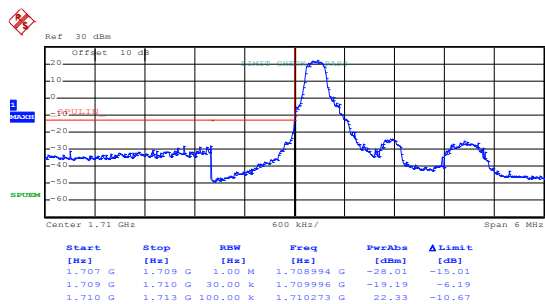
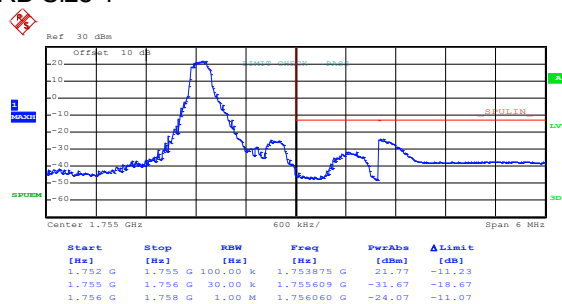


LTE Band 4 part:

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

Date: 12.SEP.2019 14:03:47

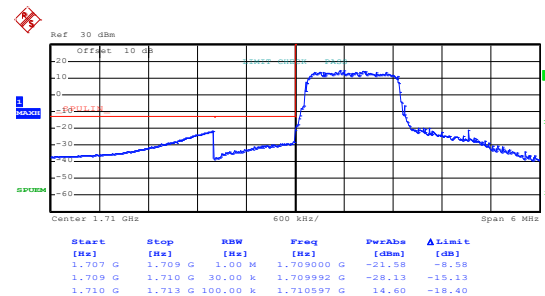
Lowest channel



Date: 12.SEP.2019 14:05:18

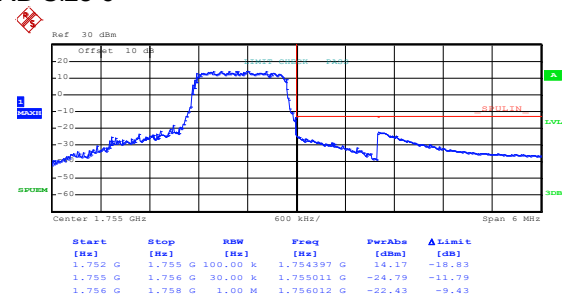
Highest channel

16QAM & RB Size 6



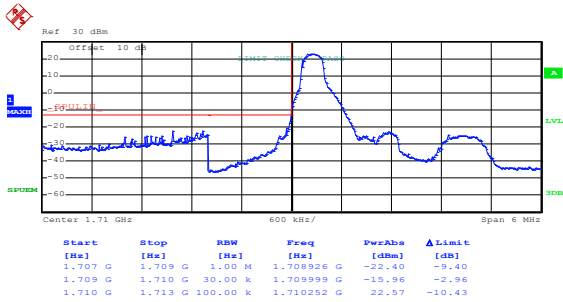
Date: 12.SEP.2019 14:04:19

Lowest channel



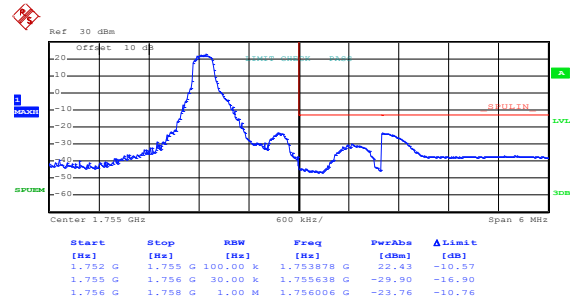
Date: 12.SEP.2019 14:05:02

Highest channel

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

Date: 12.SEP.2019 14:03:38

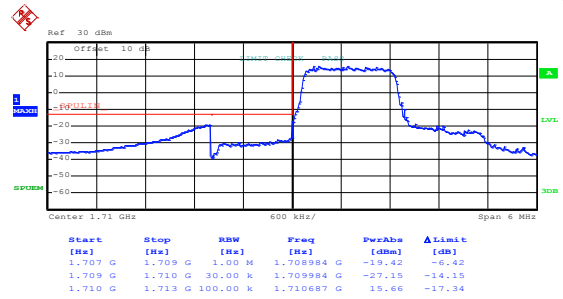
Lowest channel



Date: 12.SEP.2019 14:05:11

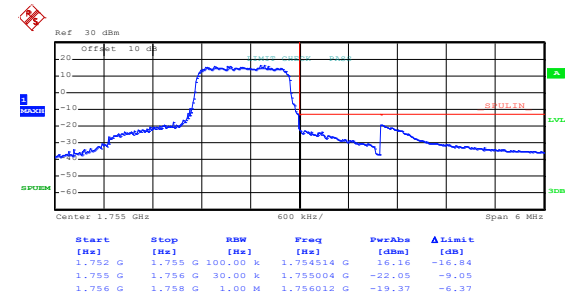
Highest channel

QPSK & RB Size 6



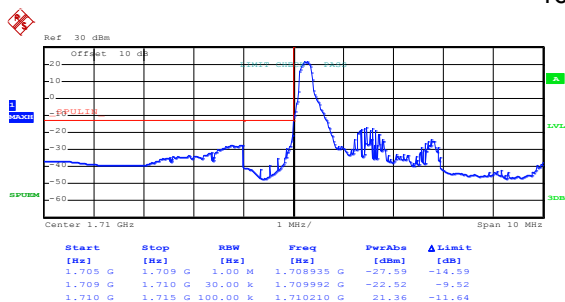
Date: 12.SEP.2019 14:04:12

Lowest channel



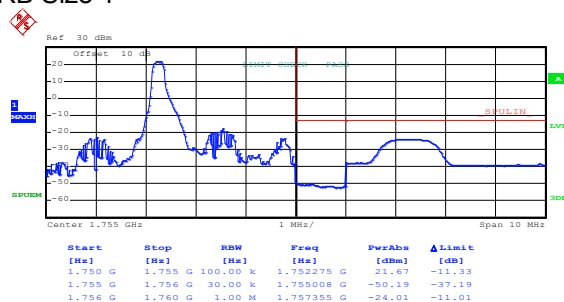
Date: 12.SEP.2019 14:04:56

Highest channel

LTE Band 4, BW: 3MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:08:26

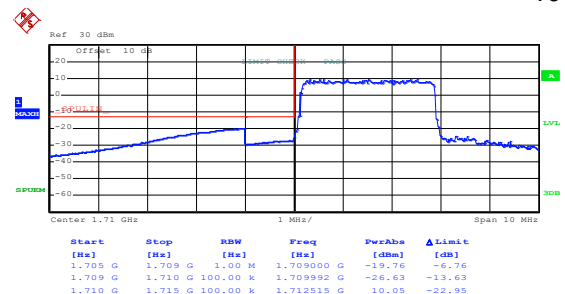
Lowest channel



Date: 12.SEP.2019 14:07:02

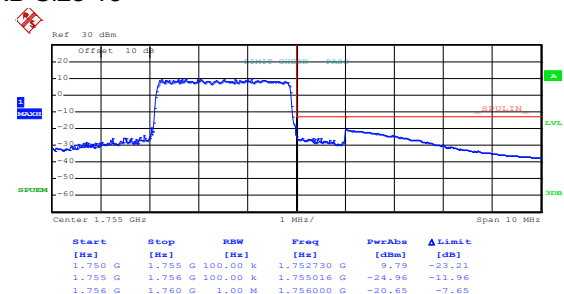
Highest channel

16QAM & RB Size 15



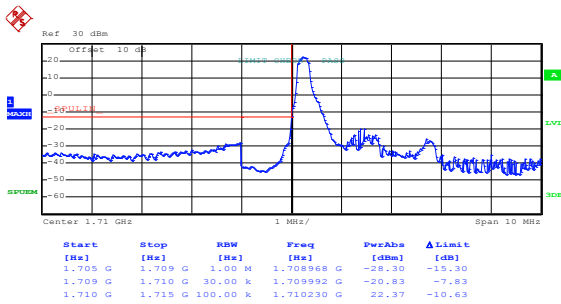
Date: 12.SEP.2019 14:07:53

Lowest channel



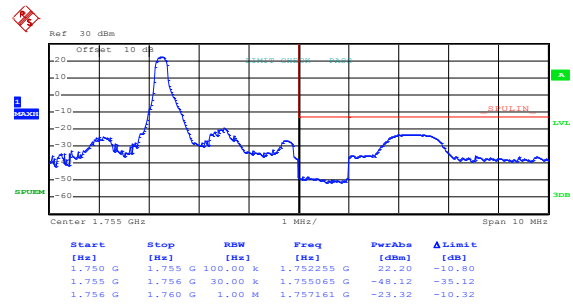
Date: 12.SEP.2019 14:07:25

Highest channel

LTE Band 4, BW: 3MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:08:10

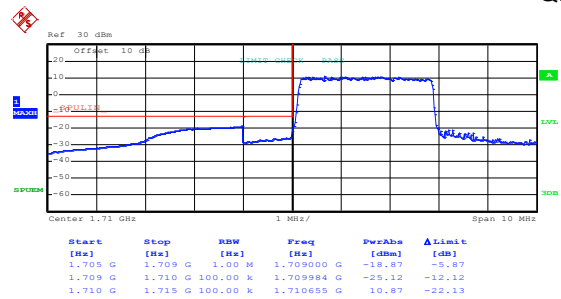
Lowest channel



Date: 12.SEP.2019 14:06:38

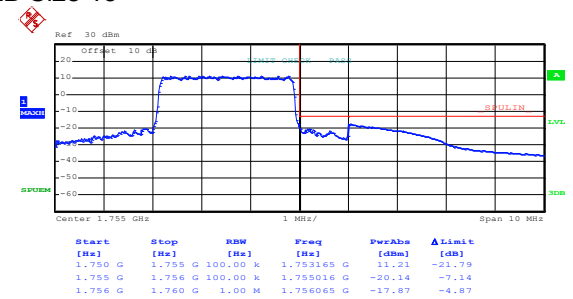
Highest channel

QPSK & RB Size 15



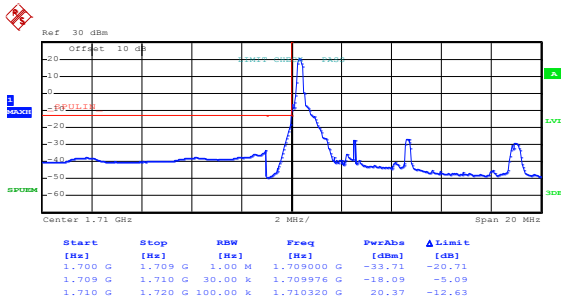
Date: 12.SEP.2019 14:07:48

Lowest channel



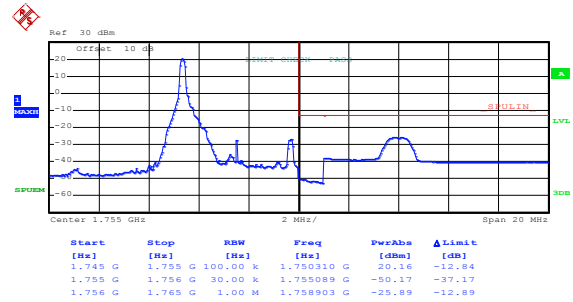
Date: 12.SEP.2019 14:07:19

Highest channel

LTE Band 4, BW: 5MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:09:10

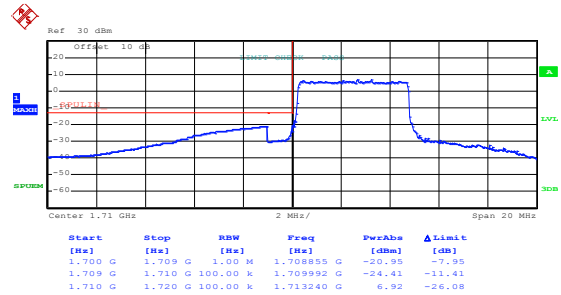
Lowest channel



Date: 12.SEP.2019 14:10:25

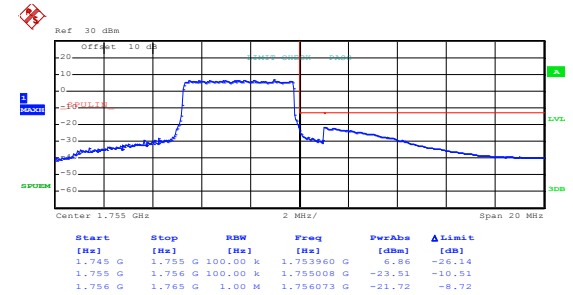
Highest channel

16QAM & RB Size 25



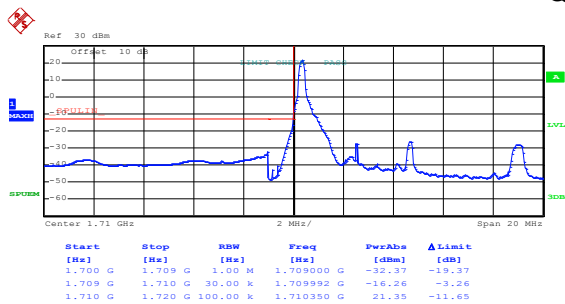
Date: 12.SEP.2019 14:09:30

Lowest channel



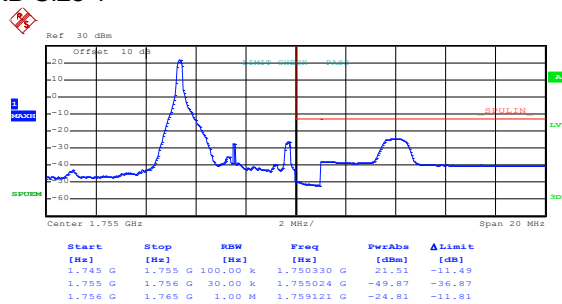
Date: 12.SEP.2019 14:09:52

Highest channel

LTE Band 4, BW: 5MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:09:03

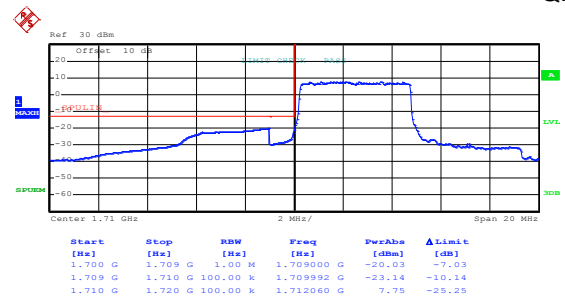
Lowest channel



Date: 12.SEP.2019 14:10:17

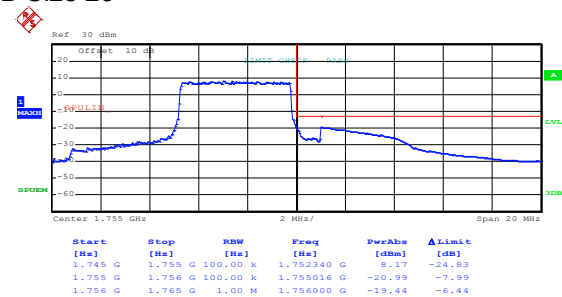
Highest channel

QPSK & RB Size 25



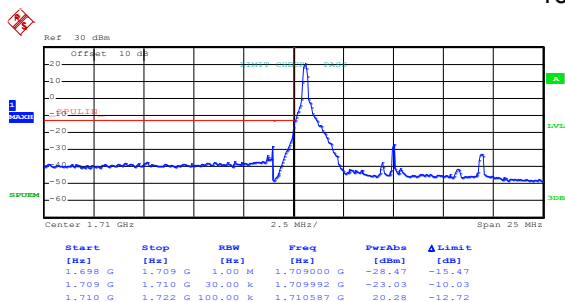
Date: 12.SEP.2019 14:09:25

Lowest channel



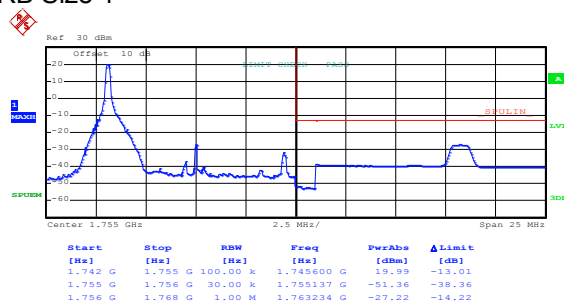
