FCC REPORT

(LTE)

Applicant:	EMATIC LIMITED
Address of Applicant:	Unit 17, 9/F Tower A, New Mandarin Plaza NO, 14 Science Museum Rd, TST, Hong Kong, China
Equipment Under Test (EUT)	
Product Name:	X8+
Model No.:	X8+
Trade mark:	EXTREM
FCC ID:	2AJ9Z-4GX8
Applicable standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 27 Subpart L FCC CFR Title 47 Part 27 Subpart M
Date of sample receipt:	07 Nov., 2016
Date of Test:	07 Nov., to 23 Nov., 2016
Date of report issued:	24 Nov., 2016
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

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

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2. Version

Version No.	Date	Description
00	*24 Nov., 2016*	*Original*

Tested by: Carey Chen ***Date:*** *24 Nov., 2016*

Test Engineer

Reviewed by: RMan.Lee ***Date:*** *24 Nov., 2016*

Project Engineer

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4. Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Passed (Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 27.50 (d)(4) Part 27.50 (h)(2)	Pass
Peak-to-Average Ratio	Part 24.232 (d)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 27.53(h) Part 27.53(m)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 27.53 (h) Part 27.53(m)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 27.53 (h) Part 27.53(m)	Pass
Out of band emission, Band Edge	Part 27.53 (h) Part 27.53(m)	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.

5. General Information

5.1 Client Information

Applicant:	EMATIC LIMITED
Address of Applicant:	Unit 17, 9/F Tower A, New Mandarin Plaza NO, 14 Science Museum Rd, TST, Hong Kong, China
Manufacturer:	EMATIC LIMITED
Address of Manufacturer:	Unit 17, 9/F Tower A, New Mandarin Plaza NO, 14 Science Museum Rd, TST, Hong Kong, China

5.2 General Description of E.U.T.

Product Name:	X8+
Model No.:	X8+
Operation Frequency range:	LTE Band 4:TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 7: TX: 2500MHz -2570MHz, RX: 2620MHz-2690MHz
Modulation type:	QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 4: 0.82dBi LTE Band 7: 1.80dBi
AC adapter:	Input: AC100-240V 50/60Hz 0.3A Output: DC 5.0V, 2A
Power supply:	Rechargeable Li-ion Battery DC3.7V-3050mAh

Operation Frequency List:

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

LTE Band 7(5MHz)		LTE Band 7(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20775	2502.50	20800	2505.00
20776	2502.60	20801	2502.10
….	….	….	….
21099	2534.90	21099	2534.90
21100	2535.00	21100	2535.00
21101	2535.20	21101	2535.20
…	…	…	…
21424	2567.40	21399	2564.90
21425	2567.50	21400	2565.00
LTE Band 7(15MHz)		LTE Band 7(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20825	2507.50	20850	2510.00
20826	2507.60	20851	2510.10
….	….	….	….
21099	2534.90	21099	2534.90
21100	2535.00	21100	2535.00
21101	2535.20	21101	2535.20
…	…	…	…
21374	2562.40	21349	2559.90
21375	2562.50	21350	2560.00

LTE Band 17(5MHz)		LTE Band 17(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23755	706.50	23780	709.00
23756	706.60	23781	709.10
….	….	….	….
23789	709.90	23789	709.90
23790	710.00	23790	710.00
23791	710.10	23791	710.10
…	…	…	…
23824	713.40	23799	710.90
23825	713.50	23800	711.00

Regards to the operating frequency range, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channels as below:

LTE Band 4(1.4MHz)			LTE Band 4(3MHz)		
Channel:		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	19957	1710.70	Lowest channel	19965	1711.50
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20393	1754.30	Highest channel	20385	1753.50
LTE Band 4(5MHz)			LTE Band 4(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	19975	1712.50	Lowest channel	20000	1715.00
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20375	1752.50	Highest channel	20350	1750.00
LTE Band 4(15MHz)			LTE Band 4(20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20025	1717.50	Lowest channel	20050	1720.00
Middle channel	20175	1732.50	Middle channel	20175	1732.50
Highest channel	20325	1747.50	Highest channel	20300	1745.00

LTE Band 7(5MHz)			LTE Band 7(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20775	2502.50	Lowest channel	20800	2505.00
Middle channel	21100	2535.00	Middle channel	21100	2535.00
Highest channel	21425	2567.50	Highest channel	21400	2565.00
LTE Band 7(15MHz)			LTE Band 7(20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20825	2507.50	Lowest channel	20850	2510.00
Middle channel	21100	2535.00	Middle channel	21100	2535.00
Highest channel	21375	2562.50	Highest channel	21350	2560.00

5.3 Test modes

Data mode (LTE band 4(QPSK))	Keep the EUT in data communicating mode on LTE band 4(QPSK). *(LTE band 4(1.4MHz), LTE band 4(3MHz), LTE band 4(5MHz), LTE band 4(10MHz), LTE band 4(15MHz), LTE band 4(20MHz))*
Data mode (LTE band 4(16QAM))	Keep the EUT in data communicating mode on LTE band 4(16QAM). *(LTE band 4(1.4MHz), LTE band 4(3MHz), LTE band 4(5MHz), LTE band 4(10MHz), LTE band 4(15MHz), LTE band 4(20MHz))*
Data mode (LTE band 7(QPSK))	Keep the EUT in data communicating mode on LTE band 7(QPSK). *(LTE band7(5MHz), LTE band 7(10MHz), LTE band 7(15MHz), LTE band 7(20MHz))*
Data mode (LTE band 7(16QAM))	Keep the EUT in data communicating mode on LTE band 7(16QAM).*(LTE band7(5MHz), LTE band7(10MHz), LTE band 7(15MHz), LTE band 7(20MHz))*
Remark :	Just the worst case data were shown in the report.

5.4 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 27 subpart L, Part 27 Subpart M of the FCC CFR 47 Rules.

5.5 Test Methodology

Both conducted and radiated testing were performed according to the procedures document on TIA/EIA 603 and FCC CFR 47clause 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055 and 2.1057

5.6 Laboratory Facility

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

●FCC - Registration No.: 817957

Shenzhen ZhongjianNanfang Testing Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in out files. Registration 817957, February 27, 2012.

●IC - Registration No.: 10106A-1

The 3m Semi-anechoic chamber of Shenzhen ZhongjianNanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

●CNAS - Registration No.: CNAS L6048

Shenzhen ZhongjianNanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

5.7 Laboratory Location

Shenzhen ZhongjianNanfang Testing Co., Ltd.
Address: No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282
Fax: +86-755-23116366

5.8 Test Instruments list

Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m Semi- Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	03-25-2016	03-25-2017
Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	03-25-2016	03-25-2017
Bilog Antenna	Bilog Antenna	3142E	00117537	3-20-2016	03-19- 2017
Horn Antenna	SCHWARZBECK	BBHA9120D	CCIS0006	03-25-2016	03-25-2017
EMI Test Software	AUDIX	E3	N/A	N/A	N/A
Amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2016	03-31-2017
Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2016	03-31-2017
Pre-amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	04-01-2016	03-31-2017
Horn Antenna	ETS-LINDGREN	3160	GTS217	04-01-2016	03-31-2017
Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP 30	CCIS0023	03-28-2016	03-28-2017
EMI Test Receiver	Rohde & Schwarz	ESPI	CCIS0022	03-28-2016	03-28-2017
EMI Test Receiver	Rohde & Schwarz	ESRP7	CCIS0167	03-24-2016	03-24-2017
Loop antenna	Laplace instrument	RF300	EMC0701	04-01-2016	03-31-2017
Universal radio communication tester	Rhode & Schwarz	CMU200	CCIS0069	03-28-2016	03-28-2017
Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	04-08-2016	04-08-2017
DC Power Supply	Shenzhen XinNuoEr Technologies Co., Ltd.	WYK-10020K	CCIS0201	10-31-2016	10-30-2017
Temperature Humidity Chamber	Fo Shan HengPu Electronics Co., Ltd.	HPGDS-500	CCIS0240	11-18-2015	11-27-2016
Coaxial Cable	N/A	N/A	CCIS0018	04-01-2016	03-31-2017
Coaxial Cable	N/A	N/A	CCIS0020	04-01-2016	03-31-2017
Signal Generator	Rohde & Schwarz	SMX	CCIS0064	03-24-2016	03-24-2017
Signal Generator	Rohde & Schwarz	SMR20	CCIS0024	03-24-2016	03-24-2017
Universal radio communication tester	Anritsu	MT8820C	CCIS0170	03-24-2016	03-24-2017

6. System test configuration

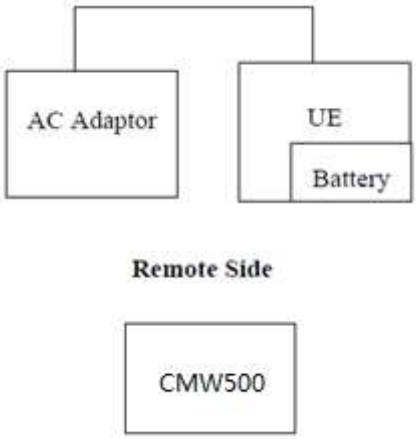
6.1 EUT Configuration

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

6.2 EUT Exercise

The EUT (Transmitter) was operated in the engineering mode to fix the Tx frequency which was for the purpose of the measurements.

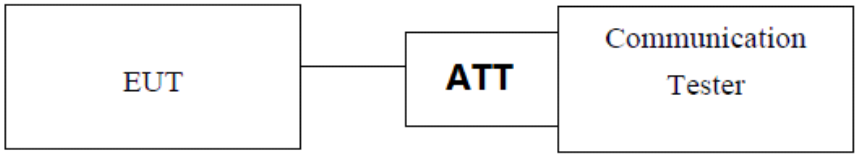
6.3 Configuration of Tested System



6.4 Description of Test Modes

The EUT has been tested under operating condition.
EUT staying in continuous transmitting mode. Channel Low, Mid and High for each type band with rated data rate were chosen for full testing.
The field strength of spurious radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for three modes (LTE Band 4, LTE Band 7) with power adaptor, earphone and Data cable. The worst-case H mode for LTE Band 4, LTE Band 7.

6.5 Conducted Output Power

Test Requirement:	part 27.50(d), Part 27.50 (h)
Test Method:	FCC part2.1046
Limit:	LTE Band 4: 1W LTE Band 7: 2W
Test setup:	 ***Note:*** *Measurement setup for testing on Antenna connector*
Test Procedure:	The transmitter output was connected to a calibrated attenuator, the other end of which was connected to the CMW500. Transmitter output power was read off in dBm.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

LTE Band 4 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19957	20175	20393
					1710.7MHz	1732.5MHz	1754.3MHz
4	1.4	QPSK	1	0	23.47	24.15	23.83
			1	2	23.58	23.91	23.85
			1	5	23.47	23.87	23.92
			3	0	23.61	24.11	23.92
			3	1	23.48	23.94	23.85
			3	2	23.59	24.03	23.97
			6	0	22.61	23.03	22.99
		16QAM	1	0	22.58	23.15	22.97
			1	2	22.65	23.12	23.37
			1	5	22.61	23.01	22.83
			3	0	22.60	22.99	22.96
			3	1	22.58	23.03	23.09
			3	2	22.82	23.20	23.10
			6	0	21.59	22.08	21.94
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19965	20175	20385
					1711.5MHz	1732.5MHz	1753.5MHz
4	3	QPSK	1	0	23.48	23.97	23.44
			1	7	23.63	23.98	23.77
			1	14	23.64	23.81	23.90
			8	0	22.61	23.12	22.71
			8	4	22.66	23.08	22.84
			8	7	22.73	23.00	22.91
			15	0	22.68	23.13	22.81
		16QAM	1	0	22.63	22.85	22.69
			1	7	22.68	23.11	23.24
			1	14	22.81	22.96	23.34
			8	0	21.68	22.10	21.78
			8	4	21.68	22.07	21.82
			8	7	21.65	22.01	21.94
			15	0	21.62	22.01	21.76
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19975	20175	20375
					1712.5MHz	1732.5MHz	1752.5MHz
4	5	QPSK	1	0	23.53	24.10	23.26
			1	12	23.74	24.04	23.62
			1	24	23.75	23.82	23.89
			12	0	22.70	23.20	22.54
			12	6	22.76	23.11	22.68
			12	11	22.84	23.02	22.90
			25	0	22.73	23.10	22.66
		16QAM	1	0	22.43	23.21	22.35
			1	12	22.85	23.16	22.83
			1	24	22.89	22.63	23.06
			12	0	21.66	22.18	21.55
			12	6	21.80	22.13	21.68
			12	11	21.87	22.03	21.89
			25	0	21.73	22.07	21.65

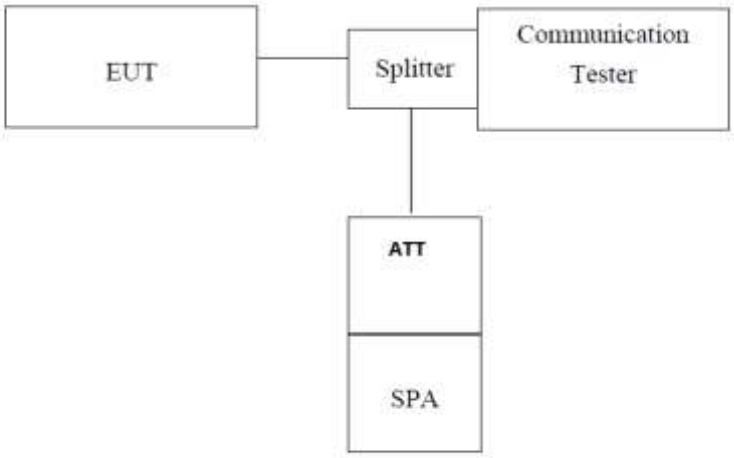
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20000	20175	20350
					1715.0MHz	1732.5MHz	1750.0MHz
4	10	QPSK	1	0	23.63	24.14	22.98
			1	24	23.91	23.93	23.17
			1	49	24.08	23.58	23.90
			25	0	22.82	23.20	21.98
			25	12	22.99	23.06	22.24
			25	24	23.10	22.94	22.65
			50	0	23.01	23.11	22.35
		16QAM	1	0	22.71	23.30	22.10
			1	24	23.39	23.11	22.05
			1	49	23.60	22.64	23.04
			25	0	21.80	22.14	20.95
			25	12	21.96	22.08	21.27
			25	24	22.05	21.80	21.65
			50	0	21.95	22.09	21.28
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20025	20175	20325
					1717.5MHz	1732.5MHz	1747.5MHz
4	15	QPSK	1	0	23.64	24.25	23.18
			1	37	24.12	24.02	23.27
			1	74	24.04	23.49	23.96
			36	0	22.99	22.23	22.10
			36	16	23.16	22.16	22.33
			36	35	23.23	21.76	22.85
			75	0	23.09	23.04	22.47
		16QAM	1	0	22.66	23.56	22.53
			1	37	23.37	23.24	22.22
			1	74	22.92	22.57	23.68
			36	0	21.95	22.35	21.03
			36	16	22.21	22.13	21.34
			36	35	22.23	21.77	21.85
			75	0	22.12	22.07	21.40
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20050	20175	20300
					1720.0MHz	1732.5MHz	1745.0MHz
4	20	QPSK	1	0	23.74	24.33	23.86
			1	49	24.10	23.96	22.87
			1	99	24.04	23.31	23.85
			50	0	23.12	23.35	22.51
			50	24	23.24	23.09	22.11
			50	49	23.22	22.81	22.25
			100	0	23.17	23.05	22.39
		16QAM	1	0	22.95	23.67	23.45
			1	49	23.26	22.94	22.30
			1	99	23.00	22.44	23.24
			50	0	22.18	22.28	21.47
			50	24	22.30	22.14	21.09
			50	49	22.23	21.67	21.20
			100	0	22.22	21.98	21.38

LTE Band 7 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20775	21100	21425
					2502.5MHz	2535.0MHz	2567.5MHz
7	5	QPSK	1	0	22.23	21.02	21.18
			1	12	22.26	20.51	20.98
			1	24	22.11	20.68	21.28
			12	0	21.29	20.13	20.49
			12	6	21.20	20.03	20.52
			12	11	21.23	20.04	20.59
			25	0	21.32	19.99	20.55
		16QAM	1	0	21.58	20.30	20.72
			1	12	21.22	19.91	20.45
			1	24	21.15	20.29	20.69
			12	0	20.28	19.45	19.52
			12	6	20.23	19.36	19.61
			12	11	20.23	19.42	19.54
			25	0	20.25	19.43	19.56
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20800	21100	21400
					2505.0MHz	2535.0MHz	2565.0MHz
7	10	QPSK	1	0	22.28	21.00	20.63
			1	24	22.16	20.52	20.74
			1	49	22.01	20.25	20.91
			25	0	21.40	19.95	20.10
			25	12	21.50	19.85	20.21
			25	24	21.43	19.80	20.37
			50	0	21.48	19.85	20.21
		16QAM	1	0	21.37	19.94	19.95
			1	24	20.89	19.53	20.18
			1	49	21.07	19.83	20.45
			25	0	20.20	19.40	19.47
			25	12	20.24	19.30	19.66
			25	24	20.10	19.26	19.60
			50	0	20.25	19.28	19.63

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20825	21100	21375
					2507.5MHz	2535.0MHz	2562.5MHz
7	15	QPSK	1	0	21.31	21.84	21.06
			1	37	21.95	21.13	20.77
			1	74	21.81	21.09	21.30
			36	0	21.10	20.75	20.27
			36	16	21.03	20.51	20.20
			36	35	21.11	20.48	20.40
			75	0	21.11	20.55	20.32
		16QAM	1	0	21.52	20.88	20.06
			1	37	21.06	20.17	20.35
			1	74	20.97	20.22	20.86
			36	0	20.16	19.88	19.36
			36	16	20.07	19.86	19.40
			36	35	20.08	19.78	19.42
			75	0	20.11	19.88	19.39
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20850	21100	21350
					2510.0MHz	2535.0MHz	2560.0MHz
7	20	QPSK	1	0	22.14	21.47	20.69
			1	49	22.09	20.60	20.39
			1	99	21.74	20.70	20.97
			50	0	21.17	20.37	20.01
			50	24	21.05	20.09	19.95
			50	49	21.17	20.10	19.96
			100	0	21.09	20.22	20.03
		16QAM	1	0	21.23	20.94	19.62
			1	49	21.46	20.11	19.56
			1	99	21.06	20.31	20.16
			50	0	20.14	19.74	19.35
			50	24	20.09	19.53	19.32
			50	49	20.04	19.56	19.44
			100	0	20.10	19.65	19.45

6.6 Peak-to-Average Ratio

Test Requirement:	FCC part 24.232(d)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, RBW ≥ OBW, 3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level. 4 Repeat step 1~3 at other frequency and modulations.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

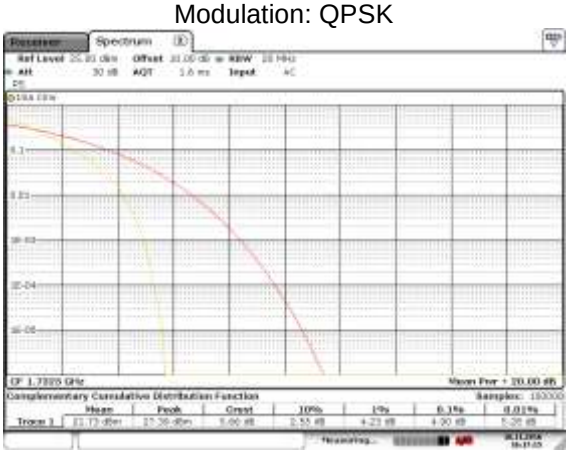
Measurement Data:

BW(MHz)	Modulation	RB Size	RB Offset	PAPR
LTE Band 4 (Middle Channel)				
20MHz	QPSK	100	0	4.90
	16QAM	100	0	5.83
LTE Band 7 (Middle Channel)				
20MHz	QPSK	100	0	4.06
	16QAM	100	0	4.61

Test plots as below:

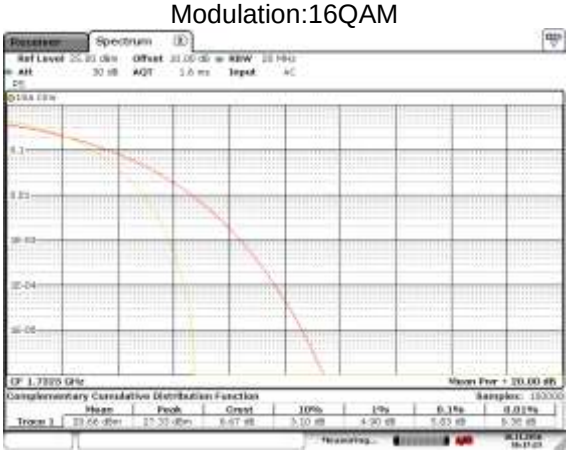
LTE Band 4 Middle channel

Modulation: QPSK



Date: 10.NOV.2016 16:17:15

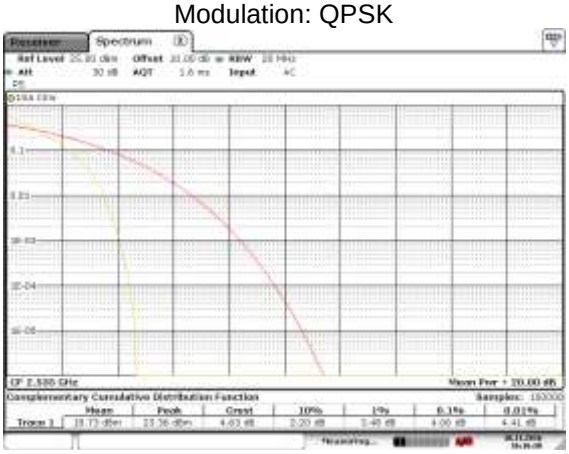
Modulation:16QAM



Date: 10.NOV.2016 16:17:24

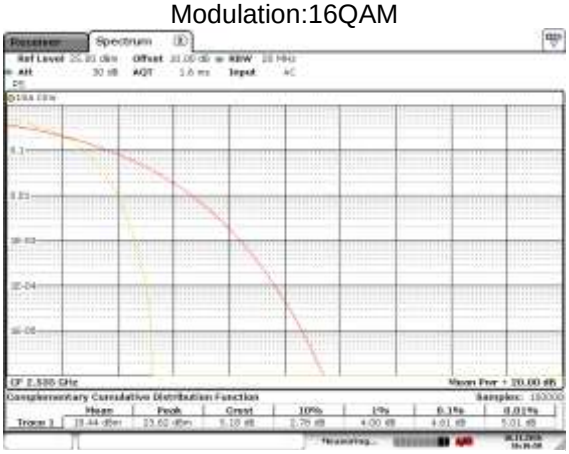
LTE Band 7 Middle channel

Modulation: QPSK



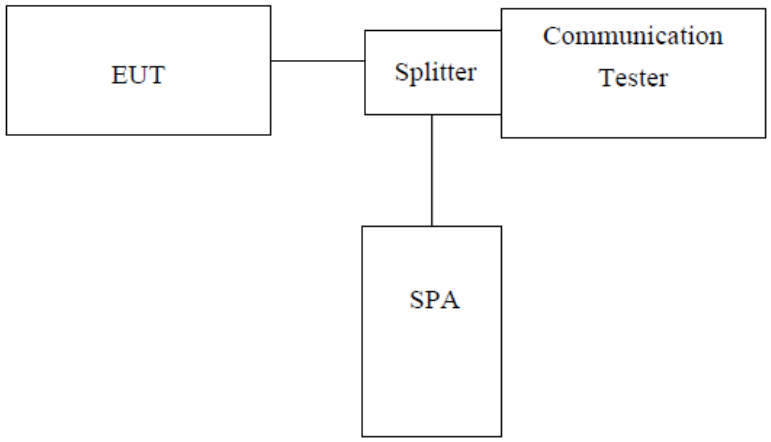
Date: 10.NOV.2016 16:16:37

Modulation:16QAM



Date: 10.NOV.2016 16:16:57

6.7 Occupy Bandwidth

Test Requirement:	Part 27.53(h), Part 27.53(m)
Test Method:	FCC part2.1049
Test setup:	 *Note: Measurement setup for testing on Antenna connector*
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer 2. RBW was set to about 1% ~ 5% of emission BW, VBW= 3 times RBW. 3. -26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

LTE Band 4 part:

EUT Mode	Channel	Frequency(MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	19957	1710.7	16QAM	1098	1260
			QPSK	1104	1260
	20175	1732.5	16QAM	1092	1266
			QPSK	1104	1272
	20393	1754.3	16QAM	1098	1254
			QPSK	1104	1272
3MHz	19965	1711.5	16QAM	2736	3000
			QPSK	2736	3072
	20175	1732.5	16QAM	2736	2988
			QPSK	2736	3060
	20385	1750.5	16QAM	2724	2976
			QPSK	2736	3060
5MHz	19975	1712.5	16QAM	4520	4900
			QPSK	4520	5060
	20175	1732.5	16QAM	4520	5020
			QPSK	4540	5060
	20375	1752.5	16QAM	4520	4960
			QPSK	4540	5000
10MHz	20000	1715.0	16QAM	9080	10080
			QPSK	9120	10200
	20175	1732.5	16QAM	9080	10000
			QPSK	9120	10240
	20350	1750.0	16QAM	9080	9920
			QPSK	9120	10200
15MHz	20025	1717.5	16QAM	13560	14700
			QPSK	13560	14940
	20175	1732.5	16QAM	13560	14580
			QPSK	13560	14880
	20325	1747.5	16QAM	13500	14820
			QPSK	13560	14880
20MHz	20050	1720.0	16QAM	18000	19120
			QPSK	18080	19600
	20175	1732.5	16QAM	17920	19440
			QPSK	18080	19440
	20300	1745.0	16QAM	17920	19280
			QPSK	18000	19520

LTE Band 7 part:

EUT Mode	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dB EBW (kHz)
5MHz	20775	2502.5	16QAM	4520	5040
			QPSK	4540	5000
	21100	2535.0	16QAM	4520	5120
			QPSK	4540	5100
	21425	2567.5	16QAM	4540	4980
			QPSK	4540	5200
10MHz	20800	2505.0	16QAM	9120	11040
			QPSK	9120	12120
	21100	2535.0	16QAM	9200	10800
			QPSK	9160	10760
	21400	2565.0	16QAM	9120	10160
			QPSK	9160	11840
15MHz	20825	2507.5	16QAM	13560	15060
			QPSK	13620	15180
	21100	2535.0	16QAM	13740	21060
			QPSK	14040	20820
	21375	2562.5	16QAM	13620	14940
			QPSK	13620	16020
20MHz	20850	2510.0	16QAM	17920	19440
			QPSK	18080	19760
	21100	2535.0	16QAM	18080	19760
			QPSK	18080	19920
	21350	2560.0	16QAM	18080	19920
			QPSK	18240	22880

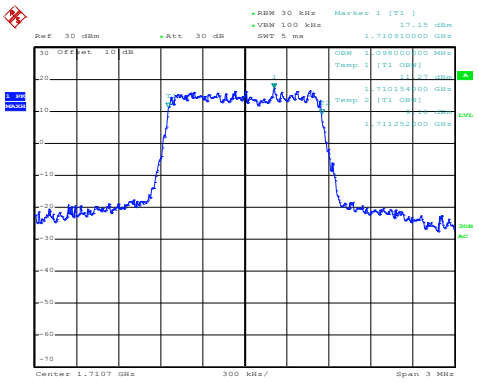
Test plot as follows:

LTE Band 4 part

Test Item:99% Occupy bandwidth

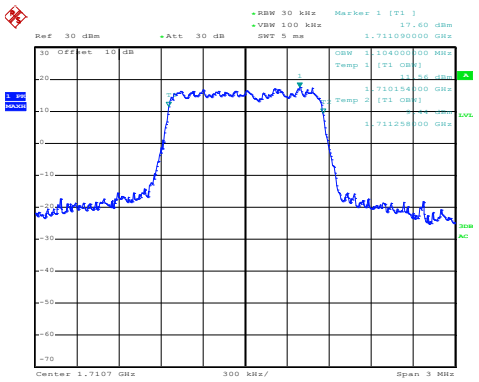
BW: 1.4MHz

Modulation:16QAM



Date: 10.NOV.2016 15:16:09

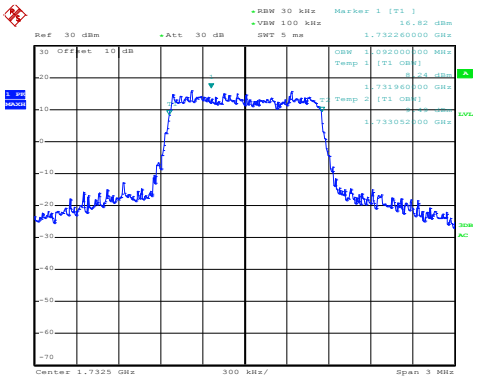
Modulation: QPSK



Date: 10.NOV.2016 15:14:38

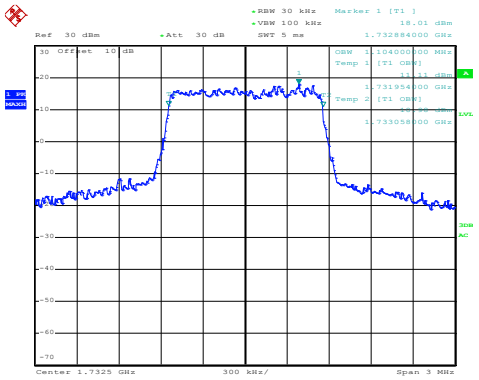
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:16:32

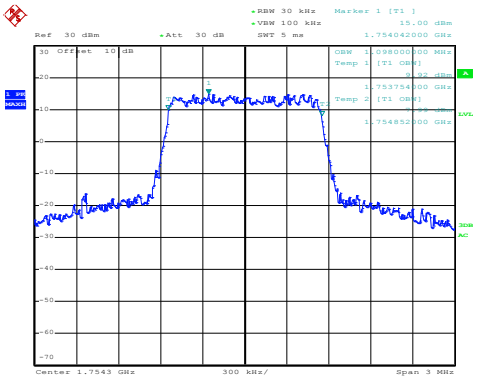
Modulation: QPSK



Date: 10.NOV.2016 15:16:29

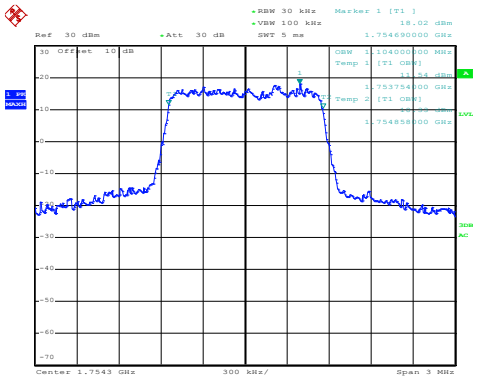
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:17:27

Modulation: QPSK



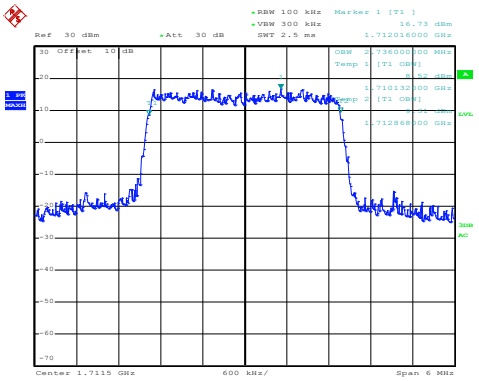
Date: 10.NOV.2016 15:17:23

Highest channel

Test Item:99% Occupy bandwidth

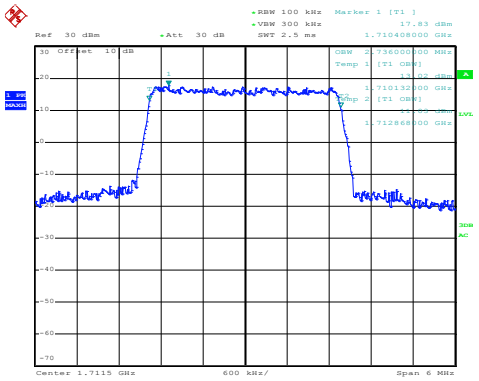
BW: 3MHz

Modulation:16QAM



Date: 10.NOV.2016 15:18:10

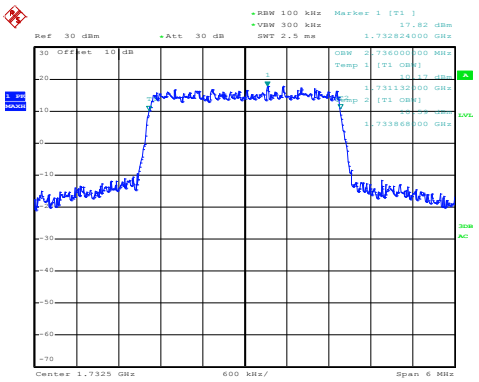
Modulation: QPSK



Date: 10.NOV.2016 15:18:06

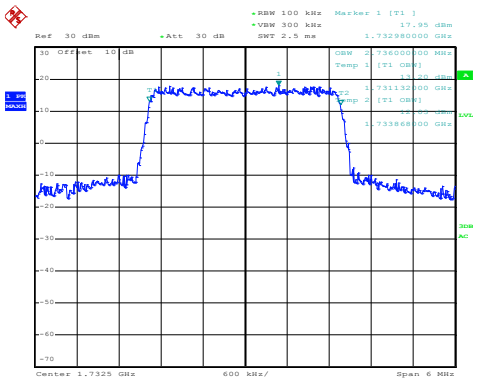
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:19:04

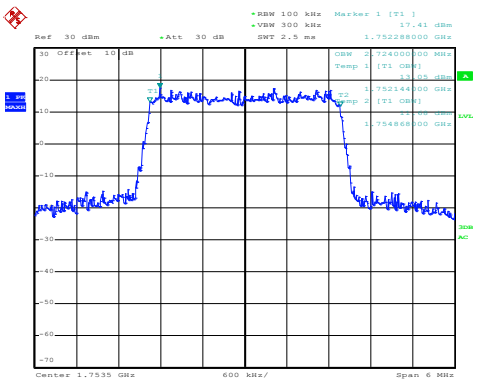
Modulation: QPSK



Date: 10.NOV.2016 15:19:00

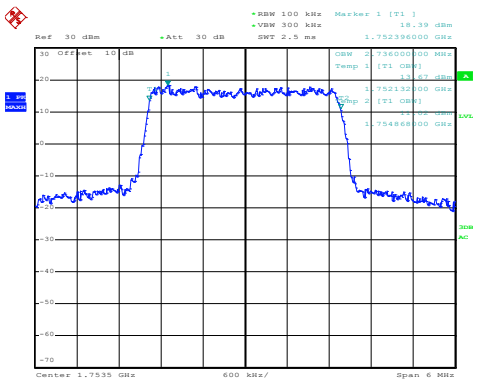
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:19:35

Modulation: QPSK



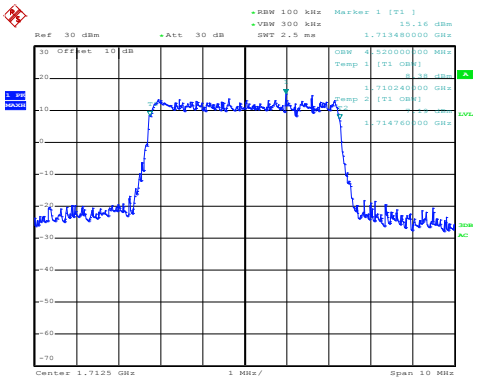
Date: 10.NOV.2016 15:19:32

Highest channel

Test Item:99% Occupy bandwidth

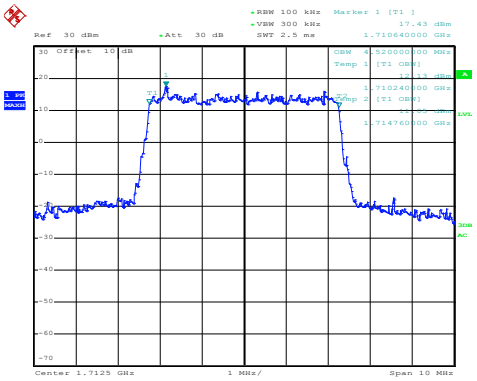
BW: 5MHz

Modulation:16QAM



Date: 10.NOV.2016 15:20:27

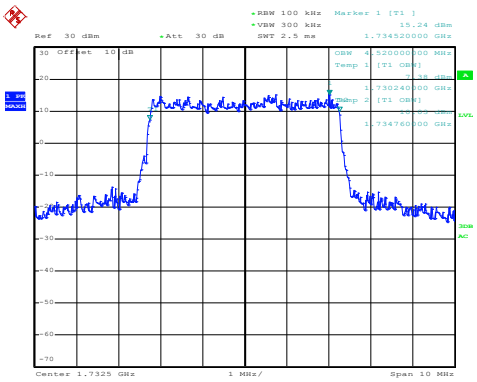
Modulation: QPSK



Date: 10.NOV.2016 15:20:23

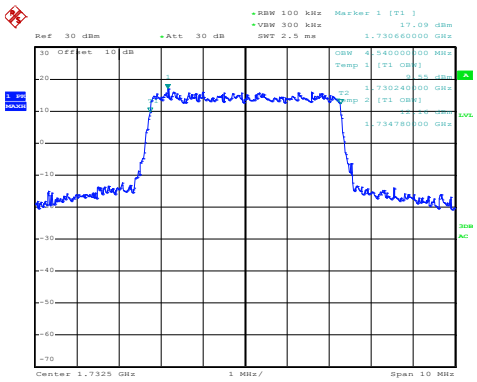
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:20:48

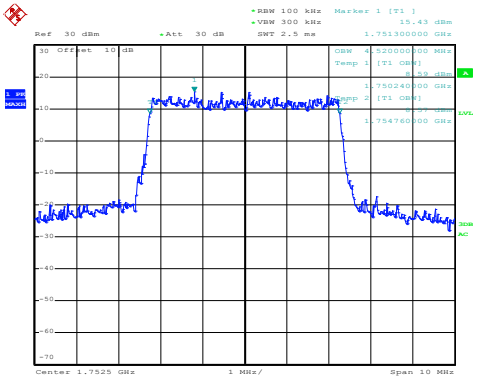
Modulation: QPSK



Date: 10.NOV.2016 15:20:45

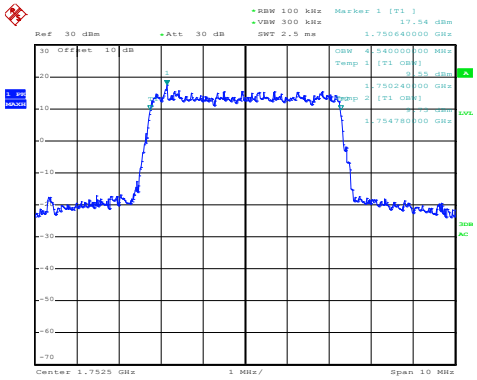
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:21:34

Modulation: QPSK



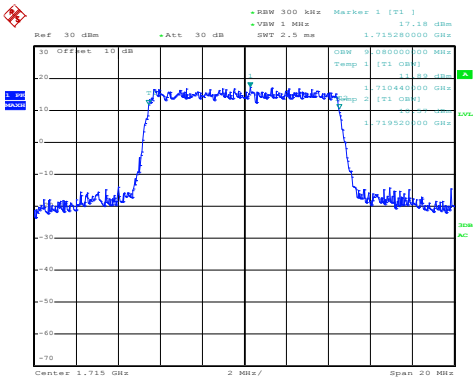
Date: 10.NOV.2016 15:21:30

Highest channel

Test Item:99% Occupy bandwidth

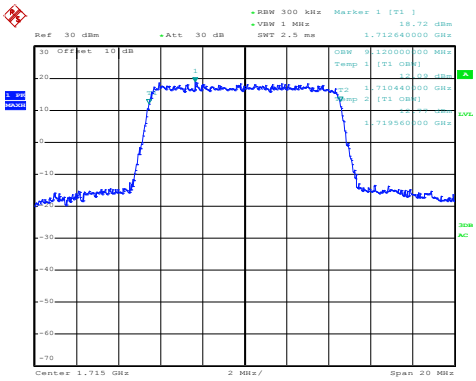
BW: 10MHz

Modulation:16QAM



Date: 10.NOV.2016 15:22:08

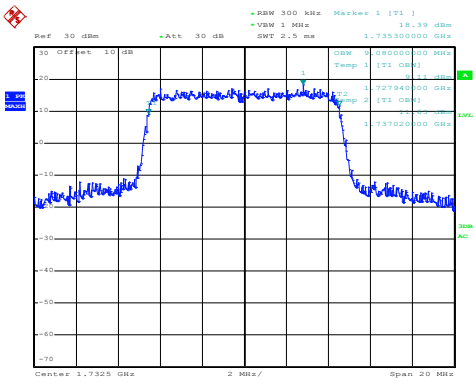
Modulation: QPSK



Date: 10.NOV.2016 15:22:05

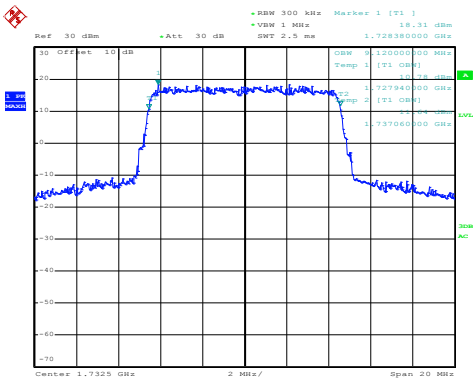
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:22:42

