FCC REPORT
(LTE)

Applicant:	SKY PHONE LLC
Address of Applicant:	1348 Washington Av. Suite 350, Miami Beach, FL33139
Equipment Under Test (EUT)	
Product Name:	4G Smart Phone
Model No.:	Elite T4
Trade mark:	SKY DEVICES
FCC ID:	2ABOSSKYELITET4
Applicable standards:	FCC CFR Title 47 Part 2 FCC CFR Title 47 Part 22 Subpart H
Date of sample receipt:	04 Dec., 2018
Date of Test:	04 Dec., to 25 Dec., 2018
Date of report issued:	26 Dec., 2018
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	*26 Dec., 2018*	*Original*

Tested by:  ***Date:*** *26 Dec., 2018*

Test Engineer

Reviewed by:  ***Date:*** *26 Dec., 2018*

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 22.913 (a)(2)	Pass
Peak-to-Average Ratio	/	Pass
Modulation Characteristics	Part 2.1047	Pass
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917(b)	Pass
Out of band emission at antenna terminals	Part 2.1053 Part 22.917(a)	Pass
Field strength of spurious radiation	Part 22.917(a)	Pass
Frequency stability vs. temperature	Part 22.355 Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 22.355 Part 2.1055(d)(2)	Pass
Pass: The EUT complies with the essential requirements in the standard.		

5. General Information

5.1 Client Information

Applicant:	SKY PHONE LLC
Address:	1348 Washington Av. Suite 350, Miami Beach, FL33139
Manufacturer:	Shenzhen Tianruixiang Communication Equipment Co., Ltd
Address:	12F, Zhongshan University Science Building Xuefu Road, Hi-tech Park, Shenzhen, China

5.2 General Description of E.U.T.

Product Name:	4G Smart Phone
Model No.:	Elite T4
Operation Frequency range:	LTE Band 5: 824MHz-849MHz, RX: 869MHz-894MHz
Modulation type:	QPSK, 16QAM
Antenna type:	Internal Antenna
Antenna gain:	LTE Band 5: -3.1dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V-1400mAh
AC adapter:	Model: Elite T4 Input: AC100-240V, 50/60Hz, 0.15A Output: DC 5.0V, 0.5A
Test Sample Condition:	The applicant provided engineering samples for staying in continuously transmitting for testing.

Operation Frequency List:

LTE Band 5 (1.4MHz)		LTE Band 5 (3MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20407	824.70	20415	825.50
20408	824.80	20416	825.60
….	….	….	….
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
…	…	…	…
20642	848.20	20634	847.40
20643	848.30	20635	847.50
LTE Band 5 (5MHz)		LTE Band 5 (10MHz)	
Channel	Frequency (MHz)	Channel	Frequency (MHz)
20425	826.50	20450	829.00
20426	826.60	20451	829.10
….	….	….	….
20524	836.40	20524	836.40
20525	836.50	20525	836.50
20526	836.60	20526	836.60
…	…	…	…
20624	846.40	20599	839.90
20625	846.50	20600	844.00

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

5.3 Test environment and mode

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: 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 with power adaptor, earphone and Data cable. 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)	±2.76 dB (k=2)
Radiated Emission (30MHz ~ 1000MHz)	±4.28 dB (k=2)
Radiated Emission (1GHz ~ 18GHz)	±5.72 dB (k=2)
Radiated Emission (18GHz ~ 40GHz)	±2.88 dB (k=2)

5.6 Related Submittal(s) / Grant (s)

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

5.7 Laboratory Facility

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

- **FCC - Registration No.: 727551**

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

- **IC - Registration No.: 10106A-1**

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

- **CNAS - Registration No.: CNAS L6048**

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

- **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

5.8 Laboratory Location

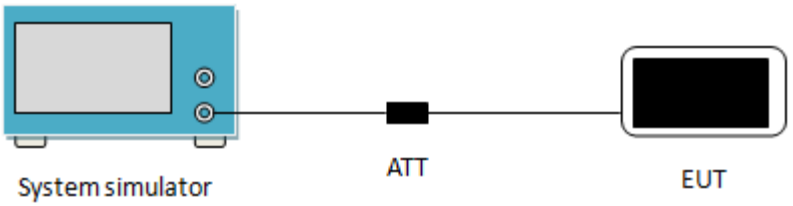
Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

5.9 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
BiConiLog Antenna	SCHWARZBECK	VULB9163	497	03-16-2018	03-15-2019
Biconical Antenna	SCHWARZBECK	VUBA9117	359	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA9120D	916	03-16-2018	03-15-2019
Horn Antenna	SCHWARZBECK	BBHA9120D	1805	06-22-2017	06-21-2020
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170582	11-21-2018	11-20-2019
EMI Test Software	AUDIX	E3	Version: 6.110919b		
Pre-amplifier	HP	8447D	2944A09358	03-07-2018	03-06-2019
Pre-amplifier	CD	PAP-1G18	11804	03-07-2018	03-06-2019
Spectrum analyzer	Rohde & Schwarz	FSP30	101454	03-07-2018	03-06-2019
EMI Test Receiver	Rohde & Schwarz	ESRP7	101070	03-07-2018	03-06-2019
Spectrum Analyzer	Agilent	N9020A	MY50510123	10-29-2018	10-28- 2019
Signal Generator	Rohde & Schwarz	SMX	835454/016	03-07-2018	03-06-2019
Signal Generator	R&S	SMR20	1008100050	03-07-2018	03-06-2019
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	03-07-2018	03-06-2019
Cable	MICRO-COAX	MFR64639	K10742-5	03-07-2018	03-06-2019
Cable	SUHNER	SUCOFLEX100	58193/4PE	03-07-2018	03-06-2019
DC Power Supply	XinNuoEr	WYK-10020K	1409050110020	10-31-2018	10-30-2019
Temperature Humidity Chamber	HengPu	HPGDS-500	20140828008	09-24-2018	09-23-2019
Simulated Station	Rohde & Schwarz	CMW500	140493	07-16-2018	07-15-2019

6. Test results

6.1 Conducted Output Power, ERP and EIRP

Test Requirement:	Part 22.913(a)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 5: 7W
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 5.9 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)		
					20407	20525	20643
					824.7MHz	836.5MHz	848.3MHz
5	1.4	QPSK	1	0	22.68	22.15	22.07
			1	2	22.68	22.03	22.06
			1	5	22.62	22.02	22.14
			3	0	22.17	22.21	22.27
			3	1	22.16	22.19	22.11
			3	2	22.03	22.14	22.16
			6	0	22.24	22.12	21.99
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.43		
		ERP Limit (dBm):			38.45		
		16QAM	1	0	22.57	21.48	21.81
			1	2	22.30	21.81	21.86
			1	5	22.02	21.24	21.80
			3	0	22.36	22.08	22.26
			3	1	22.24	21.89	22.51
			3	2	22.34	21.88	22.35
			6	0	21.40	20.82	21.08
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.32		
		ERP Limit (dBm):			38.45		

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20415	20525	20635
					825.5MHz	836.5MHz	847.50MHz
5	3	QPSK	1	0	22.71	22.67	22.51
			1	7	22.67	22.47	22.63
			1	14	22.57	22.48	22.54
			8	0	22.13	22.27	22.26
			8	4	22.32	22.23	22.15
			8	7	22.12	22.10	22.33
			15	0	22.15	22.19	22.10
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.46		
		ERP Limit (dBm):			38.45		
		16QAM	1	0	22.06	22.34	21.96
			1	7	22.34	22.41	22.12
			1	14	21.84	22.17	22.06
			8	0	21.34	20.99	21.11
			8	4	21.55	21.22	21.04
			8	7	21.16	21.11	21.29
			15	0	21.50	21.39	21.02
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.16		
		ERP Limit (dBm):			38.45		

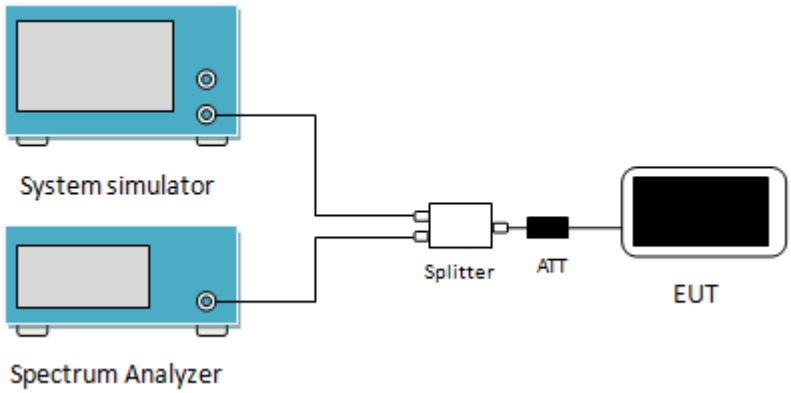
Note: EIRP (dBm) = Average power (dBm) + Antenna Gain (dBi).
ERP (dBm) = EIRP (dBm) - 2.15 (dB).

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20425	20525	20625
					826.5MHz	836.5MHz	846.5MHz
5	5	QPSK	1	0	22.60	22.82	22.76
			1	12	22.41	22.62	22.75
			1	24	22.51	22.60	22.68
			12	0	22.20	22.10	22.18
			12	6	22.07	22.07	22.16
			12	11	22.08	22.08	22.15
			25	0	22.03	22.18	22.10
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.57		
		ERP Limit (dBm):			38.45		
		16QAM	1	0	22.42	22.50	22.29
			1	12	22.62	22.15	22.14
			1	24	22.25	22.18	22.54
			12	0	21.52	21.03	20.96
			12	6	21.31	21.10	21.08
			12	11	21.06	20.94	20.93
			25	0	21.02	21.29	20.99
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.37		
		ERP Limit (dBm):			38.45		

LTE Band	Bandwidth (MHz)	Modulation	RB Size	RB Offset	Average Power (dBm)		
					20450	20525	20600
					829.0MHz	836.5MHz	844.0MHz
5	10	QPSK	1	0	22.60	22.64	22.54
			1	24	22.65	22.59	22.61
			1	49	22.75	22.47	22.52
			25	0	22.02	22.20	22.01
			25	12	22.30	22.23	22.14
			25	24	22.26	22.23	22.11
			50	0	22.31	22.21	22.28
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.50		
		ERP Limit (dBm):			38.45		
		16QAM	1	0	22.61	22.53	22.41
			1	24	22.13	22.21	22.26
			1	49	22.22	22.28	22.20
			25	0	21.12	21.35	21.01
			25	12	21.33	21.27	21.22
			25	24	21.40	21.54	21.03
			50	0	21.30	21.32	21.30
		Antenna Gain(dBi):			-3.1		
		Max. ERP (dBm):			17.36		
		ERP Limit (dBm):			38.45		

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

6.2 Peak-to-Average Ratio

Test Requirement:	/
Test Method:	ANSI/TIA-603-D 2010
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 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

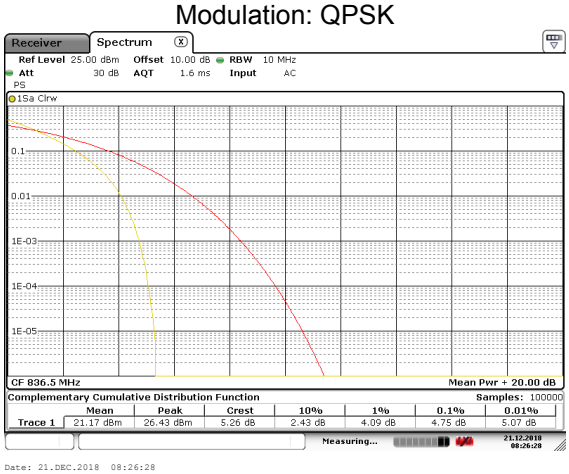
Measurement Data (Worst case):

Bandwidth	Modulation	RB Size	RB Offset	PAPR
LTE Band 5 (Middle Channel)				
10MHz	QPSK	50	0	4.75
	16QAM	50	0	5.59

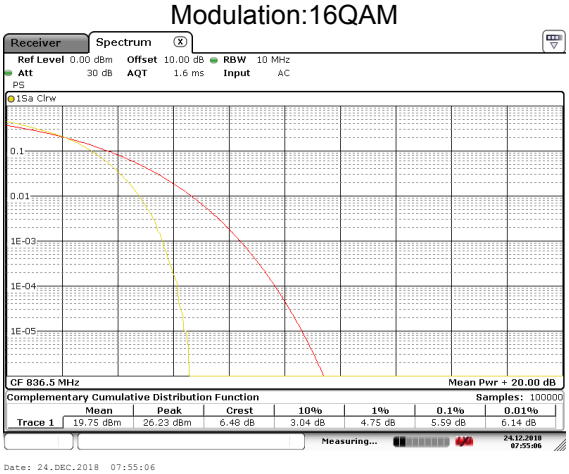
Test plots as below:

LTE Band 5 Middle channel

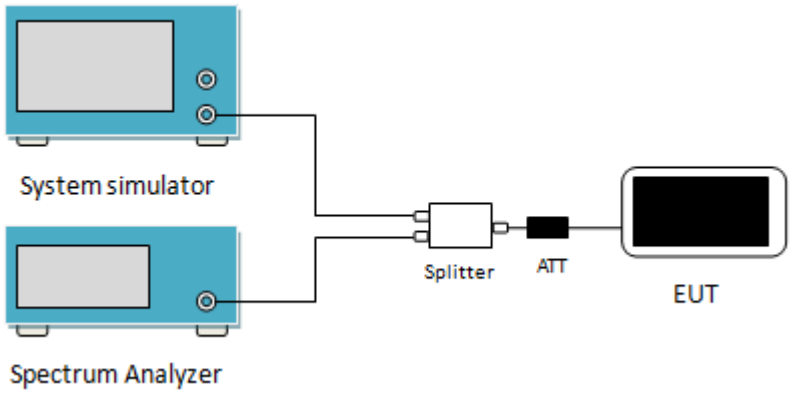
Modulation: QPSK



Modulation:16QAM



6.3 Occupy Bandwidth

Test Requirement:	Part 22.917(b)
Test Method:	ANSI/TIA-603-D 2010
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 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

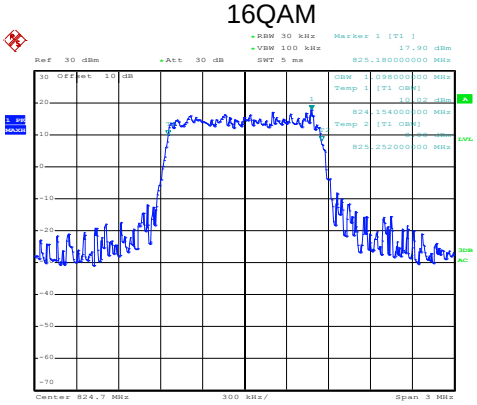
Measurement Data:

TE Band 5					
Bandwidth	Channel	Frequency (MHz)	Modulation	99% OBW (kHz)	-26dBcEBW (kHz)
1.4MHz	20407	824.7	16QAM	1098	1254
			QPSK	1098	1272
	20525	836.5	16QAM	1098	1266
			QPSK	1104	1290
	20643	848.3	16QAM	1104	1278
			QPSK	1104	1260
3MHz	20415	825.5	16QAM	2748	3144
			QPSK	2784	3132
	20525	836.50	16QAM	2760	3324
			QPSK	2772	3324
	20635	847.50	16QAM	2748	3168
			QPSK	2760	3132
5MHz	20425	826.50	16QAM	4500	4980
			QPSK	4500	5000
	20525	836.50	16QAM	4500	4980
			QPSK	4500	4940
	20625	846.50	16QAM	4500	4940
			QPSK	4520	4940
10MHz	20450	829.00	16QAM	9080	10160
			QPSK	9080	10240
	20525	836.50	16QAM	9080	10040
			QPSK	9120	10320
	20600	844.00	16QAM	9080	10200
			QPSK	9120	10280

Test plot as follows:
LTE Band 5 part:

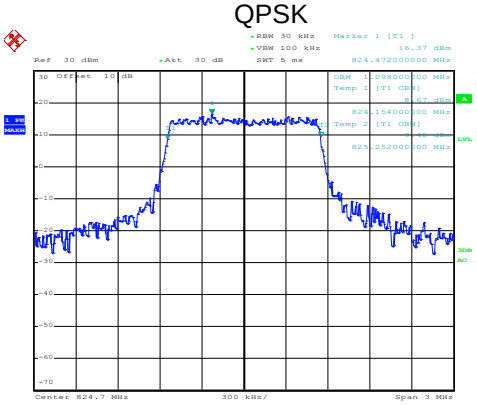
LTE Band 5: 99% Occupy bandwidth
BW: 1.4MHz

16QAM



Date: 19.DEC.2018 09:06:19

QPSK



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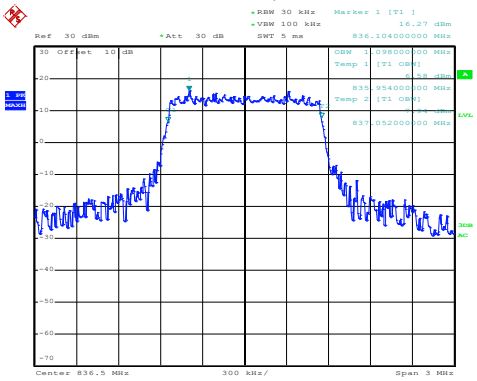
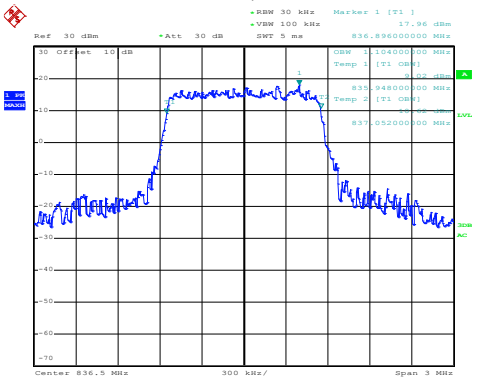
Lowest channel

16QAM



Date: 19.DEC.2018 09:06:38

QPSK



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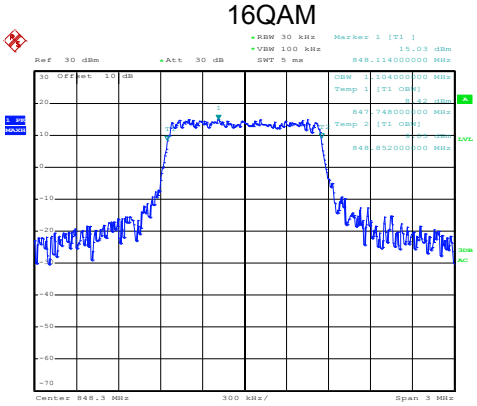
Middle channel

16QAM



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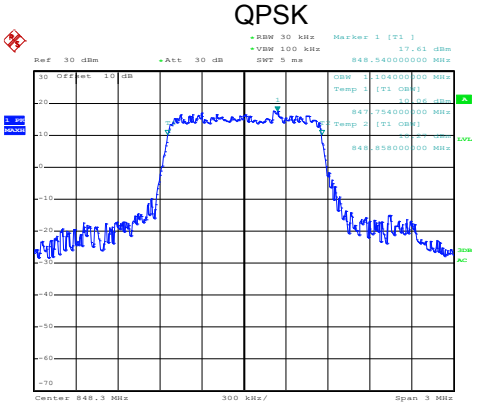
QPSK

