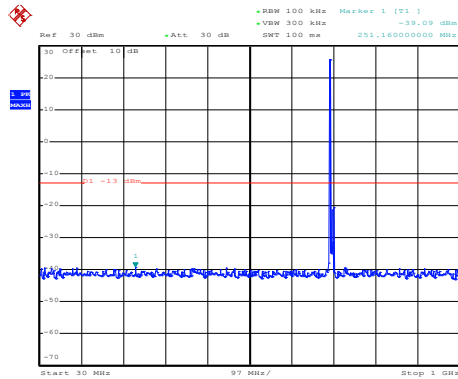
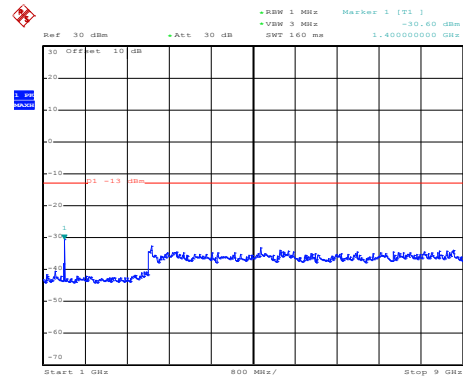


LTE Band 12: 16 QAM & RB Size 1 BW: 10MHz Lowest channel



Date: 19.JUL.2019 09:42:26

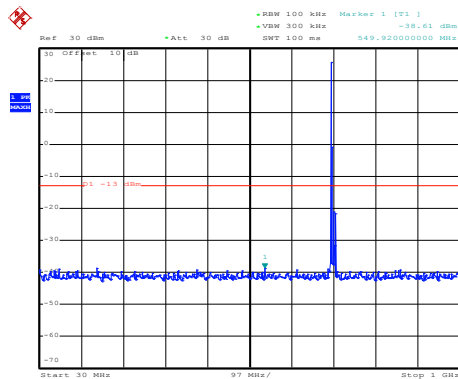
30MHz~1GHz



Date: 28.JUL.2019 13:21:12

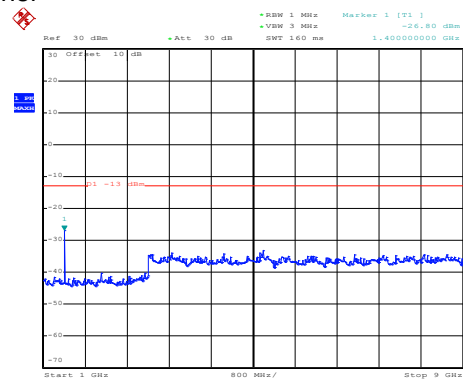
1GHz~9GHz

Middle channel



Date: 19.JUL.2019 09:40:34

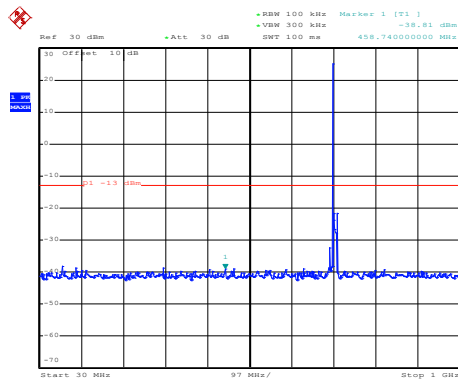
30MHz~1GHz



Date: 28.JUL.2019 13:22:34

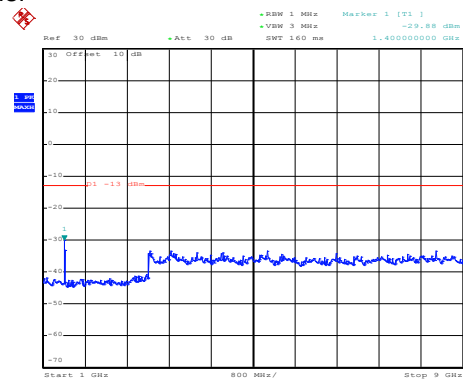
1GHz~9GHz

High channel



Date: 19.JUL.2019 09:39:57

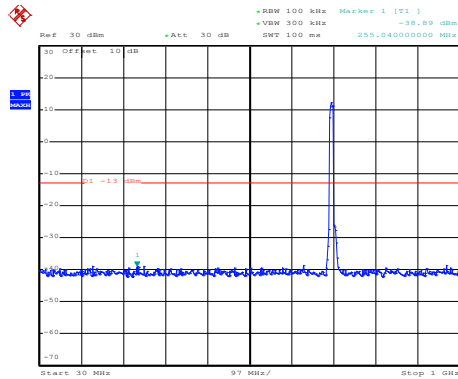
30MHz~1GHz



Date: 28.JUL.2019 13:23:00

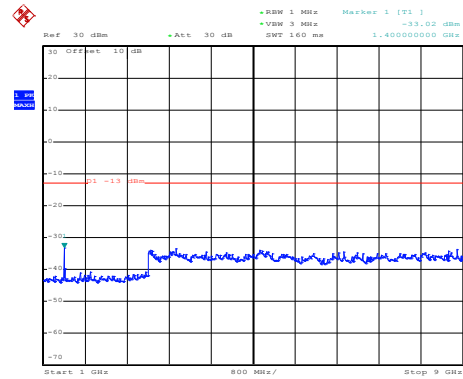
1GHz~9GHz

LTE Band 12: 16 QAM & RB Size 50 BW: 10MHz Lowest channel



Date: 19.JUL.2019 09:41:47

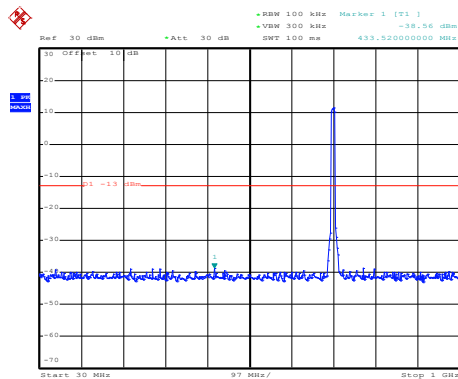
30MHz~1GHz



Date: 28.JUL.2019 13:21:31

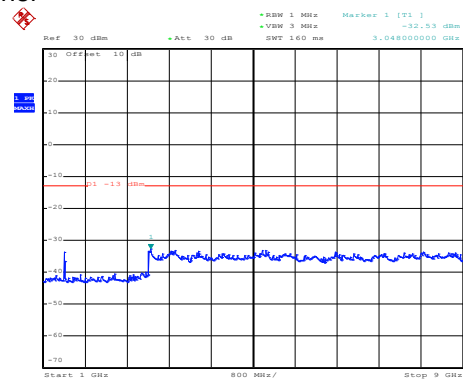
1GHz~9GHz

Middle channel



Date: 19.JUL.2019 09:41:08

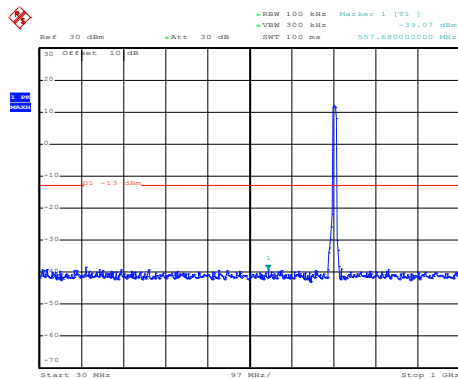
30MHz~1GHz



Date: 28.JUL.2019 13:22:10

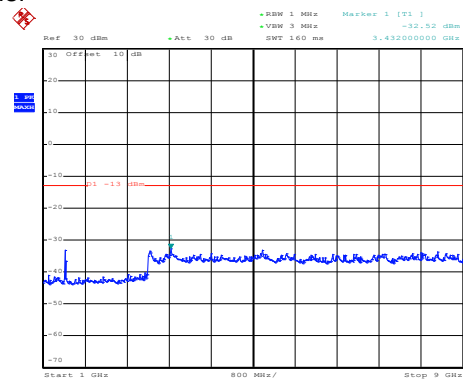
1GHz~9GHz

High channel



Date: 19.JUL.2019 09:39:26

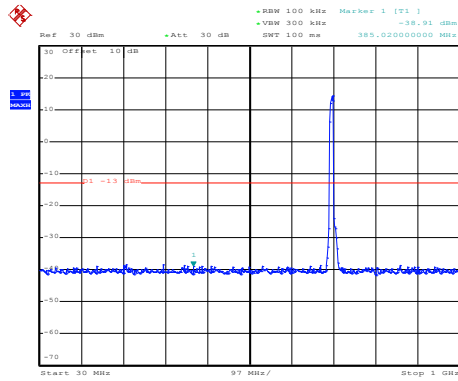
30MHz~1GHz



Date: 28.JUL.2019 13:23:41

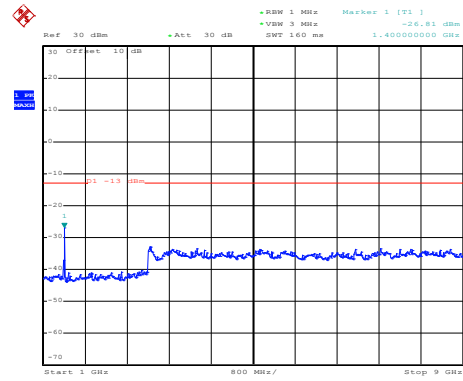
1GHz~9GHz

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



Date: 19.JUL.2019 09:42:14

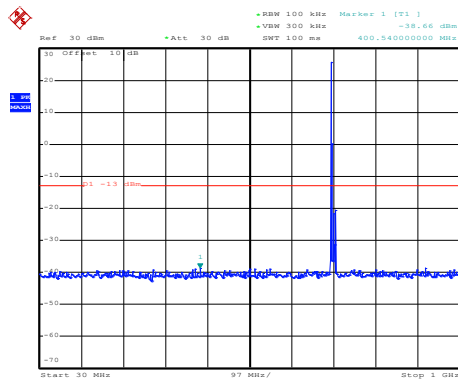
30MHz~1GHz



Date: 28.JUL.2019 13:21:03

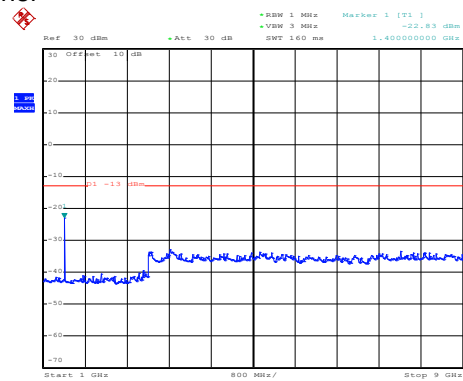
1GHz~9GHz

Middle channel



Date: 19.JUL.2019 09:40:26

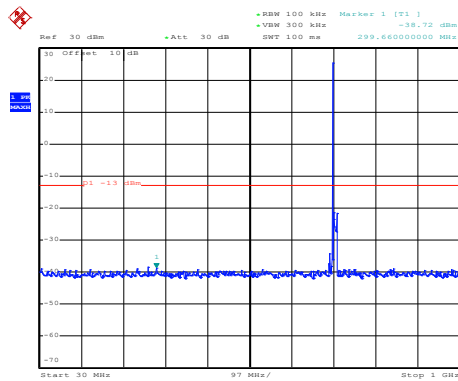
30MHz~1GHz



Date: 28.JUL.2019 13:22:27

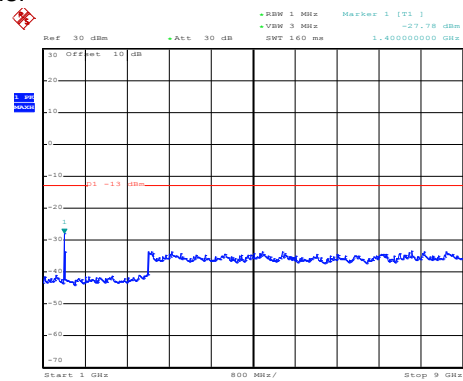
1GHz~9GHz

High channel



Date: 19.JUL.2019 09:39:47

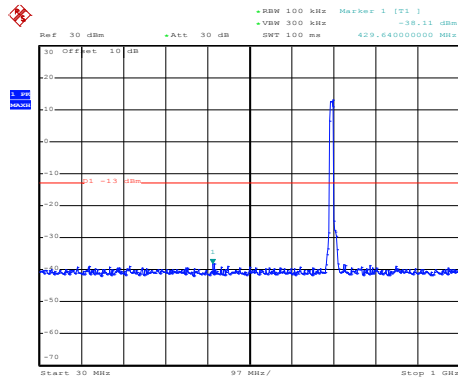
30MHz~1GHz



Date: 28.JUL.2019 13:22:52

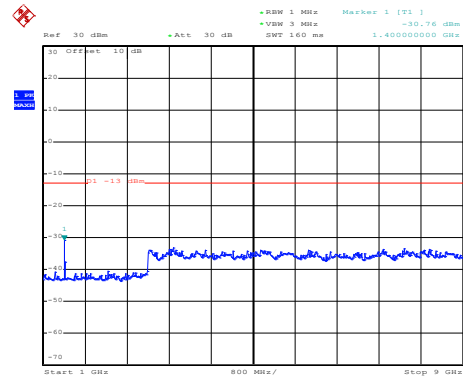
1GHz~9GHz

LTE Band 12: QPSK & RB Size 50 BW: 10MHz Lowest channel



Date: 19.JUL.2019 09:41:34

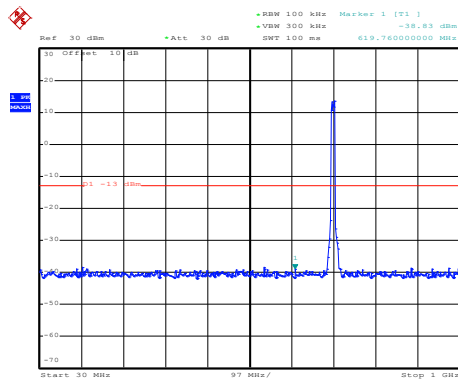
30MHz~1GHz



Date: 28.JUL.2019 13:21:25

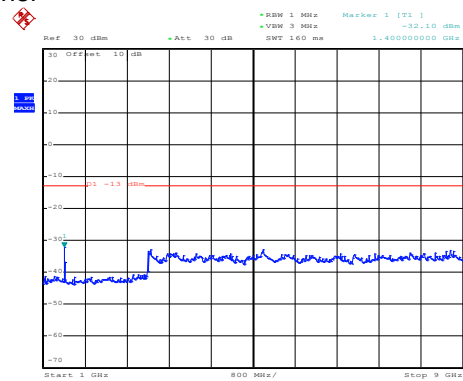
1GHz~9GHz

Middle channel



Date: 19.JUL.2019 09:40:55

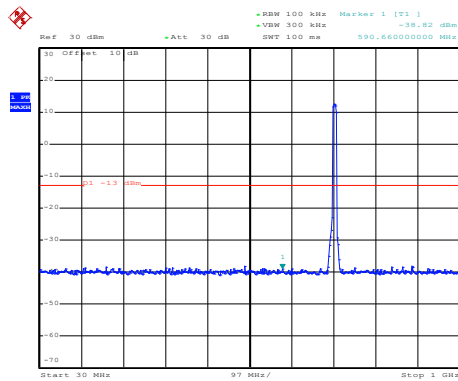
30MHz~1GHz



Date: 28.JUL.2019 13:21:49

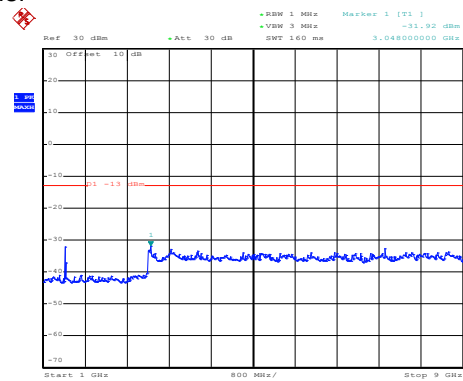
1GHz~9GHz

High channel



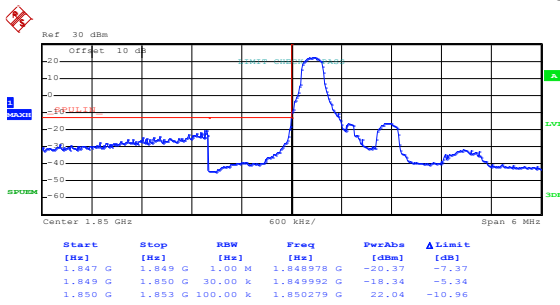
Date: 19.JUL.2019 09:39:13

30MHz~1GHz



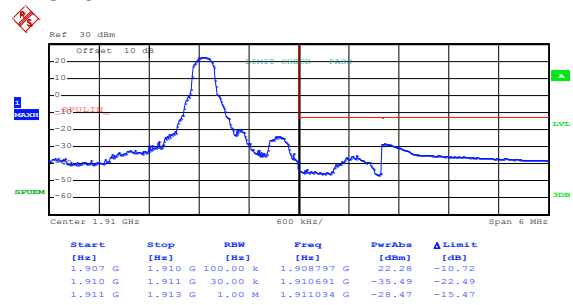
Date: 28.JUL.2019 13:23:34

1GHz~9GHz

Band edge emission:**LTE Band 2 part:****LTE Band 2, BW: 1.4MHz
16QAM & RB Size 1**