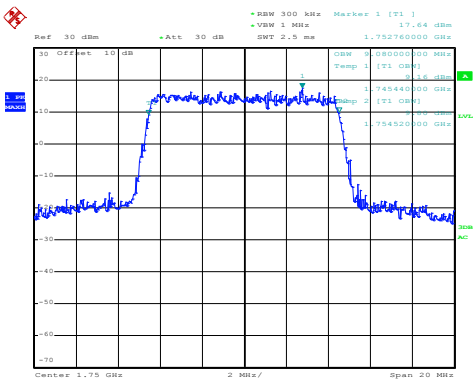
Modulation: QPSK



Date: 10.NOV.2016 15:22:39

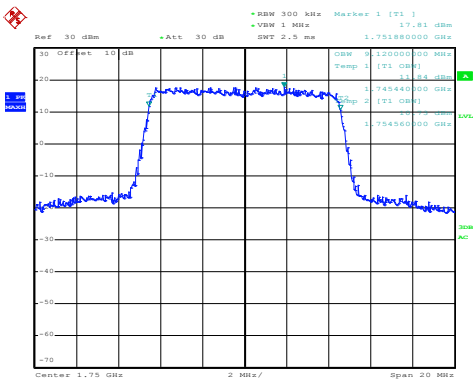
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:22:58

Modulation: QPSK



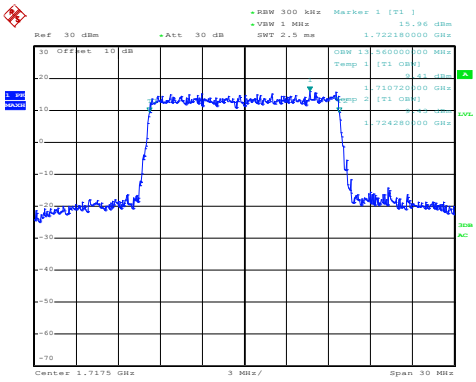
Date: 10.NOV.2016 15:22:54

Highest channel

Test Item:99% Occupy bandwidth

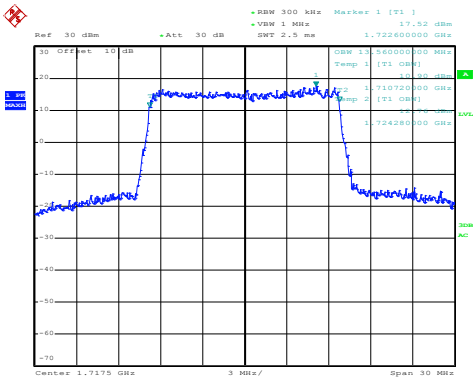
BW: 15MHz

Modulation:16QAM



Date: 10.NOV.2016 15:23:47

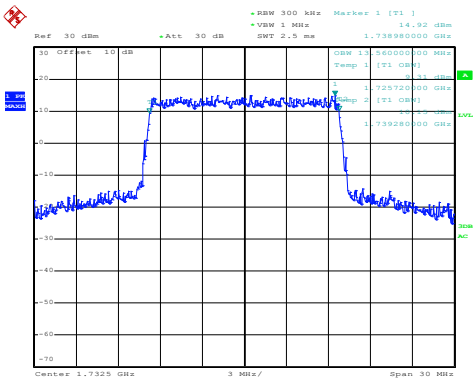
Modulation: QPSK



Date: 10.NOV.2016 15:23:44

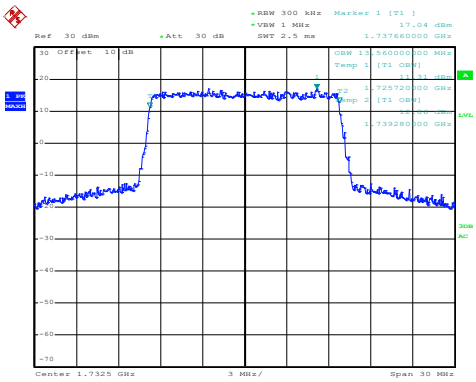
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:24:02

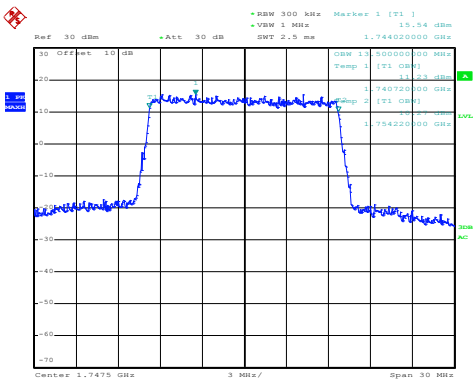
Modulation: QPSK



Date: 10.NOV.2016 15:24:00

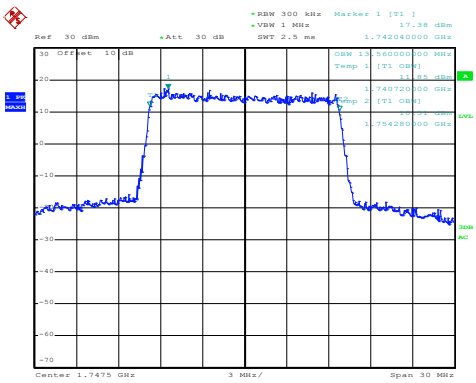
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:24:56

Modulation: QPSK



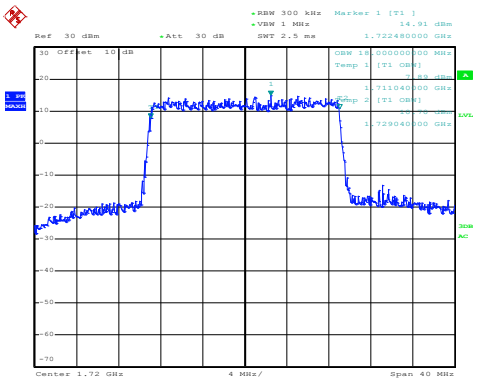
Date: 10.NOV.2016 15:24:49

Highest channel

Test Item:99% Occupy bandwidth

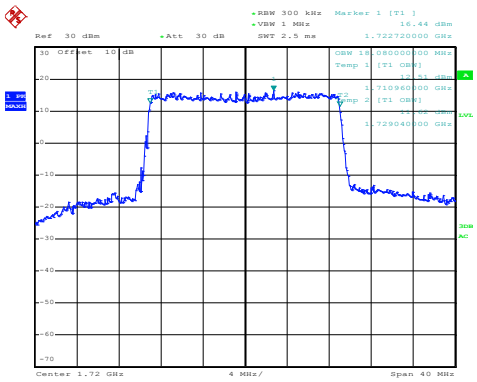
BW: 20MHz

Modulation:16QAM



Date: 10.NOV.2016 15:25:40

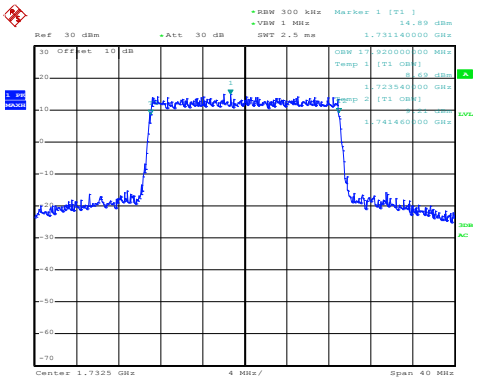
Modulation: QPSK



Date: 10.NOV.2016 15:25:36

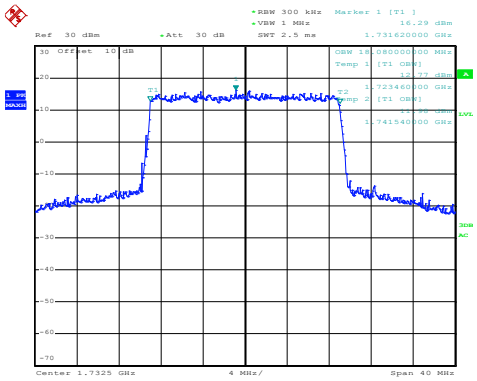
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:26:39

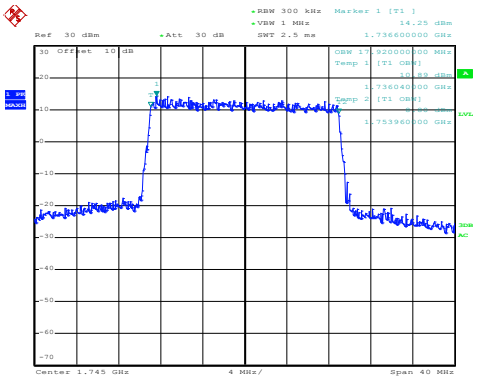
Modulation: QPSK



Date: 10.NOV.2016 15:26:34

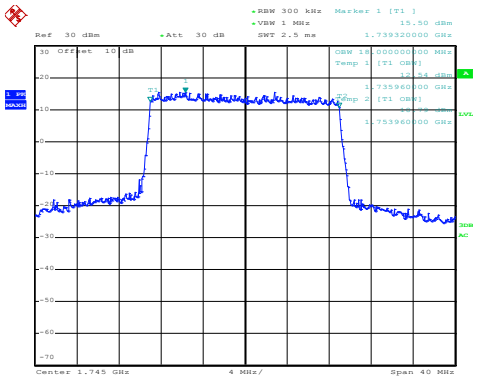
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:27:04

Modulation: QPSK



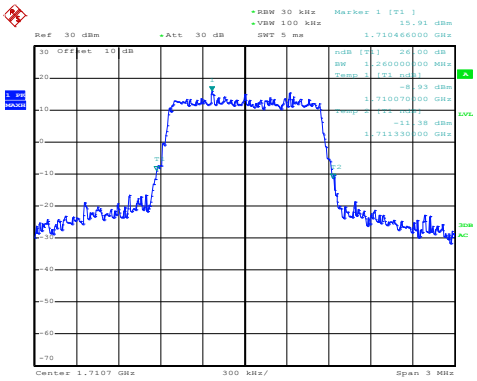
Date: 10.NOV.2016 15:27:00

Highest channel

Test Item:-26dBc bandwidth

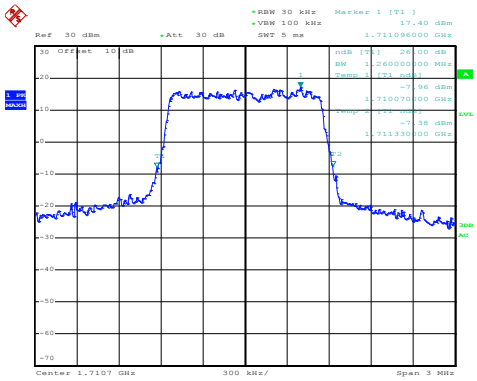
BW: 1.4MHz

Modulation:16QAM



Date: 10.NOV.2016 15:15:00

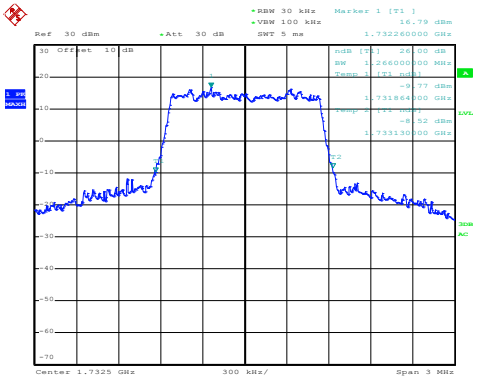
Modulation: QPSK



Date: 10.NOV.2016 15:14:47

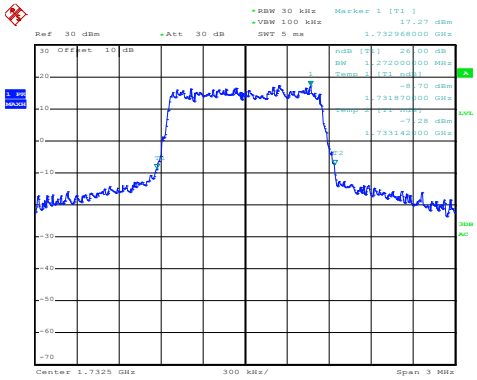
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:16:47

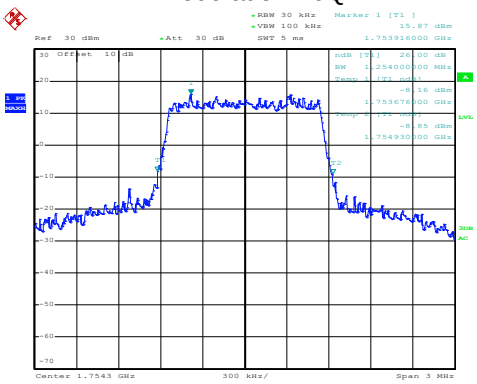
Modulation: QPSK



Date: 10.NOV.2016 15:16:38

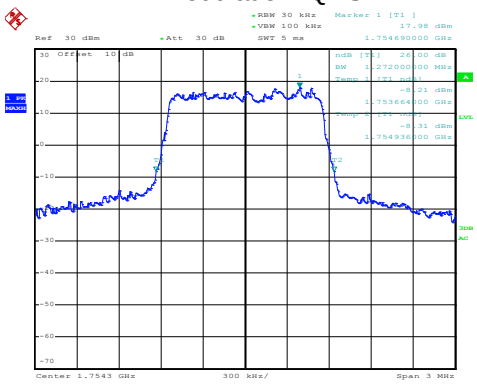
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:17:12

Modulation: QPSK



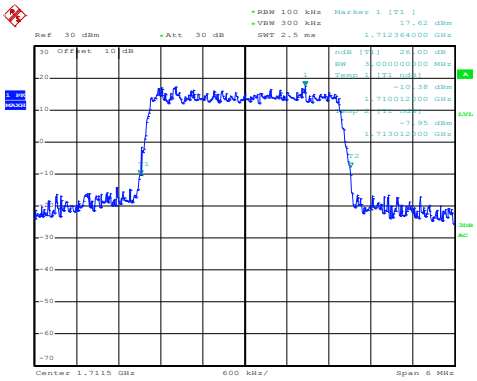
Date: 10.NOV.2016 15:17:09

Highest channel

Test Item:-26dBc bandwidth

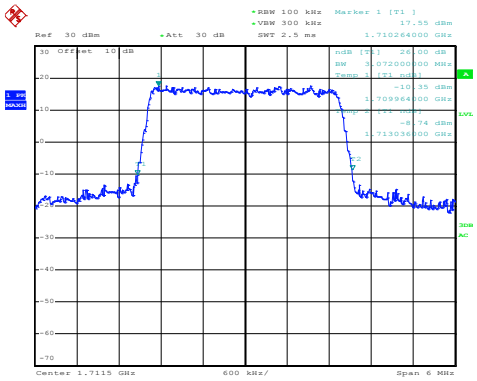
BW: 3MHz

Modulation:16QAM



Date: 10.NOV.2016 15:18:24

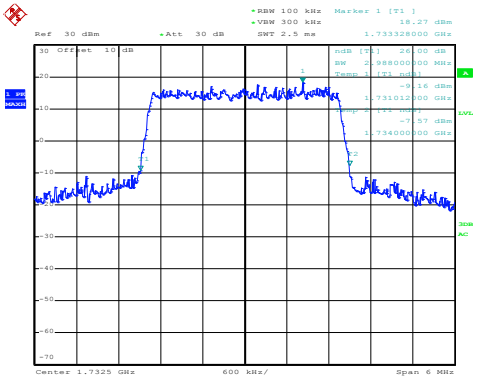
Modulation: QPSK



Date: 10.NOV.2016 15:18:20

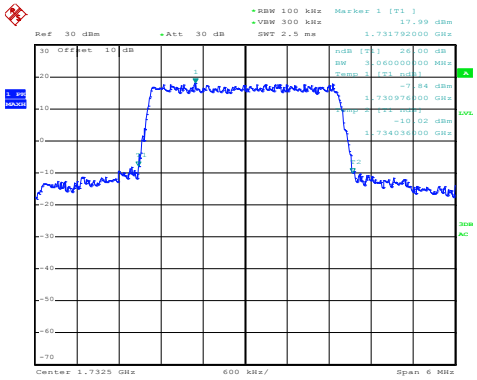
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:18:53

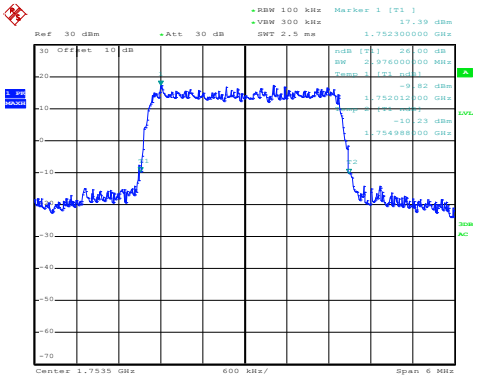
Modulation: QPSK



Date: 10.NOV.2016 15:18:49

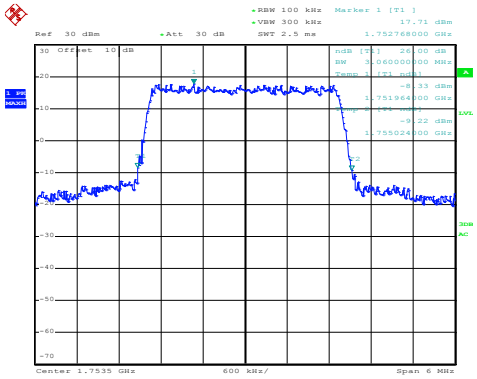
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:19:47

Modulation: QPSK



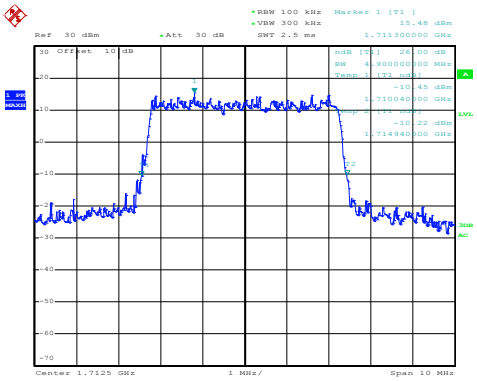
Date: 10.NOV.2016 15:19:44

Highest channel

Test Item:-26dBc bandwidth

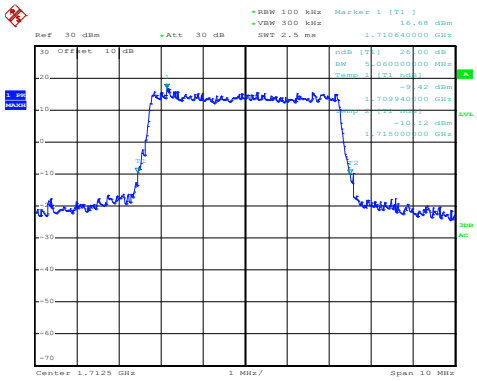
BW: 5MHz

Modulation:16QAM



Date: 10.NOV.2016 15:20:16

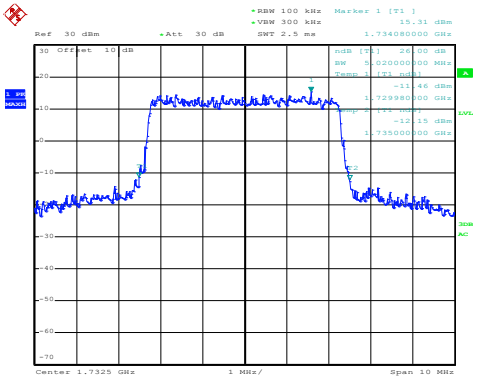
Modulation: QPSK



Date: 10.NOV.2016 15:20:13

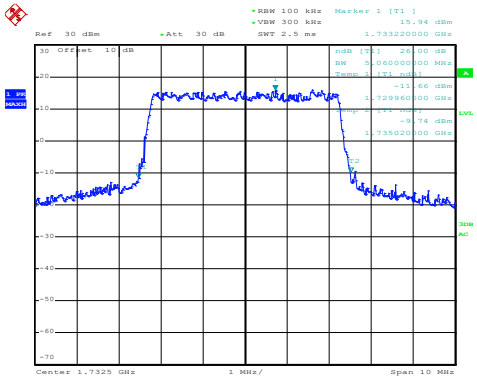
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:20:59

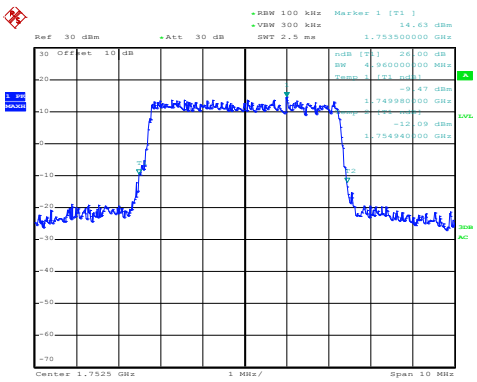
Modulation: QPSK



Date: 10.NOV.2016 15:20:55

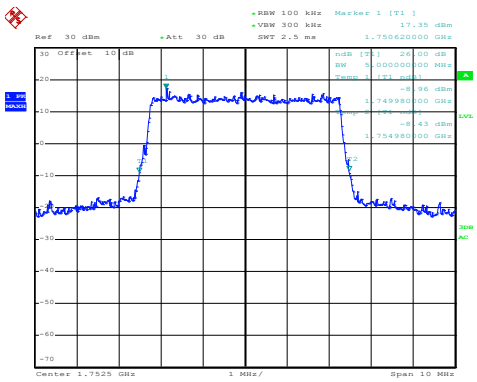
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:21:20

Modulation: QPSK



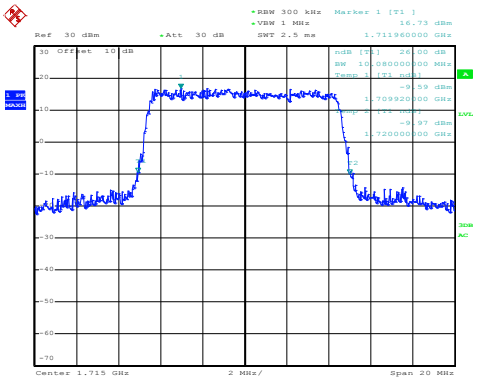
Date: 10.NOV.2016 15:21:17

Highest channel

Test Item:-26dBc bandwidth

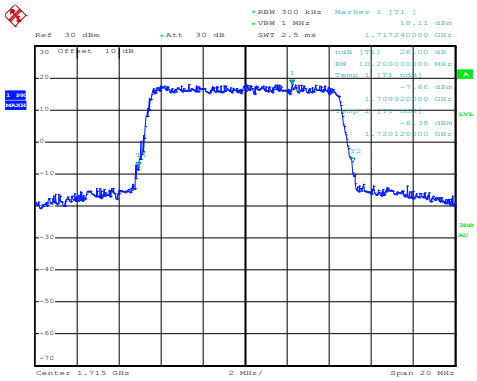
BW: 10MHz

Modulation:16QAM



Date: 10.NOV.2016 15:22:18

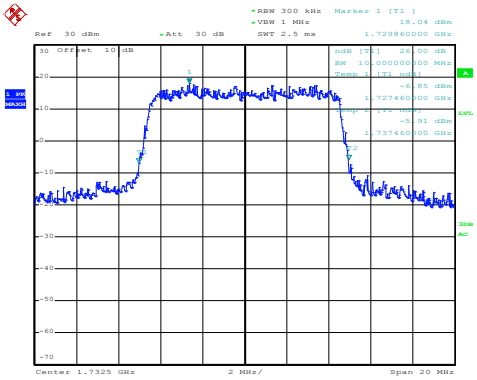
Modulation: QPSK



Date: 10.NOV.2016 15:22:14

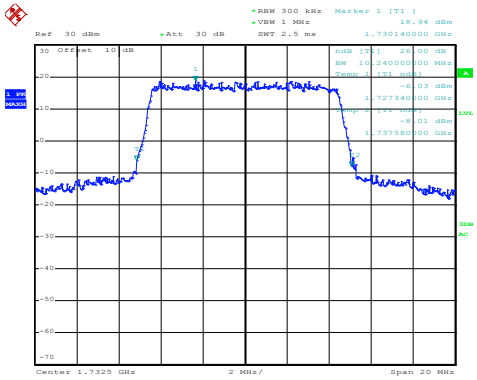
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:22:34

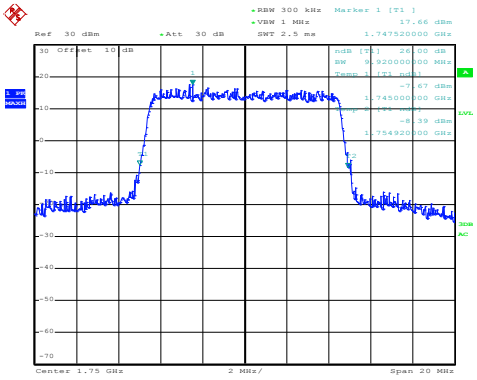
Modulation: QPSK



Date: 10.NOV.2016 15:22:31

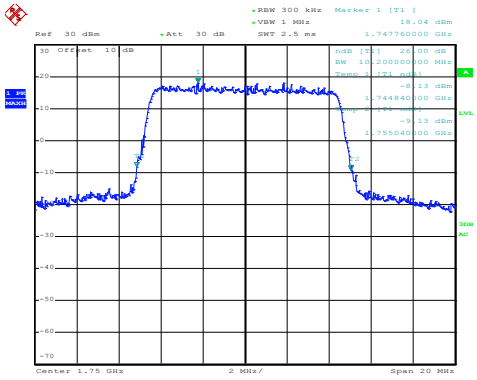
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:23:11

Modulation: QPSK



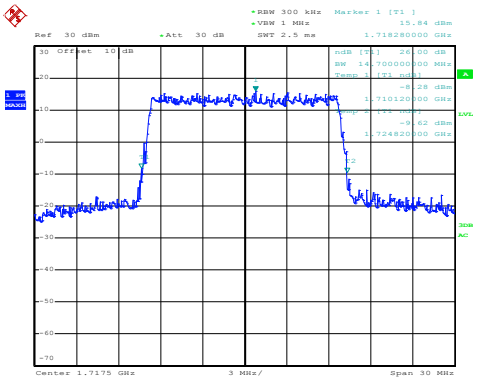
Date: 10.NOV.2016 15:23:07

Highest channel

Test Item:-26dBc bandwidth

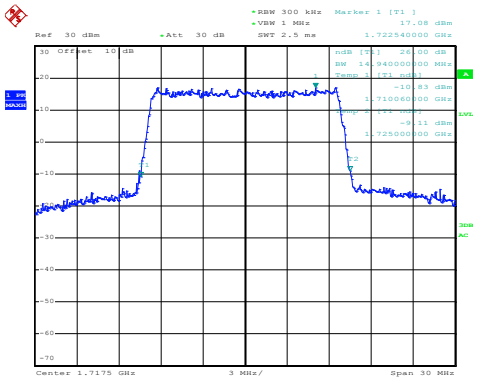
BW: 15MHz

Modulation:16QAM



Date: 10.NOV.2016 15:23:38

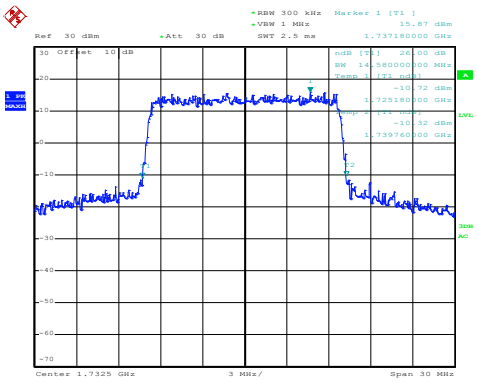
Modulation: QPSK



Date: 10.NOV.2016 15:23:35

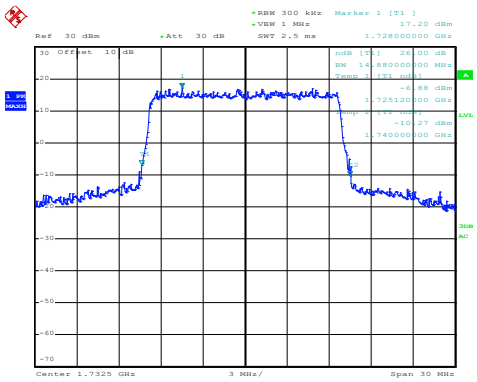
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:24:13

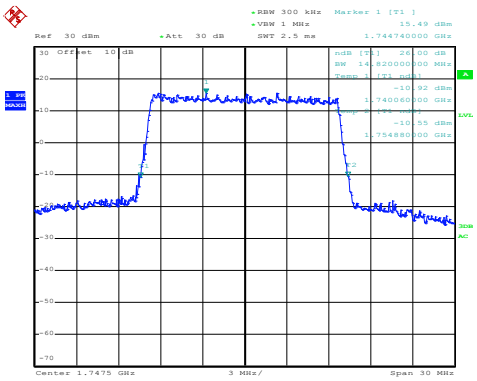
Modulation: QPSK



Date: 10.NOV.2016 15:24:09

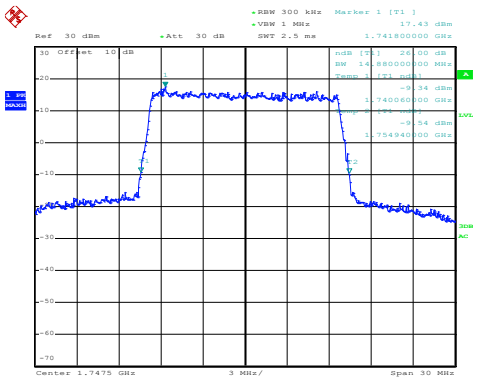
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:24:39

Modulation: QPSK



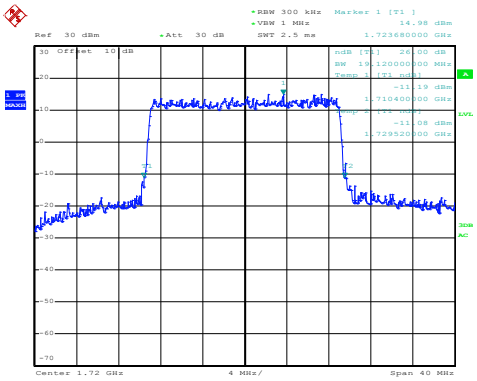
Date: 10.NOV.2016 15:24:30

Highest channel

Test Item:-26dBc bandwidth

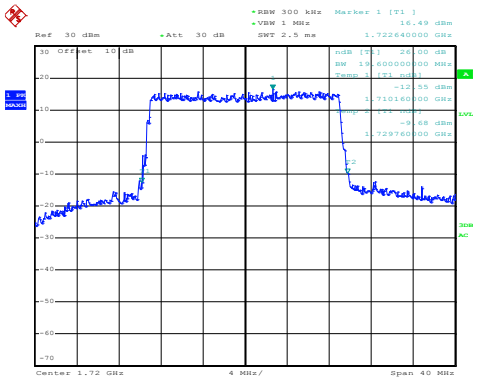
BW: 20MHz

Modulation:16QAM



Date: 10.NOV.2016 15:25:54

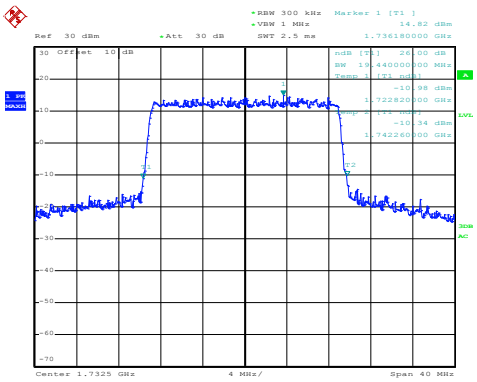
Modulation: QPSK



Date: 10.NOV.2016 15:25:50

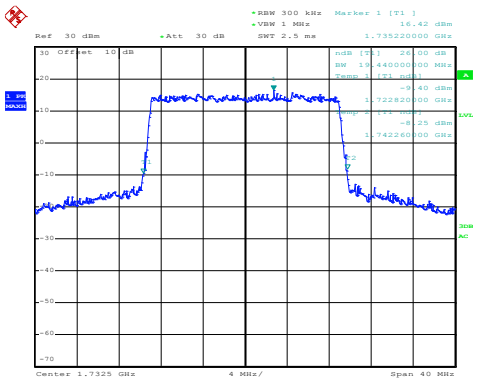
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:26:20

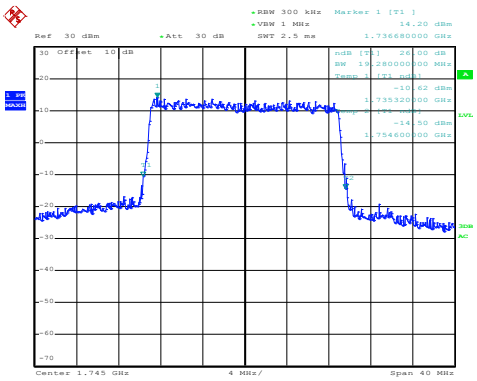
Modulation: QPSK



Date: 10.NOV.2016 15:26:11

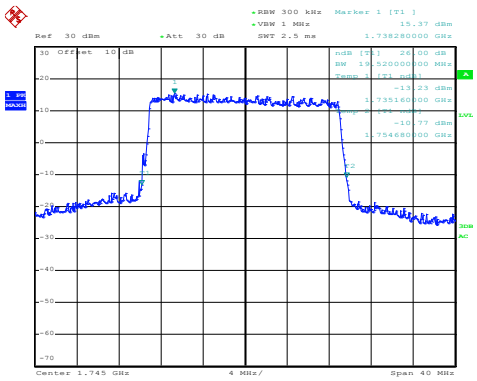
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:27:16

Modulation: QPSK



Date: 10.NOV.2016 15:27:12

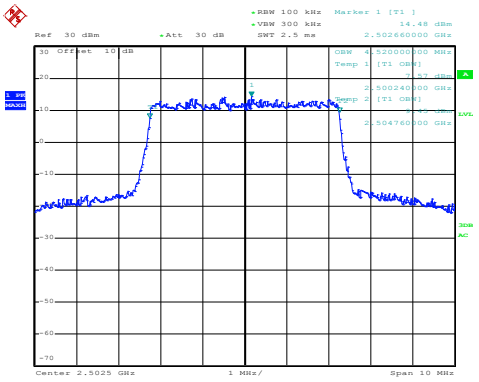
Highest channel

LTE-Band 7 part

Test Item:99% Occupy bandwidth

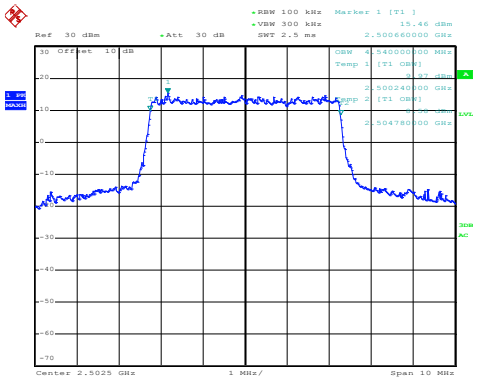
BW: 5MHz

Modulation:16QAM



Date: 10.NOV.2016 15:32:32

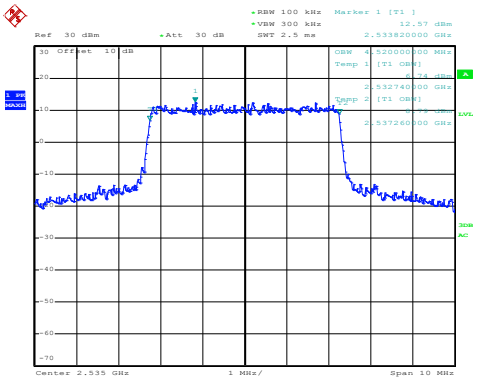
Modulation:QPSK



Date: 10.NOV.2016 15:31:48

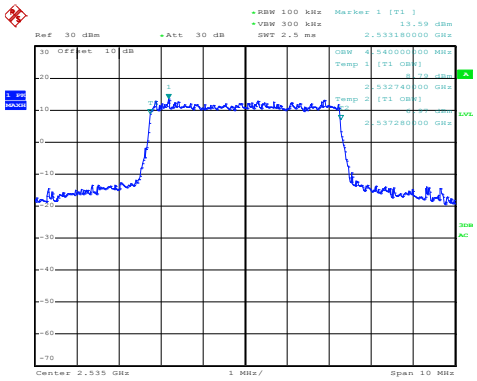
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:34:07

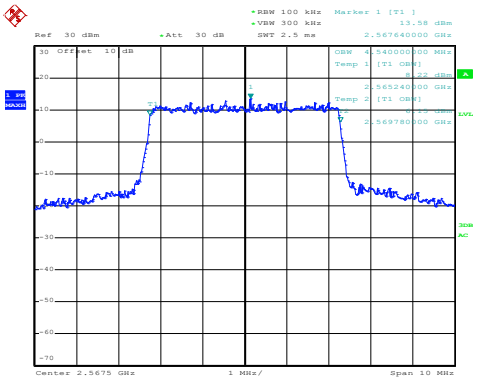
Modulation:QPSK



Date: 10.NOV.2016 15:33:56

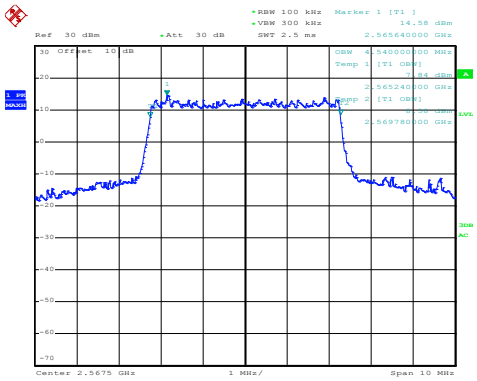
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:34:55

Modulation:QPSK



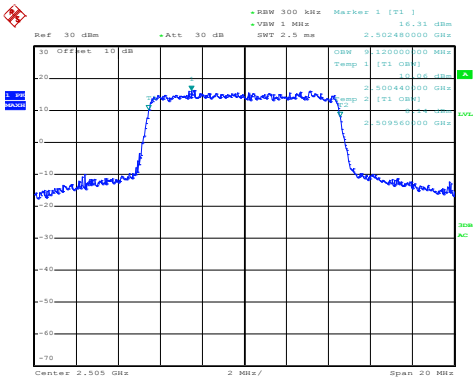
Date: 10.NOV.2016 15:34:40

Highest channel

Test Item:99% Occupy bandwidth

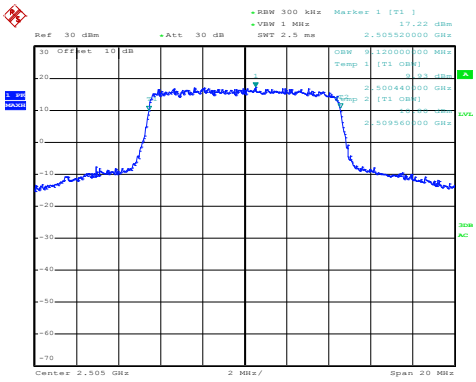
BW: 10MHz

Modulation:16QAM



Date: 10.NOV.2016 15:38:18

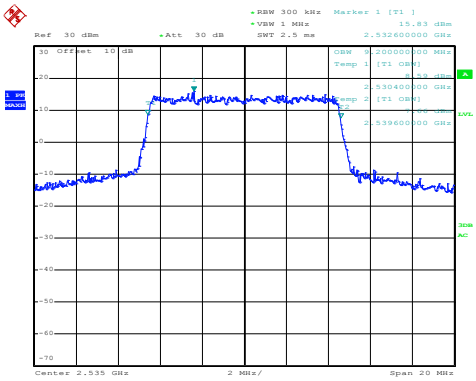
Modulation:QPSK



Date: 10.NOV.2016 15:38:02

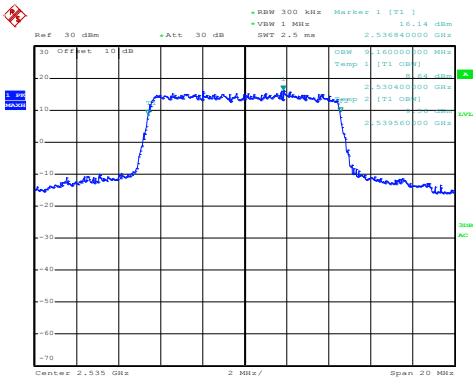
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:48:21

