FCC REPORT
(LTE)

Applicant:	Likk Technologies Inc.
Address of Applicant:	16112 NW 13 Ave. Suite A Miami, Florida 33169 USA.

Equipment Under Test (EUT)

Product Name:	Water leak alarm
Model No.:	S5
FCC ID:	2AWC7S5
Applicable standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 24 Subpart E FCC CFR Title 47 Part 27 Subpart L FCC CFR Title 47 Part 27 Subpart H
Date of sample receipt:	25 May, 2020
Date of Test:	26 May, to 19 Aug., 2020
Date of report issued:	20 Aug., 2020
Test Result:	PASS*

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

Authorized Signature:

Bruce Zhang
Laboratory Manager

2. Version

Version No.	Date	Description
00	*20 Aug., 2020*	*Original*

Tested by: YT Yang ***Date:*** *20 Aug., 2020*

Test Engineer

Reviewed by: Winner Zhang ***Date:*** *20 Aug., 2020*

Project Engineer

3. Contents

4. Test Summary

Test Items	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 24.232 (c) Part 27.50 (c)(10) Part 27.50 (d)(4)	Pass
Peak-to-Average Ratio	Part 24.232 (d) Part 27.50(d)(5)	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 24.238(b) Part 27.53(g) Part 27.53(h)	Pass
Out of band emission at antenna terminals	Part 2.1053 Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	Pass
Field strength of spurious radiation	Part 22.917(a) Part 24.238 (a) Part 27.53 (g) Part 27.53 (h)	Pass
Frequency stability vs. temperature	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 22.355 Part 24.235 Part 27.54 Part 2.1055(d)(2)	Pass
Remark: *1. Pass: The EUT complies with the essential requirements in the standard.* *2. The cable insertion loss used by "RF Output Power" and other conduction measurement items is 0.5dB(Fundamental Frequency below 1GHz)/1.0dB(Fundamental Frequency above 1GHz) (provided by the customer).*		
Test Method:	*ANSI/TIA-603-E-2016* *ANSI C63.26-2015*	

5. General Information

5.1 Client Information

Applicant:	Likk Technologies Inc.
Address:	16112 NW 13 Ave. Suite A Miami, Florida 33169 USA.
Manufacturer:	Shenzhen Hengxin Wulian Technology Co., Ltd.
Address:	2nd Floor, Building 2, Longfeng Industrial Park, Guanlantian, Longhua District, Shenzhen

5.2 General Description of E.U.T.

Product Name:	Water leak alarm
Model No.:	S5
Operation Frequency range:	LTE Band 2: TX: 1850MHz-1910MHz, RX: 1930MHz-1990MHz LTE Band 4: TX: 1710MHz-1755MHz, RX: 2110MHz-2155MHz LTE Band 12: TX: 699MHz-716MHz, RX: 729MHz-746MHz
Modulation type:	QPSK, 16QAM (Categories 1)
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 2: 0.8dBi LTE Band 4: -0.6dBi LTE Band 12: -0.6dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V-1000mAh
AC adapter:	Model: HX12H-1201000-AU-001 Input: AC100-240V, 50/60Hz, 0.5A Output: DC 12.0V, 1A
Test Sample Condition:	The applicant provided engineering samples for staying in continuously transmitting for testing.

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 12 (1.4MHz)		LTE Band 12 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
23017	699.70	23025	700.50
23756	699.80	23026	700.60
….	….	….	….
23094	707.40	23094	707.40
23095	707.50	23095	707.50
23096	707.60	23096	707.60
…	…	…	…
23172	715.20	23164	714.40
23173	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

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 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	23173	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

5.3 Test environment and mode, and test samples plans

Operating Environment:	
Temperature:	Normal: 15℃ ~ 35℃, Extreme: -30℃ ~ +50℃
Humidity:	20 % ~ 75 % RH
Atmospheric Pressure:	1008 mbar
Voltage:	Nominal: 3.7Vdc, Extreme: Low 3.5Vdc, High 4.2Vdc
Test mode:	
LTE QPSK mode	Keep the EUT communication with simulated station in QPSK mode
LTE 16-QAM mode	Keep the EUT communication with simulated station in 16-QAM mode
Remark:	This product belongs to CAT 1, 10MHz bandwidth, 15MHz bandwidth, 20MHz bandwidth 16QAM modulation type does not support FULL RB
Remark: The EUT has been tested under 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 these modes. Just the worst case position (H mode) shown in report.	

5.4 Description of Support Units

Test Equipment	Manufacturer	Model No.	Serial No.
Simulated Station	Anritsu	MT8820C	6201026545

5.5 Measurement Uncertainty

Parameters	Expanded Uncertainty
Radiated Emission (9kHz ~ 30MHz)	±3.12 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.32 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.16 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±3.20 dB (k=2)

5.6 Related Submittal(s) / Grant (s)

This is an original grant, no related submittals and grants.

5.7 Additions to, deviations, or exclusions from the method

No

5.8 Laboratory Facility

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

- **FCC - Designation No.: CN1211**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The test firm Registration No. is 727551.

- **ISED – CAB identifier.: CN0021**

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.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

5.9 Laboratory Location

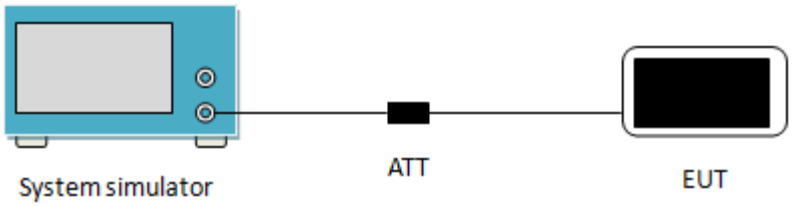
Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No.110~116, Building B, Jinyuan Business Building, Xixiang Road, Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.10 Test Instruments list

Test Equipment	Manufacturer	Model No.	Serial No.	Cal. Date (mm-dd-yy)	Cal. Due date (mm-dd-yy)
3m SAC	SAEMC	9m*6m*6m	966	07-22-2017	07-21-2020
				07-22-2020	07-21-2023
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-07-2020	03-06-2021
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-22-2017	06-21-2020
				06-22-2020	06-21-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-07-2020	03-06-2021
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
				06-22-2020	06-21-2021
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-18-2019	11-17-2020
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-07-2020	03-06-2021
Pre-amplifier	CD	PAP-1G18	11804	03-07-2020	03-06-2021
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-05-2020	03-04-2021
Spectrum analyzer	Rohde & Schwarz	FSP40	100363	11-18-2019	11-17-2020
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-05-2020	03-04-2021
Spectrum Analyzer	Agilent	N9020A	MY50510123	11-18-2019	11-17-2020
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-05-2020	03-04-2021
Signal Generator	R&S	SMR20	1008100050	03-05-2020	03-04-2021
RF Switch Unit	MWRFTEST	MW200	N/A	N/A	N/A
Test Software	MWRFTEST	MTS8200	Version: 2.0.0.0		
Cable	ZDECL	Z108-NJ-NJ-81	1608458	03-07-2020	03-06-2021
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2020	03-06-2021
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2020	03-06-2021
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	09-25-2019	09-24-2020
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	11-01-2019	11-31-2020
Simulated Station	Rohde & Schwarz	CMW500	140493	07-22-2019	07-21-2020
				07-22-2020	07-21-2021

6. Test results

6.1 Conducted Output Power, ERP and EIRP

Test Requirement:	Part 24.232(c), part 27.50(c)(10), Part 27.50(d)(4),
Limit:	LTE Band 2: 2W, LTE Band 4: 1W, LTE Band 12: 3W
Test Setup:	
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 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

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	21.59	21.29	21.33
			1	2	21.68	21.39	21.21
			1	5	21.62	21.68	21.25
			3	0	21.74	21.69	21.24
			3	1	21.68	21.49	21.35
			3	2	21.53	21.53	21.41
			6	0	20.73	20.42	20.34
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.54		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	20.60	20.36	20.22
			1	2	20.72	20.42	20.38
			1	5	20.38	20.11	20.31
			3	0	20.71	20.48	20.30
			3	1	20.98	20.32	20.08
			3	2	20.71	20.26	20.15
			6	0	19.76	19.23	19.14
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			21.78		
		EIRP Limit (dBm):			33.00		

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	21.45	21.38	21.13
			1	7	21.52	21.44	21.36
			1	14	21.47	21.39	21.39
			8	0	20.69	20.42	20.37
			8	4	20.65	20.51	20.59
			8	7	20.76	20.55	20.57
			15	0	20.62	20.51	20.60
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.32		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	21.02	20.13	20.12
			1	7	21.06	20.03	20.08
			1	14	21.00	20.33	20.01
			8	0	19.68	19.54	19.60
			8	4	19.77	19.49	19.39
			8	7	19.66	19.52	19.33
			15	0	19.62	19.68	19.32
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			21.86		
		EIRP Limit (dBm):			33.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

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	21.54	21.16	21.25
			1	12	21.37	21.39	21.34
			1	24	21.19	21.27	21.10
			12	0	20.61	20.36	20.32
			12	6	20.69	20.38	20.30
			12	11	20.50	20.39	20.34
			25	0	20.64	20.42	20.22
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.34		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	20.67	20.32	20.22
			1	12	20.99	20.01	20.01
			1	24	20.25	20.00	20.00
			12	0	19.56	19.30	19.31
			12	6	19.64	19.39	19.43
			12	11	19.59	19.40	19.36
			25	0	19.59	19.33	19.35
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			21.79		
		EIRP Limit (dBm):			33.00		

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	21.54	21.67	21.54
			1	24	21.46	21.48	21.58
			1	49	21.67	21.46	21.32
			25	0	20.79	20.60	20.56
			25	12	20.64	20.62	20.52
			25	24	20.58	20.49	20.51
			50	0	20.61	20.59	20.48
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.47		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	20.25	20.48	20.44
			1	24	21.11	20.29	20.66
			1	49	20.45	20.22	20.19
			12	0	20.35	20.30	20.19
			12	18	20.26	20.59	20.33
			12	37	20.19	20.51	20.25
			50	0	/	/	/
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			21.91		
		EIRP Limit (dBm):			33.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

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	21.60	21.77	21.27
			1	37	21.64	21.69	21.26
			1	74	21.54	21.40	21.18
			36	0	20.61	20.75	20.58
			36	16	20.82	20.65	20.49
			36	35	20.56	20.57	20.38
			75	0	20.50	20.66	20.41
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.57		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	20.88	20.62	20.56
			1	37	20.69	20.48	20.59
			1	74	20.60	20.43	20.07
			18	0	20.23	20.41	20.41
			18	25	20.11	20.29	20.36
			18	53	20.35	20.48	20.42
			75	0	/	/	/
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			21.68		
		EIRP Limit (dBm):			33.00		

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	21.66	21.47	21.50
			1	49	21.74	21.68	21.55
			1	99	21.45	21.41	21.35
			50	0	20.81	20.91	20.63
			50	24	20.83	20.65	20.66
			50	49	20.50	20.60	20.55
			100	0	20.72	20.71	20.64
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.54		
		EIRP Limit (dBm):			33.00		
		16QAM	1	0	21.01	20.95	20.62
			1	49	21.25	21.02	20.95
			1	99	20.64	20.57	20.29
			18	0	20.43	20.16	20.55
			18	40	20.11	20.24	20.31
			18	81	20.23	20.15	20.69
			100	0	/	/	/
		Antenna Gain (dBi):			0.8		
		Max. EIRP (dBm):			22.05		
		EIRP Limit (dBm):			33.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

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	21.25	21.78	22.42
			1	2	21.42	21.69	22.31
			1	5	21.45	21.68	22.10
			3	0	21.37	22.03	22.14
			3	1	21.67	22.08	22.22
			3	2	21.69	22.01	22.11
			6	0	20.71	20.69	20.78
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.82		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	20.33	20.34	20.04
			1	2	20.57	20.40	20.20
			1	5	20.26	20.69	20.23
			3	0	20.61	20.81	21.09
			3	1	20.67	20.66	21.40
			3	2	20.63	20.84	21.24
			6	0	19.61	19.79	19.53
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			20.80		
		EIRP Limit (dBm):			30.00		

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	21.82	21.73	21.73
			1	7	21.84	21.77	21.88
			1	14	21.61	21.76	21.91
			8	0	20.76	20.82	21.00
			8	4	20.74	20.83	21.04
			8	7	20.66	20.80	21.03
			15	0	20.81	20.73	21.01
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.31		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	20.24	20.12	20.40
			1	7	20.19	20.09	20.49
			1	14	20.41	20.71	20.76
			8	0	19.56	19.66	20.01
			8	4	19.61	19.78	20.00
			8	7	19.52	19.68	20.03
			15	0	19.76	19.66	19.97
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			20.16		
		EIRP Limit (dBm):			30.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

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	21.59	21.32	21.68
			1	12	21.50	21.70	21.95
			1	24	21.42	21.77	21.83
			12	0	20.62	20.79	20.94
			12	6	20.64	20.69	21.23
			12	11	20.62	20.78	21.16
			25	0	20.71	20.73	21.19
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.35		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	20.18	20.34	20.35
			1	12	20.38	20.18	20.42
			1	24	20.09	20.30	20.36
			12	0	19.57	19.43	19.73
			12	6	19.55	19.47	19.77
			12	11	19.45	19.42	19.79
			25	0	19.75	19.69	19.98
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			19.82		
		EIRP Limit (dBm):			30.00		

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	21.70	21.71	21.82
			1	24	21.77	21.78	22.05
			1	49	21.24	21.67	22.13
			25	0	20.78	20.82	21.02
			25	12	20.85	20.83	21.10
			25	24	20.64	20.78	21.12
			50	0	20.86	20.86	21.04
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.53		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	20.62	20.52	20.77
			1	24	20.95	21.03	20.75
			1	49	20.47	20.82	20.61
			12	0	20.35	20.41	20.19
			12	18	20.26	20.22	20.36
			12	37	20.11	20.43	20.32
			50	0	/	/	/
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			20.43		
		EIRP Limit (dBm):			30.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

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	21.89	21.53	22.33
			1	37	21.48	21.70	22.32
			1	74	21.41	21.59	22.21
			36	0	20.55	20.65	21.35
			36	16	20.54	20.74	21.21
			36	35	20.41	20.63	21.27
			75	0	20.40	20.70	21.36
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.73		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	20.86	20.87	21.48
			1	37	20.72	20.79	21.28
			1	74	20.87	20.31	21.42
			18	0	20.41	20.26	20.43
			18	25	20.26	20.44	20.19
			18	53	20.42	20.19	20.33
			75	0	/	/	/
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			20.88		
		EIRP Limit (dBm):			30.00		

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	21.70	22.28	22.09
			1	49	21.77	21.97	22.15
			1	99	21.61	22.01	22.14
			50	0	20.84	21.10	21.34
			50	24	20.93	21.03	21.47
			50	49	20.84	20.86	21.13
			100	0	20.83	21.04	21.26
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			21.68		
		EIRP Limit (dBm):			30.00		
		16QAM	1	0	21.07	20.97	20.72
			1	49	21.25	21.38	20.97
			1	99	20.98	21.01	20.69
			18	0	20.59	20.66	20.41
			18	40	20.53	20.42	20.41
			18	81	20.33	20.32	20.56
			100	0	/	/	/
		Antenna Gain (dBi):			-0.6		
		Max. EIRP (dBm):			20.78		
		EIRP Limit (dBm):			30.00		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					23017	23095	23173
					699.7MHz	707.5MHz	715.3MHz
12	1.4	QPSK	1	0	22.92	22.75	23.00
			1	2	23.12	22.88	23.09
			1	5	23.04	22.67	23.12
			3	0	23.05	22.91	23.44
			3	1	23.20	22.94	23.31
			3	2	23.30	23.03	23.19
			6	0	22.14	22.00	22.27
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			20.69		
		ERP Limit (dBm):			34.77		
		16QAM	1	0	22.51	21.23	22.24
			1	2	22.36	21.46	22.08
			1	5	22.62	21.52	22.23
			3	0	22.25	22.14	22.12
			3	1	22.27	22.18	22.13
			3	2	22.17	22.17	22.33
			6	0	21.18	21.04	21.52
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			19.87		
		ERP Limit (dBm):			34.77		

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	22.74	23.00	23.03
			1	7	22.83	22.96	23.06
			1	14	22.87	22.79	22.79
			8	0	21.97	22.02	22.01
			8	4	22.01	21.97	22.12
			8	7	22.00	22.00	22.22
			15	0	22.06	22.01	22.11
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			20.31		
		ERP Limit (dBm):			34.77		
		16QAM	1	0	22.01	21.88	22.01
			1	7	22.23	22.00	21.85
			1	14	22.25	21.39	22.07
			8	0	21.05	21.02	21.19
			8	4	21.22	21.00	21.22
			8	7	21.21	20.98	21.15
			15	0	21.05	21.01	21.09
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			19.50		
		ERP Limit (dBm):			34.77		

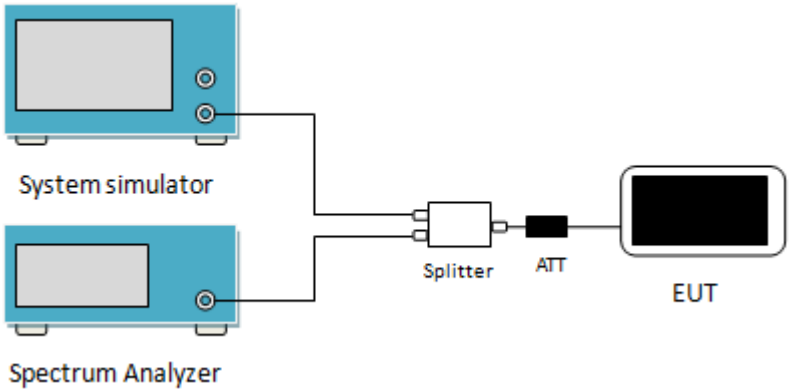
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).
ERP (dBm) = EIRP (dBm) - 2.15 (dB).

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	22.78	22.50	22.92
			1	12	23.13	22.67	22.78
			1	24	22.67	22.78	22.77
			12	0	22.03	21.93	21.91
			12	6	22.01	21.97	21.95
			12	11	21.90	21.99	21.76
			25	0	21.77	21.85	21.97
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			20.38		
		ERP Limit (dBm):			34.77		
		16QAM	1	0	21.89	21.41	21.36
			1	12	21.69	21.44	21.70
			1	24	21.57	21.13	21.29
			12	0	20.78	20.68	20.79
			12	6	20.86	20.72	20.92
			12	11	20.73	20.68	20.73
			25	0	20.74	20.83	20.97
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			19.14		
		ERP Limit (dBm):			34.77		

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	22.90	22.62	22.68
			1	24	22.69	22.81	22.80
			1	49	22.76	22.83	22.70
			25	0	21.97	21.74	21.93
			25	12	21.75	21.70	21.92
			25	24	21.77	21.35	21.95
			50	0	21.74	21.74	21.85
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			20.15		
		ERP Limit (dBm):			34.77		
		16QAM	1	0	21.60	21.26	21.47
			1	24	21.95	21.33	21.22
			1	49	21.29	21.49	21.60
			12	0	21.12	21.06	21.05
			12	18	21.32	21.03	21.16
			12	37	21.24	21.26	21.06
			50	0	/	/	/
		Antenna Gain(dBi):			-0.6		
		Max. ERP (dBm):			19.20		
		ERP Limit (dBm):			34.77		

Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).
ERP (dBm) = EIRP (dBm) - 2.15 (dB).

6.2 Peak-to-Average Ratio

Test Requirement:	Part 24.232 (d), Part 27.50(d)(5)
Limit:	The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.
Test Setup:	
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 Set the CCDF option in spectrum analyzer, RBW ≥ OBW, 3 Set the EUT working in highest power level, measured and recorded the 0.1% as PAPR level. 4 Repeat step 1~3 at other frequency and modulations.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

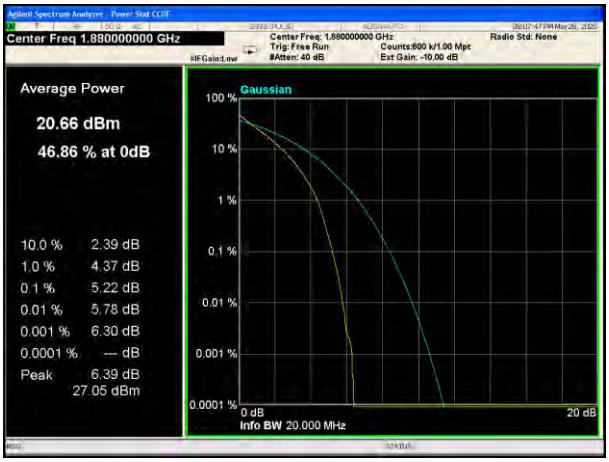
Measurement Data (Worst case):

Bandwidth	Modulation	RB Size	RB Offset	PAPR
LTE Band 2 (Middle Channel)				
20MHz	QPSK	100	0	5.22
	16QAM	18	0	4.40
LTE Band 4 (Middle Channel)				
20MHz	QPSK	100	0	4.92
	16QAM	18	0	4.40
LTE Band 12 (Middle Channel)				
10MHz	QPSK	50	0	5.30
	16QAM	12	0	5.23

Test plots as below:

LTE Band 2 Middle channel

Modulation: QPSK



Modulation: 16QAM(18 RB 0)

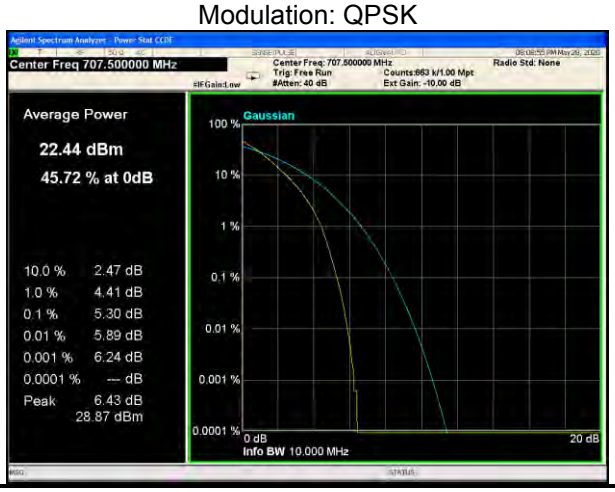
LTE Band 4 Middle channel

Modulation: QPSK

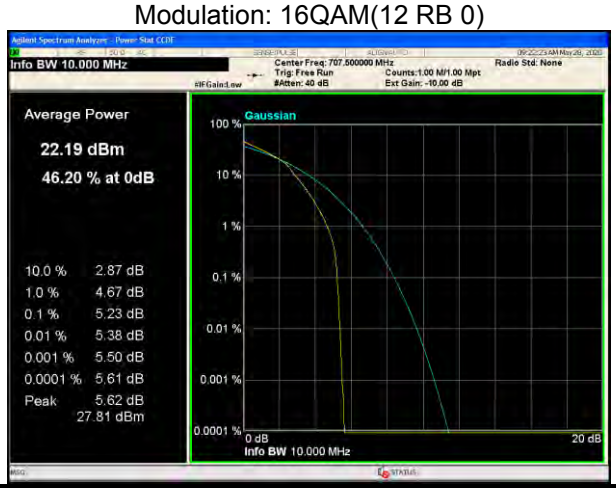
Modulation: 16QAM(18 RB 0)

LTE Band 12 Middle channel

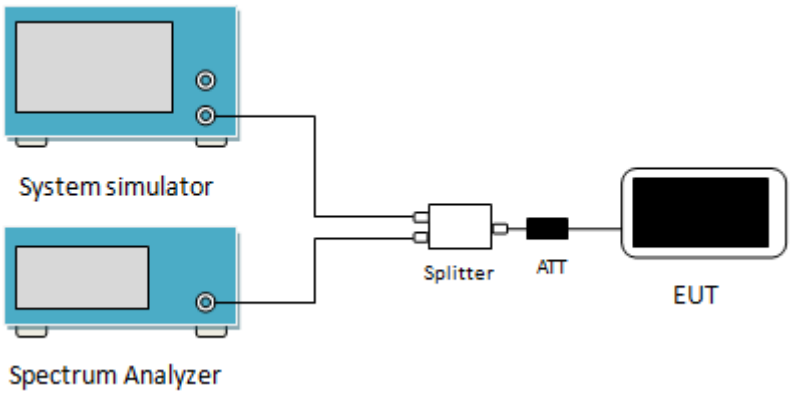
Modulation: QPSK



Modulation: 16QAM(12 RB 0)



6.3 Occupy Bandwidth

Test Requirement:	Part 24.238(b), Part 27.53(g), Part 27.53(h)
Test Setup:	
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 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data:

LTE Band 2					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	18607	1850.70	16QAM	1098	1272
			QPSK	1098	1284
	18900	1880.00	16QAM	1098	1236
			QPSK	1098	1248
	19193	1909.30	16QAM	1104	1266
			QPSK	1104	1278
3MHz	18615	1851.50	16QAM	2736	3012
			QPSK	2724	3036
	18900	1880.00	16QAM	2736	2964
			QPSK	2736	3036
	19185	1908.50	16QAM	2724	3000
			QPSK	2736	3036
5MHz	18625	1852.50	16QAM	4500	4860
			QPSK	4500	4980
	18900	1880.00	16QAM	4480	4880
			QPSK	4500	4960
	19175	1907.50	16QAM	4520	4900
			QPSK	4520	4900
10MHz	18650	1855.00	16QAM	2600	3520
			QPSK	9080	10120
	18900	1880.00	16QAM	2600	3400
			QPSK	9080	10040
	19150	1905.00	16QAM	2680	3640
			QPSK	9080	10240
15MHz	18675	1857.50	16QAM	3640	4520
			QPSK	13500	14820
	18900	1880.00	16QAM	3640	4640
			QPSK	13500	14820
	19125	1902.50	16QAM	3600	4520
			QPSK	13560	14880
20MHz	18700	1860.00	16QAM	3720	4920
			QPSK	17920	19280
	18900	1880.00	16QAM	3720	4980
			QPSK	18000	19360
	19100	1900.00	16QAM	3720	4740
			QPSK	17840	19360

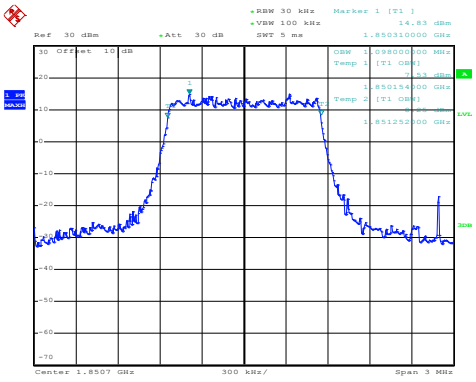
LTE Band 4					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	19957	1710.7	16QAM	1092	1278
			QPSK	1104	1302
	20175	1732.5	16QAM	1104	1284
			QPSK	1098	1296
	20393	1754.3	16QAM	1098	1298
			QPSK	1098	1284
3MHz	19965	1711.5	16QAM	2724	3000
			QPSK	2736	3048
	20175	1732.5	16QAM	2736	3000
			QPSK	2736	3072
	20385	1750.5	16QAM	2748	3000
			QPSK	2748	3060
5MHz	19975	1712.5	16QAM	4520	4800
			QPSK	4500	4900
	20175	1732.5	16QAM	4500	4940
			QPSK	4520	4760
	20375	1752.5	16QAM	4520	4860
			QPSK	4500	4960
10MHz	20000	1715.0	16QAM	2680	3560
			QPSK	9040	10160
	20175	1732.5	16QAM	2680	3600
			QPSK	9040	10200
	20350	1750.0	16QAM	2640	3640
			QPSK	9040	10120
15MHz	20025	1717.5	16QAM	3640	4520
			QPSK	13500	14820
	20175	1732.5	16QAM	3720	4560
			QPSK	13500	14700
	20325	1747.5	16QAM	3640	4440
			QPSK	13500	14940
20MHz	20050	1720.0	16QAM	3780	4860
			QPSK	18000	19440
	20175	1732.5	16QAM	3720	4860
			QPSK	17920	19280
	20300	1745.0	16QAM	3780	4860
			QPSK	18000	19280

LTE Band 12					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	23017	699.7	16QAM	1098	1248
			QPSK	1098	1266
	23095	707.5	16QAM	1104	1272
			QPSK	1098	1278
	23173	715.3	16QAM	1104	1248
			QPSK	1098	1260
3MHz	23025	700.5	16QAM	2724	2940
			QPSK	2724	3036
	23095	707.5	16QAM	2724	3012
			QPSK	2736	3036
	23165	714.5	16QAM	2712	2952
			QPSK	2724	3036
5MHz	23035	701.5	16QAM	4500	4760
			QPSK	4520	4900
	23095	707.5	16QAM	4480	4840
			QPSK	4520	4880
	23155	713.5	16QAM	4480	4880
			QPSK	4500	4940
10MHz	23060	704.0	16QAM	2680	3400
			QPSK	8960	9920
	23095	707.5	16QAM	2640	3480
			QPSK	9080	10040
	23130	711.0	16QAM	2600	3440
			QPSK	9160	10200

Test plot as follows:
LTE Band 2 part:

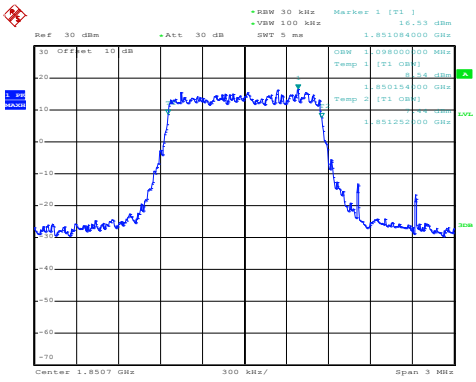
LTE Band 2: 99% Occupy bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:31:13

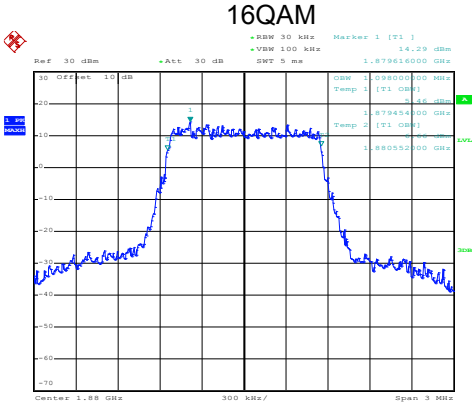
QPSK



Date: 28.MAY.2020 19:31:07

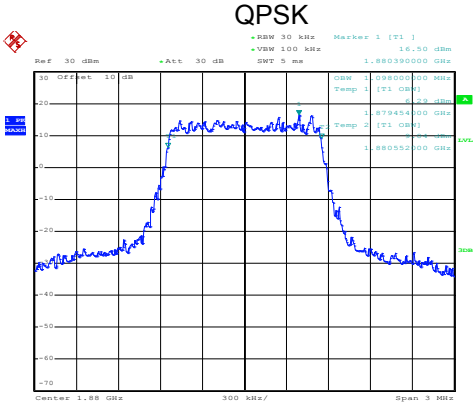
Lowest channel

16QAM



Date: 28.MAY.2020 19:31:26

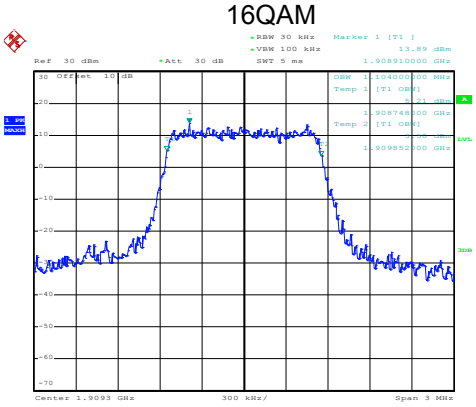
QPSK



Date: 28.MAY.2020 19:31:23

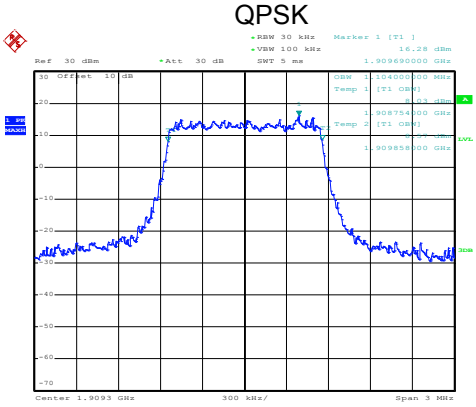
Middle channel

16QAM



Date: 28.MAY.2020 19:32:04

QPSK

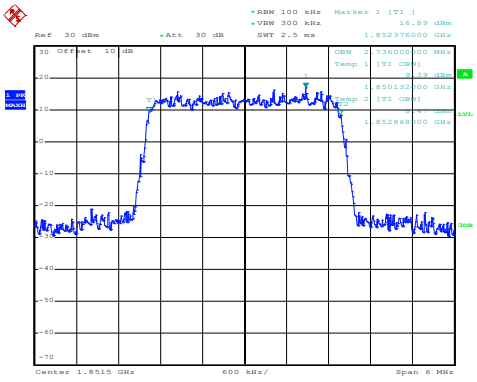


Date: 28.MAY.2020 19:32:00

Highest channel

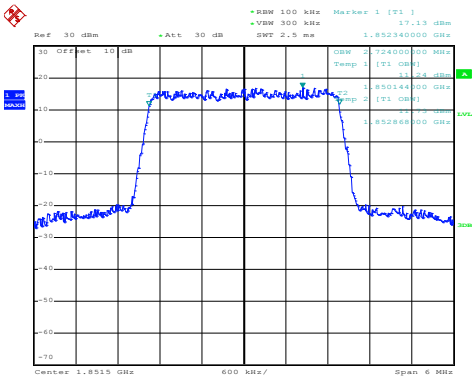
LTE Band 2: 99% Occupy bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:27:29