Date: 12.SEP.2019 14:09:45

Highest channel

LTE Band 4, BW: 10MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:13:38

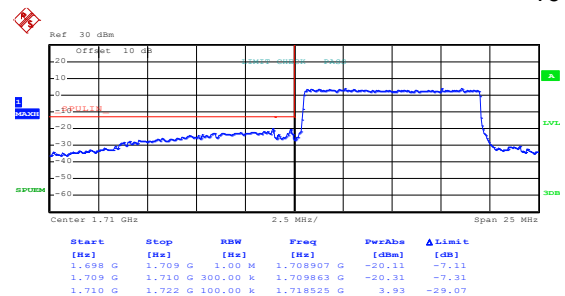
Lowest channel



Date: 12.SEP.2019 14:11:09

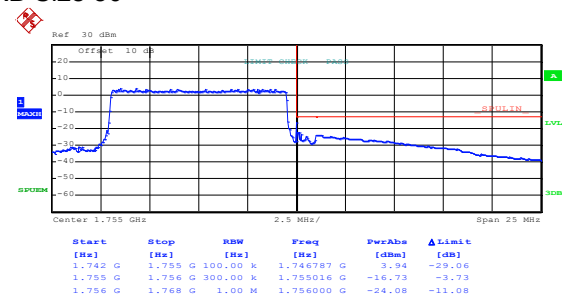
Highest channel

16QAM & RB Size 50



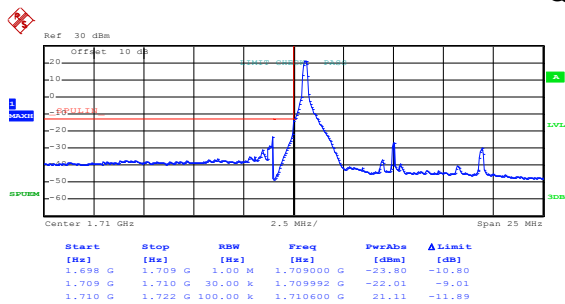
Date: 12.SEP.2019 14:13:16

Lowest channel



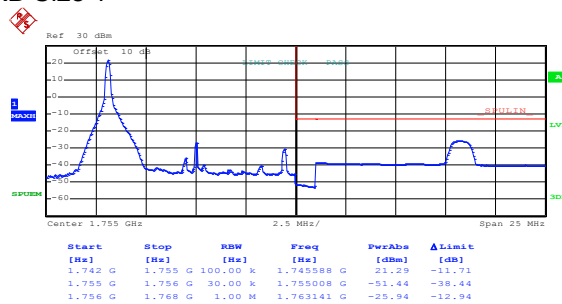
Date: 12.SEP.2019 14:11:33

Highest channel

LTE Band 4, BW: 10MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:13:31

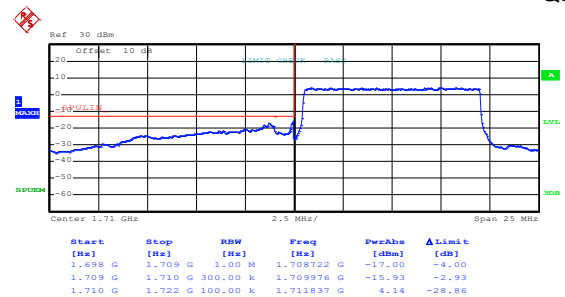
Lowest channel



Date: 12.SEP.2019 14:11:01

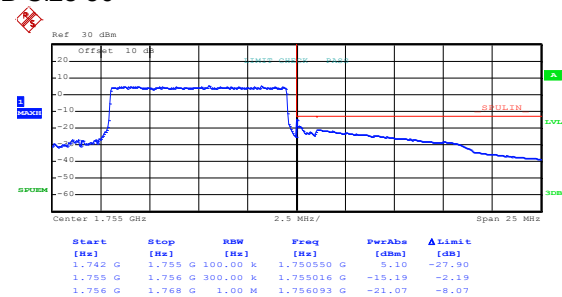
Highest channel

QPSK & RB Size 50



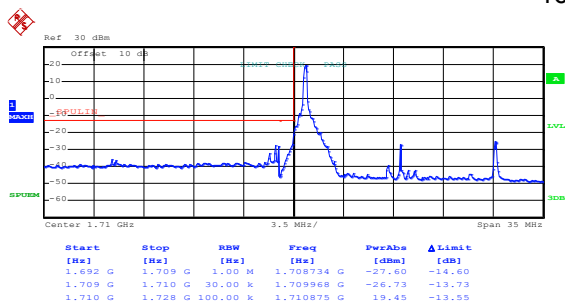
Date: 12.SEP.2019 14:13:10

Lowest channel



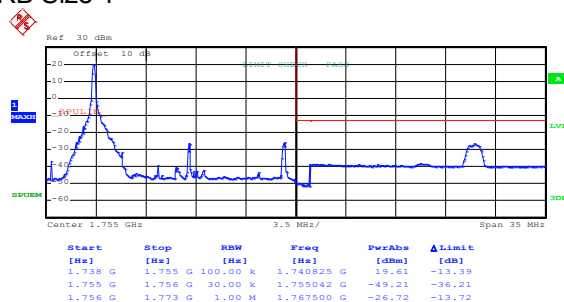
Date: 12.SEP.2019 14:11:28

Highest channel

LTE Band 4, BW: 15MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:14:19

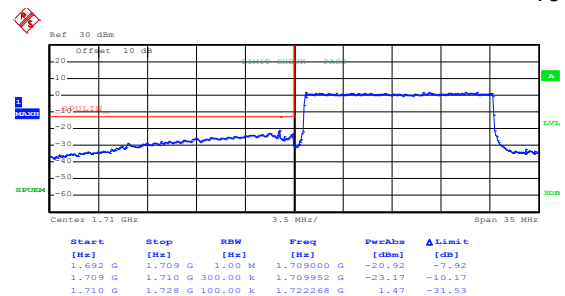
Lowest channel



Date: 12.SEP.2019 14:15:30

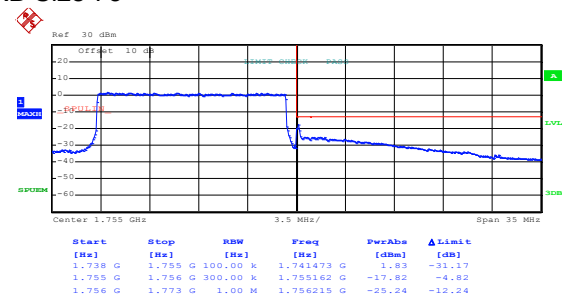
Highest channel

16QAM & RB Size 75



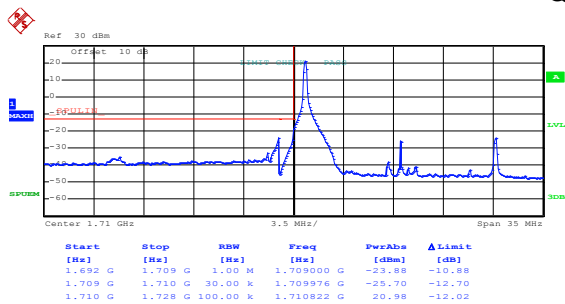
Date: 12.SEP.2019 14:14:38

Lowest channel



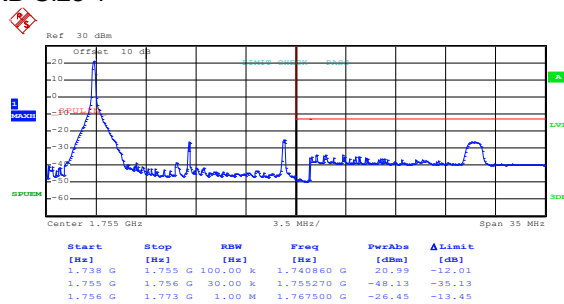
Date: 12.SEP.2019 14:15:09

Highest channel

LTE Band 4, BW: 15MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:14:13

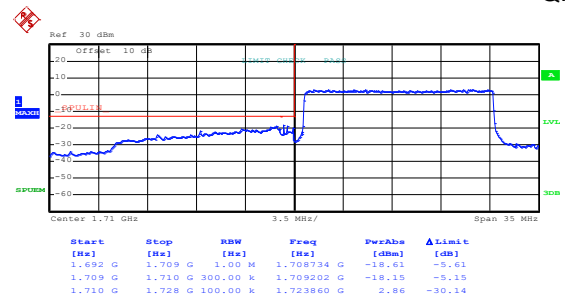
Lowest channel



Date: 12.SEP.2019 14:15:24

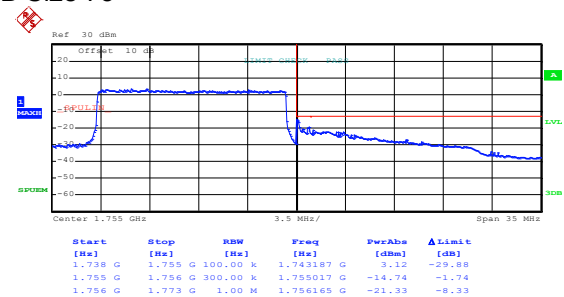
Highest channel

QPSK & RB Size 75



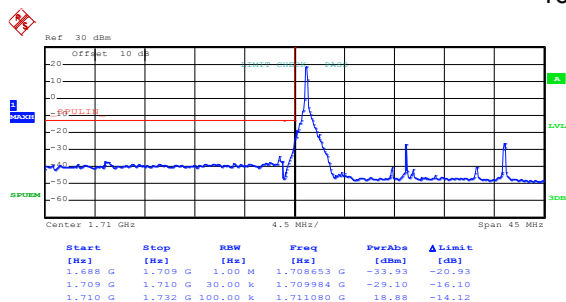
Date: 12.SEP.2019 14:14:33

Lowest channel



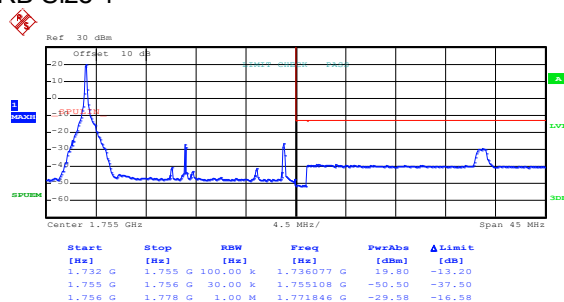
Date: 12.SEP.2019 14:15:01

Highest channel

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

Date: 12.SEP.2019 14:17:21

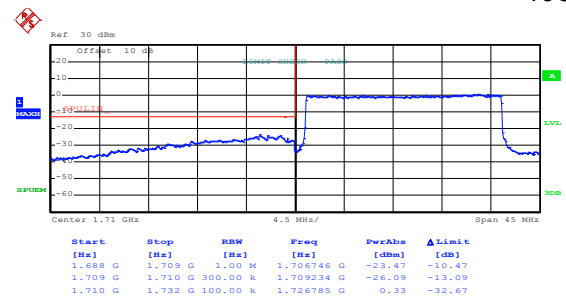
Lowest channel



Date: 12.SEP.2019 14:16:13

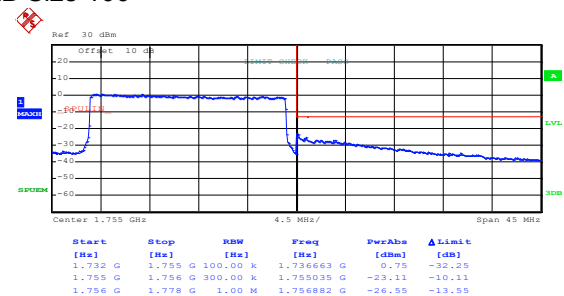
Highest channel

16QAM & RB Size 100



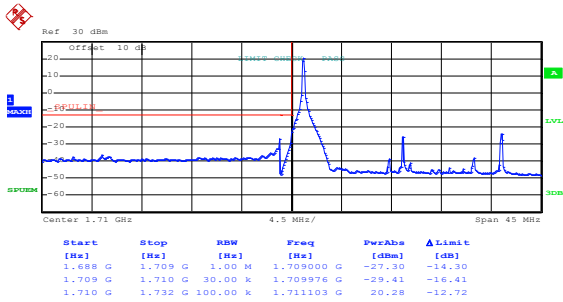
Date: 12.SEP.2019 14:17:02

Lowest channel



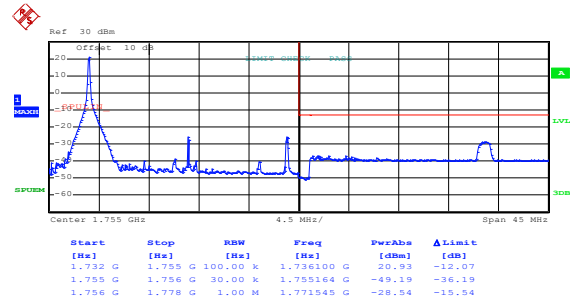
Date: 12.SEP.2019 14:16:35

Highest channel

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

Date: 12.SEP.2019 14:17:15

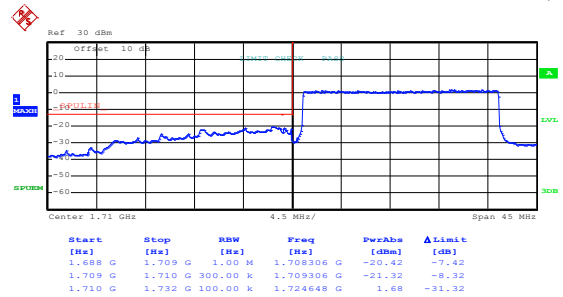
Lowest channel



Date: 12.SEP.2019 14:16:06

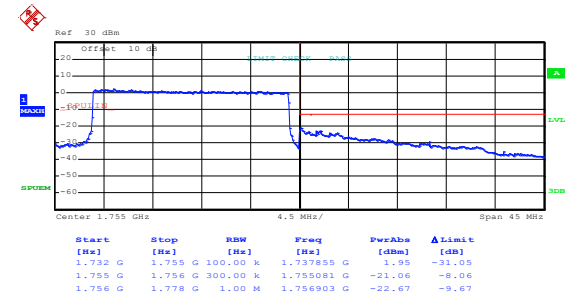
Highest channel

QPSK & RB Size 100



Date: 12.SEP.2019 14:16:55

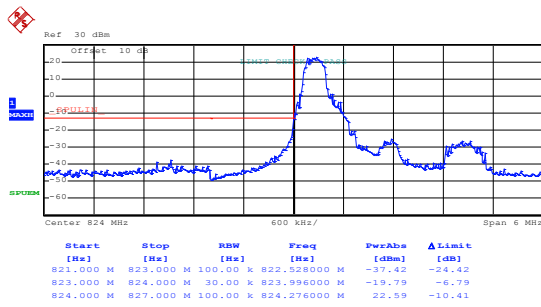
Lowest channel



Date: 12.SEP.2019 14:16:29

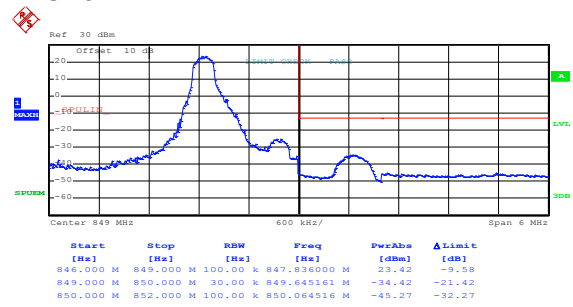
Highest channel

LTE Band 5 part:

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

Date: 12.SEP.2019 14:18:55

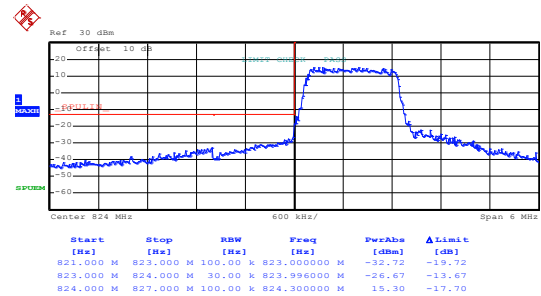
Lowest channel



Date: 12.SEP.2019 14:20:17

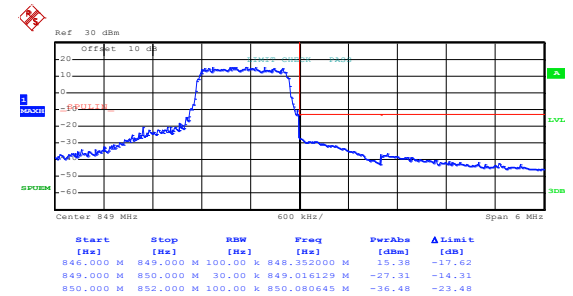
Highest channel

16QAM & RB Size 6



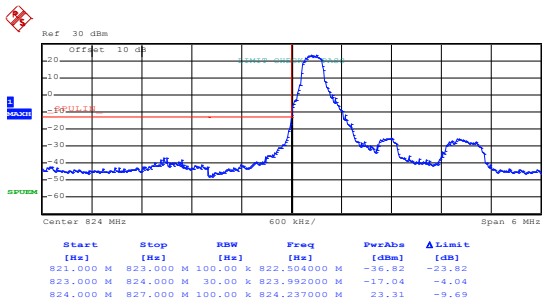
Date: 12.SEP.2019 14:19:09

Lowest channel



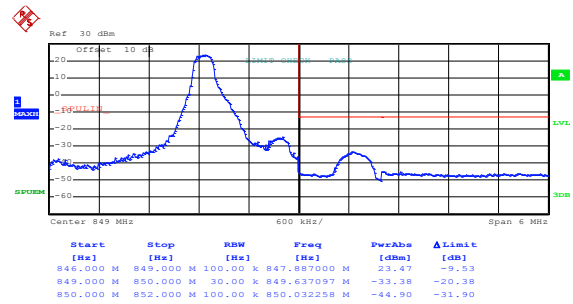
Date: 12.SEP.2019 14:19:51

Highest channel

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

Date: 12.SEP.2019 14:16:44

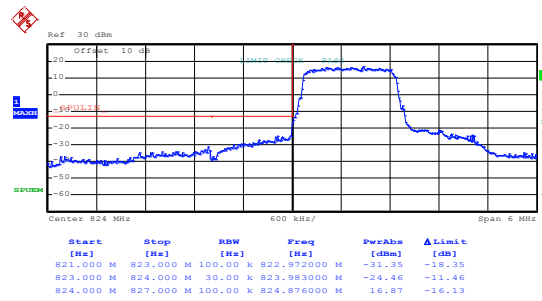
Lowest channel



Date: 12.SEP.2019 14:20:02

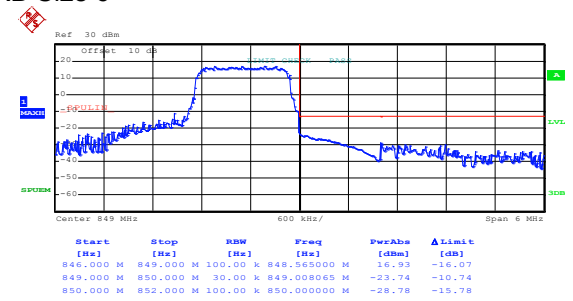
Highest channel

QPSK & RB Size 6



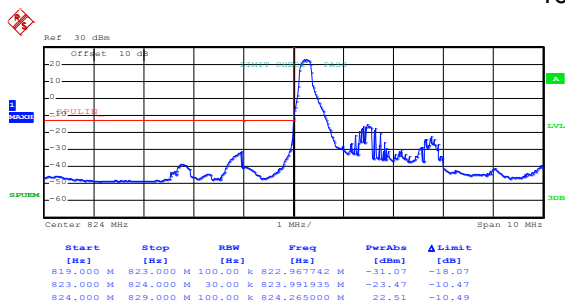
Date: 12.SEP.2019 14:19:04

Lowest channel



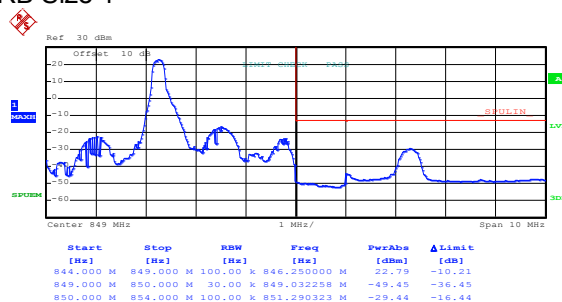
Date: 12.SEP.2019 14:19:44

Highest channel

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

Date: 12.SEP.2019 14:25:39

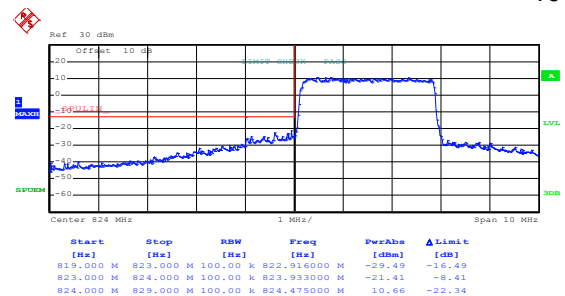
Lowest channel



Date: 12.SEP.2019 14:23:54

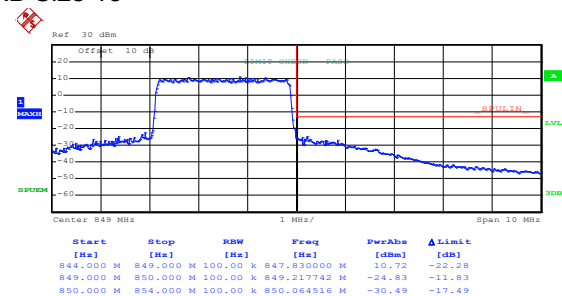
Highest channel

16QAM & RB Size 15



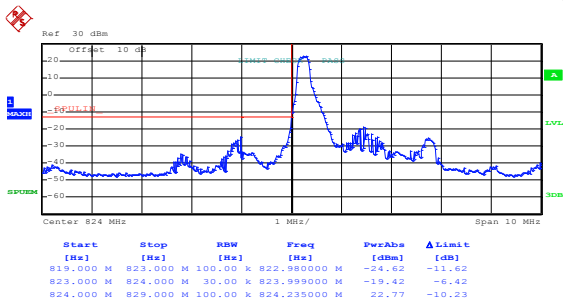
Date: 12.SEP.2019 14:24:51

Lowest channel



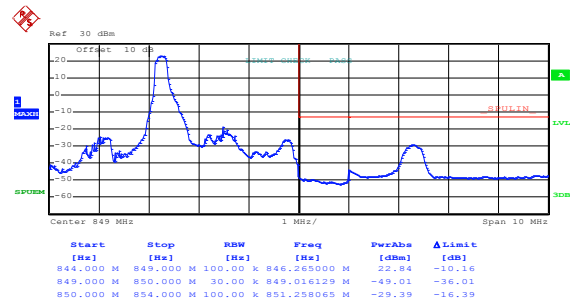
Date: 12.SEP.2019 14:24:15

Highest channel

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

Date: 12.SEP.2019 14:25:04

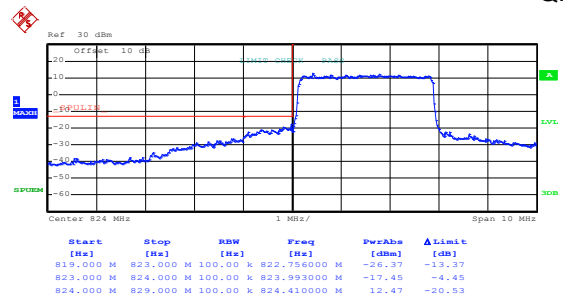
Lowest channel



Date: 12.SEP.2019 14:23:27

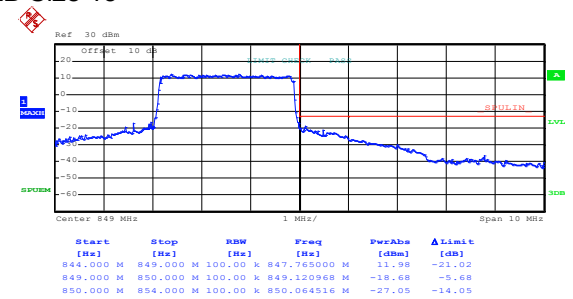
Highest channel

QPSK & RB Size 15



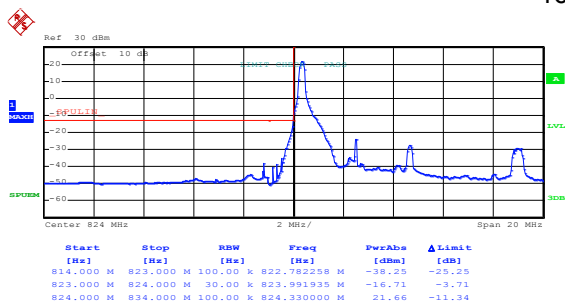
Date: 12.SEP.2019 14:24:45

Lowest channel



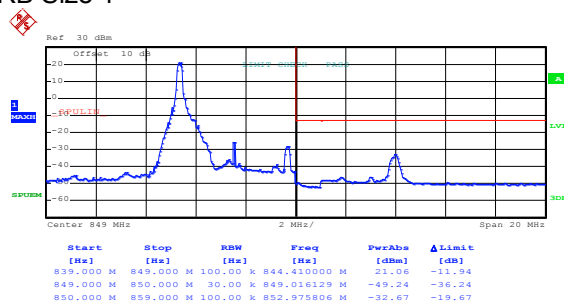
Date: 12.SEP.2019 14:24:10

Highest channel

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

Date: 12.SEP.2019 14:27:25

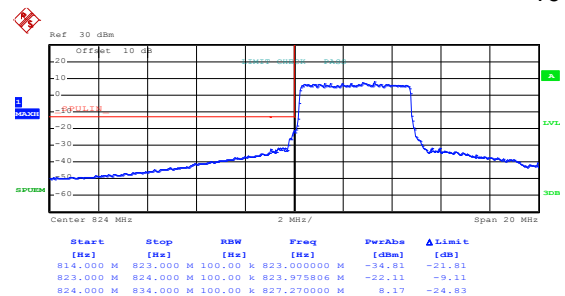
Lowest channel



Date: 12.SEP.2019 14:28:37

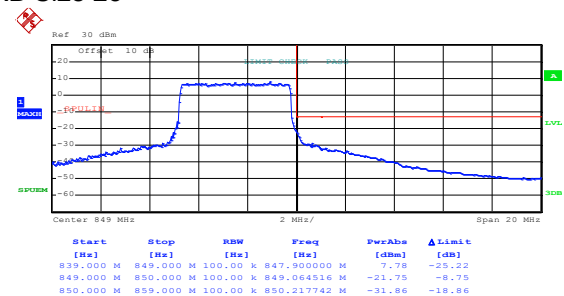
Highest channel

16QAM & RB Size 25



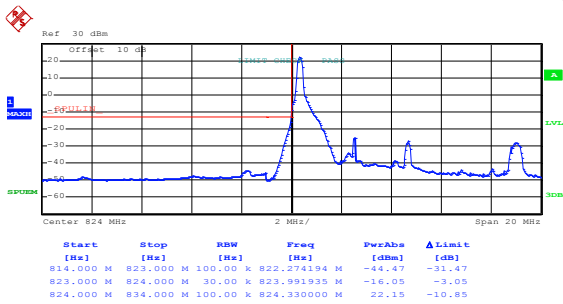
Date: 12.SEP.2019 14:27:46

Lowest channel



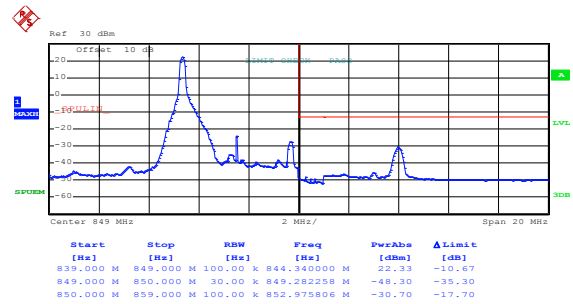
Date: 12.SEP.2019 14:28:14

Highest channel

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

Date: 12.SEP.2019 14:26:23

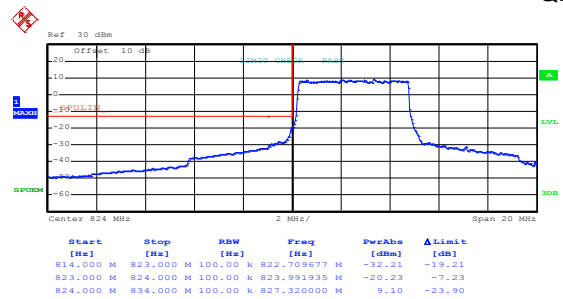
Lowest channel



Date: 12.SEP.2019 14:28:31

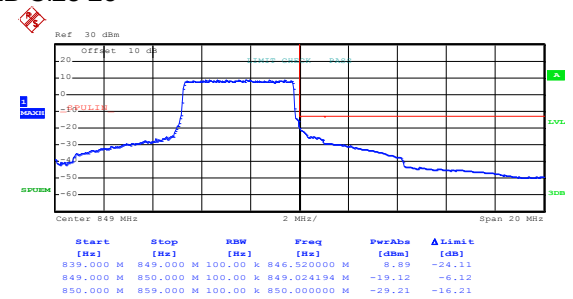
Highest channel

QPSK & RB Size 25



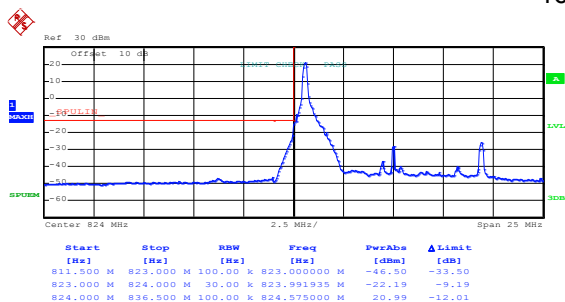
Date: 12.SEP.2019 14:27:40

Lowest channel



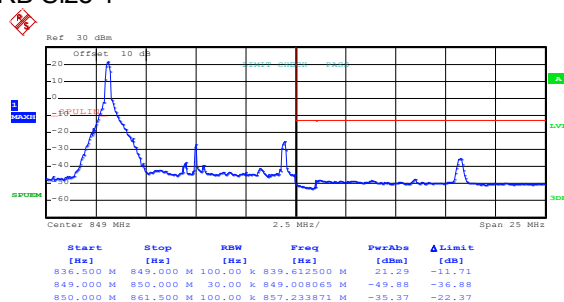
Date: 12.SEP.2019 14:28:09

Highest channel

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

Date: 12.SEP.2019 14:30:44

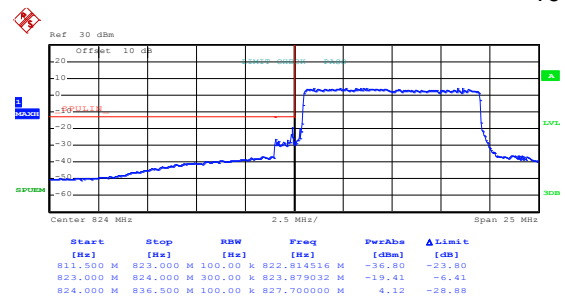
Lowest channel



Date: 12.SEP.2019 14:29:33

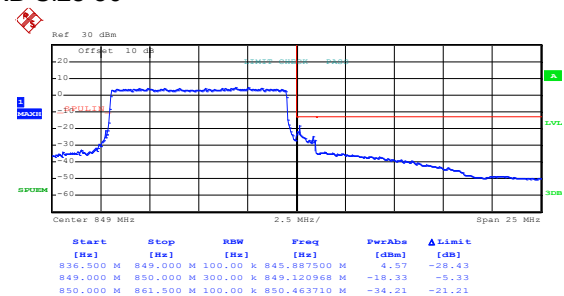
Highest channel

16QAM & RB Size 50



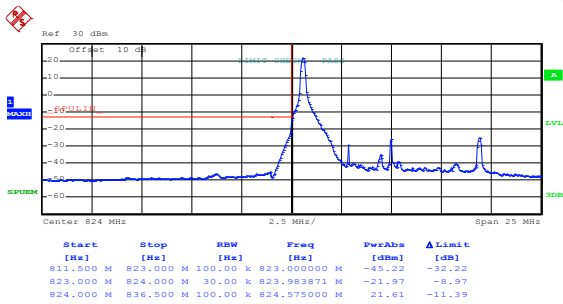
Date: 12.SEP.2019 14:30:22

Lowest channel



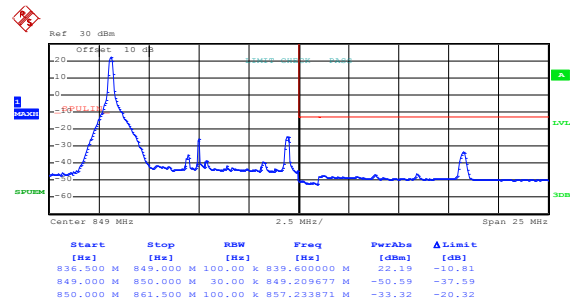
Date: 12.SEP.2019 14:29:53

Highest channel

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

Date: 12.SEP.2019 14:30:37

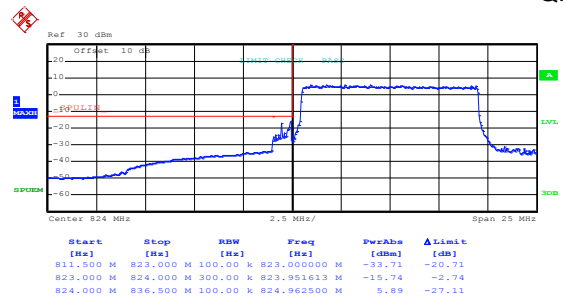
Lowest channel



Date: 12.SEP.2019 14:29:26

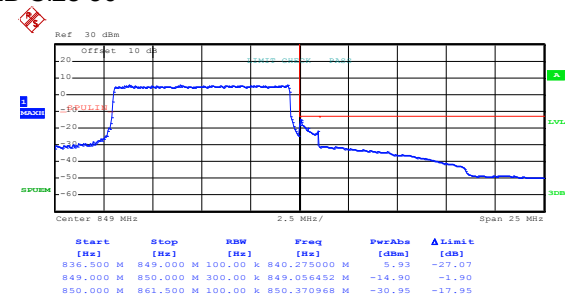
Highest channel

QPSK & RB Size 50



Date: 12.SEP.2019 14:30:16

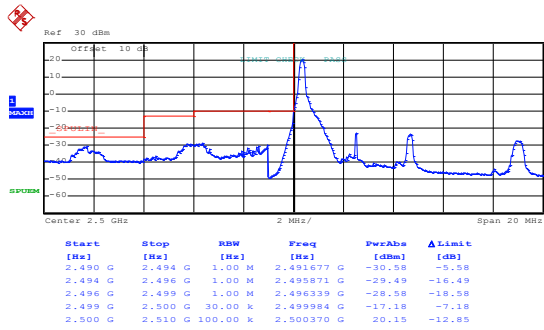
Lowest channel



Date: 12.SEP.2019 14:29:48

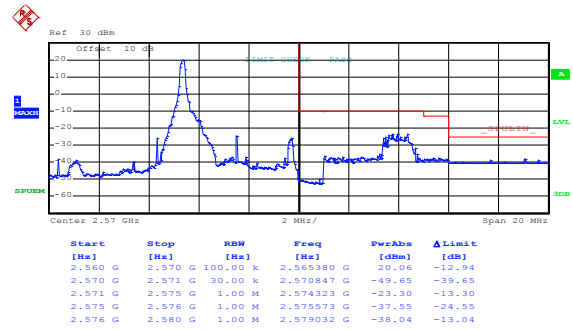
Highest channel

LTE Band 7 part:

LTE Band 7, BW: 5MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:34:17

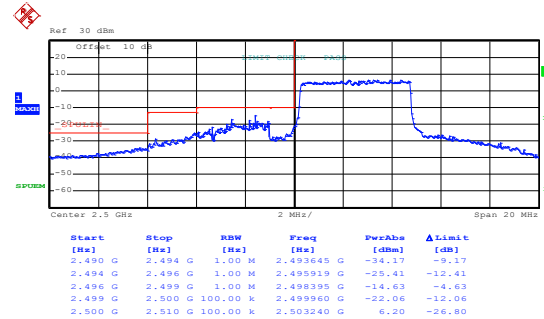
Lowest channel



Date: 12.SEP.2019 14:37:17

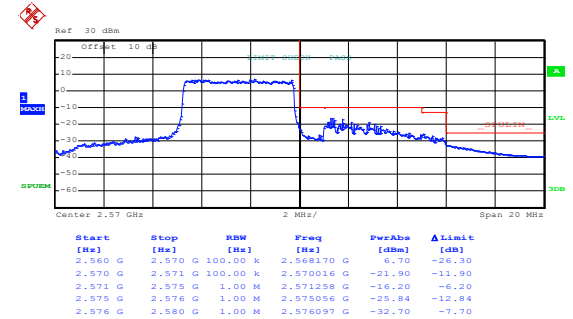
Highest channel

16QAM & RB Size 25



Date: 12.SEP.2019 14:34:49

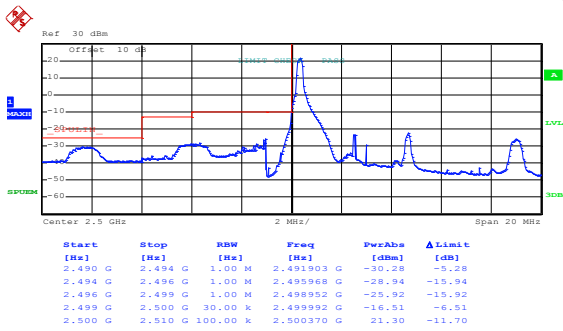
Lowest channel



Date: 12.SEP.2019 14:36:54

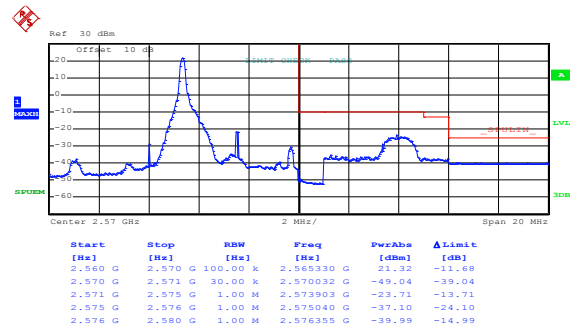
Highest channel

LTE Band 7, BW: 5MHz
QPSK & RB Size 1



Date: 12.SEP.2019 14:33:49

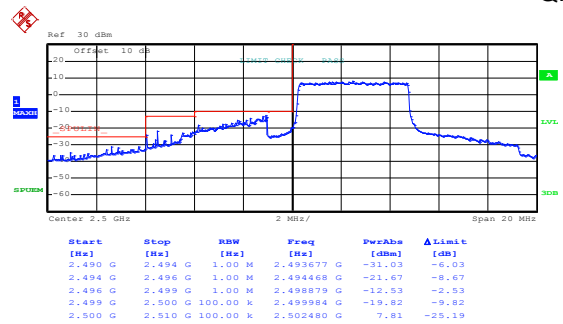
Lowest channel



Date: 12.SEP.2019 14:37:11

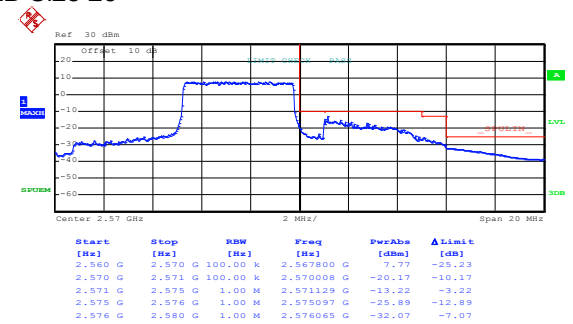
Highest channel

QPSK & RB Size 25



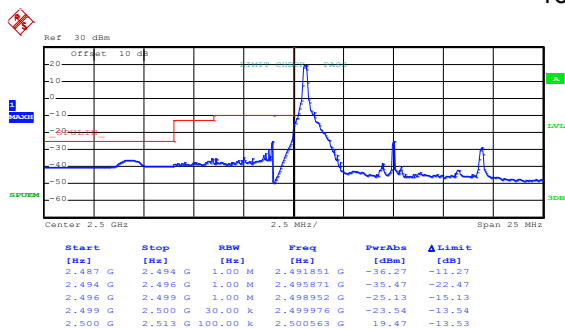
Date: 12.SEP.2019 14:34:43

Lowest channel



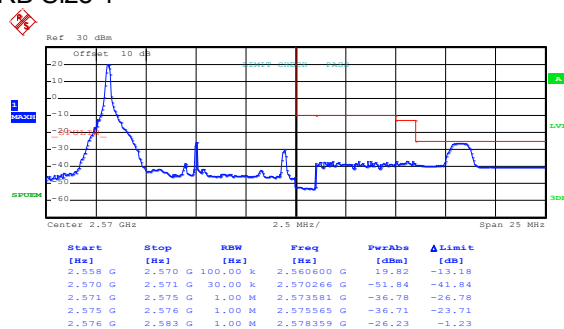
Date: 12.SEP.2019 14:36:48

Highest channel

LTE Band 7, BW: 10MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:39:59

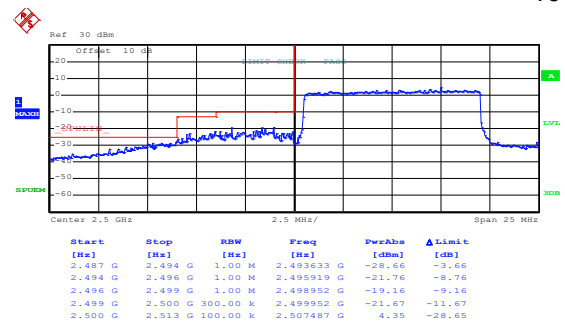
Lowest channel



Date: 12.SEP.2019 14:38:07

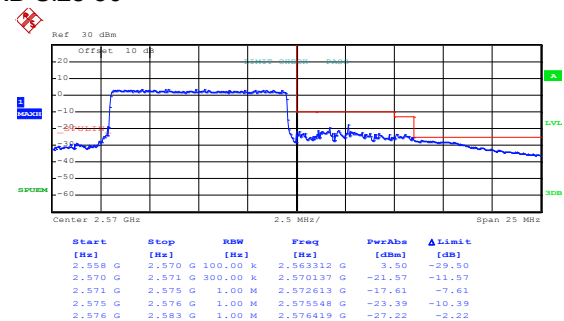
Highest channel

16QAM & RB Size 50



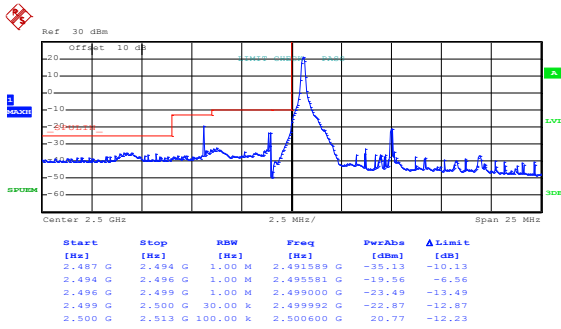
Date: 12.SEP.2019 14:39:21

Lowest channel



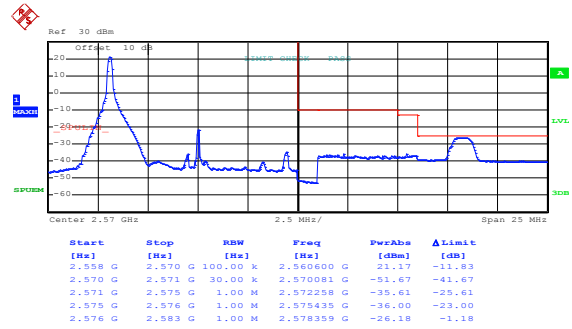
Date: 12.SEP.2019 14:38:43

Highest channel

LTE Band 7, BW: 10MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:39:52

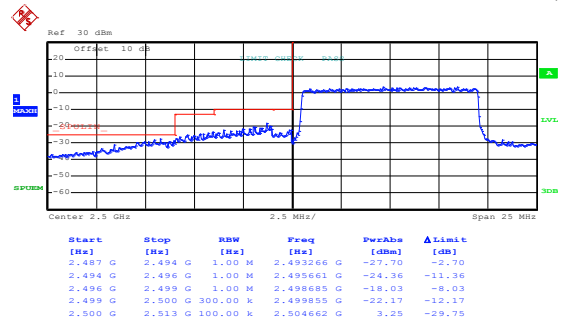
Lowest channel



Date: 12.SEP.2019 14:37:59

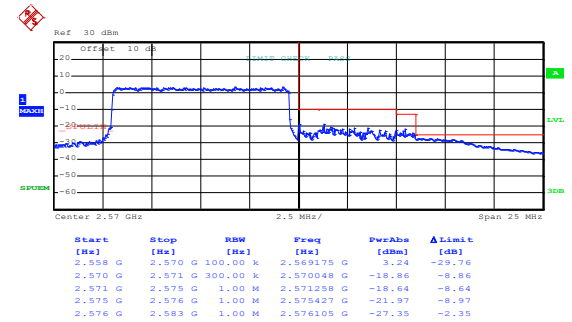
Highest channel

QPSK & RB Size 50



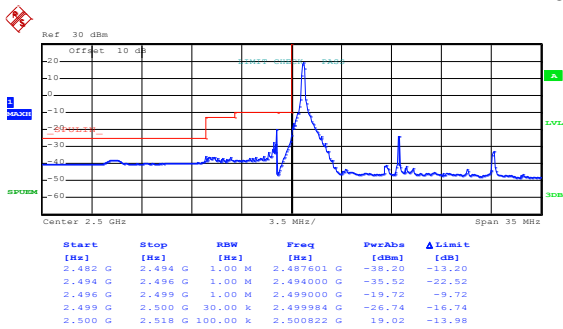
Date: 12.SEP.2019 14:39:14

Lowest channel



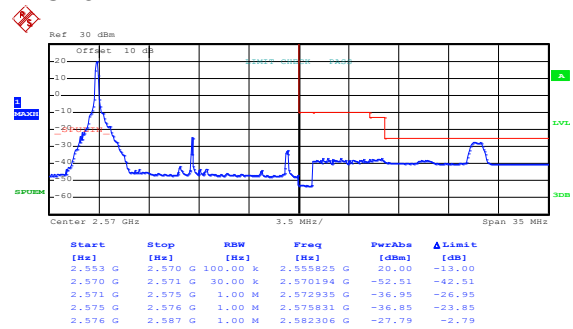
Date: 12.SEP.2019 14:38:36

Highest channel