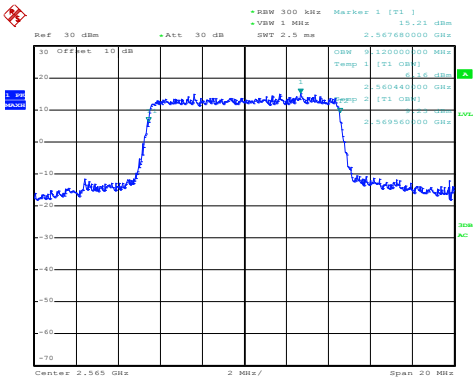
Modulation:QPSK



Date: 10.NOV.2016 15:48:10

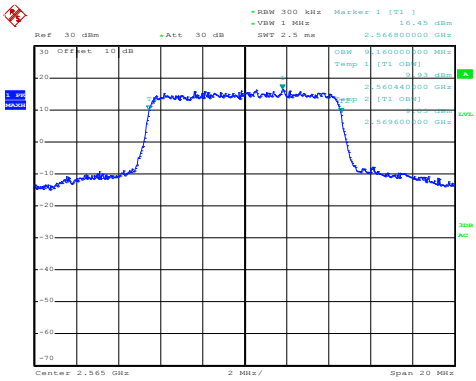
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:49:15

Modulation:QPSK



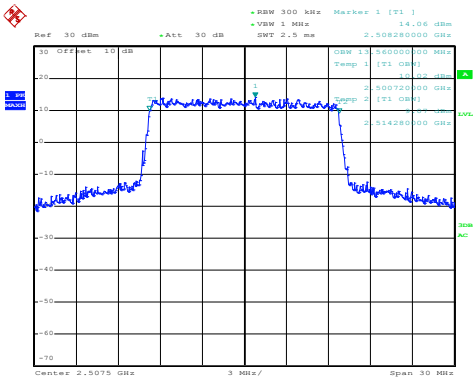
Date: 10.NOV.2016 15:49:05

Highest channel

Test Item:99% Occupy bandwidth

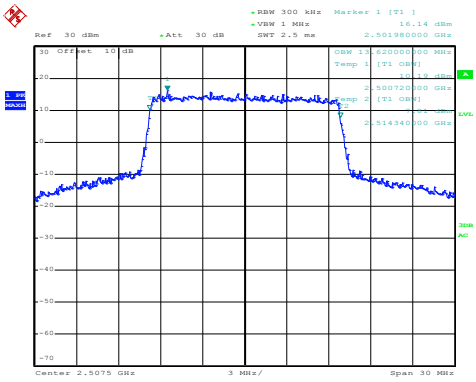
BW: 15MHz

Modulation:16QAM



Date: 10.NOV.2016 15:51:10

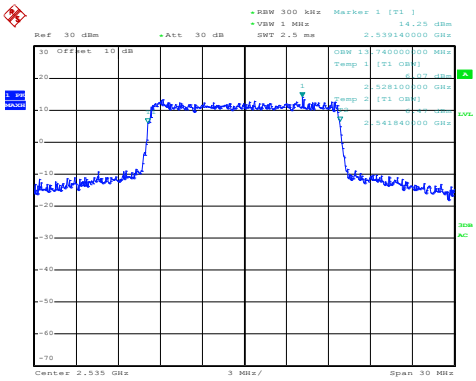
Modulation:QPSK



Date: 10.NOV.2016 15:51:02

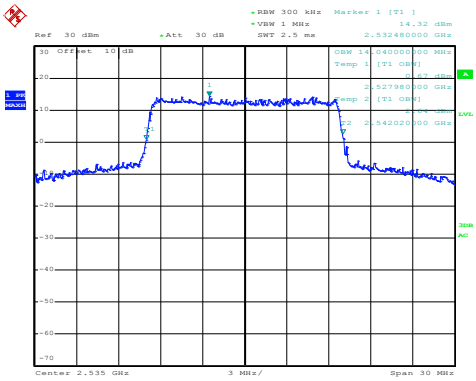
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:51:43

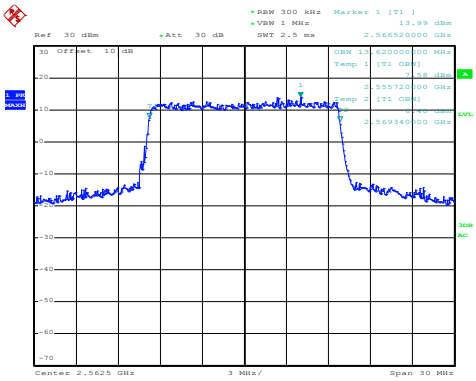
Modulation:QPSK



Date: 10.NOV.2016 15:51:35

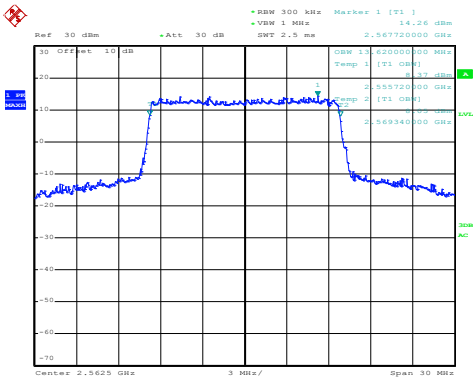
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:56:57

Modulation:QPSK



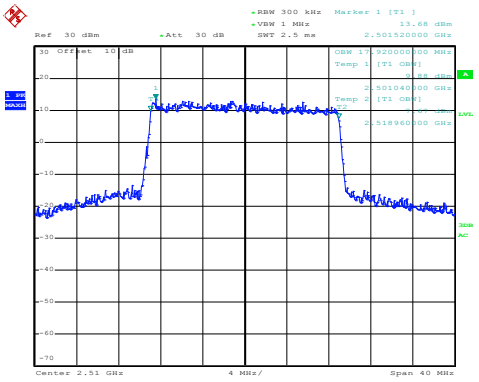
Date: 10.NOV.2016 15:56:44

Highest channel

Test Item:99% Occupy bandwidth

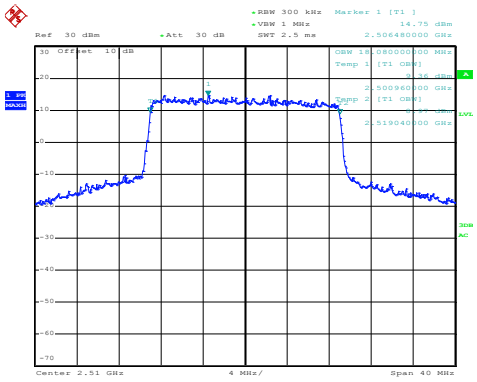
BW: 20MHz

Modulation:16QAM



Date: 10.NOV.2016 15:58:24

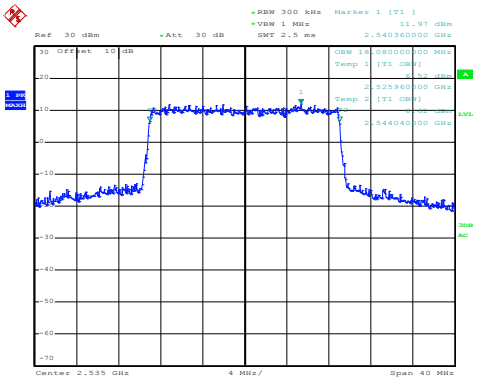
Modulation:QPSK



Date: 10.NOV.2016 15:58:16

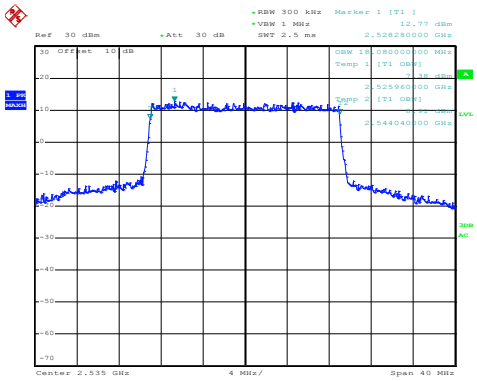
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:59:43

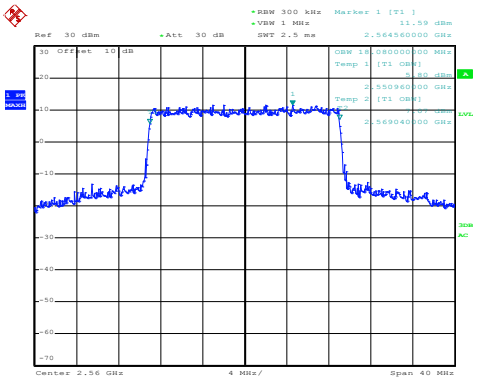
Modulation:QPSK



Date: 10.NOV.2016 15:59:34

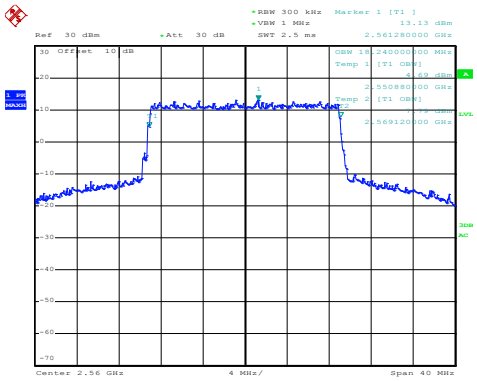
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 16:00:20

Modulation:QPSK



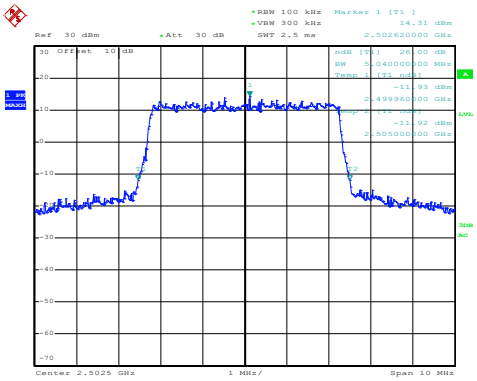
Date: 10.NOV.2016 16:00:13

Highest channel

Test Item:-26dBc bandwidth

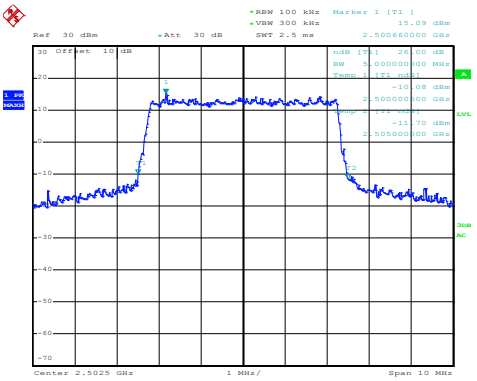
BW: 5MHz

Modulation:16QAM



Date: 10.NOV.2016 15:32:55

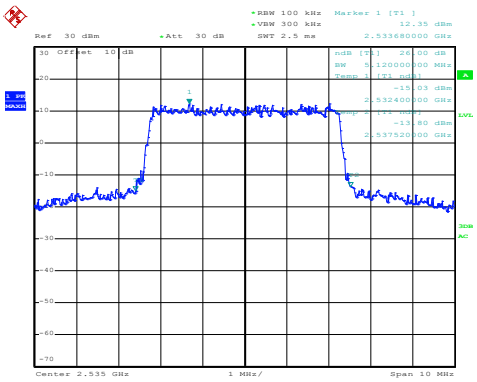
Modulation:QPSK



Date: 10.NOV.2016 15:32:45

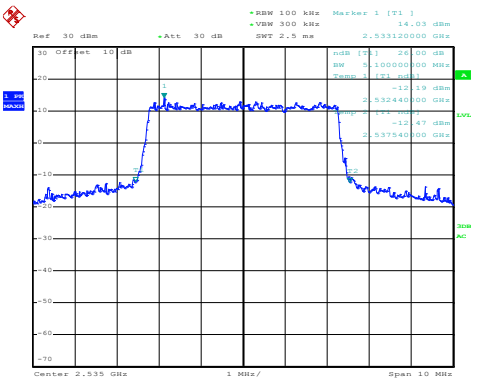
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:33:37

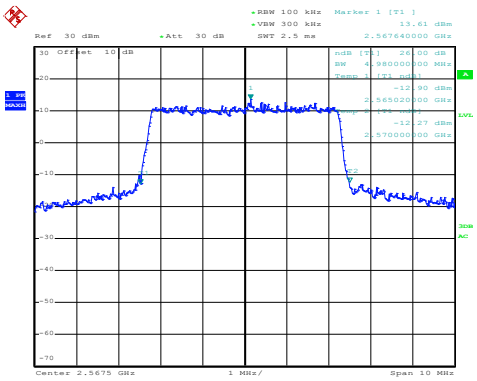
Modulation:QPSK



Date: 10.NOV.2016 15:33:27

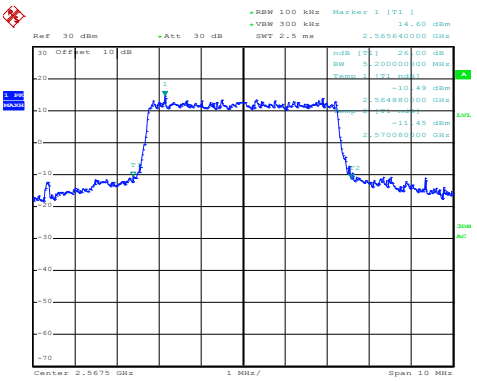
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:35:23

Modulation:QPSK



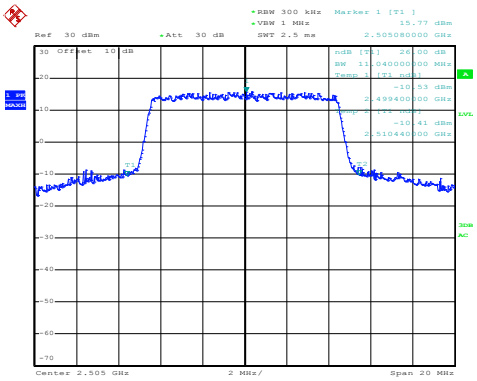
Date: 10.NOV.2016 15:35:11

Highest channel

Test Item:-26dBc bandwidth

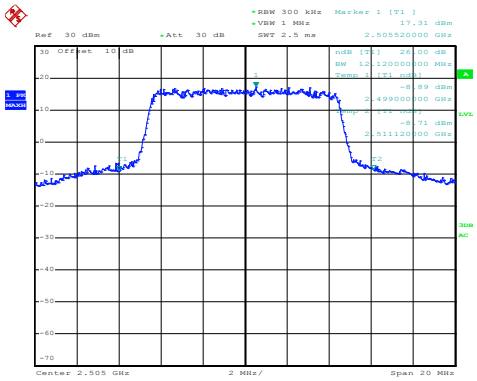
BW: 10MHz

Modulation:16QAM



Date: 10.NOV.2016 15:38:41

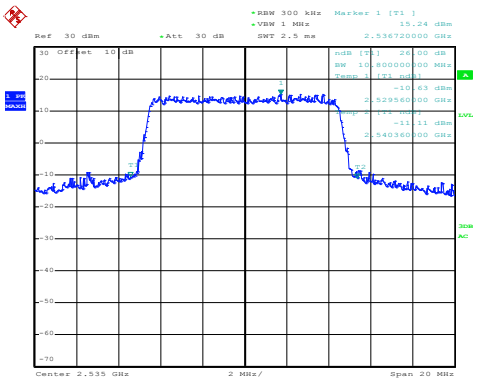
Modulation:QPSK



Date: 10.NOV.2016 15:38:30

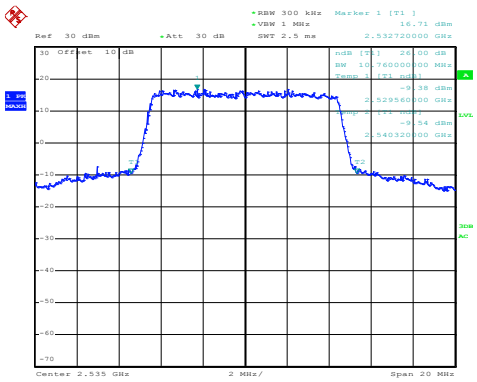
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:47:56

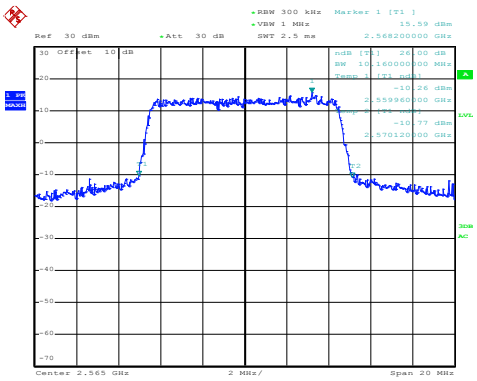
Modulation:QPSK



Date: 10.NOV.2016 15:47:44

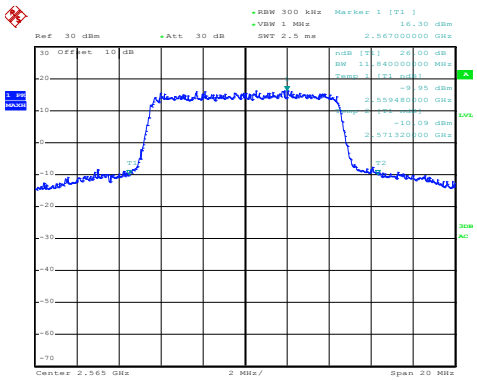
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:49:35

Modulation:QPSK



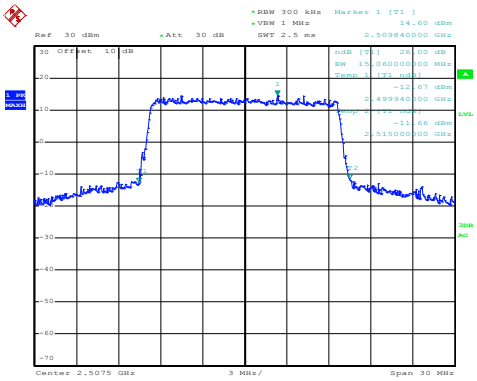
Date: 10.NOV.2016 15:49:27

Highest channel

Test Item:-26dBc bandwidth

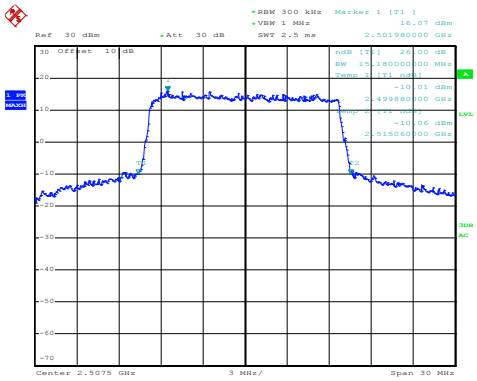
BW: 15MHz

Modulation:16QAM



Date: 10.NOV.2016 15:50:49

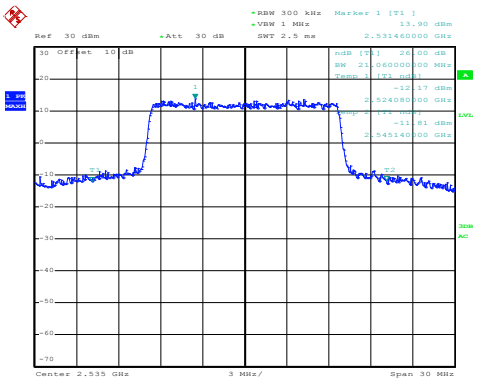
Modulation:QPSK



Date: 10.NOV.2016 15:50:30

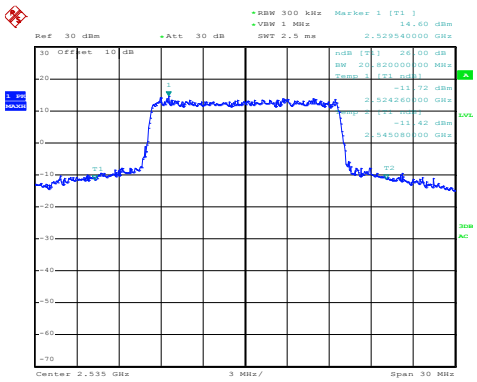
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:52:09

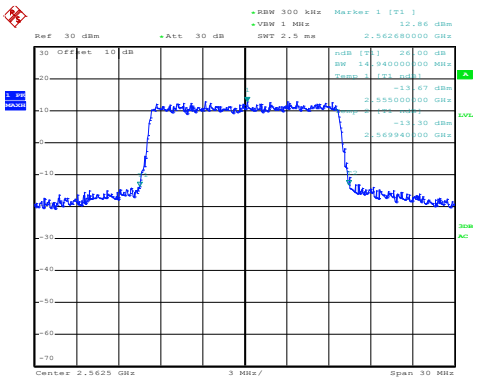
Modulation:QPSK



Date: 10.NOV.2016 15:51:55

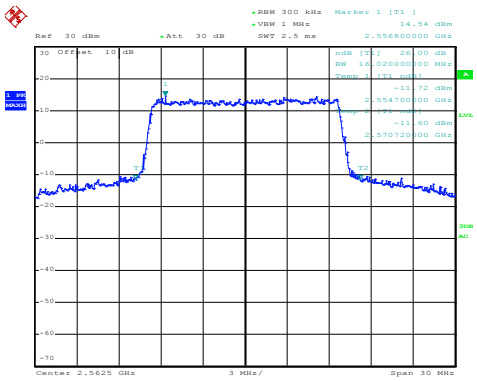
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 15:56:26

Modulation:QPSK



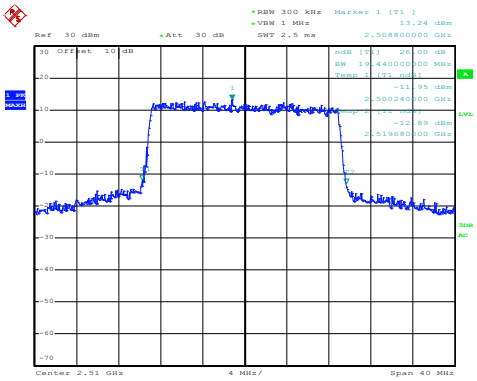
Date: 10.NOV.2016 15:56:15

Highest channel

Test Item:-26dBc bandwidth

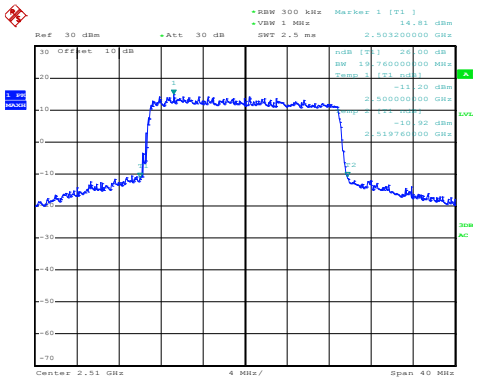
BW: 20MHz

Modulation:16QAM



Date: 10.NOV.2016 15:58:45

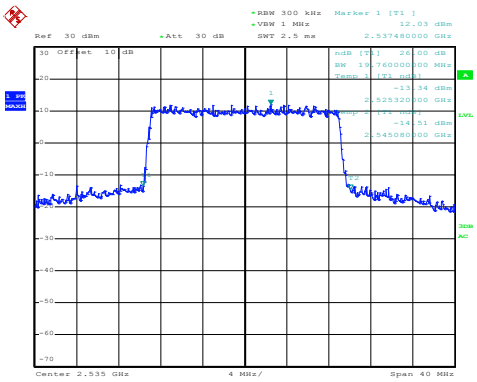
Modulation:QPSK



Date: 10.NOV.2016 15:58:37

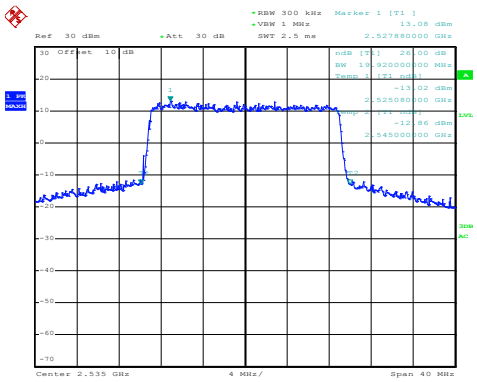
Lowest channel

Modulation:16QAM



Date: 10.NOV.2016 15:59:20

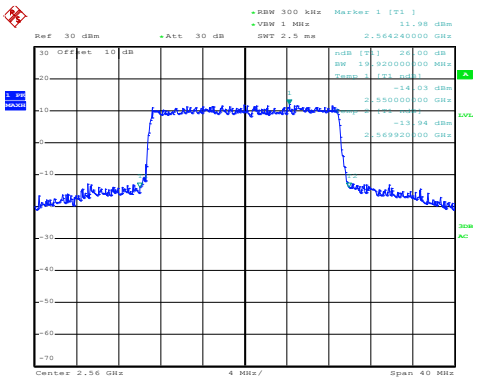
Modulation:QPSK



Date: 10.NOV.2016 15:59:12

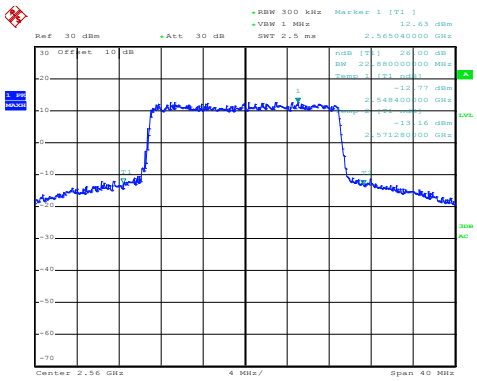
Middle channel

Modulation:16QAM



Date: 10.NOV.2016 16:00:43

Modulation:QPSK



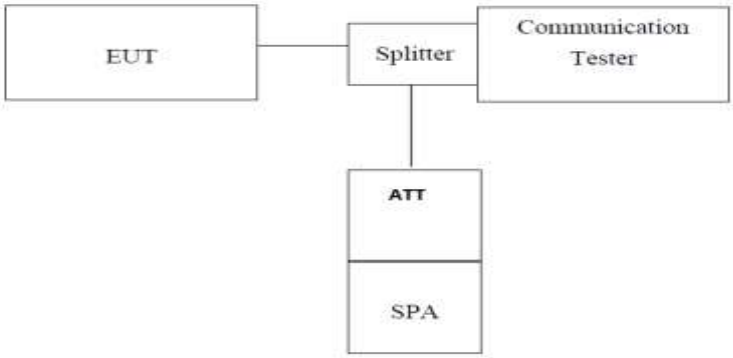
Date: 10.NOV.2016 16:00:34

Highest channel

6.8 Modulation Characteristic

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

6.9 Out of band emission at antenna terminals

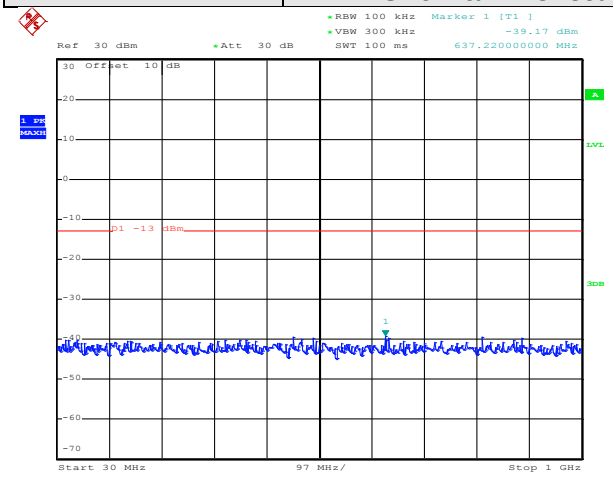
Test Requirement:	Part 27.53(h), Part 27.53(m)
Test Method:	FCC part2.1051
Limit:	Band4: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$(P) dB (-13 dBm). Band7: For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz.
Test setup:	 ***Note:*** *Measurement setup for testing on Antenna connector*
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Test plots as follows:

Spurious emission

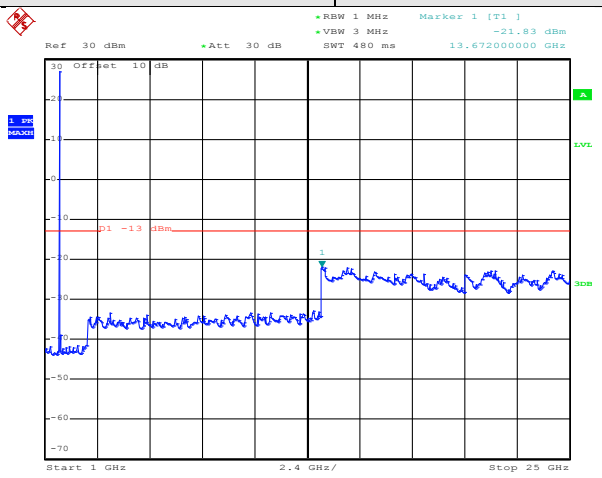
LTE band 4 Part: 1.4MHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:09

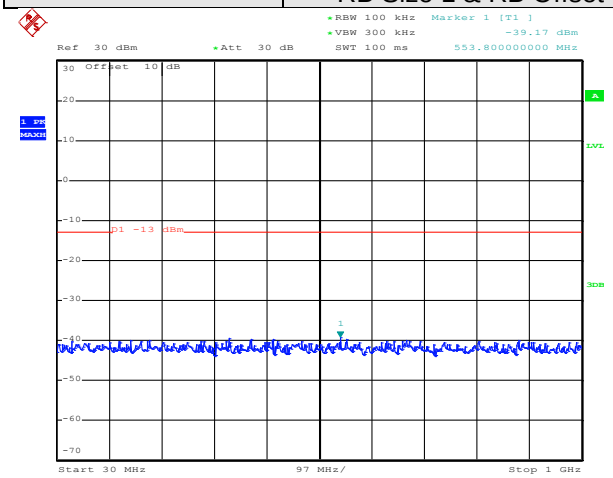
30MHz~1GHz



Date: 10.NOV.2016 03:53:35

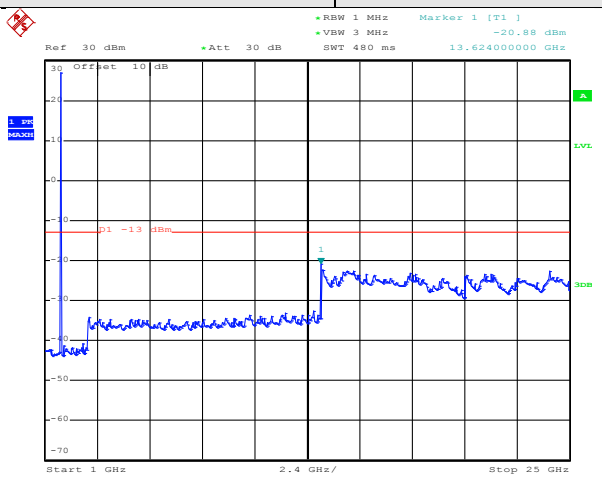
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:41

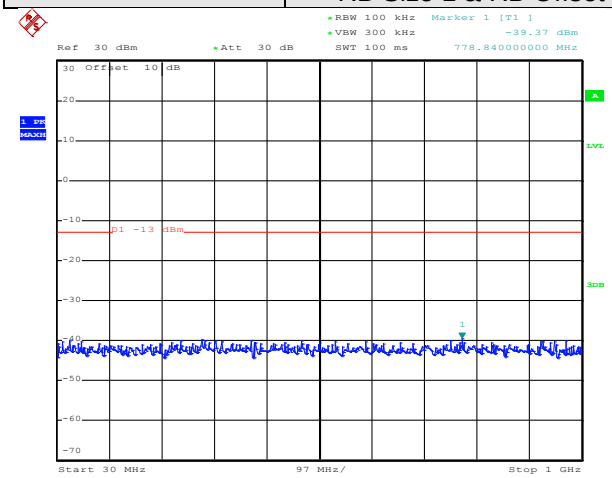
30MHz~1GHz



Date: 10.NOV.2016 03:55:27

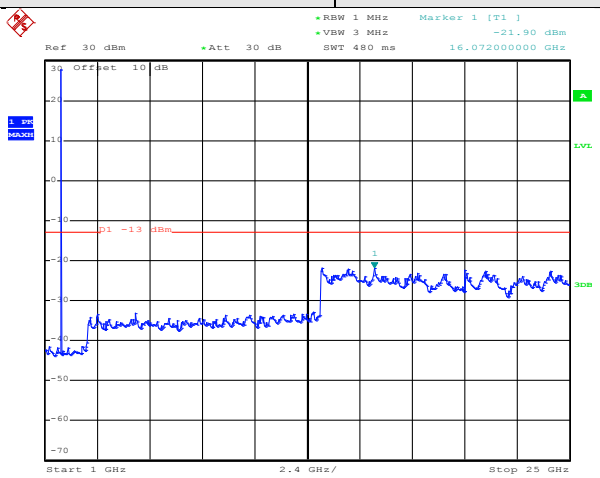
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:06:12

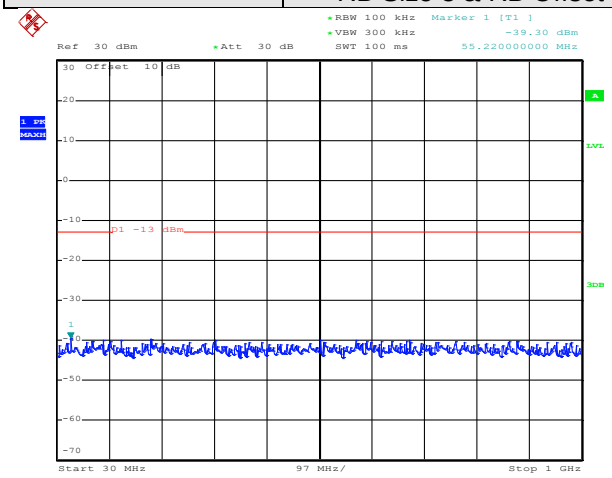
0MHz~1GHz



Date: 10.NOV.2016 03:56:34

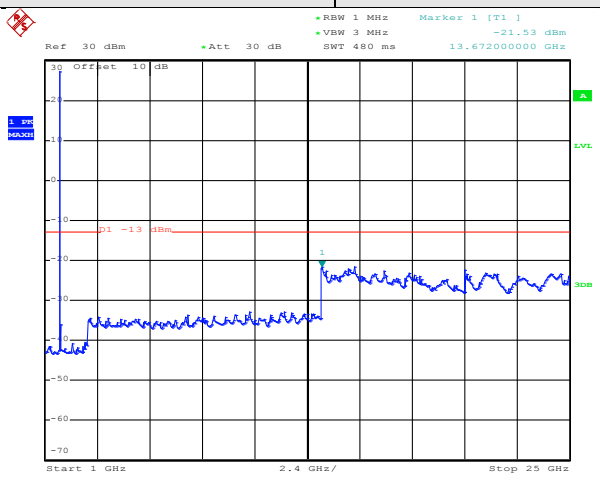
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 3 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:18

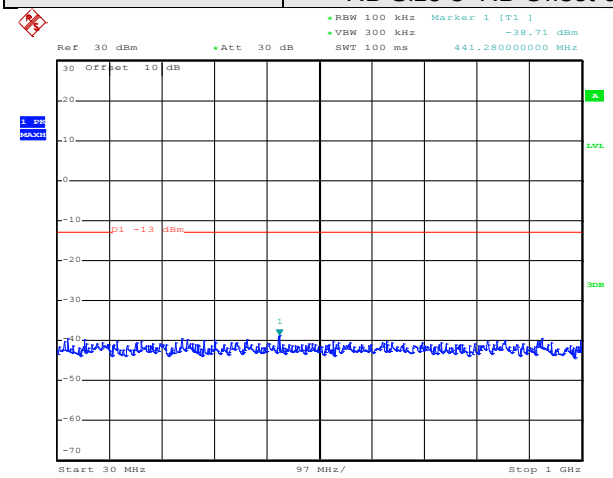
30MHz~1GHz



Date: 10.NOV.2016 03:54:40

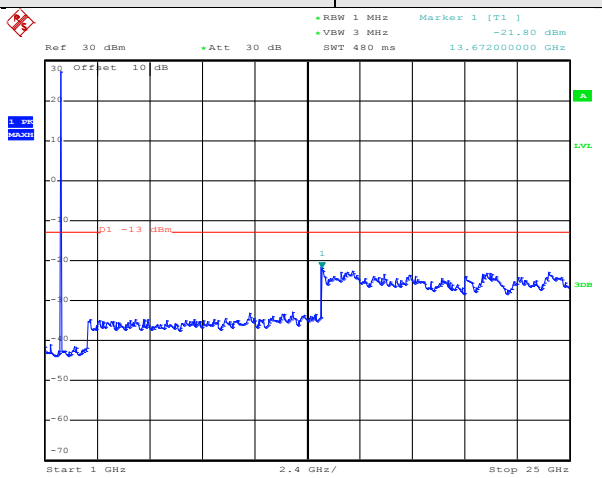
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 3 RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:50

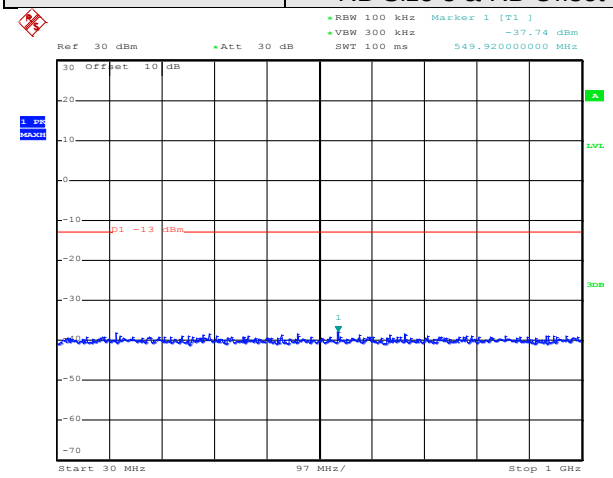
30MHz~1GHz



Date: 10.NOV.2016 03:55:46

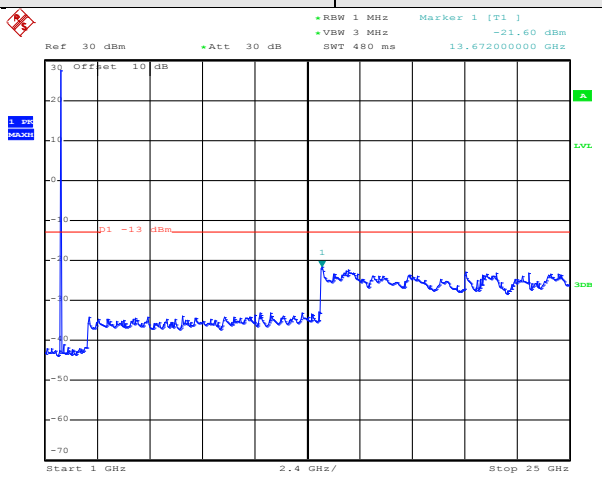
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 3 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:07:10