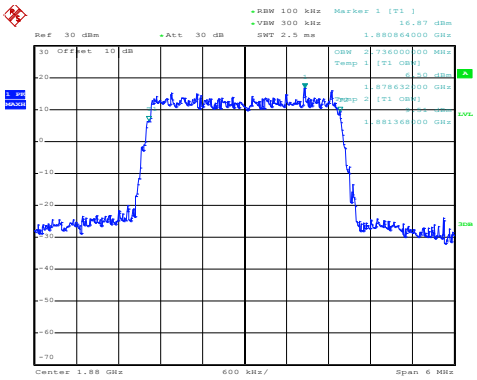
QPSK



Date: 28.MAY.2020 19:27:25

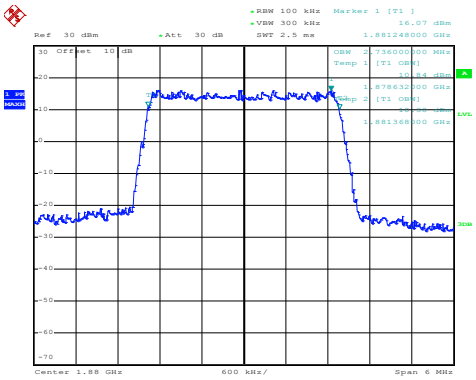
Lowest channel

16QAM



Date: 28.MAY.2020 19:28:00

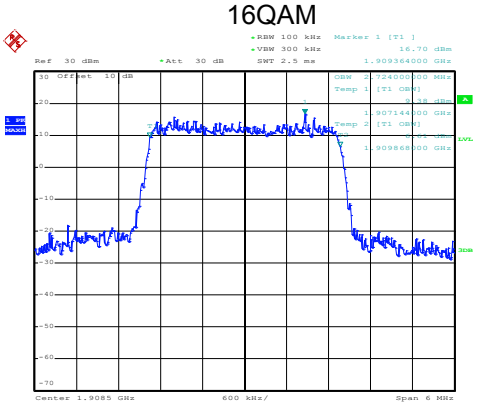
QPSK



Date: 28.MAY.2020 19:27:56

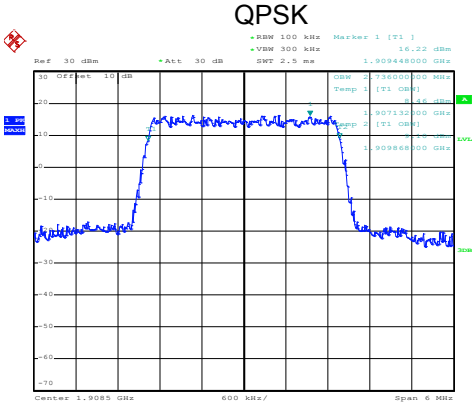
Middle channel

16QAM



Date: 28.MAY.2020 19:29:34

QPSK

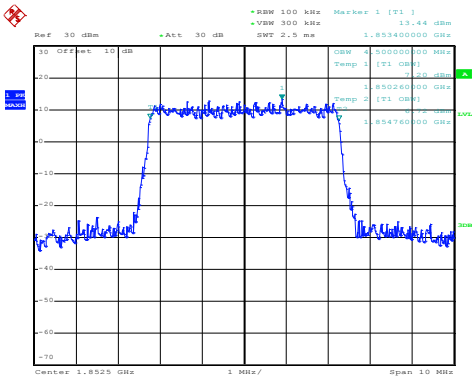


Date: 28.MAY.2020 19:29:30

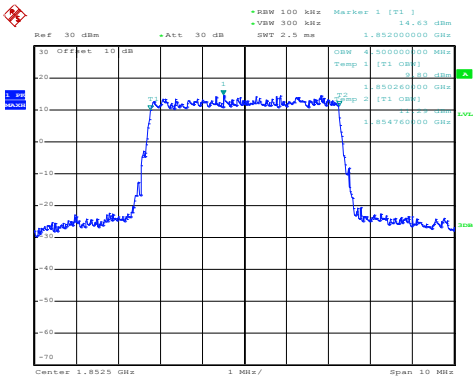
Highest channel

LTE Band 2: 99% Occupy bandwidth
BW: 5MHz

16QAM

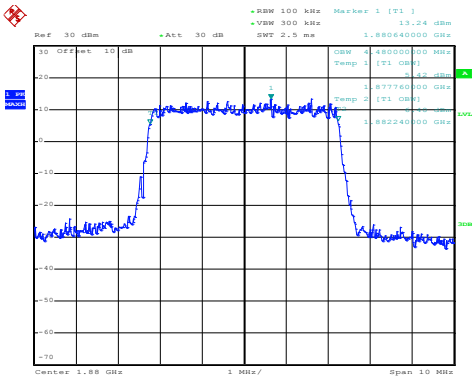


QPSK

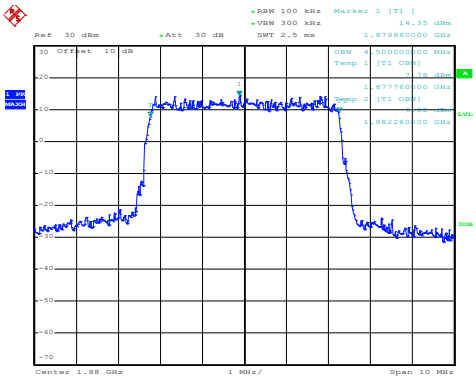


Lowest channel

16QAM

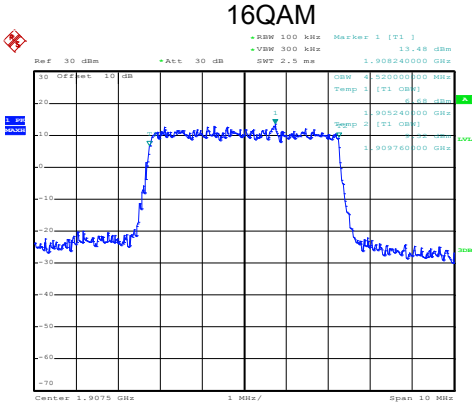


QPSK

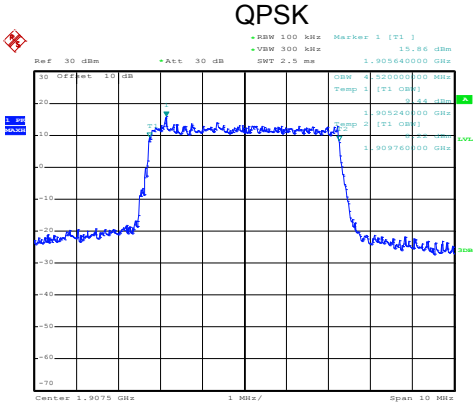


Middle channel

16QAM



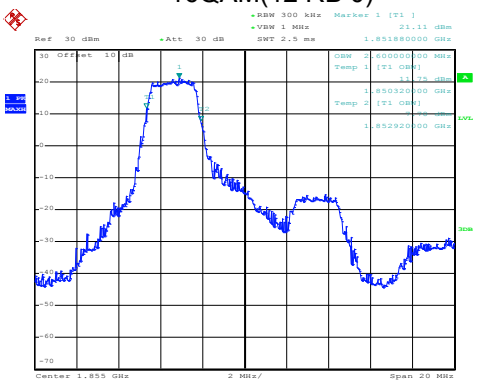
QPSK



Highest channel

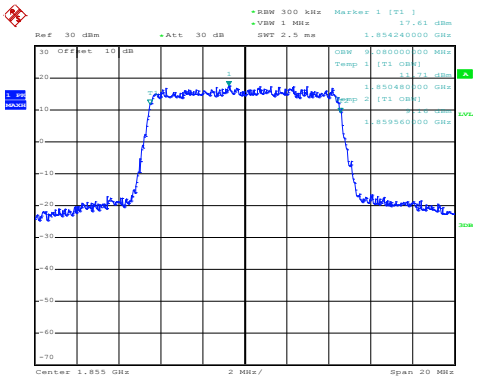
LTE Band 2: 99% Occupy bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:24:17

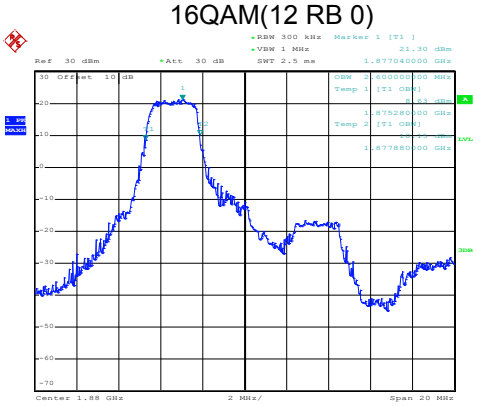
QPSK



Date: 28.MAY.2020 19:10:52

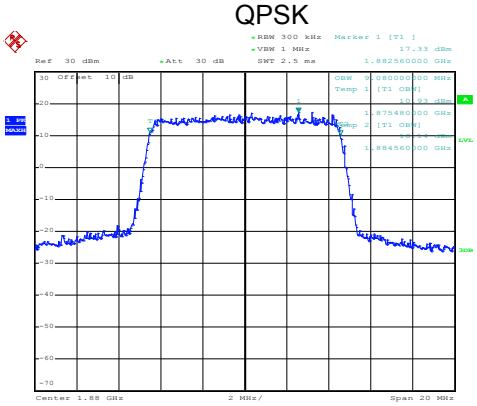
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:24:32

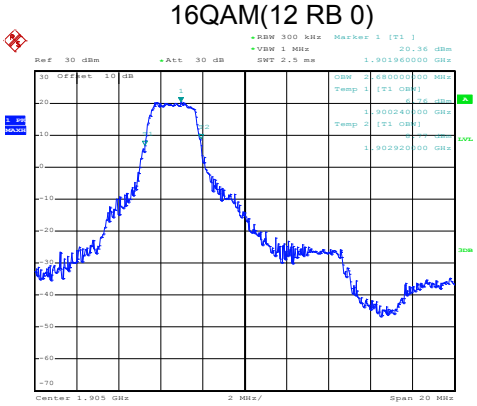
QPSK



Date: 28.MAY.2020 19:11:22

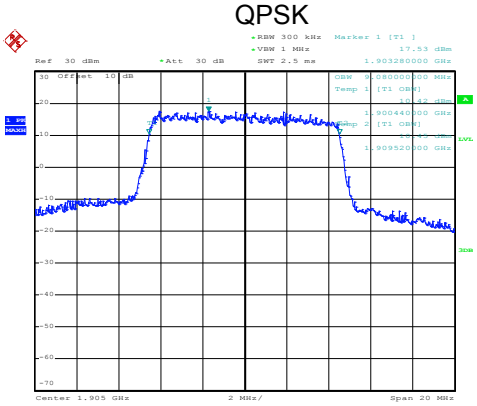
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:25:14

QPSK

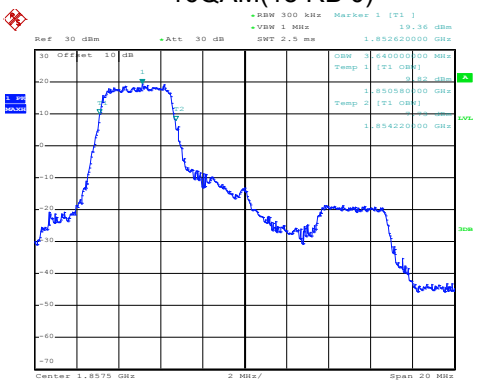


Date: 28.MAY.2020 19:24:59

Highest channel

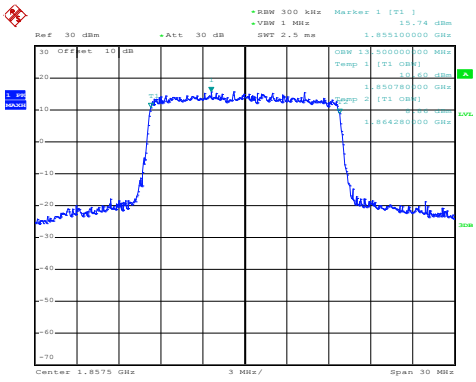
LTE Band 2: 99% Occupy bandwidth
BW: 15MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:21:36

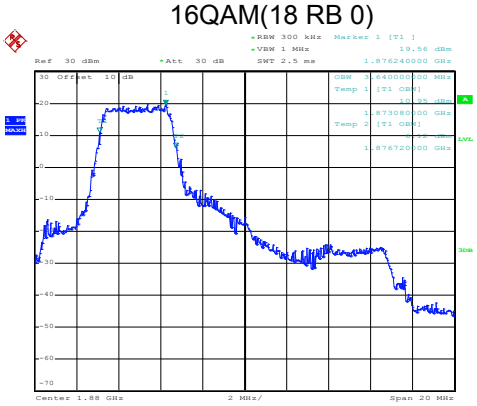
QPSK



Date: 28.MAY.2020 19:09:26

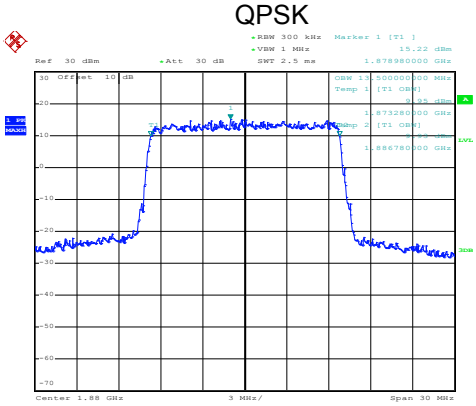
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:22:15

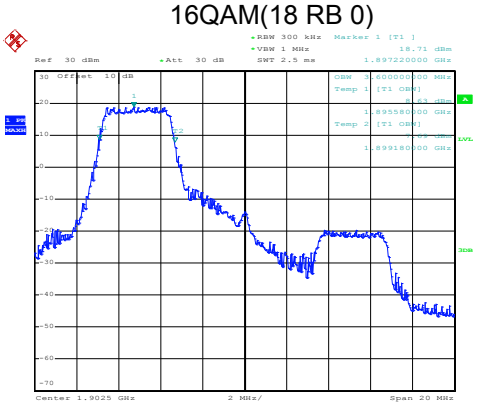
QPSK



Date: 28.MAY.2020 19:09:38

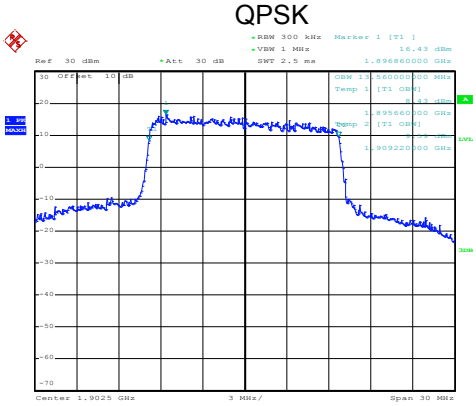
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:22:35

QPSK

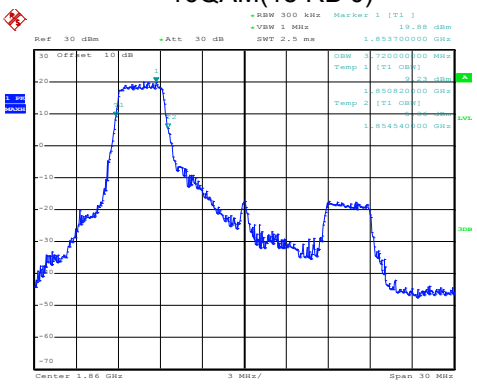


Date: 28.MAY.2020 19:10:20

Highest channel

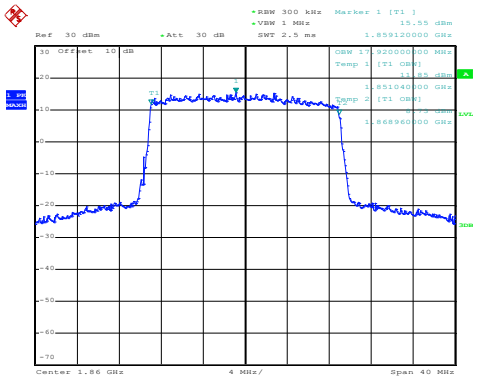
LTE Band 2: 99% Occupy bandwidth
BW: 20MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:26:09

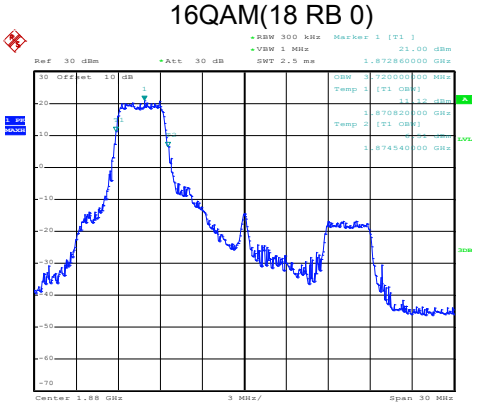
QPSK



Date: 28.MAY.2020 19:07:31

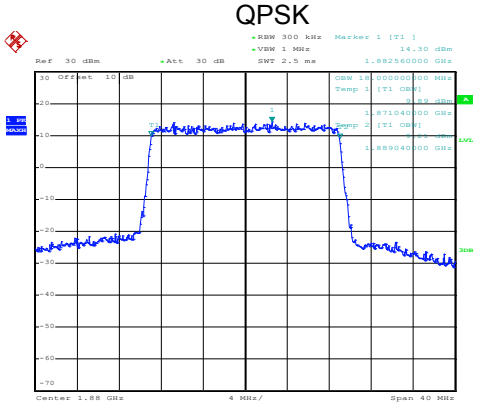
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:26:46

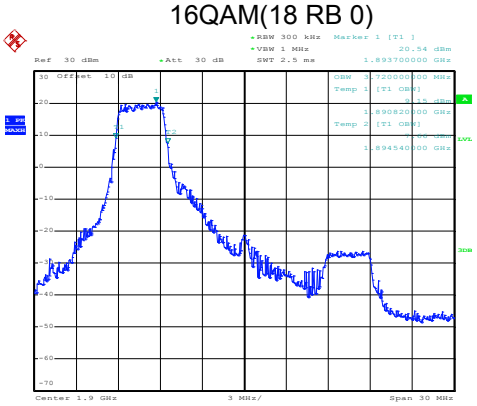
QPSK



Date: 28.MAY.2020 19:08:16

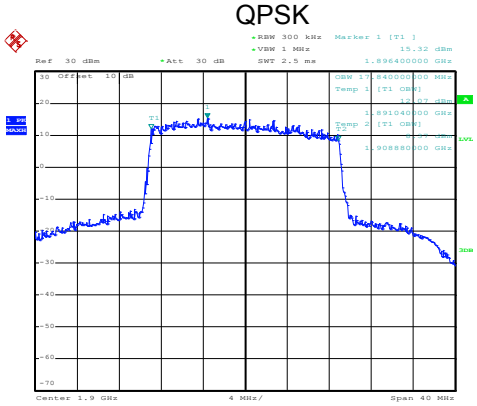
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:27:01

QPSK

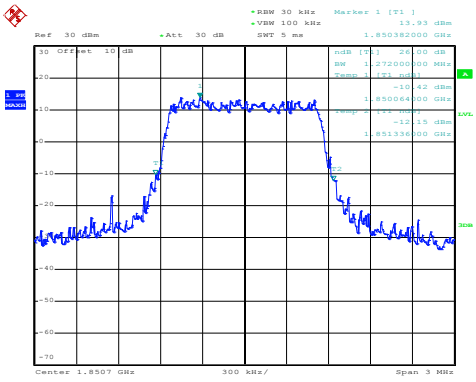


Date: 28.MAY.2020 19:08:32

Highest channel

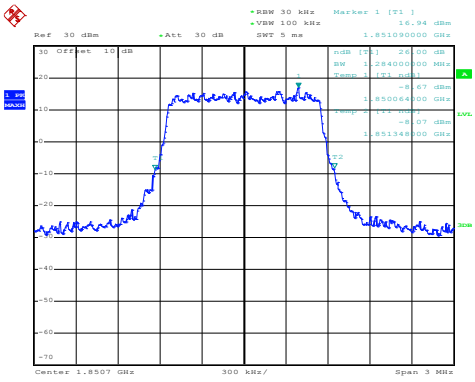
LTE Band 2: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:31:00

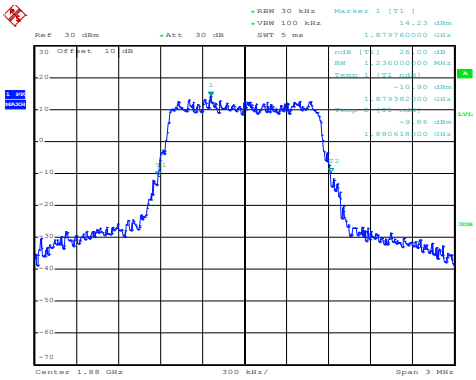
QPSK



Date: 28.MAY.2020 19:30:56

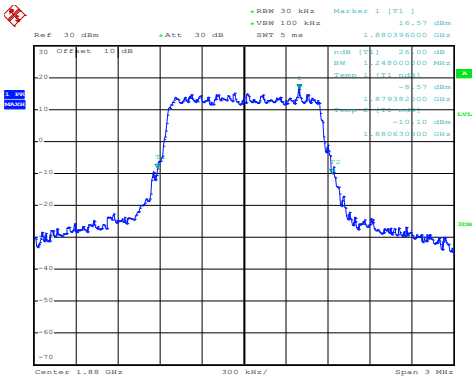
Lowest channel

16QAM



Date: 28.MAY.2020 19:31:38

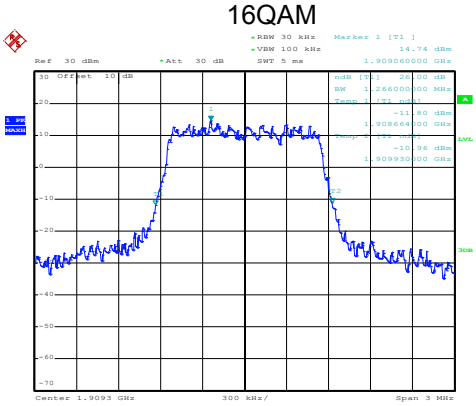
QPSK



Date: 28.MAY.2020 19:31:35

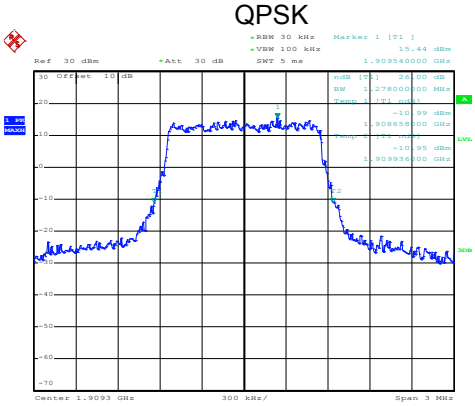
Middle channel

16QAM



Date: 28.MAY.2020 19:31:53

QPSK

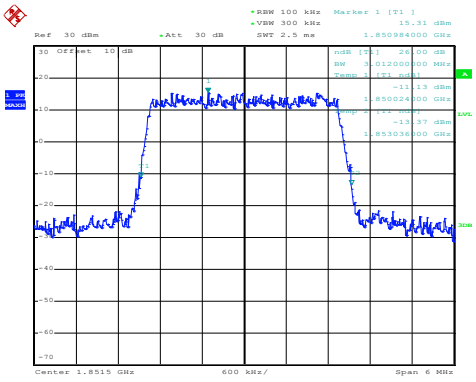


Date: 28.MAY.2020 19:31:49

Highest channel

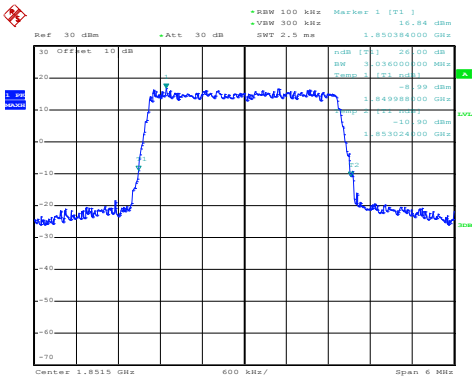
LTE Band 2: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:27:39

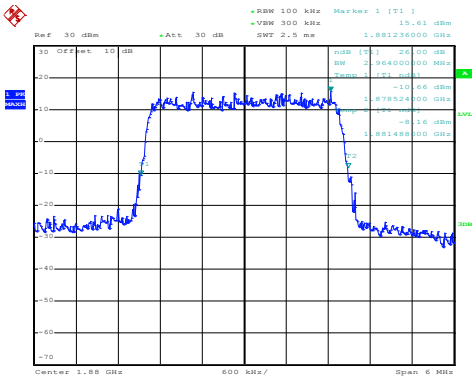
QPSK



Date: 28.MAY.2020 19:27:35

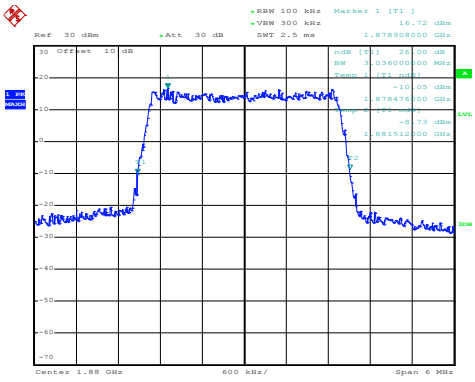
Lowest channel

16QAM



Date: 28.MAY.2020 19:27:50

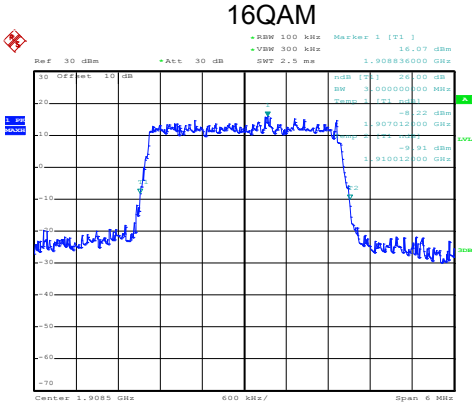
QPSK



Date: 28.MAY.2020 19:27:47

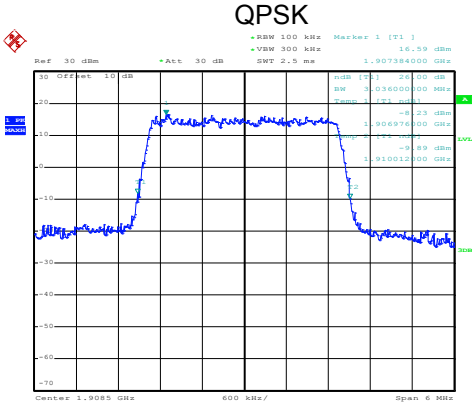
Middle channel

16QAM



Date: 28.MAY.2020 19:29:44

QPSK

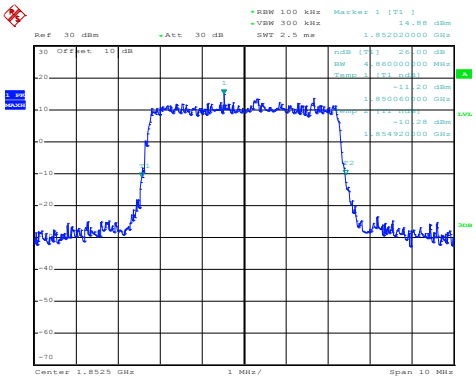


Date: 28.MAY.2020 19:29:40

Highest channel

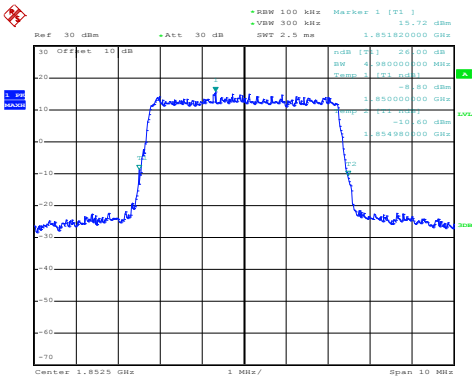
LTE Band 2: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 28.MAY.2020 19:25:51

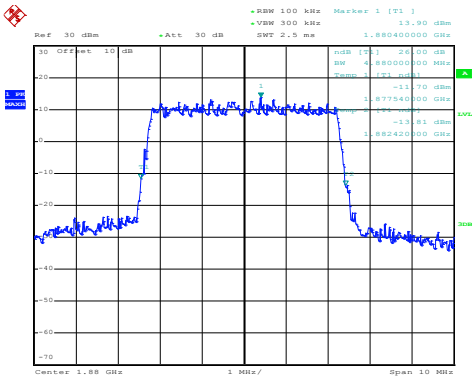
QPSK



Date: 28.MAY.2020 19:25:46

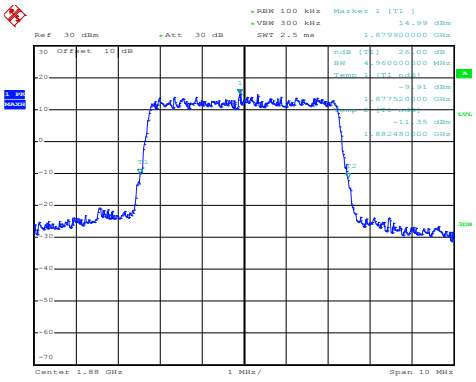
Lowest channel

16QAM



Date: 28.MAY.2020 19:26:29

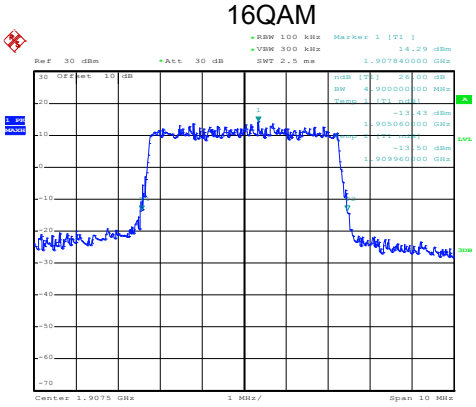
QPSK



Date: 28.MAY.2020 19:26:24

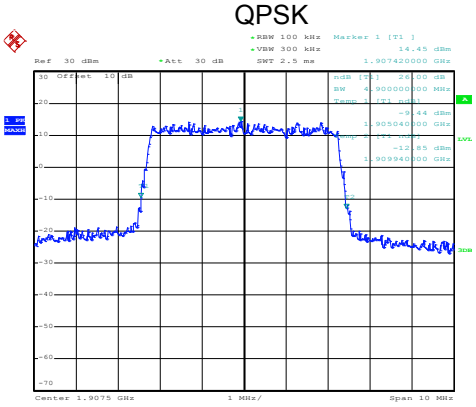
Middle channel

16QAM



Date: 28.MAY.2020 19:26:46

QPSK

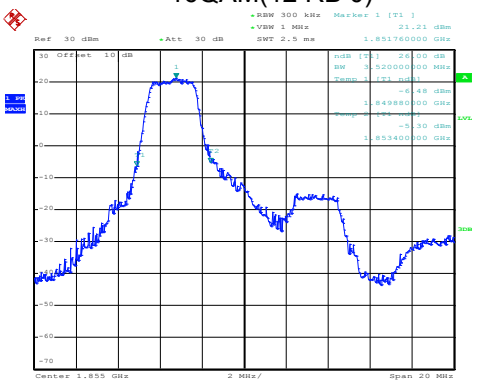


Date: 28.MAY.2020 19:26:40

Highest channel

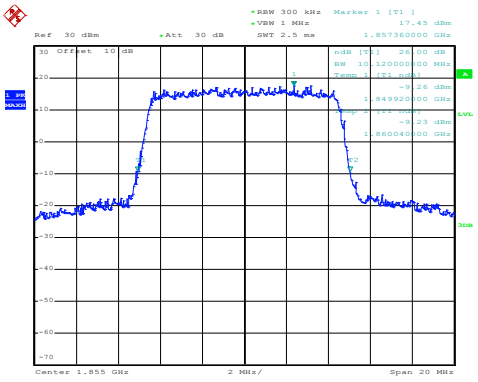
LTE Band 2: -26dBc bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:24:09

