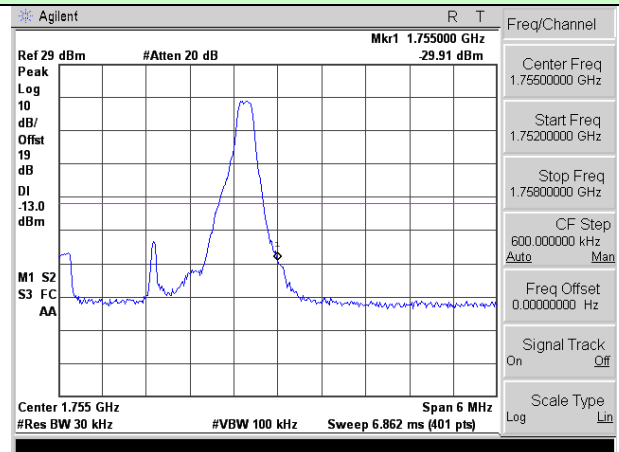


Highest channel

Test Mode: LTE Band 4 / 3MHz / 1RB / QPSK

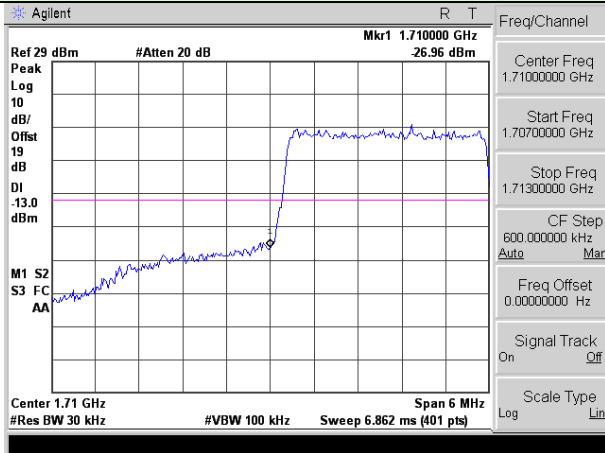


Lowest channel

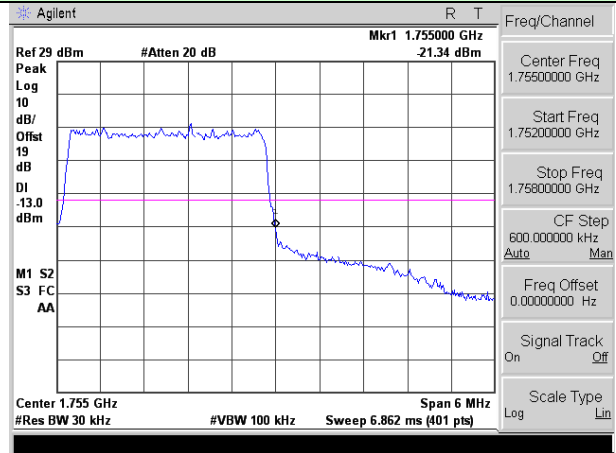


Highest channel

Test Mode: LTE Band 4 / 3MHz / 15RB / QPSK

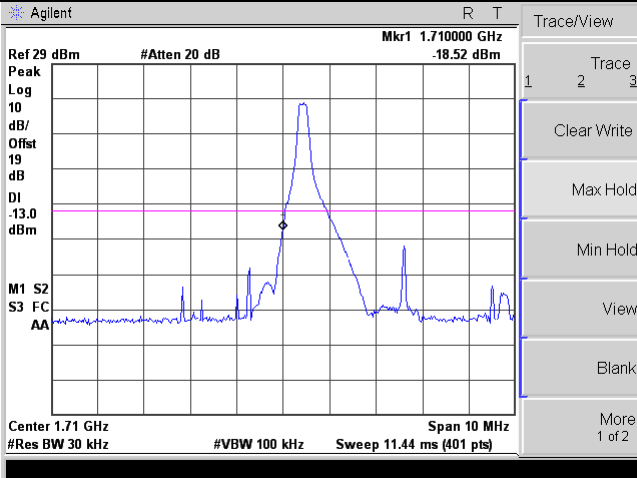


Lowest channel

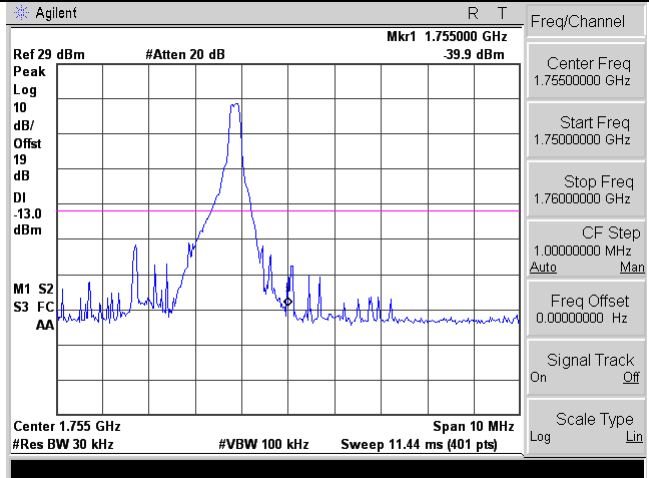


Highest channel

Test Mode: LTE Band 4 / 5MHz / 1RB / QPSK

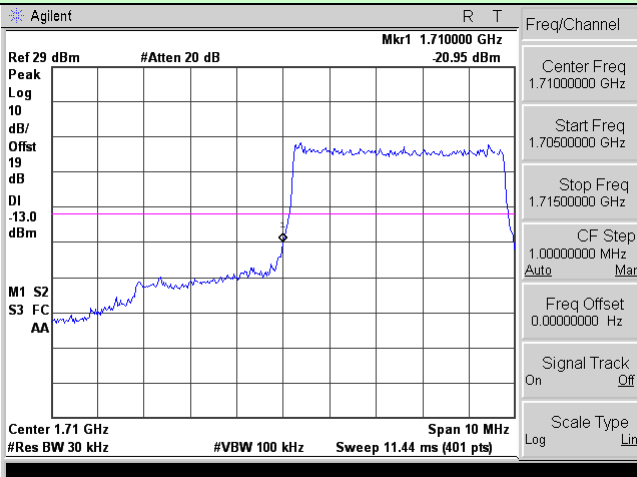


Lowest channel

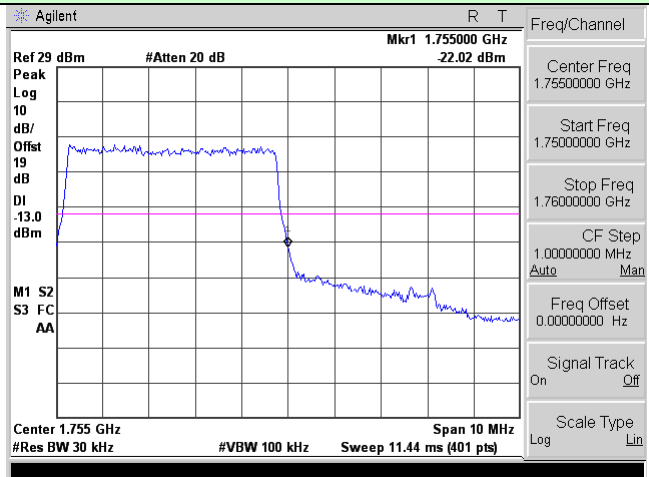


Highest channel

Test Mode: LTE Band 4 / 5MHz / 25RB / QPSK

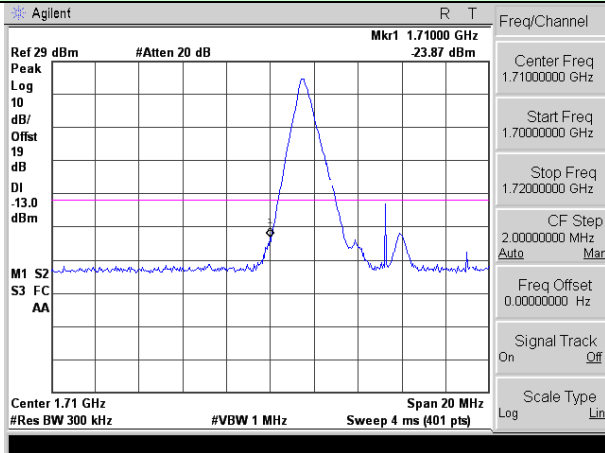


Lowest channel

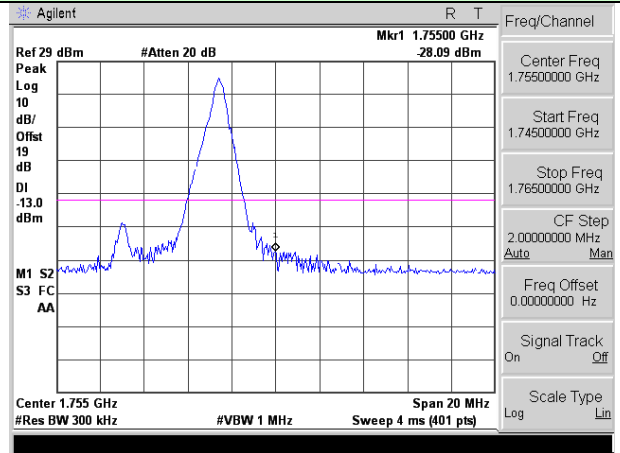


Highest channel

Test Mode: LTE Band 4 / 10MHz / 1RB / QPSK

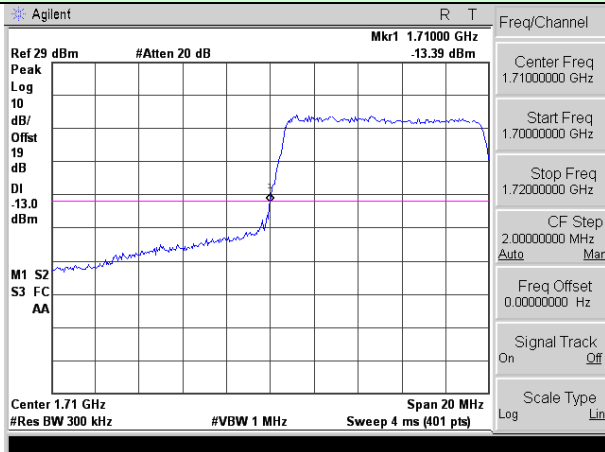


Lowest channel

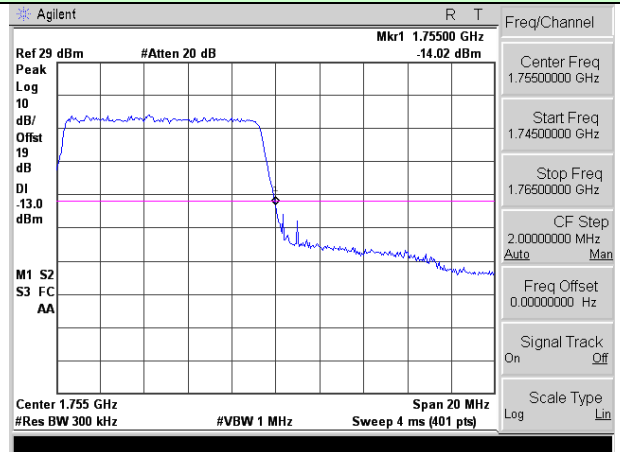


Highest channel

Test Mode: LTE Band 4 / 10MHz / 50RB / QPSK

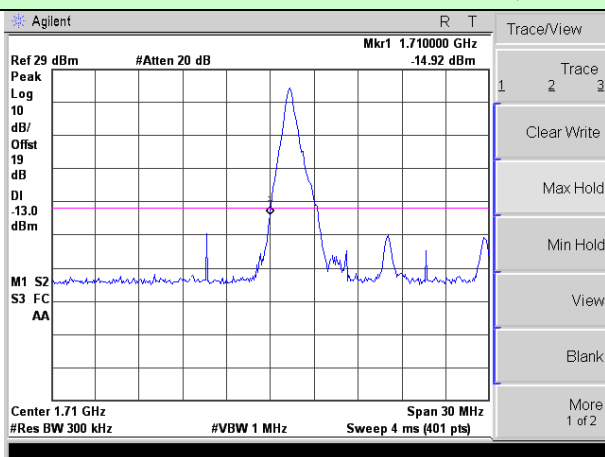


Lowest channel

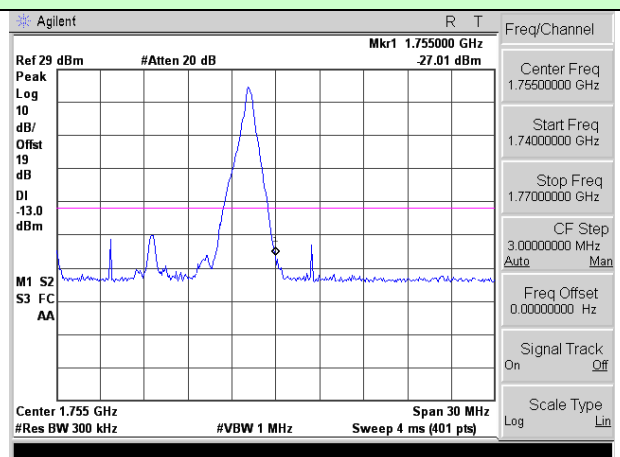


Highest channel

Test Mode: LTE Band 4 / 15MHz / 1RB / QPSK

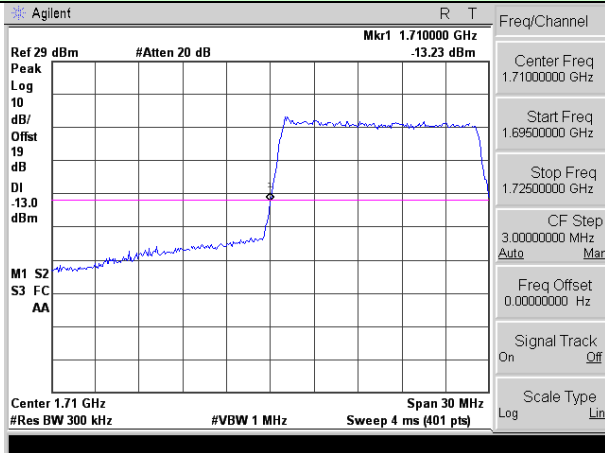


Lowest channel

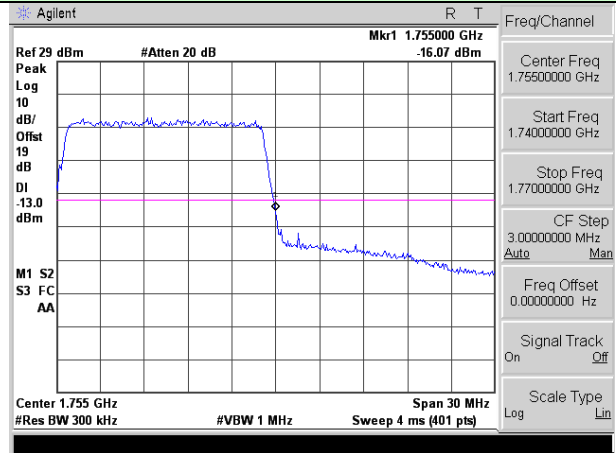


Highest channel

Test Mode: LTE Band 4 / 15MHz / 75RB / QPSK

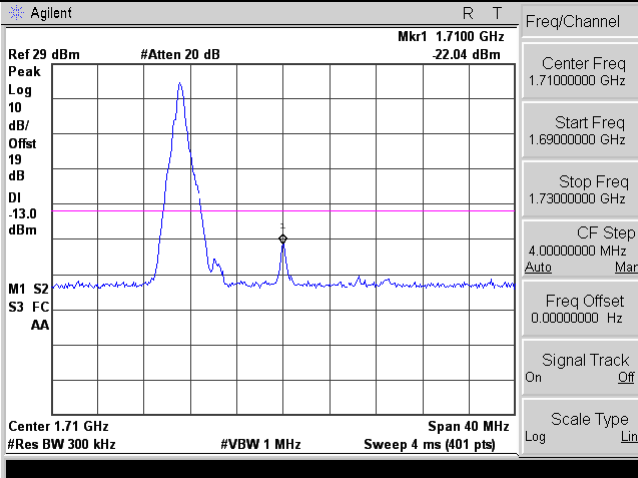


Lowest channel

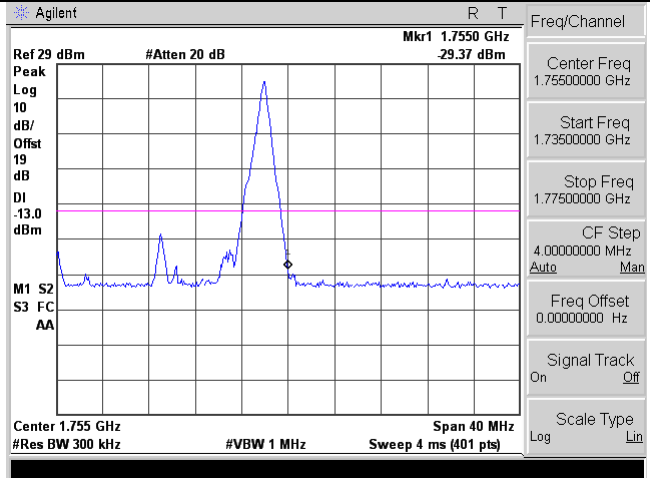


Highest channel

Test Mode: LTE Band 4 / 20MHz / 1RB / QPSK

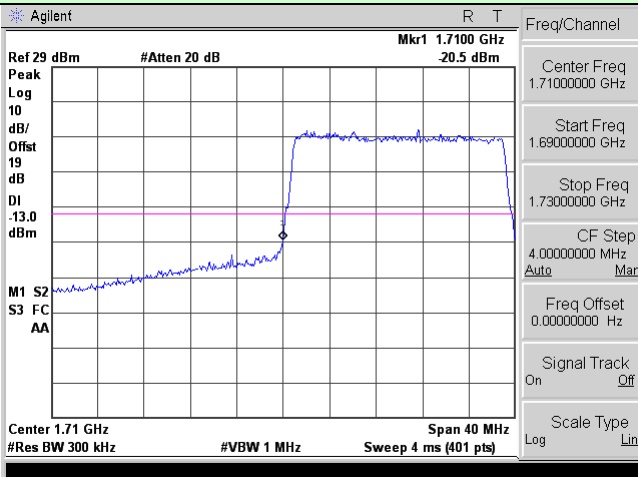


Lowest channel

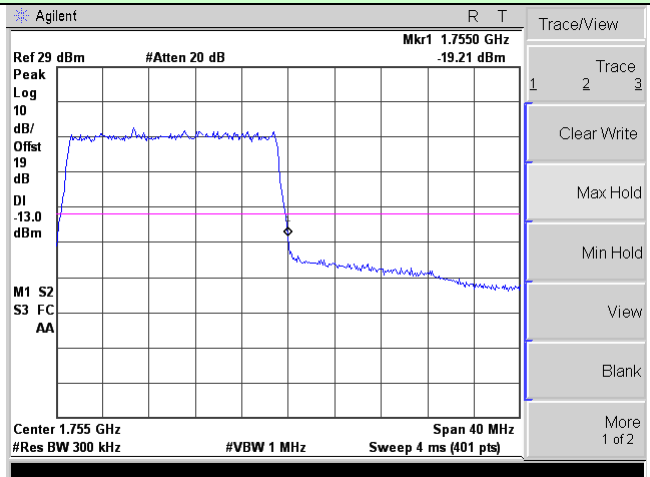


Highest channel

Test Mode: LTE Band 4 / 20MHz / 100RB / QPSK

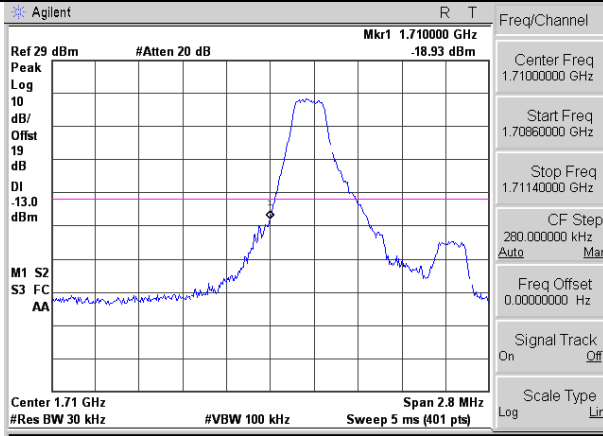


Lowest channel

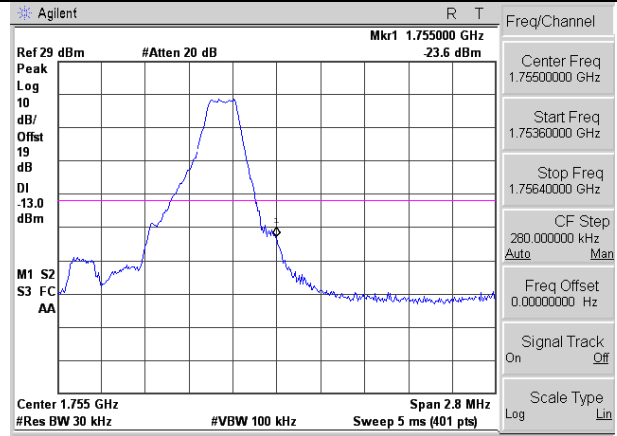


Highest channel

Test Mode: LTE Band 4 / 1.4MHz / 1RB / 16-QAM

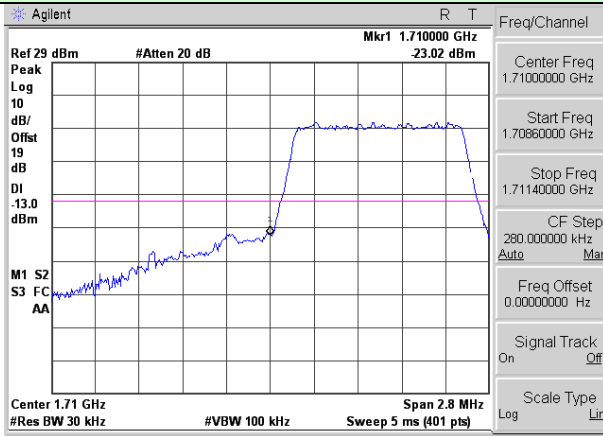


Lowest channel

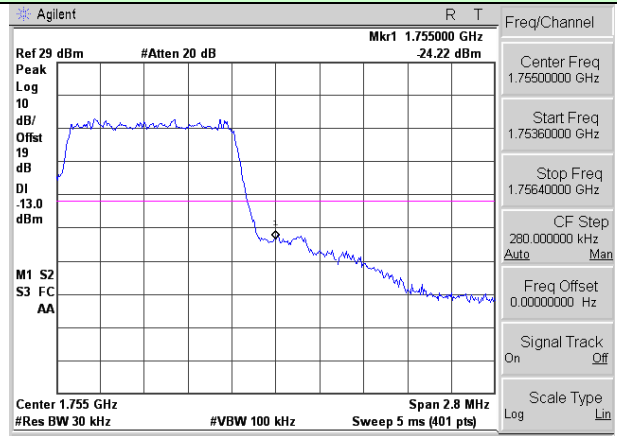


Highest channel

Test Mode: LTE Band 4 / 1.4MHz / 6RB / 16-QAM

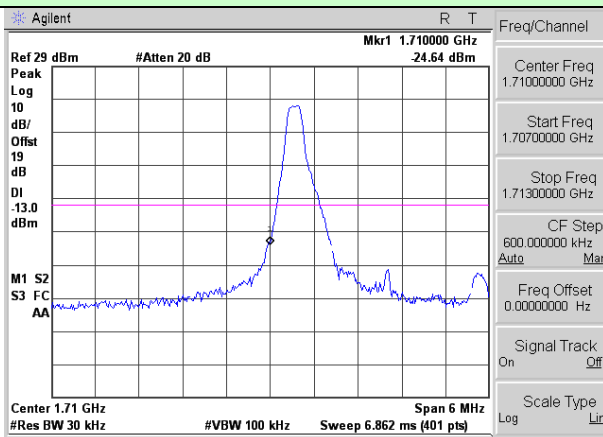


Lowest channel

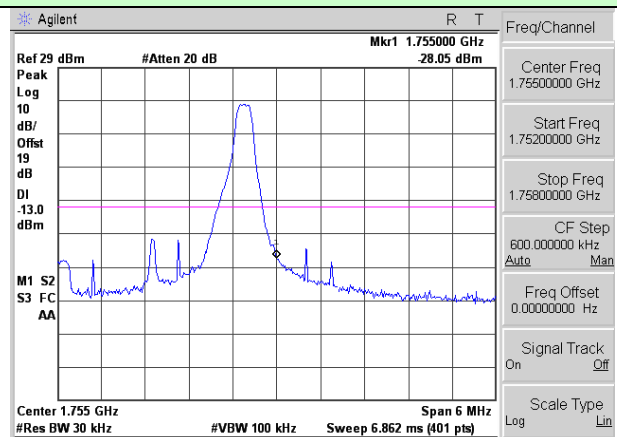


Highest channel