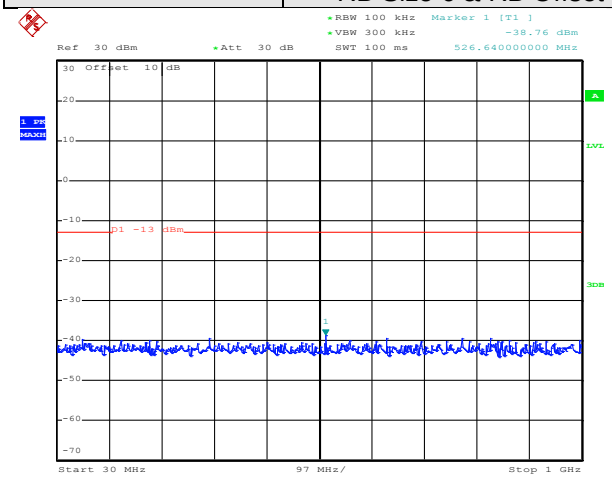
30MHz~1GHz



Date: 10.NOV.2016 03:56:54

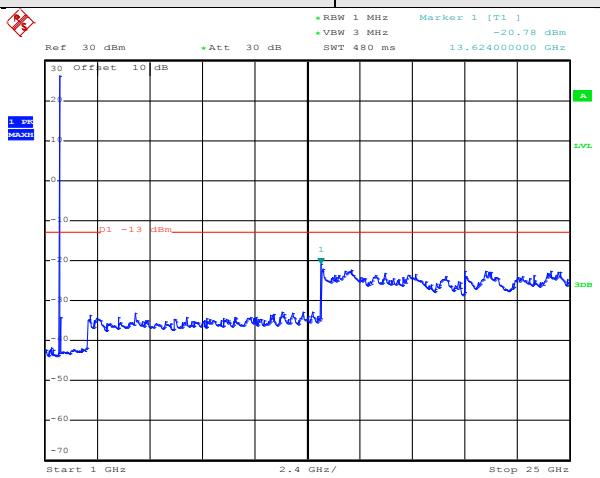
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 6 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:26

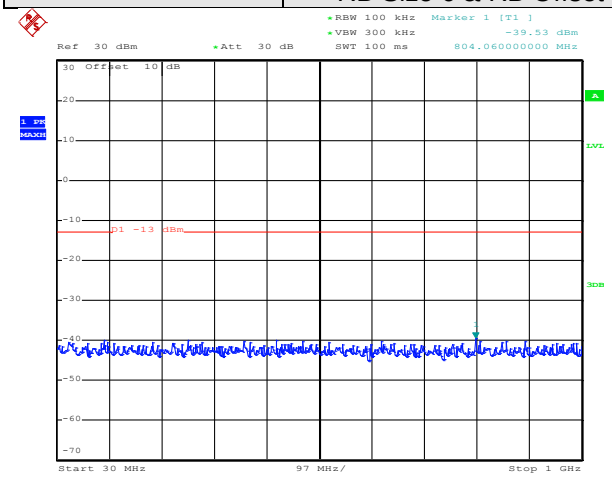
30MHz~1GHz



Date: 10.NOV.2016 03:55:01

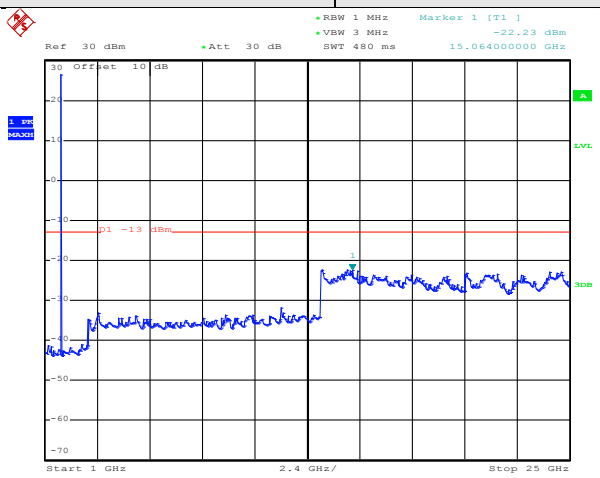
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 6 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:59

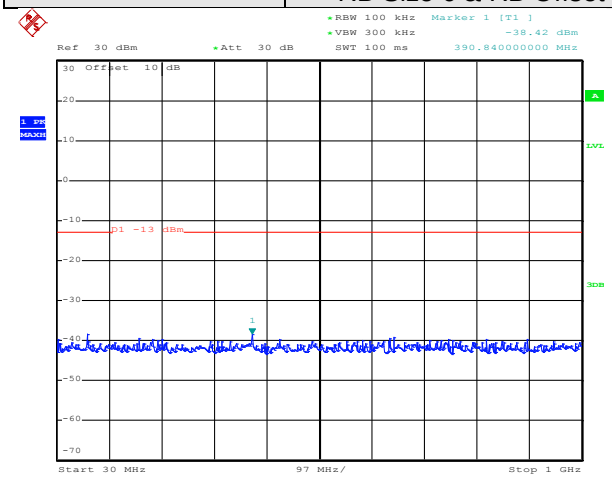
30MHz~1GHz



Date: 10.NOV.2016 03:56:04

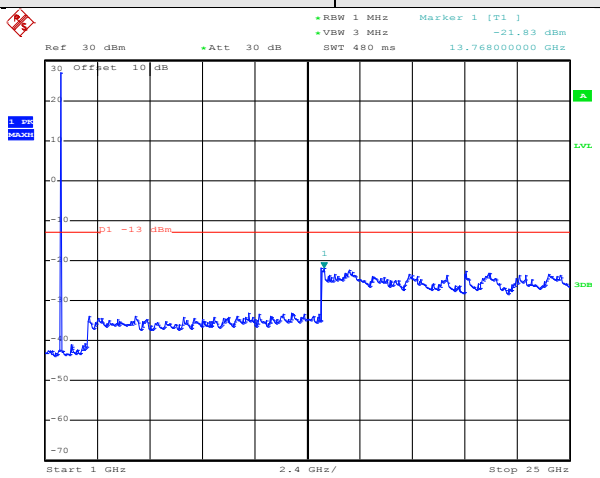
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz 16QAM) RB Size 6 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:07:20

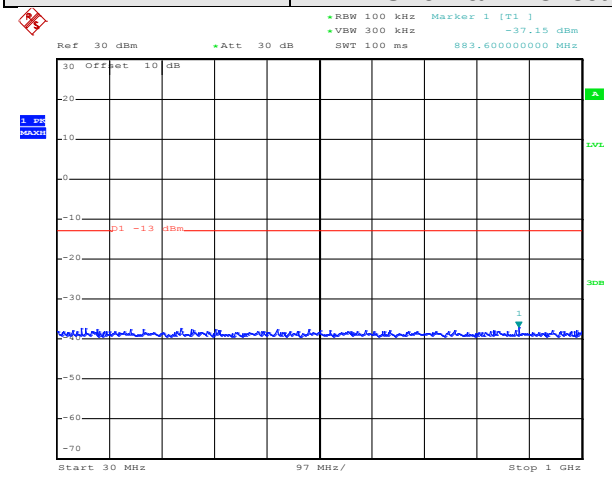
30MHz~1GHz



Date: 10.NOV.2016 03:57:12

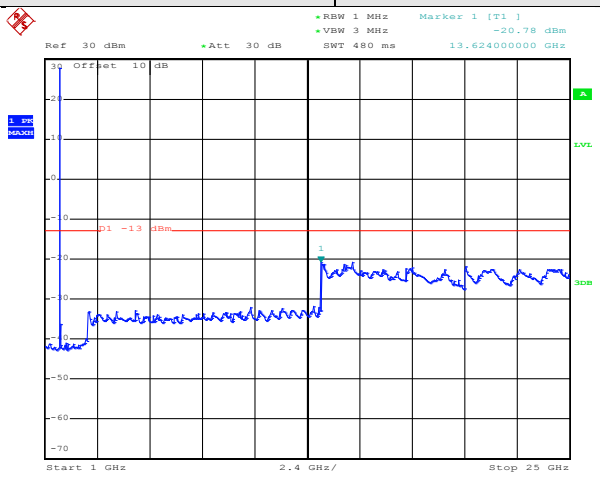
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:04

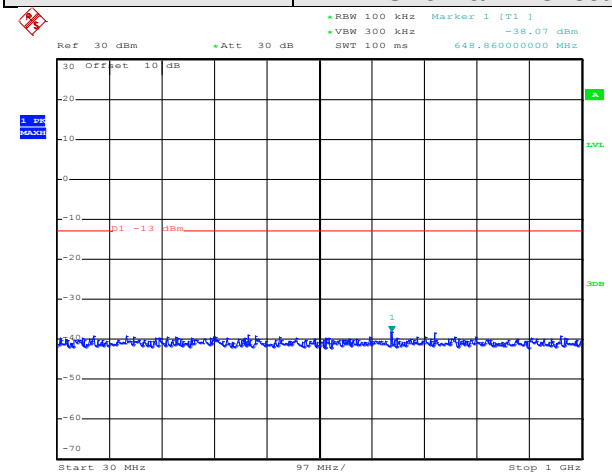
30MHz~1GHz



Date: 10.NOV.2016 03:53:21

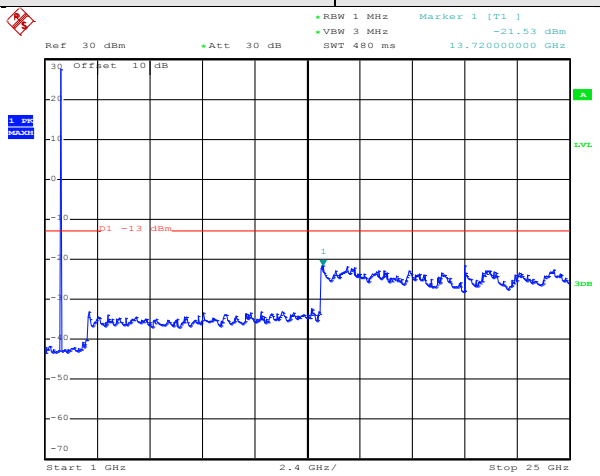
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:37

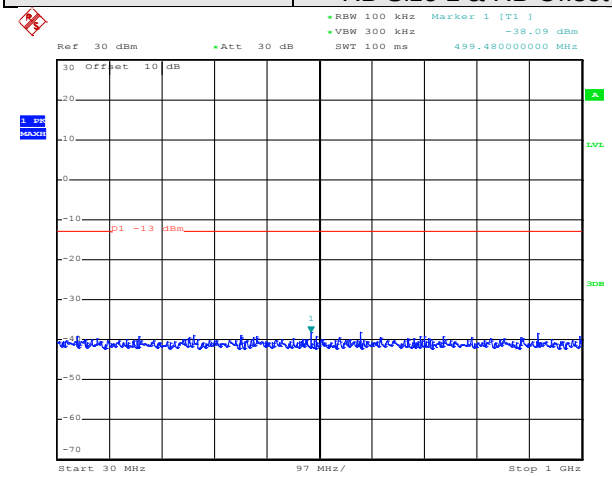
30MHz~1GHz



Date: 10.NOV.2016 03:55:20

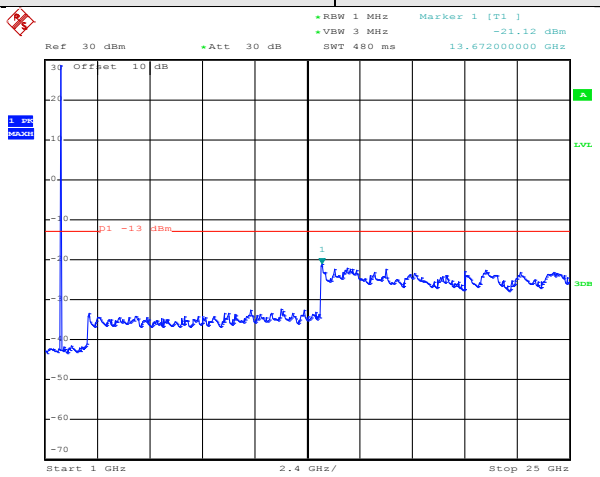
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:06:08

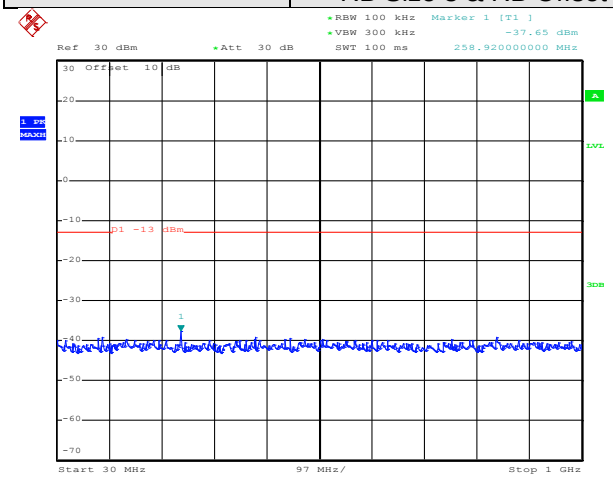
30MHz~1GHz



Date: 10.NOV.2016 03:56:25

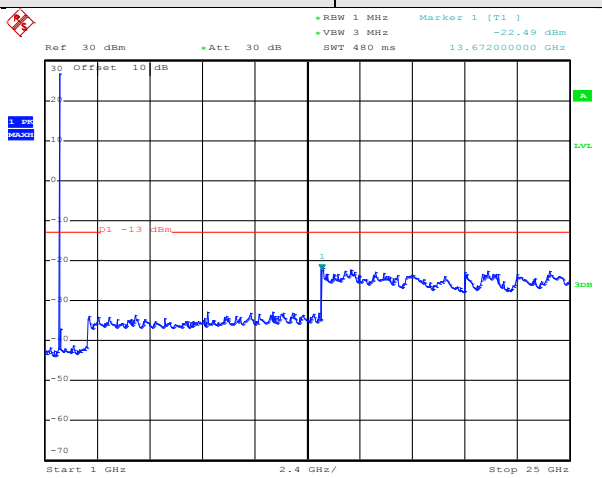
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 3 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:15

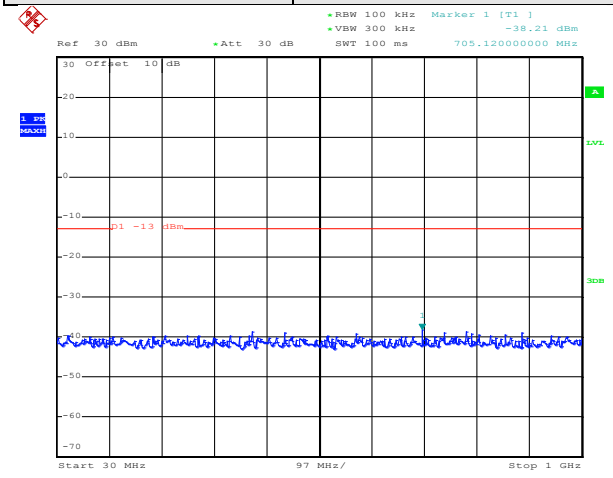
30MHz~1GHz



Date: 10.NOV.2016 03:54:29

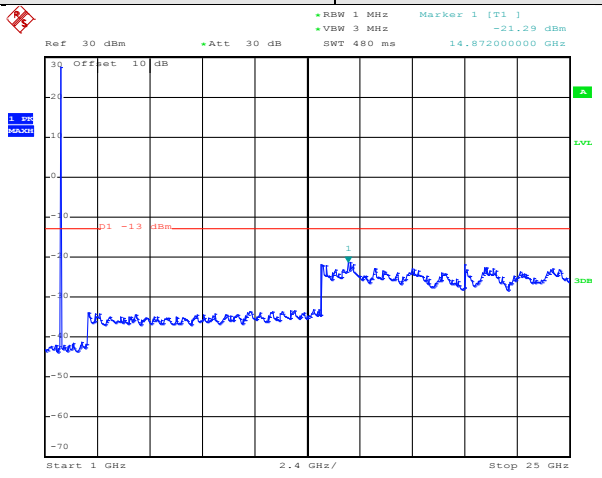
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 3 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:47

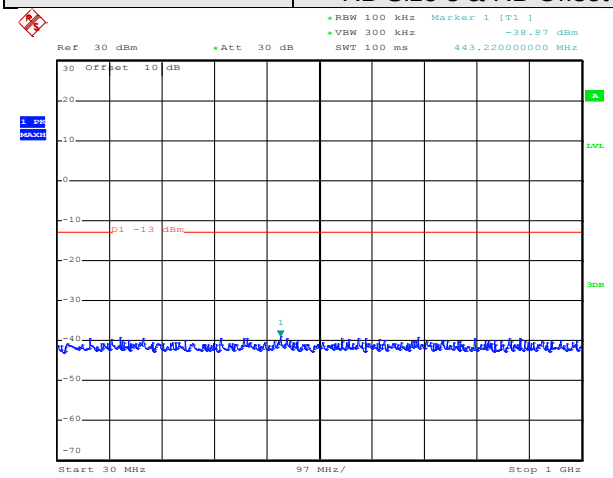
30MHz~1GHz



Date: 10.NOV.2016 03:55:38

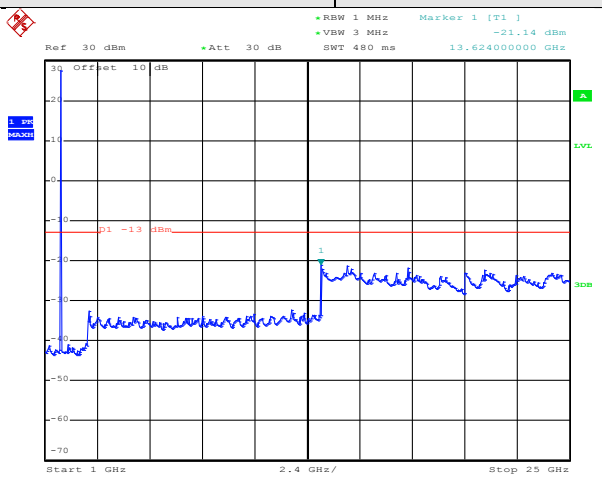
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 3 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:06:18

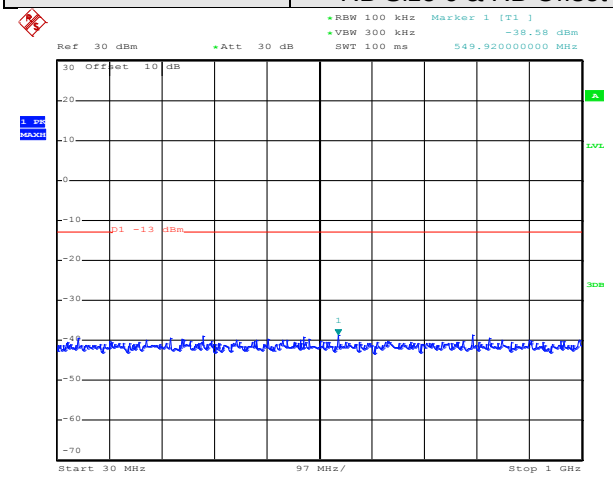
30MHz~1GHz



Date: 10.NOV.2016 03:56:45

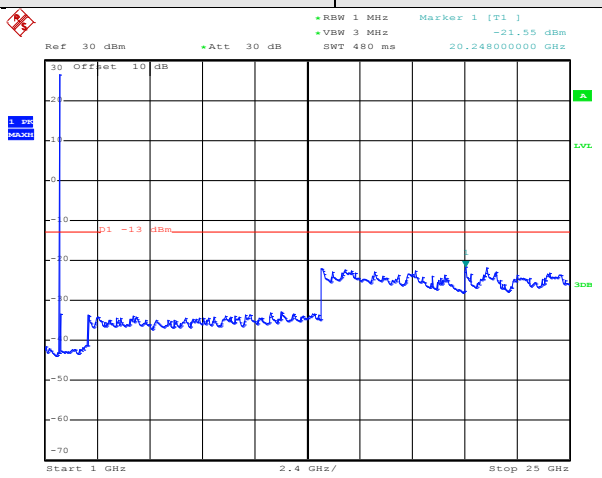
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 6 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:05:23

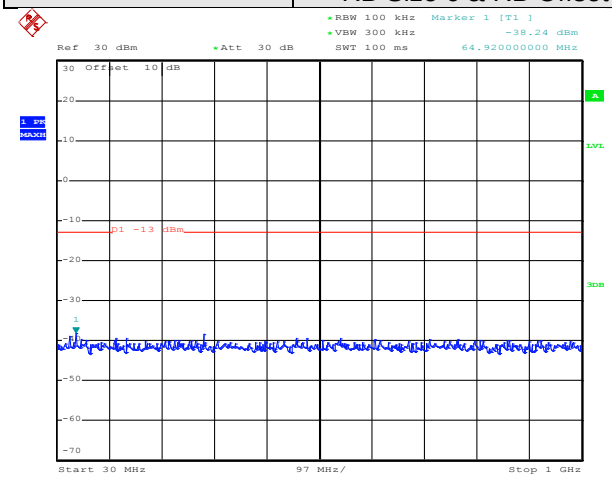
30MHz~1GHz



Date: 10.NOV.2016 03:54:53

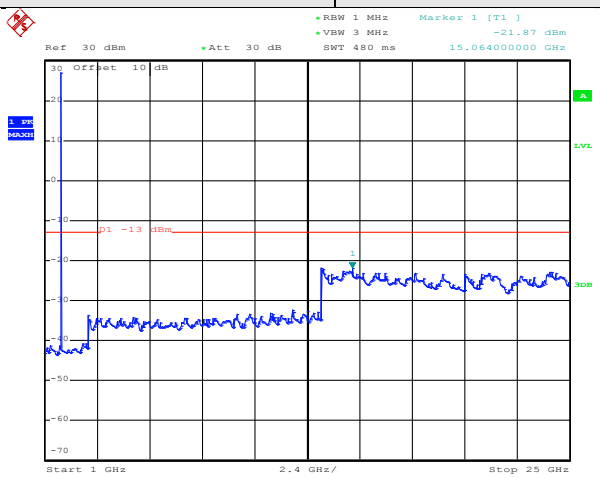
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 6 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:05:56

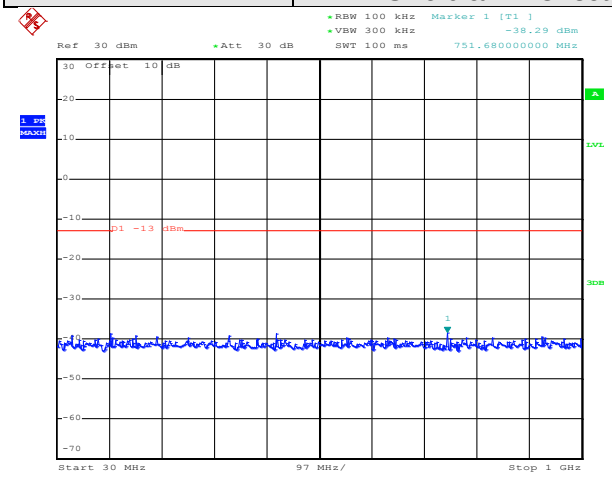
30MHz~1GHz



Date: 10.NOV.2016 03:55:56

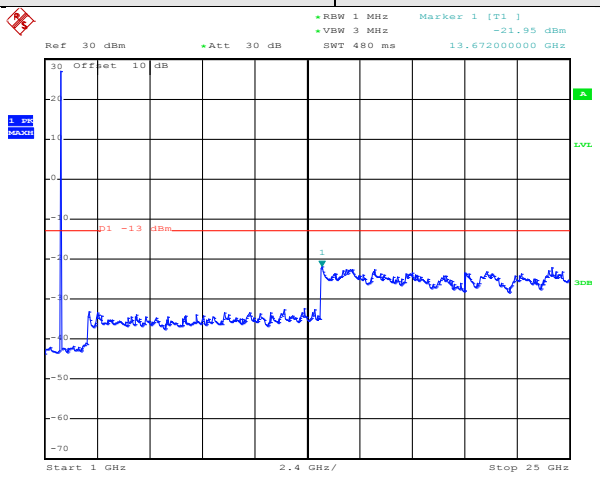
1GHz~25GHz

Test Mode:	LTE band 4(1.4 MHz QPSK) RB Size 6 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:07:16

30MHz~1GHz

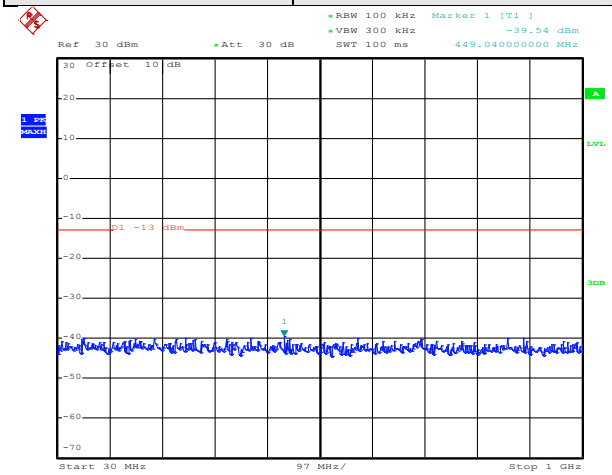


Date: 10.NOV.2016 03:57:04

1GHz~25GHz

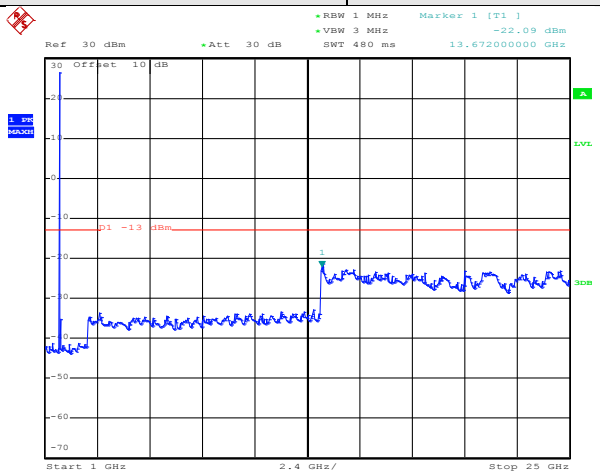
3MHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:33

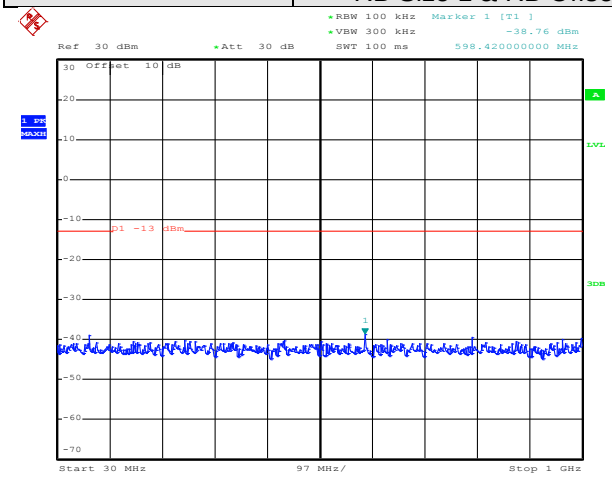
30MHz~1GHz



Date: 10.NOV.2016 03:58:09

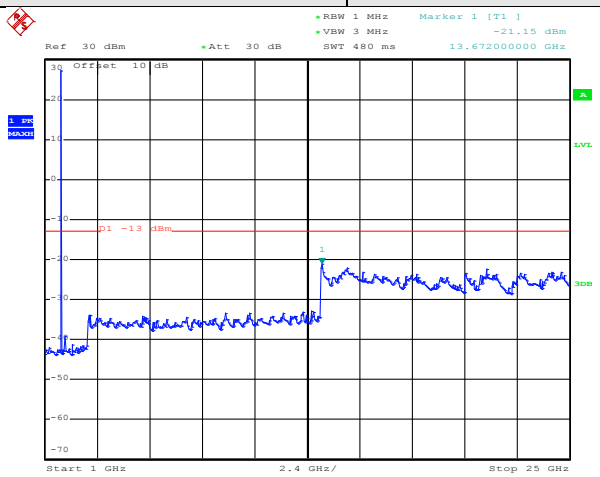
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:10

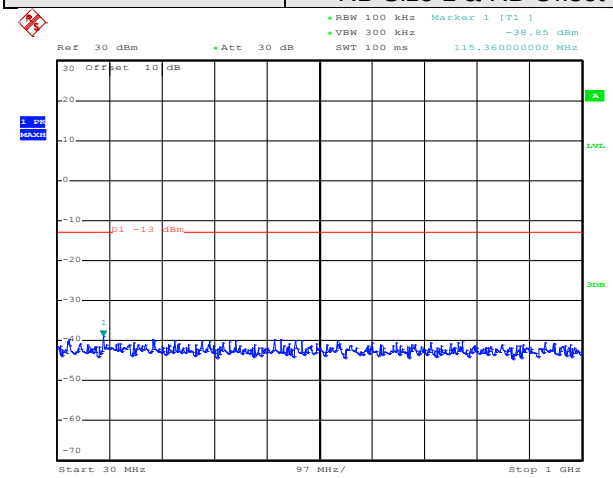
30MHz~1GHz



Date: 10.NOV.2016 03:59:13

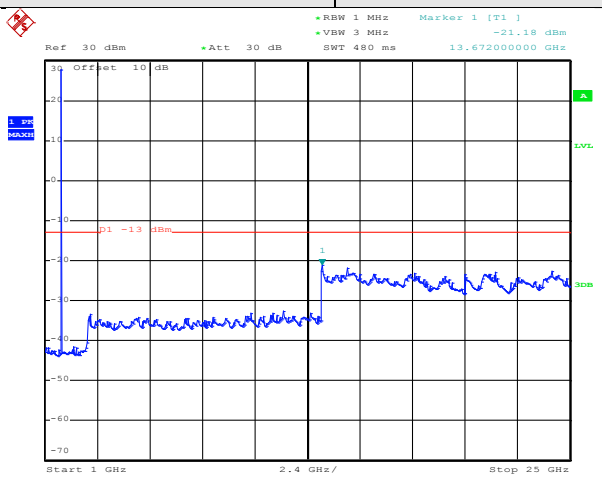
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:08:46

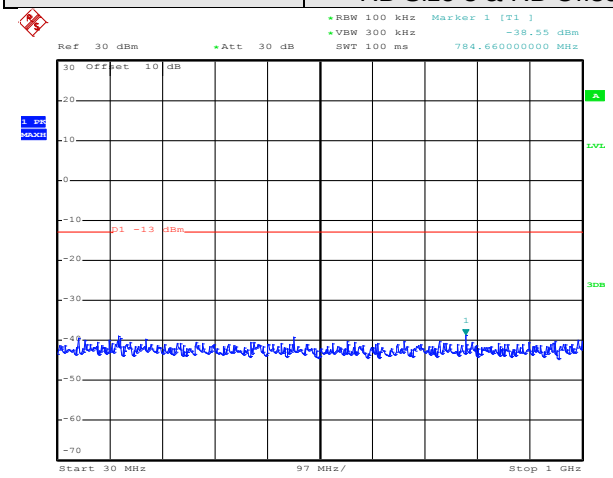
30MHz~1GHz



Date: 10.NOV.2016 04:00:26

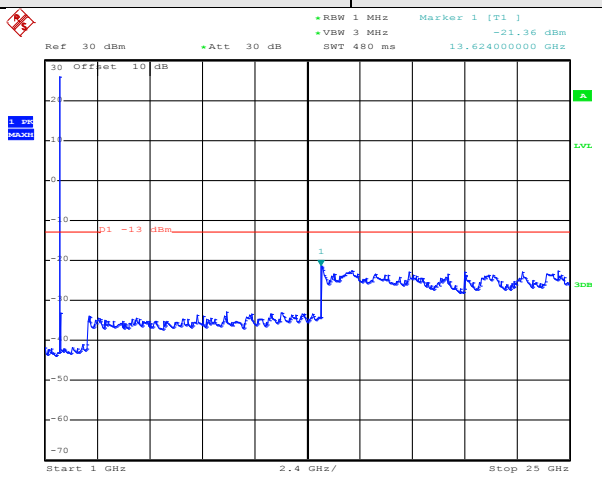
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 8 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:43

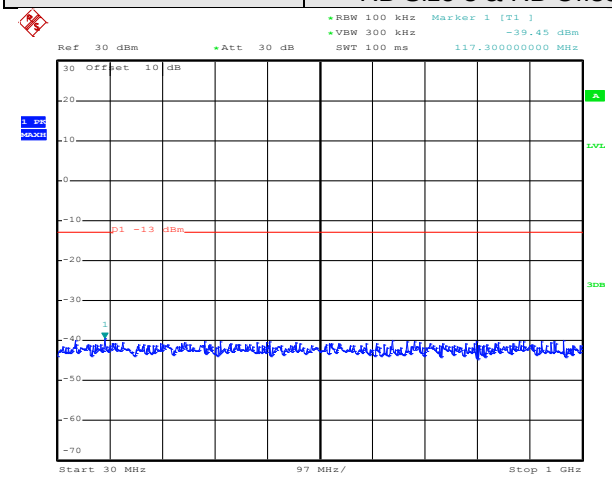
30MHz~1GHz



Date: 10.NOV.2016 03:58:29

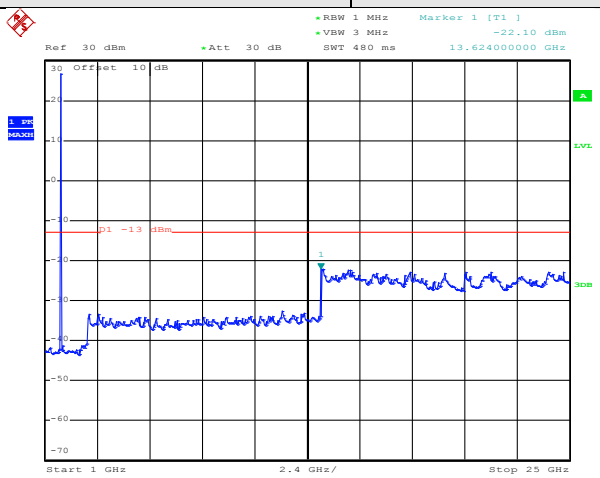
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 8 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:21

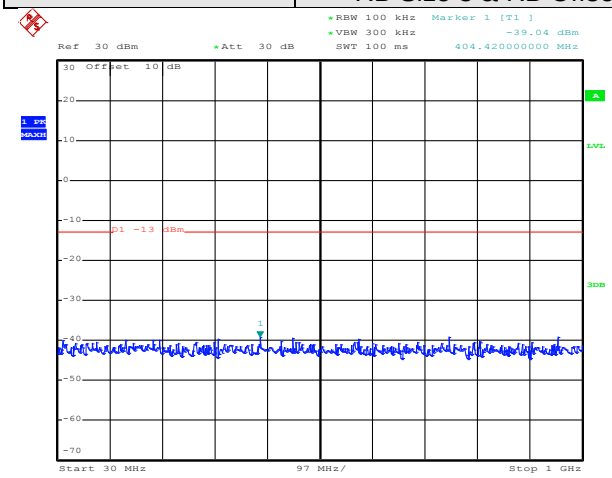
30MHz~1GHz



Date: 10.NOV.2016 03:59:35

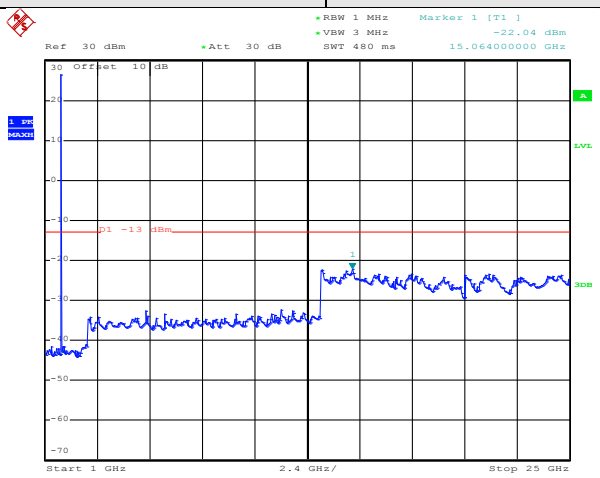
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 8 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:08:56

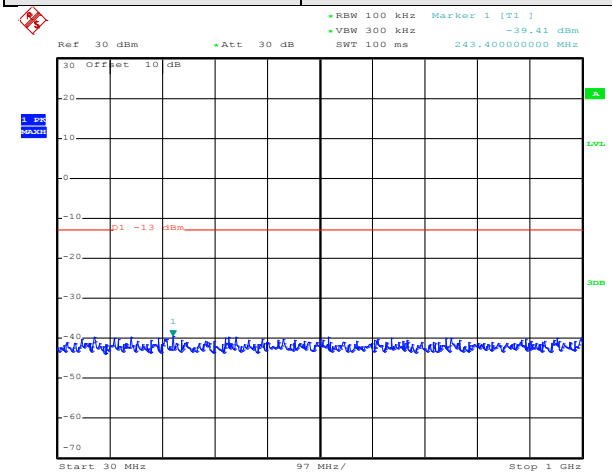
30MHz~1GHz



Date: 10.NOV.2016 04:00:52

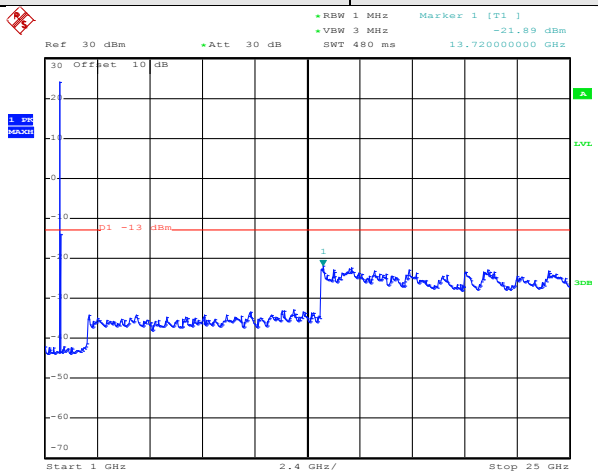
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 15 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:56

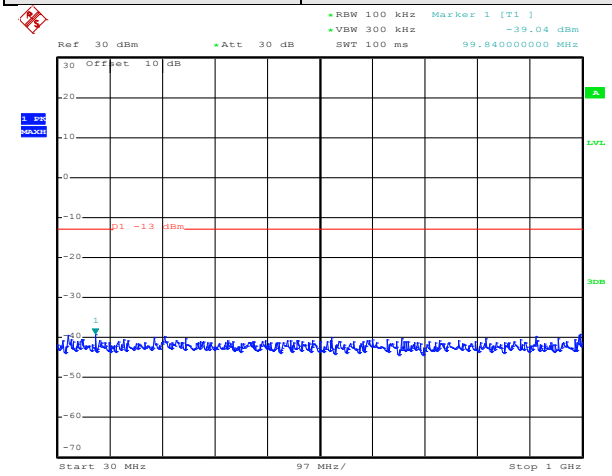
30MHz~1GHz



Date: 10.NOV.2016 03:58:49

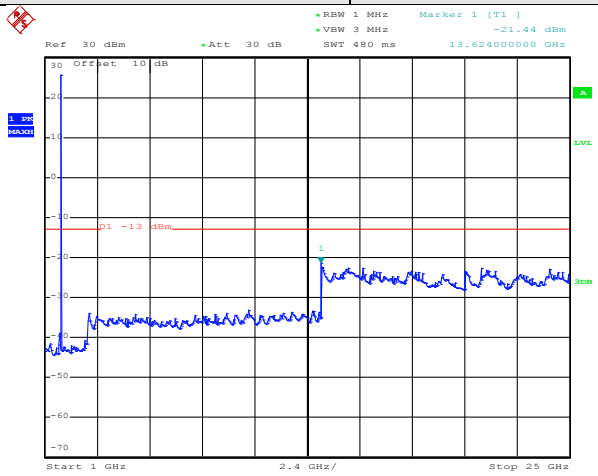
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 15 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:31

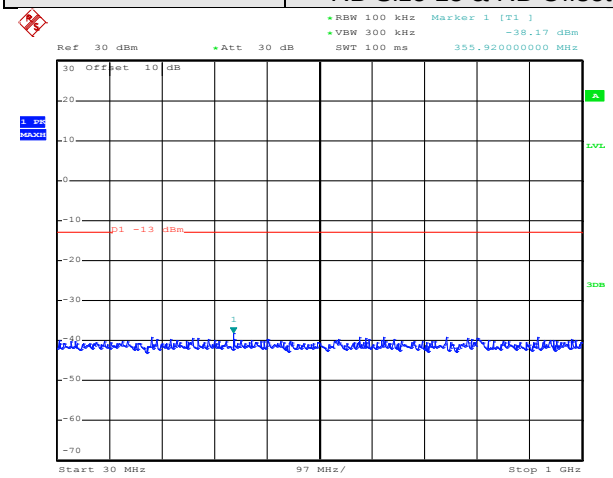
30MHz~1GHz



Date: 10.NOV.2016 03:59:59

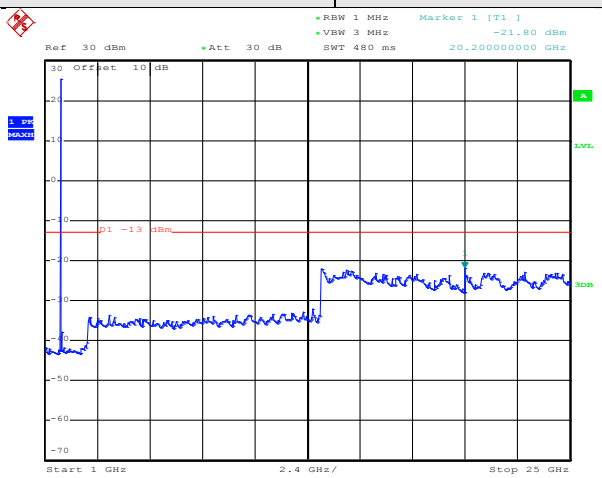
1GHz~25GHz

Test Mode:	LTE band 4(3MHz 16QAM) RB Size 15 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:09:11