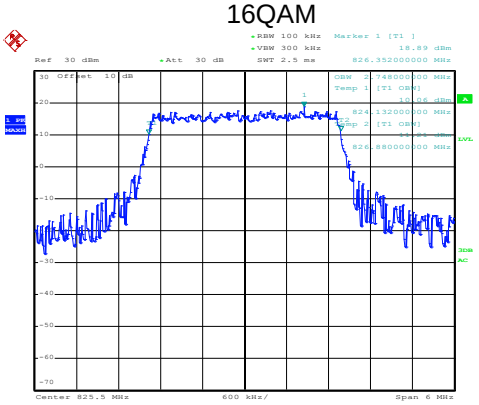


Date: 19.DEC.2018 09:07:31

Highest channel

LTE Band 5: 99% Occupy bandwidth
BW: 3MHz

16QAM



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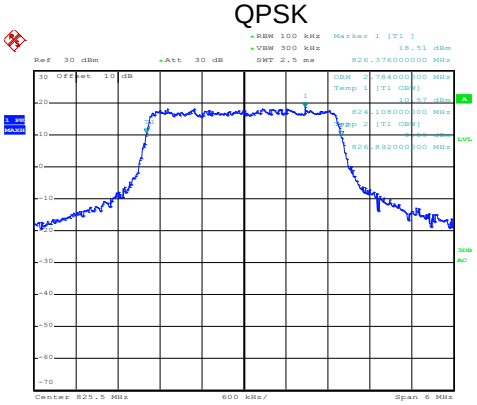
QPSK



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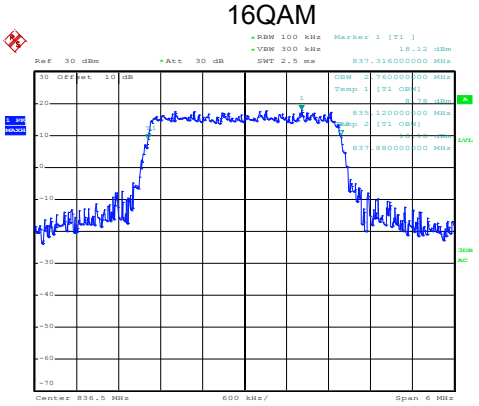
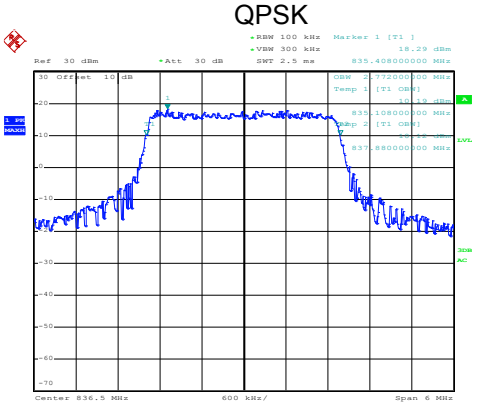
Lowest channel

16QAM



Date: 19.DEC.2018 09:12:50

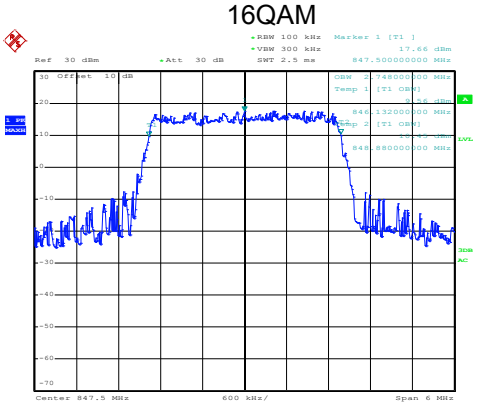
QPSK



Date: 19.DEC.2018 09:12:42

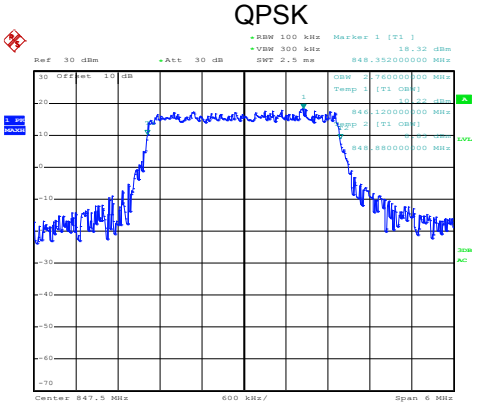
Middle channel

16QAM



Date: 19.DEC.2018 09:13:16

QPSK

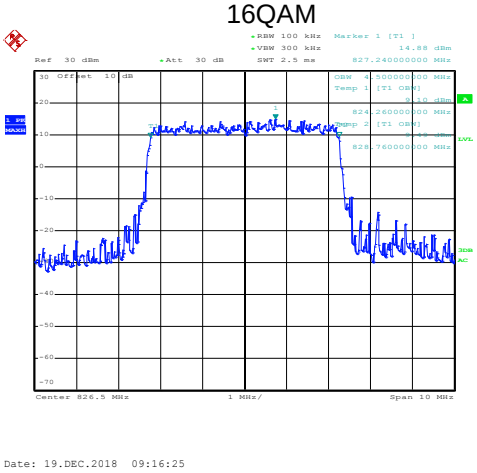


Date: 19.DEC.2018 09:13:11

Highest channel

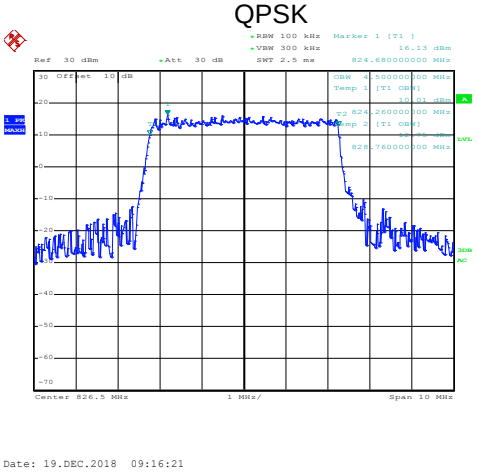
LTE Band 5: 99% Occupy bandwidth
BW: 5MHz

16QAM



Date: 19.DEC.2018 09:16:25

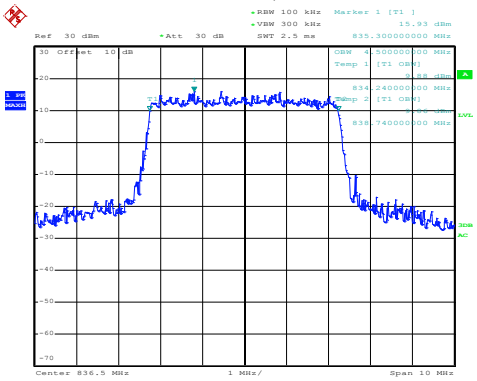
QPSK



Date: 19.DEC.2018 09:16:21

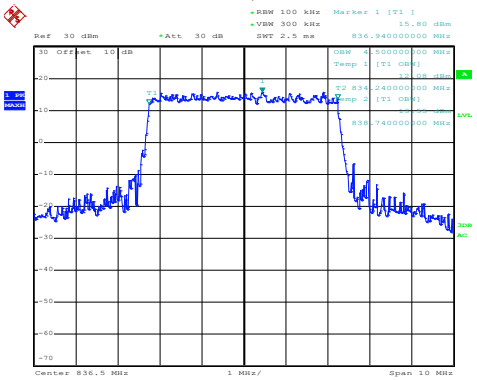
Lowest channel

16QAM



Date: 19.DEC.2018 09:16:49

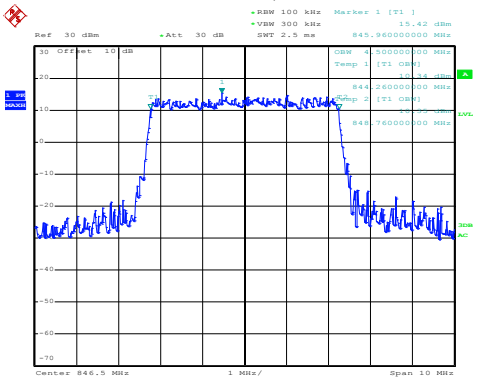
QPSK



Date: 19.DEC.2018 09:16:41

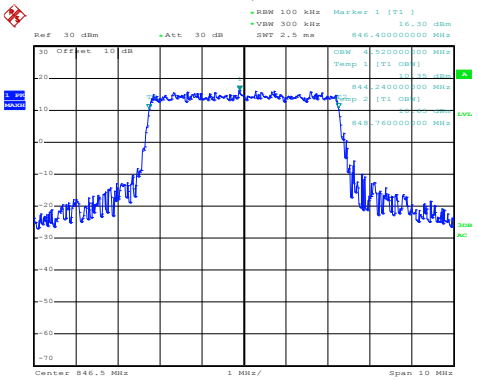
Middle channel

16QAM



Date: 19.DEC.2018 09:18:13

QPSK

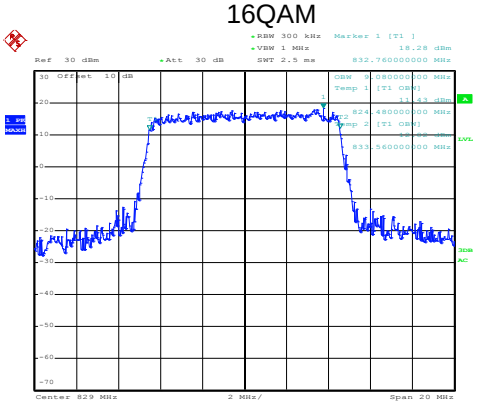


Date: 19.DEC.2018 09:18:04

Highest channel

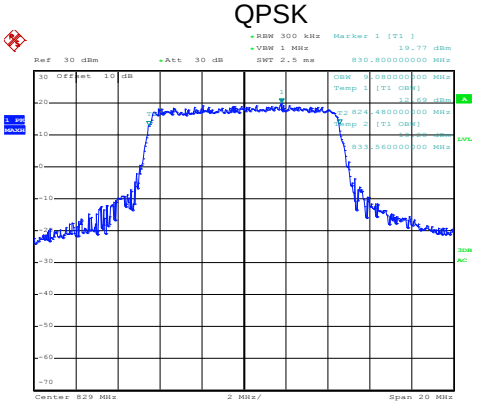
LTE Band 5: 99% Occupy bandwidth
BW: 10MHz