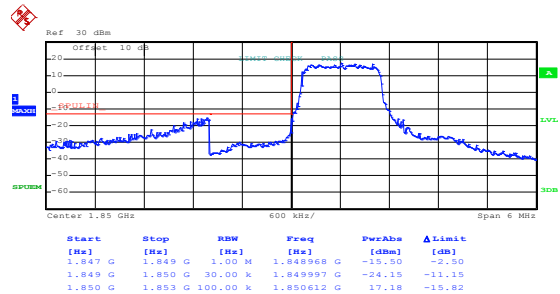
Date: 28.JUL.2019 17:03:49

Lowest channel



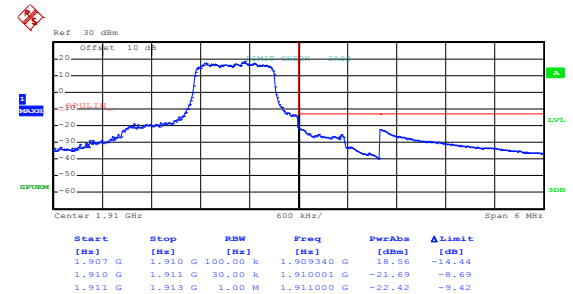
Date: 28.JUL.2019 17:04:41

Highest channel

16QAM & RB Size 6

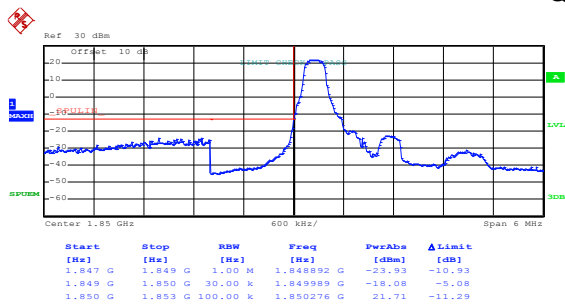
Date: 28.JUL.2019 17:03:58

Lowest channel



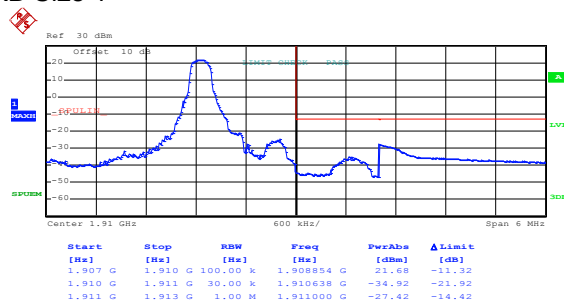
Date: 28.JUL.2019 17:04:32

Highest channel

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

Date: 28.JUL.2019 14:48:03

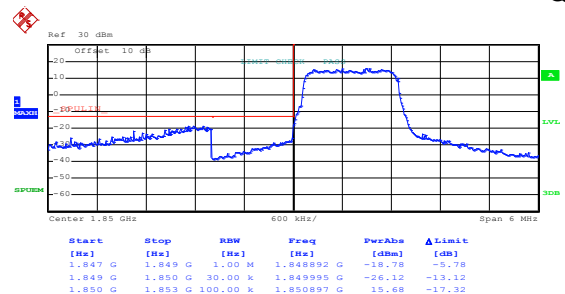
Lowest channel



Date: 28.JUL.2019 14:49:59

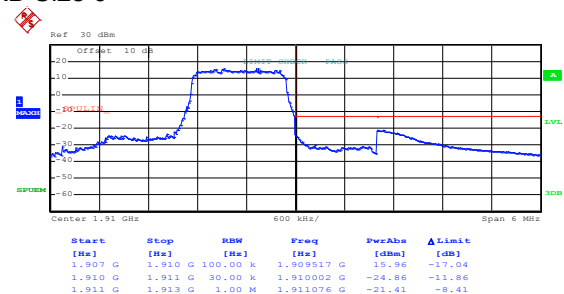
Highest channel

QPSK & RB Size 6



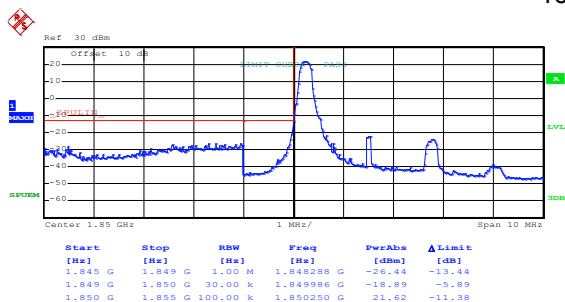
Date: 28.JUL.2019 14:48:41

Lowest channel



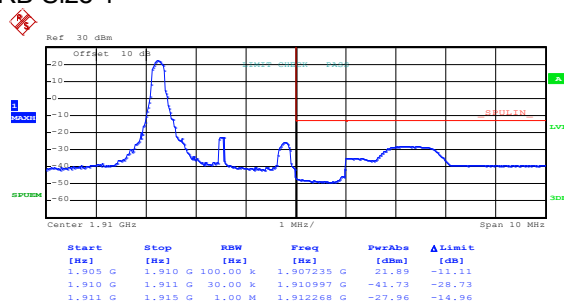
Date: 28.JUL.2019 14:49:29

Highest channel

LTE Band 2, BW: 3MHz
16QAM & RB Size 1

Date: 28.JUL.2019 17:06:43

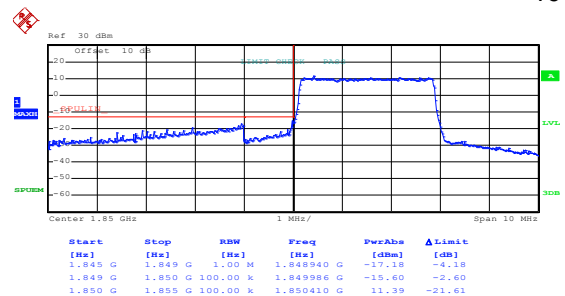
Lowest channel



Date: 28.JUL.2019 17:05:25

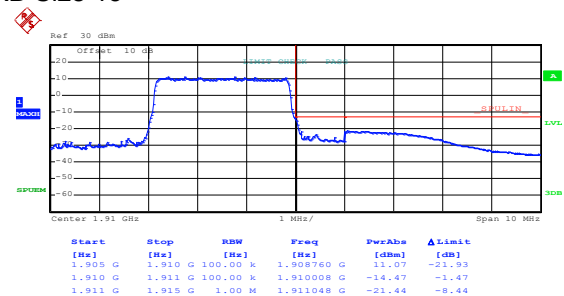
Highest channel

16QAM & RB Size 15



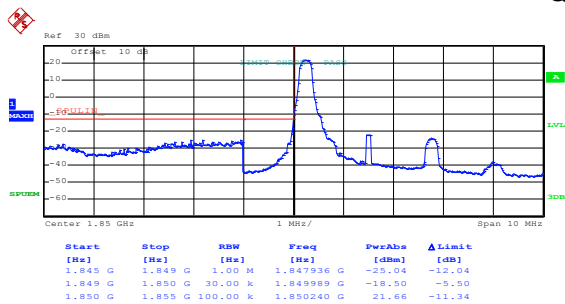
Date: 28.JUL.2019 17:06:29

Lowest channel



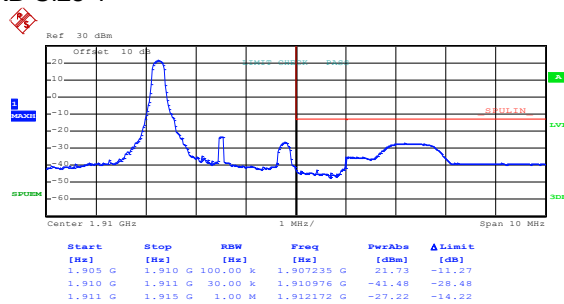
Date: 28.JUL.2019 17:05:59

Highest channel

LTE Band 2, BW: 3MHz
QPSK & RB Size 1

Date: 28.JUL.2019 13:59:21

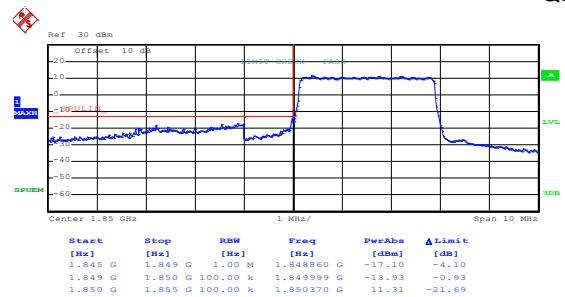
Lowest channel



Date: 28.JUL.2019 14:04:25

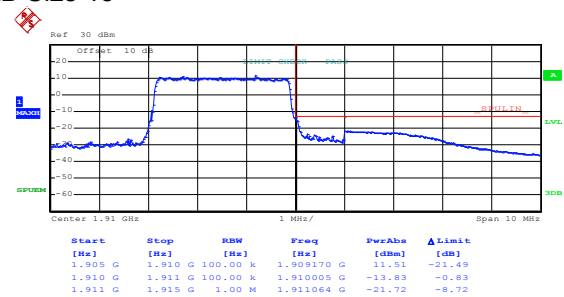
Highest channel

QPSK & RB Size 15



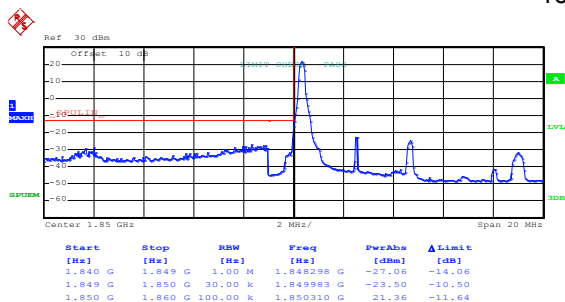
Date: 28.JUL.2019 14:02:14

Lowest channel



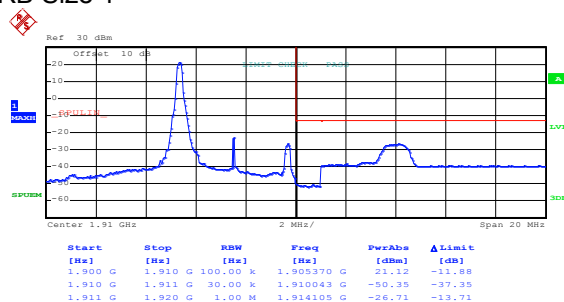
Date: 28.JUL.2019 14:03:58

Highest channel

LTE Band 2, BW: 5MHz
16QAM & RB Size 1