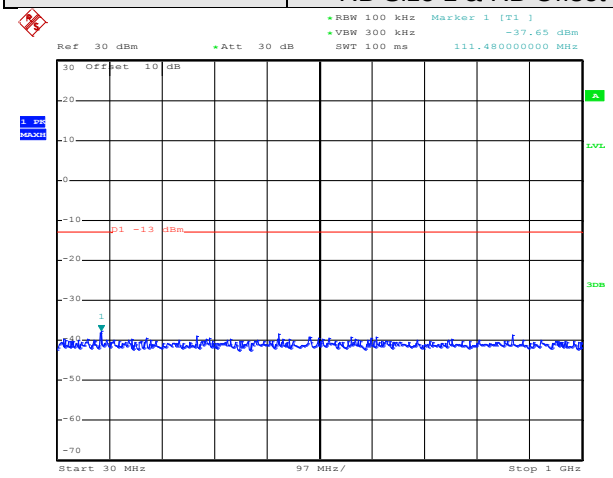
30MHz~1GHz



Date: 10.NOV.2016 04:01:17

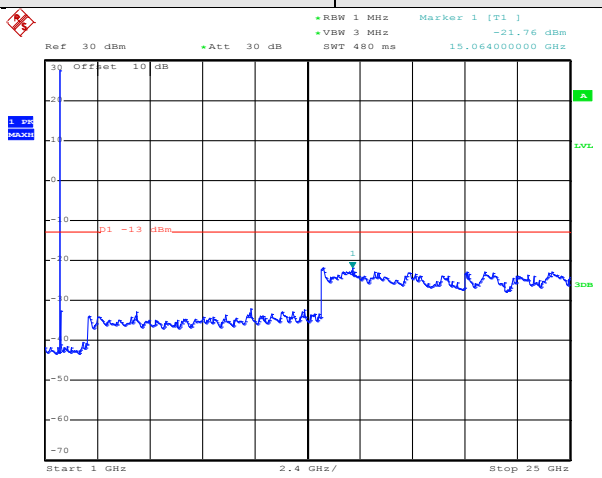
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:30

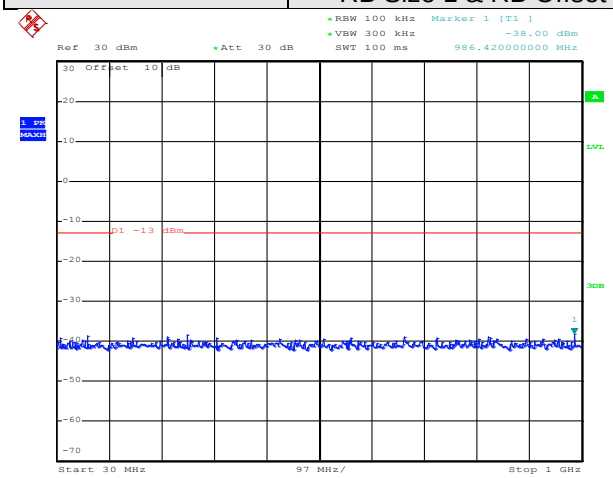
30MHz~1GHz



Date: 10.NOV.2016 03:58:00

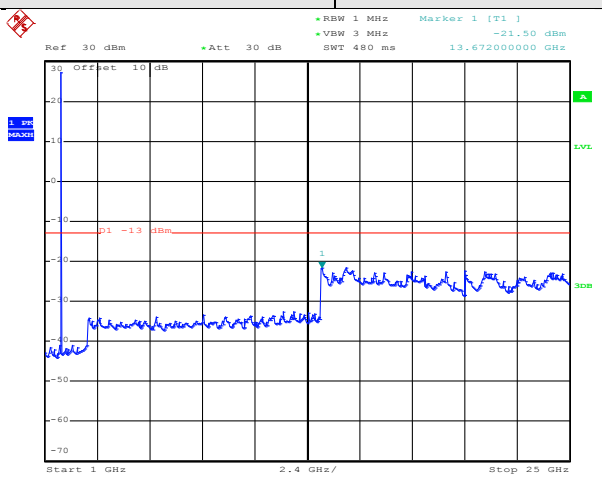
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:06

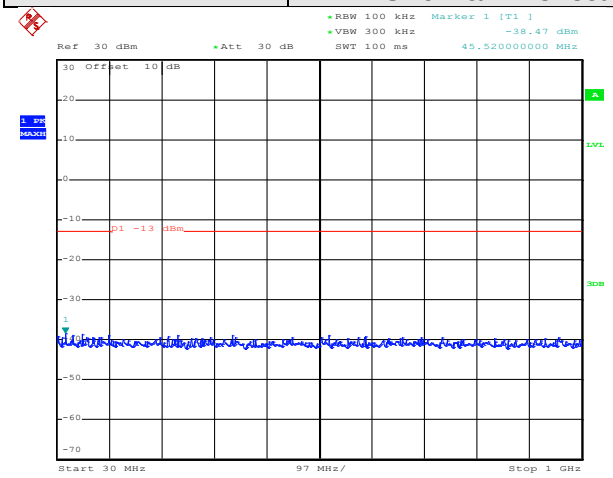
30MHz~1GHz



Date: 10.NOV.2016 03:59:05

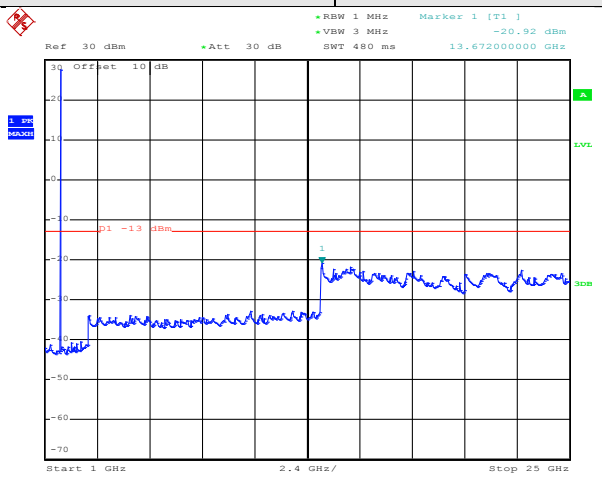
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:08:43

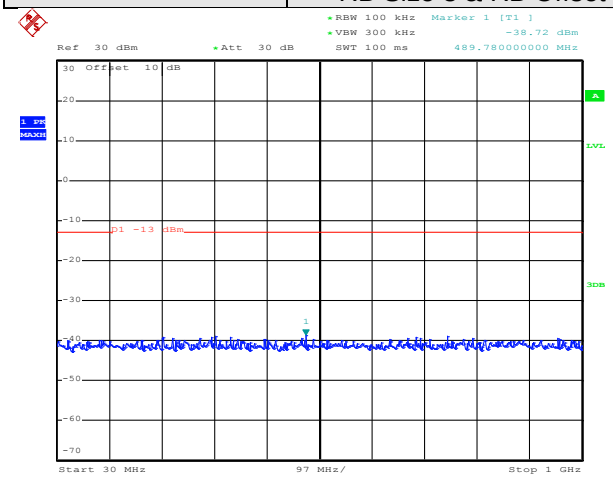
30MHz~1GHz



Date: 10.NOV.2016 04:00:15

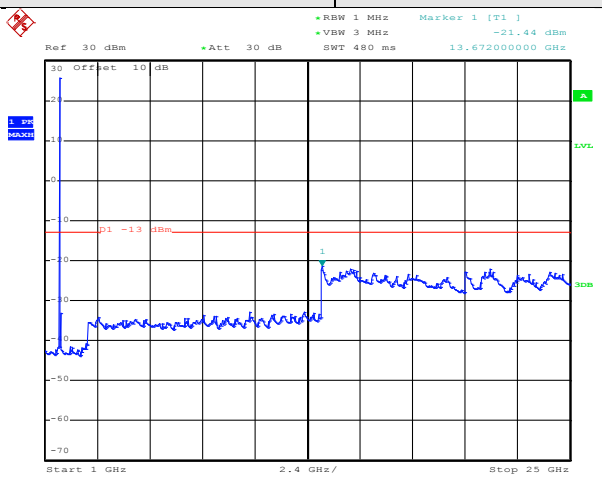
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 8 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:40

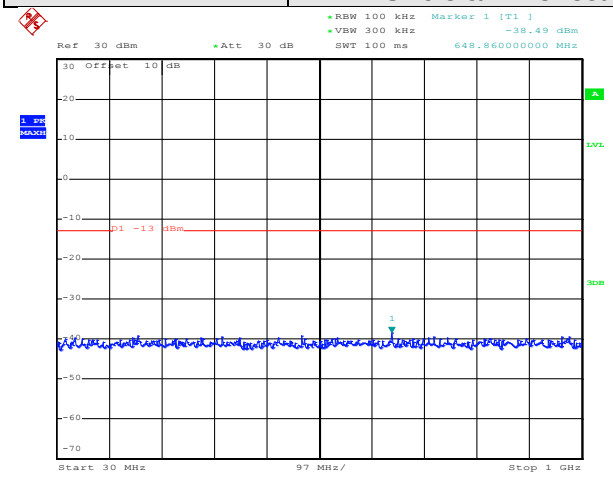
30MHz~1GHz



Date: 10.NOV.2016 03:58:19

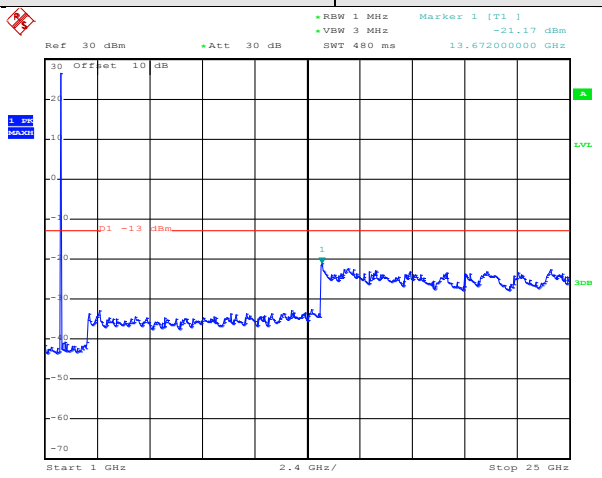
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 8 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:17

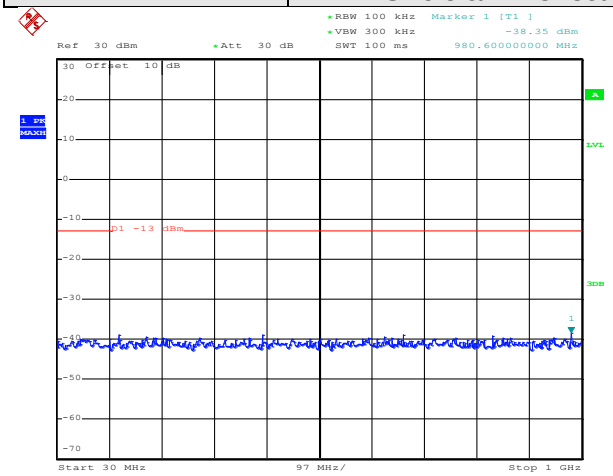
30MHz~1GHz



Date: 10.NOV.2016 03:59:24

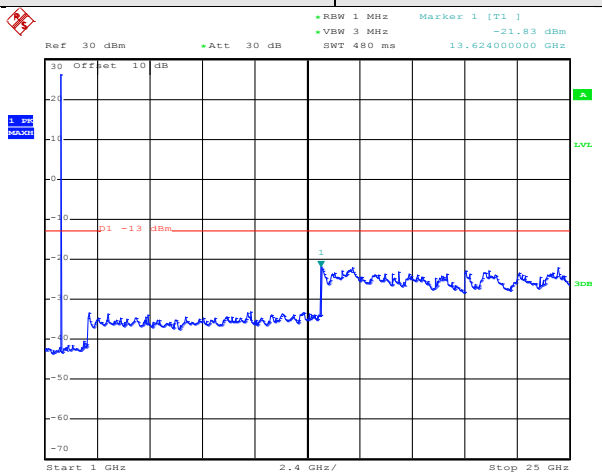
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 8 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:08:53

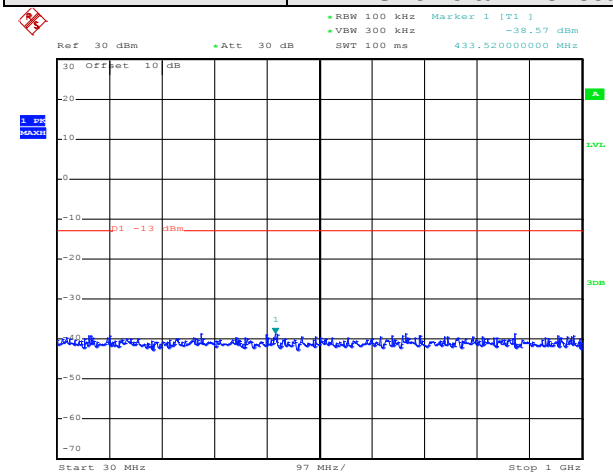
30MHz~1GHz



Date: 10.NOV.2016 04:00:39

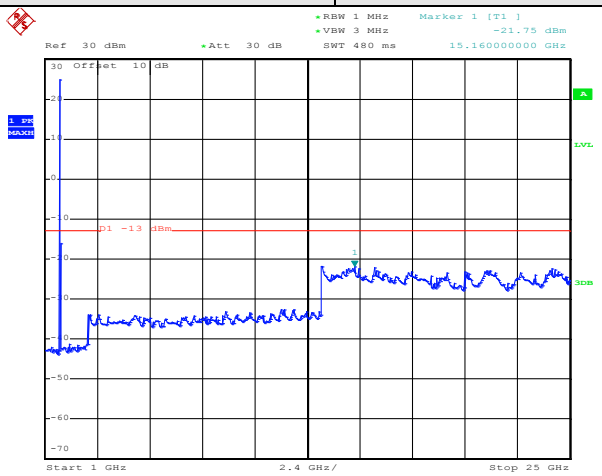
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 15 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:07:52

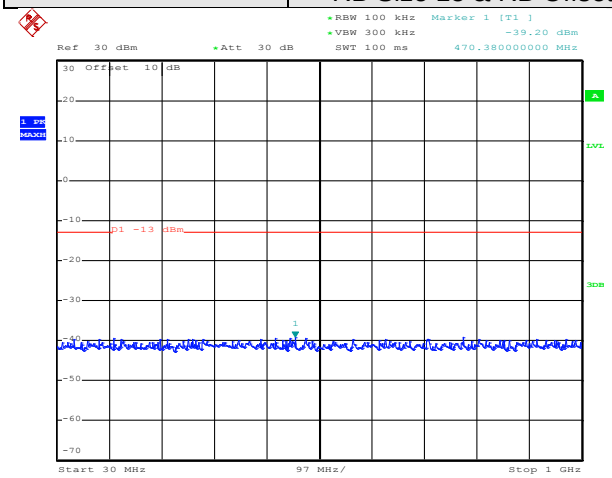
30MHz~1GHz



Date: 10.NOV.2016 03:58:42

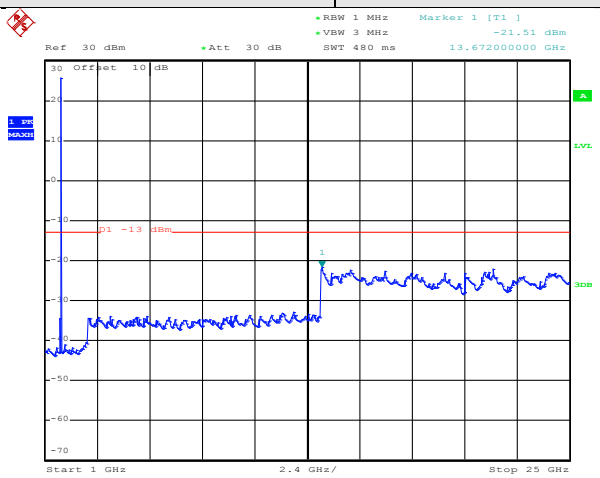
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 15 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:08:28

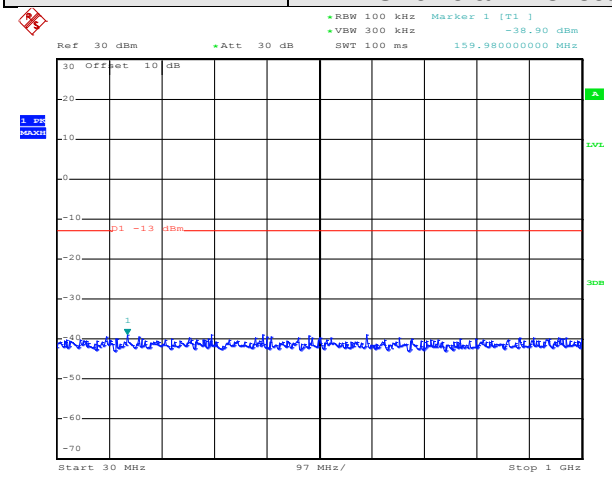
30MHz~1GHz



Date: 10.NOV.2016 03:59:46

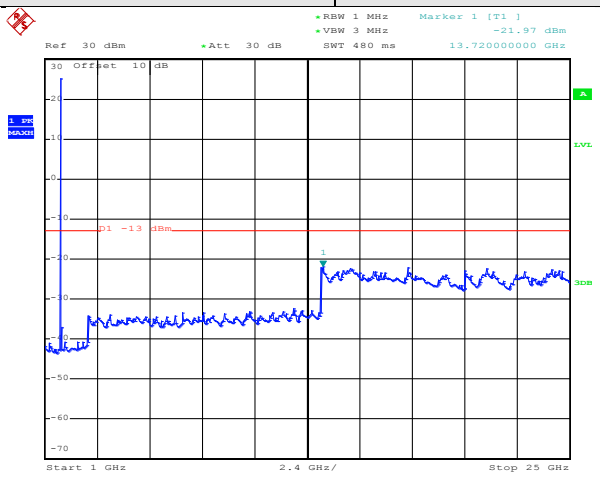
1GHz~25GHz

Test Mode:	LTE band 4(3MHz QPSK) RB Size 15 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:09:03

30MHz~1GHz

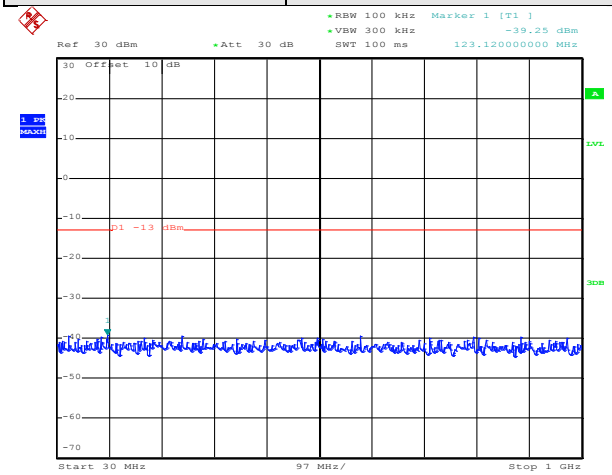


Date: 10.NOV.2016 04:01:05

1GHz~25GHz

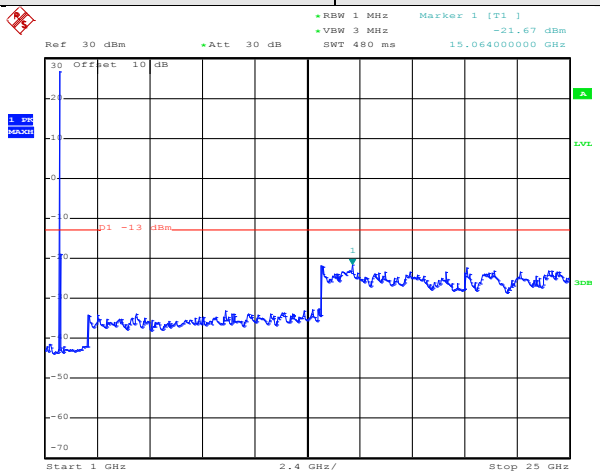
5MHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:25

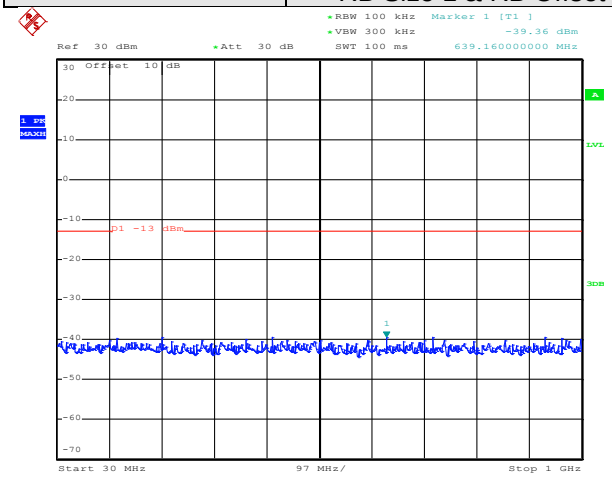
30MHz~1GHz



Date: 10.NOV.2016 04:01:52

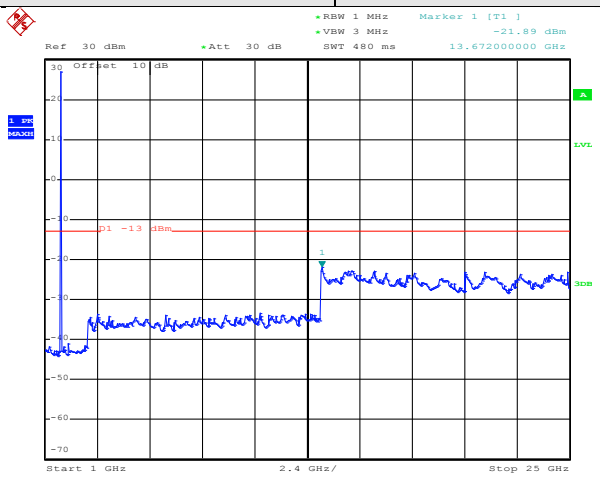
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:09:57

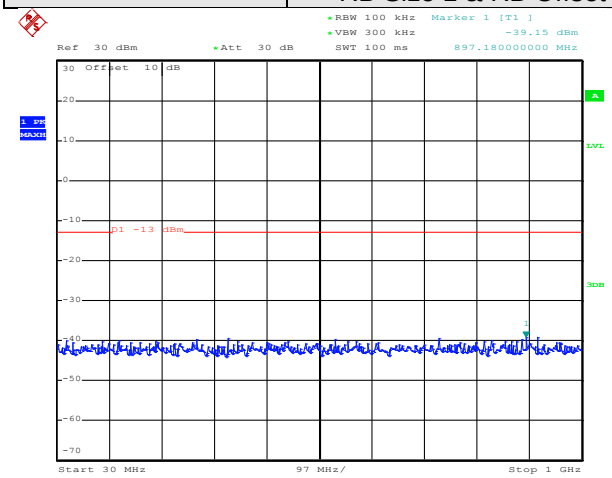
30MHz~1GHz



Date: 10.NOV.2016 04:02:50

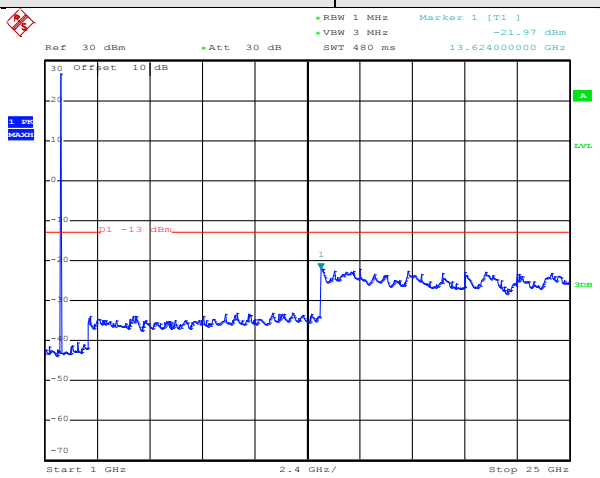
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:29

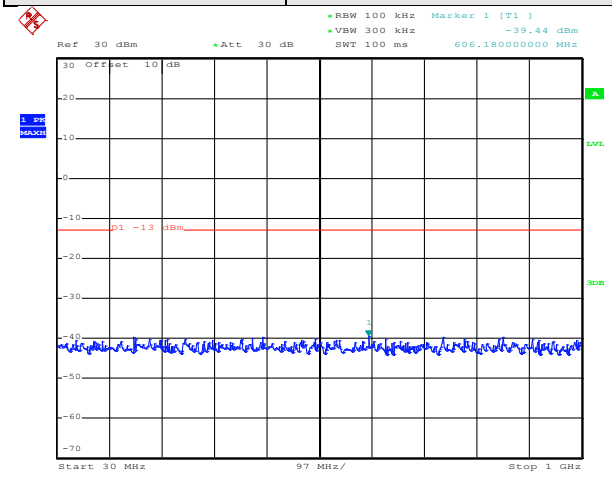
30MHz~1GHz



Date: 10.NOV.2016 04:03:51

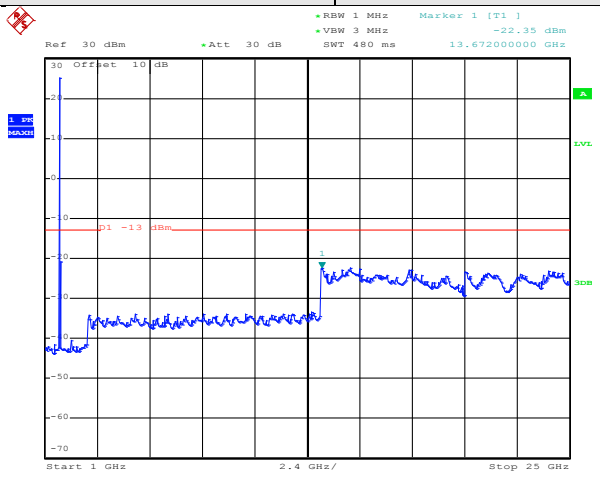
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 12 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:35

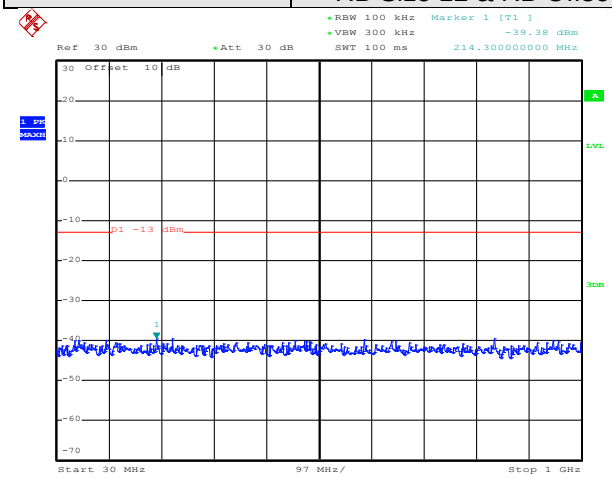
30MHz~1GHz



Date: 10.NOV.2016 04:02:11

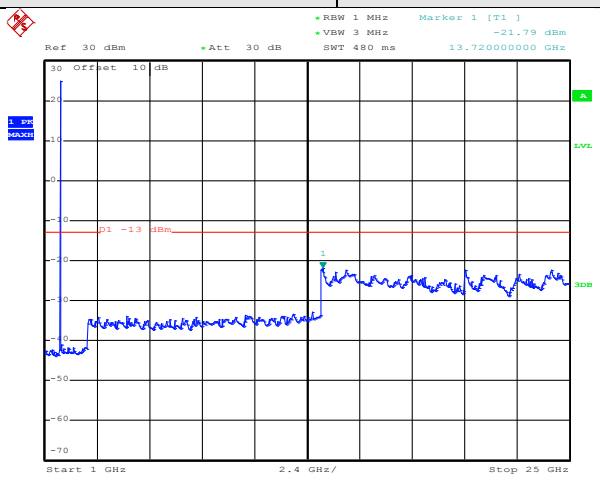
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 12 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:10:06

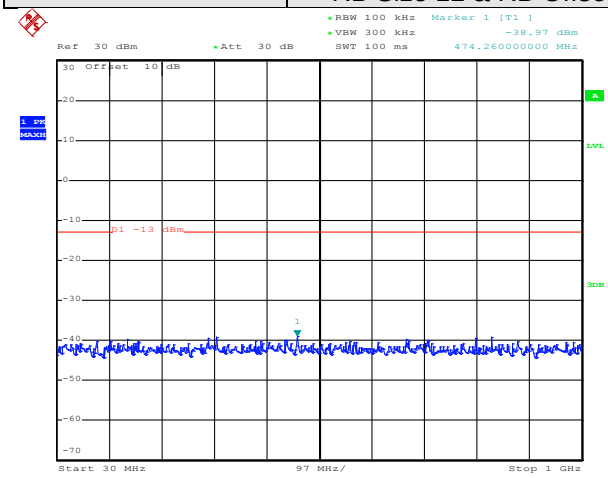
30MHz~1GHz



Date: 10.NOV.2016 04:03:07

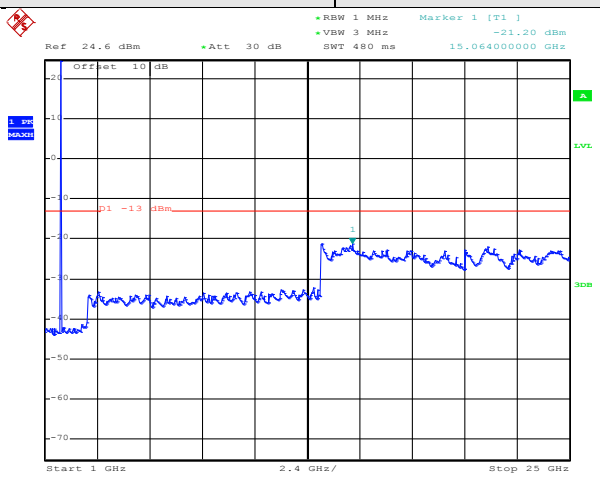
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 12 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:39

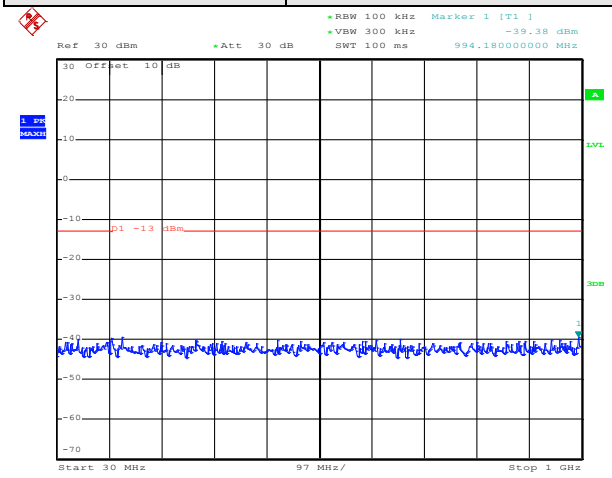
30MHz~1GHz



Date: 10.NOV.2016 04:04:28

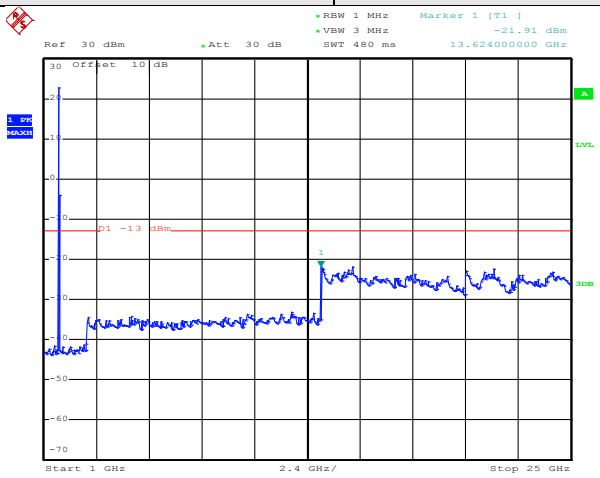
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:45

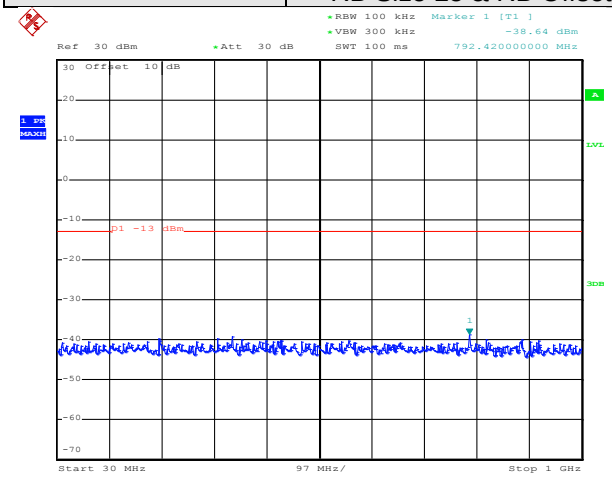
30MHz~1GHz



Date: 10.NOV.2016 04:02:28

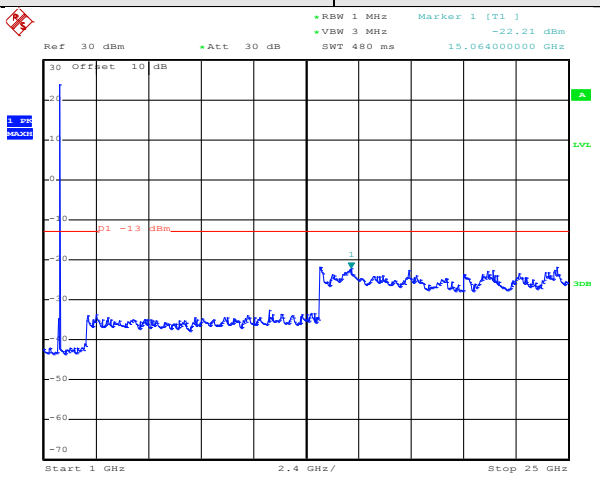
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:10:16

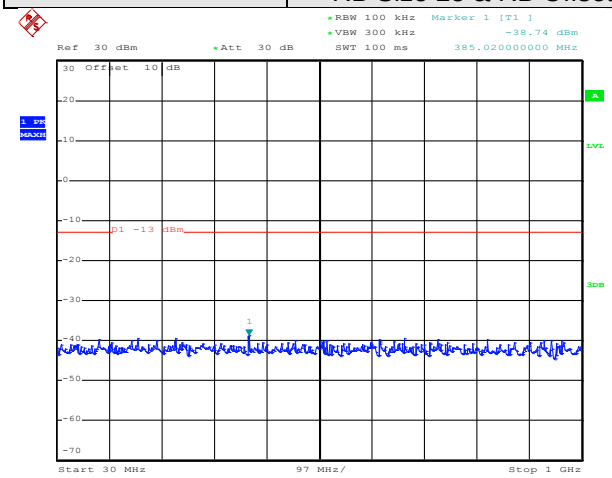
30MHz~1GHz



Date: 10.NOV.2016 04:03:22

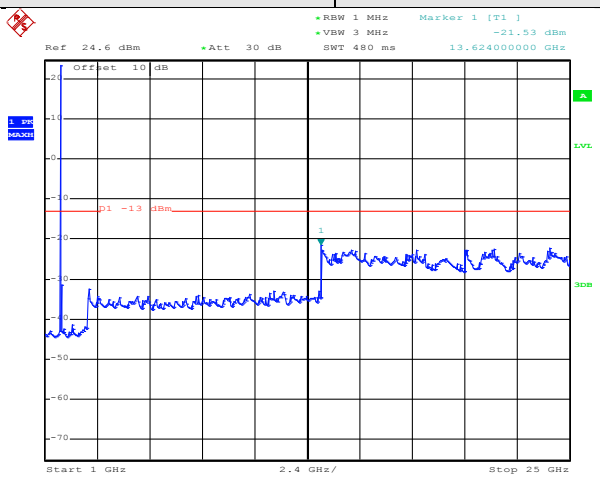
1GHz~25GHz

Test Mode:	LTE band 4(5MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:50

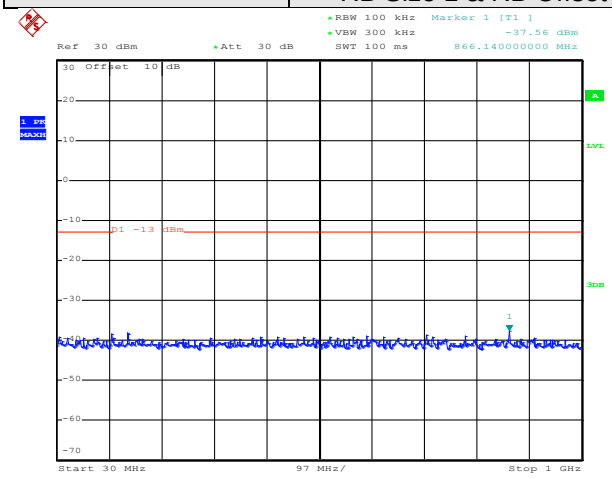
30MHz~1GHz



Date: 10.NOV.2016 04:04:45

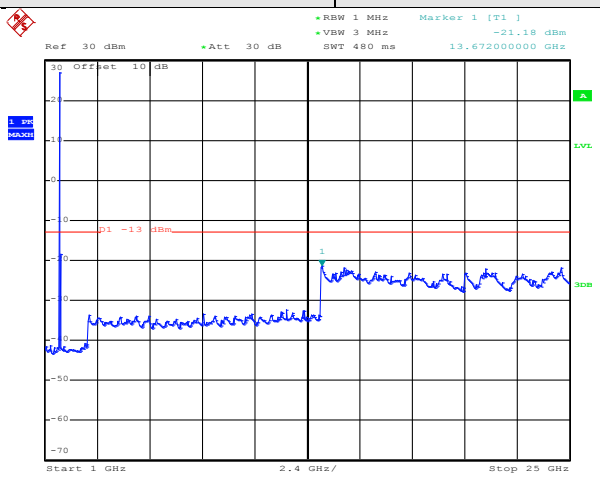
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:22

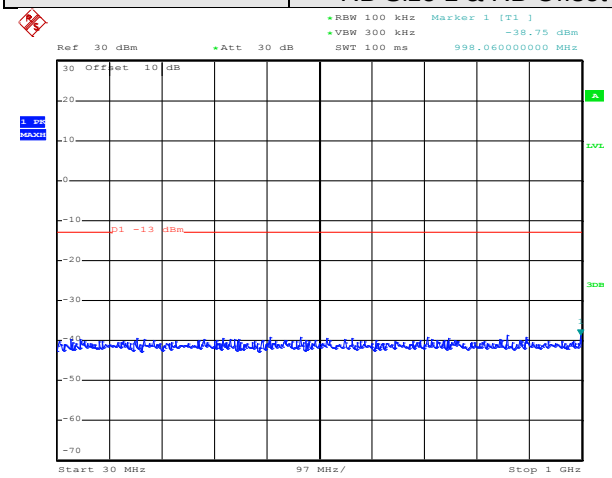
30MHz~1GHz



Date: 10.NOV.2016 04:01:45

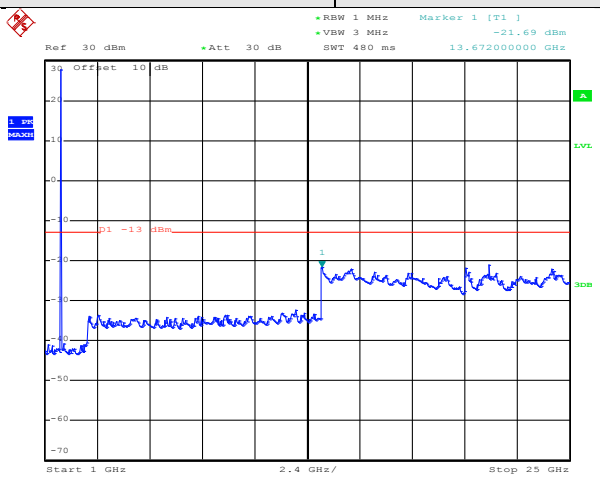
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:09:53