LTE Band 7, BW: 15MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:40:44

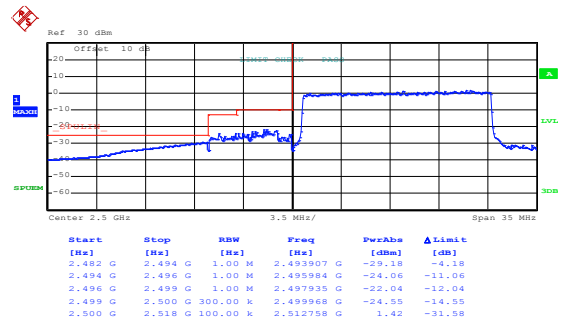
Lowest channel



Date: 12.SEP.2019 14:42:15

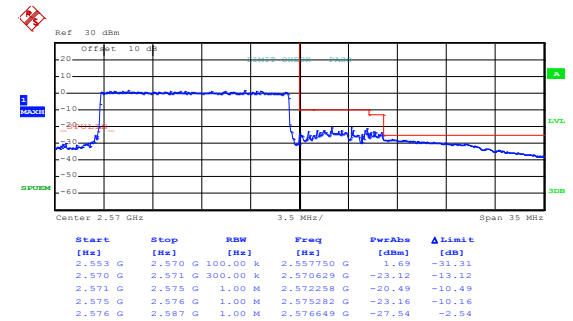
Highest channel

16QAM & RB Size 75



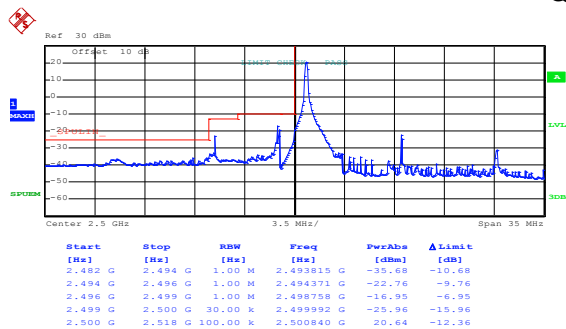
Date: 12.SEP.2019 14:41:18

Lowest channel



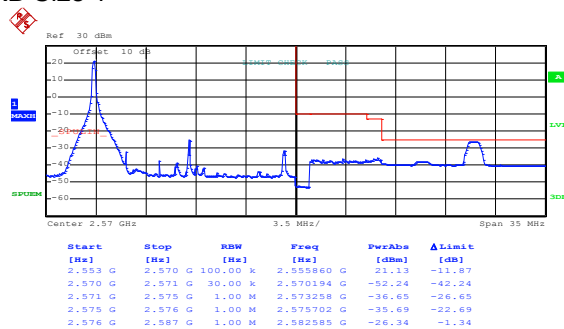
Date: 12.SEP.2019 14:41:52

Highest channel

LTE Band 7, BW: 15MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:40:37

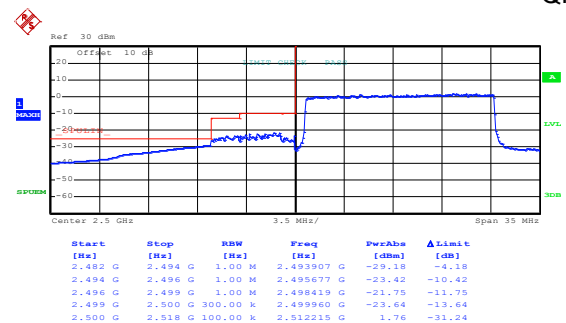
Lowest channel



Date: 12.SEP.2019 14:42:08

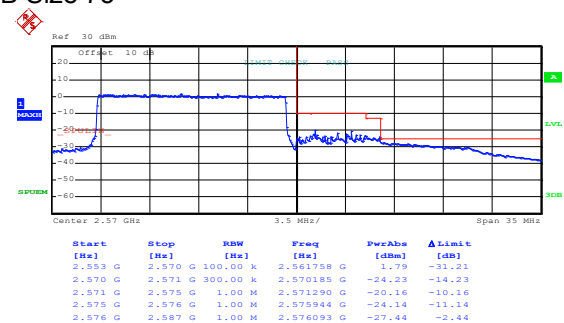
Highest channel

QPSK & RB Size 75



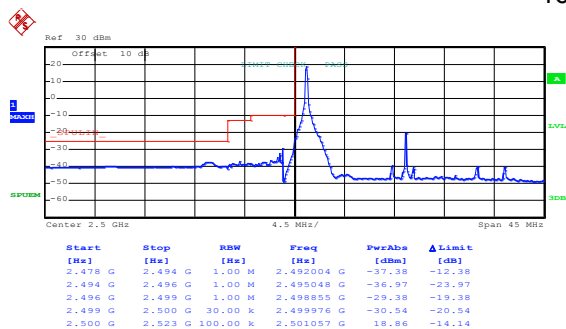
Date: 12.SEP.2019 14:41:11

Lowest channel



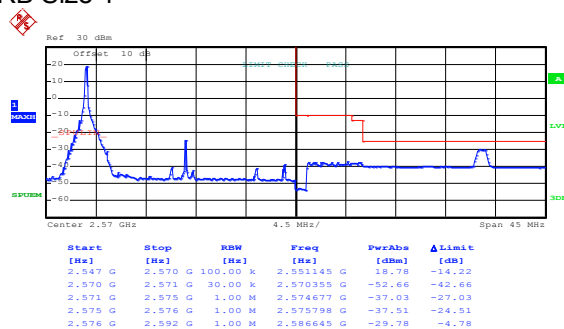
Date: 12.SEP.2019 14:41:45

Highest channel

LTE Band 7, BW: 20MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:44:20

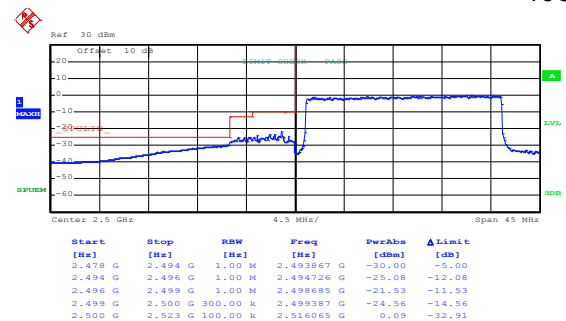
Lowest channel



Date: 12.SEP.2019 14:42:58

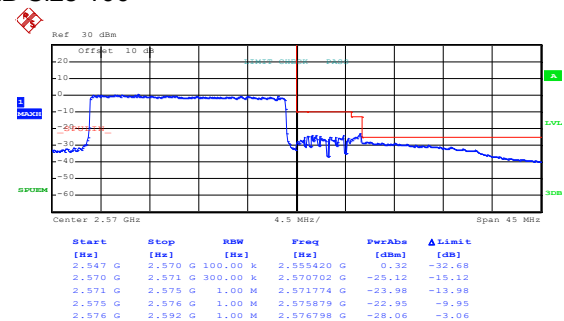
Highest channel

16QAM & RB Size 100



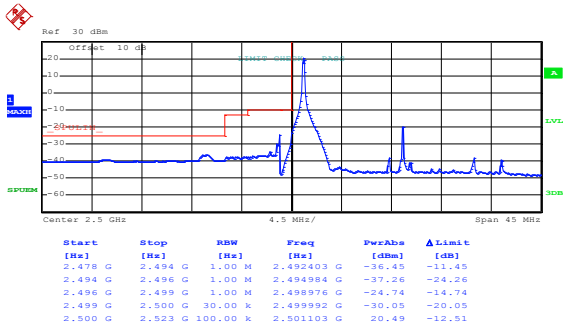
Date: 12.SEP.2019 14:43:58

Lowest channel



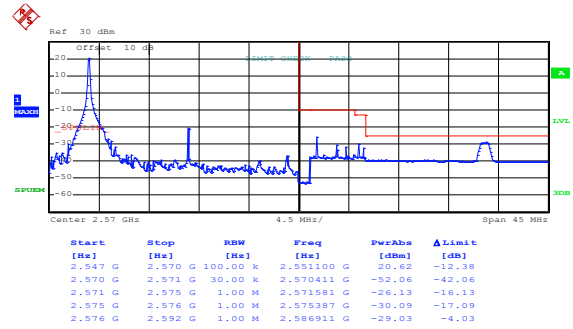
Date: 12.SEP.2019 14:43:27

Highest channel

LTE Band 7, BW: 20MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:44:13

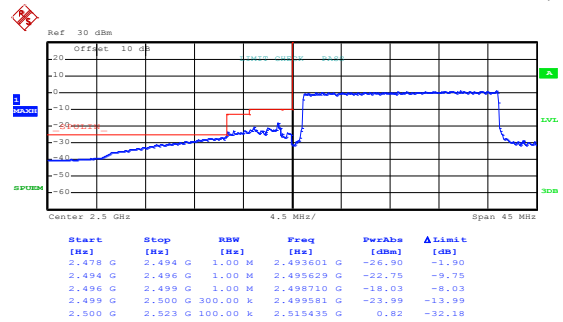
Lowest channel



Date: 12.SEP.2019 14:42:48

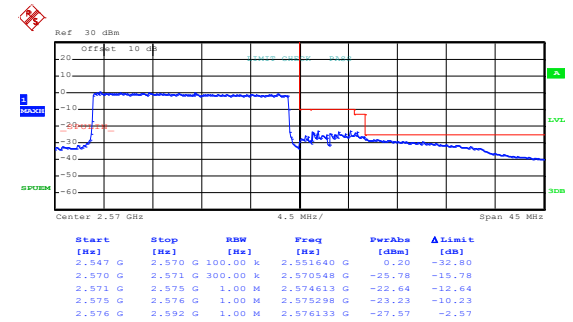
Highest channel

QPSK & RB Size 100



Date: 12.SEP.2019 14:43:51

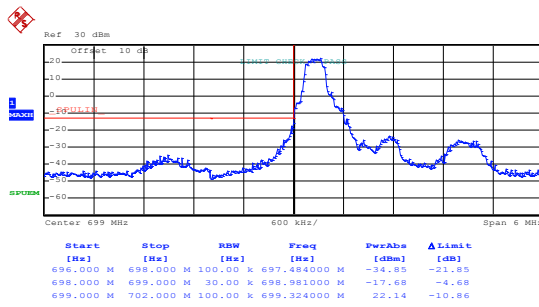
Lowest channel



Date: 12.SEP.2019 14:43:20

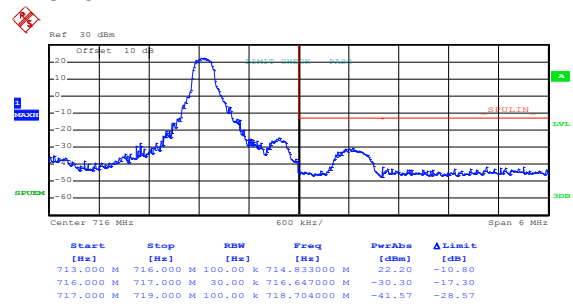
Highest channel

LTE band 12 part:

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

Date: 12.SEP.2019 14:45:53

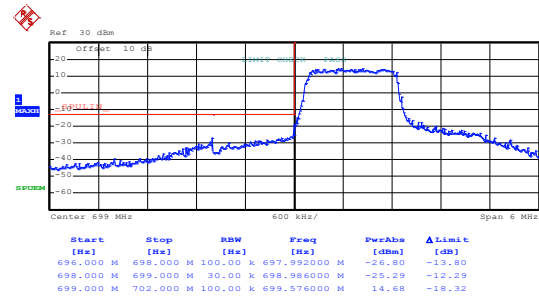
Lowest channel



Date: 12.SEP.2019 14:46:52

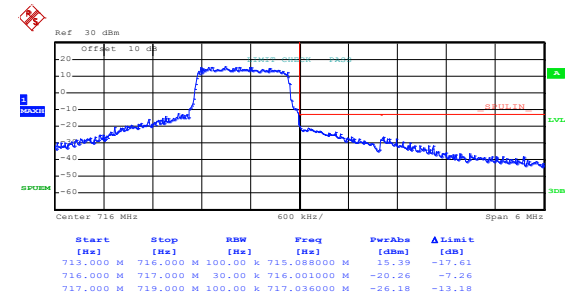
Highest channel

16QAM & RB Size 6



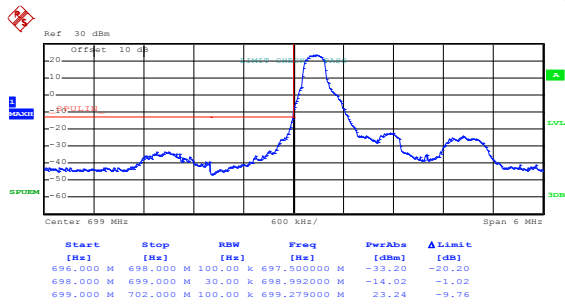
Date: 12.SEP.2019 14:46:10

Lowest channel



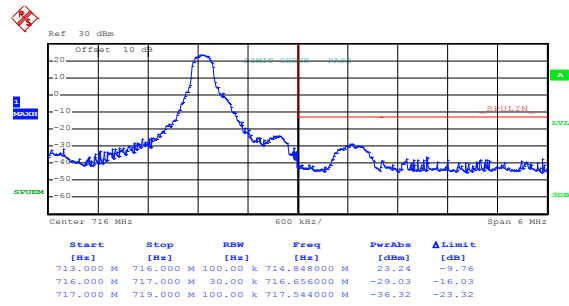
Date: 12.SEP.2019 14:46:37

Highest channel

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

Date: 12.SEP.2019 14:45:38

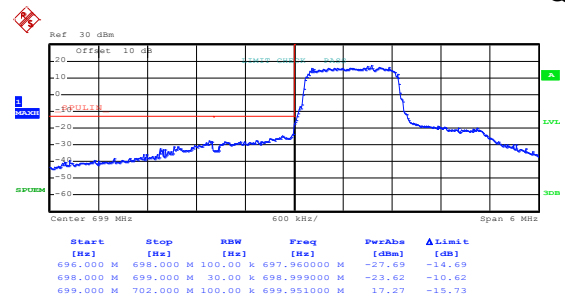
Lowest channel



Date: 12.SEP.2019 14:46:45

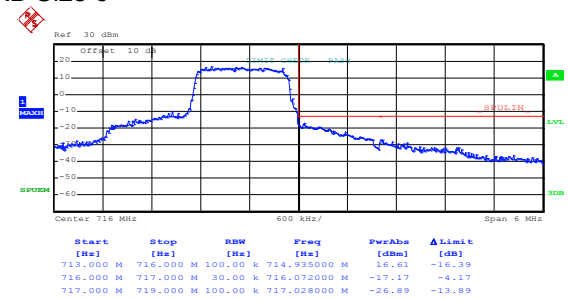
Highest channel

QPSK & RB Size 6



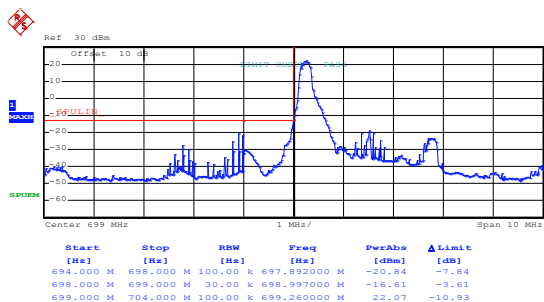
Date: 12.SEP.2019 14:46:03

Lowest channel



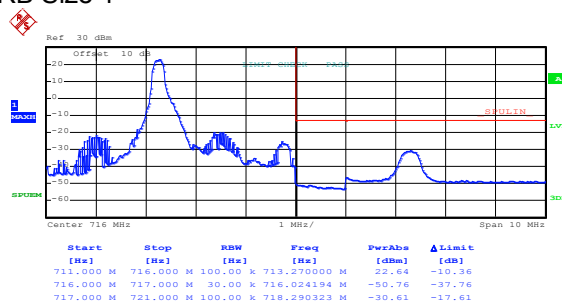
Date: 12.SEP.2019 14:46:31

Highest channel

LTE Band 12, BW: 3MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:49:23

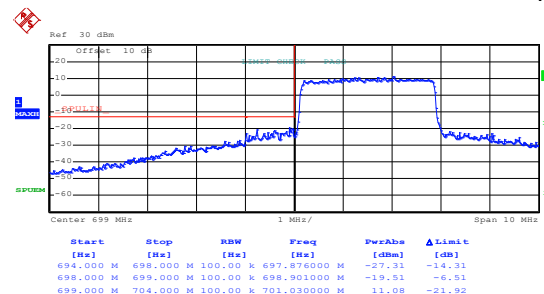
Lowest channel



Date: 12.SEP.2019 14:48:03

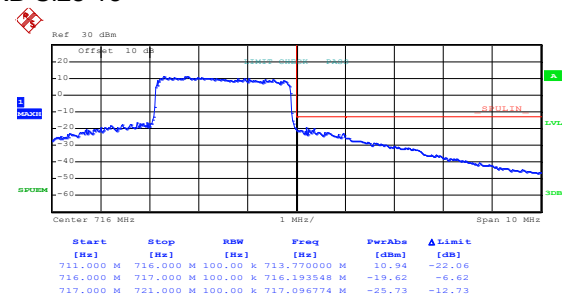
Highest channel

16QAM & RB Size 15



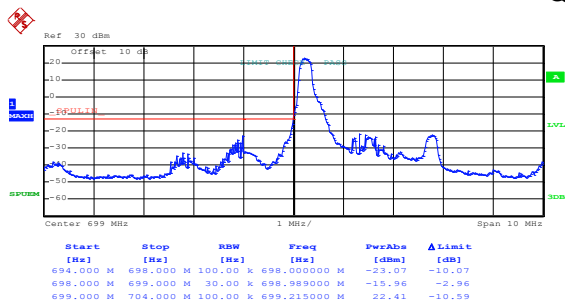
Date: 12.SEP.2019 14:49:01

Lowest channel



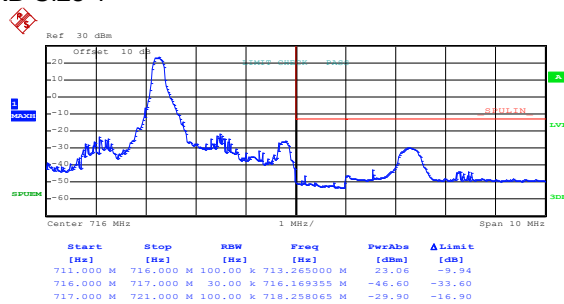
Date: 12.SEP.2019 14:48:24

Highest channel

LTE Band 12, BW: 3MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:49:15

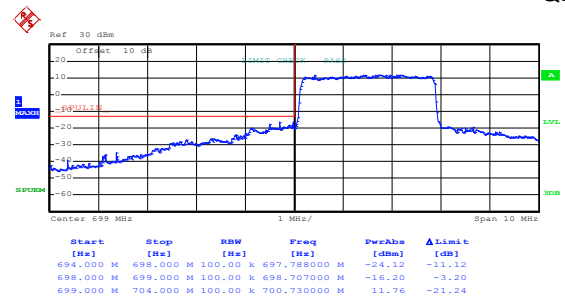
Lowest channel



Date: 12.SEP.2019 14:47:46

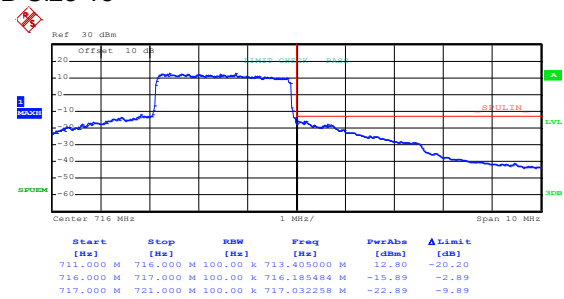
Highest channel

QPSK & RB Size 15



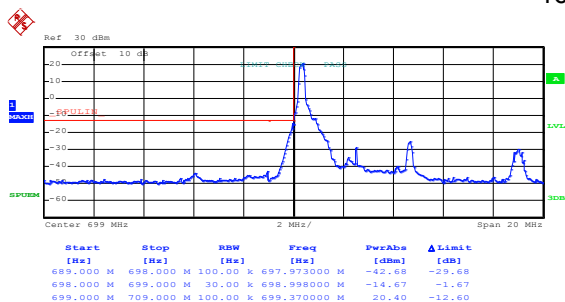
Date: 12.SEP.2019 14:48:55

Lowest channel



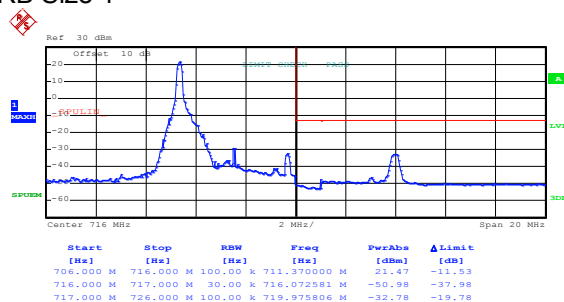
Date: 12.SEP.2019 14:48:17

Highest channel

LTE Band 12, BW: 5MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:50:33

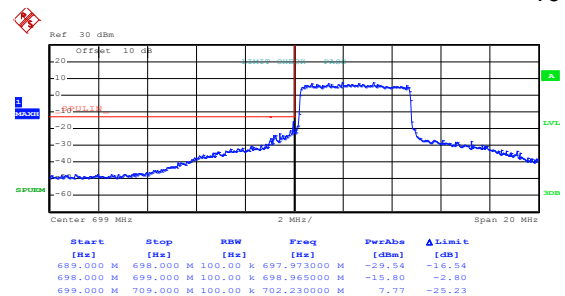
Lowest channel



Date: 12.SEP.2019 14:51:40

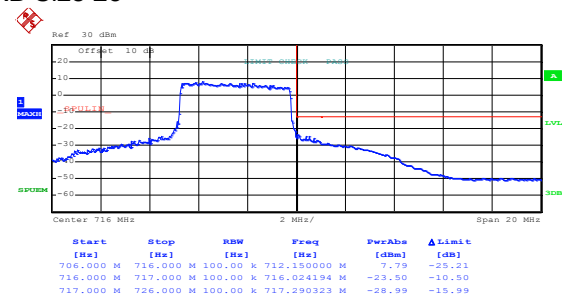
Highest channel

16QAM & RB Size 25



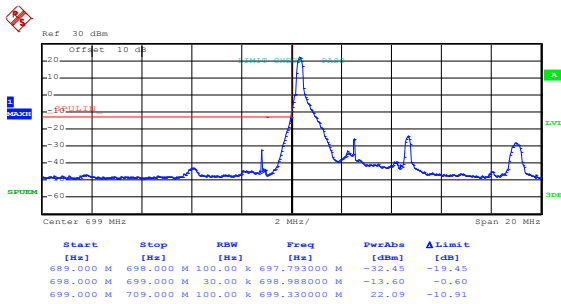
Date: 12.SEP.2019 14:50:54

Lowest channel



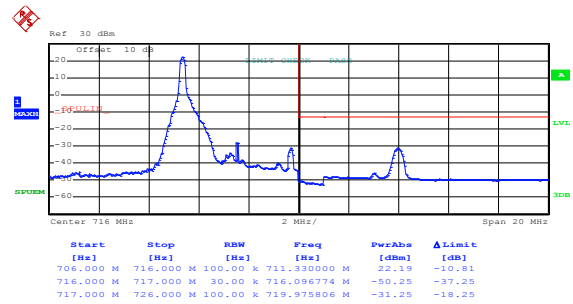
Date: 12.SEP.2019 14:51:15

Highest channel

LTE Band 12, BW: 5MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:50:25

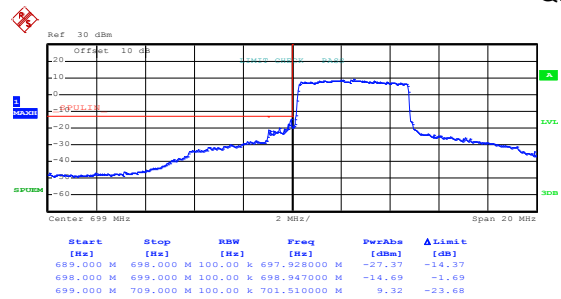
Lowest channel



Date: 12.SEP.2019 14:51:33

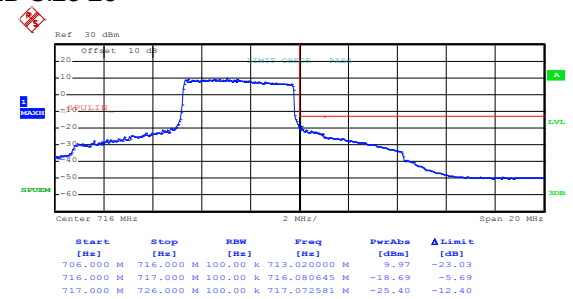
Highest channel

QPSK & RB Size 25



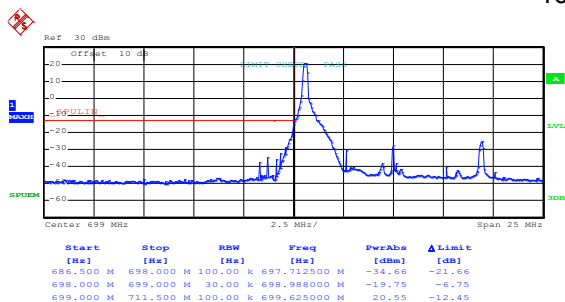
Date: 12.SEP.2019 14:50:49

Lowest channel



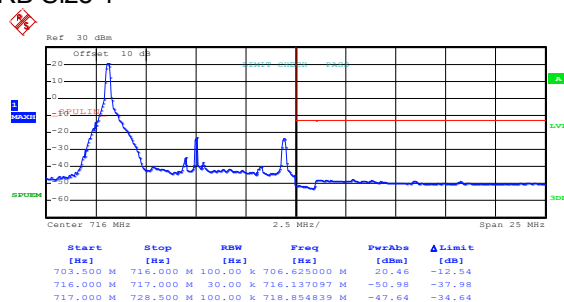
Date: 12.SEP.2019 14:51:10

Highest channel

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

Date: 12.SEP.2019 14:53:58

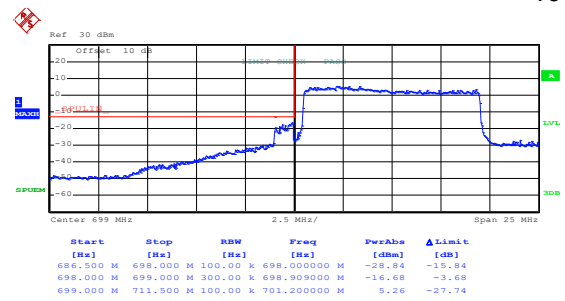
Lowest channel



Date: 12.SEP.2019 14:52:29

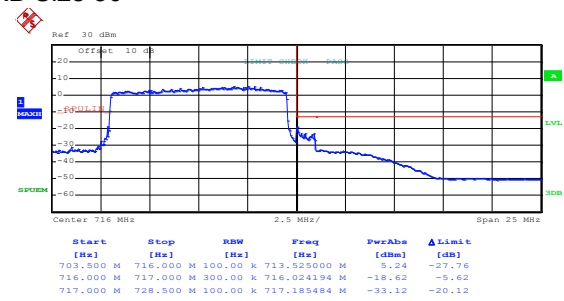
Highest channel

16QAM & RB Size 50



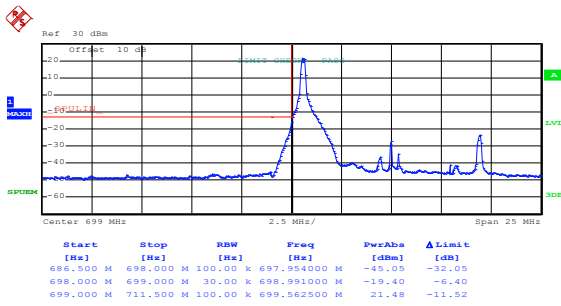
Date: 12.SEP.2019 14:53:34

Lowest channel



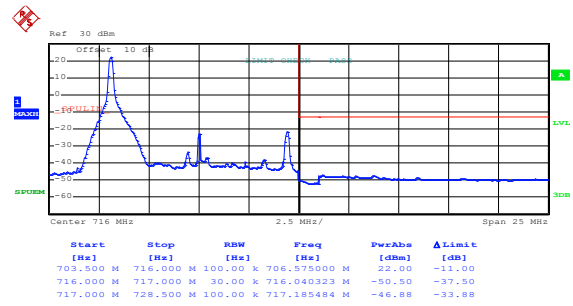
Date: 12.SEP.2019 14:52:49

Highest channel

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

Date: 12.SEP.2019 14:53:50

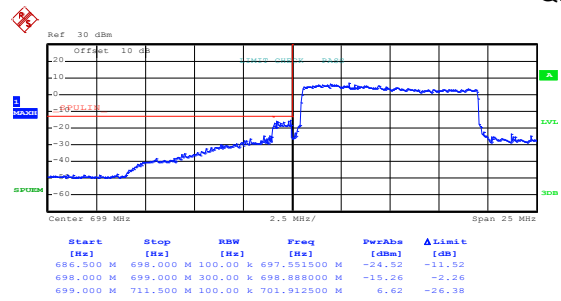
Lowest channel



Date: 12.SEP.2019 14:52:22

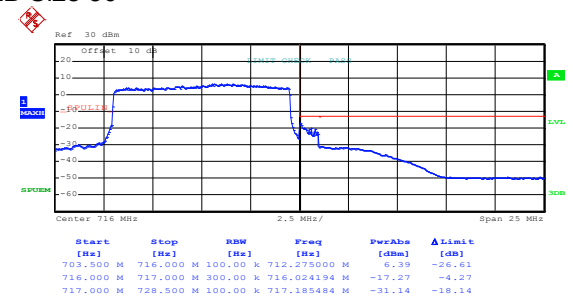
Highest channel

QPSK & RB Size 50



Date: 12.SEP.2019 14:53:19

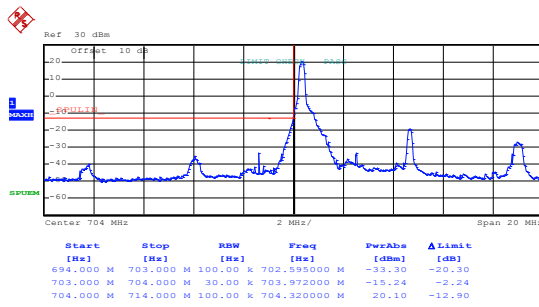
Lowest channel



Date: 12.SEP.2019 14:52:43

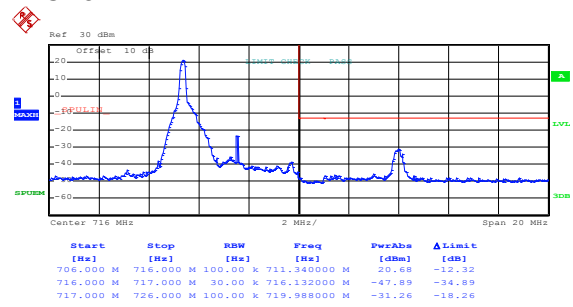
Highest channel

LTE Band 17 part:

LTE Band 17, BW: 5MHz
16QAM & RB Size 1

Date: 12.SEP.2019 14:59:21

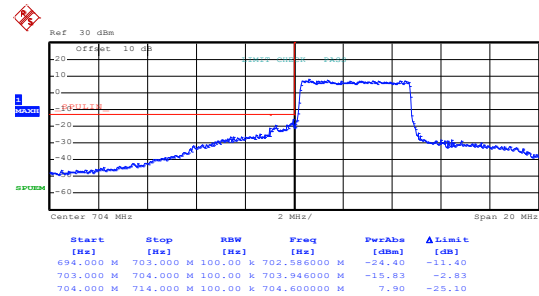
Lowest channel



Date: 12.SEP.2019 15:01:33

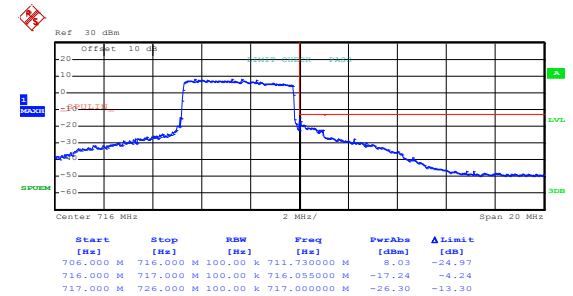
Highest channel

16QAM & RB Size 25



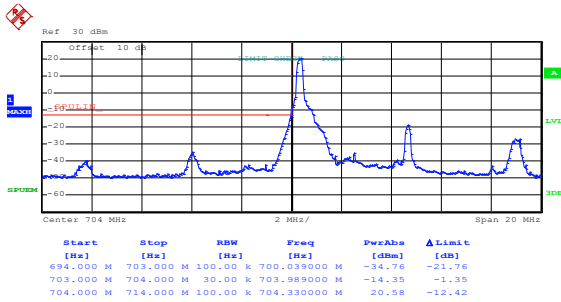
Date: 12.SEP.2019 15:00:28

Lowest channel



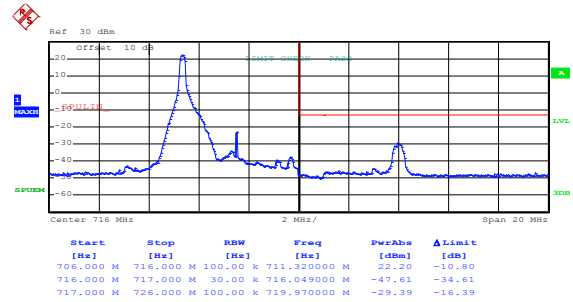
Date: 12.SEP.2019 15:01:09

Highest channel

LTE Band 17, BW: 5MHz
QPSK & RB Size 1

Date: 12.SEP.2019 14:59:14

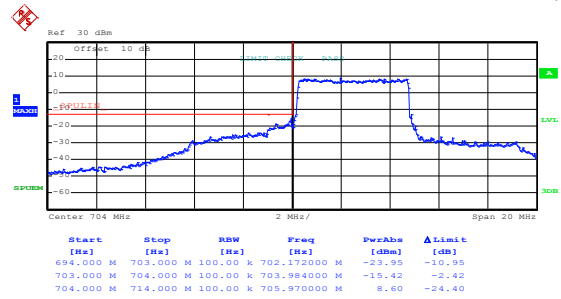
Lowest channel



Date: 12.SEP.2019 15:01:25

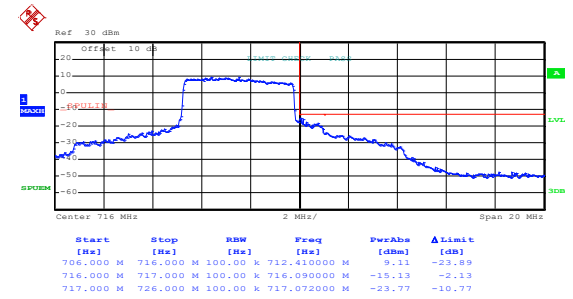
Highest channel

QPSK & RB Size 25



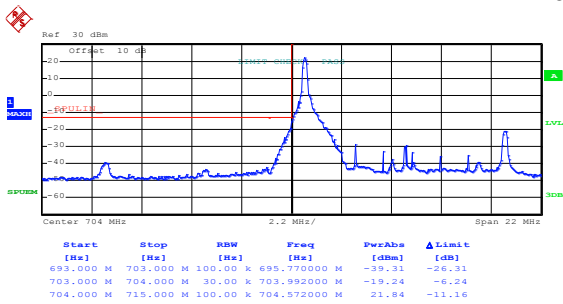
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Lowest channel



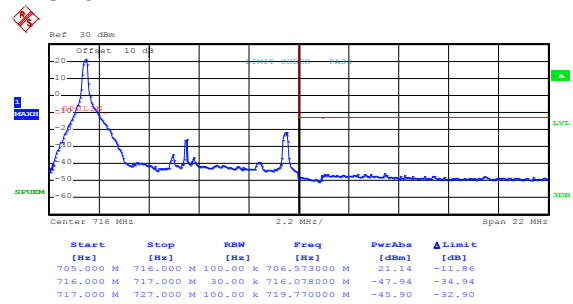
Date: 12.SEP.2019 15:01:03

Highest channel

LTE Band 17, BW: 10MHz
16QAM & RB Size 1

Date: 12.SEP.2019 15:05:16

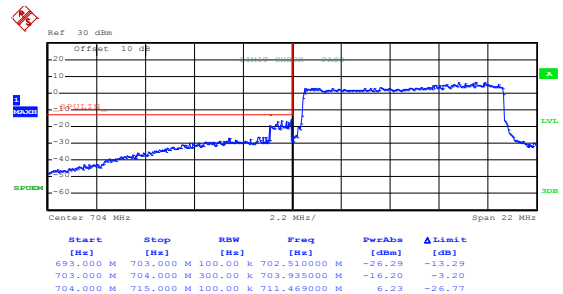
Lowest channel



Date: 12.SEP.2019 15:02:33

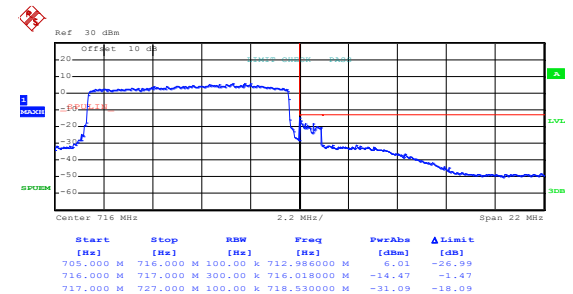
Highest channel

16QAM & RB Size 50



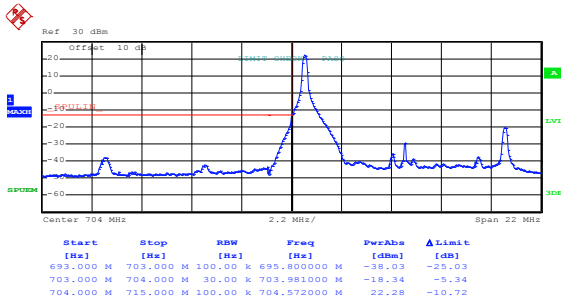
Date: 12.SEP.2019 15:04:54

Lowest channel



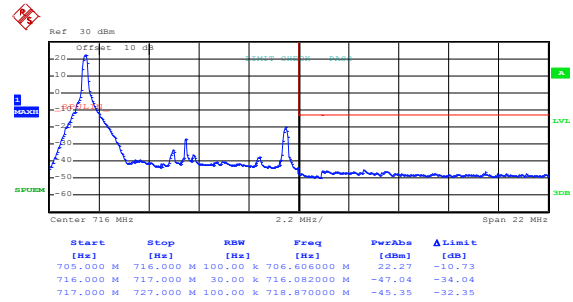
Date: 12.SEP.2019 15:03:16

Highest channel

LTE Band 17, BW: 10MHz
QPSK & RB Size 1

Date: 12.SEP.2019 15:05:09

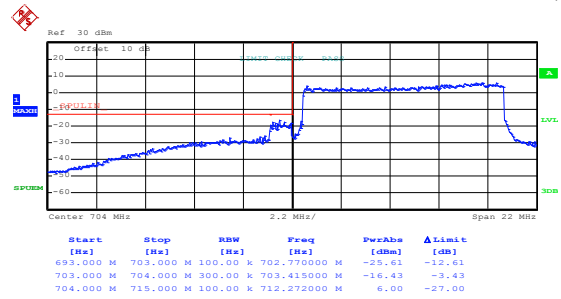
Lowest channel



Date: 12.SEP.2019 15:02:18

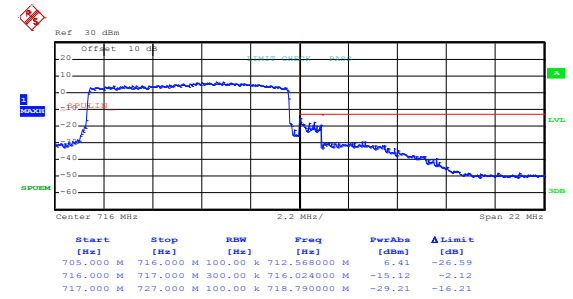
Highest channel

QPSK & RB Size 50



Date: 12.SEP.2019 15:04:25

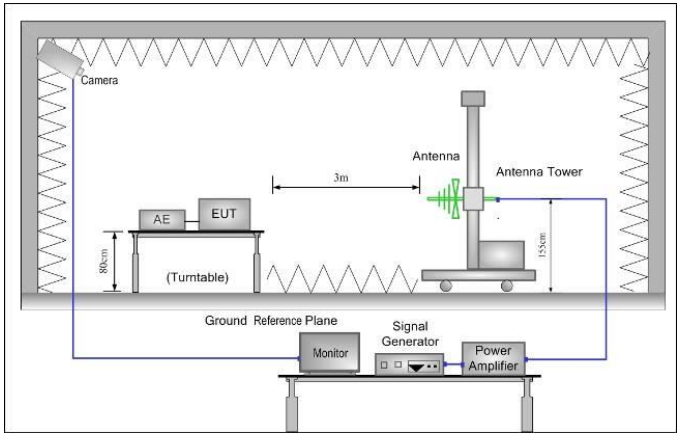
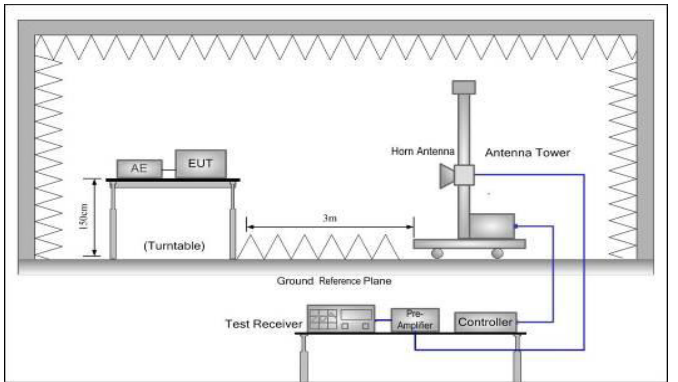
Lowest channel



Date: 12.SEP.2019 15:03:09

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b), Part 24.238 (a), Part 27.53(g), Part 27.53(m), Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & 4 & 5 & 12 & 17: 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). LTE Band 7: For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz.
Test setup:	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 2 part:**

LTE Band 2, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3701.40	Vertical	-32.41	-13.00	Pass
5552.10	V	-34.97		
7402.00	V	-39.36		
3701.40	Horizontal	-36.51		
5552.10	H	-41.30		
7402.00	H	-38.38		
Middle Channel				
3760.00	Vertical	-32.85	-13.00	Pass
5640.00	V	-34.19		
7520.00	V	-39.26		
3760.00	Horizontal	-36.17		
5640.00	H	-41.58		
7520.00	H	-38.29		
Highest Channel				
3816.60	Vertical	-32.97	-13.00	Pass
5724.90	V	-34.16		
7633.20	V	-39.85		
3816.60	Horizontal	-36.24		
5724.90	H	-41.55		
7633.20	H	-38.92		
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 2, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3720.00	Vertical	-32.92	-13.00	Pass
5580.00	V	-34.16		
7440.00	V	-39.25		
3720.00	Horizontal	-36.74		
5580.00	H	-41.53		
7440.00	H	-38.29		
Middle Channel				
3760.00	Vertical	-32.16	-13.00	Pass
5640.00	V	-34.89		
7520.00	V	-39.83		
3760.00	Horizontal	-36.58		
5640.00	H	-41.13		
7520.00	H	-38.31		
Highest Channel				
3800.00	Vertical	-32.55	-13.00	Pass
5700.00	V	-32.94		
7600.00	V	-39.87		
3800.00	Horizontal	-36.16		
5700.00	H	-41.28		
7600.00	H	-38.53		
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 4 part:

LTE Band 4, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3421.40	Vertical	-40.41	-13.00	Pass
5132.10	V	-33.67		
6842.80	V	-38.75		
3421.40	Horizontal	-40.96		
5132.10	H	-36.99		
6842.80	H	-37.71		
Middle Channel				
3465.00	Vertical	-40.25	-13.00	Pass
5197.50	V	-33.16		
6930.00	V	-38.53		
3465.00	Horizontal	-40.28		
5197.50	H	-36.71		
6930.00	H	-37.15		
Highest Channel				
3508.60	Vertical	-40.97	-13.00	Pass
5262.90	V	-33.43		
7017.20	V	-38.26		
3508.60	Horizontal	-40.16		
5262.90	H	-36.72		
7017.20	H	-37.55		
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 4, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3440.00	Vertical	-40.84	-13.00	Pass
5160.00	V	-33.26		
6880.00	V	-38.92		
3440.00	Horizontal	-40.15		
5160.00	H	-36.28		
6880.00	H	-37.54		
Middle Channel				
3465.00	Vertical	-40.61	-13.00	Pass
5197.50	V	-33.98		
6930.00	V	-38.47		
3465.00	Horizontal	-40.73		
5197.50	H	-36.25		
6930.00	H	-37.94		
Highest Channel				
3490.00	Vertical	-40.28	-13.00	Pass
5235.00	V	-33.92		
6980.00	V	-38.46		
3490.00	Horizontal	-40.72		
5235.00	H	-36.18		
6980.00	H	-37.53		
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 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	-48.80	-13.00	Pass
2474.10	V	-56.10		
3298.80	V	-50.62		
1649.40	Horizontal	-50.81		
2474.10	H	-52.62		
3298.80	H	-50.61		
Middle Channel				
1673.00	Vertical	-48.25	-13.00	Pass
2509.50	V	-56.19		
3346.00	V	-50.73		
1673.00	Horizontal	-50.93		
2509.50	H	-52.24		
3346.00	H	-50.18		
Highest Channel				
1696.60	Vertical	-48.26	-13.00	Pass
2544.90	V	-56.83		
3393.20	V	-50.14		
1696.60	Horizontal	-50.25		
2544.90	H	-52.88		
3393.20	H	-50.16		
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	-48.98	-13.00	Pass
2487.00	V	-56.71		
3316.00	V	-50.12		
1658.00	Horizontal	-50.83		
2487.00	H	-52.22		
3316.00	H	-50.19		
Middle Channel				
1673.00	Vertical	-48.32	-13.00	Pass
2509.50	V	-56.97		
3346.00	V	-50.26		
1673.00	Horizontal	-50.67		
2509.50	H	-52.15		
3346.00	H	-50.63		
Highest Channel				
1688.00	Vertical	-48.92	-13.00	Pass
2532.00	V	-56.03		
3376.00	V	-50.67		
1688.00	Horizontal	-50.14		
2532.00	H	-52.20		
3376.00	H	-50.39		
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 7 part:

LTE Band 7, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
5005.00	Vertical	-27.71	-25.00	Pass
7507.50	V	-36.57		
10010.00	V	-33.78		
5005.00	Horizontal	-31.68		
7507.50	H	-34.54		
10010.00	H	-34.90		
Middle Channel				
5070.00	Vertical	-27.16	-25.00	Pass
7605.00	V	-36.29		
10140.00	V	-33.81		
5070.00	Horizontal	-31.15		
7605.00	H	-34.25		
10140.00	H	-34.19		
Highest Channel				
5135.00	Vertical	-27.85	-25.00	Pass
7702.50	V	-36.71		
10270.00	V	-33.15		
5135.00	Horizontal	-31.83		
7702.50	H	-34.97		
10270.00	H	-34.64		
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 7, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
5020.00	Vertical	-27.54	-25.00	Pass
7530.00	V	-36.92		
10040.00	V	-33.18		
5020.00	Horizontal	-31.84		
7530.00	H	-34.52		
10040.00	H	-34.97		
Middle Channel				
5070.00	Vertical	-27.85	-25.00	Pass
7605.00	V	-36.91		
10140.00	V	-33.14		
5070.00	Horizontal	-31.52		
7605.00	H	-34.83		
10140.00	H	-34.97		
Highest Channel				
5120.00	Vertical	-27.49	-25.00	Pass
7680.00	V	-36.41		
10240.00	V	-33.16		
5120.00	Horizontal	-31.51		
7680.00	H	-34.25		
10240.00	H	-34.83		
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 12 part:

LTE Band 12, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1399.40	Vertical	-51.36	-13.00	Pass
2099.10	V	-57.74		
2798.80	V	-53.46		
1399.40	Horizontal	-54.03		
2099.10	H	-56.62		
2798.80	H	-52.00		
Middle Channel				
1415.00	Vertical	-51.15	-13.00	Pass
2122.50	V	-57.46		
2830.00	V	-53.25		
1415.00	Horizontal	-54.13		
2122.50	H	-56.29		
2830.00	H	-52.07		
Highest Channel				
1430.60	Vertical	-51.92	-13.00	Pass
2145.90	V	-57.46		
2861.20	V	-53.25		
1430.60	Horizontal	-54.16		
2145.90	H	-56.83		
2861.20	H	-52.64		
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.				

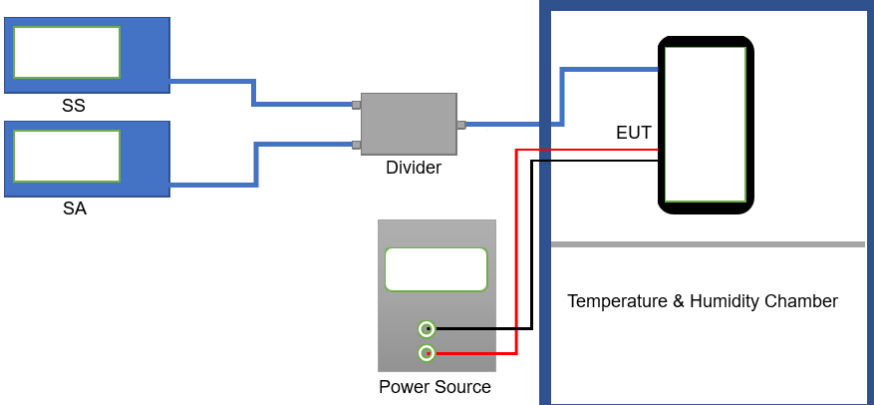
LTE Band 12, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1408.00	Vertical	-51.87	-13.00	Pass
2112.00	V	-57.64		
2816.00	V	-53.25		
1408.00	Horizontal	-54.16		
2112.00	H	-56.28		
2816.00	H	-52.71		
Middle Channel				
1415.00	Vertical	-51.33	-13.00	Pass
2122.50	V	-57.40		
2830.00	V	-53.83		
1415.00	Horizontal	-54.25		
2122.50	H	-56.92		
2830.00	H	-52.41		
Highest Channel				
1422.00	Vertical	-51.89	-13.00	Pass
2133.00	V	-57.15		
2844.00	V	-53.24		
1422.00	Horizontal	-54.92		
2133.00	H	-56.13		
2844.00	H	-52.25		
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 17 part:

LTE Band 17, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1413.00	Vertical	-55.20	-13.00	Pass
2119.50	V	-57.33		
2826.00	V	-52.74		
1413.00	Horizontal	-56.33		
2119.50	H	-56.99		
2826.00	H	-54.42		
Middle Channel				
1420.00	Vertical	-55.18	-13.00	Pass
2130.00	V	-57.92		
2840.00	V	-52.16		
1420.00	Horizontal	-56.73		
2130.00	H	-56.19		
2840.00	H	-54.85		
Highest Channel				
1427.00	Vertical	-55.97	-13.00	Pass
2140.50	V	-57.16		
2854.00	V	-52.92		
1427.00	Horizontal	-56.14		
2140.50	H	-56.28		
2854.00	H	-54.73		
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 17, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1418.00	Vertical	-55.97	-13.00	Pass
2127.00	V	-57.16		
2836.00	V	-52.67		
1418.00	Horizontal	-56.13		
2127.00	H	-56.29		
2836.00	H	-54.82		
Middle Channel				
1420.00	Vertical	-55.16	-13.00	Pass
2130.00	V	-57.24		
2840.00	V	-52.35		
1420.00	Horizontal	-56.11		
2130.00	H	-56.97		
2840.00	H	-54.73		
Highest Channel				
1422.00	Vertical	-56.15	-13.00	Pass
2133.00	V	-57.41		
2844.00	V	-52.92		
1422.00	Horizontal	-57.26		
2133.00	H	-56.17		
2844.00	H	-54.89		
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 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm For Band 5 Within authorized band for Band 2/4/7/12/17
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°C operating frequency as reference frequency. 5. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. 6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C 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 2 part:

Reference Frequency: LTE Band 2 (10MHz) Middle channel=18900 channel=1880.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	196	0.104255	Within authorized band	Pass
	-20	188	0.100000		
	-10	179	0.095213		
	0	165	0.087766		
	10	157	0.083511		
	20	149	0.079255		
	30	137	0.072872		
	40	125	0.066489		
	50	170	0.090426		
16QAM					
3.80	-30	168	0.089362	Within authorized band	Pass
	-20	159	0.084574		
	-10	143	0.076064		
	0	134	0.071277		
	10	127	0.067553		
	20	118	0.062766		
	30	110	0.058511		
	40	102	0.054255		
	50	150	0.079787		
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 (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	194	0.111977	Within authorized band	Pass
	-20	183	0.105628		
	-10	176	0.101587		
	0	168	0.096970		
	10	159	0.091775		
	20	149	0.086003		
	30	136	0.078499		
	40	127	0.073304		
	50	140	0.080808		
16QAM					
3.80	-30	169	0.097547	Within authorized band	Pass
	-20	158	0.091198		
	-10	148	0.085426		
	0	138	0.079654		
	10	124	0.071573		
	20	117	0.067532		
	30	110	0.063492		
	40	142	0.081962		
	50	130	0.075036		
Note: Only the worst case shown in the report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	191	0.228332	±2.5	Pass
	-20	186	0.222355		
	-10	178	0.212791		
	0	169	0.202032		
	10	156	0.186491		
	20	149	0.178123		
	30	138	0.164973		
	40	126	0.150628		
	50	160	0.191273		
16QAM					
3.80	-30	169	0.202032	±2.5	Pass
	-20	158	0.188882		
	-10	149	0.178123		
	0	132	0.157800		
	10	127	0.151823		
	20	118	0.141064		
	30	109	0.130305		
	40	103	0.123132		
	50	140	0.167364		
Note: Only the worst case shown in the report.					

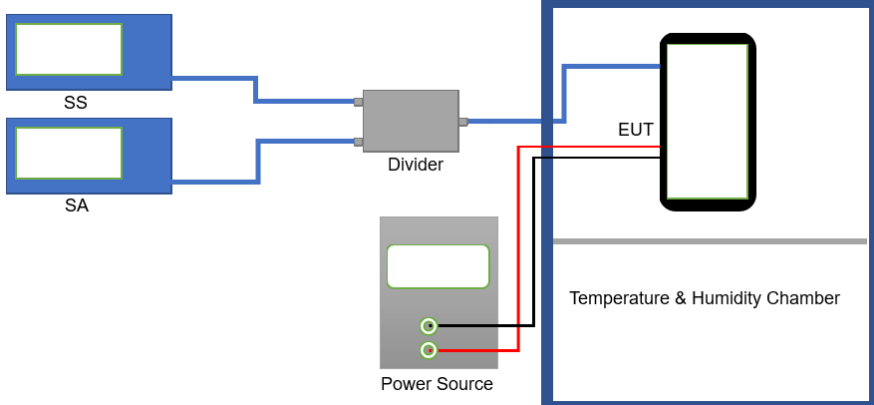
LTE Band 7 part:

Reference Frequency: LTE Band 7 (10MHz) Middle channel=21100 Frequency=2535.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	194	0.076529	Within authorized band	Pass
	-20	187	0.073767		
	-10	179	0.070611		
	0	170	0.067061		
	10	164	0.064694		
	20	154	0.060750		
	30	142	0.056016		
	40	131	0.051677		
	50	124	0.048915		
16QAM					
3.80	-30	165	0.065089	Within authorized band	Pass
	-20	155	0.061144		
	-10	147	0.057988		
	0	139	0.054832		
	10	125	0.049310		
	20	117	0.046154		
	30	112	0.044181		
	40	106	0.041815		
	50	130	0.051282		
Note: Only the worst case shown in the report.					

LTE Band 17 part:

Reference Frequency: LTE Band 17 (10MHz) Middle channel=23790 channel=710.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	193	0.271831	Within authorized band	Pass
	-20	183	0.257746		
	-10	177	0.249296		
	0	168	0.236620		
	10	158	0.222535		
	20	141	0.198592		
	30	132	0.185915		
	40	121	0.170423		
	50	149	0.209859		
16QAM					
3.80	-30	162	0.228169	Within authorized band	Pass
	-20	157	0.221127		
	-10	148	0.208451		
	0	138	0.194366		
	10	128	0.180282		
	20	113	0.159155		
	30	102	0.143662		
	40	120	0.169014		
	50	140	0.197183		
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)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm For Band 5 Within authorized band for Band 2/4/7/12/17
Test setup:	 The diagram illustrates the test setup. On the left, there are two blue boxes labeled 'SS' (Signal Source) and 'SA' (Spectrum Analyzer). They are connected to a central grey box labeled 'Divider'. The output of the 'Divider' is connected to a black box labeled 'EUT' (Equipment Under Test) inside a larger blue box labeled 'Temperature & Humidity Chamber'. Below the 'Divider' is a grey box labeled 'Power Source' with two green circles representing terminals. Red and black wires connect the 'Power Source' to the 'EUT'.
Test procedure:	1. Set chamber temperature to 25°C. 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 2 part:

Reference Frequency: LTE Band 2(10MHz) Middle channel=18900 channel=1880.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	94	0.050000	Within authorized band	Pass
	3.80	73	0.038830		
	3.50	52	0.027660		
16QAM					
25	4.35	90	0.047872	Within authorized band	Pass
	3.80	78	0.041489		
	3.50	60	0.031915		
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 (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	93	0.053680	Within authorized band	Pass
	3.80	80	0.046176		
	3.50	75	0.043290		
16QAM					
25	4.35	92	0.053102	Within authorized band	Pass
	3.80	86	0.049639		
	3.50	70	0.040404		
Note: Only the worst case shown in the report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	95	0.113568	±2.5	Pass
	3.80	78	0.093246		
	3.50	59	0.070532		
16QAM					
25	4.35	96	0.114764	±2.5	Pass
	3.80	80	0.095637		
	3.50	54	0.064555		
Note: Only the worst case shown in the report.					

LTE Band 7 part:

Reference Frequency: LTE Band 7(10MHz) Middle channel=21100 Frequency=2535.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	97	0.038264	Within authorized band	Pass
	3.80	79	0.031164		
	3.50	60	0.023669		
16QAM					
25	4.35	91	0.035897	Within authorized band	Pass
	3.80	83	0.032742		
	3.50	70	0.027613		
Note: Only the worst case shown in the report.					

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	4.35	93	0.131449	Within authorized band	Pass
	3.80	80	0.113074		
	3.50	74	0.104594		
16QAM					
25	4.35	90	0.127208	Within authorized band	Pass
	3.80	70	0.098940		
	3.50	50	0.070671		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.

LTE Band 17 part:

Reference Frequency: LTE Band 17(10MHz) Middle channel=23790 channel=710.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	89	0.125352	Within authorized band	Pass
	3.80	70	0.098592		
	3.50	61	0.085915		
16QAM					
25	4.35	88	0.123944	Within authorized band	Pass
	3.80	74	0.104225		
	3.50	63	0.088732		
Note: Only the worst case shown in the report.					

Note: Only the worst case shown in the report.