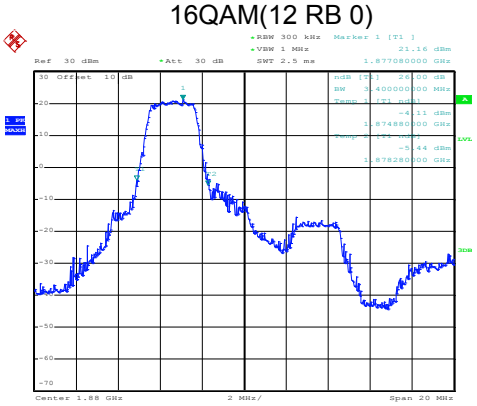
QPSK



Date: 28.MAY.2020 19:11:01

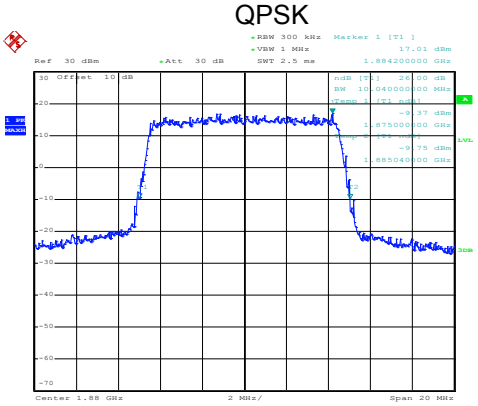
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:24:39

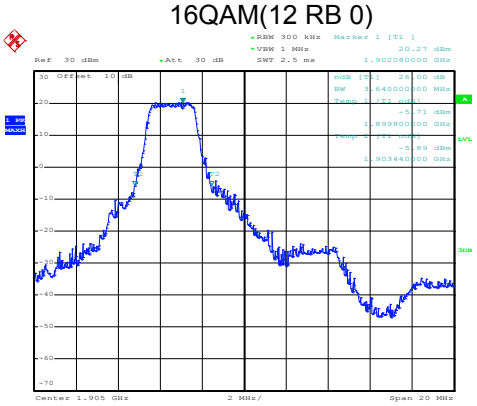
QPSK



Date: 28.MAY.2020 19:11:14

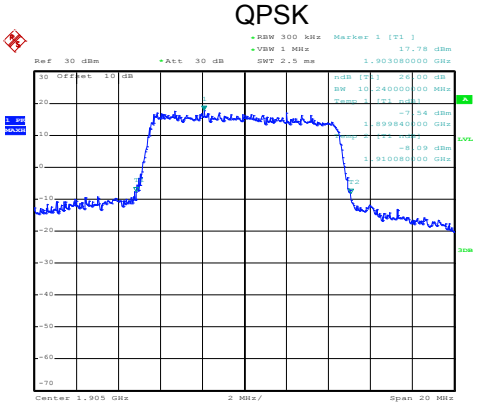
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:25:06

QPSK

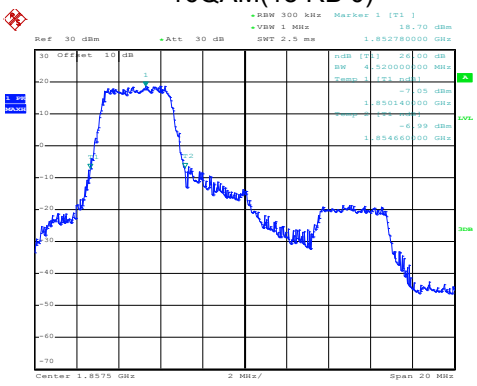


Date: 28.MAY.2020 19:25:07

Highest channel

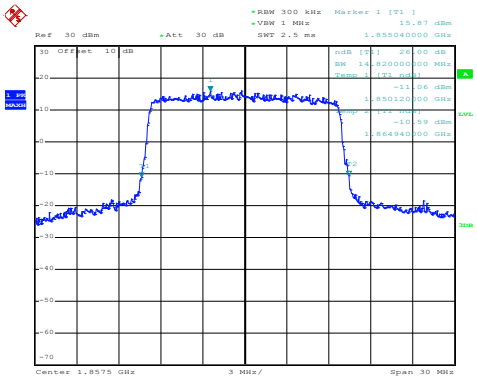
LTE Band 2: -26dBc bandwidth
BW: 15MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:21:55

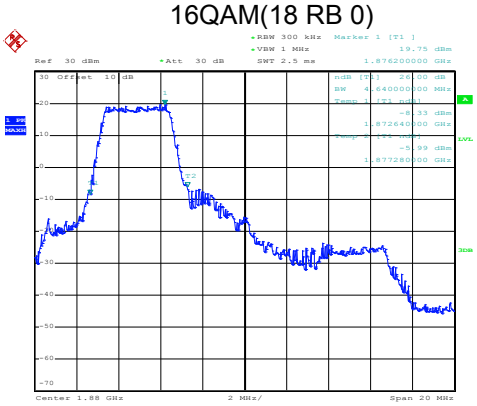
QPSK



Date: 28.MAY.2020 19:09:17

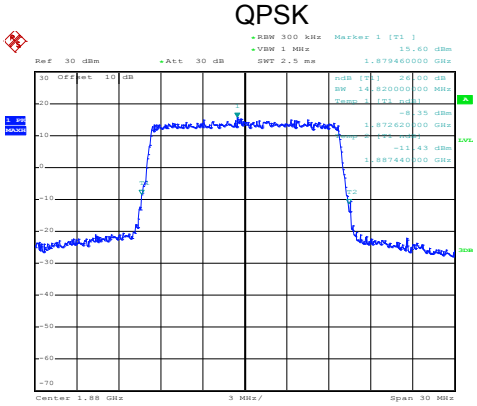
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:22:08

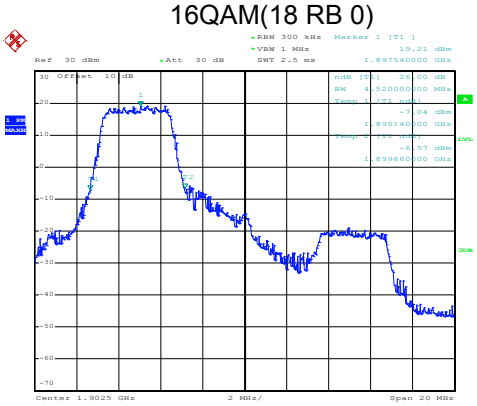
QPSK



Date: 28.MAY.2020 19:09:49

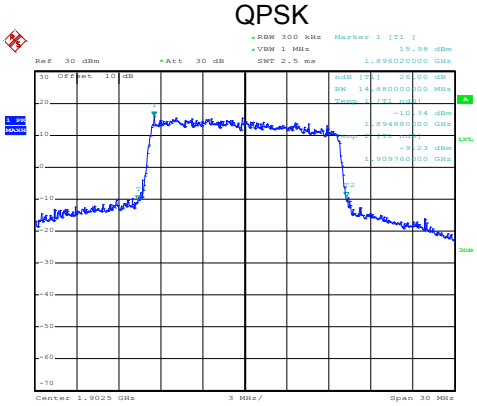
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:22:42

QPSK

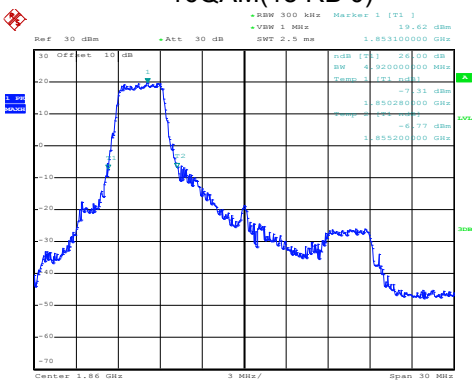


Date: 28.MAY.2020 19:10:09

Highest channel

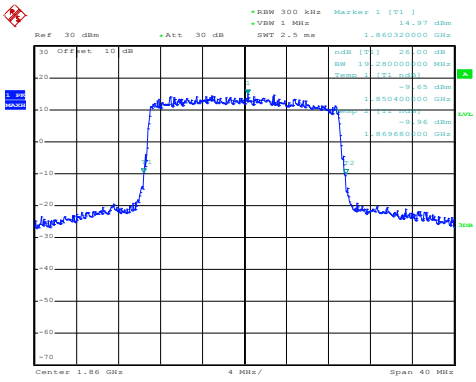
LTE Band 2: -26dBc bandwidth
BW: 20MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:26:20

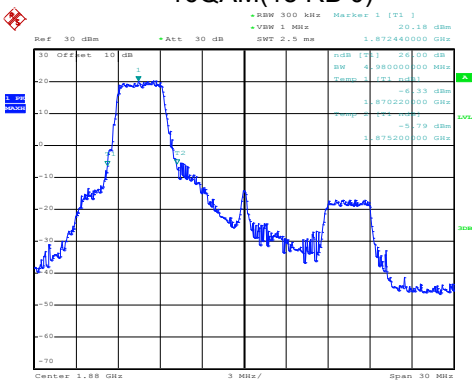
QPSK



Date: 28.MAY.2020 19:07:49

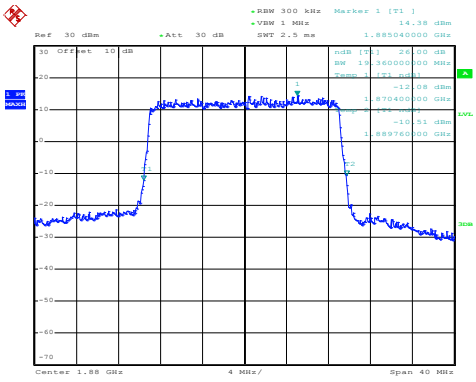
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:26:37

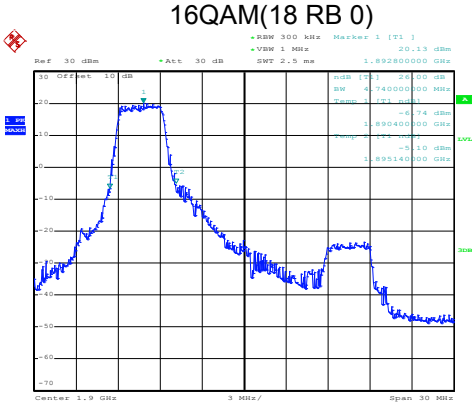
QPSK



Date: 28.MAY.2020 19:08:07

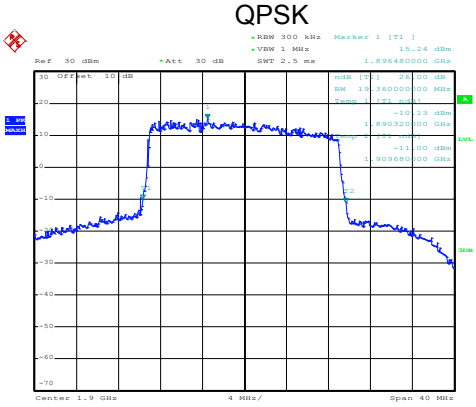
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 18:16:53

QPSK



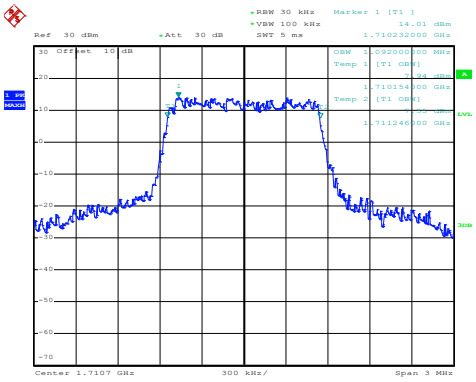
Date: 28.MAY.2020 19:08:41

Highest channel

LTE Band 4 part:

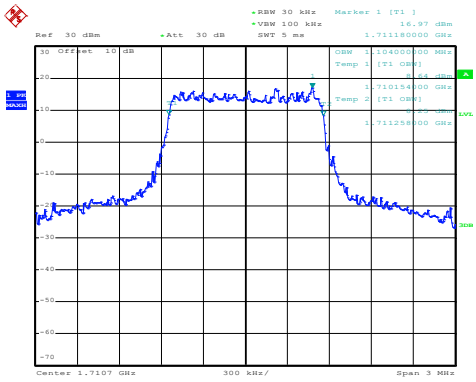
LTE Band 4: 99% Occupy bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:32:24

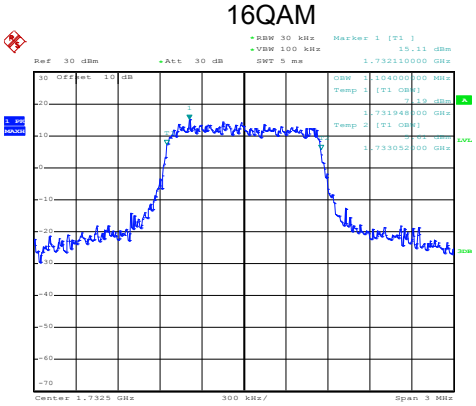
QPSK



Date: 28.MAY.2020 19:32:18

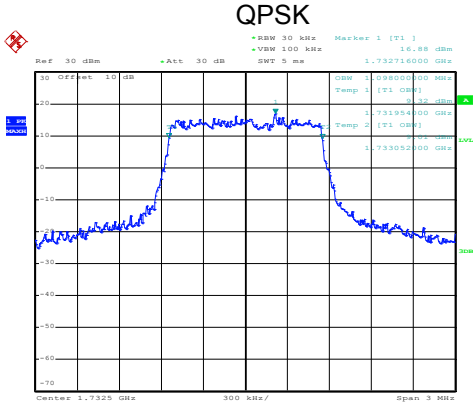
Lowest channel

16QAM



Date: 28.MAY.2020 19:32:59

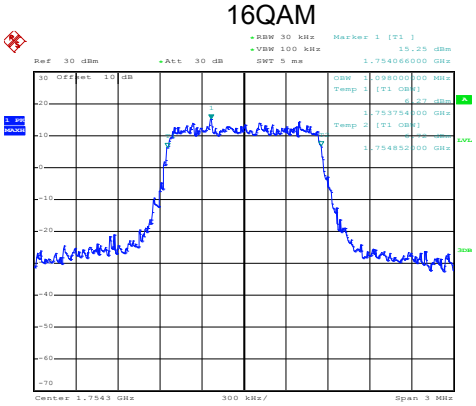
QPSK



Date: 28.MAY.2020 19:32:55

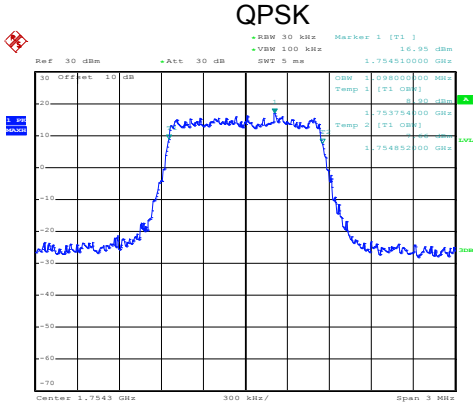
Middle channel

16QAM



Date: 28.MAY.2020 19:33:15

QPSK

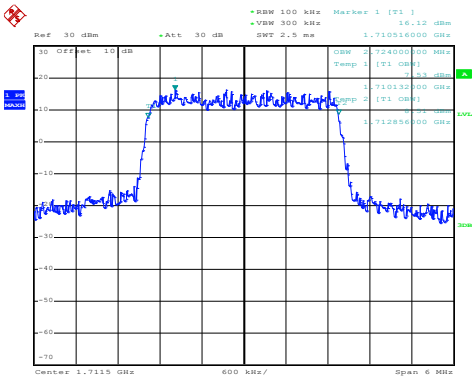


Date: 28.MAY.2020 19:33:11

Highest channel

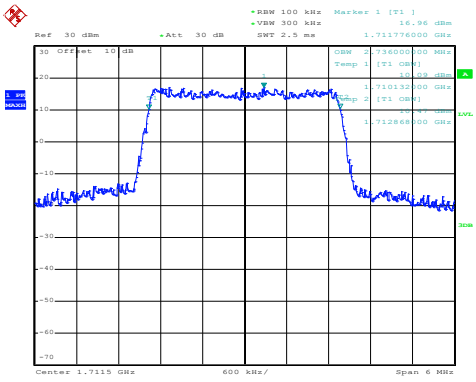
LTE Band 4: 99% Occupy bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:36:03

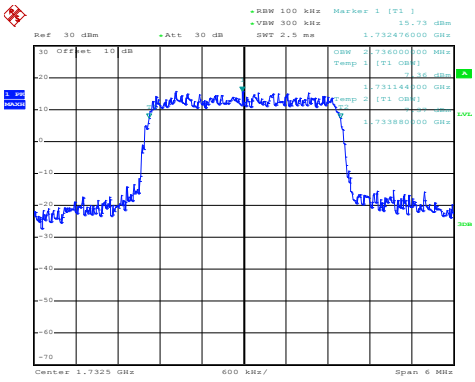
QPSK



Date: 28.MAY.2020 19:35:59

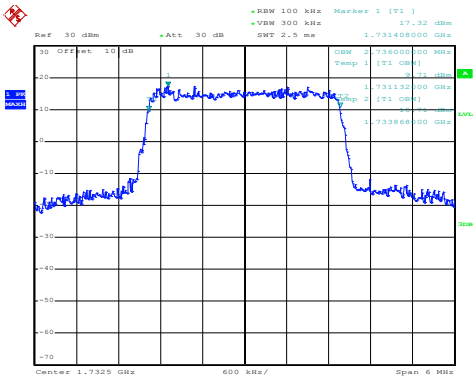
Lowest channel

16QAM



Date: 28.MAY.2020 19:36:17

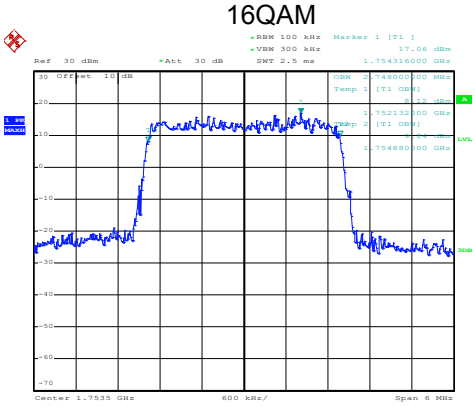
QPSK



Date: 28.MAY.2020 19:36:13

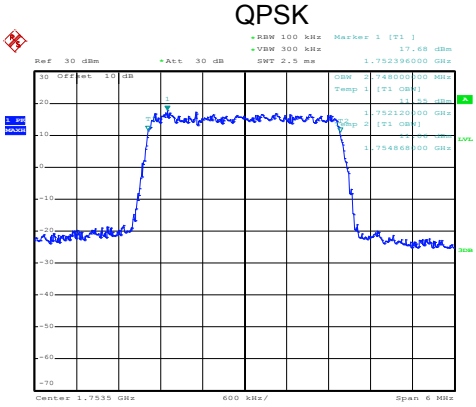
Middle channel

16QAM



Date: 28.MAY.2020 19:36:57

QPSK

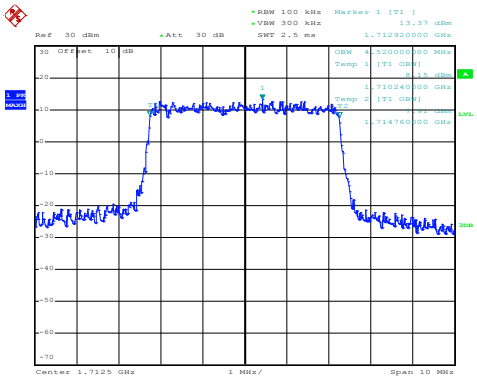


Date: 28.MAY.2020 19:36:53

Highest channel

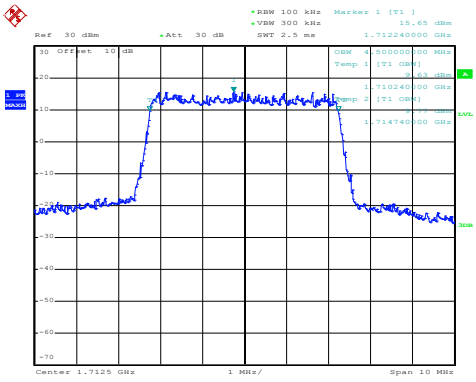
LTE Band 4: 99% Occupy bandwidth
BW: 5MHz

16QAM



Date: 28.MAY.2020 19:37:26

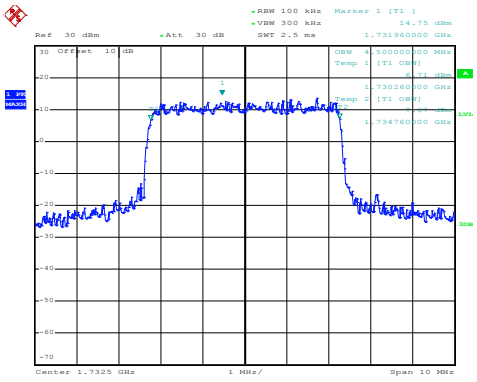
QPSK



Date: 28.MAY.2020 19:37:23

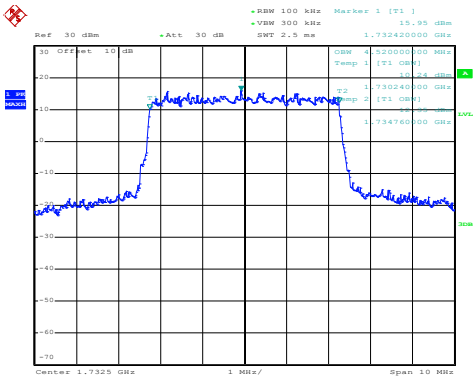
Lowest channel

16QAM



Date: 28.MAY.2020 19:38:41

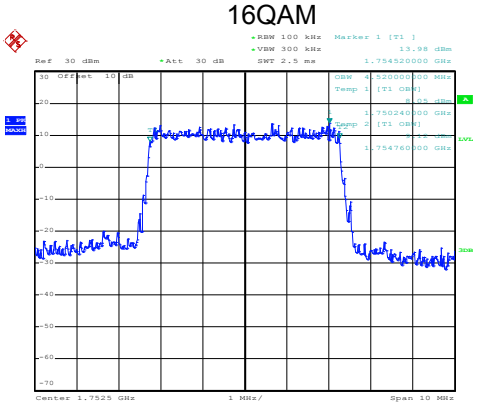
QPSK



Date: 28.MAY.2020 19:38:38

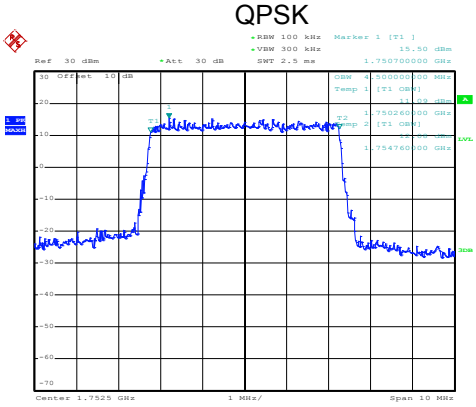
Middle channel

16QAM



Date: 28.MAY.2020 19:38:57

QPSK

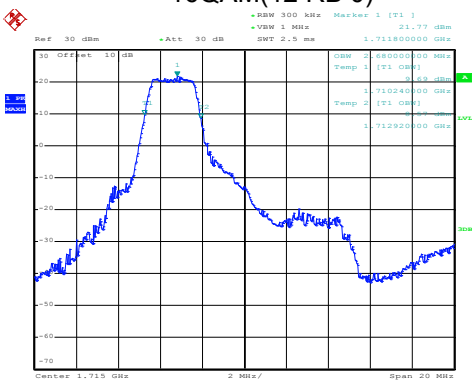


Date: 28.MAY.2020 19:38:54

Highest channel

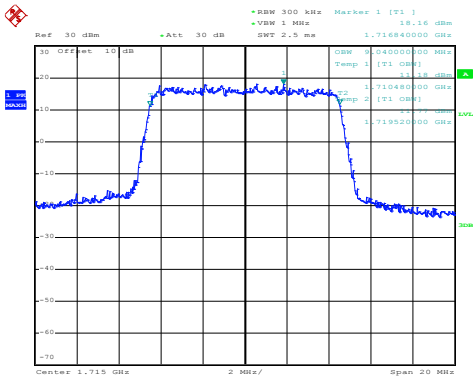
LTE Band 4: 99% Occupy bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:30:15

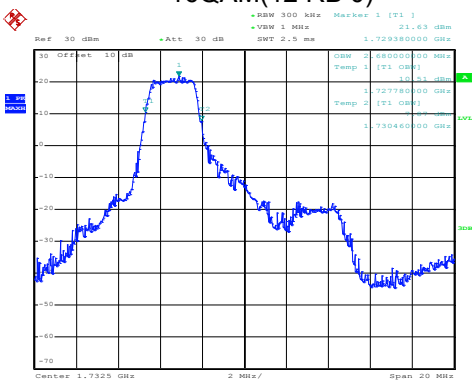
QPSK



Date: 28.MAY.2020 19:40:10

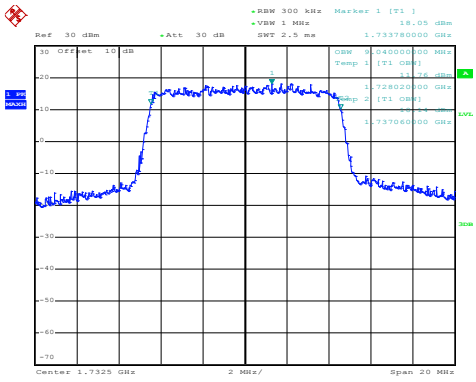
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 18:17:52

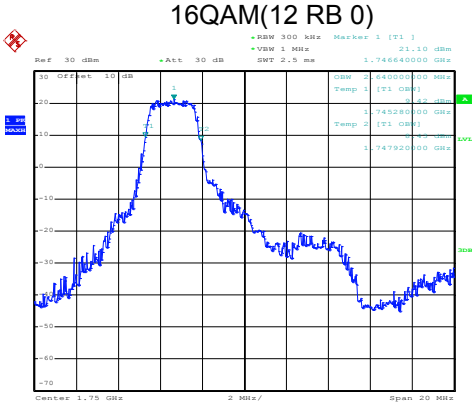
QPSK



Date: 28.MAY.2020 19:40:21

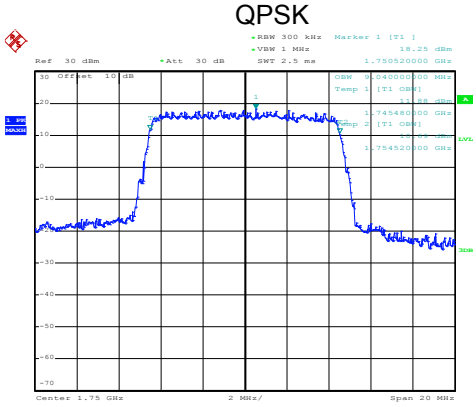
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:31:20

QPSK

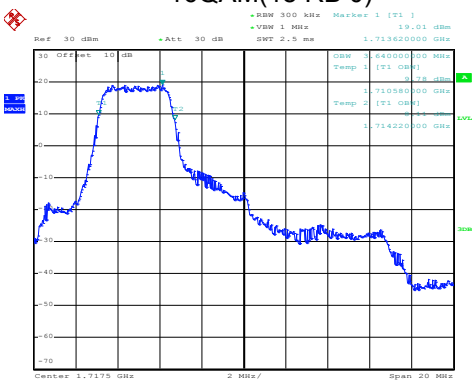


Date: 28.MAY.2020 19:40:55

Highest channel

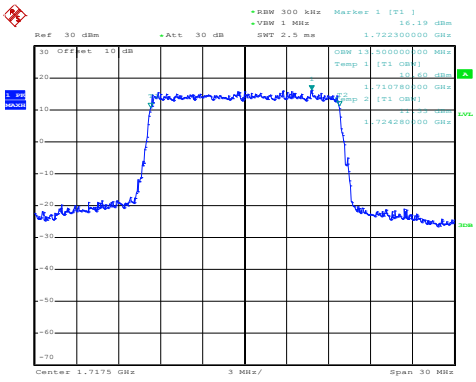
LTE Band 4: 99% Occupy bandwidth
BW: 15MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:34:44

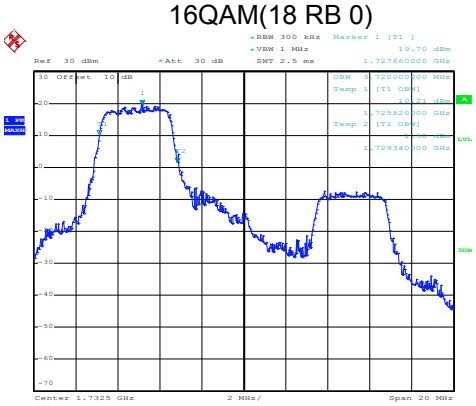
QPSK



Date: 28.MAY.2020 19:41:22

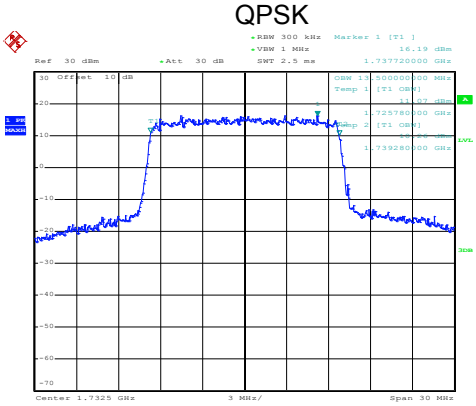
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:35:23

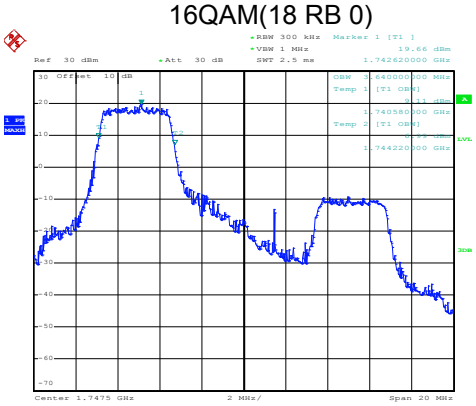
QPSK



Date: 28.MAY.2020 19:41:53

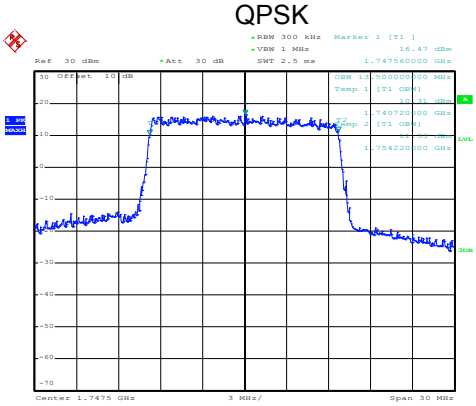
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:35:39

QPSK

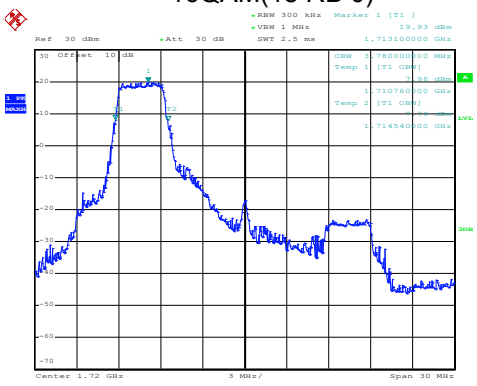


Date: 28.MAY.2020 19:43:30

Highest channel

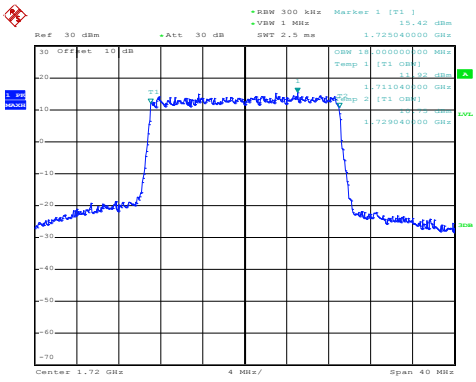
LTE Band 4: 99% Occupy bandwidth
BW: 20MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:37:28

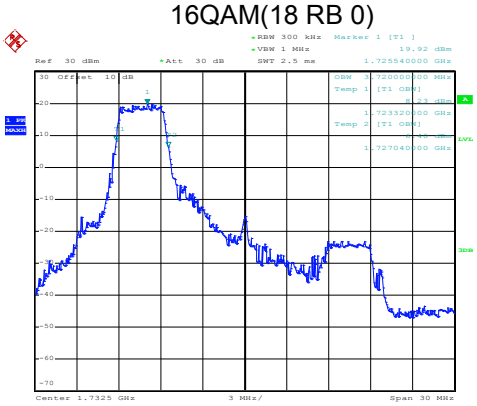
QPSK



Date: 28.MAY.2020 19:45:25

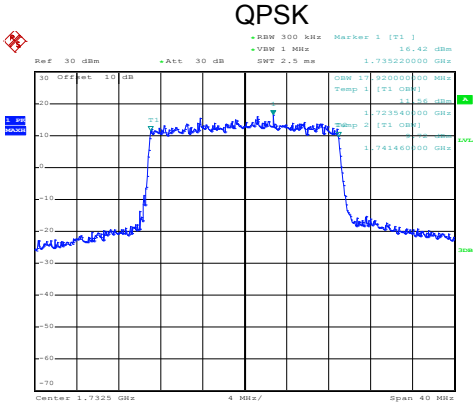
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:37:42

