FCC REPORT

Applicant:	XTR S.A.C.
Address of Applicant:	Av. Camino Real 1225 Of 201-A San Isidro LIMA/ PERU
Equipment Under Test (EUT)	
Product Name:	Smartphone
Model No.:	X4.5
FCC ID:	2AGAK-X45
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:	21 Oct., 2015
Date of Test:	21 Oct., to 06 Nov., 2015
Date of report issued:	09 Nov., 2015
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 the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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2. Version

Version No.	Date	Description
00	*09 Nov., 2015*	*Original*

Tested by:	Viki zhu	***Date:***	*09 Nov., 2015*
	Test Engineer		
Reviewed by:	Carey Chen	***Date:***	*09 Nov., 2015*
	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 22.917 (a) 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:	XTR S.A.C.
Address of Applicant:	Av. Camino Real 1225 Of 201-A San Isidro LIMA/ PERU
Manufacturer/ Factory:	Shenzhen Richpad Communication Technology Co., LTD
Address of Manufacturer/Factory:	Room 315, HKUST SZ IER Building, No. 9 Yuexing 1st RD, South Area, Hi-tech Park, Nanshan, Shenzhen, P.R.C

5.2 General Description of E.U.T.

Product Name:	Smartphone
Model No.:	X4.5
Operation Frequency range:	LTE Band 4: TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz
Modulation type:	QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 4: 3.9dBi
AC adapter:	Input:100-240V AC,50/60Hz 300mA Output:5V DC MAX 1.0A
Power supply:	Rechargeable Li-ion Battery DC3.8V/2000mAh

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

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

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))*
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 24 subpart E, Part 27 subpart L and 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 47 clause 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 Zhongjian Nanfang 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 Zhongjian Nanfang 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 Zhongjian Nanfang 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 Zhongjian Nanfang 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

Radiated Emission:						
Item	**Test Equipment**	**Manufacturer**	**Model No.**	**Inventory No.**	**Cal. Date (mm-dd-yy)**	**Cal. Due date (mm-dd-yy)**
1	3m Semi - Anechoic Chamber	SAEMC	9(L)*6(W)* 6(H)	CCIS0001	08-23-2014	08-22-2017
2	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	CCIS0005	03-28-2015	03-28-2016
3	Double - ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA9120D	CCIS0006	03-28-2015	03-28-2016
4	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
5	Amplifier (10kHz-1.3GHz)	HP	8447D	CCIS0003	04-01-2015	03-31-2016
6	Amplifier (1GHz-18GHz)	Compliance Direction Systems Inc.	PAP-1G18	CCIS0011	04-01-2015	03-31-2016
7	Pre-amplifier (18-26.5GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	04-01-2015	03-31-2016
8	Horn Antenna	ETS-LINDGREN	3160	GTS217	04-01-2015	03-31-2016
9	Printer	HP	HP LaserJet P1007	N/A	N/A	N/A
10	Positioning Controller	UC	UC3000	CCIS0015	N/A	N/A
11	Spectrum analyzer 9k-30GHz	Rohde & Schwarz	FSP	CCIS0023	03-28-2015	03-28-2016
12	EMI Test Receiver	Rohde & Schwarz	ESRP	CCIS0167	03-28-2015	03-28-2016
13	Loop antenna	Laplace instrument	RF300	EMC0701	04-01-2015	03-31-2016
14	Wideband Radio Communication Tester	Rhode & Schwarz	CMW500	140330	05-29-2015	05-28-2016
15	Signal Analyzer	Rohde & Schwarz	FSIQ3	CCIS0088	04-08-2015	04-08-2016
16	Temperature and humidity chamber	Foshan Hengpu	HPGDS-500	CCIS0240	11-18-2014	11-17-2015

6. System test configuration

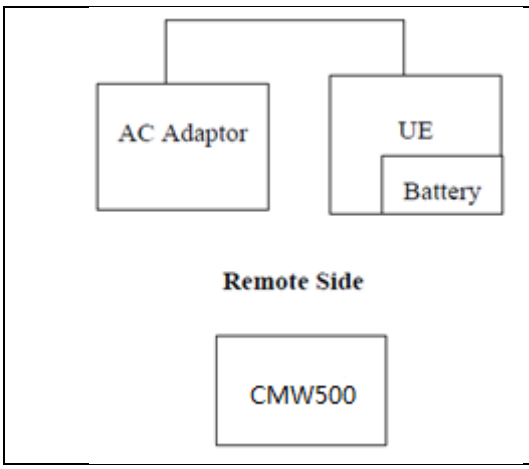
6.1 EUT Configuration

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.

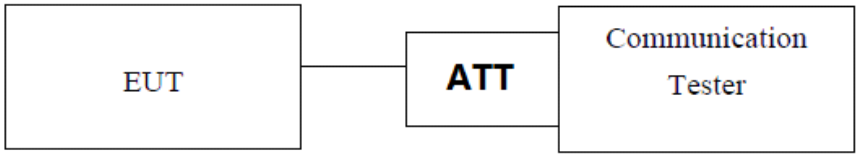
6.3 Configuration of Tested System



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 2, LTE Band 4 and LTE Band 7) with power adaptor, earphone and Data cable. The worst-case H mode for LTE Band 2, LTE Band 4 , LTE Band 7.

6.5 Conducted Output Power

Test Requirement:	FCC Part 24.232 (c), part 27.50(d), FCC part 27.50(h)
Test Method:	FCC part 2.1046
Limit:	LTE Band 4: 1W
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	23.82	23.87	23.76
			1	2	23.92	23.86	23.83
			1	5	23.87	23.77	23.78
			3	0	24.07	23.92	23.96
			3	1	24.05	23.88	23.96
			3	2	24.05	23.90	24.01
			6	0	24.05	23.96	23.97
		16QAM	1	0	23.97	23.72	23.91
			1	2	23.84	23.81	23.89
			1	5	23.90	23.91	23.81
			3	0	23.81	23.89	23.84
			3	1	23.77	23.85	23.84
			3	2	23.93	23.81	23.78
			6	0	23.85	23.81	23.75

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	23.86	23.72	23.82
			1	7	24.05	23.95	23.98
			1	14	23.95	23.81	23.75
			8	0	24.03	23.94	23.95
			8	4	24.04	23.91	24.07
			8	7	23.92	23.86	24.14
			15	0	24.06	23.98	24.08
		16QAM	1	0	23.92	23.93	23.88
			1	7	23.93	24.02	23.98
			1	14	23.89	23.92	23.57
			8	0	23.86	23.82	23.70
			8	4	23.88	23.74	23.80
			8	7	23.76	23.68	23.83
			15	0	23.82	23.72	23.67

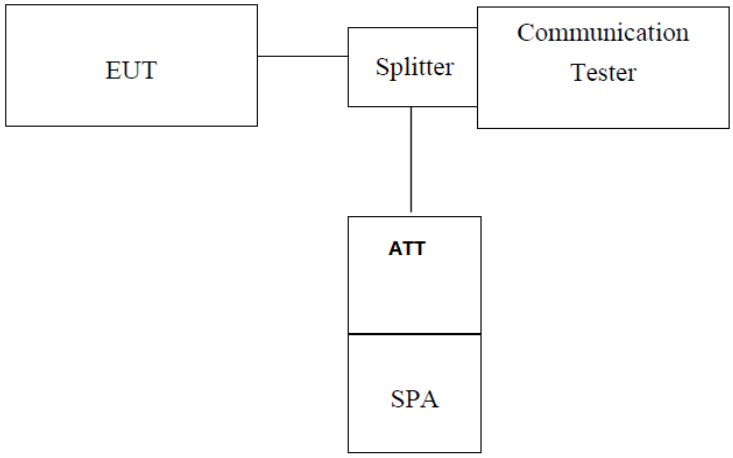
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					19975	20175	20375
					1712.5MHz	1732.5MHz	1752.5MHz
4	5	QPSK	1	0	23.88	23.82	23.75
			1	12	24.01	23.89	23.89
			1	24	23.88	23.75	23.78
			12	0	24.02	24.04	23.94
			12	6	24.08	23.93	23.97
			12	11	24.07	23.98	23.98
			25	0	24.16	24.07	24.04
		16QAM	1	0	23.89	24.25	23.68
			1	12	23.73	24.45	23.86
			1	24	23.96	23.96	23.79
			12	0	24.12	23.88	23.75
			12	6	24.13	24.35	23.75
			12	11	24.17	23.87	23.72
			25	0	24.12	24.26	23.87

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	23.98	23.83	23.92
			1	24	23.94	23.84	23.85
			1	49	23.87	23.77	23.82
			25	0	24.18	23.93	24.16
			25	12	24.12	23.95	24.07
			25	24	24.05	23.86	24.03
			50	0	24.16	24.03	24.17
		16QAM	1	0	23.91	23.88	23.92
			1	24	23.82	23.63	23.88
			1	49	24.00	23.79	23.69
			25	0	23.96	23.87	23.76
			25	12	23.91	23.76	23.94
			25	24	23.99	23.72	23.78
			50	0	23.89	23.91	23.95

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	23.92	23.97	24.01
			1	37	23.96	23.84	23.96
			1	74	23.78	23.77	23.87
			36	0	24.05	24.05	24.11
			36	16	24.03	23.95	24.06
			36	35	24.02	23.86	23.98
			75	0	24.14	24.06	24.18
		16QAM	1	0	23.78	24.06	23.90
			1	37	23.88	23.62	23.92
			1	74	23.77	23.88	23.57
			36	0	23.84	23.96	23.86
			36	16	23.87	23.83	23.86
			36	35	23.78	23.75	23.77
			75	0	23.90	23.81	23.94

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	24.02	24.05	23.92
			1	49	23.97	23.85	23.87
			1	99	23.87	23.77	23.76
			50	0	24.32	24.17	24.12
			50	24	24.26	24.02	24.17
			50	49	24.21	24.07	24.08
			100	0	24.22	24.15	24.25
		16QAM	1	0	24.22	24.02	23.83
			1	49	24.12	23.85	23.95
			1	99	24.15	23.98	23.69
			50	0	23.99	23.98	23.91
			50	24	24.11	23.93	23.89
			50	49	23.98	23.72	23.90
			100	0	24.06	23.85	23.82

6.6 Peak-to-Average Ratio

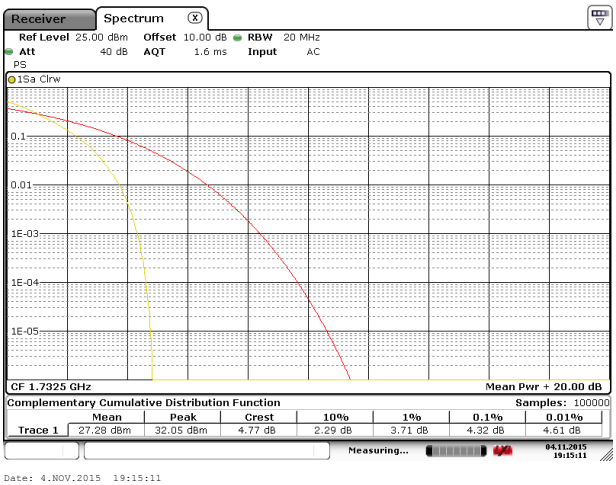
Test Requirement:	FCC part 24.232(d)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	 ***Note:*** *Measurement setup for testing on Antenna connector*
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate 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

BW(MHz)	Modulation	RB Size	RB Offset	PAPR
LTE Band 4 (Middle Channel)				
20MHz	QPSK	100	0	4.32
	16QAM	100	0	4.72

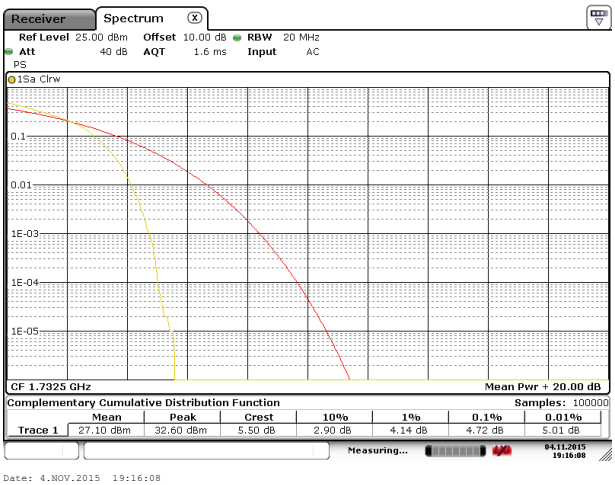
Test plots as below:

LTE Band 4 Middle channel

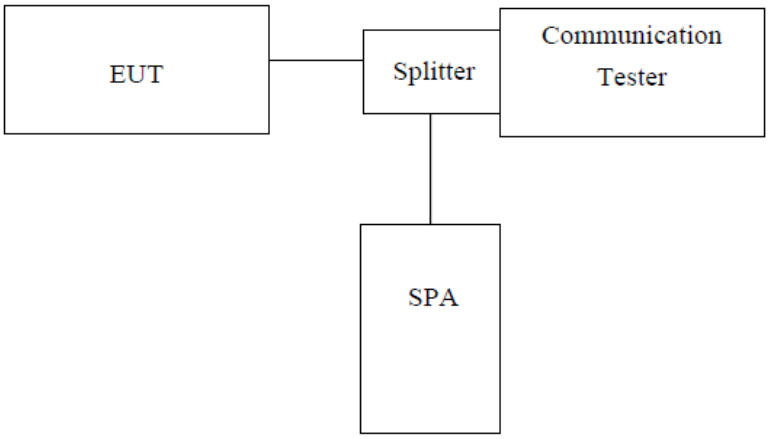
Modulation: QPSK



Modulation: 16QAM



6.7 Occupy Bandwidth

Test Requirement:	FCC Part 24.238, part 27.53(g), part 27.53(h) and part 27.53(m)
Test Method:	FCC part 2.1049
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)	-26dBc EBW (kHz)
1.4MHz	19957	1710.7	16QAM	1104	1302
			QPSK	1110	1278
	20175	1732.5	16QAM	1104	1290
			QPSK	1104	1278
	20393	1754.3	16QAM	1104	1302
			QPSK	1110	1278
3MHz	19965	1711.5	16QAM	2760	3036
			QPSK	2736	3072
	20175	1732.5	16QAM	2736	3036
			QPSK	2748	3072
	20385	1750.5	16QAM	2736	3072
			QPSK	2748	3084
5MHz	19975	1712.5	16QAM	4520	5020
			QPSK	4540	5020
	20175	1732.5	16QAM	4520	5080
			QPSK	4540	5060
	20375	1752.5	16QAM	4520	5080
			QPSK	4540	5040
10MHz	20000	1715.0	16QAM	9120	10280
			QPSK	9080	10400
	20175	1732.5	16QAM	9120	10320
			QPSK	9120	10280
	20350	1750.0	16QAM	9120	10240
			QPSK	9120	10320
15MHz	20025	1717.5	16QAM	13560	15120
			QPSK	13620	14940
	20175	1732.5	16QAM	13560	15060
			QPSK	13560	15120
	20325	1747.5	16QAM	13560	15060
			QPSK	13560	15000
20MHz	20050	1720.0	16QAM	18000	19520
			QPSK	18080	19840
	20175	1732.5	16QAM	18000	19600
			QPSK	18000	19760
	20300	1745.0	16QAM	18000	19520
			QPSK	18080	19600

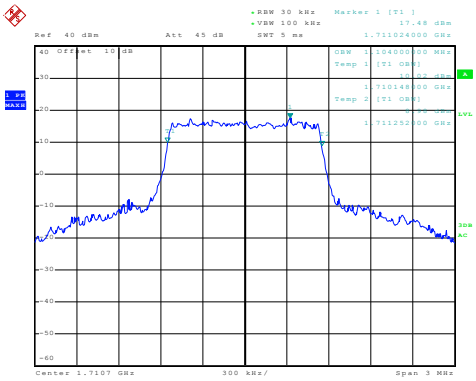
Test plot as follows:

LTE Band 4 part

Test Item: 99% Occupy bandwidth

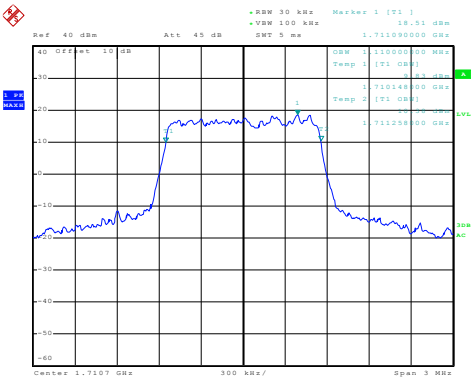
BW: 1.4MHz

Modulation: 16QAM



Date: 3.NOV.2015 18:52:31

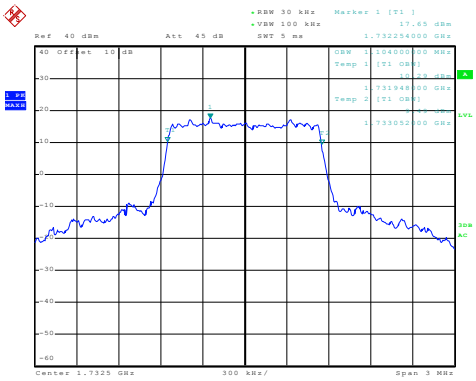
Modulation: QPSK



Date: 3.NOV.2015 18:51:13

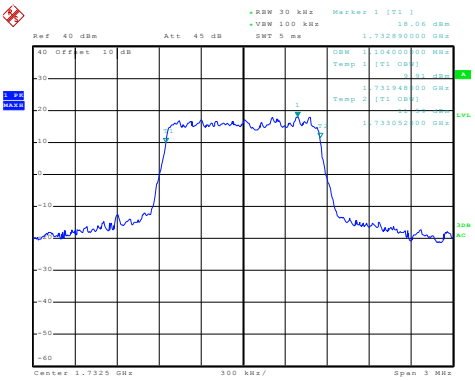
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 18:53:43

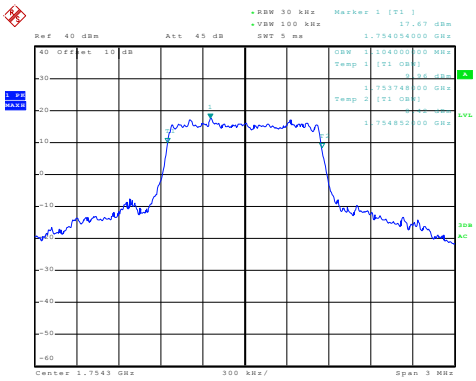
Modulation: QPSK



Date: 3.NOV.2015 18:55:06

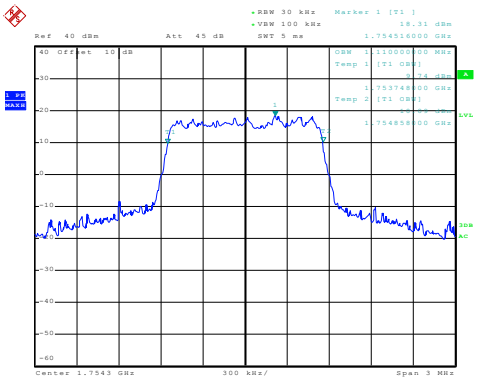
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 18:56:51

Modulation: QPSK



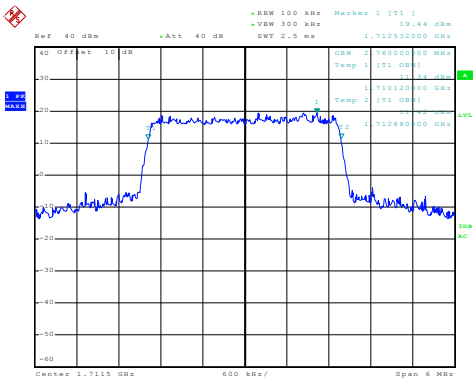
Date: 3.NOV.2015 18:55:48

Highest channel

Test Item: 99% Occupy bandwidth

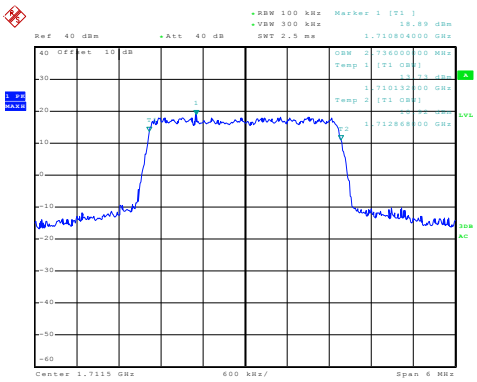
BW: 3MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:00:07

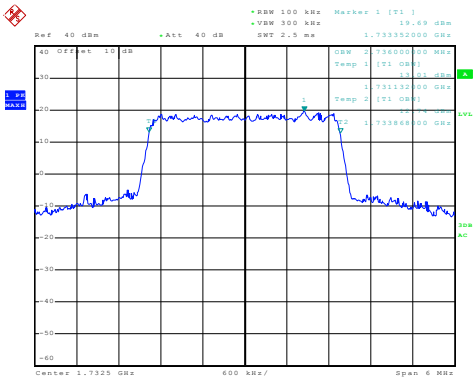
Modulation: QPSK



Date: 3.NOV.2015 19:00:30

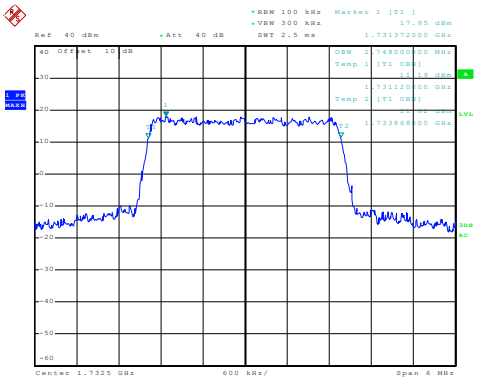
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:03:04

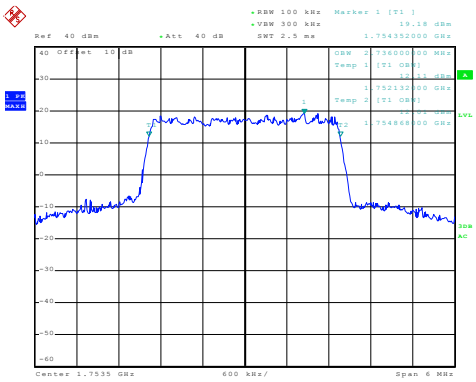
Modulation: QPSK



Date: 3.NOV.2015 19:02:00

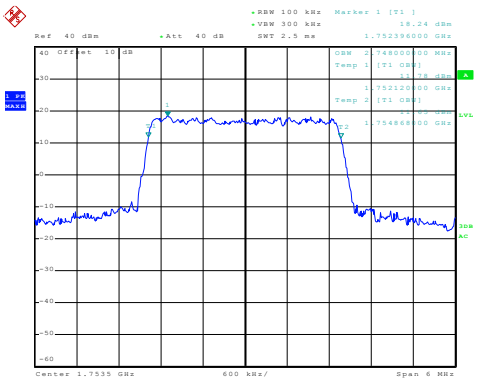
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:04:32

Modulation: QPSK



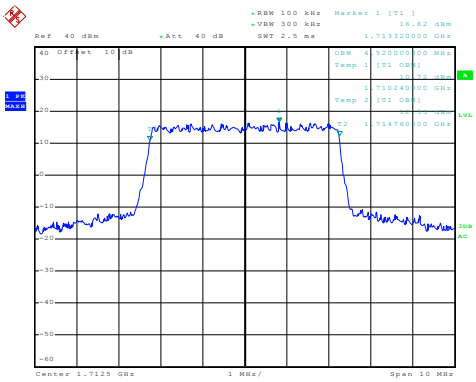
Date: 3.NOV.2015 19:04:52

Highest channel

Test Item: 99% Occupy bandwidth

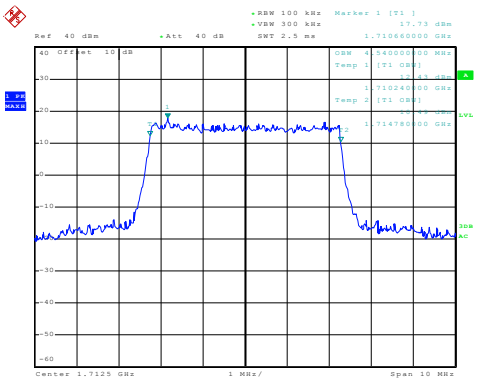
BW: 5MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:07:38

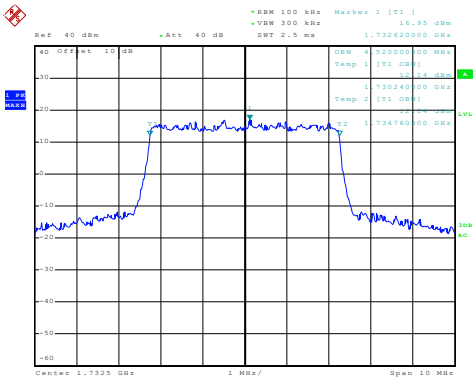
Modulation: QPSK



Date: 3.NOV.2015 19:07:19

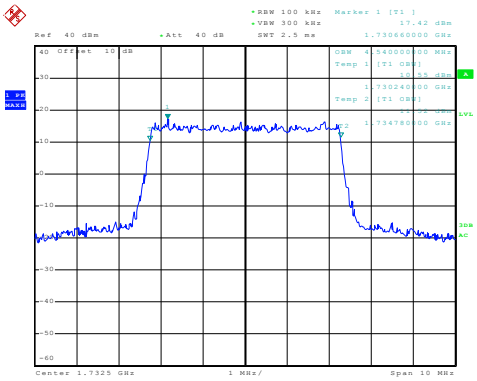
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:09:35

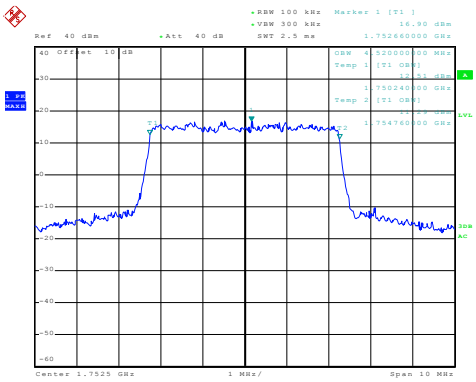
Modulation: QPSK



Date: 3.NOV.2015 19:09:53

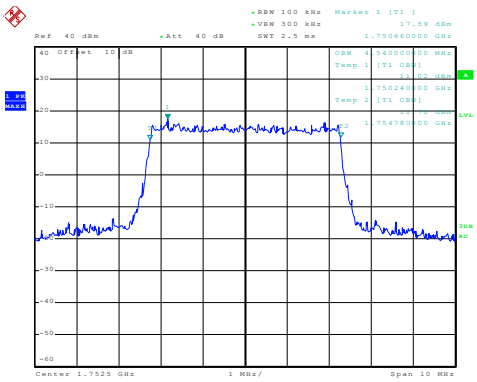
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:11:36

Modulation: QPSK



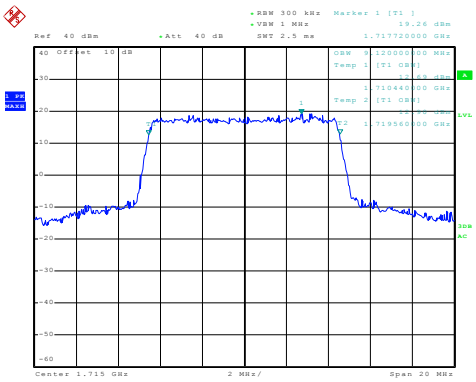
Date: 3.NOV.2015 19:11:04

Highest channel

Test Item: 99% Occupy bandwidth

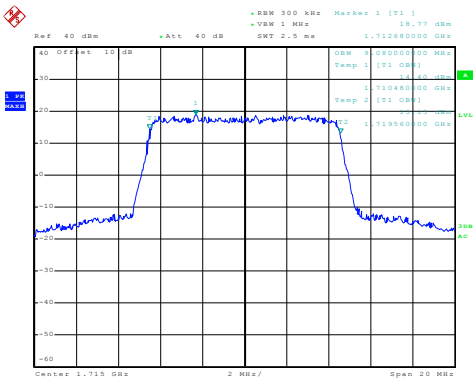
BW: 10MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:17:16

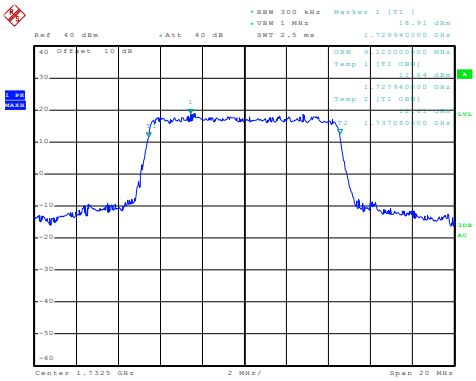
Modulation: QPSK



Date: 3.NOV.2015 19:16:55

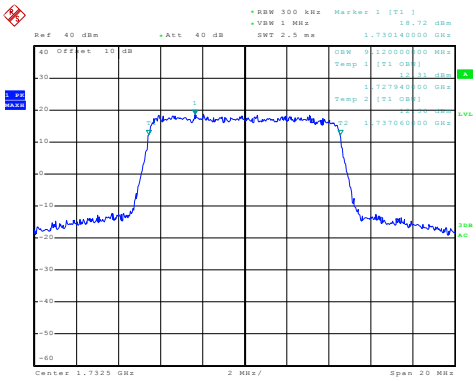
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:18:30

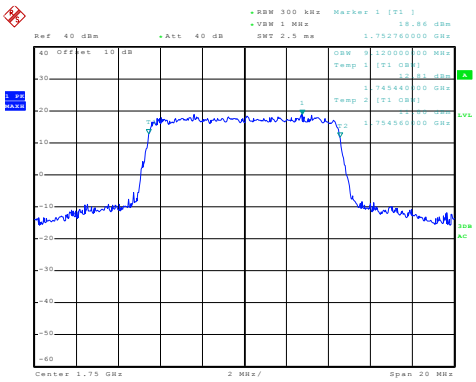
Modulation: QPSK



Date: 3.NOV.2015 19:18:51

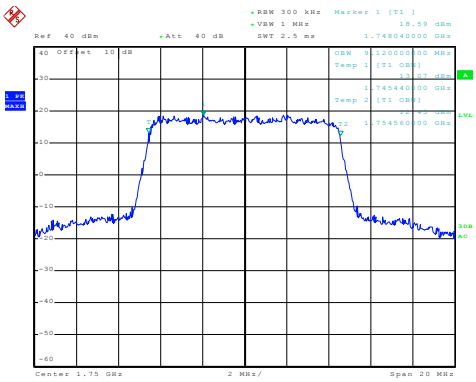
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:20:25

Modulation: QPSK



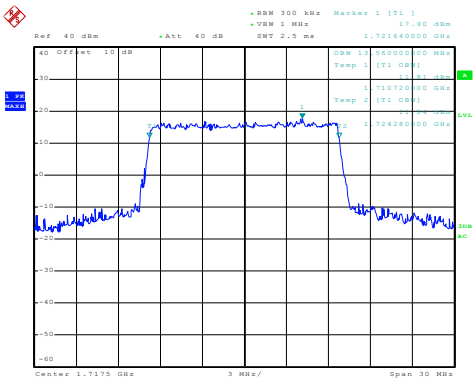
Date: 3.NOV.2015 19:20:03

Highest channel

Test Item: 99% Occupy bandwidth

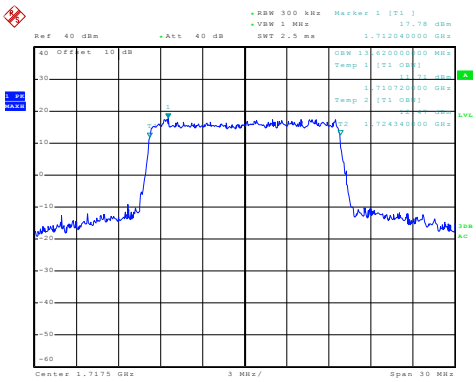
BW: 15MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:24:06

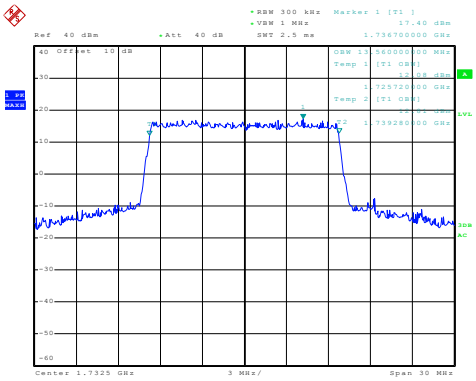
Modulation: QPSK



Date: 3.NOV.2015 19:24:27

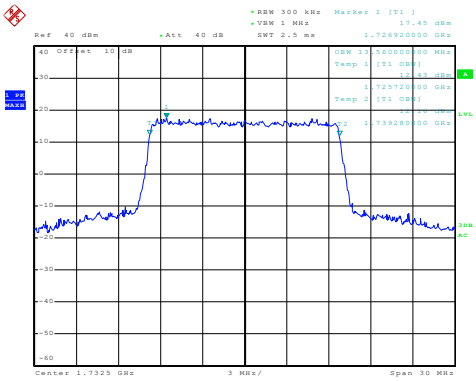
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:26:21

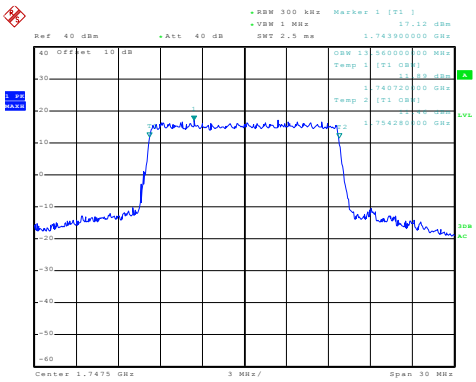
Modulation: QPSK



Date: 3.NOV.2015 19:26:02

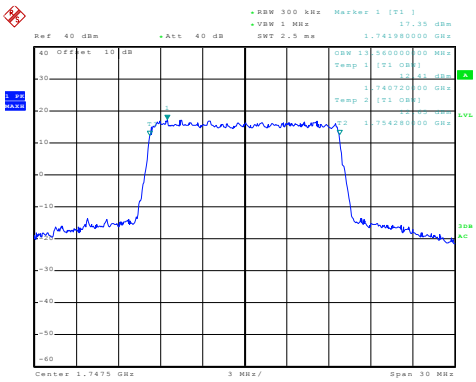
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:28:10

Modulation: QPSK



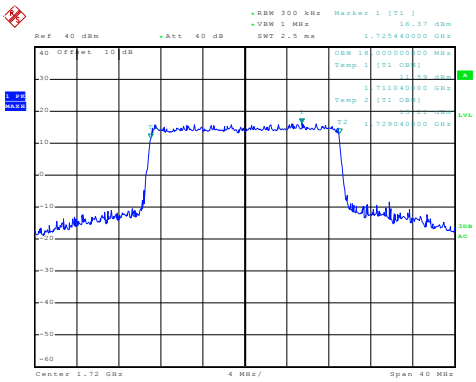
Date: 3.NOV.2015 19:29:00

Highest channel

Test Item: 99% Occupy bandwidth

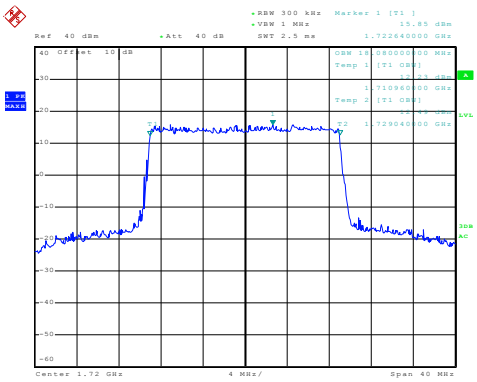
BW: 20MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:32:02

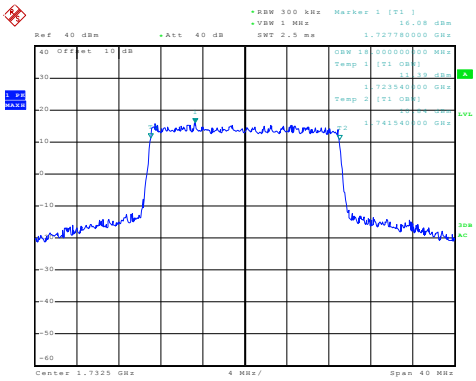
Modulation: QPSK



Date: 3.NOV.2015 19:31:28

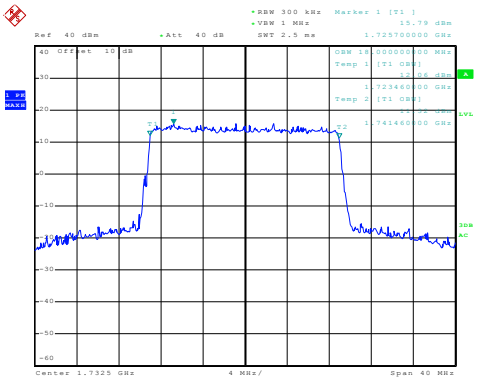
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:33:28

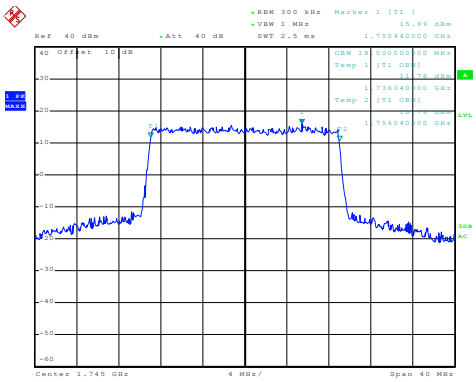
Modulation: QPSK



Date: 3.NOV.2015 19:33:51

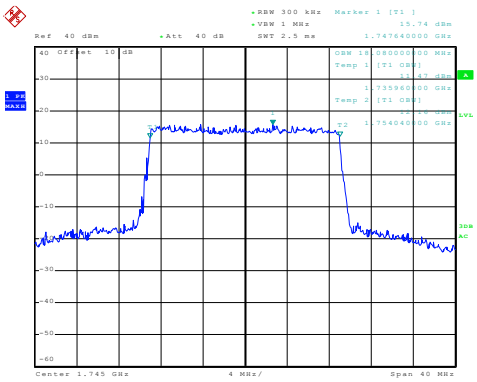
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:35:32

Modulation: QPSK



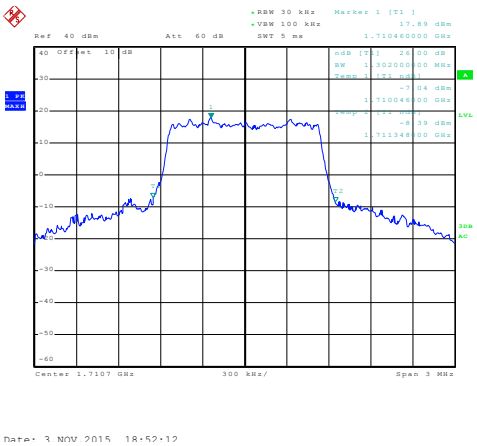
Date: 3.NOV.2015 19:35:09

Highest channel

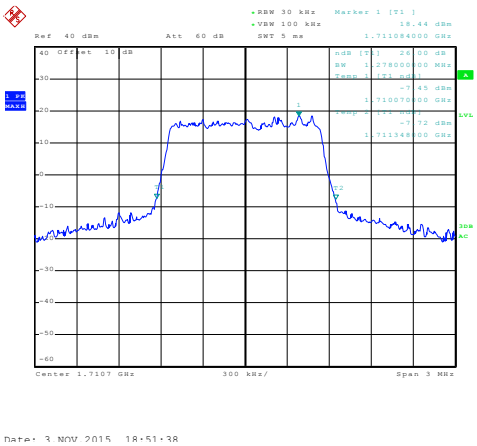
Test Item: -26dBc bandwidth

BW: 1.4MHz

Modulation: 16QAM

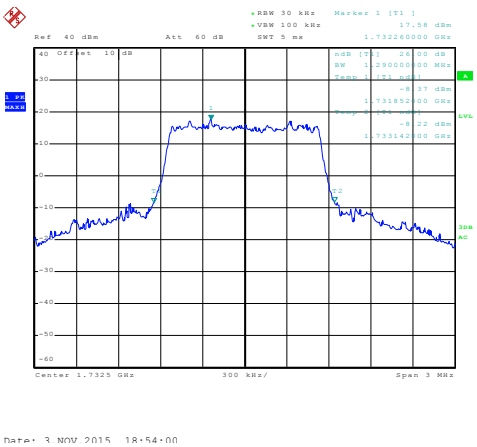


Modulation: QPSK

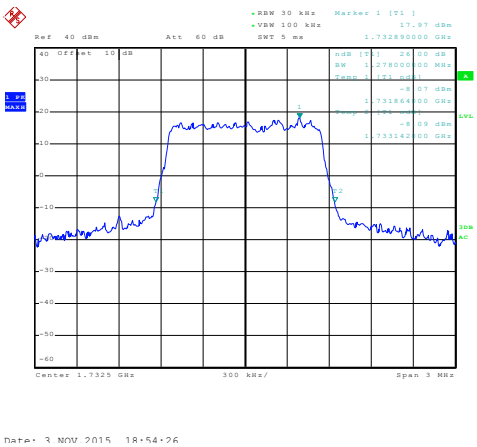


Lowest channel

Modulation: 16QAM

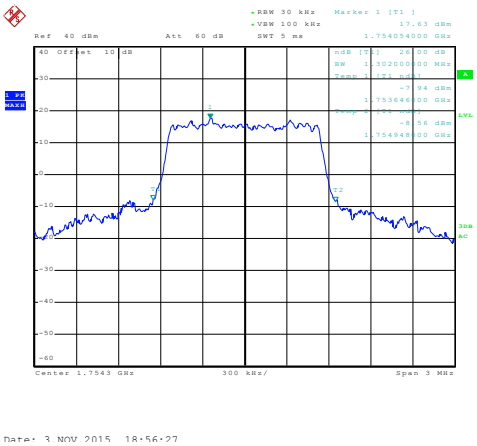


Modulation: QPSK

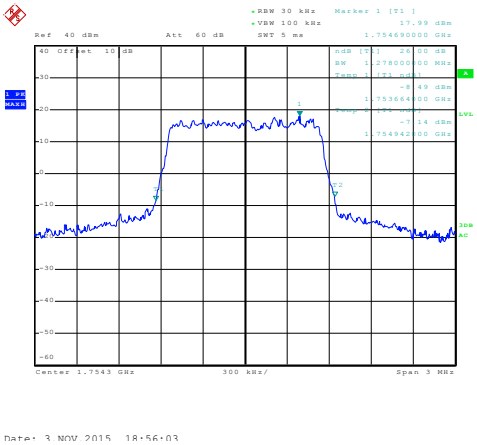


Middle channel

Modulation: 16QAM



Modulation: QPSK

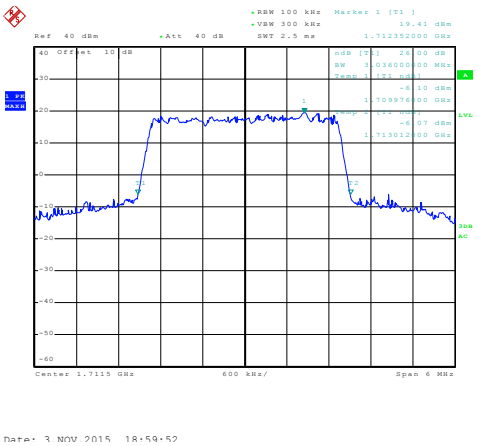


Highest channel

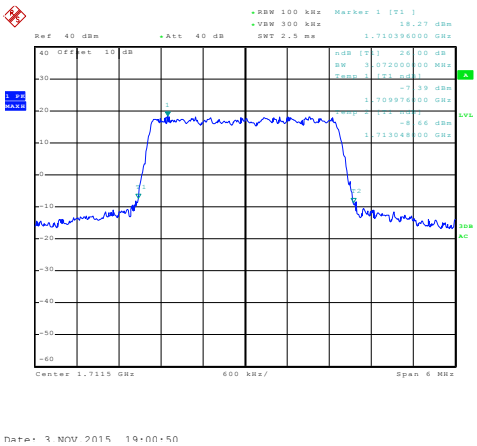
Test Item: -26dBc bandwidth

BW: 3MHz

Modulation: 16QAM

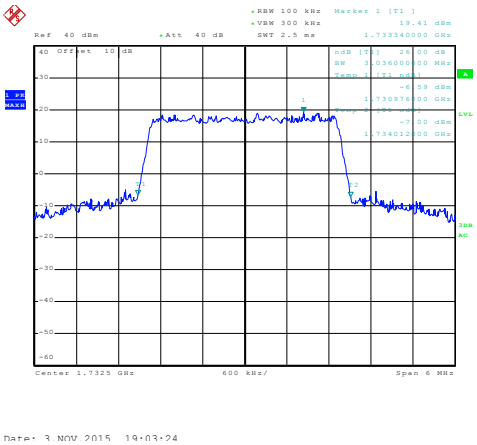


Modulation: QPSK

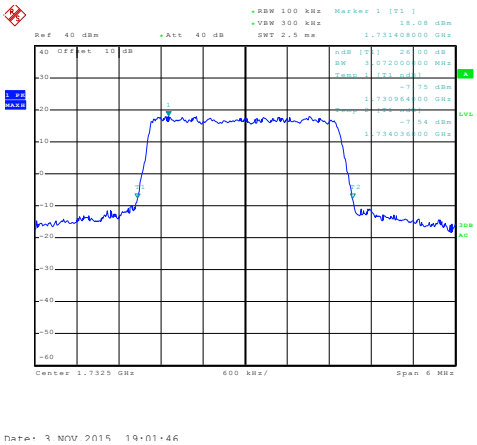


Lowest channel

Modulation: 16QAM

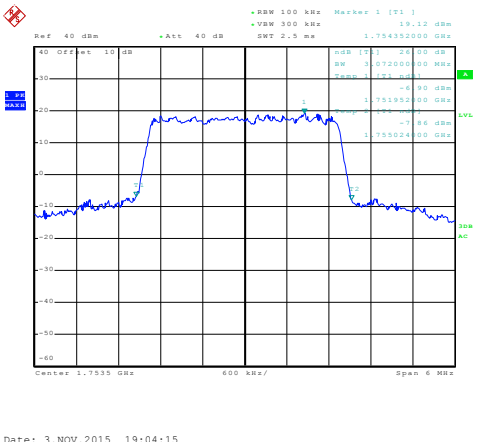


Modulation: QPSK

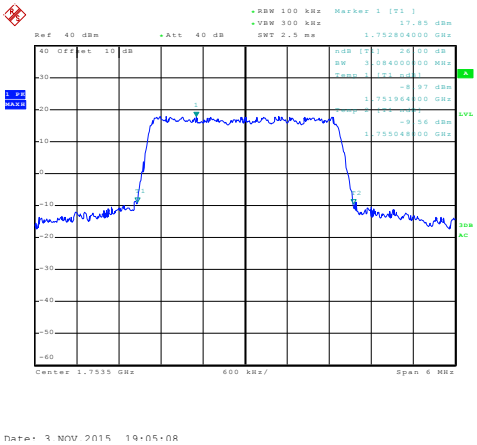


Middle channel

Modulation:16QAM



Modulation: QPSK

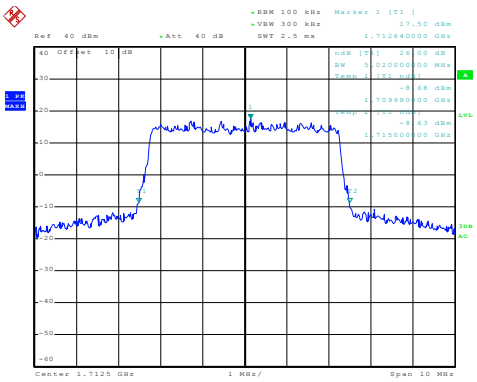


Highest channel

Test Item: -26dBc bandwidth

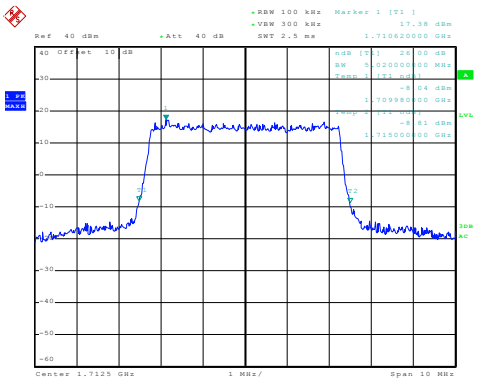
BW: 5MHz

Modulation: 16QAM



Date: 3.NOV.2015 19:07:54

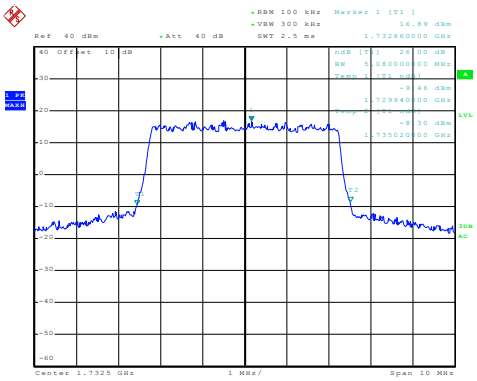
Modulation: QPSK



Date: 3.NOV.2015 19:06:58

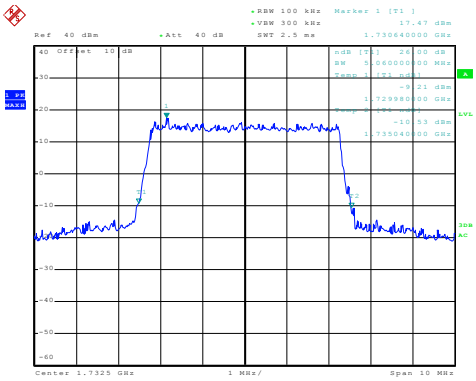
Lowest channel

Modulation: 16QAM



Date: 3.NOV.2015 19:09:11

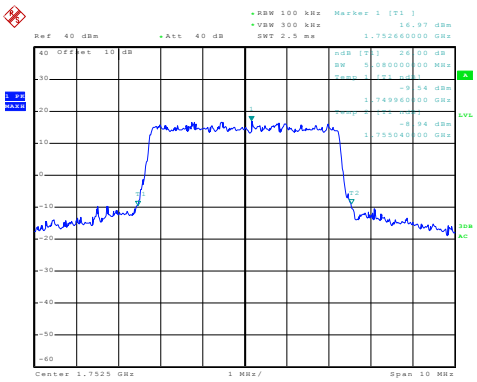
Modulation: QPSK



c Date: 3.NOV.2015 19:10:09

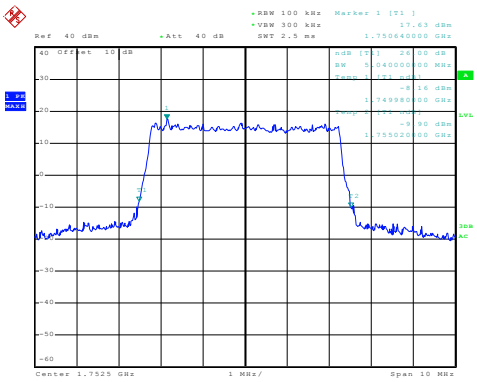
Middle channel

Modulation: 16QAM



Date: 3.NOV.2015 19:12:01

Modulation: QPSK



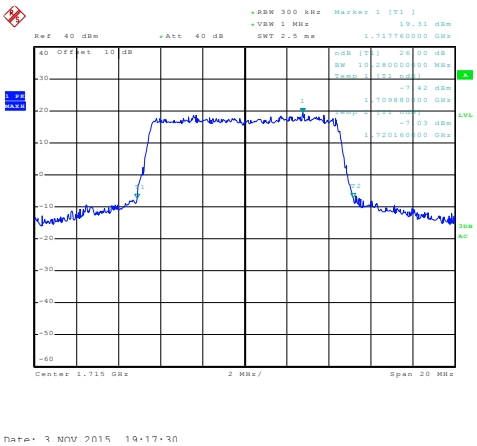
Date: 3.NOV.2015 19:10:50

Highest channel

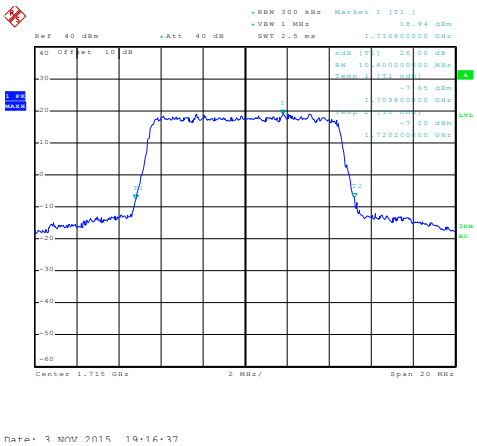
Test Item: -26dBc bandwidth

BW: 10MHz

Modulation: 16QAM

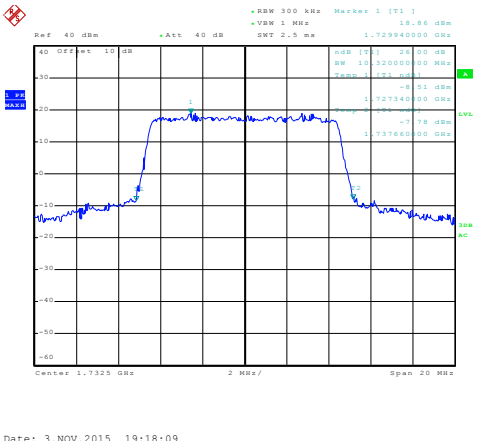


Modulation: QPSK

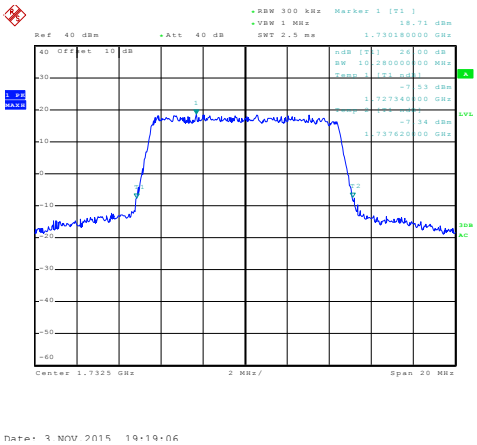


Lowest channel

Modulation: 16QAM

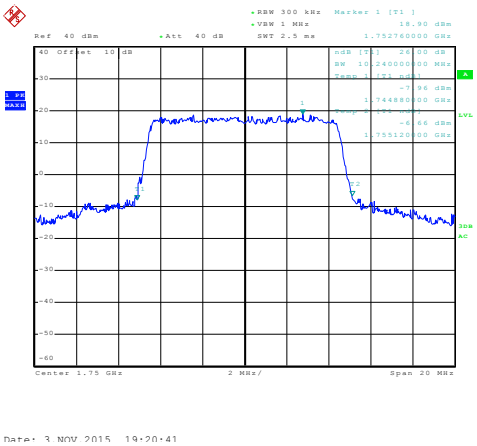


Modulation: QPSK

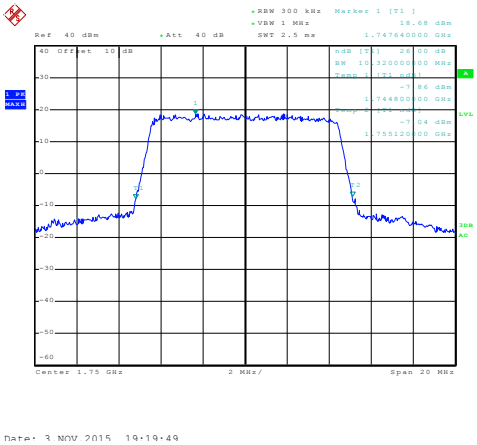


Middle channel

Modulation: 16QAM



Modulation: QPSK

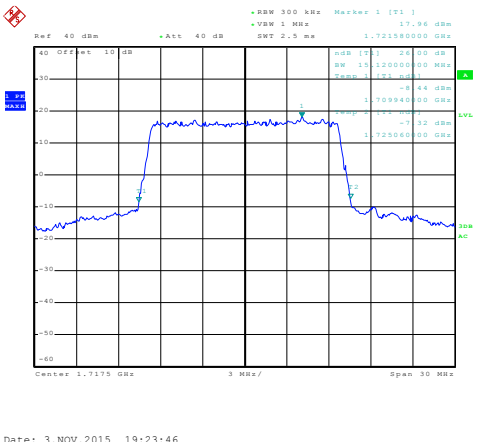


Highest channel

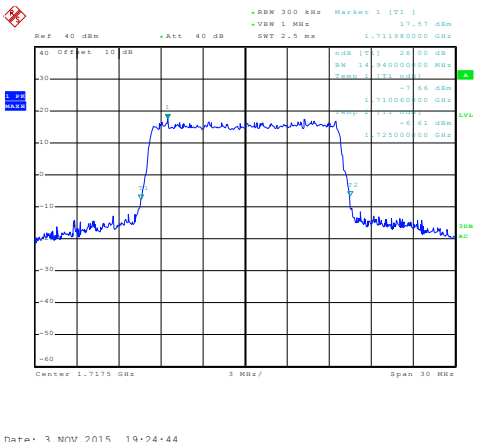
Test Item: -26dBc bandwidth

BW: 15MHz

Modulation: 16QAM

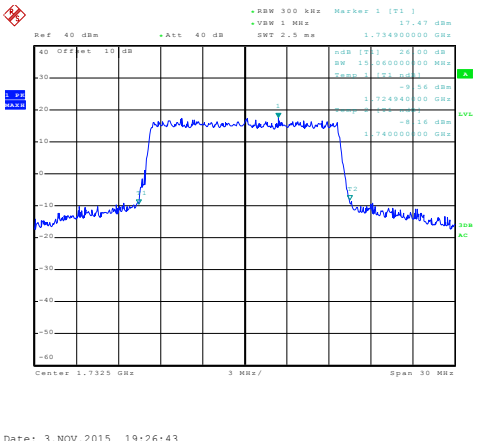


Modulation: QPSK

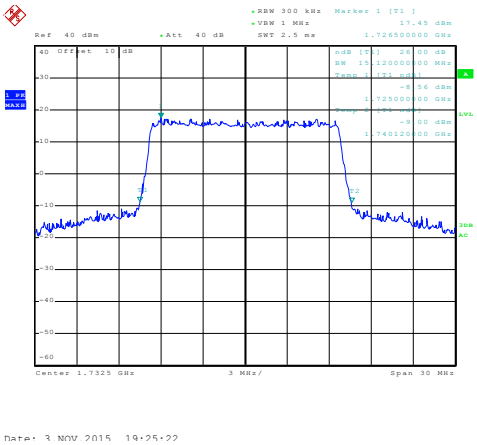


Lowest channel

Modulation:16QAM

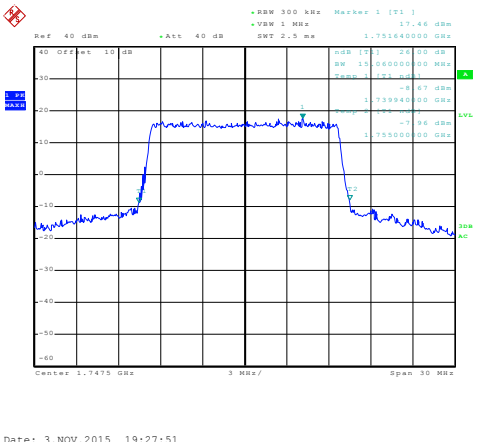


Modulation: QPSK

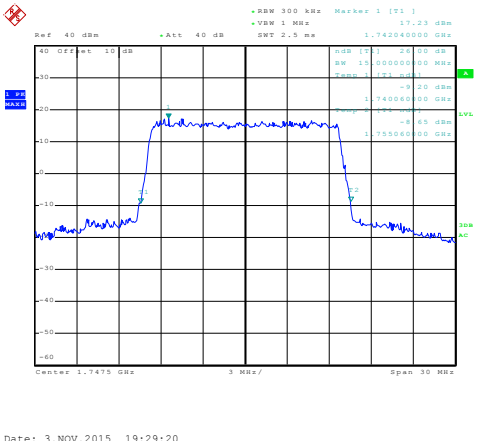


Middle channel

Modulation:16QAM



Modulation: QPSK

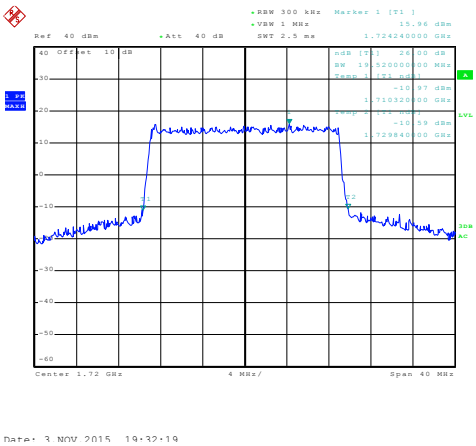


Highest channel

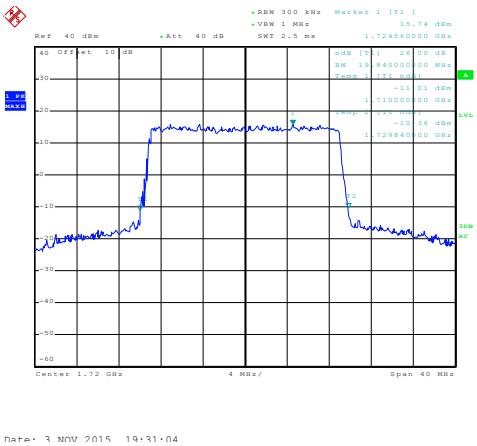
Test Item: -26dBc bandwidth

BW: 20MHz

Modulation: 16QAM

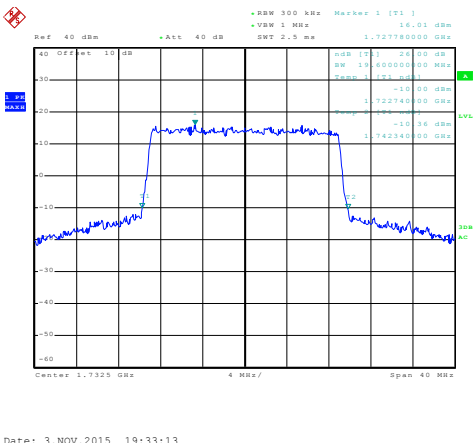


Modulation: QPSK

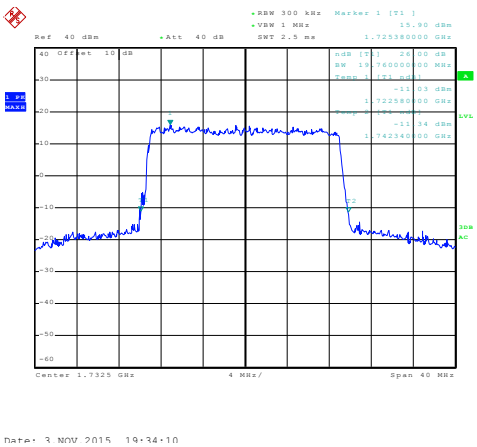


Lowest channel

Modulation: 16QAM

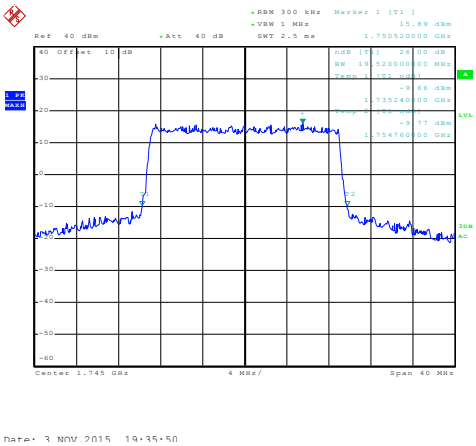


Modulation: QPSK

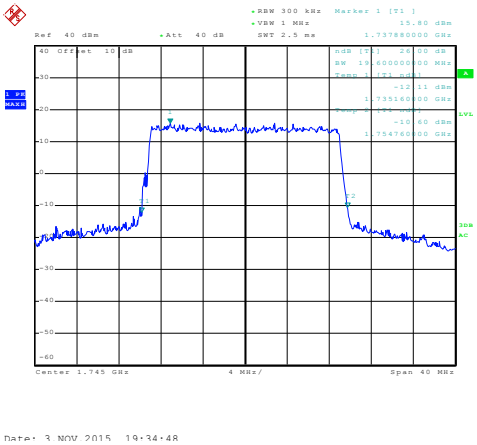


Middle channel

Modulation:16QAM



Modulation: QPSK

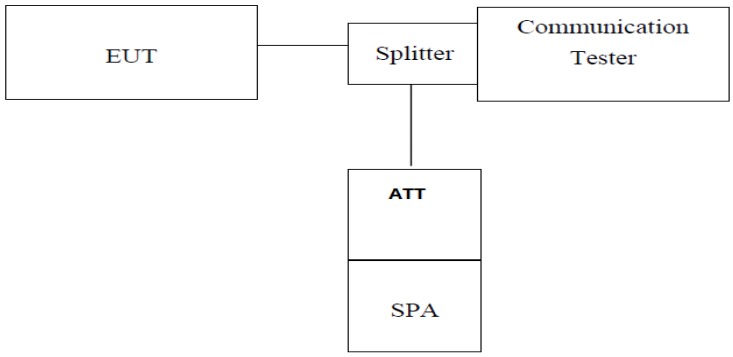


Highest channel

6.8 Modulation Characteristic

According to FCC § 2.1047(d), Part 27L & 27C 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:	FCC Part 24.238 (a), part 27.53(g), part 27.53(h) and part 27.53(m)
Test Method:	FCC part 2.1051
Limit:	**Conducted spurious emission:** **Band 4:** -13 dBm **Band edge:** **Band 4:** 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.
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