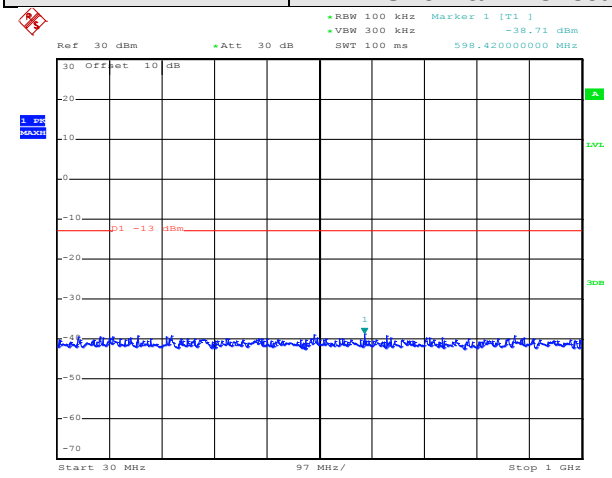
30MHz~1GHz



Date: 10.NOV.2016 04:02:44

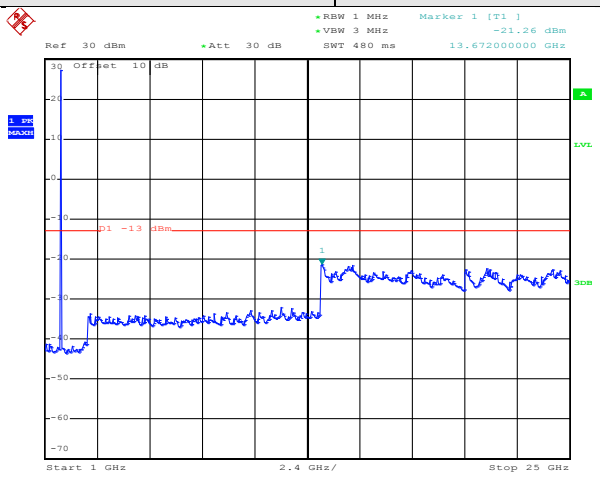
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:25

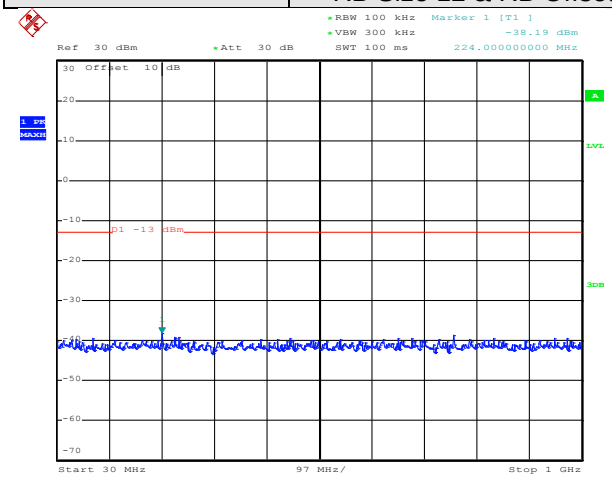
30MHz~1GHz



Date: 10.NOV.2016 04:03:40

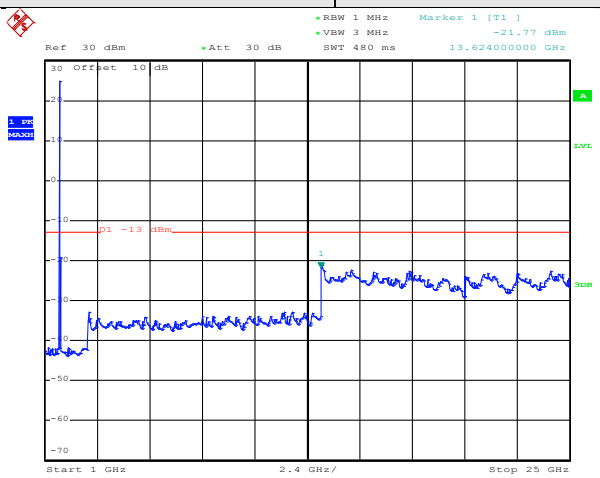
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 12 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:32

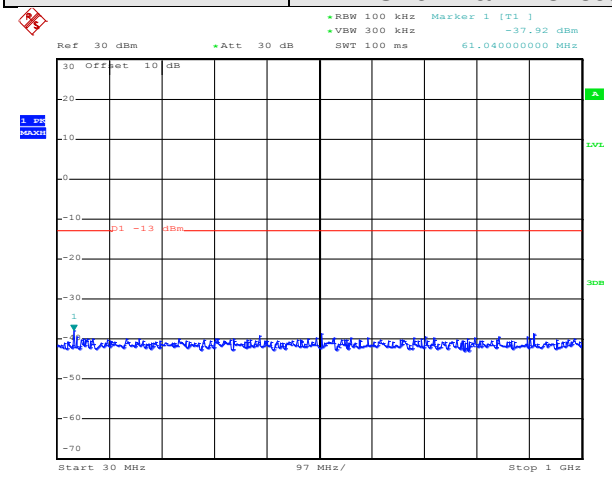
30MHz~1GHz



Date: 10.NOV.2016 04:02:03

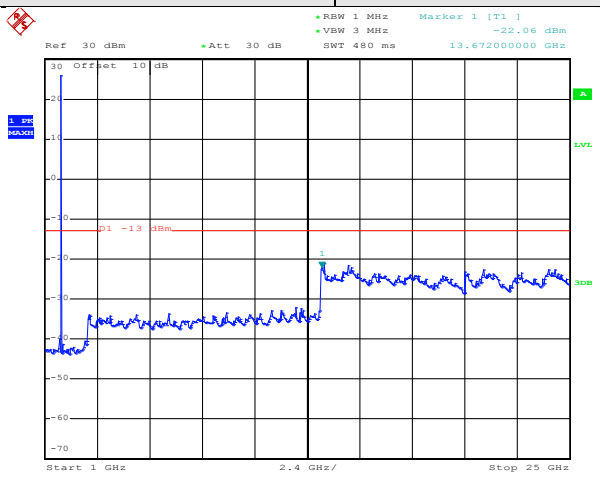
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 12 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:10:03

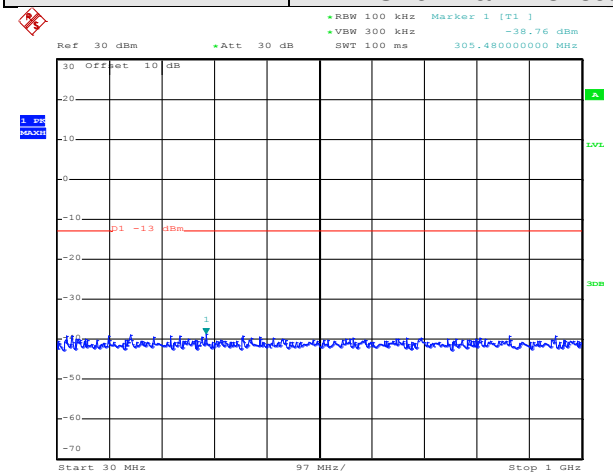
30MHz~1GHz



Date: 10.NOV.2016 04:03:00

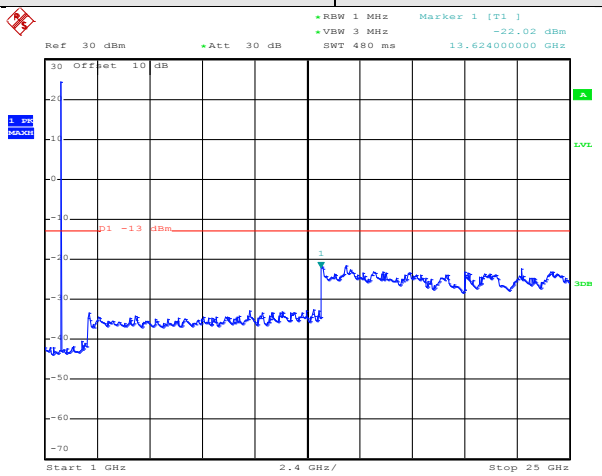
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 12 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:36

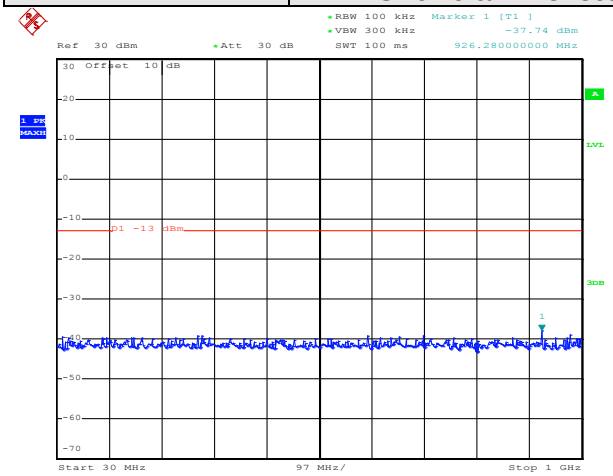
30MHz~1GHz



Date: 10.NOV.2016 04:04:02

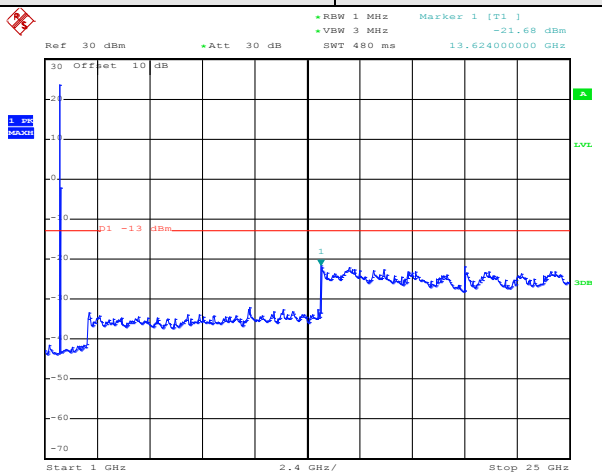
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:09:41

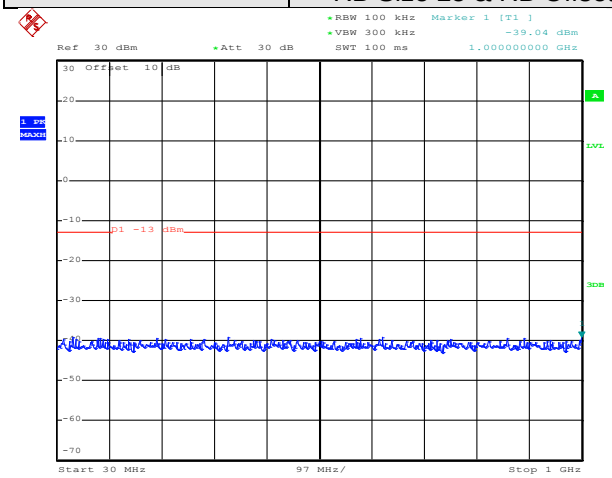
30MHz~1GHz



Date: 10.NOV.2016 04:02:22

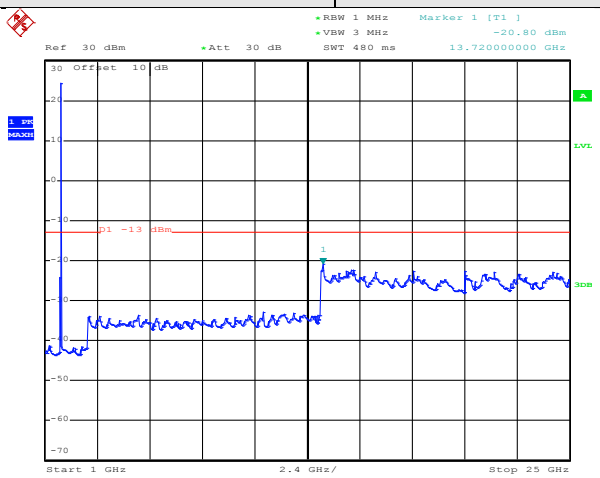
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:10:13

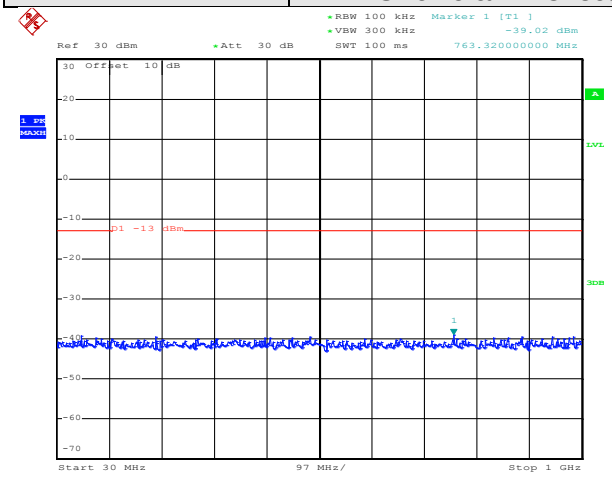
30MHz~1GHz



Date: 10.NOV.2016 04:03:16

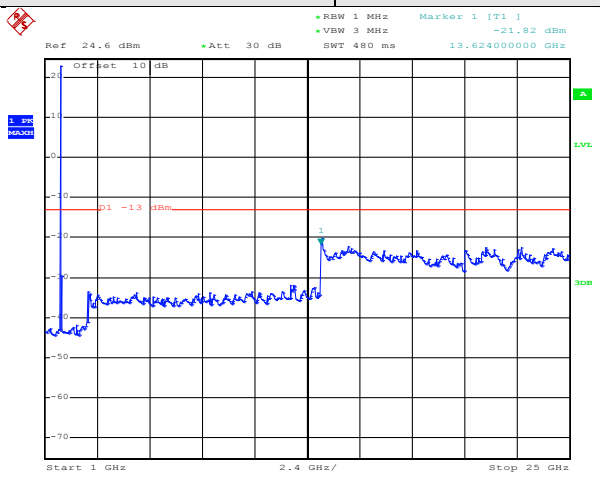
1GHz~25GHz

Test Mode:	LTE band 4(5MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:10:46

30MHz~1GHz

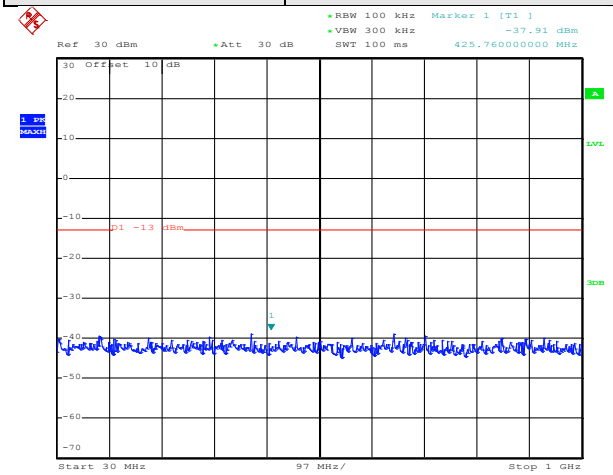


Date: 10.NOV.2016 04:04:39

1GHz~25GHz

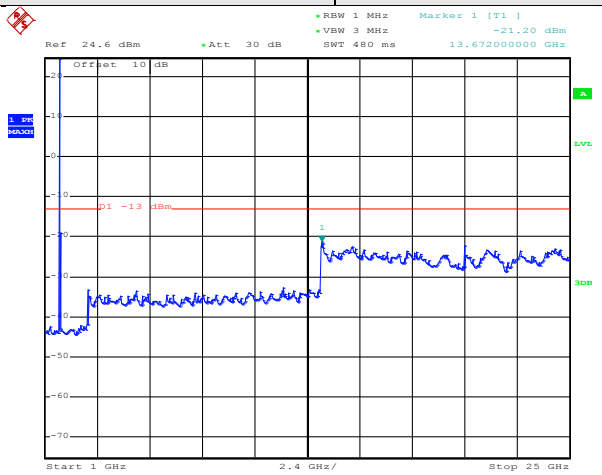
10MHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:11:03

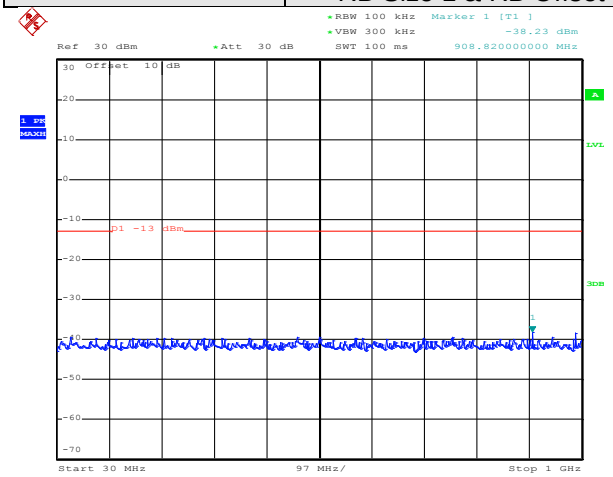
30MHz~1GHz



Date: 10.NOV.2016 04:06:14

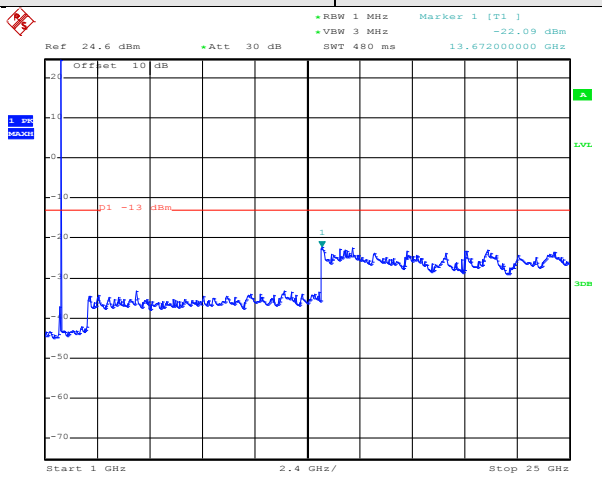
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:11:44

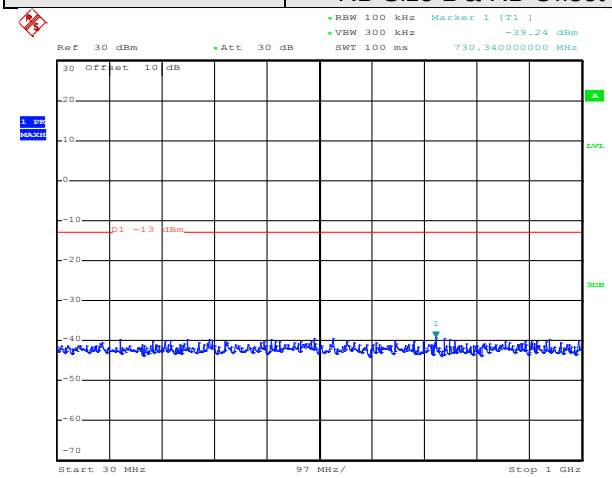
30MHz~1GHz



Date: 10.NOV.2016 04:10:10

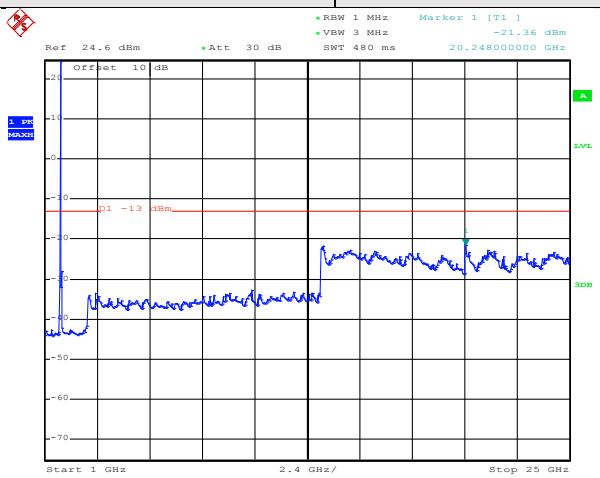
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:20

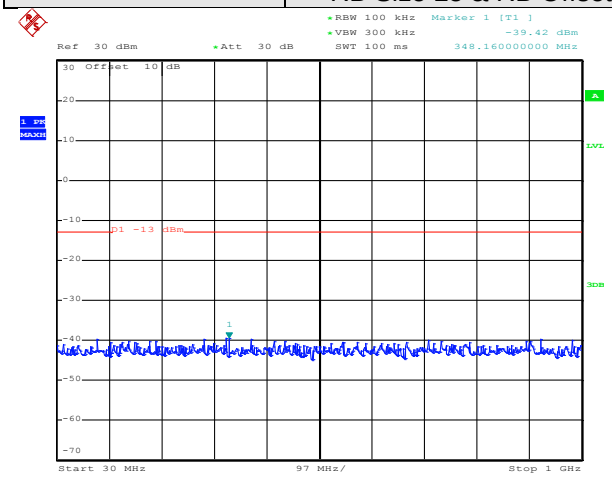
30MHz~1GHz



Date: 10.NOV.2016 04:11:10

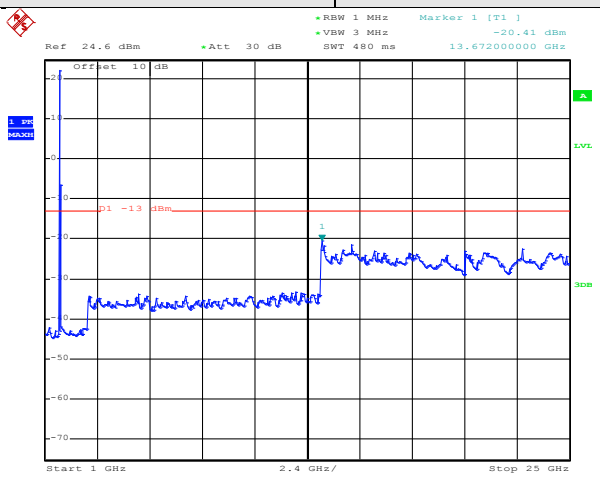
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:11:14

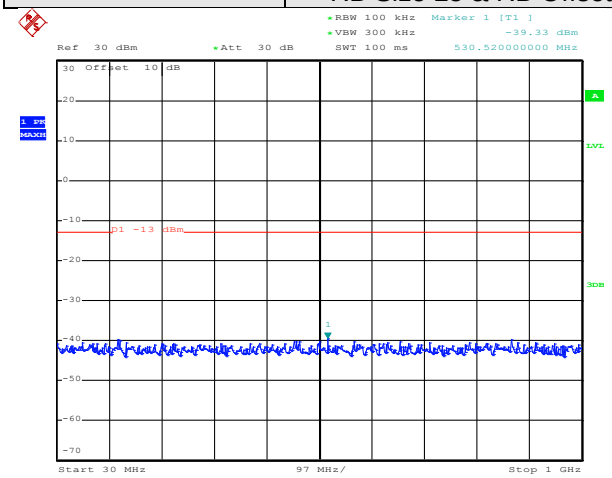
30MHz~1GHz



Date: 10.NOV.2016 04:06:47

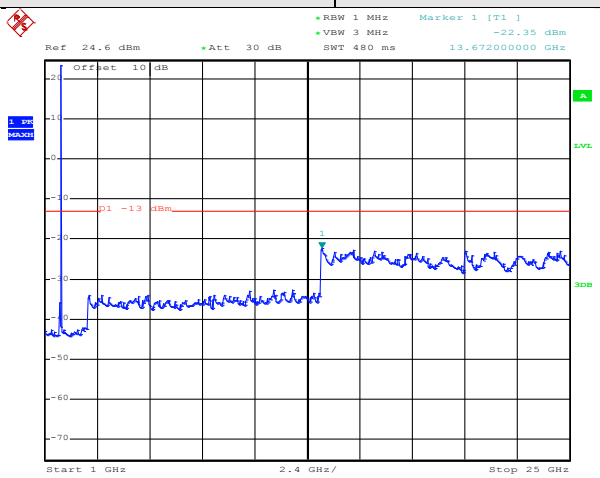
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:11:56

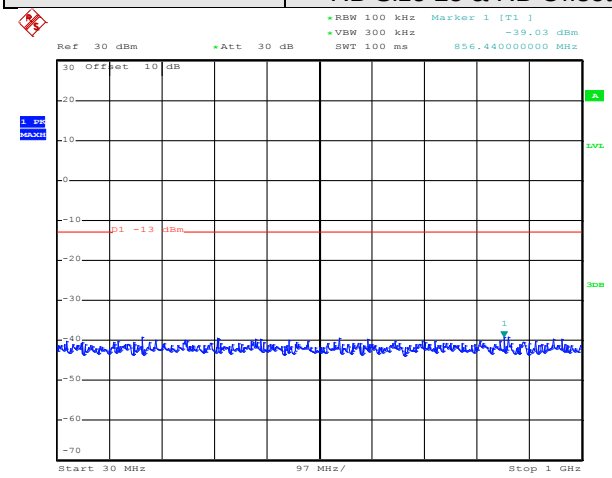
30MHz~1GHz



Date: 10.NOV.2016 04:10:27

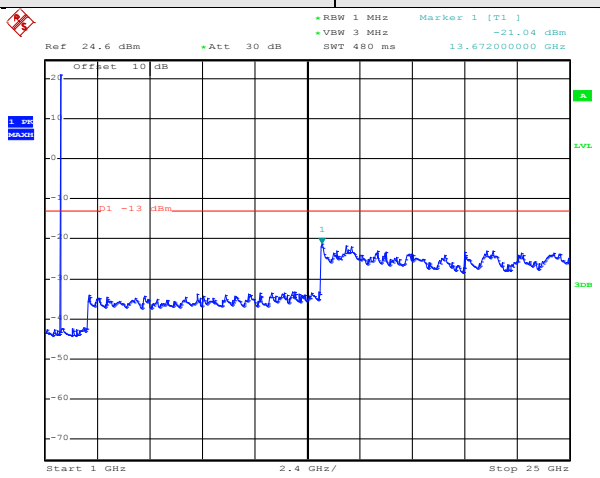
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 25 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:37

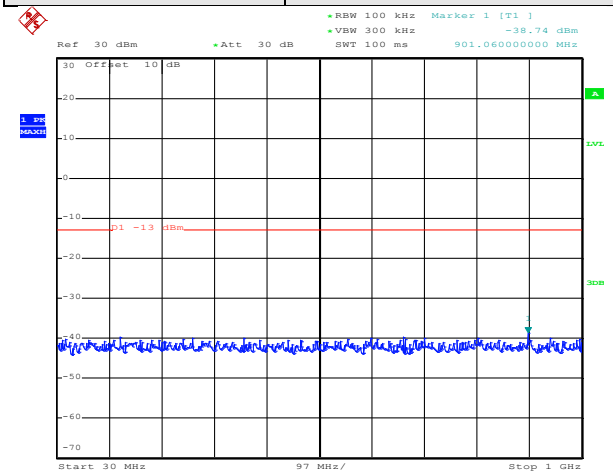
30MHz~1GHz



Date: 10.NOV.2016 04:11:29

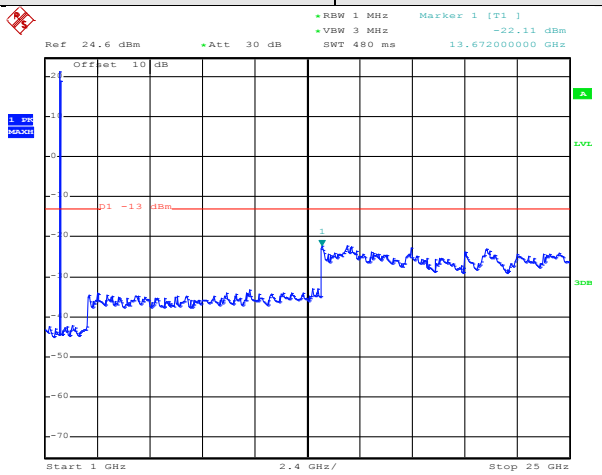
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:11:24

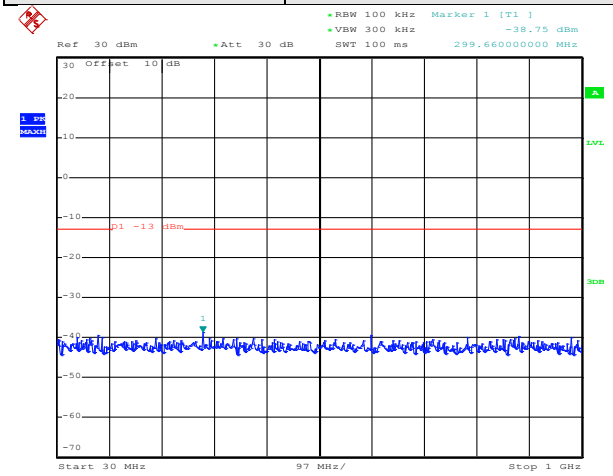
30MHz~1GHz



Date: 10.NOV.2016 04:07:08

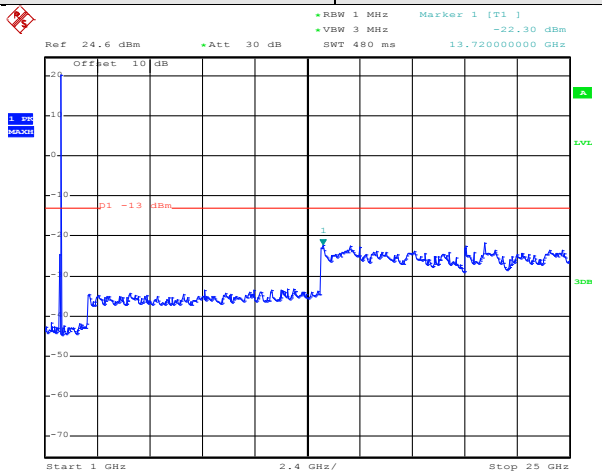
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:12:07

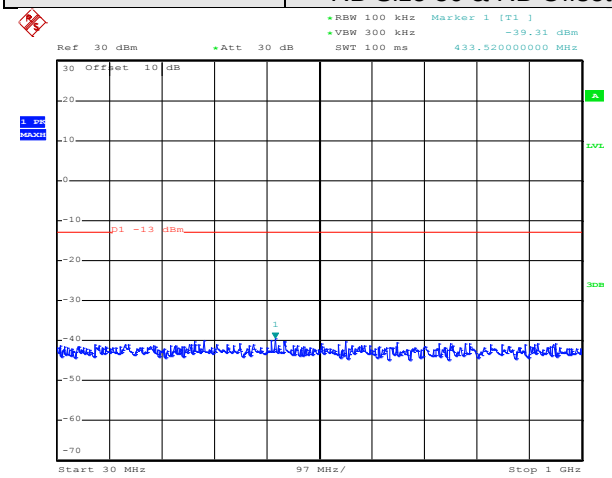
30MHz~1GHz



Date: 10.NOV.2016 04:10:44

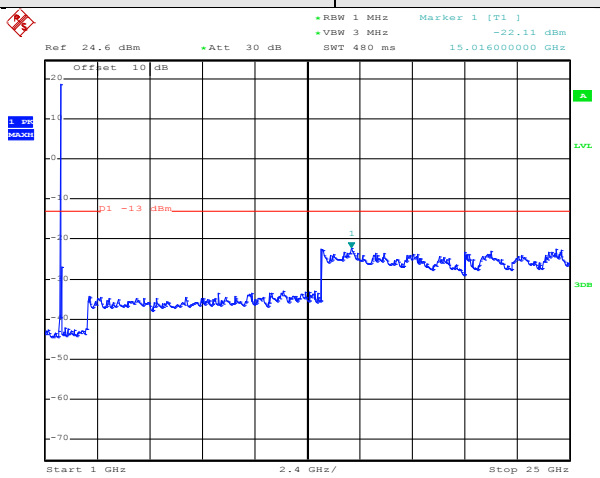
1GHz~25GHz

Test Mode:	LTE band 4(10MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:51

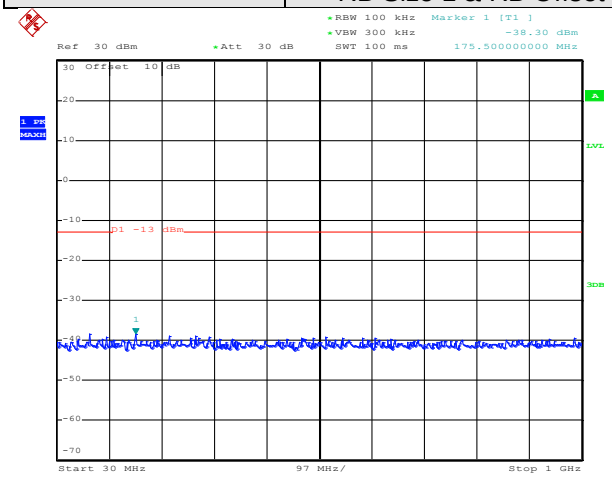
30MHz~1GHz



Date: 10.NOV.2016 04:11:45

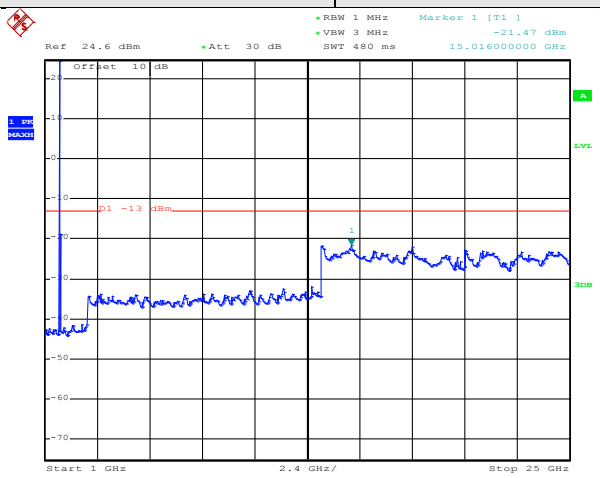
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:10:59

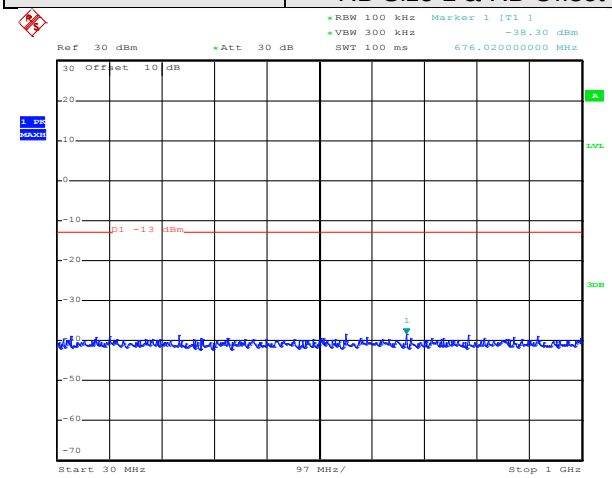
30MHz~1GHz



Date: 10.NOV.2016 04:05:16

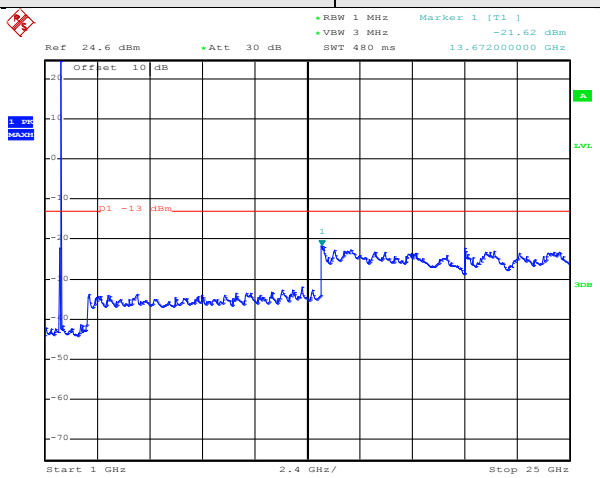
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:11:37

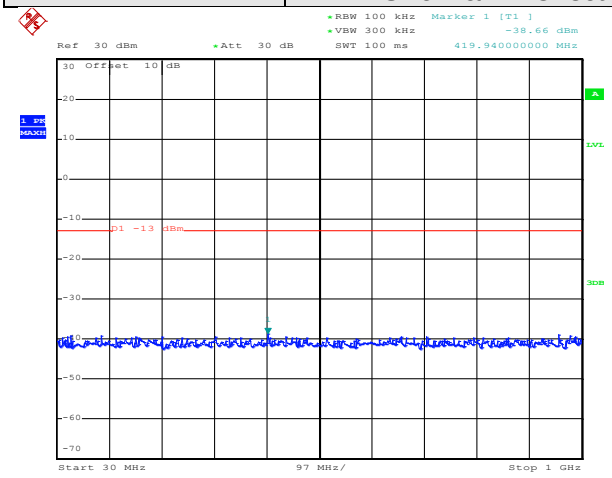
30MHz~1GHz



Date: 10.NOV.2016 04:07:40

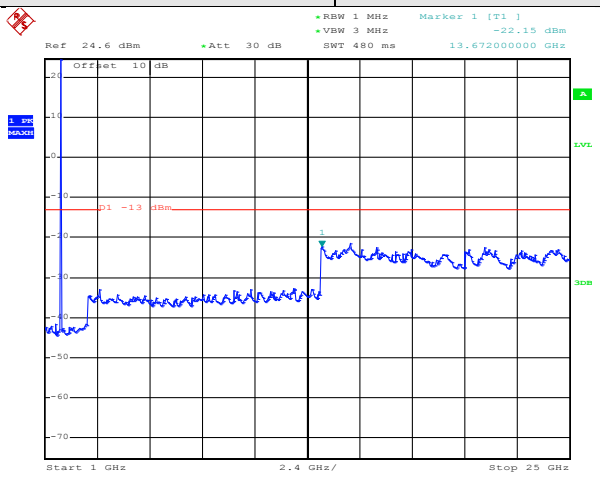
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:16

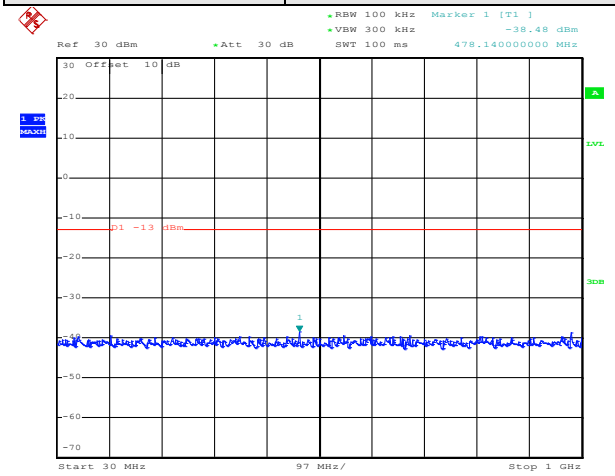
30MHz~1GHz



Date: 10.NOV.2016 04:11:02

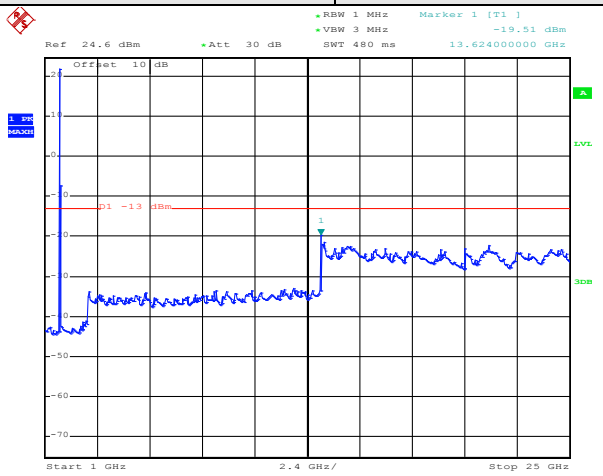
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:11:10