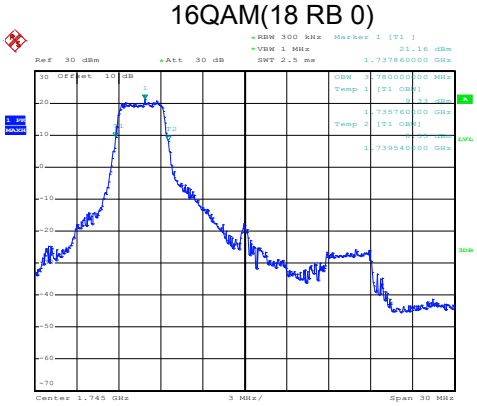
QPSK



Date: 28.MAY.2020 19:45:37

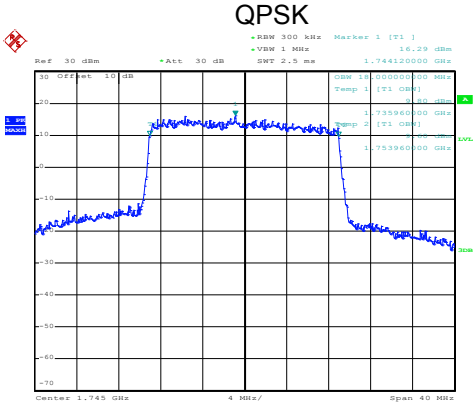
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:38:29

QPSK

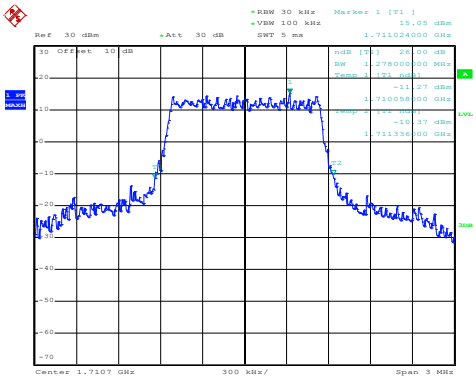


Date: 28.MAY.2020 19:46:13

Highest channel

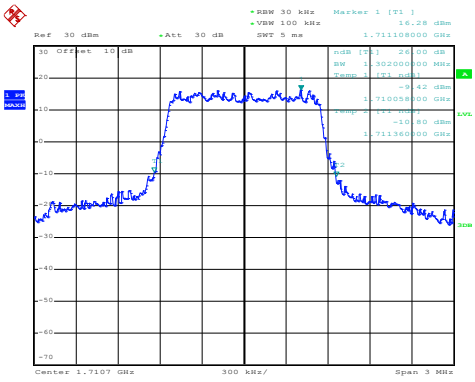
LTE Band 4: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:32:34

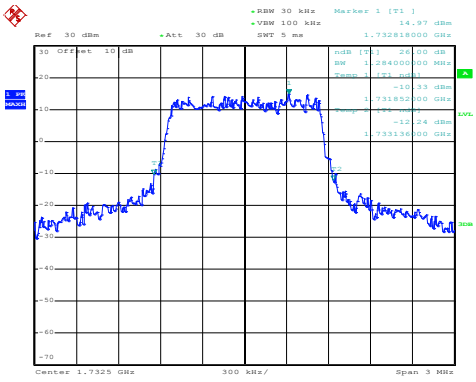
QPSK



Date: 28.MAY.2020 19:32:31

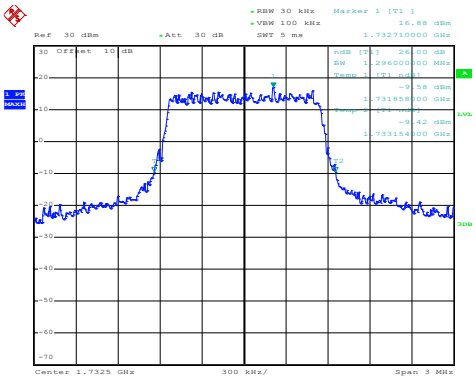
Lowest channel

16QAM



Date: 28.MAY.2020 19:32:49

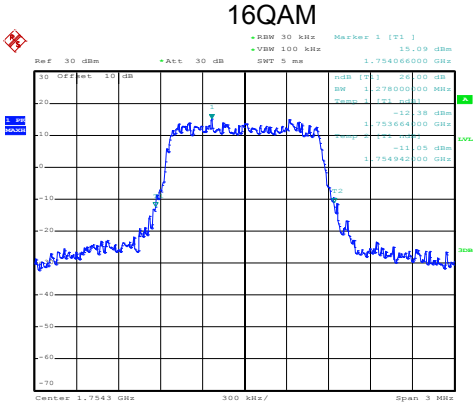
QPSK



Date: 28.MAY.2020 19:32:45

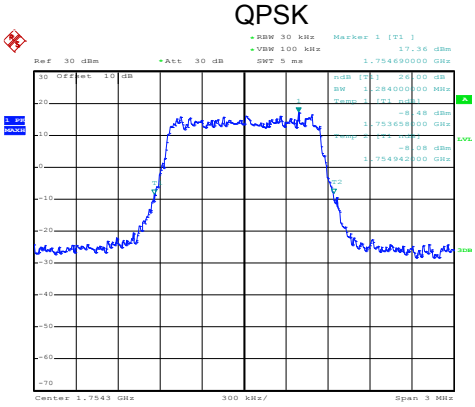
Middle channel

16QAM



Date: 28.MAY.2020 19:33:25

QPSK

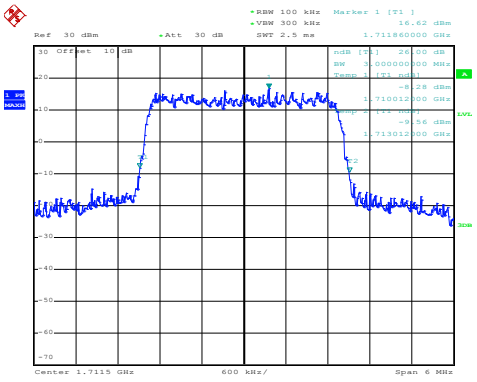


Date: 28.MAY.2020 19:33:21

Highest channel

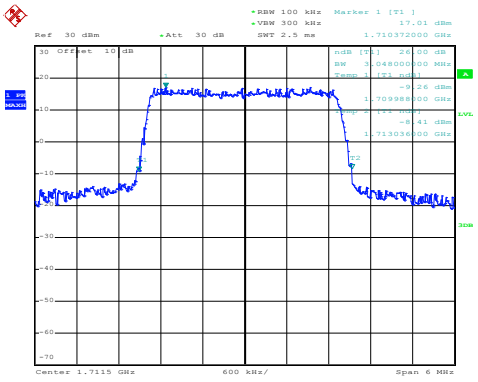
LTE Band 4: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:35:53

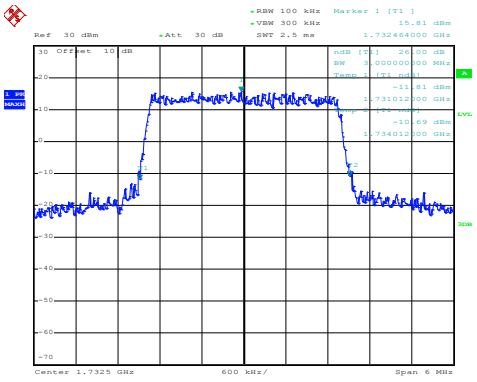
QPSK



Date: 28.MAY.2020 19:35:49

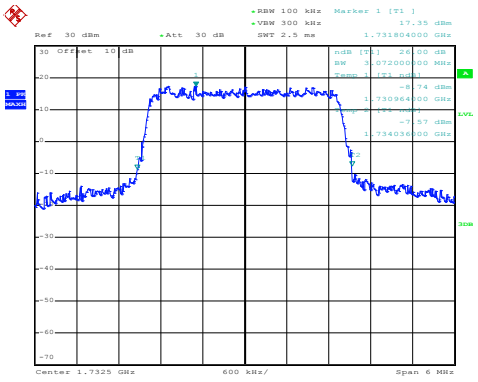
Lowest channel

16QAM



Date: 28.MAY.2020 19:36:27

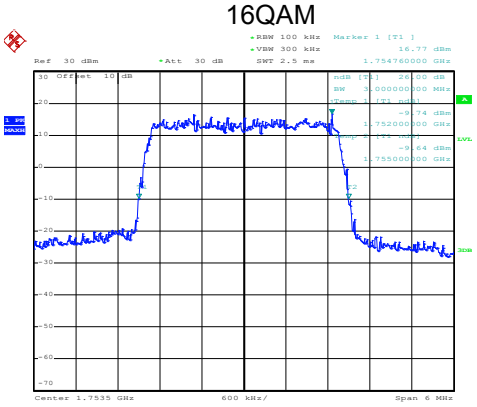
QPSK



Date: 28.MAY.2020 19:36:23

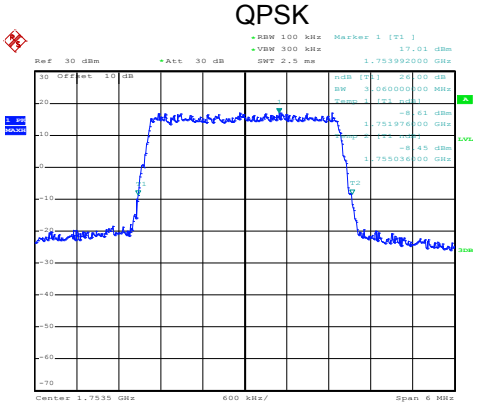
Middle channel

16QAM



Date: 28.MAY.2020 19:36:47

QPSK

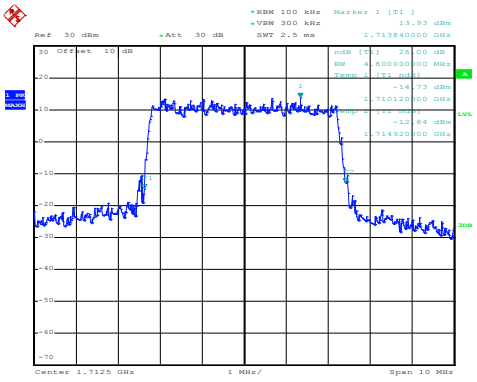


Date: 28.MAY.2020 19:36:43

Highest channel

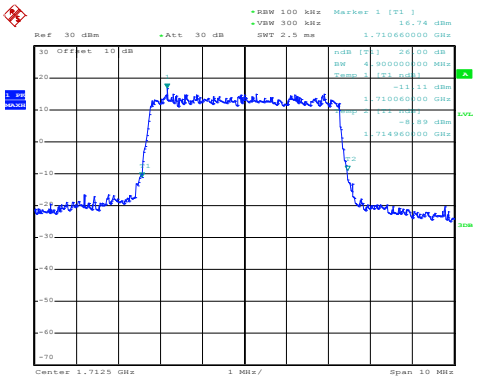
LTE Band 4: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 28.MAY.2020 19:37:37

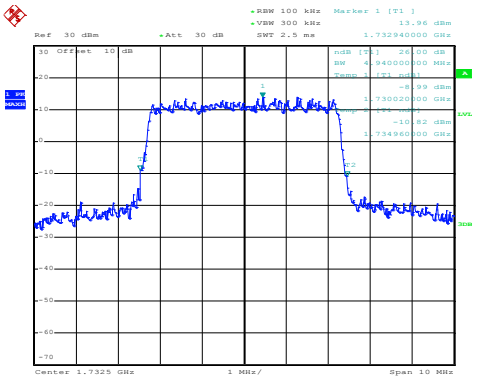
QPSK



Date: 28.MAY.2020 19:37:33

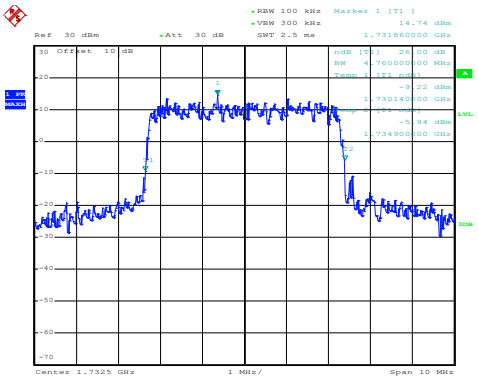
Lowest channel

16QAM



Date: 28.MAY.2020 19:38:22

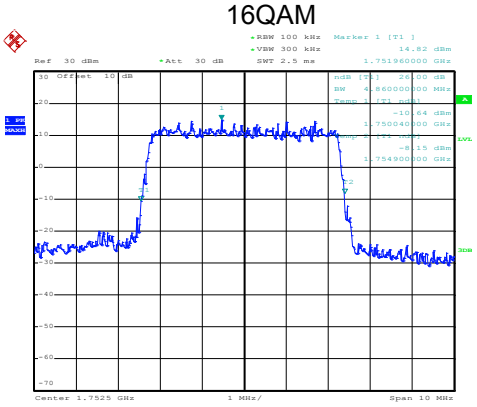
QPSK



Date: 28.MAY.2020 19:37:46

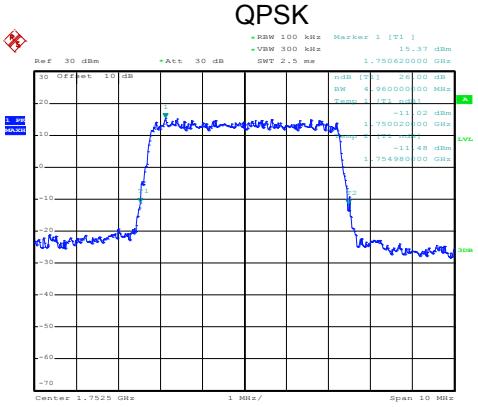
Middle channel

16QAM



Date: 28.MAY.2020 19:39:07

QPSK

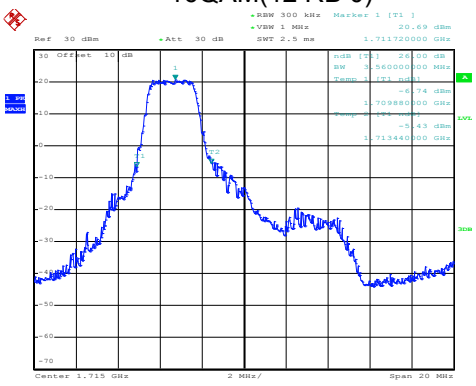


Date: 28.MAY.2020 19:39:04

Highest channel

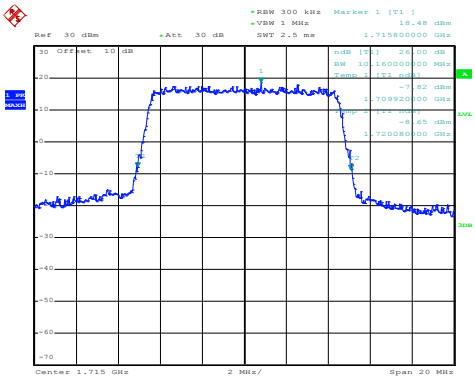
LTE Band 4: -26dBc bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:30:23

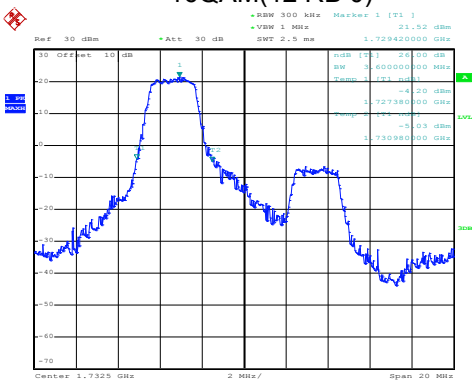
QPSK



Date: 28.MAY.2020 19:39:55

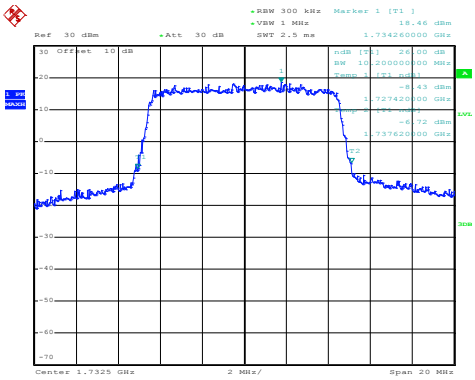
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:30:39

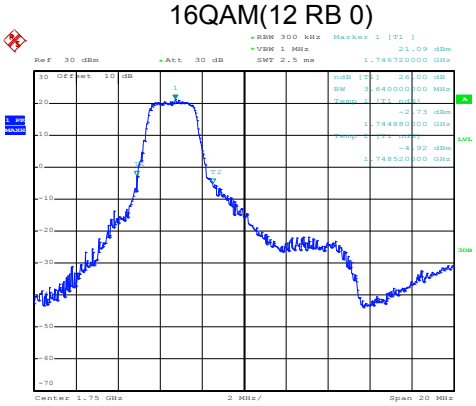
QPSK



Date: 28.MAY.2020 19:40:31

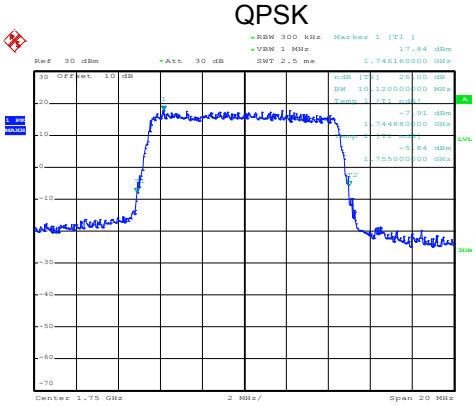
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:31:11

QPSK

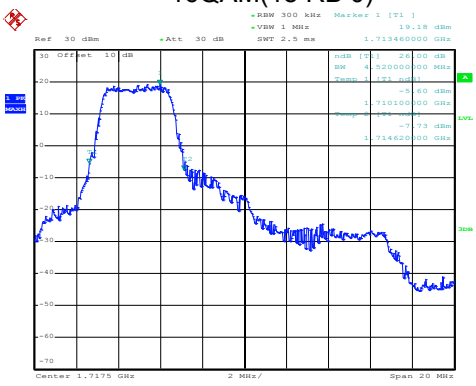


Date: 28.MAY.2020 19:40:46

Highest channel

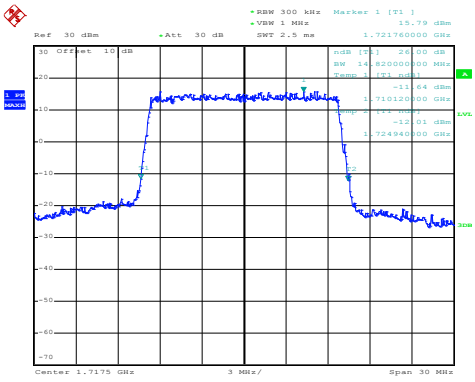
LTE Band 4: -26dBc bandwidth
BW: 15MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:34:51

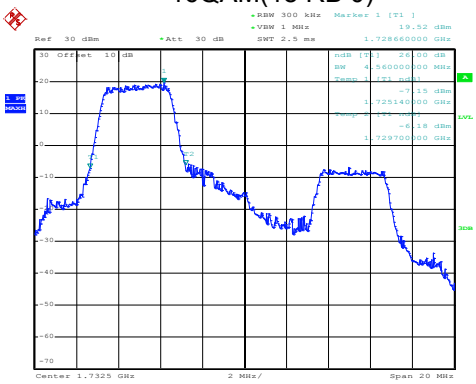
QPSK



Date: 28.MAY.2020 19:41:32

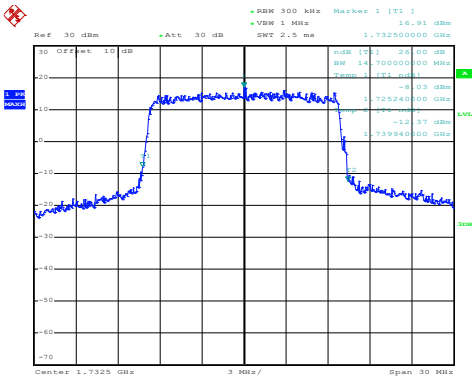
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:35:16

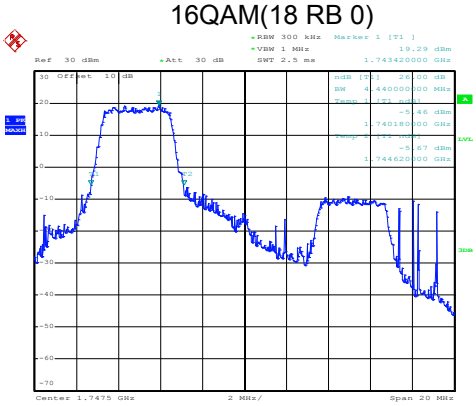
QPSK



Date: 28.MAY.2020 19:41:44

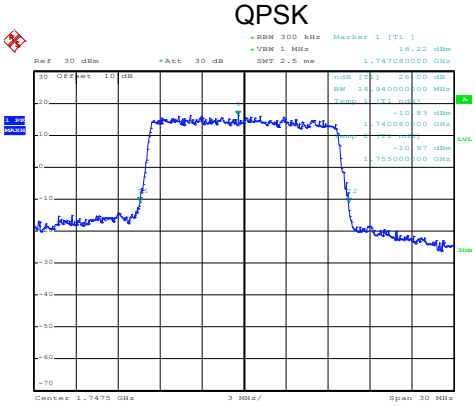
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:35:45

QPSK

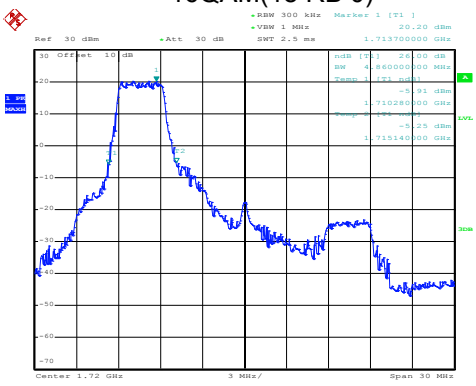


Date: 28.MAY.2020 19:43:41

Highest channel

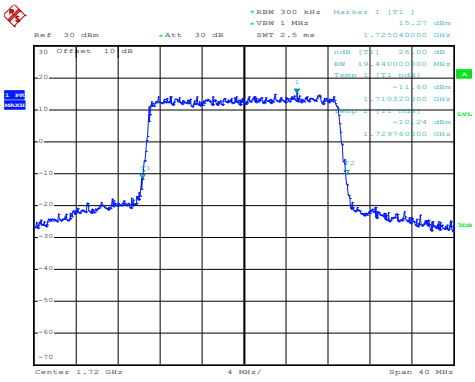
LTE Band 4: -26dBc bandwidth
BW: 20MHz

16QAM(18 RB 0)



Date: 30.JUL.2020 19:37:19

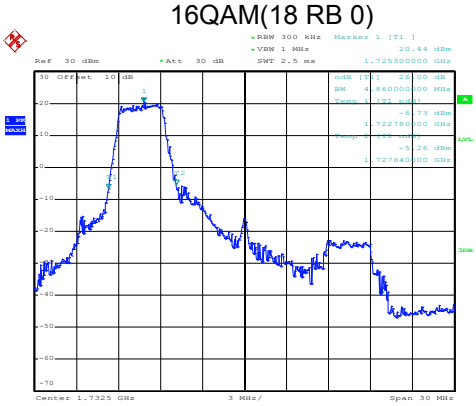
QPSK



Date: 28.MAY.2020 19:45:11

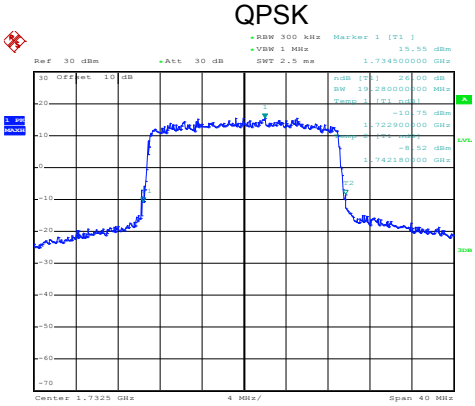
Lowest channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:37:50

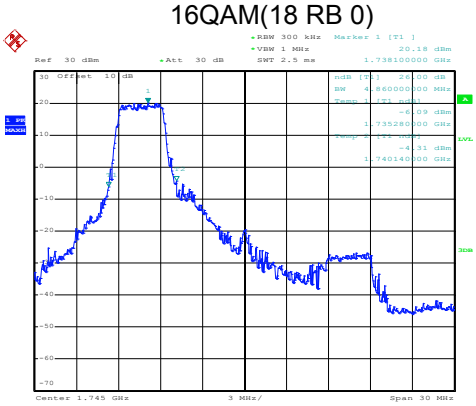
QPSK



Date: 28.MAY.2020 19:45:46

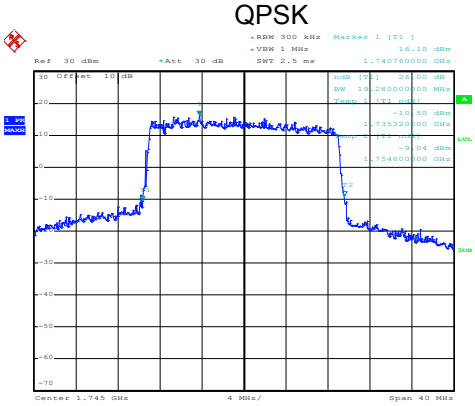
Middle channel

16QAM(18 RB 0)



Date: 30.JUL.2020 19:38:16

QPSK



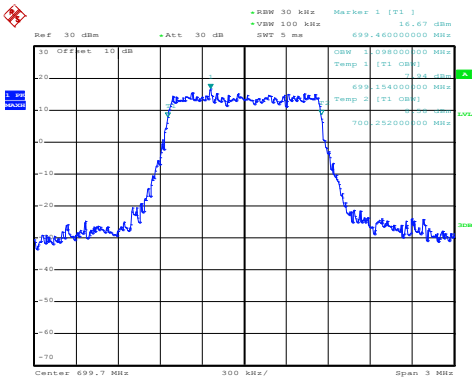
Date: 28.MAY.2020 19:46:03

Highest channel

LTE Band 12 part:

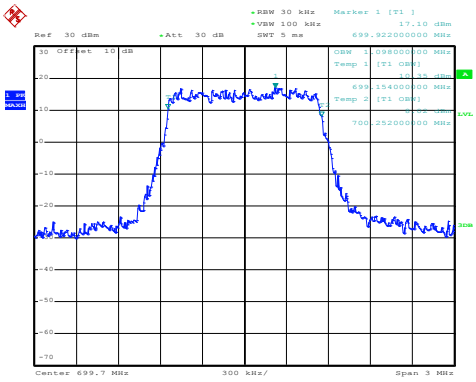
LTE Band 12: 99% Occupy bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:53:10

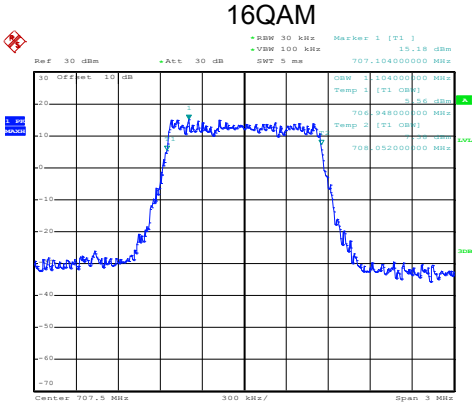
QPSK



Date: 28.MAY.2020 19:53:04

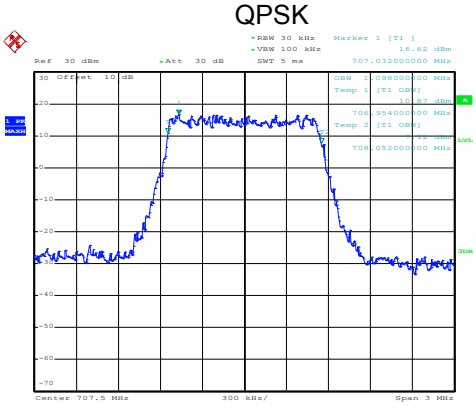
Lowest channel

16QAM



Date: 28.MAY.2020 19:53:23

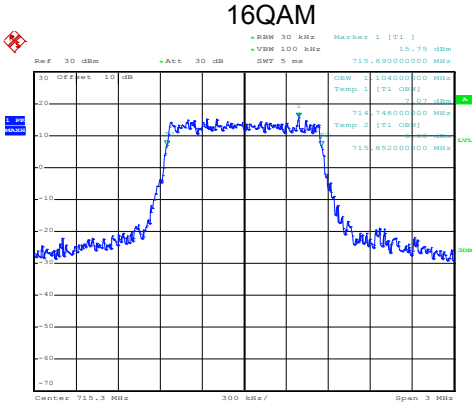
QPSK



Date: 28.MAY.2020 19:53:19

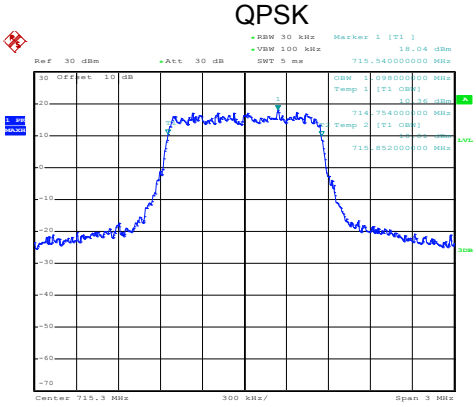
Middle channel

16QAM



Date: 28.MAY.2020 19:54:04

QPSK

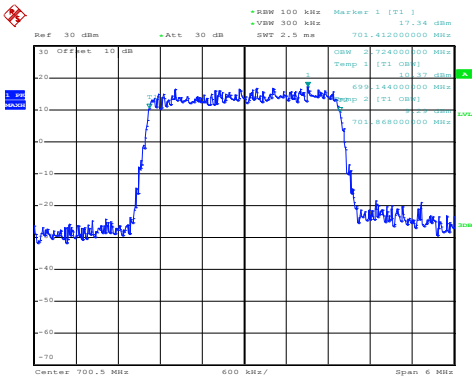


Date: 28.MAY.2020 19:53:59

Highest channel

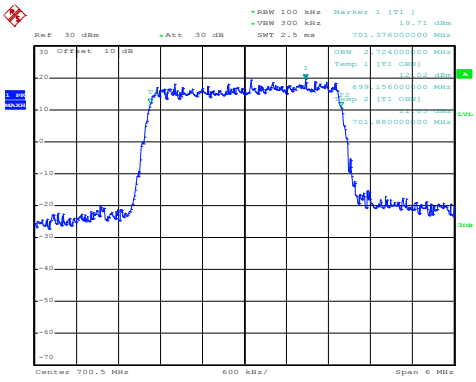
LTE Band 12: 99% Occupy bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:50:33