Date: 28.JUL.2019 17:07:17

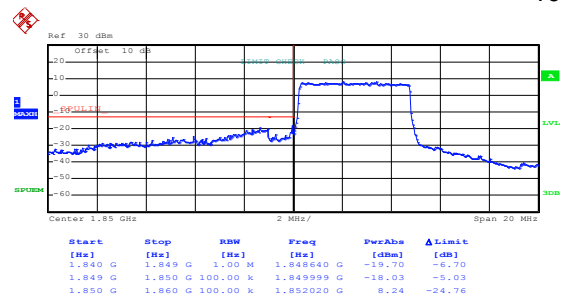
Lowest channel



Date: 28.JUL.2019 17:08:01

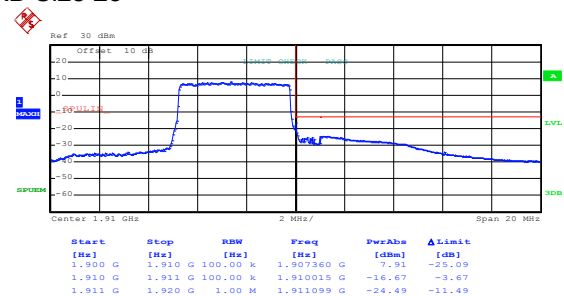
Highest channel

16QAM & RB Size 25



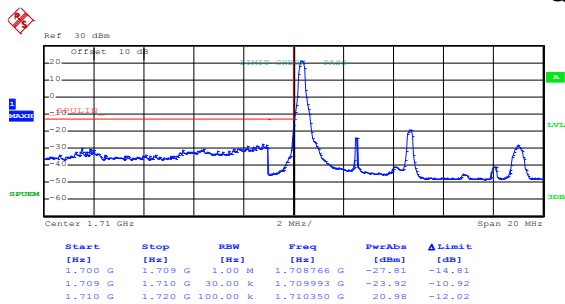
Date: 28.JUL.2019 17:07:33

Lowest channel



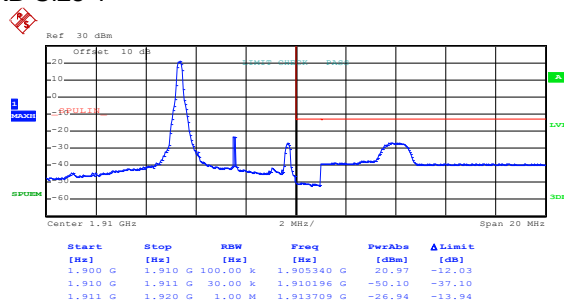
Date: 28.JUL.2019 17:07:46

Highest channel

LTE Band 2, BW: 5MHz
QPSK & RB Size 1

Date: 28.JUL.2019 14:27:00

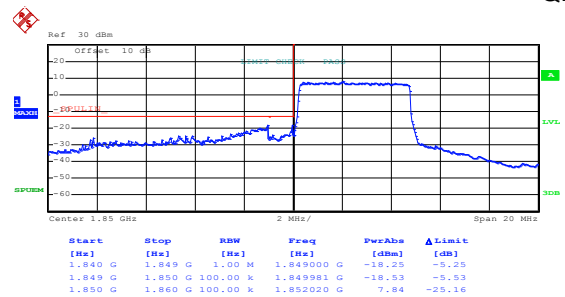
Lowest channel



Date: 28.JUL.2019 13:41:18

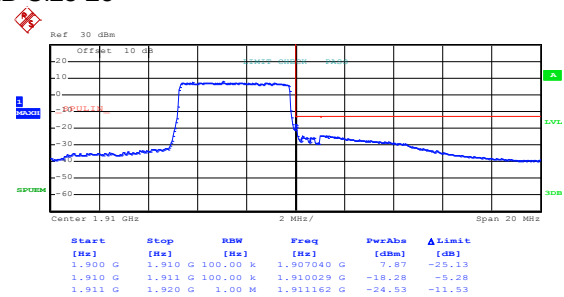
Highest channel

QPSK & RB Size 25



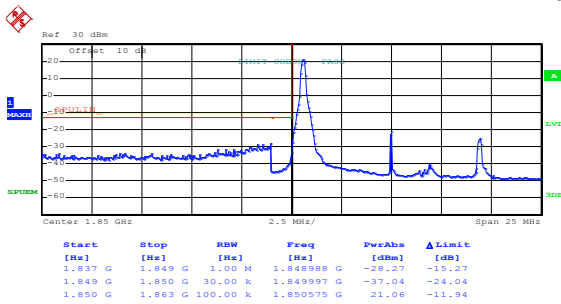
Date: 28.JUL.2019 13:43:47

Lowest channel



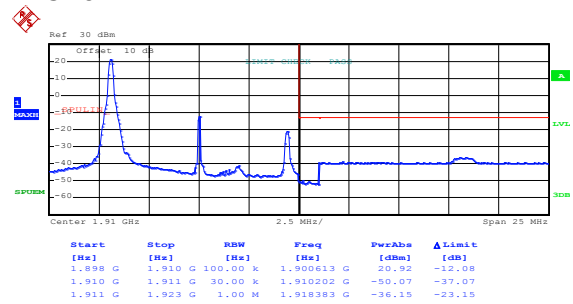
Date: 28.JUL.2019 13:40:43

Highest channel

LTE Band 2, BW: 10MHz
16QAM & RB Size 1

Date: 28.JUL.2019 17:09:20

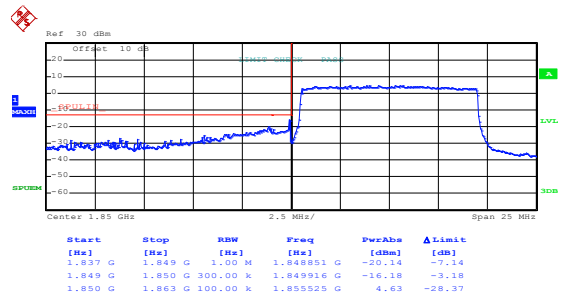
Lowest channel



Date: 28.JUL.2019 17:08:23

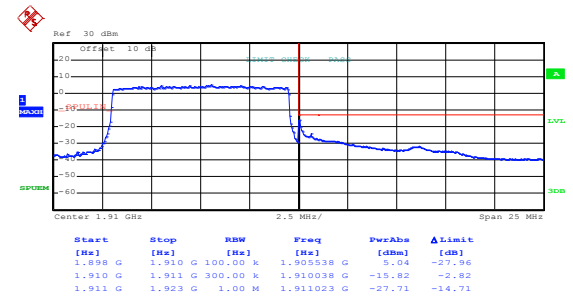
Highest channel

16QAM & RB Size 50



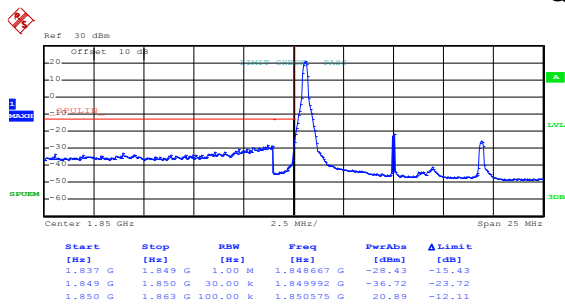
Date: 28.JUL.2019 17:09:05

Lowest channel



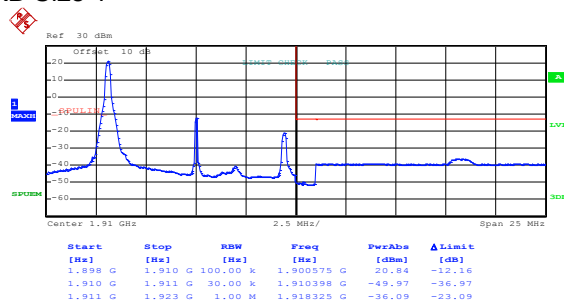
Date: 28.JUL.2019 17:08:38

Highest channel

LTE Band 2, BW: 10MHz
QPSK & RB Size 1

Date: 28.JUL.2019 13:46:54

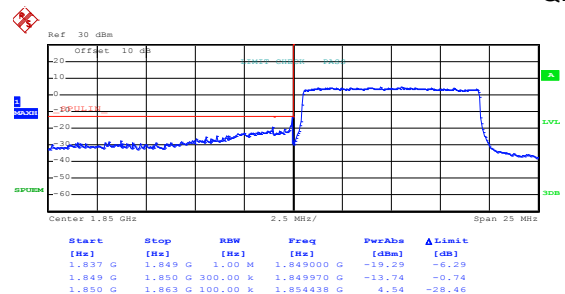
Lowest channel



Date: 28.JUL.2019 13:49:31

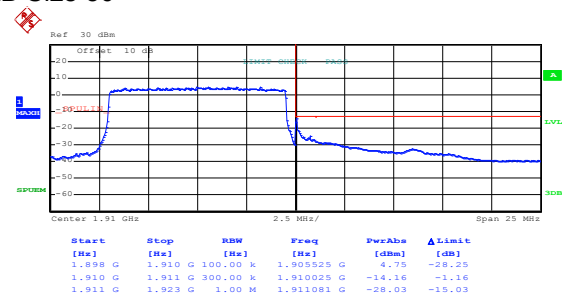
Highest channel

QPSK & RB Size 50



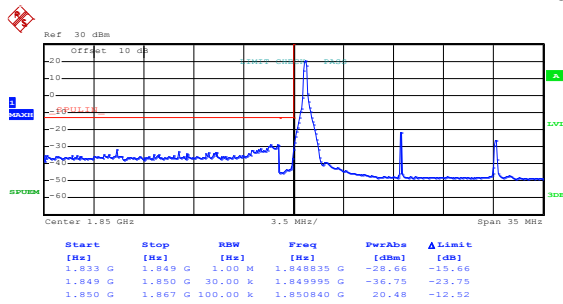
Date: 28.JUL.2019 13:48:09

Lowest channel



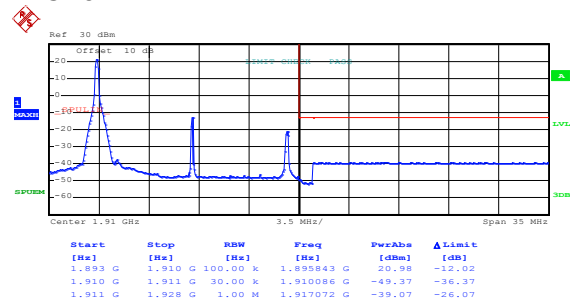
Date: 28.JUL.2019 13:48:47

Highest channel

LTE Band 2, BW: 15MHz
16QAM & RB Size 1