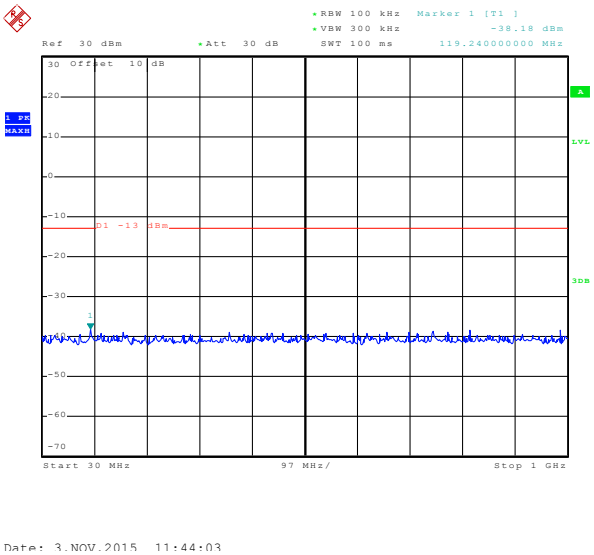
Test plots as follows:

Spurious emission

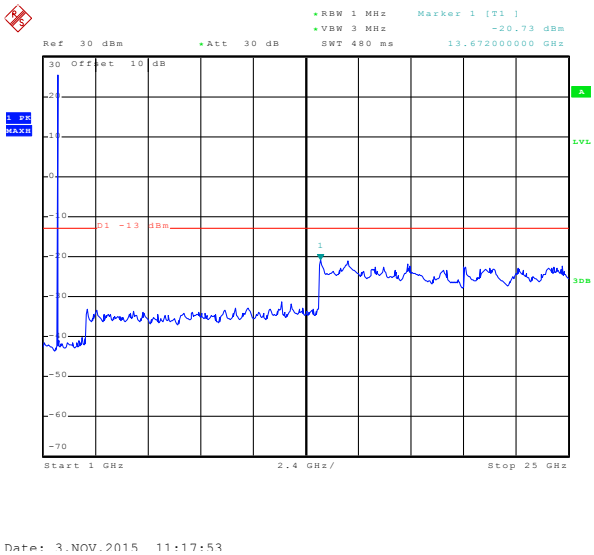
LTE band 4 Part:

1.4MHz

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

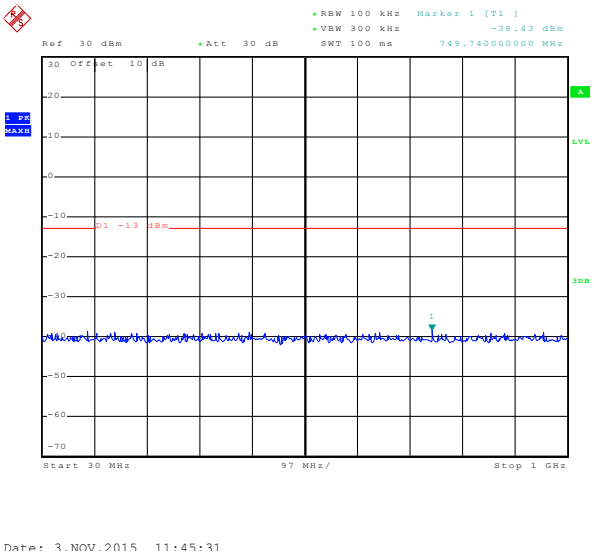


30MHz~1GHz

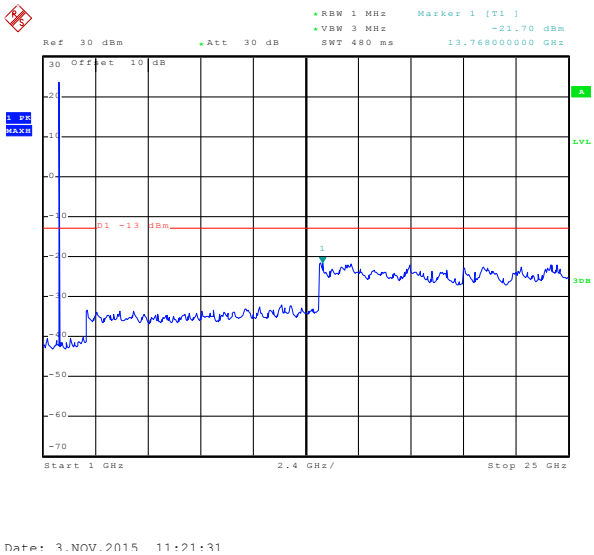


1GHz~25GHz

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

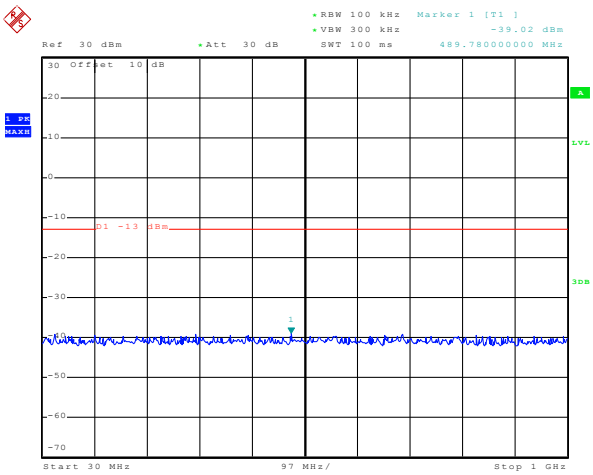


30MHz~1GHz



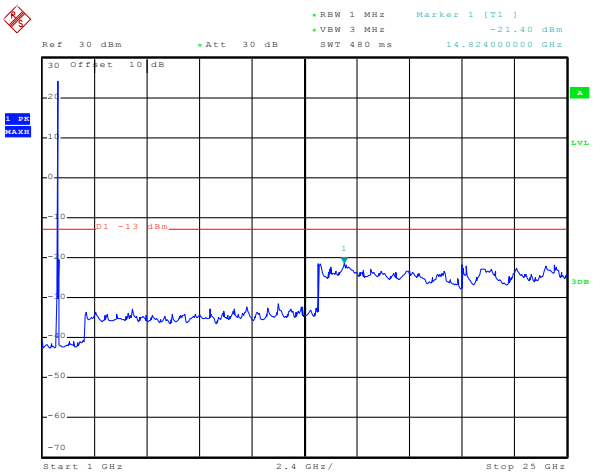
1GHz~25GHz

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



Date: 3.NOV.2015 11:46:55

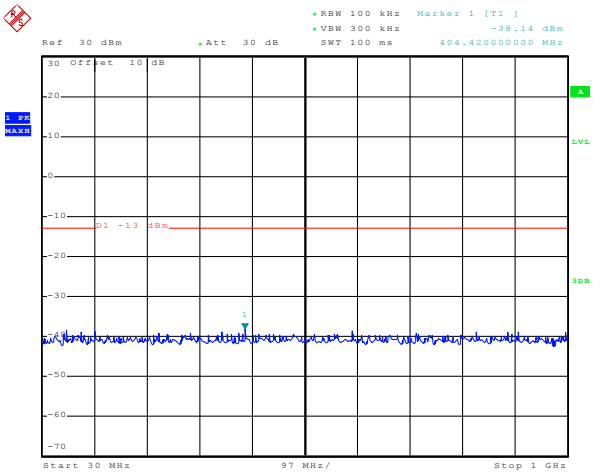
30MHz~1GHz



Date: 3.NOV.2015 11:28:33

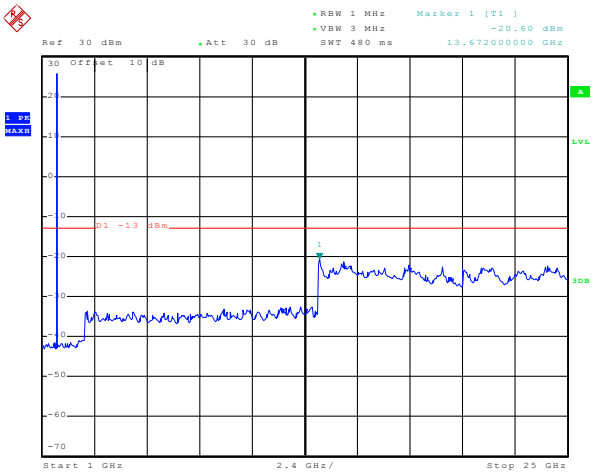
1GHz~25GHz

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



Date: 3.NOV.2015 11:44:16

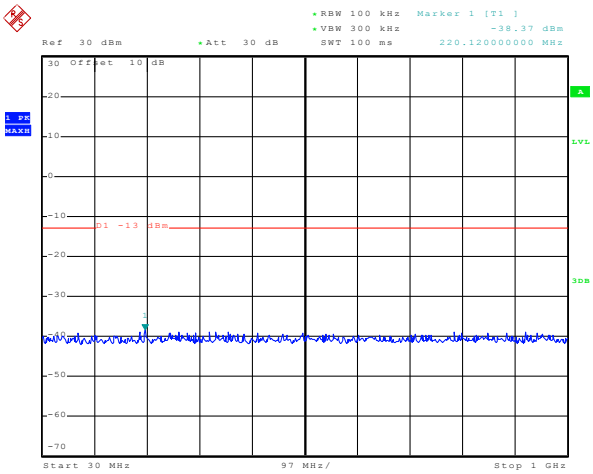
30MHz~1GHz



Date: 3.NOV.2015 11:18:23

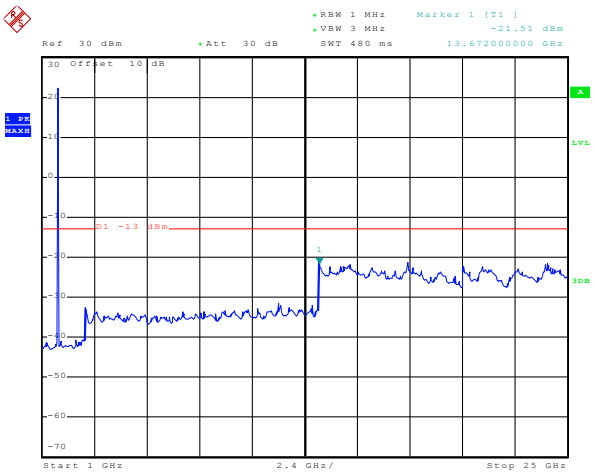
1GHz~25GHz

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



Date: 3.NOV.2015 11:45:45

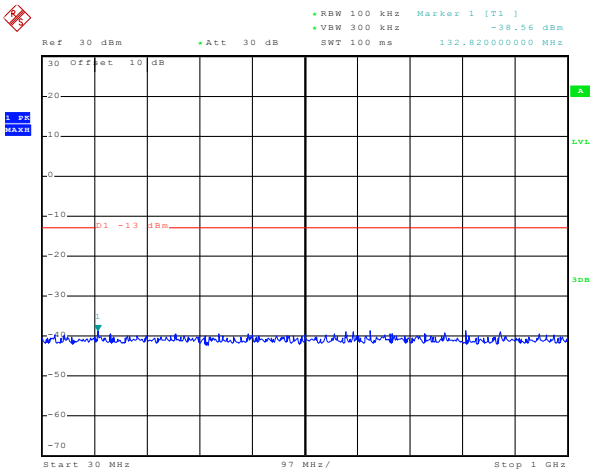
30MHz~1GHz



Date: 3.NOV.2015 11:22:15

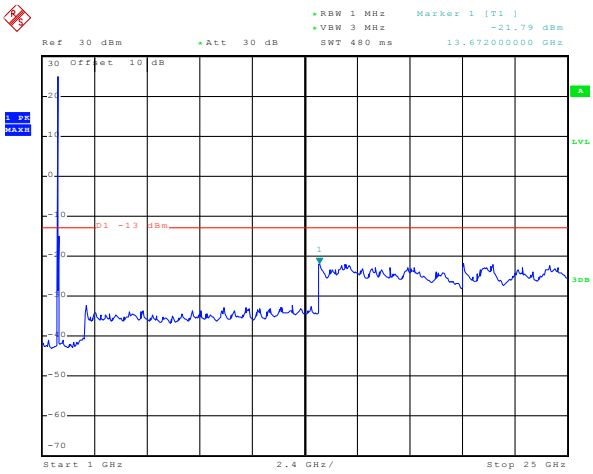
1GHz~25GHz

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



Date: 3.NOV.2015 11:47:06

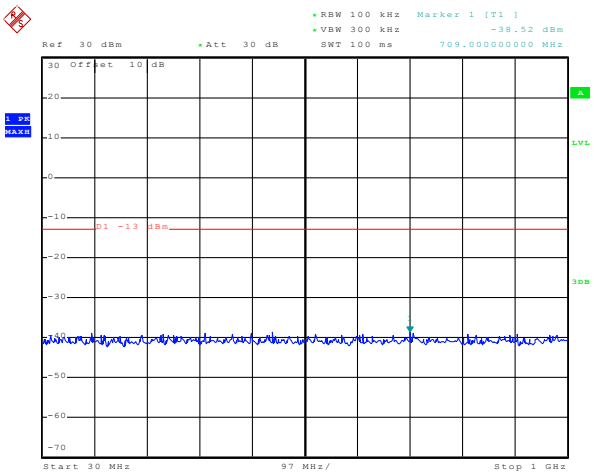
30MHz~1GHz



Date: 3.NOV.2015 11:29:07

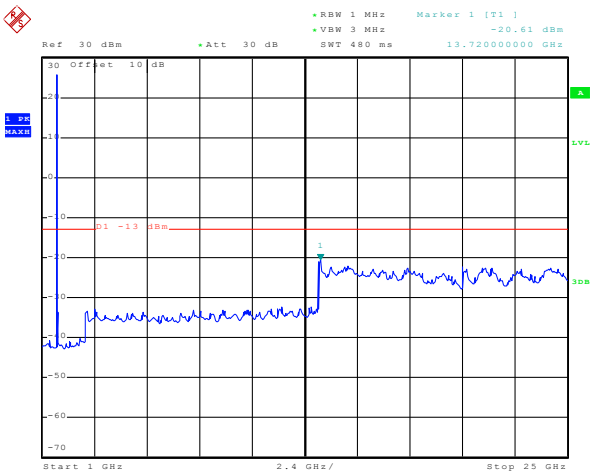
1GHz~25GHz

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



Date: 3.NOV.2015 11:44:29

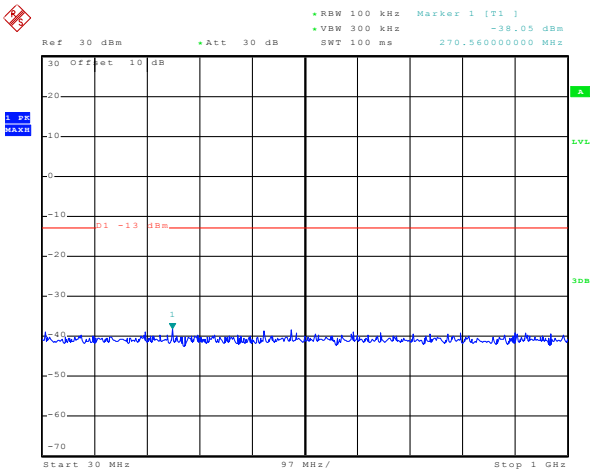
30MHz~1GHz



Date: 3.NOV.2015 11:19:02

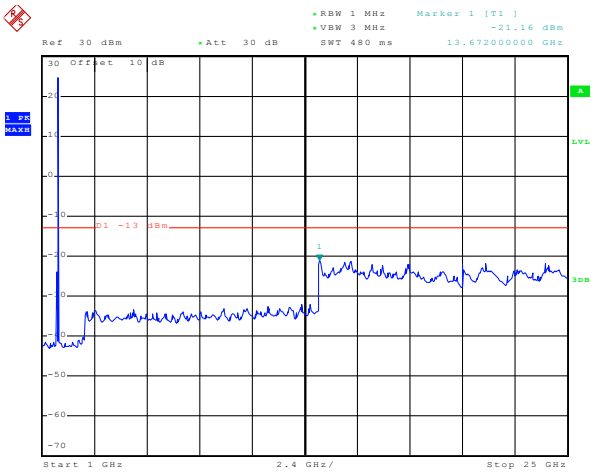
1GHz~25GHz

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



Date: 3.NOV.2015 11:45:57

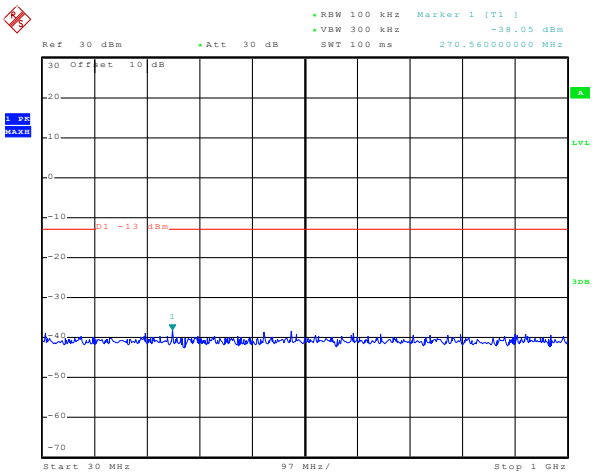
30MHz~1GHz



Date: 3.NOV.2015 11:24:57

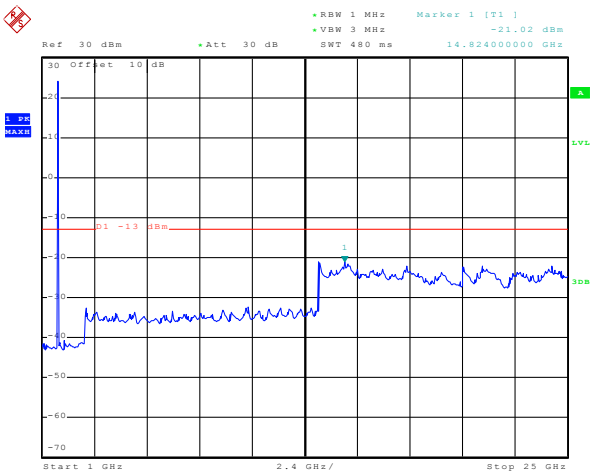
1GHz~25GHz

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



Date: 3.NOV.2015 11:45:57

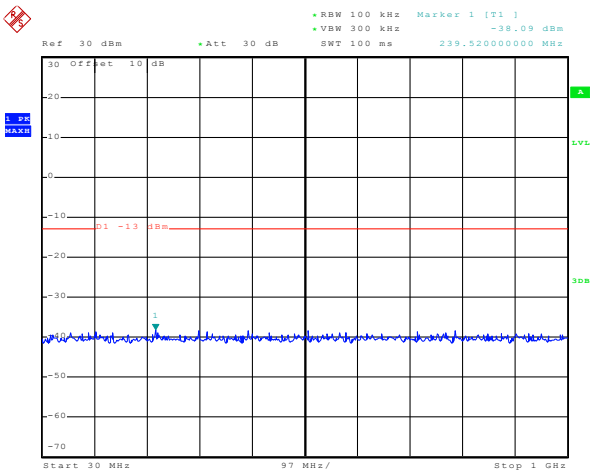
30MHz~1GHz



Date: 3.NOV.2015 11:29:43

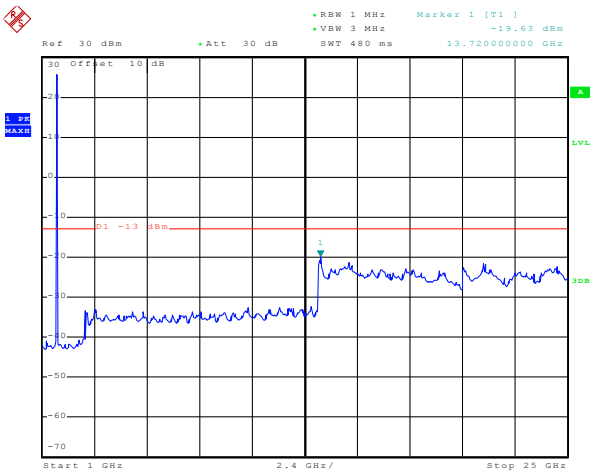
1GHz~25GHz

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



Date: 3.NOV.2015 11:43:24

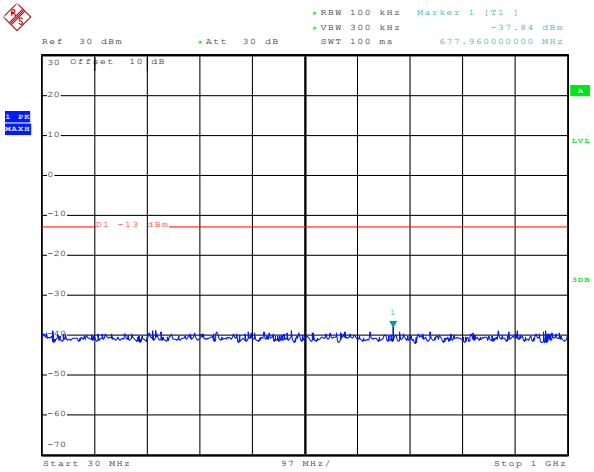
30MHz~1GHz



Date: 3.NOV.2015 11:16:12

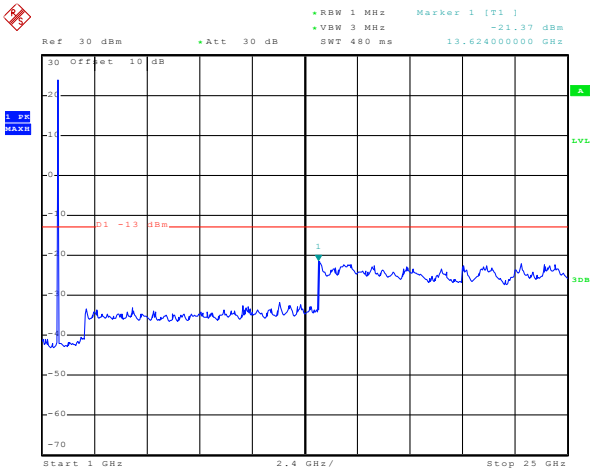
1GHz~25GHz

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



Date: 3.NOV.2015 11:44:47

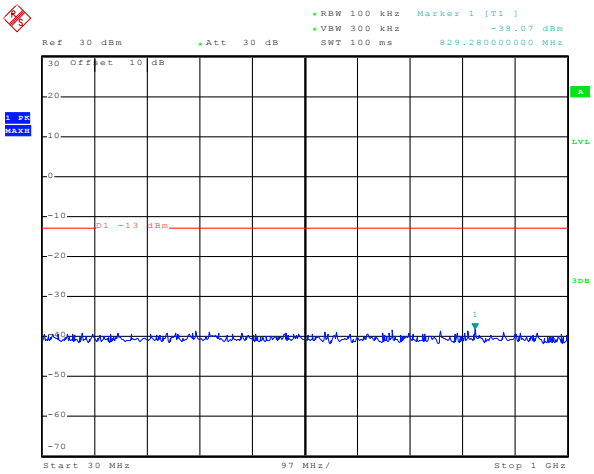
30MHz~1GHz



Date: 3.NOV.2015 11:19:46

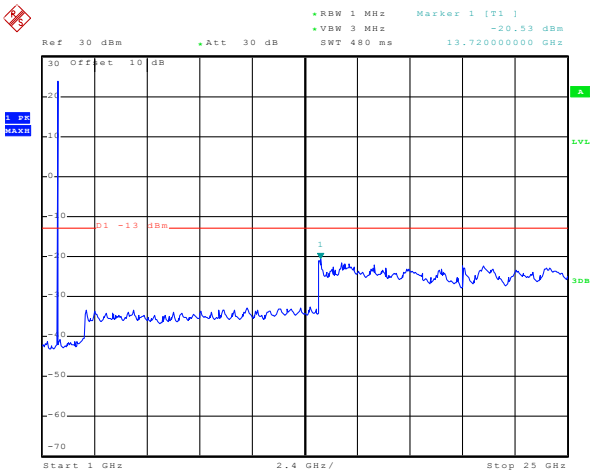
1GHz~25GHz

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



Date: 3.NOV.2015 11:46:20

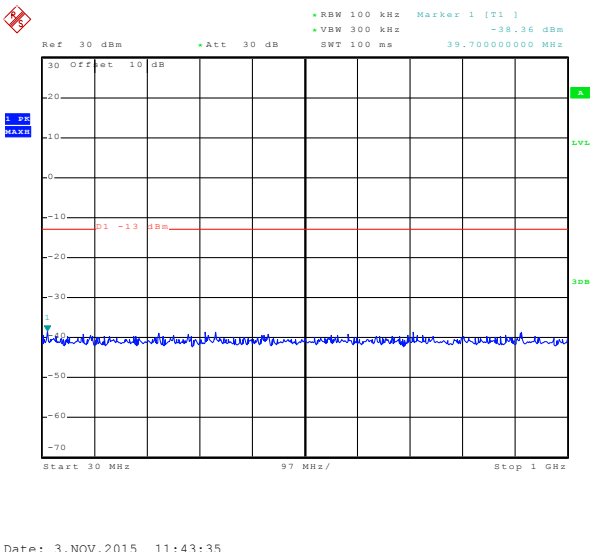
30MHz~1GHz



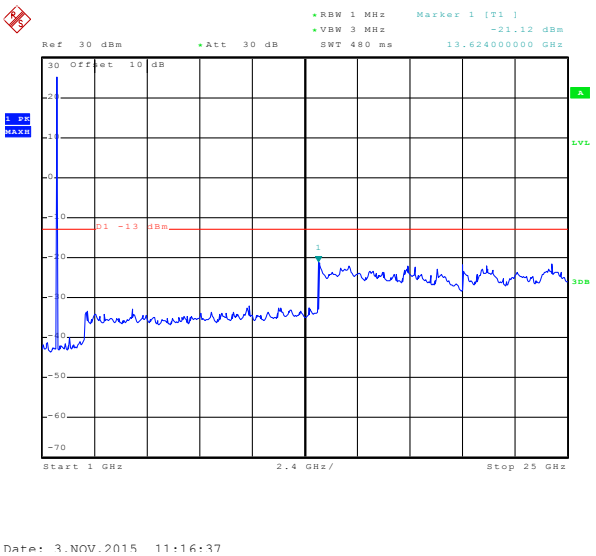
Date: 3.NOV.2015 11:25:49

1GHz~25GHz

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

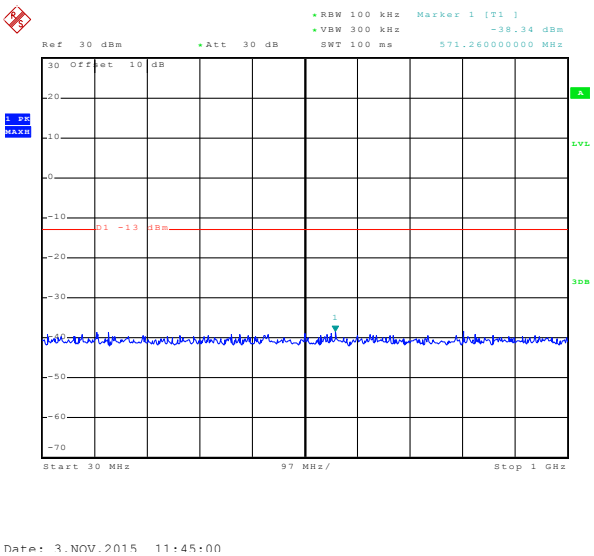


30MHz~1GHz

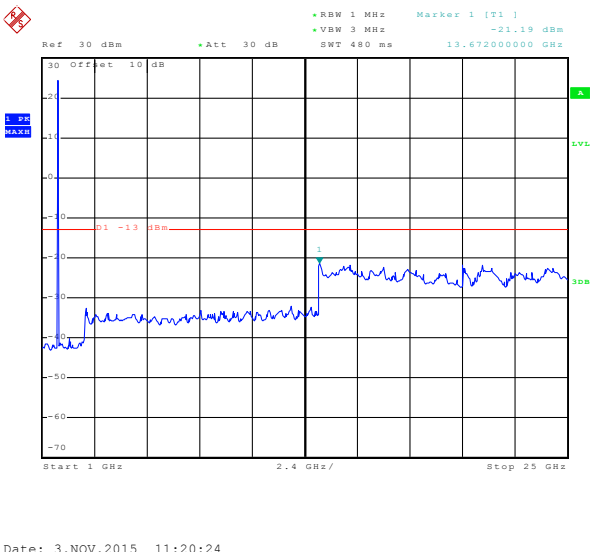


1GHz~25GHz

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

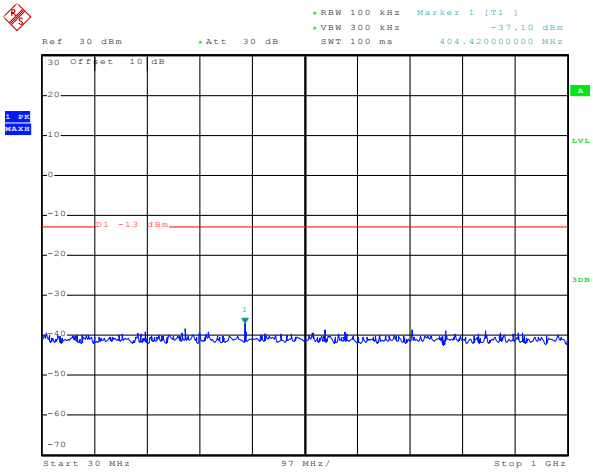


30MHz~1GHz



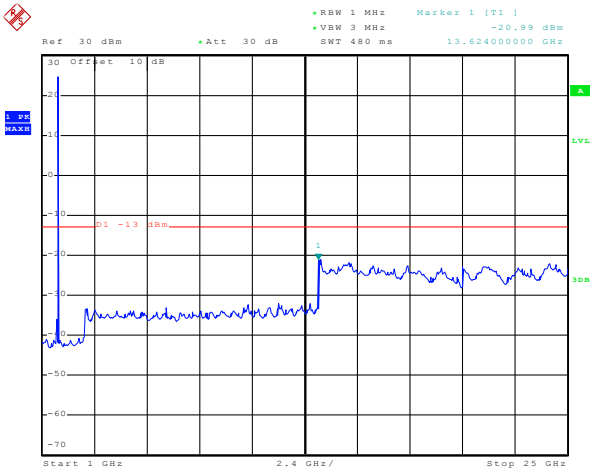
1GHz~25GHz

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



Date: 3.NOV.2015 11:46:31

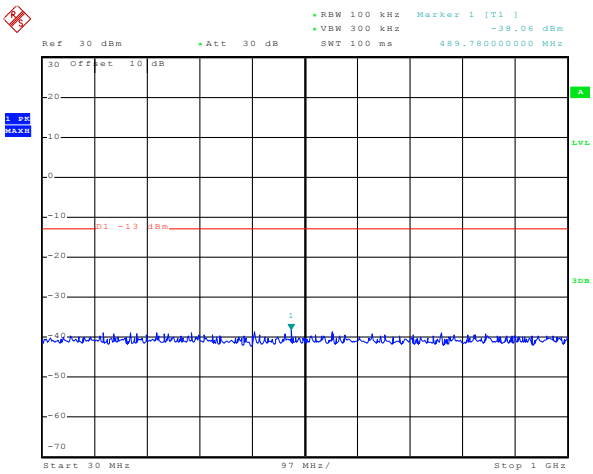
30MHz~1GHz



Date: 3.NOV.2015 11:26:30

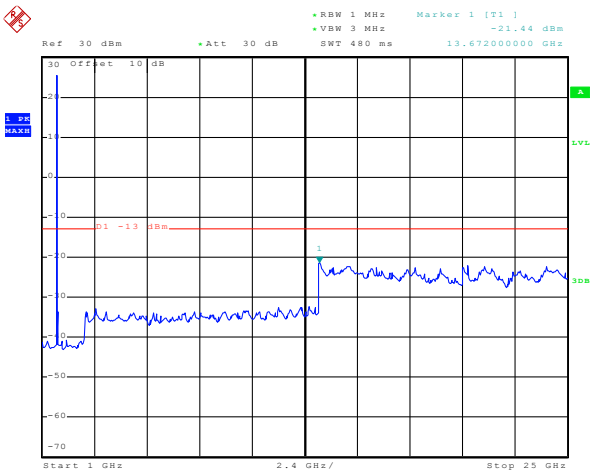
1GHz~25GHz

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



Date: 3.NOV.2015 11:43:50

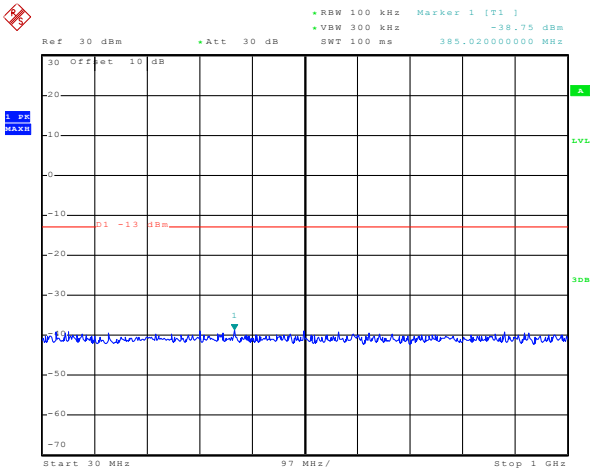
30MHz~1GHz



Date: 3.NOV.2015 11:17:16

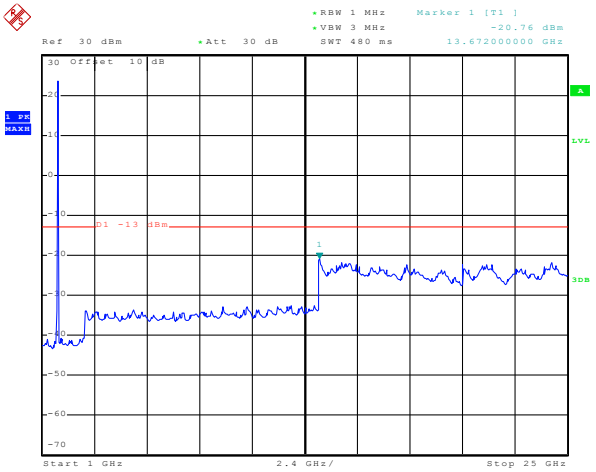
1GHz~25GHz

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



Date: 3.NOV.2015 11:45:11

30MHz~1GHz



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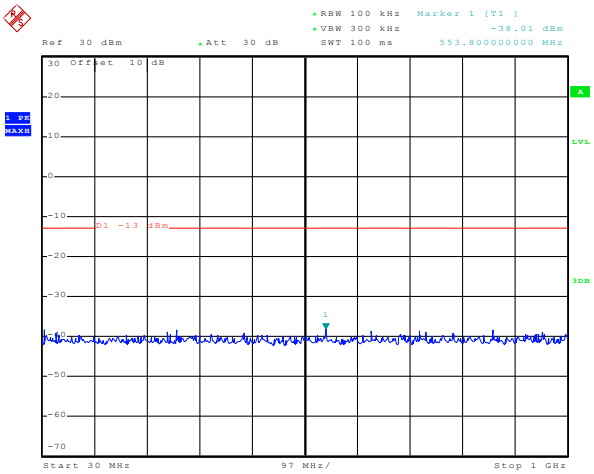
1GHz~25GHz

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



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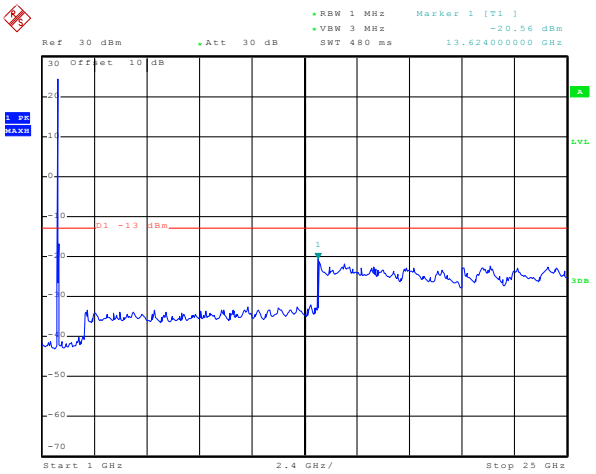
30MHz~1GHz

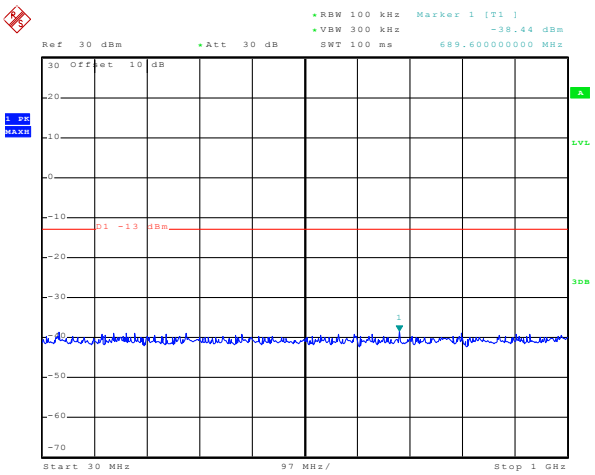


Date: 3.NOV.2015 11:27:39

1GHz~25GHz

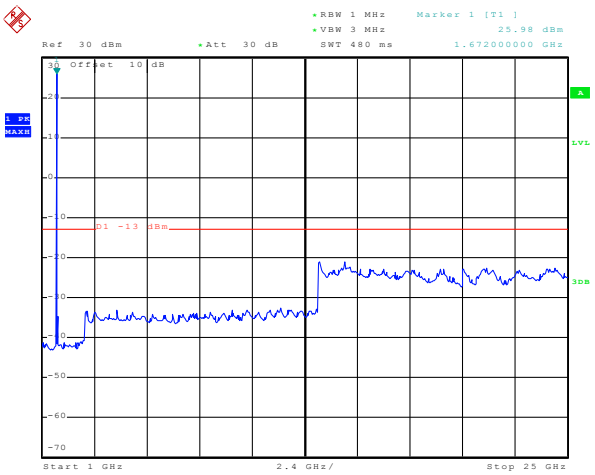
3MHz

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



Date: 3.NOV.2015 11:50:49

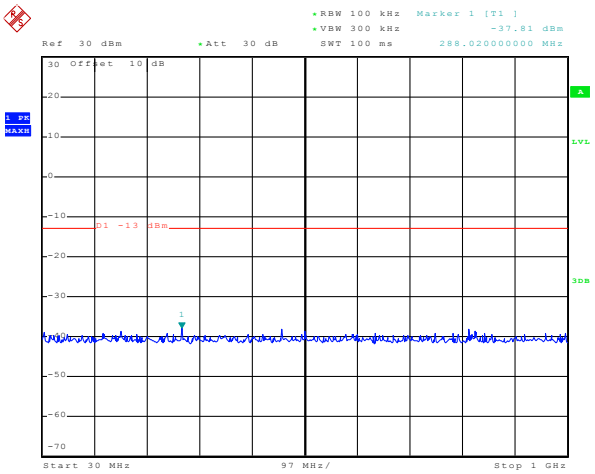
30MHz~1GHz



Date: 3.NOV.2015 11:05:37

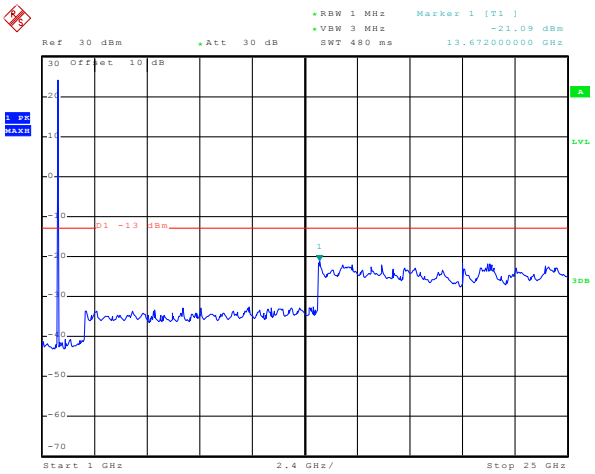
1GHz~25GHz

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



Date: 3.NOV.2015 11:52:11

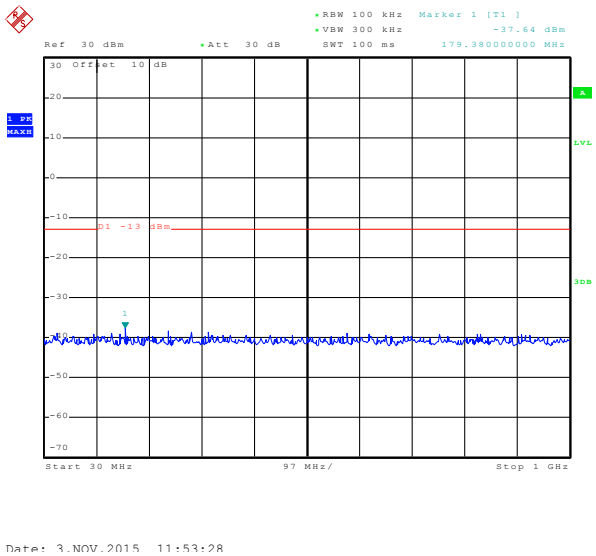
30MHz~1GHz



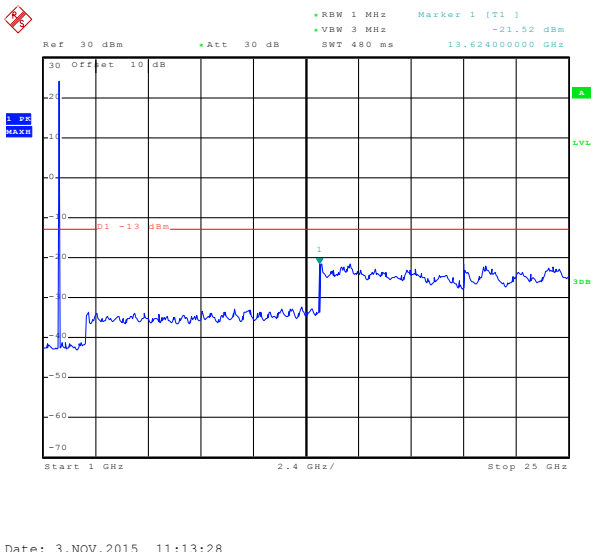
Date: 3.NOV.2015 11:09:34

1GHz~25GHz

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

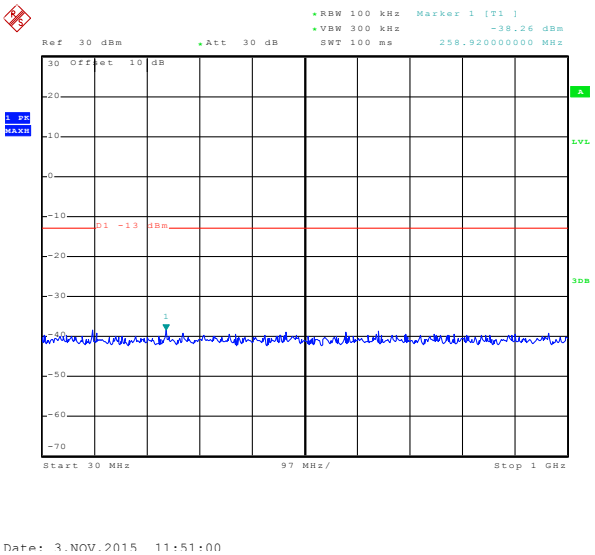


30MHz~1GHz

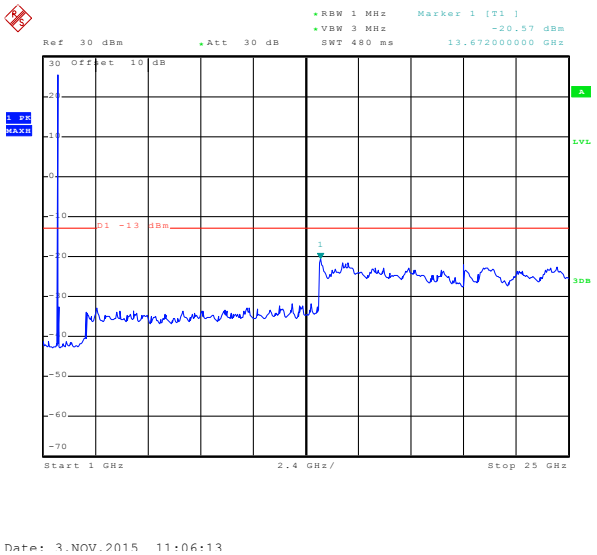


1GHz~25GHz

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

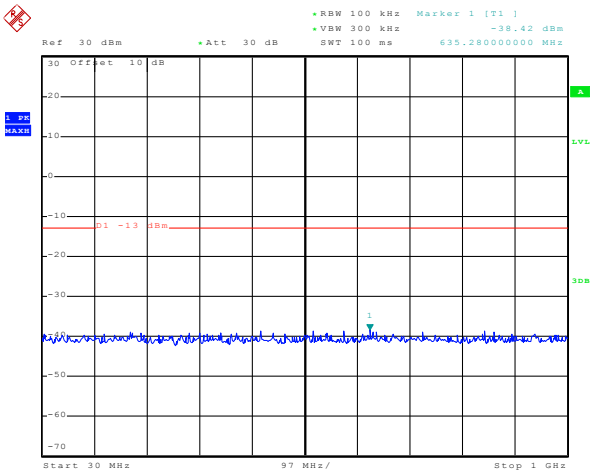


30MHz~1GHz



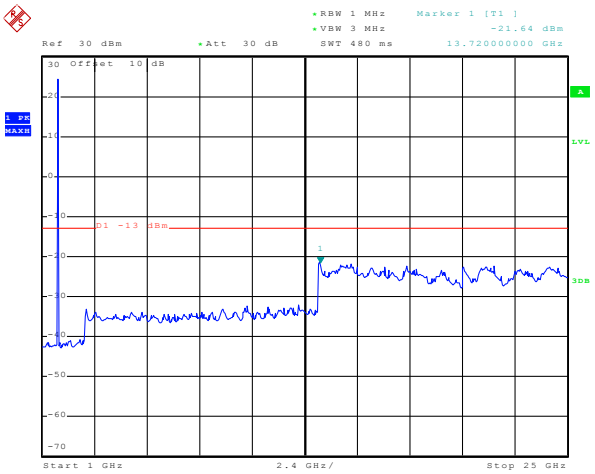
1GHz~25GHz

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



Date: 3.NOV.2015 11:52:26

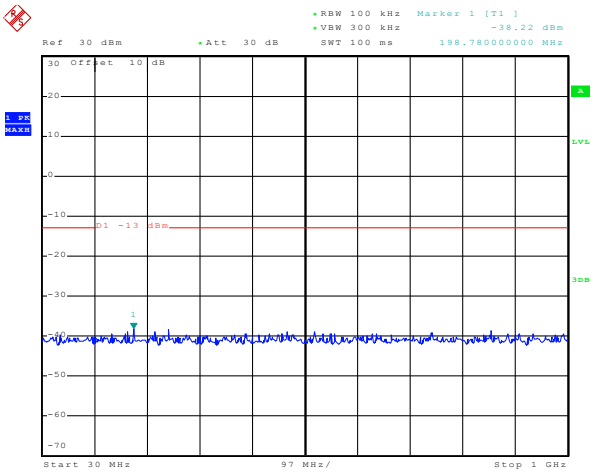
30MHz~1GHz



Date: 3.NOV.2015 11:10:15

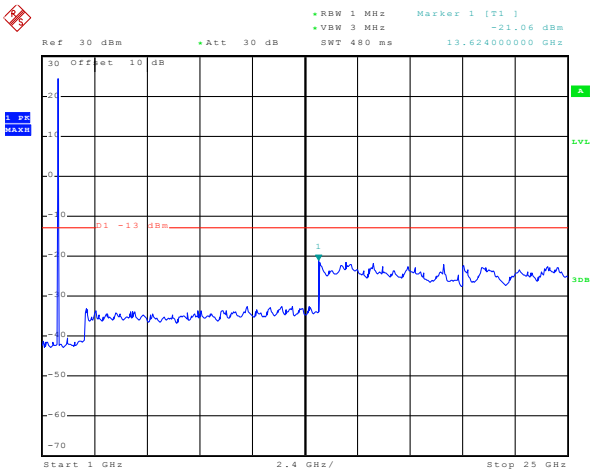
1GHz~25GHz

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



Date: 3.NOV.2015 11:53:39

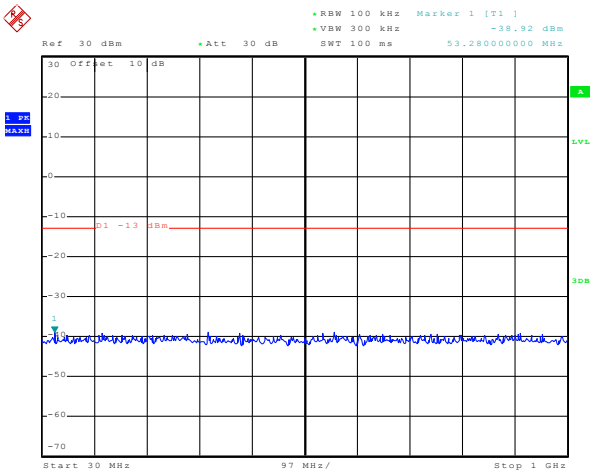
30MHz~1GHz



Date: 3.NOV.2015 11:14:15

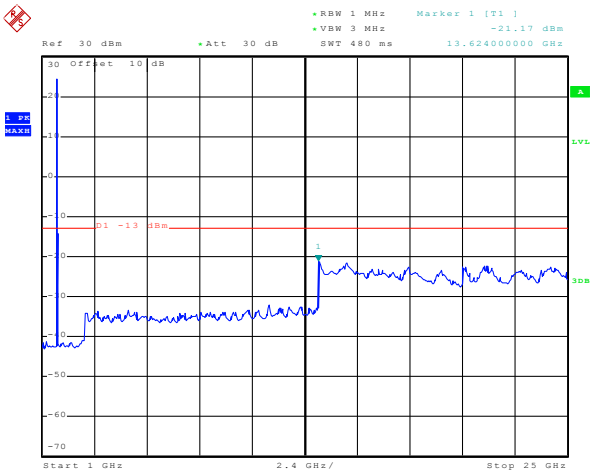
1GHz~25GHz

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



Date: 3.NOV.2015 11:51:12

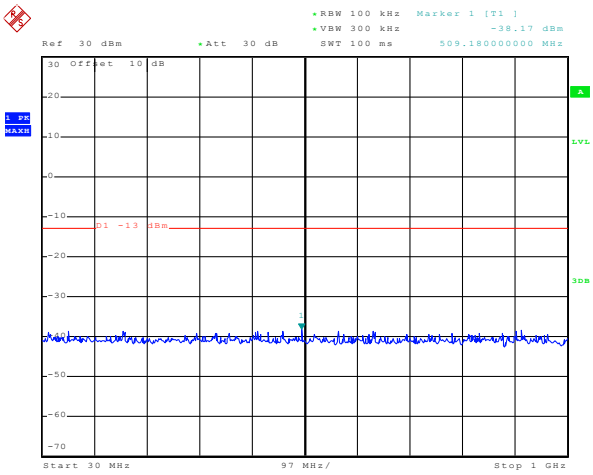
30MHz~1GHz



Date: 3.NOV.2015 11:06:45

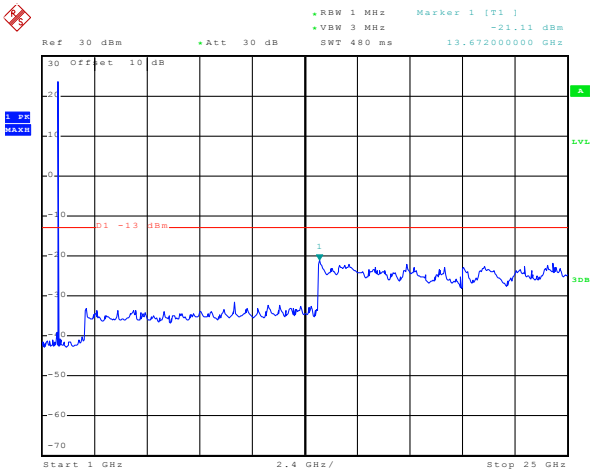
1GHz~25GHz

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



Date: 3.NOV.2015 11:52:37

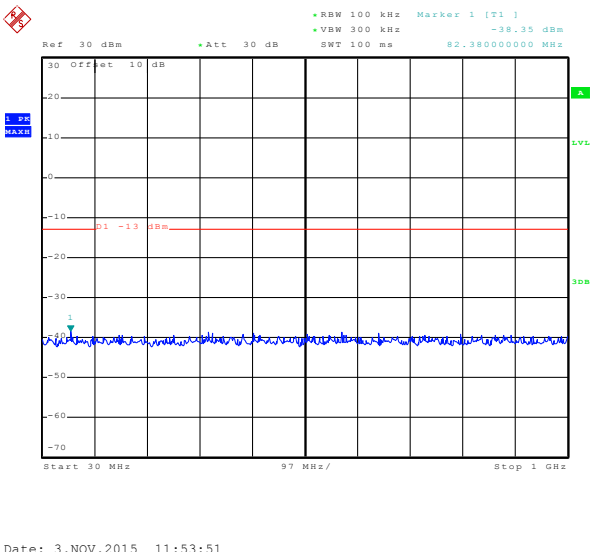
30MHz~1GHz



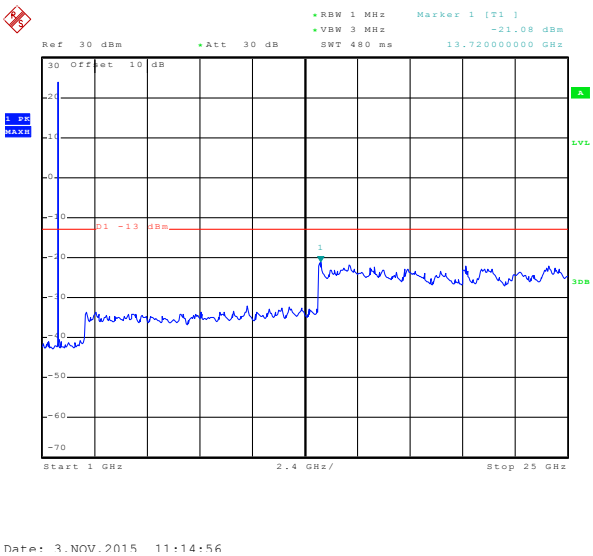
Date: 3.NOV.2015 11:10:52

1GHz~25GHz

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

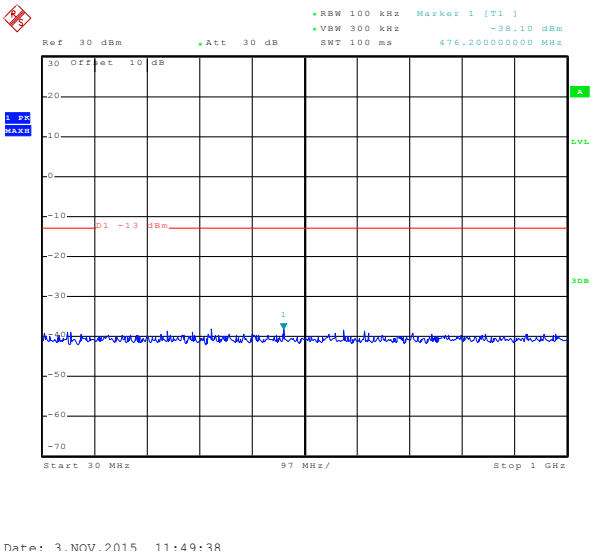


30MHz~1GHz

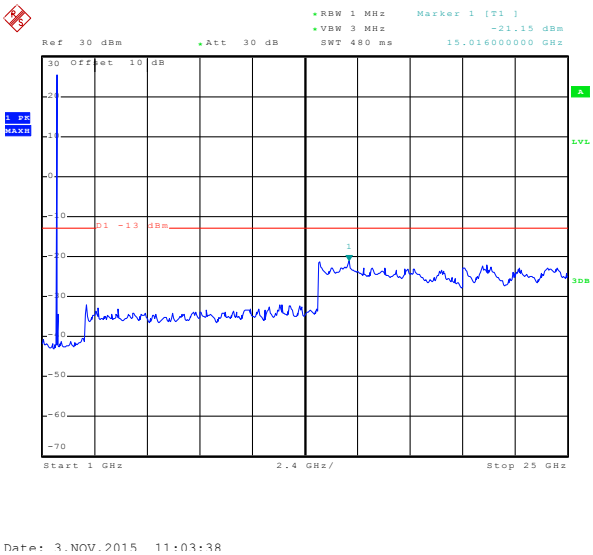


1GHz~25GHz

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

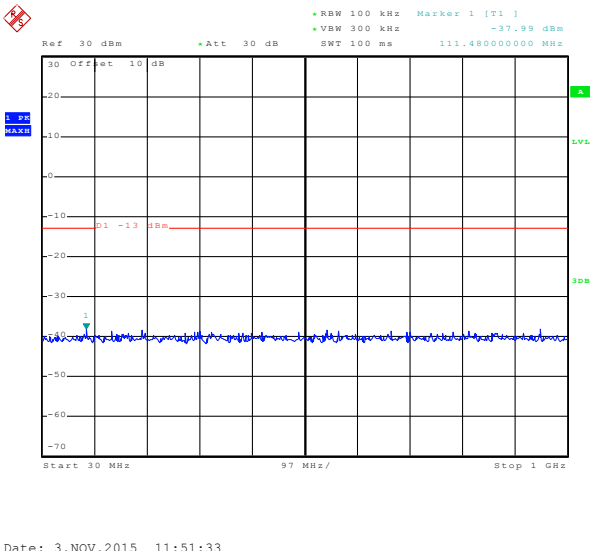


30MHz~1GHz

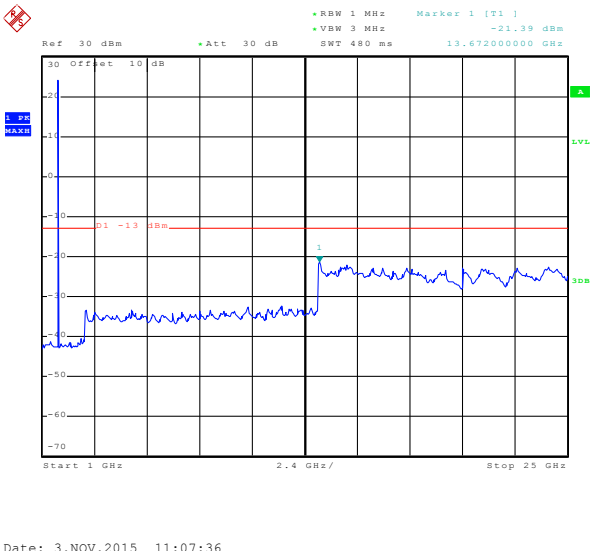


1GHz~25GHz

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

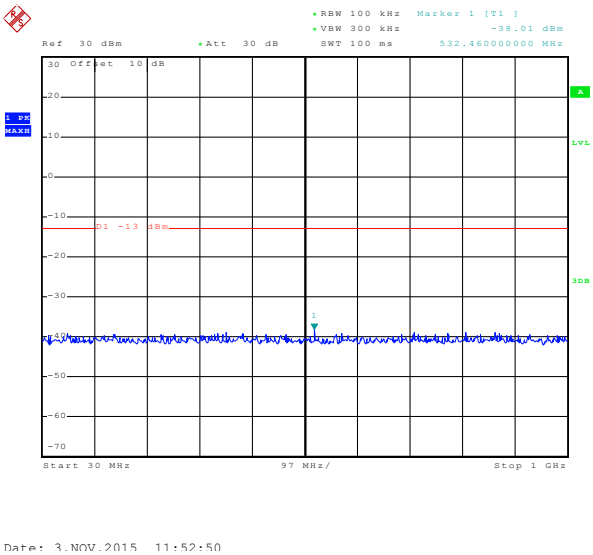


30MHz~1GHz

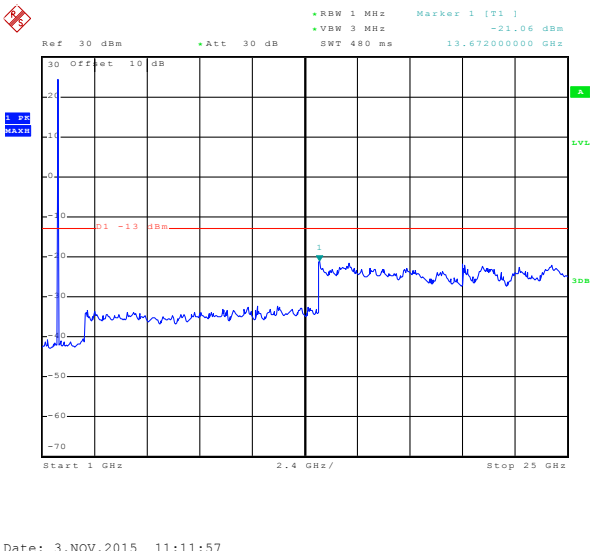


1GHz~25GHz

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

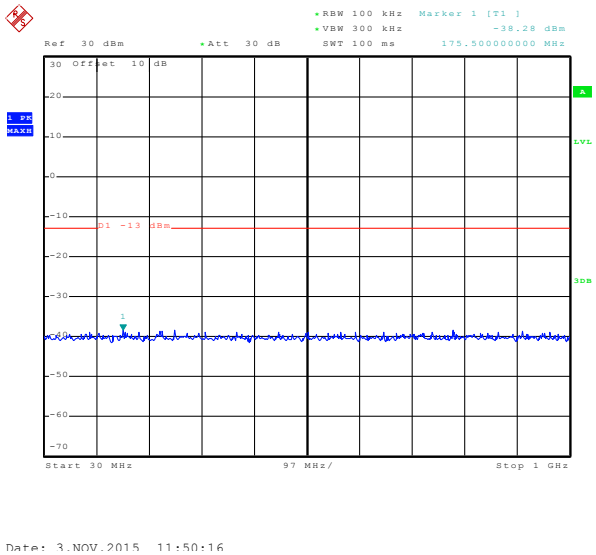


30MHz~1GHz

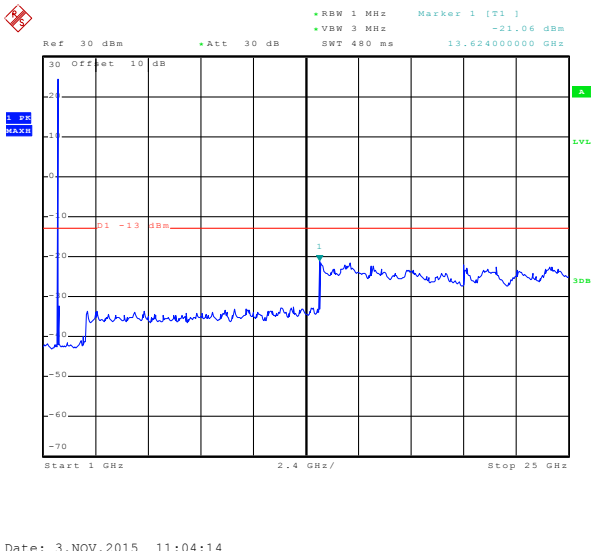


1GHz~25GHz

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

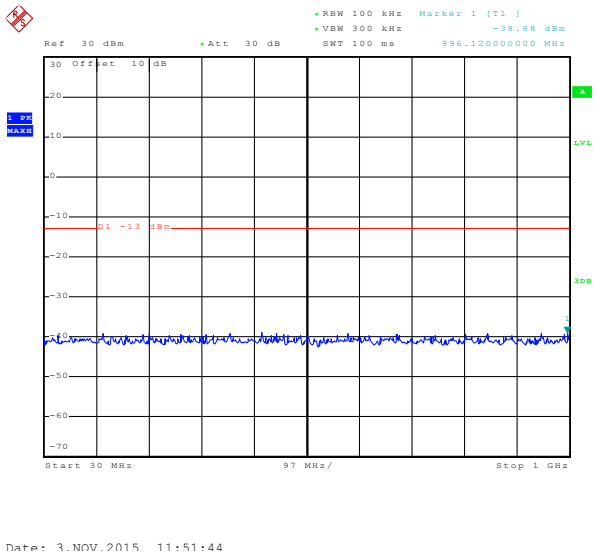


30MHz~1GHz

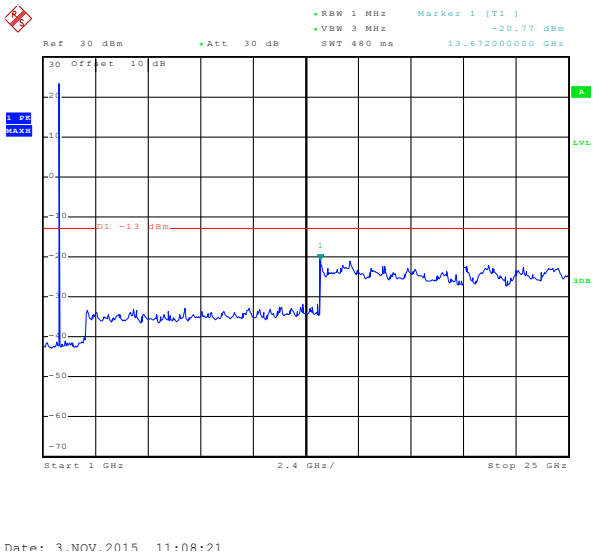


1GHz~25GHz

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

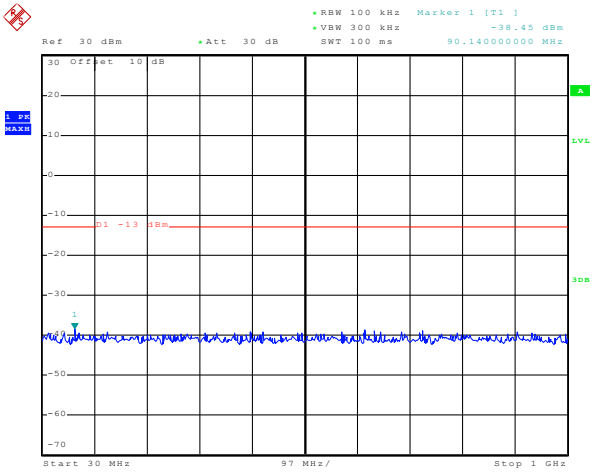


30MHz~1GHz



1GHz~25GHz

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



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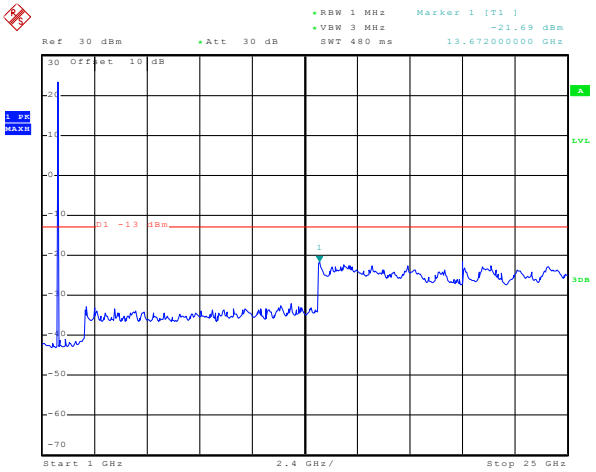
30MHz~1GHz