Test Mode: LTE Band 4 / 3MHz / 1RB / 16-QAM

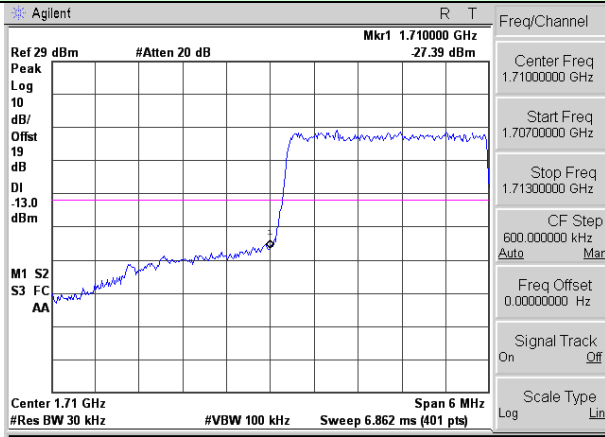


Lowest channel

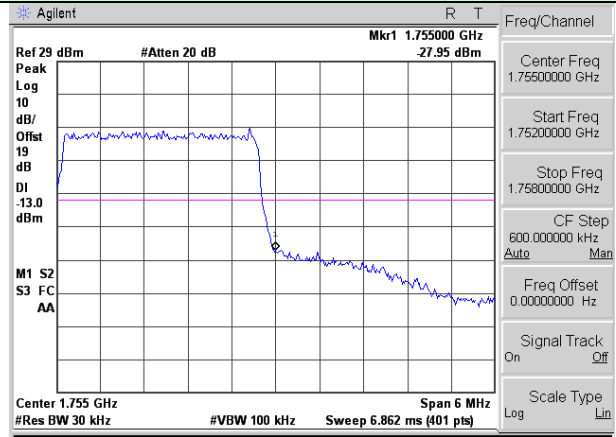


Highest channel

Test Mode: LTE Band 4 / 3MHz / 15RB / 16-QAM

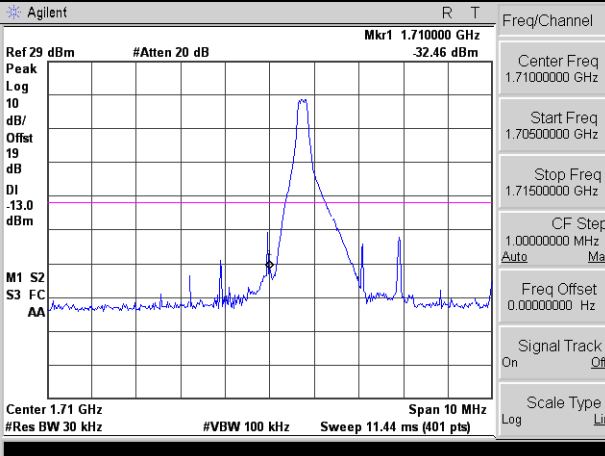


Lowest channel

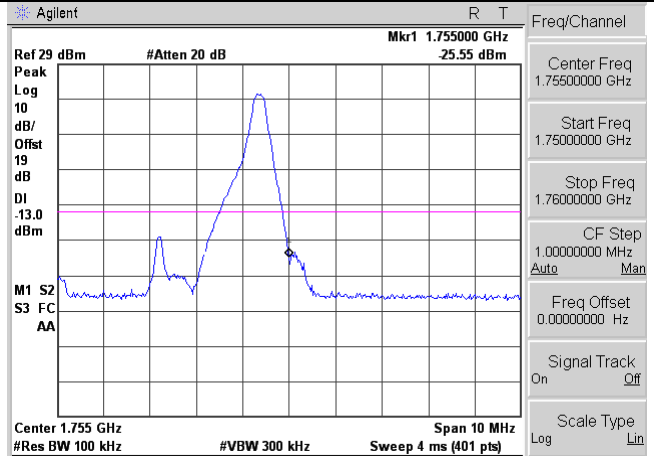


Highest channel

Test Mode: LTE Band 4 / 5MHz / 1RB / 16-QAM

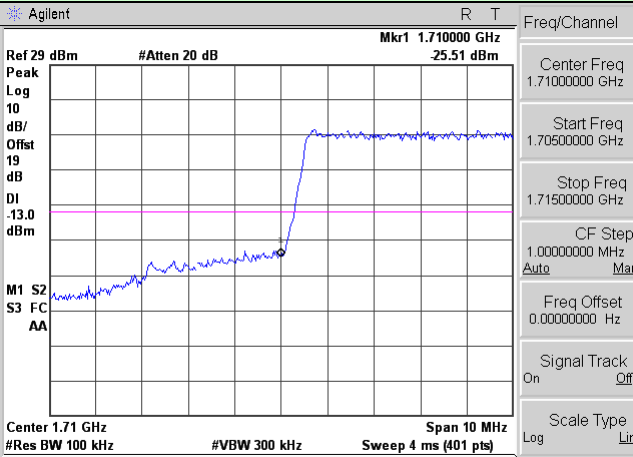


Lowest channel

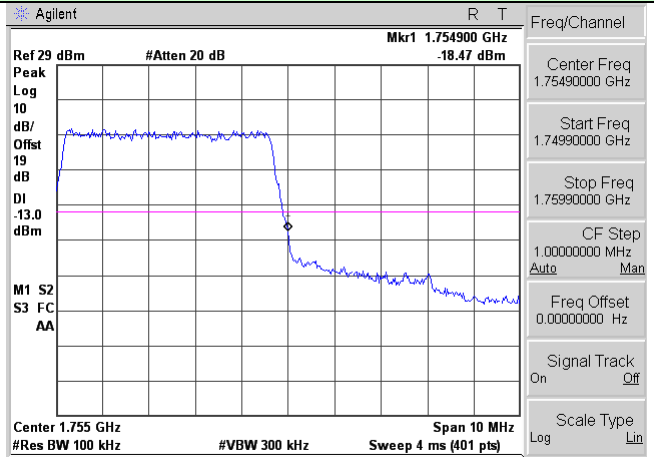


Highest channel

Test Mode: LTE Band 4 / 5MHz / 25RB / 16-QAM

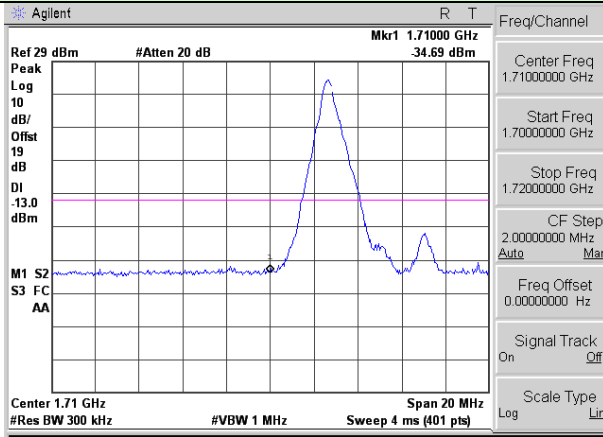


Lowest channel

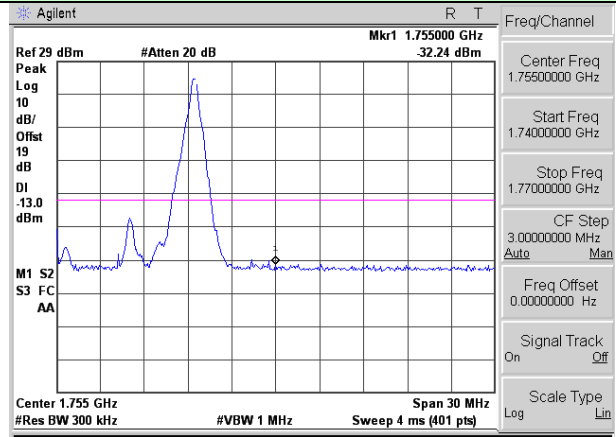


Highest channel

Test Mode: LTE Band 4 / 10MHz / 1RB / 16-QAM

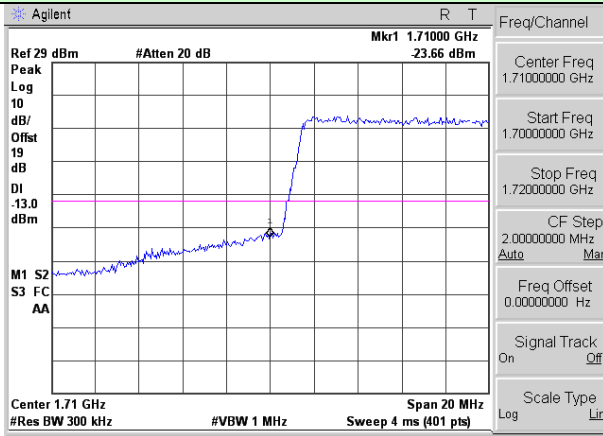


Lowest channel

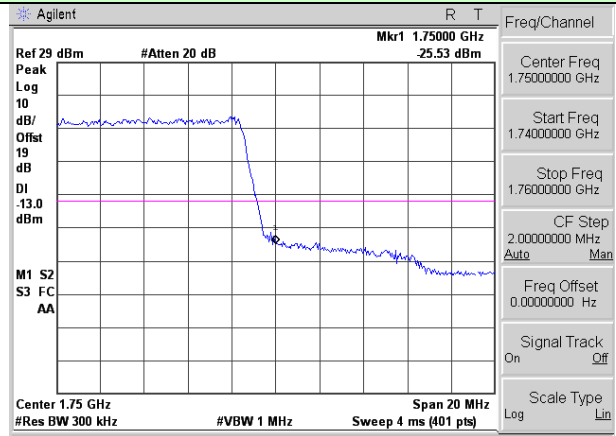


Highest channel

Test Mode: LTE Band 4 / 10MHz / 50RB / 16-QAM

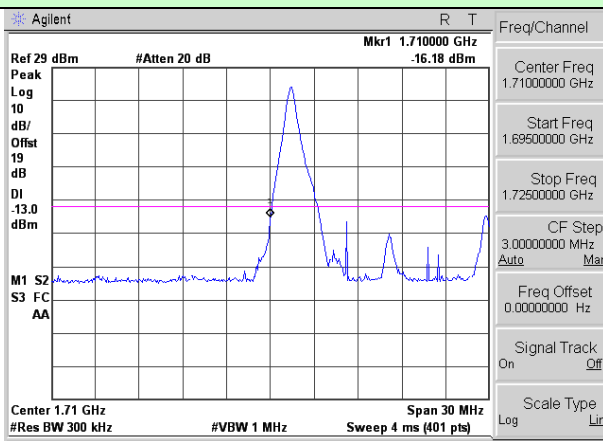


Lowest channel

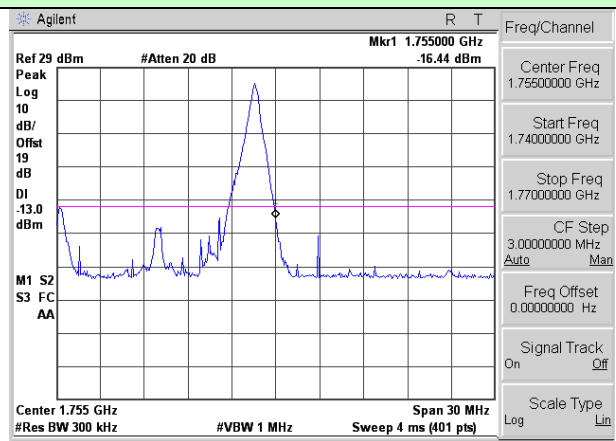


Highest channel

Test Mode: LTE Band 4 / 15MHz / 1RB / 16-QAM

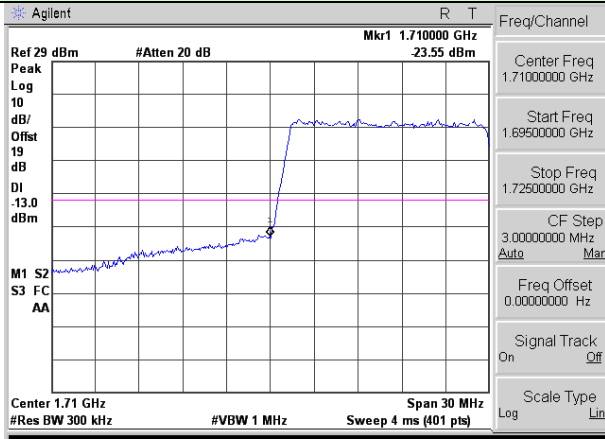


Lowest channel

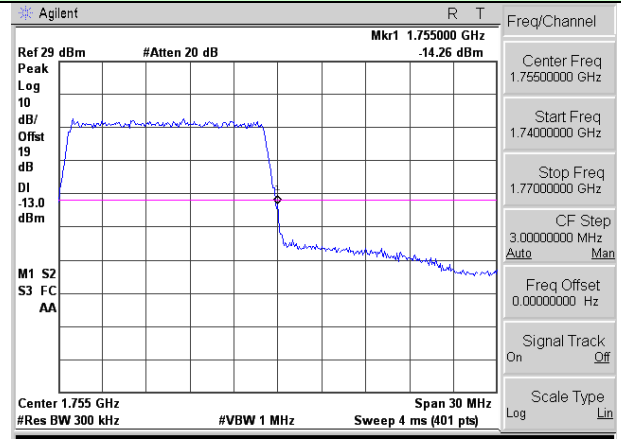


Highest channel

Test Mode: LTE Band 4 / 15MHz / 75RB / 16-QAM

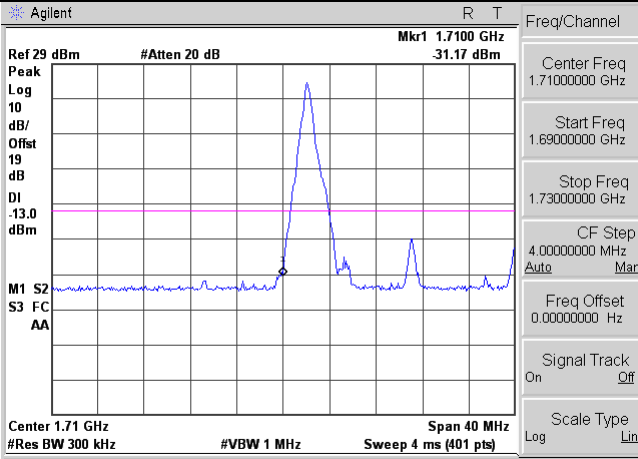


Lowest channel

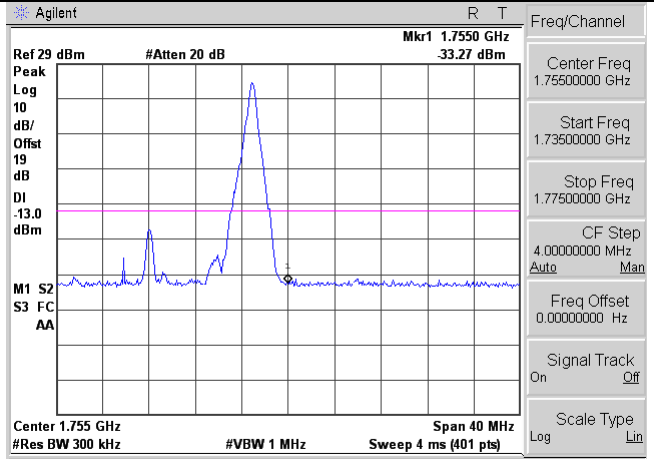


Highest channel

Test Mode: LTE Band 4 / 20MHz / 1RB / 16-QAM

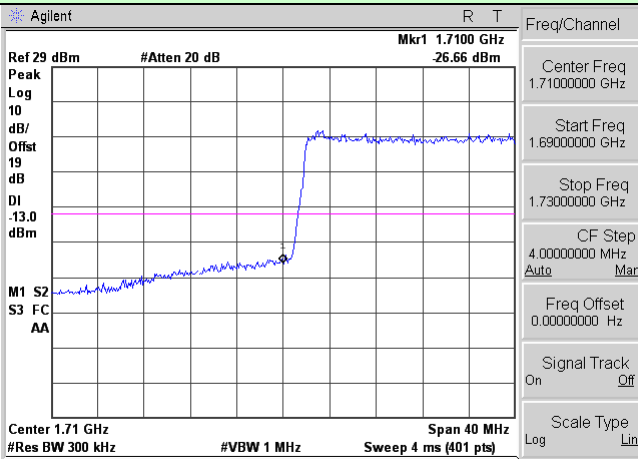


Lowest channel

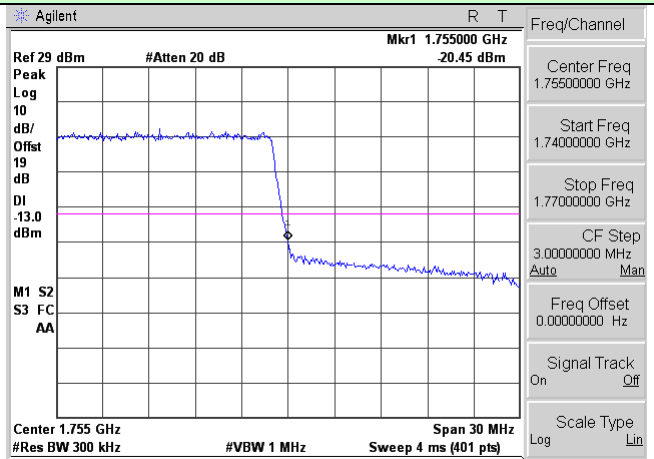


Highest channel

Test Mode: LTE Band 4 / 20MHz / 100RB / 16-QAM

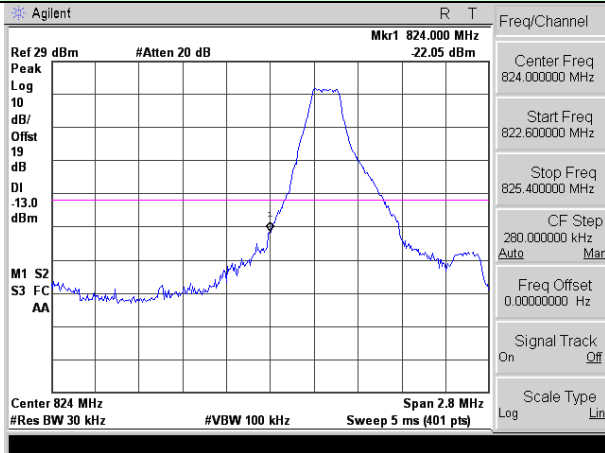


Lowest channel

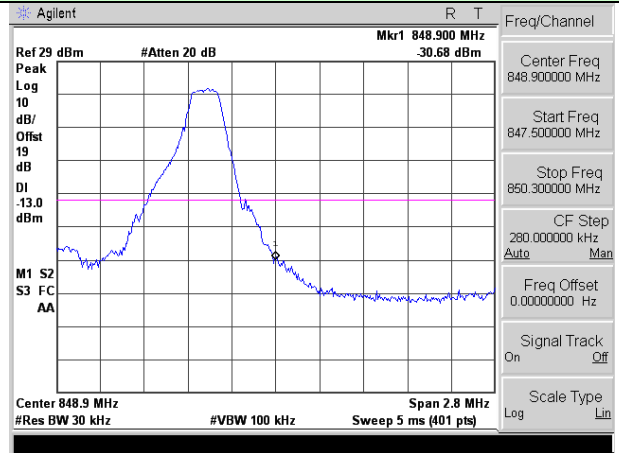


Highest channel

Test Mode: LTE Band 5 / 1.4MHz / 1RB / QPSK

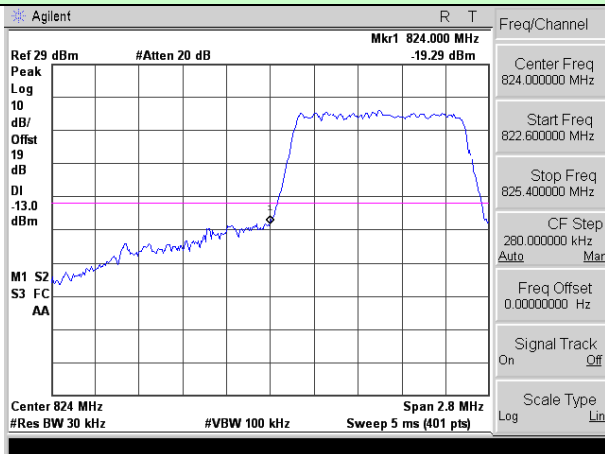


Lowest channel

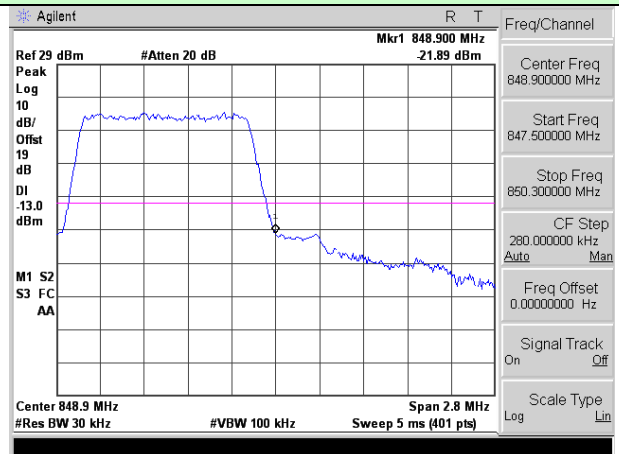


Highest channel

Test Mode: LTE Band 5 / 1.4MHz / 6RB / QPSK

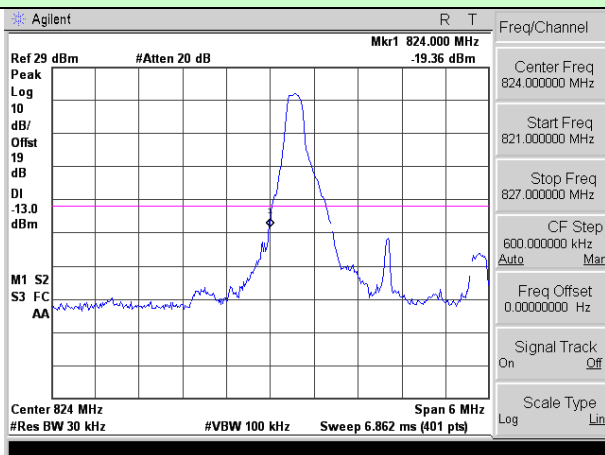


Lowest channel

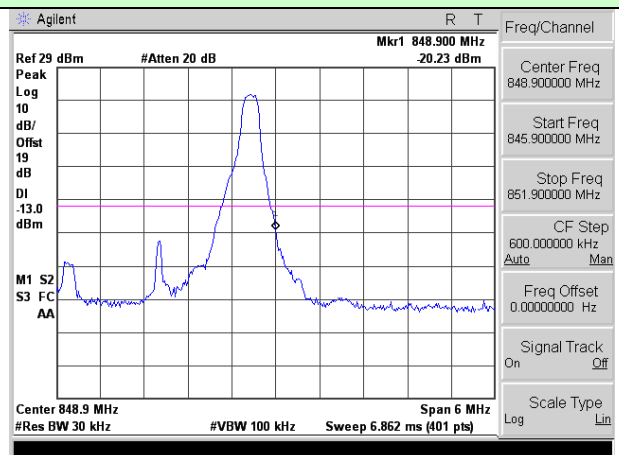


Highest channel

Test Mode: LTE Band 5 / 3MHz / 1RB / QPSK