16QAM



Date: 19.DEC.2018 09:19:11

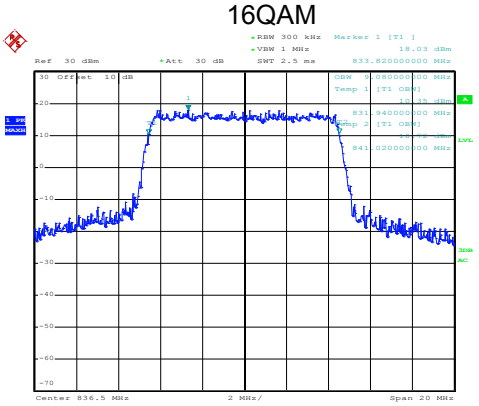
QPSK



Date: 19.DEC.2018 09:19:06

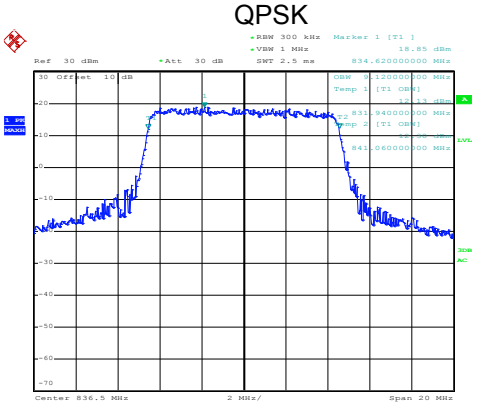
Lowest channel

16QAM



Date: 19.DEC.2018 09:20:09

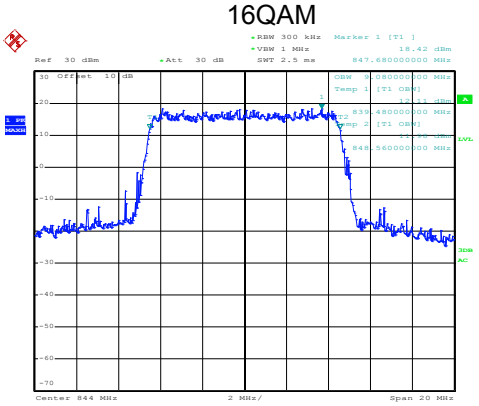
QPSK



Date: 19.DEC.2018 09:20:03

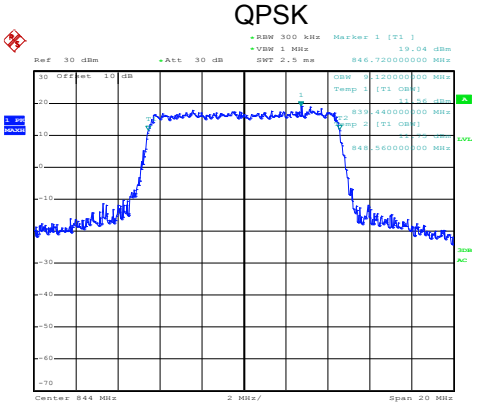
Middle channel

16QAM



Date: 19.DEC.2018 09:20:38

QPSK

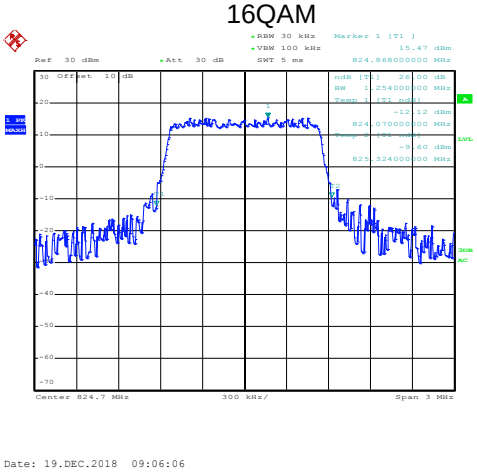


Date: 19.DEC.2018 09:20:33

Highest channel

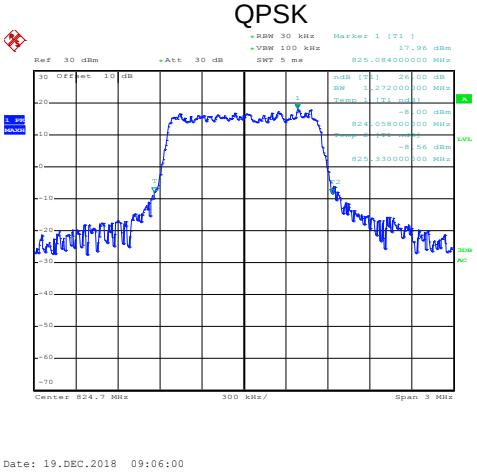
LTE Band 5: -26dBc bandwidth
BW: 1.4MHz

16QAM



Date: 19.DEC.2018 09:06:06

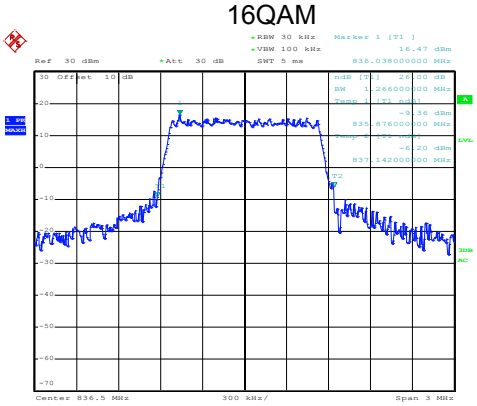
QPSK



Date: 19.DEC.2018 09:06:00

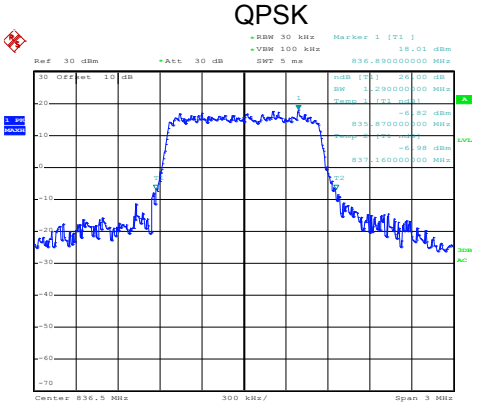
Lowest channel

16QAM



Date: 19.DEC.2018 09:06:59

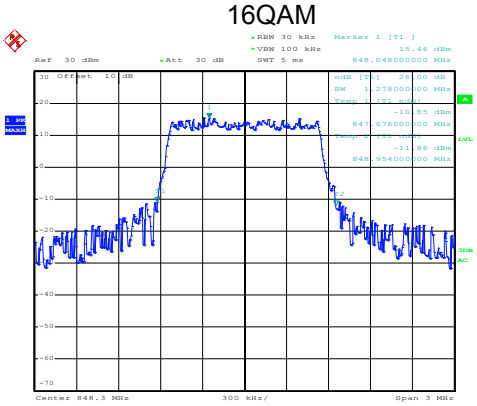
QPSK



Date: 19.DEC.2018 09:06:50

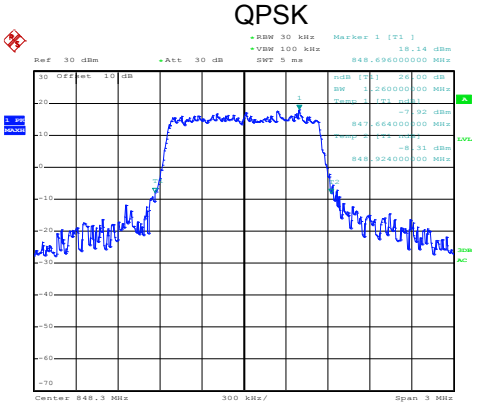
Middle channel

16QAM



Date: 19.DEC.2018 09:07:22

QPSK

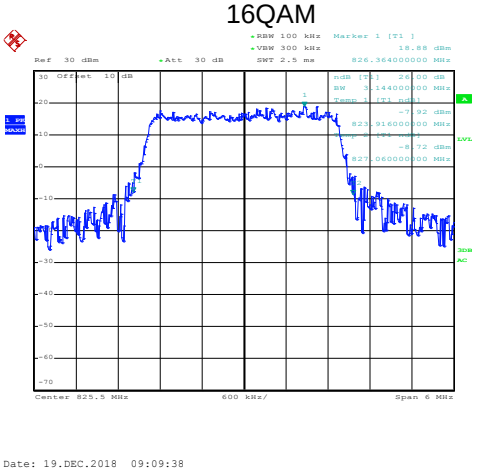


Date: 19.DEC.2018 09:07:17

Highest channel

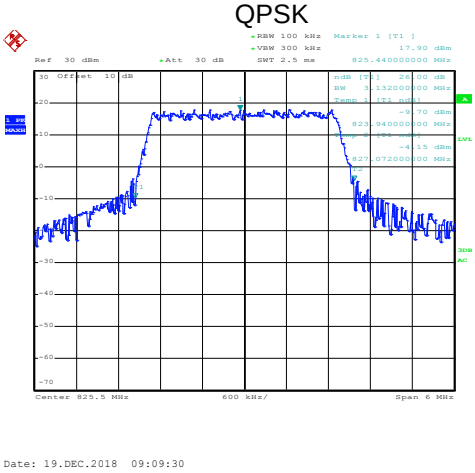
LTE Band 5: -26dBc bandwidth
BW: 3MHz

16QAM



Date: 19.DEC.2018 09:09:38

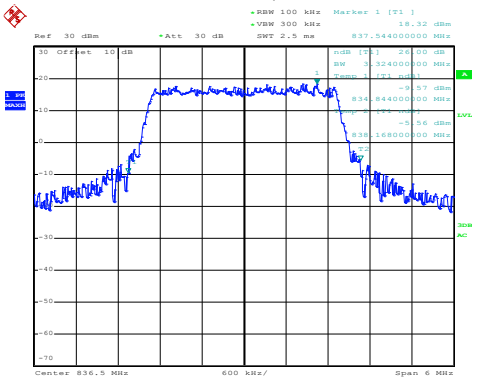
QPSK



Date: 19.DEC.2018 09:09:30

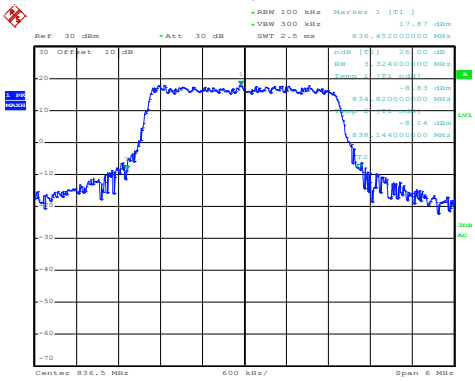
Lowest channel

16QAM



Date: 19.DEC.2018 09:12:27

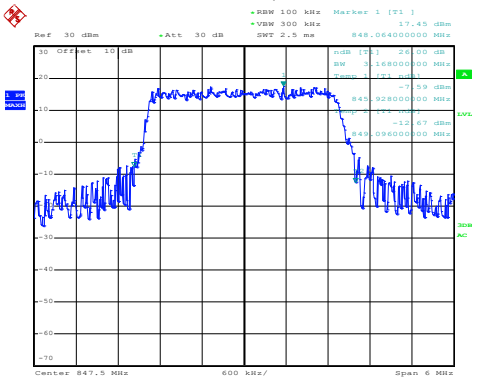
QPSK



Date: 19.DEC.2018 09:12:15

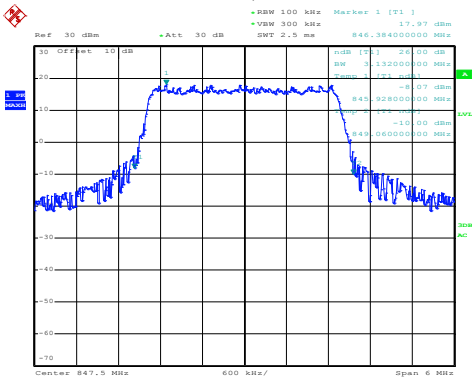
Middle channel

16QAM



Date: 19.DEC.2018 09:13:32

QPSK

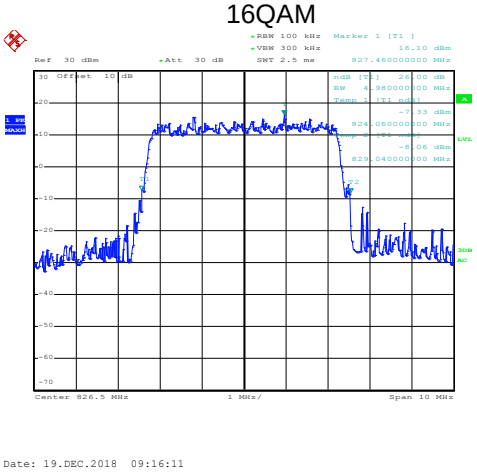


Date: 19.DEC.2018 09:13:26

Highest channel

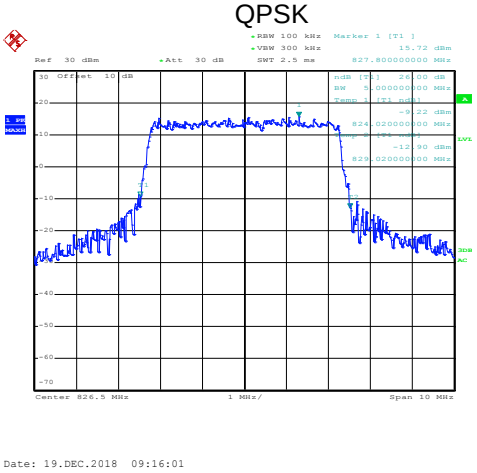
LTE Band 5: -26dBc bandwidth
BW: 5MHz

16QAM



Date: 19.DEC.2018 09:16:11

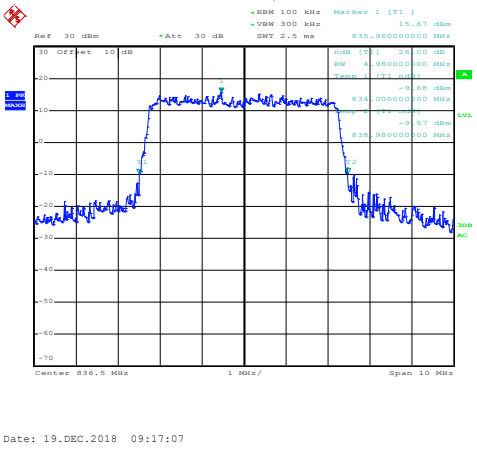
QPSK



Date: 19.DEC.2018 09:16:01

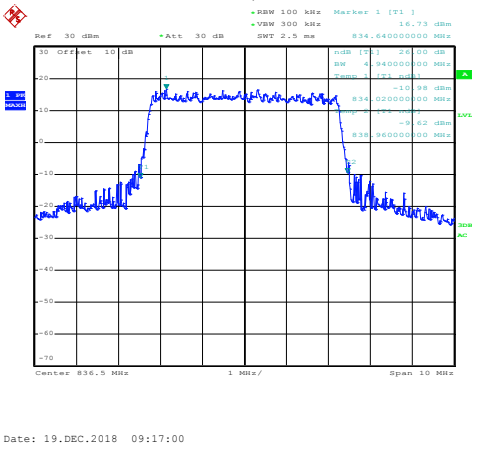
Lowest channel

16QAM



Date: 19.DEC.2018 09:17:07

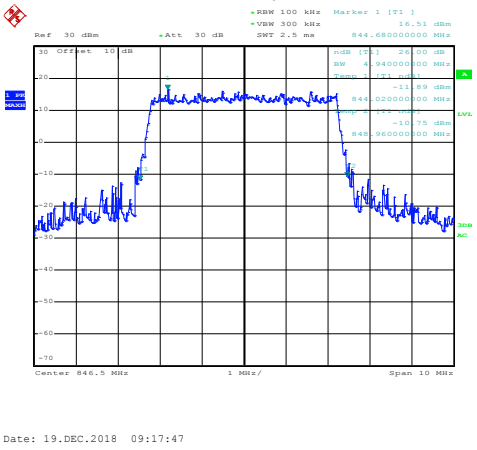
QPSK



Date: 19.DEC.2018 09:17:00

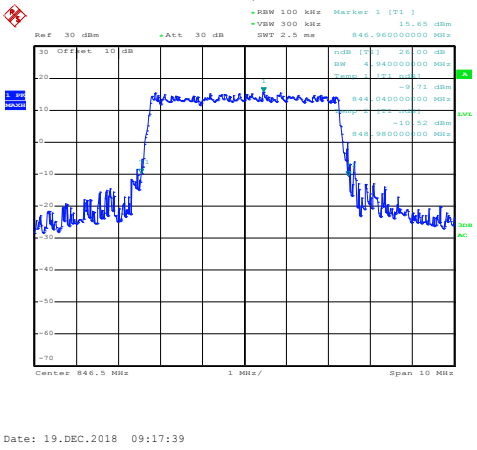
Middle channel

16QAM



Date: 19.DEC.2018 09:17:47

QPSK

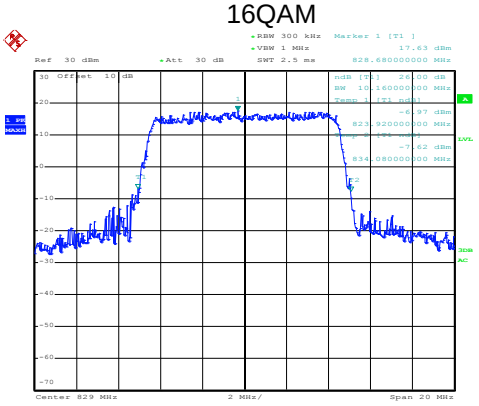


Date: 19.DEC.2018 09:17:39

Highest channel

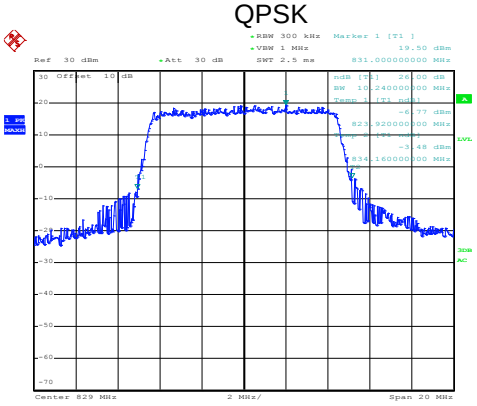
LTE Band 5: -26dBc bandwidth
BW: 10MHz

16QAM



Date: 19.DEC.2018 09:19:29

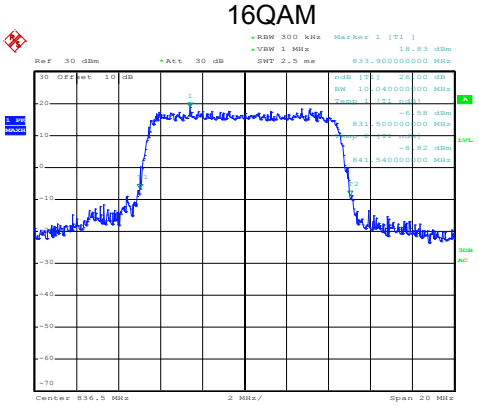
QPSK



Date: 19.DEC.2018 09:19:23

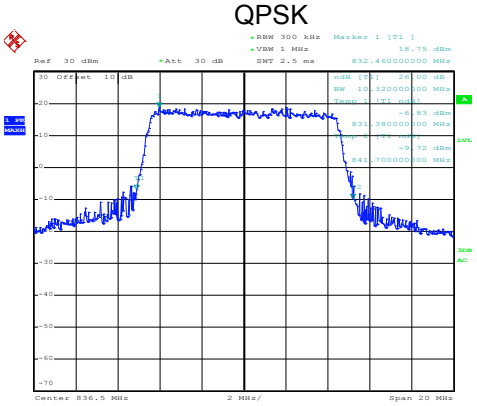
Lowest channel

16QAM



Date: 19.DEC.2018 09:19:51

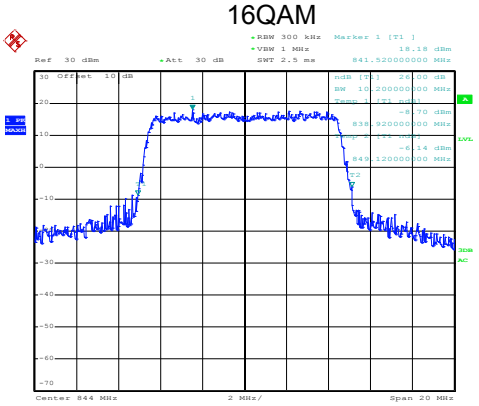
QPSK



Date: 19.DEC.2018 09:19:44

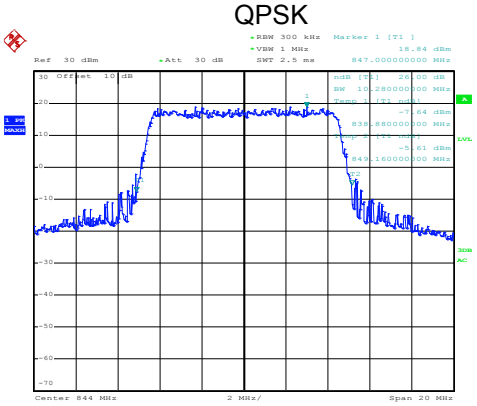
Middle channel

16QAM



Date: 19.DEC.2018 09:20:53

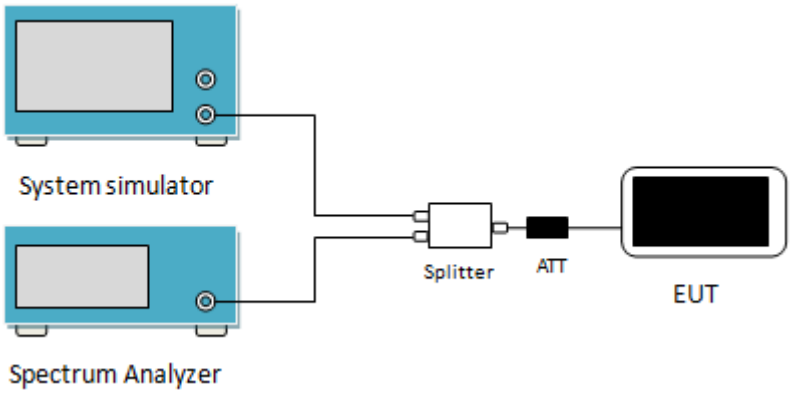
QPSK



Date: 19.DEC.2018 09:20:47

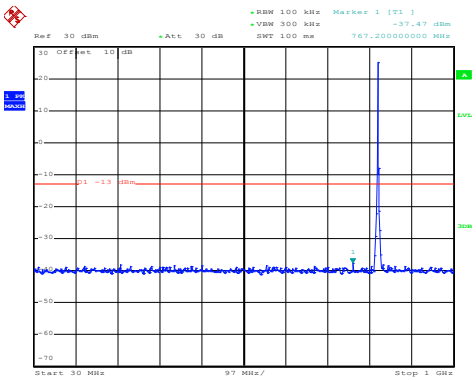
Highest channel

6.4 Out of band emission at antenna terminals

Test Requirement:	Part 22.917(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 5: 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 The resolution bandwidth of the spectrum analyzer was set at 100 kHz when below 1GHz, 1MHz when above 1 GHz; sufficient scans were taken to show the out of band Emissions if any up to 10th harmonic. 3 For the out of band: Set the RBW=100 kHz, VBW=300 kHz when below 1 GHz, RBW =1 MHz, VBW=3 MHz when above 1 GHz, Start=30MHz, Stop= 10th harmonic. 4 Band Edge Requirements: In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 1 percent of the emission bandwidth of the fundamental emission of the transmitter may be employed to measure the out of band Emissions.
Test Instruments:	Refer to section 5.9 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.

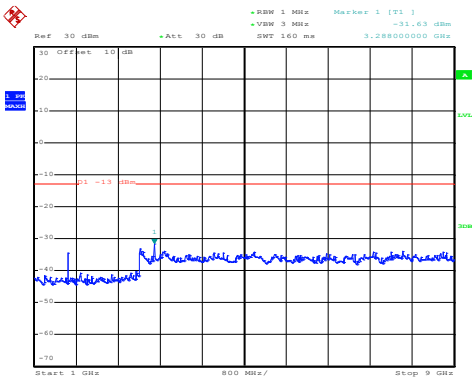
Test plots as follows (Conducted spurious emission) (worst case):
LTE Band 5 part:

LTE Band 5: 16 QAM & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 17.DEC.2018 20:14:08

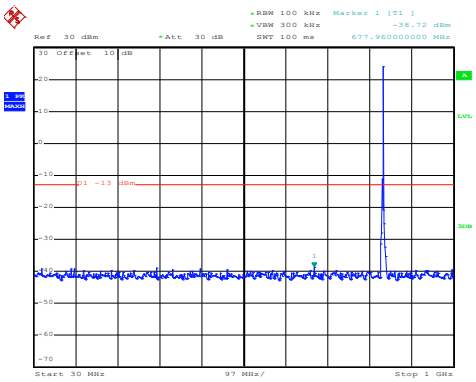
30MHz~1GHz



Date: 17.DEC.2018 20:08:00

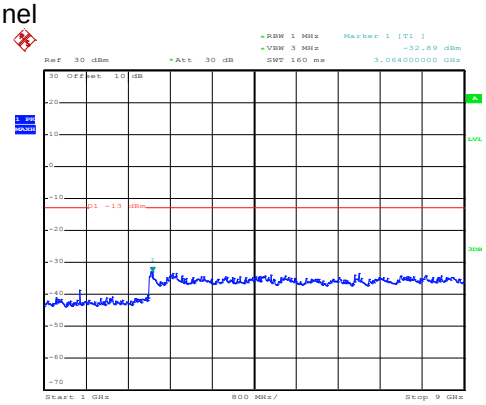
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:12:19

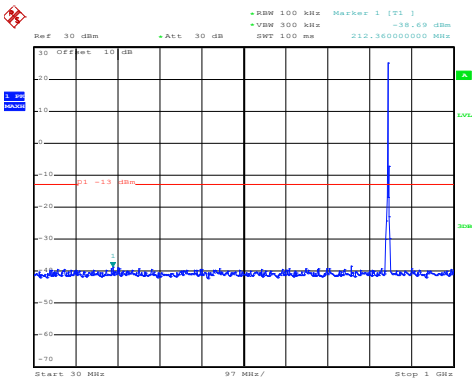
30MHz~1GHz



Date: 17.DEC.2018 20:09:04

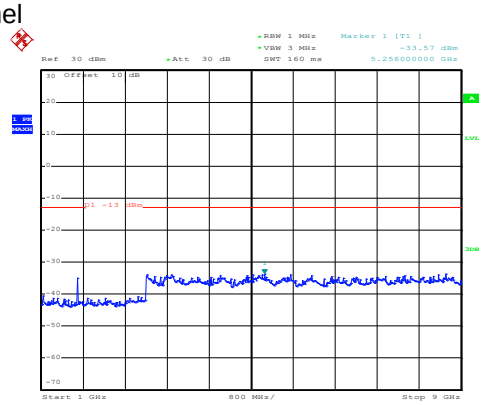
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:11:30

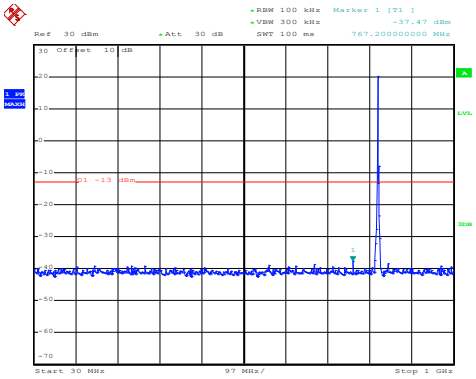
30MHz~1GHz



Date: 17.DEC.2018 20:10:09

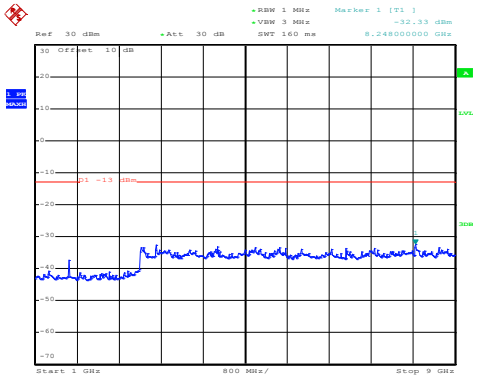
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 6
BW: 1.4MHz
Lowest channel



Date: 17.DEC.2018 20:13:18

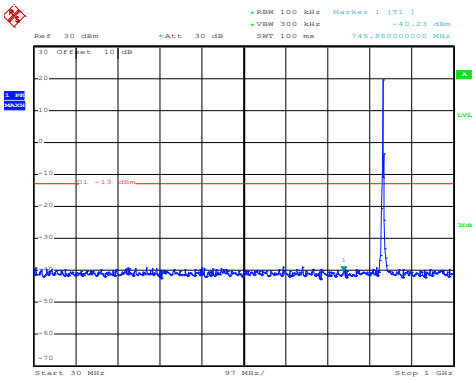
30MHz~1GHz



Date: 17.DEC.2018 20:08:12

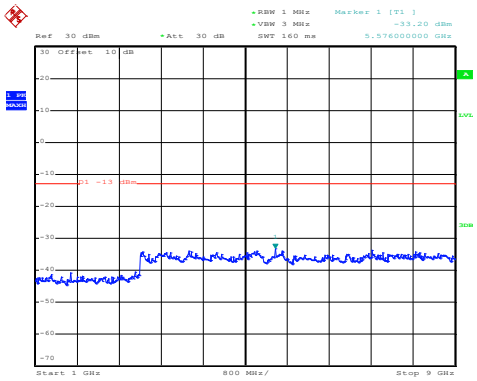
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:12:32