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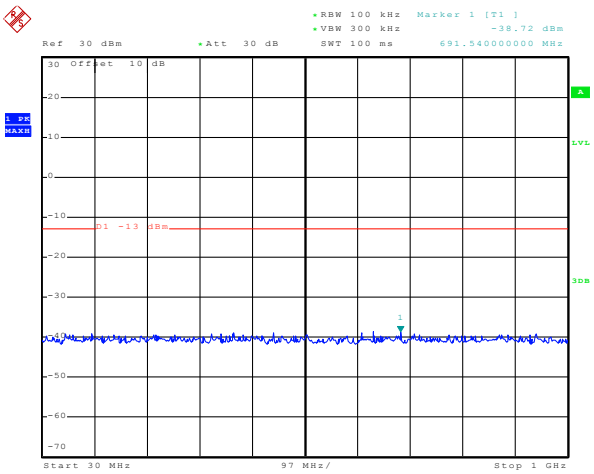
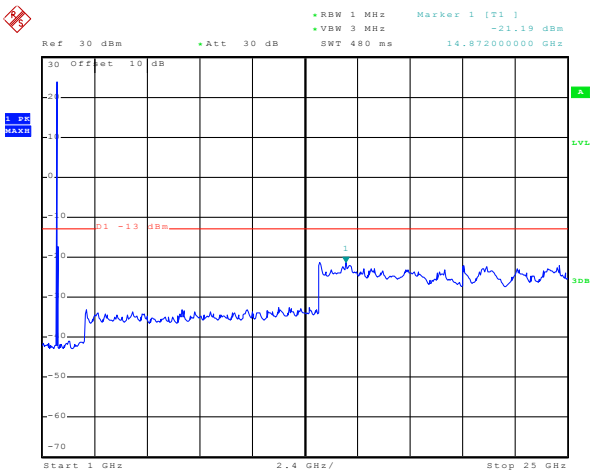
1GHz~25GHz

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



Date: 3.NOV.2015 11:50:33

30MHz~1GHz



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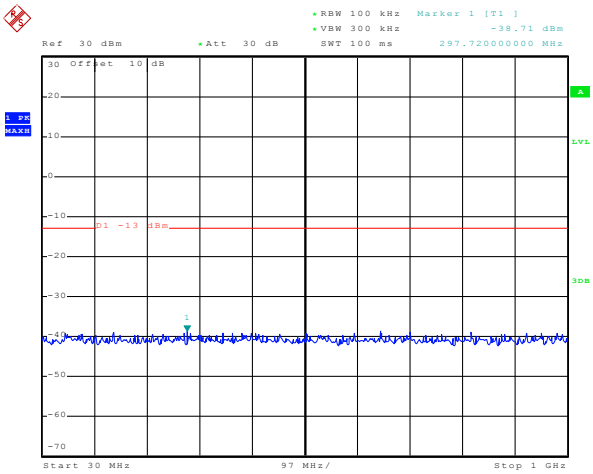
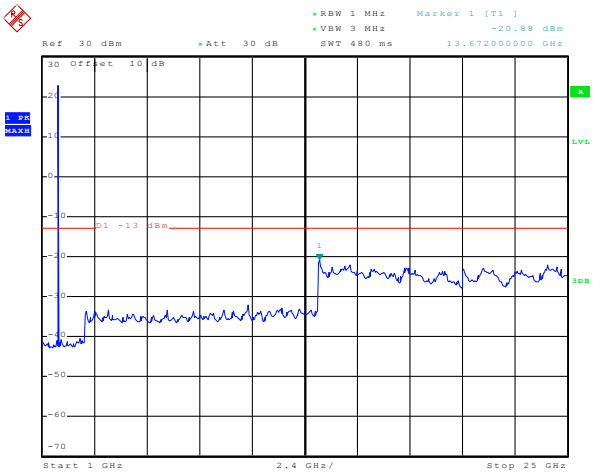
1GHz~25GHz