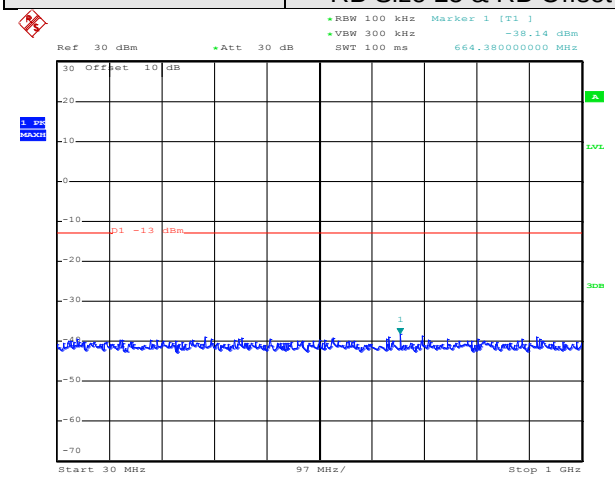
30MHz~1GHz



Date: 10.NOV.2016 04:06:38

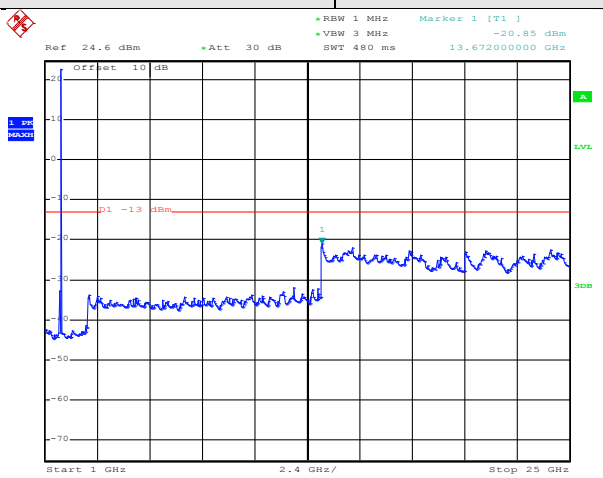
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:11:52

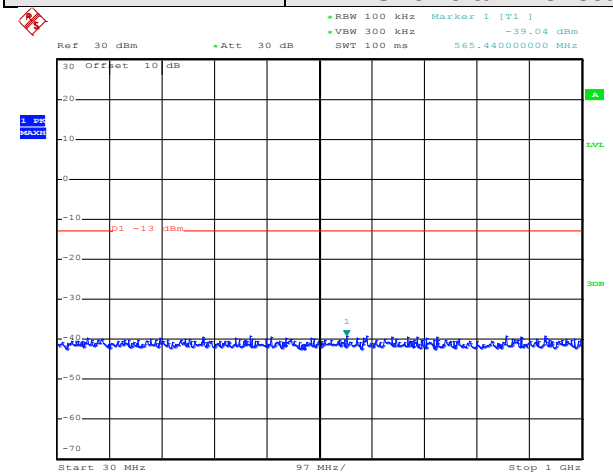
30MHz~1GHz



Date: 10.NOV.2016 04:10:20

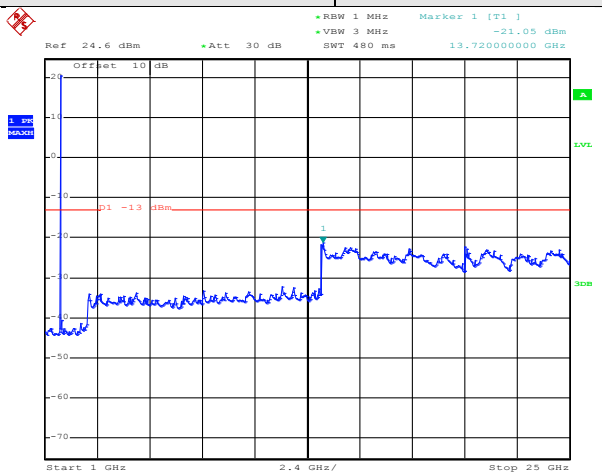
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 25 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:33

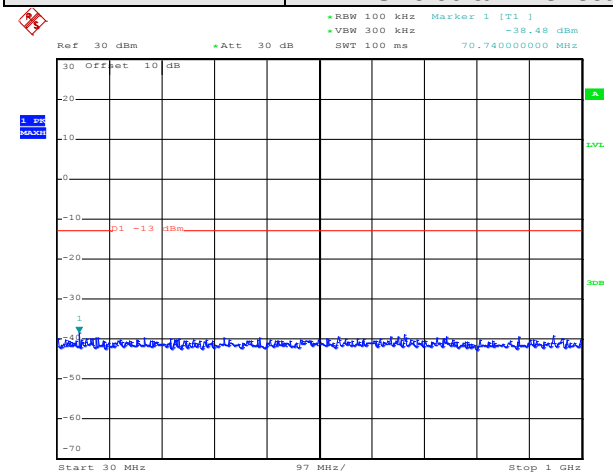
30MHz~1GHz



Date: 10.NOV.2016 04:11:21

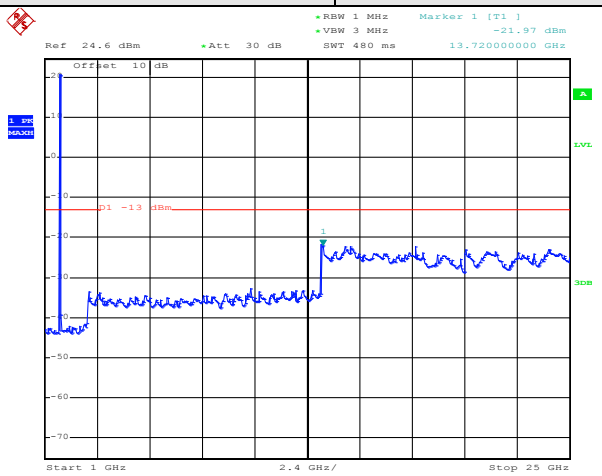
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 50 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:11:21

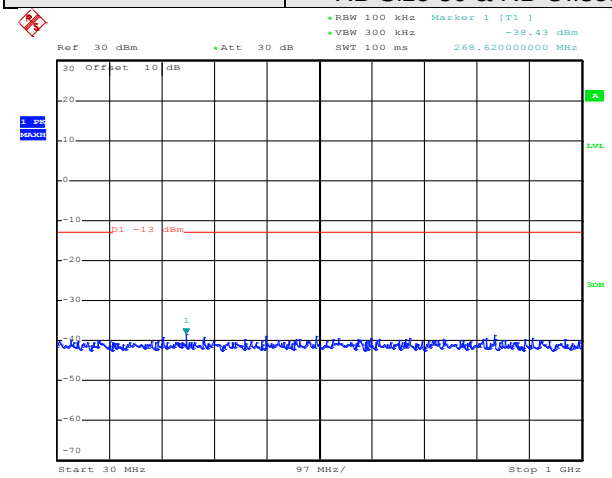
30MHz~1GHz



Date: 10.NOV.2016 04:07:03

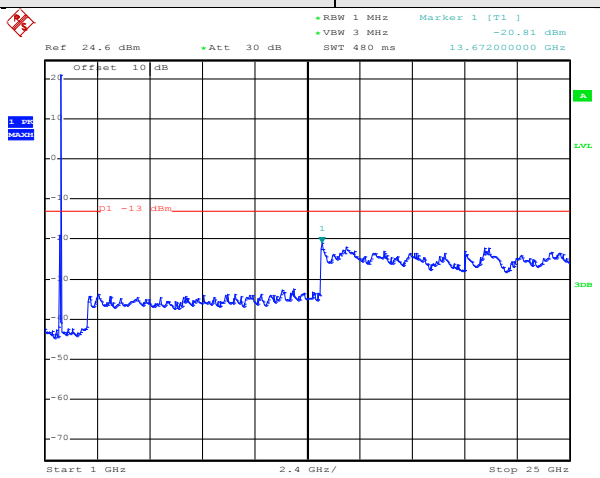
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 50 & RB Offset0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:12:03

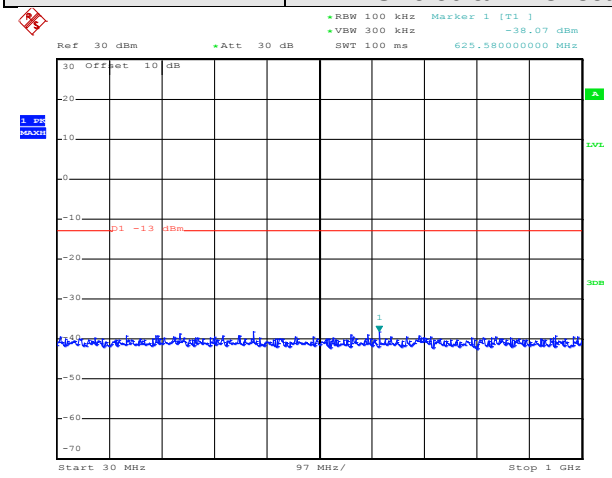
30MHz~1GHz



Date: 10.NOV.2016 04:10:37

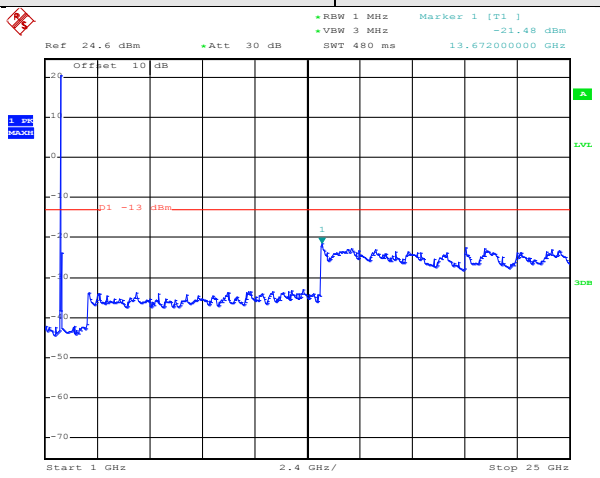
1GHz~25GHz

Test Mode:	LTE band 4(10MHz QPSK) RB Size 50 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:12:48

30MHz~1GHz

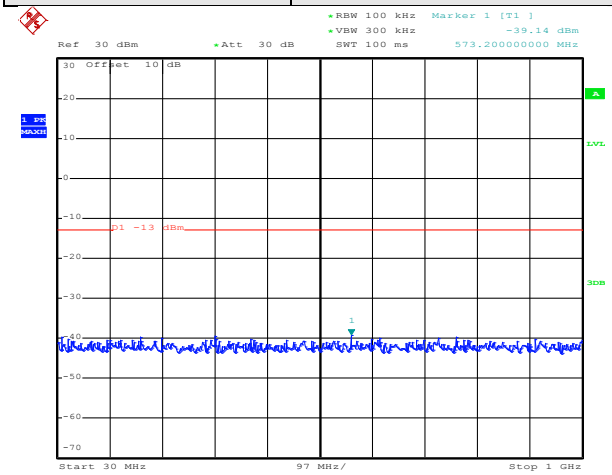


Date: 10.NOV.2016 04:11:38

1GHz~25GHz

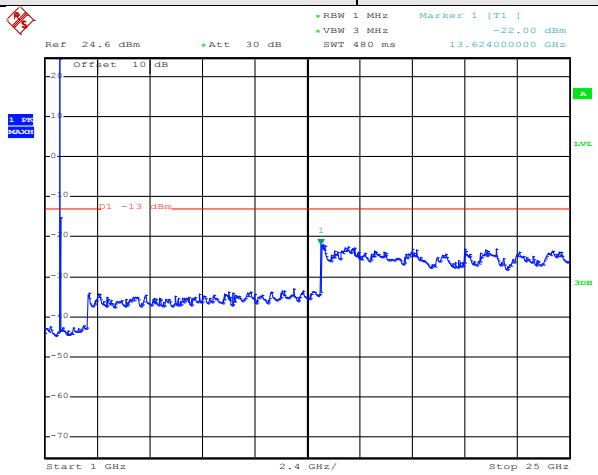
15MHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:06

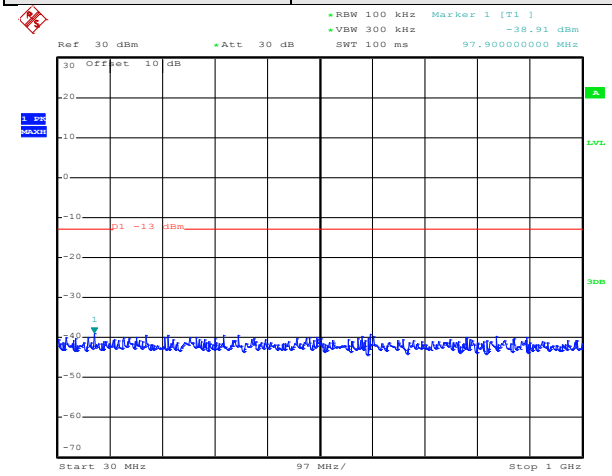
30MHz~1GHz



Date: 10.NOV.2016 04:12:31

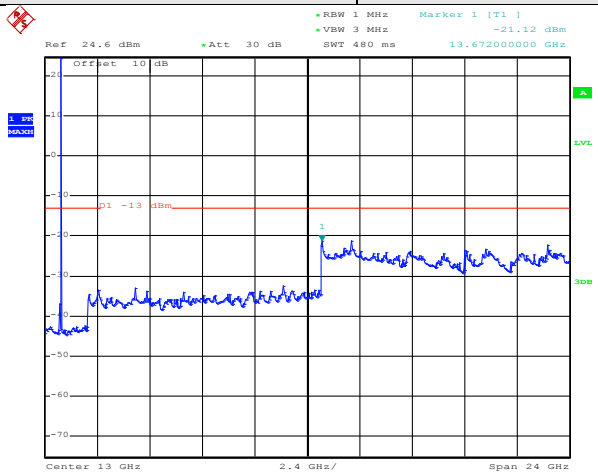
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:13:47

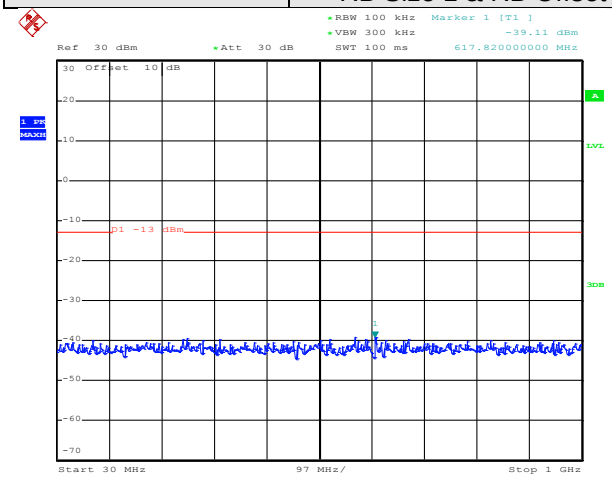
30MHz~1GHz



Date: 10.NOV.2016 04:25:06

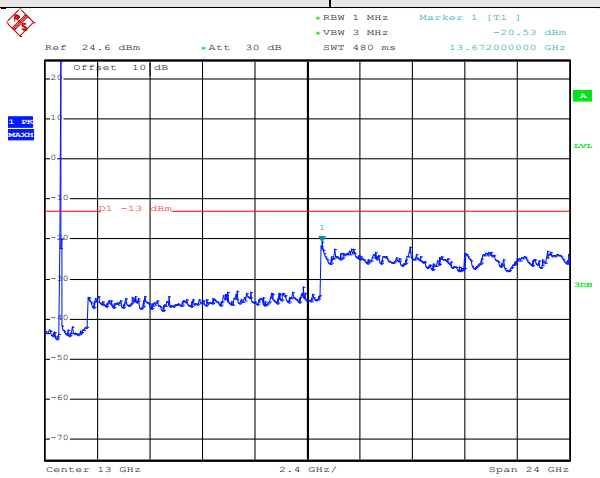
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:21

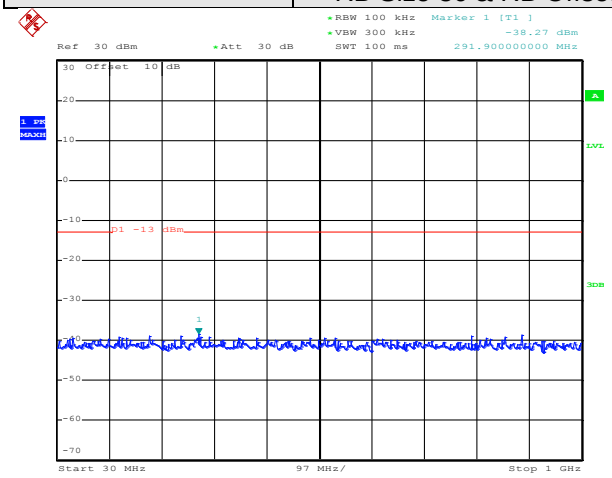
30MHz~1GHz



Date: 10.NOV.2016 04:26:29

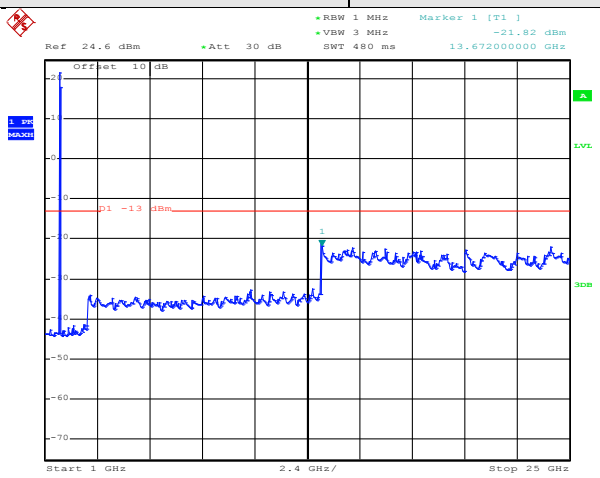
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 36 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:22

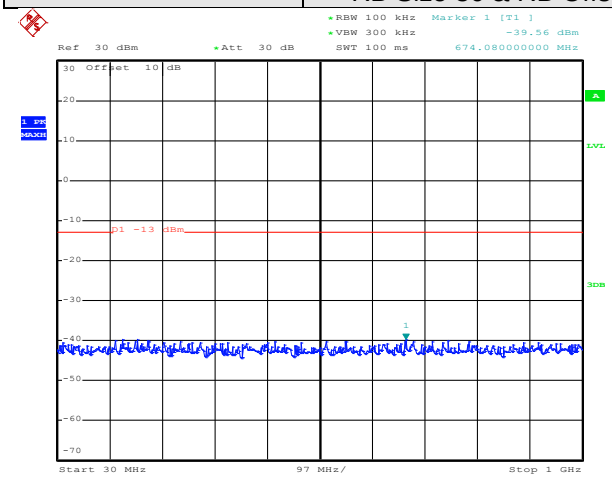
30MHz~1GHz



Date: 10.NOV.2016 04:13:04

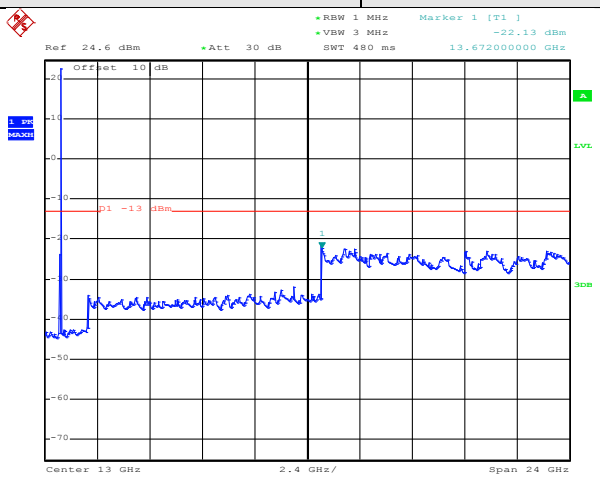
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 36 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:13:56

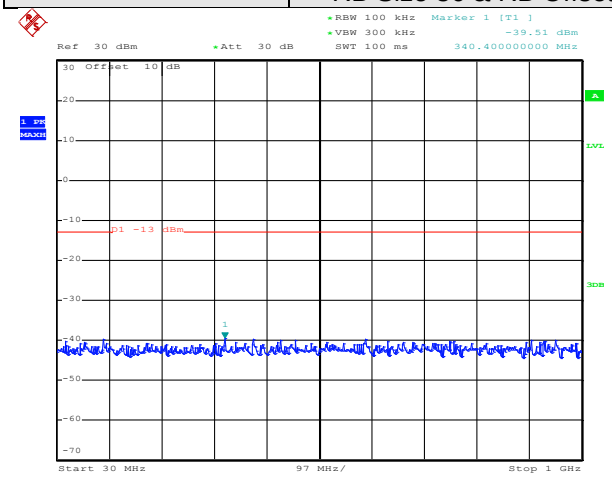
30MHz~1GHz



Date: 10.NOV.2016 04:25:29

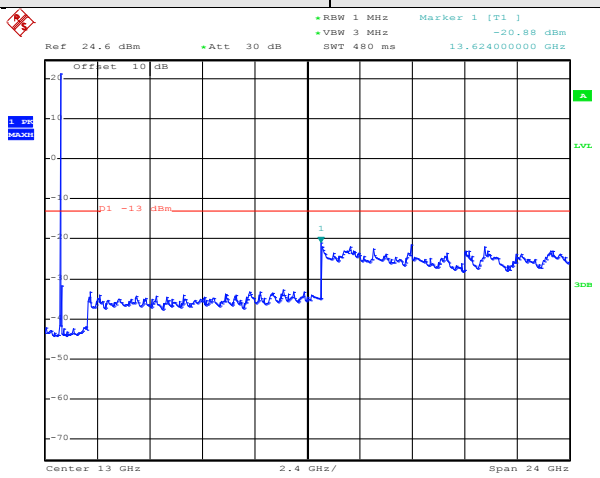
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 36 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:31

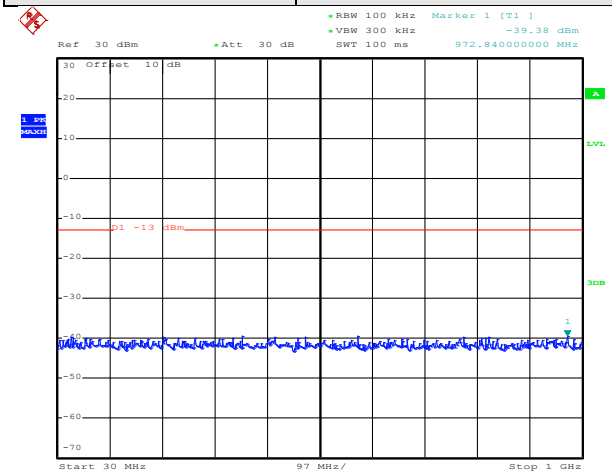
30MHz~1GHz



Date: 10.NOV.2016 04:26:59

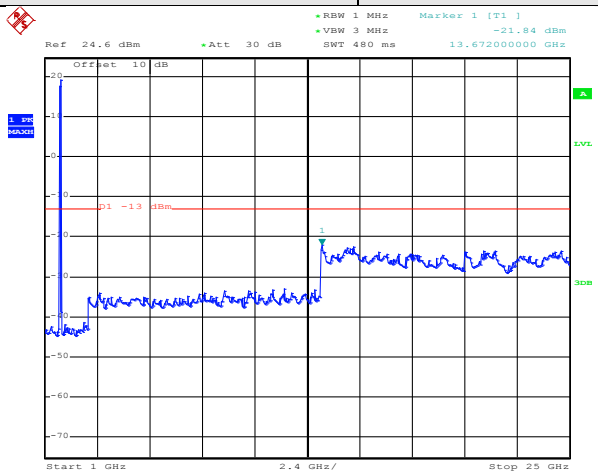
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 75 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:34

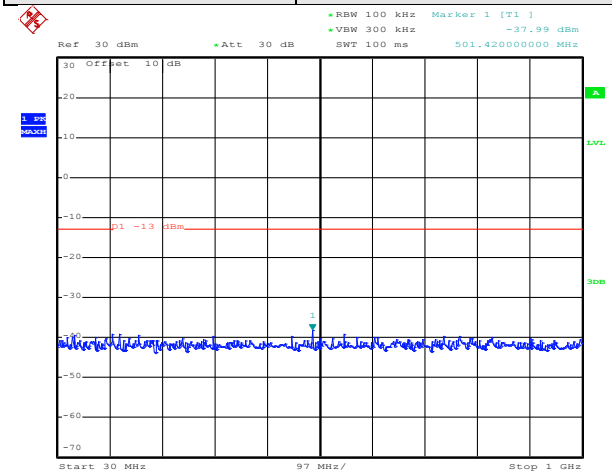
30MHz~1GHz



Date: 10.NOV.2016 04:13:21

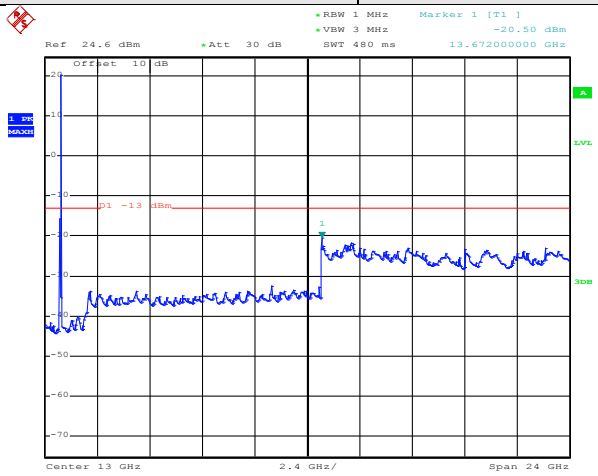
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 75 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:14:07

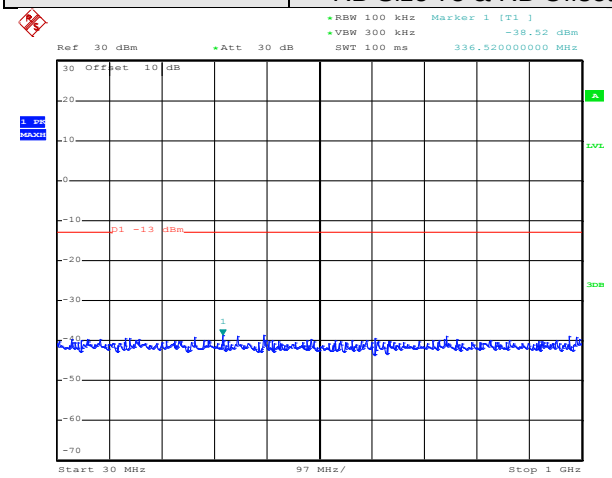
30MHz~1GHz



Date: 10.NOV.2016 04:25:48

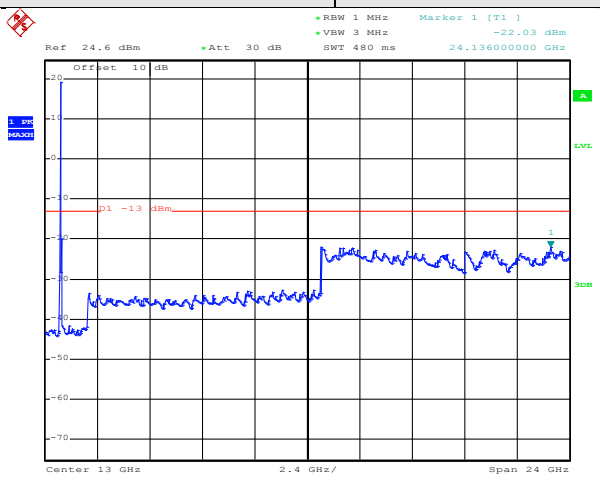
1GHz~25GHz

Test Mode:	LTE band 4(15MHz 16QAM) RB Size 75 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:46

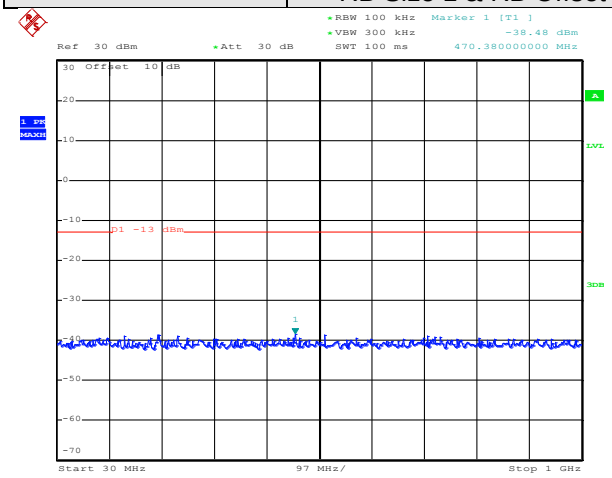
30MHz~1GHz



Date: 10.NOV.2016 04:27:29

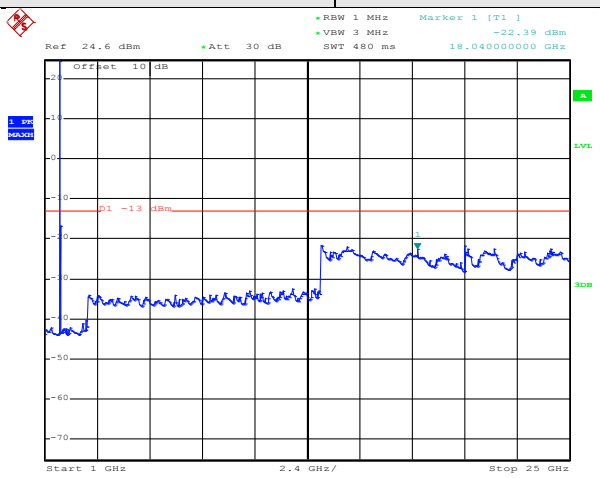
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:02

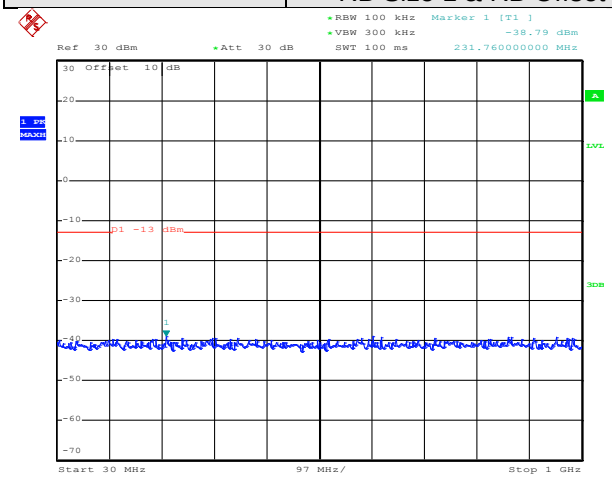
30MHz~1GHz



Date: 10.NOV.2016 04:12:21

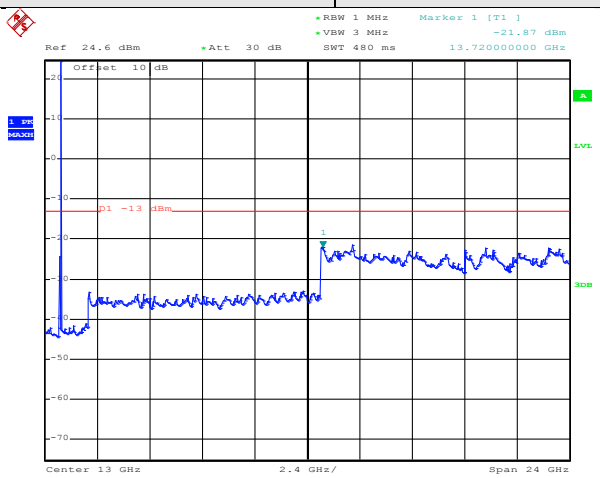
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:13:43

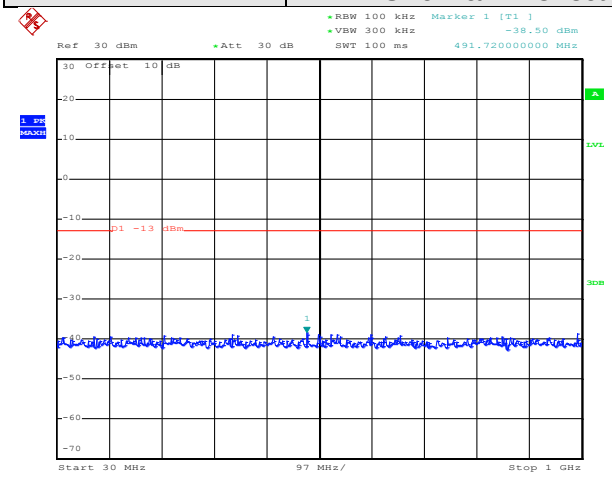
30MHz~1GHz



Date: 10.NOV.2016 04:25:01

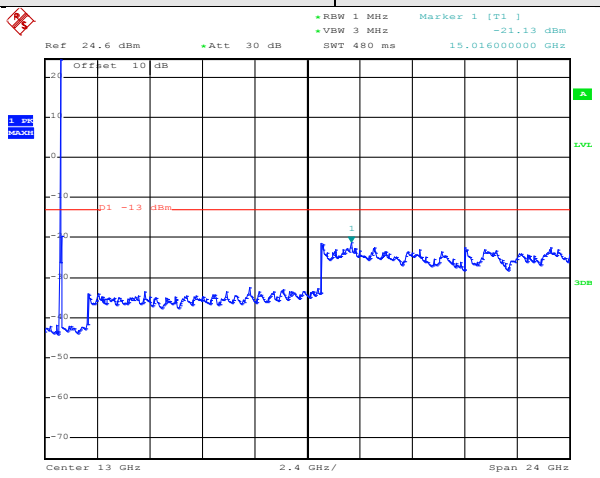
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:17

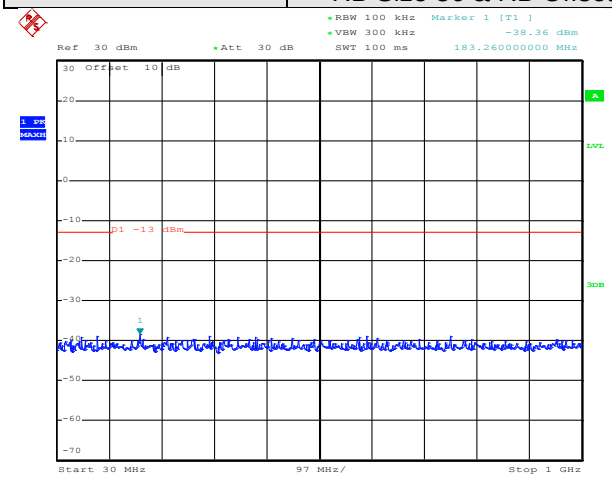
30MHz~1GHz



Date: 10.NOV.2016 04:26:20

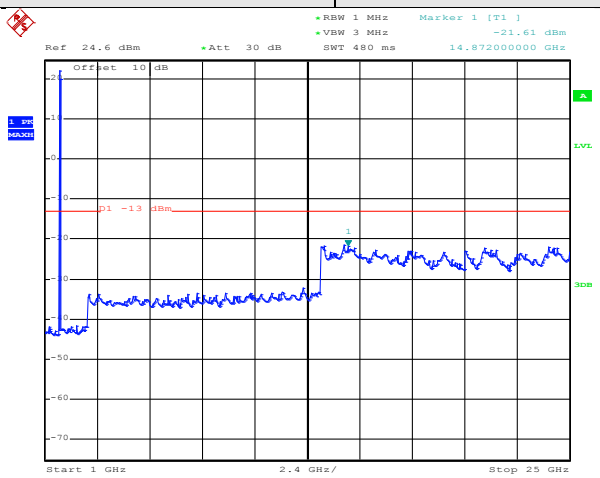
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 36 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:12

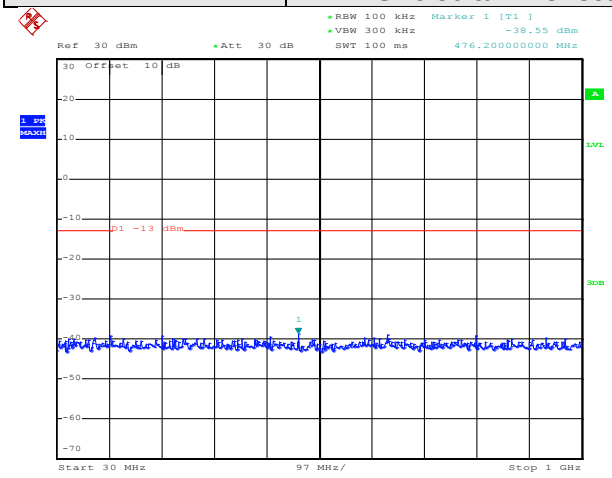
30MHz~1GHz



Date: 10.NOV.2016 04:12:49

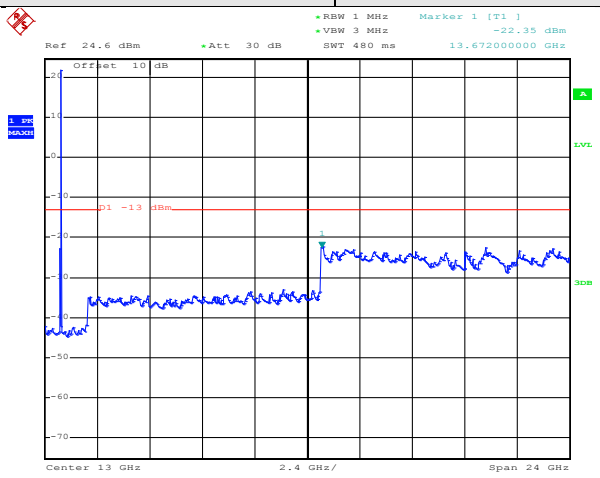
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 36 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:13:52

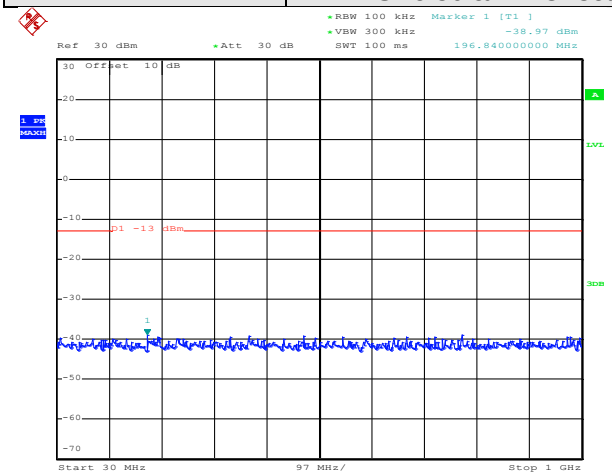
30MHz~1GHz



Date: 10.NOV.2016 04:25:18

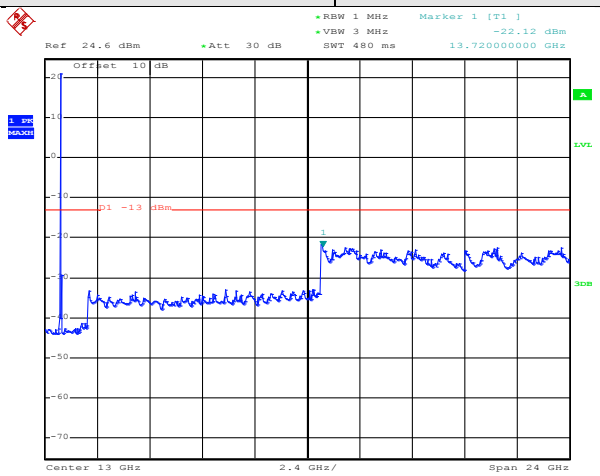
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 36 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:27

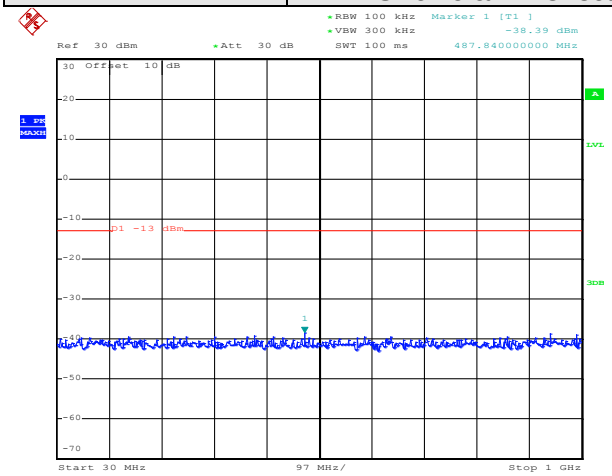
30MHz~1GHz



Date: 10.NOV.2016 04:26:47

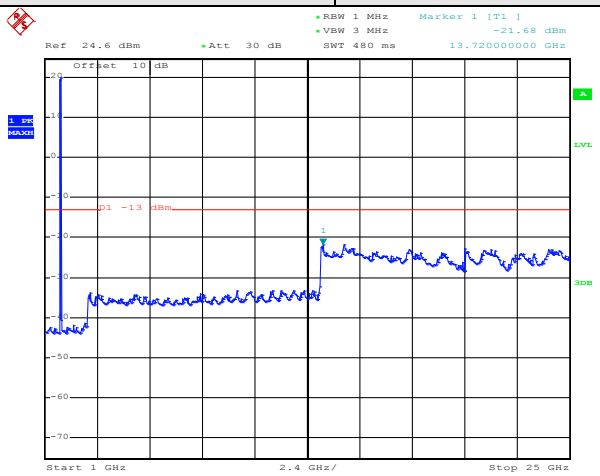
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 75 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:13:29