Date: 28.JUL.2019 17:09:48

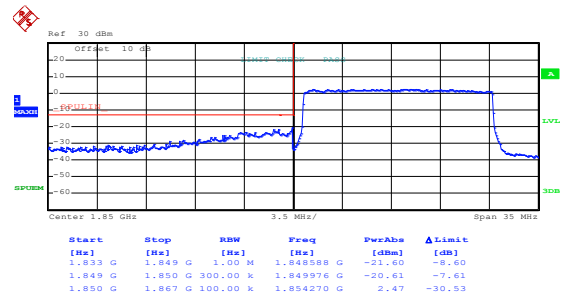
Lowest channel



Date: 28.JUL.2019 17:10:37

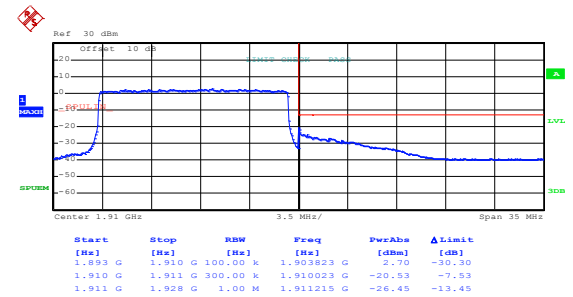
Highest channel

16QAM & RB Size 75



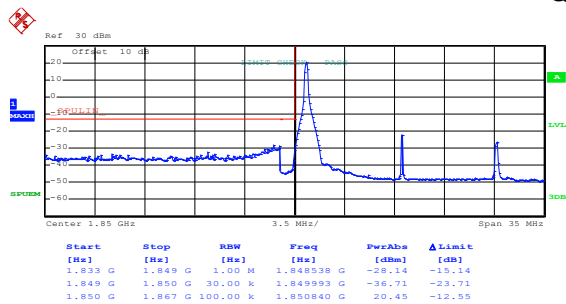
Date: 28.JUL.2019 17:10:03

Lowest channel



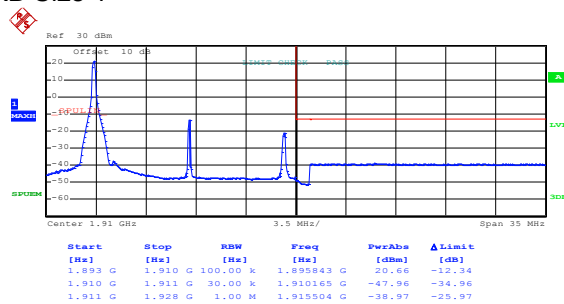
Date: 28.JUL.2019 17:10:19

Highest channel

LTE Band 2, BW: 15MHz
QPSK & RB Size 1

Date: 28.JUL.2019 13:52:17

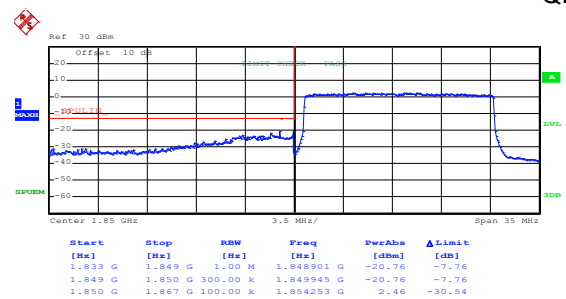
Lowest channel



Date: 28.JUL.2019 13:54:55

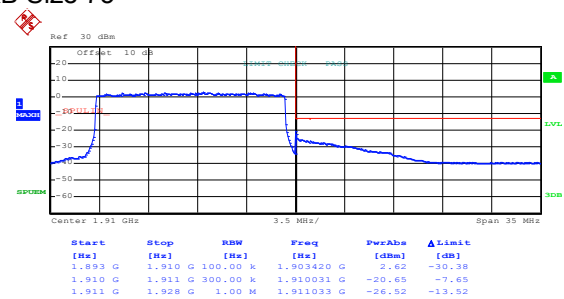
Highest channel

QPSK & RB Size 75



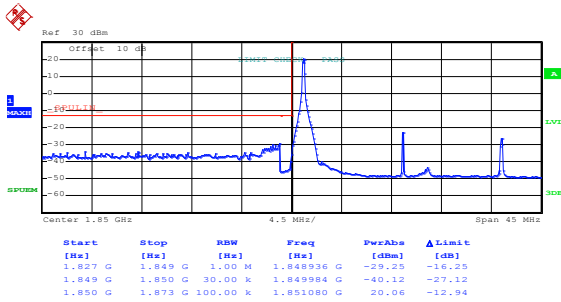
Date: 28.JUL.2019 13:53:25

Lowest channel



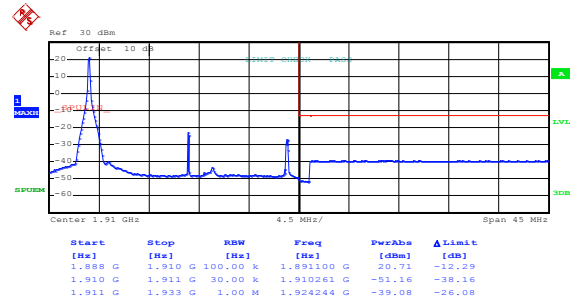
Date: 28.JUL.2019 13:53:57

Highest channel

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

Date: 28.JUL.2019 17:11:51

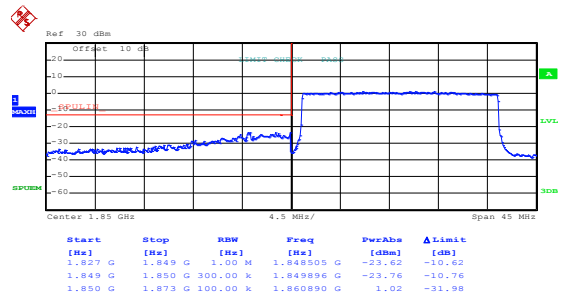
Lowest channel



Date: 28.JUL.2019 17:11:06

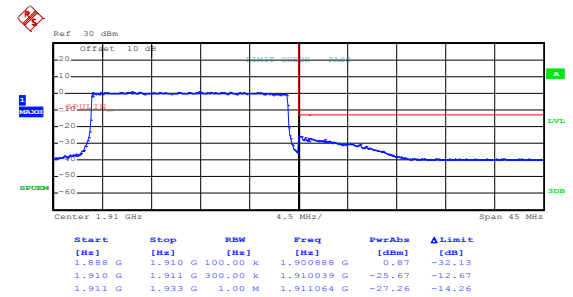
Highest channel

16QAM & RB Size 100



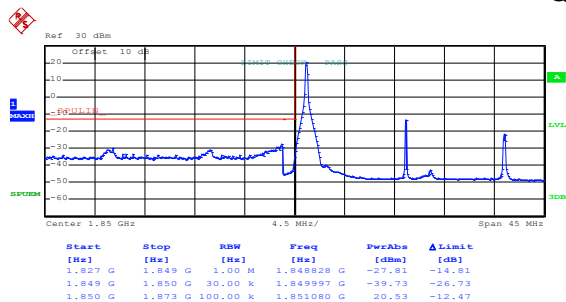
Date: 28.JUL.2019 17:11:36

Lowest channel



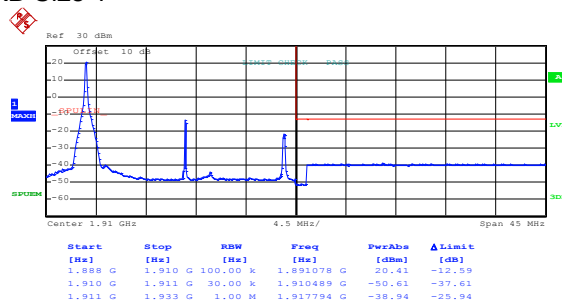
Date: 28.JUL.2019 17:11:21

Highest channel

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

Date: 28.JUL.2019 14:55:05

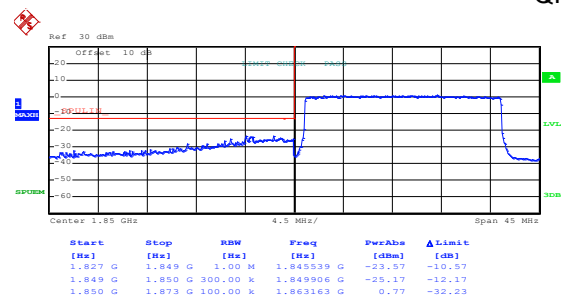
Lowest channel



Date: 28.JUL.2019 14:56:29

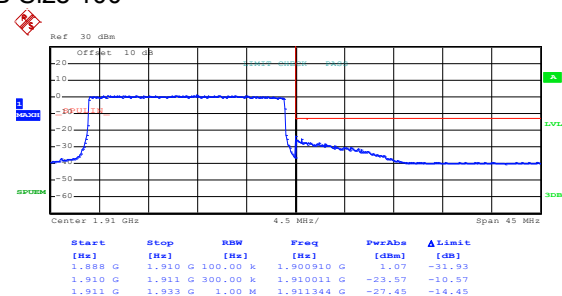
Highest channel

QPSK & RB Size 100



Date: 28.JUL.2019 14:55:32

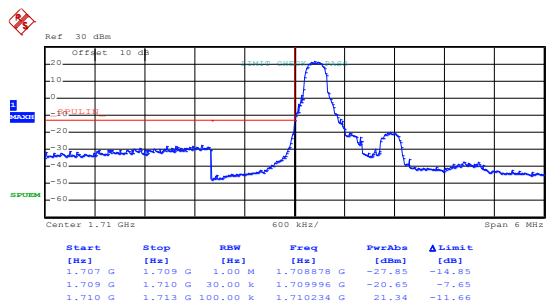
Lowest channel



Date: 28.JUL.2019 14:56:06

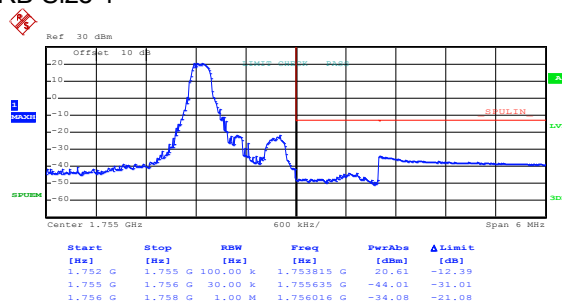
Highest channel

LTE Band 4 part:

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

Date: 28.JUL.2019 14:44:02

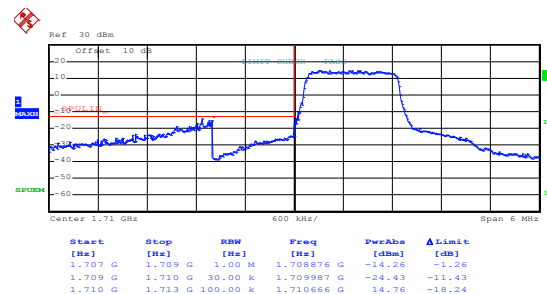
Lowest channel



Date: 28.JUL.2019 14:14:10

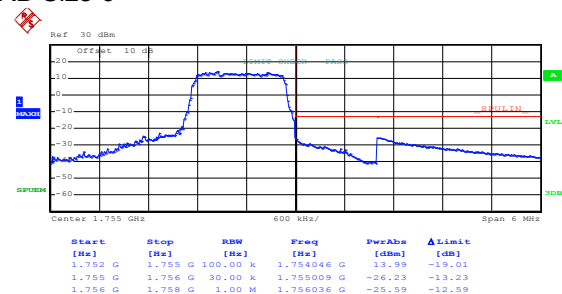
Highest channel

16QAM & RB Size 6



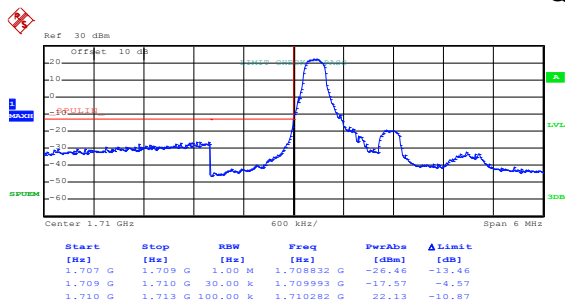
Date: 28.JUL.2019 14:44:34

Lowest channel



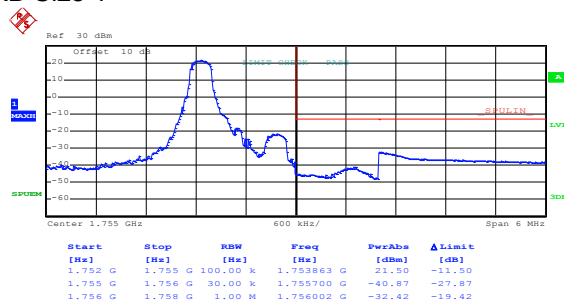
Date: 28.JUL.2019 14:45:24

Highest channel

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

Date: 28.JUL.2019 14:43:44

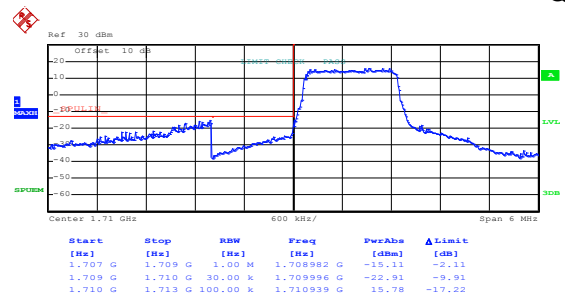
Lowest channel



Date: 28.JUL.2019 14:14:02

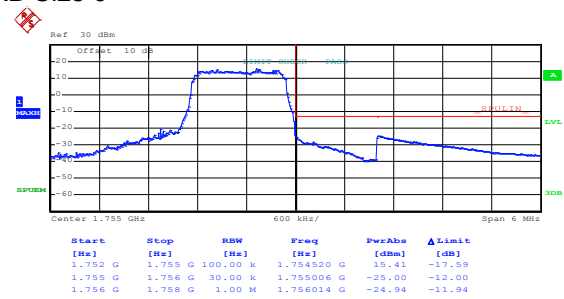
Highest channel

QPSK & RB Size 6



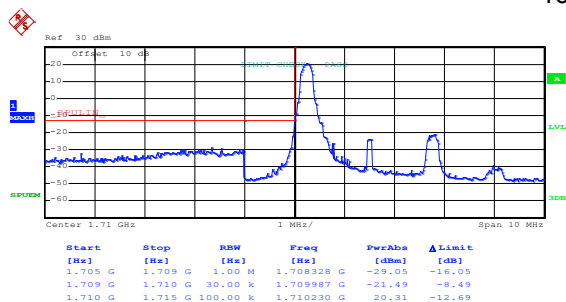
Date: 28.JUL.2019 14:44:20

Lowest channel



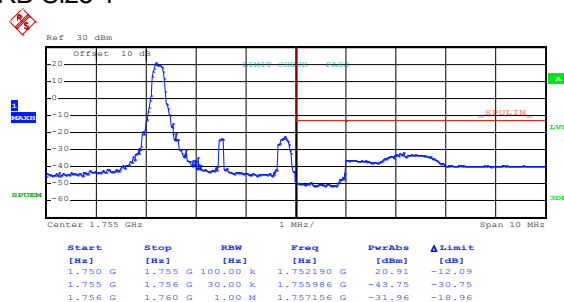
Date: 28.JUL.2019 14:45:11

Highest channel

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

Date: 28.JUL.2019 14:15:52

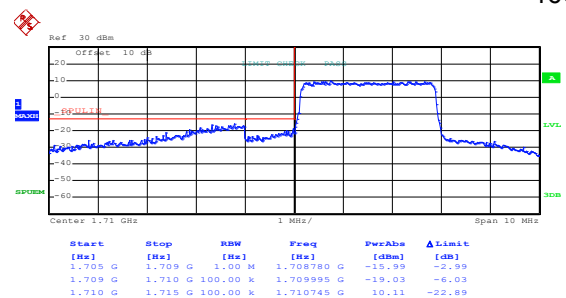
Lowest channel



Date: 28.JUL.2019 14:19:11

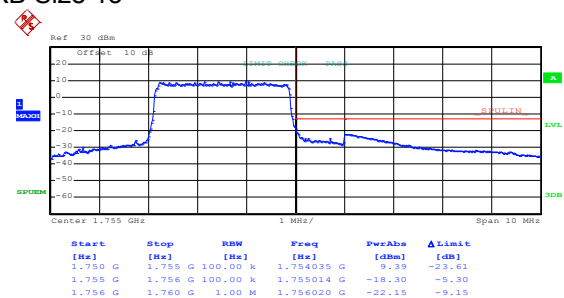
Highest channel

16QAM & RB Size 15



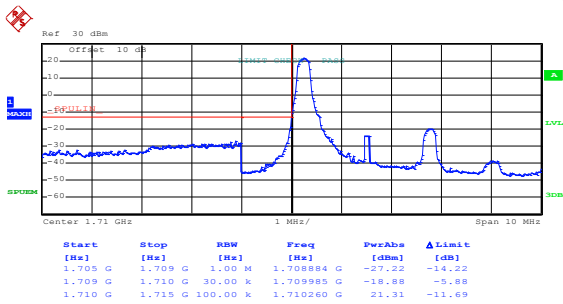
Date: 28.JUL.2019 14:16:54

Lowest channel



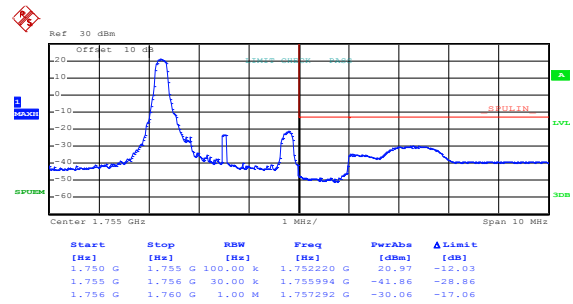
Date: 28.JUL.2019 14:18:13

Highest channel

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

Date: 28.JUL.2019 14:15:42

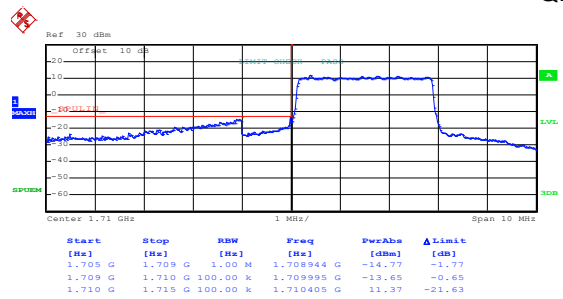
Lowest channel



Date: 28.JUL.2019 14:19:03

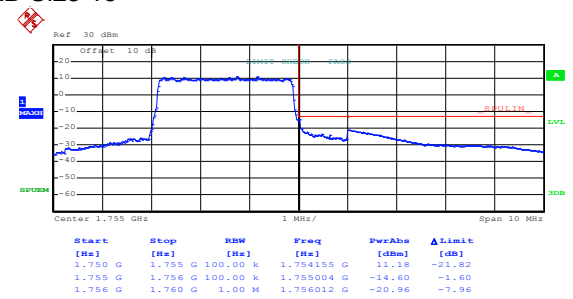
Highest channel

QPSK & RB Size 15



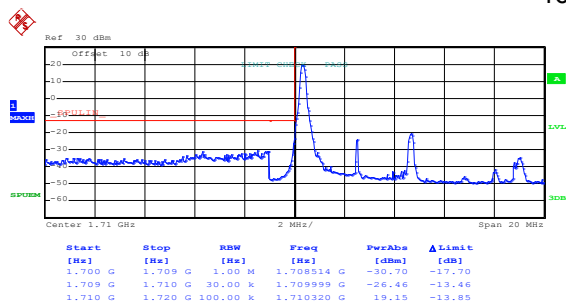
Date: 28.JUL.2019 14:16:48

Lowest channel



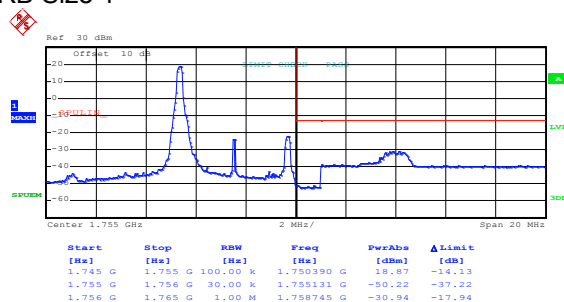
Date: 28.JUL.2019 14:18:40

Highest channel

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

Date: 28.JUL.2019 14:27:53

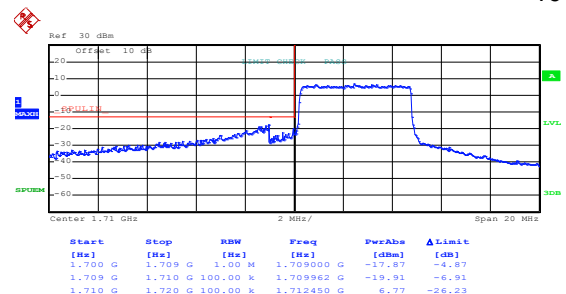
Lowest channel



Date: 28.JUL.2019 14:32:50

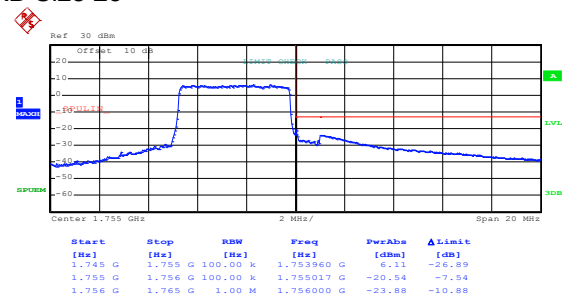
Highest channel

16QAM & RB Size 25



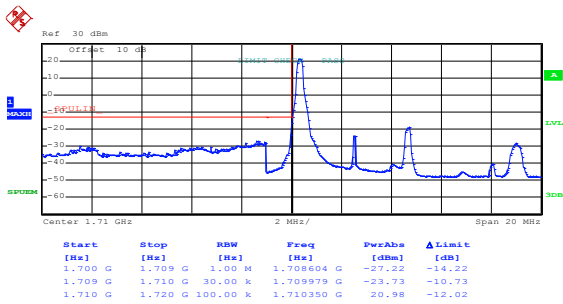
Date: 28.JUL.2019 14:29:24

Lowest channel



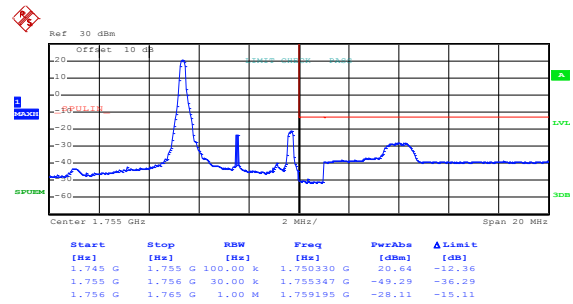
Date: 28.JUL.2019 14:30:09

Highest channel

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

Date: 28.JUL.2019 14:27:37

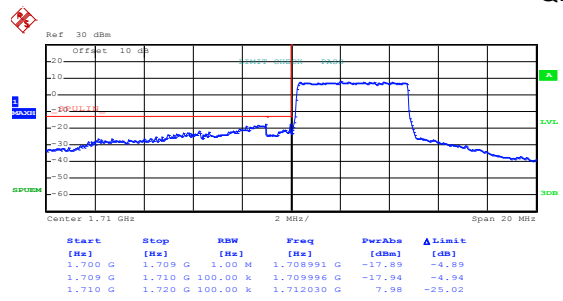
Lowest channel



Date: 28.JUL.2019 14:32:40

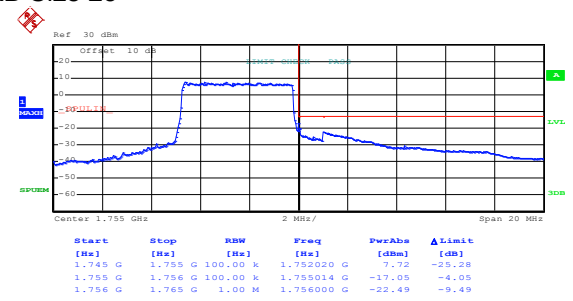
Highest channel

QPSK & RB Size 25



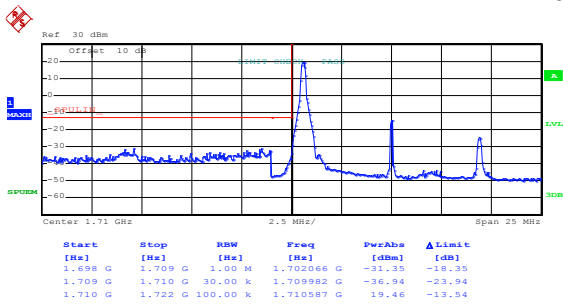
Date: 28.JUL.2019 14:29:17

Lowest channel



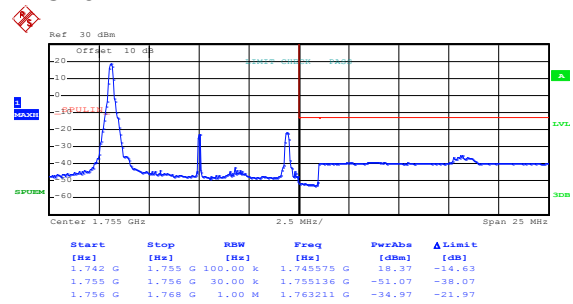
Date: 28.JUL.2019 14:30:01

Highest channel

