

FCC REPORT

(LTE)

Applicant: SUN CUPID TECHNOLOGY (HK) LIMITED

Address of Applicant: 16/F,CEO Tower,77 Wing Hong Street,Cheung Sha Wan,Hong Kong

Equipment Under Test (EUT)

Product Name: LTE mobile phone

Model No.: N5L

Trade mark: NUU

FCC ID: 2ADINNUUN5L

Applicable standards: FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part24 Subpart E
FCC CFR Title 47 Part27 Subpart H
FCC CFR Title 47 Part 27 Subpart L

Date of sample receipt: 30 Nov., 2015

Date of Test: 30 Nov., to 16 Dec., 2015

Date of report issued: 16 Dec., 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.

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2. Version

Version No.	Date	Description
00	16 Dec., 2015	Original

Tested by:

Carey Chen

Date:

16 Dec., 2015

Test Engineer

Reviewed by:

Wimer Zhang

Date:

16 Dec., 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 22.913 (a)(2) Part 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4)	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 22.917 Part 24.238 Part 27.53(g) Part 27.53(h)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	Pass
Out of band emission, Band Edge	Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

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

5. General Information

5.1 Client Information

Applicant:	SUN CUPID TECHNOLOGY (HK) LIMITED
Address of Applicant:	16/F,CEO Tower,77 Wing Hong Street,Cheung Sha Wan,Hong Kong
Manufacturer:	Sun cupid(Shen Zhen) Electronic Ltd
Address of Manufacturer:	Baolong Industrial City, Longgang District, Shenzhen Hi-Tech Road, Building 1, A 7

5.2 General Description of E.U.T.

Product Name:	LTE mobile phone
Model No.:	N5L
Operation Frequency range:	LTE Band 2: TX: 1850MHz-1910MHz, RX: 1930MHz-1990MHz LTE Band 4:TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 5: TX: 824MHz -849MHz, RX: 869MHz-894MHz LTE Band 12: TX: 699MHz -716MHz, RX: 729MHz-746MHz LTE Band 17: TX: 704MHz -716MHz, RX: 734MHz-746MHz
Modulation type:	QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 2: 0.62dBi LTE Band4:0.85dBi LTE Band 5: -0.72dBi LTE Band 12: -0.23dBi LTE Band 17:-0.23dBi
AC adapter:	Model: HNFL050100UU Input:100-240V AC,50/60Hz 0.2A Output:5V DC MAX 1000mA
Power supply:	Rechargeable Li-ion Battery DC3.8V-3000mAh

Operation Frequency List:

LTE Band 2(1.4MHz)		LTE Band 2(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18607	1850.70	18615	1851.50
18608	1850.80	18616	1851.60
....			
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...	...	...	...
19193	1909.20	19185	1908.40
19194	1909.30	19186	1908.50
LTE Band 2(5MHz)		LTE Band 2(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18625	1852.50	18650	1855.00
18626	1852.60	18651	1855.10
....			
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...	...	...	...
19175	1907.40	19150	1904.90
19176	1907.50	19151	1905.00
LTE Band 2(15MHz)		LTE Band 2(20MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
18675	1857.50	18700	1860.00
18676	1857.60	18701	1860.10
....			
18899	1879.90	18899	1879.90
18900	1880.00	18900	1880.00
18901	1880.10	18901	1880.10
...	...	...	...
19125	1902.40	19100	1899.90
19126	1902.50	19101	1900.00

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

LTE Band 5(1.4MHz)		LTE Band 5(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20407	824.70	20415	825.50
20408	824.80	20416	825.60
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20525	836.60	20525	836.60
...	...	...	...
20642	848.20	20634	847.40
20643	848.30	20635	847.50
LTE Band 5(5MHz)		LTE Band 5(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20425	826.50	20450	829.00
20426	826.60	20451	829.10
....			
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20525	836.60	20525	836.60
...	...	...	...
20624	846.40	20599	843.90
20625	846.50	20600	844.00

LTE Band 12(1.4MHz)		LTE Band 12(3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23017	699.70	23025	700.50
23018	699.80	23026	700.60
....			
23094	707.40	23094	707.40
23095	707.50	23095	707.50
23096	707.60	23096	707.60
...	...	...	...
23174	715.20	23164	714.40
23175	715.30	23165	714.50
LTE Band 12(5MHz)		LTE Band 12(10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23035	701.50	23060	704.00
23036	701.60	23061	704.10
....			
23094	707.40	23094	707.40
23095	707.50	23095	707.50
23096	707.60	23096	707.60
...	...	...	...
23154	713.40	23129	710.90
23155	713.50	23130	711.00

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

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

LTE Band 2(1.4MHz)			LTE Band 2(3MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	18607	1850.70	Lowest channel	18615	1851.50
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19193	1909.30	Highest channel	19185	1908.50
LTE Band 2(5MHz)			LTE Band 2(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	18625	1852.50	Lowest channel	18650	1855.00
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19175	1907.50	Highest channel	19150	1905.00
LTE Band 2(15MHz)			LTE Band 2(20MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	18675	1857.50	Lowest channel	18700	1860.00
Middle channel	18900	1880.00	Middle channel	18900	1880.00
Highest channel	19125	1902.50	Highest channel	19100	1900.00

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

LTE Band 5(1.4MHz)			LTE Band 5(3MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20407	824.70	Lowest channel	20415	825.50
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20643	848.30	Highest channel	20635	847.50
LTE Band 5(5MHz)			LTE Band 5(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	20425	826.50	Lowest channel	20450	829.00
Middle channel	20525	836.50	Middle channel	20525	836.50
Highest channel	20625	846.50	Highest channel	20600	844.00

LTE Band 12(1.4MHz)			LTE Band 12(3MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	23017	699.70	Lowest channel	23025	700.50
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23175	715.30	Highest channel	23165	714.50
LTE Band 12(5MHz)			LTE Band 12(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	23035	701.50	Lowest channel	23060	704.00
Middle channel	23095	707.50	Middle channel	23095	707.50
Highest channel	23155	713.50	Highest channel	23130	711.00

LTE Band 17(5MHz)			LTE Band 17(10MHz)		
Channel		Frequency (MHz)	Channel		Frequency (MHz)
Lowest channel	23755	706.50	Lowest channel	23780	709.00
Middle channel	23790	710.00	Middle channel	23790	710.00
Highest channel	23825	713.50	Highest channel	23800	711.00

5.3 Test modes

Data mode (LTE band 2(QPSK))	Keep the EUT in data communicating mode on LTE band 2(QPSK). (LTE band2(1.4MHz), LTE band2(3MHz), LTE band2(5MHz), LTE band2(10MHz), LTE band2(15MHz), LTE band2(20MHz))
Data mode (LTE band 2(16QAM))	Keep the EUT in data communicating mode on LTE band 2(16QAM). (LTE band2(1.4MHz), LTE band2(3MHz), LTE band2(5MHz), LTE band2(10MHz), LTE band2(15MHz), LTE band2(20MHz))
Data mode (LTE band 4(QPSK))	Keep the EUT in data communicating mode on LTE band 4(QPSK). (LTE band 4(1.4MHz), LTE band 4(3MHz), LTE band 4(5MHz), LTE band 4(10MHz), LTE band 4(15MHz), LTE band 4(20MHz))
Data mode (LTE band 4(16QAM))	Keep the EUT in data communicating mode on LTE band 4(16QAM). (LTE band 4(1.4MHz), LTE band 4(3MHz), LTE band 4(5MHz), LTE band 4(10MHz), LTE band 4(15MHz), LTE band 4(20MHz))
Data mode (LTE band 5(QPSK))	Keep the EUT in data communicating mode on LTE band5(QPSK). (LTE band5(1.4MHz), LTE band5(3MHz), LTE band5(5MHz), LTE band5(10MHz))
Data mode (LTE band 5(16QAM))	Keep the EUT in data communicating mode on LTE band5(16QAM). (LTE band5(1.4MHz), LTE band5(3MHz), LTE band5(5MHz), LTE band5(10MHz))
Data mode (LTE band12(QPSK))	Keep the EUT in data communicating mode on LTE band 12(QPSK). (LTE band12(1.4MHz), LTE band12(3MHz), LTE band12(5MHz), LTE band12(10MHz))
Data mode(LTE band 12(16QAM))	Keep the EUT in data communicating mode on LTE band 12(16QAM). (LTE band12(1.4MHz), LTE band12(3MHz), LTE band12(5MHz), LTE band12(10MHz))
Data mode (LTE band 17(QPSK))	Keep the EUT in data communicating mode on LTE band17(QPSK). (LTE band17(5MHz), LTE band17(10MHz))
Data mode (LTE band 17(16QAM))	Keep the EUT in data communicating mode on LTE band 17(16QAM). (LTE band17(5MHz), LTE band17(10MHz))
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, Part 22 subpart Hand Part 27 subpart Hof the FCC CFR 47 Rules.

5.5 Test Methodology

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

5.6 Laboratory Facility

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

●FCC - Registration No.: 817957

Shenzhen 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	ESCI	CCIS0002	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	11-18-2015	11-17-2016

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



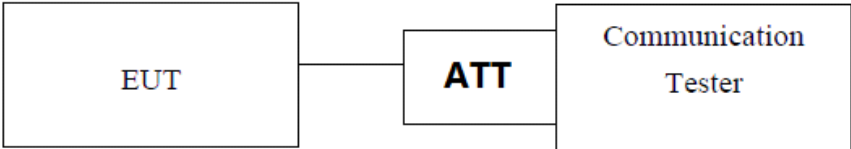
6.4 Description of Test Modes

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, LTE Band 5, LTE Band 12 and LTE Band 17) with power adaptor, earphone and Data cable. The worst-case H mode for LTE Band 2, LTE Band 4, LTE Band 5, LTE Band 12 and LTE Band 17.

6.5 Conducted Output Power

Test Requirement:	FCC Part 24.232 (c), part 27.50(c), part 27.50(d)andFCC part 22.912(a)
Test Method:	FCC part2.1046
Limit:	LTE Band2: 2W LTE Band 4: 1W LTE Band 5: 7W LTE Band 12: 3W LTE Band 17: 3W
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
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 2 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18607	18900	19193
					1850.7MHz	1880.0MHz	1909.3MHz
2	1.4	QPSK	1	0	22.93	23.07	22.98
			1	2	23.12	23.30	23.40
			1	5	22.98	23.40	22.98
			3	0	22.17	22.22	22.11
			3	1	22.12	22.15	22.13
			3	2	22.17	22.13	22.09
			6	0	22.18	22.12	22.11
		16QAM	1	0	22.07	22.12	22.10
			1	2	22.51	22.44	22.12
			1	5	22.18	22.08	21.91
			3	0	22.13	22.20	22.12
			3	1	22.17	22.22	22.01
			3	2	22.06	22.18	22.03
			6	0	21.17	21.06	21.00
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18615	18900	19185
					1851.5MHz	1880.0MHz	1908.5MHz
2	3	QPSK	1	0	23.04	23.03	22.98
			1	7	23.20	23.12	22.97
			1	14	23.01	22.98	23.10
			8	0	22.23	22.20	22.09
			8	4	22.17	22.18	22.14
			8	7	22.23	22.21	22.17
			15	0	22.20	22.15	22.17
		16QAM	1	0	22.23	22.10	22.29
			1	7	22.28	21.93	22.20
			1	14	22.44	22.13	22.50
			8	0	21.20	21.07	21.11
			8	4	21.11	21.05	21.13
			8	7	21.30	21.07	21.06
			15	0	21.14	21.04	21.06
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18625	18900	19175
					1852.5MHz	1880.0MHz	1907.5MHz
2	5	QPSK	1	0	23.13	23.18	23.6
			1	12	23.12	23.16	23.03
			1	24	23.06	23.3	22.95
			12	0	22.28	22.23	22.14
			12	6	22.25	22.21	22.10
			12	11	22.2	22.21	22.17
			25	0	22.18	22.19	21.09
		16QAM	1	0	22.31	22.07	22.11
			1	12	22.28	22.21	22.08
			1	24	22.10	22.15	22.07
			12	0	21.19	21.16	21.09
			12	6	21.08	21.16	20.97
			12	11	21.16	21.09	21.16
			25	0	21.11	21.14	21.02

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18650	18900	19150
					1855.0MHz	1880.0MHz	1905.0MHz
2	10	QPSK	1	0	23.25	23.19	23.14
			1	24	23.09	23.07	23.04
			1	49	23.09	23.04	22.03
			25	0	22.23	22.30	22.14
			25	12	22.23	22.19	22.14
			25	24	22.19	22.20	22.06
			50	0	22.22	22.30	22.22
		16QAM	1	0	22.38	22.57	22.08
			1	24	22.22	22.17	22.11
			1	49	22.02	22.50	22.27
			25	0	21.25	21.16	21.03
			25	12	21.10	21.18	21.11
			25	24	21.07	21.07	21.04
			50	0	21.10	21.10	21.15
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18675	18900	19125
					1857.5MHz	1880.0MHz	1902.5MHz
2	15	QPSK	1	0	23.25	23.17	23.24
			1	37	23.09	23.14	23.17
			1	74	23.08	23.15	23.12
			36	0	22.28	22.27	22.22
			36	16	22.22	22.24	22.18
			36	35	22.21	22.24	22.14
			75	0	22.24	22.26	22.18
		16QAM	1	0	22.46	22.82	22.73
			1	37	22.12	22.07	22.61
			1	74	22.38	22.23	22.23
			36	0	21.15	21.24	21.15
			36	16	21.17	21.18	21.04
			36	35	21.14	21.13	21.00
			75	0	21.16	21.20	21.15
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					18700	18900	19100
					1860.0MHz	1880.0MHz	1900.0MHz
2	20	QPSK	1	0	23.28	23.25	23.35
			1	49	23.11	23.18	23.19
			1	99	23.12	23.13	23.09
			50	0	22.32	22.30	22.23
			50	24	22.25	22.32	22.23
			50	49	22.24	22.29	22.22
			100	0	22.23	22.30	22.20
		16QAM	1	0	22.59	22.16	22.19
			1	49	22.09	22.08	22.33
			1	99	22.06	22.42	22.25
			50	0	21.24	21.29	21.23
			50	24	21.15	21.17	21.11
			50	49	21.13	21.14	21.01
			100	0	21.18	21.15	21.16

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	23.12	23.09	23.13
			1	2	23.14	23.13	23.14
			1	5	23.10	23.13	23.11
			3	0	22.26	22.23	22.23
			3	1	22.20	22.24	22.21
			3	2	22.30	22.28	22.23
			6	0	22.20	22.27	22.27
		16QAM	1	0	22.19	22.20	22.26
			1	2	22.21	22.03	22.05
			1	5	22.15	22.17	22.25
			3	0	22.17	22.39	22.33
			3	1	22.12	22.21	22.20
			3	2	22.34	22.34	22.20
			6	0	21.21	21.03	21.21
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	23.17	23.12	23.09
			1	7	23.18	23.06	23.12
			1	14	23.18	23.13	23.02
			8	0	22.24	22.30	22.21
			8	4	22.21	22.23	22.19
			8	7	22.20	22.27	22.24
			15	0	22.27	22.28	22.27
		16QAM	1	0	22.49	22.17	22.48
			1	7	22.11	22.54	22.15
			1	14	22.42	22.00	22.17
			8	0	21.25	21.17	21.11
			8	4	21.19	21.20	21.23
			8	7	21.32	21.09	21.09
			15	0	21.11	21.14	21.13
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	23.25	23.17	23.16
			1	12	23.26	23.13	23.15
			1	24	23.10	23.09	23.08
			12	0	22.24	22.23	22.28
			12	6	22.24	22.27	22.25
			12	11	22.26	22.24	22.24
			25	0	22.19	22.23	22.21
		16QAM	1	0	22.24	22.28	22.24
			1	12	22.27	22.25	22.30
			1	24	21.95	22.08	22.17
			12	0	21.14	21.19	21.14
			12	6	21.20	21.06	21.18
			12	11	21.31	21.07	21.27
			25	0	21.22	21.14	21.19

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	23.23	23.28	23.14
			1	24	23.27	23.10	23.21
			1	49	23.11	23.09	23.10
			25	0	22.41	22.32	22.27
			25	12	22.35	22.27	22.28
			25	24	22.25	22.27	22.20
			50	0	22.32	22.26	22.22
		16QAM	1	0	22.10	22.19	22.28
			1	24	22.05	21.98	22.59
			1	49	21.96	22.08	22.18
			25	0	21.21	21.22	21.17
			25	12	21.22	21.15	21.12
			25	24	21.17	21.20	21.08
			50	0	21.27	21.20	21.19
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	23.32	23.27	23.22
			1	37	23.22	23.18	23.17
			1	74	23.25	23.17	23.10
			36	0	22.33	22.40	22.29
			36	16	22.29	22.29	22.30
			36	35	22.29	22.27	22.23
			75	0	22.31	22.22	22.24
		16QAM	1	0	22.31	22.18	22.50
			1	37	22.47	22.26	22.44
			1	74	21.90	22.32	22.34
			36	0	21.33	21.28	21.19
			36	16	21.27	21.23	21.25
			36	35	21.24	21.16	21.18
			75	0	21.25	21.18	21.16
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20050	20175	20300
					1720.0MHz	1732.5MHz	1745.0MHz
4	20	QPSK	1	0	23.38	23.31	23.27
			1	49	23.20	23.14	23.24
			1	99	23.17	23.07	23.15
			50	0	22.38	22.40	22.45
			50	24	22.27	22.26	22.30
			50	49	22.27	22.31	22.27
			100	0	22.24	22.36	22.33
		16QAM	1	0	22.87	22.19	22.48
			1	49	22.45	22.69	22.28
			1	99	22.45	22.00	22.26
			50	0	21.32	21.26	21.27
			50	24	21.22	21.11	21.10
			50	49	21.24	21.10	21.19
			100	0	21.22	21.21	21.14

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
5	1.4	QPSK	1	0	22.85	22.87	22.83
			1	2	22.87	22.92	22.88
			1	5	22.84	22.81	22.82
			3	0	21.93	22.00	21.92
			3	1	21.89	21.92	21.83
			3	2	21.91	21.88	21.86
			6	0	21.91	21.85	21.81
		16QAM	1	0	22.01	21.78	22.04
			1	2	22.06	21.97	22.05
			1	5	22.04	21.92	21.95
			3	0	21.37	21.38	21.90
			3	1	21.44	21.83	21.88
			3	2	21.38	21.56	21.92
			6	0	20.93	20.97	20.86
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20415	20525	20635
					825.5MHz	836.5MHz	847.5MHz
5	3	QPSK	1	0	22.82	22.82	22.77
			1	7	22.85	22.85	22.79
			1	14	22.75	22.74	22.72
			8	0	21.93	21.91	21.88
			8	4	21.93	21.91	21.90
			8	7	21.90	21.87	21.85
			15	0	21.93	21.86	21.87
		16QAM	1	0	22.30	22.08	21.82
			1	7	22.07	21.95	22.33
			1	14	22.33	21.88	21.89
			8	0	21.13	20.88	20.90
			8	4	20.97	20.90	20.89
			8	7	20.87	20.90	20.88
			15	0	20.93	20.85	20.80

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20425	20525	20625
					826.5MHz	836.5MHz	846.5MHz
5	5	QPSK	1	0	22.84	22.85	22.80
			1	12	22.87	22.84	22.82
			1	24	22.80	22.76	22.78
			12	0	21.95	21.93	21.90
			12	6	21.95	21.91	21.90
			12	11	21.94	21.86	21.89
			25	0	21.91	21.83	21.87
		16QAM	1	0	21.85	21.96	21.78
			1	12	22.35	22.03	22.01
			1	24	21.98	22.27	21.91
			12	0	20.96	20.96	20.90
			12	6	21.04	20.93	20.83
			12	11	20.91	20.82	20.92
			25	0	20.87	20.86	20.87
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20450	20525	20600
					829MHz	836.5MHz	844MHz
5	10	QPSK	1	0	22.93	22.84	22.83
			1	24	22.84	22.86	22.82
			1	49	22.77	22.75	22.80
			25	0	21.91	21.84	21.86
			25	12	21.91	21.84	21.86
			25	24	21.85	21.85	21.85
			50	0	21.87	21.82	21.87
		16QAM	1	0	22.06	21.80	22.05
			1	24	21.91	22.01	22.23
			1	49	22.05	22.26	21.91
			25	0	20.89	20.91	20.85
			25	12	20.90	20.79	20.81
			25	24	20.92	20.82	20.80
			50	0	20.89	20.83	20.82

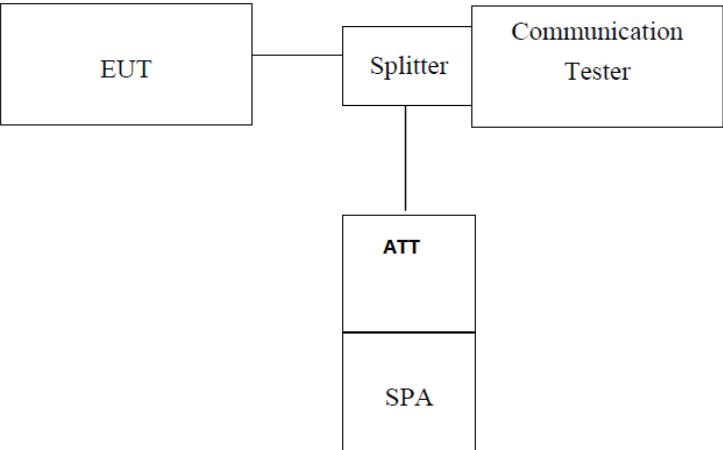
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23017	23095	23175
					699.7MHz	707.5MHz	715.3MHz
12	1.4	QPSK	1	0	22.77	22.82	22.79
			1	2	22.83	22.86	22.80
			1	5	22.78	22.82	22.76
			3	0	21.94	21.93	21.87
			3	1	21.87	21.89	21.77
			3	2	21.85	21.88	21.84
			6	0	21.97	21.96	21.90
		16QAM	1	0	22.04	21.87	22.07
			1	2	22.15	22.14	22.36
			1	5	22.00	22.43	21.94
			3	0	21.11	21.01	21.13
			3	1	21.23	21.99	21.89
			3	2	21.06	21.95	21.88
			6	0	20.95	21.00	20.89
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23025	23095	23165
					700.5MHz	707.5MHz	714.5MHz
12	3	QPSK	1	0	22.73	22.84	22.76
			1	7	22.86	22.90	22.77
			1	14	22.80	22.97	22.73
			8	0	21.96	21.93	21.90
			8	4	21.97	21.96	21.94
			8	7	21.89	21.95	21.84
			15	0	21.94	21.91	21.93
		16QAM	1	0	22.05	22.13	22.30
			1	7	21.92	22.09	21.78
			1	14	22.03	22.04	21.93
			8	0	20.95	21.08	21.02
			8	4	21.02	21.04	20.93
			8	7	21.10	21.19	20.91
			15	0	20.78	20.99	20.79

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23035	23095	23155
					701.5MHz	707.5MHz	713.5MHz
12	5	QPSK	1	0	22.85	22.84	22.87
			1	12	22.86	22.86	22.77
			1	24	22.86	22.89	22.72
			12	0	22.00	21.95	21.96
			12	6	21.98	21.98	21.98
			12	11	21.96	21.96	21.95
			25	0	21.96	21.94	21.93
		16QAM	1	0	22.37	22.10	21.83
			1	12	22.13	21.88	22.42
			1	24	22.13	22.04	22.10
			12	0	20.94	20.85	20.82
			12	6	21.08	21.03	20.75
			12	11	20.85	21.01	20.96
			25	0	20.97	20.95	20.93
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23060	23095	23130
					704.0MHz	707.5MHz	711.0MHz
12	10	QPSK	1	0	22.79	22.89	22.93
			1	24	22.85	22.88	22.88
			1	49	22.93	22.84	22.77
			25	0	21.96	21.99	21.93
			25	12	21.96	21.94	21.93
			25	24	21.97	21.96	21.92
			50	0	21.86	21.85	21.96
		16QAM	1	0	22.15	21.96	22.19
			1	24	22.18	22.22	22.11
			1	49	22.22	21.93	22.09
			25	0	20.91	20.97	20.89
			25	12	20.99	20.94	21.01
			25	24	21.02	20.96	20.90
			50	0	20.91	20.95	20.98

LTE Band 17 part

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23755	23790	23825
					706.5MHz	710.0MHz	713.5MHz
17	5	QPSK	1	0	22.77	22.89	22.84
			1	12	22.95	22.84	22.78
			1	24	22.80	22.73	22.76
			12	0	21.85	21.95	21.89
			12	6	21.90	21.94	21.79
			12	11	21.95	21.86	21.86
			25	0	21.97	21.90	21.87
		16QAM	1	0	22.49	22.46	22.13
			1	12	21.91	21.87	21.96
			1	24	21.92	21.94	22.07
			12	0	21.07	21.97	20.89
			12	6	21.16	21.97	20.99
			12	11	21.04	21.97	20.99
			25	0	21.00	20.88	20.94
LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23780	23790	23800
					709.0MHz	710.0MHz	711.0MHz
17	10	QPSK	1	0	22.83	22.80	22.92
			1	24	22.89	22.88	22.85
			1	49	22.79	22.78	22.85
			25	0	21.99	21.92	21.92
			25	12	21.93	21.93	21.92
			25	24	21.96	21.88	21.87
			50	0	21.94	21.87	21.86
		16QAM	1	0	22.46	22.05	22.08
			1	24	22.08	22.04	21.99
			1	49	21.87	21.79	21.90
			25	0	20.94	20.96	20.88
			25	12	20.98	20.91	20.89
			25	24	20.92	20.90	20.93
			50	0	20.91	20.90	20.86

6.6 Peak-to-Average Ratio

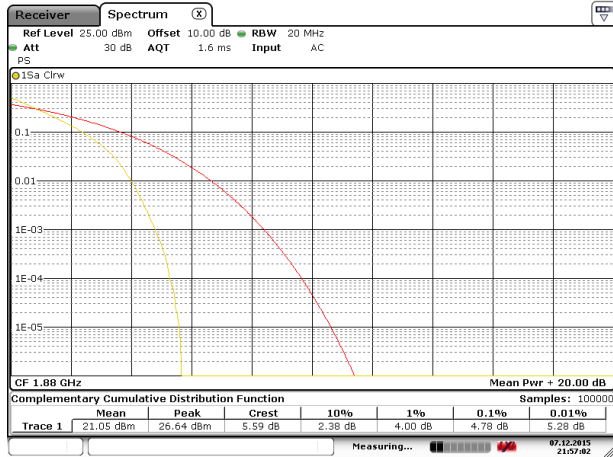
Test Requirement:	FCC part 24.232(d)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, RBW $\geq$ 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 2 (Middle Channel)				
20MHz	QPSK	100	0	4.78
	16QAM	100	0	5.65
LTE Band 4 (Middle Channel)				
20MHz	QPSK	100	0	4.64
	16QAM	100	0	5.45
LTE Band 5 (Middle Channel)				
10MHz	QPSK	100	0	5.96
	16QAM	100	0	6.68
LTE Band 12 (Middle Channel)				
10MHz	QPSK	100	0	5.80
	16QAM	100	0	6.64
LTE Band 17 (Middle Channel)				
10MHz	QPSK	50	0	5.76
	16QAM	50	0	6.64

Test plots as below:

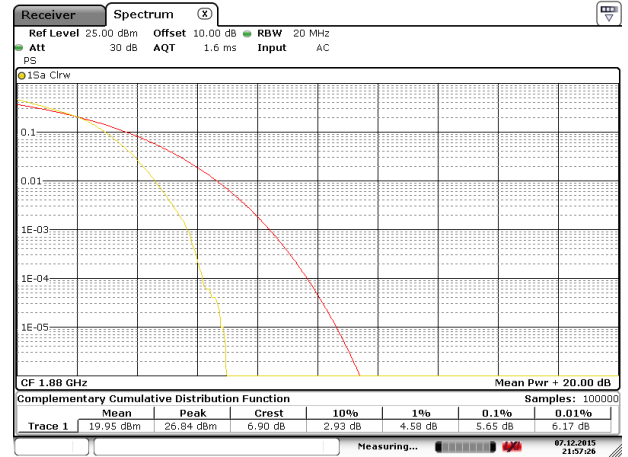
LTE Band 2 Middle channel

Modulation: QPSK



Date: 7.DEC.2015 21:57:02

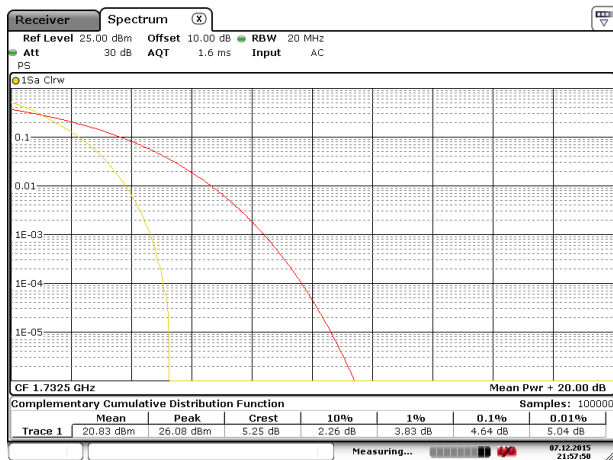
Modulation:16QAM



Date: 7.DEC.2015 21:57:26

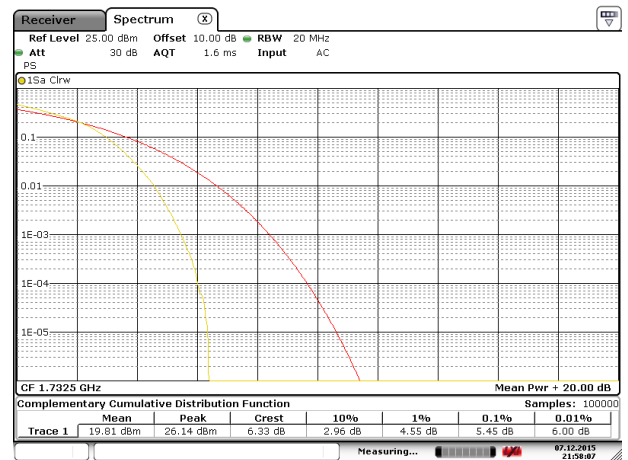
LTE Band 4 Middle channel

Modulation: QPSK



Date: 7.DEC.2015 21:57:51

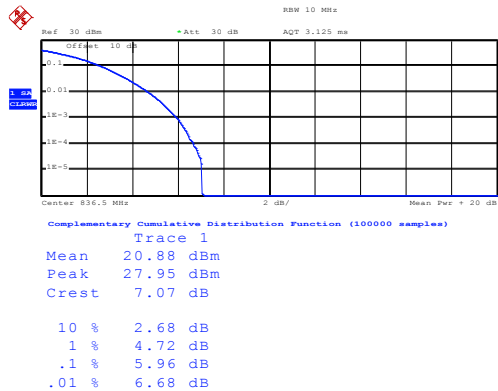
Modulation:16QAM



Date: 7.DEC.2015 21:58:06

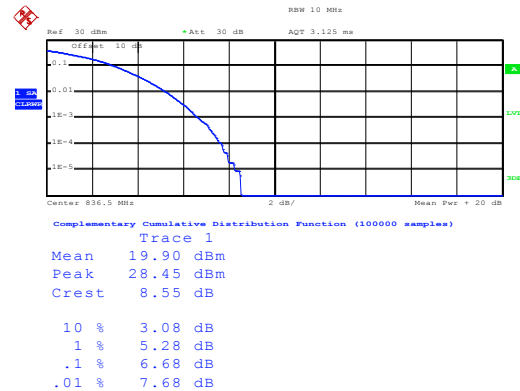
LTE Band 5 Middle channel

Modulation: QPSK



Date: 2.DEC.2015 12:48:37

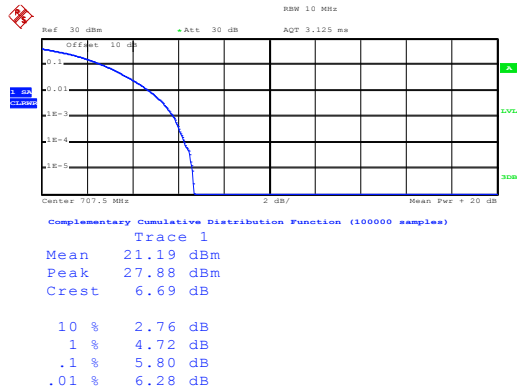
Modulation:16QAM



Date: 2.DEC.2015 12:48:47

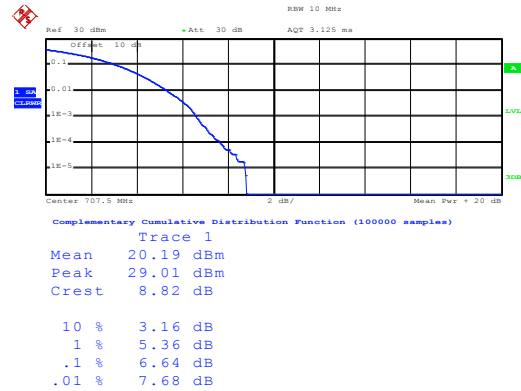
LTE Band 12 Middle channel

Modulation: QPSK



Date: 2.DEC.2015 12:49:28

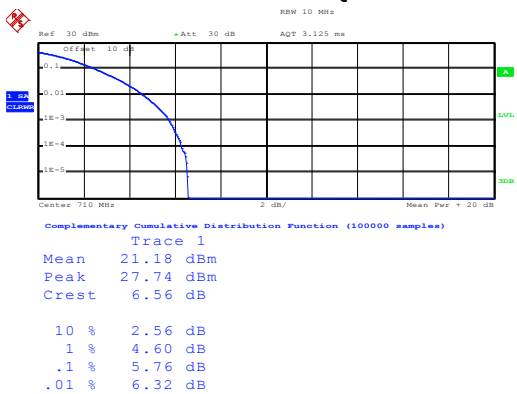
Modulation: 16QAM



Date: 2.DEC.2015 12:49:33

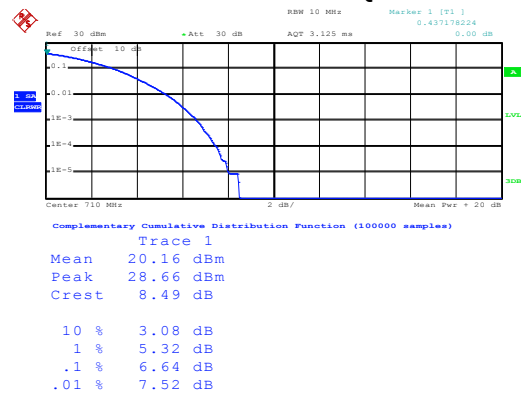
LTE Band 17 Middle channel

Modulation: QPSK



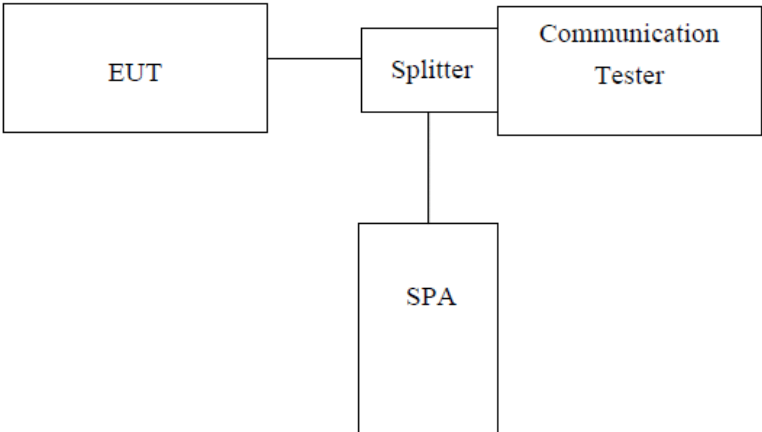
Date: 2.DEC.2015 12:49:57

Modulation: 16QAM



Date: 2.DEC.2015 12:50:03

6.7 Occupy Bandwidth

Test Requirement:	FCC Part 24.238,part 27.53(g),part 27.53(h) and part 22.917
Test Method:	FCC part2.1049
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
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 2 part:

EUT Mode	Channel	Frequency(MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	18607	1850.70	16QAM	1098	1272
			QPSK	1104	1260
	18900	1880.00	16QAM	1092	1260
			QPSK	1104	1272
	19193	1909.30	16QAM	1098	1254
			QPSK	1104	1278
3MHz	18615	1851.50	16QAM	2736	3000
			QPSK	2736	3060
	18900	1880.00	16QAM	2736	3024
			QPSK	2748	3060
	19185	1908.50	16QAM	2724	2964
			QPSK	2736	3072
5MHz	18625	1852.50	16QAM	4520	4980
			QPSK	4520	5020
	18900	1880.00	16QAM	4520	4980
			QPSK	4520	4980
	19175	1907.50	16QAM	4520	4920
			QPSK	4540	5040
10MHz	18650	1855.00	16QAM	9080	10160
			QPSK	9080	10240
	18900	1880.00	16QAM	9120	10040
			QPSK	9120	10240
	19150	1905.00	16QAM	9080	10240
			QPSK	9080	10280
15MHz	18675	1857.50	16QAM	13500	14640
			QPSK	13500	14880
	18900	1880.00	16QAM	13560	14820
			QPSK	13560	14880
	19125	1902.50	16QAM	13500	14640
			QPSK	13500	14760
20MHz	18700	1860.00	16QAM	18000	19200
			QPSK	18000	19520
	18900	1880.00	16QAM	17920	19280
			QPSK	18080	19520
	19100	1900.00	16QAM	17920	19360
			QPSK	18000	19440

LTE Band 4 part:

EUT Mode	Channel	Frequency(MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	19957	1710.7	16QAM	1098	1260
			QPSK	1104	1266
	20175	1732.5	16QAM	1098	1284
			QPSK	1104	1260
	20393	1754.3	16QAM	1098	1284
			QPSK	1098	1272
3MHz	19965	1711.5	16QAM	2724	3000
			QPSK	2748	3048
	20175	1732.5	16QAM	2736	3012
			QPSK	2748	3060
	20385	1750.5	16QAM	2724	3012
			QPSK	2736	3036
5MHz	19975	1712.5	16QAM	4520	4980
			QPSK	4540	5020
	20175	1732.5	16QAM	4520	4960
			QPSK	4560	5060
	20375	1752.5	16QAM	4520	4900
			QPSK	4520	5020
10MHz	20000	1715.0	16QAM	9080	10120
			QPSK	9080	10200
	20175	1732.5	16QAM	9120	10200
			QPSK	9080	10320
	20350	1750.0	16QAM	9080	10040
			QPSK	9120	10080
15MHz	20025	1717.5	16QAM	13560	14820
			QPSK	13560	14940
	20175	1732.5	16QAM	13560	14820
			QPSK	13560	14940
	20325	1747.5	16QAM	13560	14880
			QPSK	13560	14880
20MHz	20050	1720.0	16QAM	18000	19600
			QPSK	18080	19440
	20175	1732.5	16QAM	17920	19440
			QPSK	18080	19520
	20300	1745.0	16QAM	17920	19200
			QPSK	18080	19440

LTE Band 5 part:

EUT Mode	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dB EBW (kHz)
1.4MHz	20407	824.70	16QAM	1098	1266
			QPSK	1104	1254
	20525	836.50	16QAM	1098	1254
			QPSK	1104	1266
	20643	848.30	16QAM	1098	1248
			QPSK	1098	1266
3MHz	20415	825.50	16QAM	2724	3012
			QPSK	2736	3060
	20525	836.50	16QAM	2724	3000
			QPSK	2748	3036
	20635	847.50	16QAM	2724	3012
			QPSK	2736	3060
5MHz	20425	826.50	16QAM	4520	4940
			QPSK	4520	4920
	20525	836.50	16QAM	4520	4940
			QPSK	4520	4980
	20625	846.50	16QAM	4500	4940
			QPSK	4500	4940
10MHz	20450	829.00	16QAM	9080	10080
			QPSK	9080	10120
	20525	836.50	16QAM	9120	10120
			QPSK	9120	10280
	20600	844.00	16QAM	9120	10040
			QPSK	9040	10080

LTE Band 12 part:

EUT Mode	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dB EBW (kHz)
1.4MHz	23017	699.70	16QAM	1086	1254
			QPSK	1092	1284
	23095	707.50	16QAM	1092	1278
			QPSK	1098	1272
	23175	715.30	16QAM	1092	1260
			QPSK	1104	1278
3MHz	23025	700.50	16QAM	2724	3012
			QPSK	2724	3036
	23095	707.50	16QAM	2724	2988
			QPSK	2736	3036
	23165	714.50	16QAM	2724	2988
			QPSK	2748	3060
5MHz	23035	701.50	16QAM	4520	4940
			QPSK	4540	4980
	23095	707.50	16QAM	4500	4880
			QPSK	4500	5000
	23155	713.50	16QAM	4500	4980
			QPSK	4520	5040
10MHz	23060	704.00	16QAM	9160	10120
			QPSK	9120	10320
	23095	707.50	16QAM	9080	10000
			QPSK	9120	10280
	23130	711.00	16QAM	9080	10080
			QPSK	9080	10280

LTE Band 17 part:

EUT Mode	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dB EBW (kHz)
5MHz	23755	706.5	16QAM	4520	4960
			QPSK	4540	4980
	23790	710.0	16QAM	4500	4920
			QPSK	4520	4960
	23825	713.5	16QAM	4540	4960
			QPSK	4540	5060
10MHz	23780	709.0	16QAM	9080	10040
			QPSK	9080	10160
	23790	710.0	16QAM	9040	10000
			QPSK	9080	10240
	23800	711.0	16QAM	9080	10000
			QPSK	9080	10120

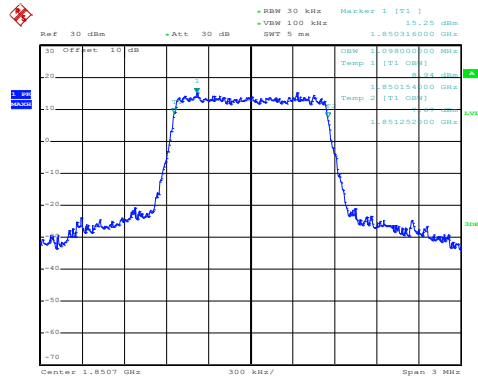
Test plot as follows:

LTE Band 2 part

Test Item:99% Occupy bandwidth

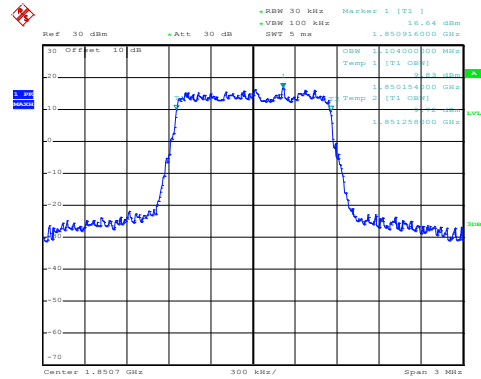
BW: 1.4MHz

Modulation: 16QAM



Date: 29.NOV.2015 01:46:22

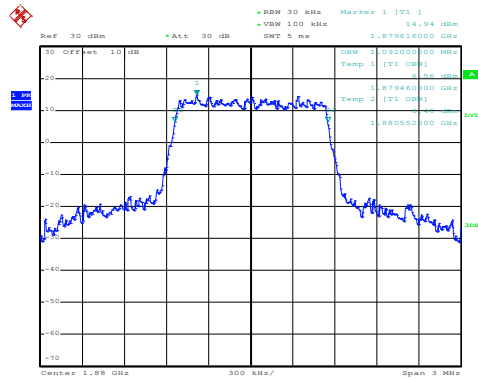
Modulation: QPSK



Date: 29.NOV.2015 01:46:12

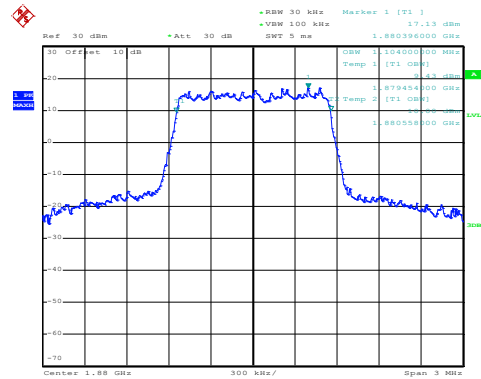
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:53:25

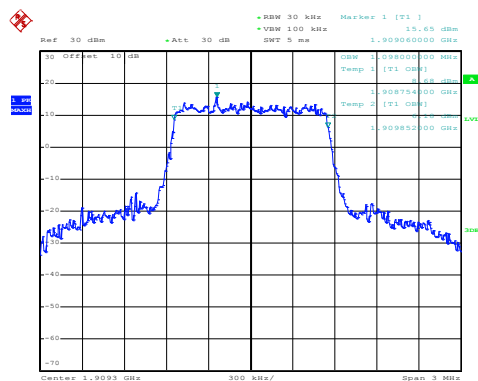
Modulation:QPSK



Date: 29.NOV.2015 01:53:20

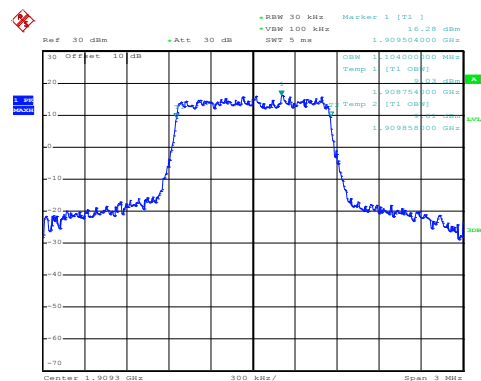
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:54:17

Modulation:QPSK

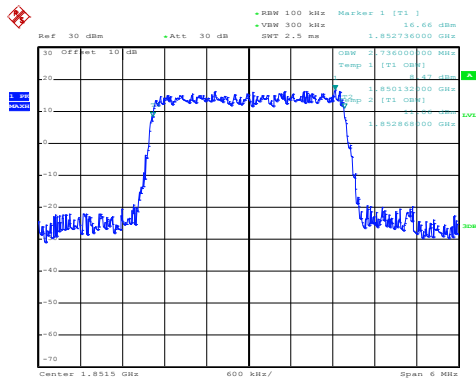


Date: 29.NOV.2015 01:54:12

Highest channel

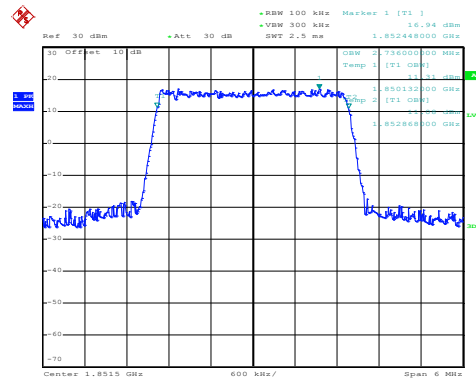
Test Item:99% Occupy bandwidth
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 02:01:13

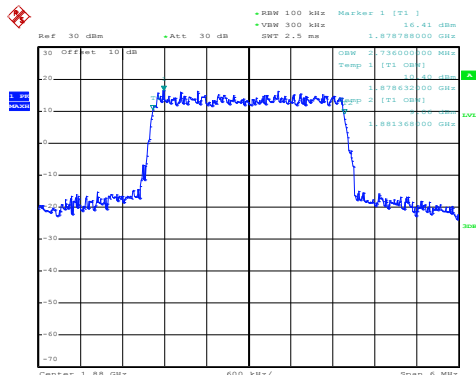
Modulation:QPSK



Date: 29.NOV.2015 02:01:08

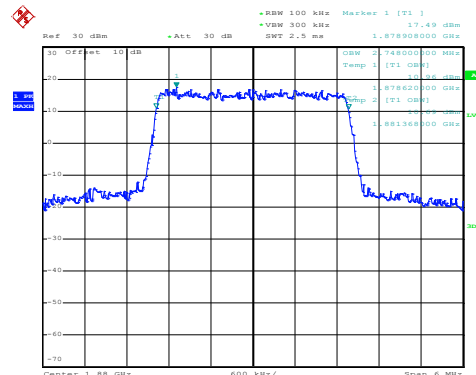
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:02:46

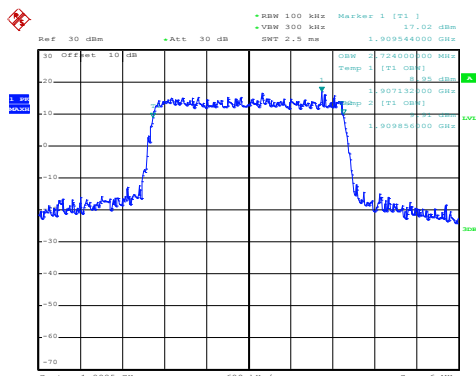
Modulation:QPSK



Date: 29.NOV.2015 02:02:42

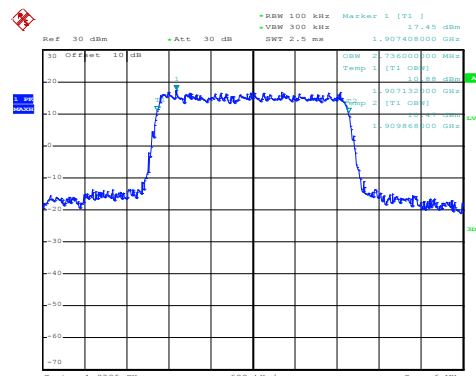
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:03:05

Modulation:QPSK

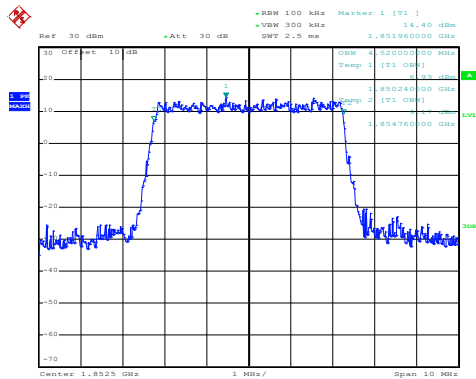


Date: 29.NOV.2015 02:03:01

Highest channel

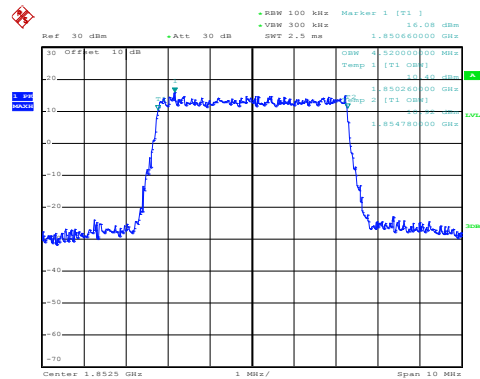
Test Item:99% Occupy bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 02:04:05

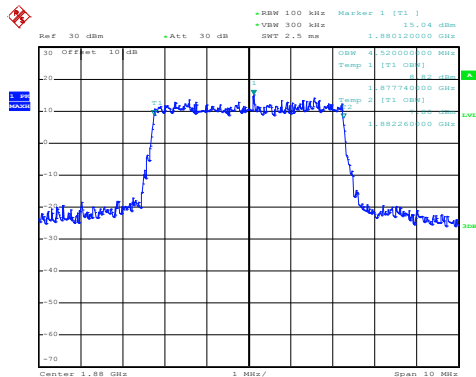
Modulation:QPSK



Date: 29.NOV.2015 02:04:01

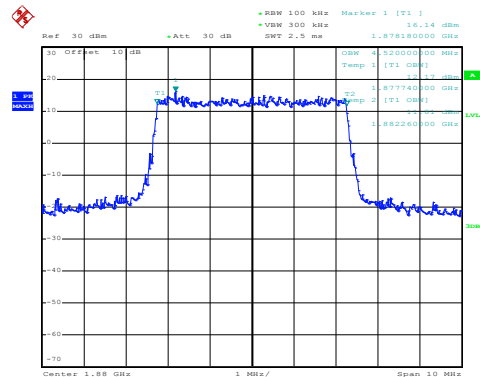
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:04:23

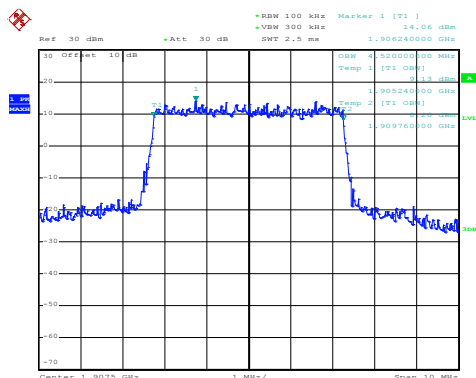
Modulation:QPSK



Date: 29.NOV.2015 02:04:18

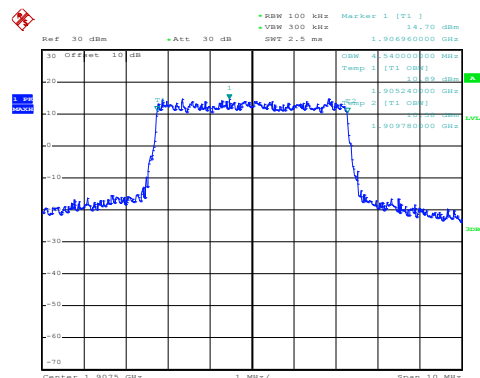
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:05:01

Modulation:QPSK

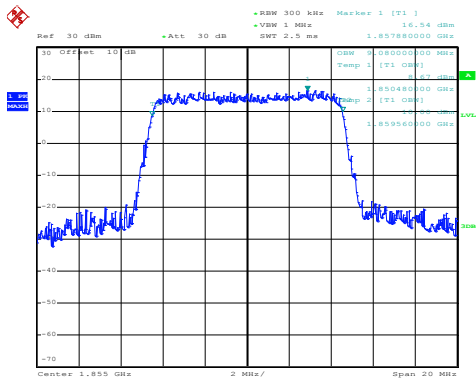


Date: 29.NOV.2015 02:04:57

Highest channel

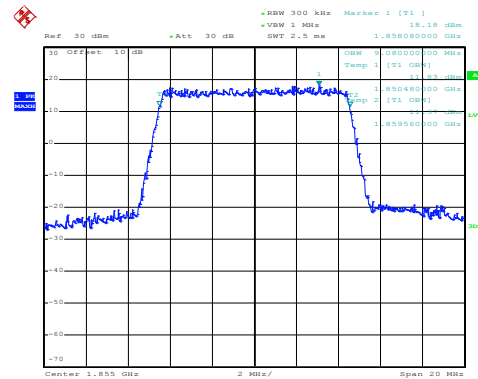
Test Item: 99% Occupancy bandwidth
BW: 10MHz

Modulation: 16QAM



Date: 29.NOV.2015 02:05:42

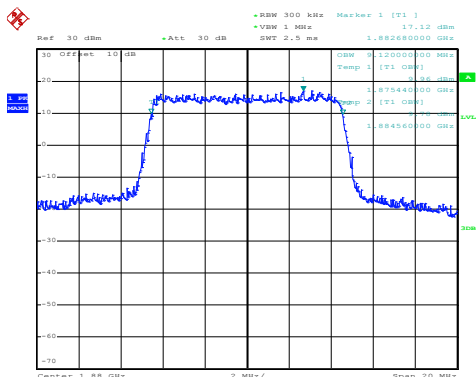
Modulation: QPSK



Date: 29.NOV.2015 02:05:38

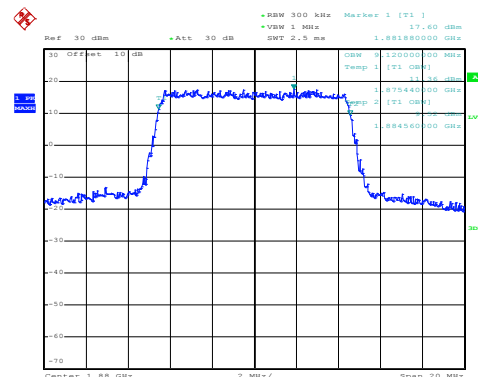
Lowest channel

Modulation: 16QAM



Date: 29.NOV.2015 02:06:24

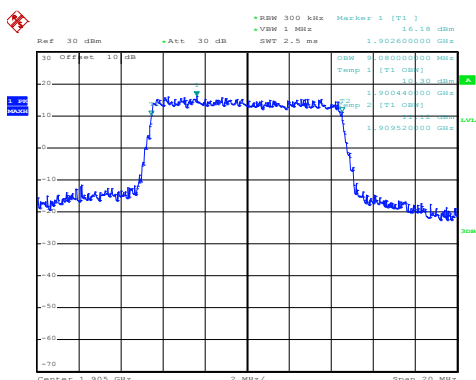
Modulation: QPSK



Date: 29.NOV.2015 02:06:18

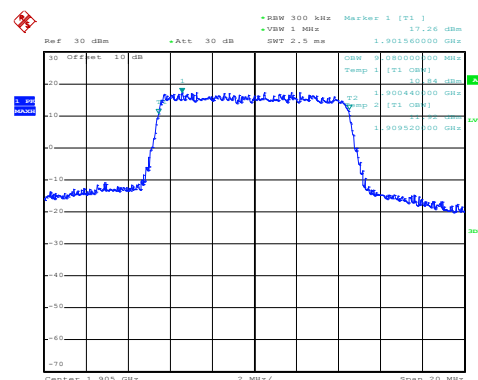
Middle channel

Modulation: 16QAM



Date: 29.NOV.2015 02:07:04

Modulation: QPSK



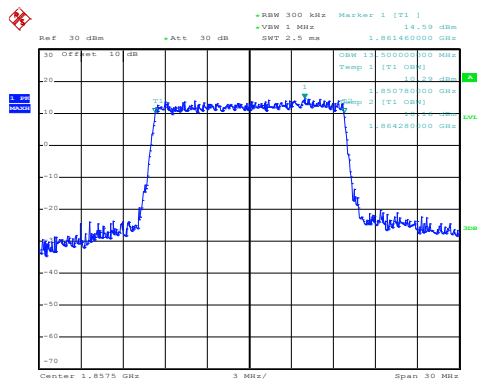
Date: 29.NOV.2015 02:07:00

Highest channel

Test Item:99% Occupy bandwidth

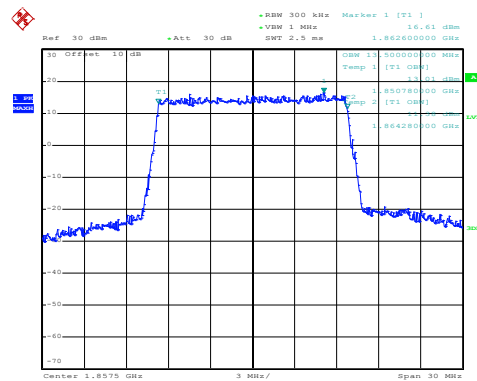
BW: 15MHz

Modulation:16QAM



Date: 29.NOV.2015 02:07:35

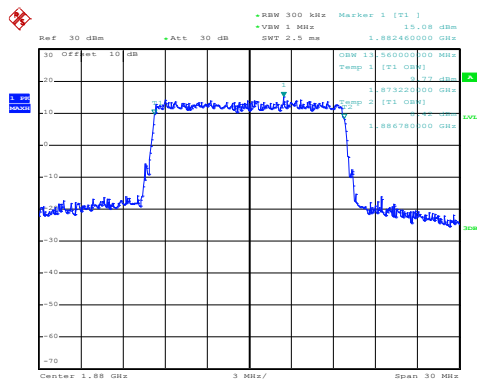
Modulation:QPSK



Date: 29.NOV.2015 02:07:30

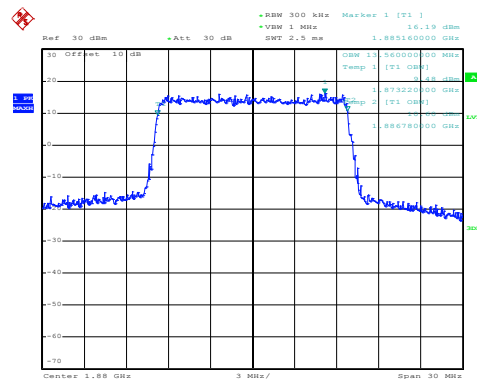
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:08:14