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



Date: 3.NOV.2015 11:51:55

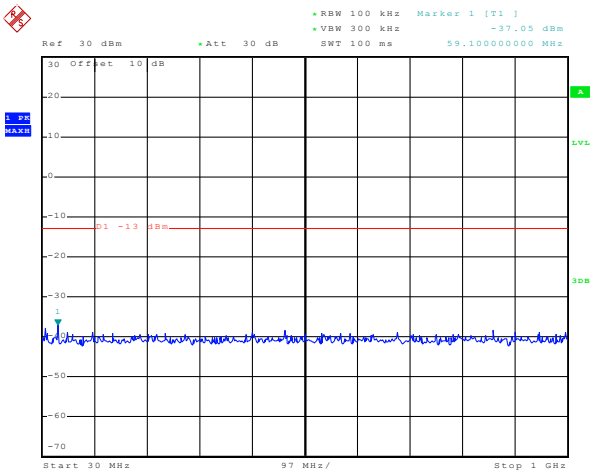
30MHz~1GHz



Date: 3.NOV.2015 11:08:50

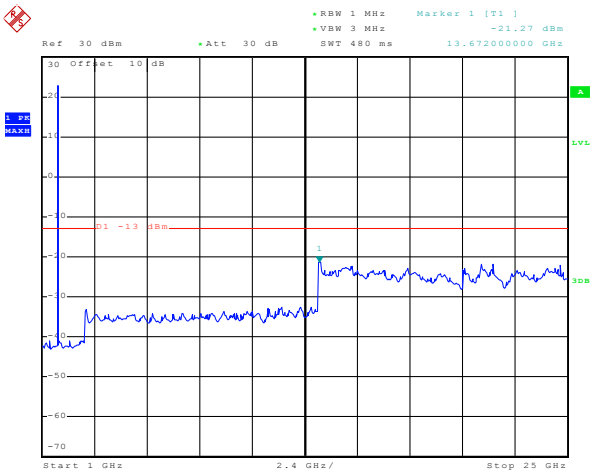
1GHz~25GHz

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



Date: 3.NOV.2015 11:53:15

30MHz~1GHz

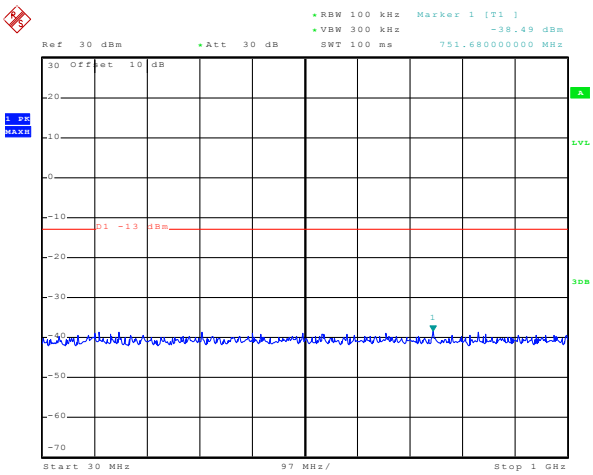


Date: 3.NOV.2015 11:12:48

1GHz~25GHz

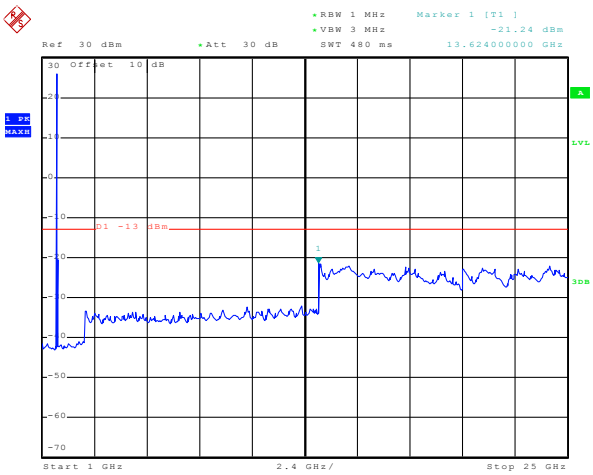
5MHz

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



Date: 3.NOV.2015 11:55:04

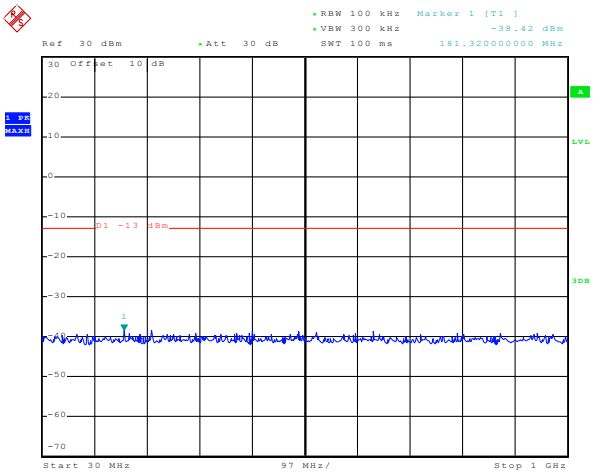
30MHz~1GHz



Date: 3.NOV.2015 10:52:27

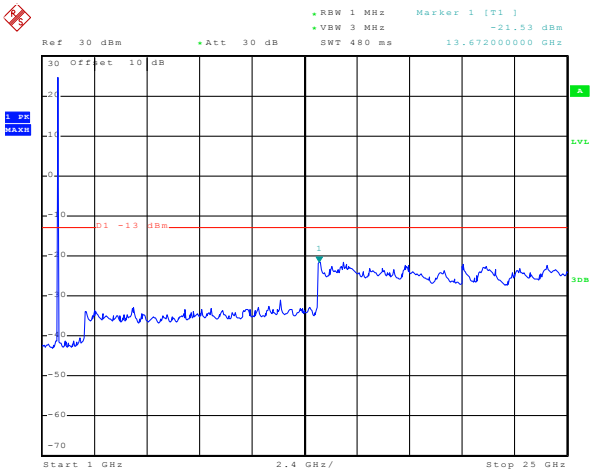
1GHz~25GHz

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



Date: 3.NOV.2015 11:56:35

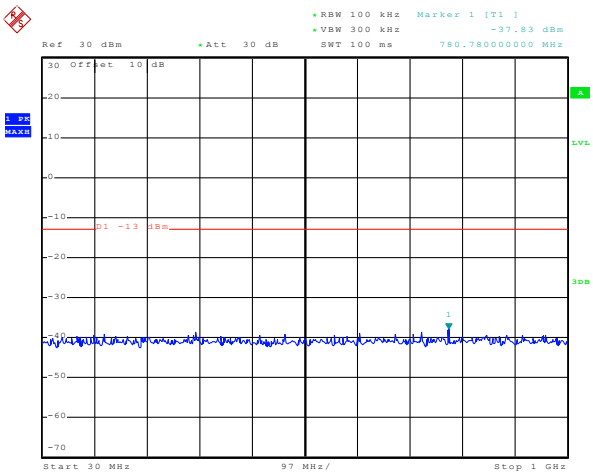
30MHz~1GHz



Date: 3.NOV.2015 10:56:38

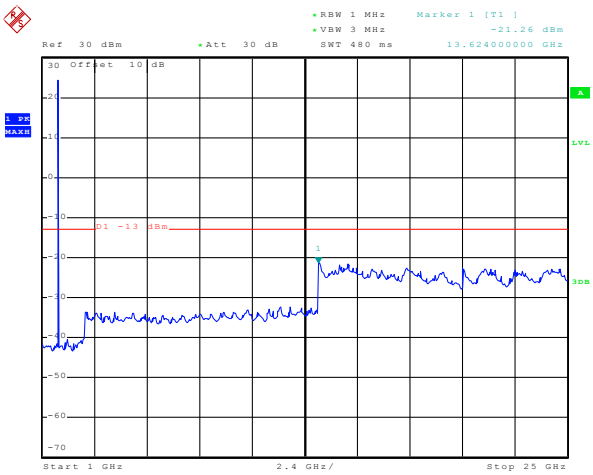
1GHz~25GHz

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



Date: 3.NOV.2015 11:57:58

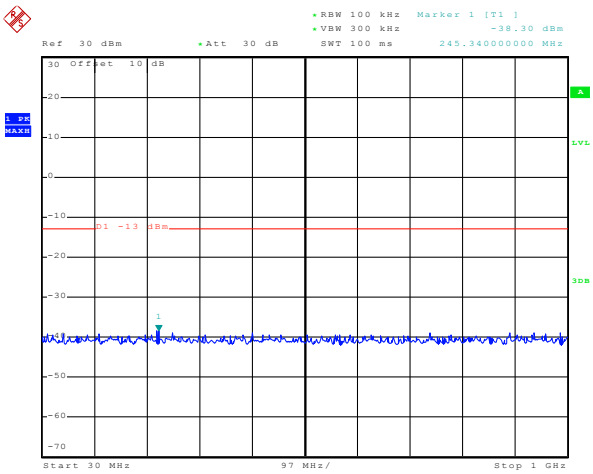
30MHz~1GHz



Date: 3.NOV.2015 11:00:21

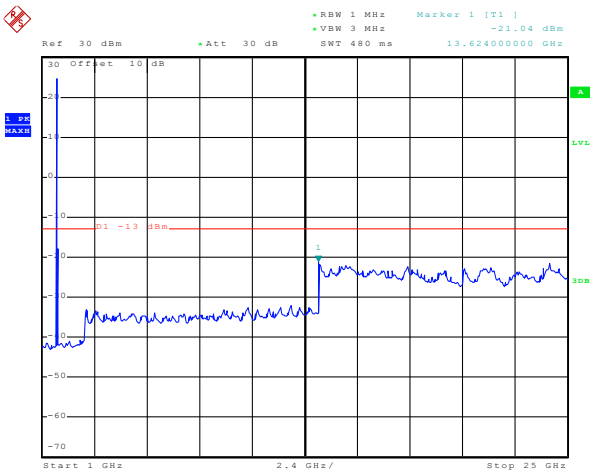
1GHz~25GHz

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



Date: 3.NOV.2015 11:55:19

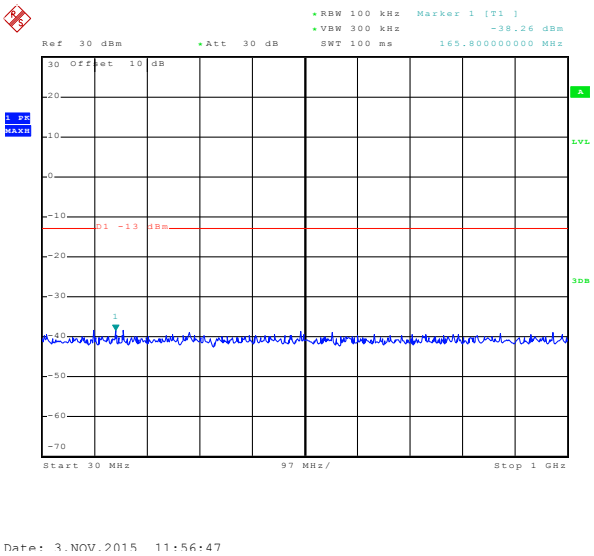
30MHz~1GHz



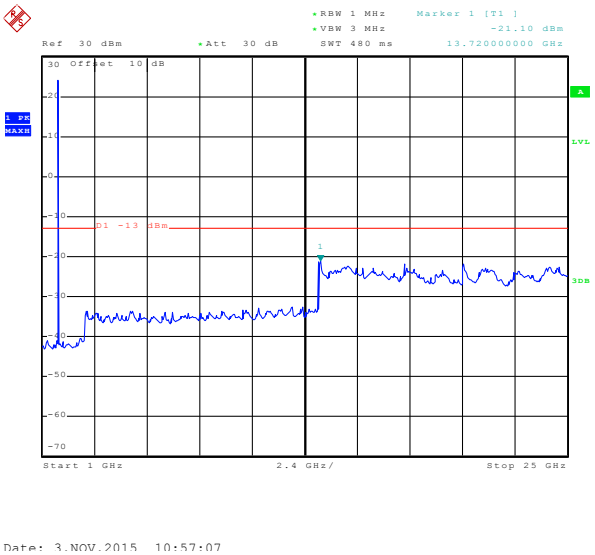
Date: 3.NOV.2015 10:53:05

1GHz~25GHz

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

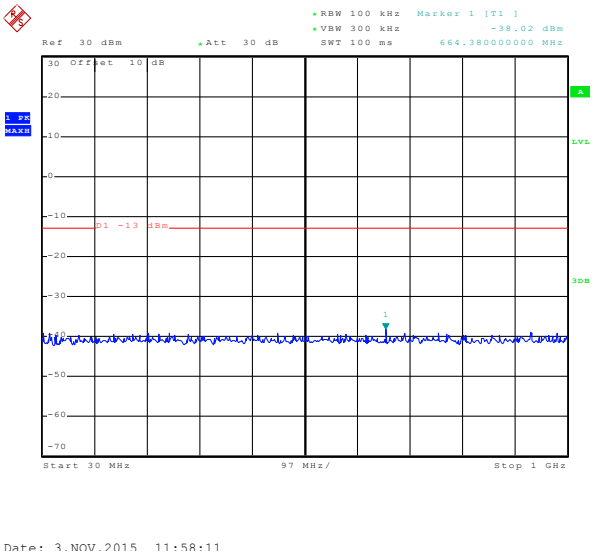


30MHz~1GHz

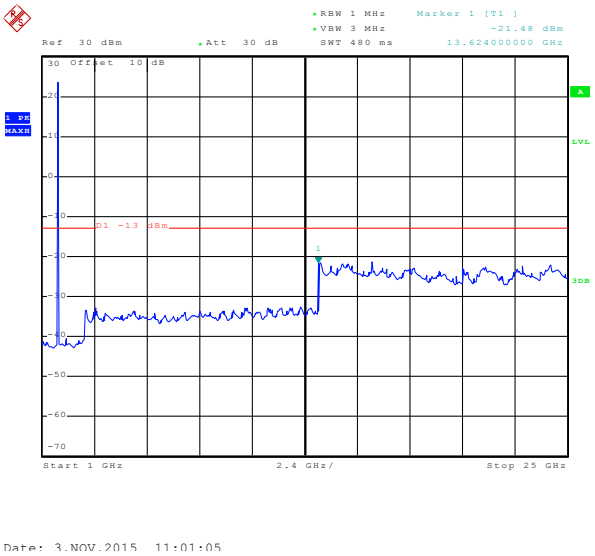


1GHz~25GHz

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

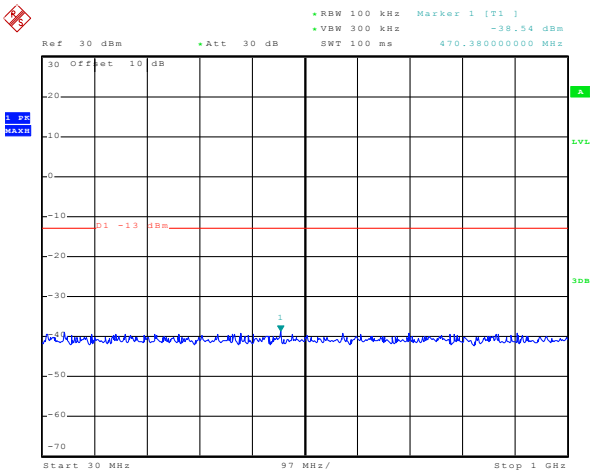


30MHz~1GHz



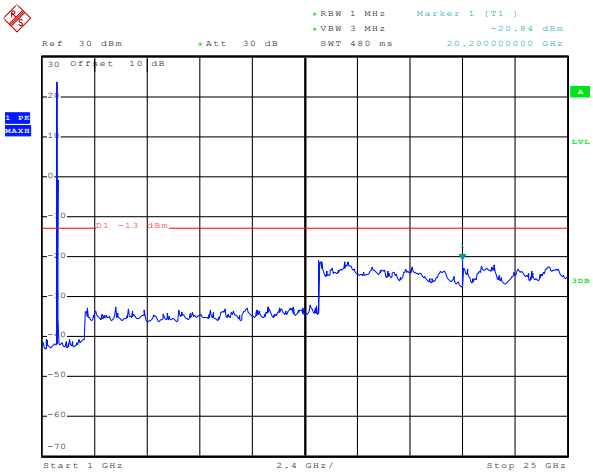
1GHz~25GHz

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



Date: 3.NOV.2015 11:55:33

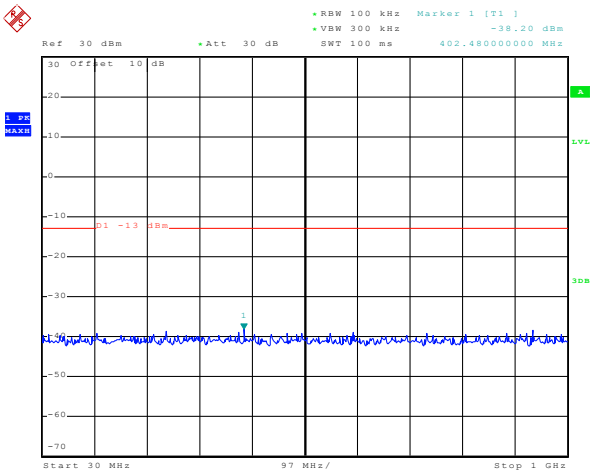
30MHz~1GHz



Date: 3.NOV.2015 10:53:59

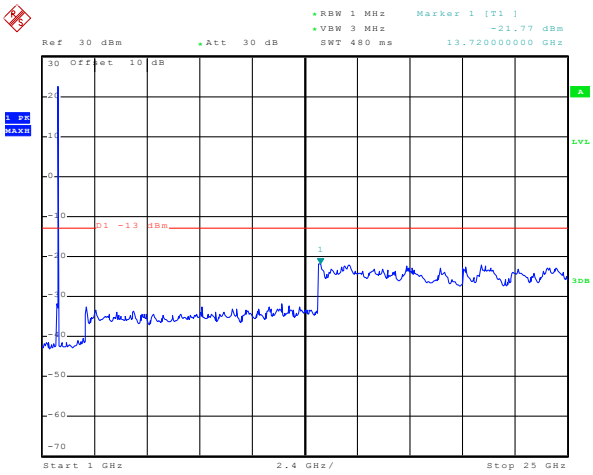
1GHz~25GHz

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



Date: 3.NOV.2015 11:56:57

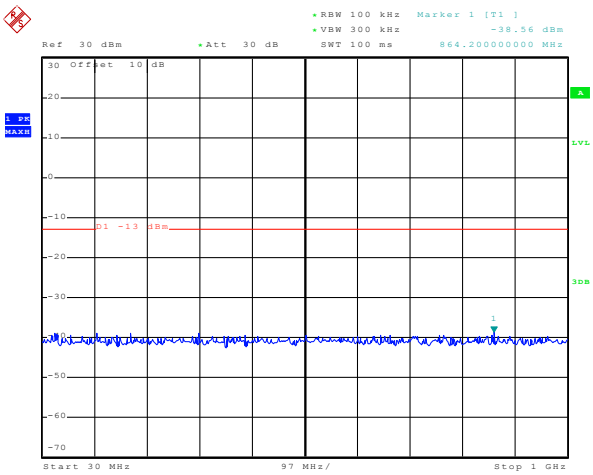
30MHz~1GHz



Date: 3.NOV.2015 10:57:37

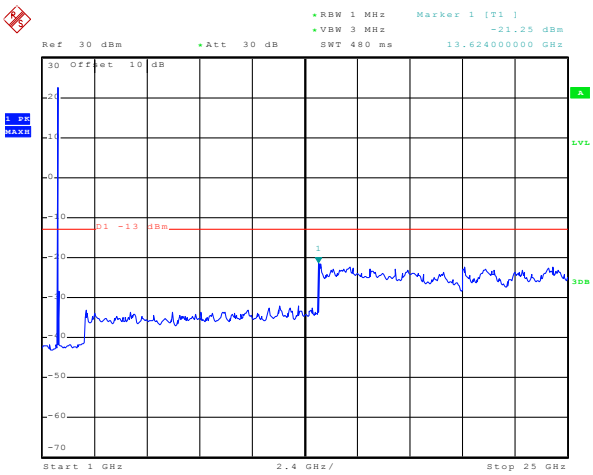
1GHz~25GHz

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



Date: 3.NOV.2015 11:58:23

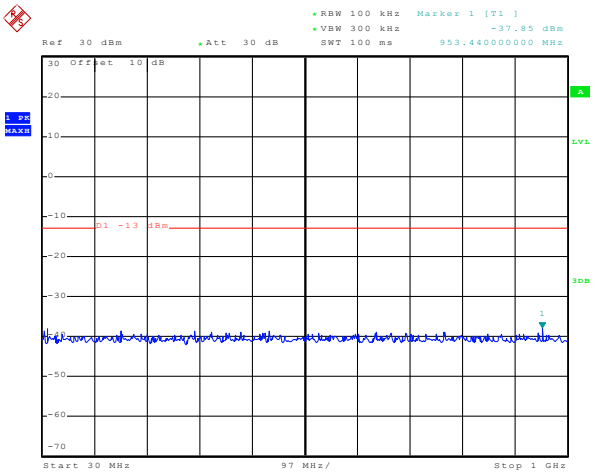
30MHz~1GHz



Date: 3.NOV.2015 11:01:35

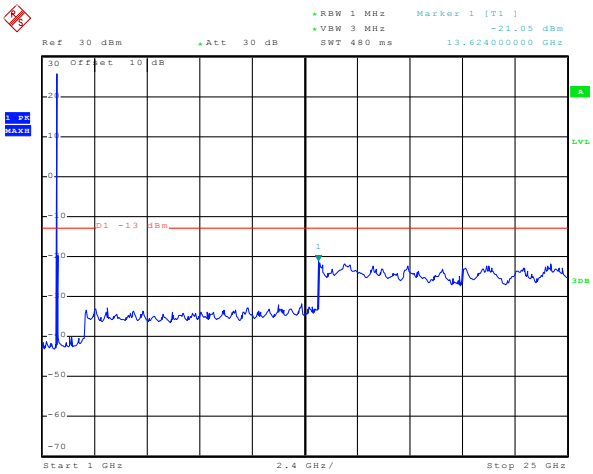
1GHz~25GHz

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



Date: 3.NOV.2015 11:54:18

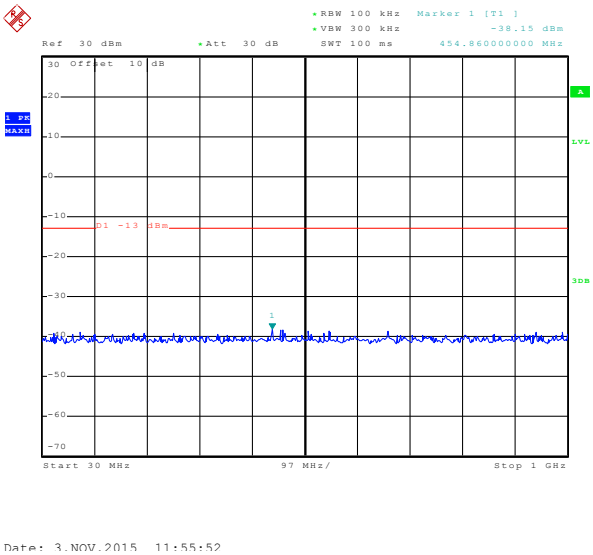
30MHz~1GHz



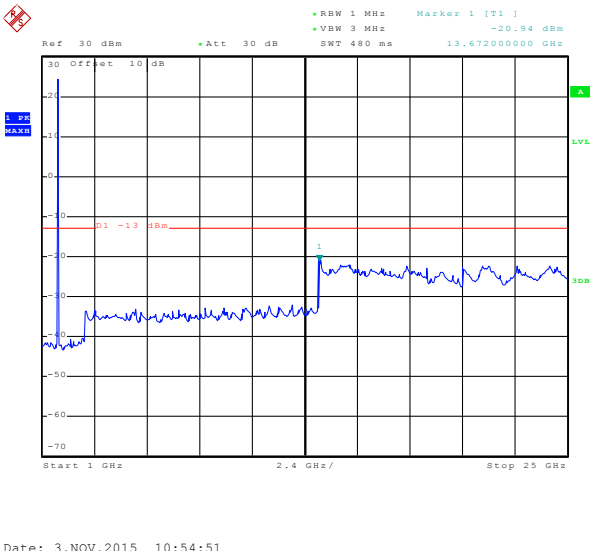
Date: 3.NOV.2015 10:48:22

1GHz~25GHz

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

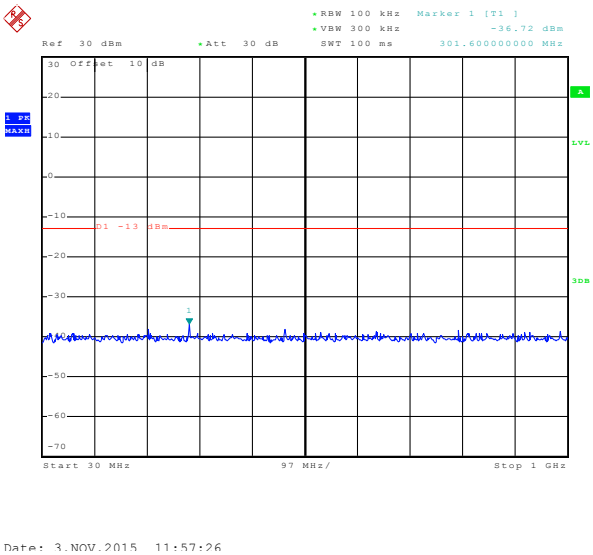


30MHz~1GHz

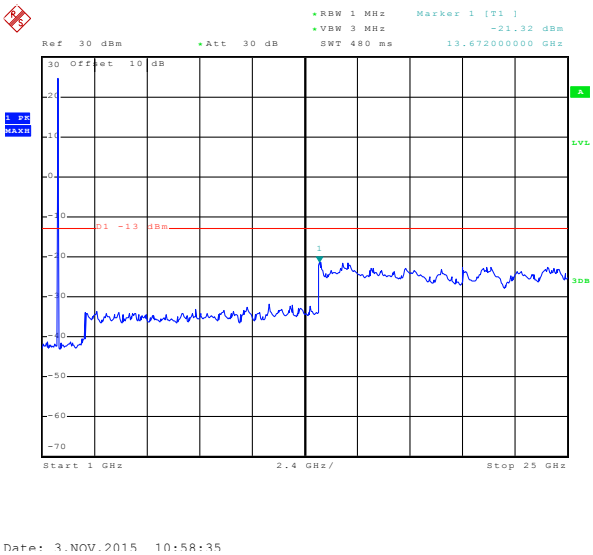


1GHz~25GHz

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

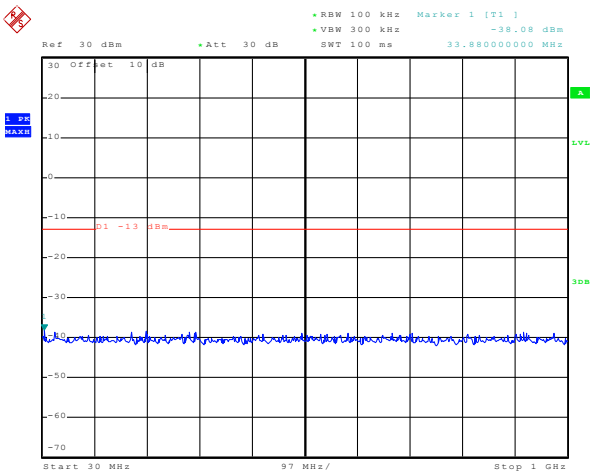


30MHz~1GHz



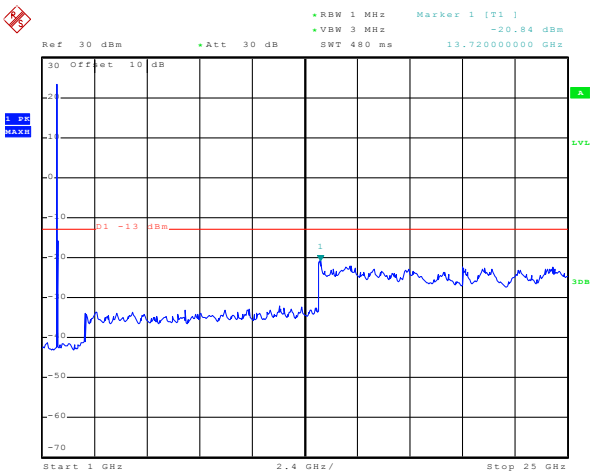
1GHz~25GHz

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



Date: 3.NOV.2015 11:54:37

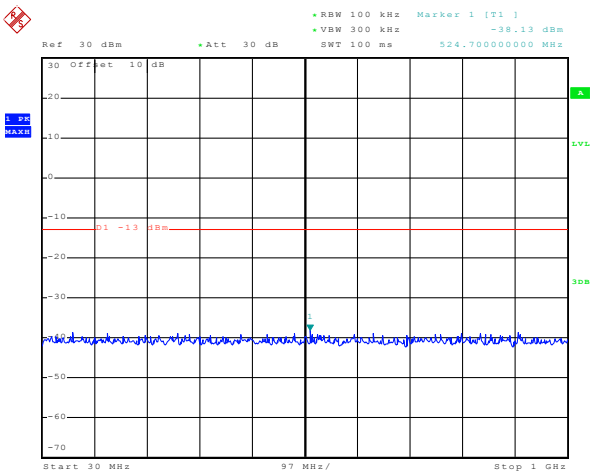
30MHz~1GHz



Date: 3.NOV.2015 10:48:57

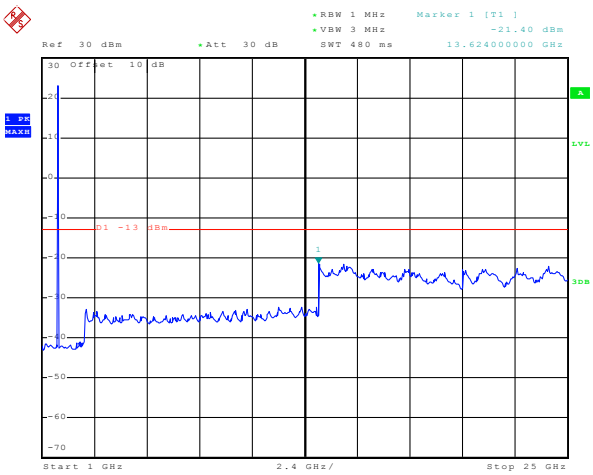
1GHz~25GHz

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



Date: 3.NOV.2015 11:56:05

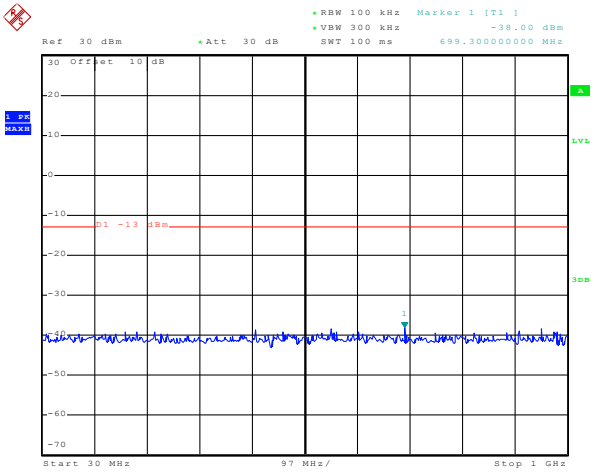
30MHz~1GHz



Date: 3.NOV.2015 10:55:24

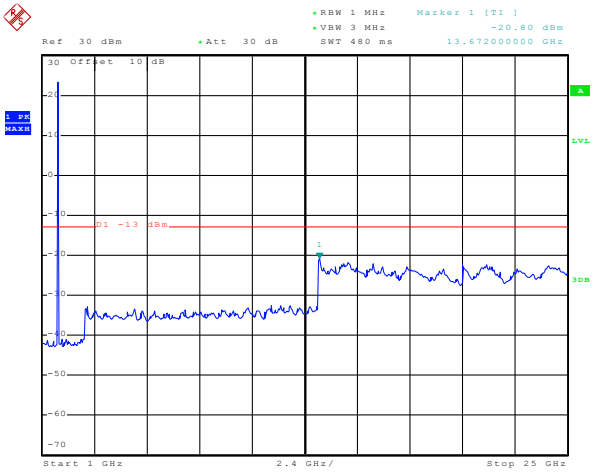
1GHz~25GHz

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



Date: 3.NOV.2015 11:57:36

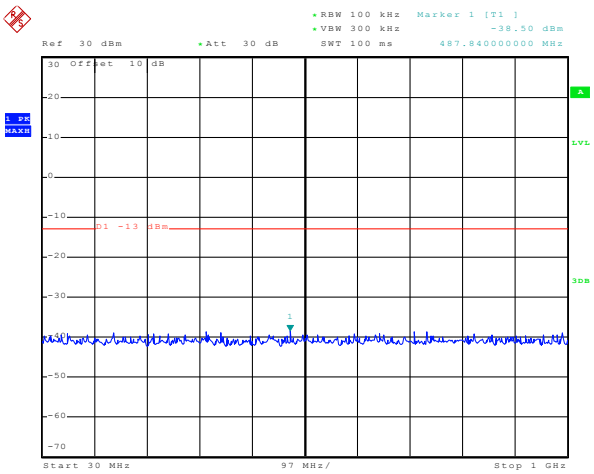
30MHz~1GHz



Date: 3.NOV.2015 10:59:19

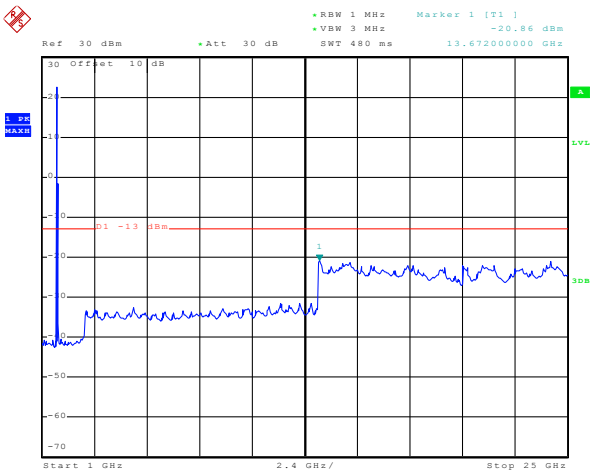
1GHz~25GHz

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



Date: 3.NOV.2015 11:54:48

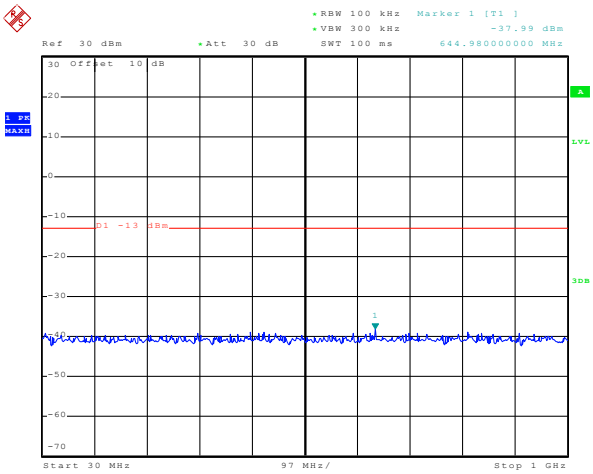
30MHz~1GHz



Date: 3.NOV.2015 10:51:46

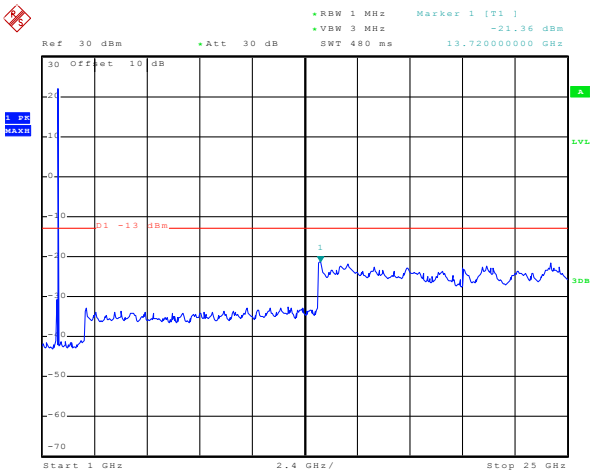
1GHz~25GHz

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



Date: 3.NOV.2015 11:56:20

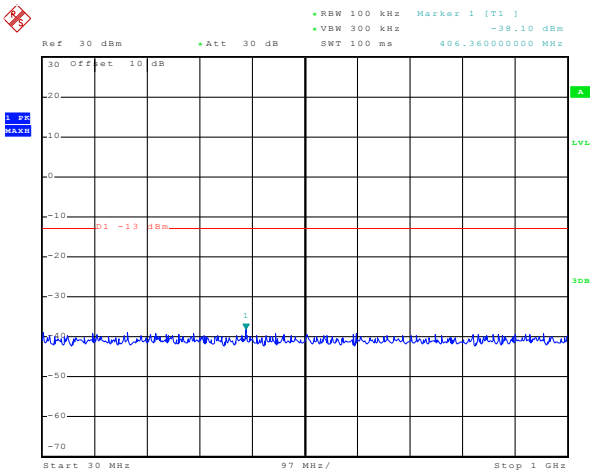
30MHz~1GHz



Date: 3.NOV.2015 10:56:01

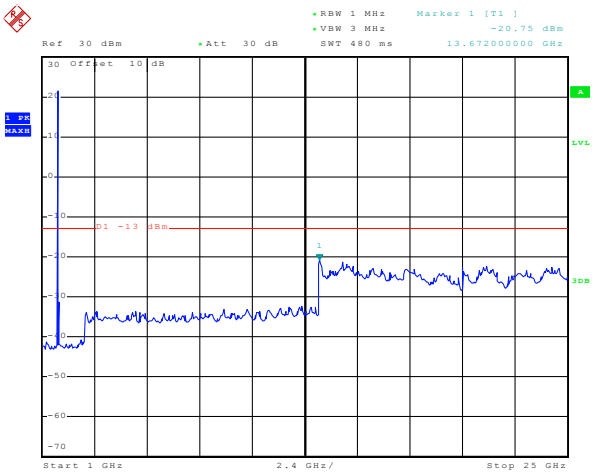
1GHz~25GHz

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



Date: 3.NOV.2015 11:57:47

30MHz~1GHz

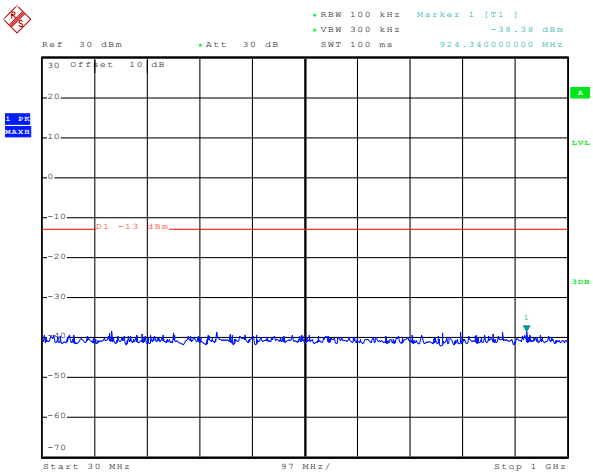


Date: 3.NOV.2015 10:59:45

1GHz~25GHz

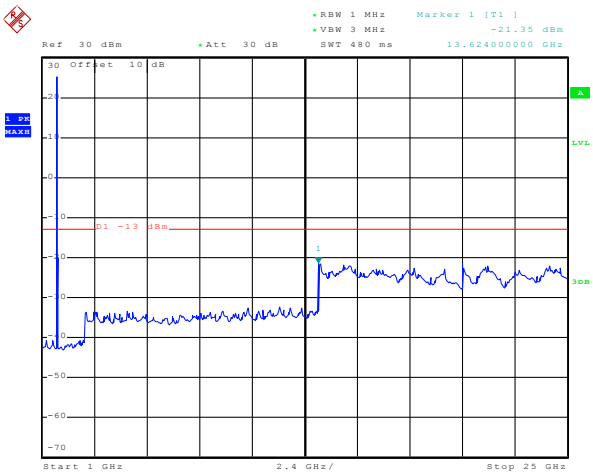
10MHz

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



Date: 3.NOV.2015 11:59:26

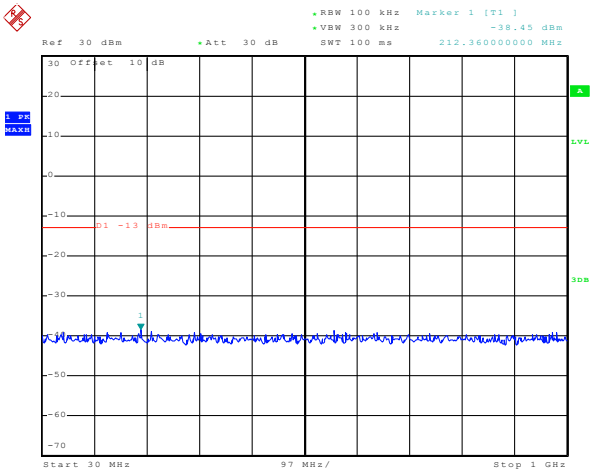
30MHz~1GHz



Date: 3.NOV.2015 10:35:57

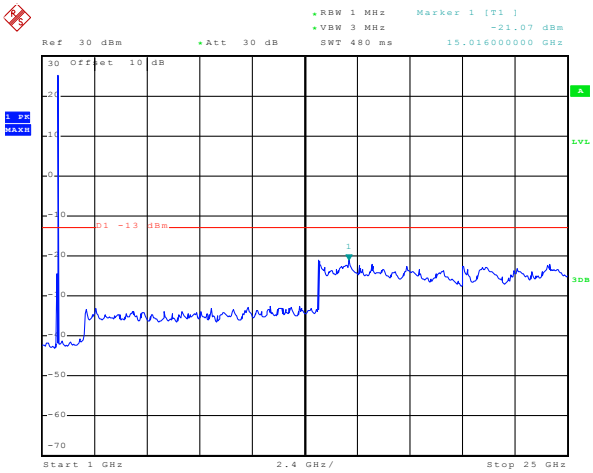
1GHz~25GHz

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



Date: 3.NOV.2015 12:00:53

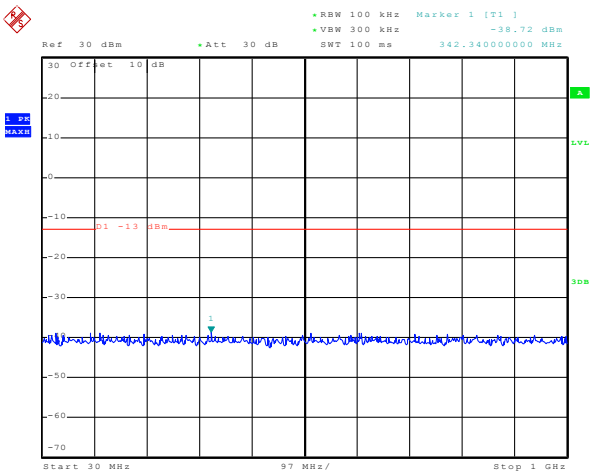
30MHz~1GHz



Date: 3.NOV.2015 10:40:43

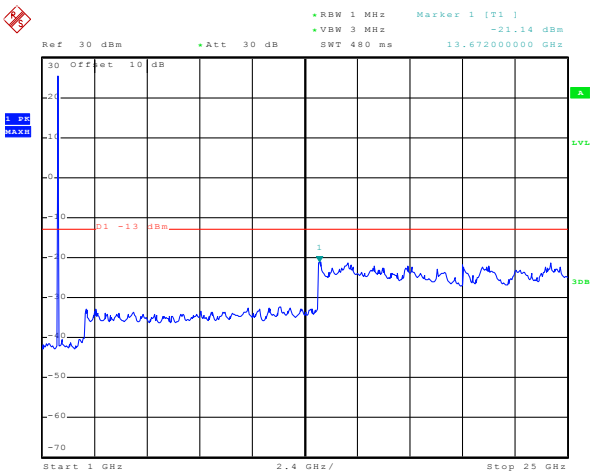
1GHz~25GHz

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



Date: 3.NOV.2015 12:02:54

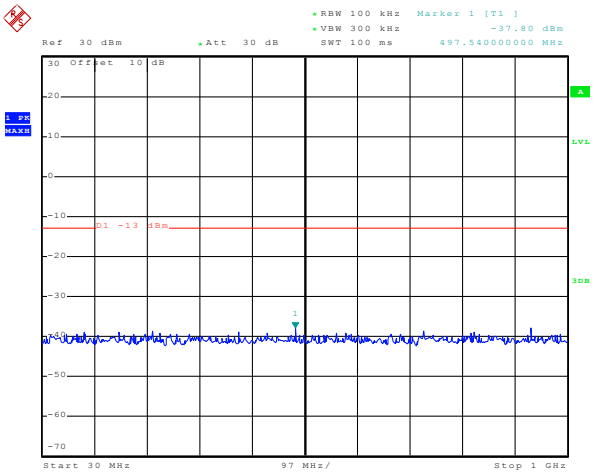
30MHz~1GHz



Date: 3.NOV.2015 10:45:17

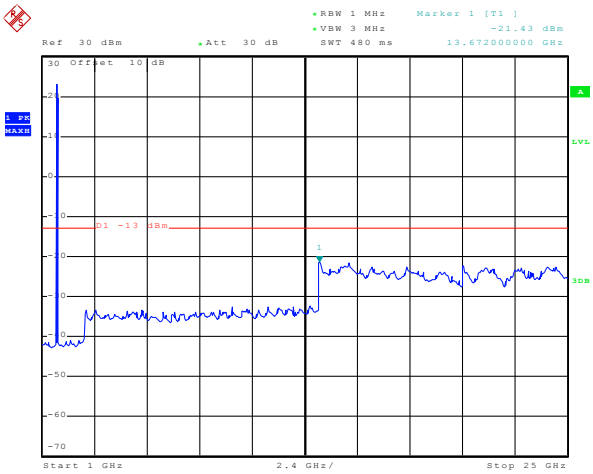
1GHz~25GHz

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



Date: 3.NOV.2015 11:59:37

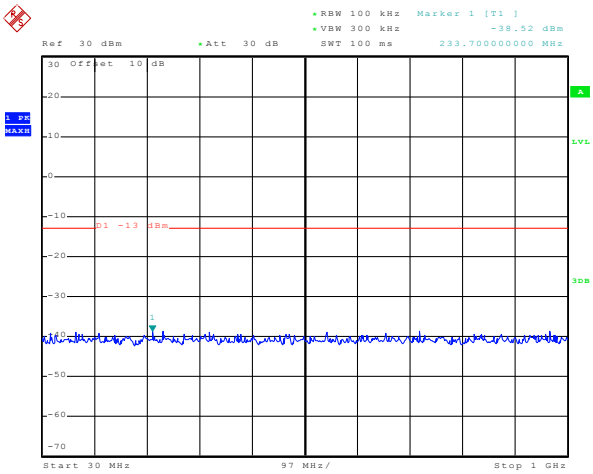
30MHz~1GHz



Date: 3.NOV.2015 10:36:55

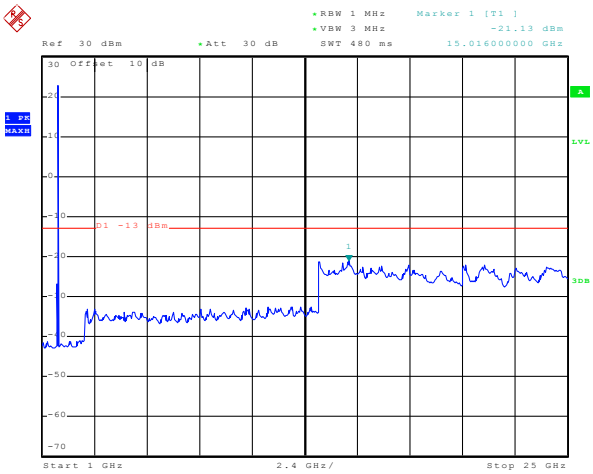
1GHz~25GHz

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



Date: 3.NOV.2015 12:01:05

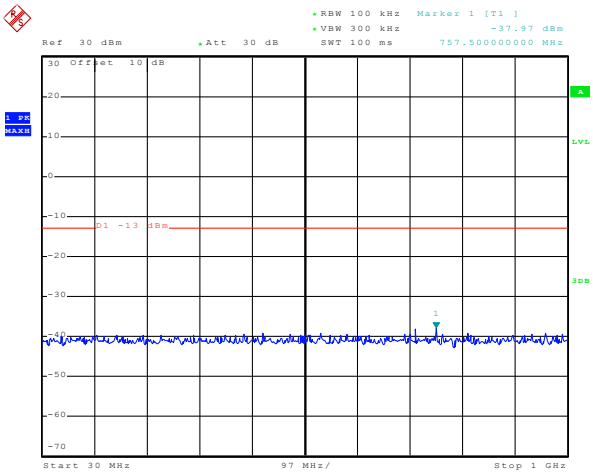
30MHz~1GHz



Date: 3.NOV.2015 10:41:26

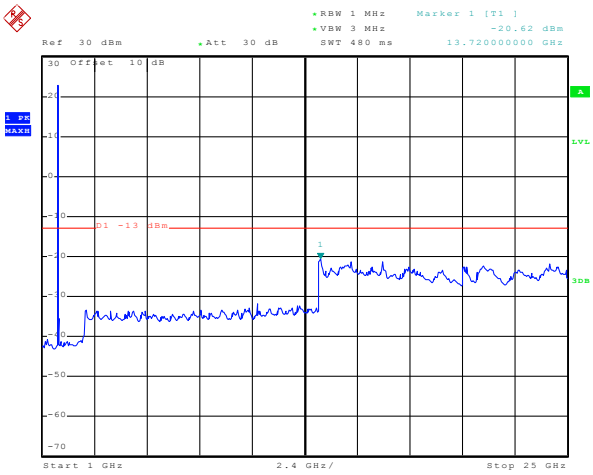
1GHz~25GHz

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



Date: 3.NOV.2015 12:03:05

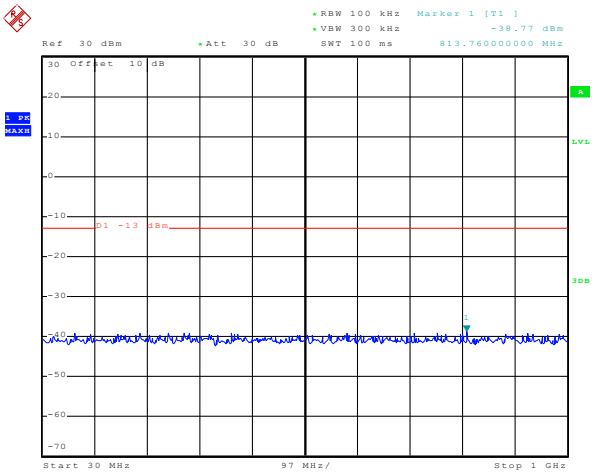
30MHz~1GHz



Date: 3.NOV.2015 10:46:13

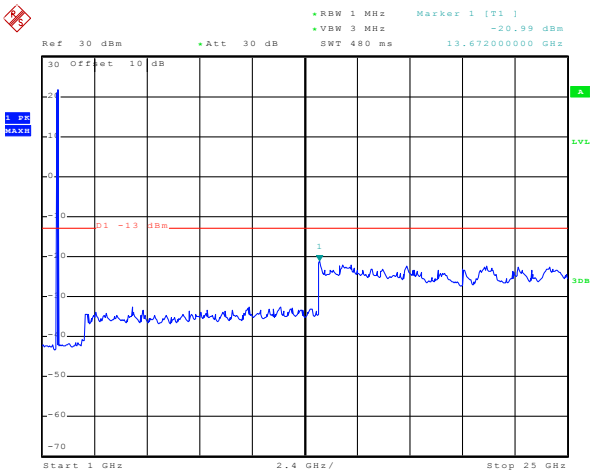
1GHz~25GHz

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



Date: 3.NOV.2015 11:59:50

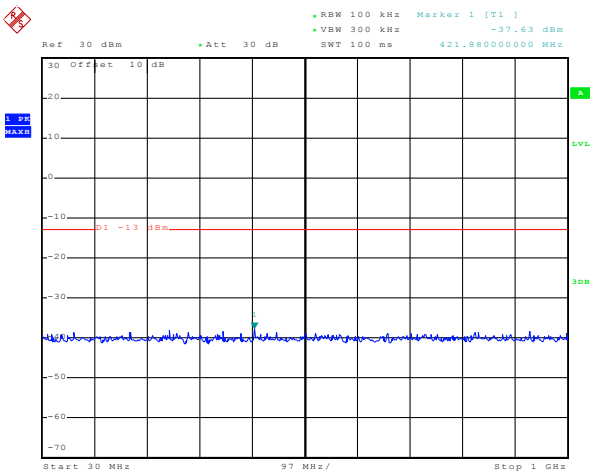
30MHz~1GHz



Date: 3.NOV.2015 10:37:24

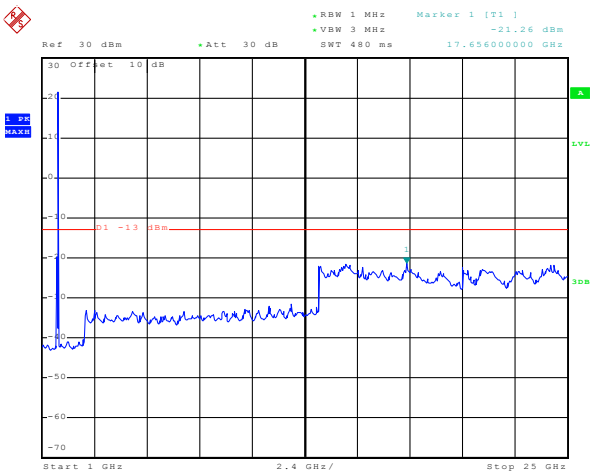
1GHz~25GHz

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



Date: 3.NOV.2015 12:01:43

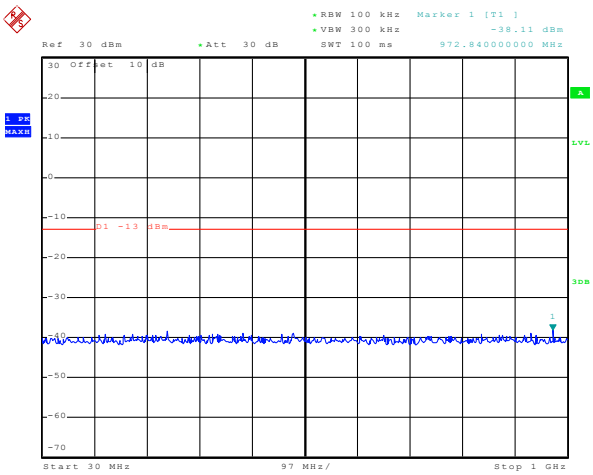
30MHz~1GHz



Date: 3.NOV.2015 10:42:06

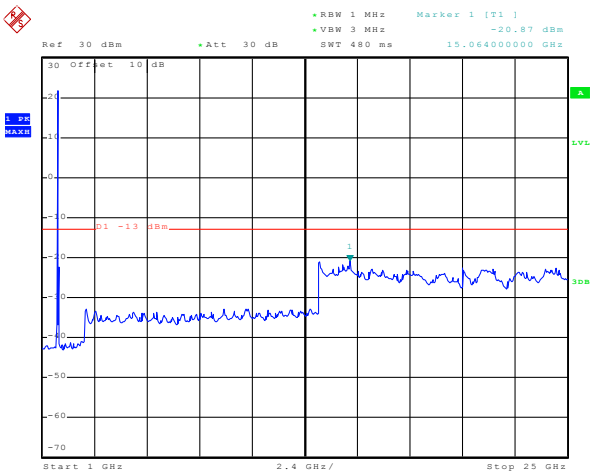
1GHz~25GHz

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



Date: 3.NOV.2015 12:03:20

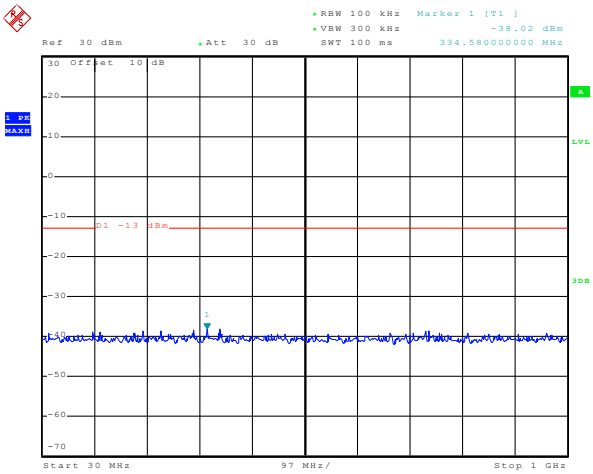
30MHz~1GHz



Date: 3.NOV.2015 10:46:45

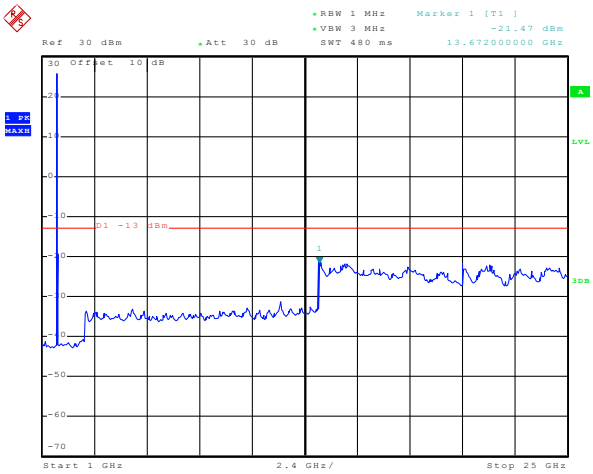
1GHz~25GHz

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



Date: 3.NOV.2015 11:58:39

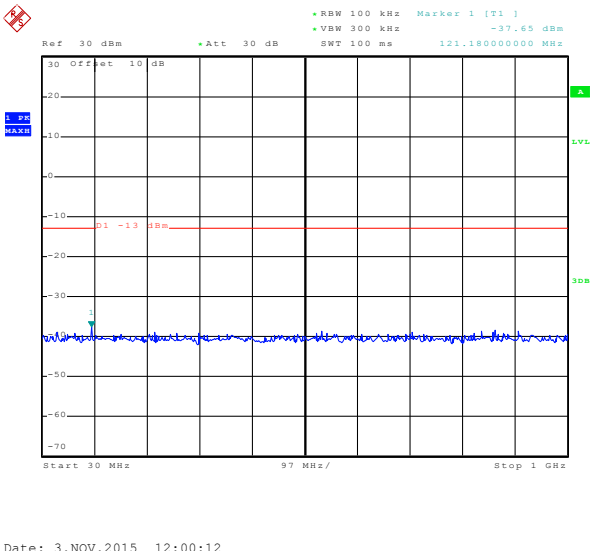
30MHz~1GHz



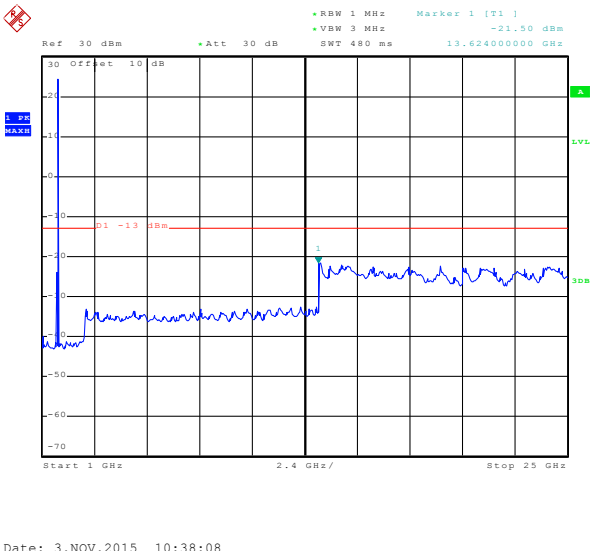
Date: 3.NOV.2015 10:34:13

1GHz~25GHz

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

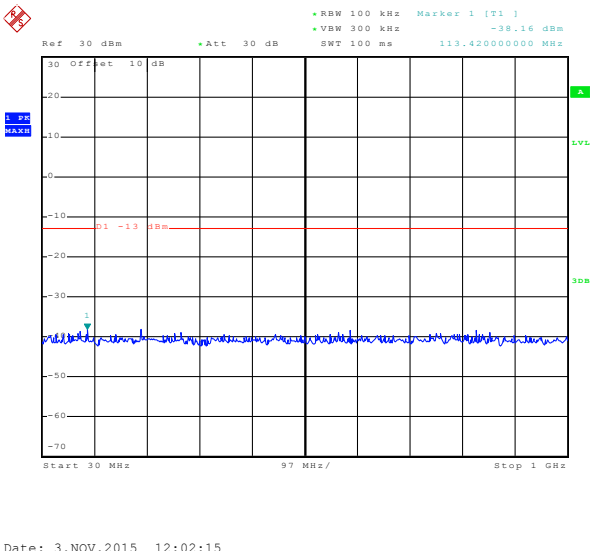


30MHz~1GHz

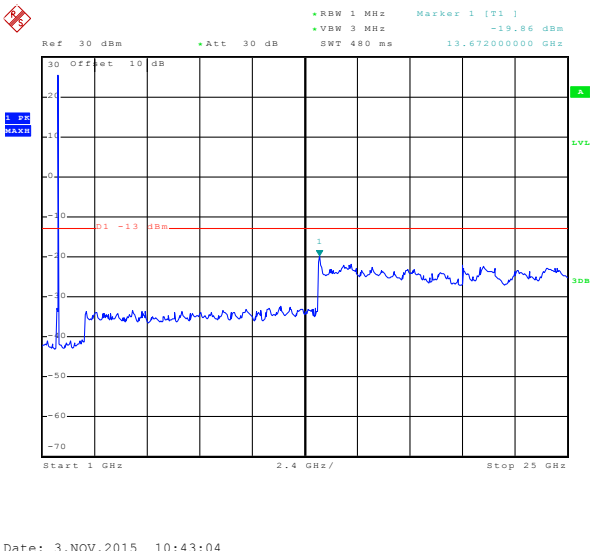


1GHz~25GHz

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

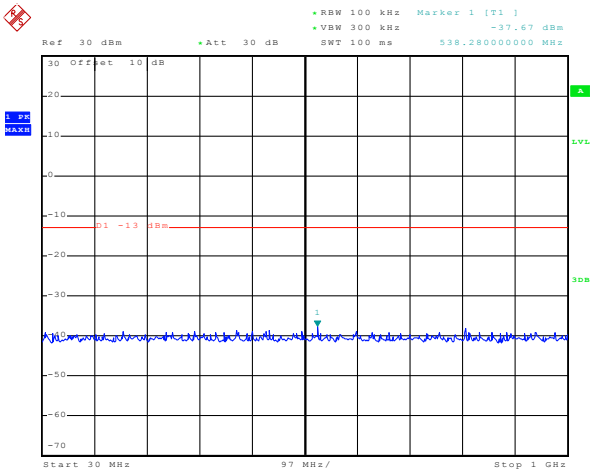


30MHz~1GHz



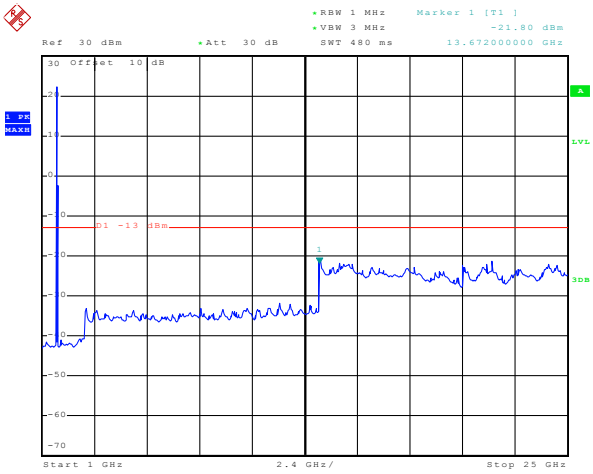
1GHz~25GHz

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



Date: 3.NOV.2015 11:59:00

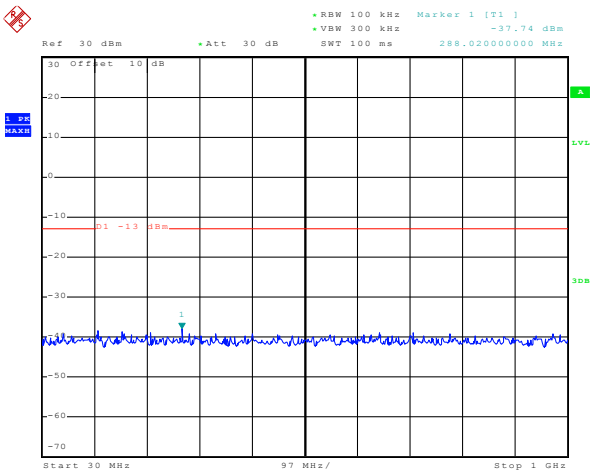
30MHz~1GHz



Date: 3.NOV.2015 10:34:50

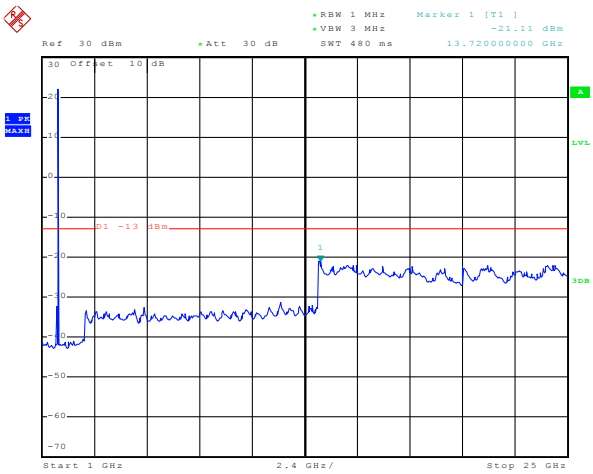
1GHz~25GHz

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



Date: 3.NOV.2015 12:00:23

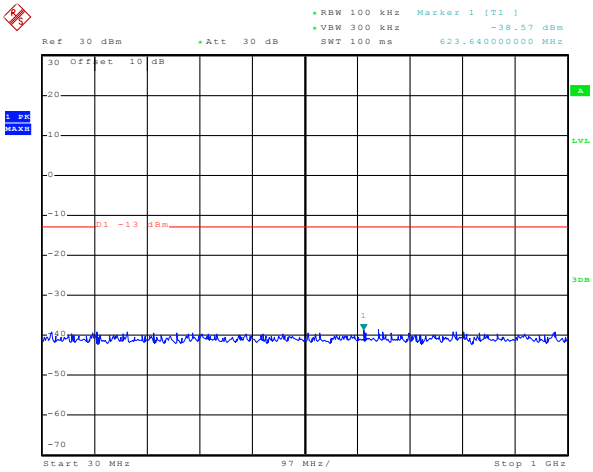
30MHz~1GHz



Date: 3.NOV.2015 10:39:29

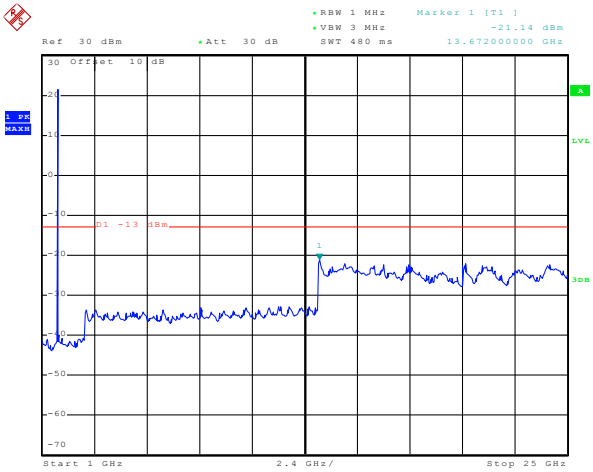
1GHz~25GHz

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



Date: 3.NOV.2015 12:02:27

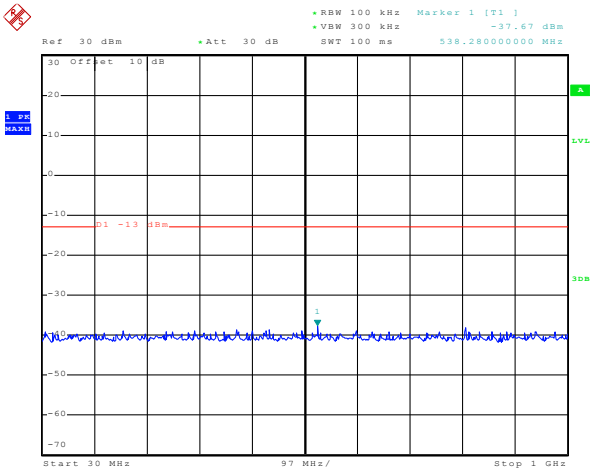
30MHz~1GHz



Date: 3.NOV.2015 10:43:32

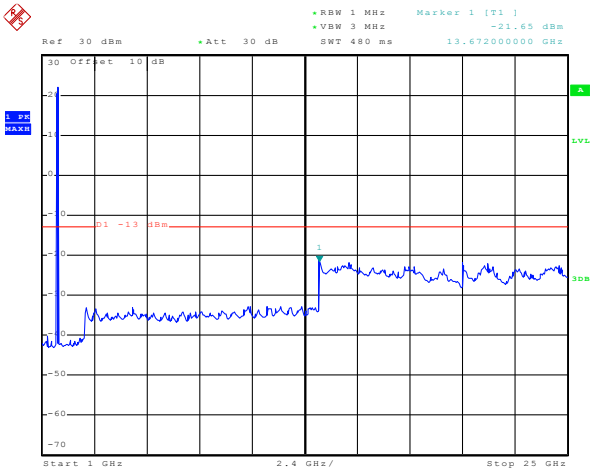
1GHz~25GHz

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



Date: 3.NOV.2015 11:59:00

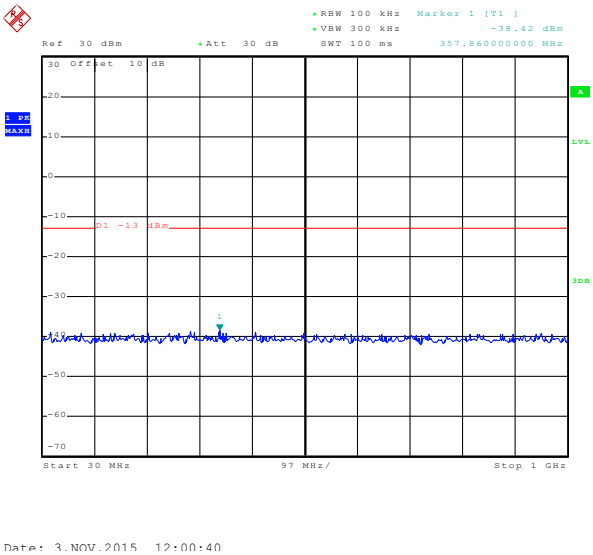
30MHz~1GHz



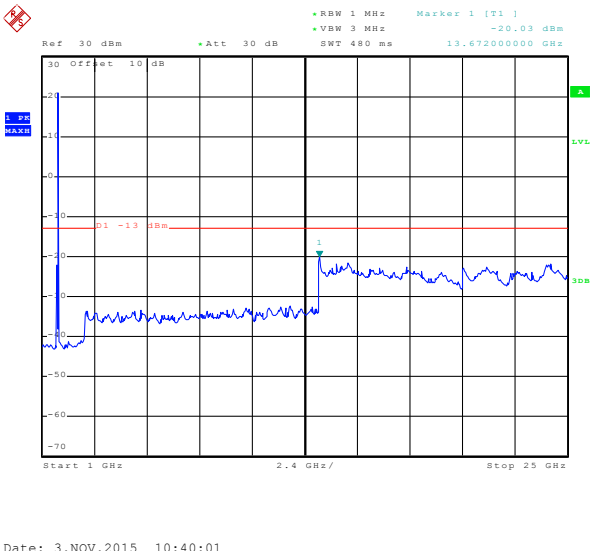
Date: 3.NOV.2015 10:35:23

1GHz~25GHz

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

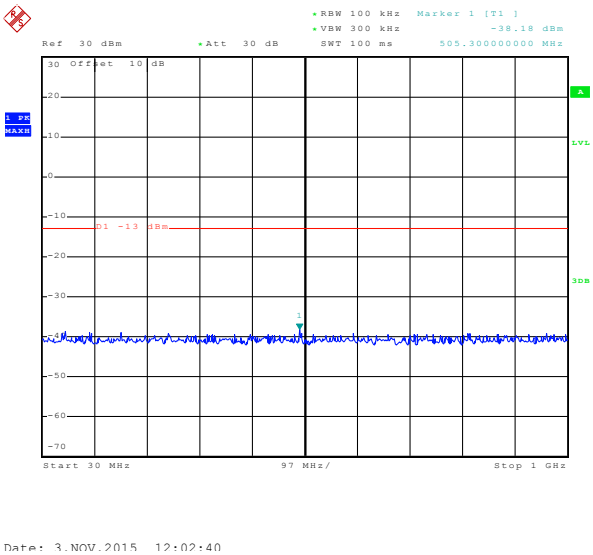


30MHz~1GHz

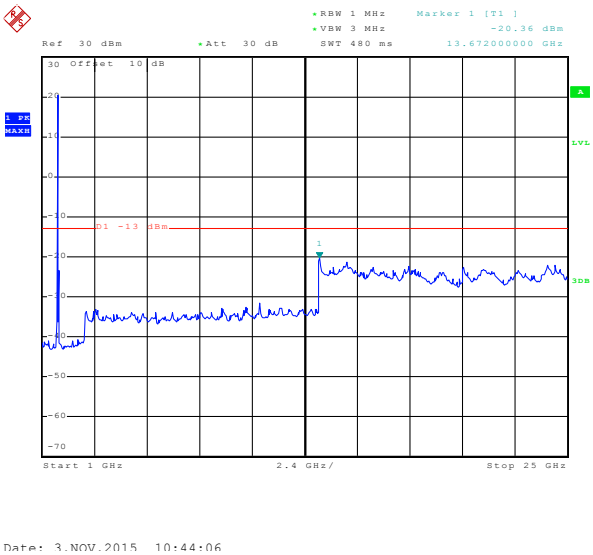


1GHz~25GHz

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



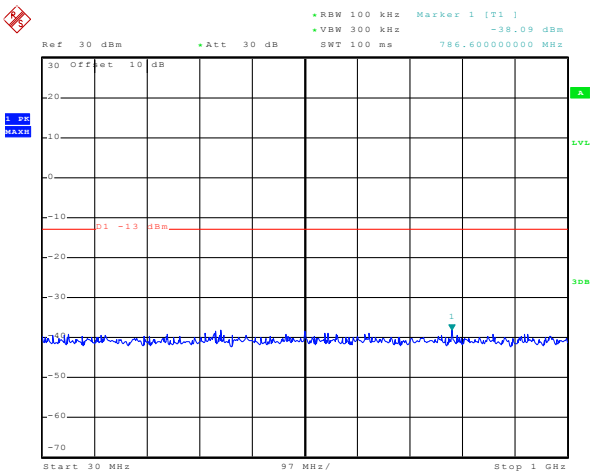
30MHz~1GHz



1GHz~25GHz

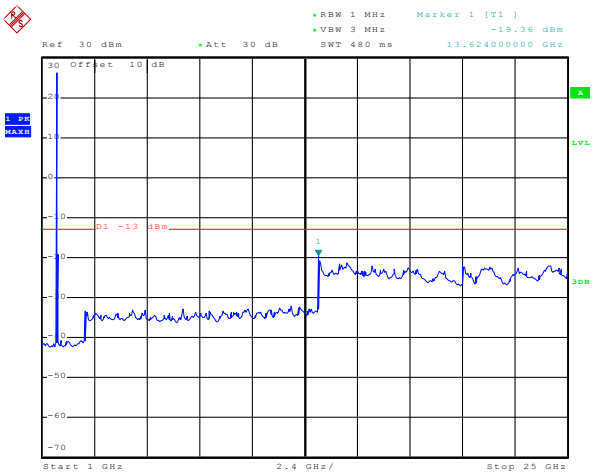
15MHz

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



Date: 3.NOV.2015 12:04:33

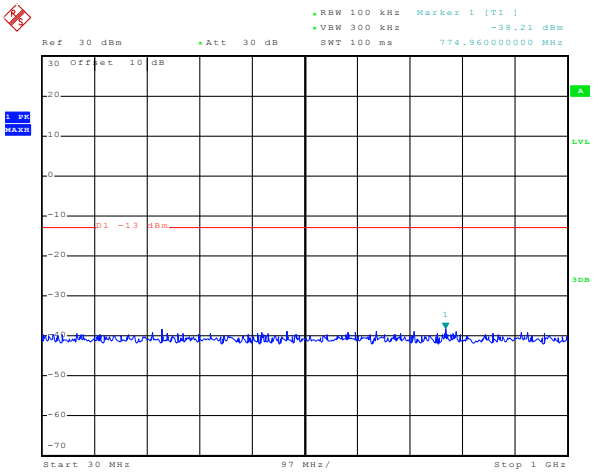
30MHz~1GHz



Date: 3.NOV.2015 10:21:11

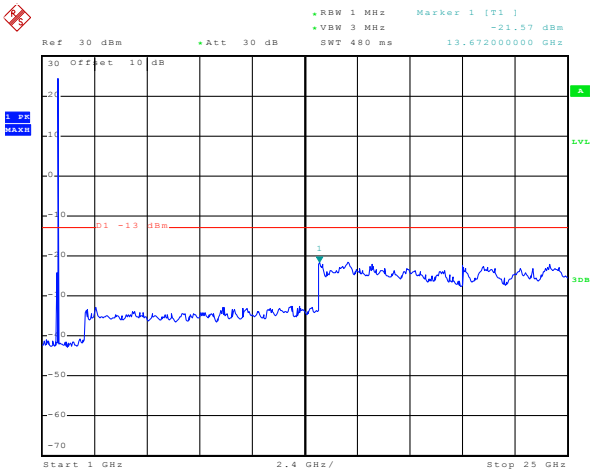
1GHz~25GHz

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



Date: 3.NOV.2015 12:05:54

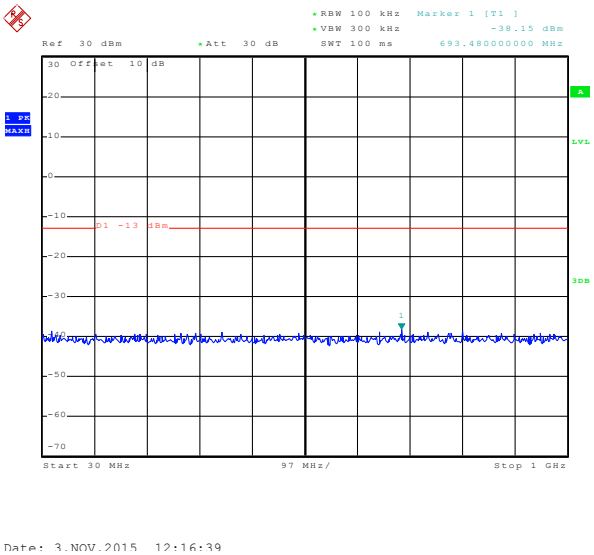
30MHz~1GHz



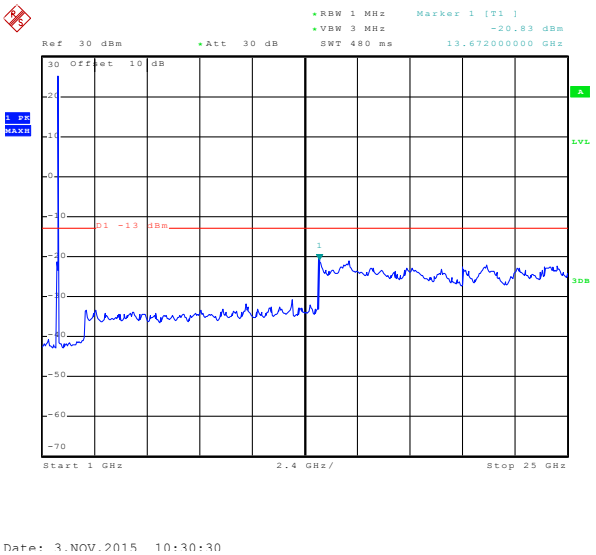
Date: 3.NOV.2015 10:26:05

1GHz~25GHz

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

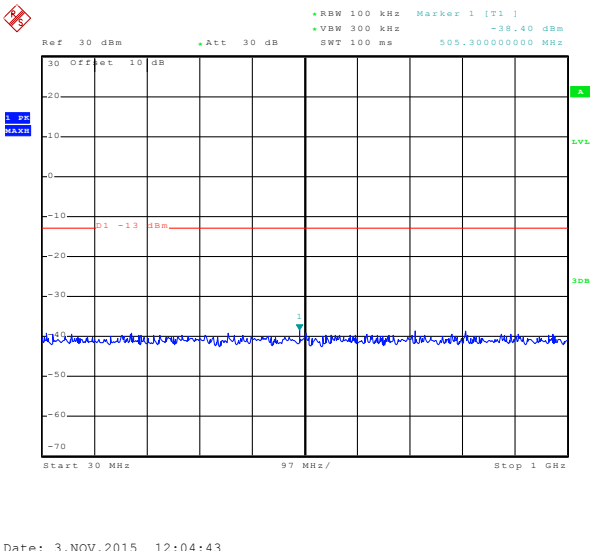


30MHz~1GHz

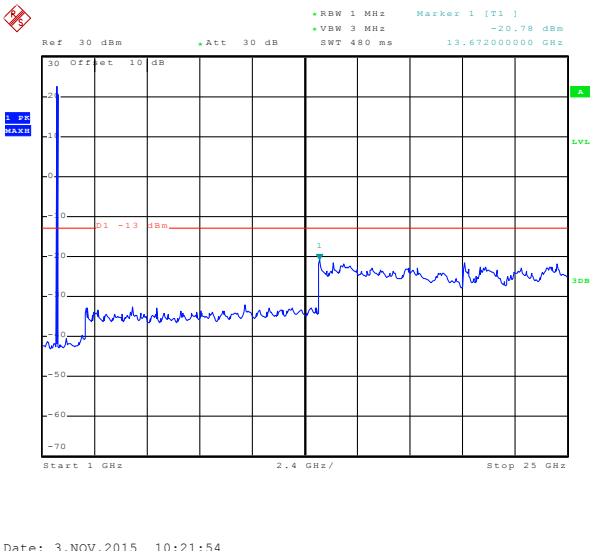


1GHz~25GHz

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

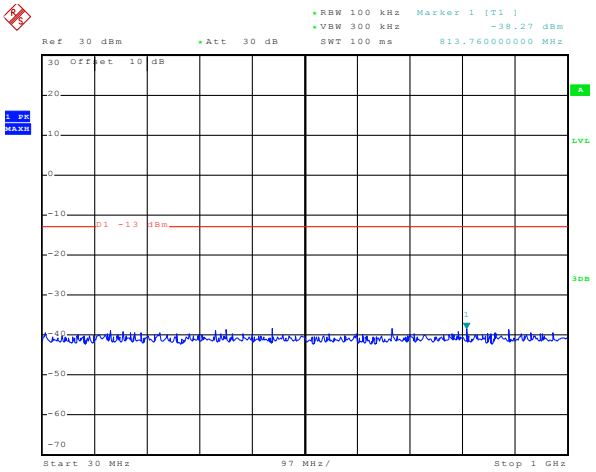


30MHz~1GHz



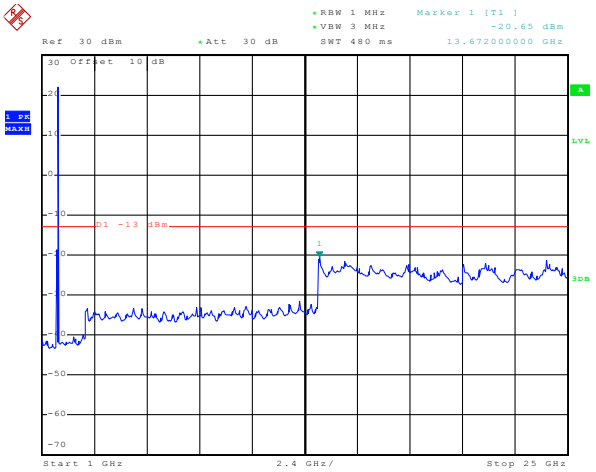
1GHz~25GHz

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



Date: 3.NOV.2015 12:06:04

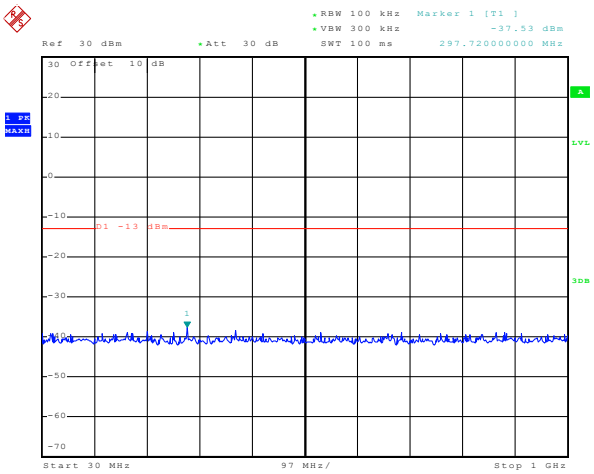
30MHz~1GHz



Date: 3.NOV.2015 10:26:36

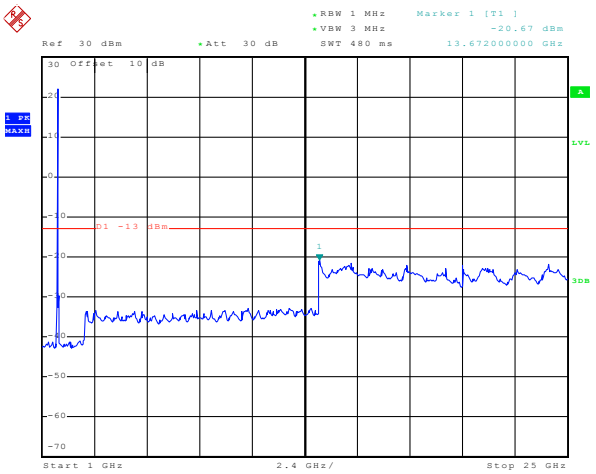
1GHz~25GHz

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



Date: 3.NOV.2015 12:16:54

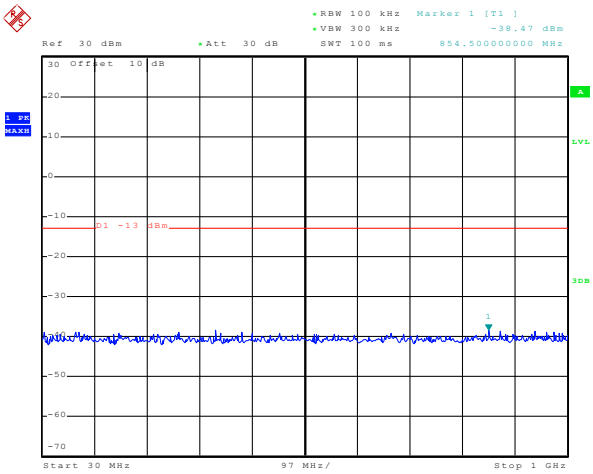
30MHz~1GHz



Date: 3.NOV.2015 10:31:07

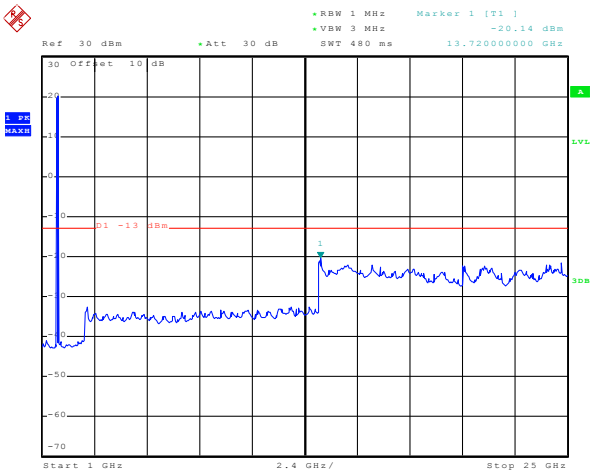
1GHz~25GHz

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



Date: 3.NOV.2015 12:04:59

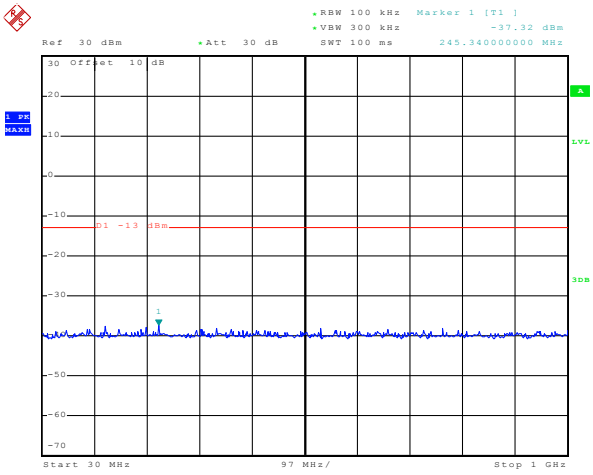
30MHz~1GHz



Date: 3.NOV.2015 10:22:30

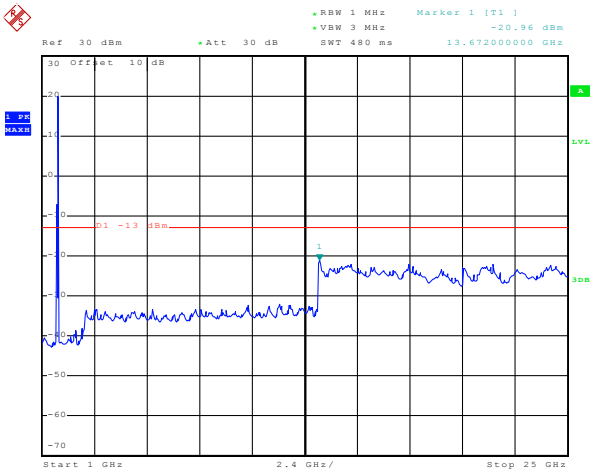
1GHz~25GHz

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



Date: 3.NOV.2015 12:13:30

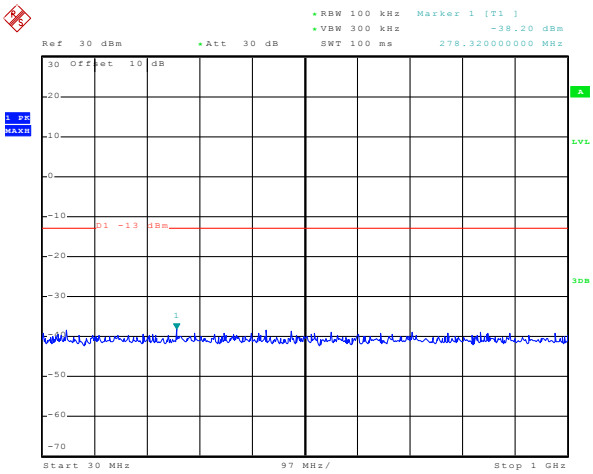
30MHz~1GHz



Date: 3.NOV.2015 10:27:13

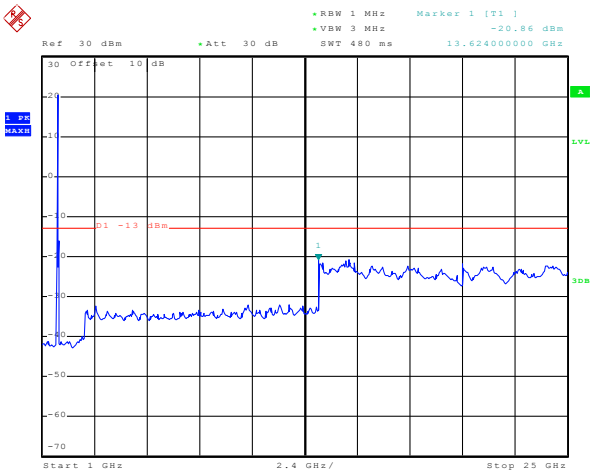
1GHz~25GHz

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



Date: 3.NOV.2015 12:17:06

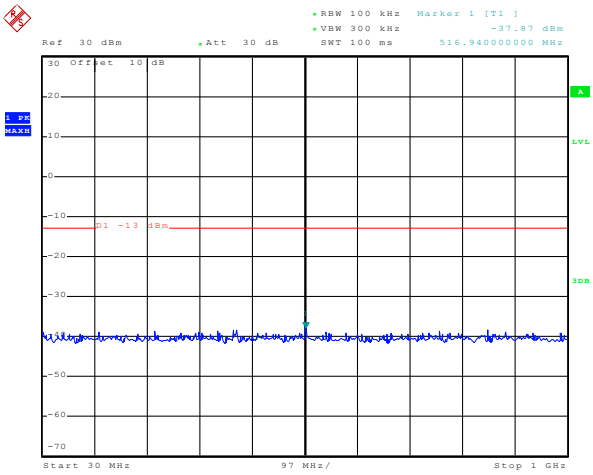
30MHz~1GHz



Date: 3.NOV.2015 10:32:38

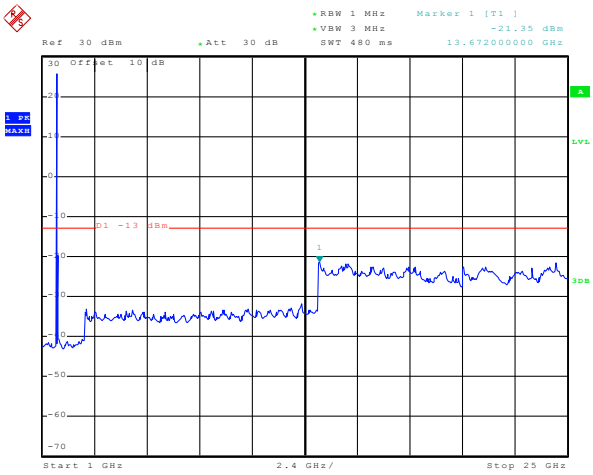
1GHz~25GHz

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



Date: 3.NOV.2015 12:03:58