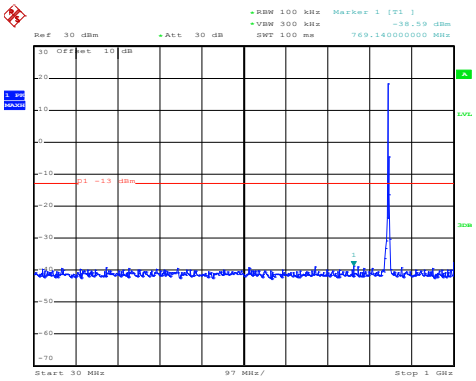
30MHz~1GHz



Date: 17.DEC.2018 20:08:50

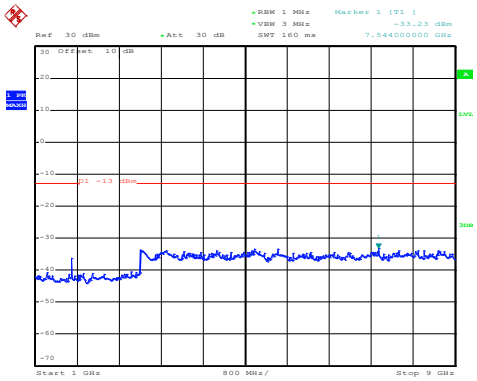
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:11:13

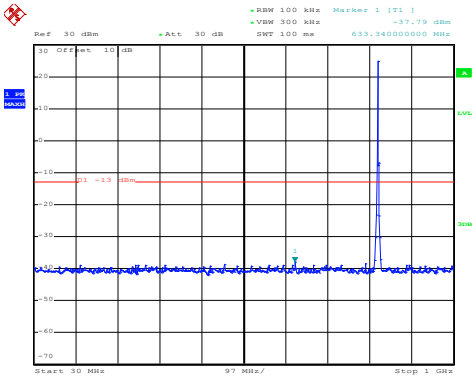
30MHz~1GHz



Date: 17.DEC.2018 20:10:23

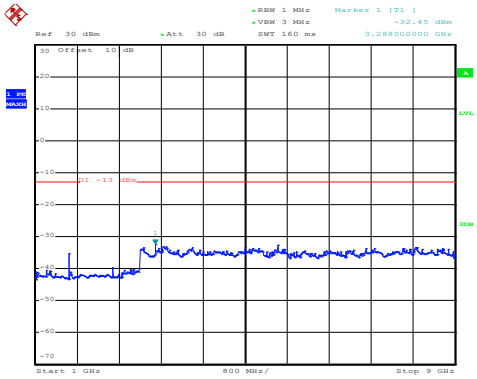
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 1.4MHz
Lowest channel



Date: 17.DEC.2018 20:14:32

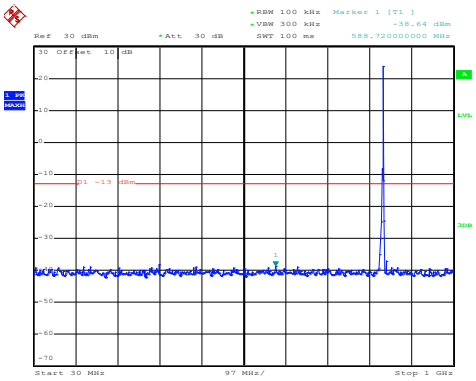
30MHz~1GHz



Date: 17.DEC.2018 20:07:53

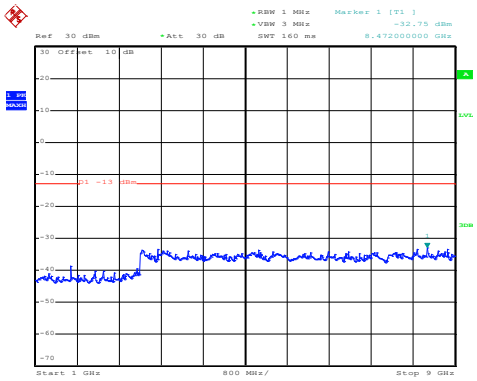
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:12:09

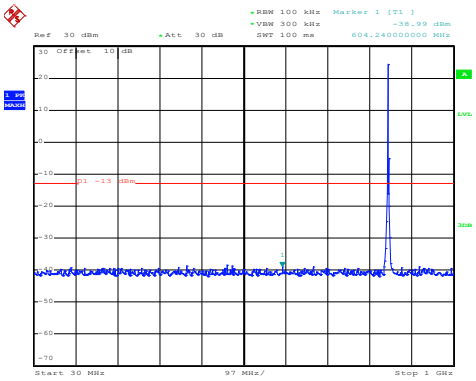
30MHz~1GHz



Date: 17.DEC.2018 20:09:13

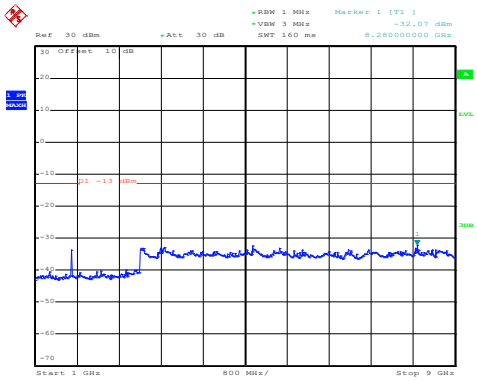
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:11:45

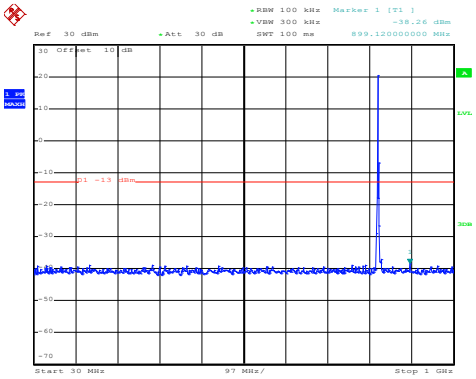
30MHz~1GHz



Date: 17.DEC.2018 20:09:58

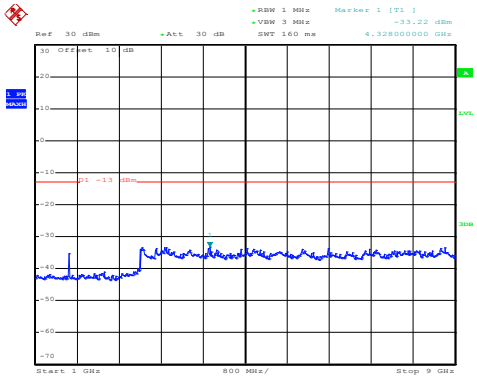
1GHz~9GHz

LTE Band 5: QPSK & RB Size 6
BW: 1.4MHz
Lowest channel



Date: 17.DEC.2018 20:13:05

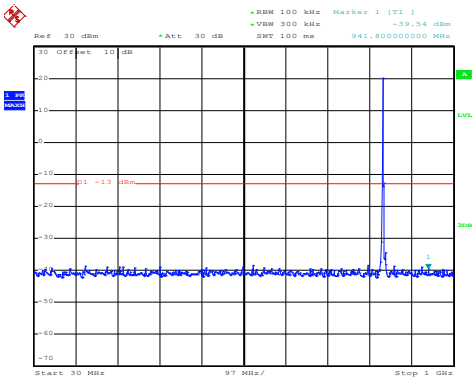
30MHz~1GHz



Date: 17.DEC.2018 20:08:24

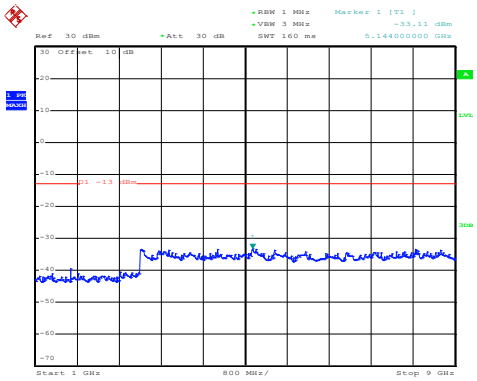
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:12:45

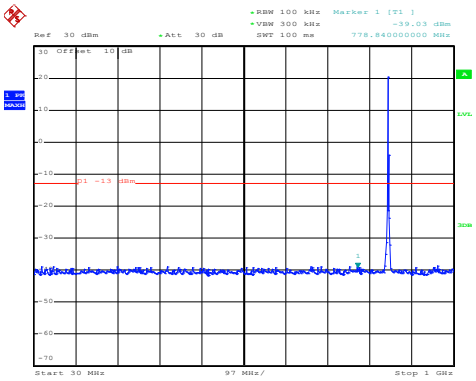
30MHz~1GHz



Date: 17.DEC.2018 20:08:43

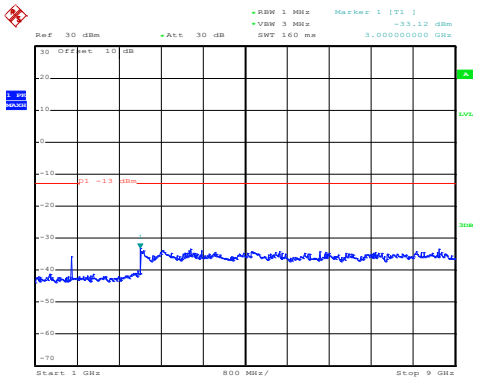
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:11:04

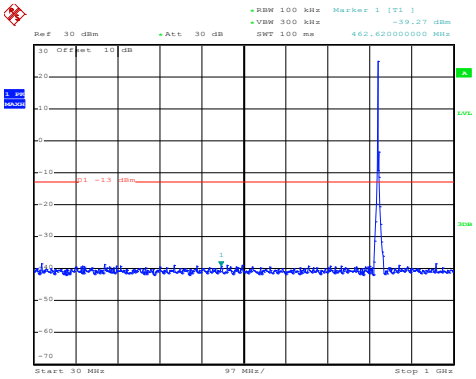
30MHz~1GHz



Date: 17.DEC.2018 20:10:32

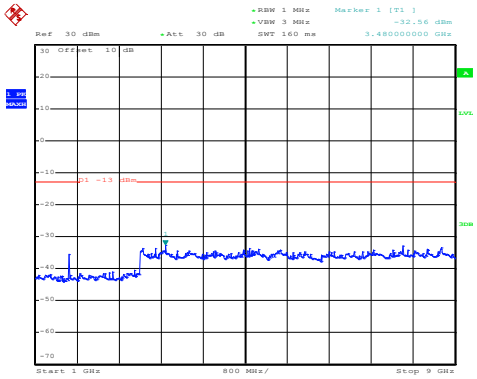
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 1
BW: 3MHz
Lowest channel



Date: 17.DEC.2018 19:59:12

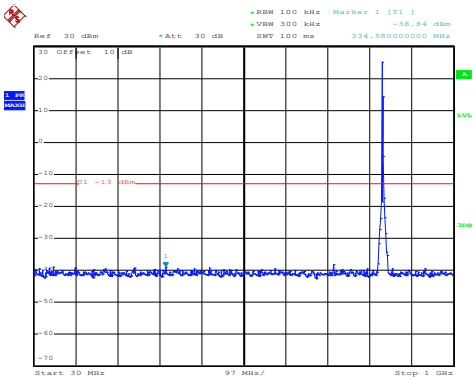
30MHz~1GHz



Date: 17.DEC.2018 20:05:10

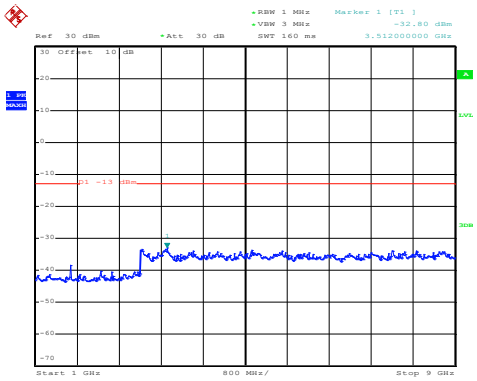
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:00:26

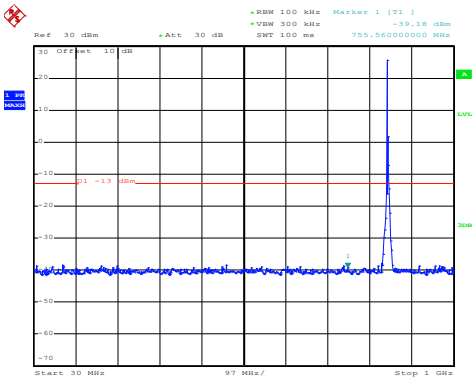
30MHz~1GHz



Date: 17.DEC.2018 20:04:37

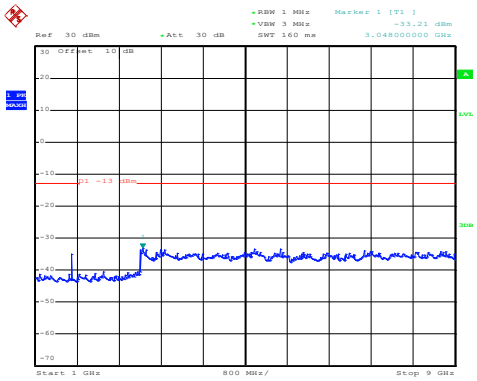
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:02:19

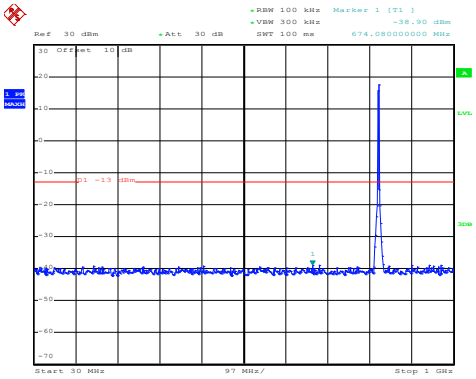
30MHz~1GHz



Date: 17.DEC.2018 20:03:32

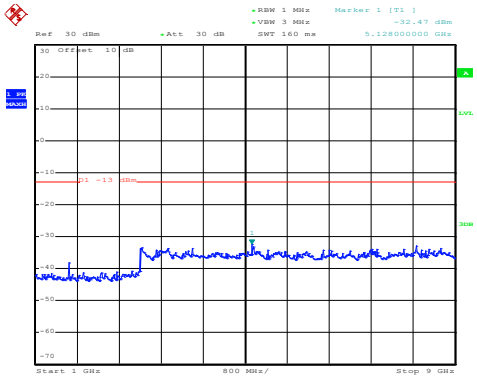
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 15
BW: 3MHz
Lowest channel



Date: 17.DEC.2018 19:58:48

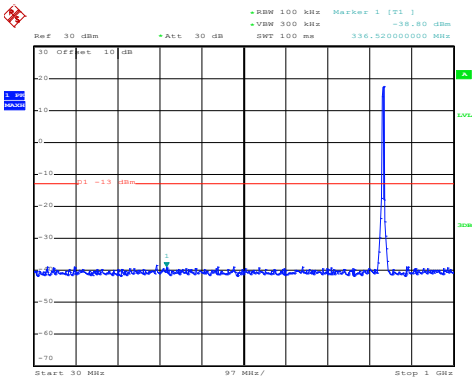
30MHz~1GHz



Date: 17.DEC.2018 20:05:19

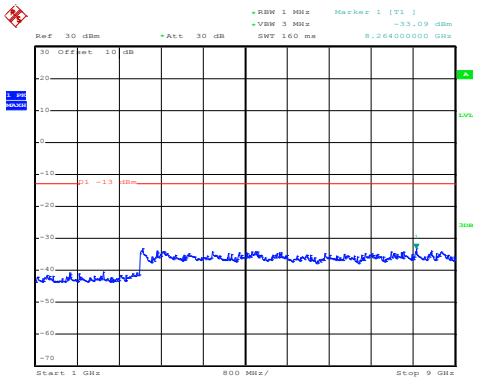
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:00:49

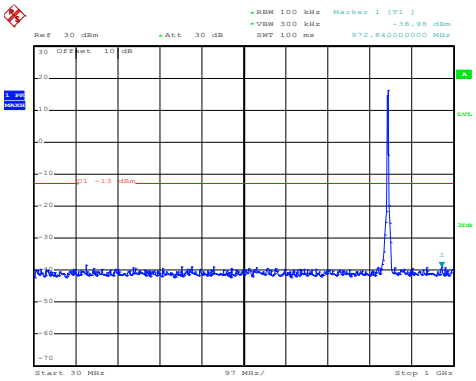
30MHz~1GHz



Date: 17.DEC.2018 20:04:25

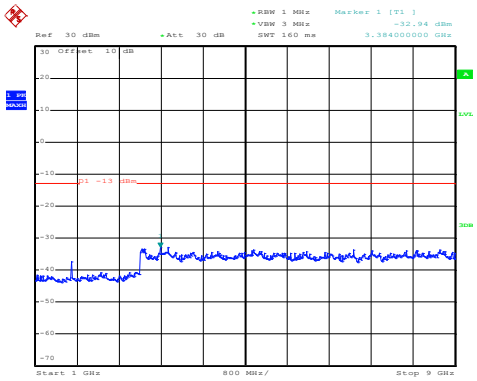
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:01:48

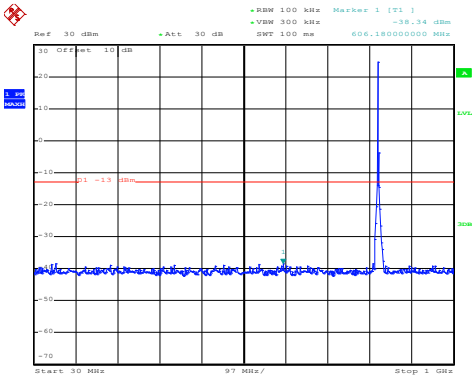
30MHz~1GHz



Date: 17.DEC.2018 20:03:44

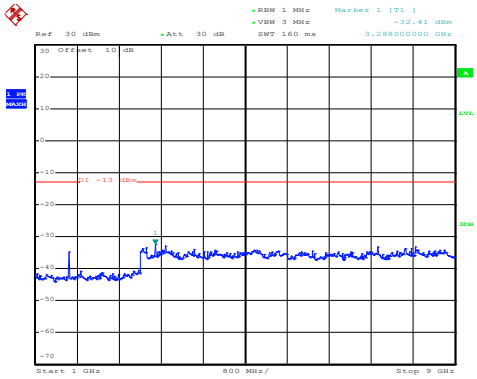
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 3MHz
Lowest channel



Date: 17.DEC.2018 19:59:26

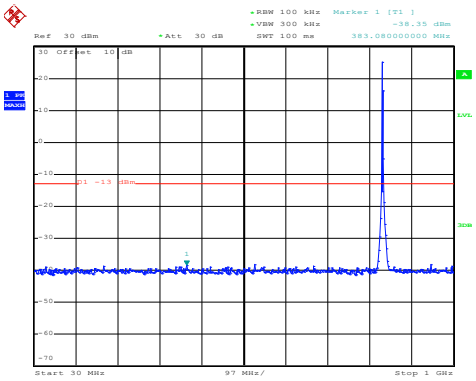
30MHz~1GHz



Date: 17.DEC.2018 20:05:00

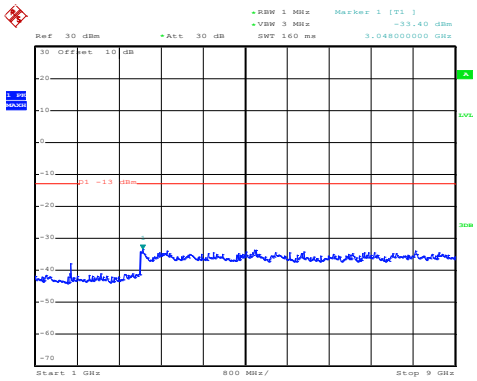
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:00:11