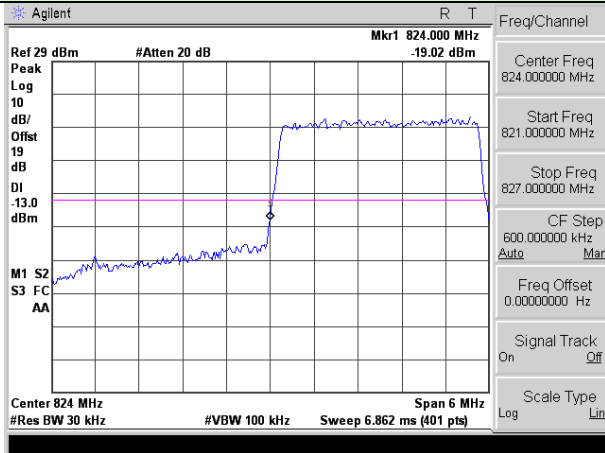


Lowest channel

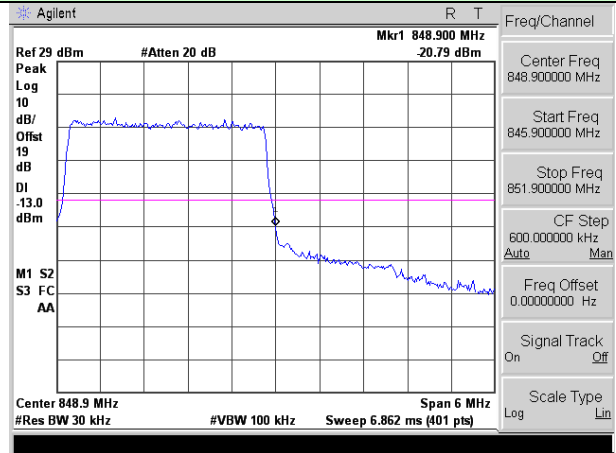


Highest channel

Test Mode: LTE Band 5 / 3MHz / 15RB / QPSK

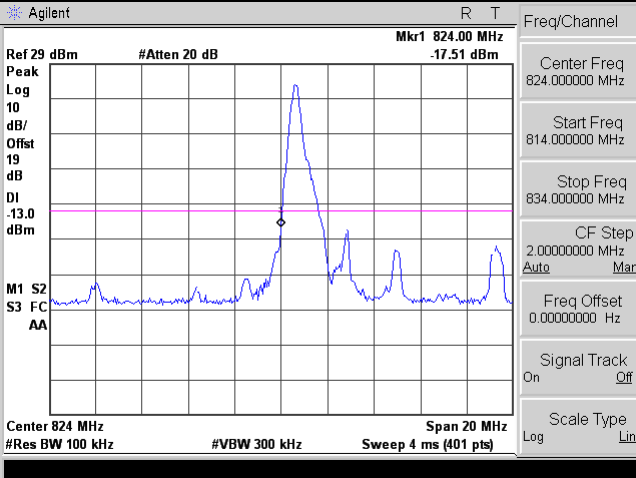


Lowest channel

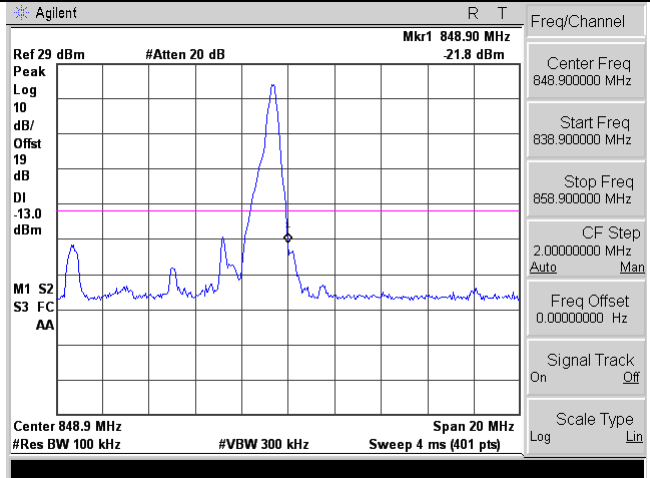


Highest channel

Test Mode: LTE Band 5 / 5MHz / 1RB / QPSK

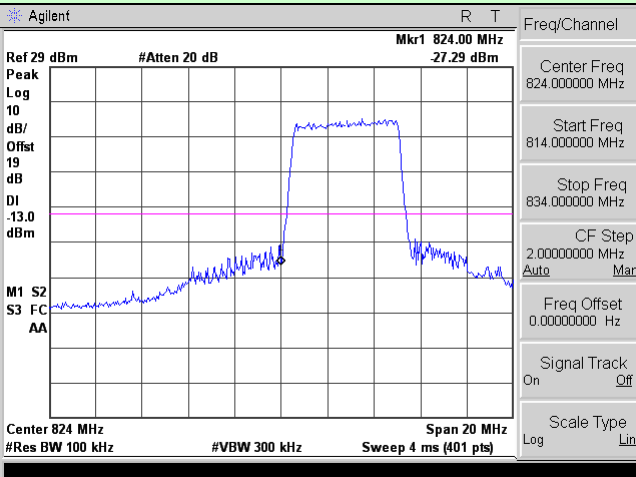


Lowest channel

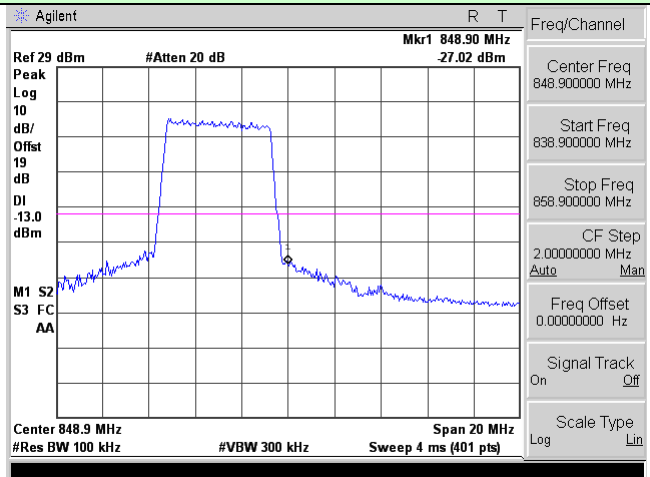


Highest channel

Test Mode: LTE Band 5 / 5MHz / 25RB / QPSK

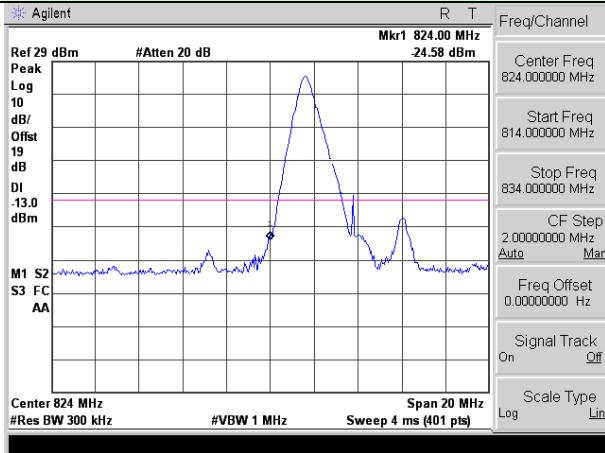


Lowest channel

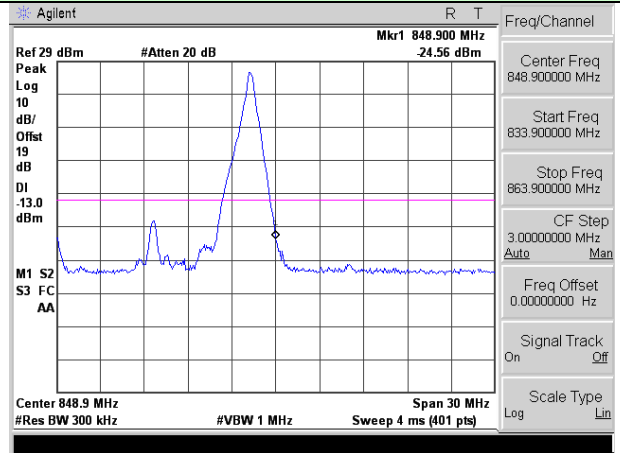


Highest channel

Test Mode: LTE Band 5 / 10MHz / 1RB / QPSK

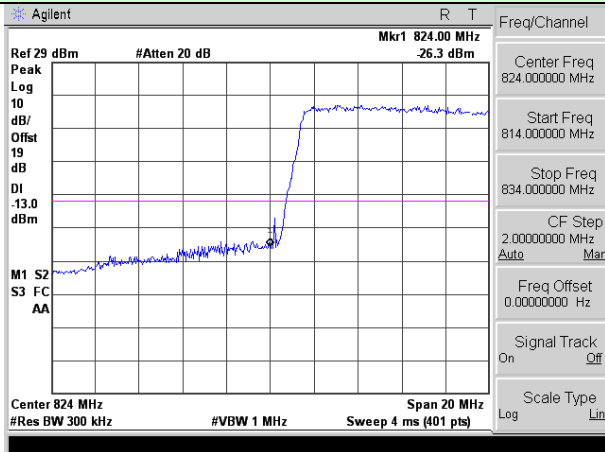


Lowest channel

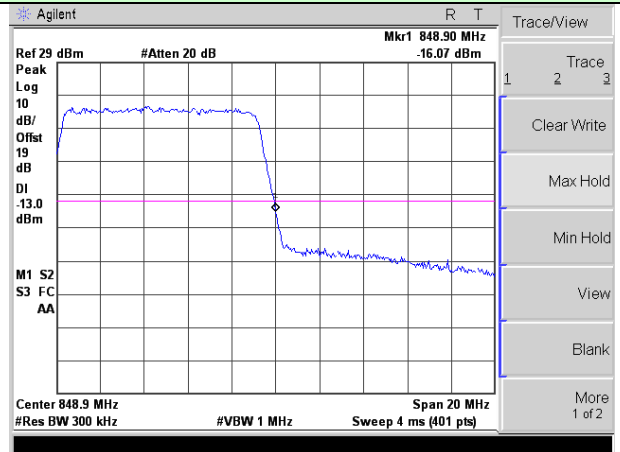


Highest channel

Test Mode: LTE Band 5 / 10MHz / 50RB / QPSK

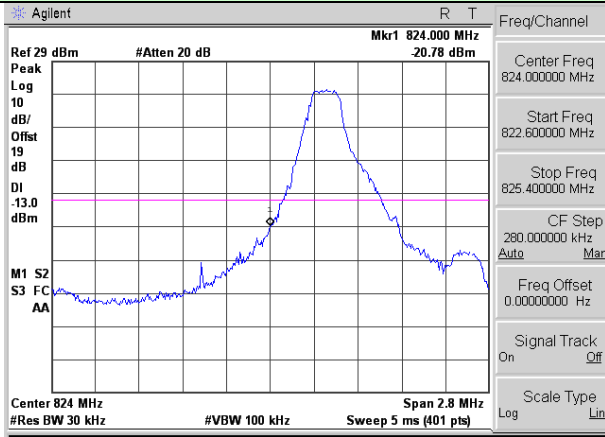


Lowest channel

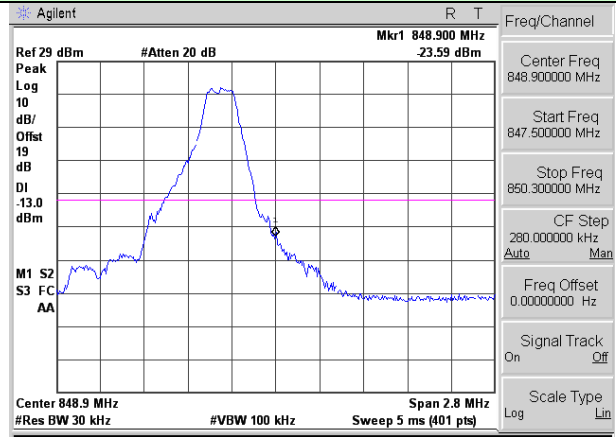


Highest channel

Test Mode: LTE Band 5 / 1.4MHz / 1RB / 16-QAM

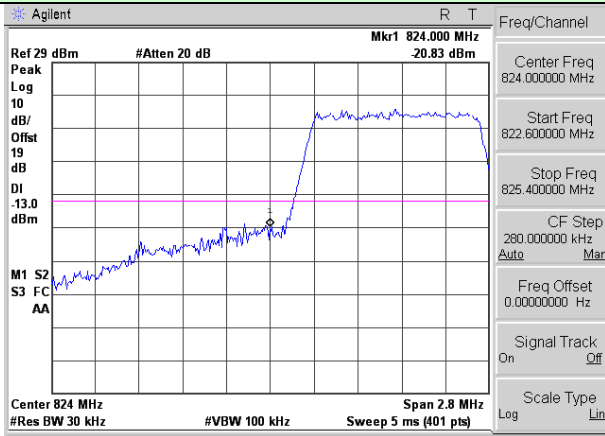


Lowest channel

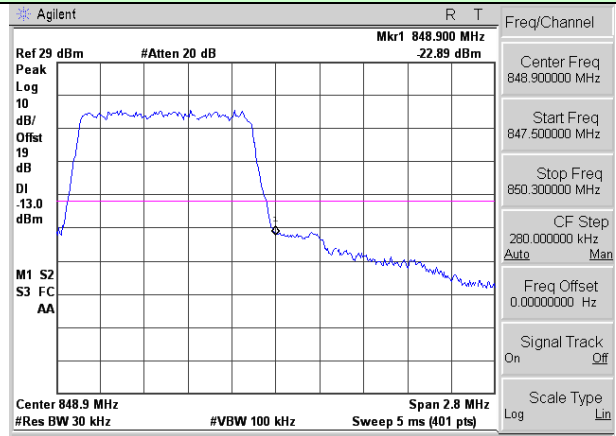


Highest channel

Test Mode: LTE Band 5 / 1.4MHz / 6RB / 16-QAM

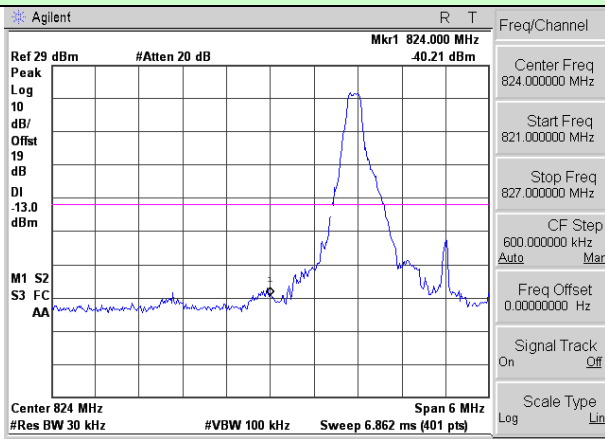


Lowest channel

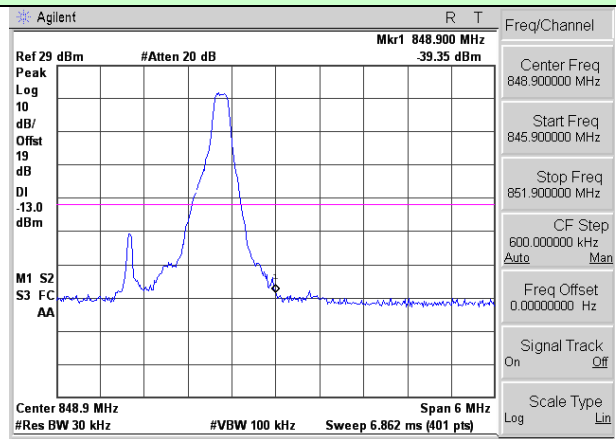


Highest channel

Test Mode: LTE Band 5 / 3MHz / 1RB / 16-QAM

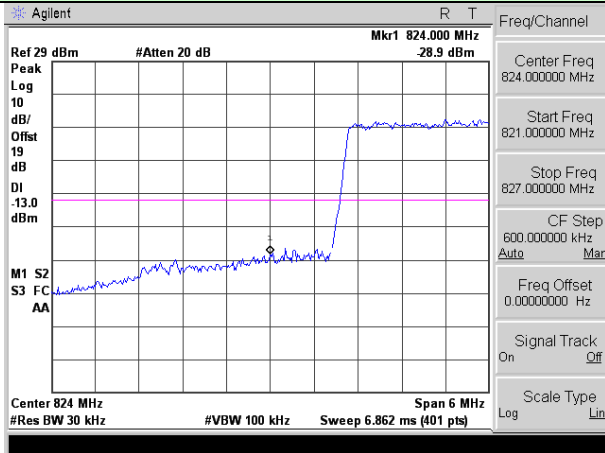


Lowest channel

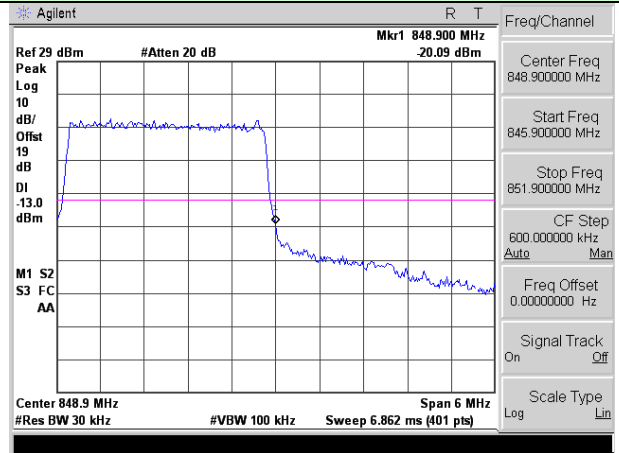


Highest channel

Test Mode: LTE Band 5 / 3MHz / 15RB / 16-QAM

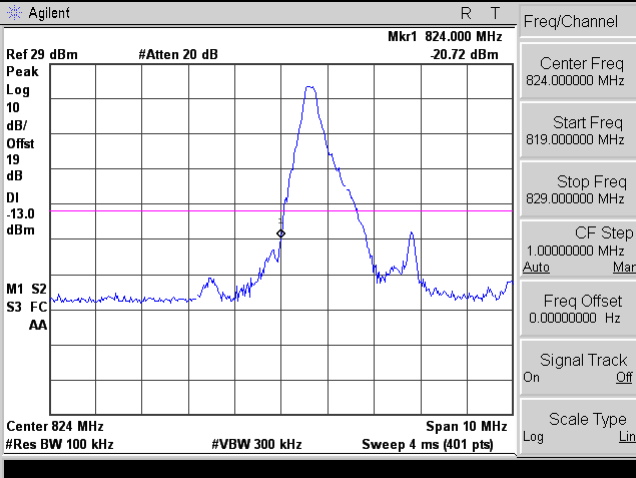


Lowest channel

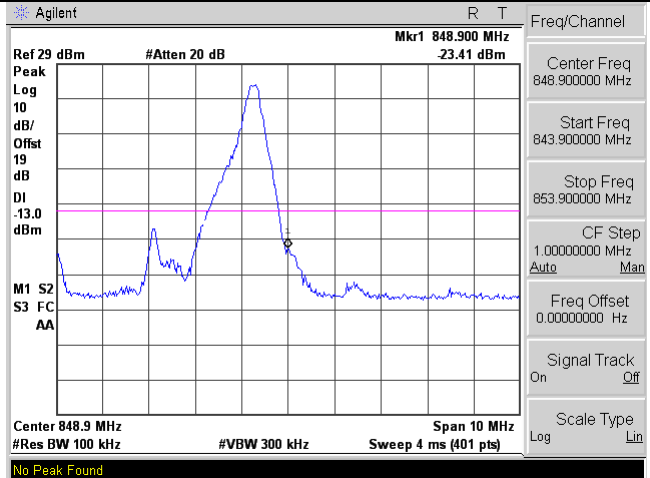


Highest channel

Test Mode: LTE Band 5 / 5MHz / 1RB / 16-QAM

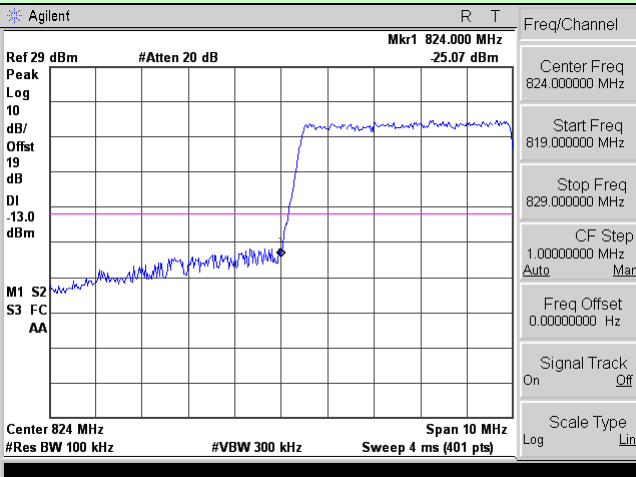


Lowest channel

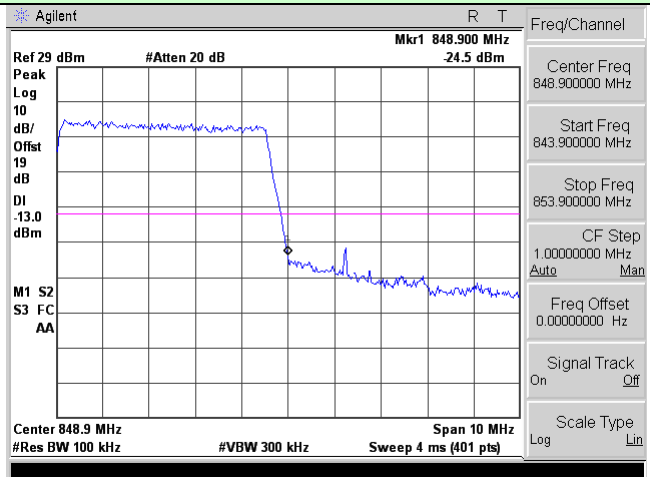


Highest channel

Test Mode: LTE Band 5 / 5MHz / 25RB / 16-QAM

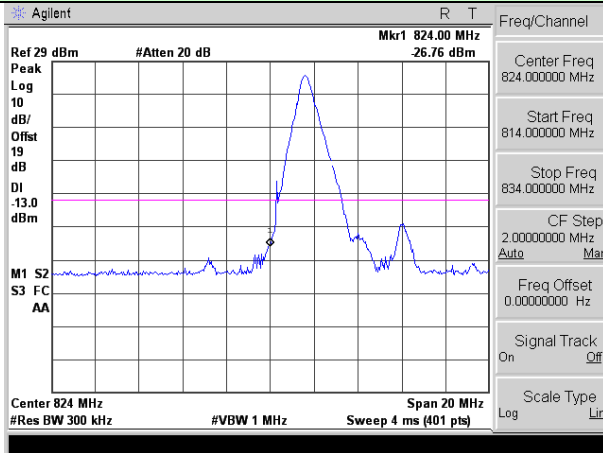


Lowest channel

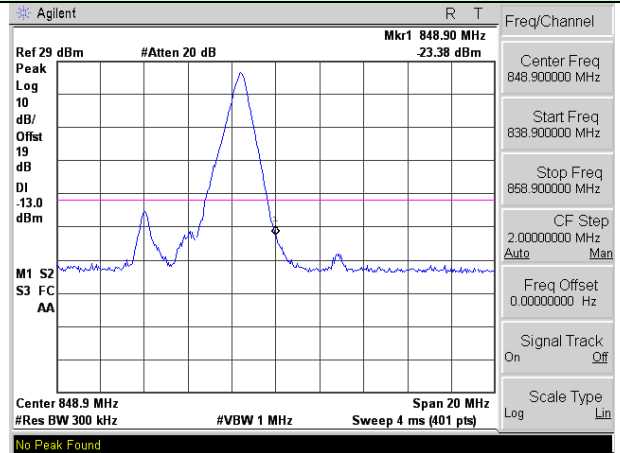


Highest channel

Test Mode: LTE Band 5 / 10MHz / 1RB / 16-QAM

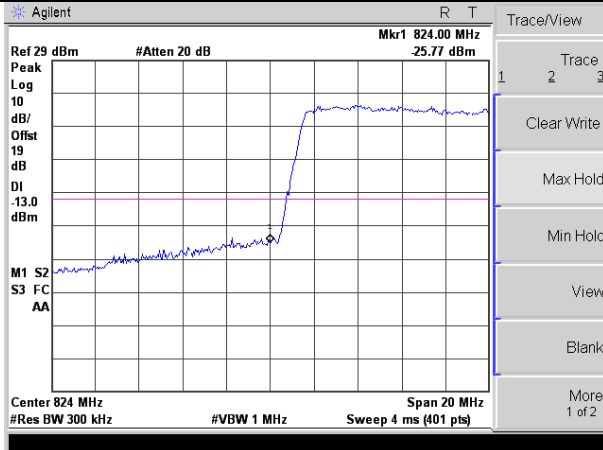


Lowest channel