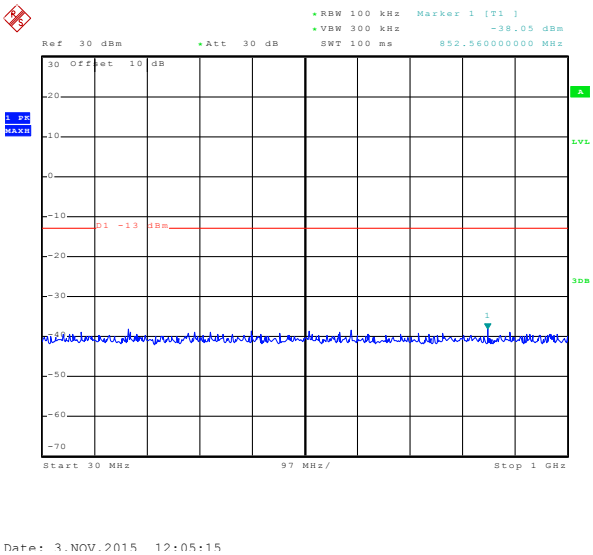
30MHz~1GHz



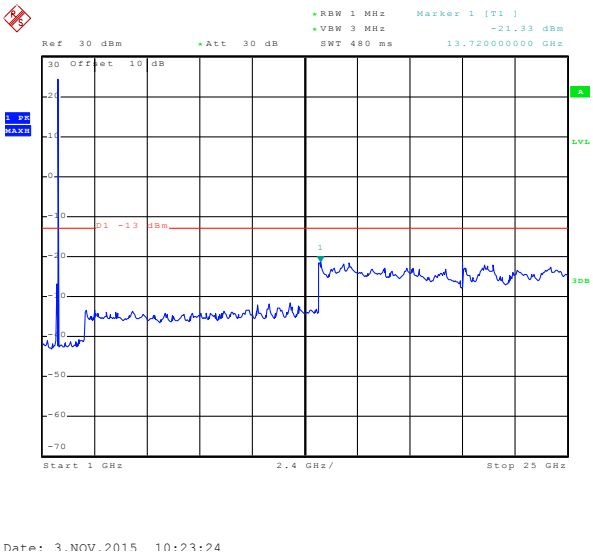
Date: 3.NOV.2015 10:18:35

1GHz~25GHz

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

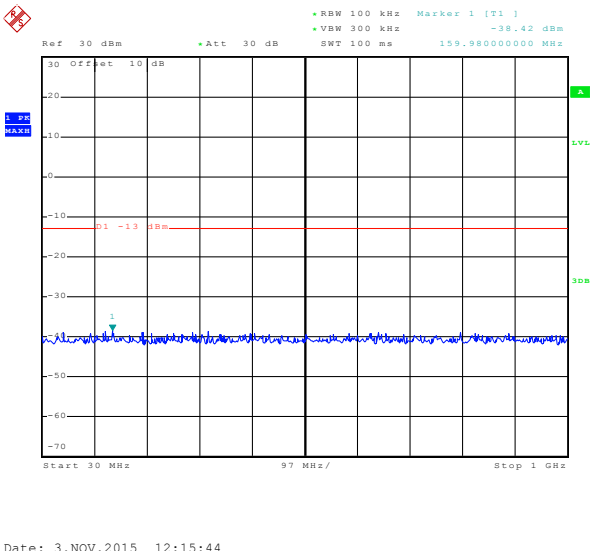


30MHz~1GHz

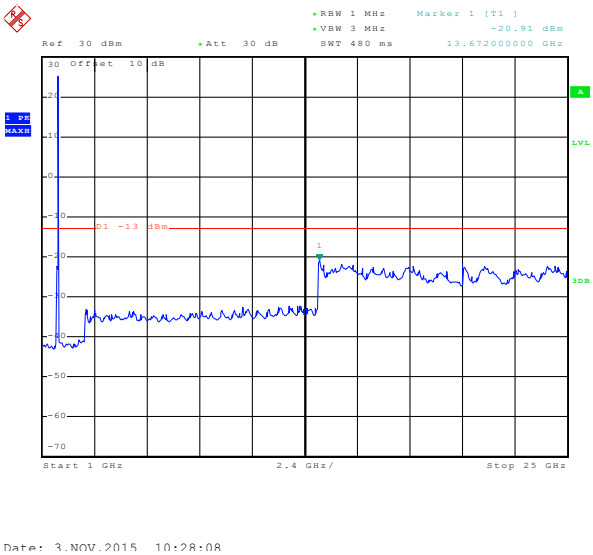


1GHz~25GHz

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

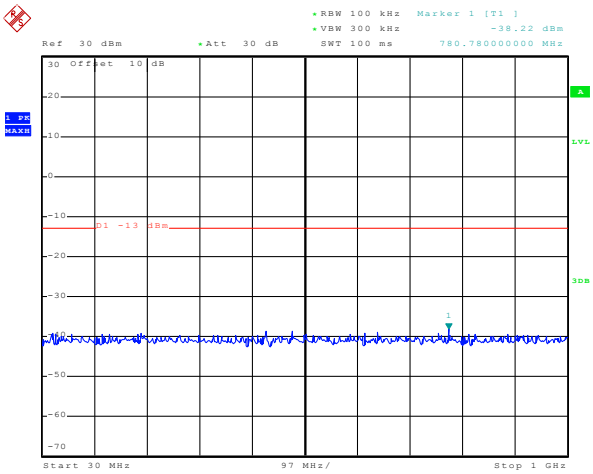


30MHz~1GHz



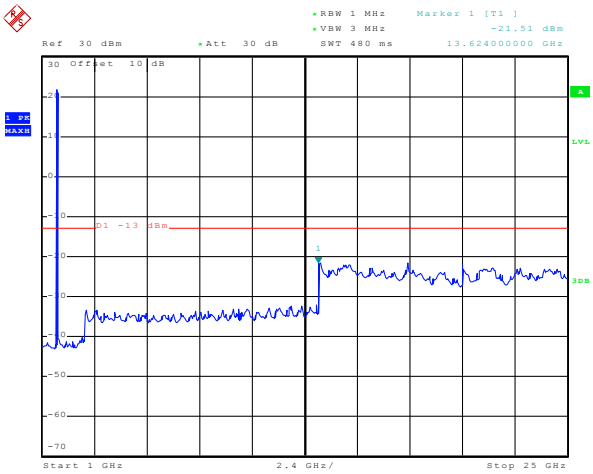
1GHz~25GHz

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



Date: 3.NOV.2015 12:04:10

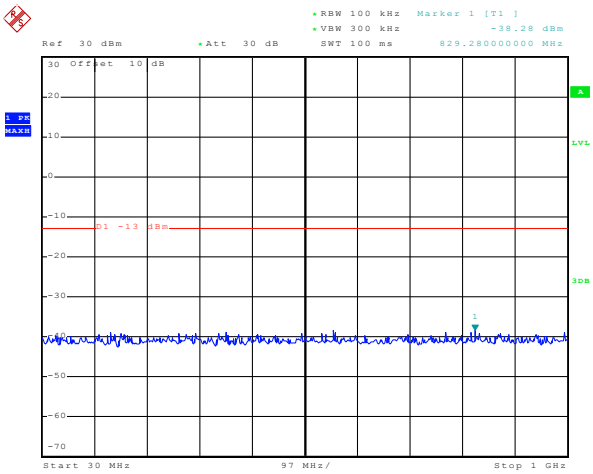
30MHz~1GHz



Date: 3.NOV.2015 10:19:10

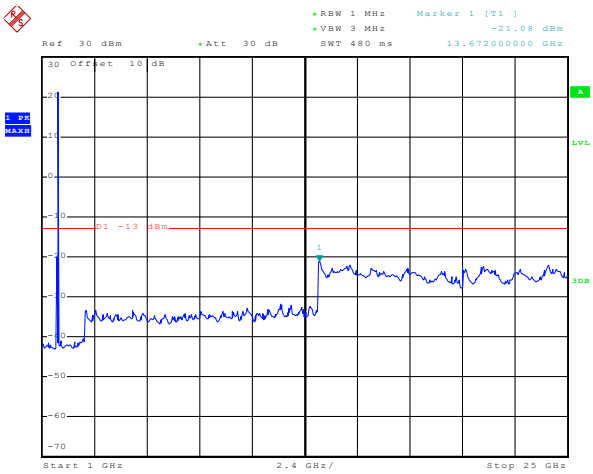
1GHz~25GHz

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



Date: 3.NOV.2015 12:05:26

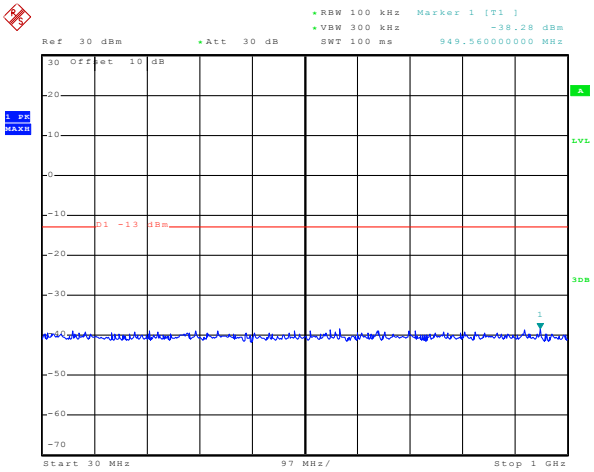
30MHz~1GHz



Date: 3.NOV.2015 10:24:00

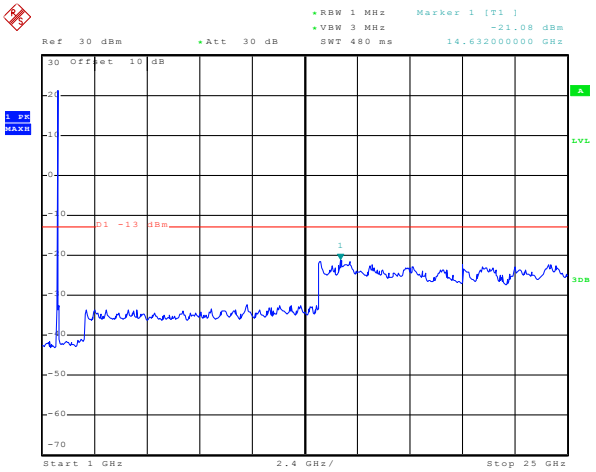
1GHz~25GHz

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



Date: 3.NOV.2015 12:16:11

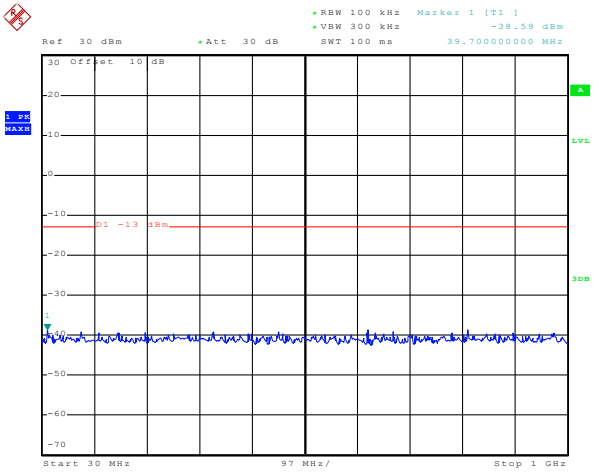
30MHz~1GHz



Date: 3.NOV.2015 10:28:48

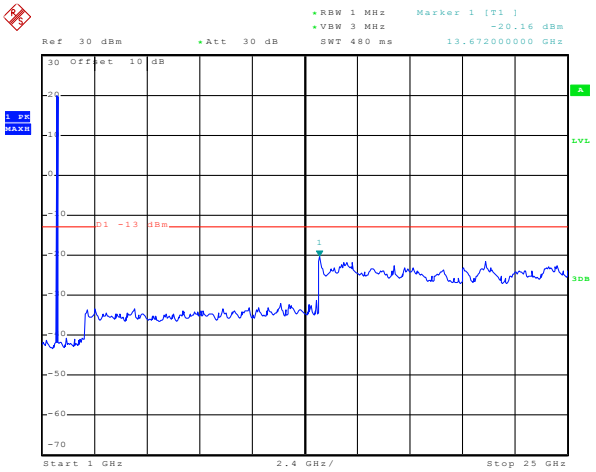
1GHz~25GHz

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



Date: 3.NOV.2015 12:04:20

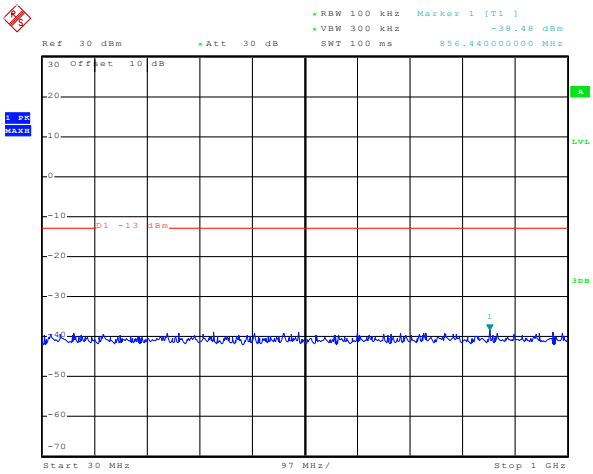
30MHz~1GHz



Date: 3.NOV.2015 10:19:45

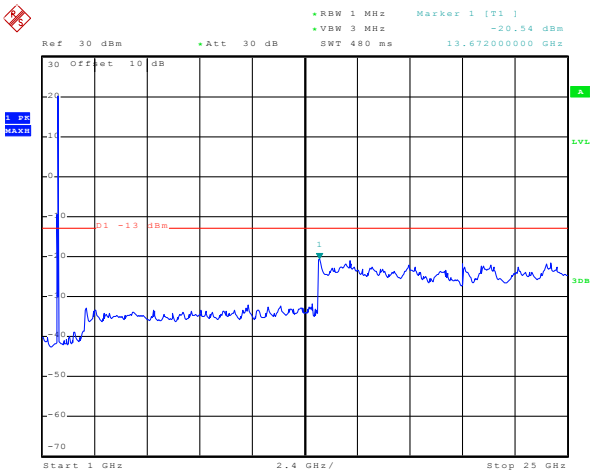
1GHz~25GHz

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



Date: 3.NOV.2015 12:05:41

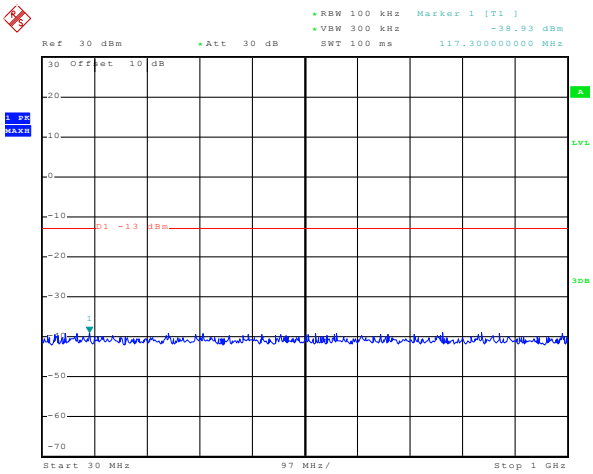
30MHz~1GHz



Date: 3.NOV.2015 10:25:15

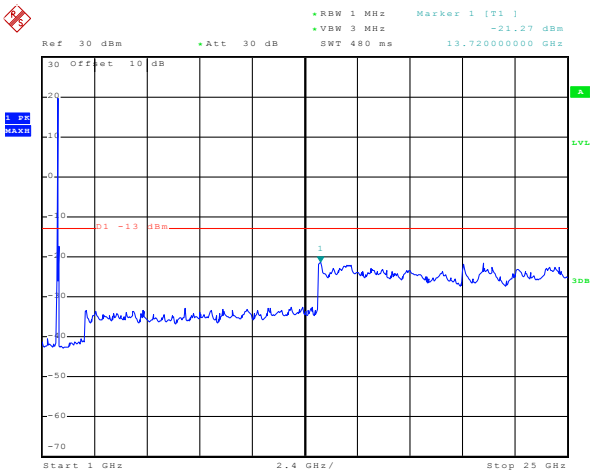
1GHz~25GHz

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



Date: 3.NOV.2015 12:16:25

30MHz~1GHz

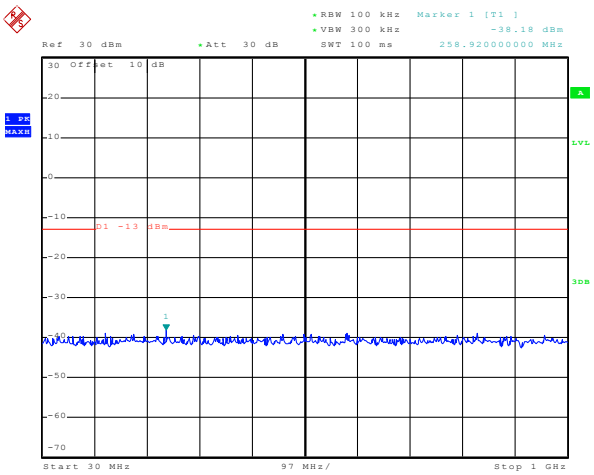


Date: 3.NOV.2015 10:29:30

1GHz~25GHz

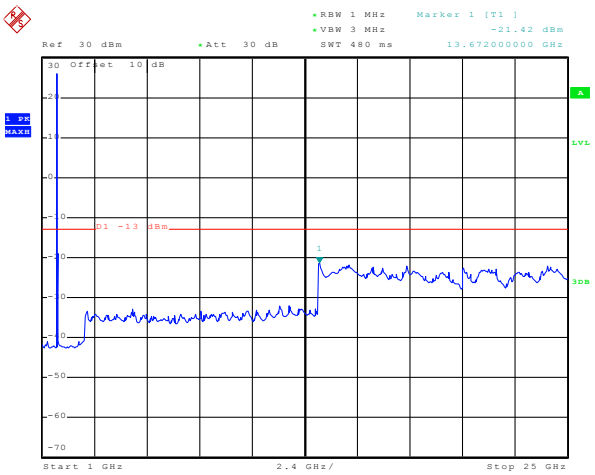
20MHz

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



Date: 3.NOV.2015 12:18:07

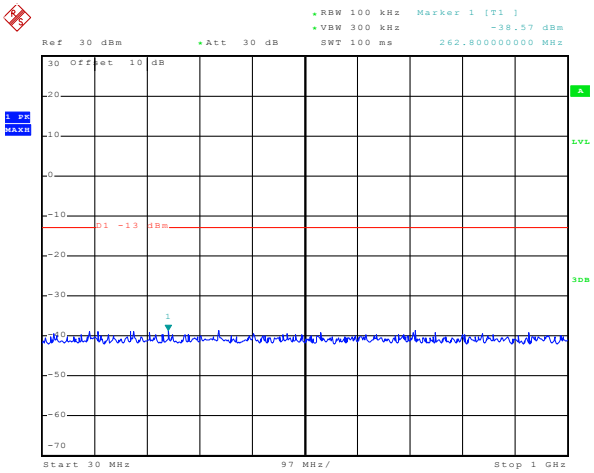
30MHz~1GHz



Date: 3.NOV.2015 10:15:51

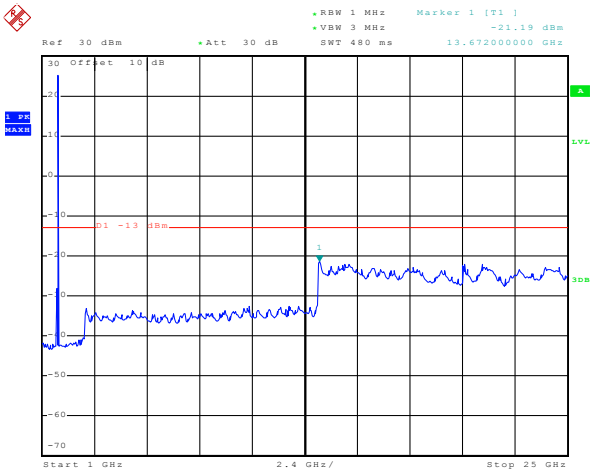
1GHz~25GHz

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



Date: 3.NOV.2015 12:19:21

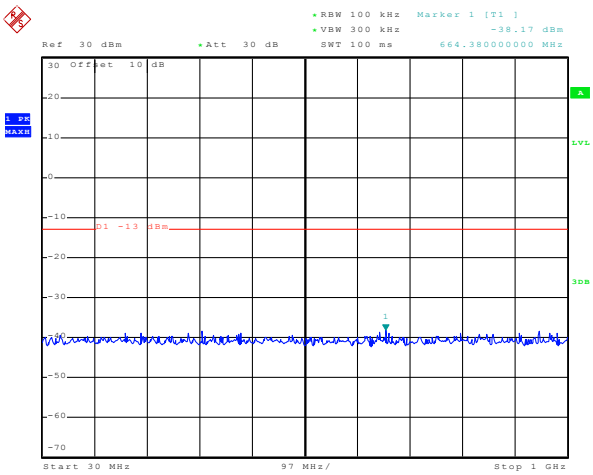
30MHz~1GHz



Date: 3.NOV.2015 10:12:07

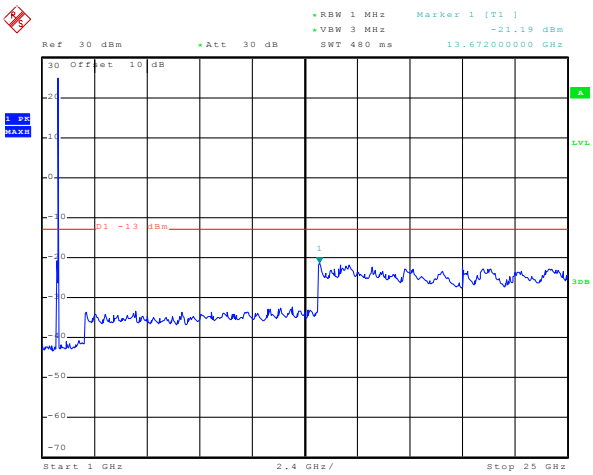
1GHz~25GHz

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



Date: 3.NOV.2015 12:20:43

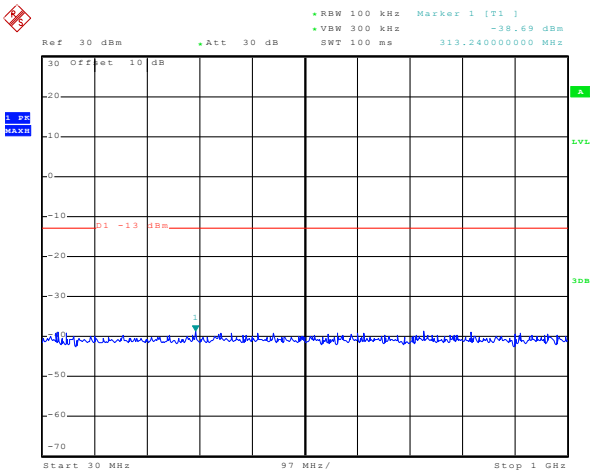
30MHz~1GHz



Date: 3.NOV.2015 10:07:02

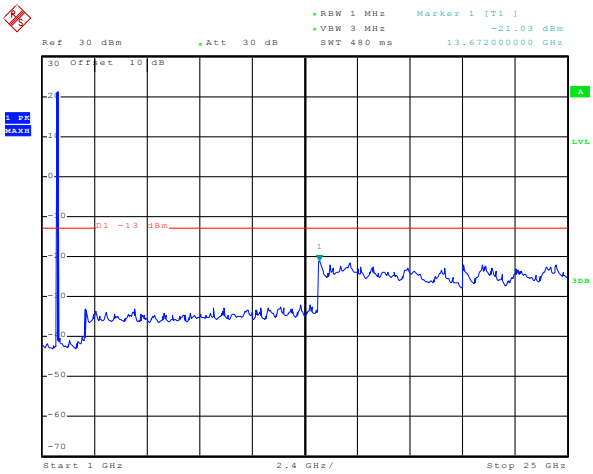
1GHz~25GHz

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



Date: 3.NOV.2015 12:18:19

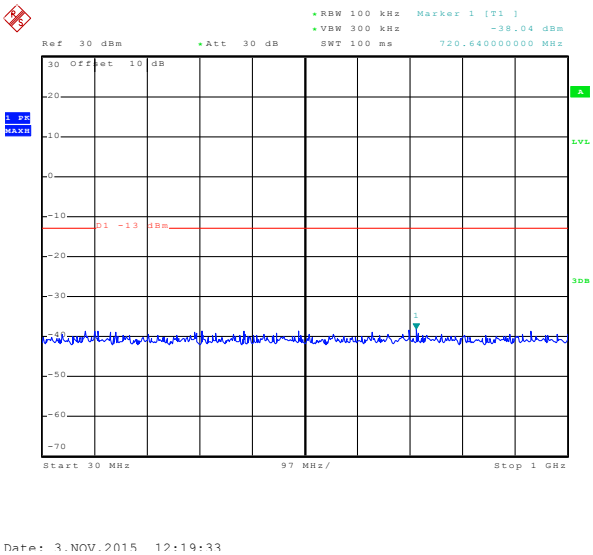
30MHz~1GHz



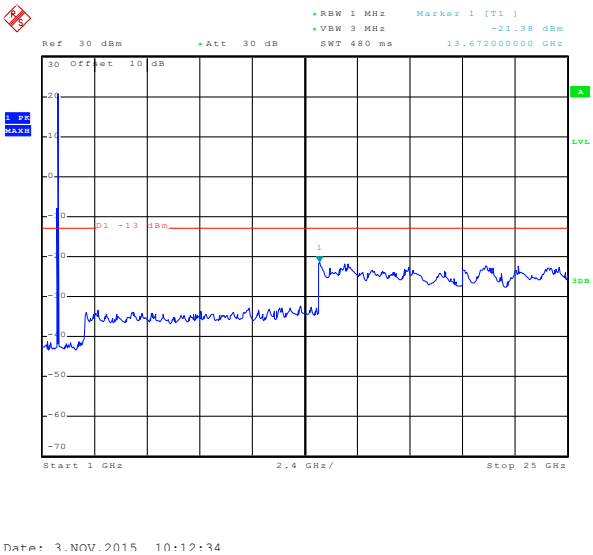
Date: 3.NOV.2015 10:16:26

1GHz~25GHz

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

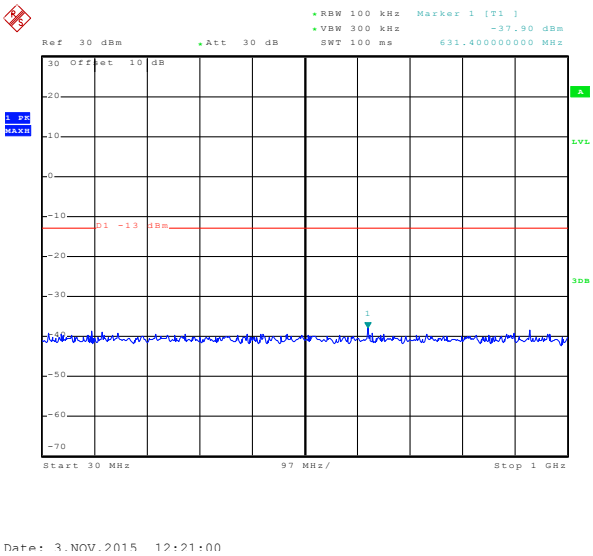


30MHz~1GHz

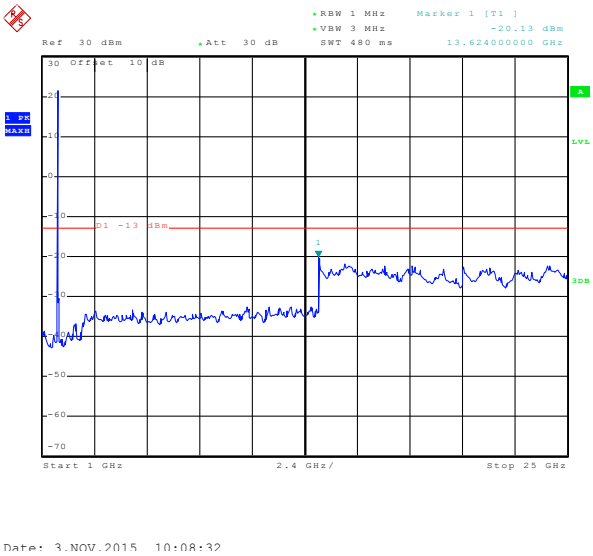


1GHz~25GHz

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

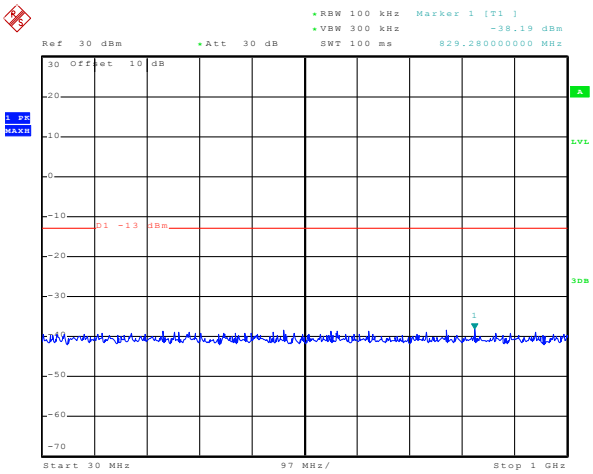


30MHz~1GHz



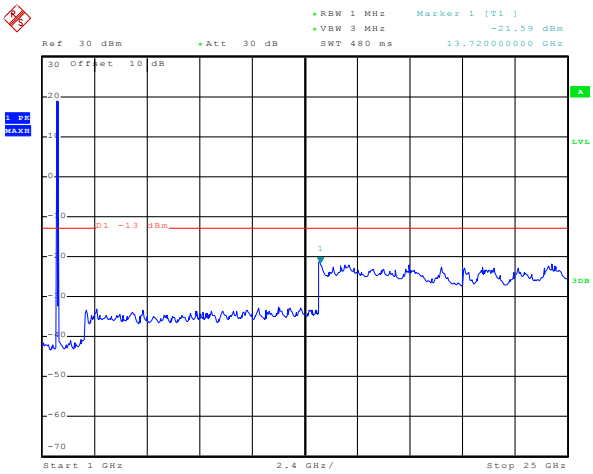
1GHz~25GHz

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



Date: 3.NOV.2015 12:18:34

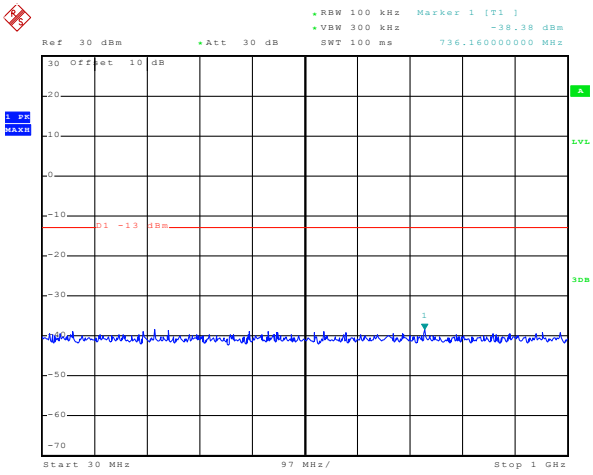
30MHz~1GHz



Date: 3.NOV.2015 10:16:58

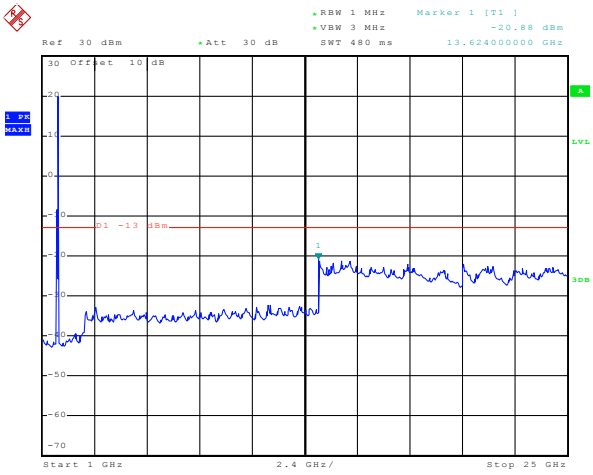
1GHz~25GHz

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



Date: 3.NOV.2015 12:19:48

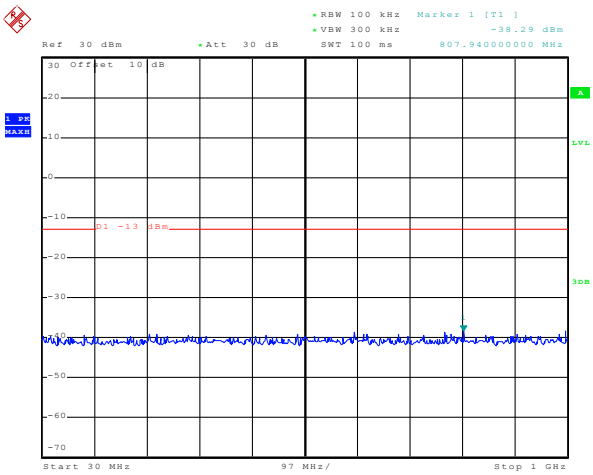
30MHz~1GHz



Date: 3.NOV.2015 10:13:02

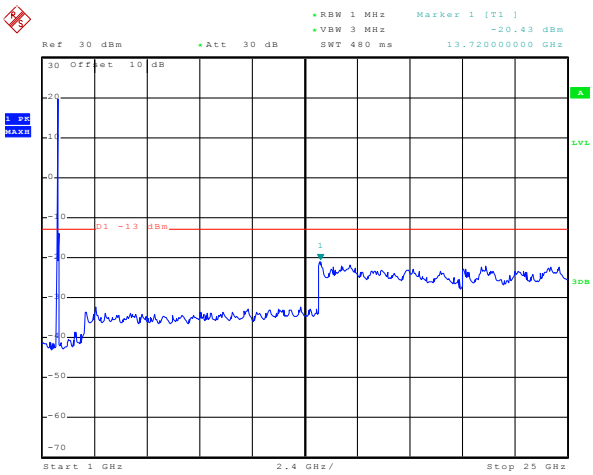
1GHz~25GHz

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



Date: 3.NOV.2015 12:21:12

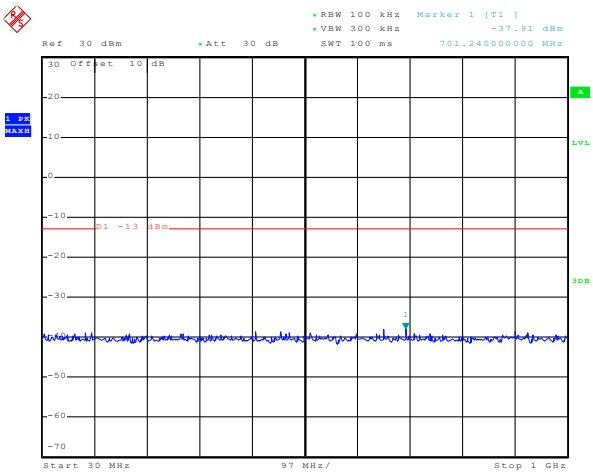
30MHz~1GHz



Date: 3.NOV.2015 10:09:09

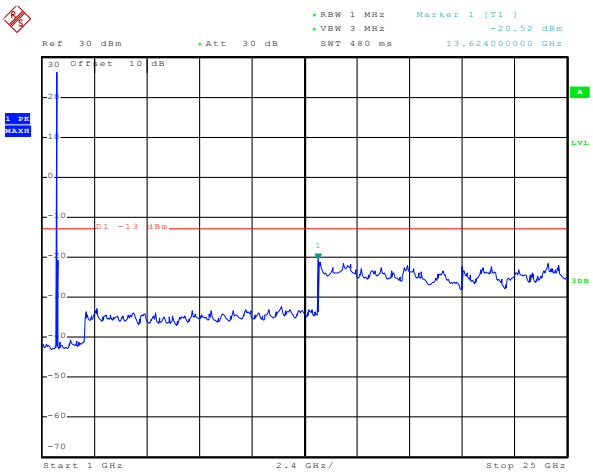
1GHz~25GHz

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



Date: 3.NOV.2015 12:17:32

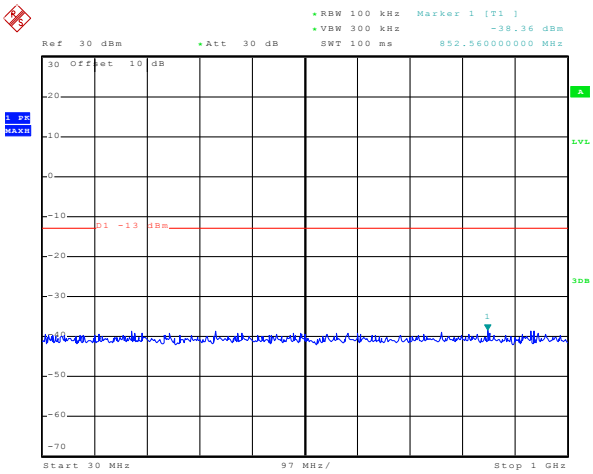
30MHz~1GHz



Date: 3.NOV.2015 10:13:46

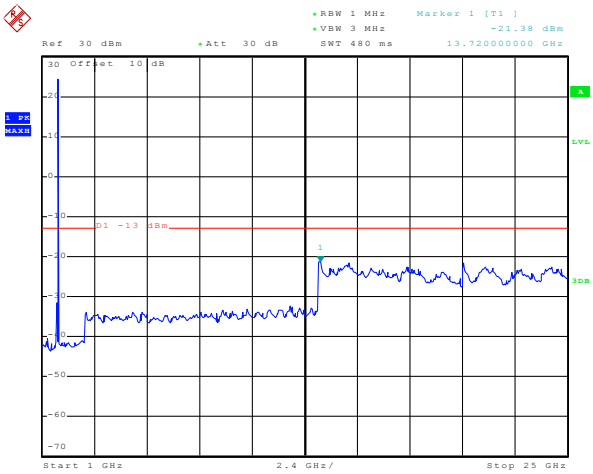
1GHz~25GHz

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



Date: 3.NOV.2015 12:18:48

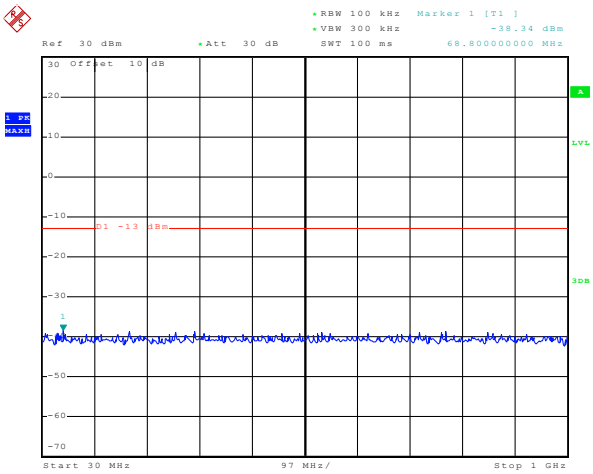
30MHz~1GHz



Date: 3.NOV.2015 10:10:10

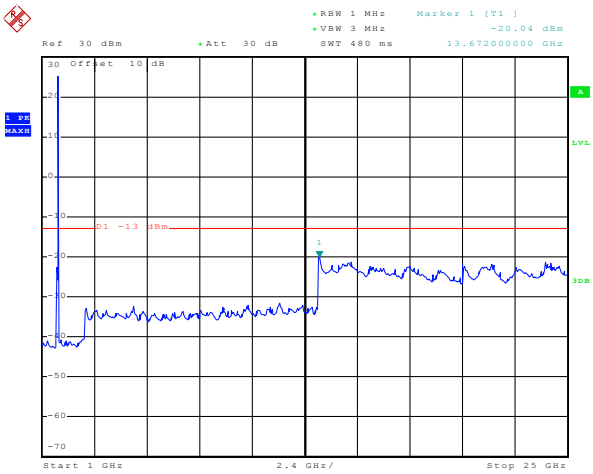
1GHz~25GHz

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



Date: 3.NOV.2015 12:20:06

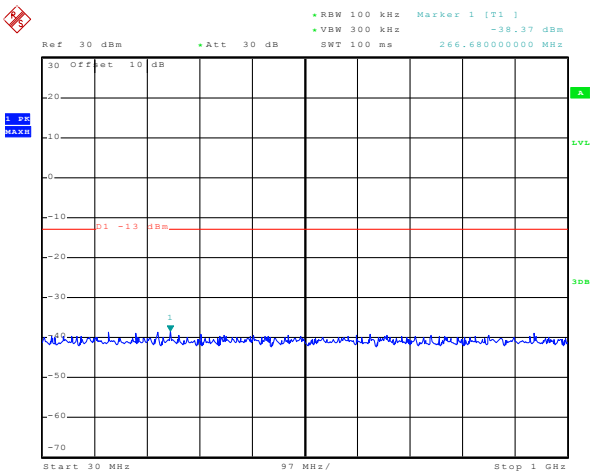
30MHz~1GHz



Date: 3.NOV.2015 10:06:29

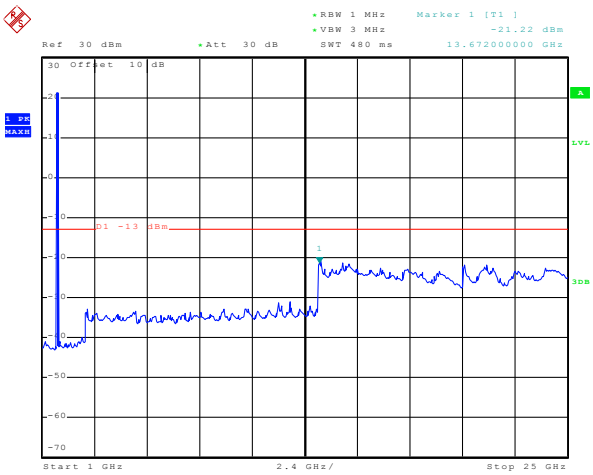
1GHz~25GHz

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



Date: 3.NOV.2015 12:17:44

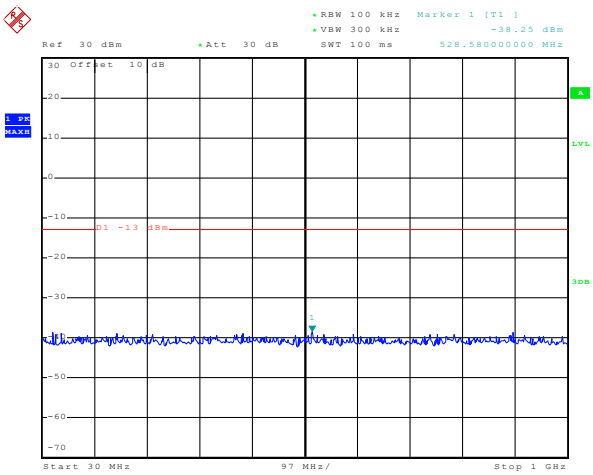
30MHz~1GHz



Date: 3.NOV.2015 10:14:33

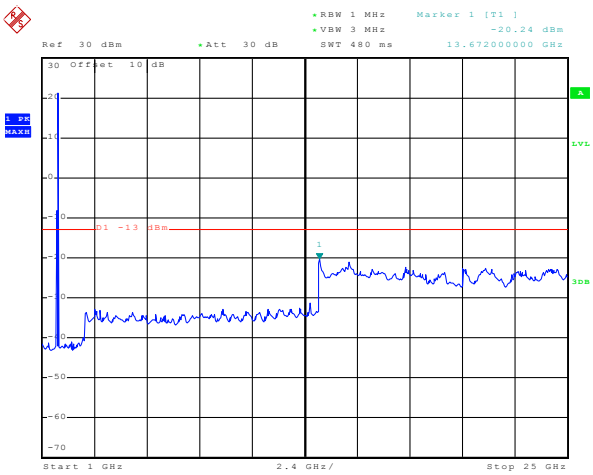
1GHz~25GHz

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



Date: 3.NOV.2015 12:19:00

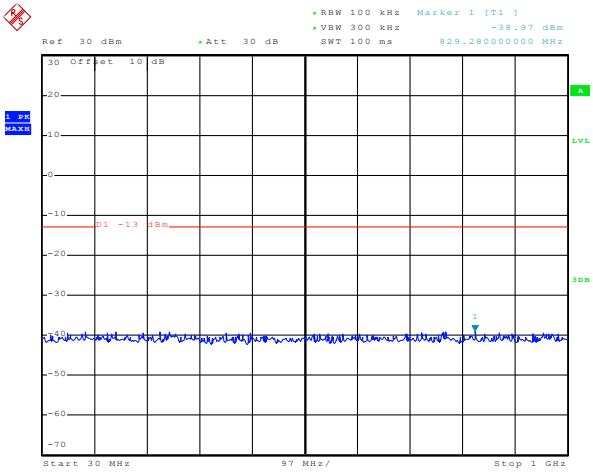
30MHz~1GHz



Date: 3.NOV.2015 10:11:04

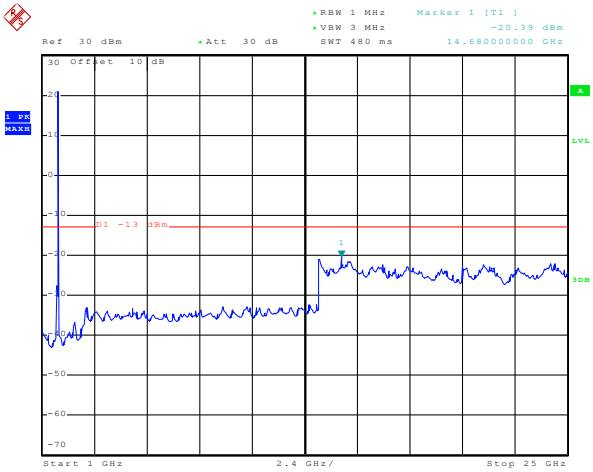
1GHz~25GHz

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



Date: 3.NOV.2015 12:20:19

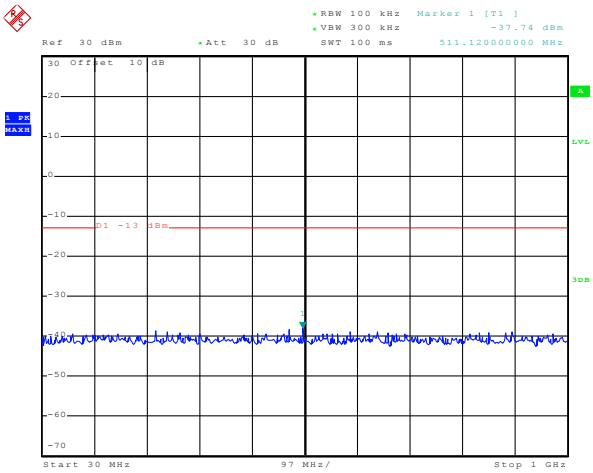
30MHz~1GHz



Date: 3.NOV.2015 10:07:41

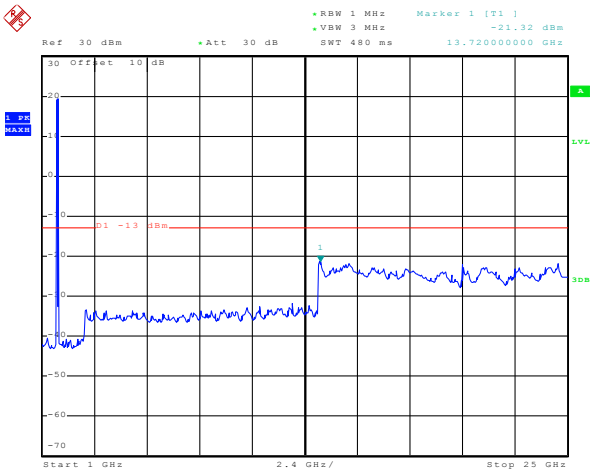
1GHz~25GHz

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



Date: 3.NOV.2015 12:17:55

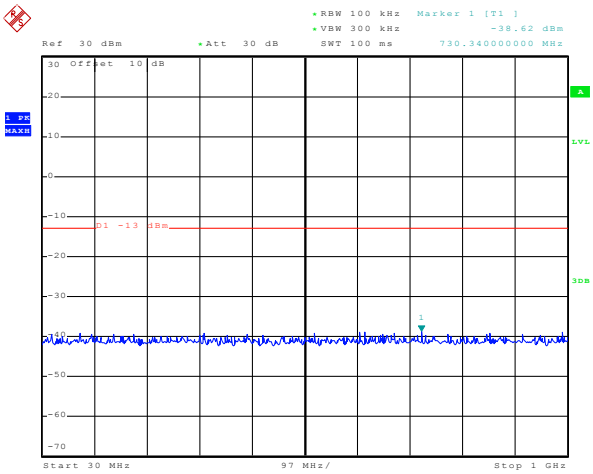
30MHz~1GHz



Date: 3.NOV.2015 10:15:03

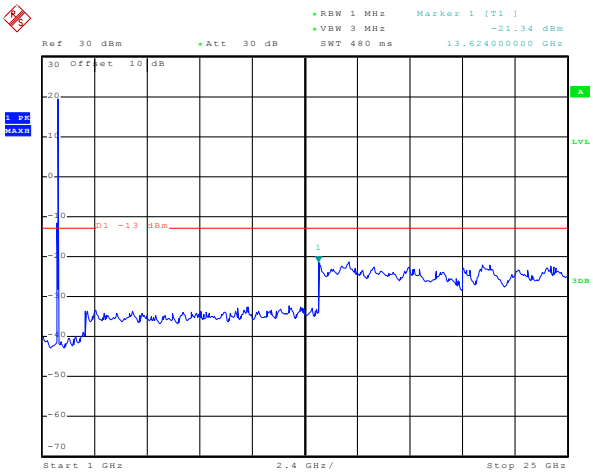
1GHz~25GHz

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



Date: 3.NOV.2015 12:19:10

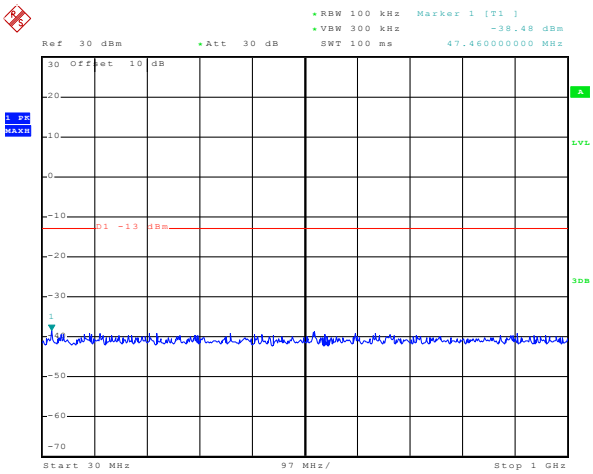
30MHz~1GHz



Date: 3.NOV.2015 10:11:37

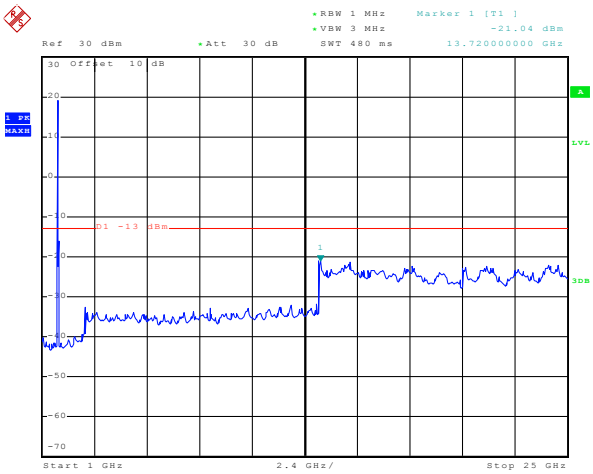
1GHz~25GHz

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



Date: 3.NOV.2015 12:20:30

30MHz~1GHz



Date: 3.NOV.2015 10:08:05

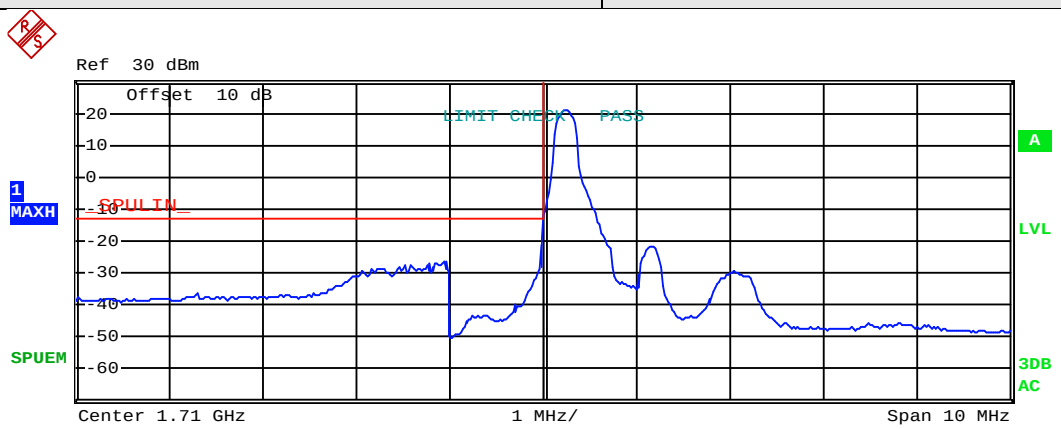
1GHz~25GHz

Band edge emission:

LTE band 4 part:

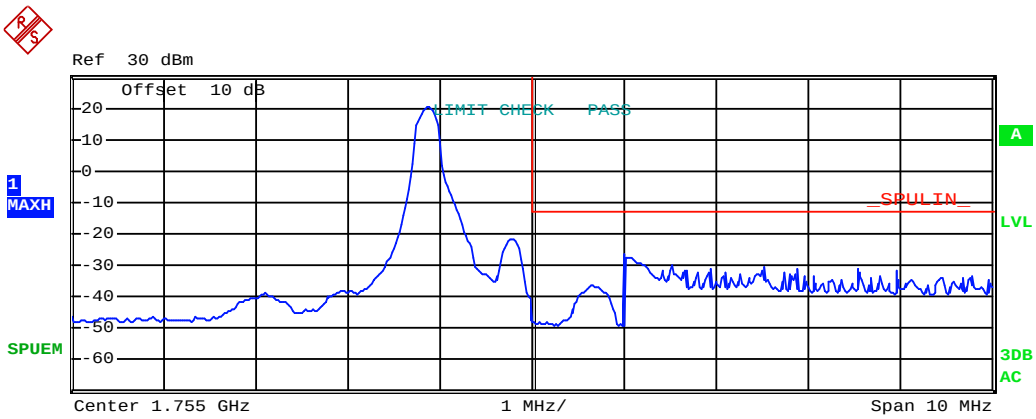
1.4MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708968 G	-26.38	-13.38
1.709 G	1.710 G	30.00 k	1.709992 G	-21.85	-8.85
1.710 G	1.715 G	100.00 k	1.710260 G	20.84	-12.16

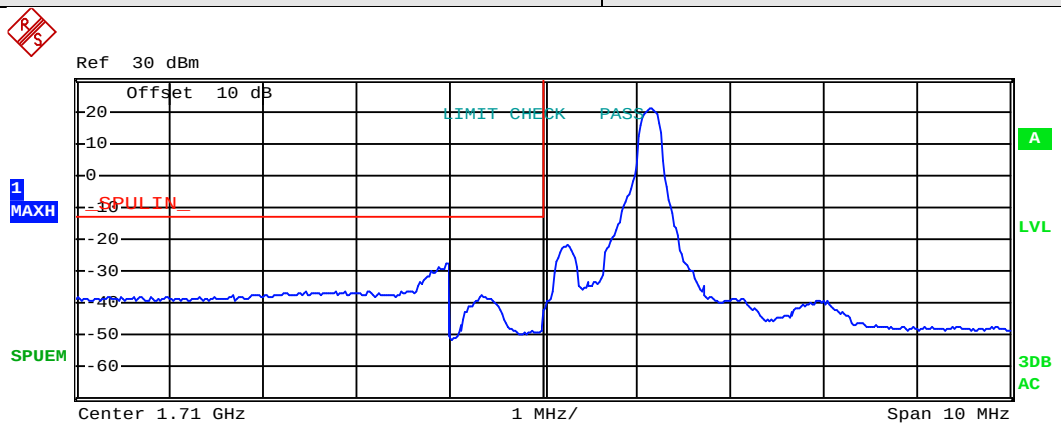
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.753871 G	20.33	-12.67
1.755 G	1.756 G	30.00 k	1.755637 G	-36.08	-23.08
1.756 G	1.760 G	1.00 M	1.756000 G	-26.61	-13.61

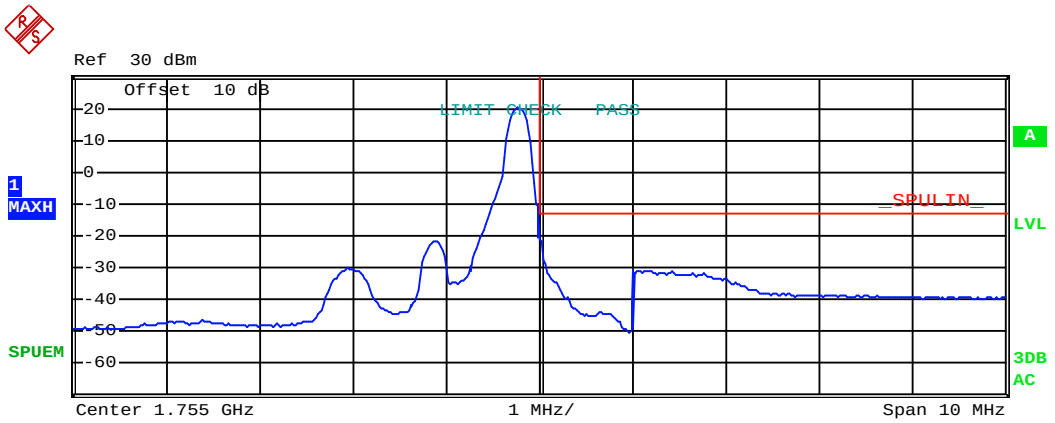
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 5)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708968 G	-27.31	-14.31
1.709 G	1.710 G	30.00 k	1.709339 G	-37.72	-24.72
1.710 G	1.715 G	100.00 k	1.711160 G	20.76	-12.24

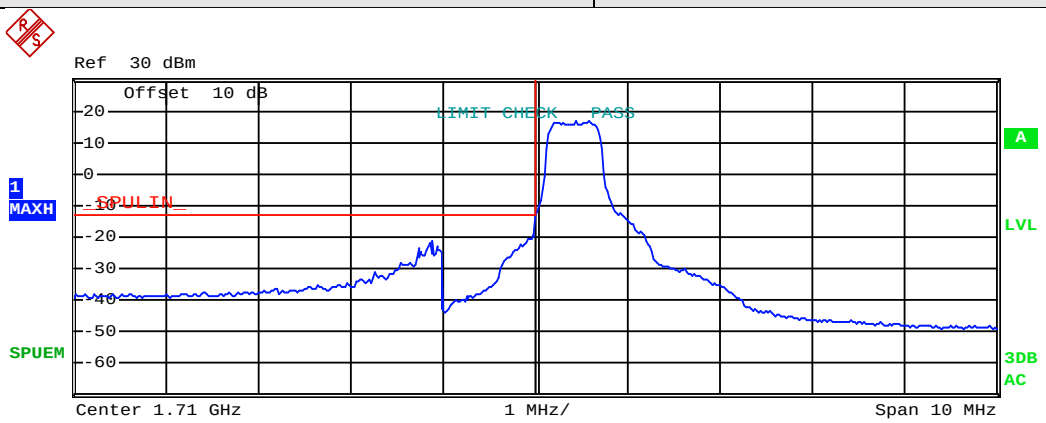
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754758 G	20.08	-12.92
1.755 G	1.756 G	30.00 k	1.755008 G	-20.42	-7.42
1.756 G	1.760 G	1.00 M	1.756000 G	-30.58	-17.58

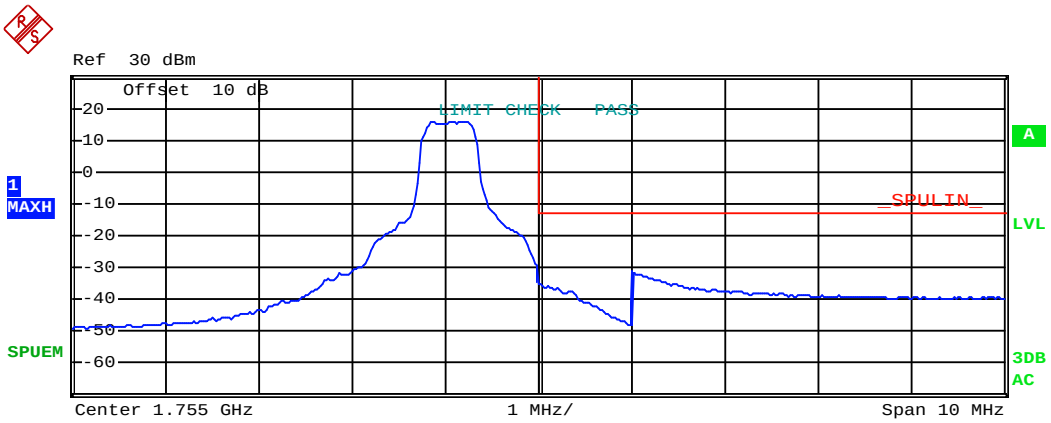
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 3 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708871 G	-20.97	-7.97
1.709 G	1.710 G	30.00 k	1.709984 G	-19.51	-6.51
1.710 G	1.715 G	100.00 k	1.710580 G	16.65	-16.35

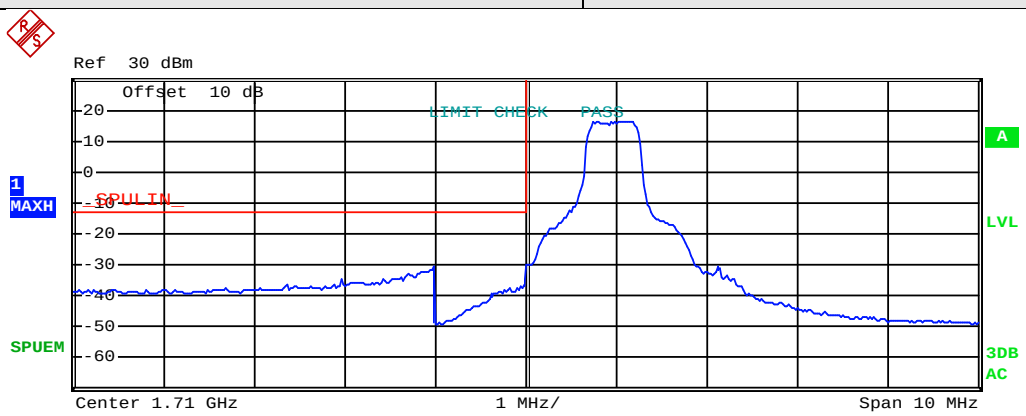
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.753831 G	15.67	-17.33
1.755 G	1.756 G	30.00 k	1.755008 G	-35.30	-22.30
1.756 G	1.760 G	1.00 M	1.756000 G	-31.25	-18.25

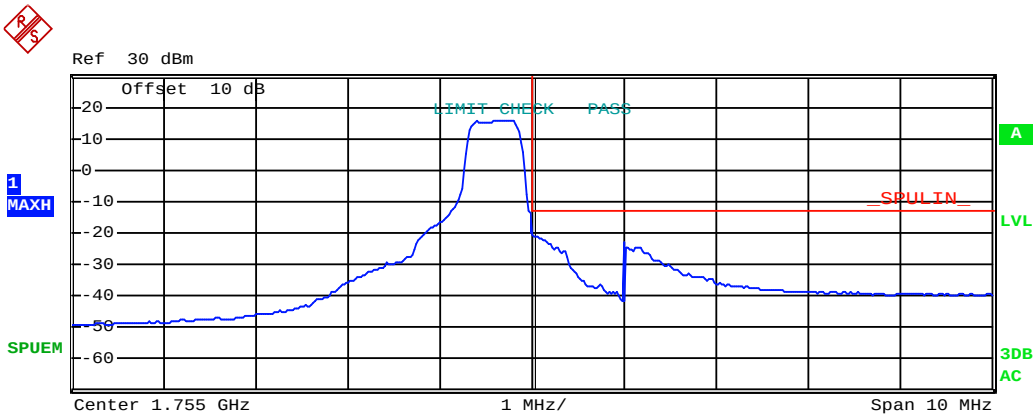
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 3 & RB Offset 2)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-30.32	-17.32
1.709 G	1.710 G	30.00 k	1.709992 G	-36.56	-23.56
1.710 G	1.715 G	100.00 k	1.710980 G	16.51	-16.49

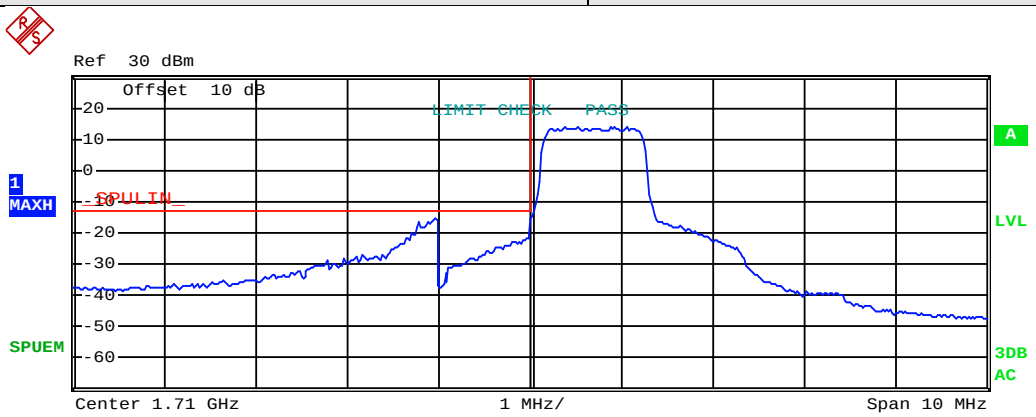
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754718 G	15.88	-17.12
1.755 G	1.756 G	30.00 k	1.755040 G	-20.90	-7.90
1.756 G	1.760 G	1.00 M	1.756000 G	-22.97	-9.97

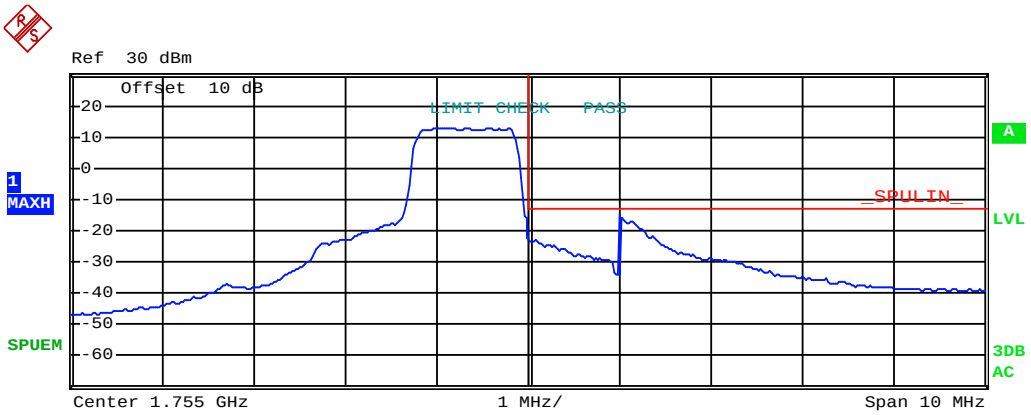
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 6 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708968 G	-15.12	-2.12
1.709 G	1.710 G	30.00 k	1.709976 G	-21.53	-8.53
1.710 G	1.715 G	100.00 k	1.711060 G	14.06	-18.94

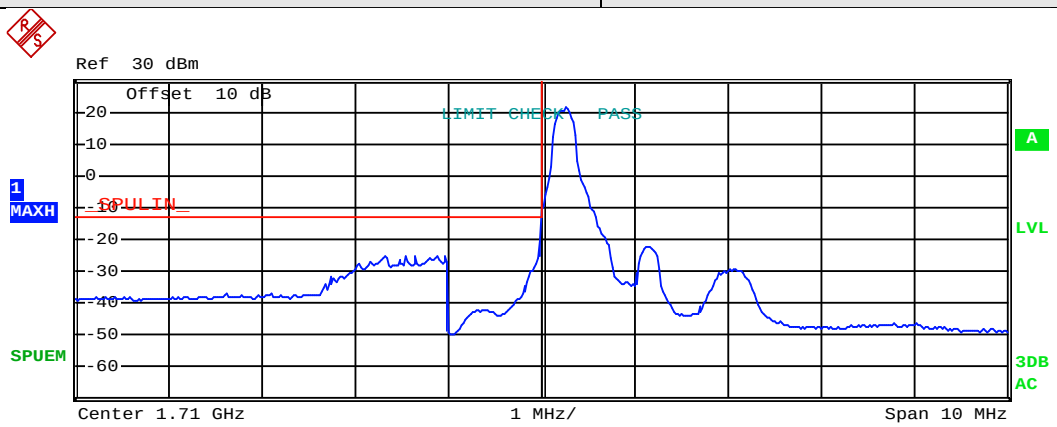
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754153 G	12.98	-20.02
1.755 G	1.756 G	30.00 k	1.755065 G	-23.16	-10.16
1.756 G	1.760 G	1.00 M	1.756000 G	-14.72	-1.72

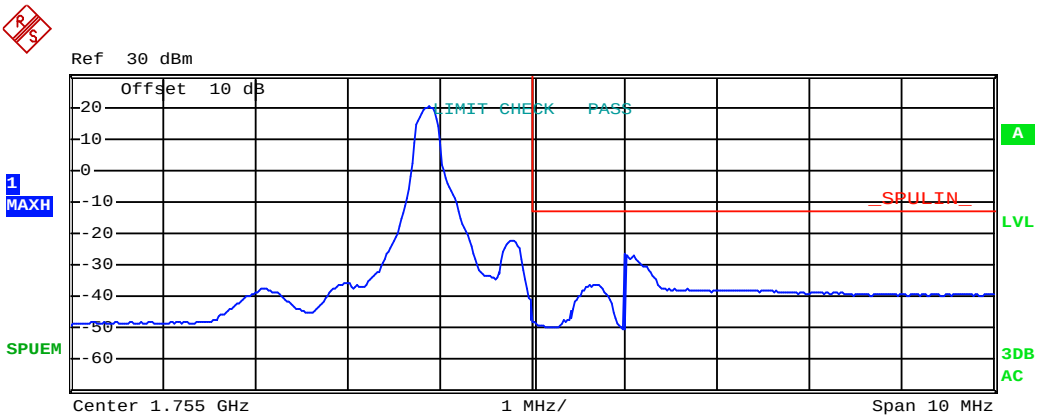
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708645 G	-25.05	-12.05
1.709 G	1.710 G	30.00 k	1.709992 G	-21.33	-8.33
1.710 G	1.715 G	100.00 k	1.710260 G	21.25	-11.75

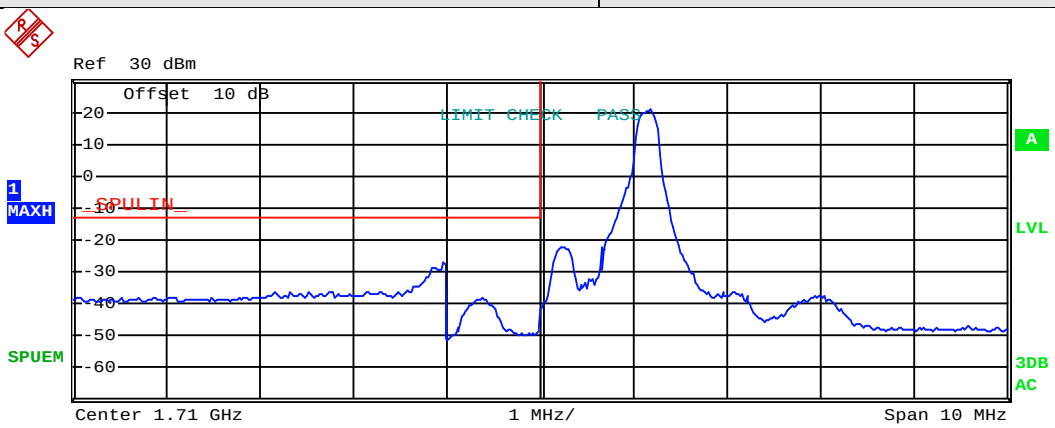
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.753871 G	20.11	-12.89
1.755 G	1.756 G	30.00 k	1.755677 G	-36.13	-23.13
1.756 G	1.760 G	1.00 M	1.756000 G	-26.20	-13.20

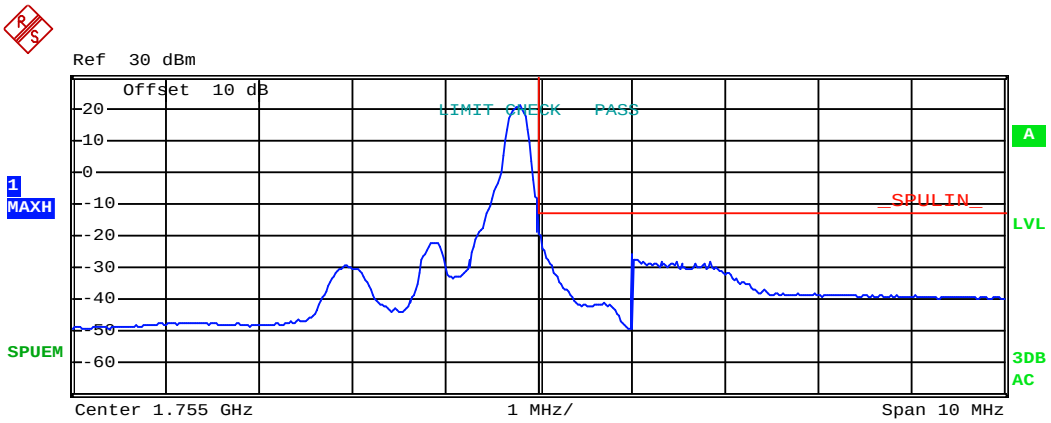
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 5)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708968 G	-27.25	-14.25
1.709 G	1.710 G	30.00 k	1.709363 G	-38.40	-25.40
1.710 G	1.715 G	100.00 k	1.711180 G	20.93	-12.07

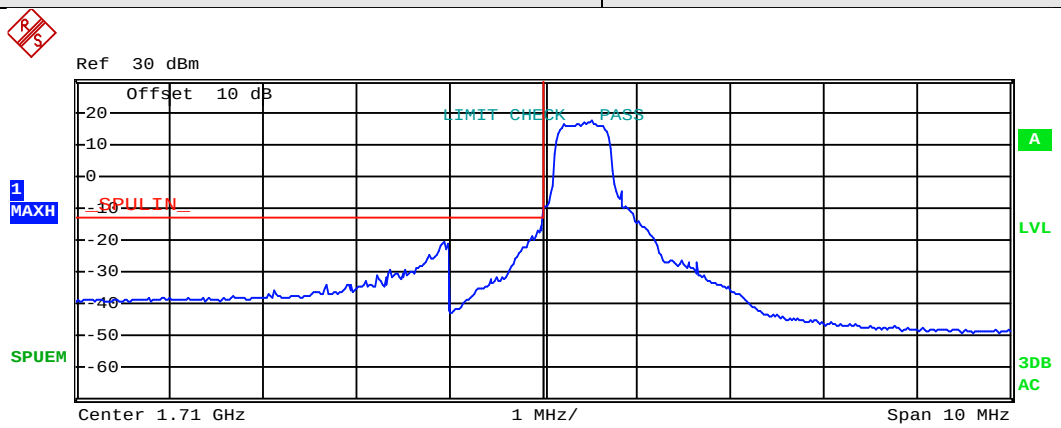
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754798 G	20.80	-12.20
1.755 G	1.756 G	30.00 k	1.755008 G	-19.37	-6.37
1.756 G	1.760 G	1.00 M	1.756000 G	-25.82	-12.82

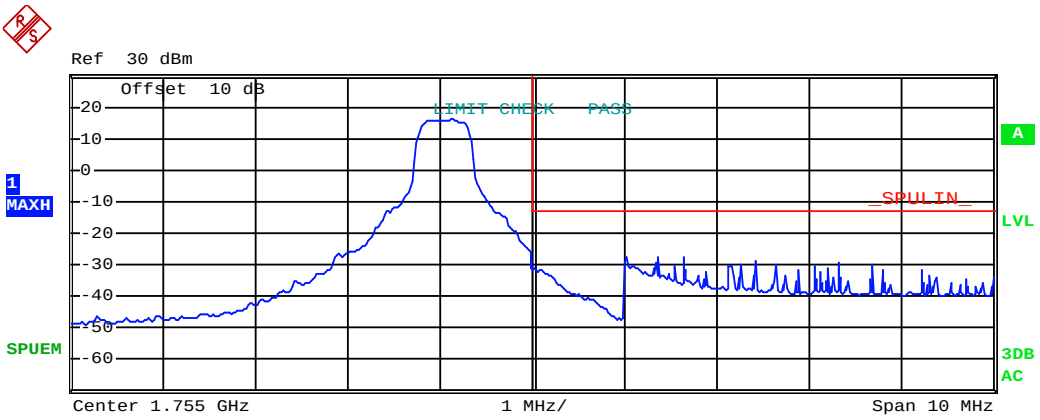
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 3 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708935 G	-20.68	-7.68
1.709 G	1.710 G	30.00 k	1.709992 G	-16.32	-3.32
1.710 G	1.715 G	100.00 k	1.710520 G	17.20	-15.80

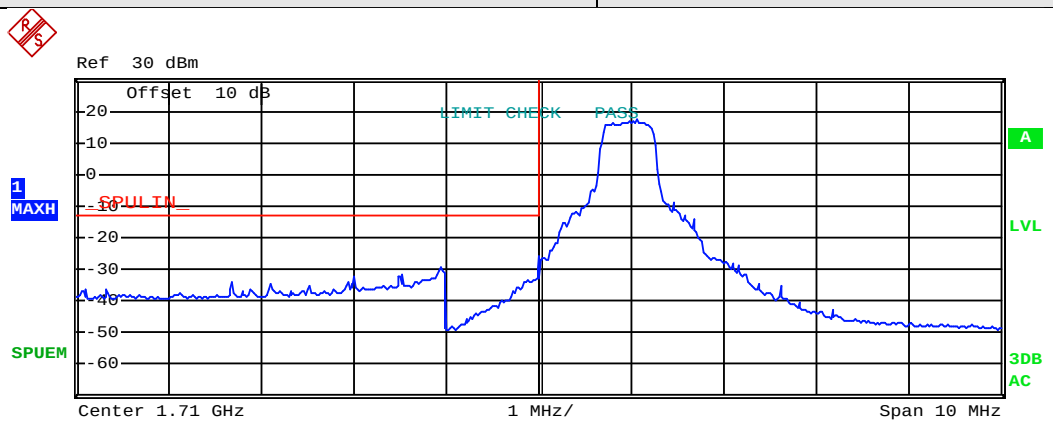
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754113 G	16.40	-16.60
1.755 G	1.756 G	30.00 k	1.755008 G	-31.21	-18.21
1.756 G	1.760 G	1.00 M	1.756032 G	-27.36	-14.36

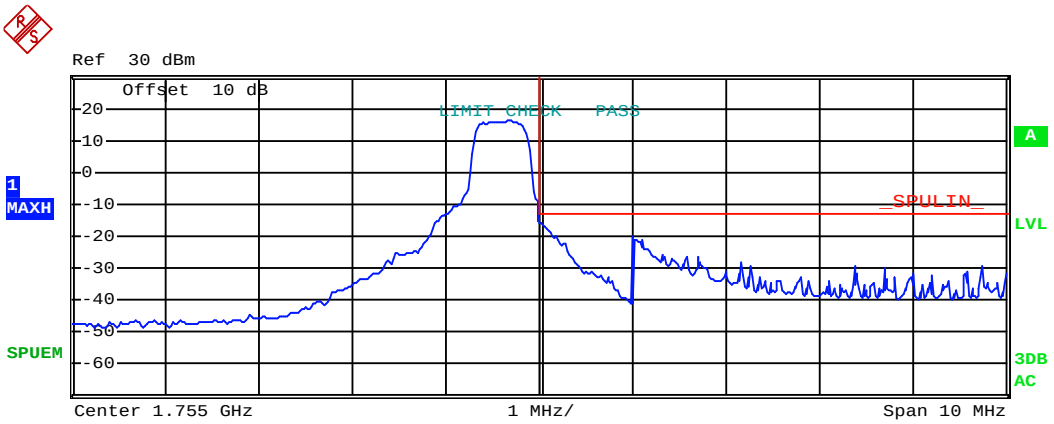
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 3 & RB Offset 2)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708935 G	-29.10	-16.10
1.709 G	1.710 G	30.00 k	1.709968 G	-33.00	-20.00
1.710 G	1.715 G	100.00 k	1.711060 G	17.56	-15.44

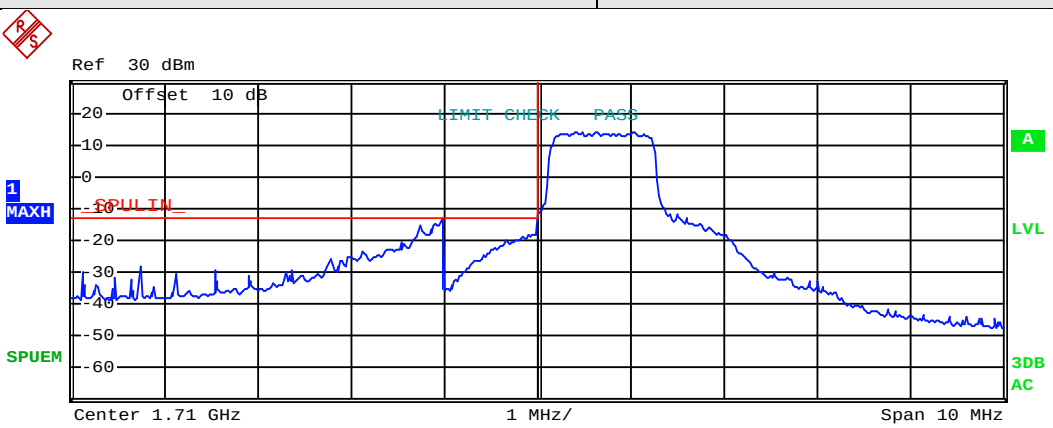
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754677 G	16.42	-16.58
1.755 G	1.756 G	30.00 k	1.755016 G	-15.64	-2.64
1.756 G	1.760 G	1.00 M	1.756000 G	-19.80	-6.80