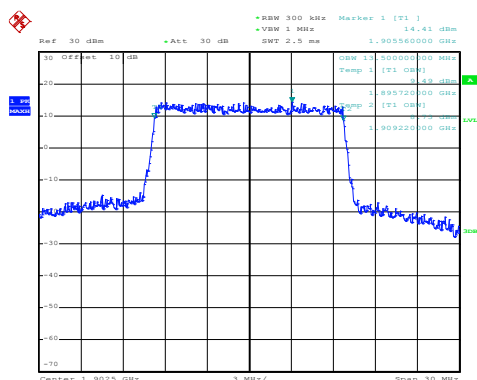
Modulation:QPSK



Date: 29.NOV.2015 02:08:10

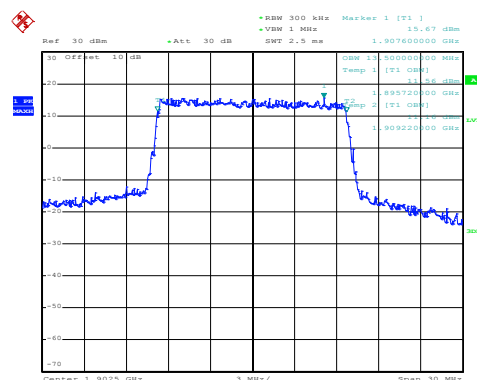
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:08:31

Modulation:QPSK

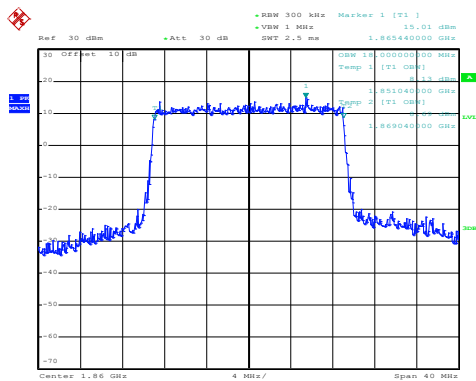


Date: 29.NOV.2015 02:08:26

Highest channel

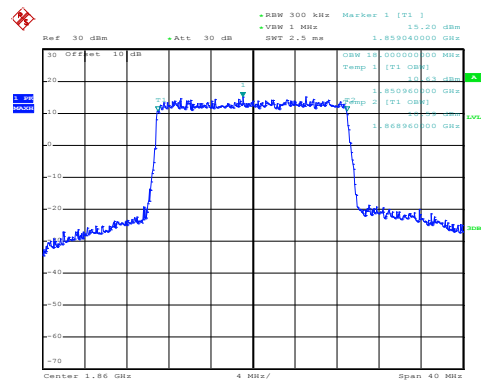
Test Item:99% Occupy bandwidth
BW: 20MHz

Modulation:16QAM



Date: 29.NOV.2015 02:09:23

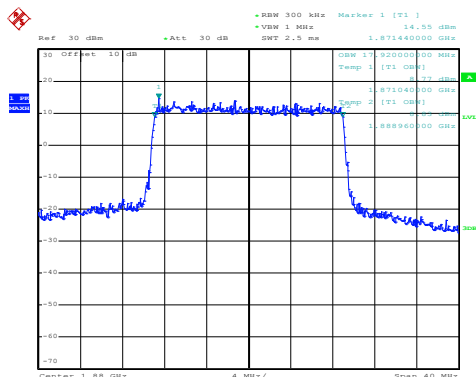
Modulation:QPSK



Date: 29.NOV.2015 02:09:18

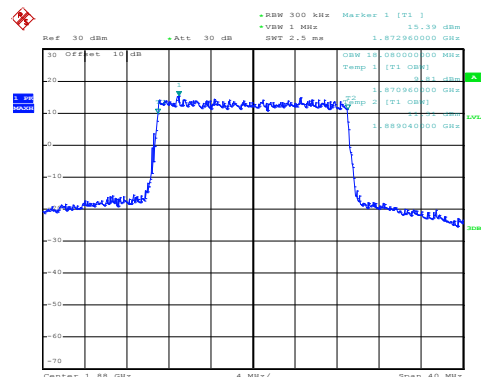
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:09:38

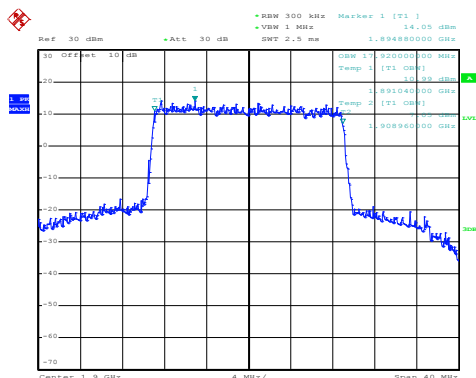
Modulation:QPSK



Date: 29.NOV.2015 02:09:33

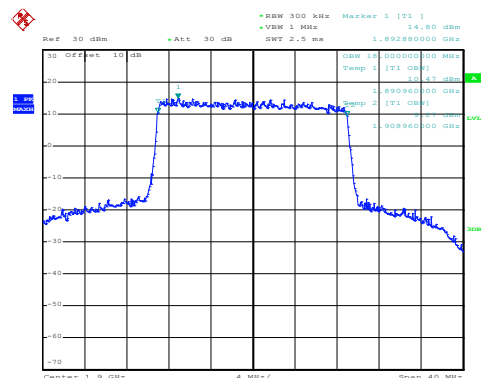
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:10:25

Modulation:QPSK



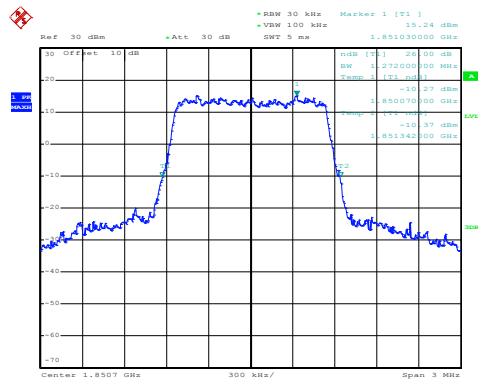
Date: 29.NOV.2015 02:10:21

Highest channel

Test Item:-26dBc bandwidth

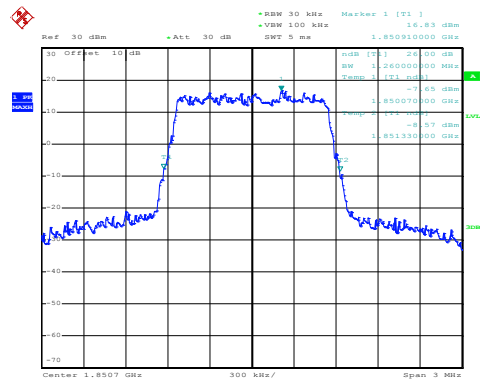
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 01:46:06

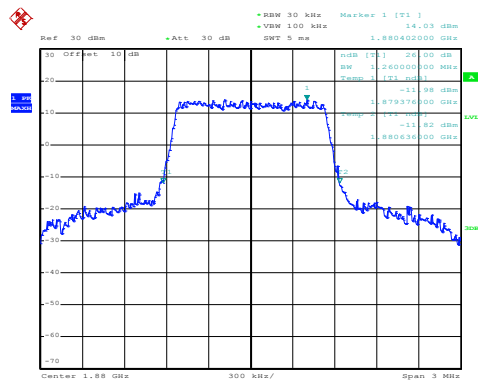
Modulation:QPSK



Date: 29.NOV.2015 01:45:56

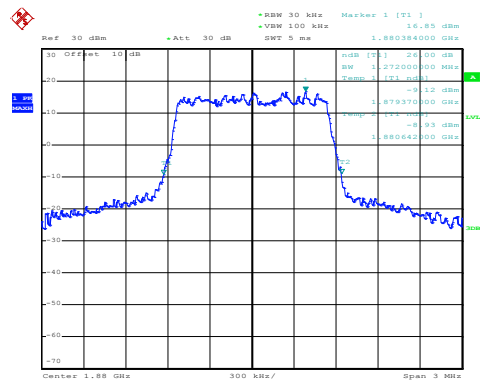
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:53:39

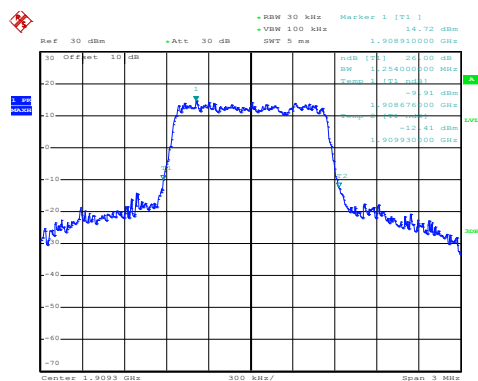
Modulation:QPSK



Date: 29.NOV.2015 01:53:34

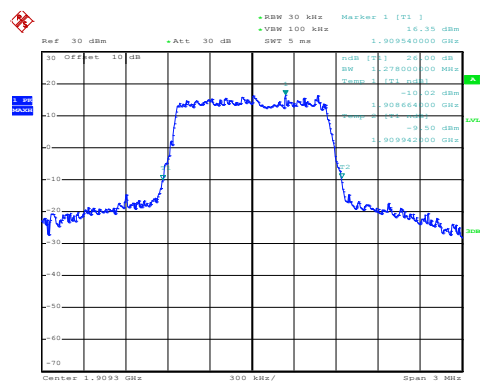
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:54:05

Modulation:QPSK



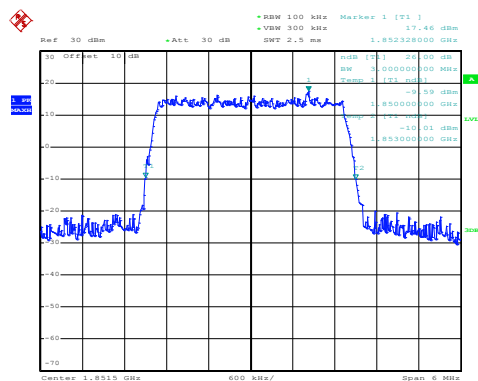
Date: 29.NOV.2015 01:53:59

Highest channel

Test Item:-26dBc bandwidth

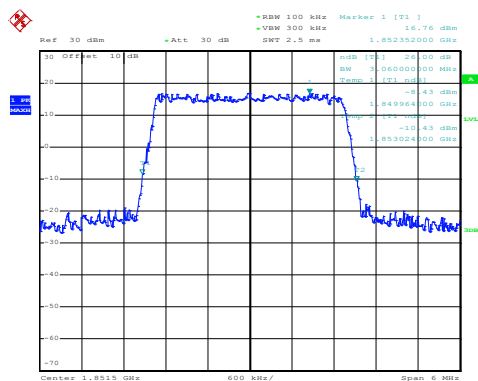
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 02:01:25

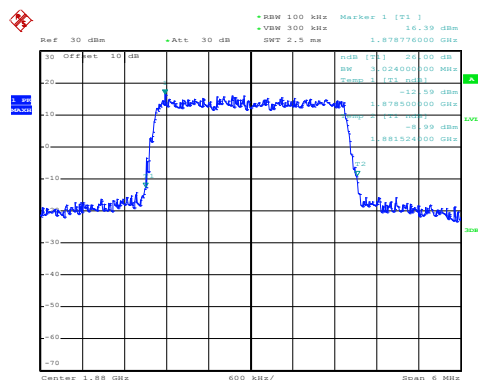
Modulation:QPSK



Date: 29.NOV.2015 02:01:20

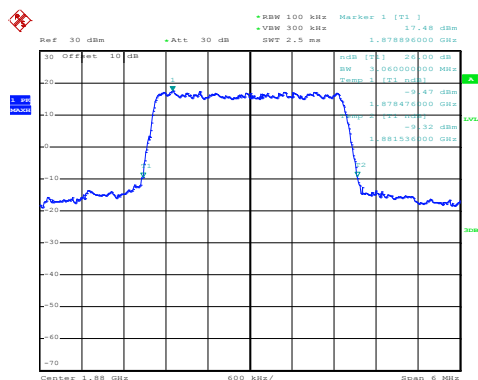
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:02:36

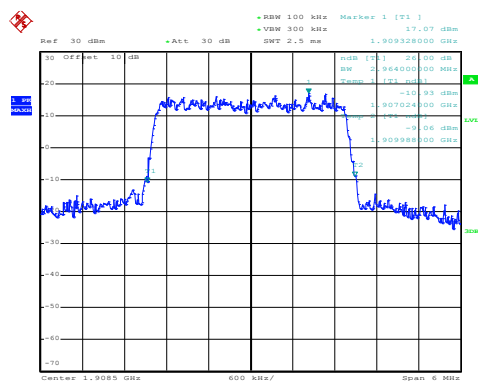
Modulation:QPSK



Date: 29.NOV.2015 02:02:30

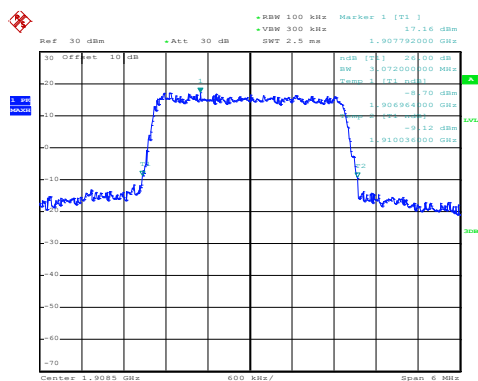
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:03:16

Modulation:QPSK



Date: 29.NOV.2015 02:03:12

Highest channel

BW: 5MHz

• BW 100 kHz Marker 1 [1]
 • VSW 300 kHz 14.37 dBm
 • SWT 2.5 ms 1.851280000 GHz

Ref 30 dBm • Att 30 dB

20
10
0
-10
-20
-30
-40
-50
-60
-70

100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

dBm [1] 26.30 dBm
 BW 4.980000000 MHz
 Span 1.171 dBm
 1.850020000 GHz
 1.850000000 GHz
 1.855000000 GHz

dBm
dB

Center 1.8520 GHz 1 kHz Span 10 MHz

Date: 29.NOV.2015 02:03:53

[illegible]

Date: 29.NOV.2015 02:03:49

Lowest channel

[illegible]

Date: 29.NOV.2015 02:04:33

*RSM 100 kHz Marker 1 [11]
 *VSM 300 kHz 15.37 GHz
 SWT 2.5 ms 1.877860000 GHz

Ref 30 dBm Att 30 dB

dBm [11] 24.00 dBm
 BW 4.980000000 MHz
 Span 1.121 MHz
 -25.00 dBm
 1.877480000 GHz
 1.877480000 GHz
 -15.96 dBm
 1.882480000 GHz

Center 15.37 GHz Span 10 GHz

Date: 29.NOV.2015 02:04:29

Middle channel

[illegible]

Date: 29.NOV.2015 02:04:51

•BSM 100 kHz Marker 1 [34.75 dBm]
 •VSW 300 kHz
 •SWT 2.5 ms
 1.907440000 GHz

Ref 30 dBm Att 30 dB

-20
-30
-40
-50
-60
-70

1.9074 1.9075 1.9076

Center 1.9075 GHz Span 10 kHz

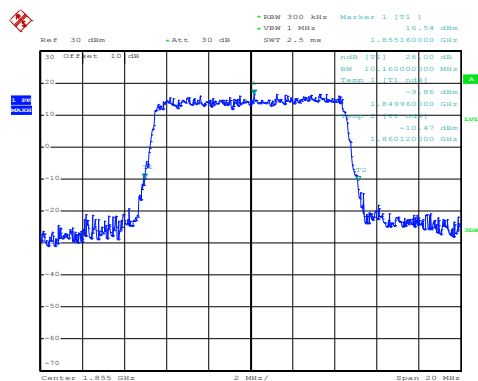
Date: 29.NOV.2015 02:04:46

Highest channel

Test Item:-26dBc bandwidth

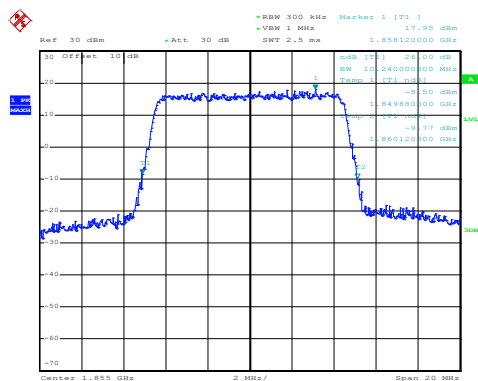
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 02:05:53

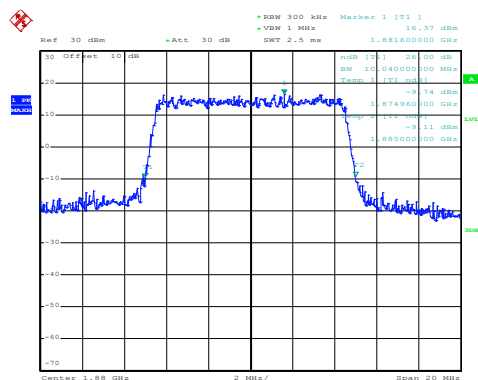
Modulation:QPSK



Date: 29.NOV.2015 02:05:49

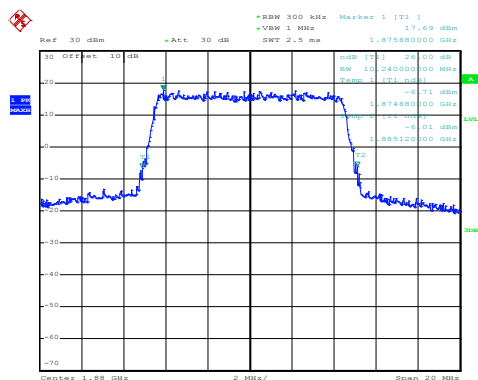
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:06:12

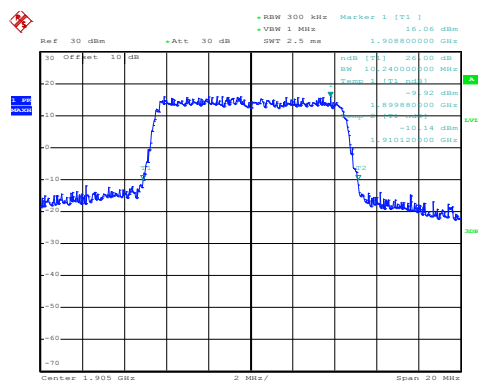
Modulation:QPSK



Date: 29.NOV.2015 02:06:31

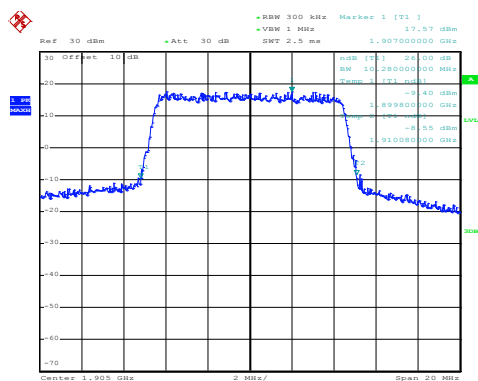
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:06:52

Modulation:QPSK

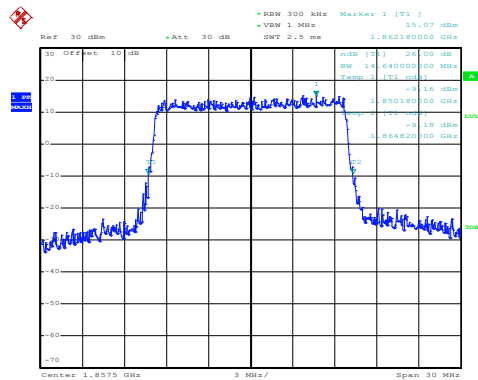


Date: 29.NOV.2015 02:06:48

Highest channel

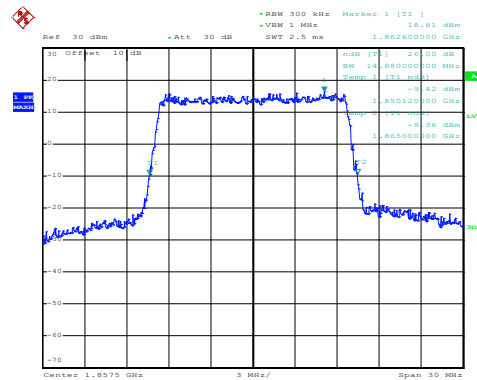
Test Item:-26dBc bandwidth
BW: 15MHz

Modulation:16QAM



Date: 29.NOV.2015 02:07:46

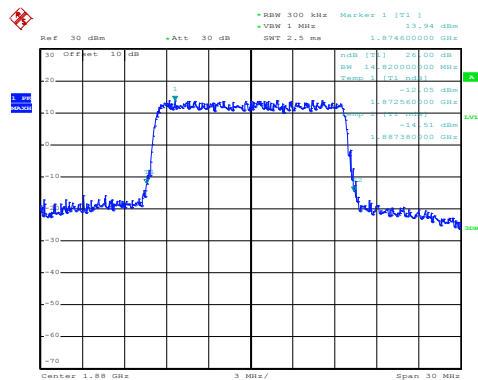
Modulation:QPSK



Date: 29.NOV.2015 02:07:42

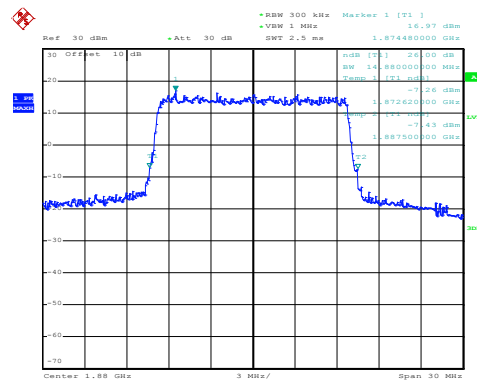
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:08:03

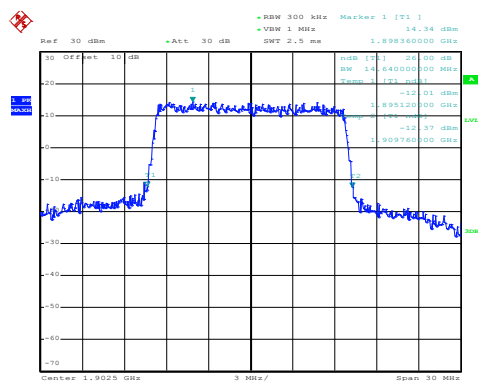
Modulation:QPSK



Date: 29.NOV.2015 02:07:58

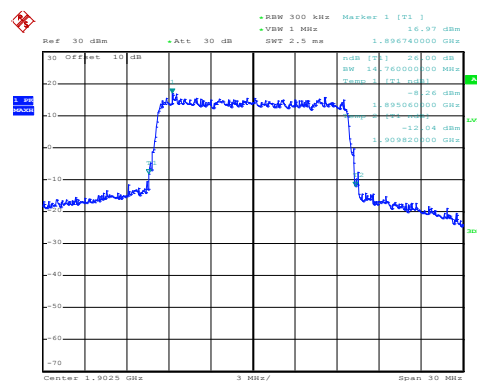
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:08:42

Modulation:QPSK

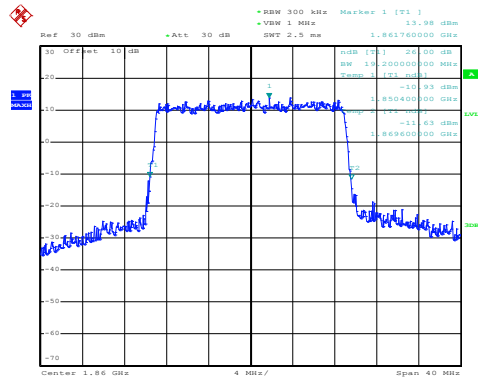


Date: 29.NOV.2015 02:08:38

Highest channel

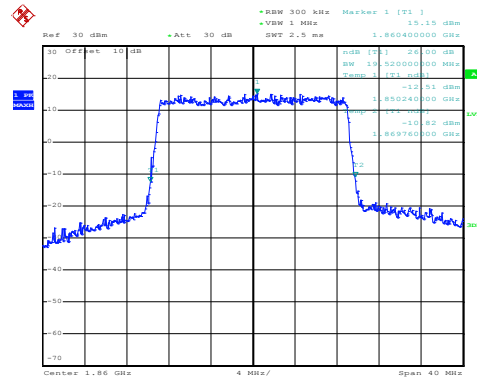
Test Item:-26dBc bandwidth
BW: 20MHz

Modulation:16QAM



Date: 29.NOV.2015 02:09:11

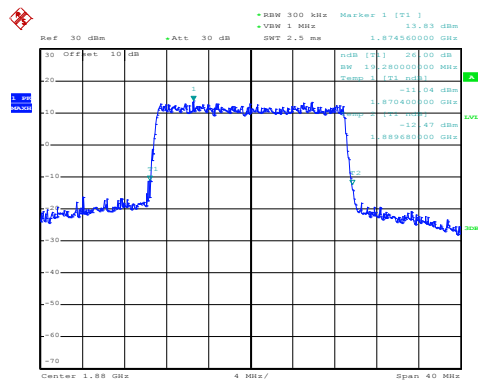
Modulation:QPSK



Date: 29.NOV.2015 02:09:07

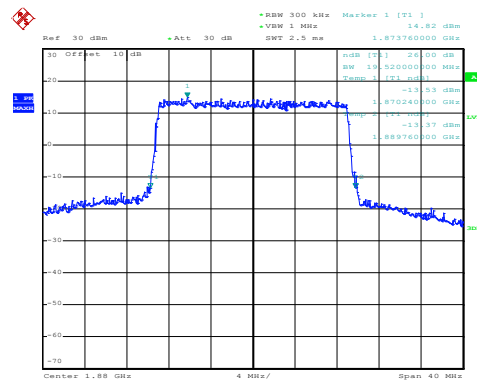
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:09:49

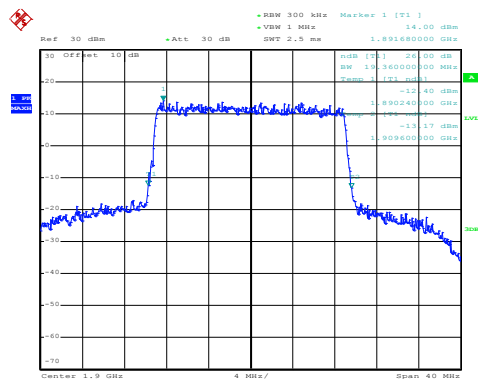
Modulation:QPSK



Date: 29.NOV.2015 02:09:45

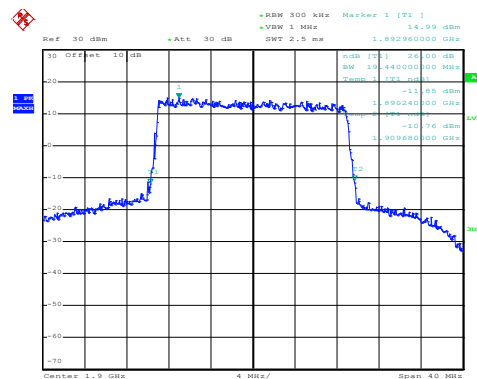
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:10:11

Modulation:QPSK



Date: 29.NOV.2015 02:10:06

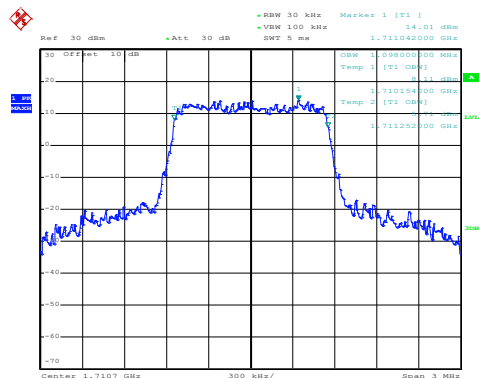
Highest channel

LTE Band 4 part

Test Item:99% Occupy bandwidth

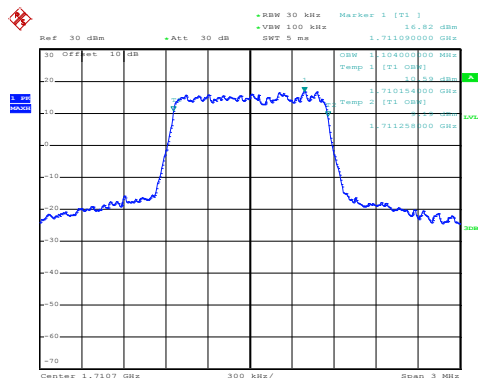
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 02:16:51

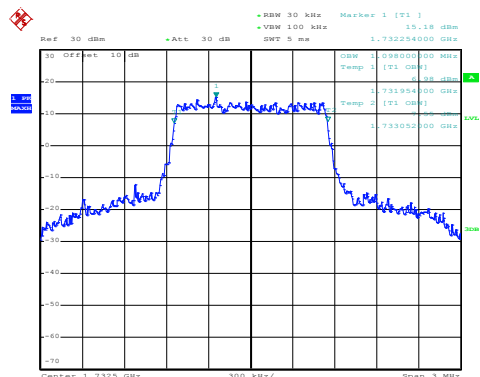
Modulation:QPSK



Date: 29.NOV.2015 02:16:47

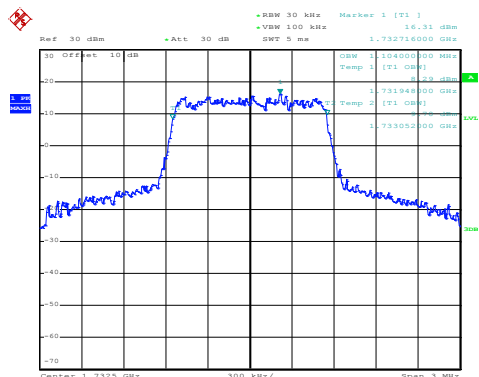
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:17:32