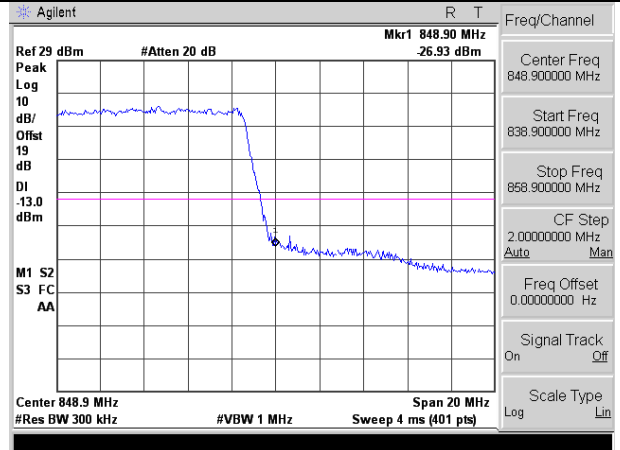


Highest channel

Test Mode: LTE Band 5 / 10MHz / 50RB / 16-QAM

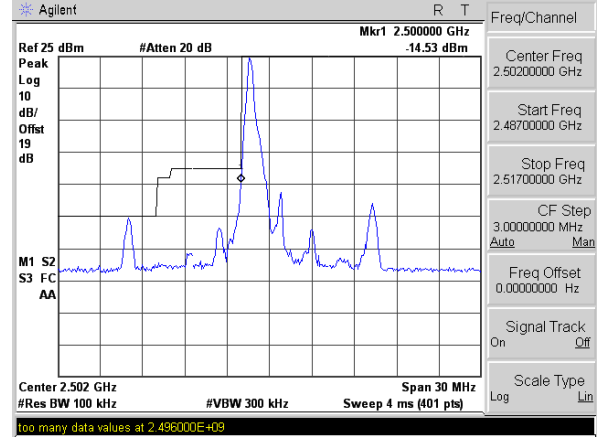


Lowest channel

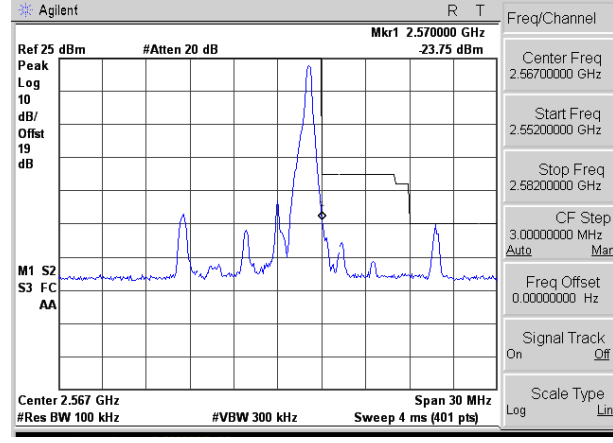


Highest channel

Test Mode: LTE Band 7 / 5MHz / 1RB / QPSK

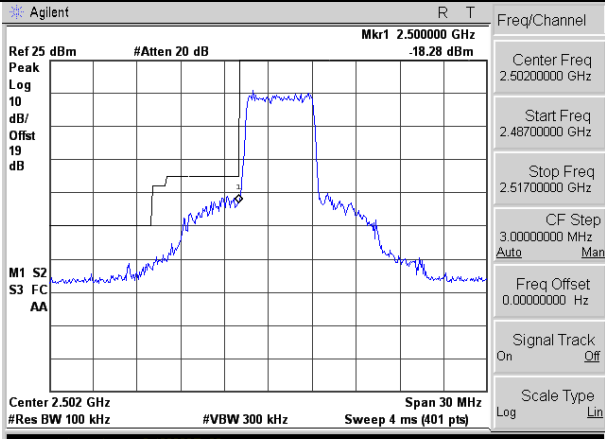


Lowest channel

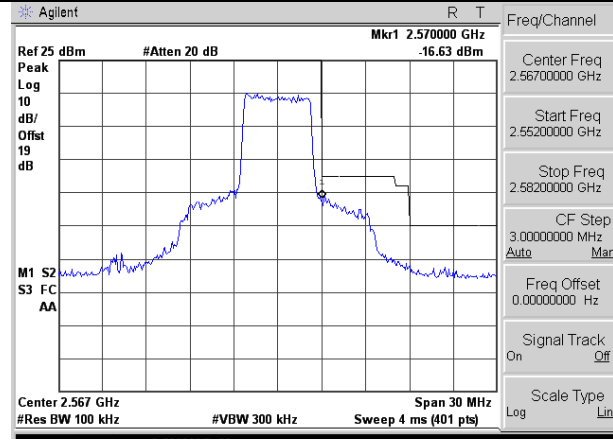


Highest channel

Test Mode: LTE Band 7 / 5MHz / 25RB / QPSK

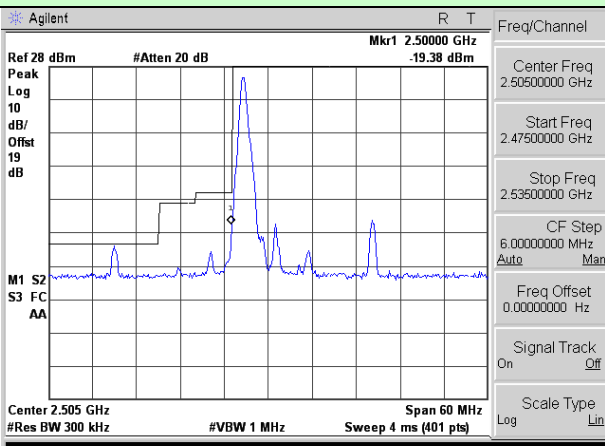


Lowest channel

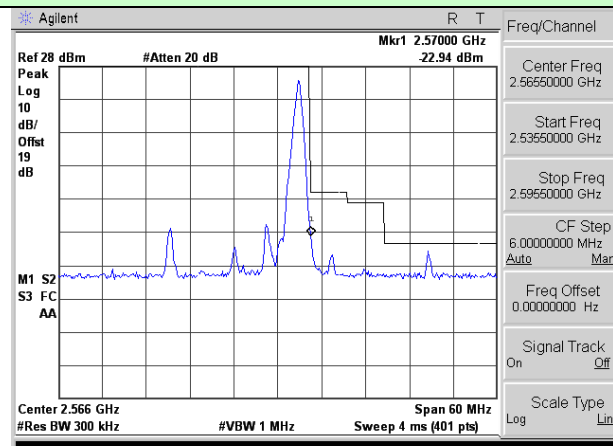


Highest channel

Test Mode: LTE Band 7 / 10MHz / 1RB / QPSK

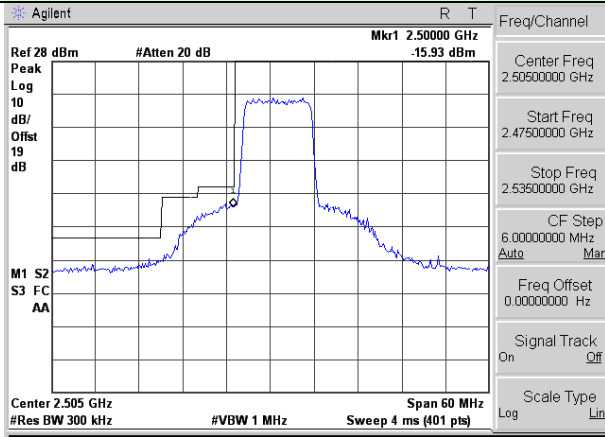


Lowest channel

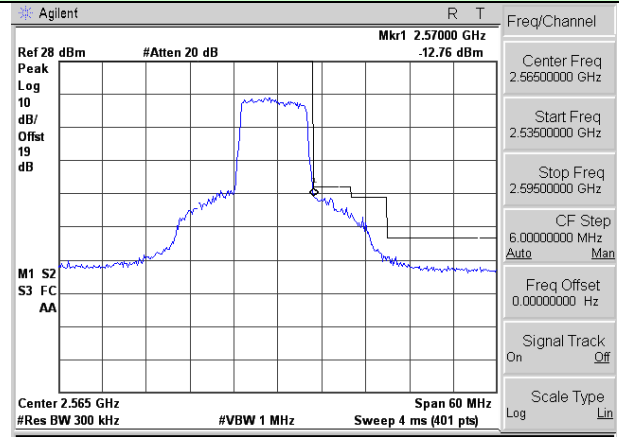


Highest channel

Test Mode: LTE Band 7 / 10MHz / 50RB / QPSK

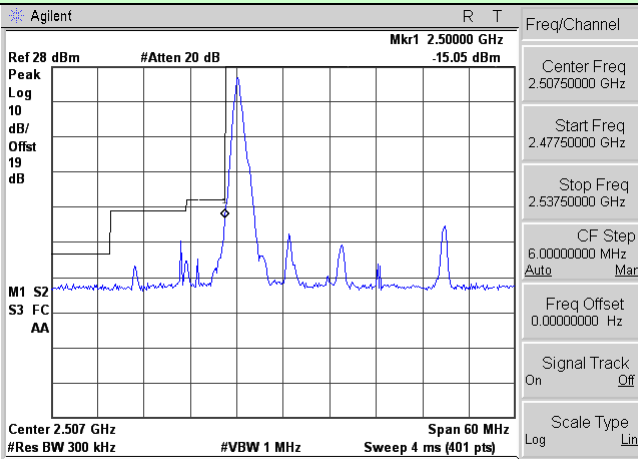


Lowest channel

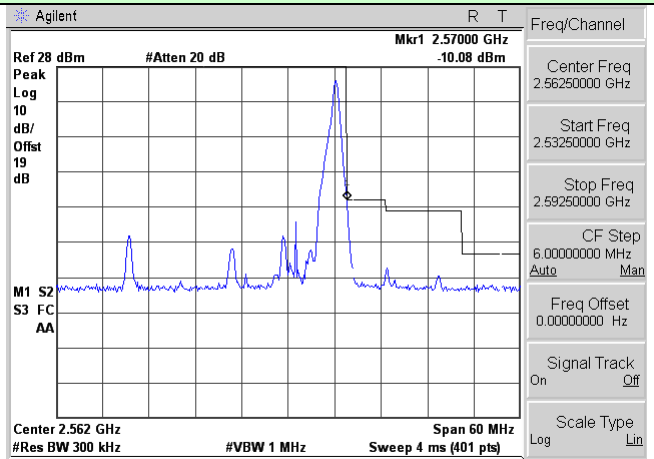


Highest channel

Test Mode: LTE Band 7 / 15MHz / 1RB / QPSK

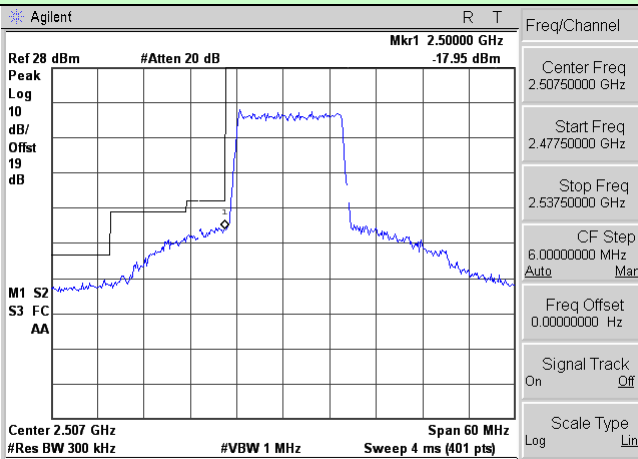


Lowest channel

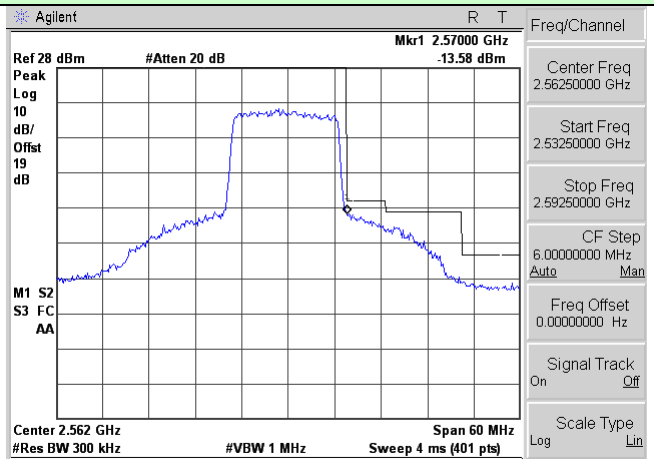


Highest channel

Test Mode: LTE Band 7 / 15MHz / 75RB / QPSK

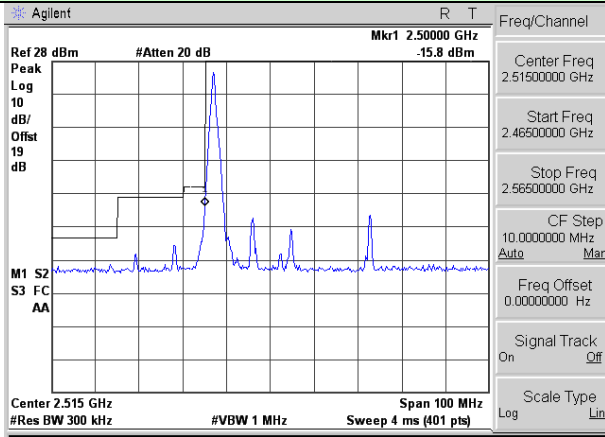


Lowest channel

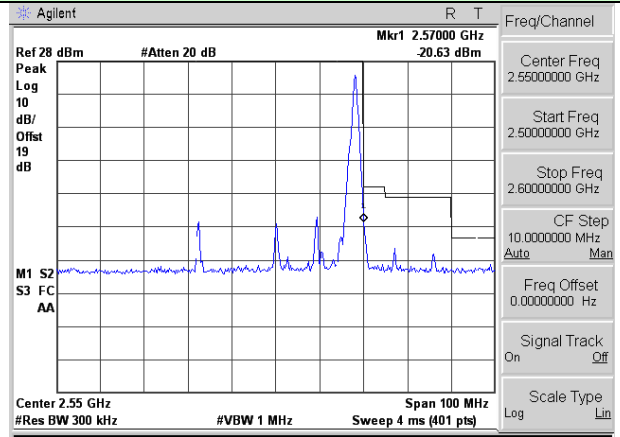


Highest channel

Test Mode: LTE Band 7 / 20MHz / 1RB / QPSK

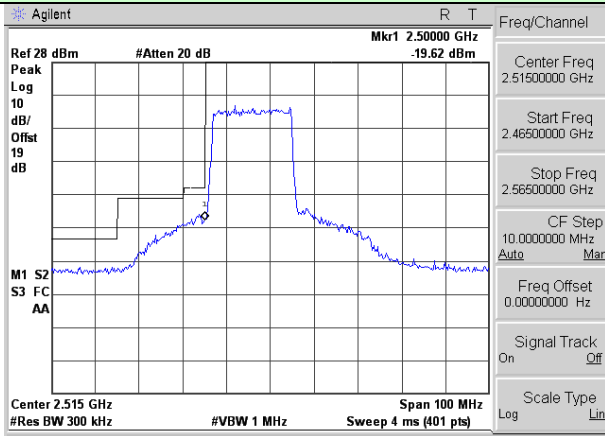


Lowest channel

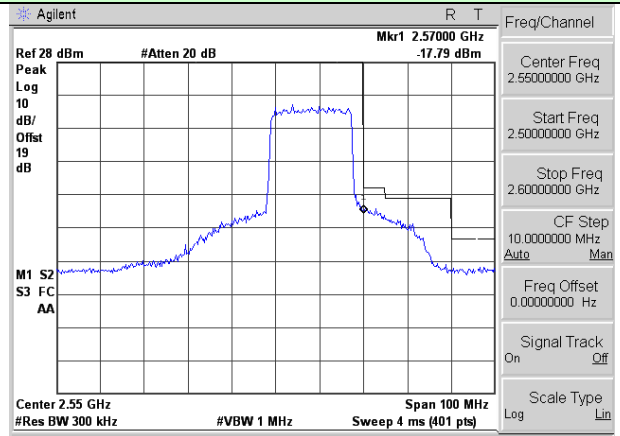


Highest channel

Test Mode: LTE Band 7 / 20MHz / 100RB / QPSK

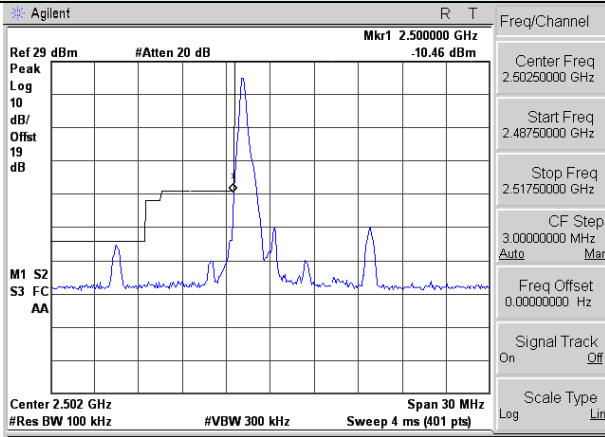


Lowest channel

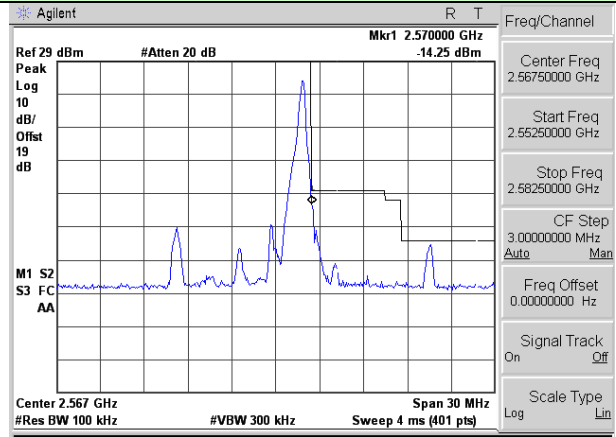


Highest channel

Test Mode: LTE Band 7 / 5MHz / 1RB / 16-QAM

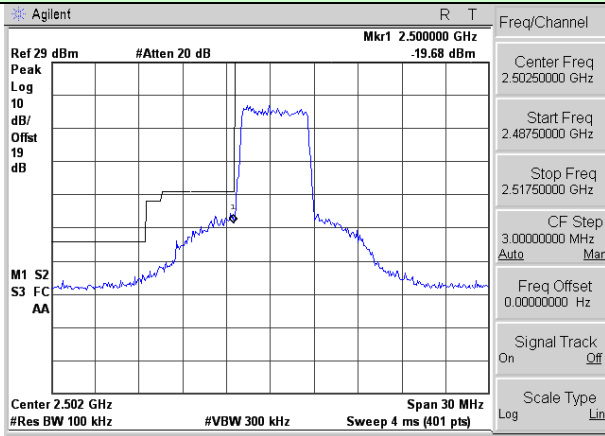


Lowest channel

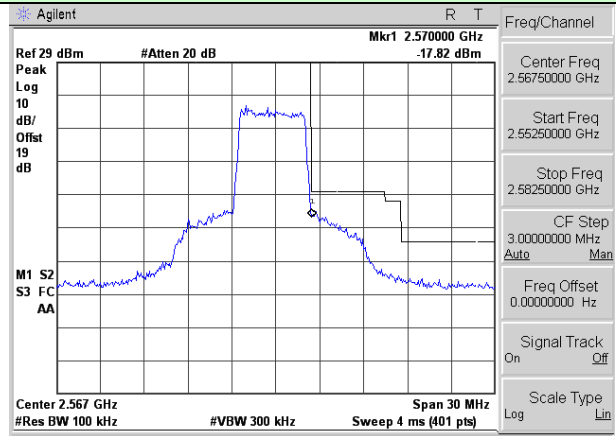


Highest channel

Test Mode: LTE Band 7 / 5MHz / 25RB / 16-QAM

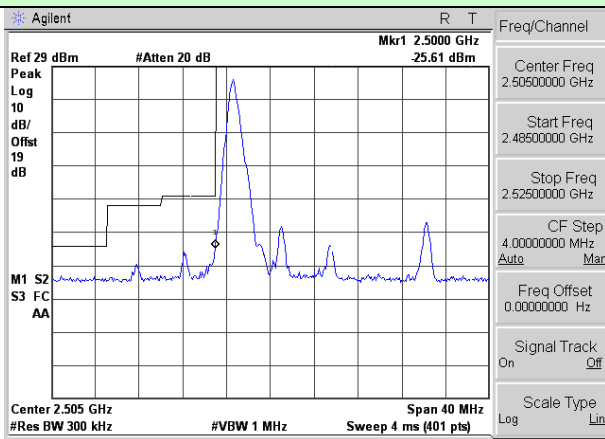


Lowest channel

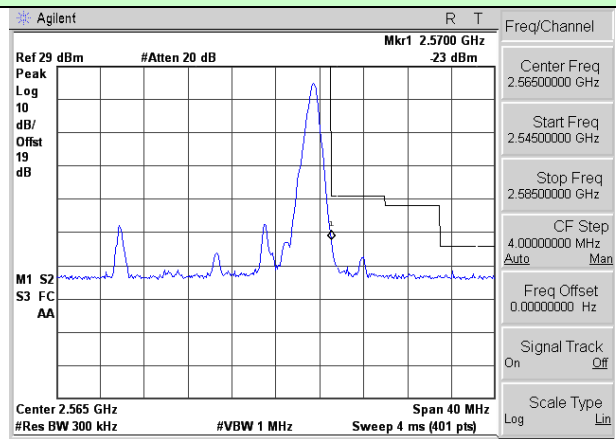


Highest channel

Test Mode: LTE Band 7 / 10MHz / 1RB / 16-QAM

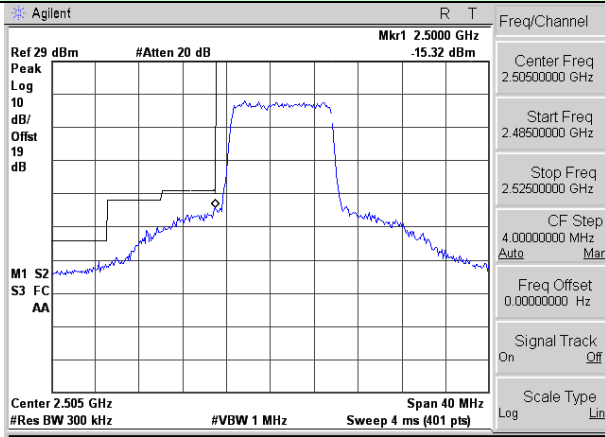


Lowest channel

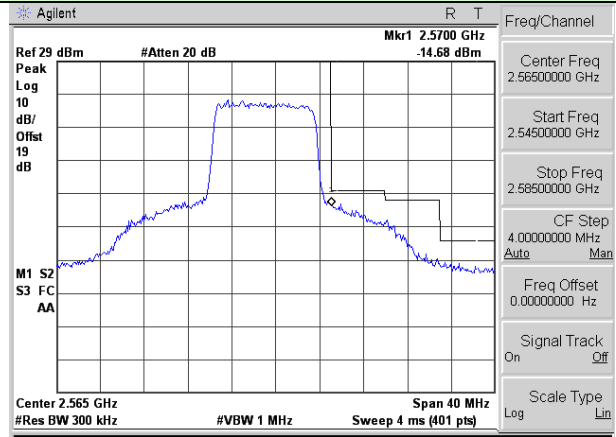


Highest channel