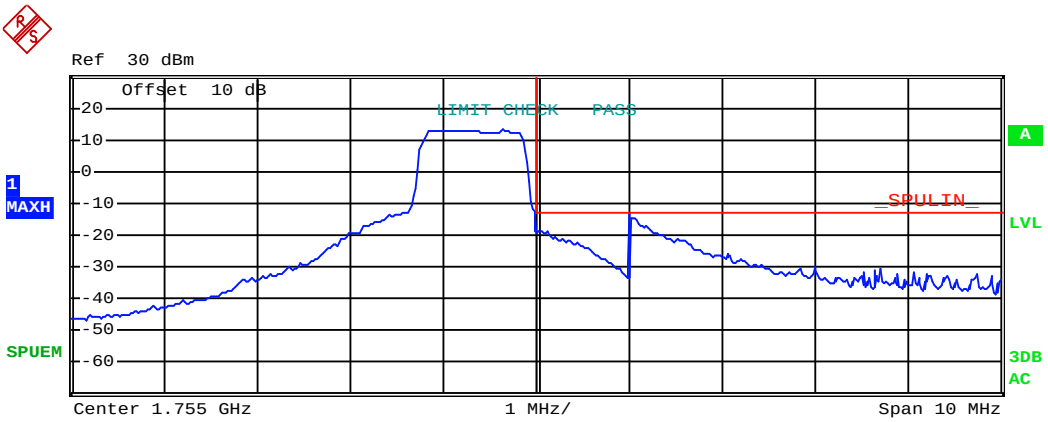
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 6 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-13.26	-0.26
1.709 G	1.710 G	30.00 k	1.709960 G	-17.99	-4.99
1.710 G	1.715 G	100.00 k	1.711020 G	13.83	-19.17

Lowest channel

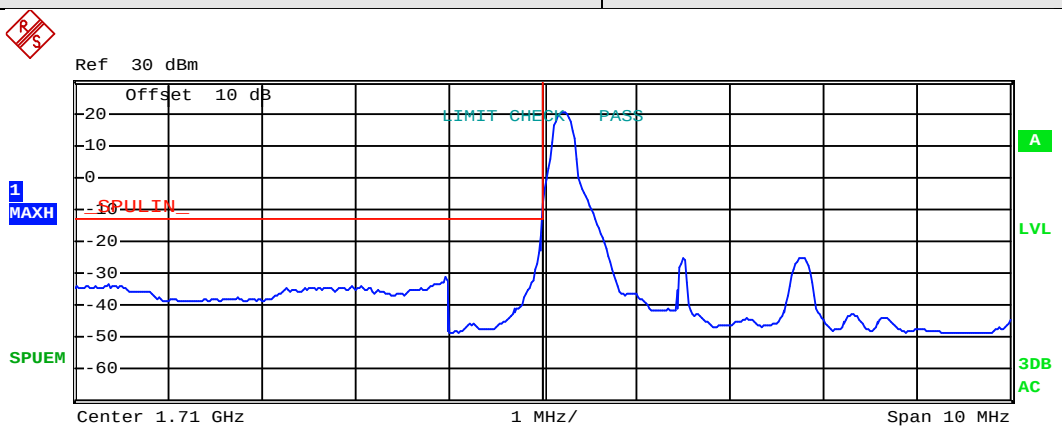


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754637 G	13.09	-19.91
1.755 G	1.756 G	30.00 k	1.755032 G	-18.57	-5.57
1.756 G	1.760 G	1.00 M	1.756000 G	-13.05	-0.05

Highest channel

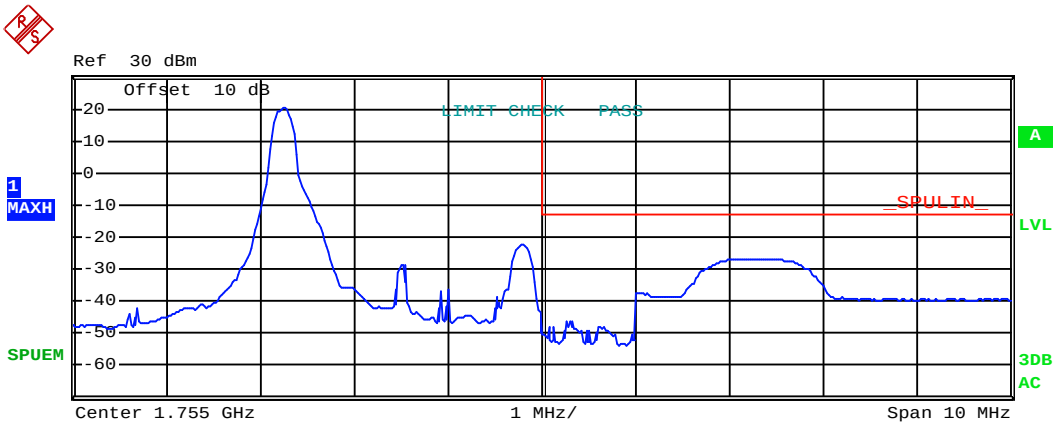
3MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708968 G	-31.02	-18.02
1.709 G	1.710 G	30.00 k	1.709992 G	-18.95	-5.95
1.710 G	1.715 G	100.00 k	1.710202 G	20.38	-12.62

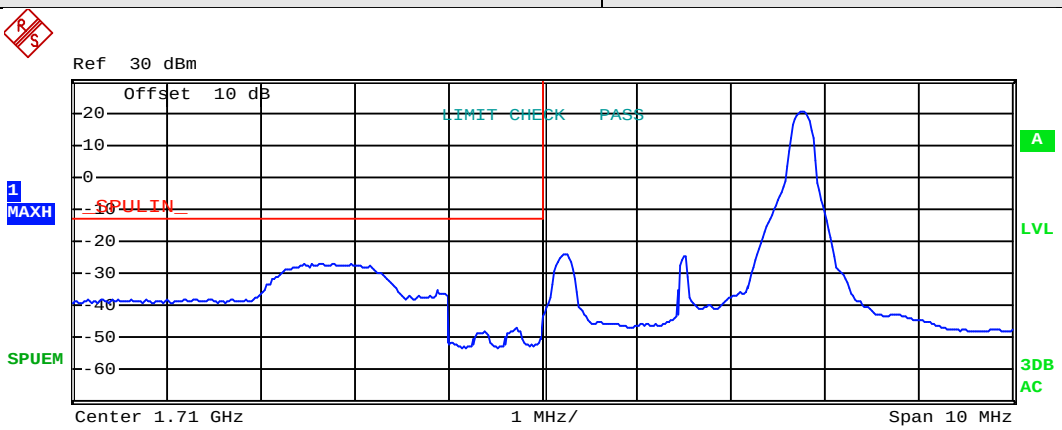
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752258 G	20.17	-12.83
1.755 G	1.756 G	30.00 k	1.755306 G	-46.13	-33.13
1.756 G	1.760 G	1.00 M	1.757161 G	-26.89	-13.89

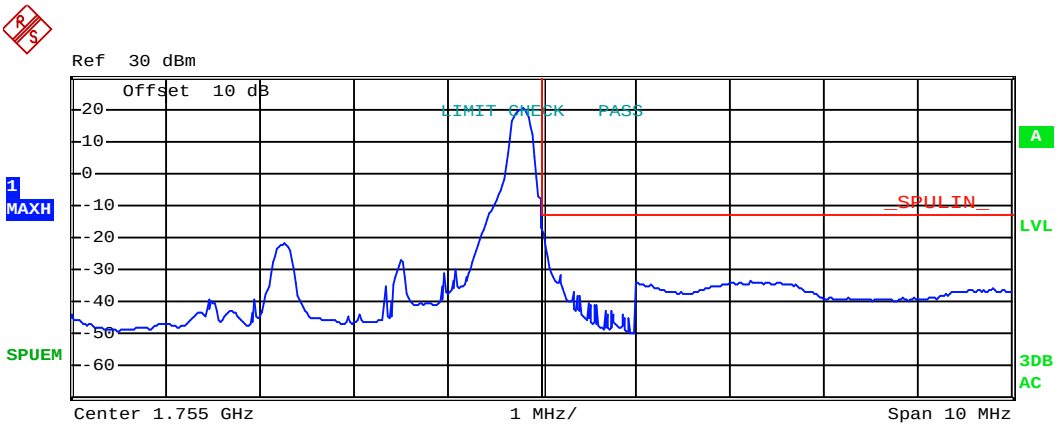
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 14)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.707774 G	-26.85	-13.85
1.709 G	1.710 G	30.00 k	1.709718 G	-47.14	-34.14
1.710 G	1.715 G	100.00 k	1.712782 G	20.43	-12.57

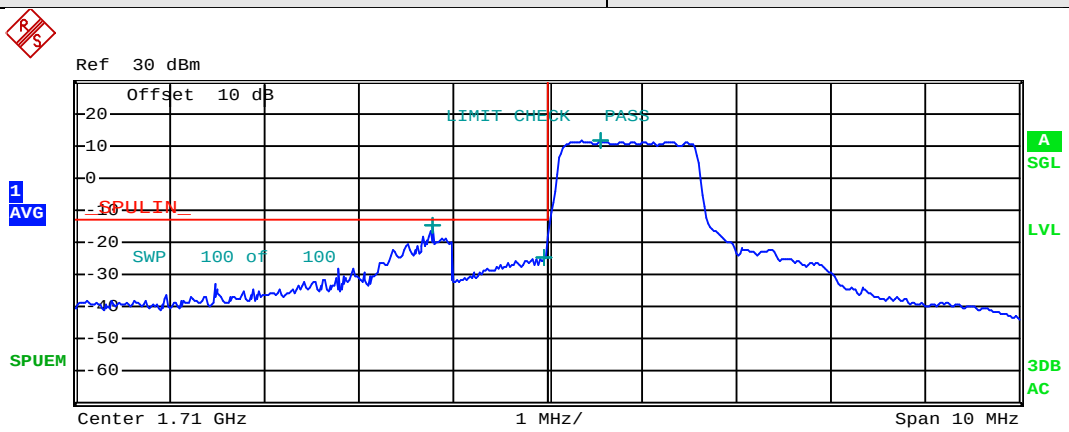
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754798 G	20.13	-12.87
1.755 G	1.756 G	30.00 k	1.755016 G	-18.37	-5.37
1.756 G	1.760 G	1.00 M	1.757226 G	-33.59	-20.59

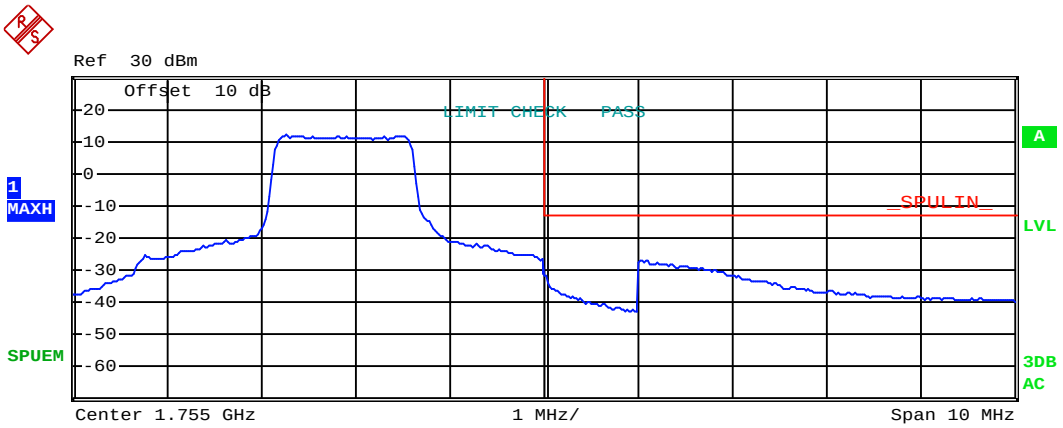
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 8 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708774 G	-14.64	-1.64
1.709 G	1.710 G	30.00 k	1.709968 G	-24.49	-11.49
1.710 G	1.715 G	100.00 k	1.710565 G	11.48	-21.52

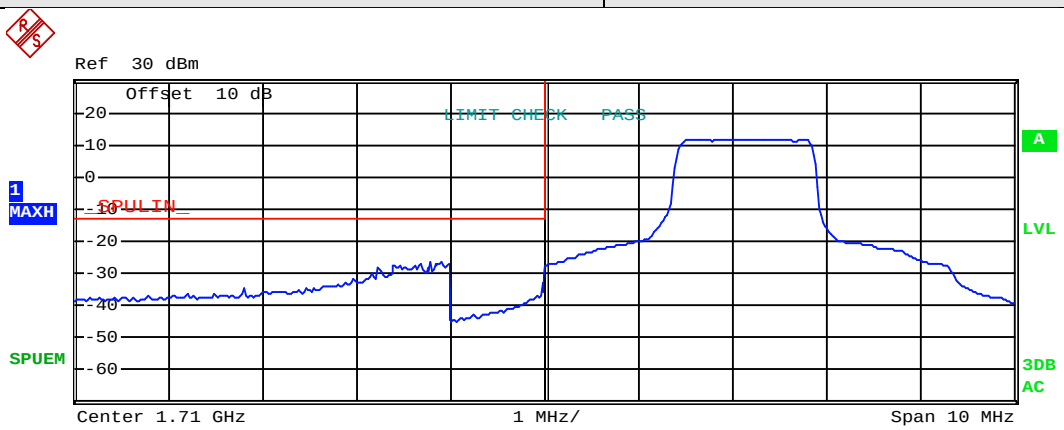
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752258 G	11.88	-21.12
1.755 G	1.756 G	30.00 k	1.755016 G	-31.74	-18.74
1.756 G	1.760 G	1.00 M	1.756032 G	-27.00	-14.00

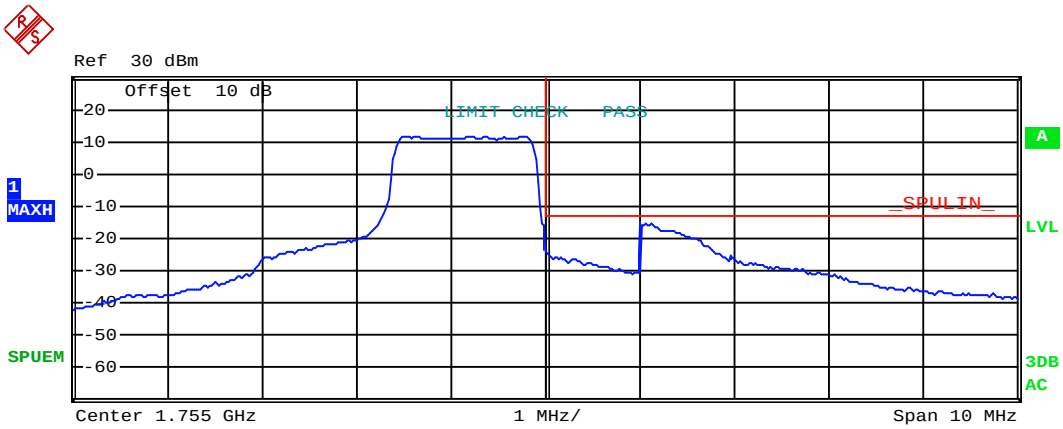
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 8 & RB Offset 7)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708774 G	-26.60	-13.60
1.709 G	1.710 G	30.00 k	1.709992 G	-32.91	-19.91
1.710 G	1.715 G	100.00 k	1.711935 G	11.82	-21.18

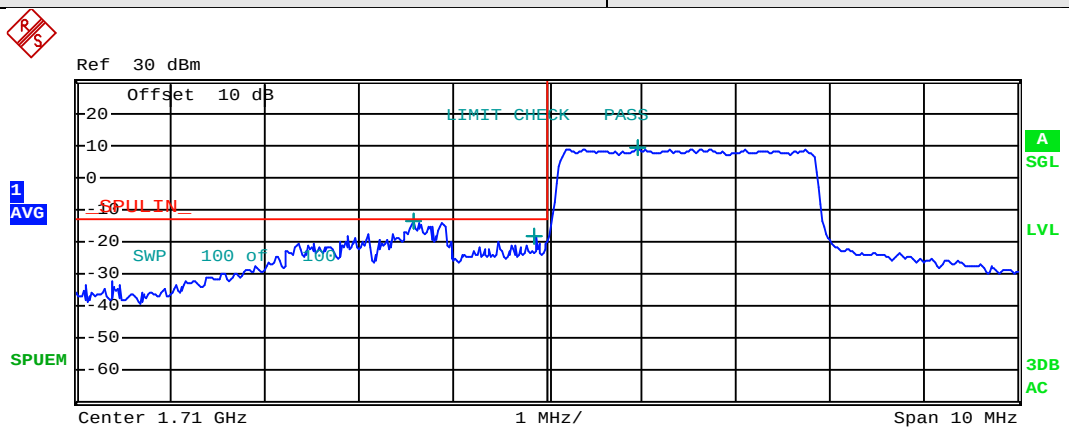
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.753508 G	11.74	-21.26
1.755 G	1.756 G	30.00 k	1.755008 G	-24.13	-11.13
1.756 G	1.760 G	1.00 M	1.756000 G	-14.85	-1.85

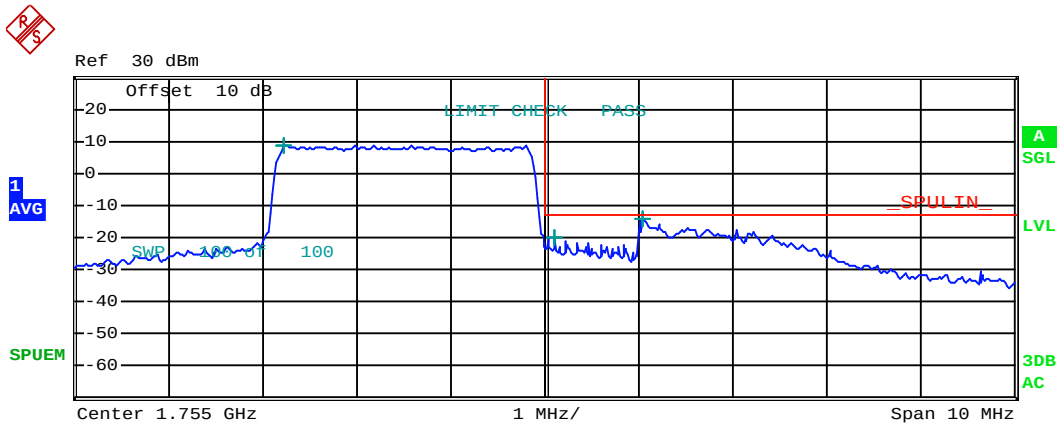
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 15 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.708581 G	-13.69	-0.69
1.709 G	1.710 G	100.00 k	1.709863 G	-18.40	-5.40
1.710 G	1.715 G	100.00 k	1.710968 G	9.01	-23.99

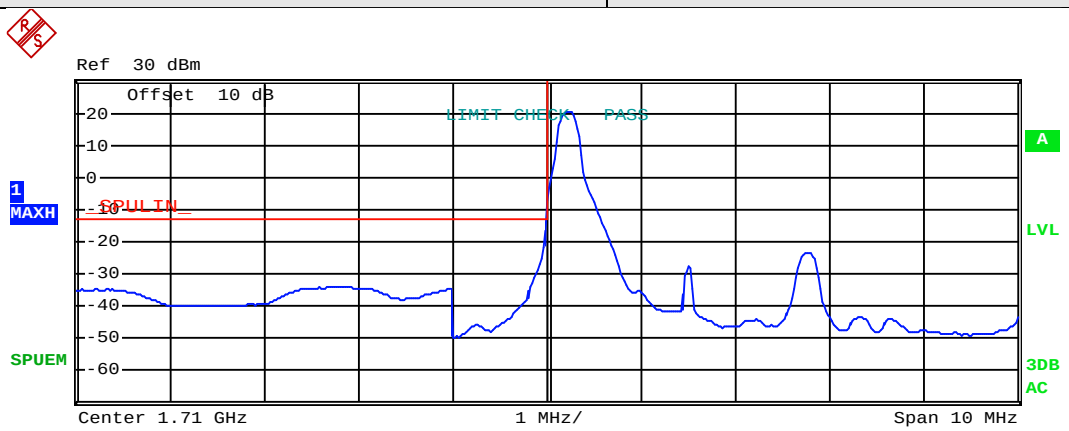
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752218 G	8.84	-24.16
1.755 G	1.756 G	100.00 k	1.755097 G	-20.17	-7.17
1.756 G	1.760 G	1.00 M	1.756032 G	-14.27	-1.27

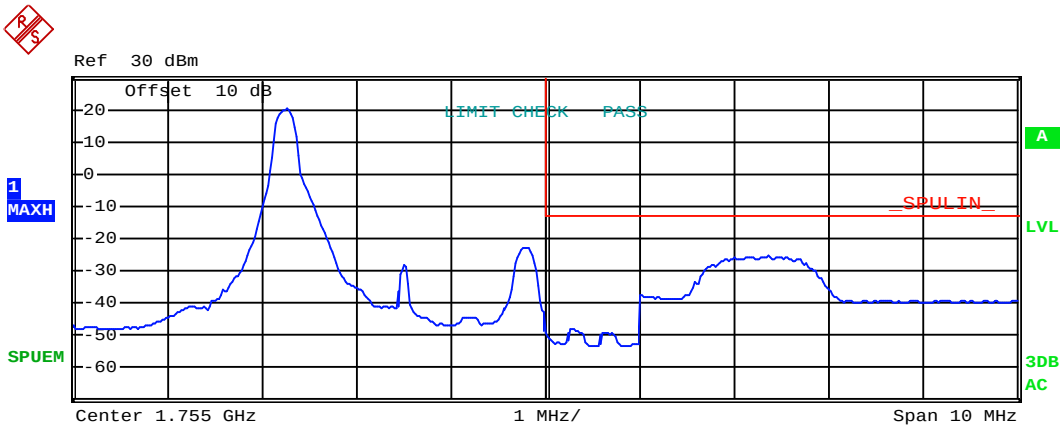
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.707742 G	-34.15	-21.15
1.709 G	1.710 G	30.00 k	1.709992 G	-18.04	-5.04
1.710 G	1.715 G	100.00 k	1.710242 G	20.52	-12.48

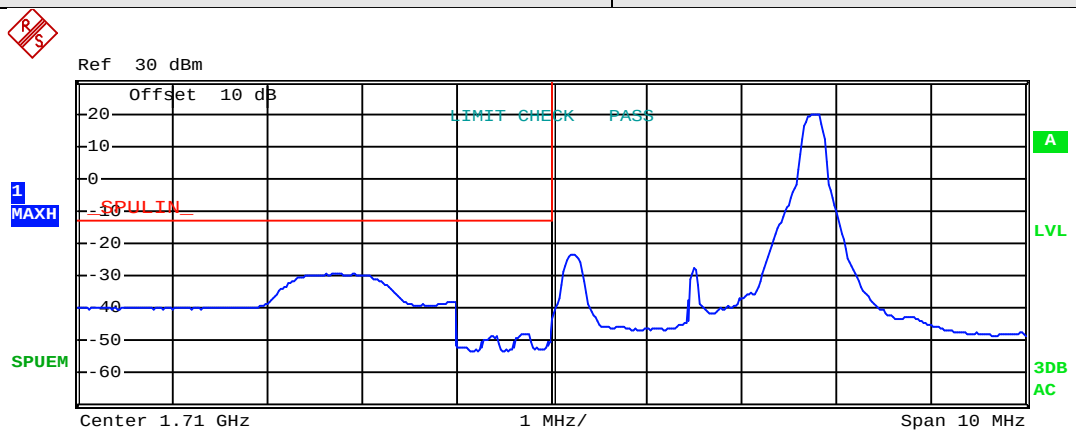
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752258 G	20.18	-12.82
1.755 G	1.756 G	30.00 k	1.755258 G	-48.11	-35.11
1.756 G	1.760 G	1.00 M	1.757355 G	-25.55	-12.55

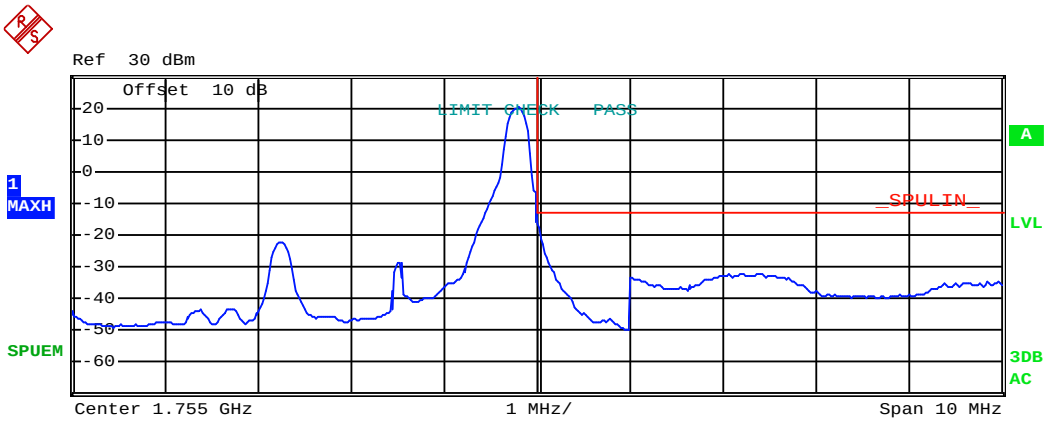
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 14)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.707903 G	-29.55	-16.55
1.709 G	1.710 G	30.00 k	1.709726 G	-48.07	-35.07
1.710 G	1.715 G	100.00 k	1.712782 G	19.96	-13.04

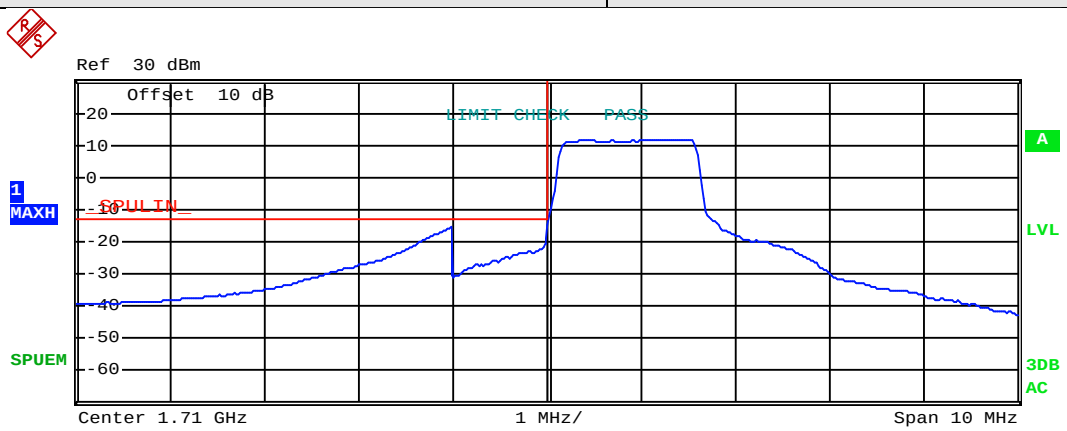
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754798 G	20.20	-12.80
1.755 G	1.756 G	30.00 k	1.755008 G	-17.31	-4.31
1.756 G	1.760 G	1.00 M	1.757194 G	-32.19	-19.19

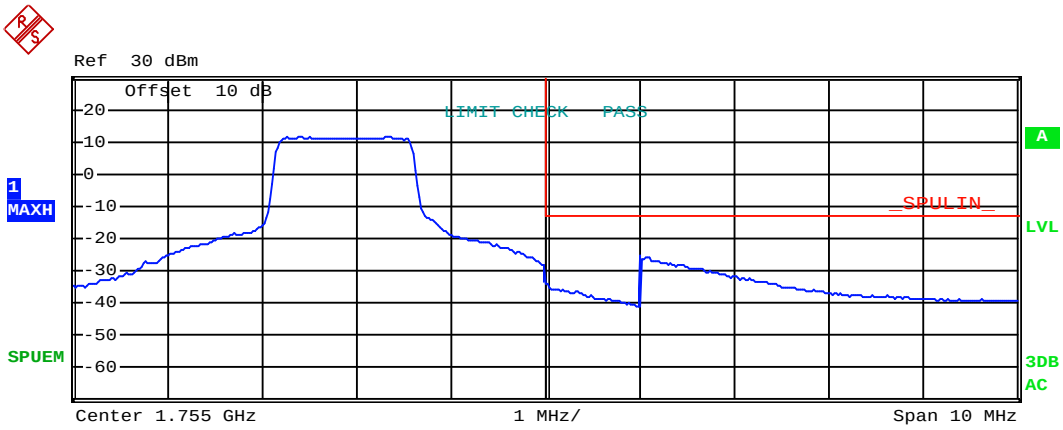
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 8 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-15.49	-2.49
1.709 G	1.710 G	30.00 k	1.709984 G	-20.75	-7.75
1.710 G	1.715 G	100.00 k	1.711411 G	11.81	-21.19

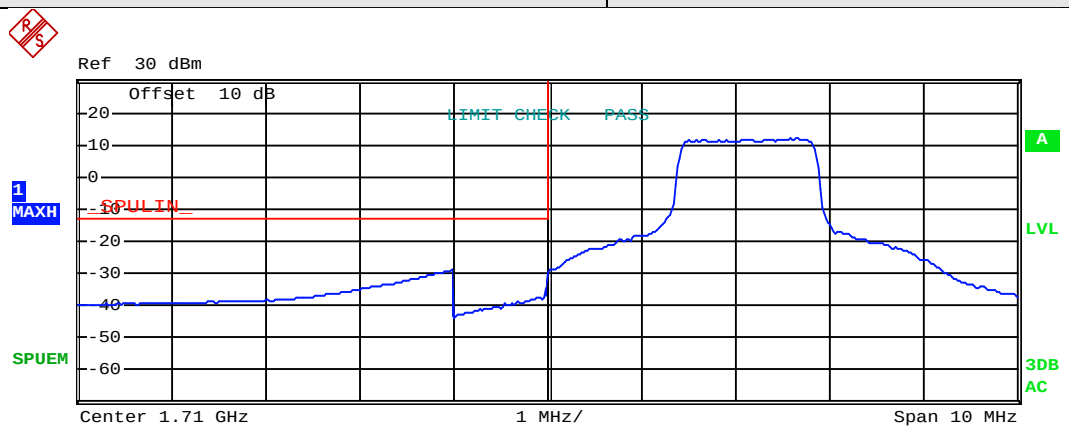
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.753347 G	11.55	-21.45
1.755 G	1.756 G	30.00 k	1.755008 G	-33.75	-20.75
1.756 G	1.760 G	1.00 M	1.756000 G	-25.27	-12.27

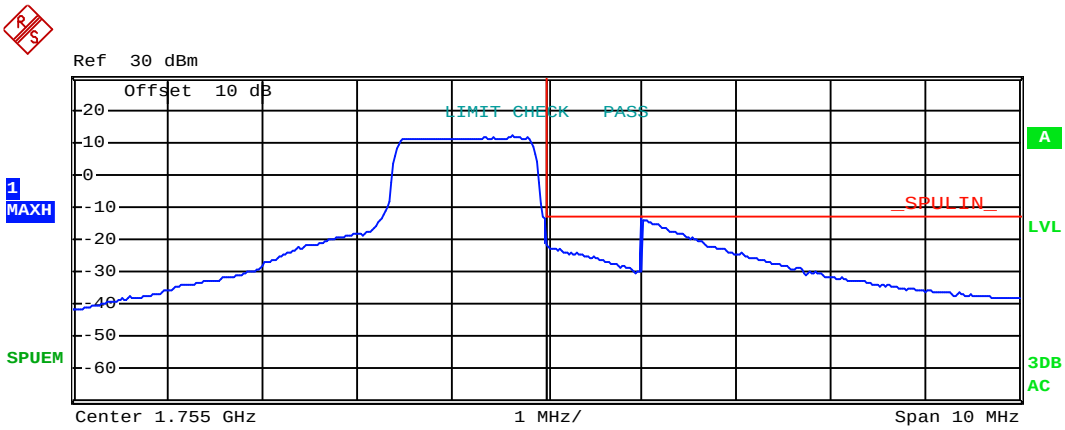
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 8 & RB Offset 7)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-28.90	-15.90
1.709 G	1.710 G	30.00 k	1.709992 G	-34.83	-21.83
1.710 G	1.715 G	100.00 k	1.712661 G	11.98	-21.02

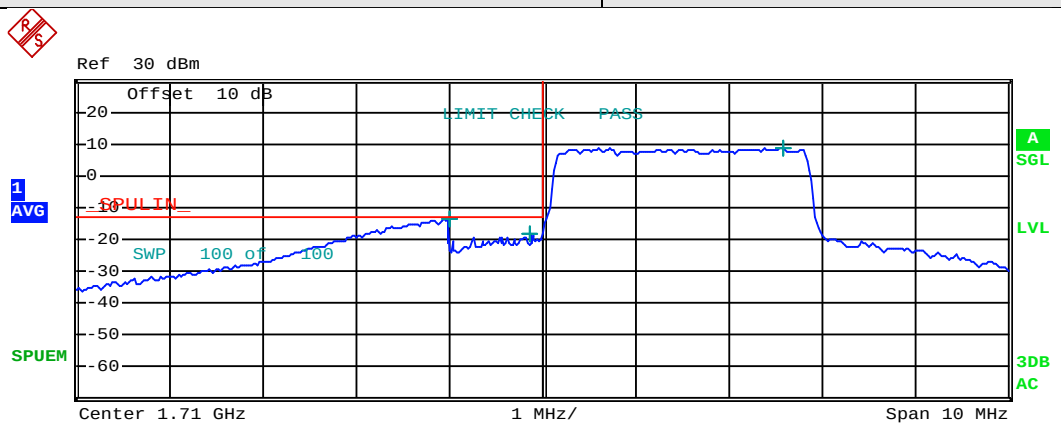
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.754637 G	11.90	-21.10
1.755 G	1.756 G	30.00 k	1.755008 G	-22.10	-9.10
1.756 G	1.760 G	1.00 M	1.756000 G	-13.03	-0.03

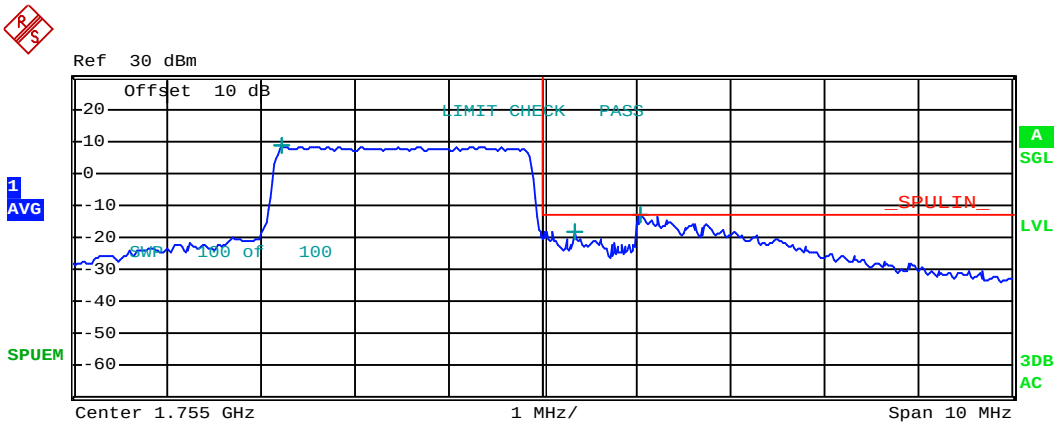
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 15 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.705 G	1.709 G	1.00 M	1.709000 G	-13.60	-0.60
1.709 G	1.710 G	100.00 k	1.709863 G	-18.18	-5.18
1.710 G	1.715 G	100.00 k	1.712581 G	8.51	-24.49

Lowest channel

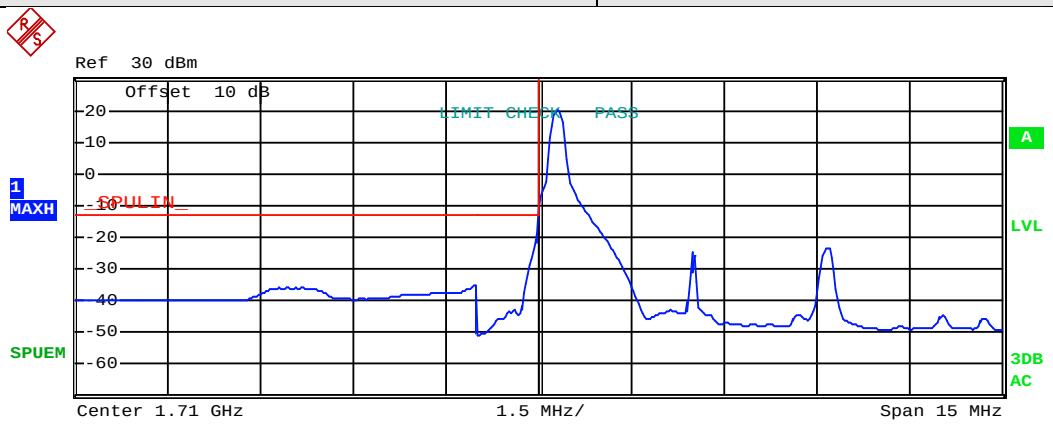


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.750 G	1.755 G	100.00 k	1.752218 G	8.56	-24.44
1.755 G	1.756 G	100.00 k	1.755339 G	-18.22	-5.22
1.756 G	1.760 G	1.00 M	1.756032 G	-13.12	-0.12

Highest channel

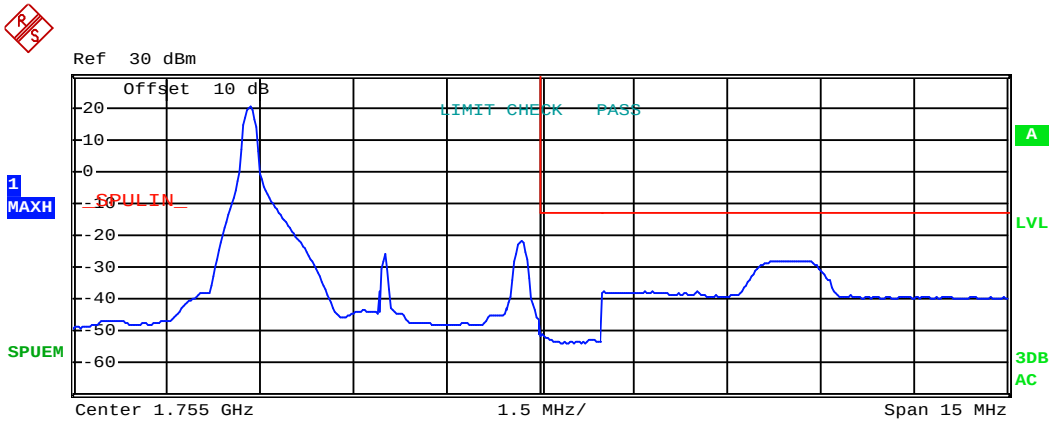
5MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.709000 G	-35.04	-22.04
1.709 G	1.710 G	30.00 k	1.709992 G	-19.36	-6.36
1.710 G	1.718 G	100.00 k	1.710302 G	20.26	-12.74

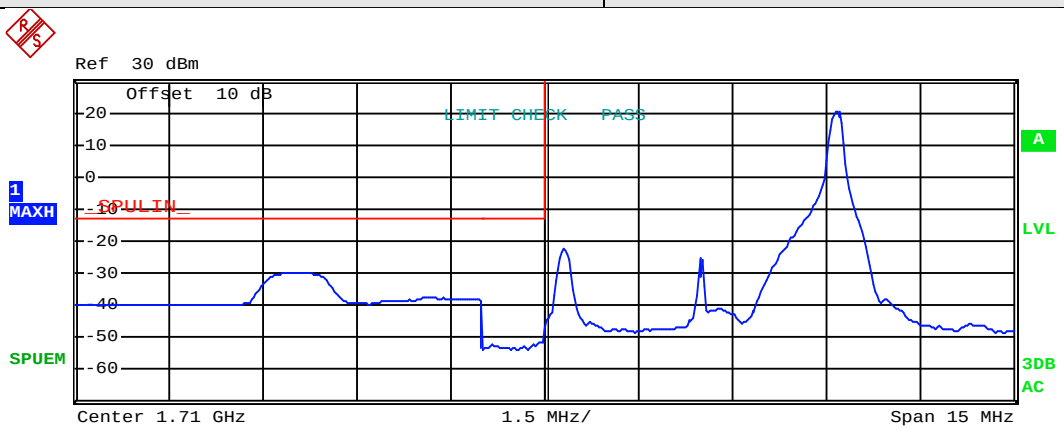
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750343 G	20.11	-12.89
1.755 G	1.756 G	30.00 k	1.755024 G	-51.16	-38.16
1.756 G	1.763 G	1.00 M	1.758778 G	-27.91	-14.91

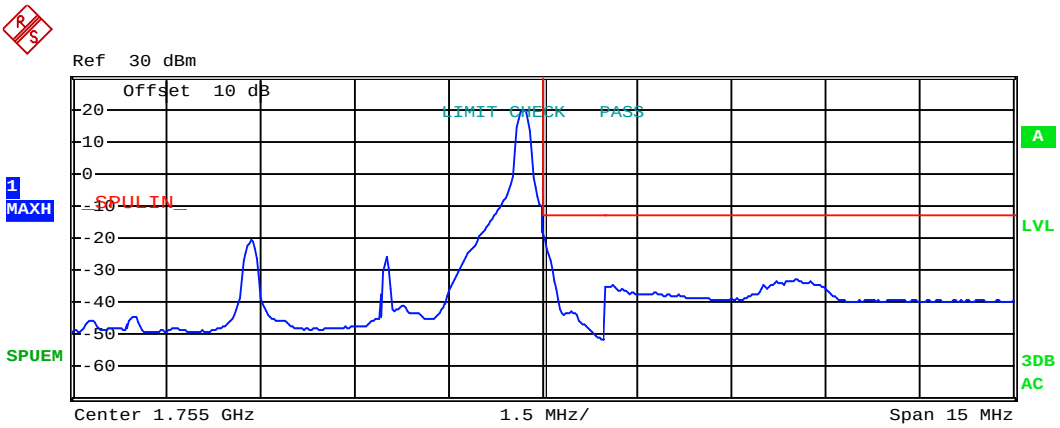
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 24)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.706169 G	-29.98	-16.98
1.709 G	1.710 G	30.00 k	1.709960 G	-51.42	-38.42
1.710 G	1.718 G	100.00 k	1.714657 G	20.42	-12.58

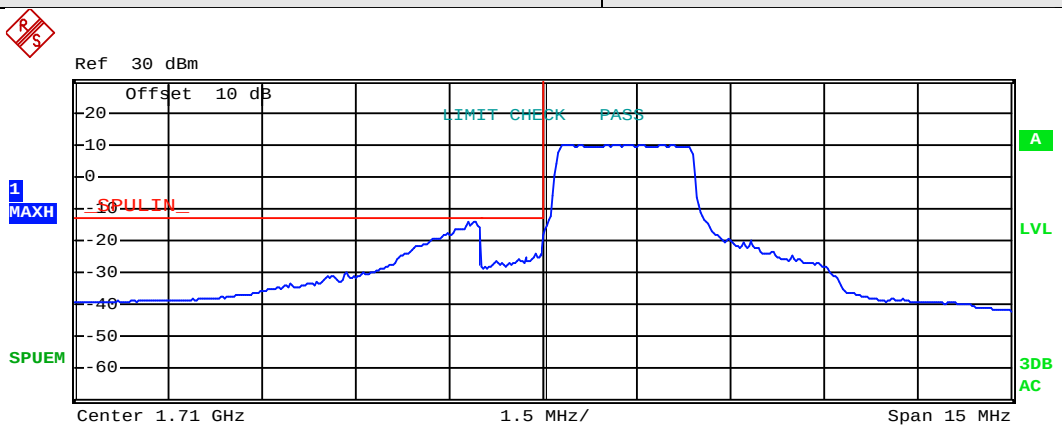
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.754698 G	20.02	-12.98
1.755 G	1.756 G	30.00 k	1.755008 G	-19.35	-6.35
1.756 G	1.763 G	1.00 M	1.759040 G	-32.84	-19.84

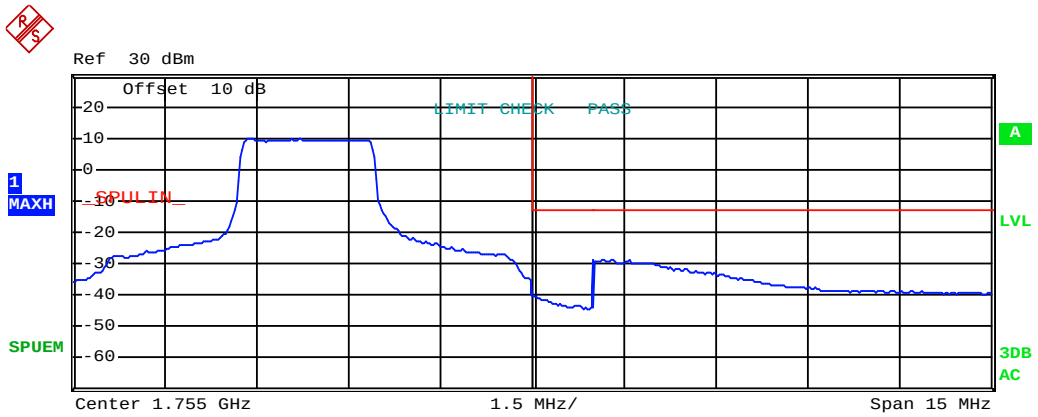
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 12 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.708895 G	-14.19	-1.19
1.709 G	1.710 G	30.00 k	1.709992 G	-24.21	-11.21
1.710 G	1.718 G	100.00 k	1.711149 G	9.98	-23.02

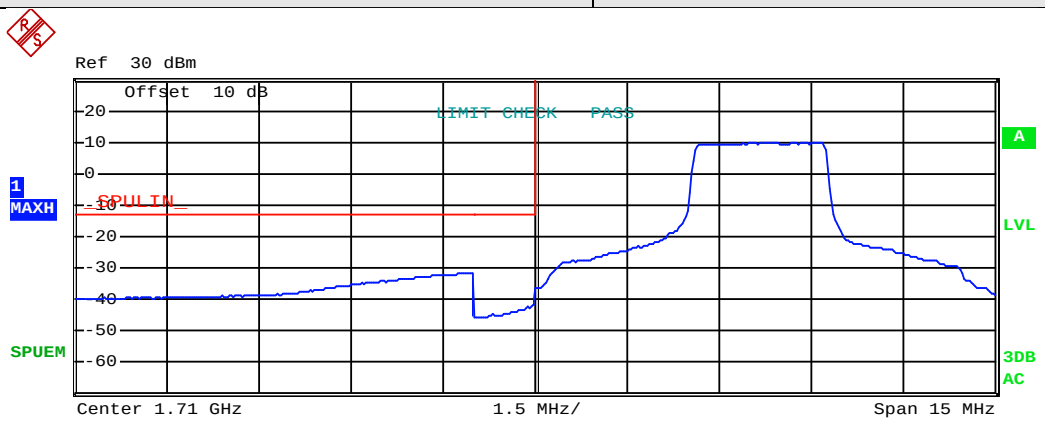
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750403 G	9.88	-23.12
1.755 G	1.756 G	30.00 k	1.755008 G	-40.23	-27.23
1.756 G	1.763 G	1.00 M	1.756315 G	-28.62	-15.62

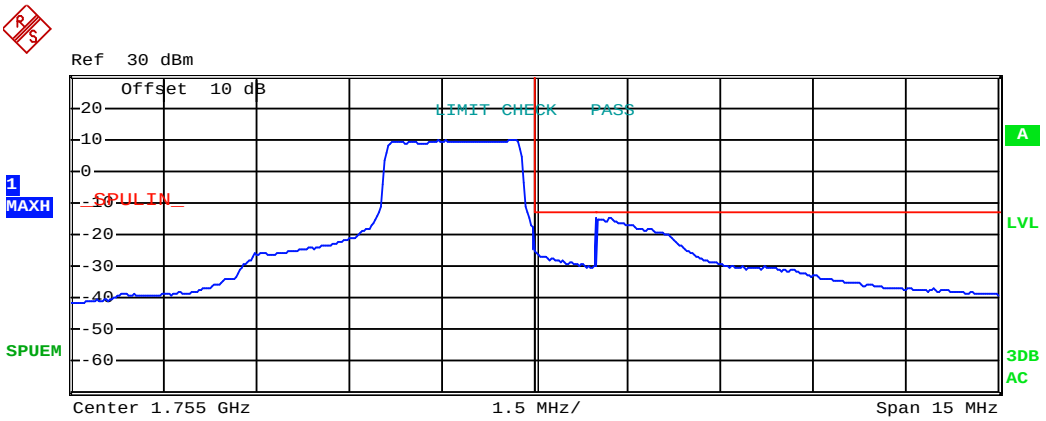
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 12 & RB Offset 11)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.708948 G	-31.72	-18.72
1.709 G	1.710 G	30.00 k	1.709992 G	-41.79	-28.79
1.710 G	1.718 G	100.00 k	1.713569 G	10.02	-22.98

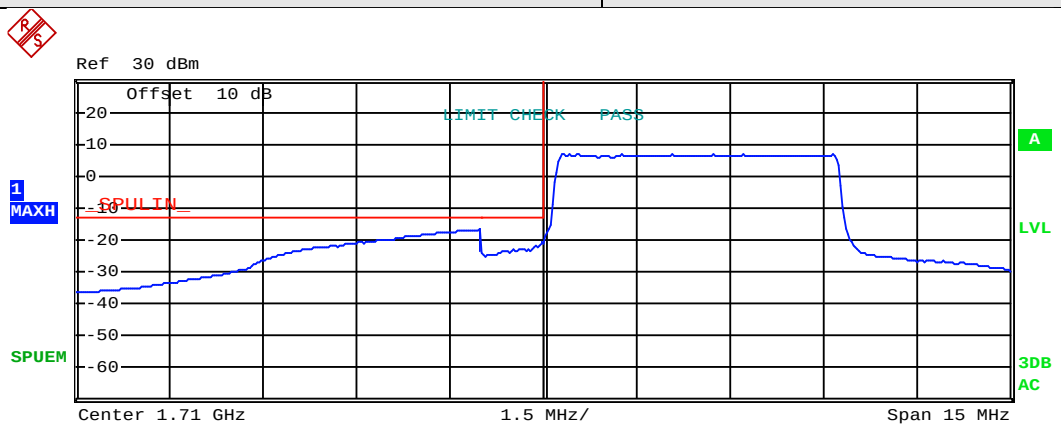
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.754698 G	9.87	-23.13
1.755 G	1.756 G	30.00 k	1.755008 G	-25.49	-12.49
1.756 G	1.763 G	1.00 M	1.756210 G	-14.94	-1.94

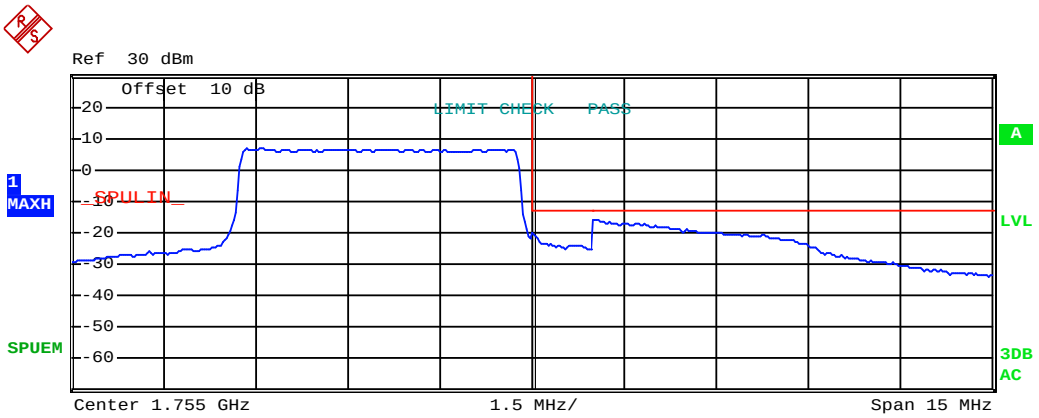
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.709000 G	-16.71	-3.71
1.709 G	1.710 G	100.00 k	1.709992 G	-20.41	-7.41
1.710 G	1.718 G	100.00 k	1.710302 G	6.81	-26.19

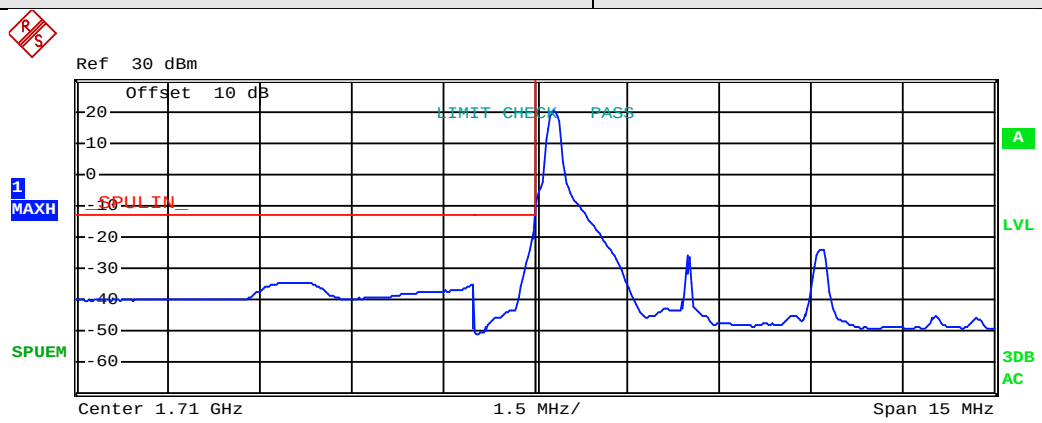
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750585 G	6.78	-26.22
1.755 G	1.756 G	100.00 k	1.755008 G	-20.85	-7.85
1.756 G	1.763 G	1.00 M	1.756052 G	-15.73	-2.73

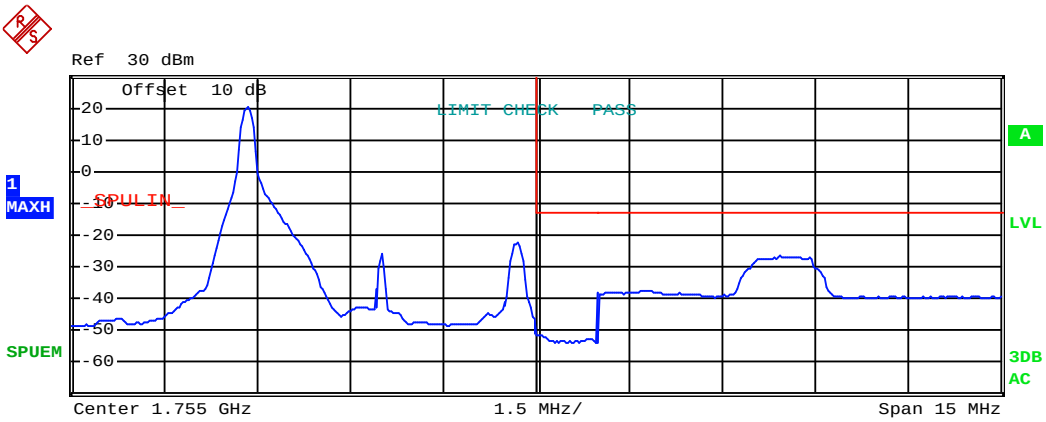
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.706169 G	-34.62	-21.62
1.709 G	1.710 G	30.00 k	1.709992 G	-19.14	-6.14
1.710 G	1.718 G	100.00 k	1.710302 G	20.13	-12.87

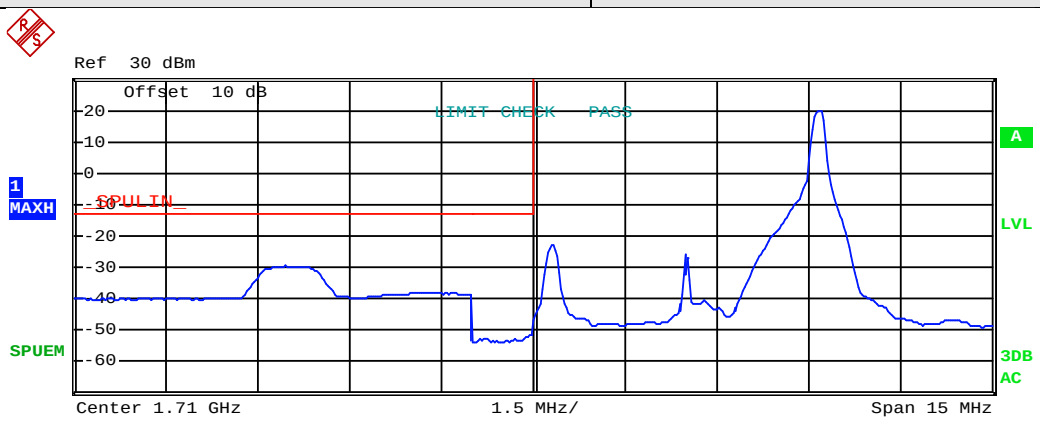
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750343 G	20.09	-12.91
1.755 G	1.756 G	30.00 k	1.755016 G	-51.43	-38.43
1.756 G	1.763 G	1.00 M	1.758935 G	-26.66	-13.66

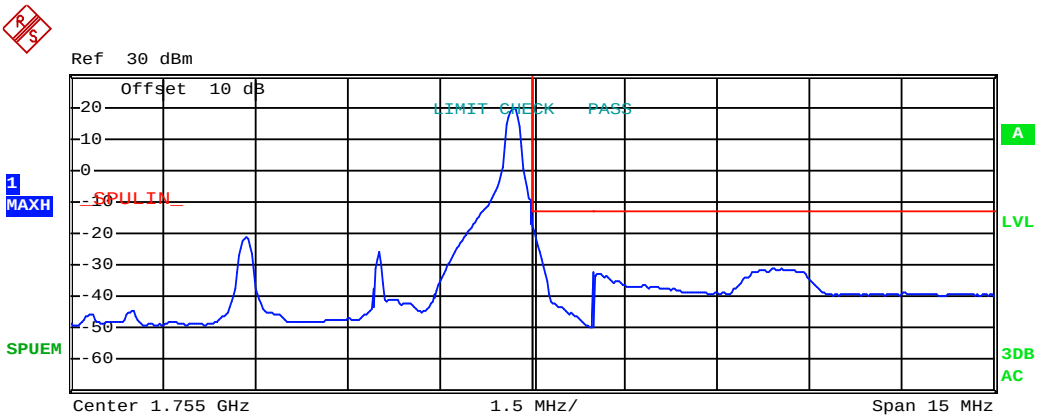
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 24)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.705960 G	-29.64	-16.64
1.709 G	1.710 G	30.00 k	1.709919 G	-51.68	-38.68
1.710 G	1.718 G	100.00 k	1.714657 G	19.96	-13.04

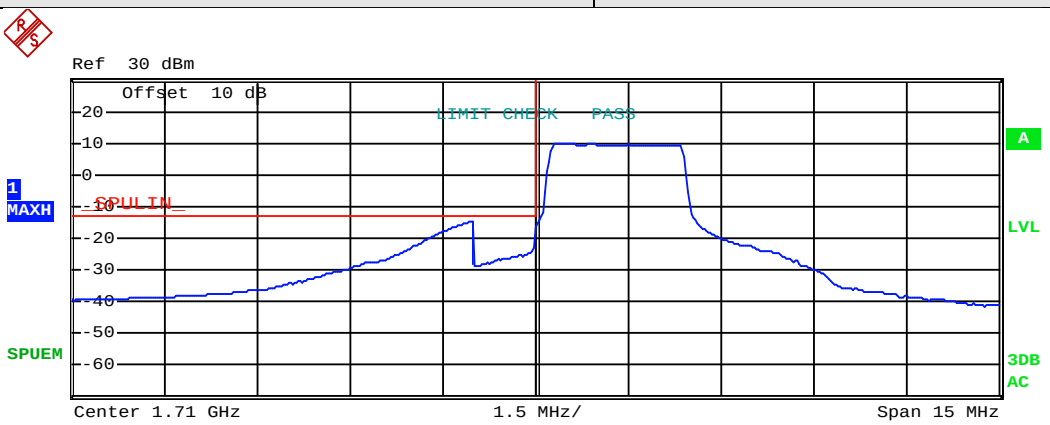
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.754698 G	20.02	-12.98
1.755 G	1.756 G	30.00 k	1.755008 G	-18.28	-5.28
1.756 G	1.763 G	1.00 M	1.759040 G	-31.25	-18.25

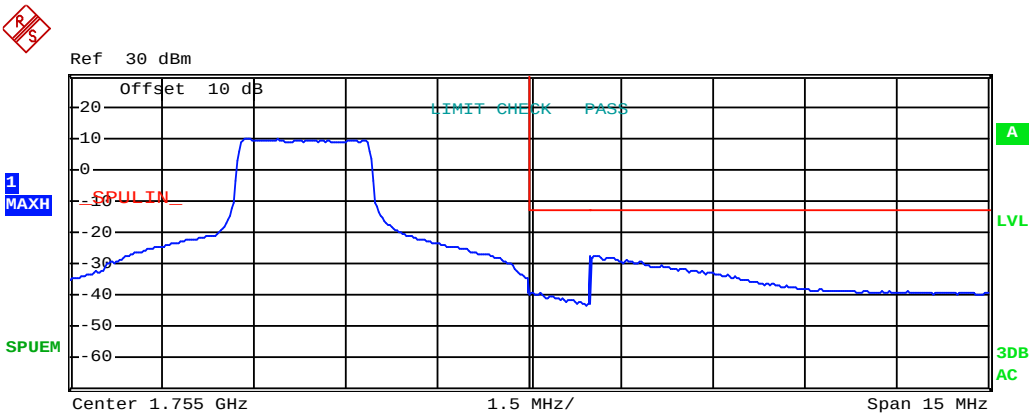
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 12 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.709000 G	-14.57	-1.57
1.709 G	1.710 G	30.00 k	1.709968 G	-22.90	-9.90
1.710 G	1.718 G	100.00 k	1.710907 G	9.96	-23.04