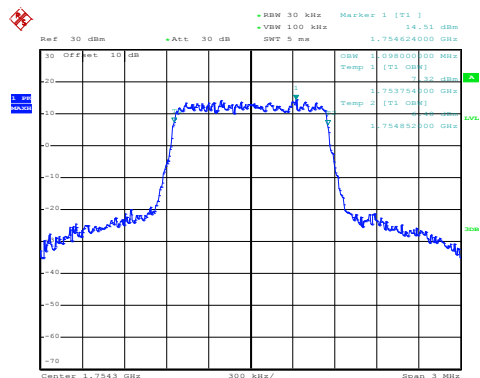
Modulation:QPSK



Date: 29.NOV.2015 02:17:28

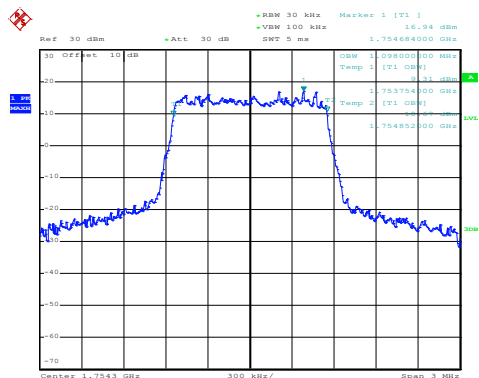
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:17:50

Modulation:QPSK

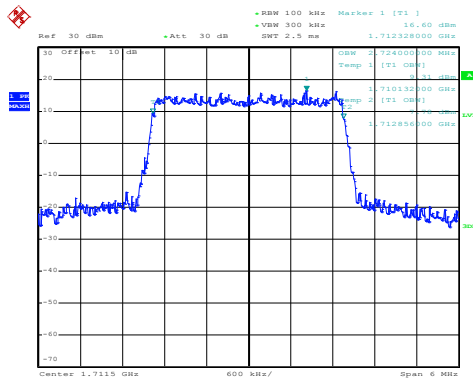


Date: 29.NOV.2015 02:17:45

Highest channel

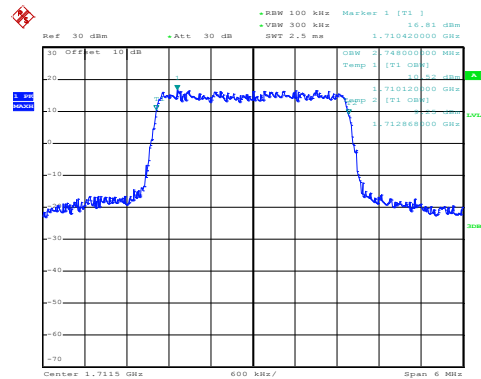
Test Item:99% Occupy bandwidth
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 02:18:53

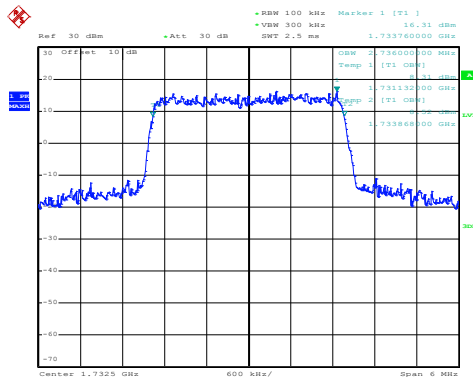
Modulation:QPSK



Date: 29.NOV.2015 02:18:49

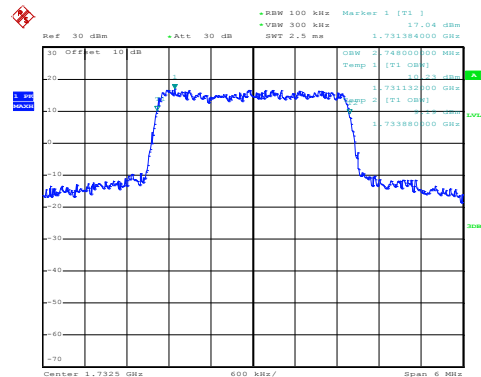
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:19:08

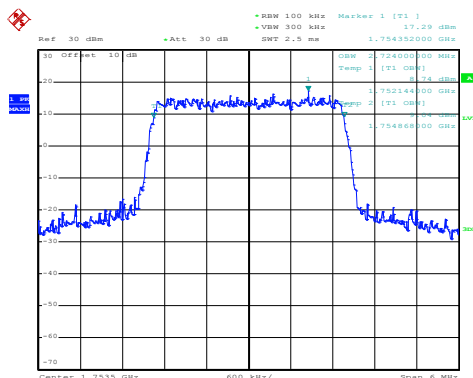
Modulation:QPSK



Date: 29.NOV.2015 02:19:04

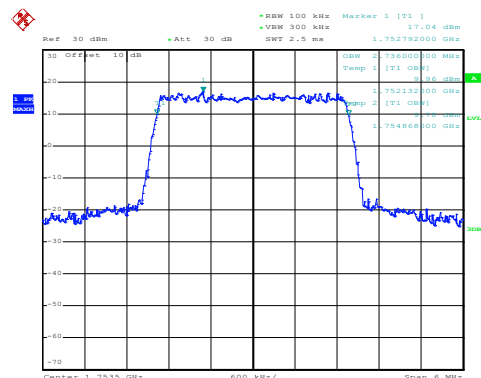
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:19:51

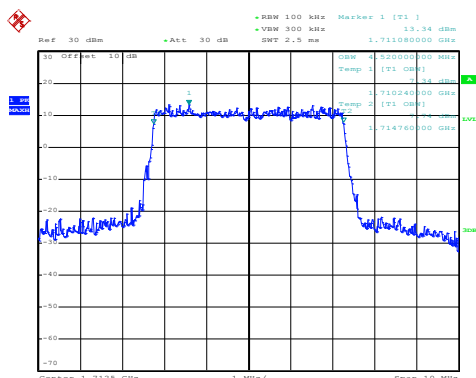
Modulation:QPSK



Date: 29.NOV.2015 02:19:47

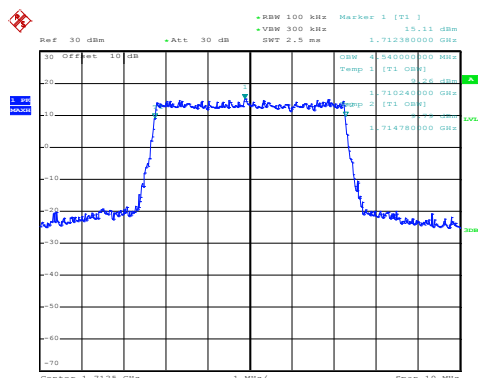
Highest channel

Modulation:16QAM



Date: 29.NOV.2015 02:20:31

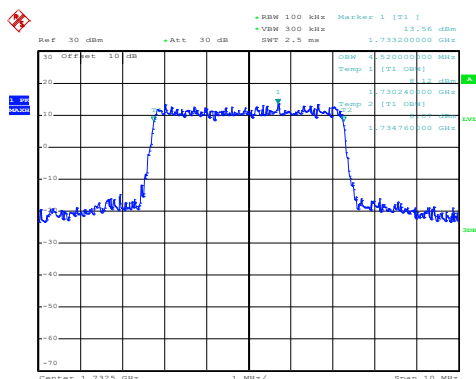
Modulation:QPSK



Date: 29.NOV.2015 02:20:27

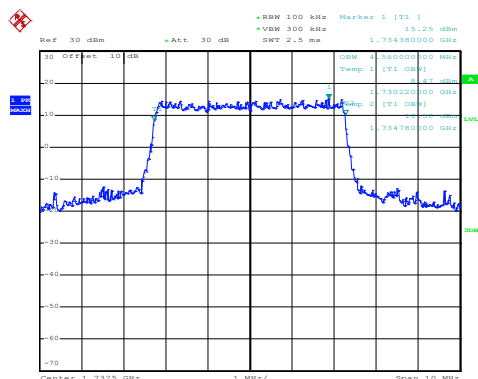
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:21:14

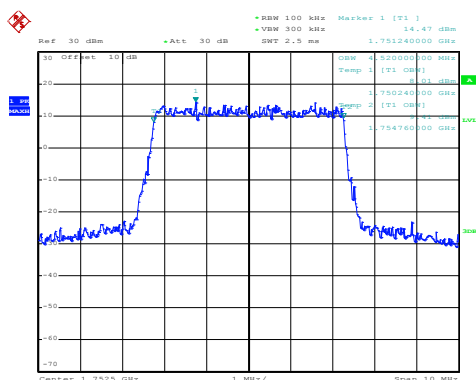
Modulation:QPSK



Date: 29.NOV.2015 02:21:09

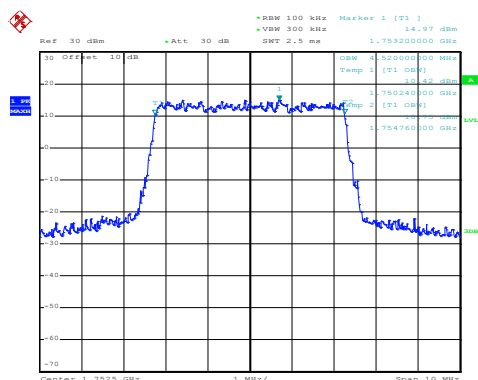
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:21:32

Modulation:QPSK



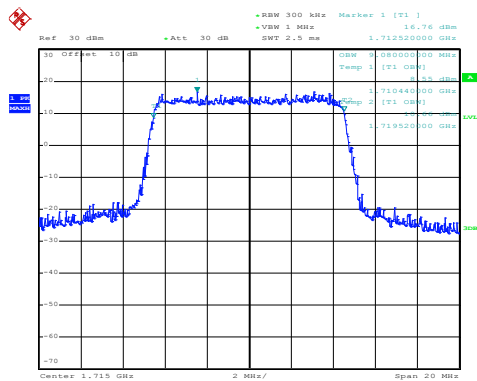
Date: 29.NOV.2015 02:21:28

Highest channel

Test Item:99% Occupy bandwidth

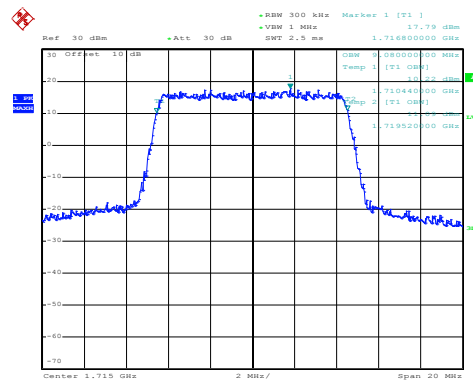
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 02:22:39

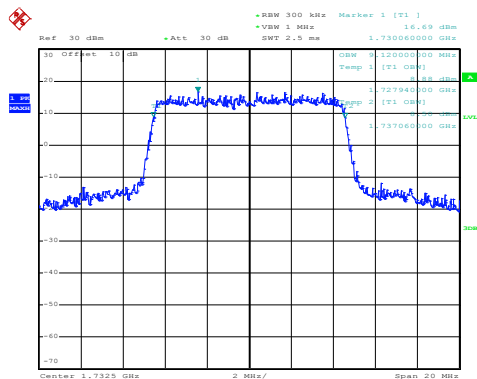
Modulation:QPSK



Date: 29.NOV.2015 02:22:35

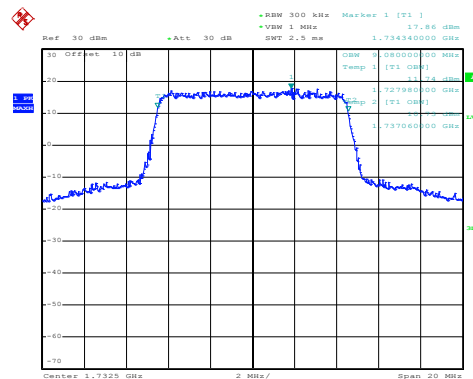
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:23:02

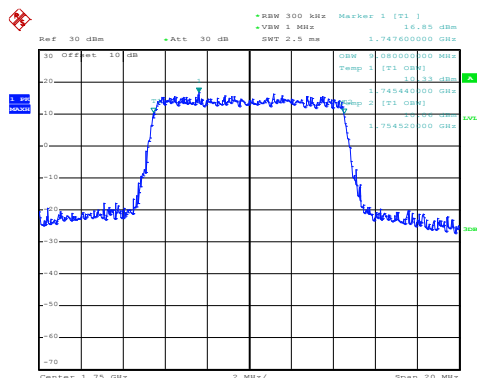
Modulation:QPSK



Date: 29.NOV.2015 02:22:58

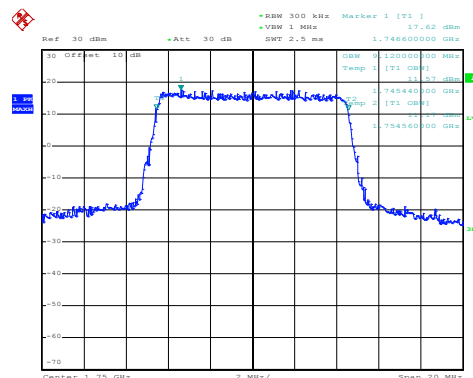
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:23:41

Modulation:QPSK

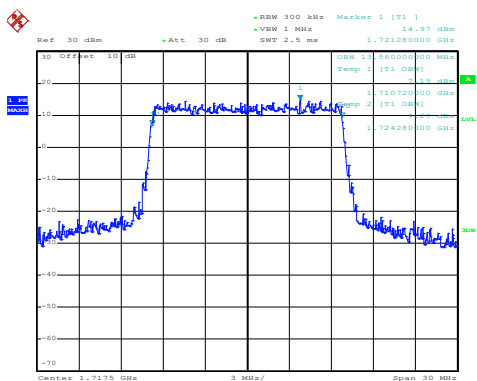


Date: 29.NOV.2015 02:23:37

Highest channel

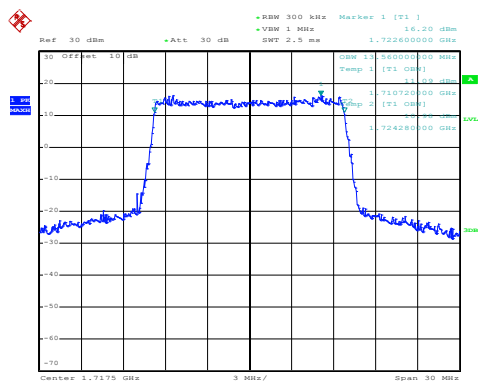
Test Item:99% Occupy bandwidth
BW: 15MHz

Modulation:16QAM



Date: 29.NOV.2015 02:24:10

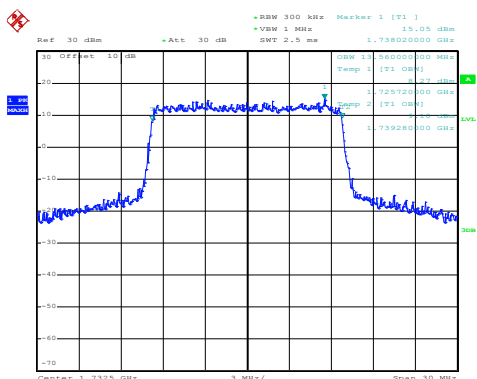
Modulation:QPSK



Date: 29.NOV.2015 02:24:06

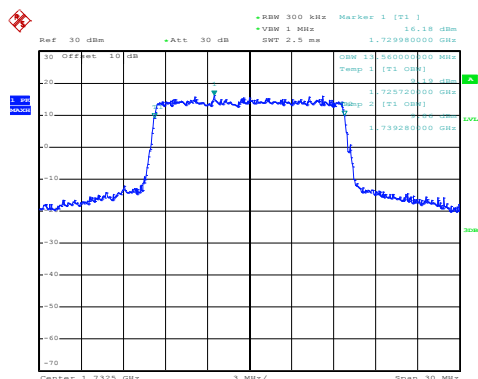
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:24:55

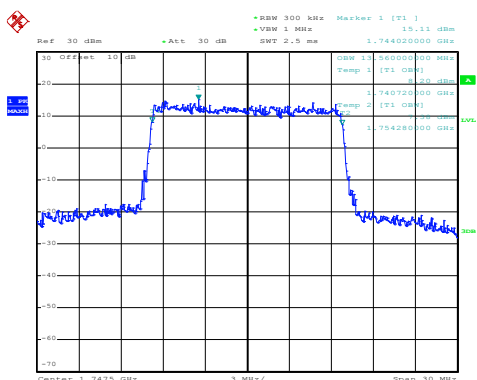
Modulation:QPSK



Date: 29.NOV.2015 02:24:45

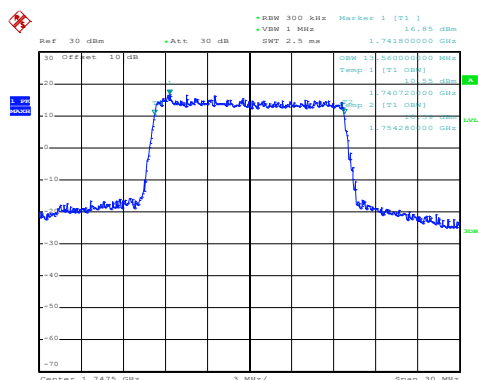
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:25:16

Modulation:QPSK

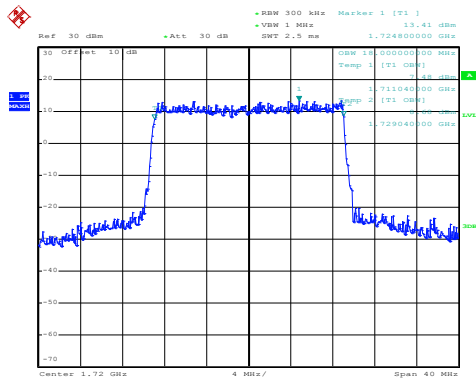


Date: 29.NOV.2015 02:25:36

Highest channel

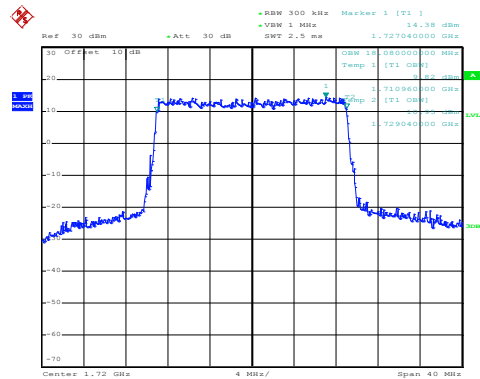
Test Item:99% Occupy bandwidth
BW: 20MHz

Modulation:16QAM



Date: 29.NOV.2015 02:26:08

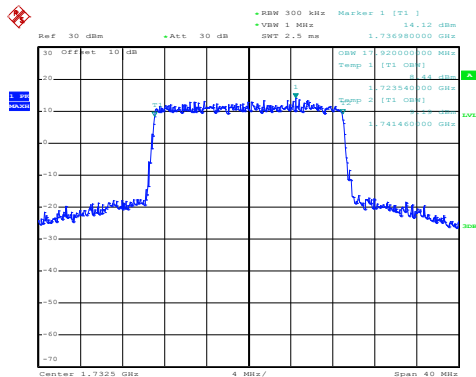
Modulation:QPSK



Date: 29.NOV.2015 02:26:02

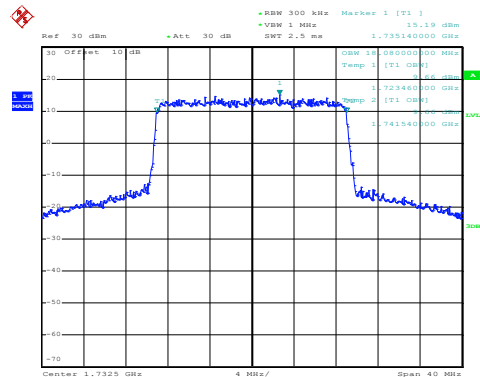
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:27:34

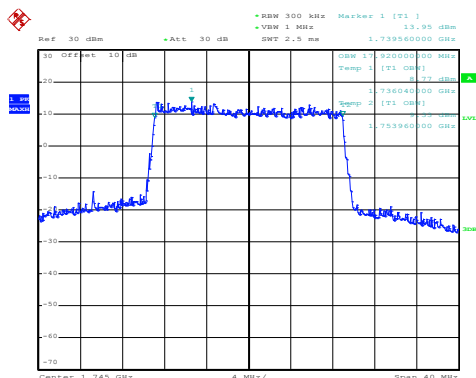
Modulation:QPSK



Date: 29.NOV.2015 02:27:30

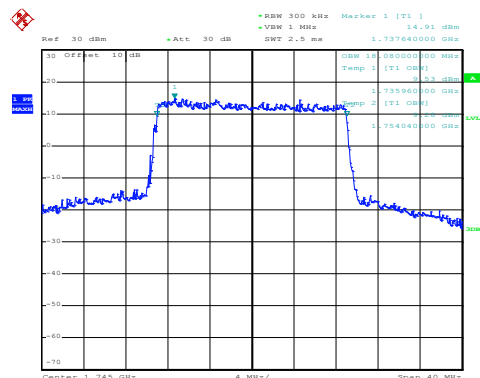
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:27:49

Modulation:QPSK

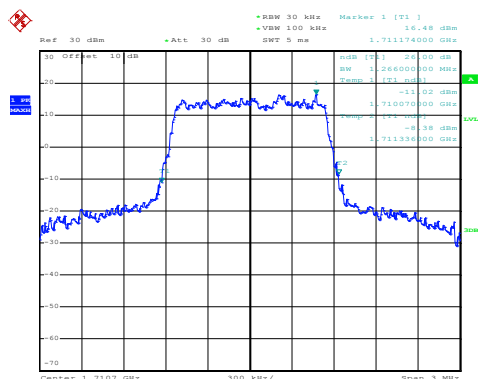


Date: 29.NOV.2015 02:27:45

Highest channel

BW: 1.4MHz

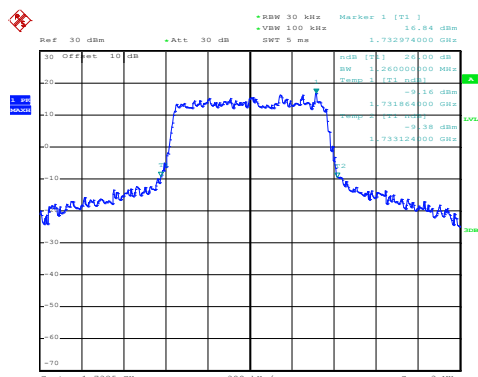
Modulation:QPSK



Date: 29.NOV.2015 02:16:59

Lowest channel

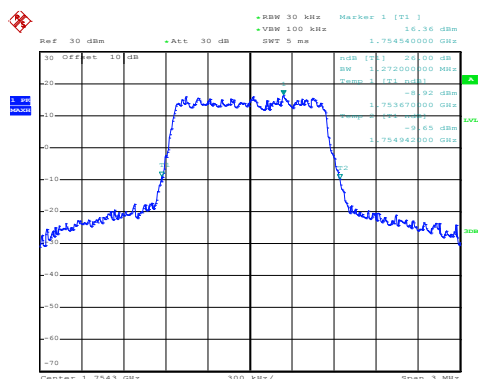
Modulation:OPSK



Date: 29.NOV.2015 02:17:18

Middle channel

Modulation:QPSK



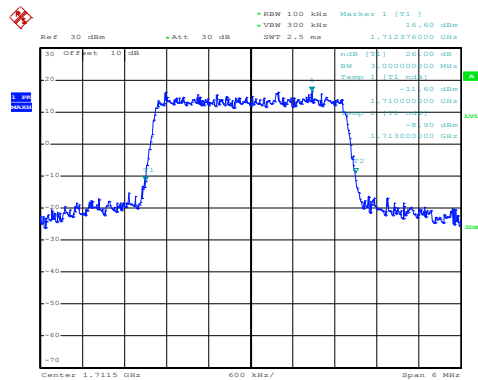
Date: 29.NOV.2015 02:17:56

Highest channel

Test Item:-26dBc bandwidth

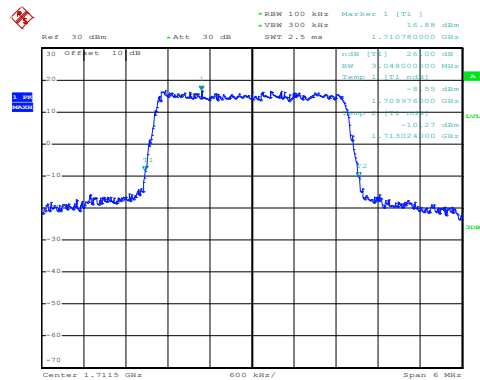
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 02:18:42

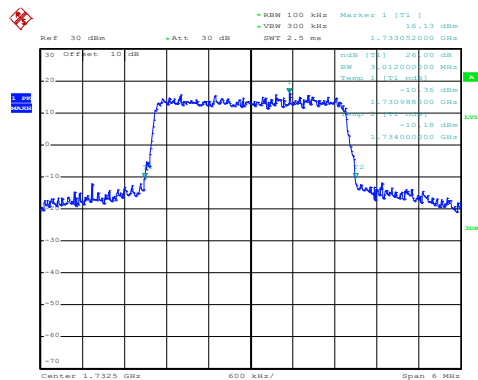
Modulation:QPSK



Date: 29.NOV.2015 02:18:37

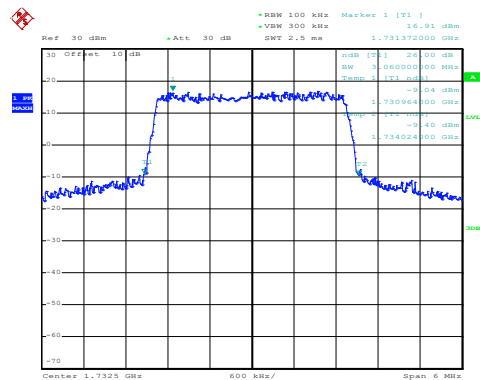
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:19:20

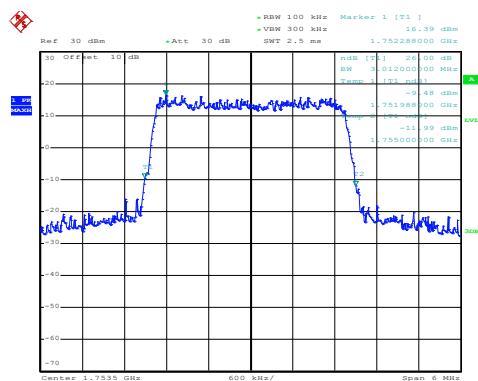
Modulation:QPSK



Date: 29.NOV.2015 02:19:15

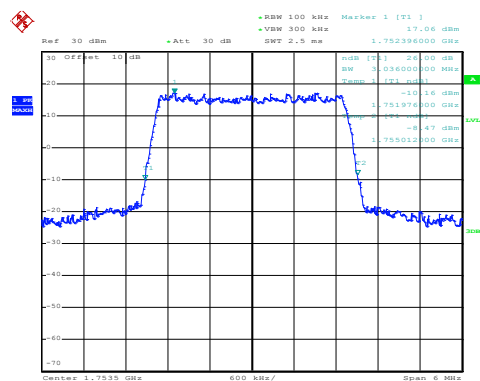
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:19:40

Modulation:QPSK

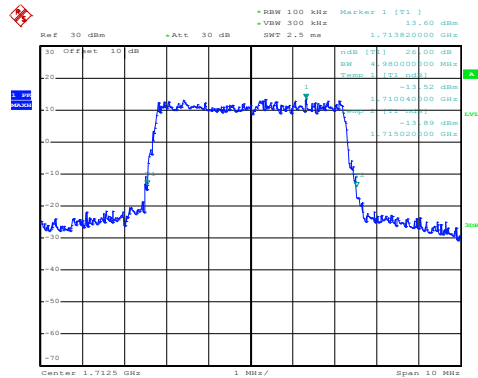


Date: 29.NOV.2015 02:19:36

Highest channel

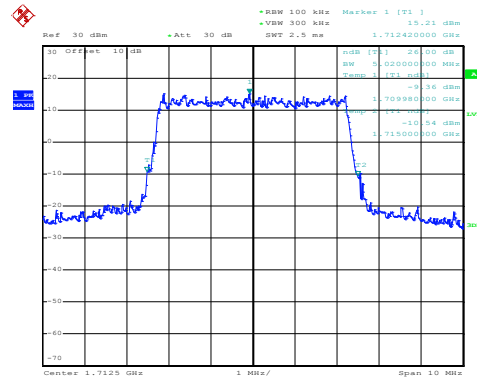
Test Item:-26dBc bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 02:20:42

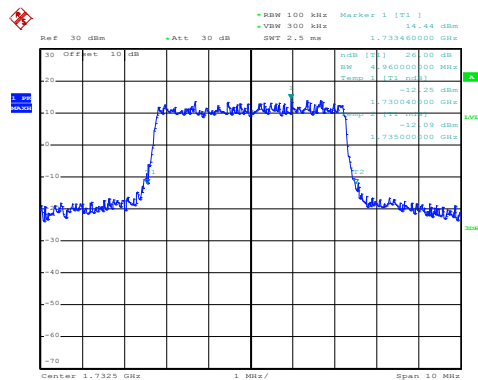
Modulation:QPSK



Date: 29.NOV.2015 02:20:37

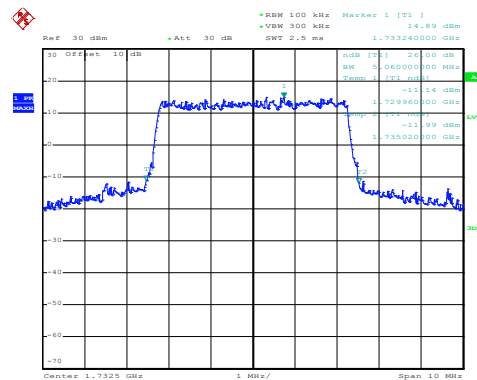
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:20:59

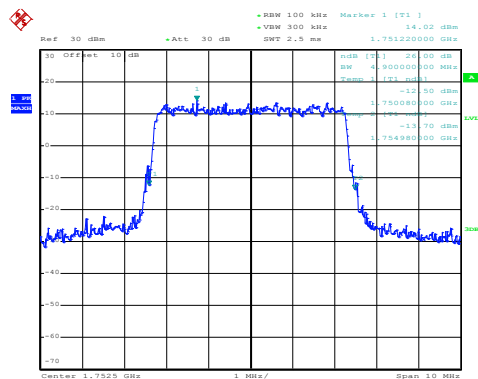
Modulation:QPSK



Date: 29.NOV.2015 02:20:55

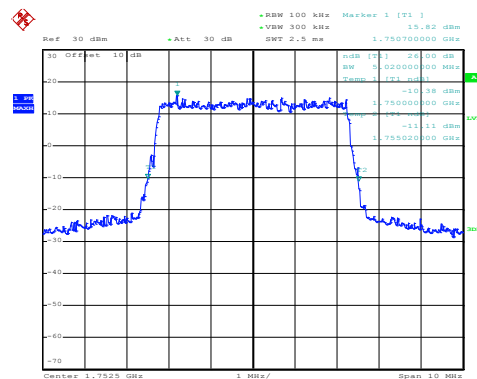
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:21:43