Test Mode: LTE Band 7 / 10MHz / 50RB / 16-QAM

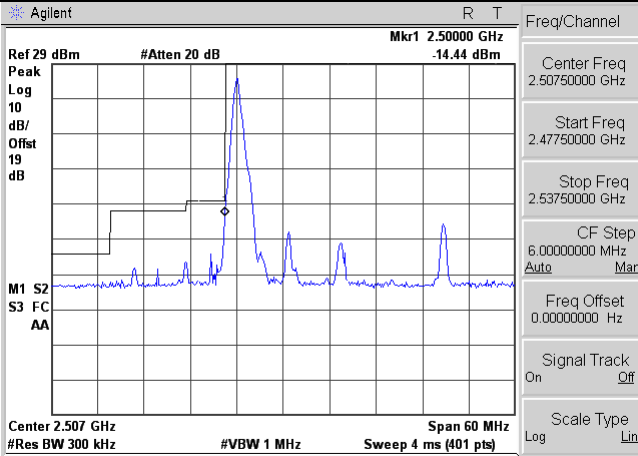


Lowest channel

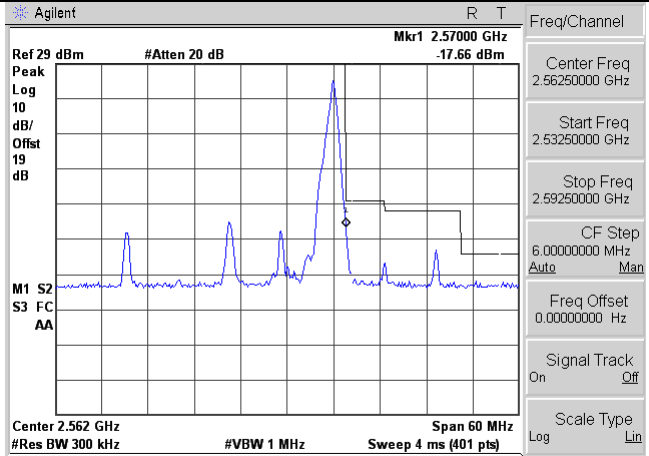


Highest channel

Test Mode: LTE Band 7 / 15MHz / 1RB / 16-QAM

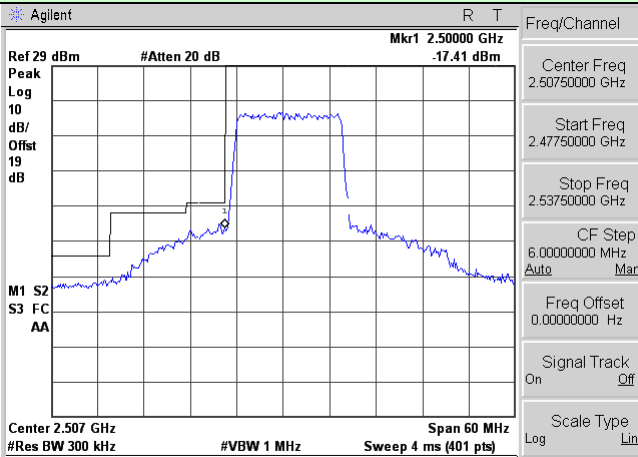


Lowest channel

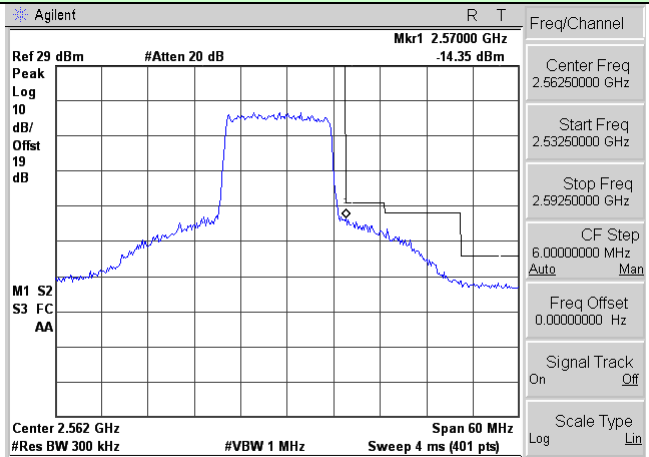


Highest channel

Test Mode: LTE Band 7 / 15MHz / 75RB / 16-QAM

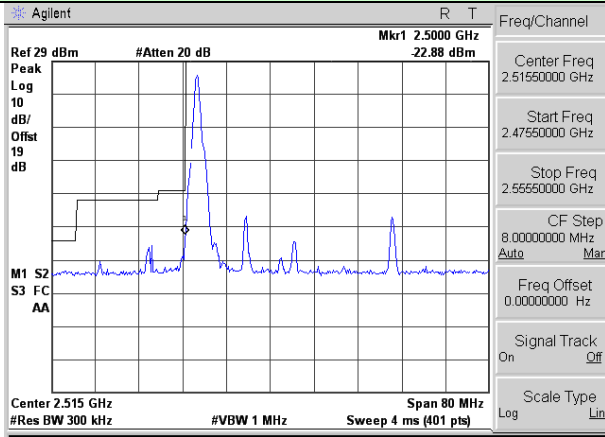


Lowest channel

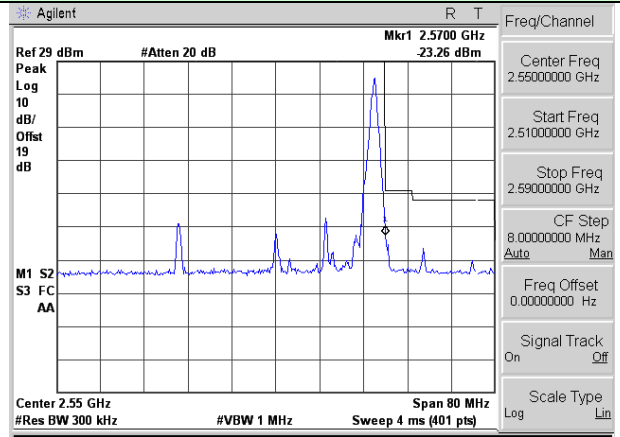


Highest channel

Test Mode: LTE Band 7 / 20MHz / 1RB / 16-QAM

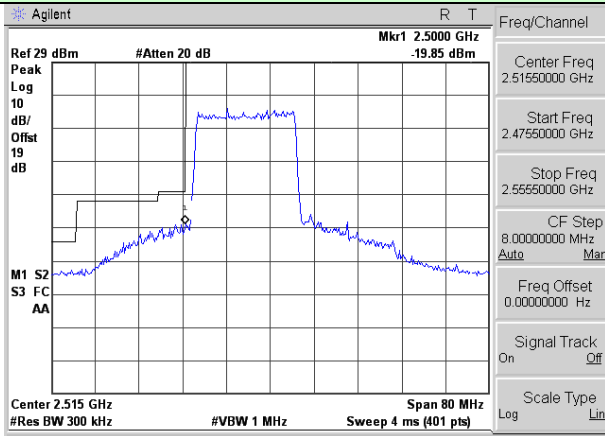


Lowest channel

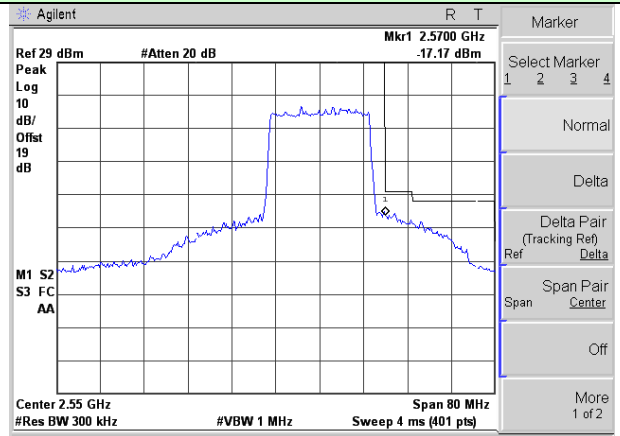


Highest channel

Test Mode: LTE Band 7 / 20MHz / 100RB / 16-QAM



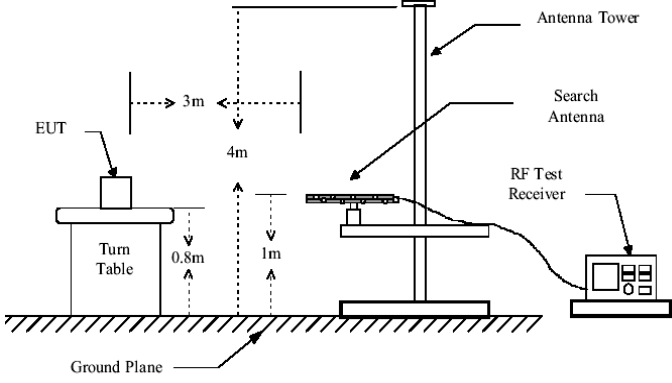
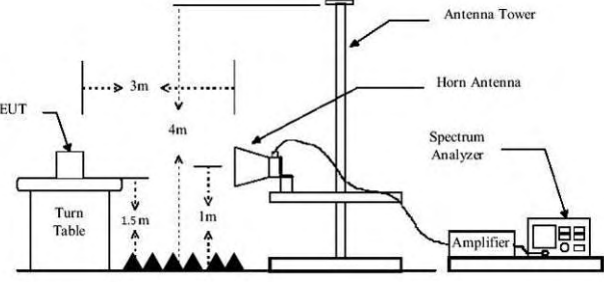
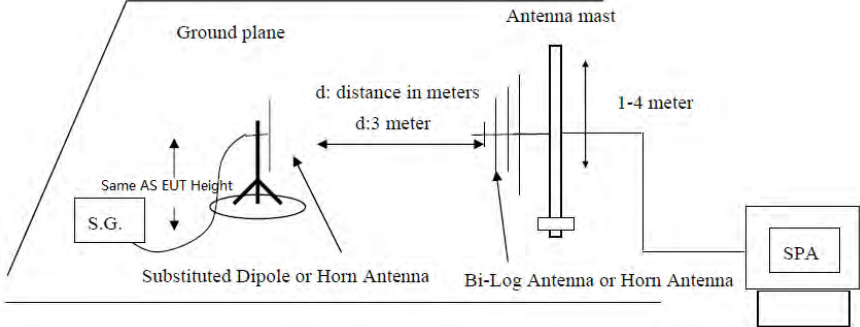
Lowest channel



Highest channel

Note: All bandwidth and modulation are tested, only the worst result is reported.

4.8 ERP, EIRP Measurement

Test Requirement:	FCC part22.913(a), FCC part24.232(b) and FCC part 27.53
Test Method:	ANSI C63.26:2015
Limit:	LTE Band 2: 2W (EIRP) LTE Band 4: 1W (EIRP) LTE Band 5(Upper Band): [7W (ERP) for FCC] LTE Band 7: 2W (EIRP)
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated. 3. ERP were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated asfollows: $\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}$ 4. EIRP were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: $\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	H,E1,E2 mean for EUT polarization of X, Y, Z

Measurement Data

EUT mode	RB Size	RB Offset	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
LTE Band 2 (1.4MHz) QPSK	6	0	Lowest	H	V	22.29	33.00	Pass
					H	21.11		
				E1	V	22.37		
					H	22.39		
				E2	V	21.29		
					H	23.08		
	6	0	Middle	H	V	23.01	33.00	Pass
					H	23.20		
				E1	V	22.73		
					H	22.13		
				E2	V	23.39		
					H	21.80		
	6	0	Highest	H	V	23.80	33.00	Pass
					H	22.84		
				E1	V	22.09		
					H	22.72		
				E2	V	21.66		