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

Date: 28.JUL.2019 14:36:15

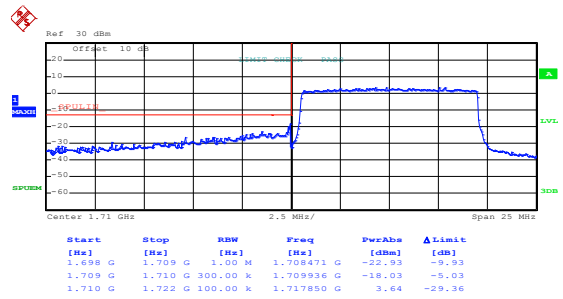
Lowest channel



Date: 28.JUL.2019 14:34:29

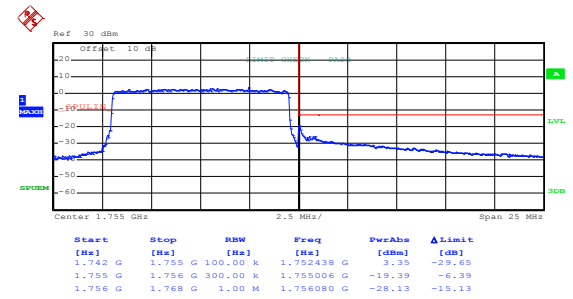
Highest channel

16QAM & RB Size 50



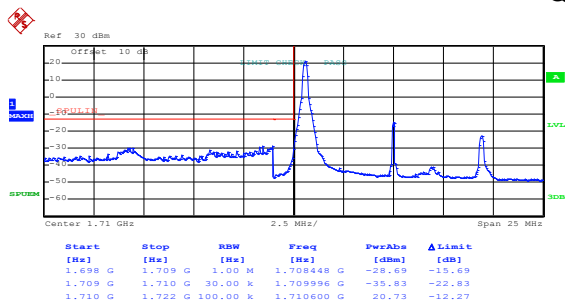
Date: 28.JUL.2019 14:35:49

Lowest channel



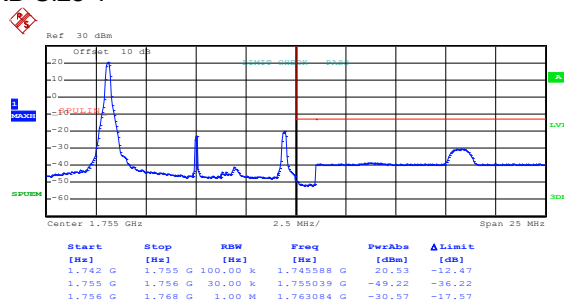
Date: 28.JUL.2019 14:35:05

Highest channel

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

Date: 28.JUL.2019 14:36:09

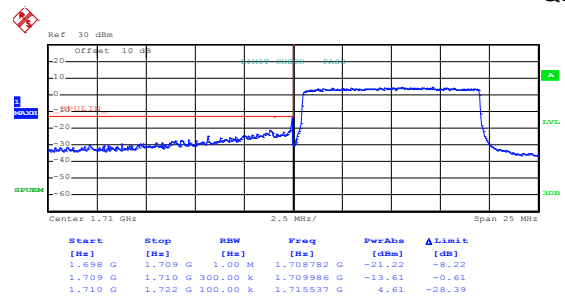
Lowest channel



Date: 28.JUL.2019 14:34:07

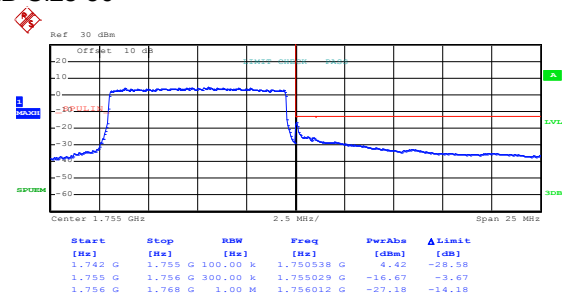
Highest channel

QPSK & RB Size 50



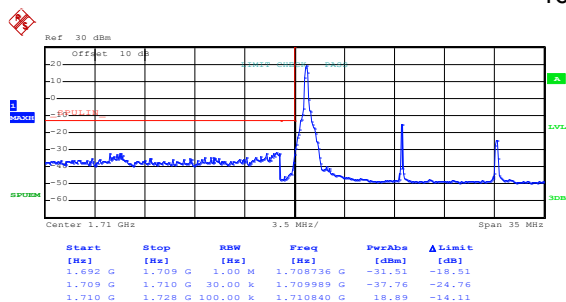
Date: 28.JUL.2019 14:35:45

Lowest channel



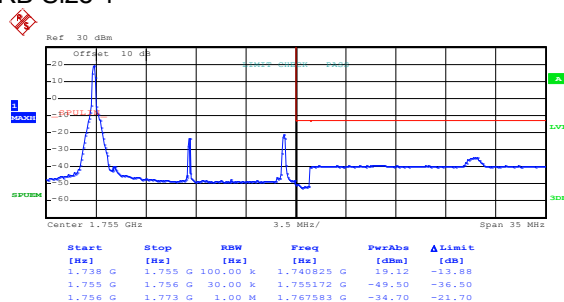
Date: 28.JUL.2019 14:34:56

Highest channel

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

Date: 28.JUL.2019 14:37:31

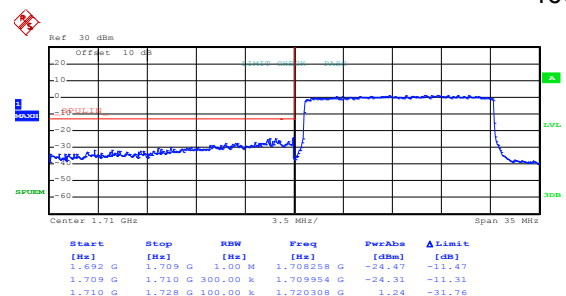
Lowest channel



Date: 28.JUL.2019 14:39:07

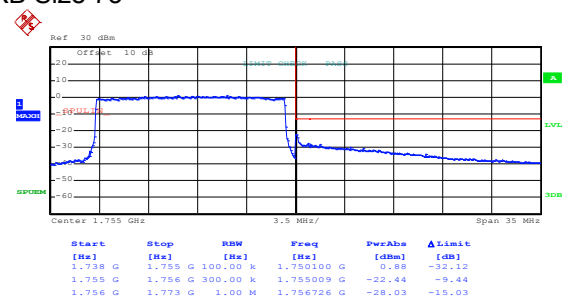
Highest channel

16QAM & RB Size 75



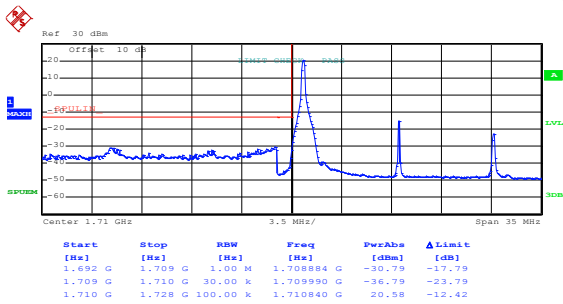
Date: 28.JUL.2019 14:38:05

Lowest channel



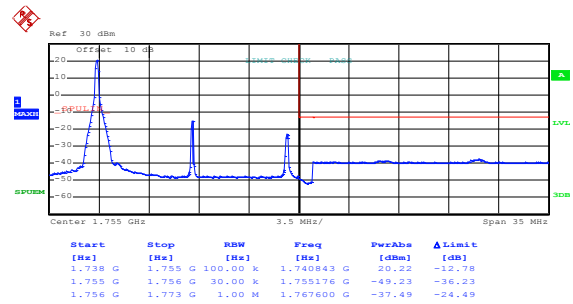
Date: 28.JUL.2019 14:38:42

Highest channel

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

Date: 28.JUL.2019 14:37:24

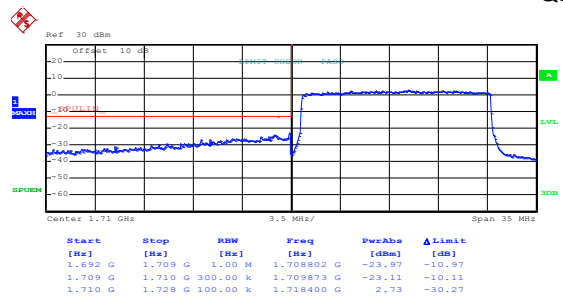
Lowest channel



Date: 28.JUL.2019 14:39:00

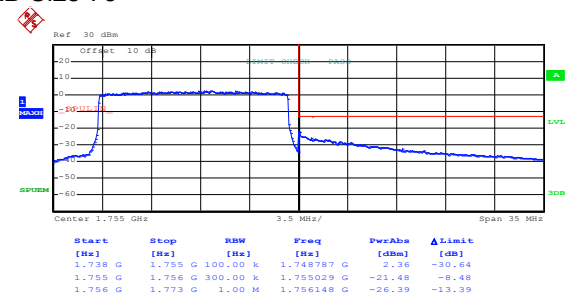
Highest channel

QPSK & RB Size 75



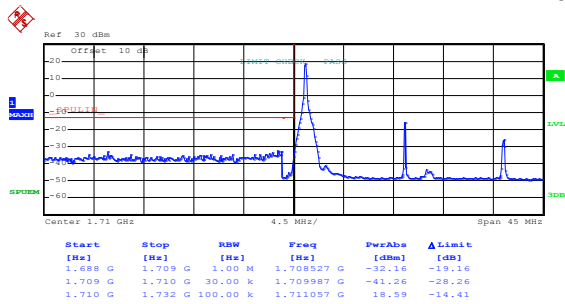
Date: 28.JUL.2019 14:37:58

Lowest channel



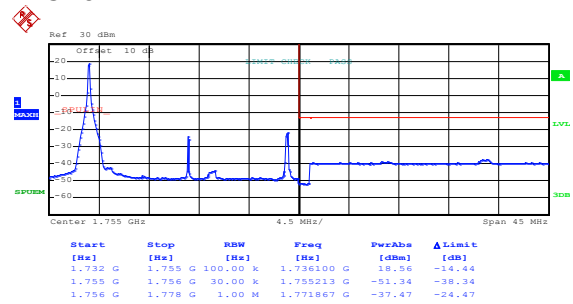
Date: 28.JUL.2019 14:38:36

Highest channel

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

Date: 28.JUL.2019 14:42:07

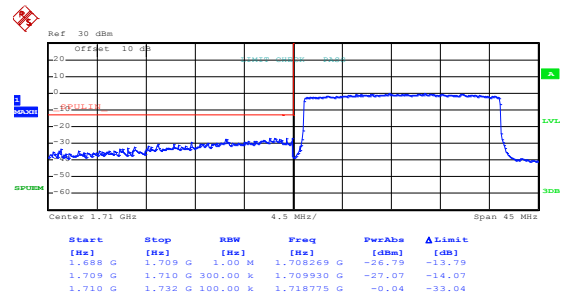
Lowest channel



Date: 28.JUL.2019 14:40:38

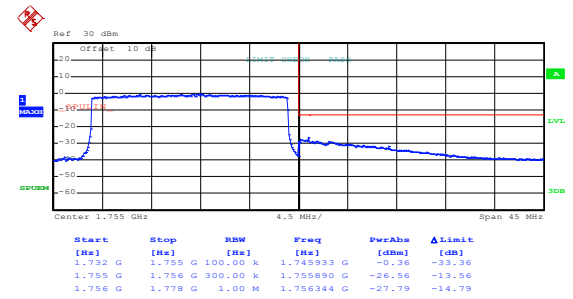
Highest channel

16QAM & RB Size 100



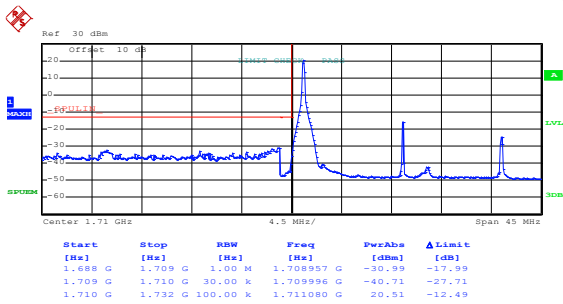
Date: 28.JUL.2019 14:41:39

Lowest channel



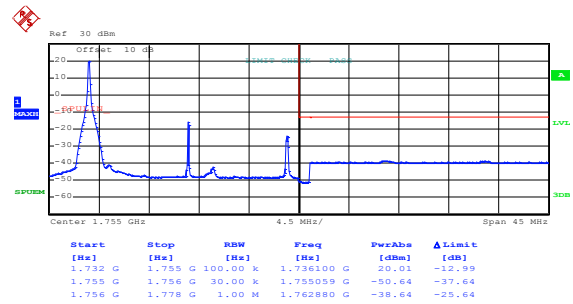
Date: 28.JUL.2019 14:41:05

Highest channel

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

Date: 28.JUL.2019 14:41:56

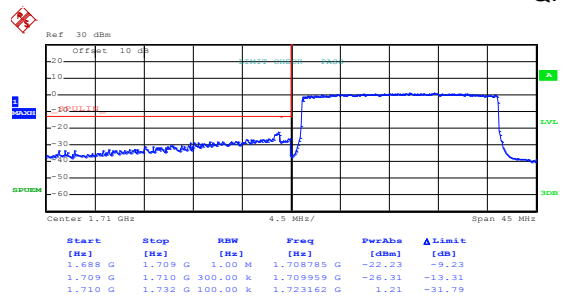
Lowest channel



Date: 28.JUL.2019 14:40:29

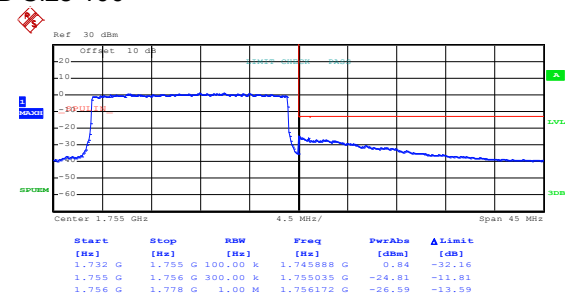
Highest channel

QPSK & RB Size 100



Date: 28.JUL.2019 14:41:33

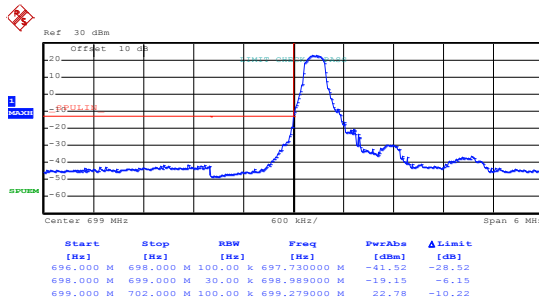
Lowest channel



Date: 28.JUL.2019 14:41:00

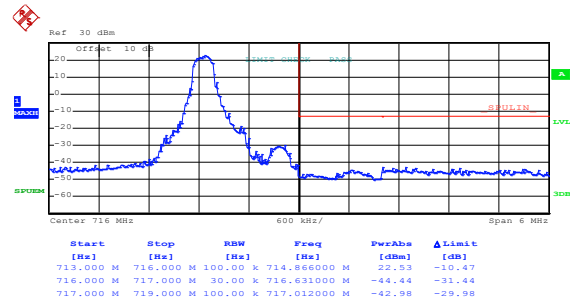
Highest channel

LTE band 12 part:

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

Date: 18.JUL.2019 20:08:28

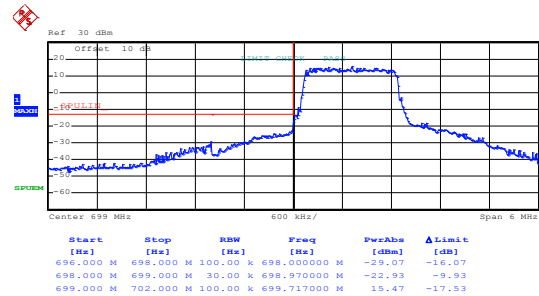
Lowest channel



Date: 18.JUL.2019 20:09:23

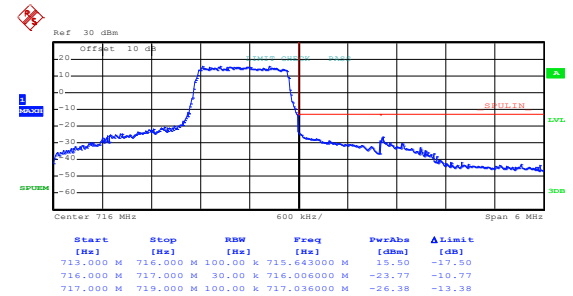
Highest channel

16QAM & RB Size 6



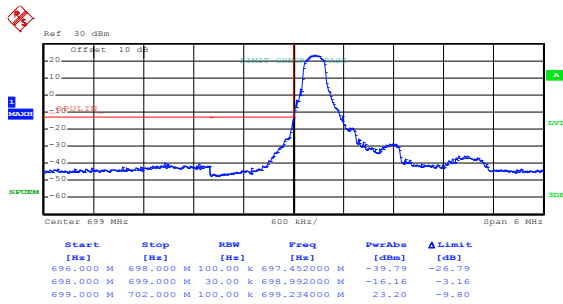
Date: 18.JUL.2019 20:08:05

Lowest channel



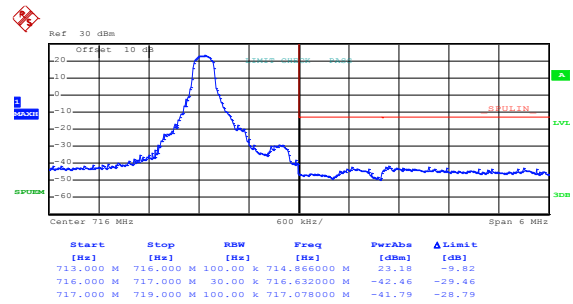
Date: 18.JUL.2019 20:09:43

Highest channel

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

Date: 18.JUL.2019 20:08:17

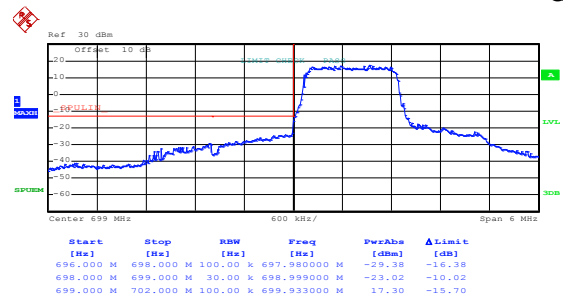
Lowest channel



Date: 18.JUL.2019 20:09:15

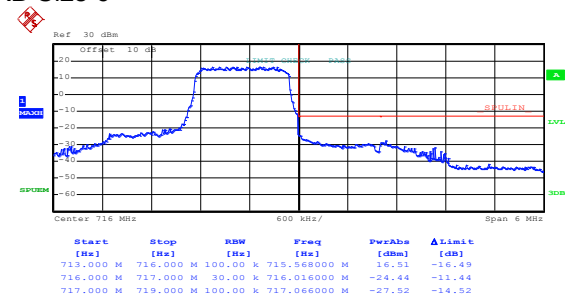
Highest channel

QPSK & RB Size 6



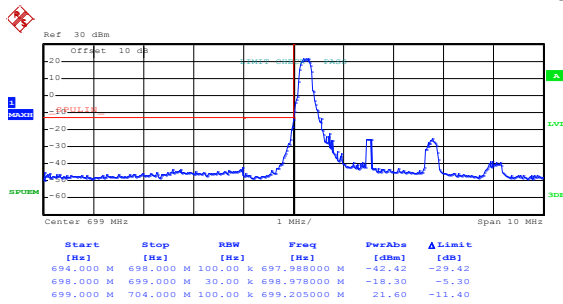
Date: 18.JUL.2019 20:07:59

Lowest channel



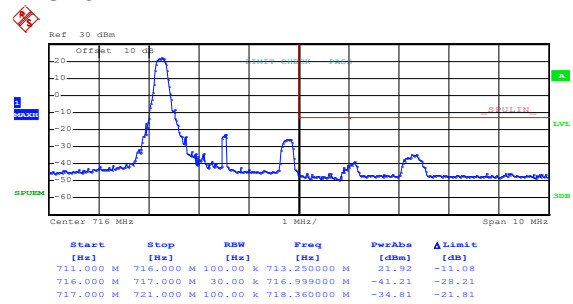
Date: 18.JUL.2019 20:09:35

Highest channel

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

Date: 18.JUL.2019 20:13:34

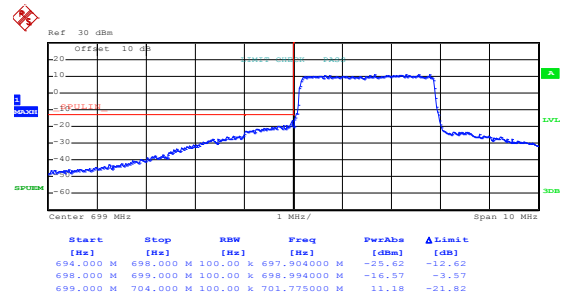
Lowest channel



Date: 18.JUL.2019 20:12:40

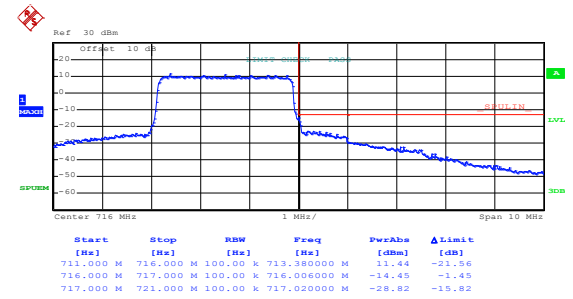
Highest channel

16QAM & RB Size 15



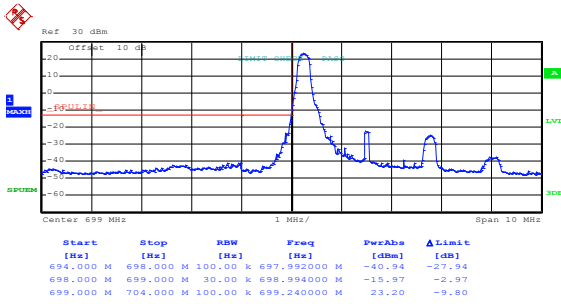
Date: 18.JUL.2019 20:14:20

Lowest channel



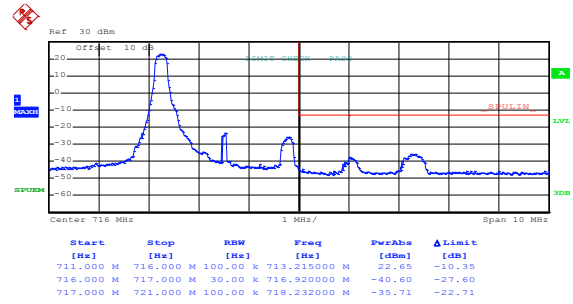
Date: 18.JUL.2019 20:11:54

Highest channel

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

Date: 18.JUL.2019 20:13:27

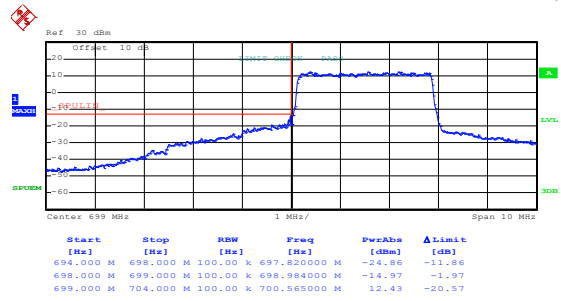
Lowest channel



Date: 18.JUL.2019 20:12:23

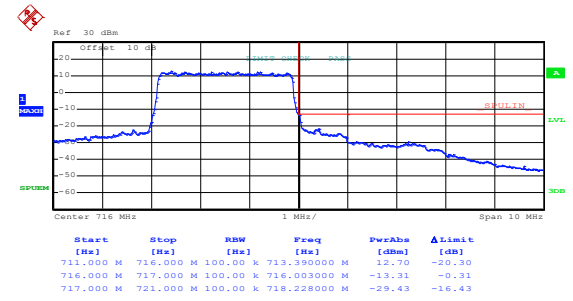
Highest channel

QPSK & RB Size 15



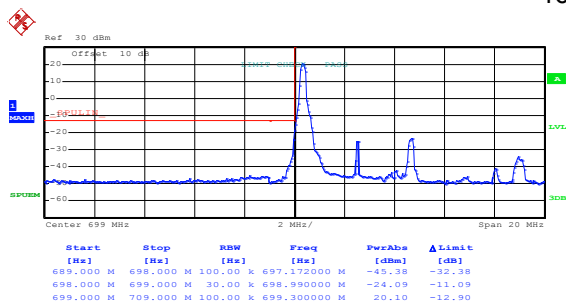
Date: 18.JUL.2019 20:14:12

Lowest channel



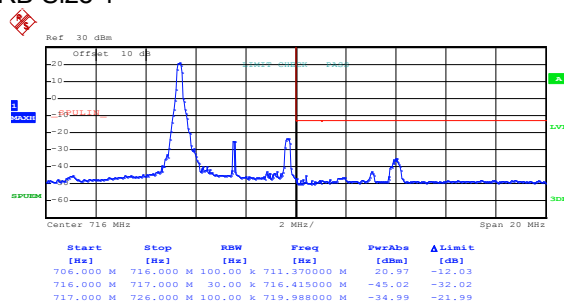
Date: 18.JUL.2019 20:11:47

Highest channel

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

Date: 18.JUL.2019 20:16:17

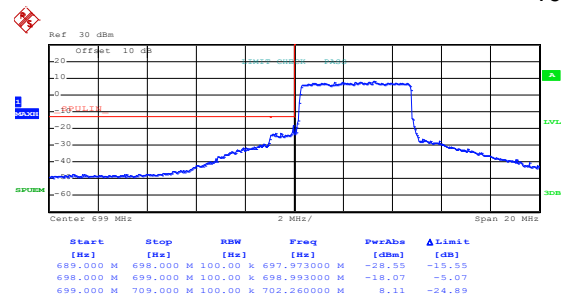
Lowest channel



Date: 18.JUL.2019 20:17:01

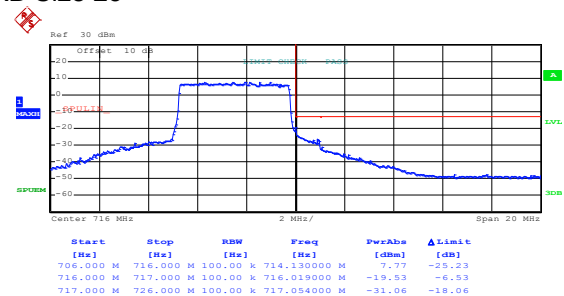
Highest channel

16QAM & RB Size 25



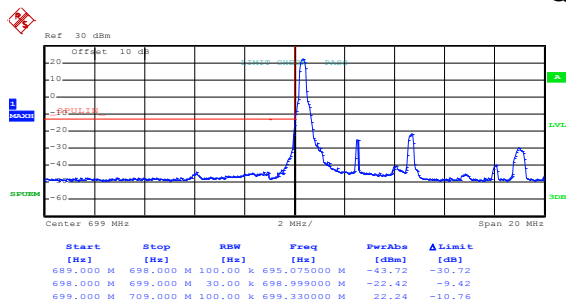
Date: 18.JUL.2019 20:15:37

Lowest channel



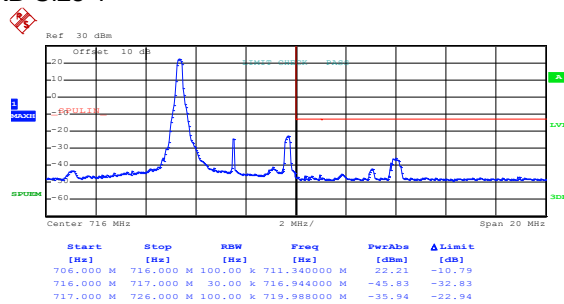
Date: 18.JUL.2019 20:17:30

Highest channel

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