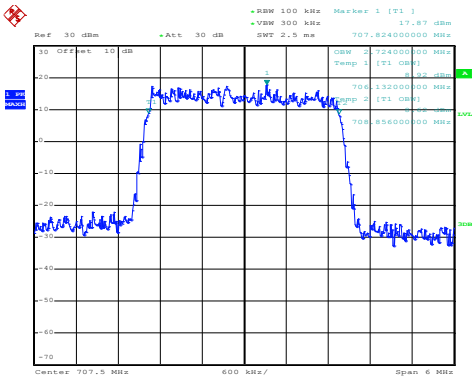
QPSK



Date: 28.MAY.2020 19:50:28

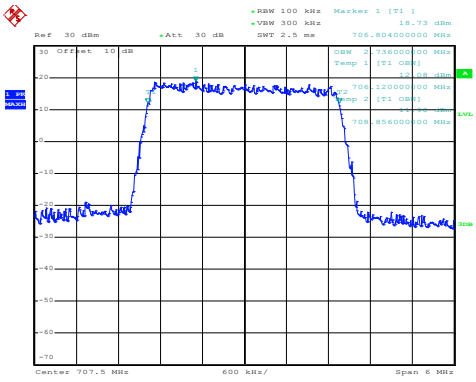
Lowest channel

16QAM



Date: 28.MAY.2020 19:51:08

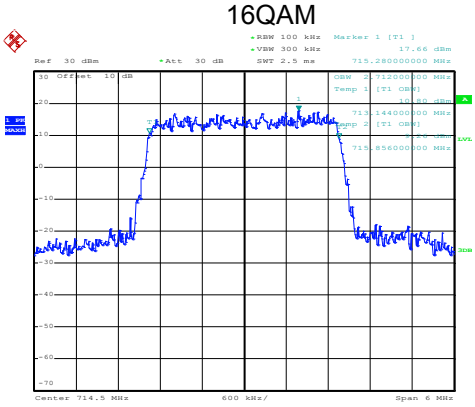
QPSK



Date: 28.MAY.2020 19:51:04

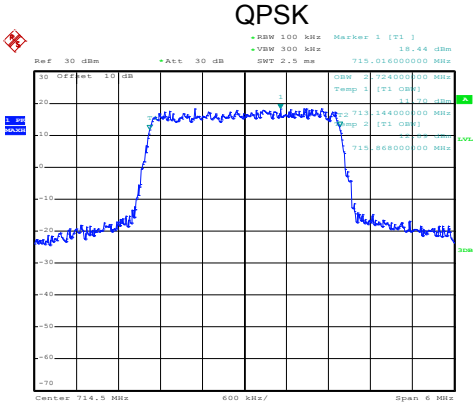
Middle channel

16QAM



Date: 28.MAY.2020 19:51:24

QPSK

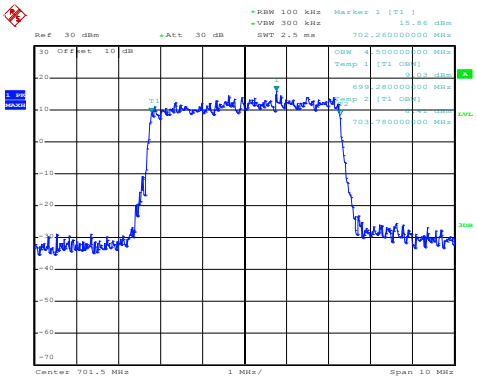


Date: 28.MAY.2020 19:51:20

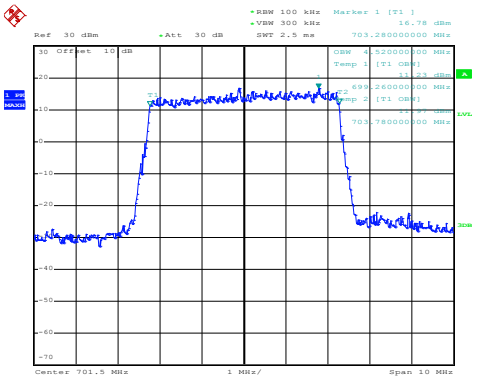
Highest channel

LTE Band 12: 99% Occupy bandwidth
BW: 5MHz

16QAM

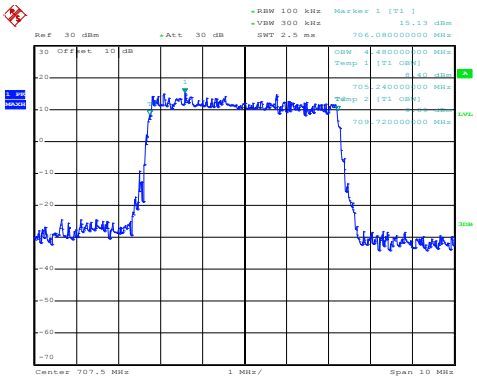


QPSK

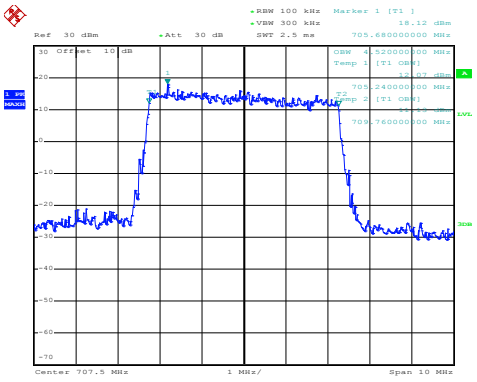


Lowest channel

16QAM

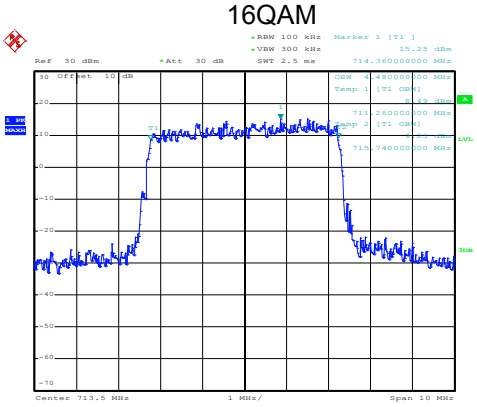


QPSK

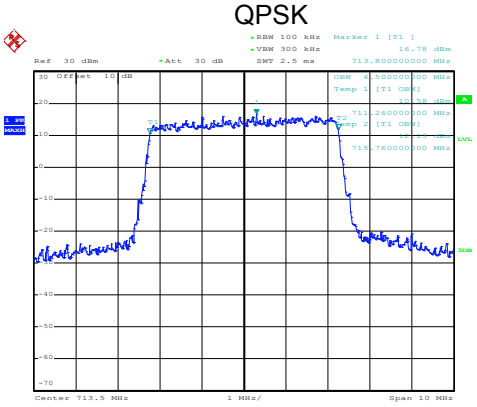


Middle channel

16QAM



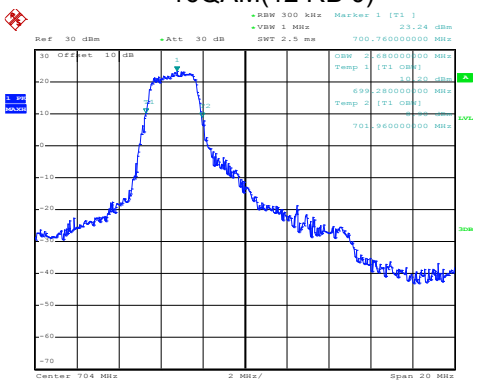
QPSK



Highest channel

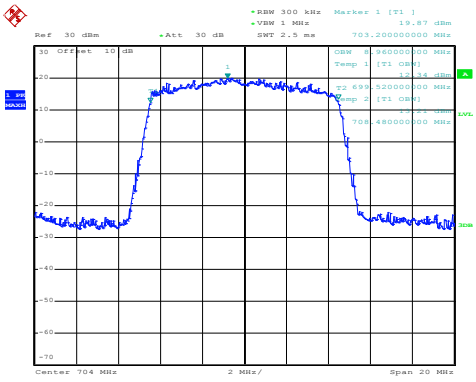
LTE Band 12: 99% Occupy bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:40:30

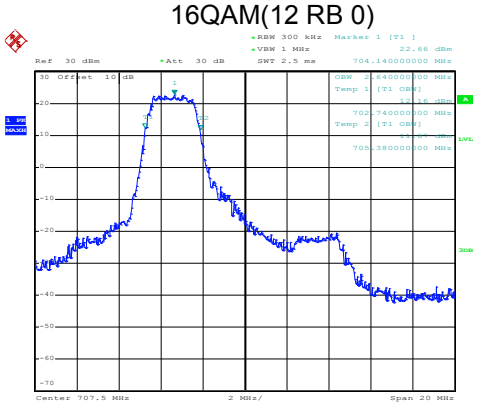
QPSK



Date: 28.MAY.2020 19:46:54

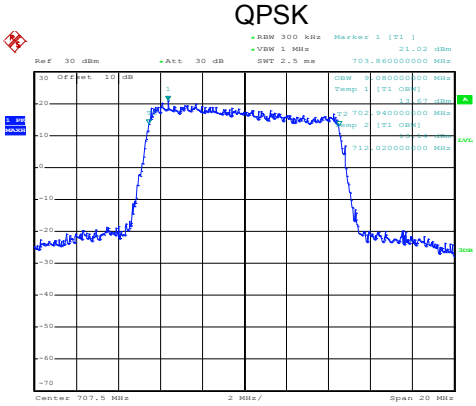
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:41:02

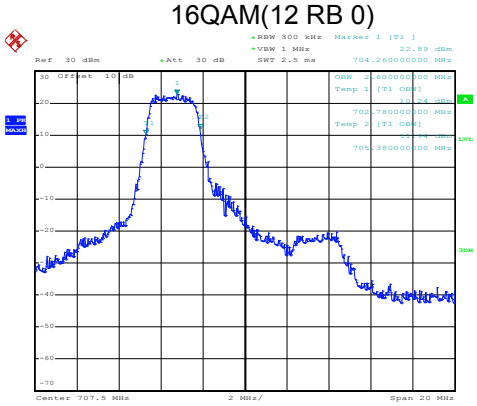
QPSK



Date: 28.MAY.2020 19:47:26

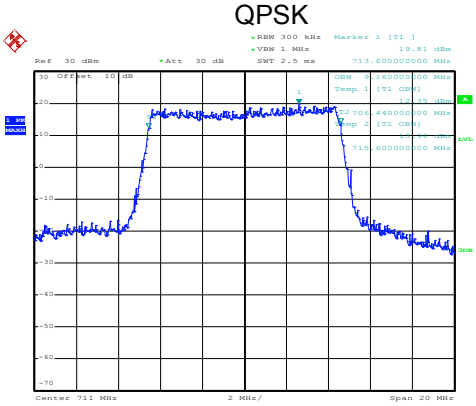
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:41:14

QPSK

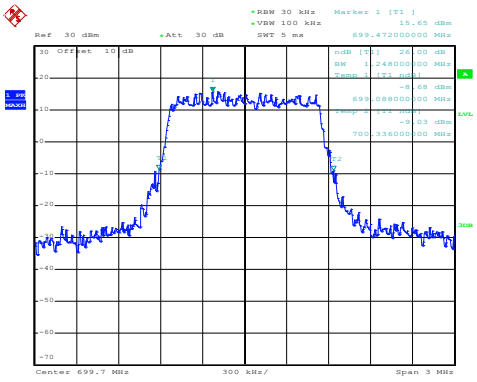


Date: 28.MAY.2020 19:47:39

Highest channel

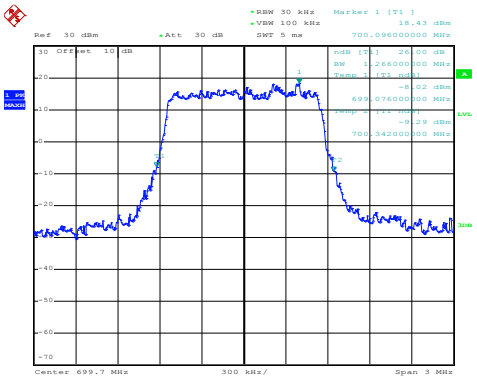
LTE Band 12: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 28.MAY.2020 19:52:57

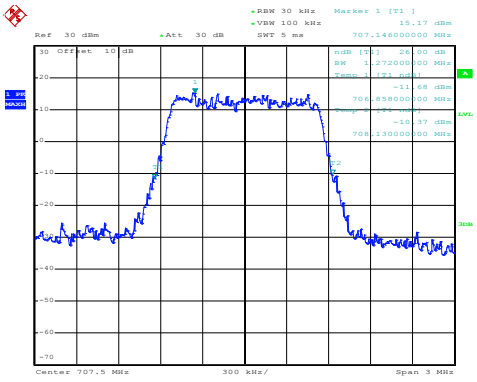
QPSK



Date: 28.MAY.2020 19:52:52

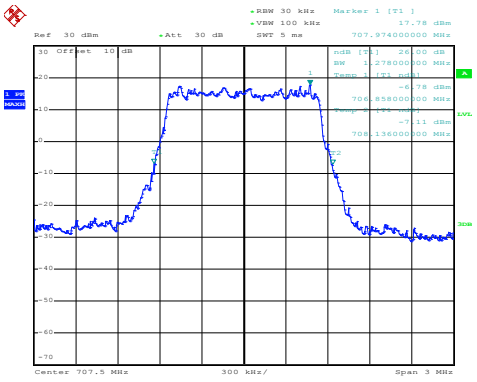
Lowest channel

16QAM



Date: 28.MAY.2020 19:53:35

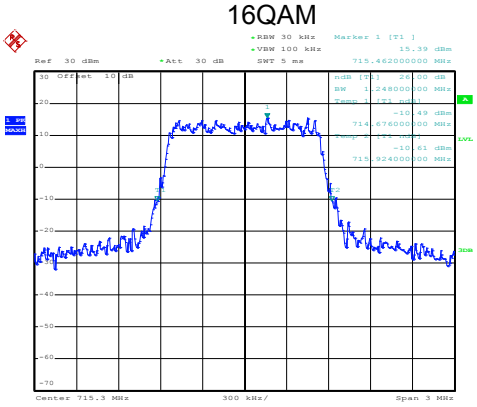
QPSK



Date: 28.MAY.2020 19:53:30

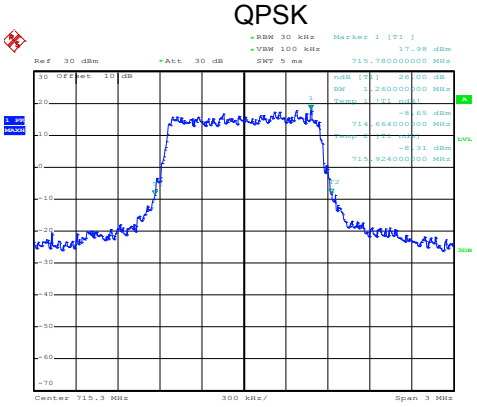
Middle channel

16QAM



Date: 28.MAY.2020 19:53:51

QPSK

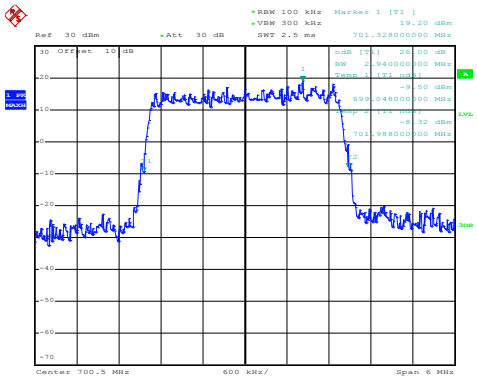


Date: 28.MAY.2020 19:53:47

Highest channel

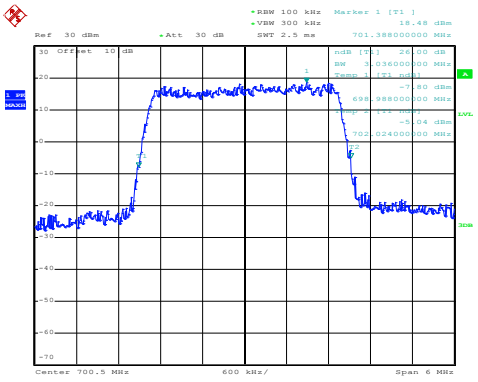
LTE Band 12: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 28.MAY.2020 19:50:44

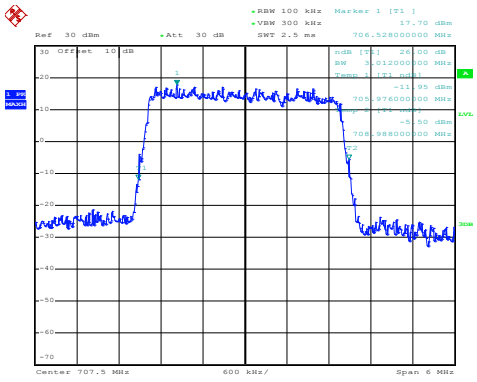
QPSK



Date: 28.MAY.2020 19:50:39

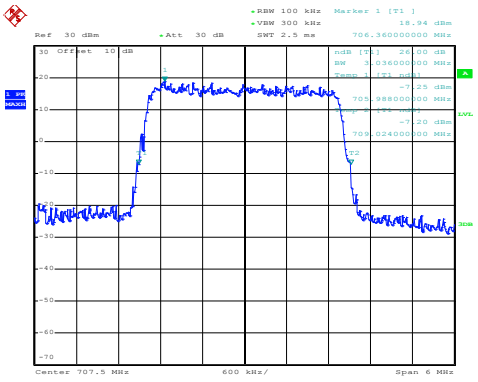
Lowest channel

16QAM



Date: 28.MAY.2020 19:50:57

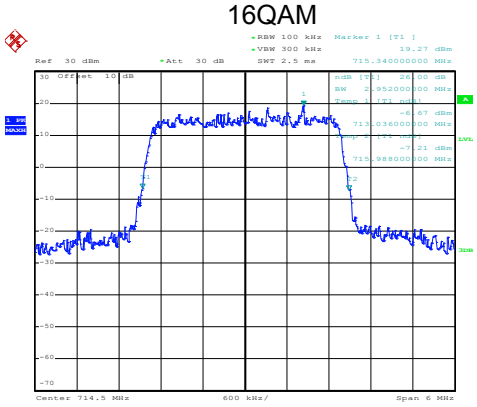
QPSK



Date: 28.MAY.2020 19:50:53

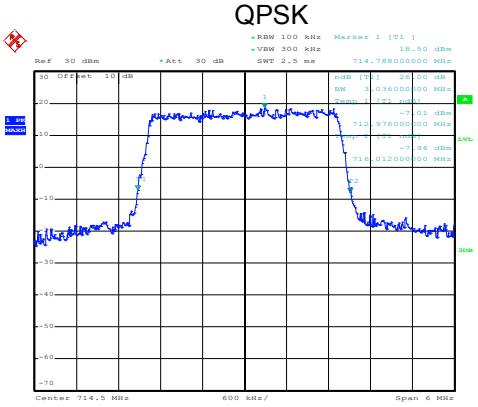
Middle channel

16QAM



Date: 28.MAY.2020 19:51:36

QPSK

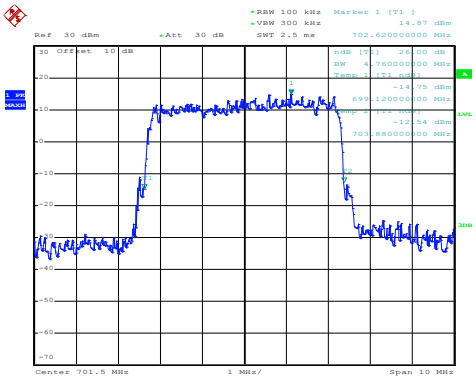


Date: 28.MAY.2020 19:51:32

Highest channel

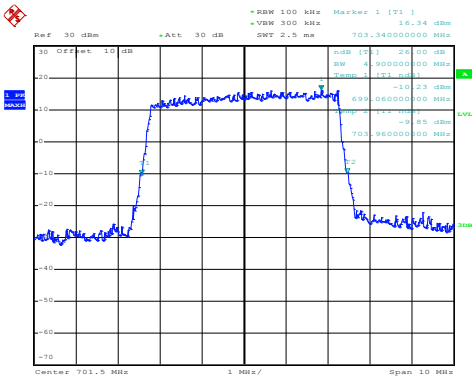
LTE Band 12: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 28.MAY.2020 19:49:01

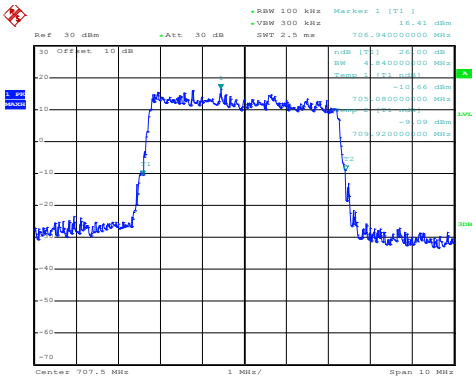
QPSK



Date: 28.MAY.2020 19:48:54

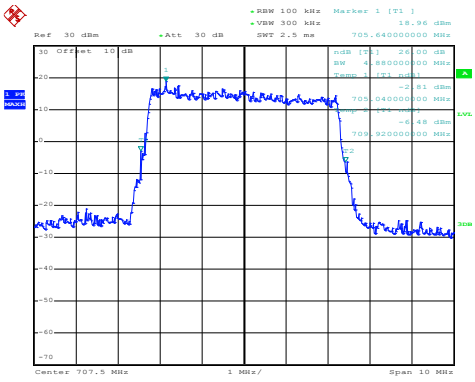
Lowest channel

16QAM



Date: 28.MAY.2020 19:49:37

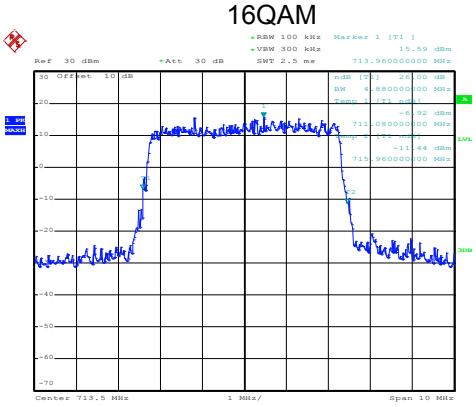
QPSK



Date: 28.MAY.2020 19:49:32

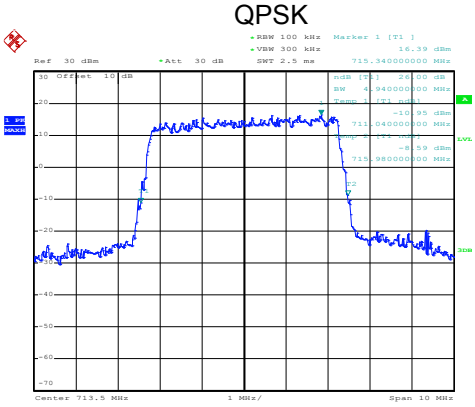
Middle channel

16QAM



Date: 28.MAY.2020 19:49:52

QPSK

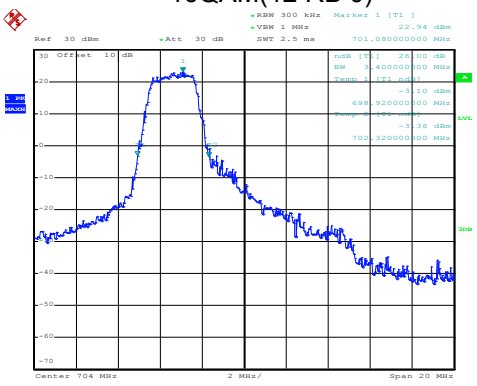


Date: 28.MAY.2020 19:49:48

Highest channel

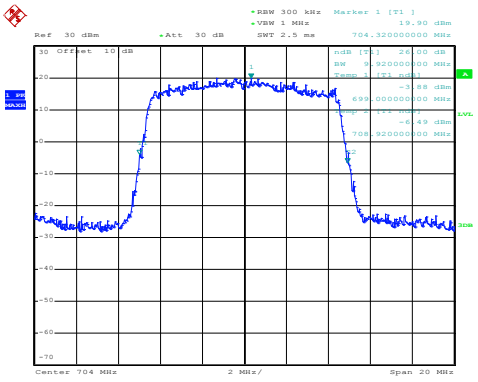
LTE Band 12: -26dBc bandwidth
BW: 10MHz

16QAM(12 RB 0)



Date: 30.JUL.2020 19:40:38

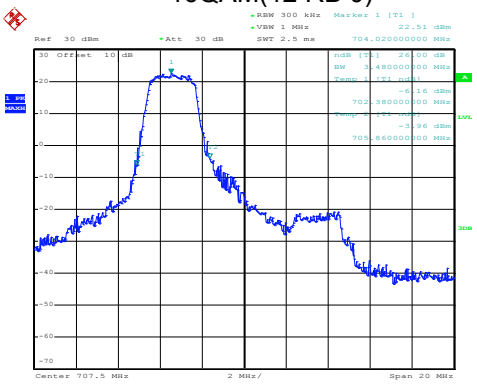
QPSK



Date: 28.MAY.2020 19:47:03

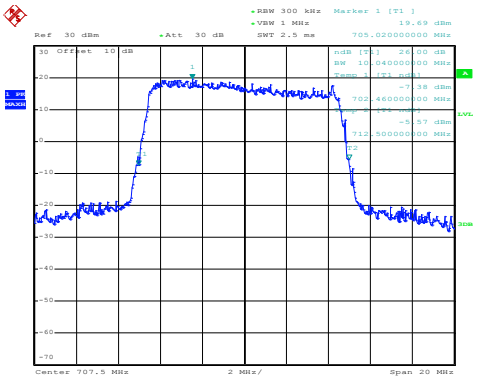
Lowest channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:40:52

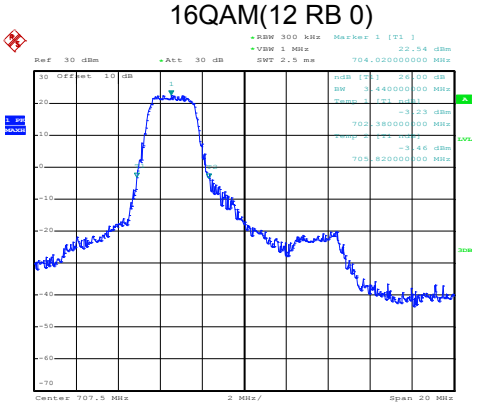
QPSK



Date: 28.MAY.2020 19:47:17

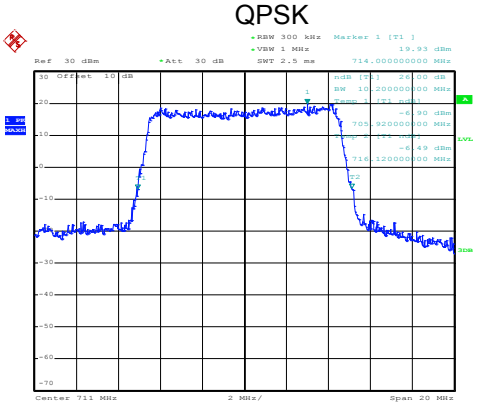
Middle channel

16QAM(12 RB 0)



Date: 30.JUL.2020 19:41:23

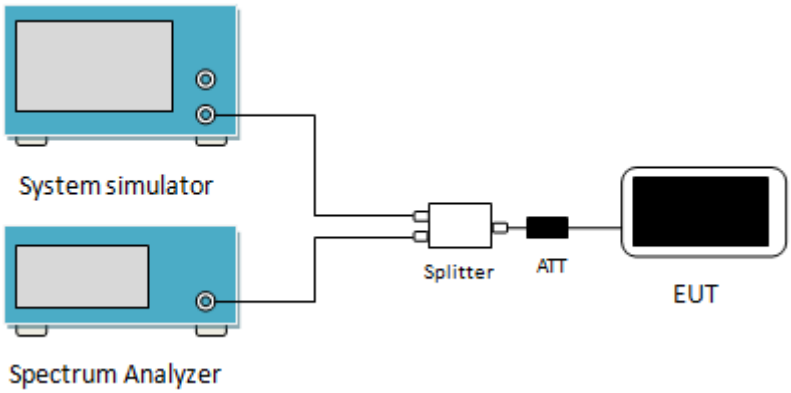
QPSK



Date: 28.MAY.2020 19:47:48

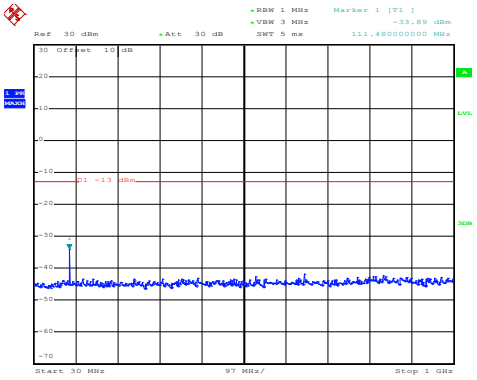
Highest channel

6.4 Out of band emission at antenna terminals

Test Requirement:	Part 24.238 (a), part 27.53(g), part 27.53(h)
Limit:	LTE Band 2 & 4 & 12: 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:	
Test Procedure:	1 The RF output of the transceiver was connected to a spectrum analyzer through appropriate attenuation. 2 For the out of band: For Band 5 & 12 & 17 set the RBW=100 kHz, VBW=300 kHz and for Band 2 & 4 & 7 set the RBW=1 MHz, VBW=3 MHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 3 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 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	Pre-scan all RB Size and offset, and found the RB Size and offset of worst case, so the report shows only the worst case test data.