					H	22.45		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (3MHz) QPSK	Lowest	15	0	H	V	20.85	33.00	Pass
					H	23.16		
				E1	V	21.31		
					H	20.28		
				E2	V	22.06		
					H	22.90		
	Middle	15	0	H	V	22.21	33.00	Pass
					H	24.01		
				E1	V	20.59		
					H	22.99		
				E2	V	21.25		
					H	20.52		
	Highest	15	0	H	V	23.58	33.00	Pass
					H	23.76		
				E1	V	21.10		
					H	21.26		
				E2	V	21.07		
					H	21.06		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (5MHz) QPSK	Lowest	25	0	H	V	20.48	33.00	Pass
					H	20.93		
				E1	V	22.37		
					H	21.35		
				E2	V	21.17		
					H	23.50		
	Middle	25	0	H	V	22.01	33.00	Pass
					H	23.47		
				E1	V	20.01		
					H	21.44		
				E2	V	20.09		
					H	22.96		
	Highest	25	0	H	V	23.05	33.00	Pass
					H	20.24		
				E1	V	21.16		
					H	23.73		
				E2	V	22.47		
					H	21.53		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (10MHz) QPSK	Lowest	50	0	H	V	23.44	33.00	Pass
					H	21.09		
				E1	V	23.26		
					H	23.24		
				E2	V	23.90		
					H	21.07		
	Middle	50	0	H	V	23.14	33.00	Pass
					H	21.52		
				E1	V	21.53		
					H	21.34		
				E2	V	22.37		
					H	21.87		
	Highest	50	0	H	V	21.17	33.00	Pass
					H	23.41		
				E1	V	23.34		
					H	22.13		
				E2	V	23.12		
					H	22.55		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (15MHz) QPSK	Lowest	75	0	H	V	22.62	33.00	Pass
					H	23.26		
				E1	V	23.73		
					H	23.39		
				E2	V	22.68		
					H	21.64		
	Middle	75	0	H	V	22.32	33.00	Pass
					H	23.52		
				E1	V	21.41		
					H	23.21		
				E2	V	22.01		
					H	21.11		
	Highest	75	0	H	V	23.94	33.00	Pass
					H	21.12		
				E1	V	22.97		
					H	23.33		
				E2	V	23.51		
					H	21.37		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (20MHz) QPSK	Lowest	100	0	H	V	19.27	33.00	Pass
					H	22.63		
				E1	V	24.06		
					H	23.44		
				E2	V	19.47		
					H	23.77		
	Middle	100	0	H	V	20.47	33.00	Pass
					H	20.24		
				E1	V	19.29		
					H	21.99		
				E2	V	21.06		
					H	21.60		
	Highest	100	0	H	V	20.68	33.00	Pass
					H	22.61		
				E1	V	23.89		
					H	20.04		
				E2	V	21.95		
					H	23.46		