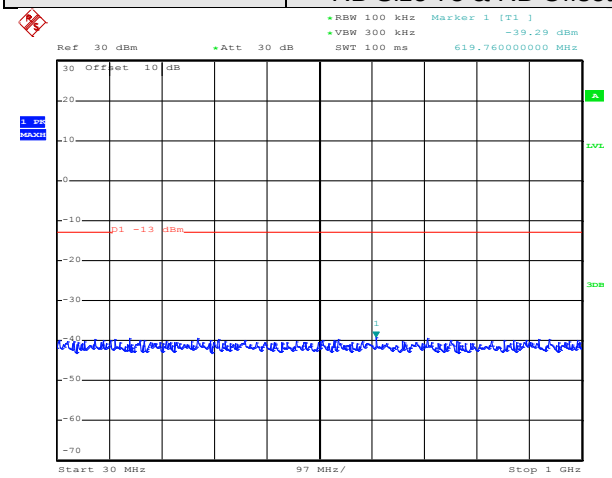
30MHz~1GHz



Date: 10.NOV.2016 04:13:16

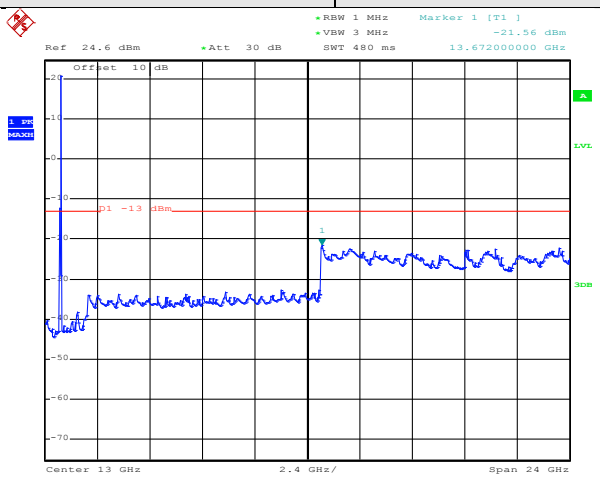
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 75 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:14:02

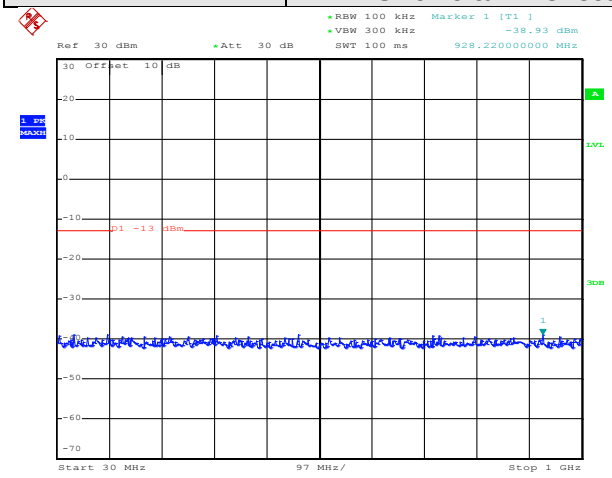
30MHz~1GHz



Date: 10.NOV.2016 04:25:40

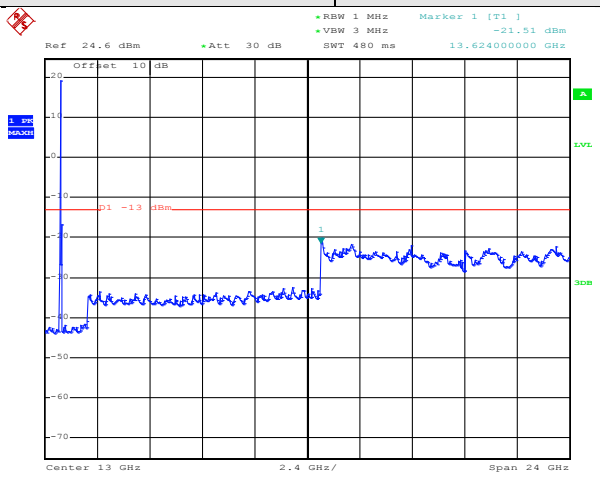
1GHz~25GHz

Test Mode:	LTE band 4(15MHz QPSK) RB Size 75 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:14:40

30MHz~1GHz

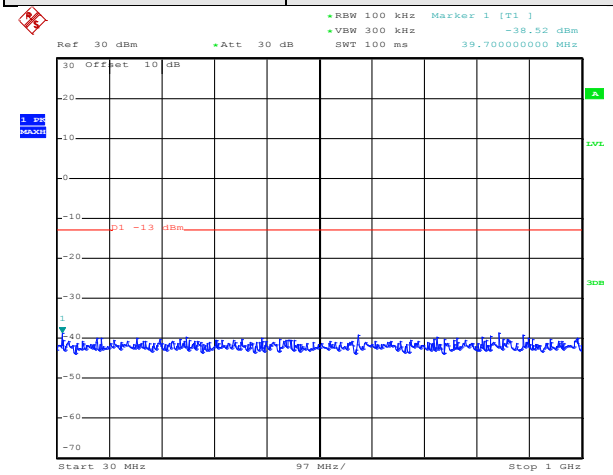


Date: 10.NOV.2016 04:27:14

1GHz~25GHz

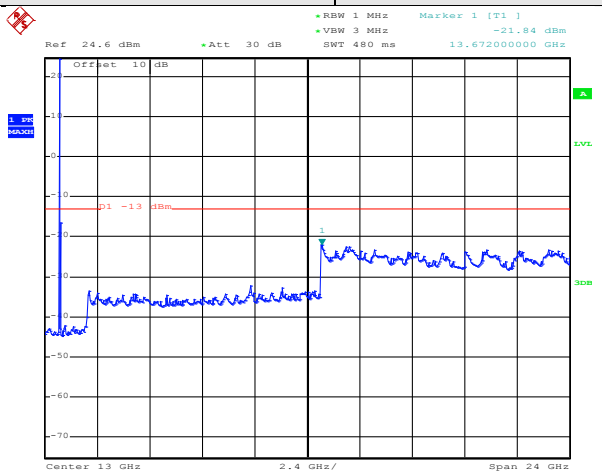
20MHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:08

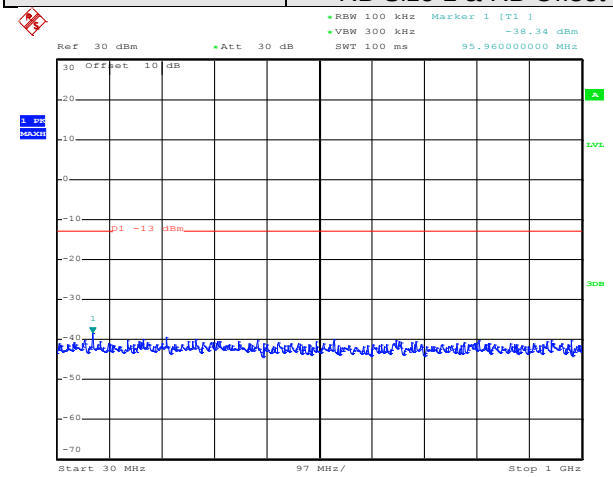
30MHz~1GHz



Date: 10.NOV.2016 04:28:16

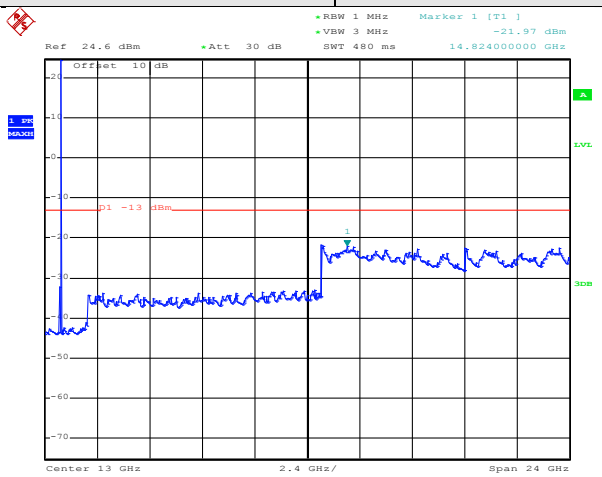
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:15:40

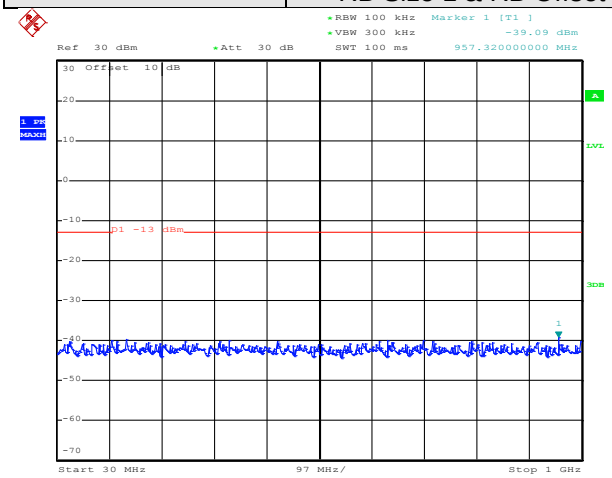
30MHz~1GHz



Date: 10.NOV.2016 04:29:27

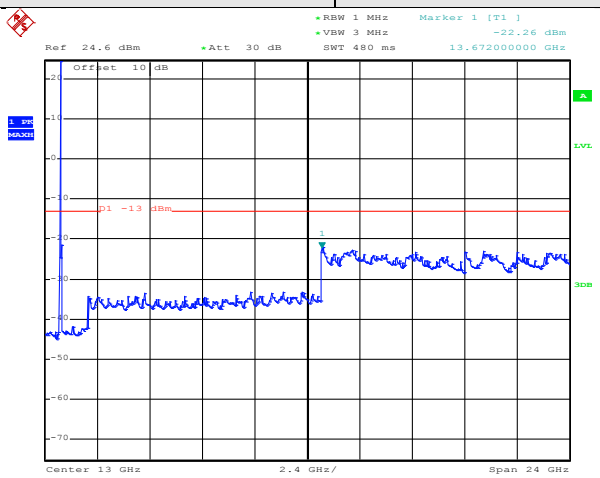
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:13

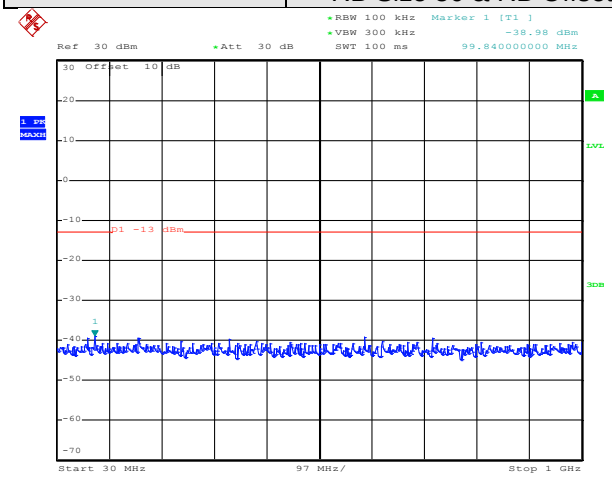
30MHz~1GHz



Date: 10.NOV.2016 04:30:31

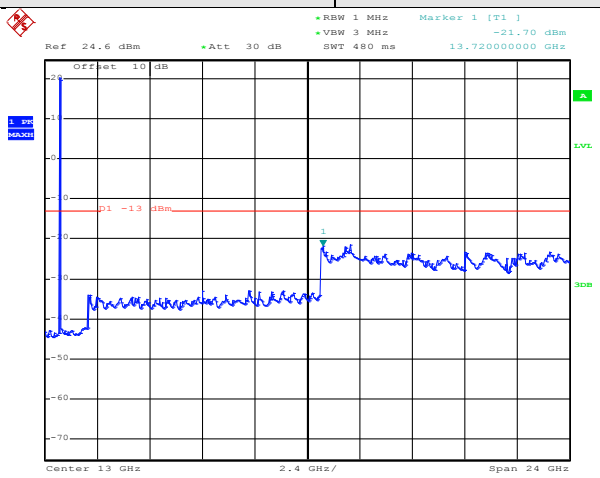
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:18

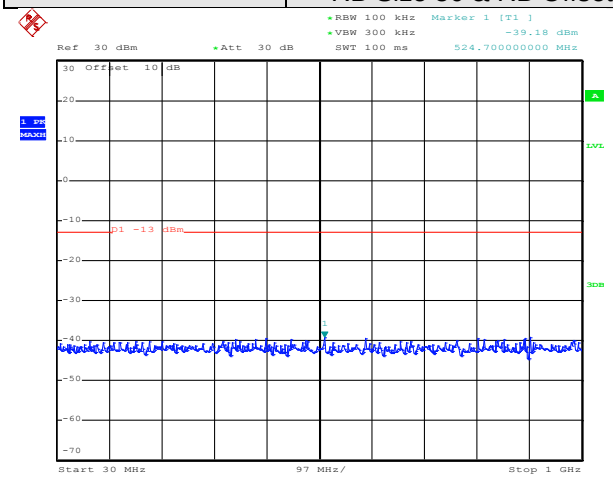
30MHz~1GHz



Date: 10.NOV.2016 04:28:37

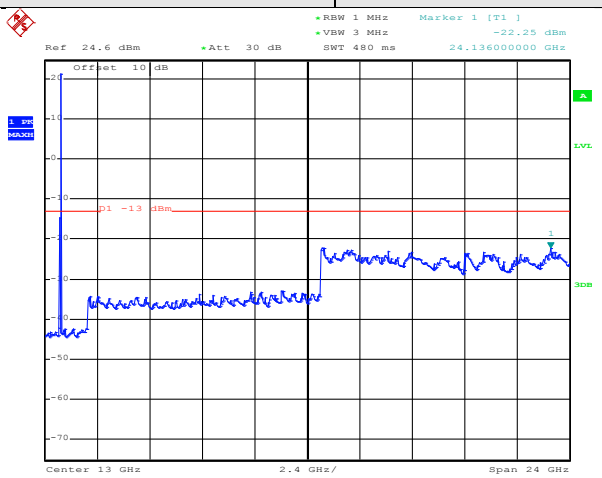
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:15:50

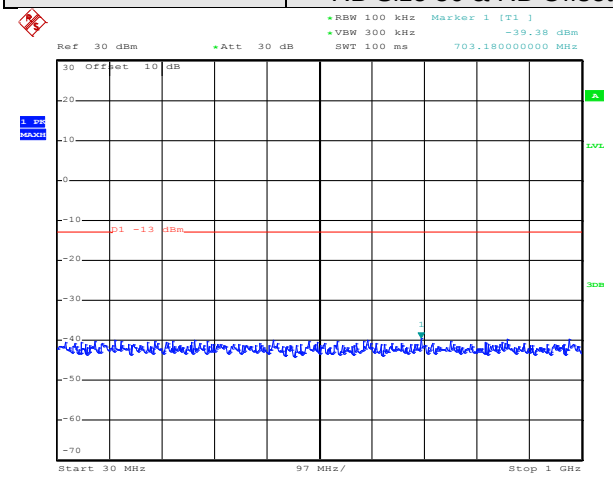
30MHz~1GHz



Date: 10.NOV.2016 04:29:48

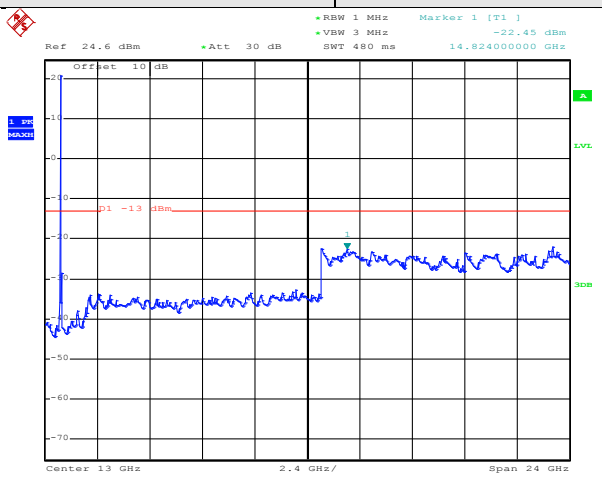
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 50 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:25

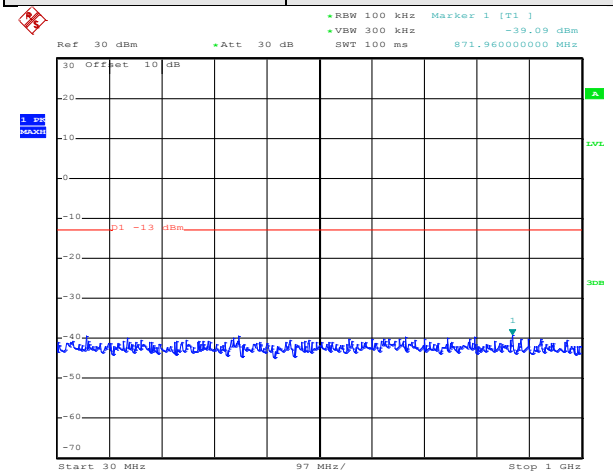
30MHz~1GHz



Date: 10.NOV.2016 04:30:50

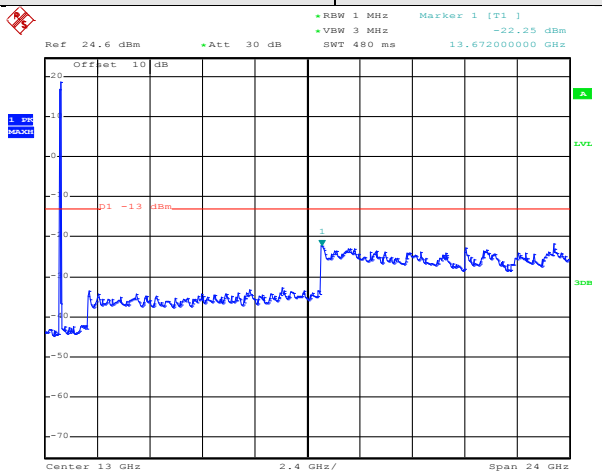
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 100 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:27

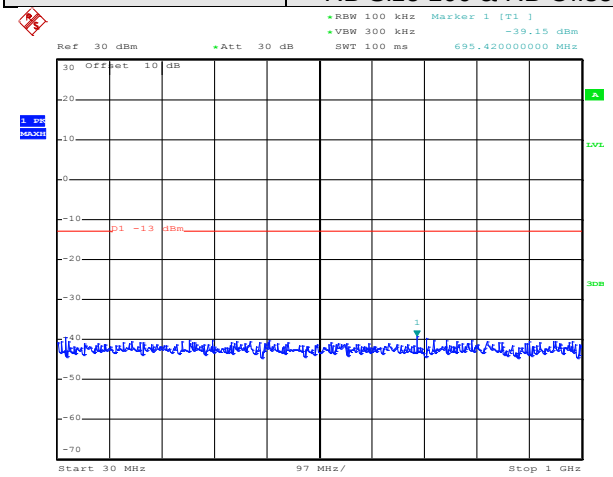
30MHz~1GHz



Date: 10.NOV.2016 04:28:56

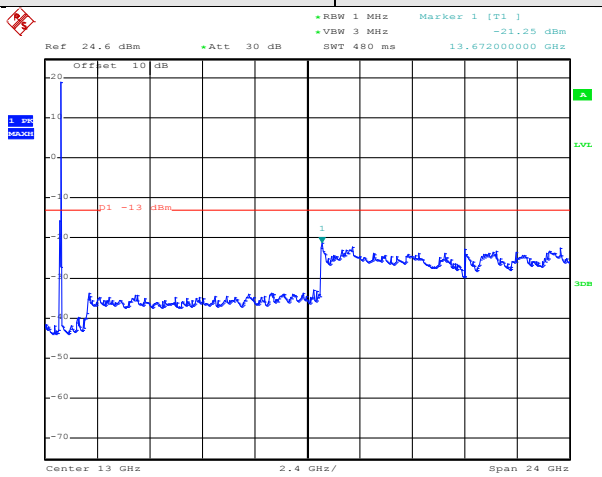
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 100 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:16:01

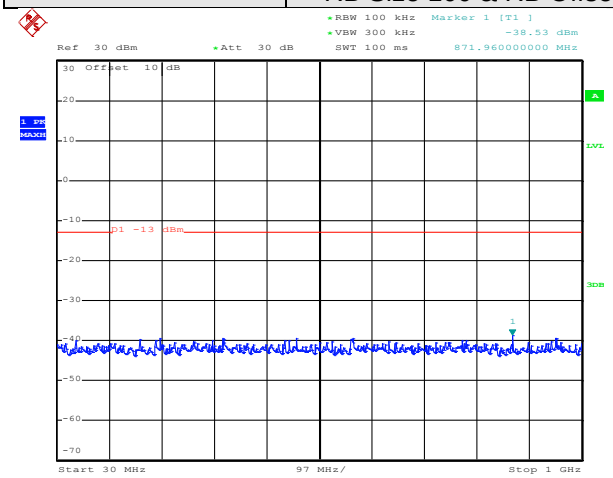
30MHz~1GHz



Date: 10.NOV.2016 04:30:04

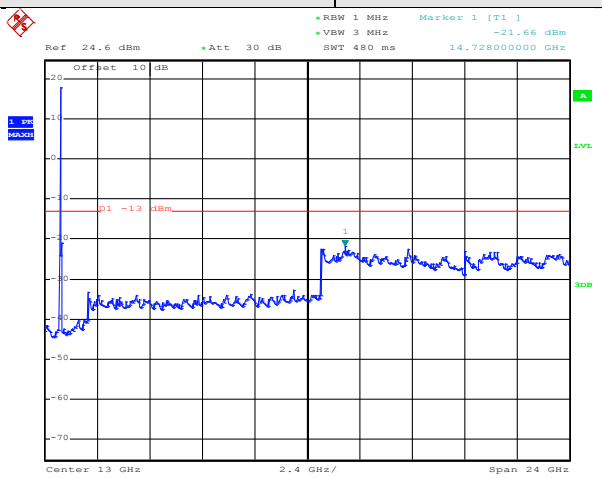
1GHz~25GHz

Test Mode:	LTE band 4(20MHz 16QAM) RB Size 100 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:35

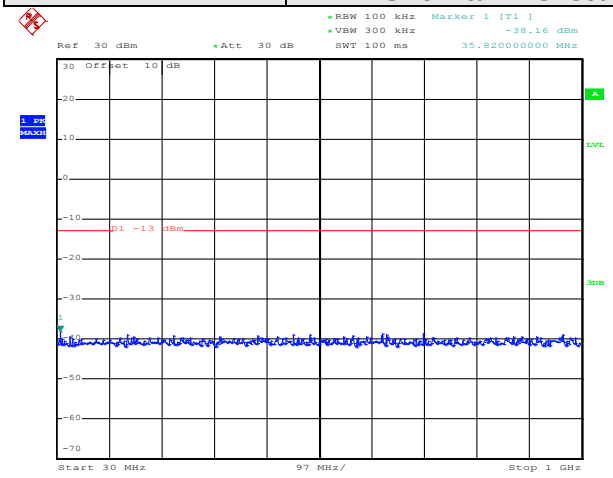
30MHz~1GHz



Date: 10.NOV.2016 04:31:07

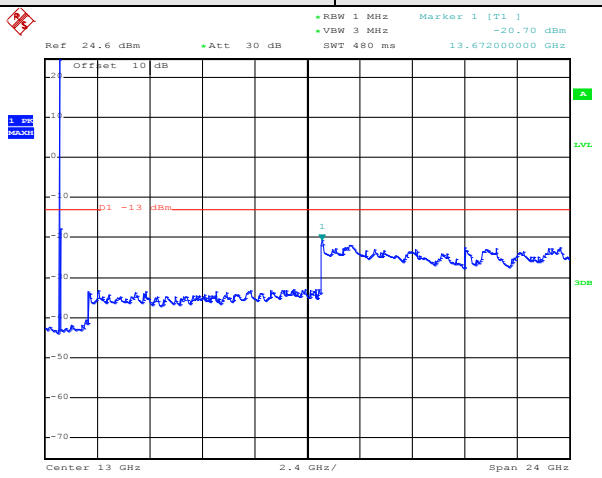
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:04

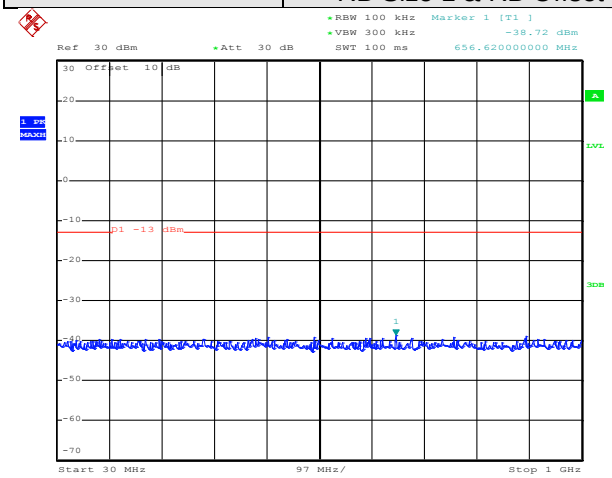
30MHz~1GHz



Date: 10.NOV.2016 04:28:08

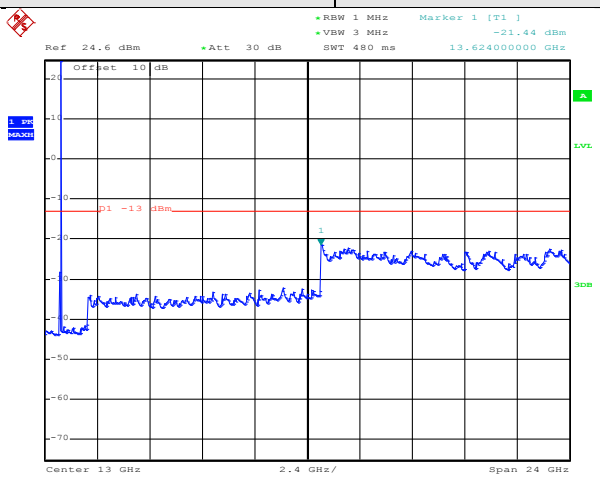
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:15:37

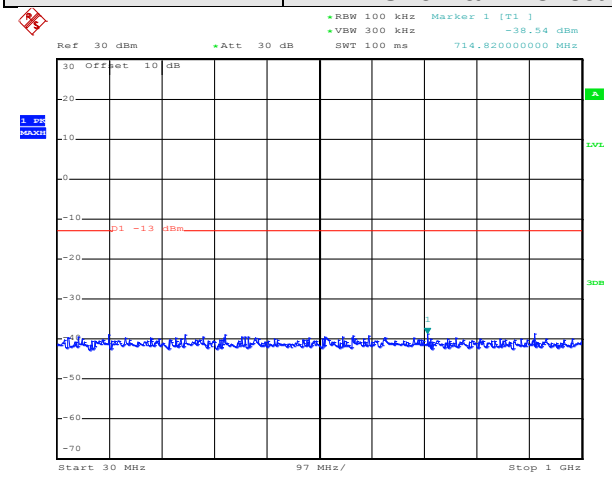
30MHz~1GHz



Date: 10.NOV.2016 04:29:15

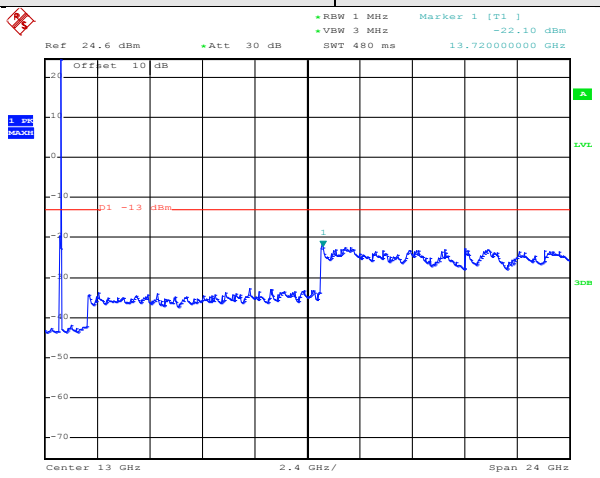
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:09

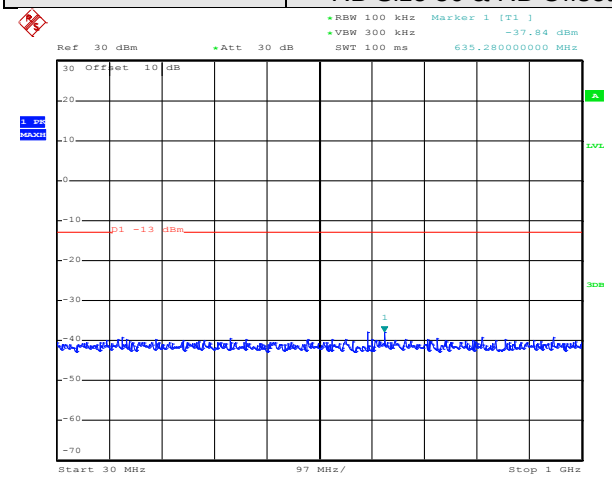
30MHz~1GHz



Date: 10.NOV.2016 04:30:23

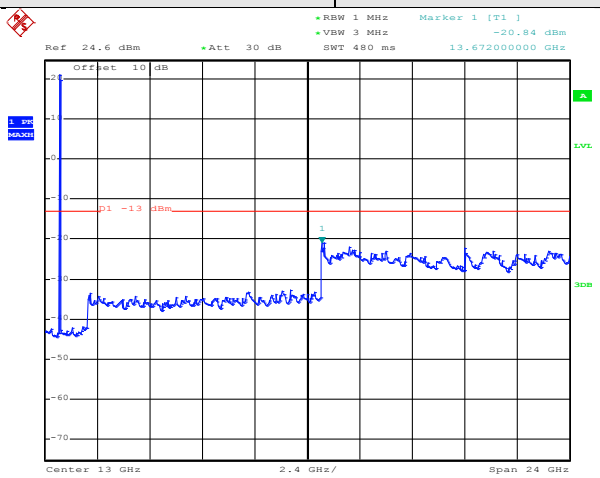
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 50 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:14

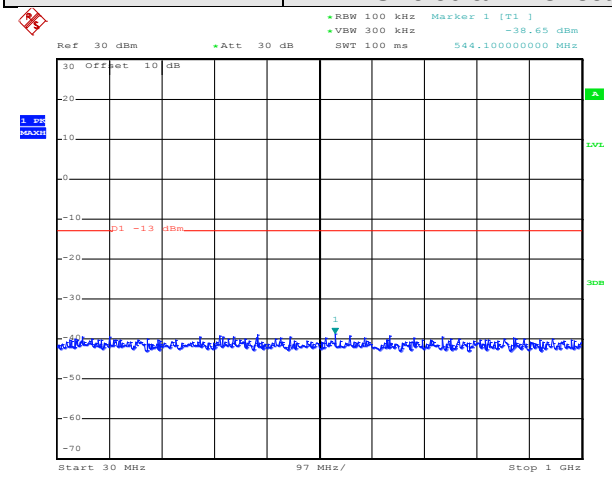
30MHz~1GHz



Date: 10.NOV.2016 04:28:28

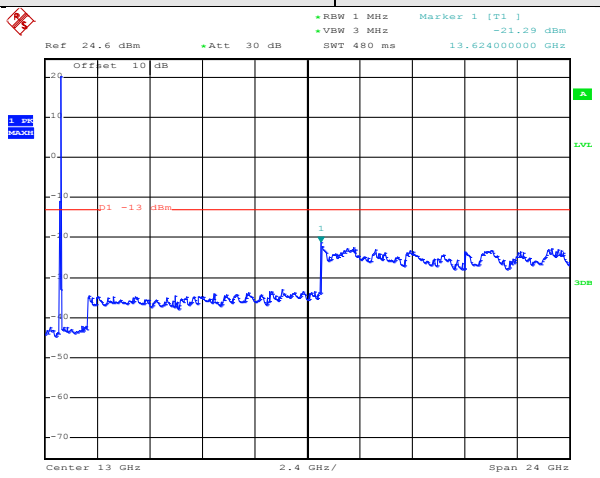
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 50 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:15:46

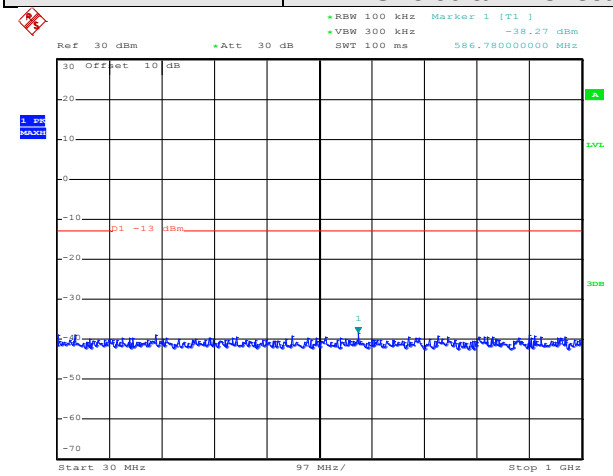
30MHz~1GHz



Date: 10.NOV.2016 04:29:39

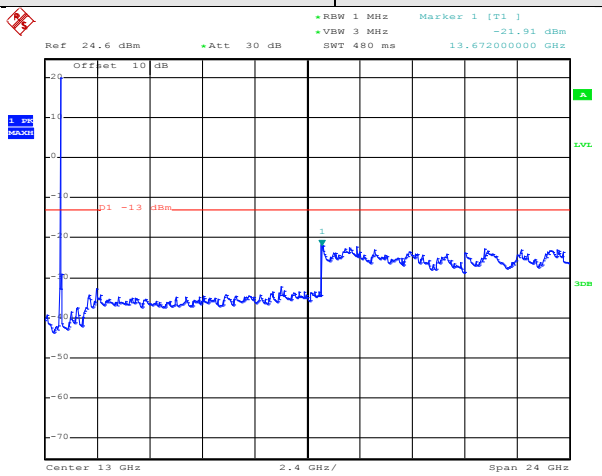
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 50 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:21

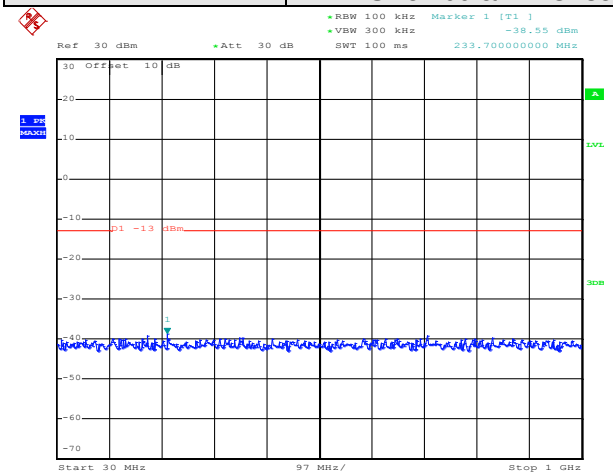
30MHz~1GHz



Date: 10.NOV.2016 04:30:41

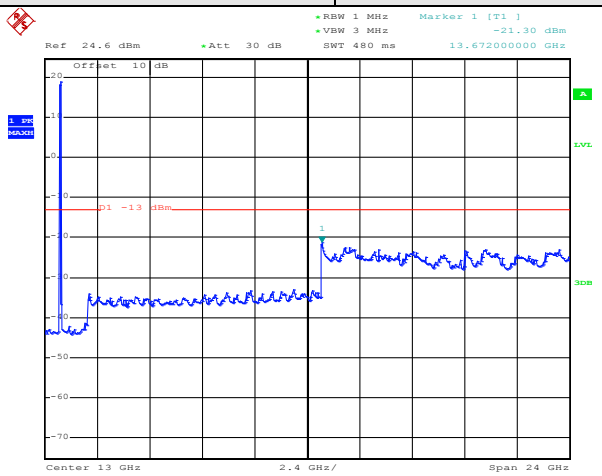
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 100 & RB Offset 0	Test Channel:	Lowest channel



Date: 13.NOV.2016 19:15:24

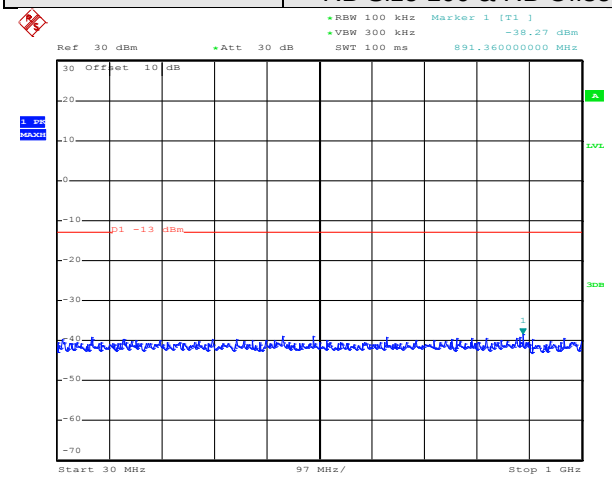
30MHz~1GHz



Date: 10.NOV.2016 04:28:48

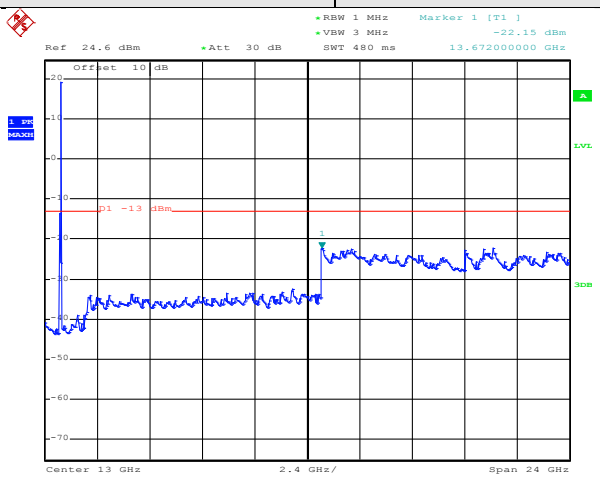
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 100 & RB Offset 0	Test Channel:	Middle channel



Date: 13.NOV.2016 19:15:57

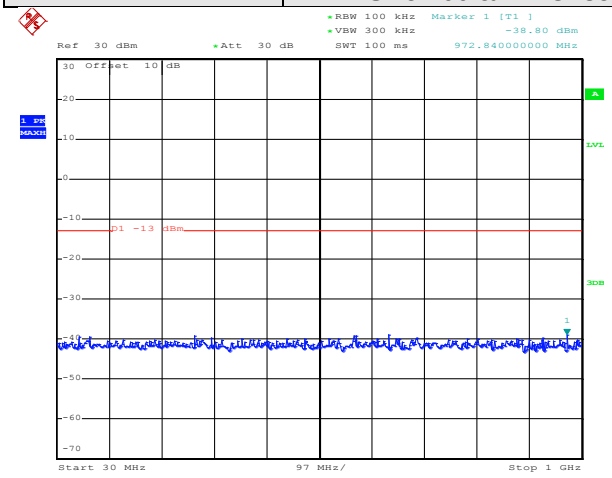
30MHz~1GHz



Date: 10.NOV.2016 04:29:58

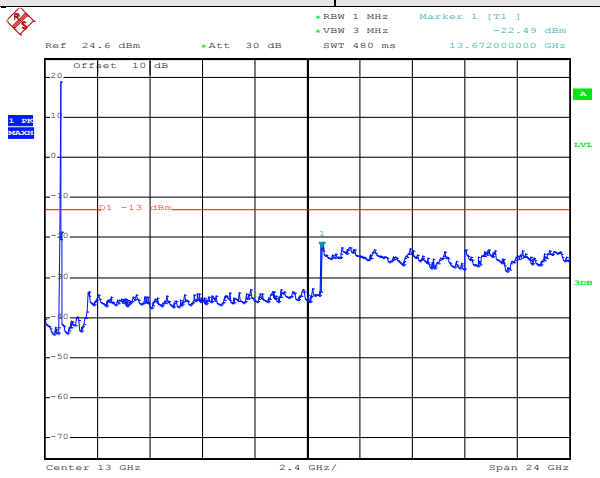
1GHz~25GHz

Test Mode:	LTE band 4(20MHz QPSK) RB Size 100 & RB Offset 0	Test Channel:	Highest channel



Date: 13.NOV.2016 19:16:31

30MHz~1GHz



Date: 10.NOV.2016 04:31:00

1GHz~25GHz