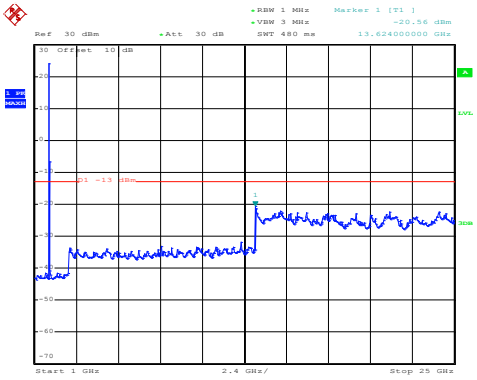
Test plots as follows (Conducted spurious emission) (worst case):
LTE Band 2 part:

LTE Band 2: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 28.MAY.2020 18:42:40

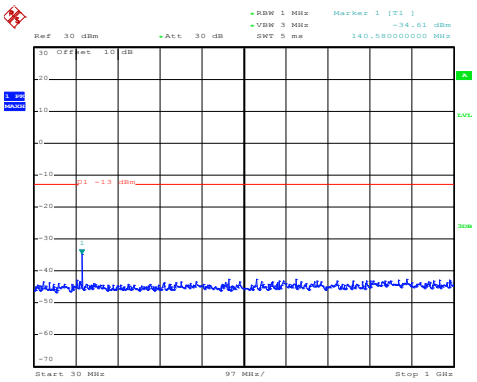
30MHz~1GHz



Date: 28.MAY.2020 18:39:28

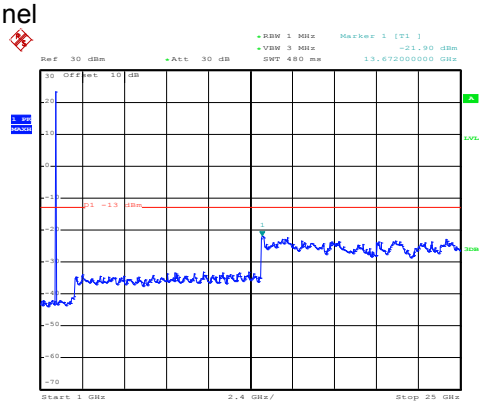
1GHz~25GHz

Middle channel



Date: 28.MAY.2020 18:40:35

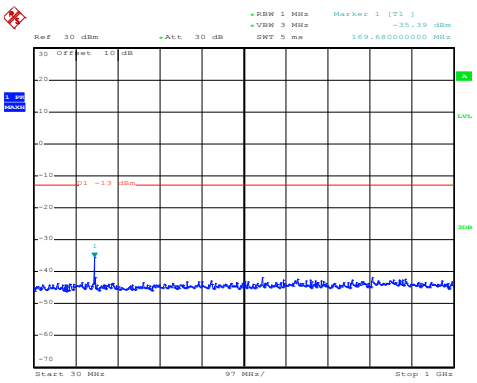
30MHz~1GHz



Date: 28.MAY.2020 18:39:04

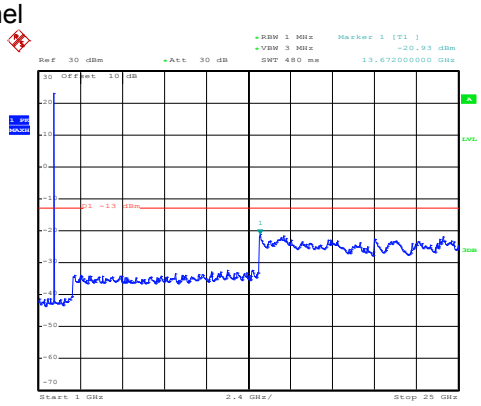
1GHz~25GHz

High channel



Date: 28.MAY.2020 18:43:06

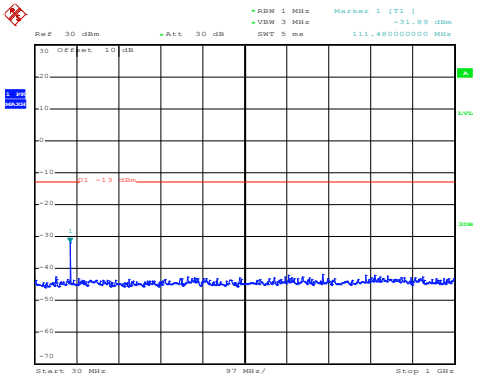
30MHz~1GHz



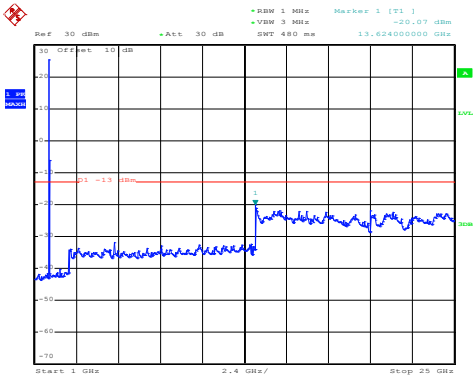
Date: 28.MAY.2020 18:39:56

1GHz~25GHz

LTE Band 2: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel

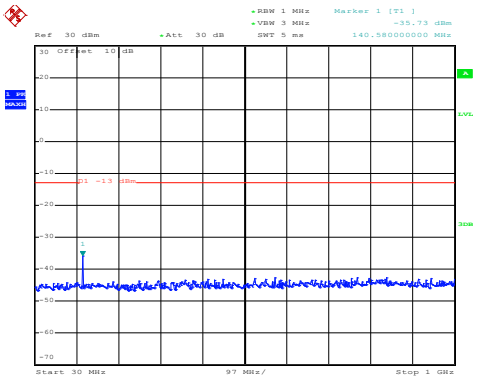


30MHz~1GHz

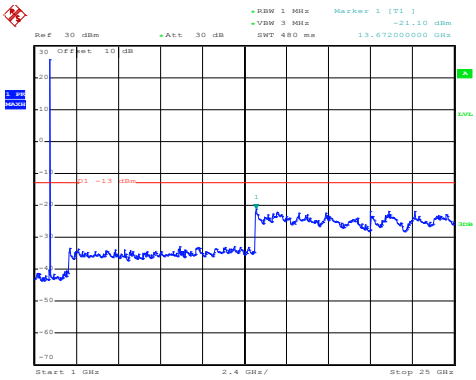


1GHz~25GHz

Middle channel

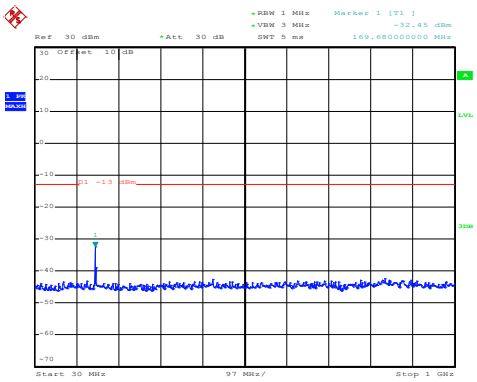


30MHz~1GHz

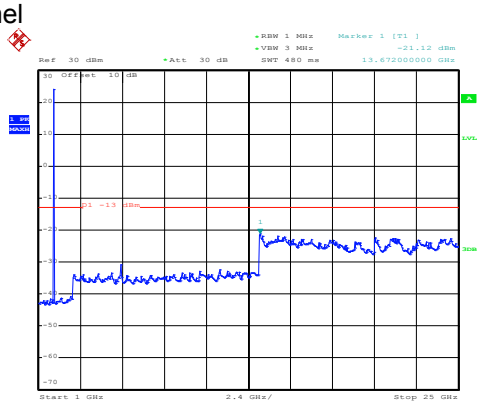


1GHz~25GHz

High channel

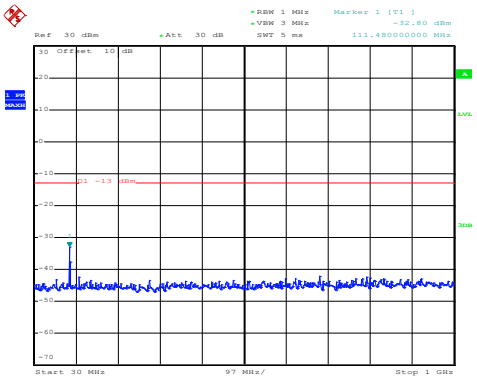


30MHz~1GHz

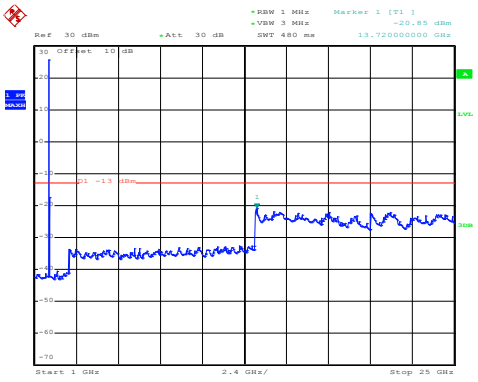


1GHz~25GHz

LTE Band 2: 16 QAM & RB Size 1
BW: 20MHz
Lowest channel

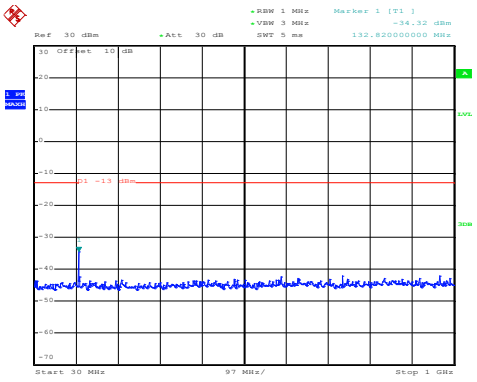


30MHz~1GHz

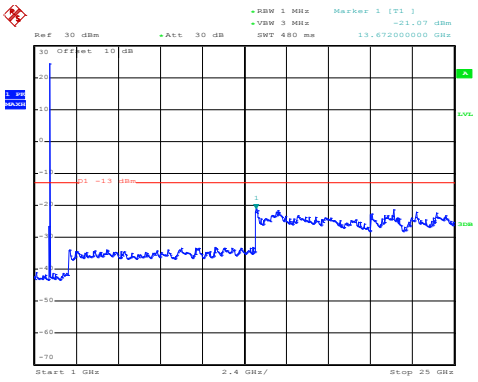


1GHz~25GHz

Middle channel

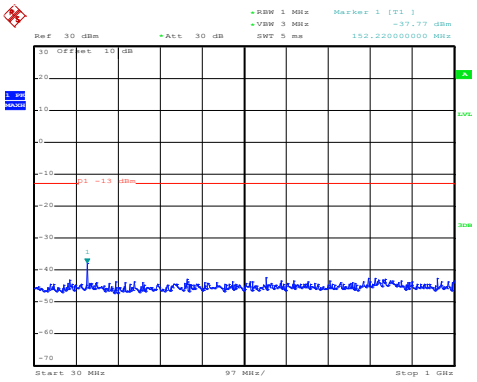


30MHz~1GHz

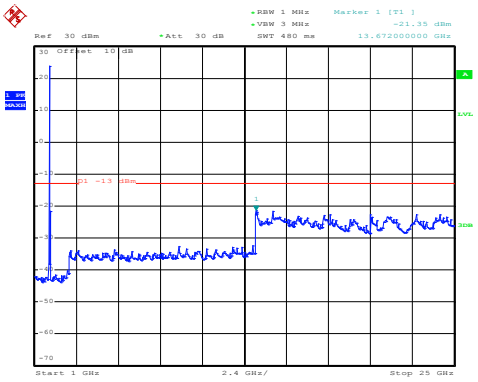


1GHz~25GHz

High channel

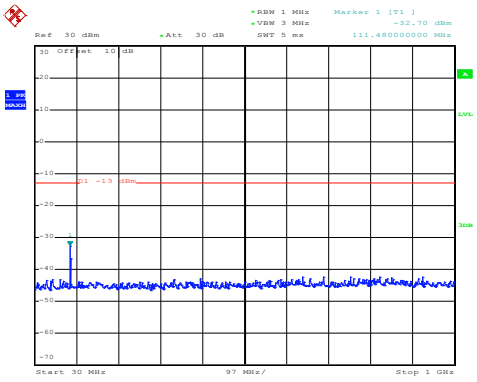


30MHz~1GHz



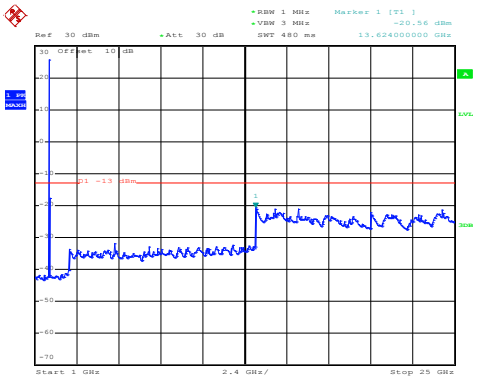
1GHz~25GHz

LTE Band 2: QPSK & RB Size 1
BW: 20MHz
Lowest channel



Date: 28.MAY.2020 19:02:38

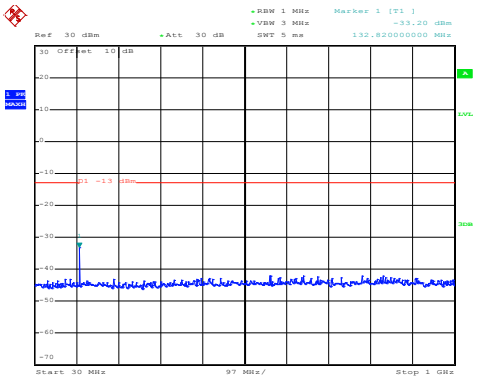
30MHz~1GHz



Date: 28.MAY.2020 19:00:21

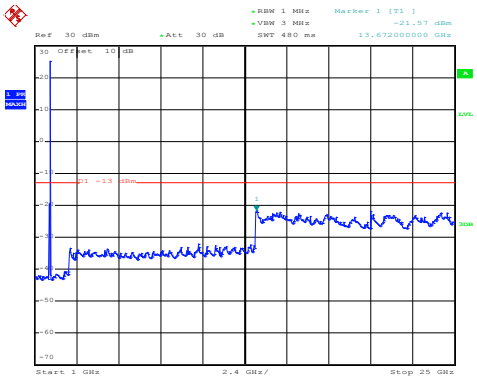
1GHz~25GHz

Middle channel



Date: 28.MAY.2020 19:02:21

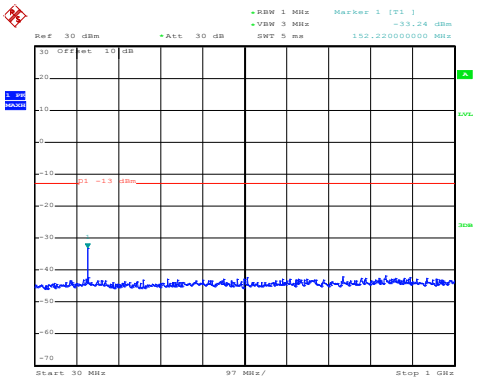
30MHz~1GHz



Date: 28.MAY.2020 19:01:15

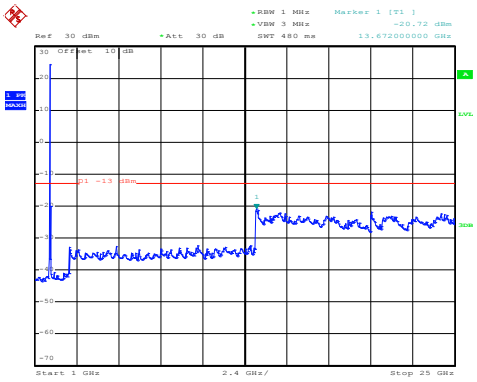
1GHz~25GHz

High channel



Date: 28.MAY.2020 19:02:04

30MHz~1GHz

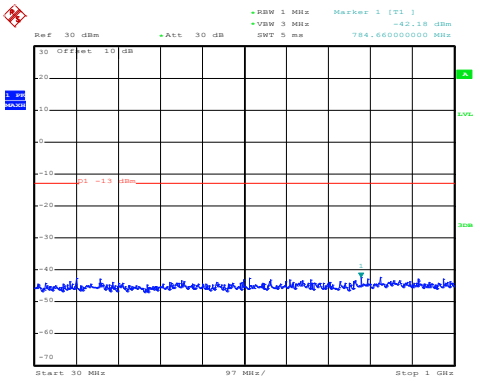


Date: 28.MAY.2020 19:01:41

1GHz~25GHz

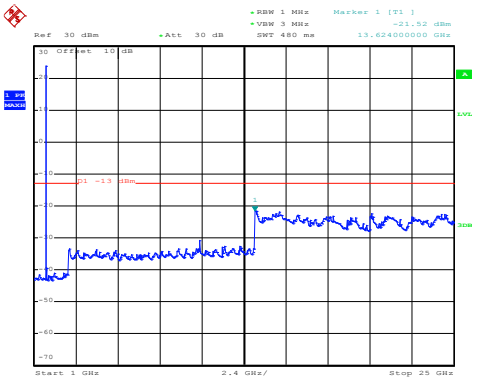
LTE Band 4 part:

LTE Band 4: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 28.MAY.2020 18:41:45

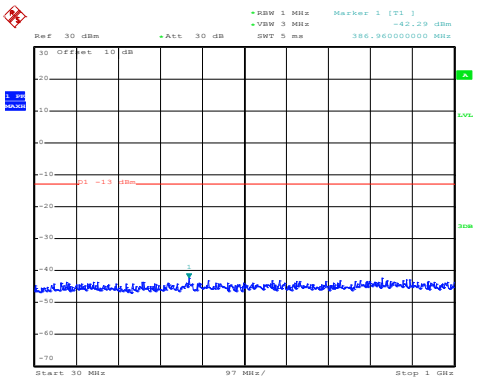
30MHz~1GHz



Date: 28.MAY.2020 18:32:38

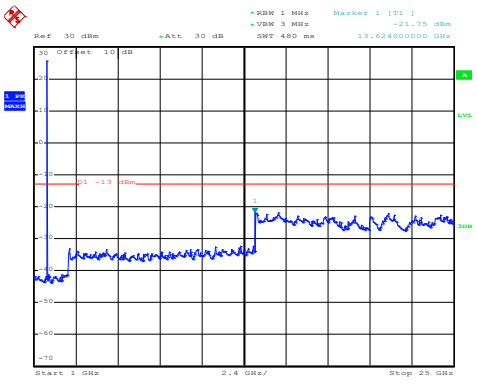
1GHz~25GHz

Middle channel



Date: 28.MAY.2020 18:41:59

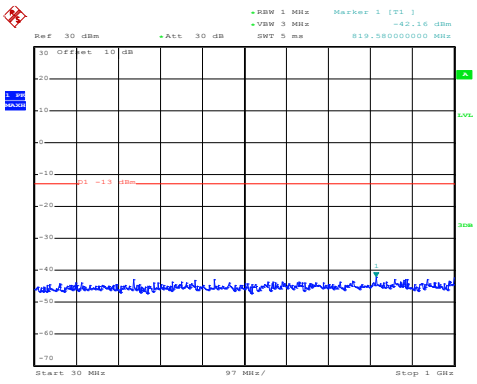
30MHz~1GHz



Date: 28.MAY.2020 18:33:03

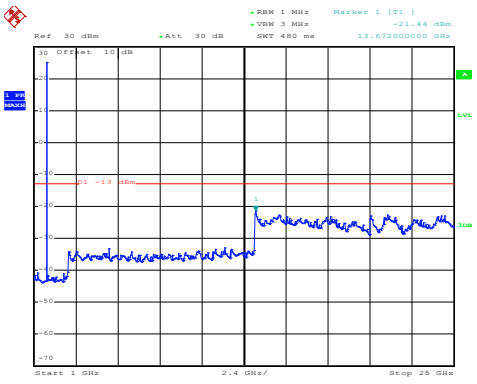
1GHz~25GHz

High channel



Date: 28.MAY.2020 18:42:13

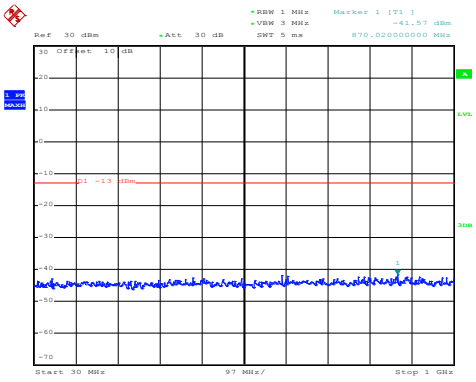
30MHz~1GHz



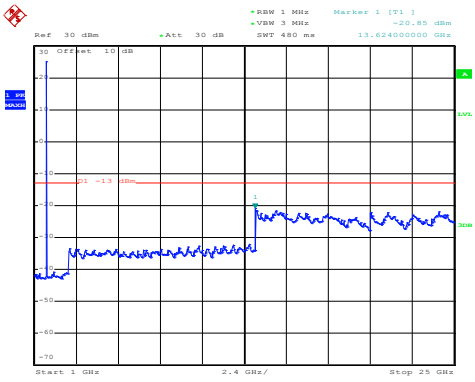
Date: 28.MAY.2020 18:33:38

1GHz~25GHz

LTE Band 4: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel

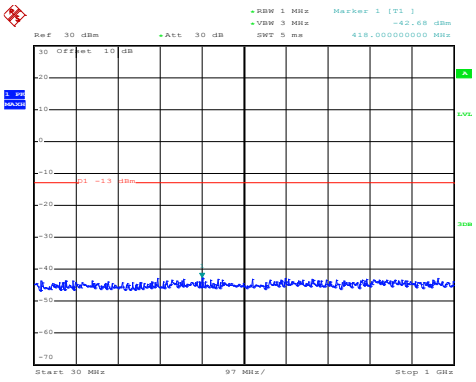


30MHz~1GHz

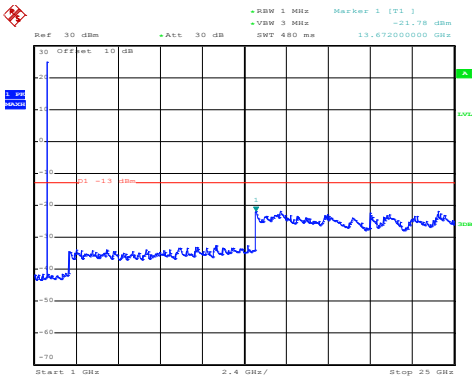


1GHz~25GHz

Middle channel

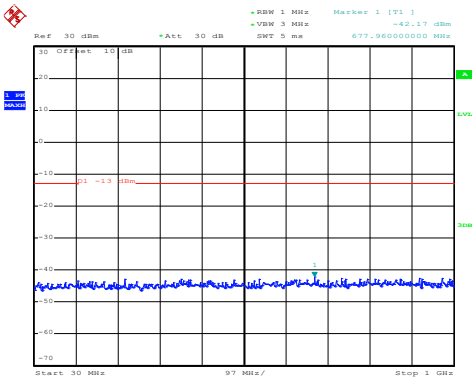


30MHz~1GHz

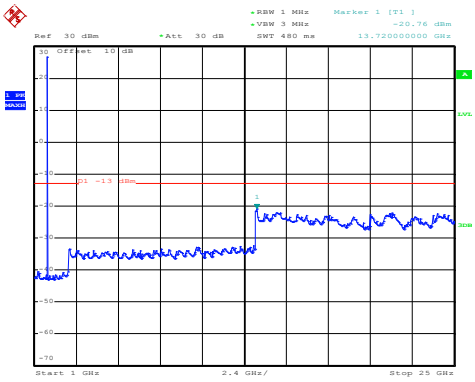


1GHz~25GHz

High channel

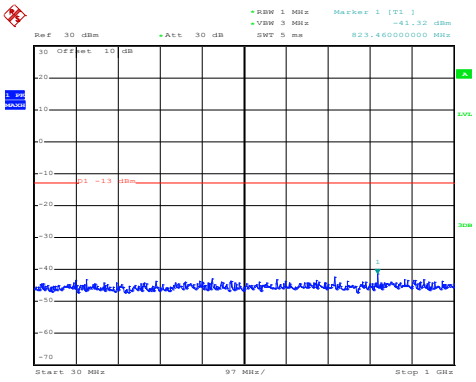


30MHz~1GHz



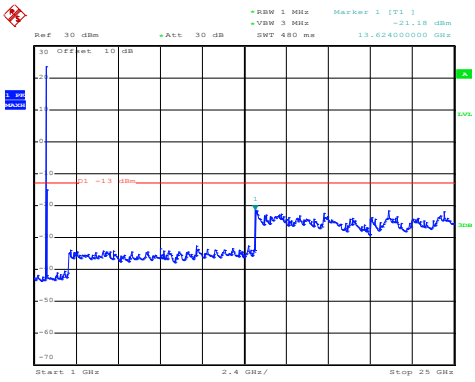
1GHz~25GHz

LTE Band 4: 16 QAM & RB Size 1
BW: 20MHz
Lowest channel



Date: 28.MAY.2020 18:58:35

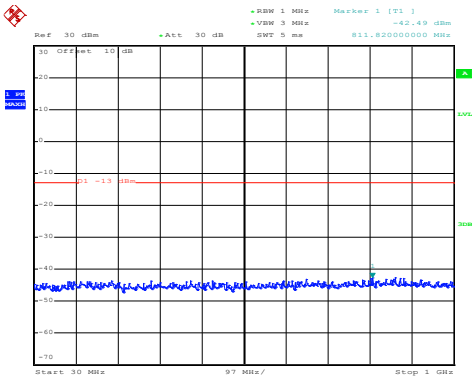
30MHz~1GHz



Date: 28.MAY.2020 18:59:59

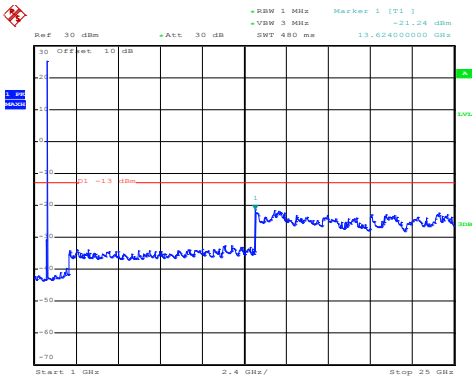
1GHz~25GHz

Middle channel



Date: 28.MAY.2020 18:58:21

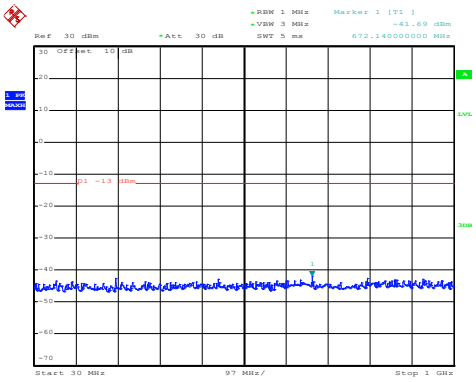
30MHz~1GHz



Date: 28.MAY.2020 18:59:39

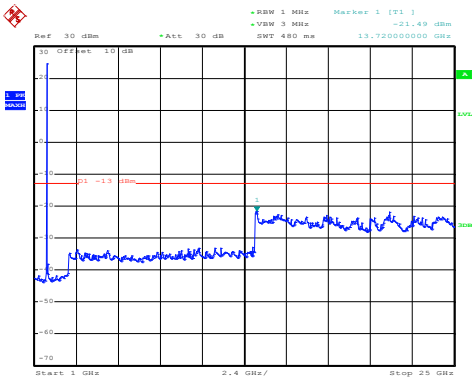
1GHz~25GHz

High channel



Date: 28.MAY.2020 18:58:53

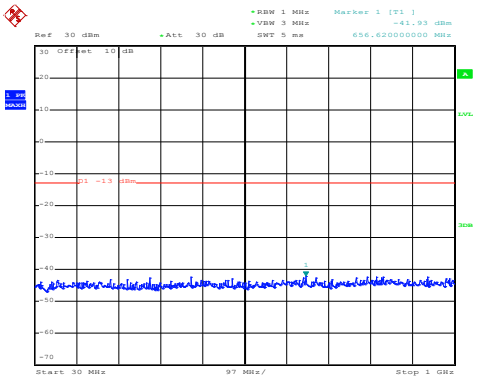
30MHz~1GHz



Date: 28.MAY.2020 18:59:20

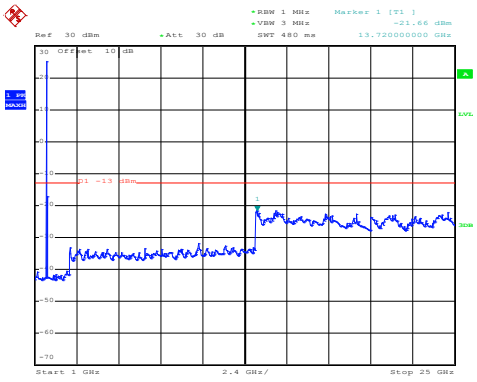
1GHz~25GHz

LTE Band 4: QPSK & RB Size 1
BW: 20MHz
Lowest channel



Date: 28.MAY.2020 18:58:31

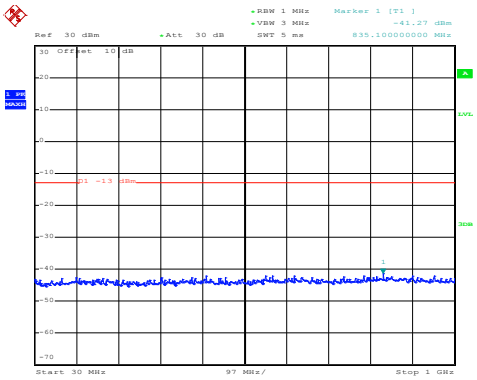
30MHz~1GHz



Date: 28.MAY.2020 18:59:50

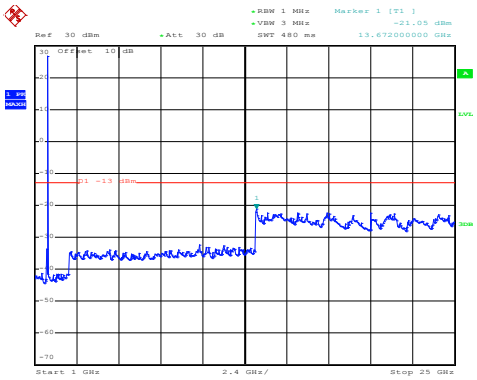
1GHz~25GHz

Middle channel



Date: 28.MAY.2020 18:58:16

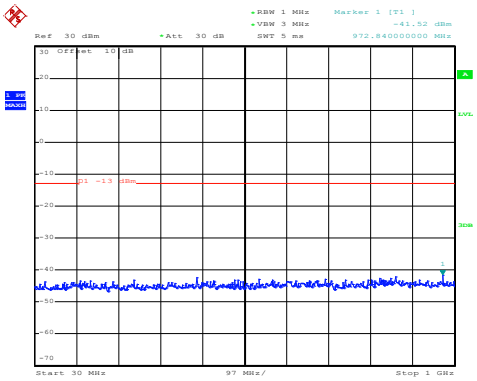
30MHz~1GHz



Date: 28.MAY.2020 18:59:30

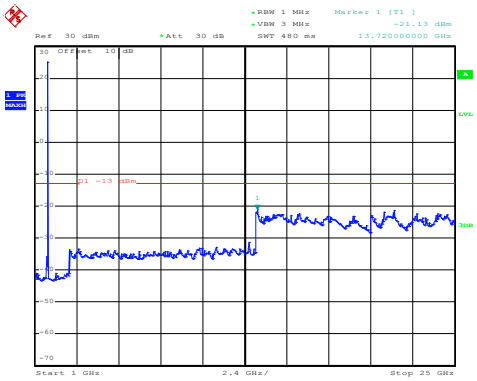
1GHz~25GHz

High channel



Date: 28.MAY.2020 18:58:46

30MHz~1GHz

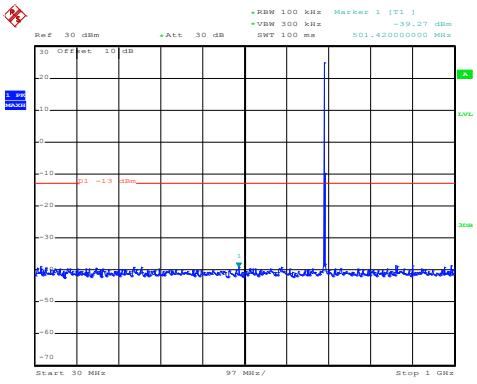


Date: 28.MAY.2020 18:59:14

1GHz~25GHz

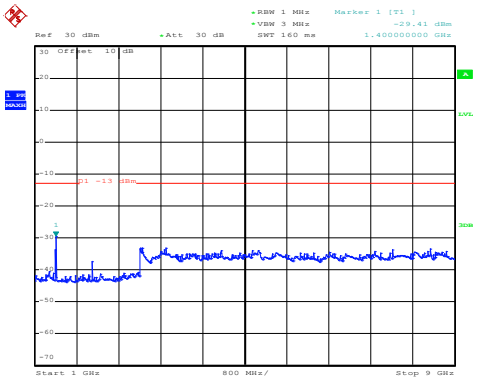
LTE Band 12 part:

LTE Band 12: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 28.MAY.2020 18:43:53

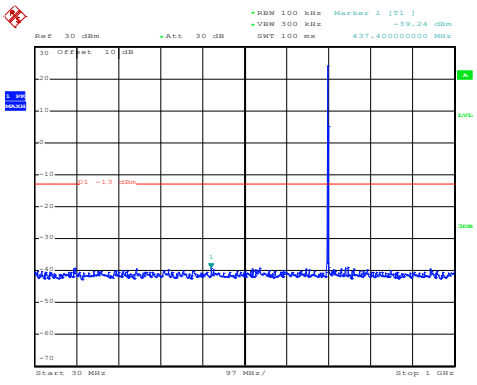
30MHz~1GHz



Date: 28.MAY.2020 18:31:11

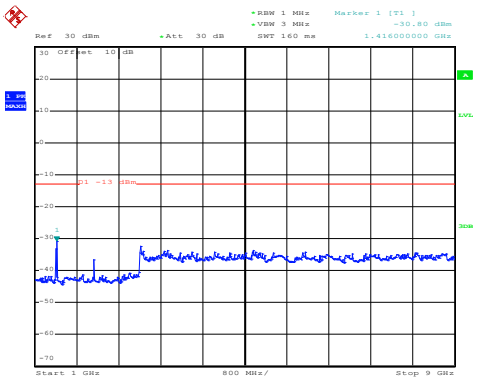
1GHz~9GHz

Middle channel



Date: 28.MAY.2020 18:44:19

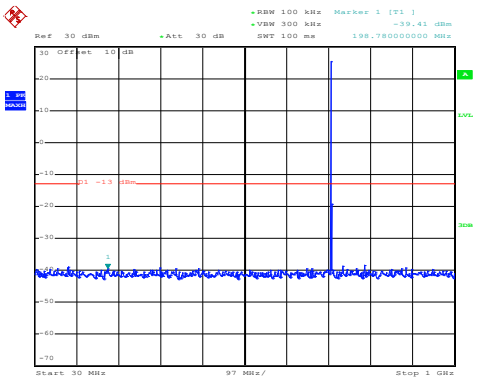
30MHz~1GHz



Date: 28.MAY.2020 18:31:28

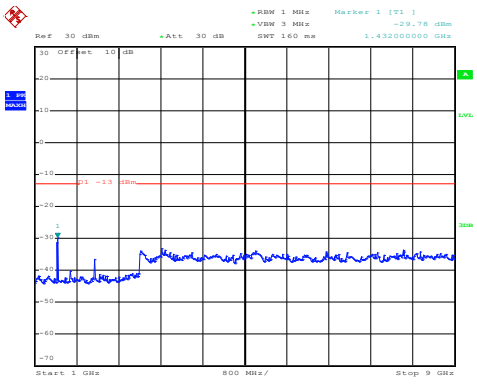
1GHz~9GHz

High channel



Date: 28.MAY.2020 18:45:17

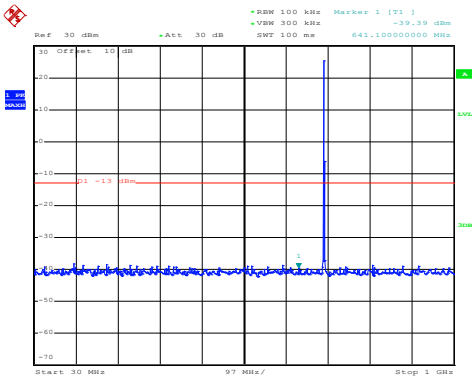
30MHz~1GHz



Date: 28.MAY.2020 18:31:51

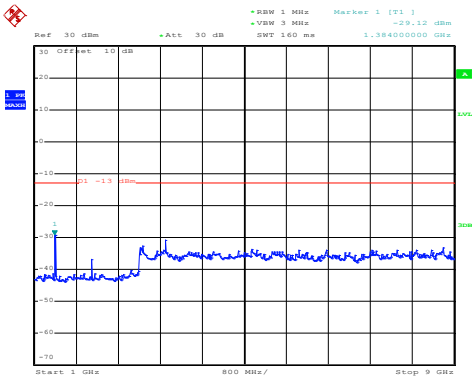
1GHz~9GHz

LTE Band 12: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 28.MAY.2020 18:43:39