Modulation:QPSK



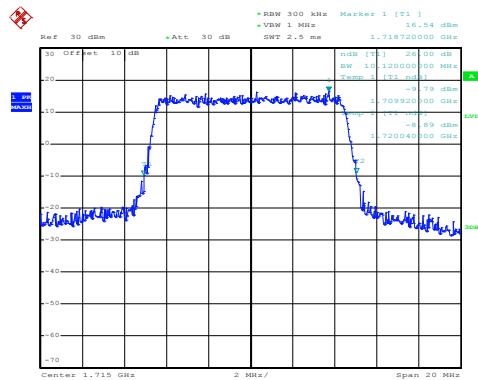
Date: 29.NOV.2015 02:21:39

Highest channel

Test Item:-26dBc bandwidth

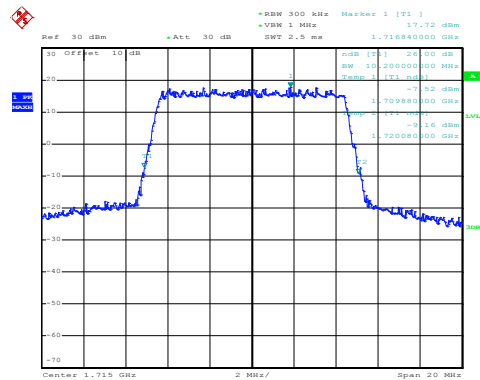
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 02:22:27

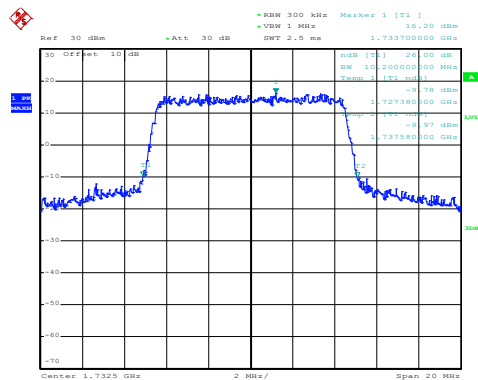
Modulation:QPSK



Date: 29.NOV.2015 02:22:22

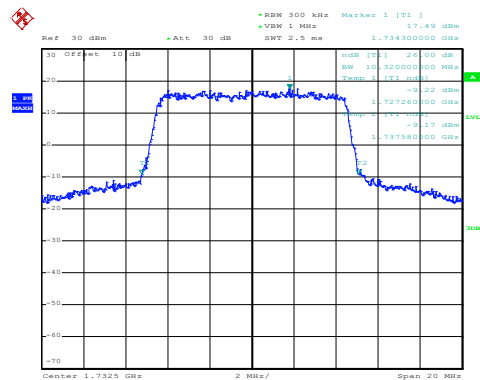
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 02:23:13

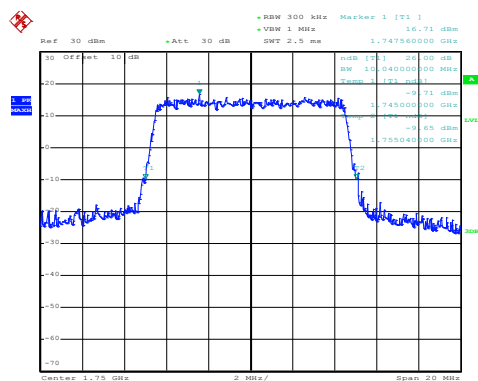
Modulation:QPSK



Date: 29.NOV.2015 02:23:08

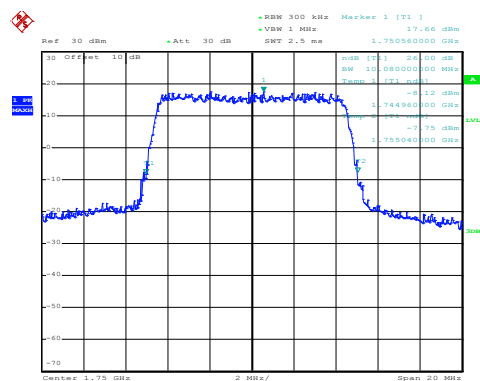
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 02:23:31

Modulation:QPSK



Date: 29.NOV.2015 02:23:26

Highest channel

BW: 15MHz

Ref 30 dBm Att 30 dB SWT 2.5 ms 1.719720000 GHz

dBm [3] 20.00 GHz
BW 14.82000000 MHz
Span 1.17100000 MHz
3.710120000 GHz

Center 1.7175 GHz 3 MHz Span 30 MHz

Date: 29.NOV.2015 02:24:22

Date: 29.NOV.2015 02:24:18

•BW 300 kHz
 •VMN 1 MHz
 SNT 2.5 ms

Ref 30 dBm
 Att 30 dB
 1.736160000 GHz

Marker 1 [1]
 14.41 GHz
 -10.41 dBm

30 OFFset 10 dB
 30 dB
 20
 10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

14.41 GHz
 14.40 GHz
 14.42 GHz
 14.43 GHz
 14.44 GHz
 14.45 GHz
 14.46 GHz
 14.47 GHz
 14.48 GHz
 14.49 GHz
 14.50 GHz

BW 300 kHz
 VMN 1 MHz
 SNT 2.5 ms

1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz
 1.736160000 GHz

30 dB
 20
 10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70

Center 14.410 GHz
 Span 30 MHz
 3.000 MHz

Date: 29.NOV.2015 02:24:37

*BWM 300 kHz Marker 1 [1]
 •VSM 1 MHz 16.03 dBm
 Ref 30 dBm •Att 30 dB SWT 2.5 ms 1.737660000 GHz

nBW [2] 24.00 dB
 BW 14.940000000 MHz
 Span 1.121 MHz
 -25.72 dBm
 1.725000000 GHz
 Amp 1.177 MHz
 1.737660000 GHz
 1.739840000 GHz

Center 1.7320 GHz Span 30 MHz

Date: 29.NOV.2015 02:24:32

Ref 30 dBm • Att 30 dB • BW 300 kHz Marker 1 [1] 14.60 dBm
 • VSM 1 MHz • SWT 2.5 ms 1.743720000 GHz

1

14.60 dBm

1.7475 GHz

30 MHz

Center 1.7475 GHz 3 MHz/ Span 30 MHz

Date: 29.NOV.2015 02:25:26

•RSM 300 kHz Marker 1 [1] 16.98 dB
 •VSM 1 MHz
 •SWT 2.5 ms 1.741800000 GHz

Ref 30 dBm •Att 30 dB

dBm 120 10 0 -10 -20 -30 -40 -50 -60 -70
 SW 14.880000000 MHz
 Span 1.121 MHz
 •F 1.7435 GHz
 •B 100 kHz
 •S 30 MHz
 •C 1.7435 GHz
 •M 1.744 GHz
 •L 1.754940000 GHz

Center 1.7435 GHz 3 MHz Span 30 MHz

Date: 29.NOV.2015 02:25:22

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
No.B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Telephone: +86 (0) 755 23118282 Fax: +86 (0) 755 23116366

Project No.:CCIS151100916RF

BW: 20MHz

[illegible]

Date: 29.NOV.2015 02:26:20

~RBW 300 kHz Marker 1 [1] 14.84 dBm
 ~VSW 1 MHz
 SWT 2.5 ms 1.725040000 GHz

Ref 30 dBm Att 30 dB

dBm
 dB

0dB
 -10
 -20
 -30
 -40
 -50
 -60
 -70

0.70 1.12 1.30 GHz

Center 1.12 GHz 4 MHz Span 40 MHz

add [2] 26.00 dBm
 SW 19.440000000 MHz
 Tune 1.171000000 GHz
 ~10.55 dBm
 1.710320000 GHz
 Imp 1.725040000 GHz
 ~11.40 dBm
 1.729760000 GHz

dBm
 dB

Date: 29.NOV.2015 02:26:15

Lowest channel

Ref 30 dBm Att 30 dB

Marker 1 [1] 13.30 dBm

VSM 1 MHz SFT 2.5 ms 1.734180000 GHz

dBm [2] 26.00 dBm

BW 10.44000000 MHz

Span 1.131 MHz

1.332000000 GHz

2.332000000 GHz

1.742820000 GHz

1.742820000 GHz

1.742820000 GHz

Center 1.3320 GHz Span 40 MHz

Date: 29.NOV.2015 02:26:53

Ref 30 dBm Att 30 dB SWT 2.5 ms

M1 1.731620000 GHz

dBm [2] 24.00 dB
BW 19.520000000 MHz
Span 1.181 MHz
-20.19 dBm
1.722820000 GHz
1.731620000 GHz
1.742340000 GHz

Center 4.320 GHz Span 10 MHz

Date: 29.NOV.2015 02:26:47

Middle channel

Ref 30 dBm • Att 30 dB • BW 300 kHz Marker 1 [1] 14.75 dBm
 • VSM 1 MHz SWT 2.5 ms 1.740200000 GHz

1
 2

10 dB 20 dB 30 dB 40 dB 50 dB 60 dB 70 dB

1.740 GHz 1.745 GHz 1.750 GHz

Center 1.745 GHz Span 40 MHz

Date: 29.NOV.2015 02:28:00

[illegible]

Date: 29.NOV.2015 02:27:56

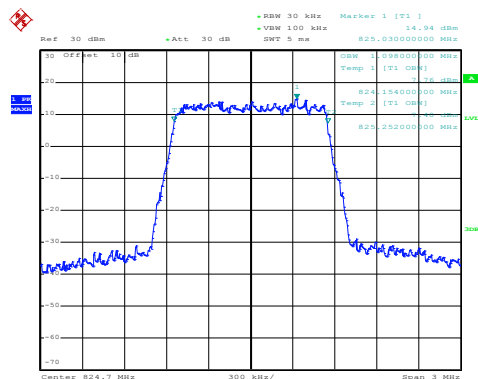
Highest channel

LTE-Band 5 part

Test Item:99% Occupancy bandwidth

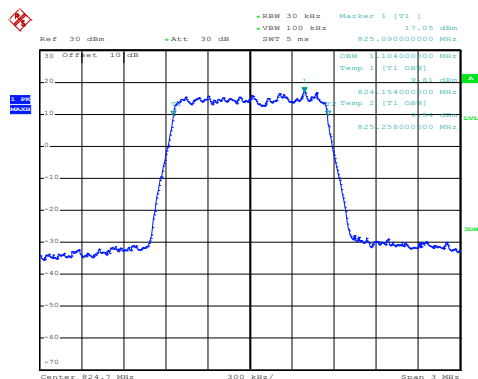
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 01:08:47

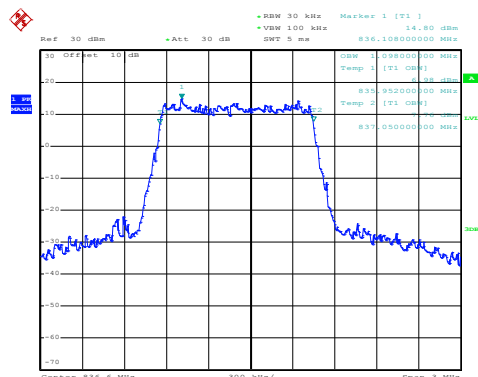
Modulation:QPSK



Date: 29.NOV.2015 01:08:28

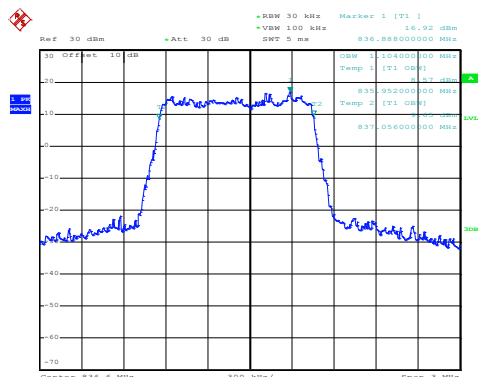
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:09:37

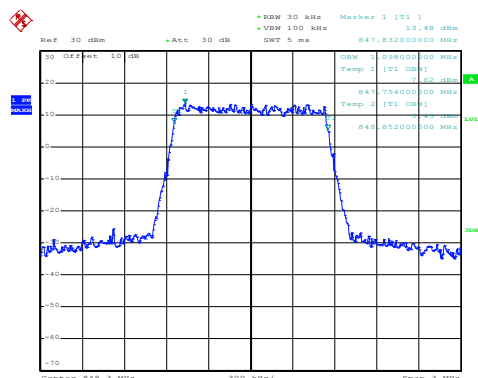
Modulation:QPSK



Date: 29.NOV.2015 01:09:32

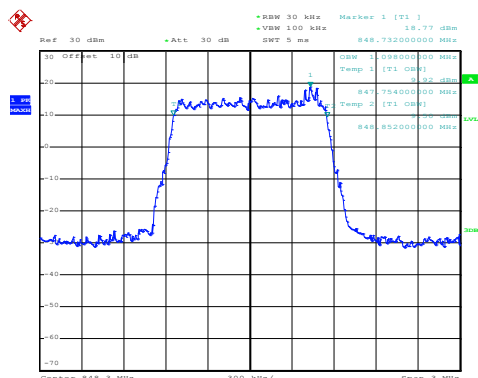
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:09:58

Modulation:QPSK



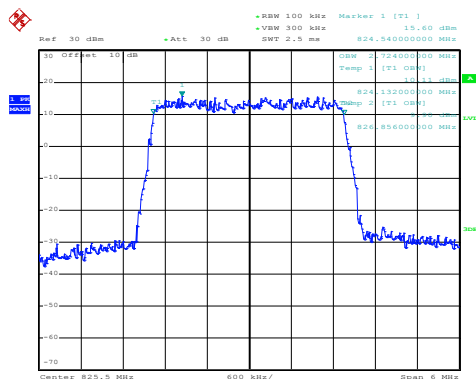
Date: 29.NOV.2015 01:09:52

Highest channel

Test Item:99% Occupancy bandwidth

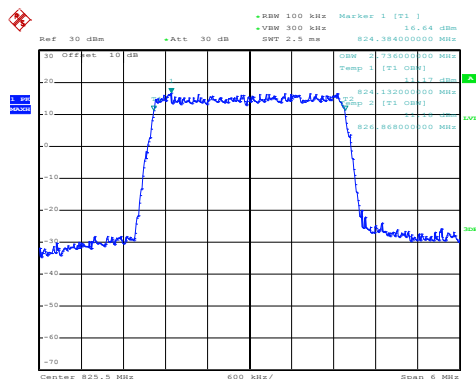
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 01:11:04

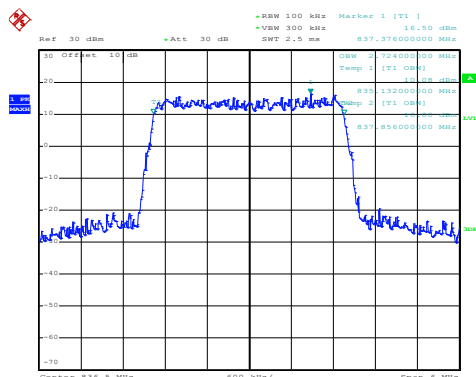
Modulation:QPSK



Date: 29.NOV.2015 01:11:00

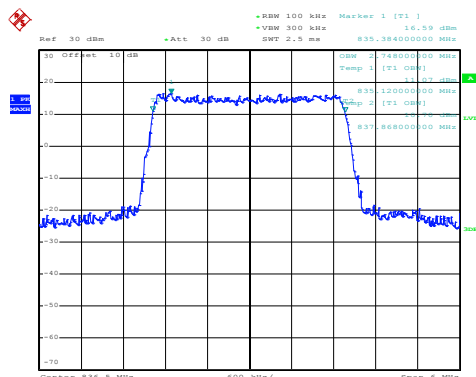
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:11:27

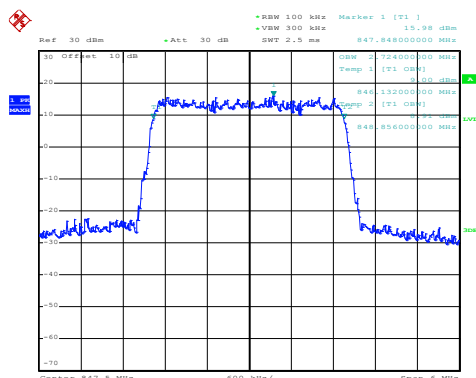
Modulation:QPSK



Date: 29.NOV.2015 01:11:22

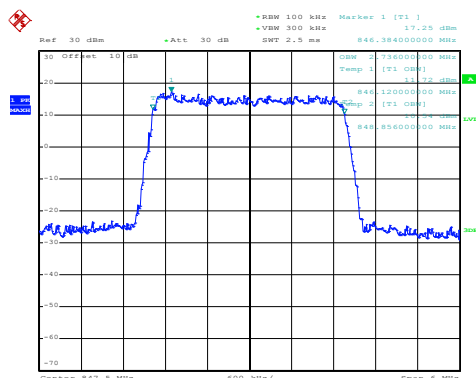
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:12:06

Modulation:QPSK

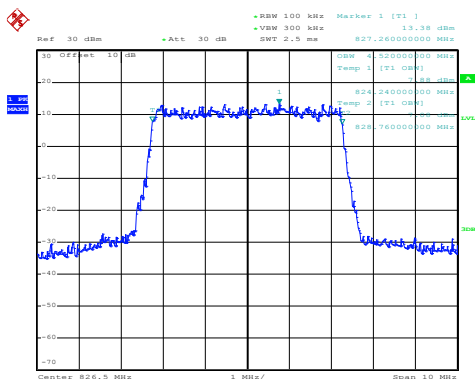


Date: 29.NOV.2015 01:12:02

Highest channel

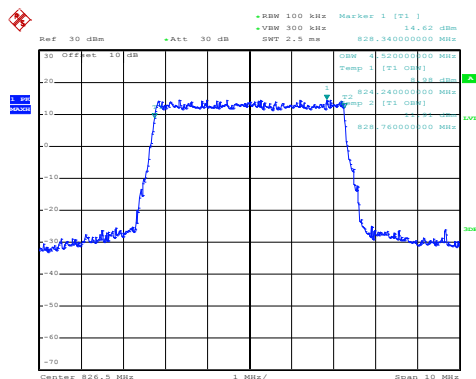
Test Item:99% Occupancy bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:12:54

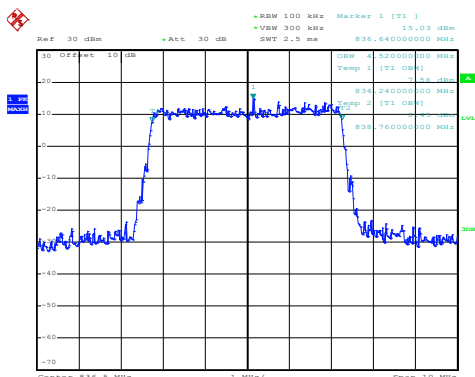
Modulation:QPSK



Date: 29.NOV.2015 01:12:49

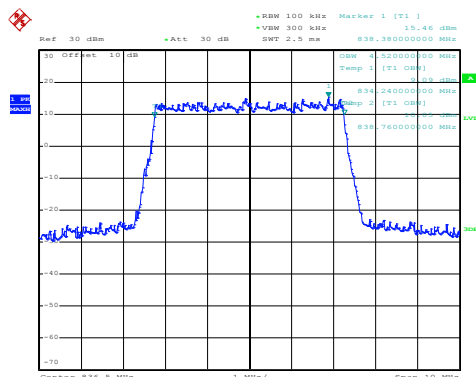
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:13:35

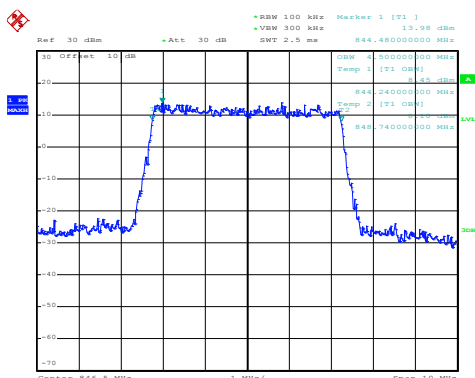
Modulation:QPSK



Date: 29.NOV.2015 01:13:29

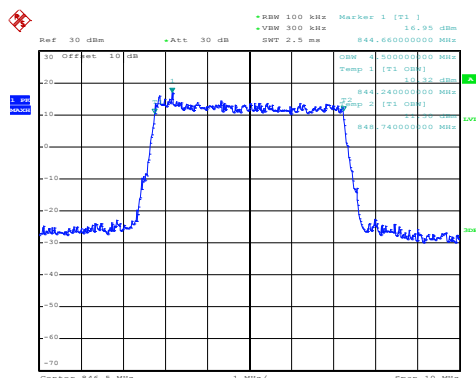
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:13:52

Modulation:QPSK

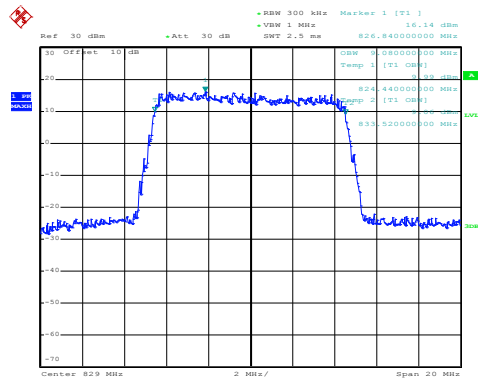


Date: 29.NOV.2015 01:13:48

Highest channel

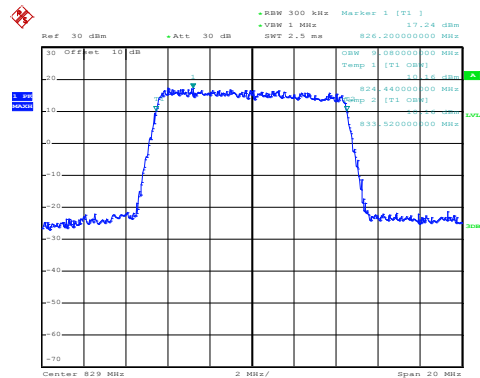
Test Item:99% Occupy bandwidth
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:14:48

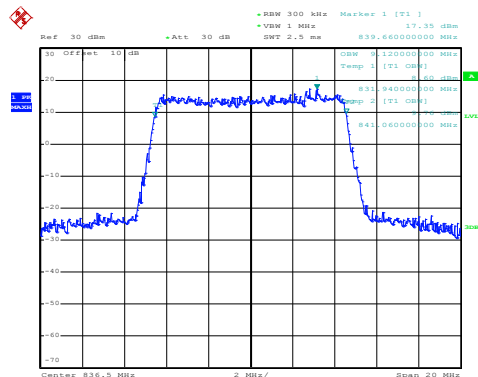
Modulation:QPSK



Date: 29.NOV.2015 01:14:44

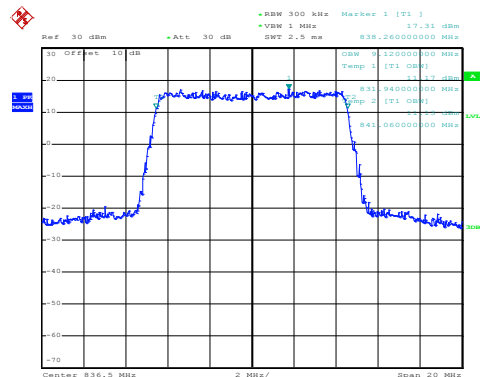
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:15:04

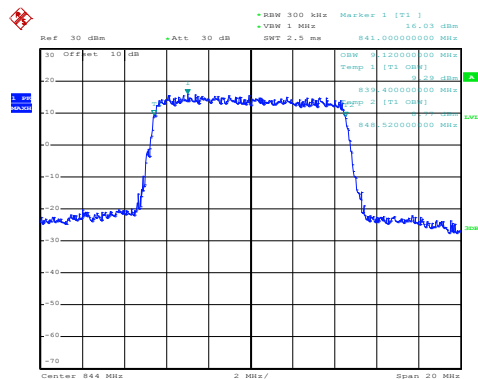
Modulation:QPSK



Date: 29.NOV.2015 01:15:00

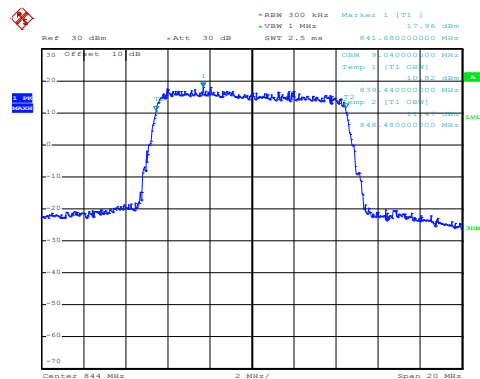
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:15:44

Modulation:QPSK



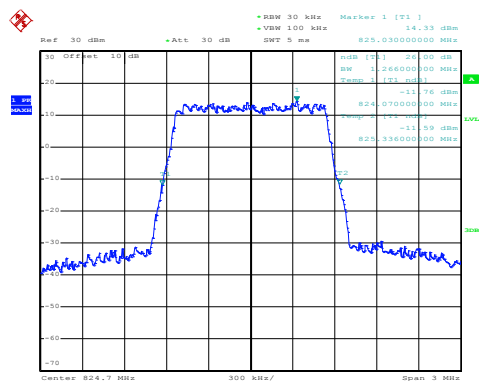
Date: 29.NOV.2015 01:15:40

Highest channel

Test Item:-26dBc bandwidth

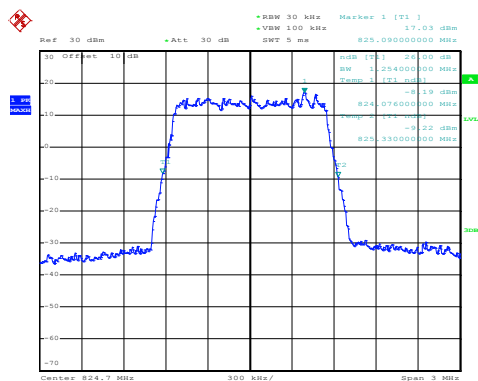
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 01:09:00

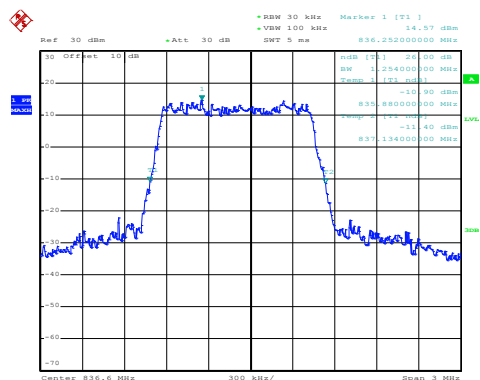
Modulation:QPSK



Date: 29.NOV.2015 01:08:55

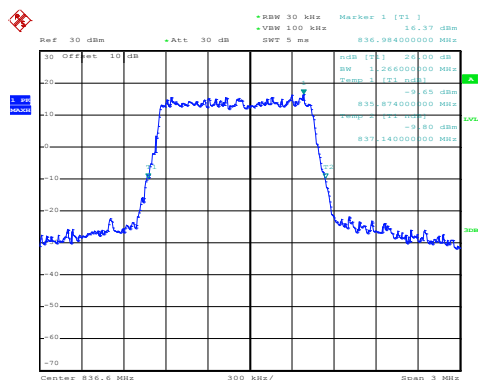
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:09:23

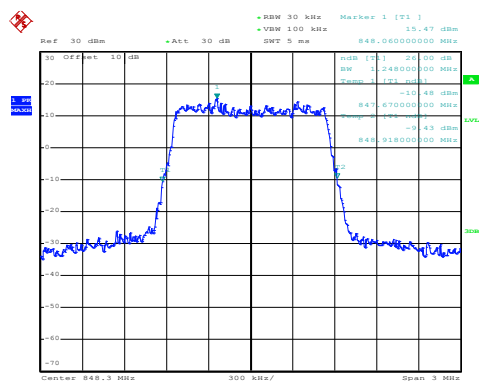
Modulation:QPSK



Date: 29.NOV.2015 01:09:19

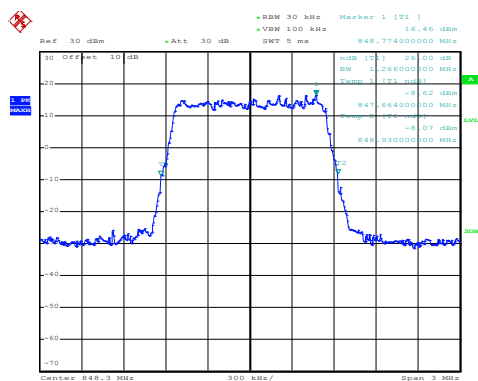
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:10:09

Modulation:QPSK



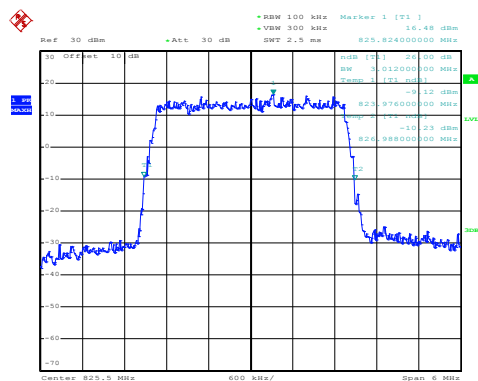
Date: 29.NOV.2015 01:10:05

Highest channel

Test Item:-26dBc bandwidth

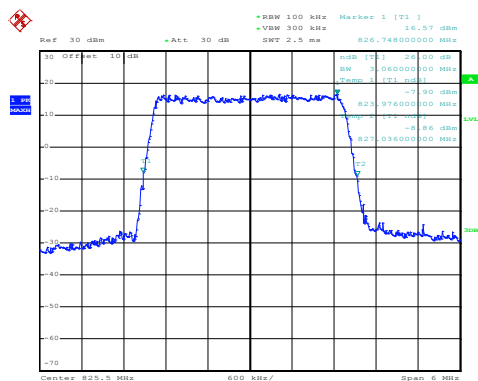
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 01:10:53