EUT mode	RB Size	RB Offset	Channel	EUT Pol.	Antenna Pol.	EIRP (dBm)	Limit (dBm)	Result
LTE Band 2 (1.4MHz) 16 QAM	6	0	Lowest	H	V	22.67	33.00	Pass
					H	20.96		
				E1	V	21.95		
					H	22.72		
				E2	V	21.42		
					H	22.64		
	6	0	Middle	H	V	23.14	33.00	Pass
					H	22.91		
				E1	V	22.92		
					H	21.65		
				E2	V	23.18		
					H	21.98		
	6	0	Highest	H	V	24.05	33.00	Pass
					H	23.18		
				E1	V	22.17		
					H	23.21		
				E2	V	21.52		
					H	22.46		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (3MHz) 16 QAM	Lowest	15	0	H	V	20.77	33.00	Pass
					H	23.23		
				E1	V	20.97		
					H	20.03		
				E2	V	21.65		
					H	22.74		
	Middle	15	0	H	V	21.73	33.00	Pass
					H	24.16		
				E1	V	20.27		
					H	23.08		
				E2	V	21.29		
					H	20.42		
	Highest	15	0	H	V	23.47	33.00	Pass
					H	23.32		
				E1	V	21.39		
					H	21.58		
				E2	V	21.42		
					H	21.04		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (5MHz) 16 QAM	Lowest	25	0	H	V	22.73	33.00	Pass
					H	23.70		
				E1	V	23.95		
					H	23.09		
				E2	V	20.44		
					H	20.99		
	Middle	25	0	H	V	20.30	33.00	Pass
					H	23.99		
				E1	V	20.12		
					H	21.84		
				E2	V	20.42		
					H	20.29		
	Highest	25	0	H	V	20.91	33.00	Pass
					H	22.27		
				E1	V	23.48		
					H	21.01		
				E2	V	22.74		
					H	23.55		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (10MHz) 16 QAM	Lowest	50	0	H	V	22.00	33.00	Pass
					H	23.32		
				E1	V	23.70		
					H	21.25		
				E2	V	22.62		
					H	23.05		
	Middle	50	0	H	V	21.49	33.00	Pass
					H	22.02		
				E1	V	23.04		
					H	21.03		
				E2	V	22.16		
					H	23.43		
	Highest	50	0	H	V	21.49	33.00	Pass
					H	22.86		
				E1	V	21.11		
					H	21.35		
				E2	V	21.78		
					H	21.06		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (15MHz) 16 QAM	Lowest	75	0	H	V	22.62	33.00	Pass
					H	23.26		
				E1	V	23.73		
					H	23.39		
				E2	V	22.68		
					H	21.64		
	Middle	75	0	H	V	22.32	33.00	Pass
					H	23.52		
				E1	V	21.41		
					H	23.21		
				E2	V	22.01		
					H	21.11		
	Highest	75	0	H	V	23.94	33.00	Pass
					H	21.12		
				E1	V	22.97		
					H	23.33		
				E2	V	23.51		
					H	21.37		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 2 (20MHz) 16 QAM	Lowest	100	0	H	V	21.43	33.00	Pass
					H	23.49		
				E1	V	19.85		
					H	21.69		
				E2	V	24.02		
					H	19.10		
	Middle	100	0	H	V	21.03	33.00	Pass
					H	20.41		
				E1	V	19.30		
					H	23.96		
				E2	V	21.57		
					H	19.73		
	Highest	100	0	H	V	22.66	33.00	Pass
					H	22.80		
				E1	V	19.63		
					H	21.05		
				E2	V	21.32		
					H	21.73		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (1.4MHz) QPSK	Lowest	6	0	H	V	24.68	30.00	Pass
					H	21.67		
				E1	V	23.27		
					H	22.97		
				E2	V	23.08		
					H	21.88		
	Middle	6	0	H	V	24.25	30.00	Pass
					H	23.30		
				E1	V	24.29		
					H	21.50		
				E2	V	21.99		
					H	24.62		
	Highest	6	0	H	V	21.96	30.00	Pass
					H	21.56		
				E1	V	23.92		
					H	21.33		
				E2	V	22.75		
					H	24.89		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (3MHz) QPSK	Lowest	15	0	H	V	22.85	30.00	Pass
					H	21.84		
				E1	V	24.20		
					H	23.93		
				E2	V	21.50		
					H	21.96		
	Middle	15	0	H	V	21.59	30.00	Pass
					H	21.75		
				E1	V	24.61		
					H	21.12		
				E2	V	21.65		
					H	24.40		
	Highest	15	0	H	V	24.94	30.00	Pass
					H	22.32		
				E1	V	21.61		
					H	23.53		
				E2	V	22.59		
					H	23.75		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (5MHz) QPSK	Lowest	25	0	H	V	20.63	30.00	Pass
					H	20.28		
				E1	V	20.27		
					H	21.35		
				E2	V	22.05		
					H	20.35		
	Middle	25	0	H	V	20.76	30.00	Pass
					H	22.24		
				E1	V	24.06		
					H	23.78		
				E2	V	21.00		
					H	24.08		
	Highest	25	0	H	V	21.16	30.00	Pass
					H	23.69		
				E1	V	20.82		
					H	21.67		
				E2	V	21.03		
					H	21.77		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (10MHz) QPSK	Lowest	50	0	H	V	20.39	30.00	Pass
					H	21.13		
				E1	V	22.46		
					H	24.68		
				E2	V	20.47		
					H	20.05		
	Middle	50	0	H	V	21.18	30.00	Pass
					H	22.31		
				E1	V	22.89		
					H	23.27		
				E2	V	20.42		
					H	22.31		
	Highest	50	0	H	V	23.24	30.00	Pass
					H	22.36		
				E1	V	20.36		
					H	21.90		
				E2	V	21.68		
					H	22.25		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (15MHz) QPSK	Lowest	75	0	H	V	23.22	30.00	Pass
					H	20.72		
				E1	V	20.81		
					H	24.70		
				E2	V	21.15		
					H	24.46		
	Middle	75	0	H	V	23.49	30.00	Pass
					H	23.02		
				E1	V	21.62		
					H	22.02		
				E2	V	22.13		
					H	21.86		
	Highest	75	0	H	V	22.40	30.00	Pass
					H	21.02		
				E1	V	23.33		
					H	24.53		
				E2	V	23.46		
					H	21.72		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (20MHz) QPSK	Lowest	100	0	H	V	20.47	30.00	Pass
					H	20.65		
				E1	V	20.70		
					H	24.96		
				E2	V	22.37		
					H	24.71		
	Middle	100	0	H	V	24.15	30.00	Pass
					H	23.21		
				E1	V	21.68		
					H	24.01		
				E2	V	24.08		
					H	21.95		
	Highest	100	0	H	V	24.06	30.00	Pass
					H	21.83		
				E1	V	22.25		
					H	22.70		
				E2	V	22.13		
					H	24.95		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (1.4MHz) 16 QAM	Lowest	6	0	H	V	24.55	30.00	Pass
					H	22.43		
				E1	V	21.12		
					H	24.55		
				E2	V	23.14		
					H	22.57		
	Middle	6	0	H	V	22.78	30.00	Pass
					H	21.66		
				E1	V	21.24		
					H	23.13		
				E2	V	21.39		
					H	21.72		
	Highest	6	0	H	V	23.32	30.00	Pass
					H	23.03		
				E1	V	23.26		
					H	21.70		
				E2	V	21.49		
					H	22.12		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (3MHz) 16 QAM	Lowest	15	0	H	V	22.85	30.00	Pass
					H	21.84		
				E1	V	24.20		
					H	23.93		
				E2	V	21.50		
					H	21.96		
	Middle	15	0	H	V	21.59	30.00	Pass
					H	21.75		
				E1	V	24.61		
					H	21.12		
				E2	V	21.65		
					H	24.40		
	Highest	15	0	H	V	24.94	30.00	Pass
					H	22.32		
				E1	V	21.61		
					H	23.53		
				E2	V	22.59		
					H	23.75		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (5MHz) 16 QAM	Lowest	25	0	H	V	23.06	30.00	Pass
					H	21.28		
				E1	V	21.45		
					H	22.28		
				E2	V	22.24		
					H	24.06		
	Middle	25	0	H	V	24.33	30.00	Pass
					H	23.21		
				E1	V	21.31		
					H	21.89		
				E2	V	24.39		
					H	22.77		
	Highest	25	0	H	V	20.18	30.00	Pass
					H	20.01		
				E1	V	22.66		
					H	21.87		
				E2	V	24.70		
					H	24.80		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (10MHz) 16 QAM	Lowest	50	0	H	V	23.69	30.00	Pass
					H	22.24		
				E1	V	20.07		
					H	21.66		
				E2	V	24.07		
					H	24.40		
	Middle	50	0	H	V	23.08	30.00	Pass
					H	23.35		
				E1	V	20.29		
					H	20.87		
				E2	V	22.04		
					H	23.70		
	Highest	50	0	H	V	21.47	30.00	Pass
					H	24.18		
				E1	V	21.31		
					H	22.30		
				E2	V	20.17		
					H	21.28		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (15MHz) 16 QAM	Lowest	75	0	H	V	23.18	30.00	Pass
					H	20.73		
				E1	V	20.18		
					H	24.12		
				E2	V	20.85		
					H	23.36		
	Middle	75	0	H	V	22.96	30.00	Pass
					H	21.17		
				E1	V	20.22		
					H	24.37		
				E2	V	23.73		
					H	24.39		
	Highest	75	0	H	V	24.48	30.00	Pass
					H	20.29		
				E1	V	24.02		
					H	21.02		
				E2	V	20.01		
					H	24.63		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 4 (20MHz) 16 QAM	Lowest	100	0	H	V	22.82	30.00	Pass
					H	21.29		
				E1	V	24.59		
					H	23.41		
				E2	V	21.67		
					H	22.19		
	Middle	100	0	H	V	20.53	30.00	Pass
					H	23.98		
				E1	V	23.86		
					H	20.01		
				E2	V	24.50		
					H	23.67		
	Highest	100	0	H	V	24.98	30.00	Pass
					H	22.33		
				E1	V	23.07		
					H	24.08		
				E2	V	22.48		
					H	24.19		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (1.4MHz) QPSK	Lowest	6	0	H	V	21.22	38.45	Pass
					H	23.70		
				E1	V	23.02		
					H	20.29		
				E2	V	22.60		
					H	22.63		
	Middle	6	0	H	V	20.21	38.45	Pass
					H	22.47		
				E1	V	22.23		
					H	23.97		
				E2	V	23.59		
					H	22.39		
	Highest	6	0	H	V	20.81	38.45	Pass
					H	20.82		
				E1	V	22.68		
					H	20.47		
				E2	V	22.20		
					H	22.16		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (3MHz) QPSK	Lowest	15	0	H	V	21.17	38.45	Pass
					H	20.69		
				E1	V	20.65		
					H	23.37		
				E2	V	22.38		
					H	21.42		
	Middle	15	0	H	V	21.45	38.45	Pass
					H	21.53		
				E1	V	21.61		
					H	23.44		
				E2	V	20.40		
					H	21.38		
	Highest	15	0	H	V	21.30	38.45	Pass
					H	21.59		
				E1	V	21.11		
					H	22.89		
				E2	V	21.50		
					H	21.20		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (5MHz) QPSK	Lowest	25	0	H	V	21.63	38.45	Pass
					H	20.55		
				E1	V	20.80		
					H	21.21		
				E2	V	22.70		
					H	20.07		
	Middle	25	0	H	V	20.59	38.45	Pass
					H	21.97		
				E1	V	22.48		
					H	21.50		
				E2	V	23.89		
					H	22.34		
	Highest	25	0	H	V	20.28	38.45	Pass
					H	20.02		
				E1	V	21.42		
					H	20.31		
				E2	V	21.43		
					H	23.43		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (10MHz) QPSK	Lowest	50	0	H	V	23.62	38.45	Pass
					H	22.94		
				E1	V	22.95		
					H	22.88		
				E2	V	22.70		
					H	23.00		
	Middle	50	0	H	V	22.40	38.45	Pass
					H	21.10		
				E1	V	21.13		
					H	21.68		
				E2	V	22.74		
					H	23.98		
	Highest	50	0	H	V	21.13	38.45	Pass
					H	22.06		
				E1	V	21.76		
					H	22.84		
				E2	V	22.61		
					H	23.13		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (1.4MHz) 16 QAM	Lowest	6	0	H	V	21.22	38.45	Pass
					H	23.70		
				E1	V	23.02		
					H	20.29		
				E2	V	22.60		
					H	22.63		
	Middle	6	0	H	V	20.21	38.45	Pass
					H	22.47		
				E1	V	22.23		
					H	23.97		
				E2	V	23.59		
					H	22.39		
	Highest	6	0	H	V	20.81	38.45	Pass
					H	20.82		
				E1	V	22.68		
					H	20.47		
				E2	V	22.20		
					H	22.16		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (3MHz) 16 QAM	Lowest	15	0	H	V	23.38	38.45	Pass
					H	23.78		
				E1	V	23.35		
					H	22.14		
				E2	V	20.56		
					H	23.17		
	Middle	15	0	H	V	21.47	38.45	Pass
					H	23.37		
				E1	V	21.86		
					H	21.12		
				E2	V	22.96		
					H	21.34		
	Highest	15	0	H	V	20.14	38.45	Pass
					H	23.85		
				E1	V	23.68		
					H	20.18		
				E2	V	23.79		
					H	21.73		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (5MHz) 16 QAM	Lowest	25	0	H	V	21.63	38.45	Pass
					H	20.55		
				E1	V	20.80		
					H	21.21		
				E2	V	22.70		
					H	20.07		
	Middle	25	0	H	V	20.59	38.45	Pass
					H	21.97		
				E1	V	22.48		
					H	21.50		
				E2	V	23.89		
					H	22.34		
	Highest	25	0	H	V	20.28	38.45	Pass
					H	20.02		
				E1	V	21.42		
					H	20.31		
				E2	V	21.43		
					H	23.43		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	ERP(dBm)	Limit (dBm)	Result
LTE Band 5 (10MHz) 16 QAM	Lowest	50	0	H	V	22.60	38.45	Pass
					H	23.16		
				E1	V	21.54		
					H	23.37		
				E2	V	21.69		
					H	23.37		
	Middle	50	0	H	V	21.23	38.45	Pass
					H	23.10		
				E1	V	21.10		
					H	21.55		
				E2	V	22.14		
					H	21.17		
	Highest	50	0	H	V	21.80	38.45	Pass
					H	21.47		
				E1	V	22.21		
					H	23.01		
				E2	V	22.14		
					H	22.12		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (5MHz) QPSK	Lowest	25	0	H	V	20.56	33.00	Pass
					H	21.69		
				E1	V	23.21		
					H	20.28		
				E2	V	20.29		
					H	21.33		
	Middle	25	0	H	V	21.91	33.00	Pass
					H	20.15		
				E1	V	23.36		
					H	20.91		
				E2	V	21.28		
					H	23.35		
	Highest	25	0	H	V	23.04	33.00	Pass
					H	21.26		
				E1	V	21.44		
					H	23.79		
				E2	V	23.99		
					H	22.91		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (10MHz) QPSK	Lowest	50	0	H	V	22.25	33.00	Pass
					H	24.19		
				E1	V	21.82		
					H	24.58		
				E2	V	23.06		
					H	24.87		
	Middle	50	0	H	V	22.86	33.00	Pass
					H	21.84		
				E1	V	21.97		
					H	24.20		
				E2	V	24.56		
					H	22.33		
	Highest	50	0	H	V	21.80	33.00	Pass
					H	23.76		
				E1	V	24.04		
					H	23.29		
				E2	V	23.55		
					H	24.85		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (15MHz) QPSK	Lowest	75	0	H	V	22.42	33.00	Pass
					H	21.34		
				E1	V	20.24		
					H	23.54		
				E2	V	21.78		
					H	23.86		
	Middle	75	0	H	V	23.56	33.00	Pass
					H	22.24		
				E1	V	22.84		
					H	22.35		
				E2	V	23.76		
					H	20.48		
	Highest	75	0	H	V	22.16	33.00	Pass
					H	22.68		
				E1	V	21.36		
					H	22.93		
				E2	V	22.79		
					H	23.08		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (20MHz) QPSK	Lowest	100	0	H	V	20.93	33.00	Pass
					H	21.27		
				E1	V	23.30		
					H	20.62		
				E2	V	21.03		
					H	21.75		
	Middle	100	0	H	V	22.33	33.00	Pass
					H	22.92		
				E1	V	21.88		
					H	23.34		
				E2	V	22.96		
					H	22.63		
	Highest	100	0	H	V	20.29	33.00	Pass
					H	22.16		
				E1	V	20.53		
					H	21.32		
				E2	V	20.49		
					H	20.05		

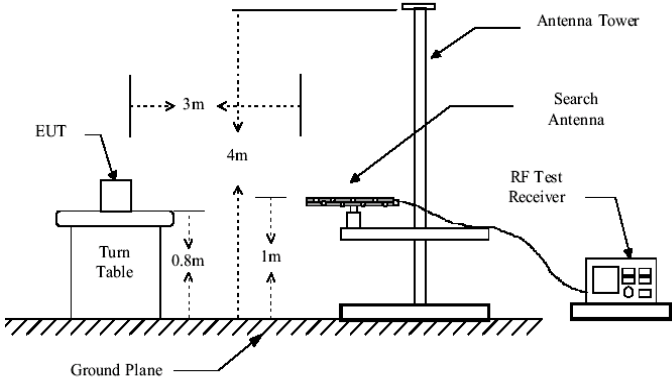
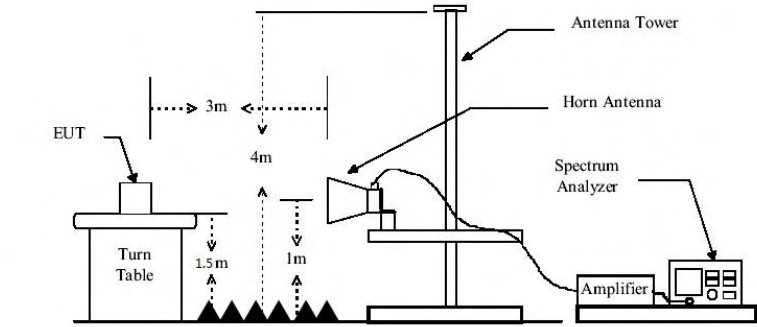
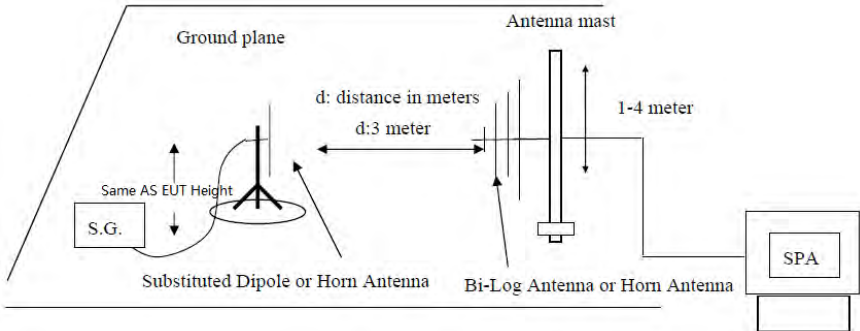
EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (5MHz) 16 QAM	Lowest	25	0	H	V	23.30	33.00	Pass
					H	23.33		
				E1	V	22.33		
					H	21.90		
				E2	V	21.23		
					H	21.79		
	Middle	25	0	H	V	22.10	33.00	Pass
					H	20.89		
				E1	V	23.57		
					H	22.69		
				E2	V	23.37		
					H	21.38		
	Highest	25	0	H	V	21.56	33.00	Pass
					H	20.01		
				E1	V	22.59		
					H	20.93		
				E2	V	21.97		
					H	23.03		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (10MHz) 16 QAM	Lowest	50	0	H	V	23.20	33.00	Pass
					H	24.63		
				E1	V	21.24		
					H	23.14		
				E2	V	21.98		
					H	24.89		
	Middle	50	0	H	V	22.34	33.00	Pass
					H	21.77		
				E1	V	21.58		
					H	21.77		
				E2	V	21.78		
					H	22.80		
	Highest	50	0	H	V	23.06	33.00	Pass
					H	21.91		
				E1	V	23.95		
					H	21.89		
				E2	V	23.44		
					H	21.92		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (15MHz) 16 QAM	Lowest	75	0	H	V	21.92	33.00	Pass
					H	20.09		
				E1	V	23.96		
					H	22.89		
				E2	V	20.79		
					H	21.34		
	Middle	75	0	H	V	23.57	33.00	Pass
					H	21.88		
				E1	V	23.85		
					H	22.96		
				E2	V	22.14		
					H	20.64		
	Highest	75	0	H	V	22.47	33.00	Pass
					H	22.08		
				E1	V	23.77		
					H	23.40		
				E2	V	23.06		
					H	20.34		