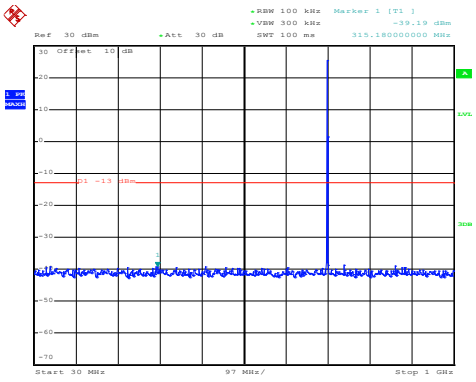
30MHz~1GHz



Date: 28.MAY.2020 18:31:03

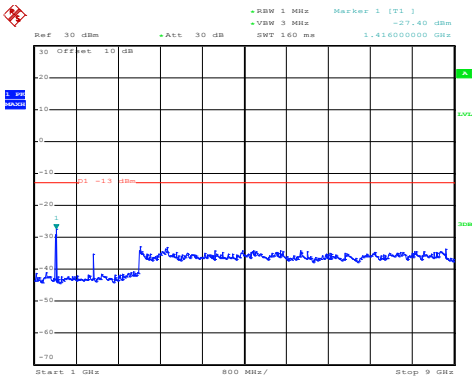
1GHz~9GHz

Middle channel



Date: 28.MAY.2020 18:45:33

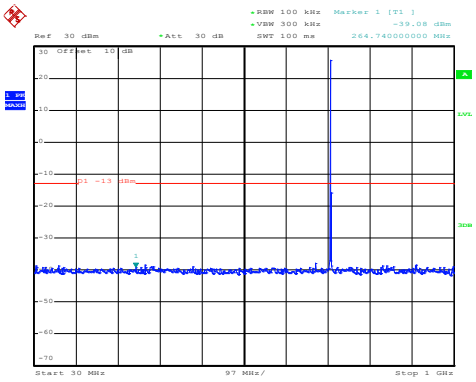
30MHz~1GHz



Date: 28.MAY.2020 18:31:20

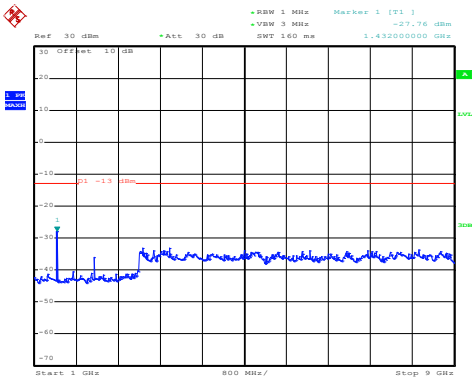
1GHz~9GHz

High channel



Date: 28.MAY.2020 18:45:03

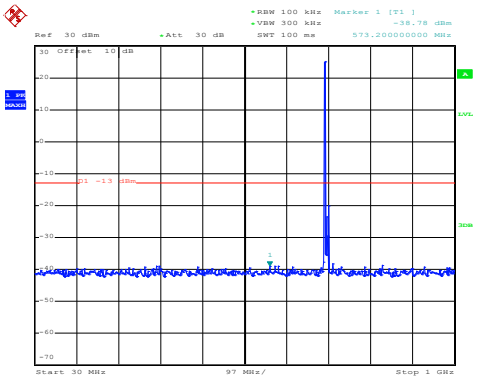
30MHz~1GHz



Date: 28.MAY.2020 18:31:43

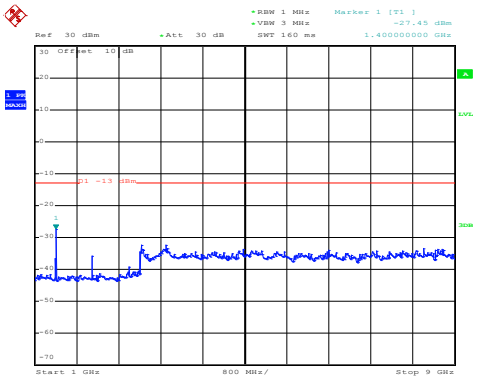
1GHz~9GHz

LTE Band 12: 16 QAM & RB Size 1
BW: 10MHz
Lowest channel



Date: 28.MAY.2020 18:54:58

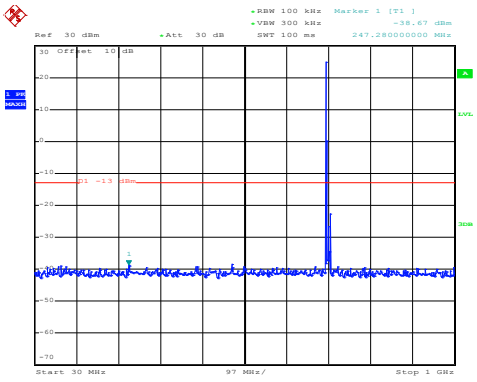
30MHz~1GHz



Date: 28.MAY.2020 18:28:37

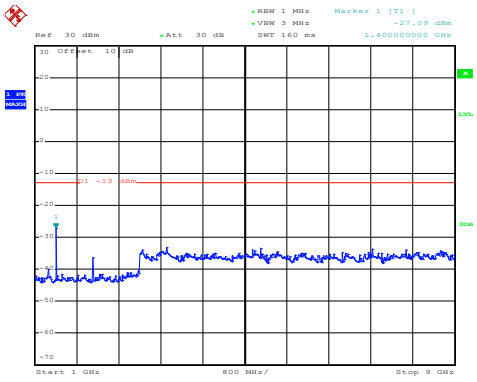
1GHz~9GHz

Middle channel



Date: 28.MAY.2020 18:55:20

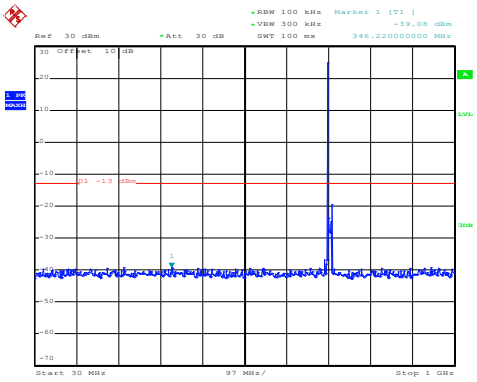
30MHz~1GHz



Date: 28.MAY.2020 18:28:15

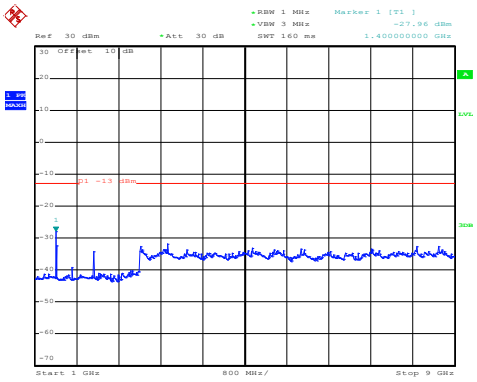
1GHz~9GHz

High channel



Date: 28.MAY.2020 18:55:48

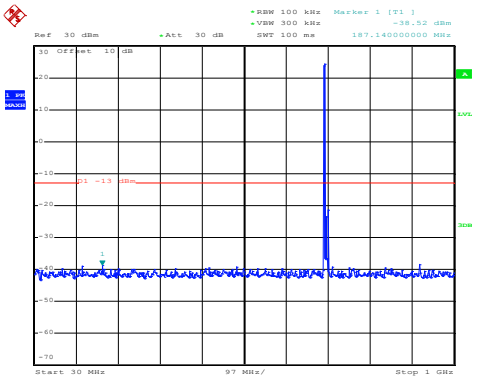
30MHz~1GHz



Date: 28.MAY.2020 18:27:54

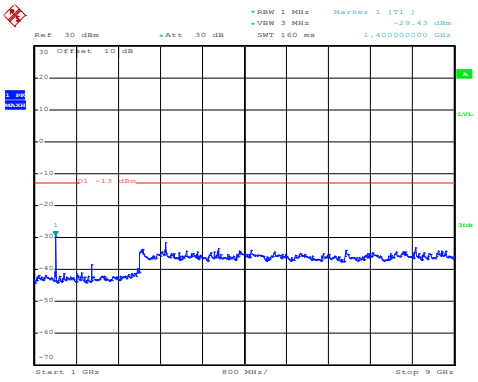
1GHz~9GHz

LTE Band 12: QPSK & RB Size 1
BW: 10MHz
Lowest channel



Date: 28.MAY.2020 18:55:08

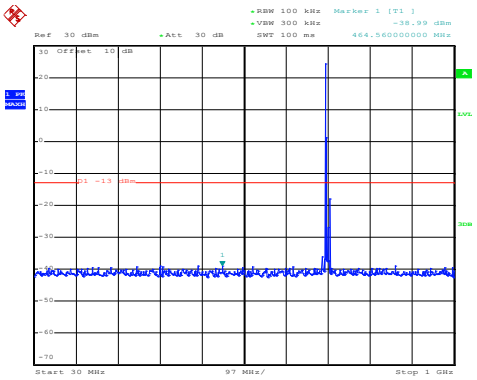
30MHz~1GHz



Date: 28.MAY.2020 18:28:45

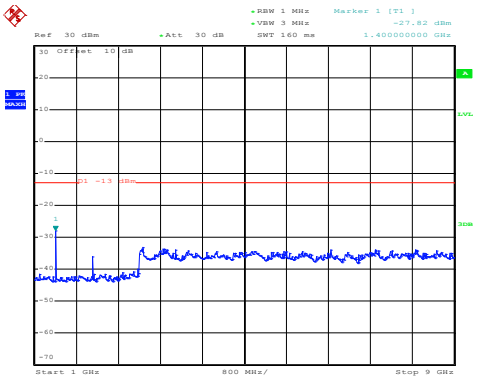
1GHz~9GHz

Middle channel



Date: 28.MAY.2020 18:55:30

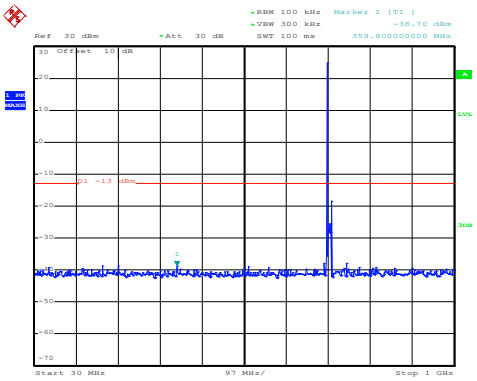
30MHz~1GHz



Date: 28.MAY.2020 18:28:23

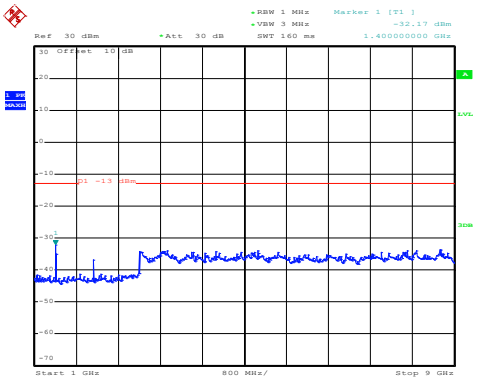
1GHz~9GHz

High channel



Date: 28.MAY.2020 18:55:59

30MHz~1GHz



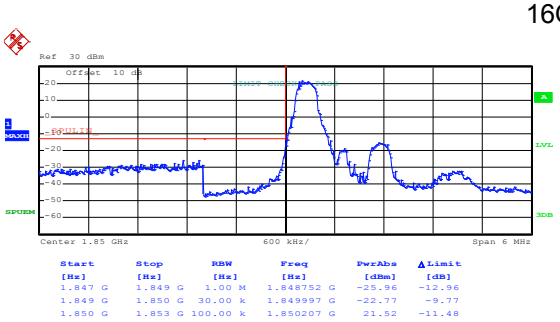
Date: 28.MAY.2020 18:28:01

1GHz~9GHz

Band edge emission:

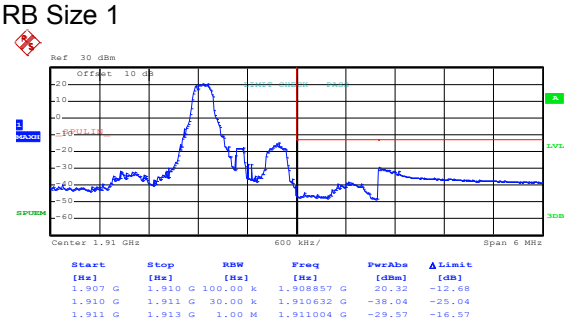
LTE Band 2 part:

LTE Band 2, BW: 1.4MHz
16QAM & RB Size 1



Date: 28.MAY.2020 14:55:10

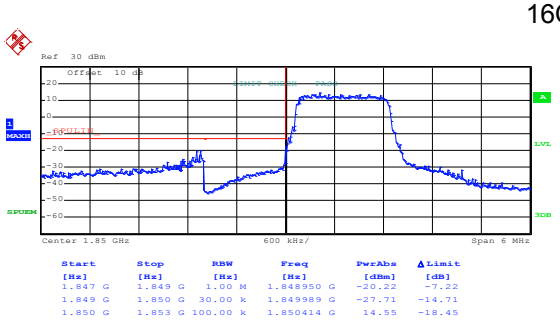
Lowest channel



Date: 28.MAY.2020 14:56:14

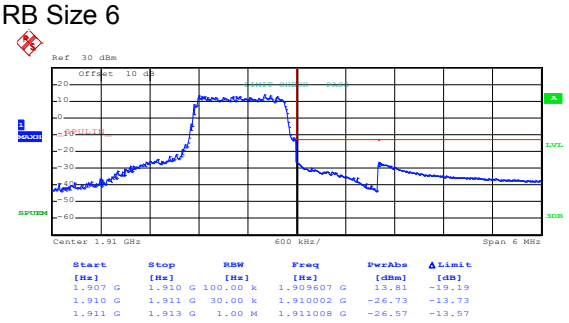
Highest channel

16QAM & RB Size 6



Date: 28.MAY.2020 14:55:42

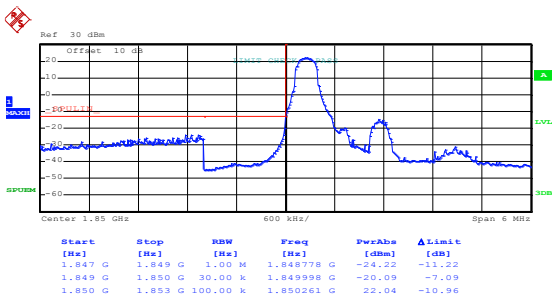
Lowest channel



Date: 28.MAY.2020 14:56:00

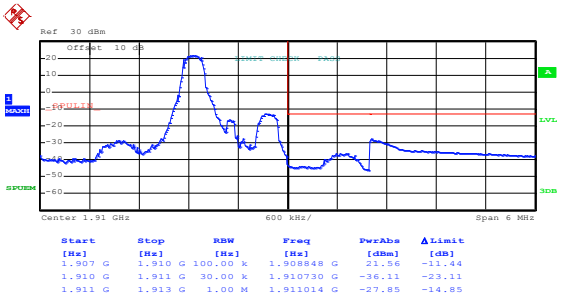
Highest channel

LTE Band 2, BW: 1.4MHz
QPSK & RB Size 1



Date: 28.MAY.2020 14:55:04

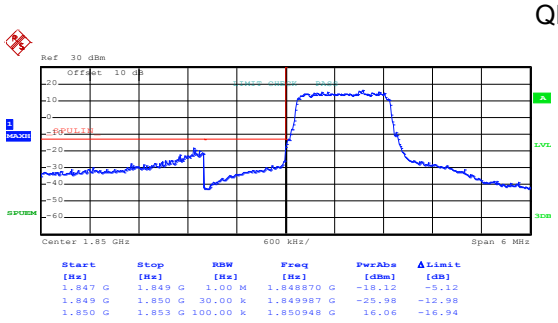
Lowest channel



Date: 28.MAY.2020 14:56:08

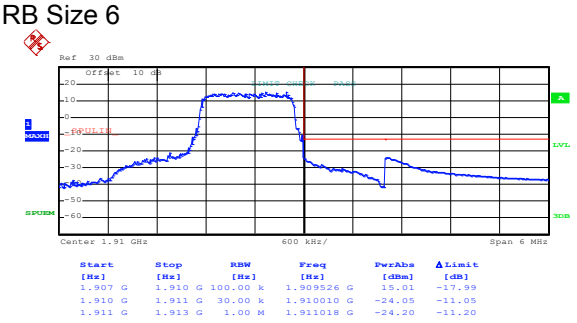
Highest channel

QPSK & RB Size 6



Date: 28.MAY.2020 14:55:38

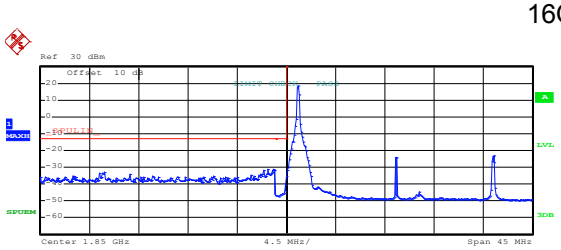
Lowest channel



Date: 28.MAY.2020 14:55:56

Highest channel

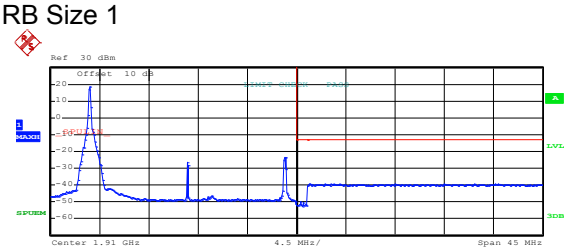
LTE Band 2, BW: 20MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.827 G	1.849 G	1.00 M	1.848828 G	-31.26	-18.26
1.849 G	1.850 G	30.00 k	1.849999 G	-40.58	-27.58
1.850 G	1.873 G	100.00 k	1.851080 G	18.64	-14.36

Date: 28.MAY.2020 18:22:04

Lowest channel

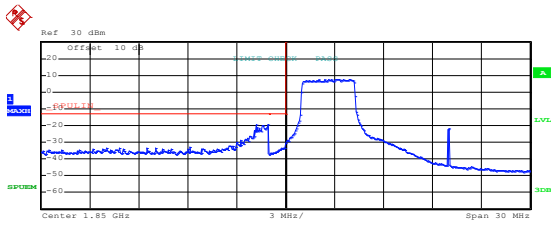


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.888 G	1.910 G	100.00 k	1.891123 G	18.57	-14.43
1.910 G	1.911 G	30.00 k	1.910361 G	-49.95	-36.95
1.911 G	1.933 G	1.00 M	1.912548 G	-39.10	-26.10

Date: 28.MAY.2020 18:22:55

Highest channel

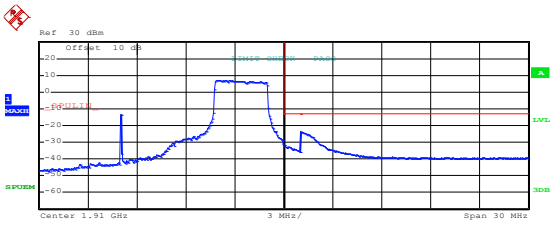
16QAM & RB Size 18



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.835 G	1.849 G	1.00 M	1.848930 G	-19.59	-6.59
1.849 G	1.850 G	30.00 k	1.849682 G	-33.24	-20.24
1.850 G	1.865 G	100.00 k	1.853060 G	7.74	-25.26

Date: 30.JUL.2020 19:52:58

Lowest channel

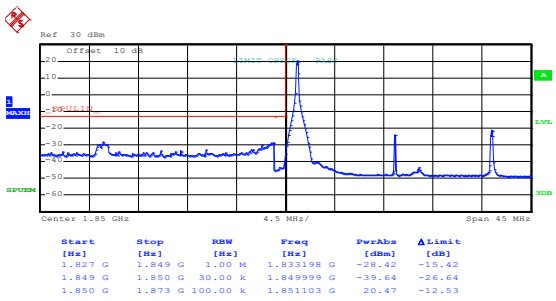


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.895 G	1.910 G	100.00 k	1.906835 G	7.00	-26.00
1.910 G	1.911 G	30.00 k	1.910033 G	-31.66	-18.66
1.911 G	1.925 G	1.00 M	1.911000 G	-23.33	-10.33

Date: 30.JUL.2020 19:53:48

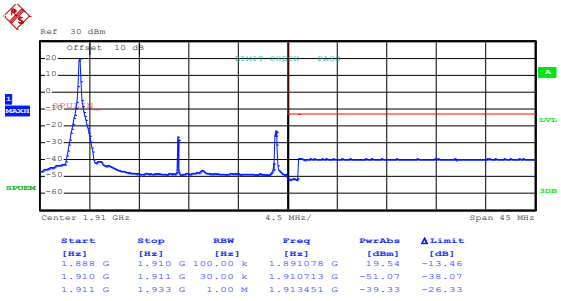
Highest channel

LTE Band 2, BW: 20MHz
QPSK & RB Size 1



Date: 28.MAY.2020 18:21:57

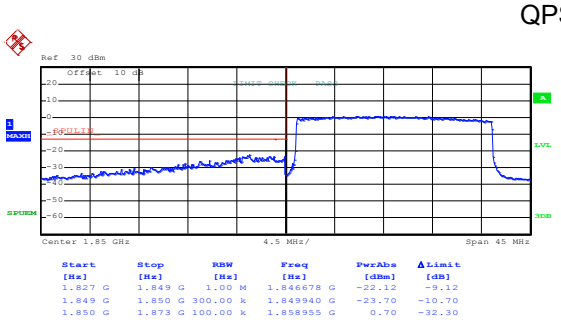
Lowest channel



Date: 28.MAY.2020 18:22:49

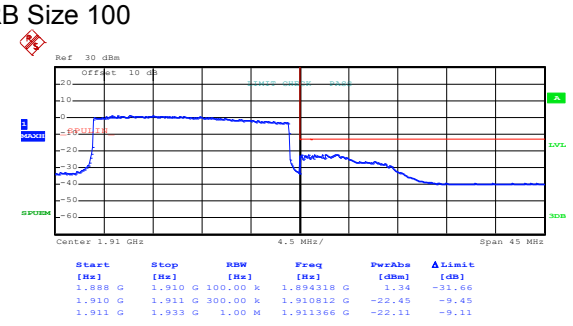
Highest channel

QPSK & RB Size 100



Date: 28.MAY.2020 18:22:20

Lowest channel

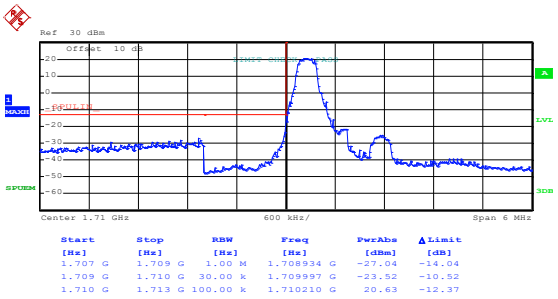


Date: 28.MAY.2020 18:23:07

Highest channel

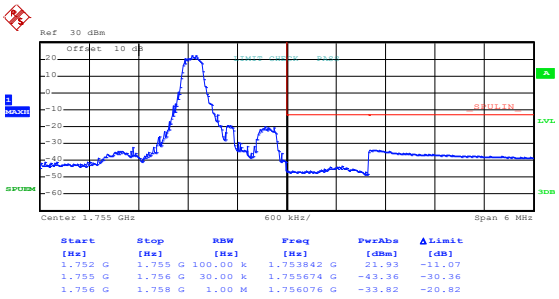
LTE Band 4 part:

LTE Band 4, BW: 1.4MHz
16QAM & RB Size 1



Date: 28.MAY.2020 14:56:47

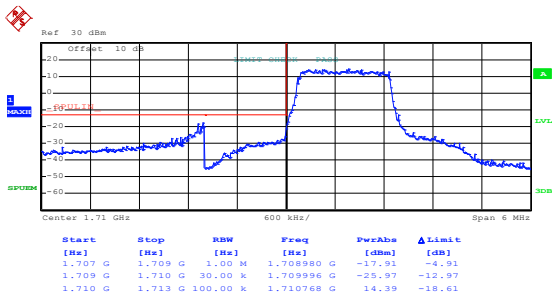
Lowest channel



Date: 28.MAY.2020 14:57:35

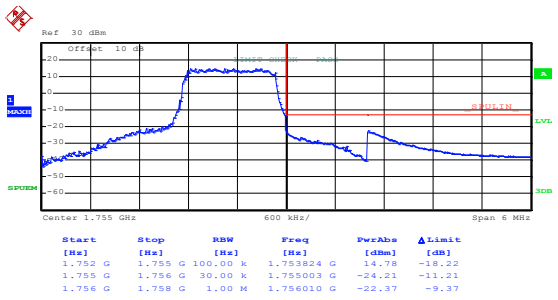
Highest channel

16QAM & RB Size 6



Date: 28.MAY.2020 14:57:02

Lowest channel

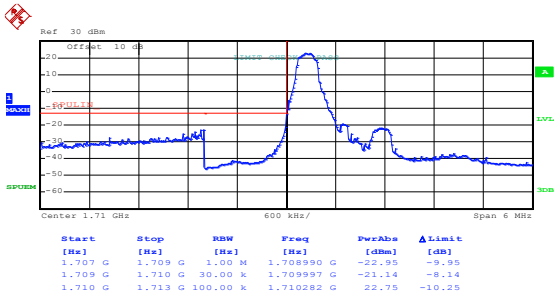


Date: 28.MAY.2020 14:57:22

Highest channel

LTE Band 4, BW: 1.4MHz

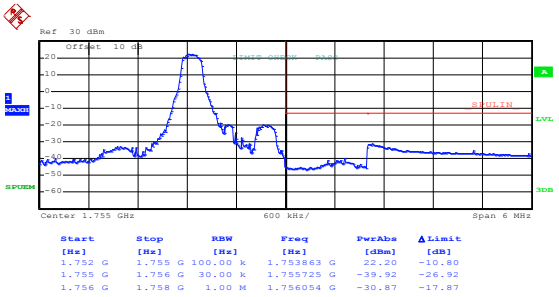
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.707 G	1.709 G	1.00 M	1.708990 G	-22.95	-9.95
1.709 G	1.710 G	30.00 k	1.709997 G	-21.14	-8.14
1.710 G	1.713 G	100.00 k	1.710282 G	22.75	-10.25

Date: 28.MAY.2020 14:56:42

Lowest channel

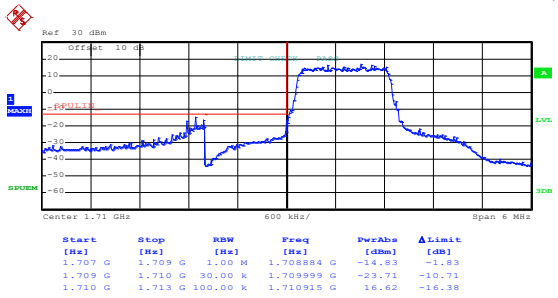


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.752 G	1.755 G	100.00 k	1.753863 G	22.20	-10.80
1.755 G	1.756 G	30.00 k	1.755725 G	-39.92	-26.92
1.756 G	1.758 G	1.00 M	1.756054 G	-30.87	-17.87

Date: 28.MAY.2020 14:57:28

Highest channel

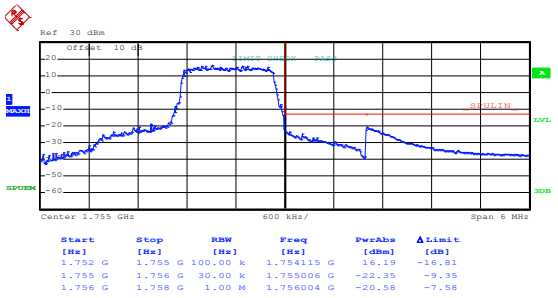
QPSK & RB Size 6



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.707 G	1.709 G	1.00 M	1.708884 G	-14.83	-1.83
1.709 G	1.710 G	30.00 k	1.709999 G	-23.71	-10.71
1.710 G	1.713 G	100.00 k	1.710915 G	16.62	-16.38

Date: 28.MAY.2020 14:56:58

Lowest channel

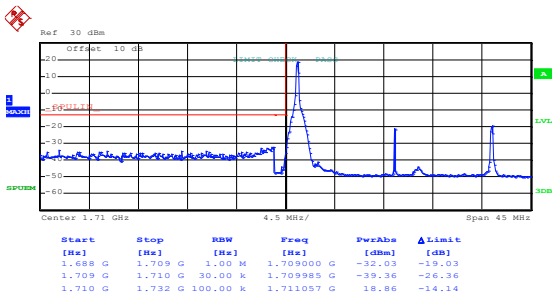


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.752 G	1.755 G	100.00 k	1.754115 G	16.19	-16.81
1.755 G	1.756 G	30.00 k	1.755006 G	-22.35	-9.35
1.756 G	1.758 G	1.00 M	1.756004 G	-20.58	-7.58

Date: 28.MAY.2020 14:57:16

Highest channel

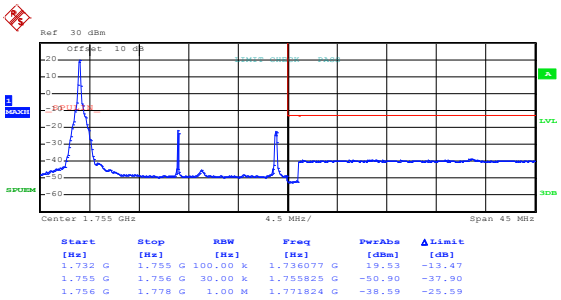
LTE Band 4, BW: 20MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.709000 G	-32.03	-19.03
1.709 G	1.710 G	30.00 k	1.709985 G	-39.36	-26.36
1.710 G	1.732 G	100.00 k	1.711057 G	18.86	-14.14

Date: 28.MAY.2020 14:59:36

Lowest channel

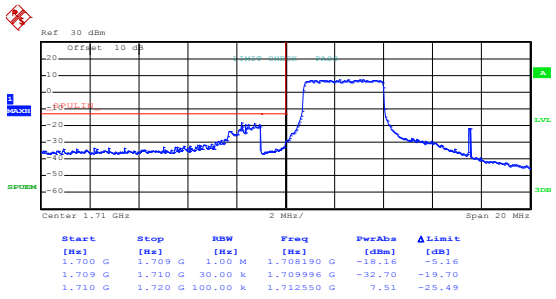


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.736077 G	19.53	-13.47
1.755 G	1.756 G	30.00 k	1.755825 G	-50.90	-37.90
1.756 G	1.778 G	1.00 M	1.771824 G	-38.59	-25.59

Date: 28.MAY.2020 15:00:27

Highest channel

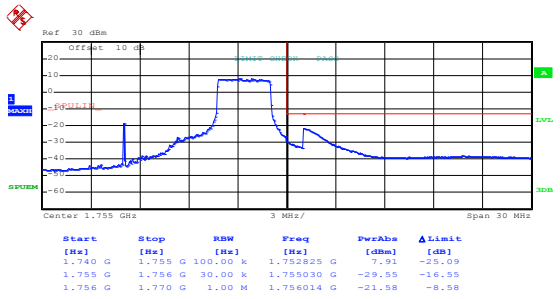
16QAM & RB Size 18



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.700 G	1.709 G	1.00 M	1.708190 G	-18.16	-5.16
1.709 G	1.710 G	30.00 k	1.709996 G	-32.70	-19.70
1.710 G	1.720 G	100.00 k	1.712550 G	7.51	-25.49

Date: 30.JUL.2020 19:58:30

Lowest channel

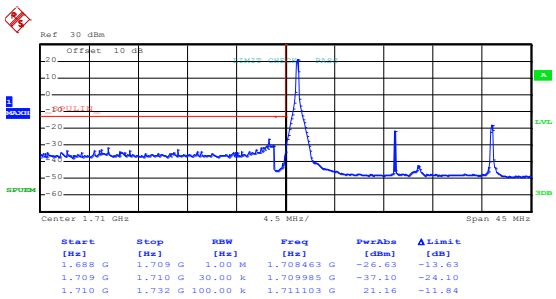


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.740 G	1.755 G	100.00 k	1.752825 G	7.91	-25.09
1.755 G	1.756 G	30.00 k	1.755030 G	-29.55	-16.55
1.756 G	1.770 G	1.00 M	1.756014 G	-21.58	-8.58

Date: 30.JUL.2020 19:59:52

Highest channel

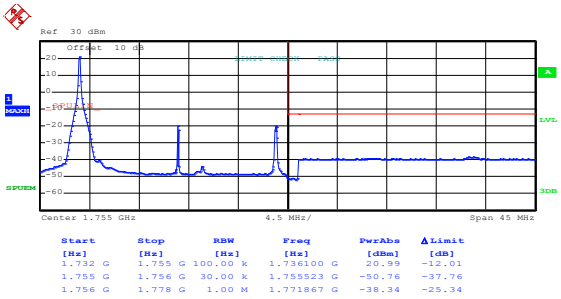
LTE Band 4, BW: 20MHz
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.708463 G	-26.63	-13.63
1.709 G	1.710 G	30.00 k	1.709985 G	-37.10	-24.10
1.710 G	1.732 G	100.00 k	1.711103 G	21.16	-11.84