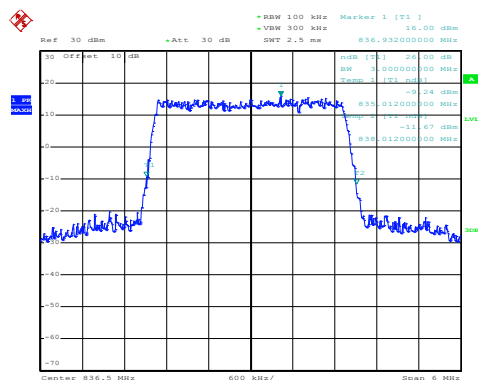
Modulation:QPSK



Date: 29.NOV.2015 01:10:49

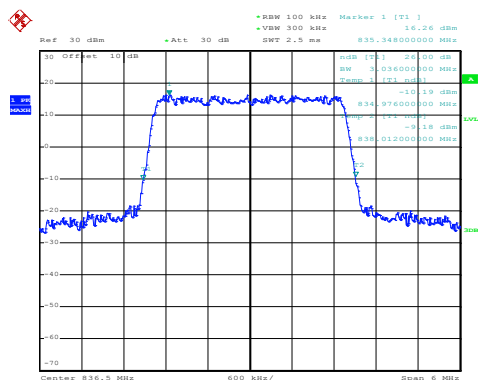
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:11:38

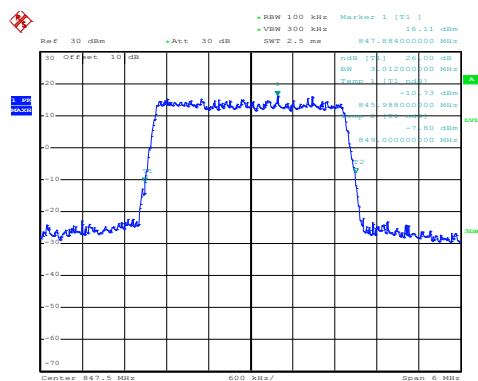
Modulation:QPSK



Date: 29.NOV.2015 01:11:33

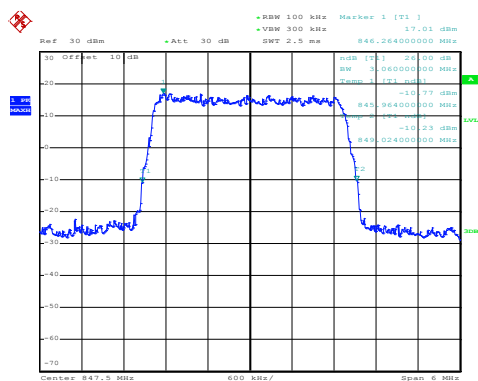
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:11:56

Modulation:QPSK

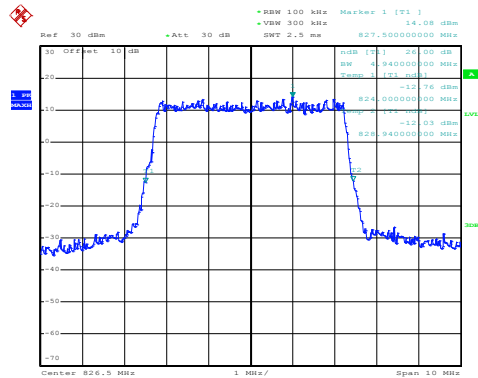


Date: 29.NOV.2015 01:11:52

Highest channel

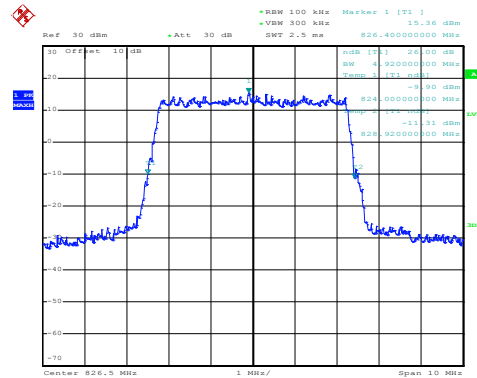
Test Item:-26dBc bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:13:04

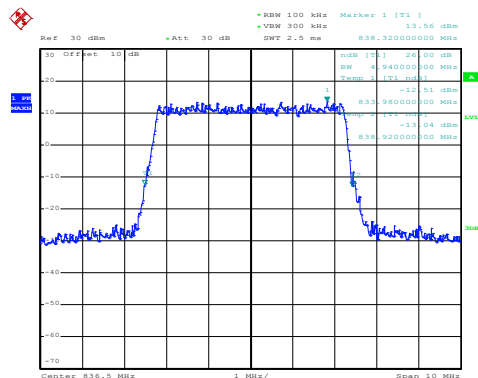
Modulation:QPSK



Date: 29.NOV.2015 01:13:00

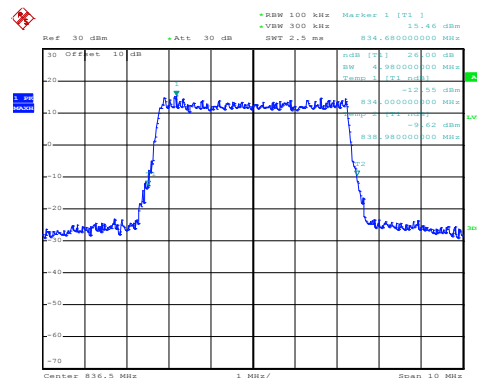
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:13:22

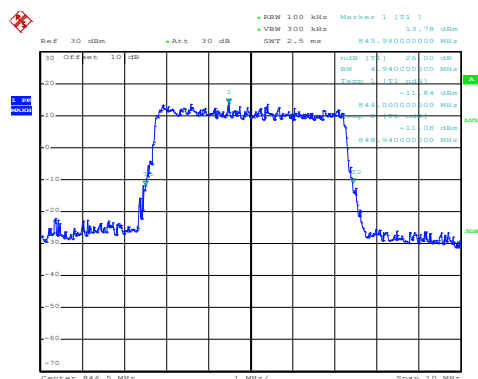
Modulation:QPSK



Date: 29.NOV.2015 01:13:17

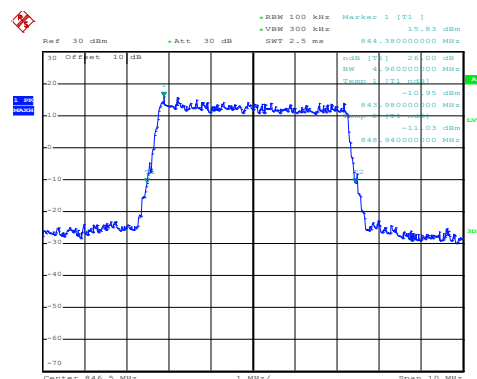
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:14:02

Modulation:QPSK



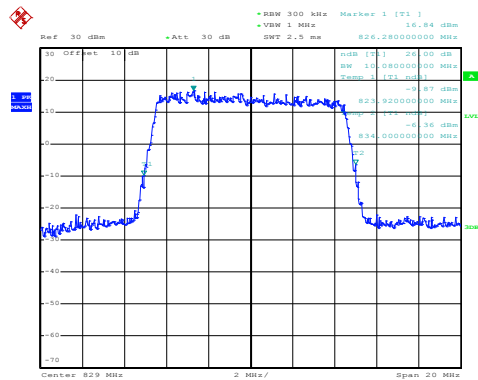
Date: 29.NOV.2015 01:13:58

Highest channel

Test Item:-26dBc bandwidth

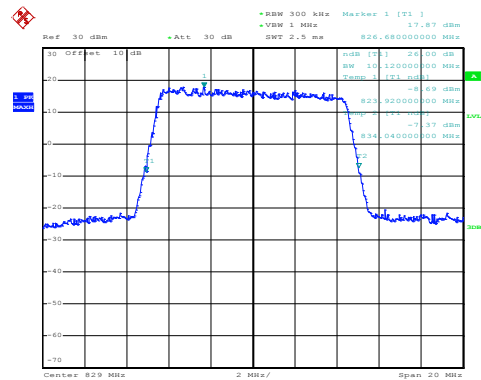
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:14:37

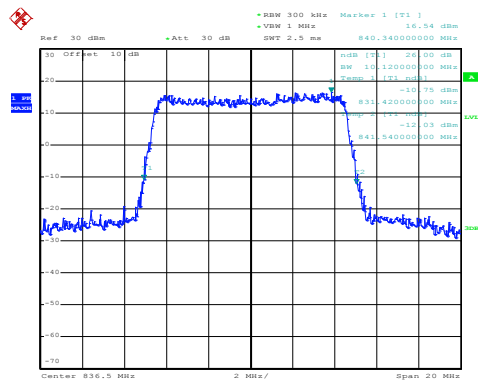
Modulation:QPSK



Date: 29.NOV.2015 01:14:34

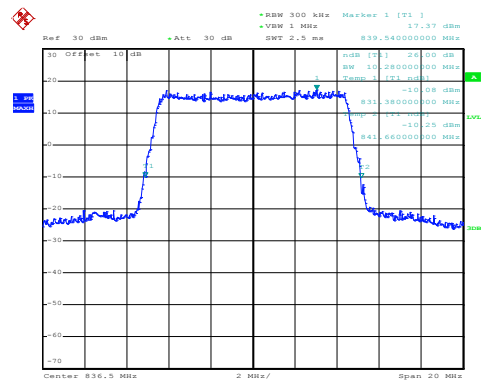
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:15:15

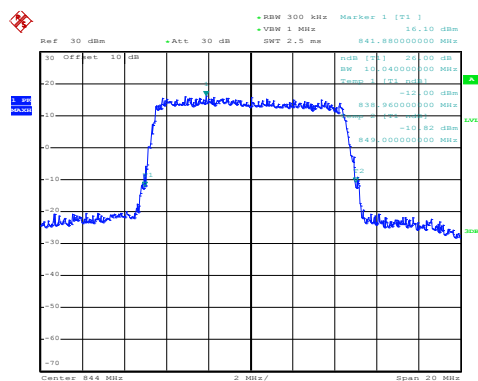
Modulation:QPSK



Date: 29.NOV.2015 01:15:11

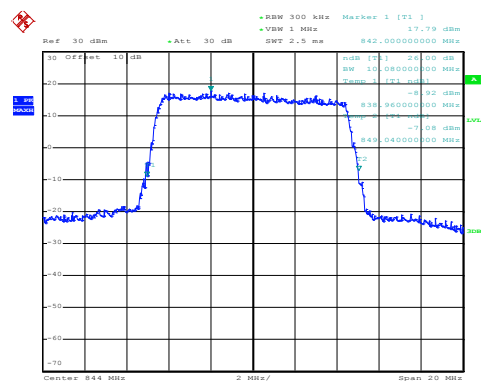
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:15:33

Modulation:QPSK



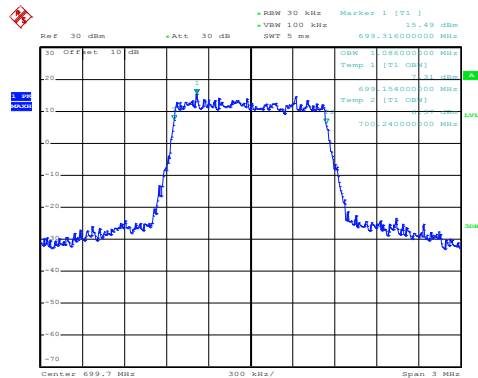
Date: 29.NOV.2015 01:15:29

Highest channel

LTE-Band 12 part

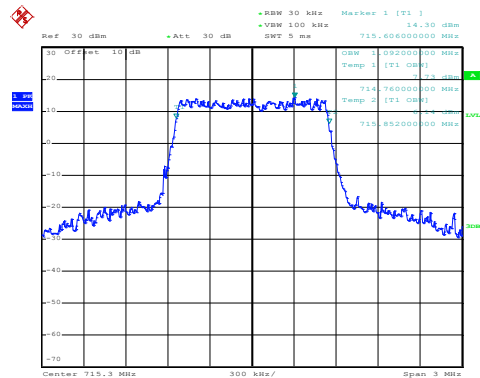
Test Item:99% Occupy bandwidth
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 01:31:20

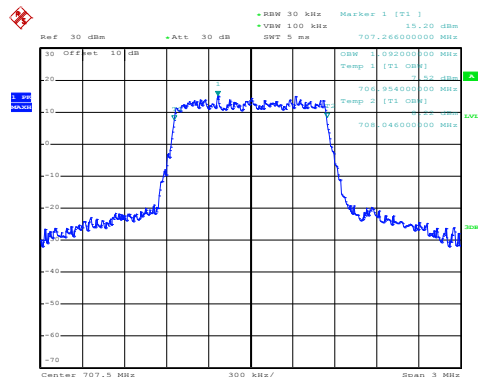
Modulation:QPSK



Date: 29.NOV.2015 01:32:24

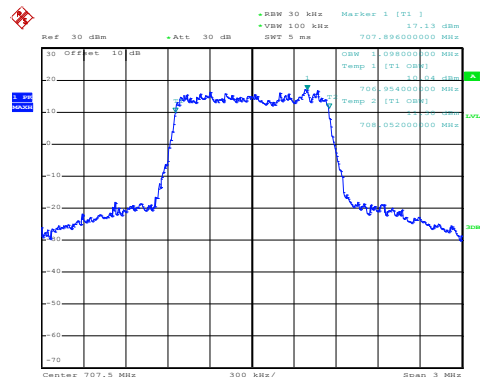
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:31:40

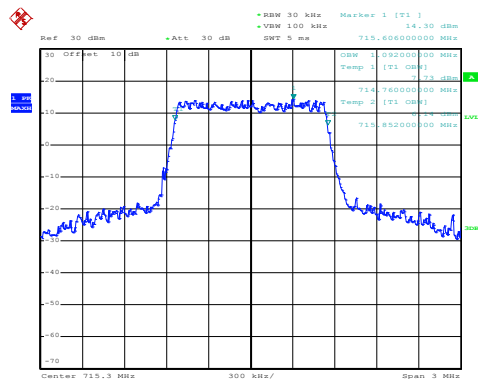
Modulation:QPSK



Date: 29.NOV.2015 01:31:36

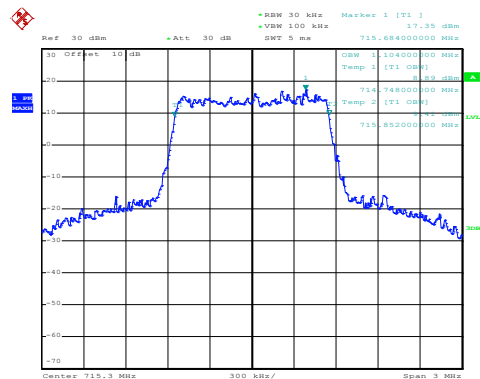
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:32:24

Modulation:QPSK



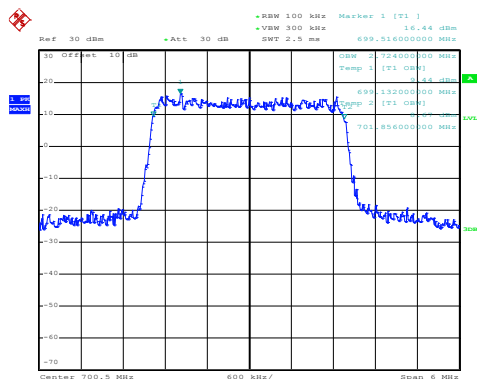
Date: 29.NOV.2015 01:32:19

Highest channel

Test Item:99% Occupancy bandwidth

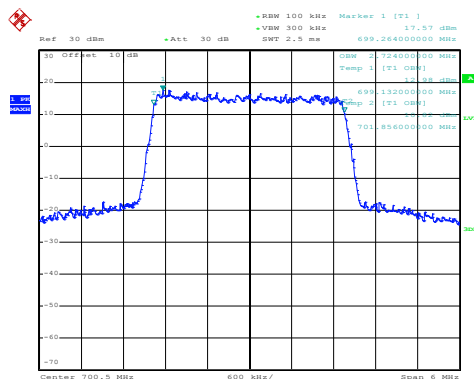
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 01:33:05

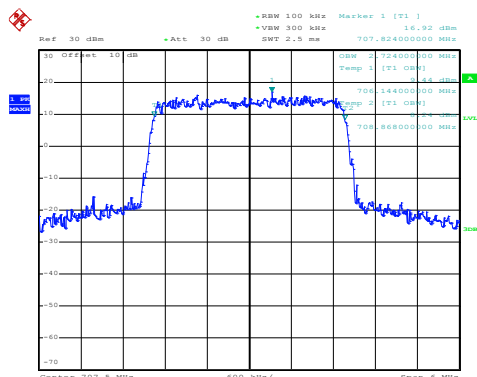
Modulation:QPSK



Date: 29.NOV.2015 01:33:01

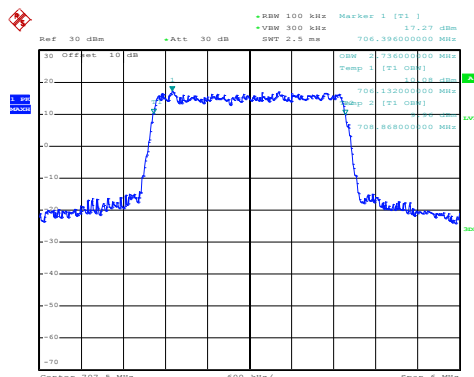
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:34:03

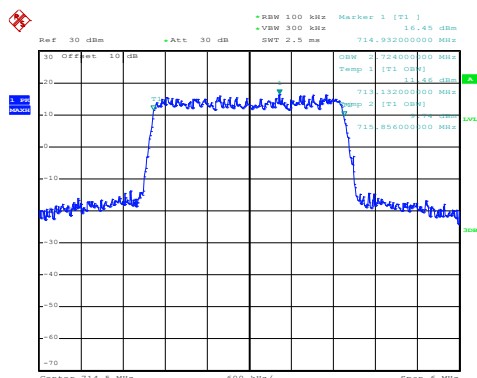
Modulation:QPSK



Date: 29.NOV.2015 01:33:48

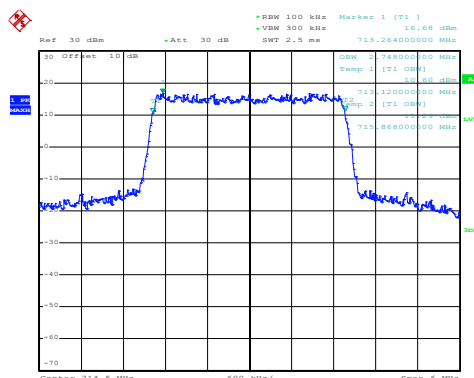
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:34:51

Modulation:QPSK



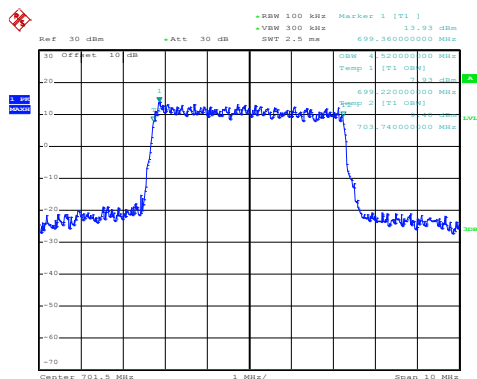
Date: 29.NOV.2015 01:34:47

Highest channel

Test Item:99% Occupancy bandwidth

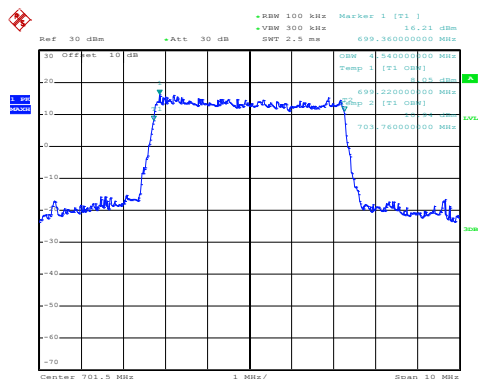
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:35:33

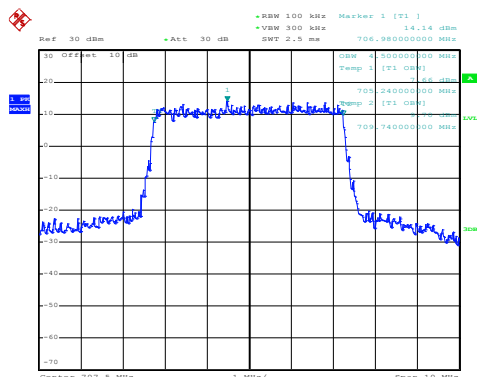
Modulation:QPSK



Date: 29.NOV.2015 01:35:29

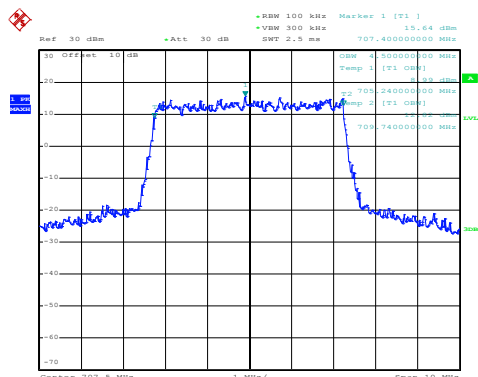
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:36:21

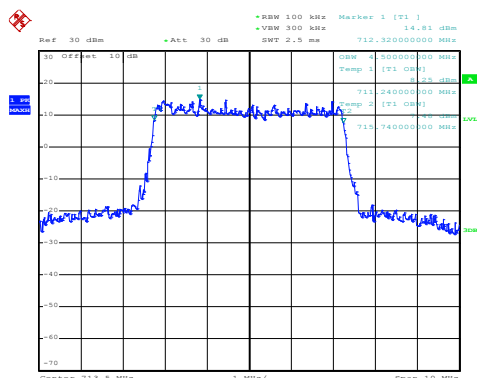
Modulation:QPSK



Date: 29.NOV.2015 01:36:17

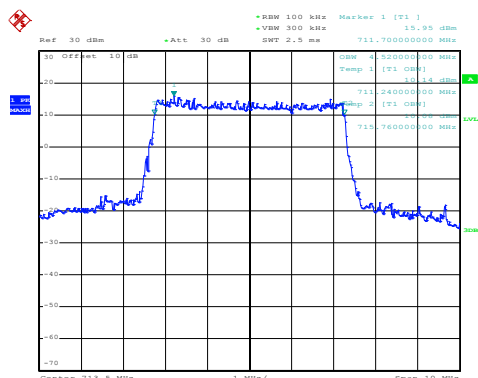
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:36:39

Modulation:QPSK

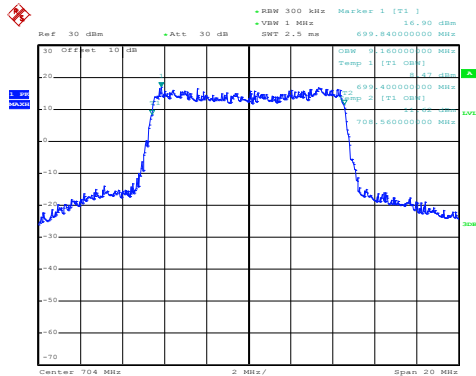


Date: 29.NOV.2015 01:36:35

Highest channel

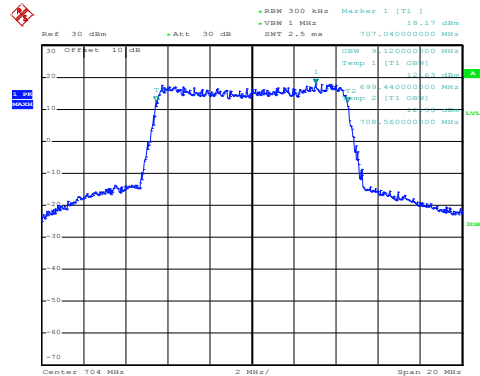
Test Item:99% Occupy bandwidth
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:37:45

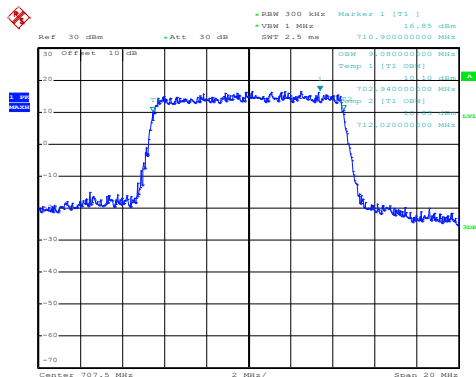
Modulation:QPSK



Date: 29.NOV.2015 01:37:40

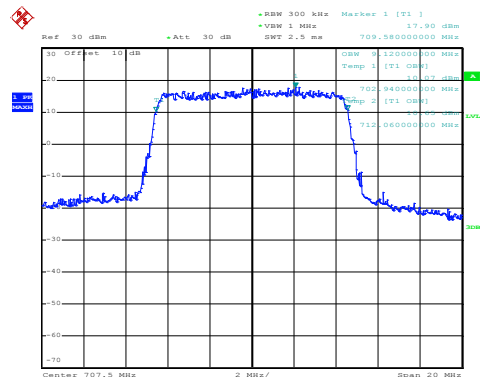
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:38:02

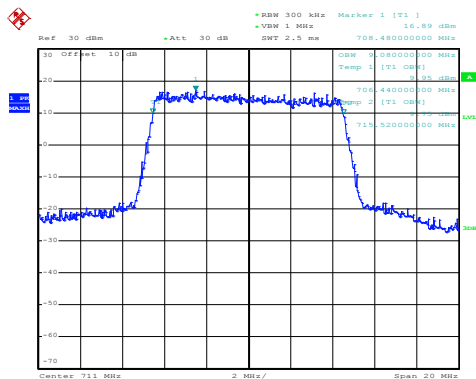
Modulation:QPSK



Date: 29.NOV.2015 01:37:57

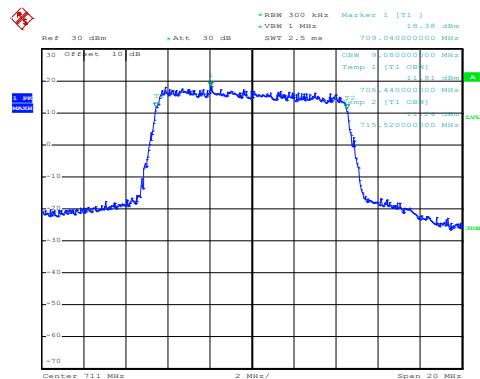
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:38:40

Modulation:QPSK

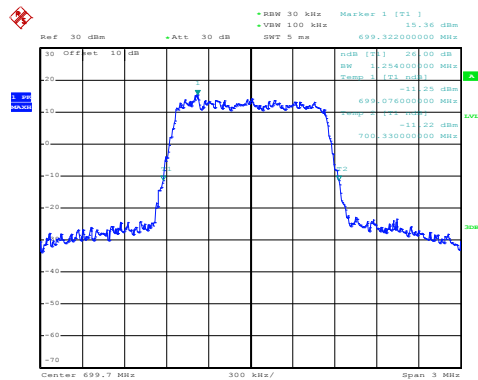


Date: 29.NOV.2015 01:38:36

Highest channel

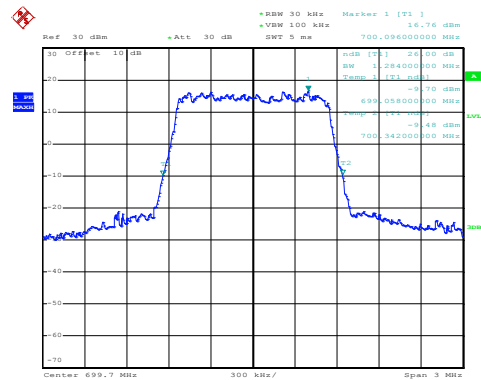
Test Item:-26dBc bandwidth
BW: 1.4MHz

Modulation:16QAM



Date: 29.NOV.2015 01:31:08

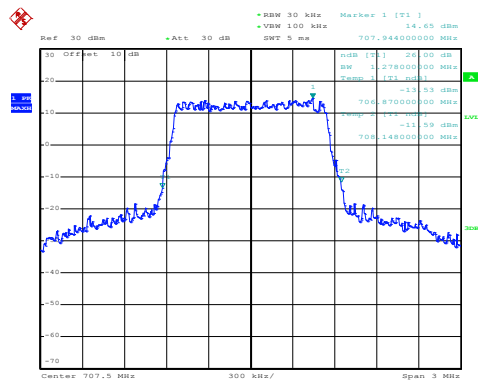
Modulation:QPSK



Date: 29.NOV.2015 01:30:46

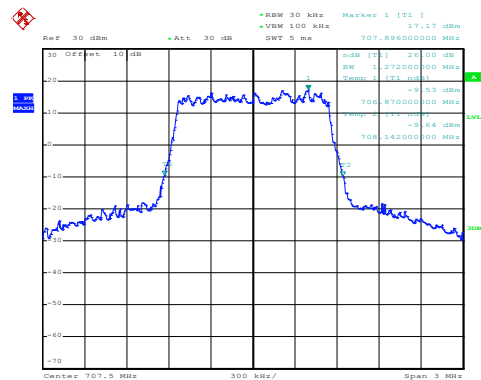
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:31:53