EUT mode	Channel	RB Size	RB Offset	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
LTE Band 7 (20MHz) 16 QAM	Lowest	100	0	H	V	22.16	33.00	Pass
					H	21.77		
				E1	V	22.57		
					H	22.94		
				E2	V	22.98		
					H	22.35		
	Middle	100	0	H	V	23.68	33.00	Pass
					H	20.58		
				E1	V	23.84		
					H	21.61		
				E2	V	22.31		
					H	20.95		
	Highest	100	0	H	V	22.53	33.00	Pass
					H	23.29		
				E1	V	22.42		
					H	23.71		
				E2	V	21.14		
					H	22.81		

4.9 Field strength of spurious radiation measurement

Test Requirement:	FCC part22.913(a), FCC part24.238(a) and FCC part27.53
Test Method:	ANSI C63.26:2015
Limit:	Band 2/4/5:-13dBm Band 7:-25dBm
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

Test Procedure:	<ol style="list-style-type: none"> 1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

QPSK Mode:

Test mode:	LTE Band 2(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3701.40	Vertical	-36.48	-13.00	Pass
5552.10	V	-39.11		
7402.80	V	-38.25		
9253.50	V	-43.30		
11104.20	V	---		
3701.40	Horizontal	-39.33	-13.00	Pass
5552.10	H	-43.04		
7402.80	H	-44.46		
9253.50	H	-45.83		
11104.20	H	---		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-36.71	-13.00	Pass
5640.00	V	-37.79		
7520.00	V	-39.32		
9400.00	V	-41.57		
11280.00	V	---		
3760.00	Horizontal	-38.53	-13.00	Pass
5640.00	H	-43.22		
7520.00	H	-43.39		
9400.00	H	-48.98		
11280.00	H	---		
Test mode:	LTE Band 2(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3818.60	Vertical	-36.61	-13.00	Pass
5727.90	V	-38.01		
7637.20	V	-38.06		
9546.50	V	-43.17		
11455.80	V	---		
3818.60	Horizontal	-40.94	-13.00	Pass
5727.90	H	-40.60		
7637.20	H	-42.62		
9546.50	H	-46.06		
11455.80	H	---		

Remark :

1. The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
2. Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
3. The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3421.40	Vertical	-33.09	-13.00	Pass
5132.10	V	-38.01		
6842.80	V	-36.68		
8553.50	V	-39.95		
10264.20	V	---		
3421.40	Horizontal	-39.67	-13.00	Pass
5132.10	H	-43.76		
6842.80	H	-43.80		
8553.50	H	-48.26		
10264.20	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3465.00	Vertical	-32.71	-13.00	Pass
5197.50	V	-35.43		
6930.00	V	-36.90		
8662.50	V	-38.78		
10395.00	V	---		
3465.00	Horizontal	-36.26	-13.00	Pass
5197.50	H	-39.82		
6930.00	H	-40.55		
8662.50	H	-44.34		
10395.00	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3508.60	Vertical	-31.36	-13.00	Pass
5262.90	V	-34.73		
7017.20	V	-38.37		
8771.50	V	-39.54		
10525.80	V	---		
3508.60	Horizontal	-39.20	-13.00	Pass
5262.90	H	-41.94		
7017.20	H	-43.06		
8771.50	H	-44.99		
10525.80	H	---		

Remark:

1. The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
2. Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
3. The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1649.40	Vertical	-34.42	-13.00	Pass
2474.10	V	-36.21		
3298.80	V	-39.87		
4123.50	V	-40.05		
4948.20	V	---		
1649.40	Horizontal	-39.43	-13.00	Pass
2474.10	H	-45.48		
3298.80	H	-44.72		
4123.50	H	-50.98		
4948.20	H	---		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.00	Vertical	-35.93	-13.00	Pass
2509.50	V	-39.02		
3346.00	V	-38.73		
4182.50	V	-39.48		
5019.00	V	---		
1673.00	Horizontal	-40.56	-13.00	Pass
2509.50	H	-42.88		
3346.00	H	-44.93		
4182.50	H	-46.09		
5019.00	H	---		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1696.60	Vertical	-34.94	-13.00	Pass
2544.90	V	-37.23		
3393.20	V	-39.07		
4241.50	V	-39.24		
5089.80	V	---		
1696.60	Horizontal	-38.79	-13.00	Pass
2544.90	H	-40.43		
3393.20	H	-45.88		
4241.50	H	-46.39		
5089.80	H	---		

Remark :

4. The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
5. Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
4. The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:	LTE Band 7(5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5005.00	Vertical	-34.83	-25.00	Pass
7507.50	V	-38.66		
10010.00	V	-40.59		
12512.50	V	-43.00		
15015.00	V	---		
5005.00	Horizontal	-38.95	-25.00	Pass
7507.50	H	-45.02		
10010.00	H	-49.11		
12512.50	H	-51.81		
15015.00	H	---		
Test mode:	LTE Band 7(5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5070.00	Vertical	-33.70	-25.00	Pass
7605.00	V	-36.95		
10140.00	V	-40.38		
12675.00	V	-42.58		
15210.00	V	---		
5070.00	Horizontal	-40.42	-25.00	Pass
7605.00	H	-43.82		
10140.00	H	-46.93		
12675.00	H	-51.00		
15210.00	H	---		
Test mode:	LTE Band 7(5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
5135.00	Vertical	-33.43	-25.00	Pass
7702.50	V	-37.07		
10270.00	V	-41.05		
12837.50	V	-40.45		
15405.00	V	---		
5135.00	Horizontal	-39.59	-25.00	Pass
7702.50	H	-42.99		
10270.00	H	-44.72		
12837.50	H	-47.54		
15405.00	H	---		

Remark :

1. The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
2. Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
3. The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

16 QAM Mode:

Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3701.40	Vertical	-34.83	-13.00	Pass
5552.10	V	-35.03		
7402.80	V	-40.27		
9253.50	V	-39.92		
11104.20	V	---		
3701.40	Horizontal	-37.96	-13.00	Pass
5552.10	H	-43.28		
7402.80	H	-44.35		
9253.50	H	-46.82		
11104.20	H	---		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3760.00	Vertical	-34.68	-13.00	Pass
5640.00	V	-37.60		
7520.00	V	-40.15		
9400.00	V	-41.58		
11280.00	V	---		
3760.00	Horizontal	-38.37	-13.00	Pass
5640.00	H	-41.60		
7520.00	H	-43.07		
9400.00	H	-45.65		
11280.00	H	---		
Test mode:	LTE Band 2 (1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3818.60	Vertical	-35.33	-13.00	Pass
5727.90	V	-38.44		
7637.20	V	-41.34		
9546.50	V	-41.38		
11455.80	V	---		
3818.60	Horizontal	-41.46	-13.00	Pass
5727.90	H	-43.38		
7637.20	H	-44.85		
9546.50	H	-48.93		
11455.80	H	---		

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:	LTE Band 4(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3421.40	Vertical	-36.96	-13.00	Pass
5132.10	V	-35.57		
6842.80	V	-40.30		
8553.50	V	-42.27		
10264.20	V	---		
3421.40	Horizontal	-38.31	-13.00	Pass
5132.10	H	-42.22		
6842.80	H	-42.94		
8553.50	H	-48.27		
10264.20	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3465.00	Vertical	-35.55	-13.00	Pass
5197.50	V	-35.31		
6930.00	V	-38.25		
8662.50	V	-41.48		
10395.00	V	---		
3465.00	Horizontal	-41.12	-13.00	Pass
5197.50	H	-42.72		
6930.00	H	-42.56		
8662.50	H	-47.19		
10395.00	H	---		
Test mode:	LTE Band 4(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
3508.60	Vertical	-34.30	-13.00	Pass
5262.90	V	-38.90		
7017.20	V	-38.70		
8771.50	V	-41.80		
10525.80	V	---		
3508.60	Horizontal	-40.53	-13.00	Pass
5262.90	H	-44.52		
7017.20	H	-42.49		
8771.50	H	-48.50		
10525.80	H	---		

Remark:

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:	LTE Band 5(1.4MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1649.40	Vertical	-35.12	-13.00	Pass
2474.10	V	-35.49		
3298.80	V	-40.83		
4123.50	V	-42.23		
4948.20	V	---		
1649.40	Horizontal	-39.33	-13.00	Pass
2474.10	H	-44.28		
3298.80	H	-42.73		
4123.50	H	-46.35		
4948.20	H	---		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1673.00	Vertical	-33.22	-13.00	Pass
2509.50	V	-35.16		
3346.00	V	-39.89		
4182.50	V	-40.73		
5019.00	V	---		
1673.00	Horizontal	-38.38	-13.00	Pass
2509.50	H	-42.02		
3346.00	H	-43.89		
4182.50	H	-46.11		
5019.00	H	---		
Test mode:	LTE Band 5(1.4MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
1696.60	Vertical	-35.01	-13.00	Pass
2544.90	V	-37.79		
3393.20	V	-40.79		
4241.50	V	-41.12		
5089.80	V	---		
1696.60	Horizontal	-40.84	-13.00	Pass
2544.90	H	-45.10		
3393.20	H	-45.26		
4241.50	H	-46.93		
5089.80	H	---		

Remark :

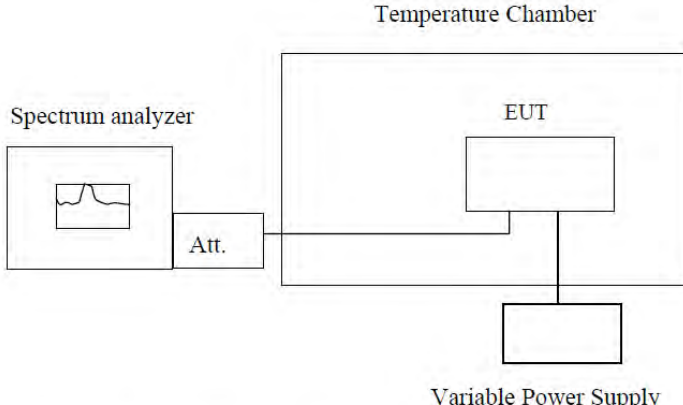
- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

Test mode:		LTE Band 7(5MHz)		Test channel:	Lowest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
5005.00	Vertical	-35.24	-25.00	Pass	
7507.50	V	-38.13			
10010.00	V	-40.64			
12512.50	V	-42.35			
15015.00	V	---			
5005.00	Horizontal	-40.46	-25.00	Pass	
7507.50	H	-42.23			
10010.00	H	-43.92			
12512.50	H	-46.38			
15015.00	H	---			
Test mode:		LTE Band 7(5MHz)		Test channel:	Middle
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
5070.00	Vertical	-33.33	-25.00	Pass	
7605.00	V	-38.23			
10140.00	V	-38.63			
12675.00	V	-40.59			
15210.00	V	---			
5070.00	Horizontal	-40.18	-25.00	Pass	
7605.00	H	-42.12			
10140.00	H	-43.27			
12675.00	H	-48.41			
15210.00	H	---			
Test mode:		LTE Band 7(5MHz)		Test channel:	Highest
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result	
	Polarization	Level (dBm)			
5135.00	Vertical	-36.38	-25.00	Pass	
7702.50	V	-39.30			
10270.00	V	-41.55			
12837.50	V	-40.91			
15405.00	V	---			
5135.00	Horizontal	-40.98	-25.00	Pass	
7702.50	H	-44.01			
10270.00	H	-42.95			
12837.50	H	-46.18			
15405.00	H	---			

Remark :

- 1 The emission behaviour belongs to narrowband spurious emission, all modes investigated and only worst case is reported.
- 2 Remark"---" means that the emission level is too low (20dB lower than the limit) to be measured
- 3 The emission levels of below 1 GHz are very lower (20dB lower than the limit) than the limit and not show in test report.

4.10 Frequency stability V.S. Temperature measurement

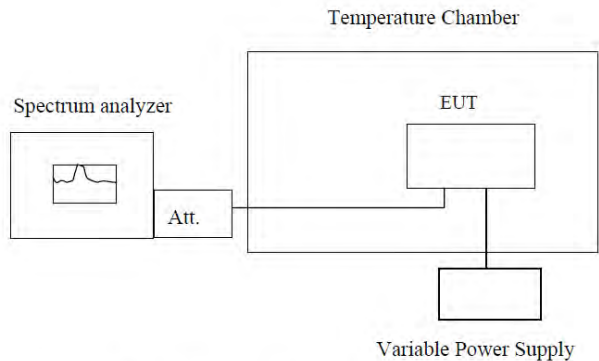
Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	ANSI C63.26:2015
Limit:	2.5ppm(Part 22) Within the authorized bands of operation(Part 24, Part 27)
Test setup:	 <p style="text-align: center;">Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to -20°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	If all frequencies stability are comply with the lower limit, then all results can be considered qualified

Measurement Data

Reference Frequency: LTE Band 2 Middle channel=18900 channel=1880MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20	19	0.0103	Within the authorized bands	Pass
	-10	-21	-0.0111		
	0	22	0.0119		
	10	-26	-0.0140		
	20	20	0.0105		
	30	15	0.0078		
	40	-3	-0.0018		
	50	9	0.0048		
	55	14	0.0073		
Reference Frequency: LTE Band 4 Middle channel=20175 channel=1732.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20	18	0.0105	2.5	Pass
	-10	-22	-0.0128		
	0	25	0.0146		
	10	-23	-0.0134		
	20	15	0.0087		
	30	17	0.0098		
	40	-7	-0.0042		
	50	13	0.0073		
	55	8	0.0048		
Reference Frequency: LTE Band 5 Middle channel=20175 channel=836.5MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20	29	0.0344	2.5	Pass
	-10	-16	-0.0194		
	0	10	0.0122		
	10	-27	-0.0326		
	20	19	0.0222		
	30	17	0.0200		
	40	17	0.0199		
	50	-22	-0.0260		
	55	17	0.0200		

Reference Frequency: LTE Band 7 Middle channel=21100 channel=2535MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.8	-20	17	0.0067	Within the authorized bands	Pass
	-10	-23	-0.0091		
	0	26	0.0103		
	10	-24	-0.0093		
	20	17	0.0068		
	30	17	0.0065		
	40	-4	-0.0015		
	50	12	0.0047		
	55	10	0.0038		

4.11 Frequency stability V.S. Voltage measurement

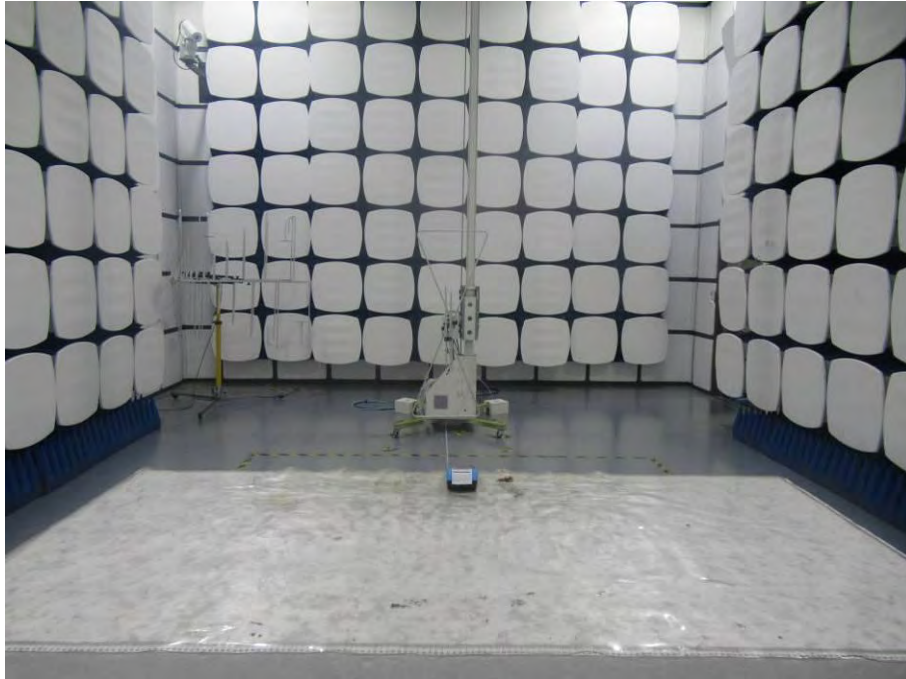
Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	ANSI C63.26:2015
Limit:	2.5ppm Band II & Band VII should be within authorized band.
Test setup:	 <p style="text-align: center;">Temperature Chamber</p> <p style="text-align: center;">Spectrum analyzer Att. EUT</p> <p style="text-align: center;">Variable Power Supply</p> <p>Note : Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> 1. Set chamber temperature to 20°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specified extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass
Remark:	<ol style="list-style-type: none"> 1. Manufacturer specified the battery operating end point voltage is 3.32VDC, max voltage is 4.37VDC. 2. If all frequencies stability are comply with the lower limit, then all results can be considered qualified

Measurement Data

Reference Frequency: LTE Band 2 Middle channel=18900 channel=1880MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	23	0.0121	within authorized band	Pass
	3.80	15	0.0079		
	3.23	-6	-0.0034		
Reference Frequency: LTE Band 4 Middle channel=20175 channel=1732.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	18	0.0104	2.5	Pass
	3.80	-3	-0.0019		
	3.23	10	0.0059		
Reference Frequency: LTE Band 5 Middle channel=20175 channel=836.5MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	9	0.0106	2.5	Pass
	3.80	-23	-0.0280		
	3.23	19	0.0232		
Reference Frequency: LTE Band 7 Middle channel=21100 channel=2535MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	-8	-0.0031	within authorized band	Pass
	3.80	9	0.0036		
	3.23	9	0.0034		

4.12 Test Setup Photo

Radiated Emission



-----THE END OF REPORT-----