Date: 28.MAY.2020 14:59:30

Lowest channel

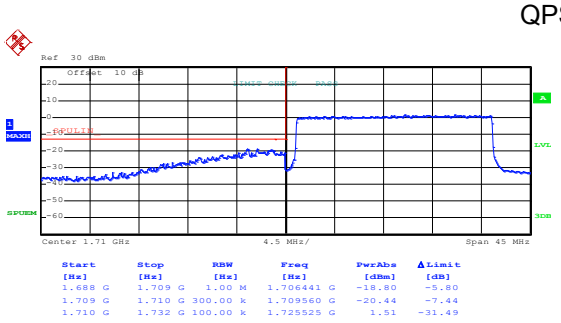


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.736100 G	20.99	-12.01
1.755 G	1.756 G	30.00 k	1.755523 G	-50.76	-37.76
1.756 G	1.778 G	1.00 M	1.771867 G	-38.34	-25.34

Date: 28.MAY.2020 15:00:22

Highest channel

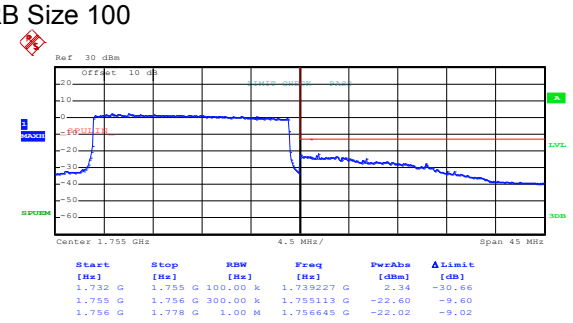
QPSK & RB Size 100



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.688 G	1.709 G	1.00 M	1.706441 G	-18.80	-5.80
1.709 G	1.710 G	300.00 k	1.709560 G	-20.44	-7.44
1.710 G	1.732 G	100.00 k	1.725525 G	1.51	-31.49

Date: 28.MAY.2020 14:59:50

Lowest channel



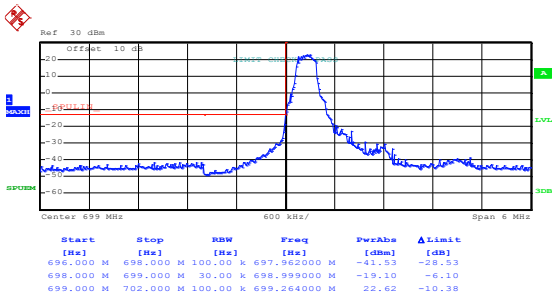
Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
1.732 G	1.755 G	100.00 k	1.739227 G	2.34	-30.66
1.755 G	1.756 G	300.00 k	1.755113 G	-22.60	-9.60
1.756 G	1.778 G	1.00 M	1.756645 G	-22.02	-9.02

Date: 28.MAY.2020 15:00:44

Highest channel

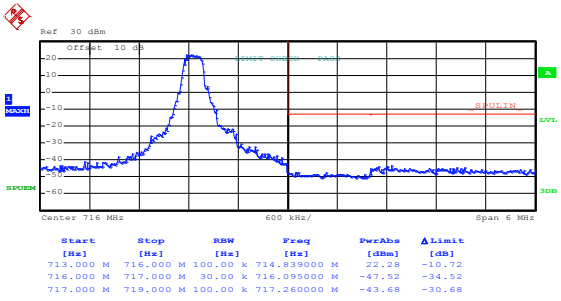
LTE band 12 part:

LTE Band 12, BW: 1.4MHz
16QAM & RB Size 1



Date: 28.MAY.2020 14:52:44

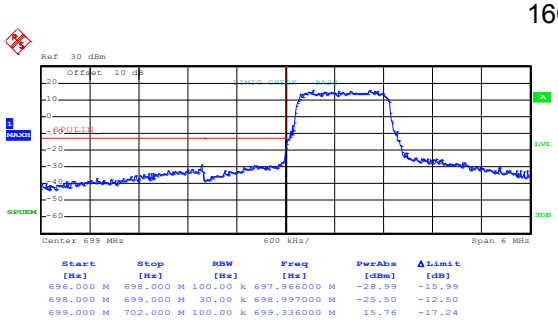
Lowest channel



Date: 28.MAY.2020 14:53:20

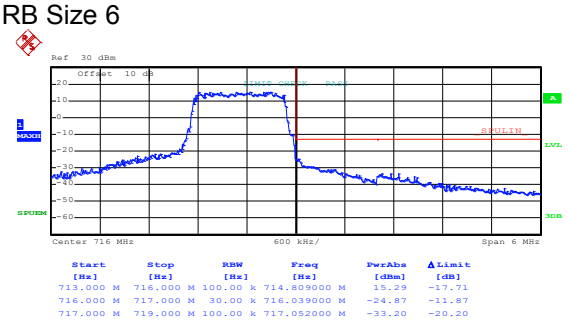
Highest channel

16QAM & RB Size 6



Date: 28.MAY.2020 14:52:57

Lowest channel

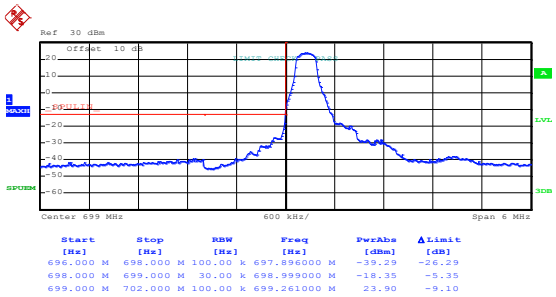


Date: 28.MAY.2020 14:53:31

Highest channel

LTE Band 12, BW: 1.4MHz

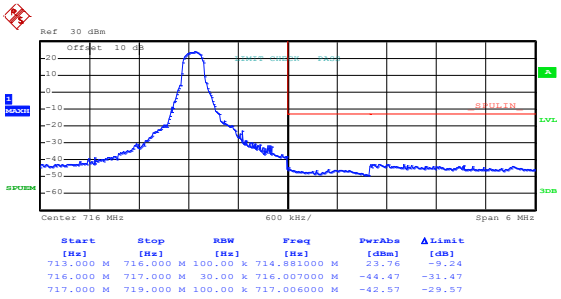
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
696.000 M	698.000 M	100.00 k	697.896000 M	-39.29	-26.29
698.000 M	699.000 M	30.00 k	698.999000 M	-18.35	-5.35
699.000 M	702.000 M	100.00 k	699.261000 M	23.90	-9.10

Date: 28.MAY.2020 14:52:38

Lowest channel

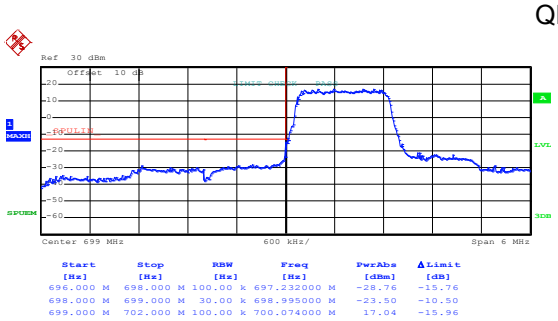


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
713.000 M	716.000 M	100.00 k	714.881000 M	23.76	-9.24
716.000 M	717.000 M	30.00 k	716.007000 M	-44.47	-31.47
717.000 M	719.000 M	100.00 k	717.006000 M	-42.57	-29.57

Date: 28.MAY.2020 14:53:15

Highest channel

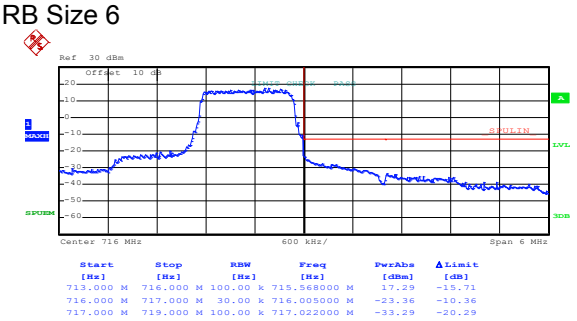
QPSK & RB Size 6



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
696.000 M	698.000 M	100.00 k	697.232000 M	-28.76	-15.76
698.000 M	699.000 M	30.00 k	698.995000 M	-23.50	-10.50
699.000 M	702.000 M	100.00 k	700.074000 M	17.04	-15.96

Date: 28.MAY.2020 14:52:53

Lowest channel

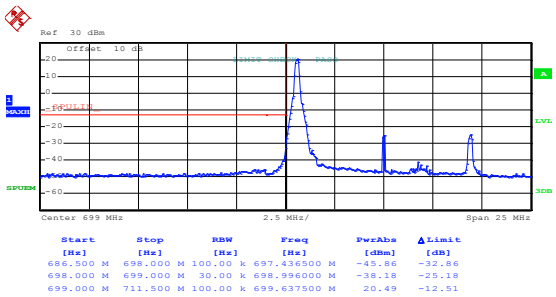


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
713.000 M	716.000 M	100.00 k	715.568000 M	17.29	-15.71
716.000 M	717.000 M	30.00 k	716.005000 M	-23.36	-10.36
717.000 M	719.000 M	100.00 k	717.022000 M	-33.29	-20.29

Date: 28.MAY.2020 14:53:27

Highest channel

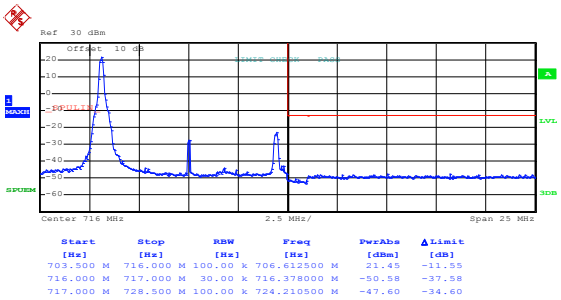
LTE Band 12, BW: 10MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
686.500 M	698.000 M	100.00 k	697.436500 M	-45.86	-32.86
698.000 M	699.000 M	30.00 k	698.996000 M	-38.18	-25.18
699.000 M	711.500 M	100.00 k	699.637500 M	20.49	-12.51

Date: 28.MAY.2020 18:24:24

Lowest channel

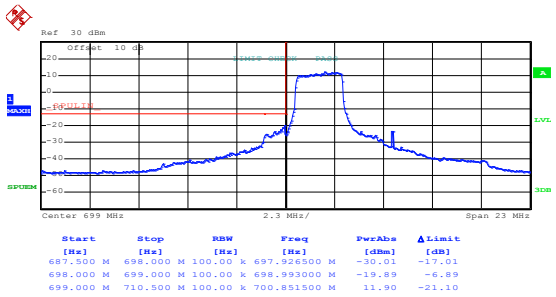


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
703.500 M	716.000 M	100.00 k	706.612500 M	21.45	-11.55
716.000 M	717.000 M	30.00 k	716.378000 M	-50.58	-37.58
717.000 M	728.500 M	100.00 k	724.210500 M	-47.60	-34.60

Date: 28.MAY.2020 18:25:24

Highest channel

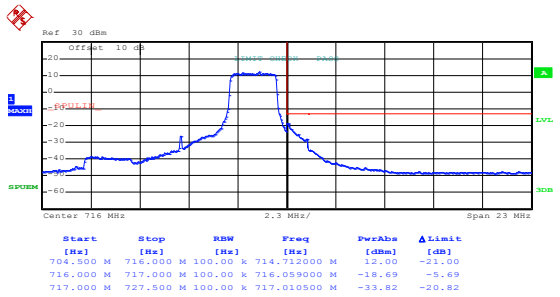
16QAM & RB Size 12



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
687.500 M	698.000 M	100.00 k	697.926500 M	-30.01	-17.01
698.000 M	699.000 M	100.00 k	698.993000 M	-19.89	-6.89
699.000 M	710.500 M	100.00 k	700.851500 M	11.90	-21.10

Date: 30.JUL.2020 19:43:36

Lowest channel

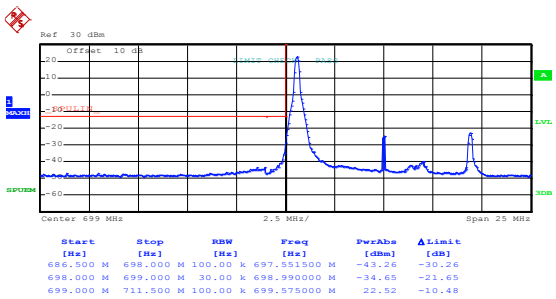


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
704.500 M	716.000 M	100.00 k	714.712000 M	12.00	-21.00
716.000 M	717.000 M	100.00 k	716.059000 M	-18.69	-5.69
717.000 M	727.500 M	100.00 k	717.010500 M	-33.82	-20.82

Date: 30.JUL.2020 19:46:04

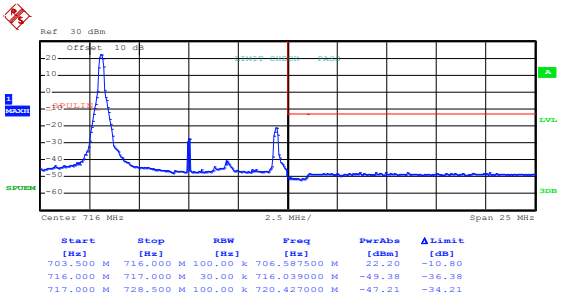
Highest channel

LTE Band 12, BW: 10MHz
QPSK & RB Size 1



Date: 28.MAY.2020 18:24:17

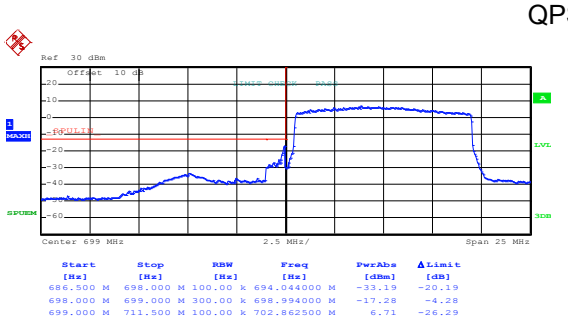
Lowest channel



Date: 28.MAY.2020 18:25:17

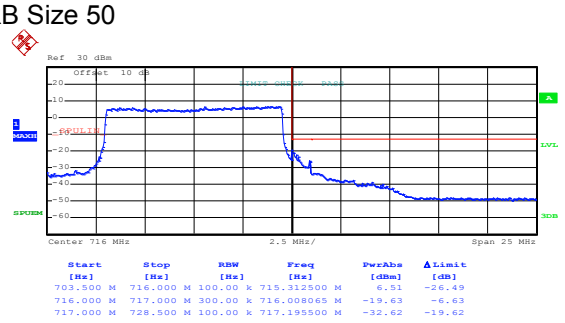
Highest channel

QPSK & RB Size 50



Date: 28.MAY.2020 18:24:38

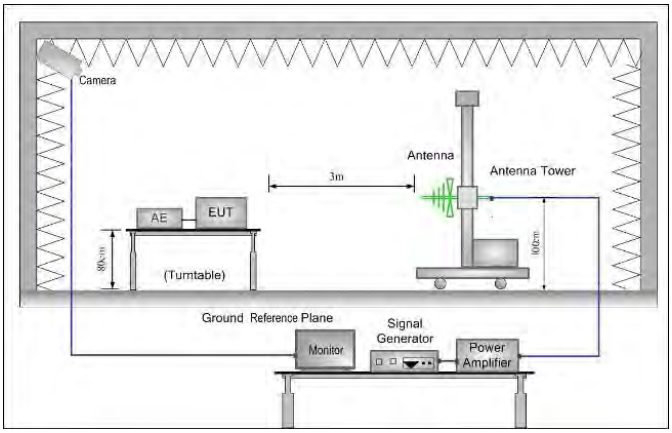
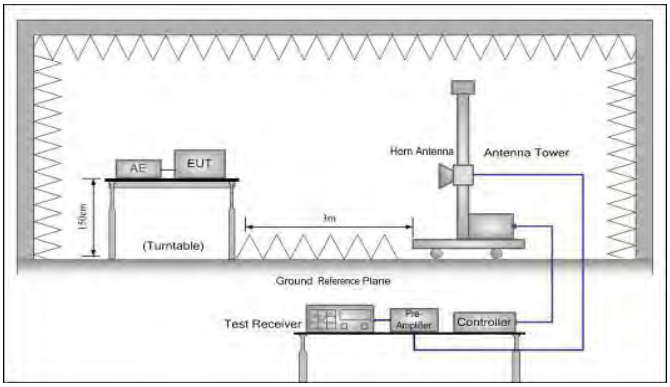
Lowest channel



Date: 28.MAY.2020 18:25:58

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 24.238 (a), Part 27.53(g), Part 27.53(h)
Limit:	LTE Band 2 & 4 & 12: 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:	Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter camber. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Measurement Data:

LTE Band 2 part:

Band 2 (1.4MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3701.40	-58.19	12.64	0.75	-46.30	-13.00	-33.30	Vertical
5552.10	-52.88	12.76	1.13	-41.25	-13.00	-28.25	Vertical
7402.00	-47.75	11.44	1.63	-37.94	-13.00	-24.94	Vertical
3701.40	-55.01	12.64	0.75	-43.12	-13.00	-30.12	Horizontal
5552.10	-54.78	12.76	1.13	-43.15	-13.00	-30.15	Horizontal
7402.00	-48.43	11.44	1.63	-38.62	-13.00	-25.62	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3760.00	-58.84	12.71	0.79	-46.92	-13.00	-33.92	Vertical
5640.00	-53.54	12.87	1.15	-41.82	-13.00	-28.82	Vertical
7520.00	-47.31	11.48	1.66	-37.49	-13.00	-24.49	Vertical
3760.00	-55.44	12.71	0.79	-43.52	-13.00	-30.52	Horizontal
5640.00	-55.54	12.87	1.15	-43.82	-13.00	-30.82	Horizontal
7520.00	-47.98	11.48	1.66	-38.16	-13.00	-25.16	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3816.60	-58.89	12.78	0.81	-46.92	-13.00	-33.92	Vertical
5724.90	-53.03	12.97	1.19	-41.25	-13.00	-28.25	Vertical
7633.20	-47.04	11.34	1.71	-37.41	-13.00	-24.41	Vertical
3816.60	-55.89	12.78	0.81	-43.92	-13.00	-30.92	Horizontal
5724.90	-55.00	12.97	1.19	-43.22	-13.00	-30.22	Horizontal
7633.20	-47.80	11.34	1.71	-38.17	-13.00	-25.17	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

Band 2 (20MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3720.00	-58.42	12.66	0.77	-46.53	-13.00	-33.53	Vertical
5580.00	-53.26	12.80	1.15	-41.61	-13.00	-28.61	Vertical
7440.00	-47.50	11.46	1.64	-37.68	-13.00	-24.68	Vertical
3720.00	-55.39	12.66	0.77	-43.50	-13.00	-30.50	Horizontal
5580.00	-55.02	12.80	1.15	-43.37	-13.00	-30.37	Horizontal
7440.00	-48.87	11.46	1.64	-39.05	-13.00	-26.05	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3760.00	-58.95	12.71	0.79	-47.03	-13.00	-34.03	Vertical
5640.00	-53.70	12.87	1.15	-41.98	-13.00	-28.98	Vertical
7520.00	-47.22	11.48	1.66	-37.40	-13.00	-24.40	Vertical
3760.00	-55.31	12.71	0.79	-43.39	-13.00	-30.39	Horizontal
5640.00	-54.75	12.87	1.15	-43.03	-13.00	-30.03	Horizontal
7520.00	-48.95	11.48	1.66	-39.13	-13.00	-26.13	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3800.00	-58.69	12.76	0.79	-46.72	-13.00	-33.72	Vertical
5700.00	-53.66	12.94	1.18	-41.90	-13.00	-28.90	Vertical
7600.00	-46.80	11.38	1.69	-37.11	-13.00	-24.11	Vertical
3800.00	-54.94	12.76	0.79	-42.97	-13.00	-29.97	Horizontal
5700.00	-55.26	12.94	1.18	-43.50	-13.00	-30.50	Horizontal
7600.00	-49.11	11.38	1.69	-39.42	-13.00	-26.42	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

LTE Band 4 part:

Band 4 (1.4MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3421.40	-39.52	12.24	0.70	-27.98	-13.00	-14.98	Vertical
5132.10	-56.02	12.92	1.01	-44.11	-13.00	-31.11	Vertical
6842.80	-48.73	11.42	1.53	-38.84	-13.00	-25.84	Vertical
3421.40	-30.97	12.24	0.70	-19.43	-13.00	-6.43	Horizontal
5132.10	-57.60	12.92	1.01	-45.69	-13.00	-32.69	Horizontal
6842.80	-50.44	11.42	1.53	-40.55	-13.00	-27.55	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3465.00	-39.66	12.33	0.72	-28.05	-13.00	-15.05	Vertical
5197.50	-55.49	12.88	1.04	-43.65	-13.00	-30.65	Vertical
6930.00	-48.36	11.30	1.56	-38.62	-13.00	-25.62	Vertical
3465.00	-30.58	12.33	0.72	-18.97	-13.00	-5.97	Horizontal
5197.50	-57.79	12.88	1.04	-45.95	-13.00	-32.95	Horizontal
6930.00	-49.89	11.30	1.56	-40.15	-13.00	-27.15	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3508.60	-39.87	12.41	0.74	-28.20	-13.00	-15.20	Vertical
5262.90	-55.53	12.84	1.07	-43.76	-13.00	-30.76	Vertical
7017.20	-48.22	11.21	1.58	-38.59	-13.00	-25.59	Vertical
3508.60	-30.50	12.41	0.74	-18.83	-13.00	-5.83	Horizontal
5262.90	-57.86	12.84	1.07	-46.09	-13.00	-33.09	Horizontal
7017.20	-49.83	11.21	1.58	-40.20	-13.00	-27.20	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

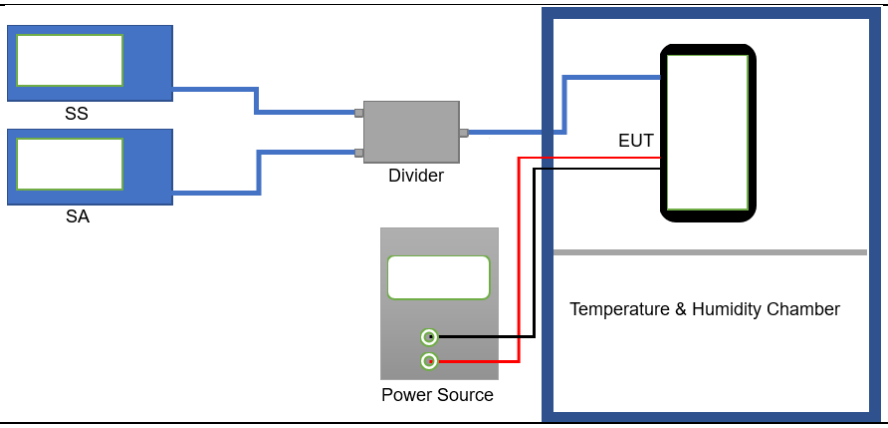
Band 4 (20MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3440.00	-39.54	12.28	0.71	-27.97	-13.00	-14.97	Vertical
5160.00	-56.00	12.90	1.03	-44.13	-13.00	-31.13	Vertical
6880.00	-48.21	11.37	1.54	-38.38	-13.00	-25.38	Vertical
3440.00	-29.93	12.28	0.71	-18.36	-13.00	-5.36	Horizontal
5160.00	-58.41	12.90	1.03	-46.54	-13.00	-33.54	Horizontal
6880.00	-49.81	11.37	1.54	-39.98	-13.00	-26.98	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3465.00	-39.81	12.33	0.72	-28.20	-13.00	-15.20	Vertical
5197.50	-56.39	12.88	1.04	-44.55	-13.00	-31.55	Vertical
6930.00	-48.20	11.30	1.56	-38.46	-13.00	-25.46	Vertical
3465.00	-30.30	12.33	0.72	-18.69	-13.00	-5.69	Horizontal
5197.50	-58.42	12.88	1.04	-46.58	-13.00	-33.58	Horizontal
6930.00	-49.76	11.30	1.56	-40.02	-13.00	-27.02	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
3490.00	-39.91	12.38	0.73	-28.26	-13.00	-15.26	Vertical
5235.00	-56.50	12.86	1.06	-44.70	-13.00	-31.70	Vertical
6980.00	-48.21	11.23	1.57	-38.55	-13.00	-25.55	Vertical
3490.00	-30.04	12.38	0.73	-18.39	-13.00	-5.39	Horizontal
5235.00	-58.77	12.86	1.06	-46.97	-13.00	-33.97	Horizontal
6980.00	-49.75	11.23	1.57	-40.09	-13.00	-27.09	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

LTE Band 12 part:

Band 12 (1.4MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1399.40	-60.58	7.80	0.11	-52.89	-13.00	-39.89	Vertical
2099.10	-55.90	10.34	0.29	-45.85	-13.00	-32.85	Vertical
2798.80	-59.44	11.20	0.53	-48.77	-13.00	-35.77	Vertical
1399.40	-58.06	7.80	0.11	-50.37	-13.00	-37.37	Horizontal
2099.10	-51.86	10.34	0.29	-41.81	-13.00	-28.81	Horizontal
2798.80	-52.86	11.20	0.53	-42.19	-13.00	-29.19	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1415.00	-61.12	7.92	0.13	-53.33	-13.00	-40.33	Vertical
2122.50	-55.58	10.37	0.32	-45.53	-13.00	-32.53	Vertical
2830.00	-59.37	11.23	0.55	-48.69	-13.00	-35.69	Vertical
1415.00	-58.49	7.92	0.13	-50.70	-13.00	-37.70	Horizontal
2122.50	-51.53	10.37	0.32	-41.48	-13.00	-28.48	Horizontal
2830.00	-52.75	11.23	0.55	-42.07	-13.00	-29.07	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1430.60	-60.84	8.04	0.16	-52.96	-13.00	-39.96	Vertical
2145.90	-55.55	10.40	0.35	-45.50	-13.00	-32.50	Vertical
2861.20	-59.82	11.26	0.58	-49.14	-13.00	-36.14	Vertical
1430.60	-59.07	8.04	0.16	-51.19	-13.00	-38.19	Horizontal
2145.90	-51.92	10.40	0.35	-41.87	-13.00	-28.87	Horizontal
2861.20	-53.17	11.26	0.58	-42.49	-13.00	-29.49	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

Band 12 (10MHz)							
Lowest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1408.00	-60.19	7.86	0.12	-52.45	-13.00	-39.45	Vertical
2112.00	-55.07	10.36	0.30	-45.01	-13.00	-32.01	Vertical
2816.00	-58.83	11.22	0.54	-48.15	-13.00	-35.15	Vertical
1408.00	-57.49	7.86	0.12	-49.75	-13.00	-36.75	Horizontal
2112.00	-50.49	10.36	0.30	-40.43	-13.00	-27.43	Horizontal
2816.00	-53.80	11.22	0.54	-43.12	-13.00	-30.12	Horizontal
Middle channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1415.00	-60.94	7.92	0.13	-53.15	-13.00	-40.15	Vertical
2122.50	-55.64	10.37	0.32	-45.59	-13.00	-32.59	Vertical
2830.00	-59.18	11.23	0.55	-48.50	-13.00	-35.50	Vertical
1415.00	-58.05	7.92	0.13	-50.26	-13.00	-37.26	Horizontal
2122.50	-51.04	10.37	0.32	-40.99	-13.00	-27.99	Horizontal
2830.00	-53.10	11.23	0.55	-42.42	-13.00	-29.42	Horizontal
Highest channel							
Frequency (MHz)	Level at antenna terminals (dBm)	Substitute antenna gain (dBi)	Cable Loss (dBi)	Spurous Emission level (dBm)	Limit Line (dBm)	Over Limit (dBm)	Polarization
1422.00	-60.66	7.98	0.15	-52.83	-13.00	-39.83	Vertical
2133.00	-55.30	10.39	0.34	-45.25	-13.00	-32.25	Vertical
2844.00	-58.70	11.24	0.57	-48.03	-13.00	-35.03	Vertical
1422.00	-57.79	7.98	0.15	-49.96	-13.00	-36.96	Horizontal
2133.00	-50.68	10.39	0.34	-40.63	-13.00	-27.63	Horizontal
2844.00	-53.57	11.24	0.57	-42.90	-13.00	-29.90	Horizontal
Remark: *The emission levels of below 1 GHz are lower than the limit 20dB and not show in test report.*							

6.6 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Limit:	±2.5 ppm for Band 5 Within authorized band for Band 2 & 4 & 12
Test setup:	
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. 3. The EUT was placed inside the temperature chamber. 4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25℃ operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –30℃. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10℃ increased per stage until the highest temperature of +50℃ reached
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	183	0.097340	Within authorized band for Band 2	Pass
	-20	176	0.093617		
	-10	169	0.089894		
	0	160	0.085106		
	10	154	0.081915		
	20	143	0.076064		
	30	136	0.072340		
	40	130	0.069149		
	50	123	0.065426		
16QAM					
3.7	-30	180	0.095745	Within authorized band for Band 2	Pass
	-20	173	0.092021		
	-10	165	0.087766		
	0	158	0.084043		
	10	150	0.079787		
	20	146	0.077660		
	30	138	0.073404		
	40	131	0.069681		
	50	120	0.063830		
Note: Only the worst case shown in the report.					

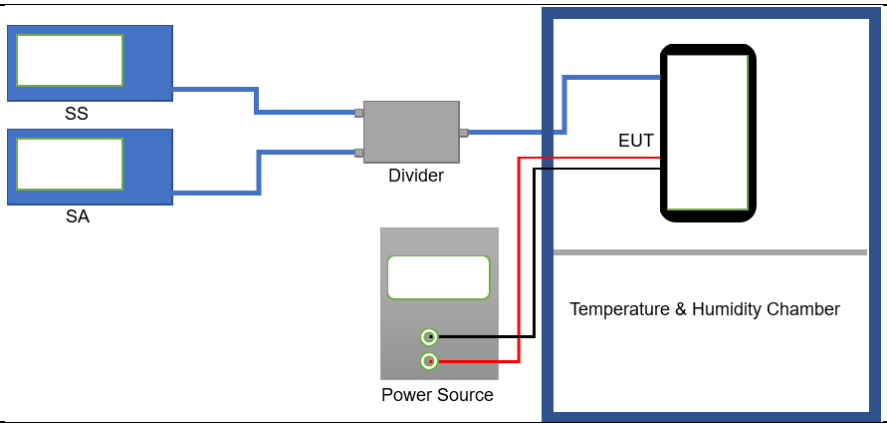
LTE Band 4 part:

Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	176	0.101587	Within authorized band for Band 4	Pass
	-20	161	0.092929		
	-10	154	0.088889		
	0	148	0.085426		
	10	140	0.080808		
	20	133	0.076768		
	30	126	0.072727		
	40	120	0.069264		
	50	115	0.066378		
16QAM					
3.7	-30	170	0.098124	Within authorized band for Band 4	Pass
	-20	163	0.094084		
	-10	157	0.090620		
	0	149	0.086003		
	10	143	0.082540		
	20	139	0.080231		
	30	134	0.077345		
	40	124	0.071573		
	50	112	0.064646		
Note: Only the worst case shown in the report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12 (10MHz) Middle channel=23095 channel=707.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	172	0.243110	Within authorized band for Band 12	Pass
	-20	164	0.231802		
	-10	156	0.220495		
	0	142	0.200707		
	10	120	0.169611		
	20	134	0.189399		
	30	126	0.178092		
	40	107	0.151237		
	50	113	0.159717		
16QAM					
3.7	-30	170	0.240283	Within authorized band for Band 12	Pass
	-20	159	0.224735		
	-10	164	0.231802		
	0	140	0.197880		
	10	153	0.216254		
	20	133	0.187986		
	30	127	0.179505		
	40	121	0.171025		
	50	110	0.155477		
Note: Only the worst case shown in the report.					

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(d)(2)
Limit:	±2.5 ppm for Band 5 Within authorized band for Band 2 & 4 & 12
Test setup:	
Test procedure:	1. Set chamber temperature to 25℃. Use a variable DC power source to power the EUT and set the voltage to rated voltage. 2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. 3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.
Test Instruments:	Refer to section 5.10 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 2 part:

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.2	80	0.042553	Within authorized band for Band 2	Pass
	3.7	70	0.037234		
	3.5	50	0.026596		
16QAM					
25	4.2	79	0.042021	Within authorized band for Band 2	Pass
	3.7	58	0.030851		
	3.5	64	0.034043		
Note: Only the worst case shown in the report.					

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.2	90	0.051948	Within authorized band for Band 4	Pass
	3.7	82	0.047330		
	3.5	70	0.040404		
16QAM					
25	4.2	88	0.050794	Within authorized band for Band 4	Pass
	3.7	76	0.043867		
	3.5	63	0.036364		
Note: Only the worst case shown in the report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12(10MHz) Middle channel=23095 channel=707.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.2	85	0.101614	Within authorized band for Band 12	Pass
	3.7	71	0.084877		
	3.5	65	0.077705		
16QAM					
25	4.2	83	0.099223	Within authorized band for Band 12	Pass
	3.7	69	0.082487		
	3.5	58	0.069337		
Note: Only the worst case shown in the report.					

8 EUT Constructional Details

Reference to the test report No. CCISE200508801

------End of report------