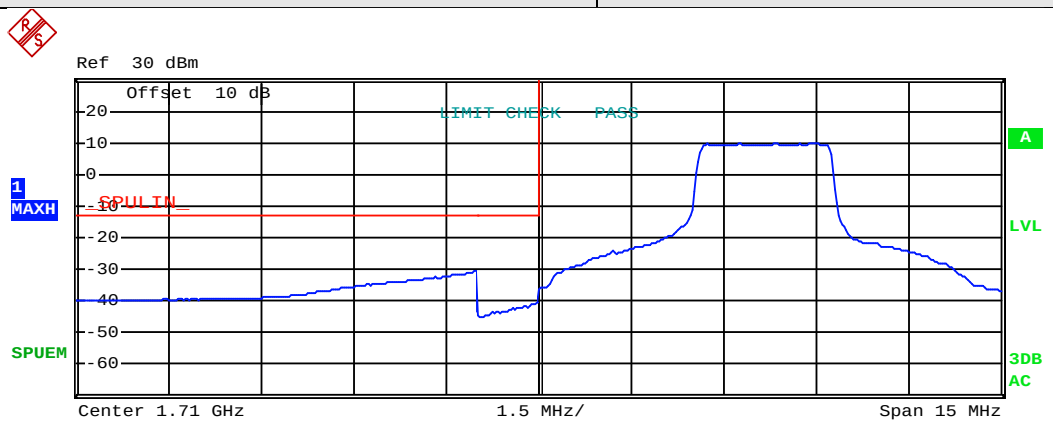
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750403 G	9.89	-23.11
1.755 G	1.756 G	30.00 k	1.755056 G	-39.11	-26.11
1.756 G	1.763 G	1.00 M	1.756105 G	-27.53	-14.53

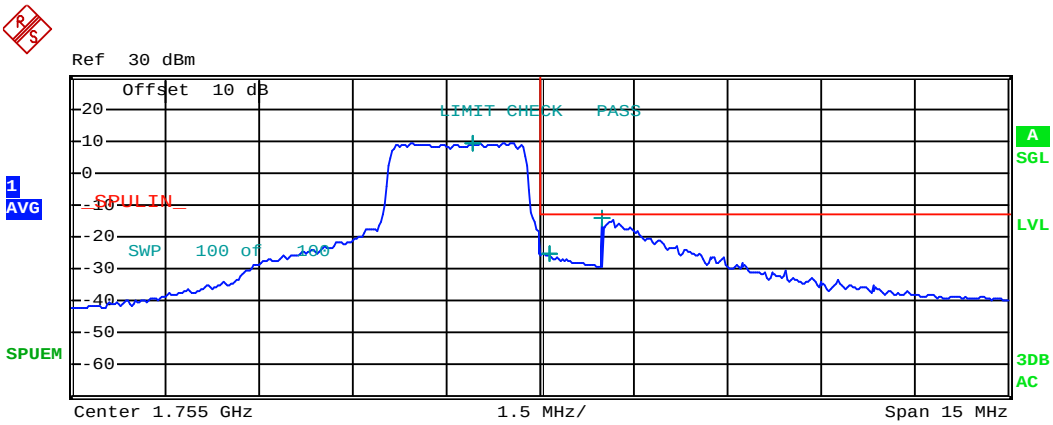
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 12 & RB Offset 11)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.709000 G	-30.38	-17.38
1.709 G	1.710 G	30.00 k	1.709952 G	-40.49	-27.49
1.710 G	1.718 G	100.00 k	1.714536 G	9.68	-23.32

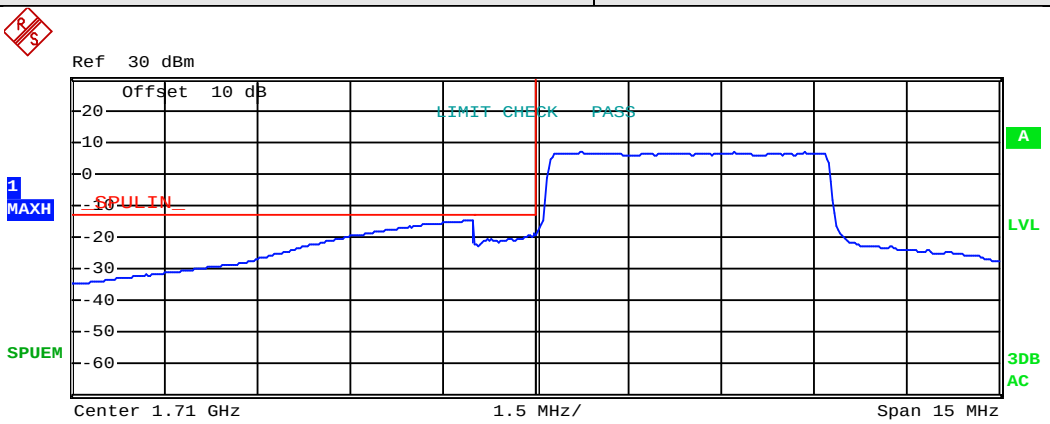
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.753911 G	9.41	-23.59
1.755 G	1.756 G	30.00 k	1.755137 G	-25.10	-12.10
1.756 G	1.763 G	1.00 M	1.756000 G	-14.40	-1.40

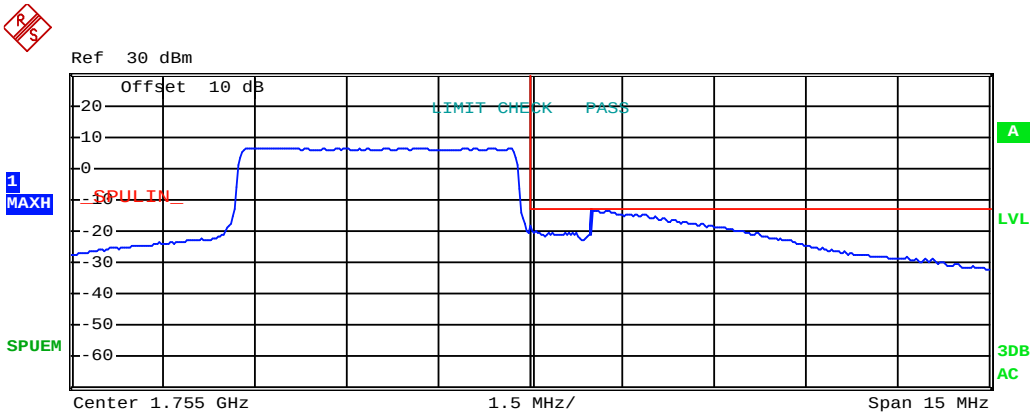
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.702 G	1.709 G	1.00 M	1.709000 G	-14.64	-1.64
1.709 G	1.710 G	100.00 k	1.709992 G	-19.05	-6.05
1.710 G	1.718 G	100.00 k	1.710726 G	6.75	-26.25

Lowest channel

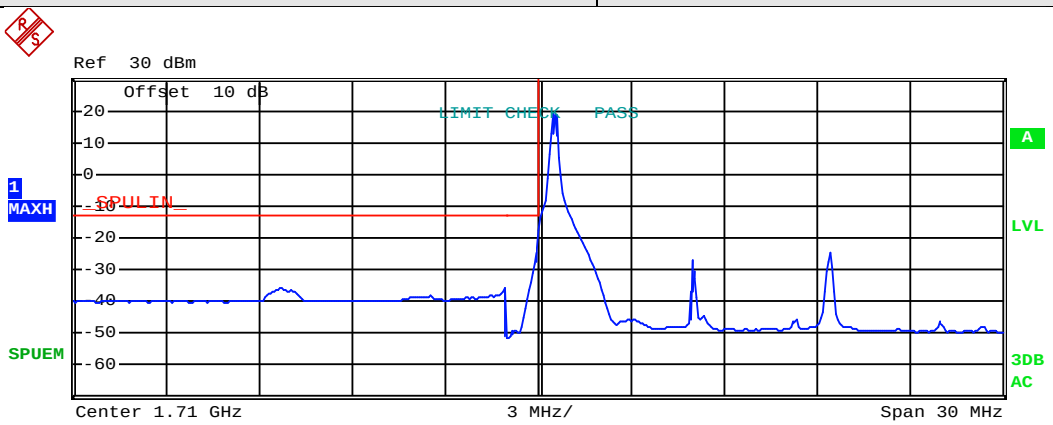


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.748 G	1.755 G	100.00 k	1.750827 G	6.52	-26.48
1.755 G	1.756 G	100.00 k	1.755008 G	-19.49	-6.49
1.756 G	1.763 G	1.00 M	1.756000 G	-13.16	-0.16

Highest channel

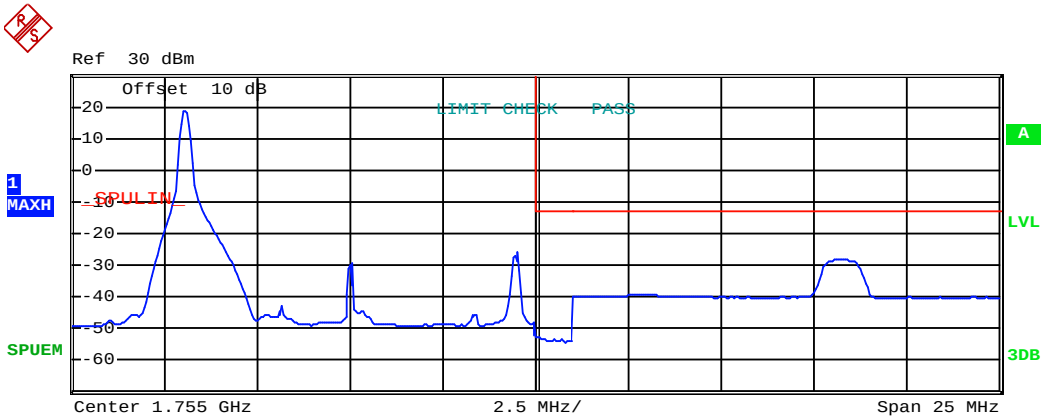
10MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.709000 G	-35.93	-22.93
1.709 G	1.710 G	30.00 k	1.709992 G	-25.06	-12.06
1.710 G	1.725 G	100.00 k	1.710484 G	18.89	-14.11

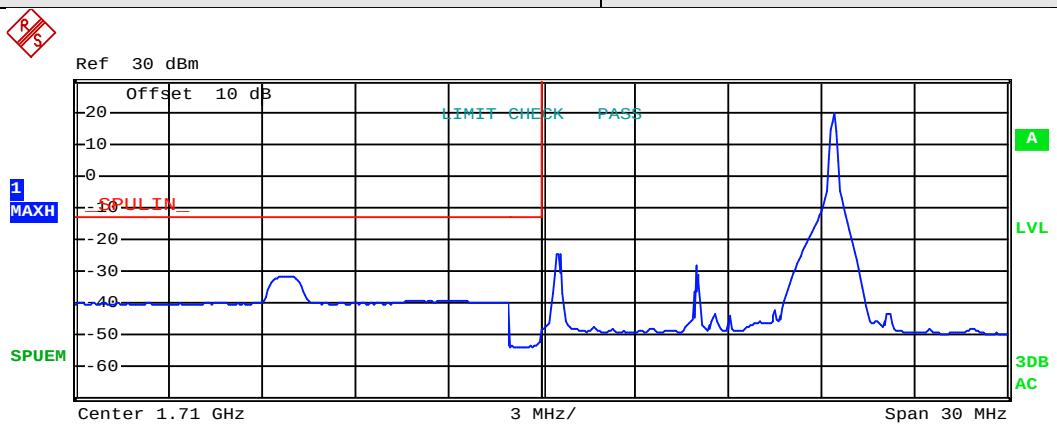
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.745524 G	18.53	-14.47
1.755 G	1.756 G	30.00 k	1.755016 G	-52.58	-39.58
1.756 G	1.768 G	1.00 M	1.763327 G	-28.25	-15.25

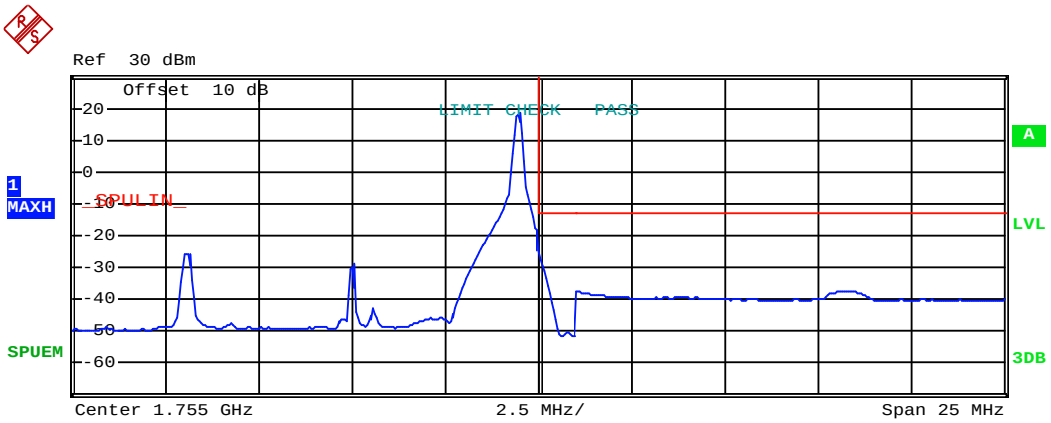
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 49)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.701887 G	-31.73	-18.73
1.709 G	1.710 G	30.00 k	1.709952 G	-52.37	-39.37
1.710 G	1.725 G	100.00 k	1.719435 G	19.64	-13.36

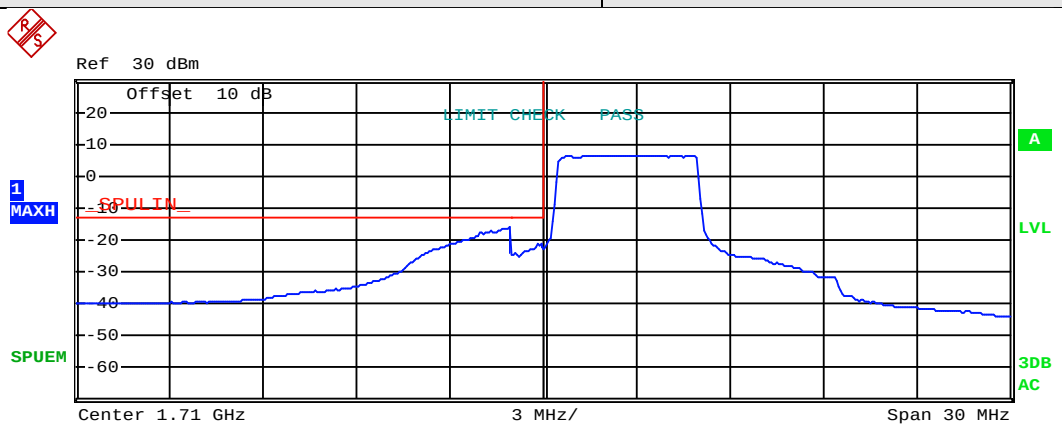
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.754496 G	18.69	-14.31
1.755 G	1.756 G	30.00 k	1.755008 G	-25.69	-12.69
1.756 G	1.768 G	1.00 M	1.756000 G	-37.29	-24.29

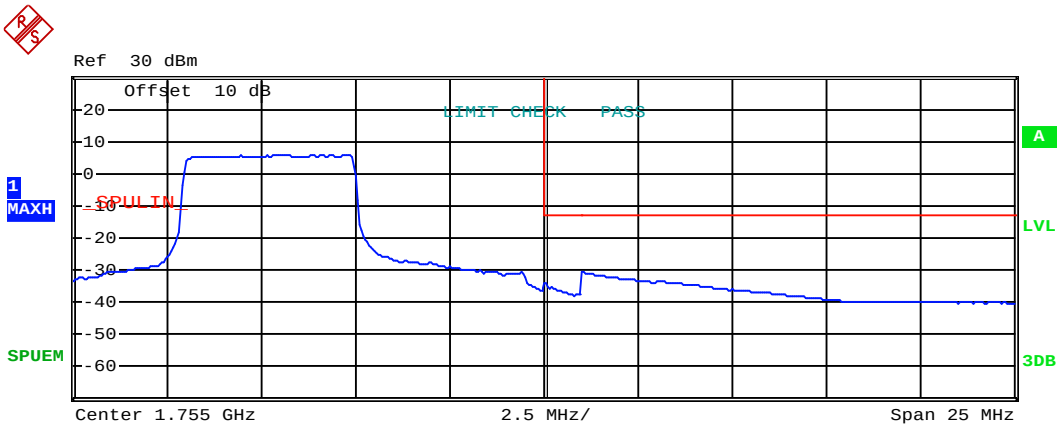
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.709000 G	-16.04	-3.04
1.709 G	1.710 G	100.00 k	1.709839 G	-20.94	-7.94
1.710 G	1.725 G	100.00 k	1.711935 G	6.52	-26.48

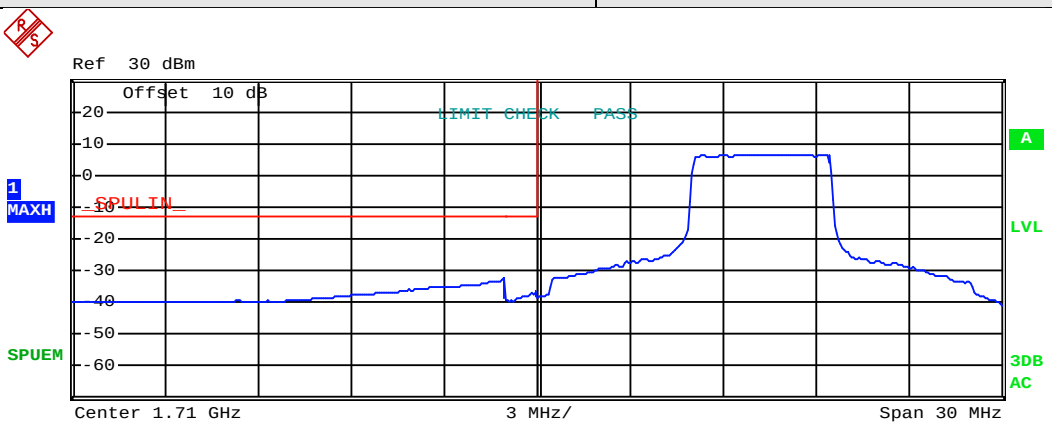
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.749758 G	5.79	-27.21
1.755 G	1.756 G	100.00 k	1.755024 G	-34.17	-21.17
1.756 G	1.768 G	1.00 M	1.756000 G	-30.65	-17.65

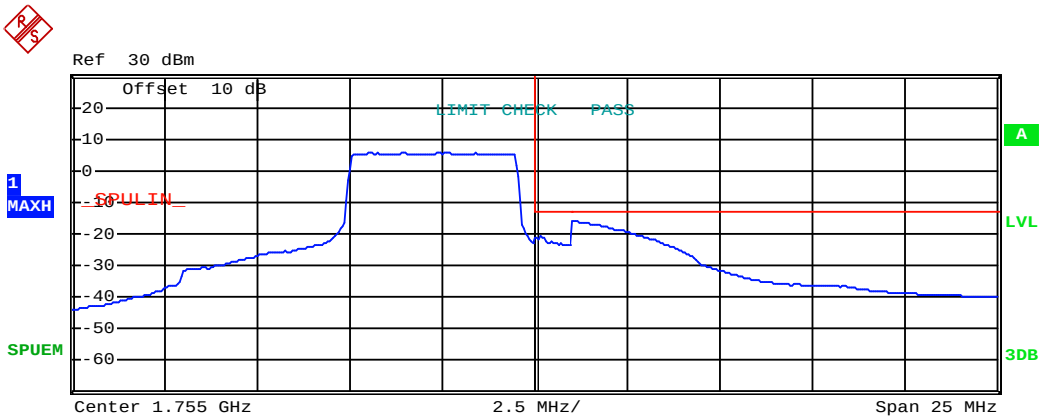
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 25 & RB Offset 24)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.709000 G	-32.53	-19.53
1.709 G	1.710 G	100.00 k	1.709935 G	-36.47	-23.47
1.710 G	1.725 G	100.00 k	1.717500 G	6.57	-26.43

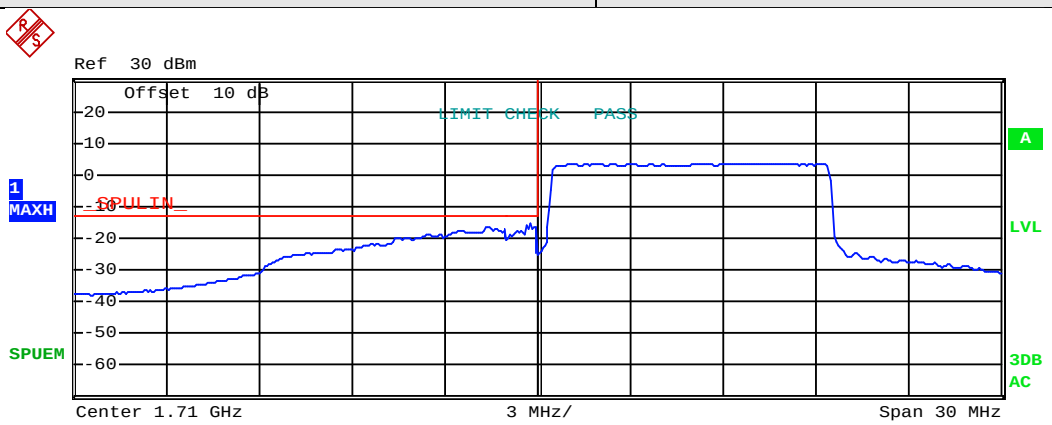
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.751472 G	5.72	-27.28
1.755 G	1.756 G	100.00 k	1.755137 G	-20.68	-7.68
1.756 G	1.768 G	1.00 M	1.756093 G	-15.85	-2.85

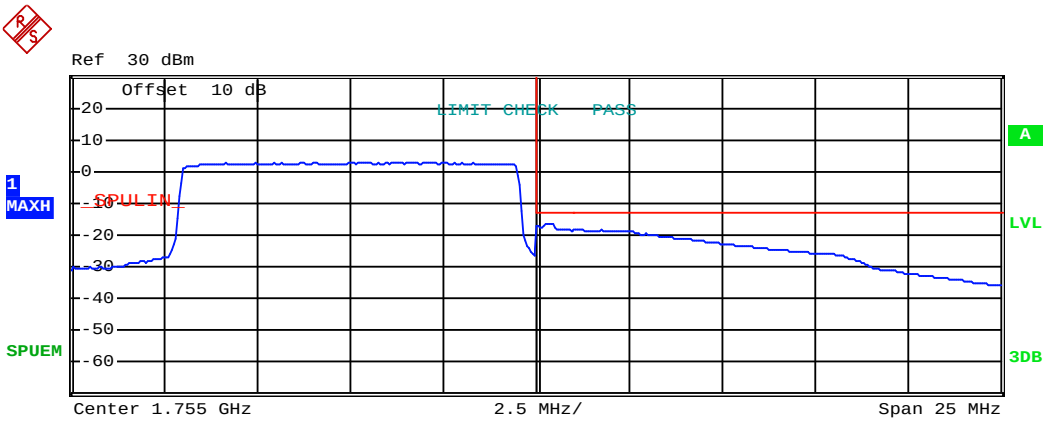
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.708435 G	-16.75	-3.75
1.709 G	1.710 G	300.00 k	1.709766 G	-15.51	-2.51
1.710 G	1.725 G	100.00 k	1.717016 G	3.61	-29.39

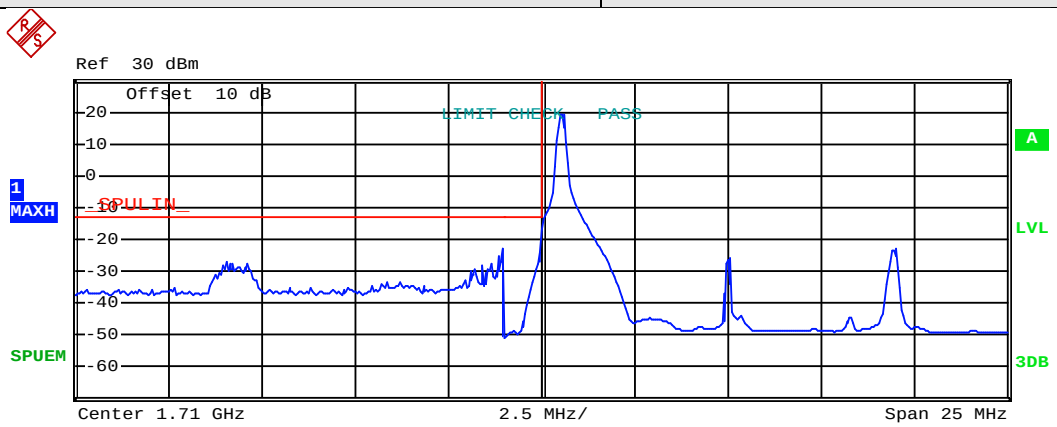
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.751673 G	2.85	-30.15
1.755 G	1.756 G	300.00 k	1.755274 G	-16.49	-3.49
1.756 G	1.768 G	1.00 M	1.756000 G	-18.10	-5.10

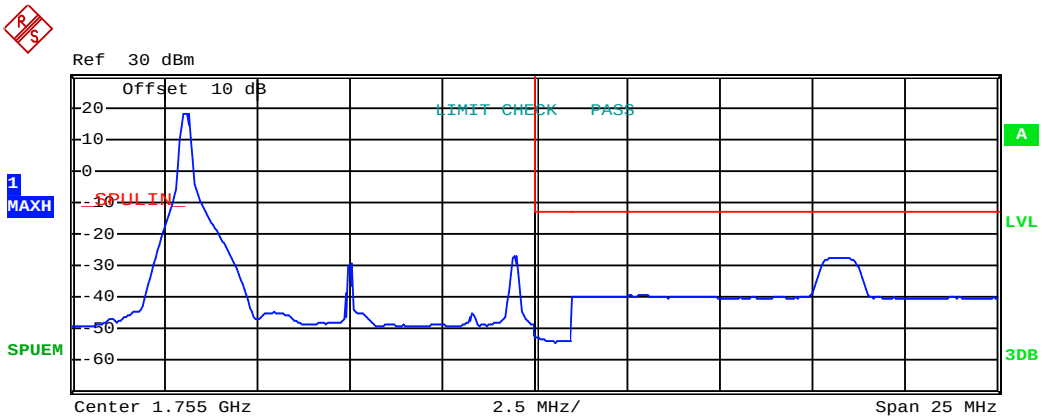
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.698 G	1.709 G	1.00 M	1.708931 G	-22.72	-9.72
1.709 G	1.710 G	30.00 k	1.709992 G	-24.59	-11.59
1.710 G	1.722 G	100.00 k	1.710504 G	19.07	-13.93

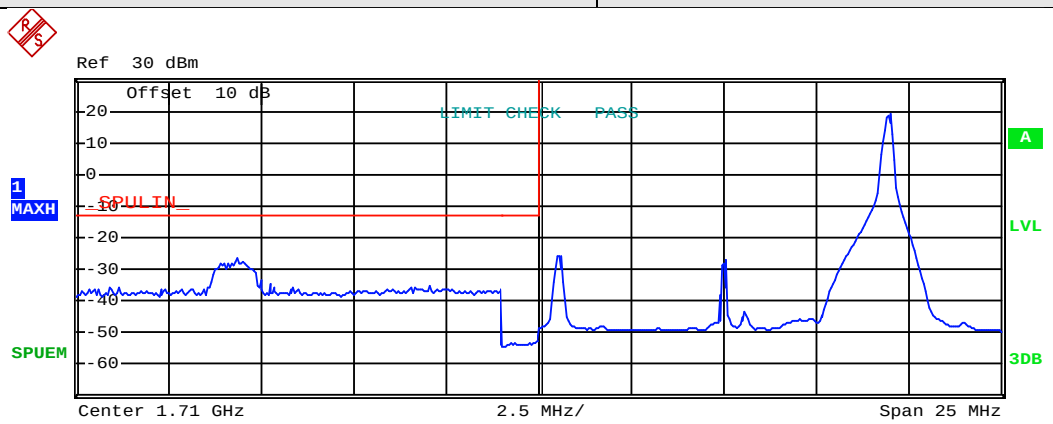
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.745524 G	18.27	-14.73
1.755 G	1.756 G	30.00 k	1.755048 G	-52.57	-39.57
1.756 G	1.768 G	1.00 M	1.763234 G	-27.47	-14.47

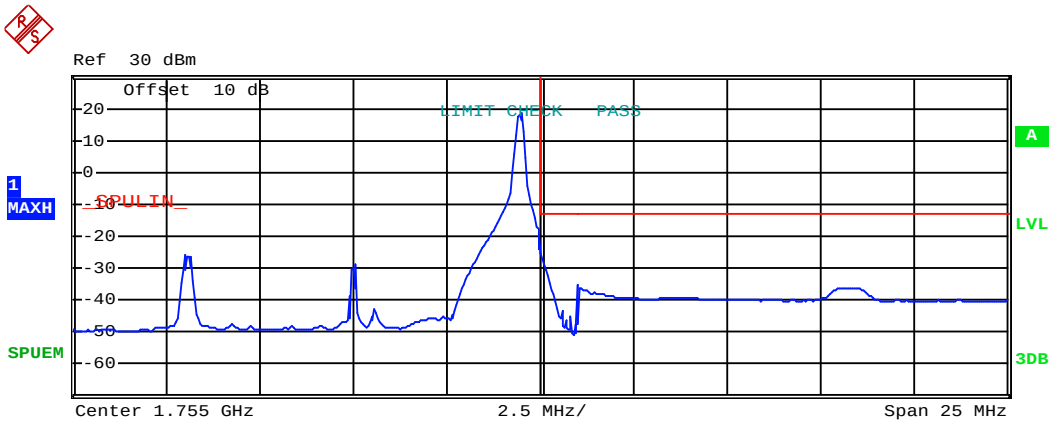
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 49)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.698 G	1.709 G	1.00 M	1.701824 G	-26.45	-13.45
1.709 G	1.710 G	30.00 k	1.709944 G	-52.90	-39.90
1.710 G	1.722 G	100.00 k	1.719476 G	19.29	-13.71

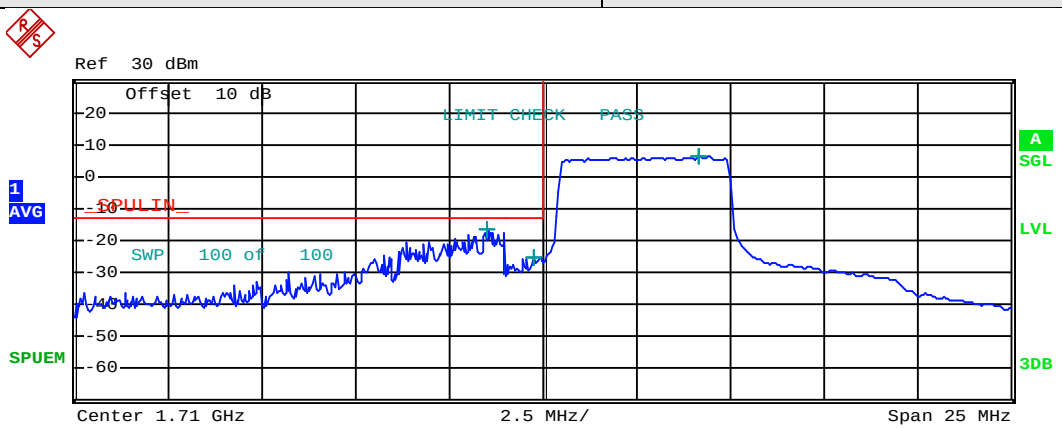
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.754496 G	18.88	-14.12
1.755 G	1.756 G	30.00 k	1.755008 G	-25.48	-12.48
1.756 G	1.768 G	1.00 M	1.756000 G	-35.32	-22.32

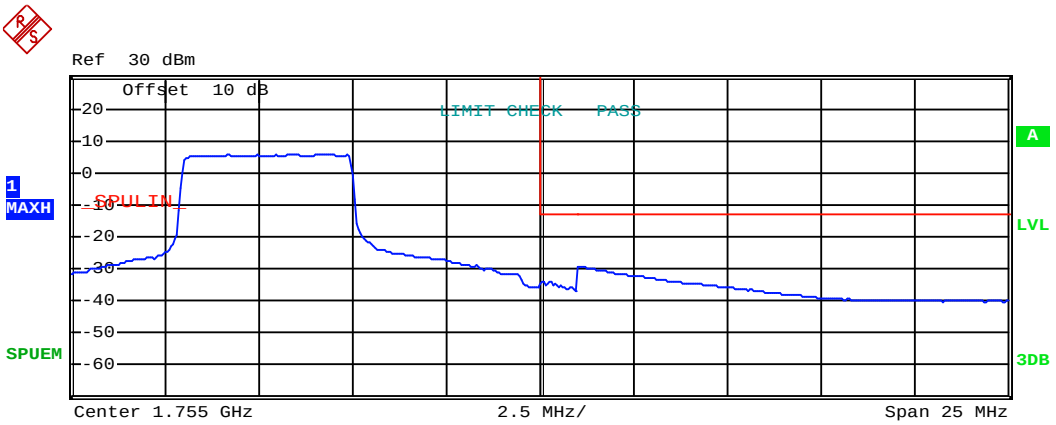
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.698 G	1.709 G	1.00 M	1.708517 G	-16.59	-3.59
1.709 G	1.710 G	100.00 k	1.709726 G	-25.03	-12.03
1.710 G	1.722 G	100.00 k	1.714133 G	6.21	-26.79

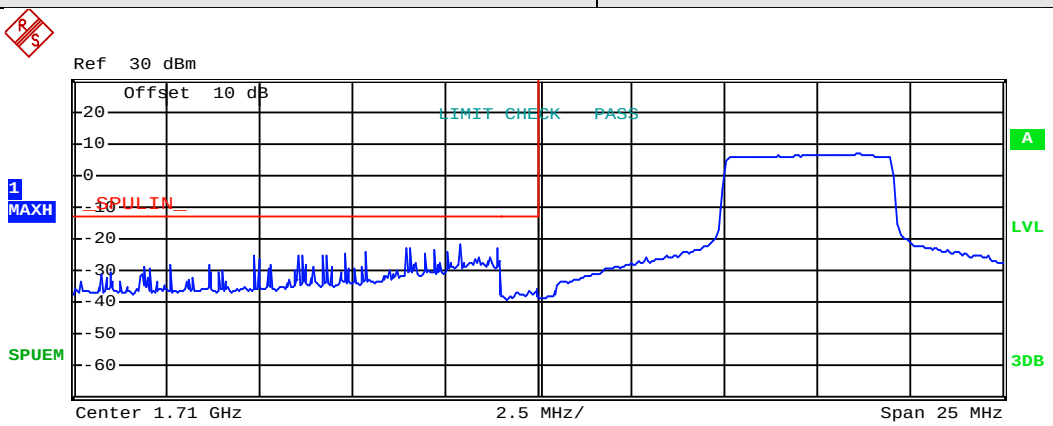
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.748448 G	5.75	-27.25
1.755 G	1.756 G	100.00 k	1.755226 G	-33.85	-20.85
1.756 G	1.768 G	1.00 M	1.756000 G	-29.11	-16.11

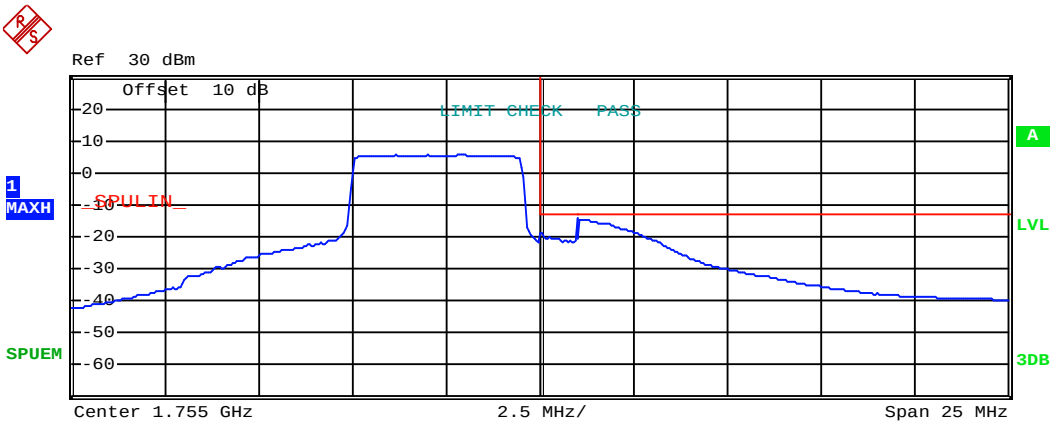
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 25 & RB Offset 24)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.698 G	1.709 G	1.00 M	1.707873 G	-21.93	-8.93
1.709 G	1.710 G	100.00 k	1.709984 G	-35.96	-22.96
1.710 G	1.722 G	100.00 k	1.718669 G	6.68	-26.32

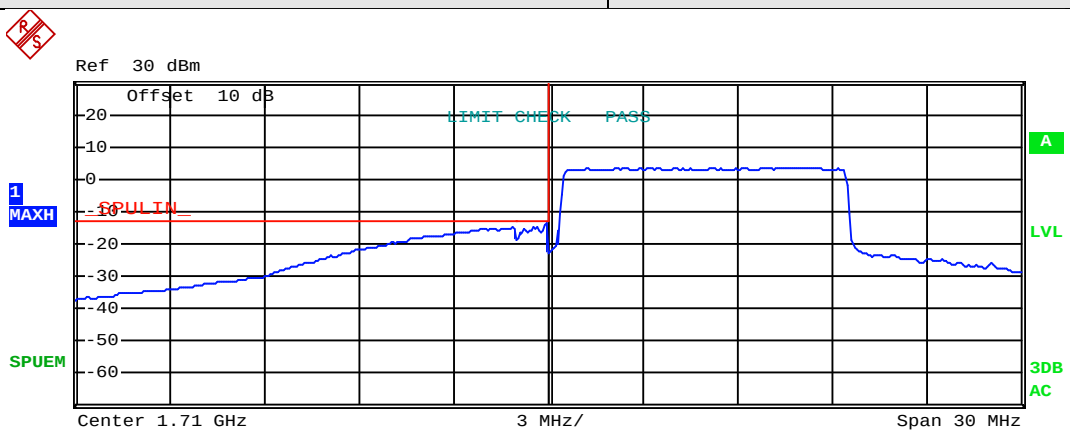
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.752984 G	5.58	-27.42
1.755 G	1.756 G	100.00 k	1.755048 G	-18.98	-5.98
1.756 G	1.768 G	1.00 M	1.756000 G	-14.25	-1.25

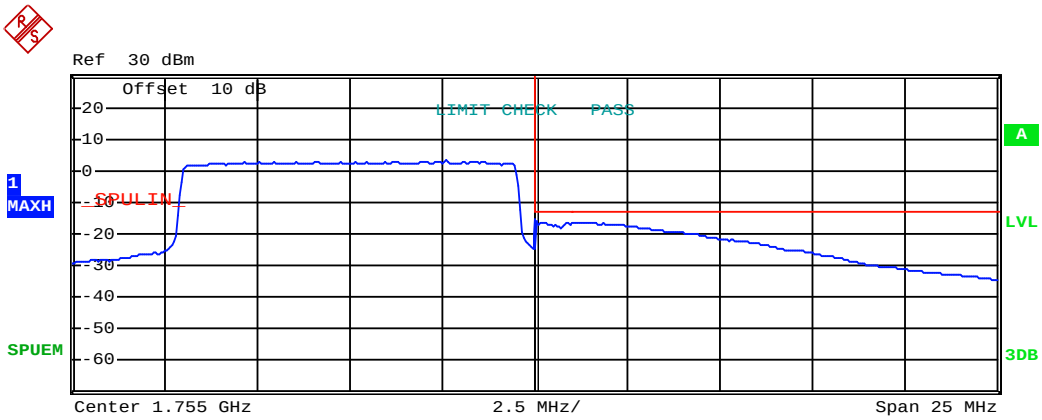
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.695 G	1.709 G	1.00 M	1.708887 G	-14.88	-1.88
1.709 G	1.710 G	300.00 k	1.709960 G	-13.78	-0.78
1.710 G	1.725 G	100.00 k	1.716169 G	3.68	-29.32

Lowest channel

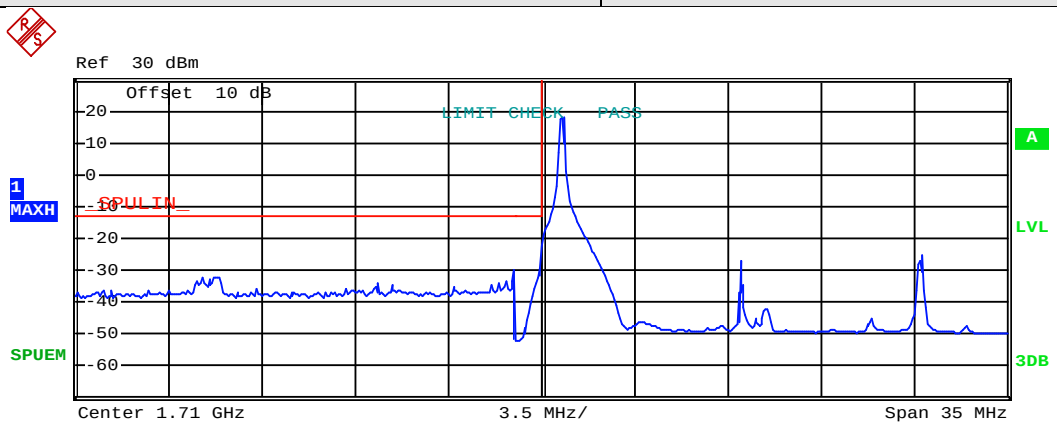


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.742 G	1.755 G	100.00 k	1.752581 G	3.13	-29.87
1.755 G	1.756 G	300.00 k	1.755016 G	-15.46	-2.46
1.756 G	1.768 G	1.00 M	1.756000 G	-16.35	-3.35

Highest channel

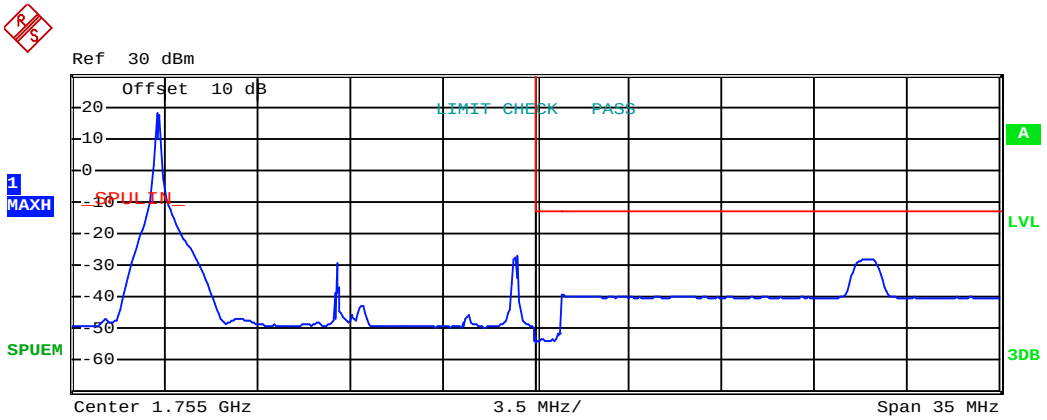
15MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708967 G	-29.75	-16.75
1.709 G	1.710 G	30.00 k	1.709992 G	-29.10	-16.10
1.710 G	1.728 G	100.00 k	1.710847 G	17.90	-15.10

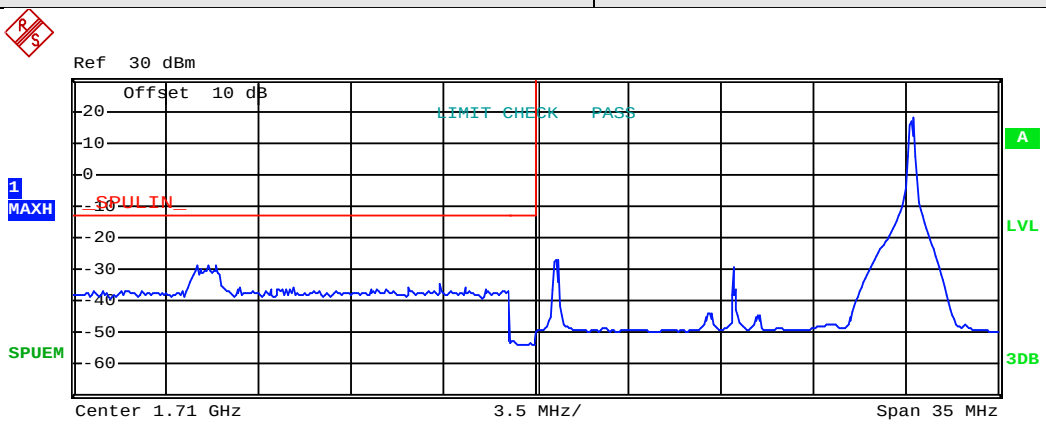
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.740746 G	17.90	-15.10
1.755 G	1.756 G	30.00 k	1.755879 G	-51.53	-38.53
1.756 G	1.773 G	1.00 M	1.767444 G	-28.30	-15.30

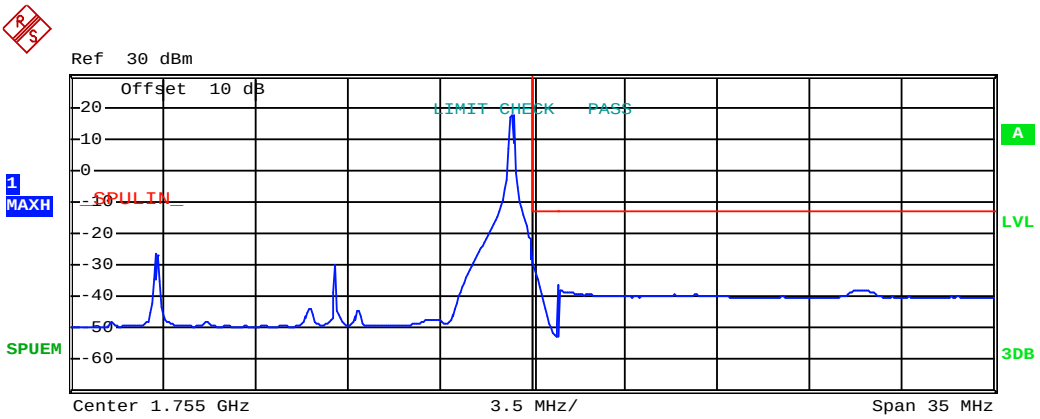
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 74)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.697846 G	-28.67	-15.67
1.709 G	1.710 G	30.00 k	1.709073 G	-52.52	-39.52
1.710 G	1.728 G	100.00 k	1.724254 G	18.28	-14.72

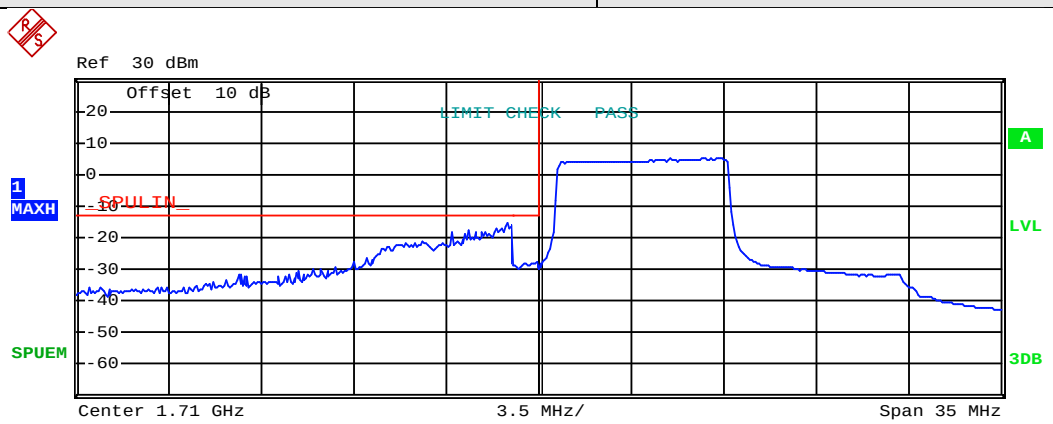
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.754294 G	17.58	-15.42
1.755 G	1.756 G	30.00 k	1.755008 G	-29.47	-16.47
1.756 G	1.773 G	1.00 M	1.756000 G	-36.65	-23.65

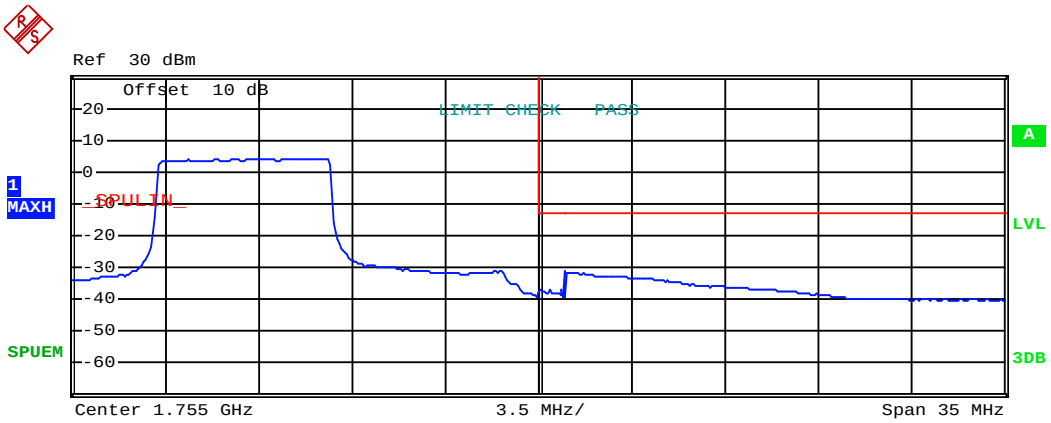
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 36 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708769 G	-15.19	-2.19
1.709 G	1.710 G	100.00 k	1.709927 G	-27.58	-14.58
1.710 G	1.728 G	100.00 k	1.714940 G	5.02	-27.98

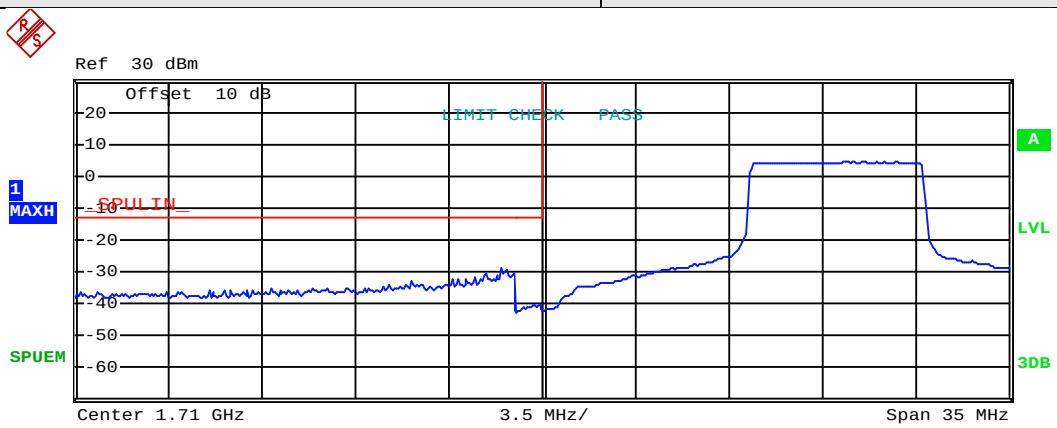
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.744980 G	4.23	-28.77
1.755 G	1.756 G	100.00 k	1.755823 G	-37.00	-24.00
1.756 G	1.773 G	1.00 M	1.756000 G	-31.11	-18.11

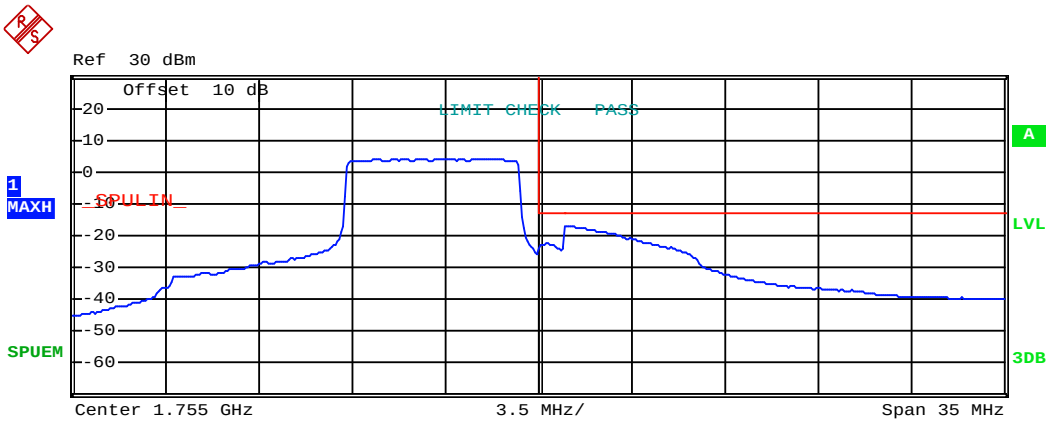
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 36 & RB Offset 35)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708439 G	-28.72	-15.72
1.709 G	1.710 G	100.00 k	1.709952 G	-40.44	-27.44
1.710 G	1.728 G	100.00 k	1.721996 G	4.60	-28.40

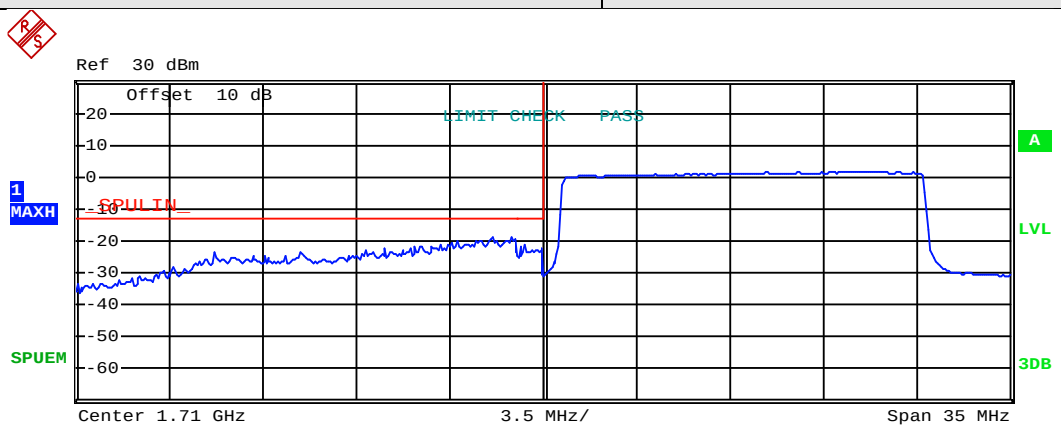
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.752036 G	4.26	-28.74
1.755 G	1.756 G	100.00 k	1.755339 G	-22.50	-9.50
1.756 G	1.773 G	1.00 M	1.756133 G	-16.93	-3.93

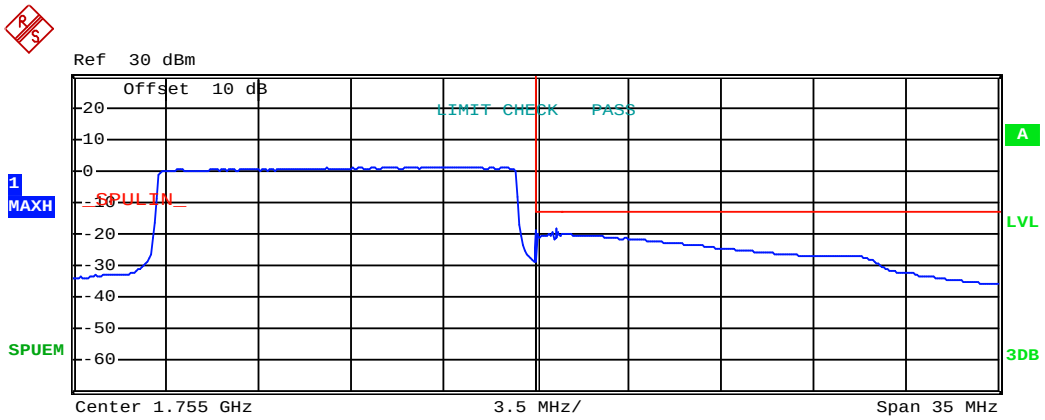
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 75 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708076 G	-18.94	-5.94
1.709 G	1.710 G	300.00 k	1.709306 G	-21.09	-8.09
1.710 G	1.728 G	100.00 k	1.721290 G	1.73	-31.27

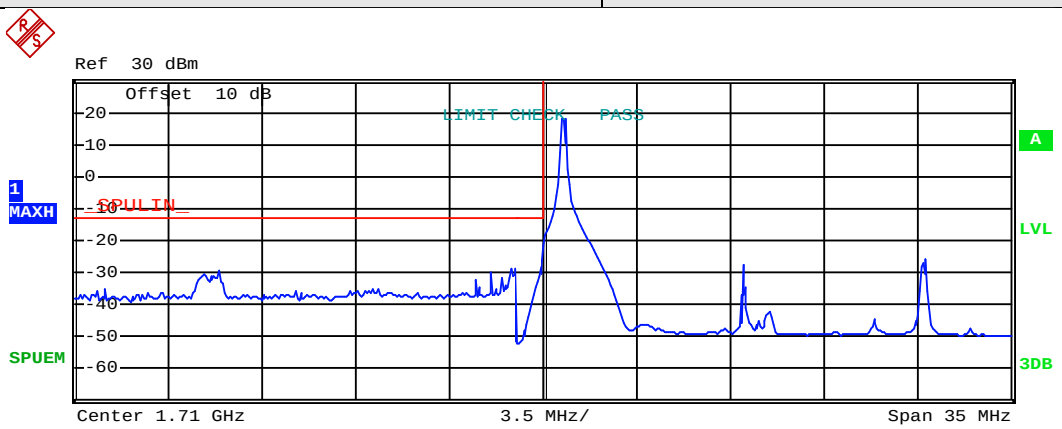
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.751190 G	1.34	-31.66
1.755 G	1.756 G	300.00 k	1.755750 G	-18.36	-5.36
1.756 G	1.773 G	1.00 M	1.756133 G	-20.14	-7.14

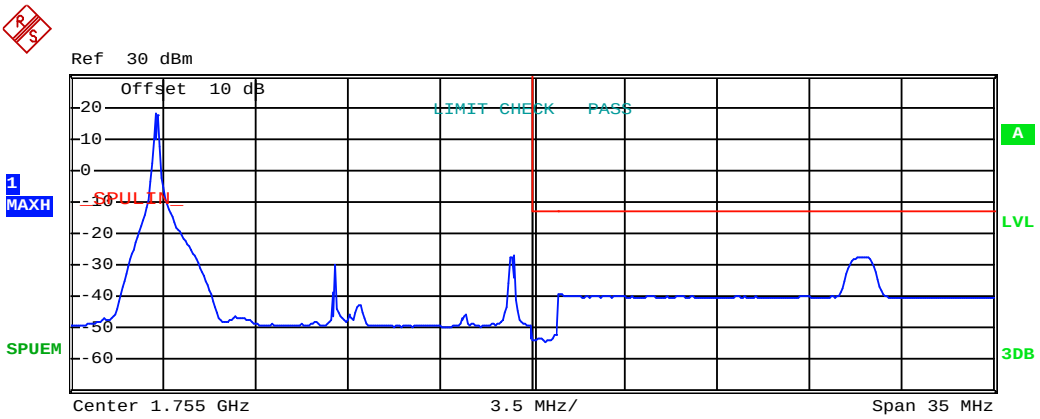
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708967 G	-28.74	-15.74
1.709 G	1.710 G	30.00 k	1.709992 G	-28.10	-15.10
1.710 G	1.728 G	100.00 k	1.710847 G	18.24	-14.76

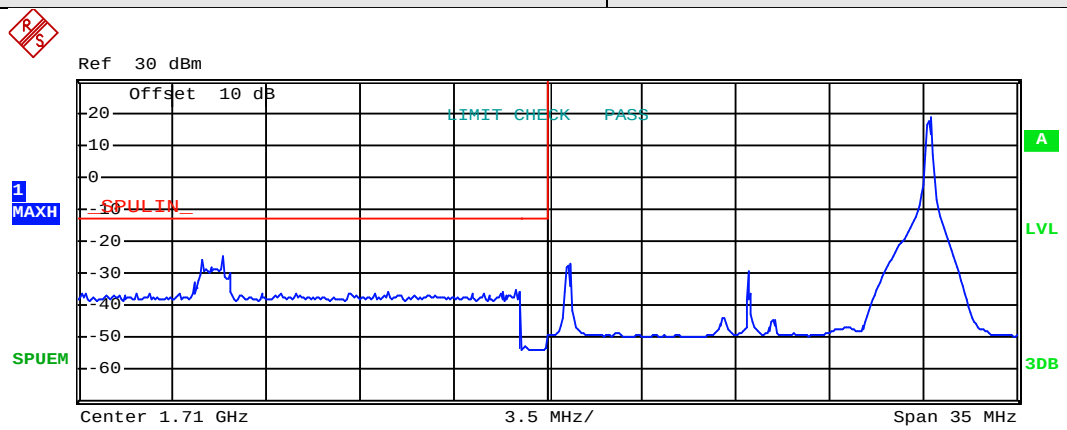
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.740746 G	17.85	-15.15
1.755 G	1.756 G	30.00 k	1.755806 G	-51.93	-38.93
1.756 G	1.773 G	1.00 M	1.767444 G	-27.44	-14.44

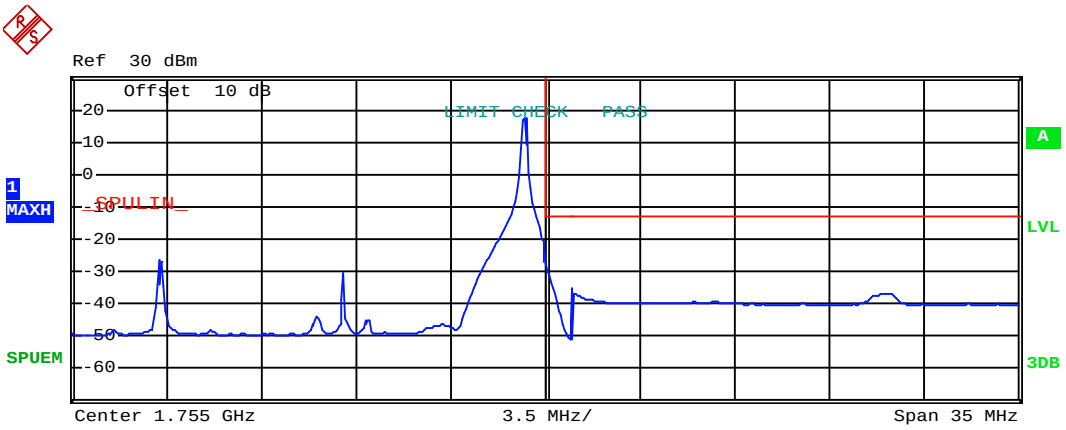
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 74)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.697879 G	-24.46	-11.46
1.709 G	1.710 G	30.00 k	1.709105 G	-52.79	-39.79
1.710 G	1.728 G	100.00 k	1.724254 G	18.44	-14.56