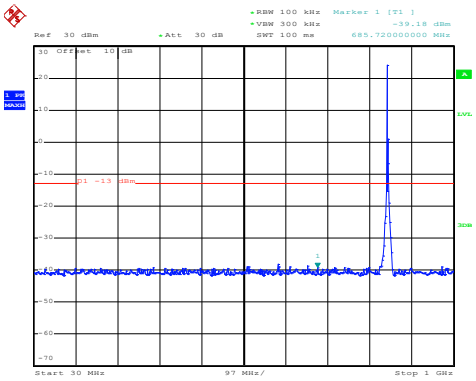
30MHz~1GHz



Date: 17.DEC.2018 20:04:45

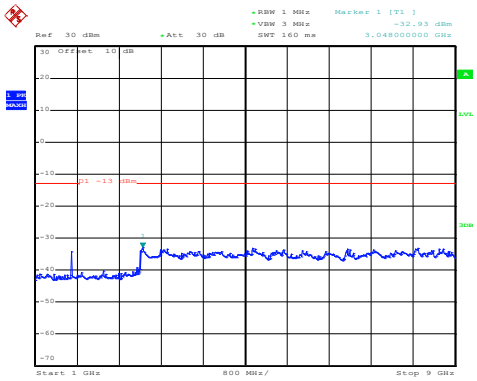
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:02:44

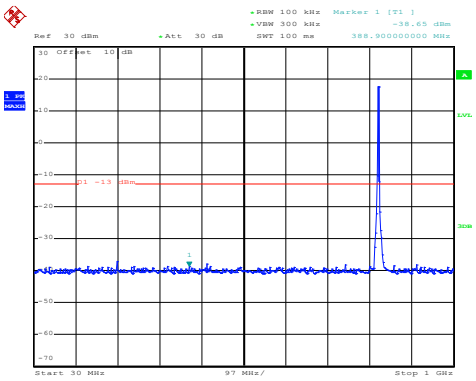
30MHz~1GHz



Date: 17.DEC.2018 20:03:20

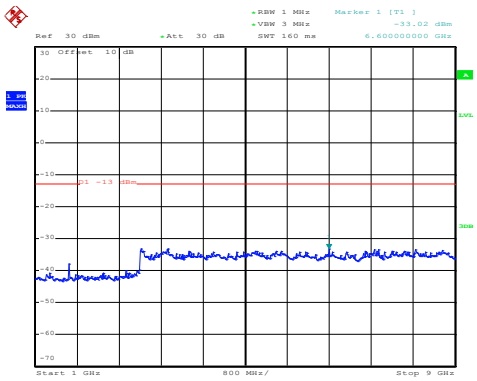
1GHz~9GHz

LTE Band 5: QPSK & RB Size 15
BW: 3MHz
Lowest channel



Date: 17.DEC.2018 19:58:34

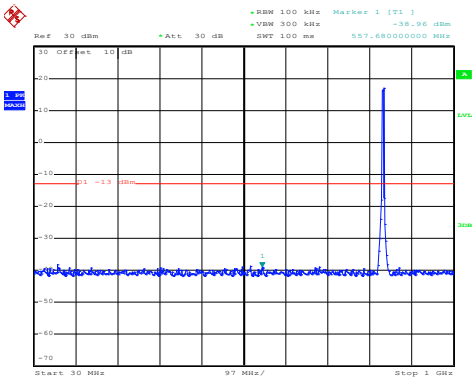
30MHz~1GHz



Date: 17.DEC.2018 20:05:40

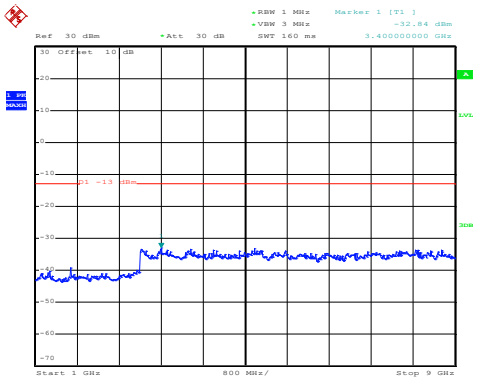
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 20:01:07

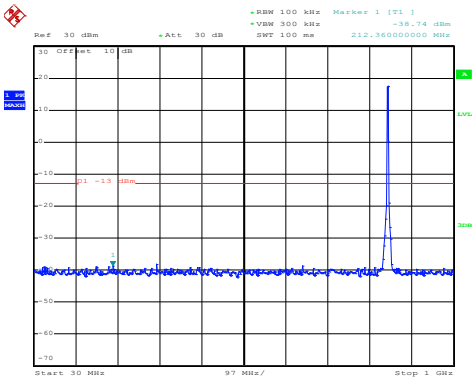
30MHz~1GHz



Date: 17.DEC.2018 20:04:17

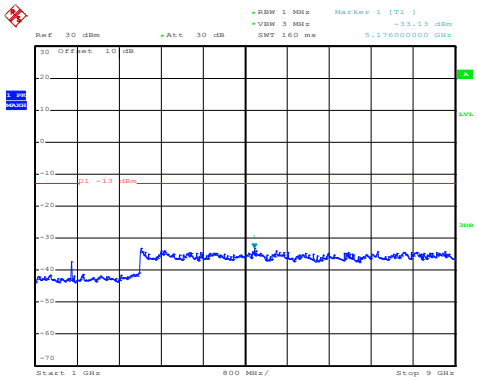
1GHz~9GHz

High channel



Date: 17.DEC.2018 20:01:35

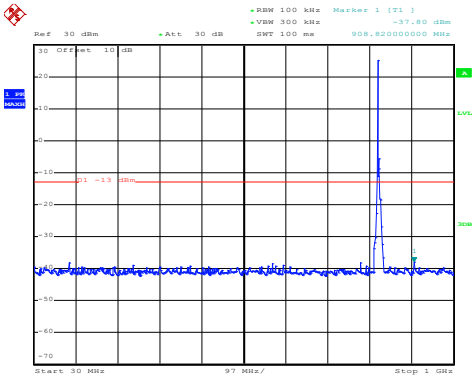
30MHz~1GHz



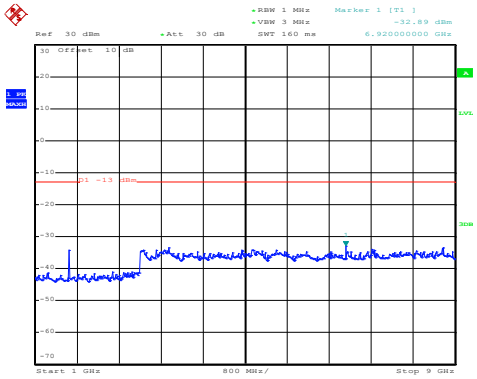
Date: 17.DEC.2018 20:03:54

1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 1
BW: 5MHz
Lowest channel

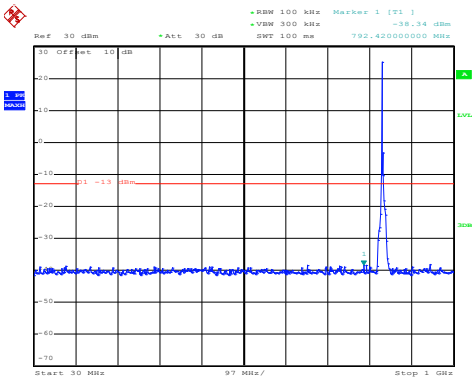


30MHz~1GHz

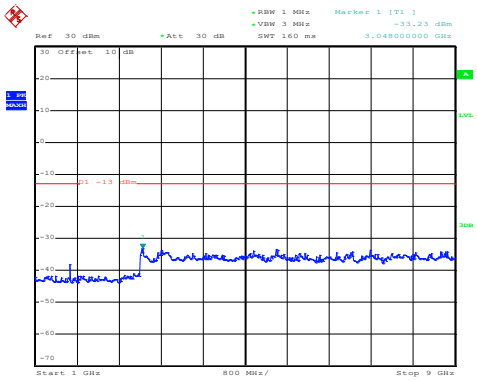


1GHz~9GHz

Middle channel

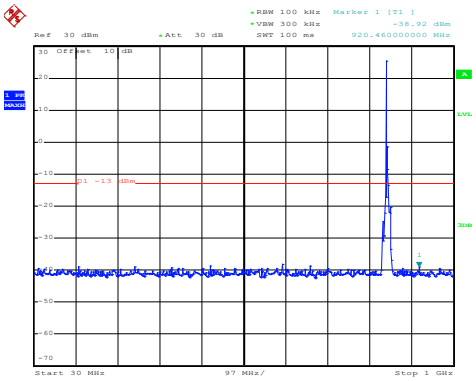


30MHz~1GHz

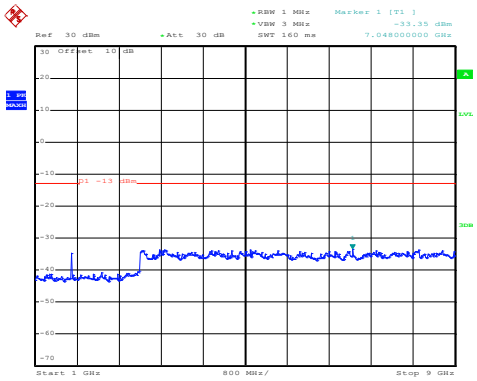


1GHz~9GHz

High channel

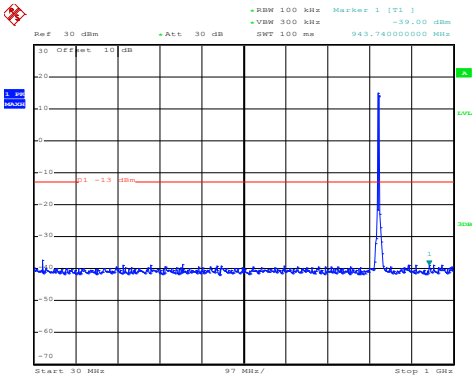


30MHz~1GHz

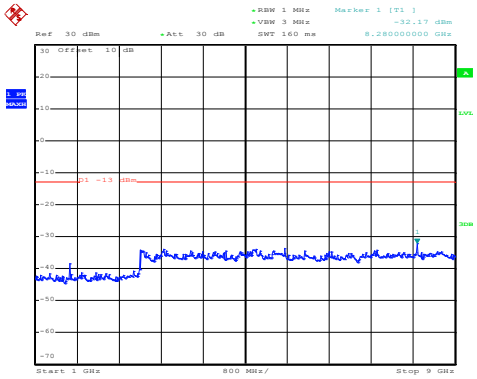


1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 25
BW: 5MHz
Lowest channel

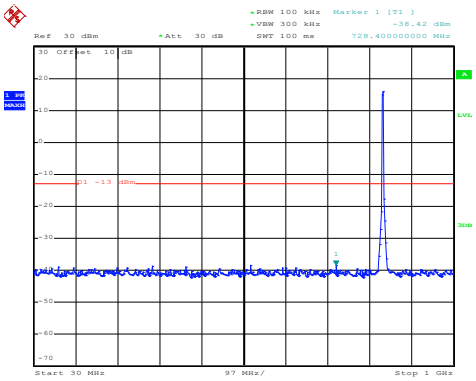


30MHz~1GHz

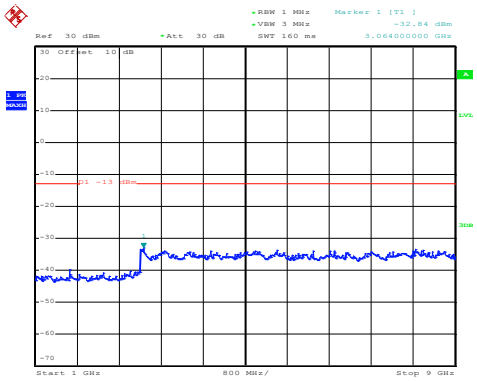


1GHz~9GHz

Middle channel

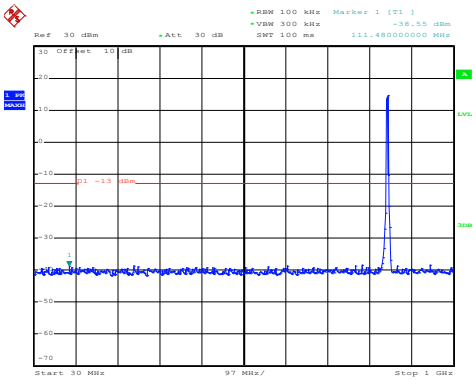


30MHz~1GHz

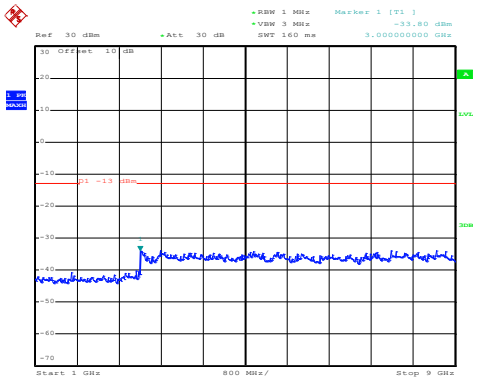


1GHz~9GHz

High channel

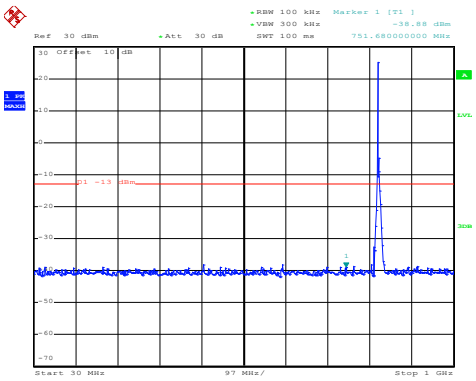


30MHz~1GHz



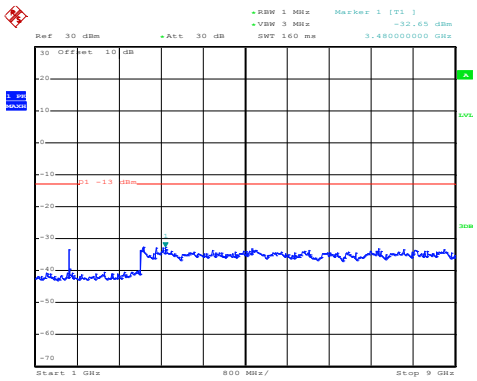
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 5MHz
Lowest channel



Date: 17.DEC.2018 19:55:09

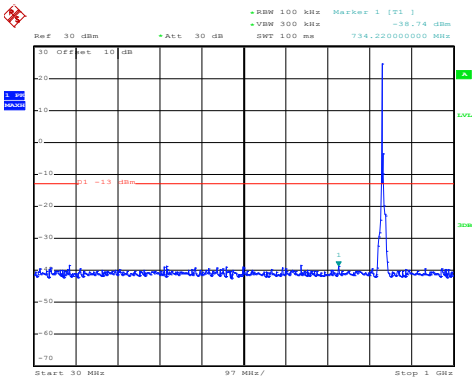
30MHz~1GHz



Date: 17.DEC.2018 19:47:48

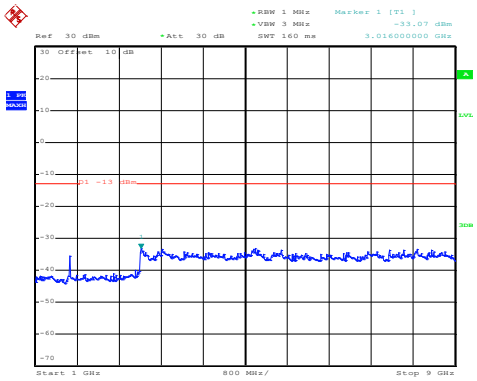
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 19:53:11

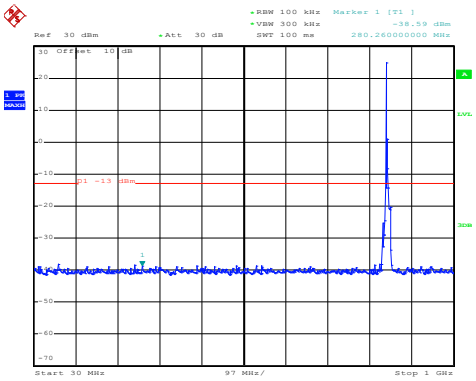
30MHz~1GHz



Date: 17.DEC.2018 19:49:22

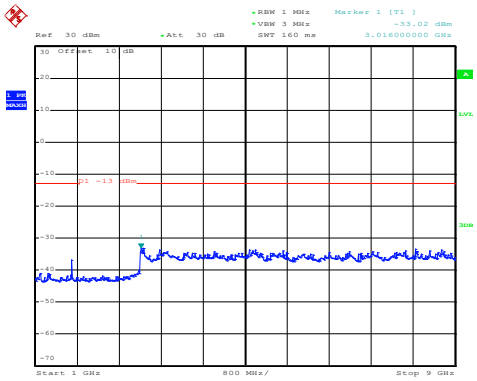
1GHz~9GHz

High channel



Date: 17.DEC.2018 19:51:59

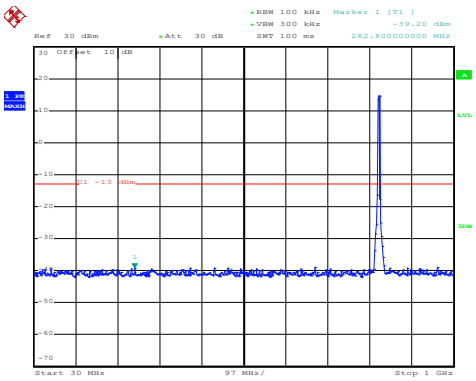
30MHz~1GHz



Date: 17.DEC.2018 19:50:09

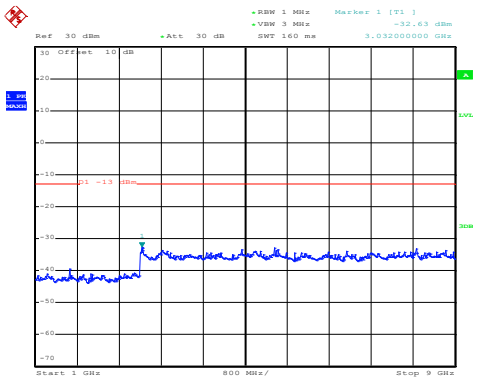
1GHz~9GHz

LTE Band 5: QPSK & RB Size 25
BW: 5MHz
Lowest channel



Date: 17.DEC.2018 19:54:46

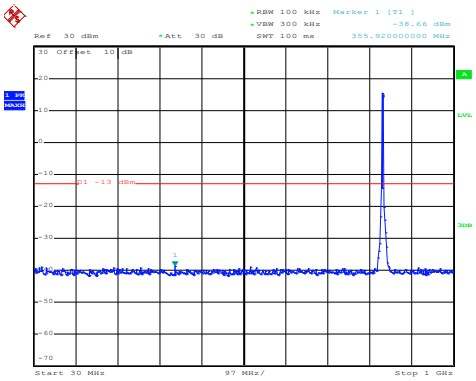
30MHz~1GHz



Date: 17.DEC.2018 19:48:14

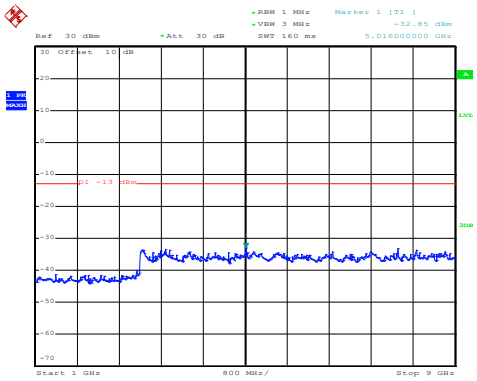
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 19:53:37