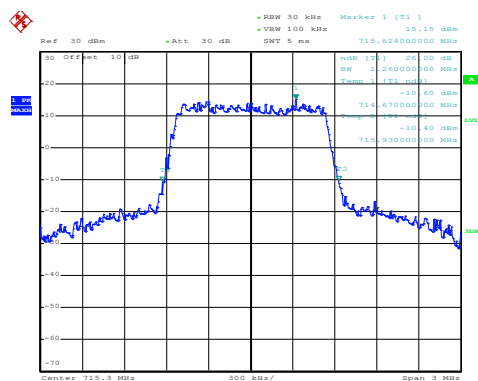
Modulation:QPSK



Date: 29.NOV.2015 01:31:49

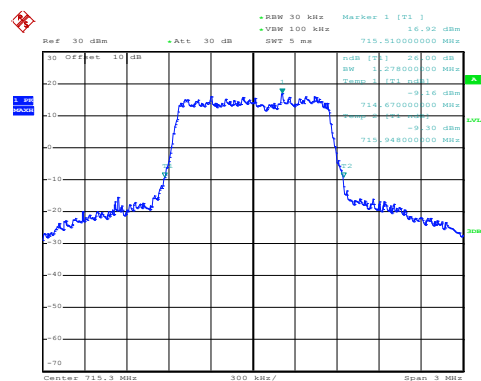
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:32:13

Modulation:QPSK

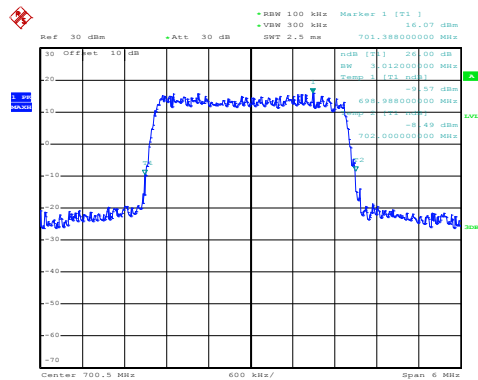


Date: 29.NOV.2015 01:32:09

Highest channel

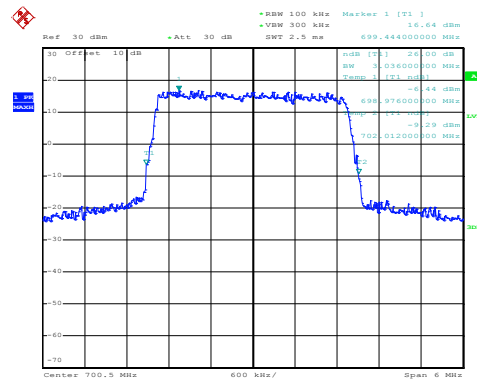
Test Item:-26dBc bandwidth
BW: 3MHz

Modulation:16QAM



Date: 29.NOV.2015 01:33:19

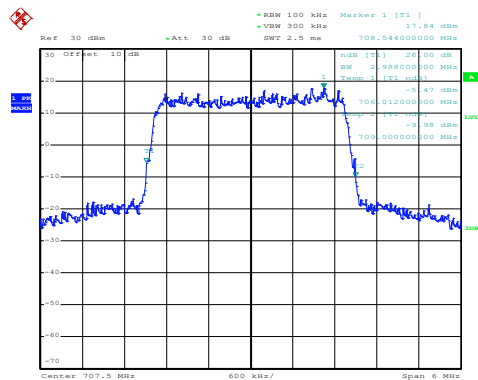
Modulation:QPSK



Date: 29.NOV.2015 01:33:14

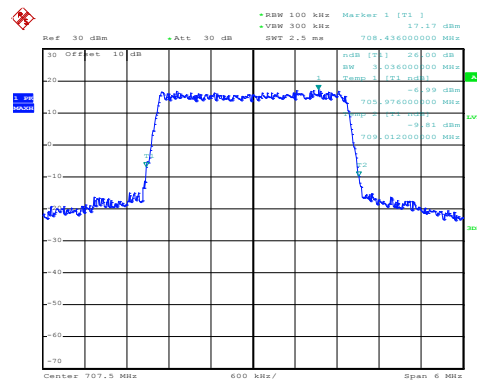
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:33:41

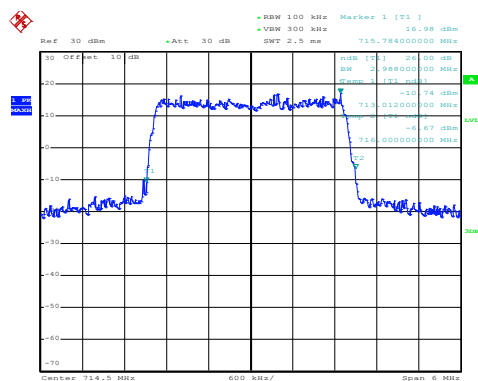
Modulation:QPSK



Date: 29.NOV.2015 01:34:12

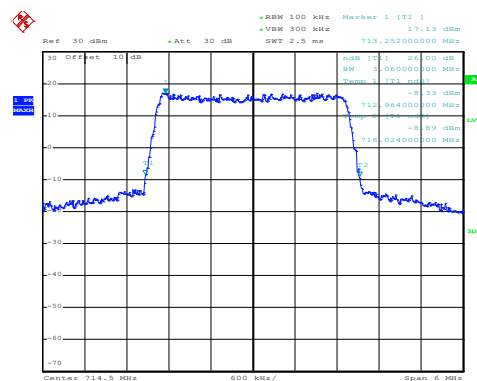
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:34:40

Modulation:QPSK

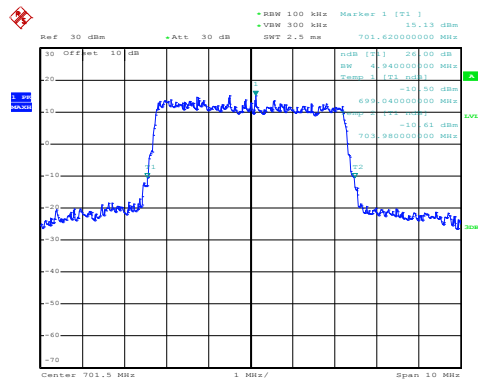


Date: 29.NOV.2015 01:34:37

Highest channel

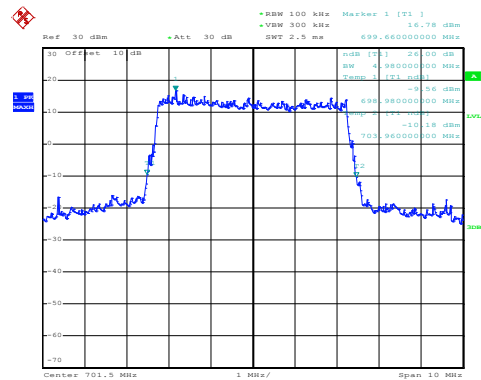
Test Item:-26dBc bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:35:47

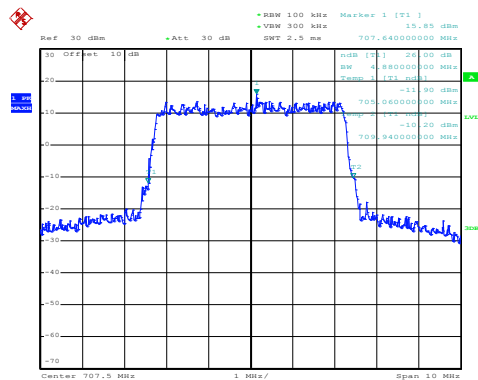
Modulation:QPSK



Date: 29.NOV.2015 01:35:42

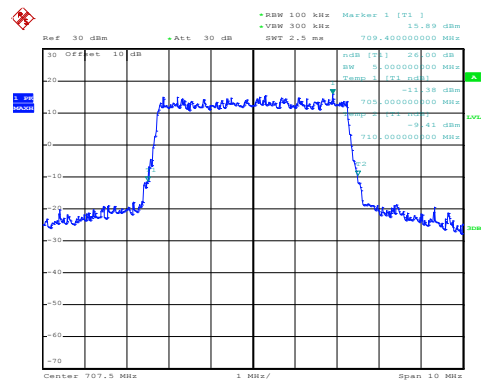
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:36:10

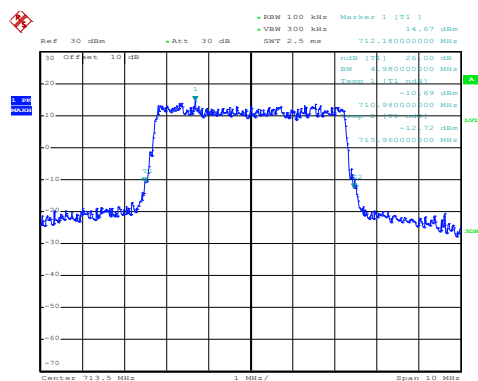
Modulation:QPSK



Date: 29.NOV.2015 01:36:04

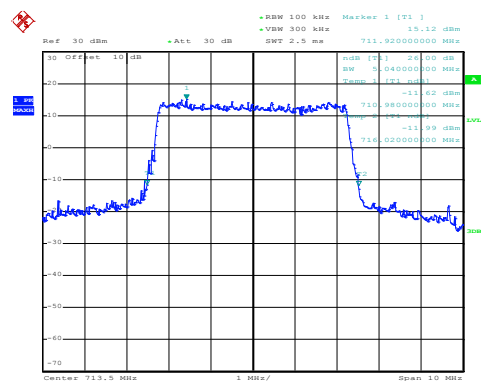
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:36:51

Modulation:QPSK



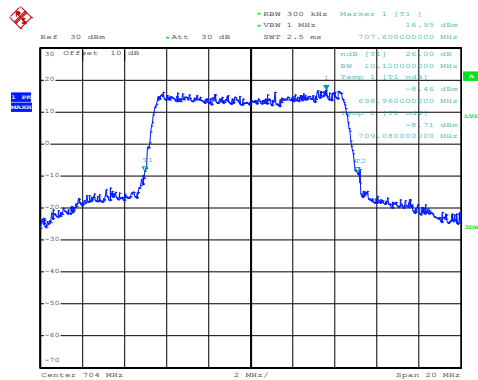
Date: 29.NOV.2015 01:36:46

Highest channel

Test Item:-26dBc bandwidth

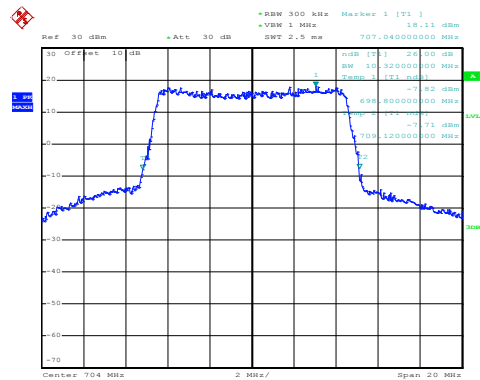
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:37:33

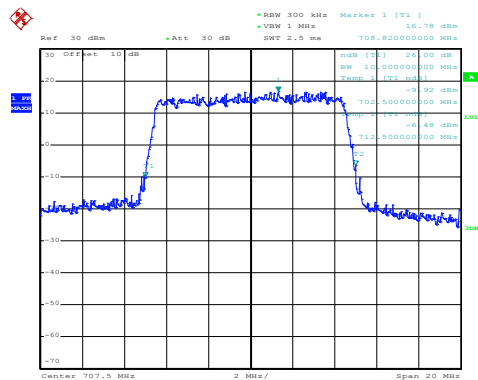
Modulation:QPSK



Date: 29.NOV.2015 01:37:29

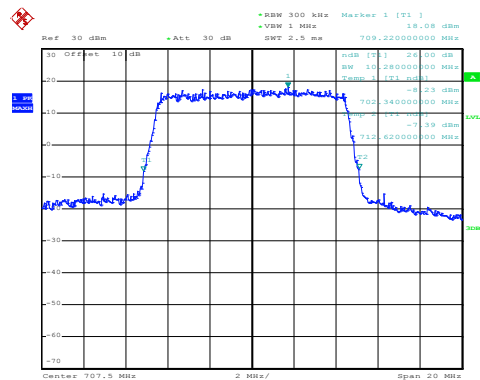
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:38:13

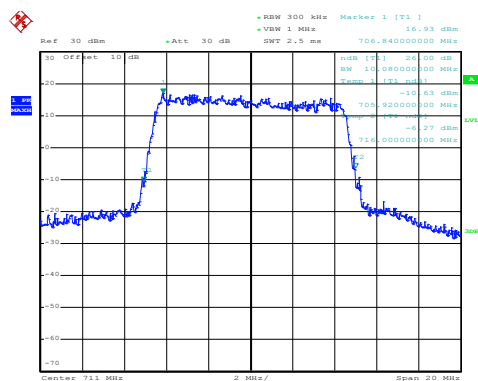
Modulation:QPSK



Date: 29.NOV.2015 01:38:08

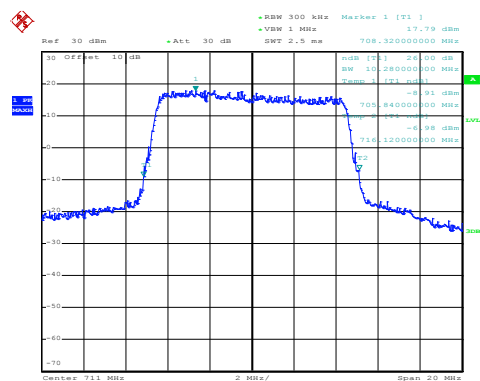
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:38:29

Modulation:QPSK



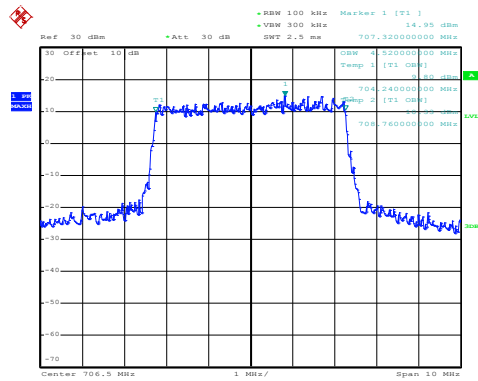
Date: 29.NOV.2015 01:38:25

Highest channel

LTE-Band 17 part

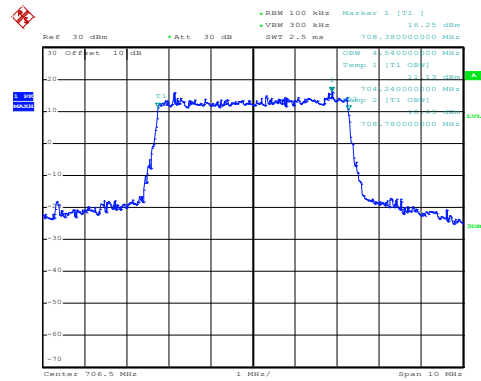
Test Item:99% Occupy bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:16:44

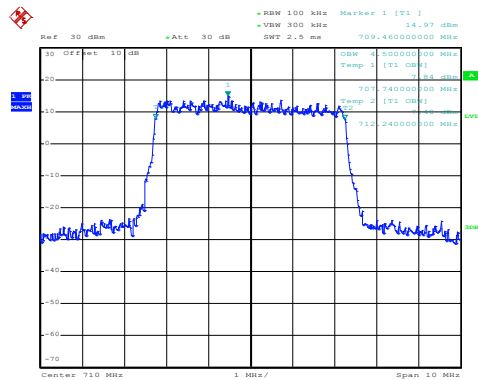
Modulation:QPSK



Date: 29.NOV.2015 01:16:38

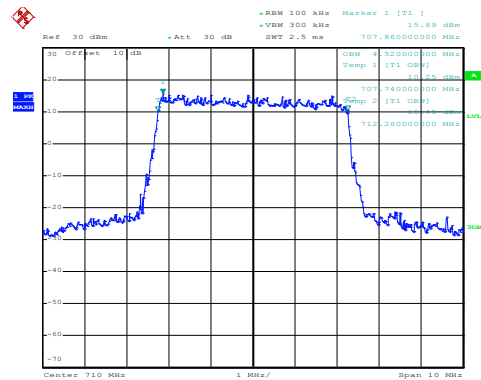
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:17:27

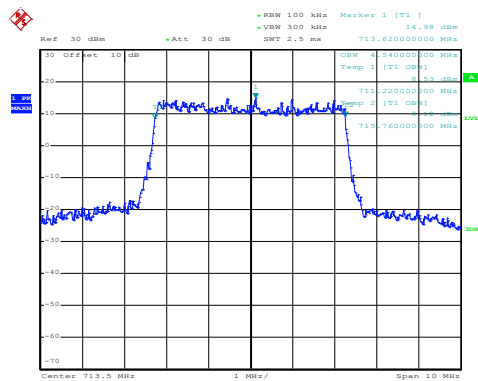
Modulation:QPSK



Date: 29.NOV.2015 01:17:22

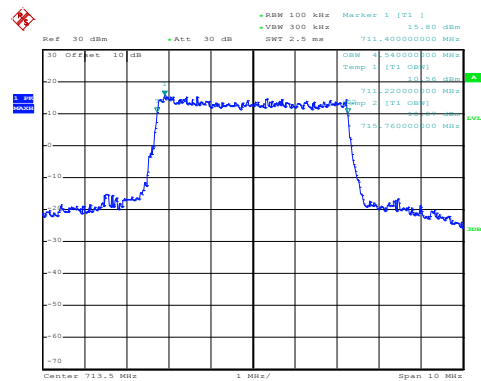
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:18:25

Modulation:QPSK



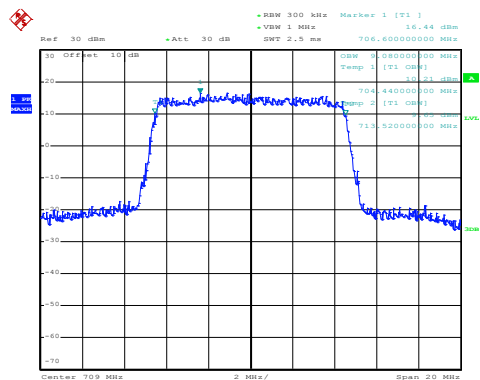
Date: 29.NOV.2015 01:18:19

Highest channel

Test Item:99% Occupy bandwidth

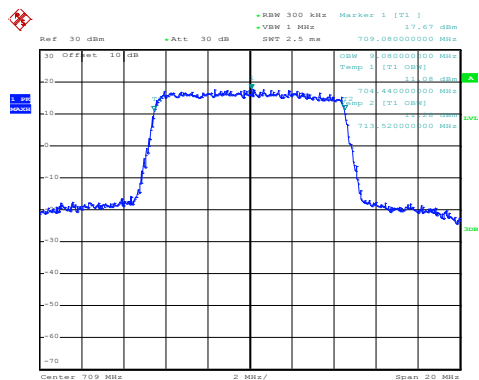
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:19:03

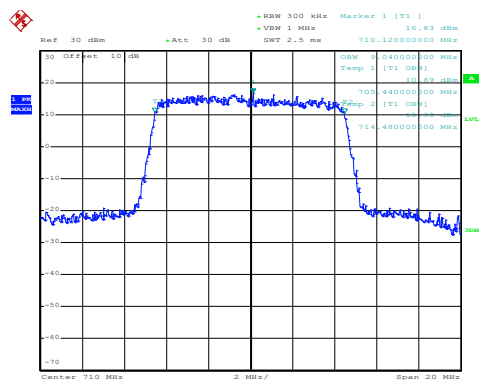
Modulation:QPSK



Date: 29.NOV.2015 01:18:58

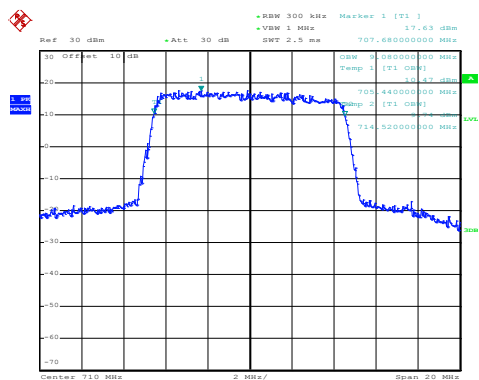
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:19:44

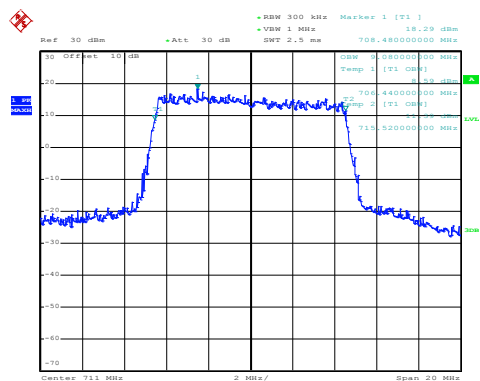
Modulation:QPSK



Date: 29.NOV.2015 01:19:39

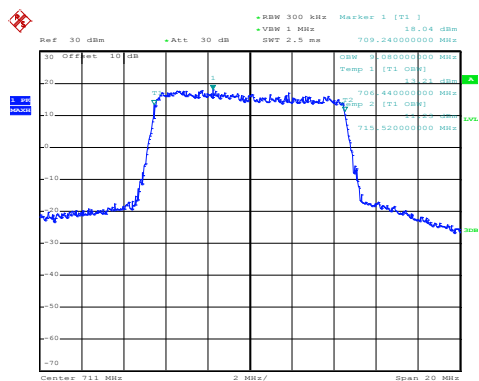
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:19:59

Modulation:QPSK

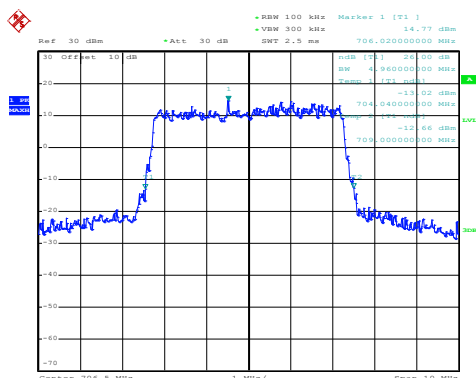


Date: 29.NOV.2015 01:19:55

Highest channel

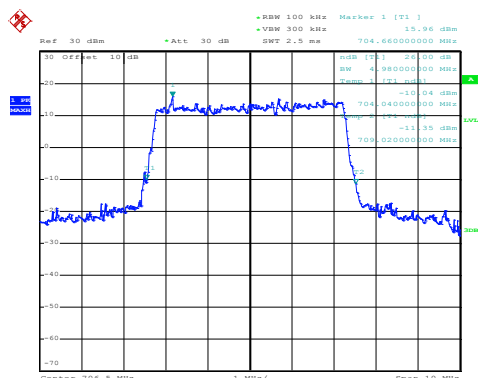
Test Item:-26dBc bandwidth
BW: 5MHz

Modulation:16QAM



Date: 29.NOV.2015 01:16:56

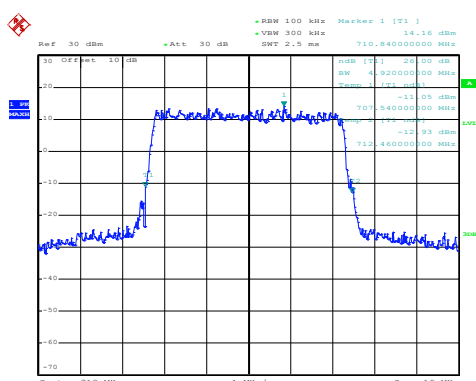
Modulation:QPSK



Date: 29.NOV.2015 01:16:52

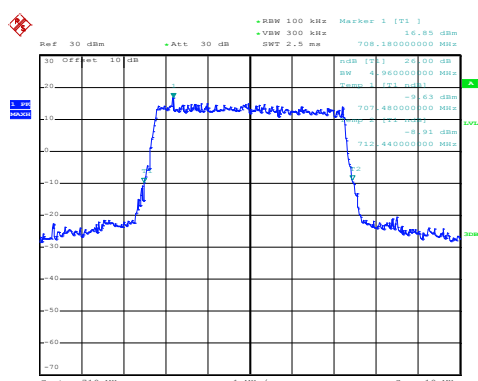
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:17:14

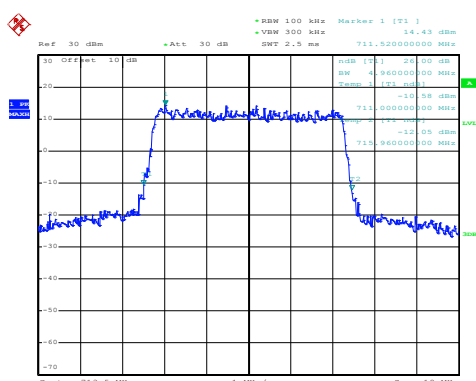
Modulation:QPSK



Date: 29.NOV.2015 01:17:47

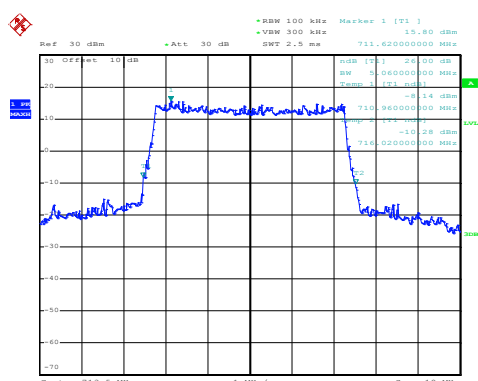
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:18:09

Modulation:QPSK

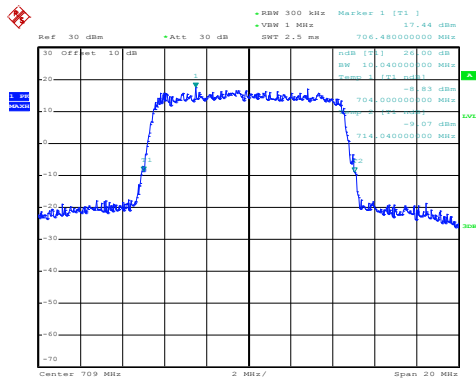


Date: 29.NOV.2015 01:18:04

Highest channel

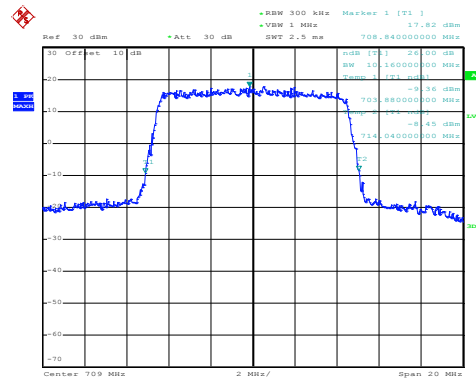
Test Item:-26dBc bandwidth
BW: 10MHz

Modulation:16QAM



Date: 29.NOV.2015 01:19:15

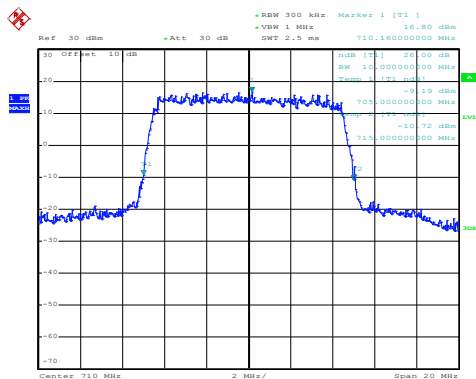
Modulation:QPSK



Date: 29.NOV.2015 01:19:10

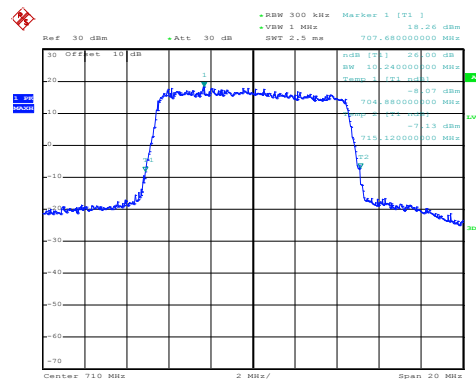
Lowest channel

Modulation:16QAM



Date: 29.NOV.2015 01:19:33

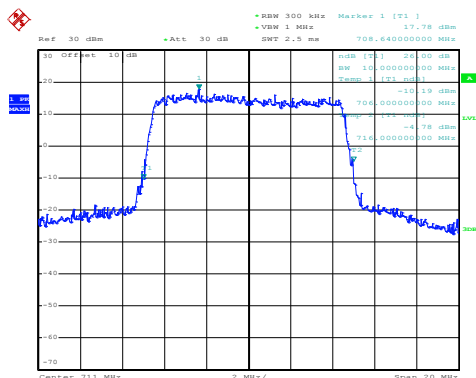
Modulation:QPSK



Date: 29.NOV.2015 01:19:29

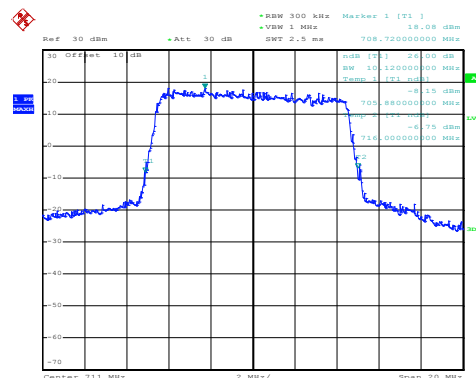
Middle channel

Modulation:16QAM



Date: 29.NOV.2015 01:20:10

Modulation:QPSK



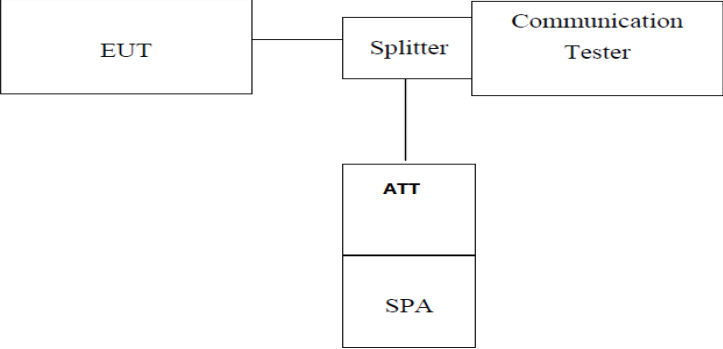
Date: 29.NOV.2015 01:20:05

Highest channel

6.8 Modulation Characteristic

According to FCC § 2.1047(d), Part 24E & 22H & 27H 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 22.917(a)
Test Method:	FCC part 2.1051
Limit:	The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
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