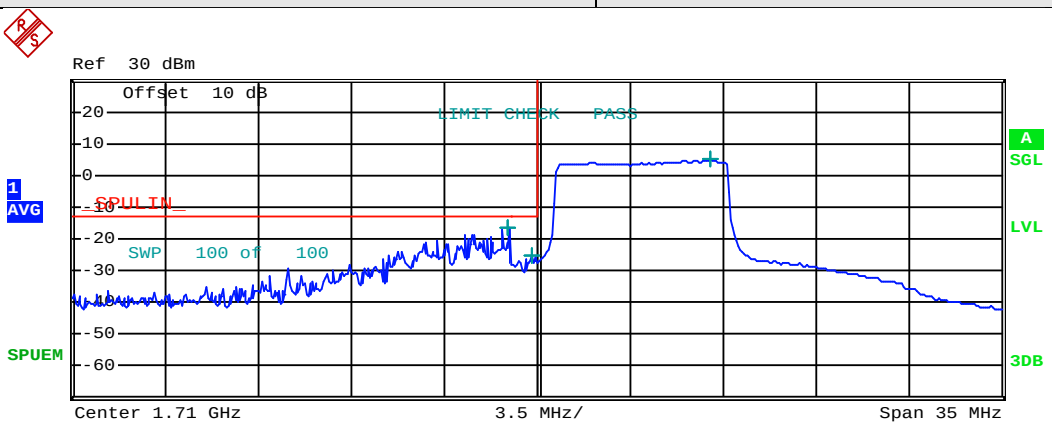
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.754294 G	17.46	-15.54
1.755 G	1.756 G	30.00 k	1.755008 G	-27.57	-14.57
1.756 G	1.773 G	1.00 M	1.756000 G	-35.08	-22.08

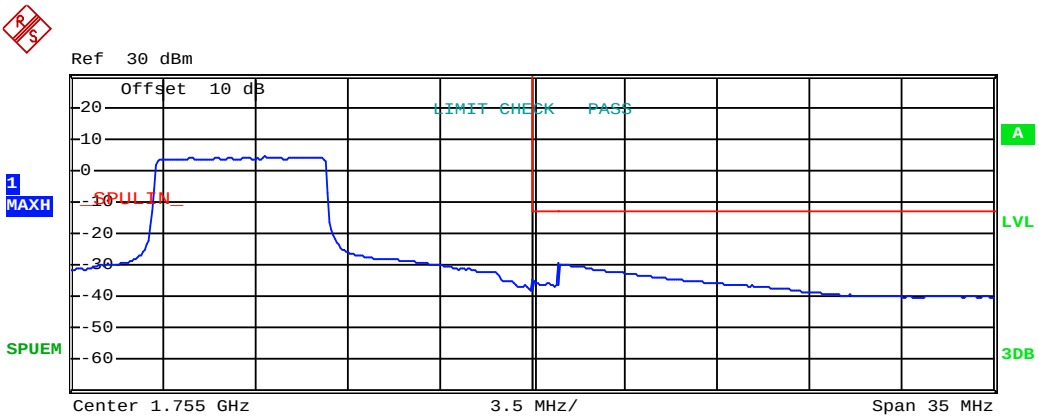
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 36 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708901 G	-16.75	-3.75
1.709 G	1.710 G	100.00 k	1.709815 G	-25.47	-12.47
1.710 G	1.728 G	100.00 k	1.716492 G	4.92	-28.08

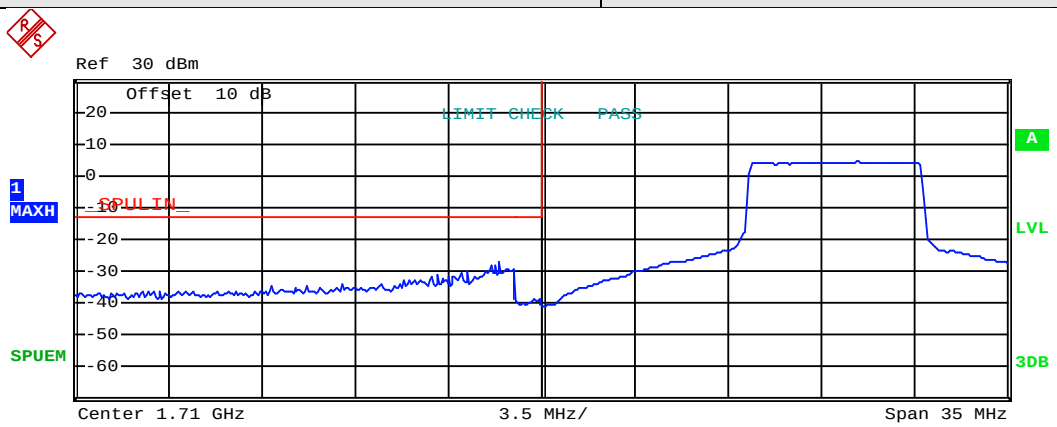
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.744839 G	4.28	-28.72
1.755 G	1.756 G	100.00 k	1.755024 G	-34.51	-21.51
1.756 G	1.773 G	1.00 M	1.756000 G	-29.57	-16.57

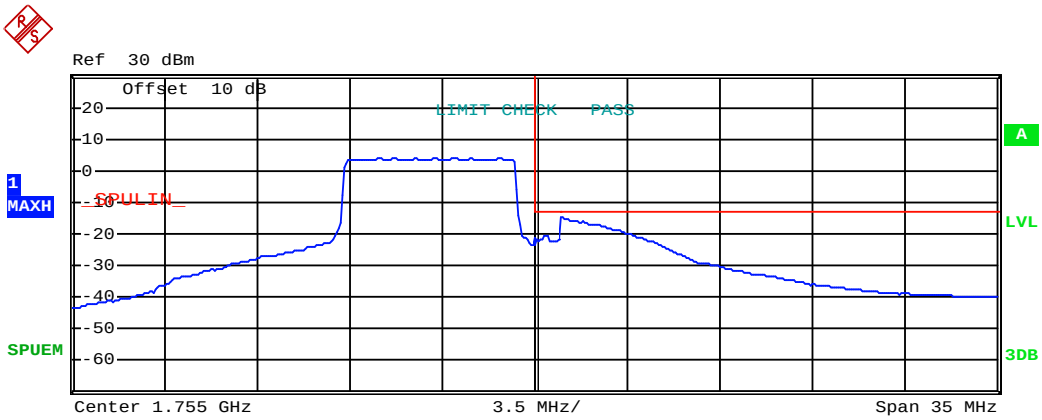
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 36 & RB Offset 35)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708340 G	-26.84	-13.84
1.709 G	1.710 G	100.00 k	1.709726 G	-38.20	-25.20
1.710 G	1.728 G	100.00 k	1.721855 G	4.35	-28.65

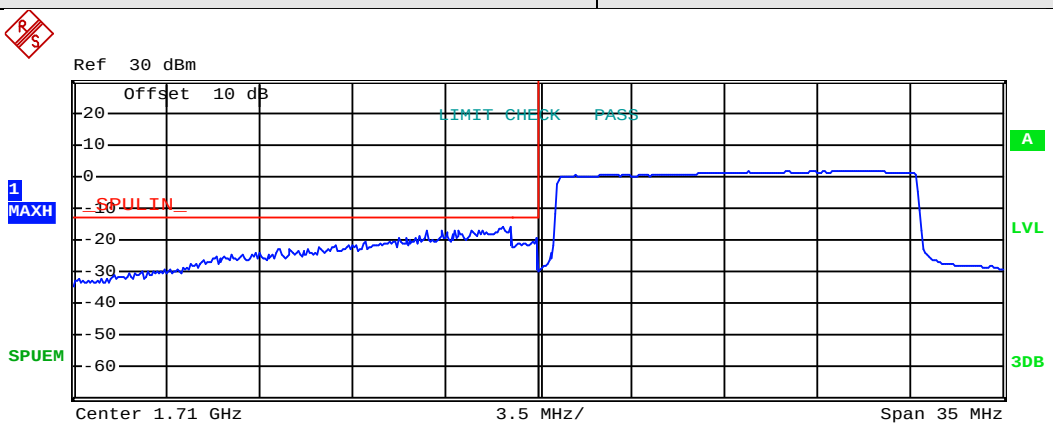
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.751895 G	4.00	-29.00
1.755 G	1.756 G	100.00 k	1.755371 G	-20.83	-7.83
1.756 G	1.773 G	1.00 M	1.756000 G	-14.83	-1.83

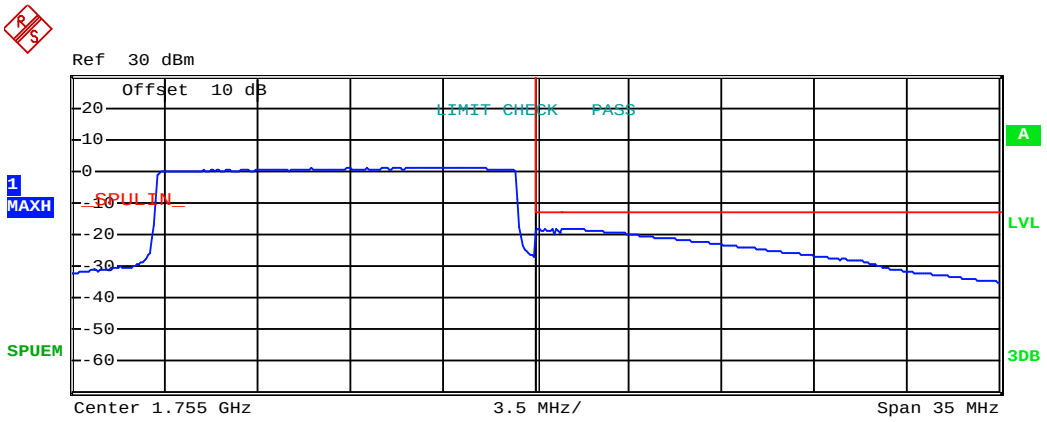
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 75 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.692 G	1.709 G	1.00 M	1.708967 G	-15.64	-2.64
1.709 G	1.710 G	300.00 k	1.709976 G	-19.30	-6.30
1.710 G	1.728 G	100.00 k	1.722137 G	1.71	-31.29

Lowest channel

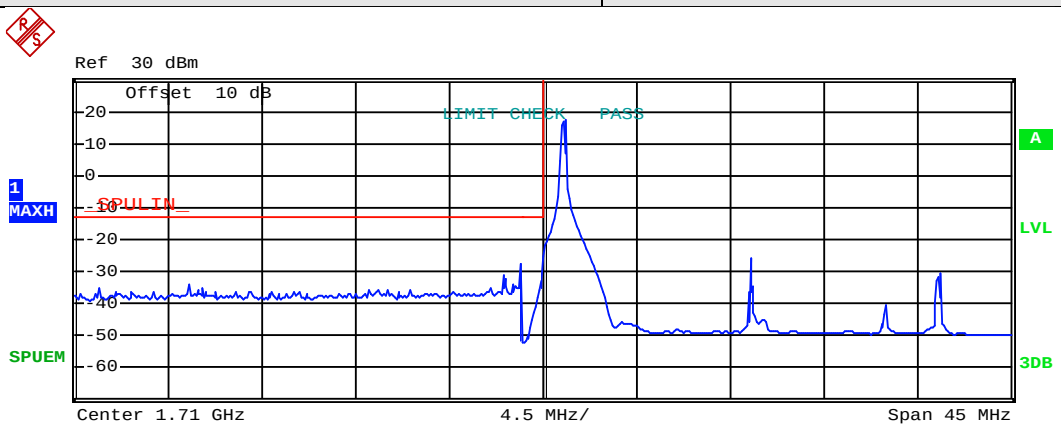


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.738 G	1.755 G	100.00 k	1.751613 G	1.21	-31.79
1.755 G	1.756 G	300.00 k	1.755081 G	-18.10	-5.10
1.756 G	1.773 G	1.00 M	1.756000 G	-18.06	-5.06

Highest channel

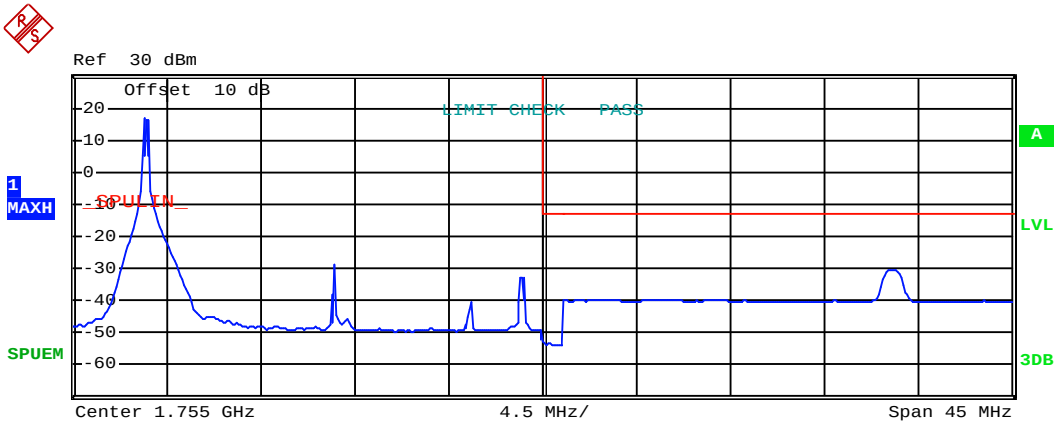
20MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-27.65	-14.65
1.709 G	1.710 G	30.00 k	1.709984 G	-32.74	-19.74
1.710 G	1.732 G	100.00 k	1.711089 G	17.50	-15.50

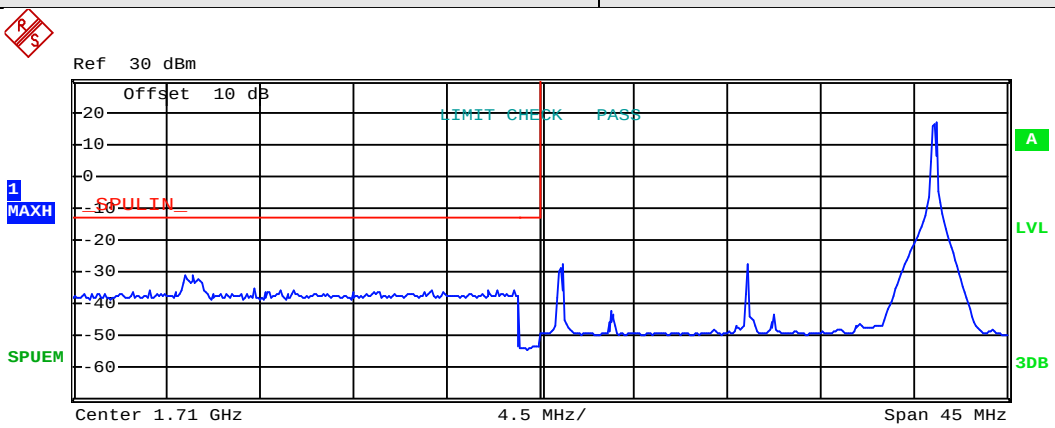
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.735948 G	16.60	-16.40
1.755 G	1.756 G	30.00 k	1.755008 G	-52.90	-39.90
1.756 G	1.778 G	1.00 M	1.771605 G	-30.63	-17.63

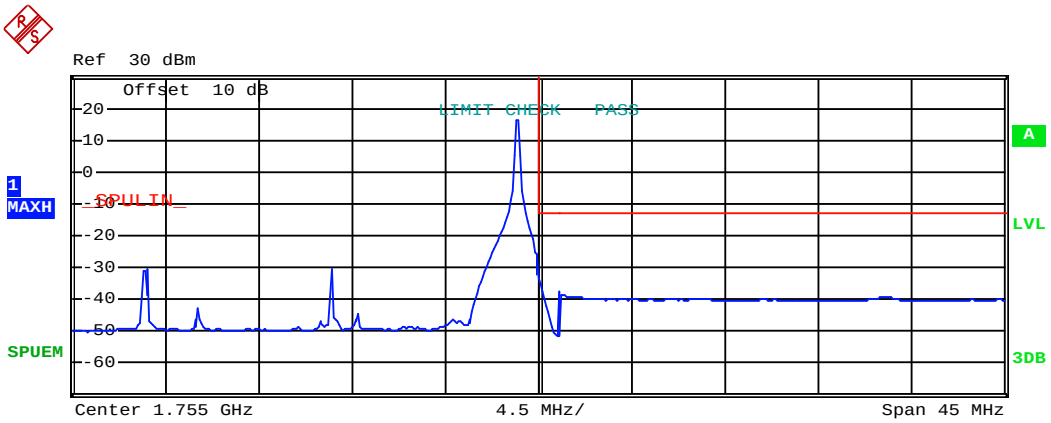
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 99)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.693219 G	-31.17	-18.17
1.709 G	1.710 G	30.00 k	1.709976 G	-53.15	-40.15
1.710 G	1.732 G	100.00 k	1.729052 G	17.00	-16.00

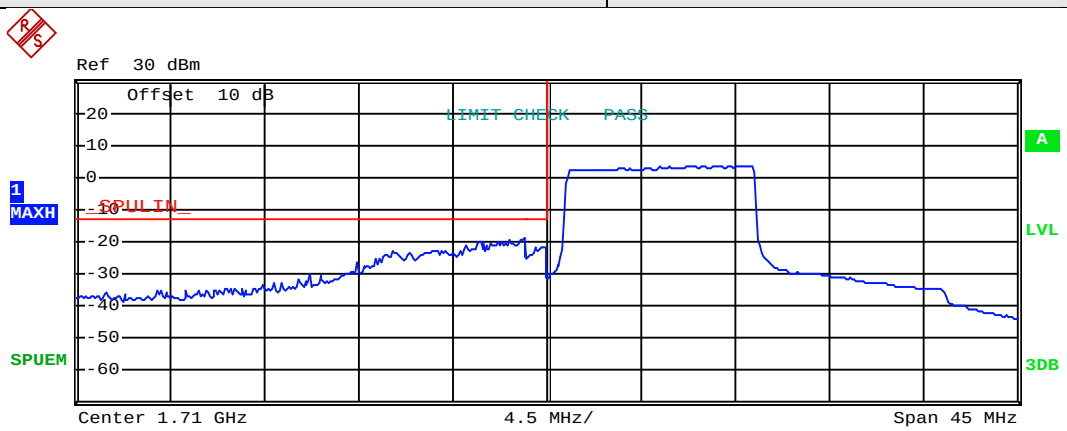
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.753911 G	16.27	-16.73
1.755 G	1.756 G	30.00 k	1.755008 G	-33.31	-20.31
1.756 G	1.778 G	1.00 M	1.756000 G	-37.29	-24.29

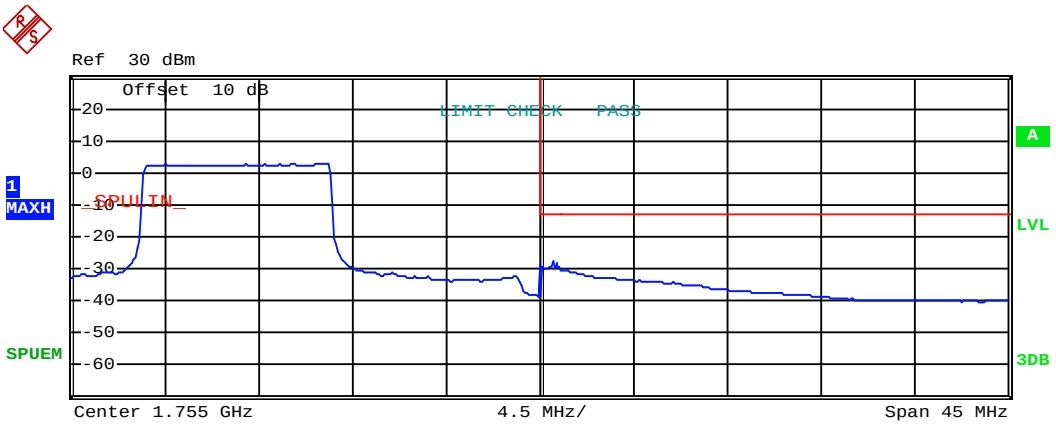
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.708914 G	-19.05	-6.05
1.709 G	1.710 G	300.00 k	1.709774 G	-21.67	-8.67
1.710 G	1.732 G	100.00 k	1.719617 G	3.33	-29.67

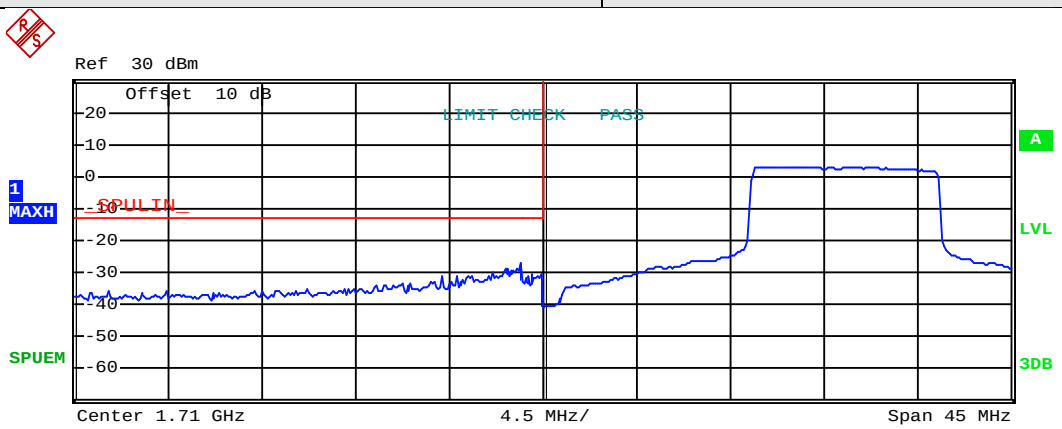
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.744657 G	2.74	-30.26
1.755 G	1.756 G	300.00 k	1.755605 G	-27.38	-14.38
1.756 G	1.778 G	1.00 M	1.756000 G	-30.27	-17.27

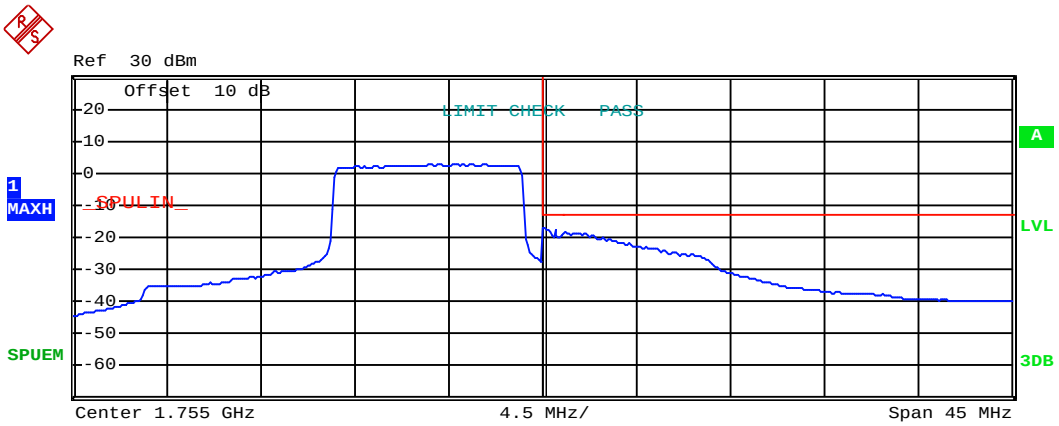
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 50 & RB Offset 49)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-26.80	-13.80
1.709 G	1.710 G	300.00 k	1.709492 G	-30.38	-17.38
1.710 G	1.732 G	100.00 k	1.721069 G	2.95	-30.05

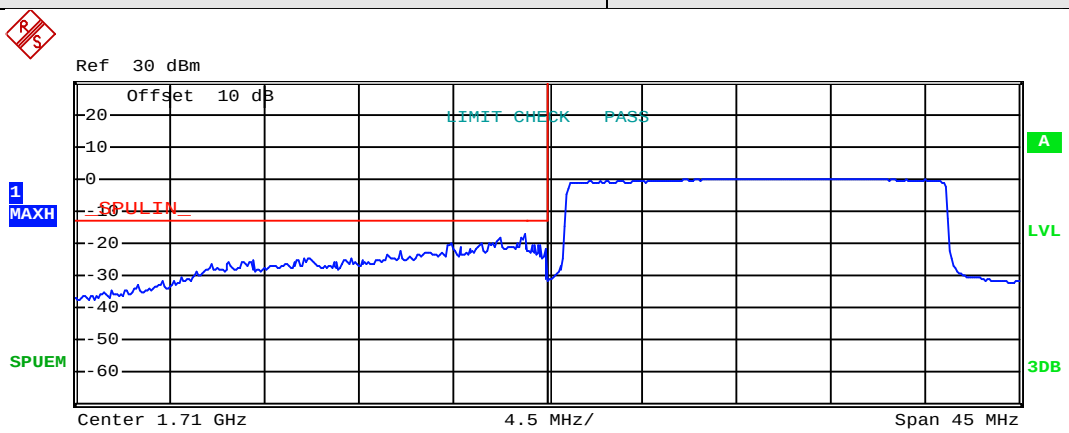
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.751552 G	2.93	-30.07
1.755 G	1.756 G	300.00 k	1.755032 G	-17.14	-4.14
1.756 G	1.778 G	1.00 M	1.756173 G	-18.42	-5.42

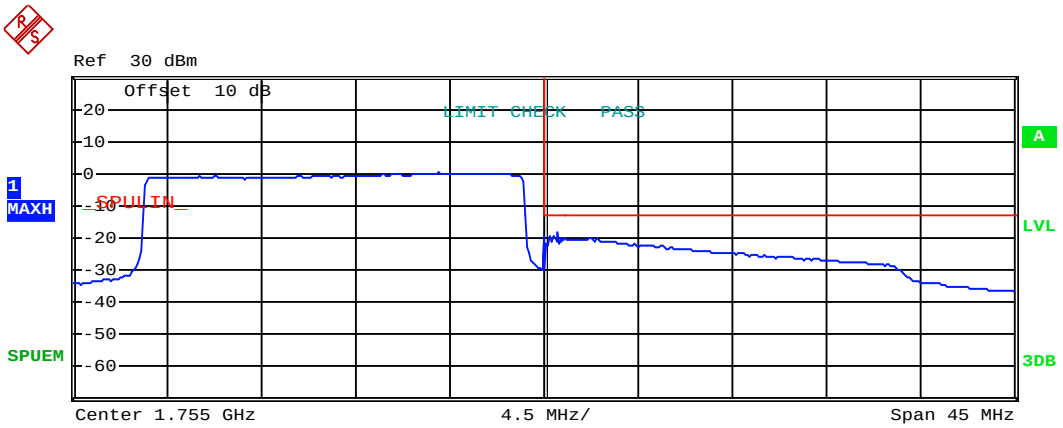
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 100 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.708914 G	-17.10	-4.10
1.709 G	1.710 G	300.00 k	1.709306 G	-20.36	-7.36
1.710 G	1.732 G	100.00 k	1.720524 G	0.17	-32.83

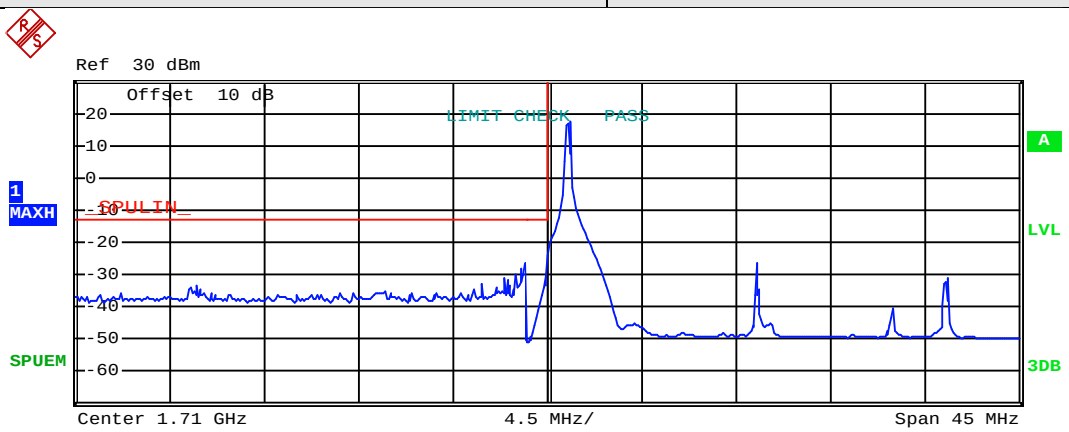
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.749919 G	0.28	-32.72
1.755 G	1.756 G	300.00 k	1.755589 G	-18.46	-5.46
1.756 G	1.778 G	1.00 M	1.757214 G	-20.09	-7.09

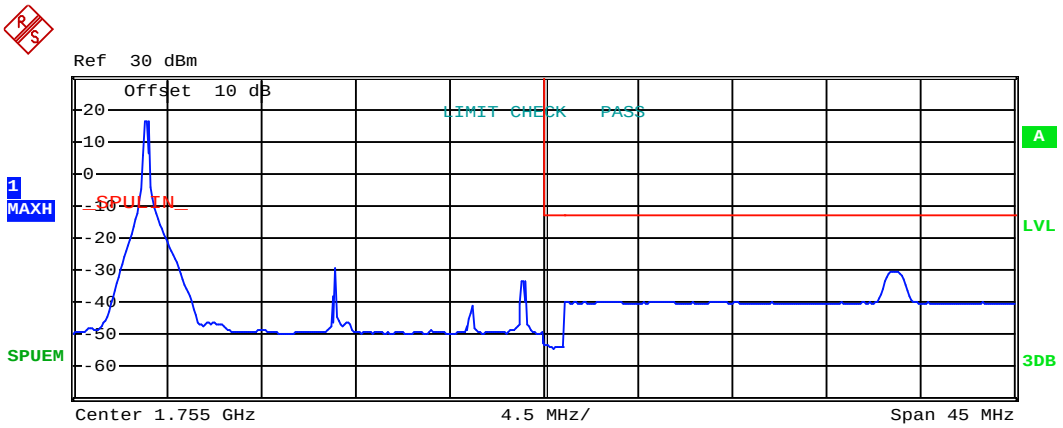
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-26.65	-13.65
1.709 G	1.710 G	30.00 k	1.709992 G	-30.99	-17.99
1.710 G	1.732 G	100.00 k	1.711089 G	17.56	-15.44

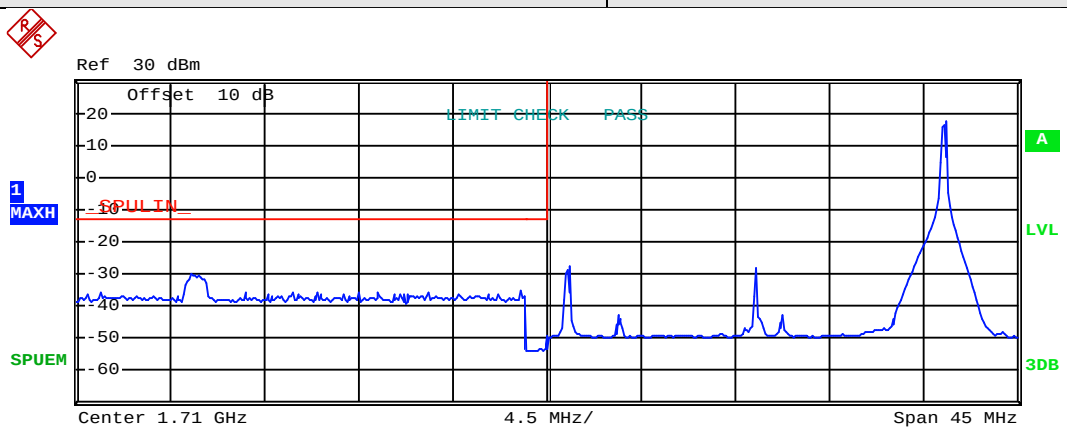
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.735948 G	16.36	-16.64
1.755 G	1.756 G	30.00 k	1.755016 G	-53.22	-40.22
1.756 G	1.778 G	1.00 M	1.771605 G	-30.37	-17.37

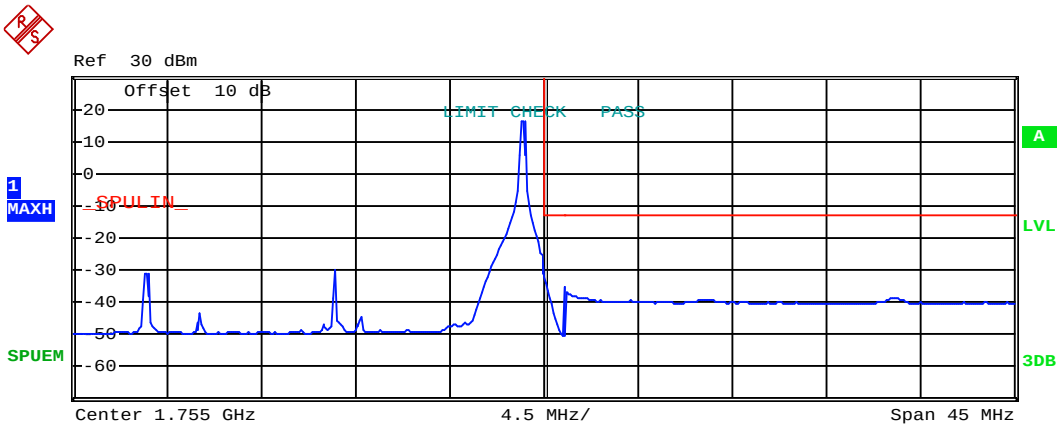
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 1 & RB Offset 99)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.692918 G	-30.19	-17.19
1.709 G	1.710 G	30.00 k	1.709968 G	-53.08	-40.08
1.710 G	1.732 G	100.00 k	1.729052 G	17.14	-15.86

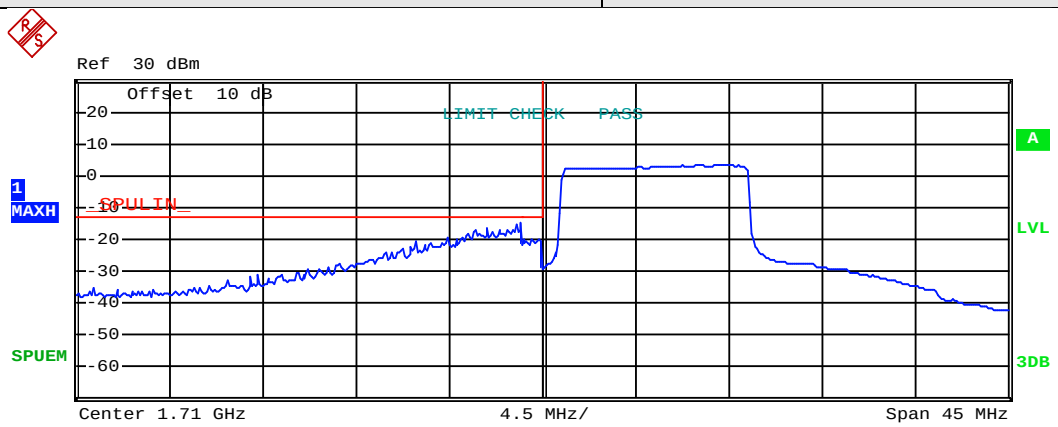
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.753911 G	16.26	-16.74
1.755 G	1.756 G	30.00 k	1.755016 G	-32.52	-19.52
1.756 G	1.778 G	1.00 M	1.756000 G	-35.35	-22.35

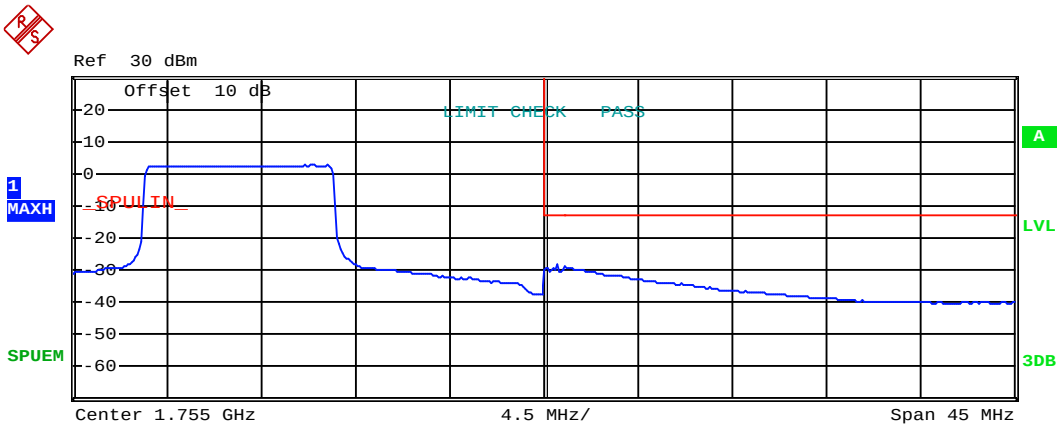
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-14.86	-1.86
1.709 G	1.710 G	300.00 k	1.709073 G	-19.94	-6.94
1.710 G	1.732 G	100.00 k	1.717440 G	3.40	-29.60

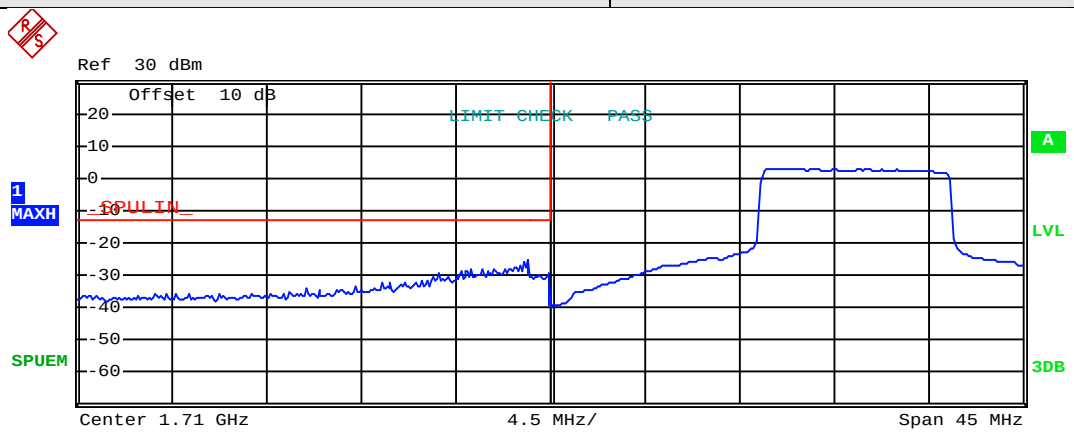
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.743931 G	2.66	-30.34
1.755 G	1.756 G	300.00 k	1.755589 G	-28.42	-15.42
1.756 G	1.778 G	1.00 M	1.756000 G	-29.06	-16.06

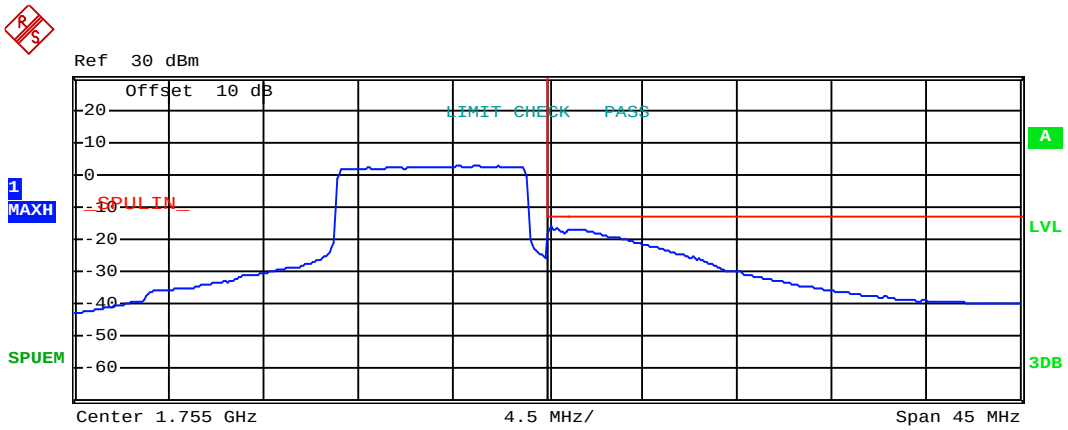
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 50 & RB Offset 49)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-25.32	-12.32
1.709 G	1.710 G	300.00 k	1.709952 G	-29.85	-16.85
1.710 G	1.732 G	100.00 k	1.721431 G	2.87	-30.13

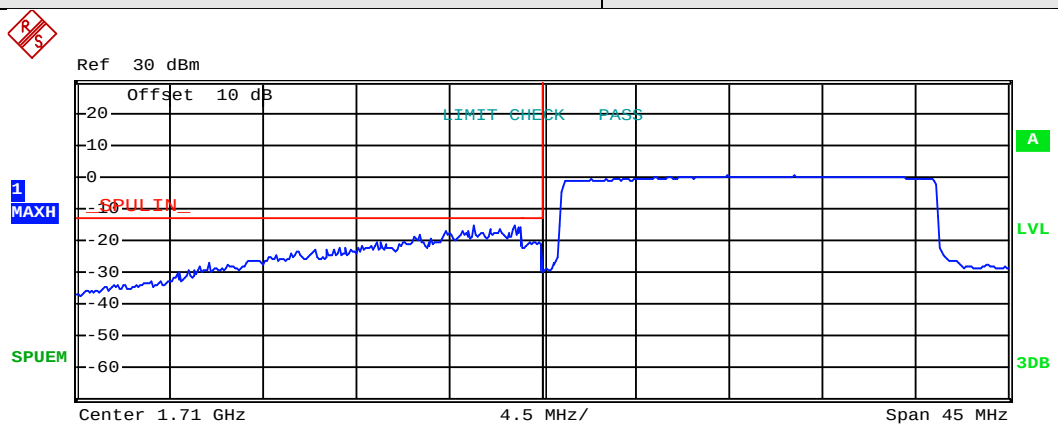
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.751552 G	2.66	-30.34
1.755 G	1.756 G	300.00 k	1.755161 G	-15.81	-2.81
1.756 G	1.778 G	1.00 M	1.756173 G	-17.05	-4.05

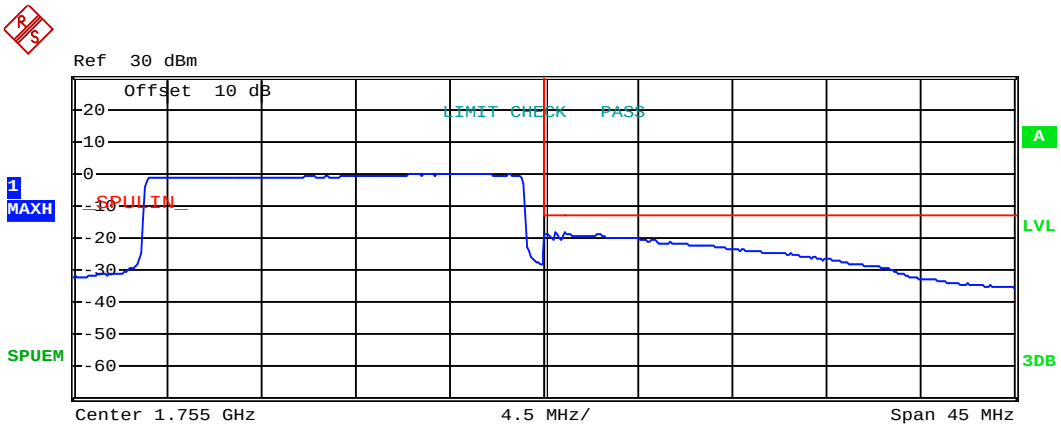
Highest channel

Test Mode:	LTE band 4(16QAM RB Size 100 & RB Offset 0)



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.708613 G	-15.30	-2.30
1.709 G	1.710 G	300.00 k	1.709637 G	-19.25	-6.25
1.710 G	1.732 G	100.00 k	1.718891 G	0.36	-32.64

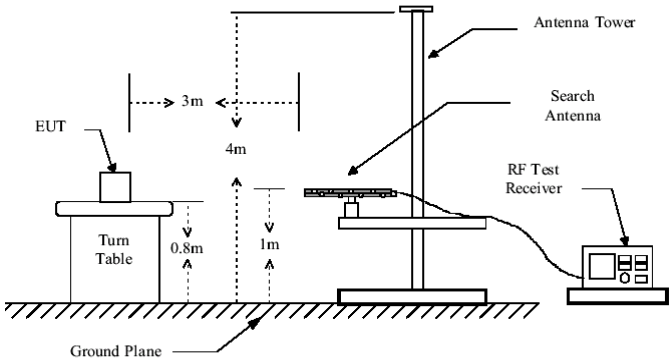
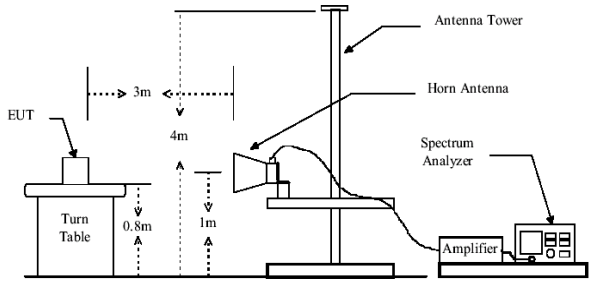
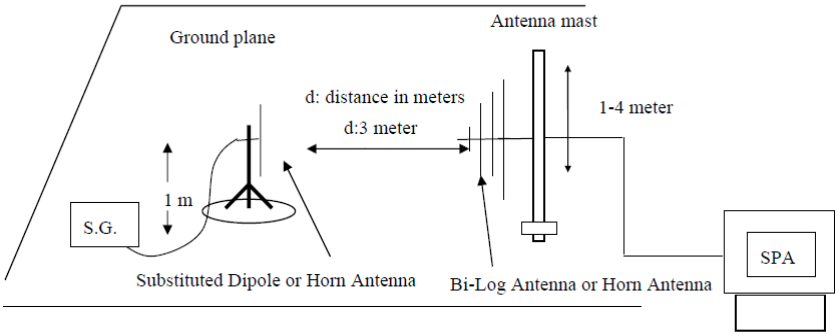
Lowest channel



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.751915 G	0.09	-32.91
1.755 G	1.756 G	300.00 k	1.755532 G	-17.97	-4.97
1.756 G	1.778 G	1.00 M	1.756000 G	-18.52	-5.52

Highest channel

6.10 ERP, EIRP Measurement

Test Requirement:	FCC part 24.232 (c), part 27.50(c), part 27.50(d) and part 27.50(h)
Test Method:	FCC part 2.1046
Limit:	LTE Band 4: 1W EIRP
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 

Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated. 3. EIRP in frequency band 1850.7 –1909.3MHz, 1710.7-1754.3 MHz and 706.5-713..5 MHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows: EIRP = S.G. output (dBm) + Antenna Gain (dBi) – Cable Loss (dB) 4. The worse case was relating to the conducted output power.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case)

LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	22.27	30.00	Pass
					H	18.62		
1710.70	19957	16QAM	1.4	H	V	21.88		
					H	17.97		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	21.81	30.00	Pass
					H	18.43		
1710.70	19957	16QAM	1.4	H	V	22.07		
					H	17.81		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	21.19	30.00	Pass
					H	17.62		
1710.70	19957	16QAM	1.4	H	V	21.32		
					H	17.34		

Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	21.67	30.00	Pass
					H	18.03		
1710.70	19957	16QAM	1.4	H	V	21.88		
					H	18.55		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	21.18	30.00	Pass
					H	18.03		
1710.70	19957	16QAM	1.4	H	V	20.67		
					H	18.38		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	20.03	30.00	Pass
					H	17.44		
1710.70	19957	16QAM	1.4	H	V	21.21		
					H	18.06		

Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	20.19	30.00	Pass
					H	17.48		
1710.70	19957	16QAM	1.4	H	V	20.31		
					H	18.22		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	20.31	30.00	Pass
					H	18.49		
1710.70	19957	16QAM	1.4	H	V	19.55		
					H	18.55		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	19.66	30.00	Pass
					H	17.86		
1710.70	19957	16QAM	1.4	H	V	19.54		
					H	18.32		

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	22.22	30.00	Pass
					H	18.62		
1720.00	20050	16QAM	20	H	V	23.16		
					H	19.01		
20MHz(RB size 50 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	22.61	30.00	Pass
					H	18.84		
1720.00	20050	16QAM	20	H	V	22.46		
					H	18.65		
20MHz(RB size 100 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	20.94	30.00	Pass
					H	17.18		
1720.00	20050	16QAM	20	H	V	22.06		
					H	17.94		

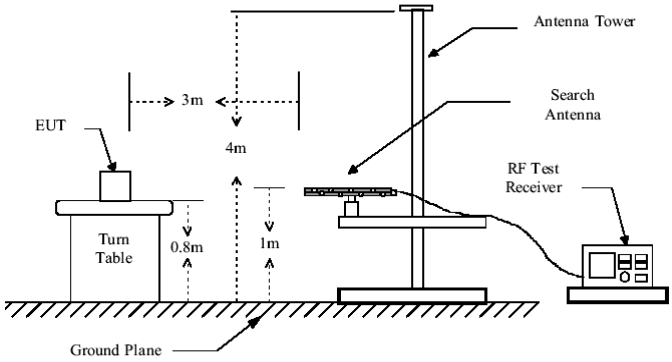
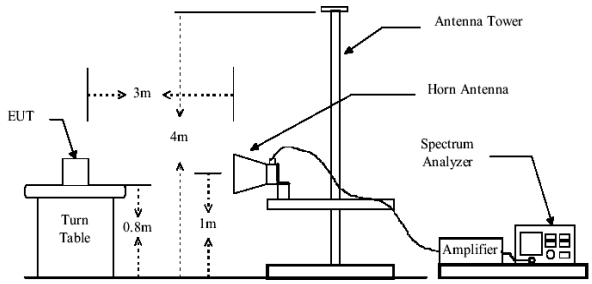
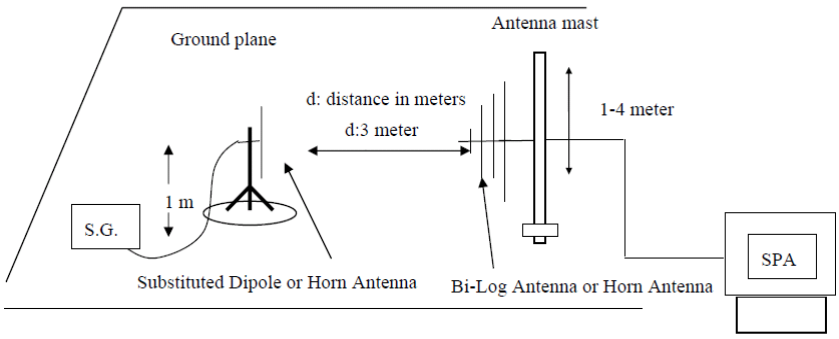
Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	22.07	30.00	Pass
					H	18.29		
1732.50	20175	16QAM	20	H	V	23.05		
					H	18.88		
20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	22.00	30.00	Pass
					H	18.24		
1732.50	20175	16QAM	20	H	V	22.72		
					H	18.56		
20MHz(RB size 100 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	20.69	30.00	Pass
					H	17.04		
1732.50	20175	16QAM	20	H	V	21.66		
					H	18.13		

High channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	22.17	30.00	Pass
					H	18.76		
1745.00	20300	16QAM	20	H	V	22.38		
					H	19.14		
20MHz(RB size 50 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	21.18	30.00	Pass
					H	18.02		
1745.00	20300	16QAM	20	H	V	21.78		
					H	18.81		
20MHz(RB size 100 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	20.44	30.00	Pass
					H	17.29		
1745.00	20300	16QAM	20	H	V	21.08		
					H	18.23		

6.11 Field strength of spurious radiation measurement

Test Requirement:	FCC Part 24.238 (a), part 27.53(g), part 27.53(h)
Test Method:	FCC part 2.1053
Limit:	LTE Band 4: -13dBm
Test setup:	Below 1GHz  Above 1GHz  Substituted method: 
Test Procedure:	1. The EUT was placed on an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference

	between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Measurement Data (worst case)

Below 1GHz:

The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

Above 1GHz

For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

LTE Band 4 Part:

1.4MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3421.40	Vertical	-40.27	-13.00	Pass
5132.10	V	-24.32		
6842.80	V	-27.86		
3421.40	Horizontal	-42.33		
5132.10	H	-24.48		
6842.80	H	-27.90		
Middle				
3465.00	Vertical	-44.51	-13.00	Pass
5197.50	V	-31.77		
6930.00	V	-35.82		
3465.00	Horizontal	-42.34		
5197.50	H	-23.45		
6930.00	H	-24.31		
Highest				
3508.60	Vertical	-39.66	-13.00	Pass
5262.90	V	-22.38		
7017.20	V	-28.65		
3508.60	Horizontal	-42.73		
5262.90	H	-22.87		
7017.20	H	-26.82		

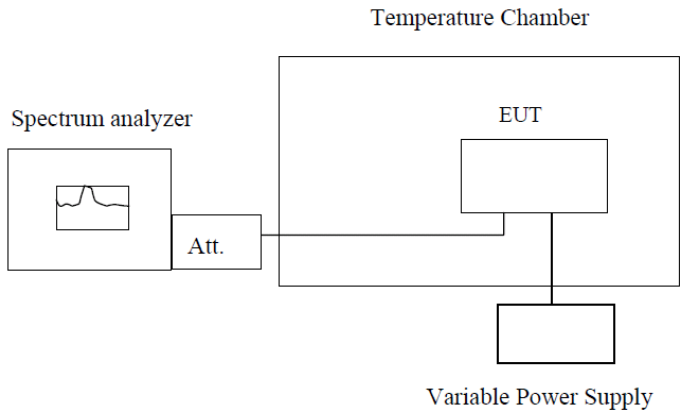
3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3423.00	Vertical	-37.39	-13.00	Pass
5134.50	V	-22.89		
6846.00	V	-26.81		
3423.00	Horizontal	-43.95		
5134.50	H	-23.73		
6846.00	H	-27.32		
Middle				
3465.00	Vertical	-37.97	-13.00	Pass
5197.50	V	-23.68		
6930.00	V	-28.61		
3465.00	Horizontal	-40.02		
5197.50	H	-23.60		
6930.00	H	-29.79		

Highest				
3507.00	Vertical	-39.17	-13.00	Pass
5260.50	V	-24.00		
7014.00	V	-29.46		
3507.00	Horizontal	-40.62		
5260.50	H	-23.03		
7014.00	H	-29.21		
5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3425.00	Vertical	-40.15	-13.00	Pass
5137.50	V	-23.11		
6850.00	V	-26.89		
3425.00	Horizontal	-41.28		
5137.50	H	-23.45		
6850.00	H	-27.14		
Middle				
3465.00	Vertical	-43.25	-13.00	Pass
5197.50	V	-25.16		
6930.00	V	-27.22		
3465.00	Horizontal	-42.68		
5197.50	H	-24.57		
6930.00	H	-27.73		
Highest				
3505.00	Vertical	-42.25	-13.00	Pass
5257.50	V	-25.43		
7010.00	V	-28.24		
3505.00	Horizontal	-42.22		
5257.50	H	-26.12		
7010.00	H	-28.46		
10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3430.00	Vertical	-41.51	-13.00	Pass
5145.00	V	-23.24		
6860.00	V	-26.94		
3430.00	Horizontal	-44.15		
5145.00	H	-23.87		
6860.00	H	-27.46		

Middle				
3465.00	Vertical	-42.11	-13.00	Pass
5197.50	V	-23.81		
6930.00	V	-28.47		
3465.00	Horizontal	-40.16		
5197.50	H	-23.74		
6930.00	H	-29.83		
Highest				
3500.00	Vertical	-41.31	-13.00	Pass
5250.00	V	-24.24		
7000.00	V	-29.66		
3500.00	Horizontal	-40.75		
5250.00	H	-23.17		
7000.00	H	-29.38		
15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3435.00	Vertical	-40.20	-13.00	Pass
5152.50	V	-23.21		
6870.00	V	-26.83		
3435.00	Horizontal	-41.41		
5152.50	H	-23.54		
6870.00	H	-27.26		
Middle				
3465.00	Vertical	-43.33	-13.00	Pass
5197.50	V	-25.24		
6930.00	V	-27.31		
3465.00	Horizontal	-42.81		
5197.50	H	-24.69		
6930.00	H	-27.83		
Highest				
3495.00	Vertical	-42.37	-13.00	Pass
5242.50	V	-25.51		
6990.00	V	-28.33		
3495.00	Horizontal	-42.34		
5242.50	H	-26.24		
6990.00	H	-28.58		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3440.00	Vertical	-41.61	-13.00	Pass
5160.00	V	-23.33		
6880.00	V	-27.15		
3440.00	Horizontal	-44.26		
5160.00	H	-23.97		
6880.00	H	-27.58		
Middle				
3465.00	Vertical	-42.21	-13.00	Pass
5197.50	V	-23.92		
6930.00	V	-28.56		
3465.00	Horizontal	-40.27		
5197.50	H	-23.84		
6930.00	H	-29.99		
Highest				
3490.00	Vertical	-41.41	-13.00	Pass
5235.00	V	-24.33		
6980.00	V	-29.77		
3490.00	Horizontal	-40.85		
5235.00	H	-23.28		
6980.00	H	-29.48		

6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part 2.1055(a)(1)(b)
Test Method:	FCC Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	All three channels of all modulations have been tested, but only the worst channel and the worst modulation show in this test item.

Measurement Data (the worst channel):

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	74	0.042713	±2.5	Pass
	-20	81	0.046753		
	-10	155	0.089466		
	0	162	0.093506		
	10	124	0.071573		
	20	135	0.077922		
	30	106	0.061183		
	40	135	0.077922		
	50	105	0.060606		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	169	0.097547	±2.5	Pass
	-20	151	0.087157		
	-10	132	0.076190		
	0	105	0.060606		
	10	124	0.071573		
	20	135	0.077922		
	30	125	0.072150		
	40	106	0.061183		
	50	121	0.069841		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	174	0.100433	±2.5	Pass
	-20	165	0.095238		
	-10	126	0.072727		
	0	125	0.072150		
	10	94	0.054257		
	20	102	0.058874		
	30	105	0.060606		
	40	125	0.072150		
	50	104	0.060029		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	97	0.055988	±2.5	Pass
	-20	121	0.069841		
	-10	122	0.070418		
	0	95	0.054834		
	10	166	0.095815		
	20	142	0.081962		
	30	101	0.058297		
	40	125	0.072150		
	50	133	0.076768		

Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	107	0.061760	±2.5	Pass
	-20	124	0.071573		
	-10	105	0.060606		
	0	112	0.064646		
	10	104	0.060029		
	20	93	0.053680		
	30	78	0.045022		
	40	121	0.069841		
	50	105	0.060606		

Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	157	0.090620	±2.5	Pass
	-20	175	0.101010		
	-10	174	0.100433		
	0	65	0.037518		
	10	102	0.058874		
	20	105	0.060606		
	30	126	0.072727		
	40	144	0.083117		
	50	101	0.058297		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	159	0.091775	±2.5	Pass
	-20	161	0.092929		
	-10	125	0.072150		
	0	141	0.081385		
	10	143	0.082540		
	20	124	0.071573		
	30	125	0.072150		
	40	126	0.072727		
	50	94	0.054257		

Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	119	0.068687	±2.5	Pass
	-20	145	0.083694		
	-10	104	0.060029		
	0	76	0.043867		
	10	164	0.094661		
	20	126	0.072727		
	30	134	0.077345		
	40	148	0.085426		
	50	109	0.062915		

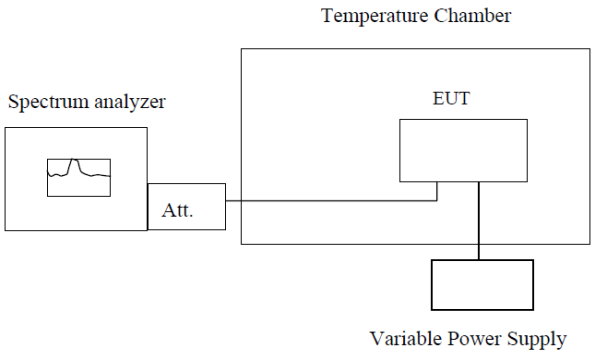
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	137	0.079076	±2.5	Pass
	-20	85	0.049062		
	-10	97	0.055988		
	0	123	0.070996		
	10	105	0.060606		
	20	164	0.094661		
	30	125	0.072150		
	40	106	0.061183		
	50	161	0.092929		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	127	0.073304	±2.5	Pass
	-20	161	0.092929		
	-10	95	0.054834		
	0	98	0.056566		
	10	106	0.061183		
	20	127	0.073304		
	30	108	0.062338		
	40	132	0.076190		
	50	96	0.055411		

Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	124	0.071573	±2.5	Pass
	-20	104	0.060029		
	-10	135	0.077922		
	0	126	0.072727		
	10	104	0.060029		
	20	166	0.095815		
	30	72	0.041558		
	40	155	0.089466		
	50	95	0.054834		

Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	169	0.097547	±2.5	Pass
	-20	155	0.089466		
	-10	146	0.084271		
	0	124	0.071573		
	10	65	0.037518		
	20	96	0.055411		
	30	54	0.031169		
	40	106	0.061183		
	50	108	0.062338		

6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part 2.1055(d)(1)(2)
Test Method:	FCC Part 2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 **Note :** Measurement setup for testing on Antenna connector
Test procedure:	1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/-15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

Measurement Data (the worst channel):

LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	67	0.038672	±2.5	Pass
	3.80	56	0.032323		
	3.40	71	0.040981		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	69	0.039827	±2.5	Pass
	3.80	55	0.031746		
	3.40	43	0.024820		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	58	0.033478	±2.5	Pass
	3.80	56	0.032323		
	3.40	45	0.025974		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	88	0.050794	±2.5	Pass
	3.80	85	0.049062		
	3.40	44	0.025397		
Reference Frequency: LTE Band 4(15MHz Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	57	0.032900	±2.5	Pass
	3.80	55	0.031746		
	3.40	96	0.055411		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	87	0.050216	±2.5	Pass
	3.80	75	0.043290		
	3.40	76	0.043867		

LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	69	0.039827	±2.5	Pass
	3.80	54	0.031169		
	3.40	46	0.026551		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	77	0.044444	±2.5	Pass
	3.80	85	0.049062		
	3.40	86	0.049639		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	67	0.038672	±2.5	Pass
	3.80	65	0.037518		
	3.40	56	0.032323		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	81	0.046753	±2.5	Pass
	3.80	92	0.053102		
	3.40	54	0.031169		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	67	0.038672	±2.5	Pass
	3.80	85	0.049062		
	3.40	73	0.042136		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature（℃）	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.25	57	0.032900	±2.5	Pass
	3.80	65	0.037518		
	3.40	56	0.032323		