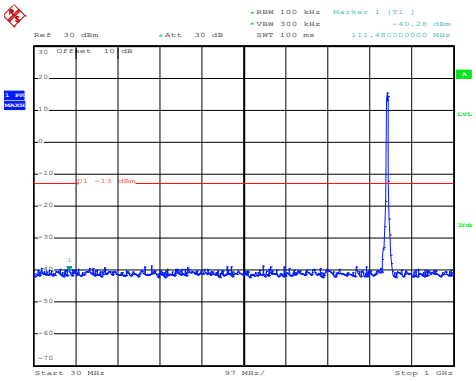
30MHz~1GHz



Date: 17.DEC.2018 19:49:09

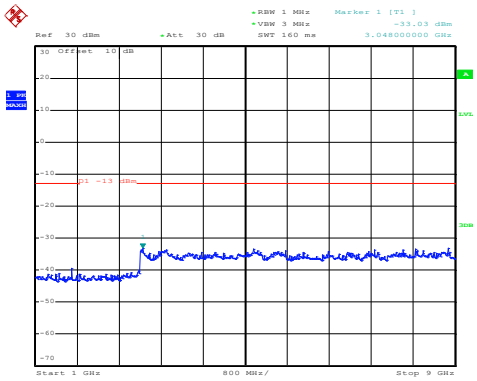
1GHz~9GHz

High channel



Date: 17.DEC.2018 19:51:28

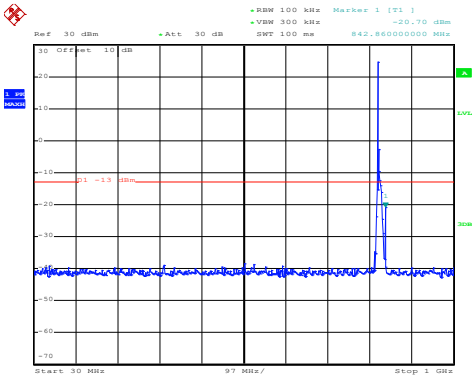
30MHz~1GHz



Date: 17.DEC.2018 19:50:22

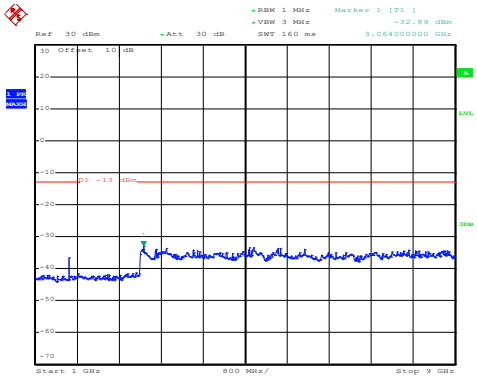
1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 1
BW: 10MHz
Lowest channel



Date: 17.DEC.2018 19:35:44

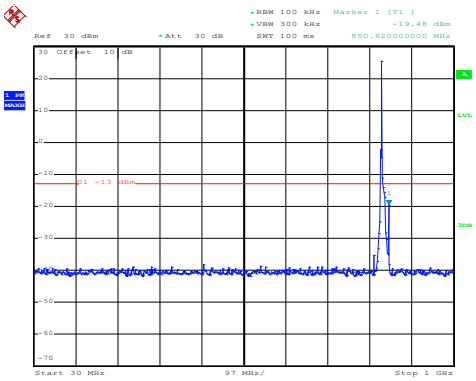
30MHz~1GHz



Date: 17.DEC.2018 19:45:37

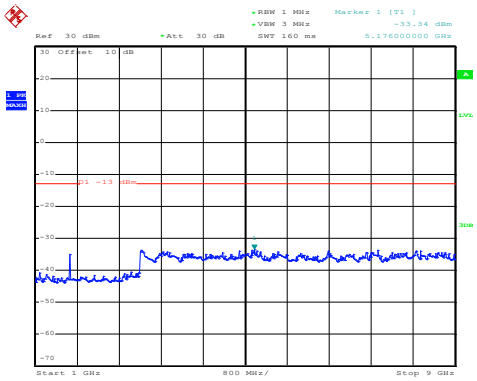
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 19:37:50

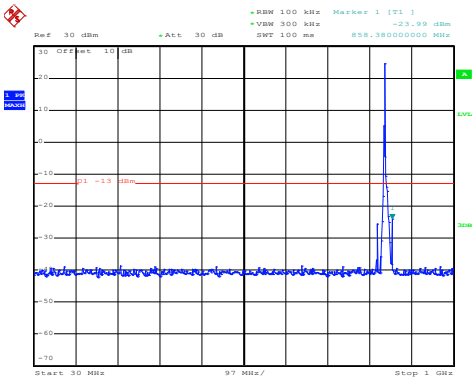
30MHz~1GHz



Date: 17.DEC.2018 19:41:56

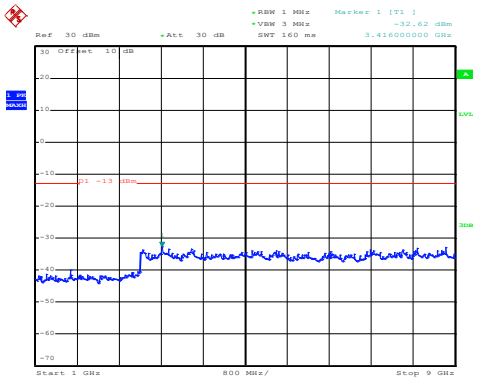
1GHz~9GHz

High channel



Date: 17.DEC.2018 19:39:02

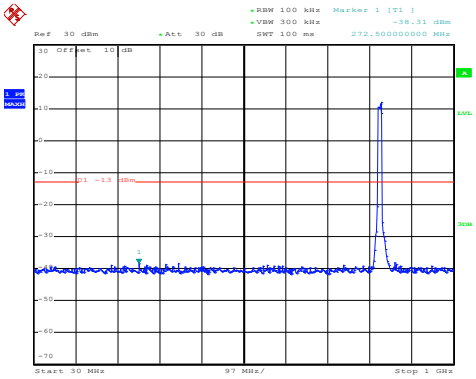
30MHz~1GHz



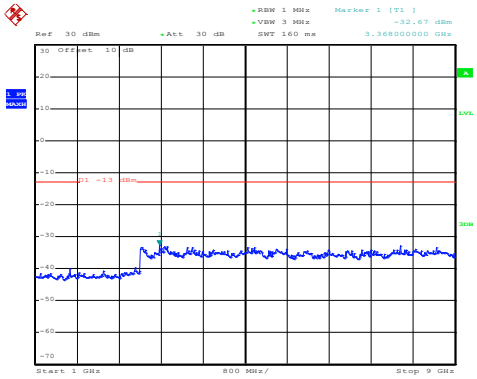
Date: 17.DEC.2018 19:40:54

1GHz~9GHz

LTE Band 5: 16 QAM & RB Size 50
BW: 10MHz
Lowest channel

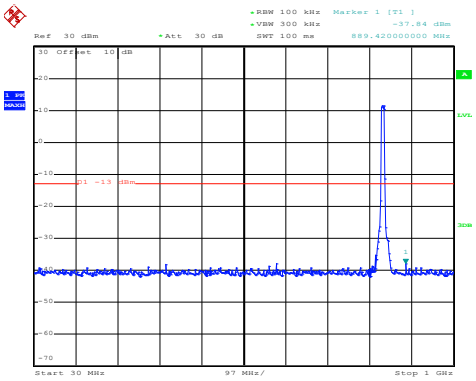


30MHz~1GHz

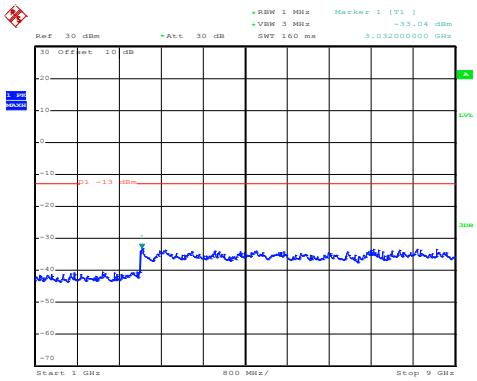


1GHz~9GHz

Middle channel

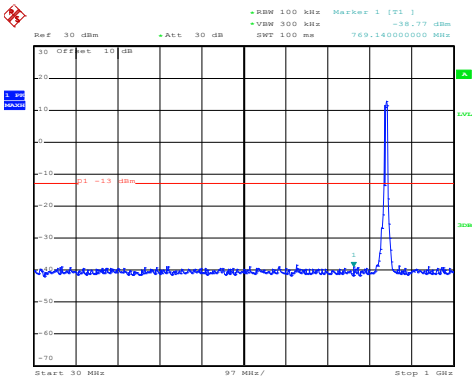


30MHz~1GHz

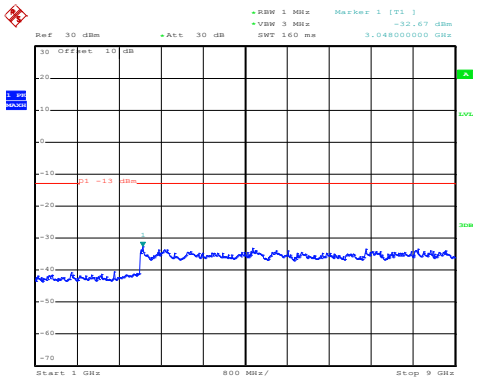


1GHz~9GHz

High channel

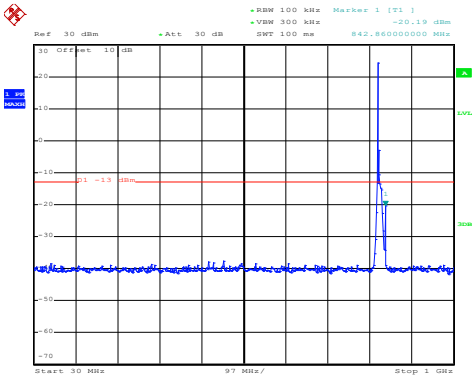


30MHz~1GHz



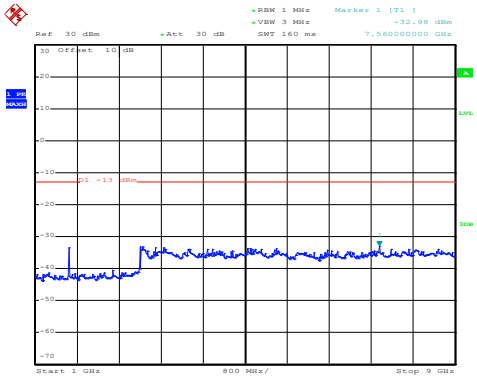
1GHz~9GHz

LTE Band 5: QPSK & RB Size 1
BW: 10MHz
Lowest channel



Date: 17.DEC.2018 19:35:30

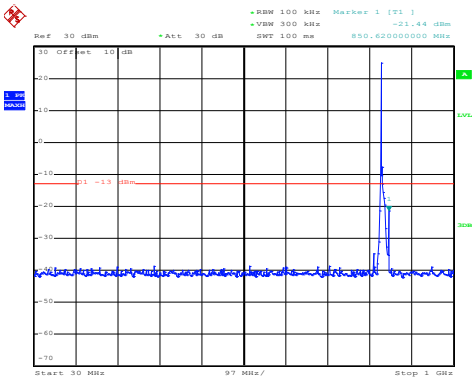
30MHz~1GHz



Date: 17.DEC.2018 19:45:24

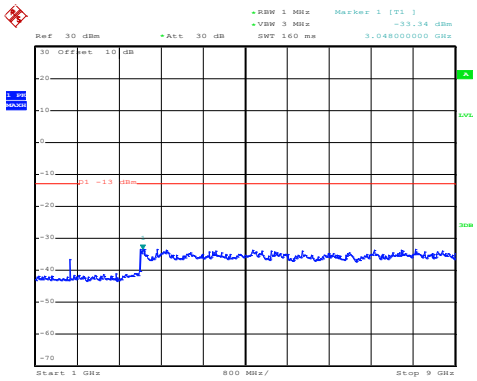
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 19:38:03

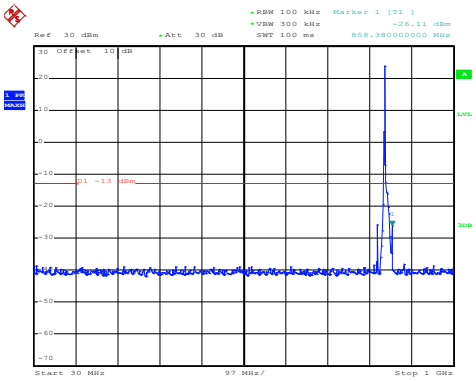
30MHz~1GHz



Date: 17.DEC.2018 19:41:44

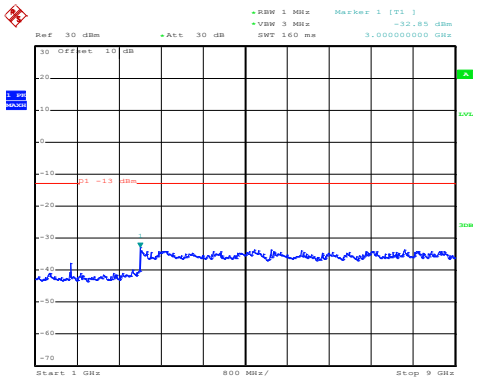
1GHz~9GHz

High channel



Date: 17.DEC.2018 19:38:44

30MHz~1GHz



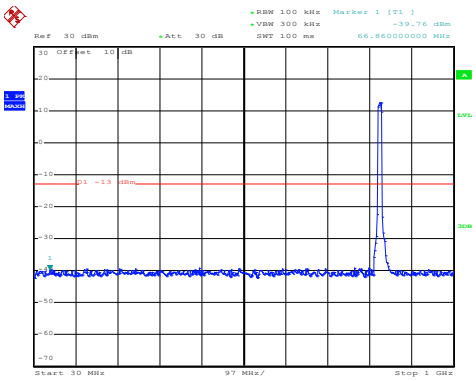
Date: 17.DEC.2018 19:41:11

1GHz~9GHz

LTE Band 5: QPSK & RB Size 50

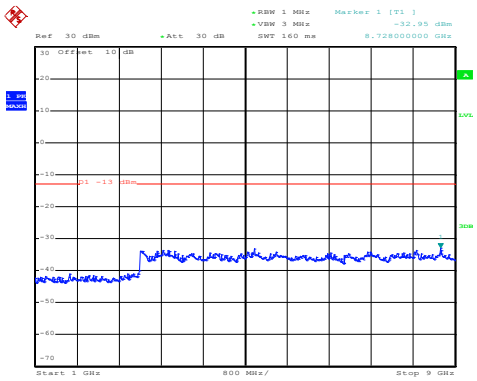
BW: 10MHz

Lowest channel



Date: 17.DEC.2018 19:36:27

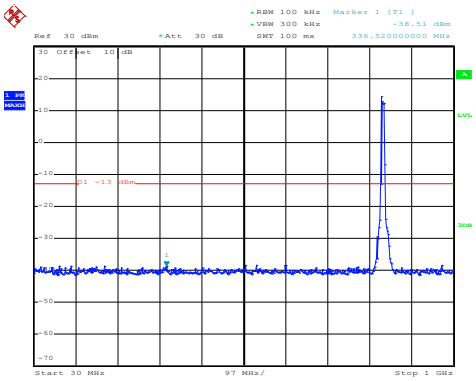
30MHz~1GHz



Date: 17.DEC.2018 19:45:10

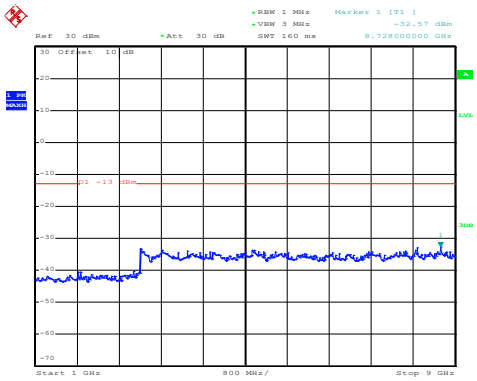
1GHz~9GHz

Middle channel



Date: 17.DEC.2018 19:37:08

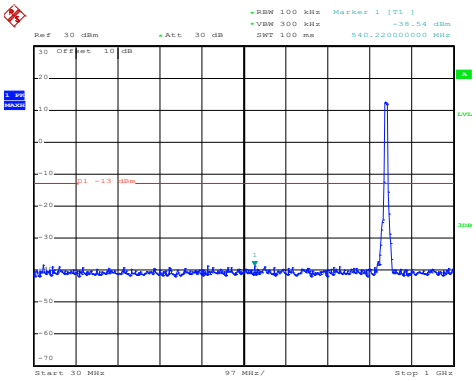
30MHz~1GHz



Date: 17.DEC.2018 19:42:28

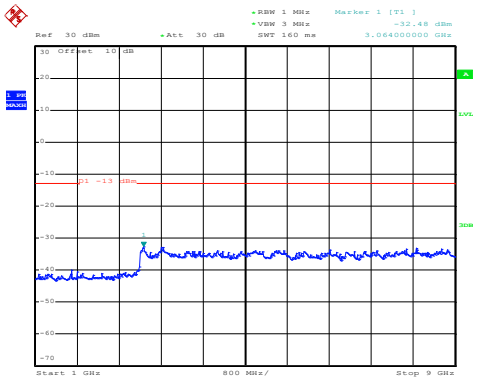
1GHz~9GHz

High channel



Date: 17.DEC.2018 19:39:44

30MHz~1GHz



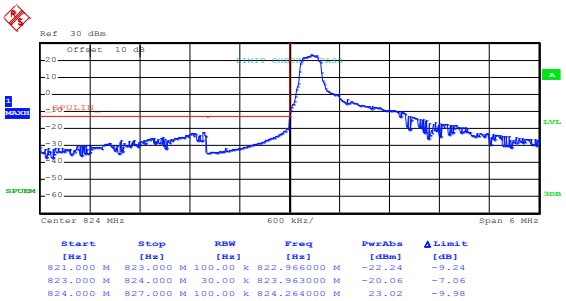
Date: 17.DEC.2018 19:40:17

1GHz~9GHz

Band edge emission:

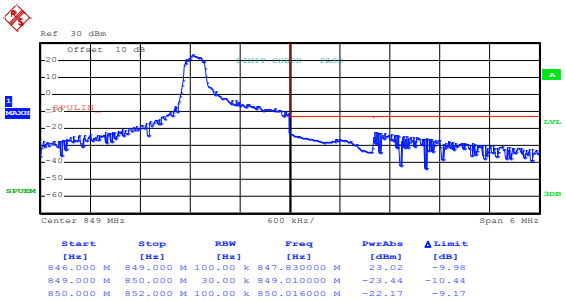
LTE Band 5 part:

LTE Band 5, BW: 1.4MHz
16QAM & RB Size 1



Date: 20.DEC.2018 15:49:43

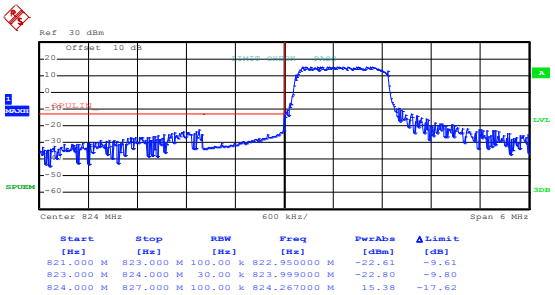
Lowest channel



Date: 20.DEC.2018 15:51:51

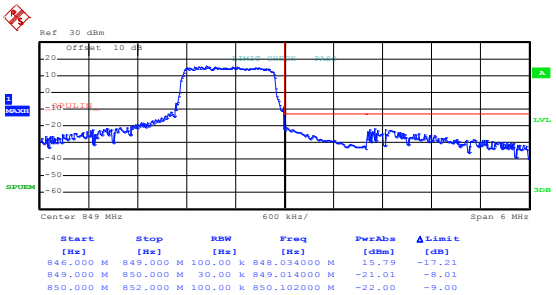
Highest channel

16QAM & RB Size 6



Date: 20.DEC.2018 15:50:17

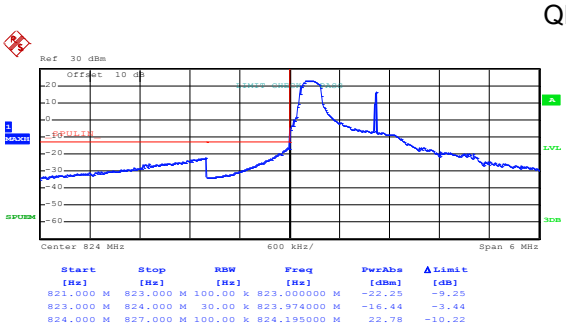
Lowest channel



Date: 20.DEC.2018 15:50:51

Highest channel

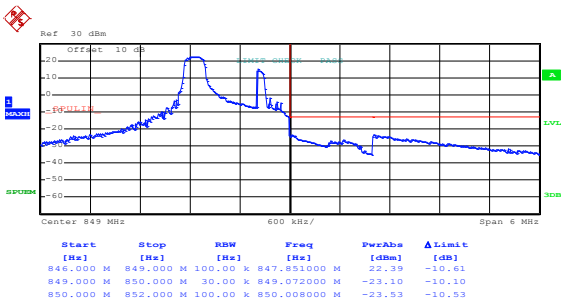
LTE Band 5, BW: 1.4MHz
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
821.000 M	823.000 M	100.00 k	823.000000 M	-22.25	-9.25
823.000 M	824.000 M	30.00 k	823.974000 M	-16.44	-3.44
824.000 M	827.000 M	100.00 k	824.195000 M	22.78	-10.22

Date: 20.DEC.2018 15:49:21

Lowest channel

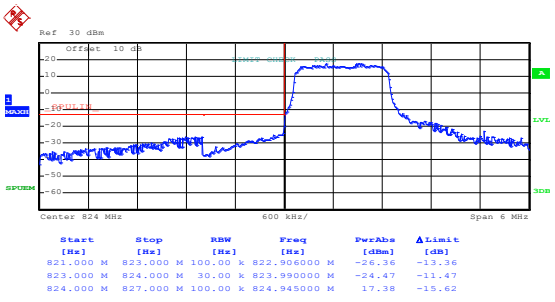


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
846.000 M	849.000 M	100.00 k	847.851000 M	22.39	-10.61
849.000 M	850.000 M	30.00 k	849.072000 M	-23.10	-10.10
850.000 M	852.000 M	100.00 k	850.008000 M	-23.53	-10.53

Date: 20.DEC.2018 15:51:39

Highest channel

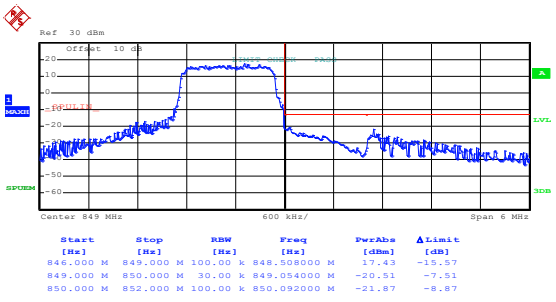
QPSK & RB Size 6



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
821.000 M	823.000 M	100.00 k	822.906000 M	-26.36	-13.36
823.000 M	824.000 M	30.00 k	823.990000 M	-24.47	-11.47
824.000 M	827.000 M	100.00 k	824.945000 M	17.38	-15.62

Date: 20.DEC.2018 15:50:06

Lowest channel

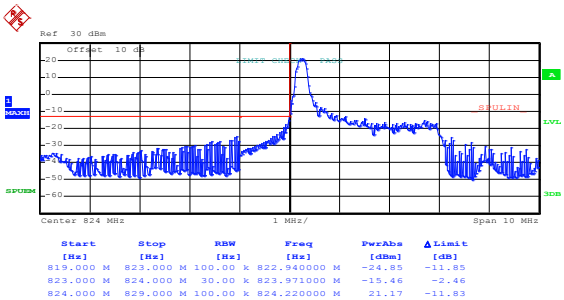


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
846.000 M	849.000 M	100.00 k	848.508000 M	17.43	-15.57
849.000 M	850.000 M	30.00 k	849.054000 M	-20.51	-7.51
850.000 M	852.000 M	100.00 k	850.092000 M	-21.87	-8.87

Date: 20.DEC.2018 15:51:04

Highest channel

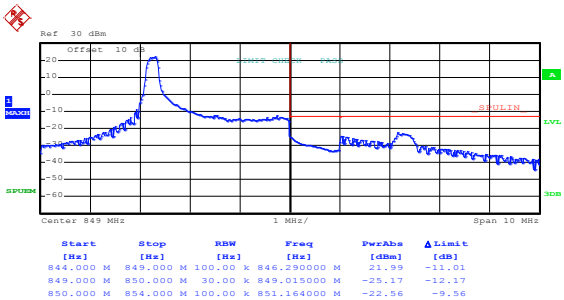
LTE Band 5, BW: 3MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
819.000 M	823.000 M	100.00 k	822.940000 M	-24.85	-11.85
823.000 M	824.000 M	30.00 k	823.971000 M	-15.46	-2.46
824.000 M	829.000 M	100.00 k	824.220000 M	21.17	-11.83

Date: 20.DEC.2018 15:45:22

Lowest channel

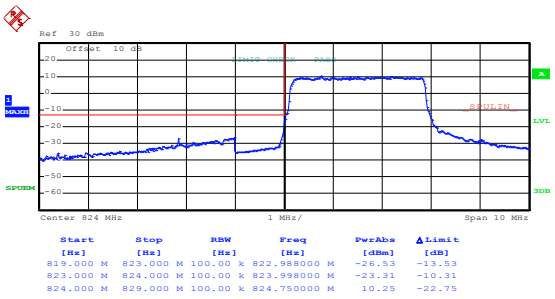


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
844.000 M	849.000 M	100.00 k	846.290000 M	21.99	-11.01
849.000 M	850.000 M	30.00 k	849.015000 M	-25.17	-12.17
850.000 M	854.000 M	100.00 k	851.164000 M	-22.56	-9.56

Date: 20.DEC.2018 15:41:30

Highest channel

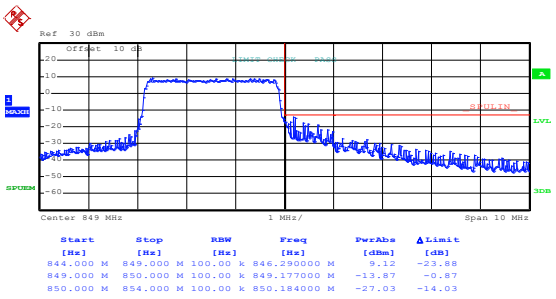
16QAM & RB Size 15



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
819.000 M	823.000 M	100.00 k	822.988000 M	-26.53	-13.53
823.000 M	824.000 M	100.00 k	823.998000 M	-23.31	-10.31
824.000 M	829.000 M	100.00 k	824.750000 M	10.25	-22.75

Date: 20.DEC.2018 15:46:55

Lowest channel

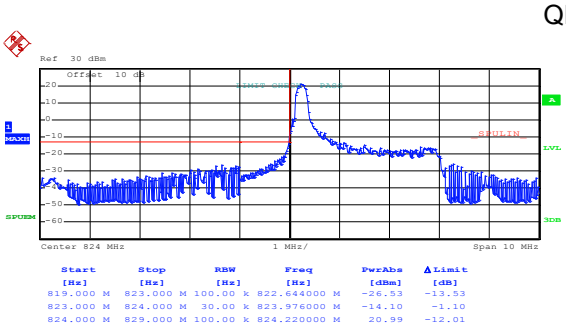


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
844.000 M	849.000 M	100.00 k	846.290000 M	9.12	-23.88
849.000 M	850.000 M	100.00 k	849.177000 M	-13.87	-0.87
850.000 M	854.000 M	100.00 k	850.184000 M	-27.03	-14.03

Date: 20.DEC.2018 15:43:59

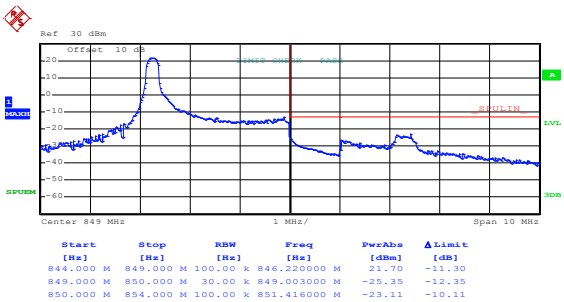
Highest channel

LTE Band 5, BW: 3MHz
QPSK & RB Size 1



Date: 20.DEC.2018 15:44:55

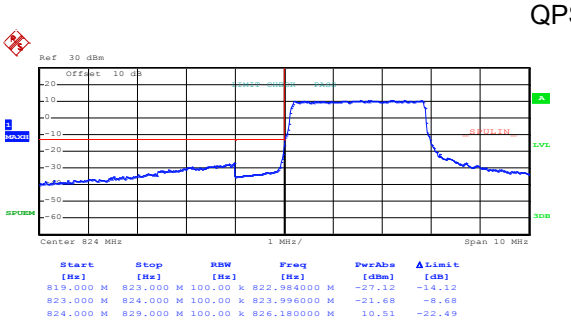
Lowest channel



Date: 20.DEC.2018 15:41:11

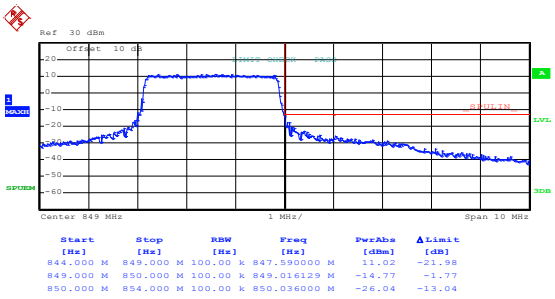
Highest channel

QPSK & RB Size 15



Date: 20.DEC.2018 15:46:23

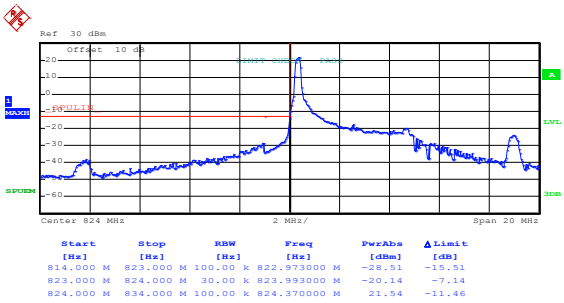
Lowest channel



Date: 24.DEC.2018 14:54:39

Highest channel

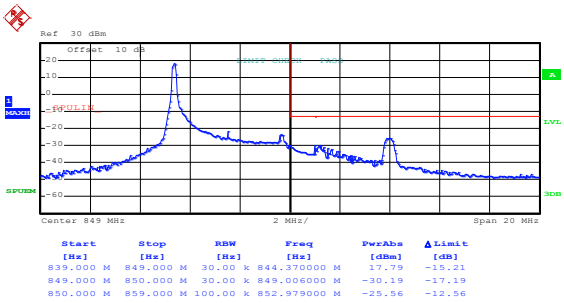
LTE Band 5, BW: 5MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
814.000 M	823.000 M	100.00 k	822.973000 M	-28.51	-15.51
823.000 M	824.000 M	30.00 k	823.993000 M	-20.14	-7.14
824.000 M	834.000 M	100.00 k	824.370000 M	21.54	-11.46

Date: 20.DEC.2018 15:31:27

Lowest channel

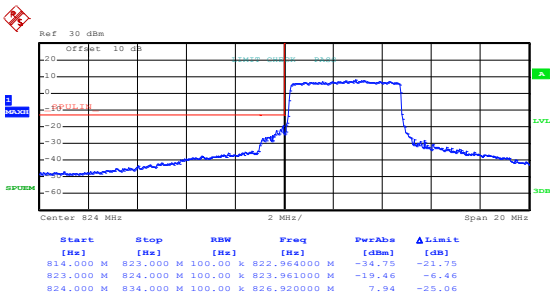


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
839.000 M	849.000 M	30.00 k	844.370000 M	17.79	-15.21
849.000 M	850.000 M	30.00 k	849.006000 M	-30.19	-17.19
850.000 M	859.000 M	100.00 k	852.979000 M	-25.56	-12.56

Date: 20.DEC.2018 15:36:22

Highest channel

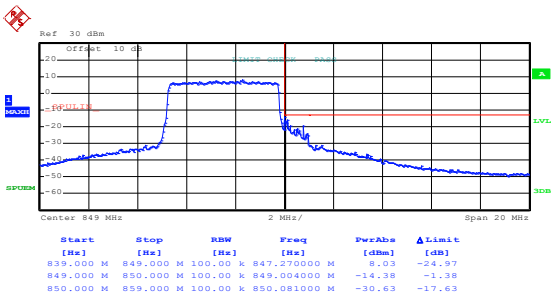
16QAM & RB Size 25



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
814.000 M	823.000 M	100.00 k	822.964000 M	-34.75	-21.75
823.000 M	824.000 M	100.00 k	823.961000 M	-19.46	-6.46
824.000 M	834.000 M	100.00 k	826.920000 M	7.94	-25.06

Date: 20.DEC.2018 15:32:07

Lowest channel

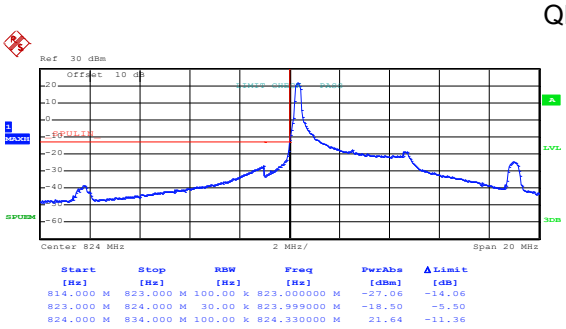


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
839.000 M	849.000 M	100.00 k	847.270000 M	8.03	-24.97
849.000 M	850.000 M	100.00 k	849.004000 M	-14.38	-1.38
850.000 M	859.000 M	100.00 k	850.081000 M	-30.63	-17.63

Date: 24.DEC.2018 14:35:11

Highest channel

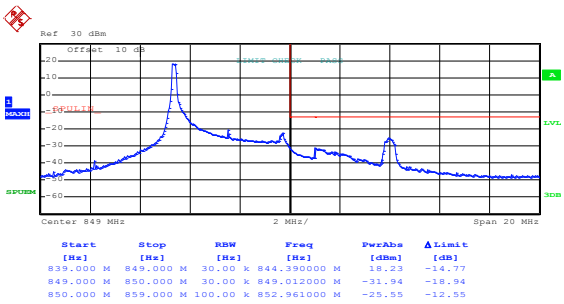
LTE Band 5, BW: 5MHz
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
814.000 M	823.000 M	100.00 k	823.000000 M	-27.06	-14.06
823.000 M	824.000 M	30.00 k	823.999000 M	-18.50	-5.50
824.000 M	834.000 M	100.00 k	824.330000 M	21.64	-11.36

Date: 20.DEC.2018 15:31:08

Lowest channel

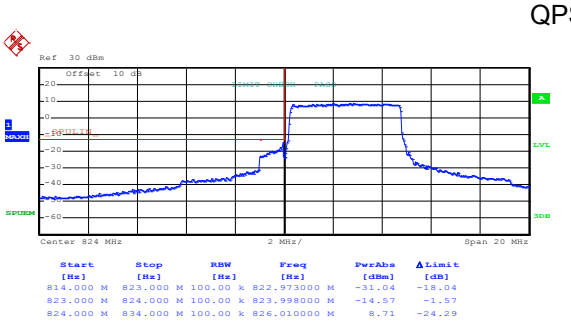


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
839.000 M	849.000 M	30.00 k	844.390000 M	18.23	-14.77
849.000 M	850.000 M	30.00 k	849.012000 M	-31.94	-18.94
850.000 M	859.000 M	100.00 k	852.961000 M	-25.55	-12.55

Date: 20.DEC.2018 15:36:08

Highest channel

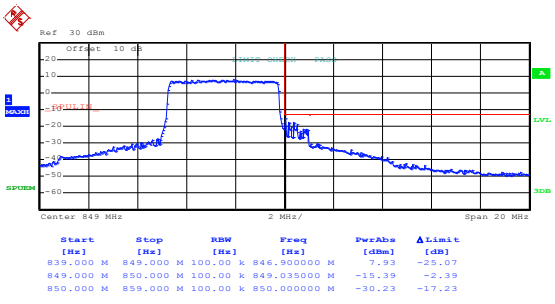
QPSK & RB Size 25



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
814.000 M	823.000 M	100.00 k	822.973000 M	-31.04	-18.04
823.000 M	824.000 M	100.00 k	823.998000 M	-14.57	-1.57
824.000 M	834.000 M	100.00 k	826.010000 M	8.71	-24.29

Date: 20.DEC.2018 15:31:58

Lowest channel

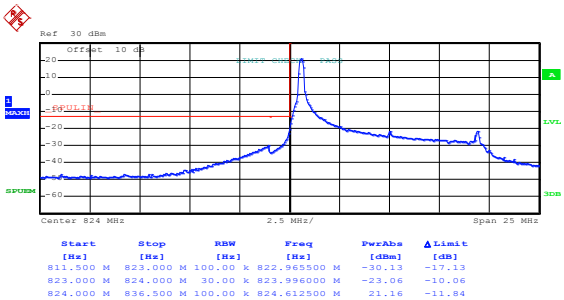


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
839.000 M	849.000 M	100.00 k	846.900000 M	7.93	-25.07
849.000 M	850.000 M	100.00 k	849.035000 M	-15.39	-2.39
850.000 M	859.000 M	100.00 k	850.000000 M	-30.23	-17.23

Date: 24.DEC.2018 14:36:44

Highest channel

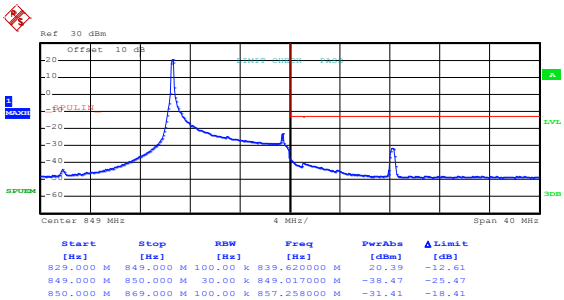
LTE Band 5, BW: 10MHz
16QAM & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
811.500 M	823.000 M	100.00 k	822.965500 M	-30.13	-17.13
823.000 M	824.000 M	30.00 k	823.996000 M	-23.06	-10.06
824.000 M	836.500 M	100.00 k	824.612500 M	21.16	-11.84

Date: 20.DEC.2018 15:21:03

Lowest channel

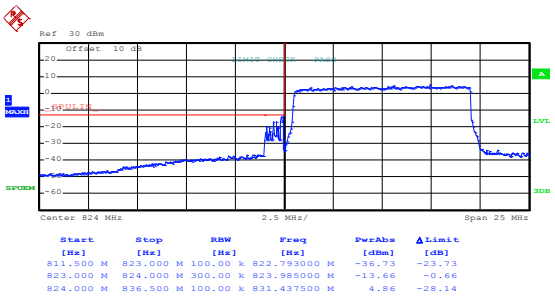


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
829.000 M	849.000 M	100.00 k	839.620000 M	20.39	-12.61
849.000 M	850.000 M	30.00 k	849.017000 M	-38.47	-25.47
850.000 M	869.000 M	100.00 k	857.258000 M	-31.41	-18.41