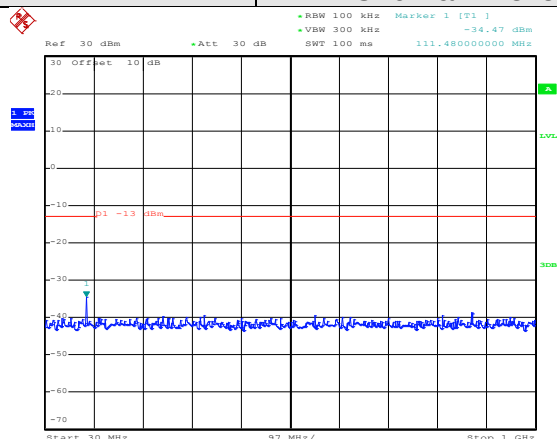
Test plots as follows:

Spurious emission

LTE band 2 Part:

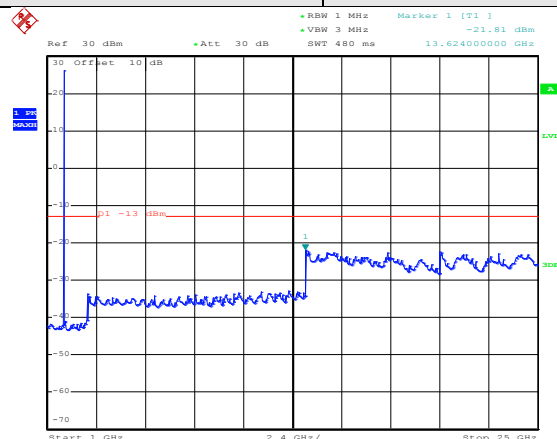
1.4MHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:47:03

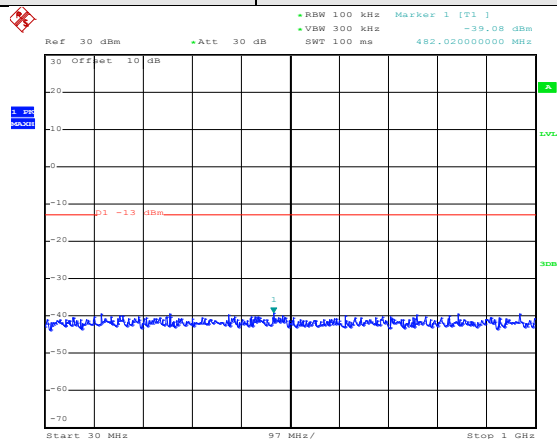
30MHz~1GHz



Date: 2.DEC.2015 13:17:27

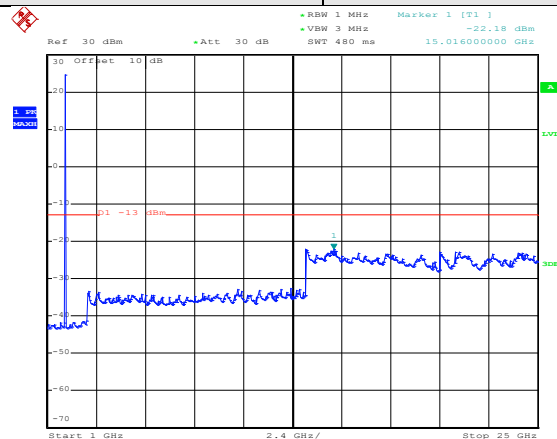
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 1 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:47:55

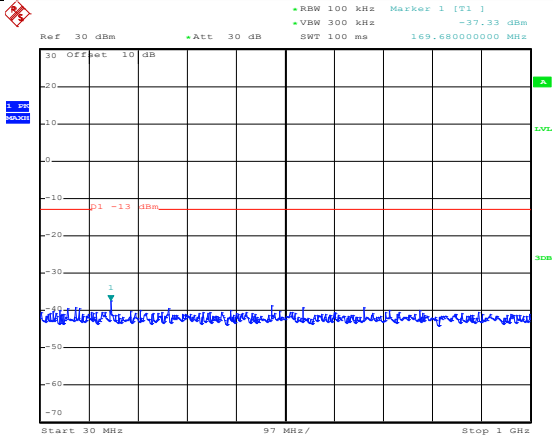
30MHz~1GHz



Date: 2.DEC.2015 13:18:30

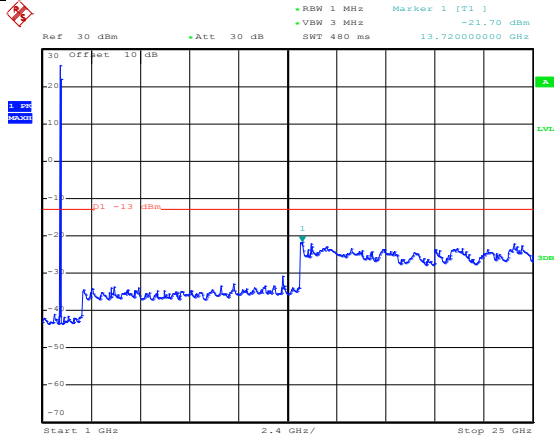
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz16QAM) RB Size 1 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:48:38

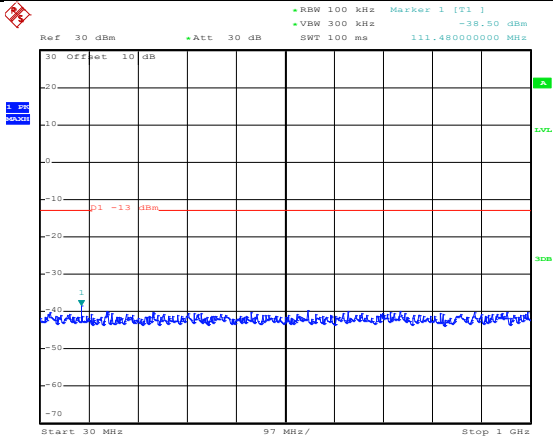
30MHz~1GHz



Date: 2.DEC.2015 13:19:35

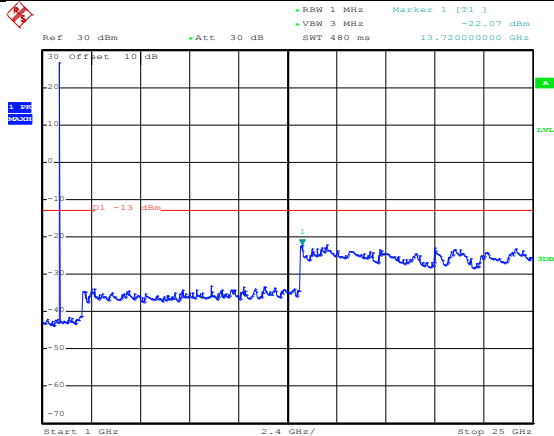
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 3 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:47:19

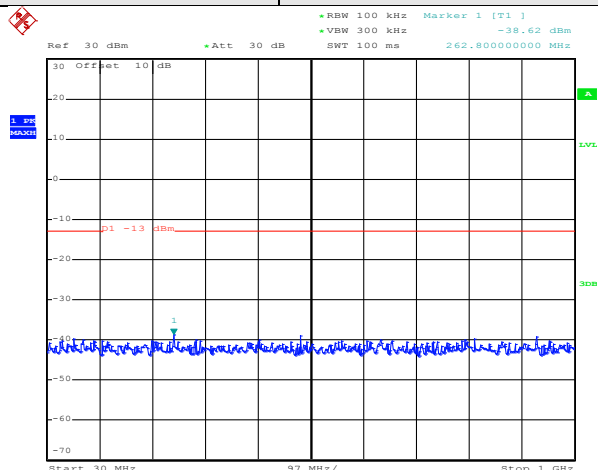
30MHz~1GHz



Date: 2.DEC.2015 13:17:49

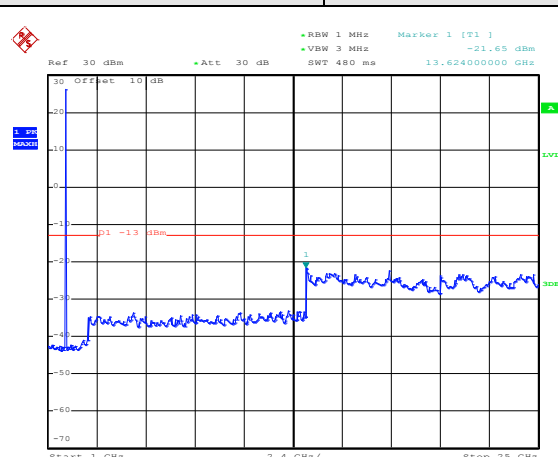
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 3 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:48:08

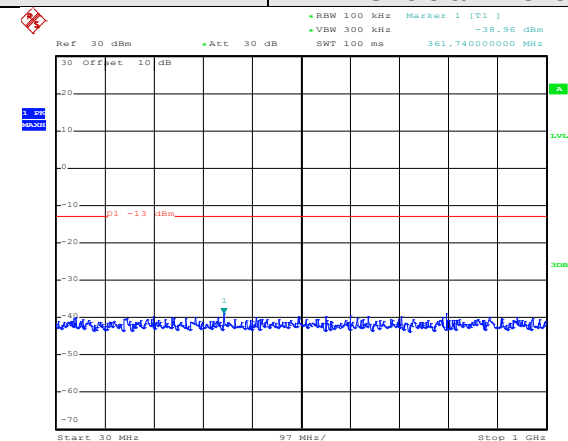
30MHz~1GHz



Date: 2.DEC.2015 13:18:50

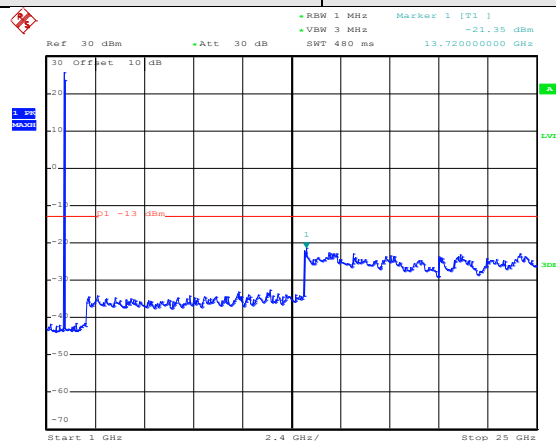
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 3 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:48:51

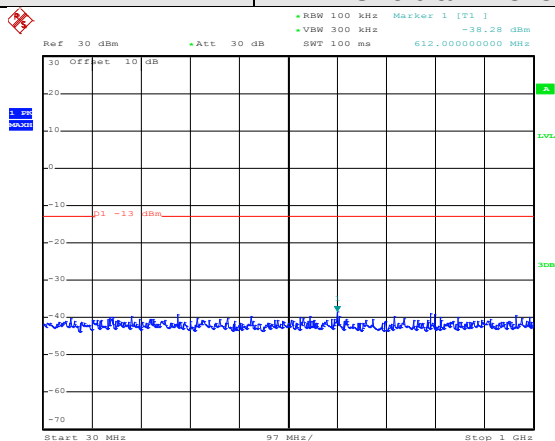
30MHz~1GHz



Date: 2.DEC.2015 13:19:57

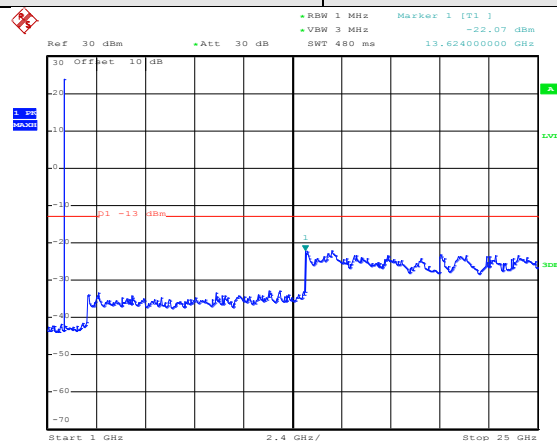
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 6 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:47:36

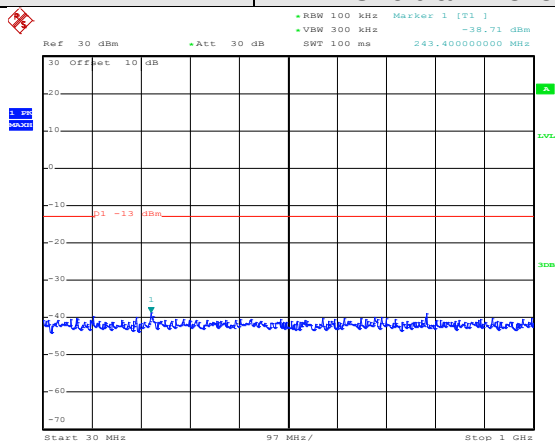
30MHz~1GHz



Date: 2.DEC.2015 13:18:05

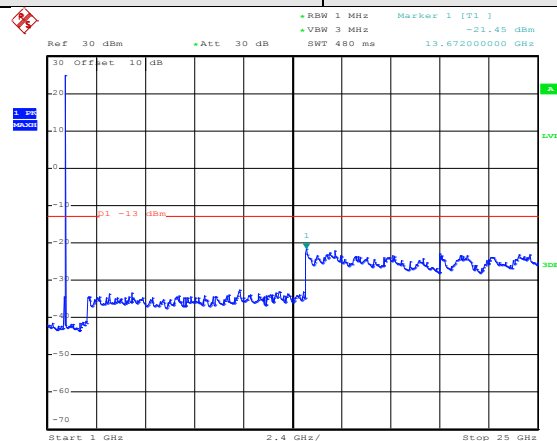
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz 16QAM) RB Size 6 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:48:19

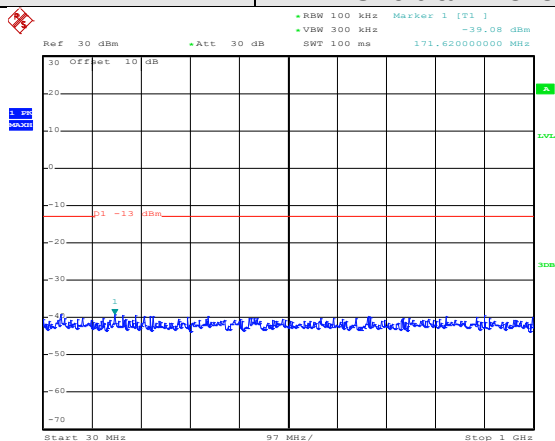
30MHz~1GHz



Date: 2.DEC.2015 13:19:09

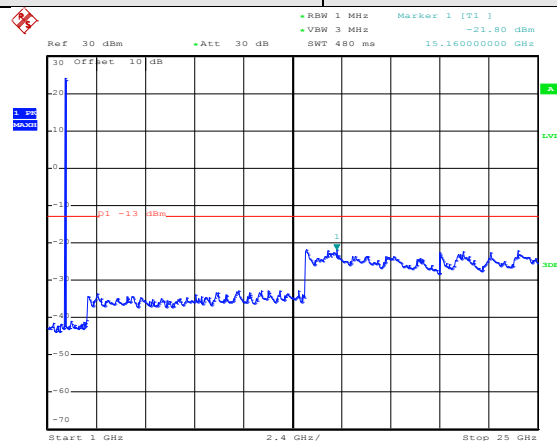
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz16QAM) RB Size 6 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:49:01

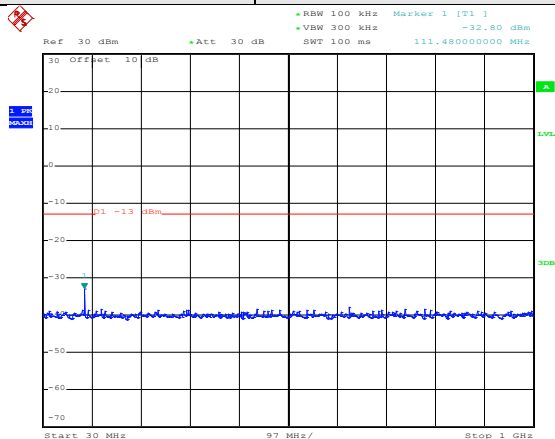
30MHz~1GHz



Date: 2.DEC.2015 13:20:22

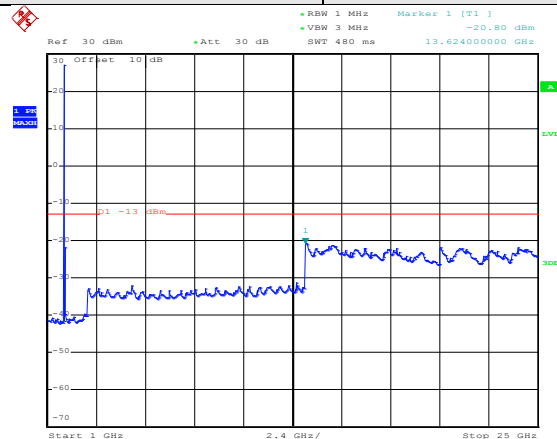
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz QPSK) RB Size 1 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:46:32

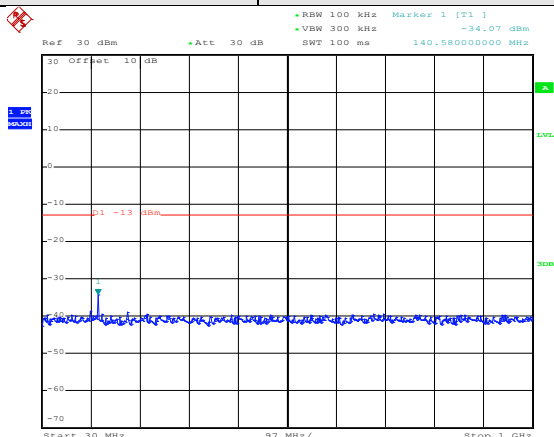
30MHz~1GHz



Date: 2.DEC.2015 13:17:13

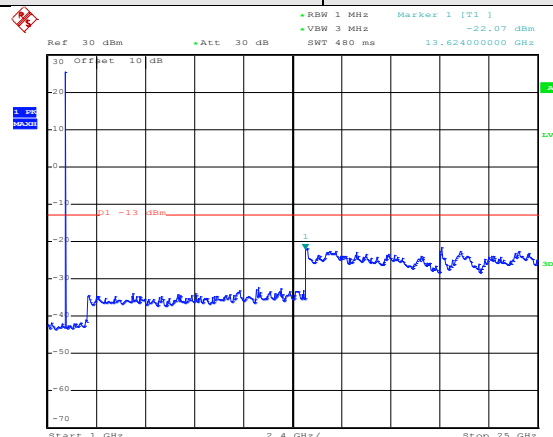
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 1 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:47:50

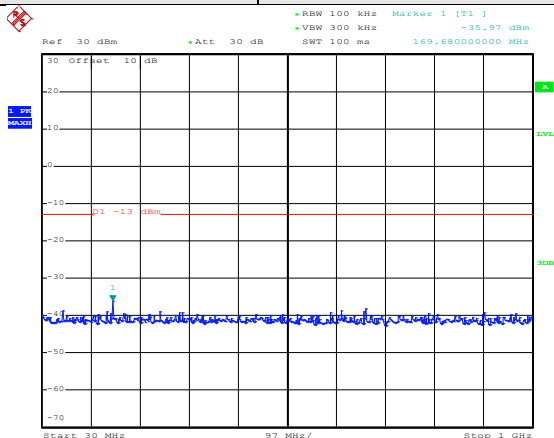
30MHz~1GHz



Date: 2.DEC.2015 13:18:19

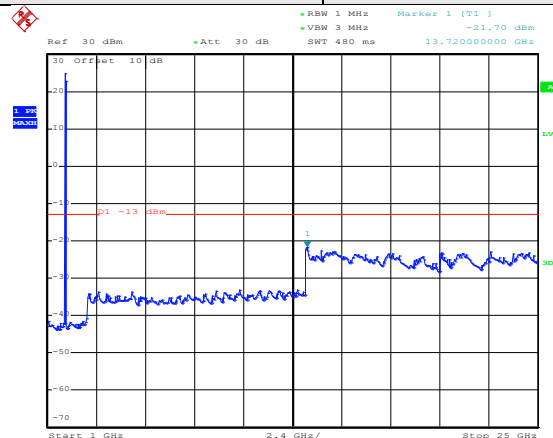
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 1 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:48:33

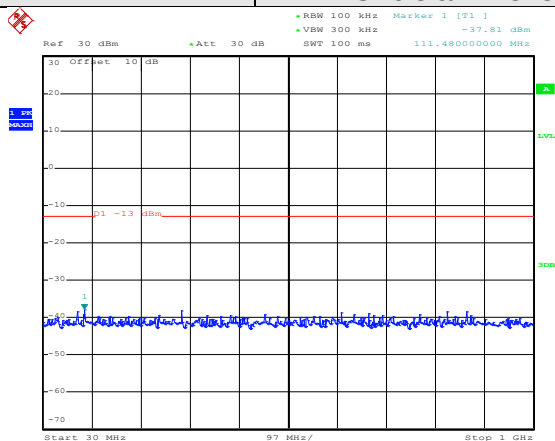
30MHz~1GHz



Date: 2.DEC.2015 13:19:25

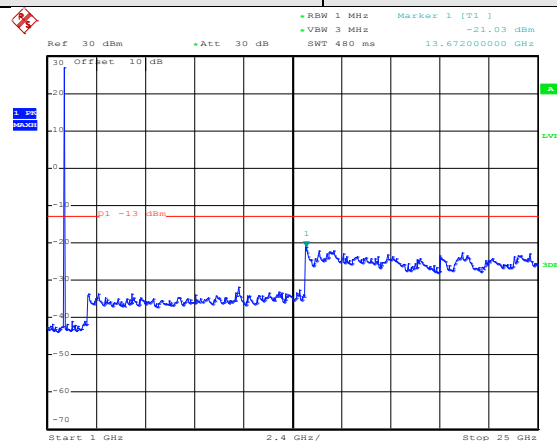
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz QPSK) RB Size 3 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:47:13

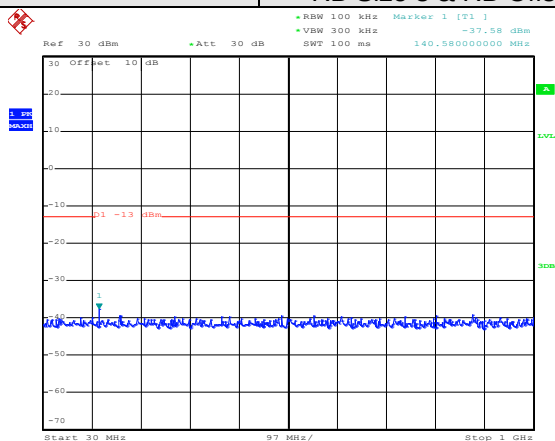
30MHz~1GHz



Date: 2.DEC.2015 13:17:39

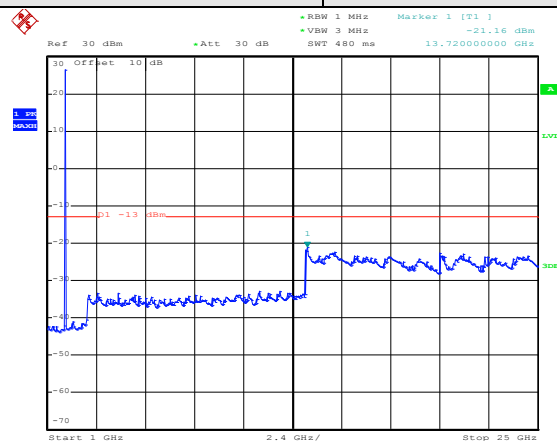
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 3 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:48:03

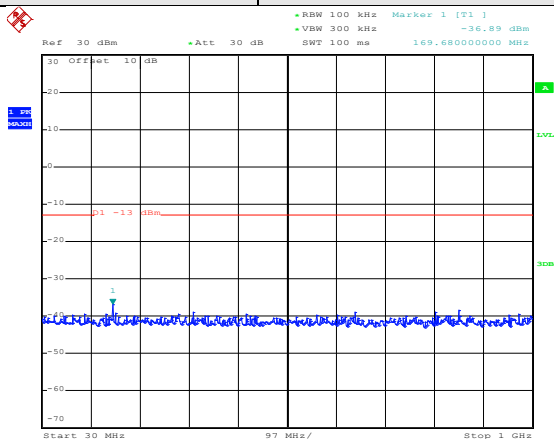
30MHz~1GHz



Date: 2.DEC.2015 13:18:43

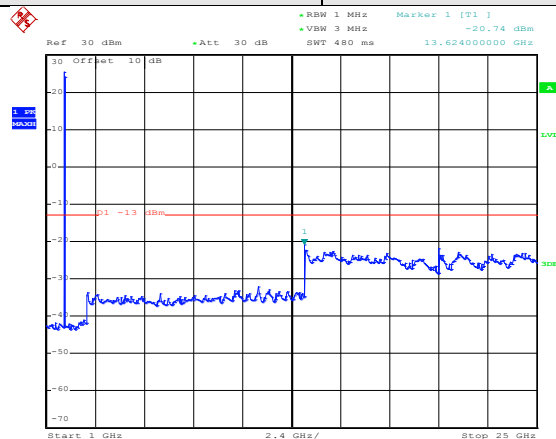
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 3 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:48:46

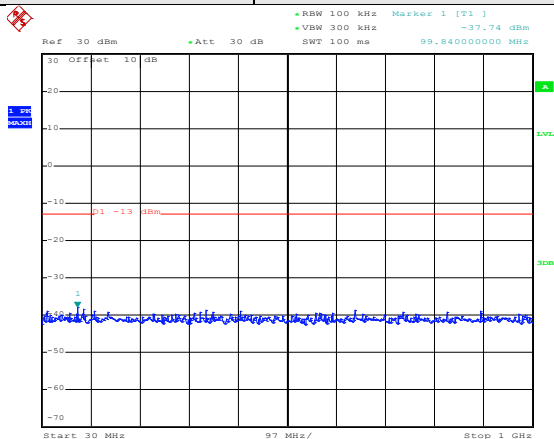
30MHz~1GHz



Date: 2.DEC.2015 13:19:47

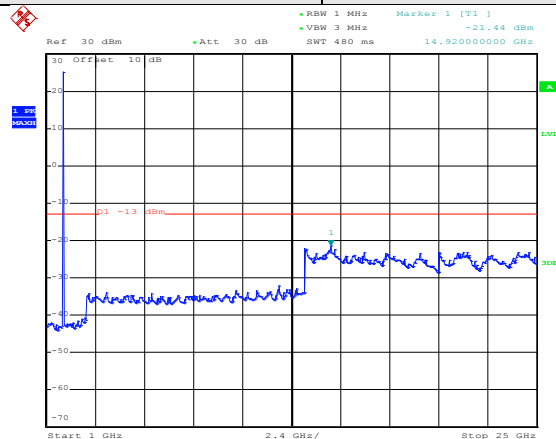
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHz QPSK) RB Size 6 & RB Offset 0	Test Channel:	Lowest channel
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Date: 2.DEC.2015 10:47:28

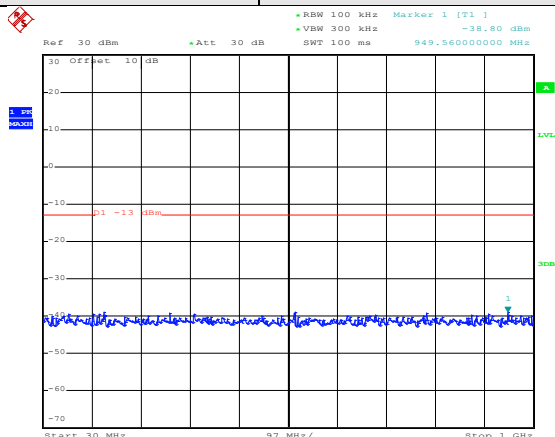
30MHz~1GHz



Date: 2.DEC.2015 13:17:58

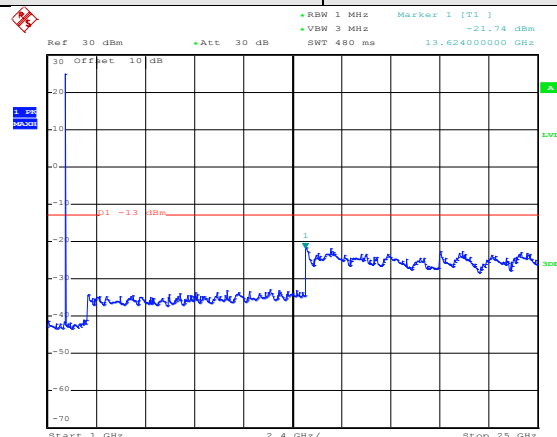
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 6 & RB Offset 0	Test Channel:	Middle channel
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Date: 2.DEC.2015 10:48:15

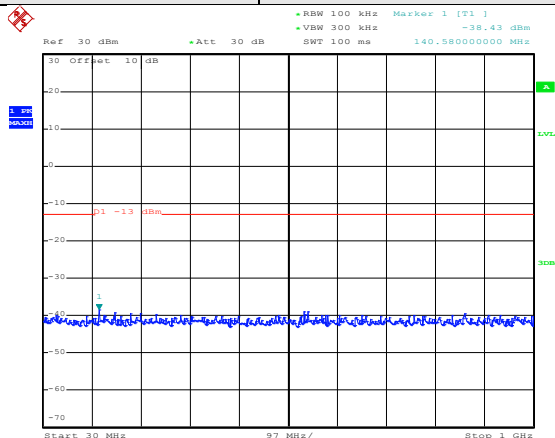
30MHz~1GHz



Date: 2.DEC.2015 13:19:01

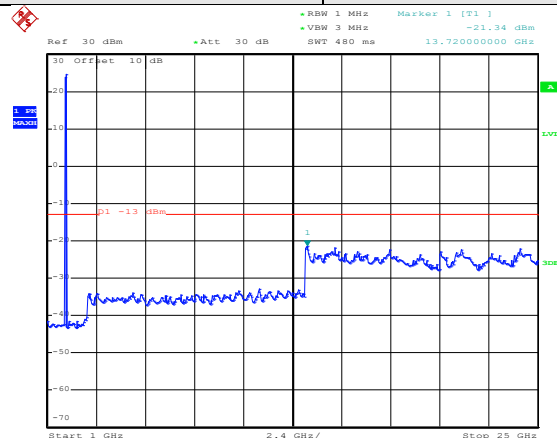
1GHz~25GHz

Test Mode:	LTE band 2(1.4 MHzQPSK) RB Size 6 & RB Offset 0	Test Channel:	Highest channel
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Date: 2.DEC.2015 10:48:57

30MHz~1GHz



Date: 2.DEC.2015 13:20:10

1GHz~25GHz