Date: 24.DEC.2018 14:28:32

Highest channel

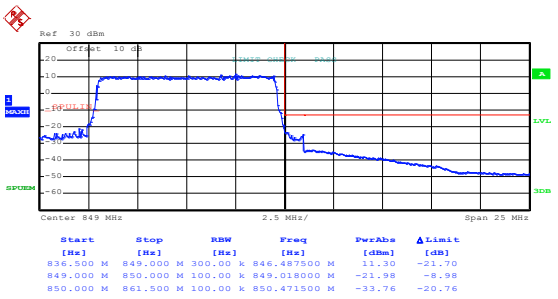
16QAM & RB Size 50



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
811.500 M	823.000 M	100.00 k	822.793000 M	-36.73	-23.73
823.000 M	824.000 M	300.00 k	823.985000 M	-13.66	-0.66
824.000 M	836.500 M	100.00 k	831.437500 M	4.86	-28.14

Date: 20.DEC.2018 15:22:39

Lowest channel

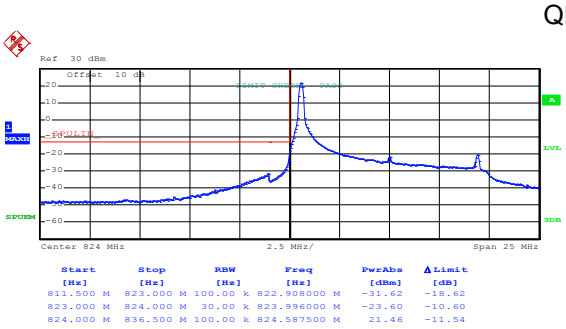


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
836.500 M	849.000 M	300.00 k	846.487500 M	11.30	-21.70
849.000 M	850.000 M	100.00 k	849.018000 M	-21.98	-8.98
850.000 M	861.500 M	100.00 k	850.471500 M	-33.76	-20.76

Date: 20.DEC.2018 15:04:39

Highest channel

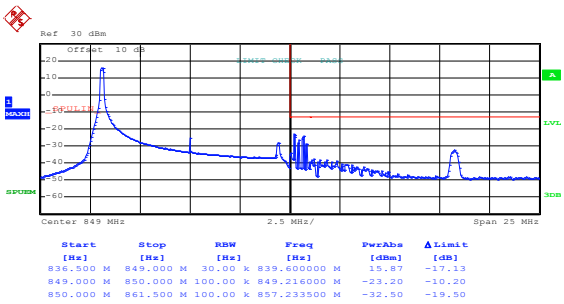
LTE Band 5, BW: 10MHz
QPSK & RB Size 1



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
811.500 M	823.000 M	100.00 k	822.908000 M	-31.62	-18.62
823.000 M	824.000 M	30.00 k	823.996000 M	-23.60	-10.60
824.000 M	836.500 M	100.00 k	824.587500 M	21.46	-11.54

Date: 20.DEC.2018 15:20:45

Lowest channel

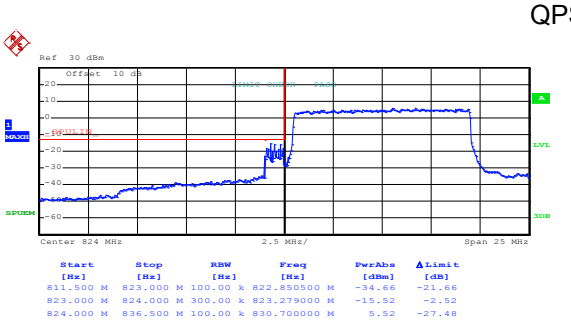


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
836.500 M	849.000 M	30.00 k	839.600000 M	15.87	-17.13
849.000 M	850.000 M	100.00 k	849.216000 M	-23.20	-10.20
850.000 M	861.500 M	100.00 k	857.233500 M	-32.50	-19.50

Date: 20.DEC.2018 15:05:31

Highest channel

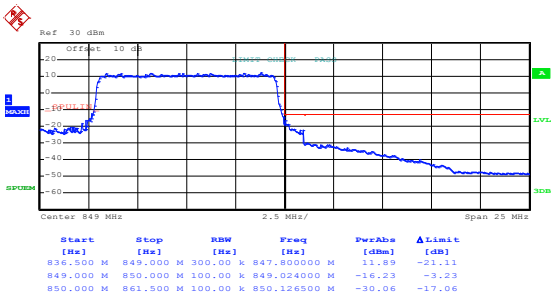
QPSK & RB Size 50



Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
811.500 M	823.000 M	100.00 k	822.850500 M	-34.66	-21.66
823.000 M	824.000 M	300.00 k	823.279000 M	-15.52	-2.52
824.000 M	836.500 M	100.00 k	830.700000 M	5.52	-27.48

Date: 20.DEC.2018 15:22:23

Lowest channel

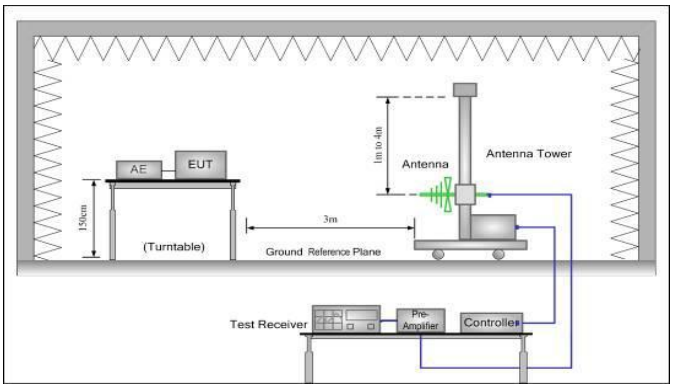
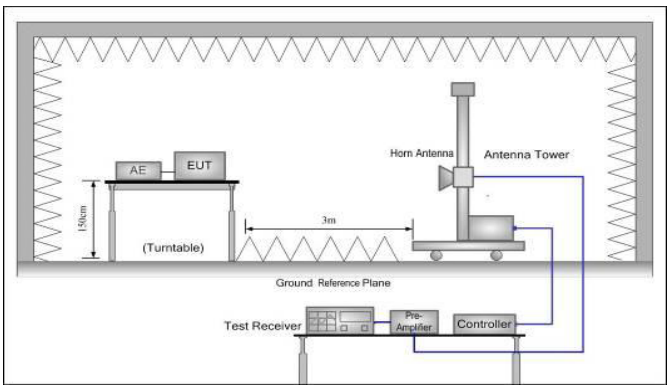


Start [Hz]	Stop [Hz]	RBW [Hz]	Freq [Hz]	PwrAbs [dBm]	ΔLimit [dB]
836.500 M	849.000 M	300.00 k	847.800000 M	11.89	-21.11
849.000 M	850.000 M	100.00 k	849.024000 M	-16.23	-3.23
850.000 M	861.500 M	100.00 k	850.126500 M	-30.06	-17.06

Date: 20.DEC.2018 15:04:54

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 5: 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 an non-conductive turntable using a non-conductive support. The radiated emission at the fundamental frequency was measured at 3 m with a test antenna and EMI spectrum analyzer. 2. During the tests, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. This maximization process was repeated with the EUT positioned in each of its three orthogonal orientations. 3. The frequency range up to tenth harmonic was investigated for each of three fundamental frequency (low, middle and high channels). Once spurious emission was identified, the power of the emission was determined using the substitution method. 4. The spurious emissions attenuation was calculated as the difference between radiated power at the fundamental frequency and the spurious emissions frequency. ERP / EIRP = S.G. output (dBm) + Antenna Gain(dB/dBi) – Cable Loss (dB)
Test Instruments:	Refer to section 5.9 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

Measurement Data:

LTE Band 5 part:

LTE Band 5, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1649.40	Vertical	-44.14	-13.00	Pass
2474.10	V	-45.75		
3298.80	V	-48.60		
1649.40	Horizontal	-46.83		
2474.10	H	-50.48		
3298.80	H	-48.30		
Middle Channel				
1673.00	Vertical	-45.83	-13.00	Pass
2509.50	V	-53.06		
3346.00	V	-45.93		
1673.00	Horizontal	-48.59		
2509.50	H	-52.77		
3346.00	H	-46.63		
Highest Channel				
1696.60	Vertical	-47.92	-13.00	Pass
2544.90	V	-54.02		
3393.20	V	-45.20		
1696.60	Horizontal	-45.39		
2544.90	H	-53.33		
3393.20	H	-47.51		

Note:
1. *The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.*
2. *For above 1 GHz, all test modes were performed, and just the worst case shown in the report.*

LTE Band 5, WB: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1651.00	Vertical	-45.46	-13.00	Pass
2476.50	V	-47.19		
3302.00	V	-47.52		
1651.00	Horizontal	-45.27		
2476.50	H	-51.80		
3302.00	H	-48.32		
Middle Channel				
1673.00	Vertical	-47.83	-13.00	Pass
2509.50	V	-47.69		
3346.00	V	-48.52		
1673.00	Horizontal	-46.10		
2509.50	H	-50.63		
3346.00	H	-47.85		
Highest Channel				
1695.00	Vertical	-46.64	-13.00	Pass
2542.50	V	-47.30		
3390.00	V	-48.56		
1695.00	Horizontal	-45.93		
2542.50	H	-51.42		
3390.00	H	-48.33		

Note:

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

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

LTE Band 5, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1653.00	Vertical	-44.53	-13.00	Pass
2479.50	V	-46.55		
3306.00	V	-48.93		
1653.00	Horizontal	-46.20		
2479.50	H	-51.02		
3306.00	H	-48.15		
Middle Channel				
1673.00	Vertical	-46.28	-13.00	Pass
2509.50	V	-54.35		
3346.00	V	-47.58		
1673.00	Horizontal	-48.43		
2509.50	H	-53.71		
3346.00	H	-49.69		
Highest Channel				
1693.00	Vertical	-47.03	-13.00	Pass
2539.50	V	-56.44		
3386.00	V	-48.10		
1693.00	Horizontal	-46.51		
2539.50	H	-52.81		
3386.00	H	-49.23		

Note:

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

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

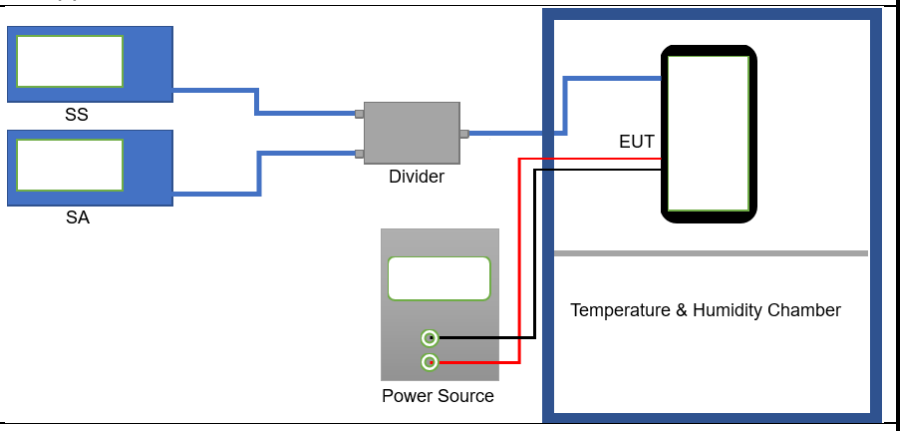
LTE Band 5, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1658.00	Vertical	-44.58	-13.00	Pass
2487.00	V	-48.03		
3316.00	V	-48.24		
1658.00	Horizontal	-47.84		
2487.00	H	-50.39		
3316.00	H	-47.33		
Middle Channel				
1673.00	Vertical	-45.85	-13.00	Pass
2509.50	V	-48.63		
3346.00	V	-47.21		
1673.00	Horizontal	-46.90		
2509.50	H	-52.47		
3346.00	H	-48.26		
Highest Channel				
1688.00	Vertical	-45.71	-13.00	Pass
2532.00	V	-47.82		
3376.00	V	-49.62		
1688.00	Horizontal	-46.15		
2532.00	H	-51.63		
3376.00	H	-48.10		

Note:

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

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

6.6 Frequency stability V.S. Temperature measurement

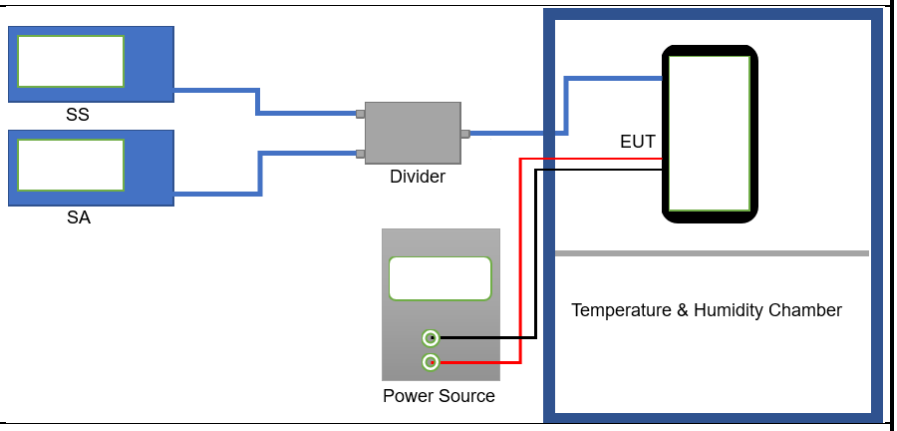
Test Requirement:	Part 22.355, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	
Test procedure:	1. The equipment under test was connected to an external DC power supply and input rated voltage. 2. RF output was connected to a frequency counter or spectrum analyzer via 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 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

LTE Band 5 part:

Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz					
Power supplied (Vdc)	Temperature (℃)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.7	-30	198	0.236701	±2.5	Pass
	-20	181	0.216378		
	-10	151	0.180514		
	0	123	0.147041		
	10	165	0.197250		
	20	144	0.172146		
	30	187	0.223551		
	40	179	0.213987		
	50	101	0.120741		
16QAM					
3.7	-30	198	0.236701	±2.5	Pass
	-20	132	0.157800		
	-10	165	0.197250		
	0	188	0.224746		
	10	174	0.208010		
	20	102	0.121937		
	30	144	0.172146		
	40	130	0.155409		
	50	128	0.153019		
Note: Only the worst case shown in the report.					

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
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 5.9 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed

Measurement Data (worst case):

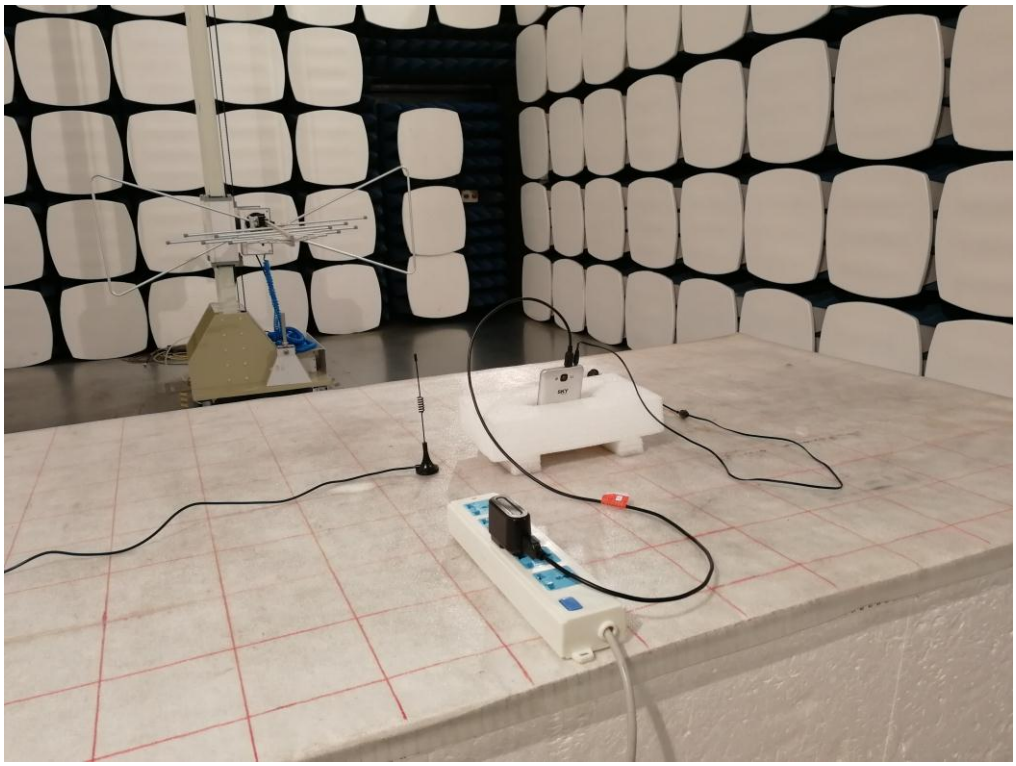
LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz					
Temperature (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.2	99	0.118350	±2.5	Pass
	3.7	87	0.104005		
	3.5	90	0.107591		
16QAM					
25	4.2	87	0.104005	±2.5	Pass
	3.7	90	0.107591		
	3.5	77	0.092050		
Note: Only the worst case shown in the report.					

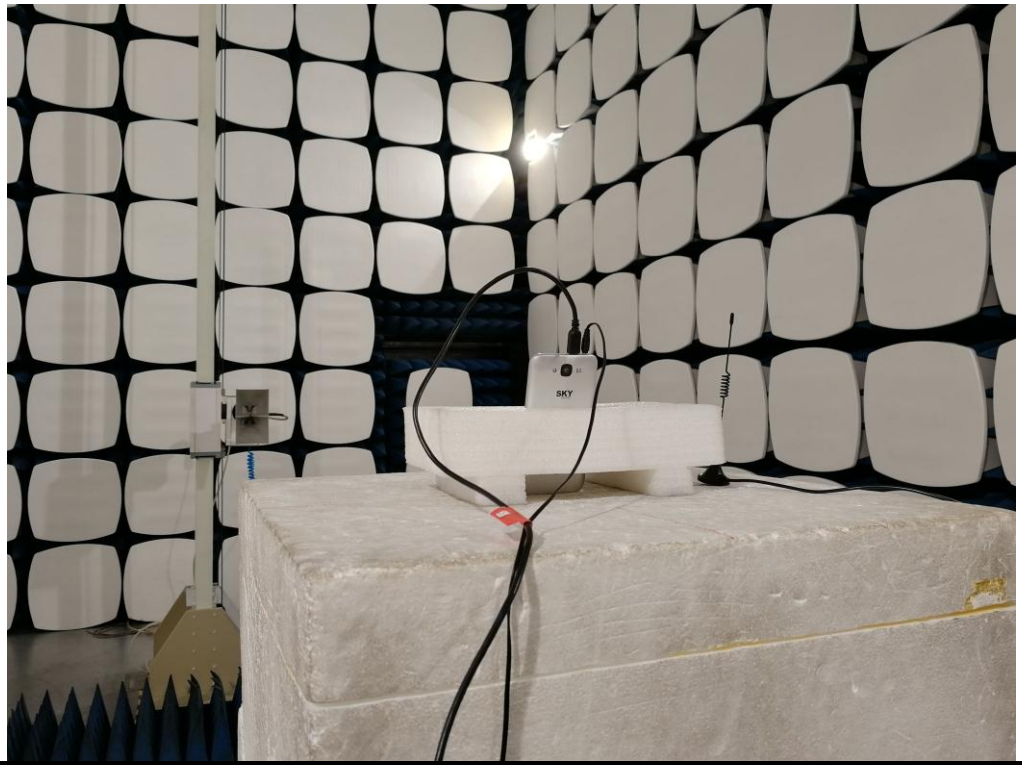
7 Test Setup Photo

Radiated Spurious Emission

Below 1GHz



Above 1GHz



8 EUT Constructional Details

Reference to the test report No. CCISE181201101.

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