Date: 18.JUL.2019 20:16:04

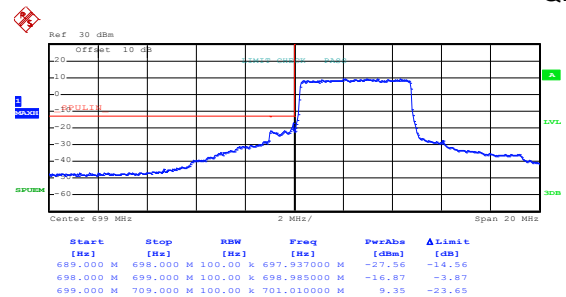
Lowest channel



Date: 18.JUL.2019 20:16:53

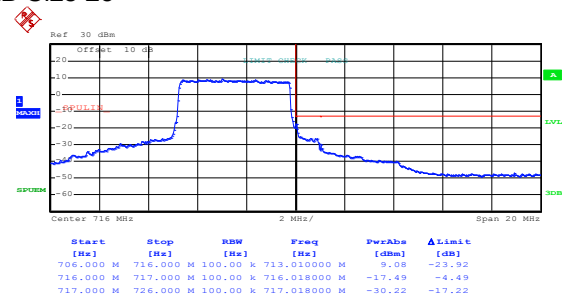
Highest channel

QPSK & RB Size 25



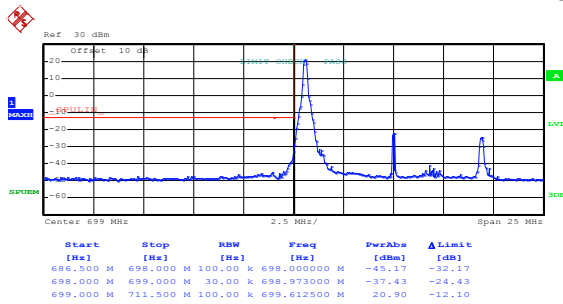
Date: 18.JUL.2019 20:15:30

Lowest channel



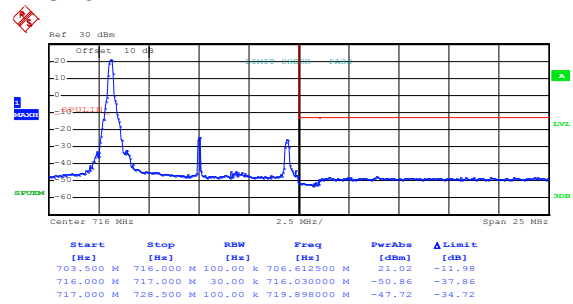
Date: 18.JUL.2019 20:17:25

Highest channel

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

Date: 18.JUL.2019 20:22:32

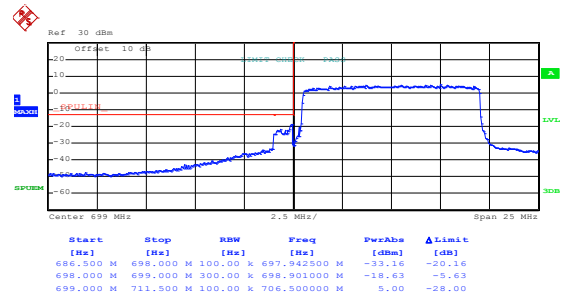
Lowest channel



Date: 18.JUL.2019 20:21:50

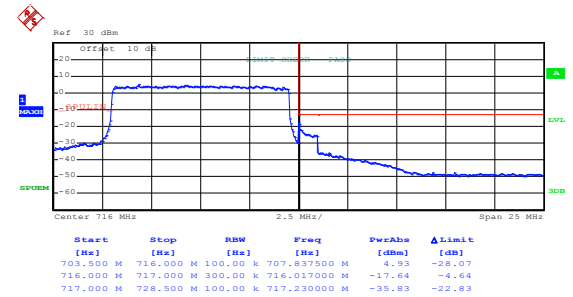
Highest channel

16QAM & RB Size 50



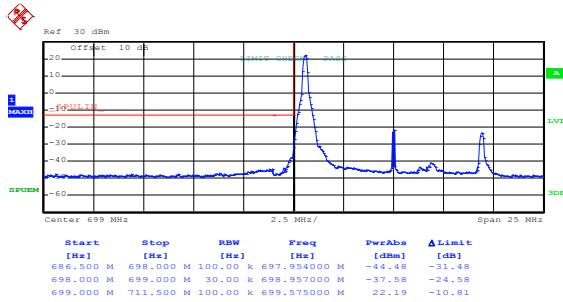
Date: 18.JUL.2019 20:22:59

Lowest channel



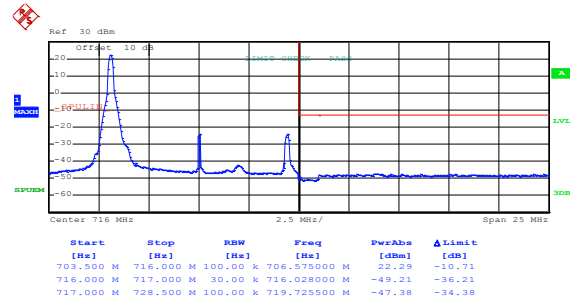
Date: 18.JUL.2019 20:21:05

Highest channel

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

Date: 18.JUL.2019 20:22:25

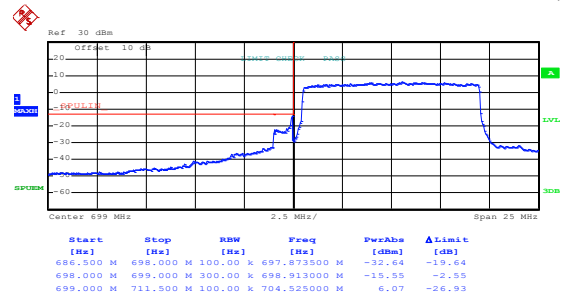
Lowest channel



Date: 18.JUL.2019 20:21:40

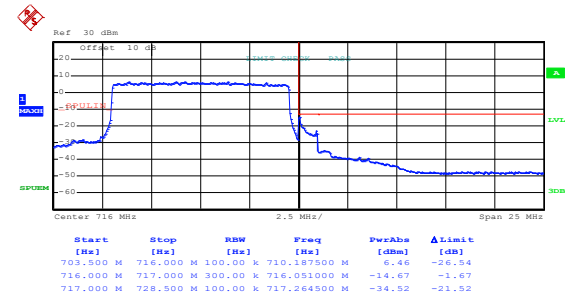
Highest channel

QPSK & RB Size 50



Date: 18.JUL.2019 20:22:53

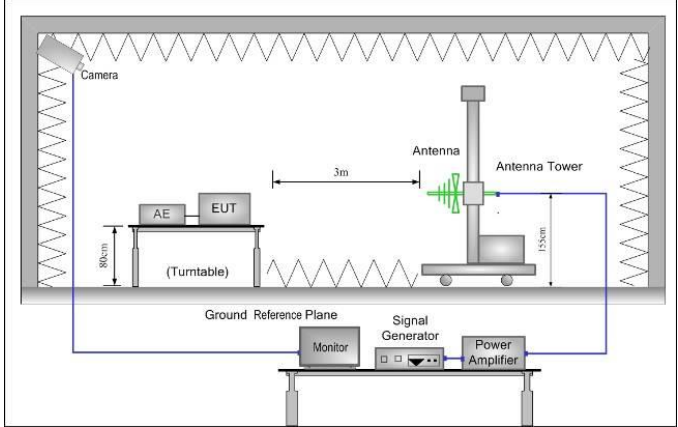
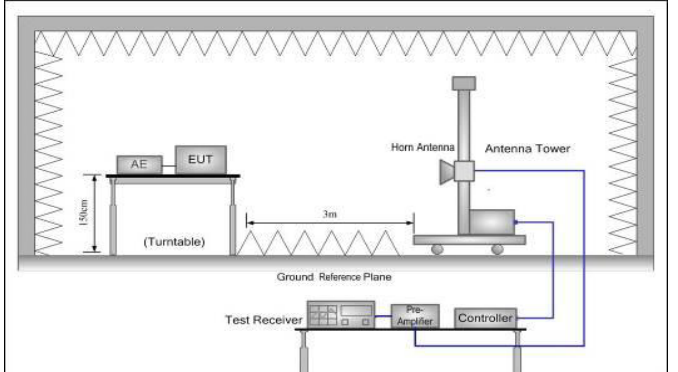
Lowest channel



Date: 18.JUL.2019 20:20:56

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 24.238 (a), Part 27.53(g), Part 27.53(m),
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & 4 & 12 The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm).
Test setup:	Below 1GHz  Above 1GHz 
Test Procedure:	1. The EUT was placed on 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. $ERP / EIRP = S.G. \text{ output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
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	-39.91	-13.00	Pass
5552.10	V	-40.12		
7402.00	V	-38.53		
3701.40	Horizontal	-45.61		
5552.10	H	-41.25		
7402.00	H	-38.54		
Middle Channel				
3760.00	Vertical	-39.15	-13.00	Pass
5640.00	V	-40.58		
7520.00	V	-38.74		
3760.00	Horizontal	-45.71		
5640.00	H	-41.16		
7520.00	H	-38.29		
Highest Channel				
3816.60	Vertical	-39.56	-13.00	Pass
5724.90	V	-40.61		
7633.20	V	-38.33		
3816.60	Horizontal	-45.28		
5724.90	H	-41.97		
7633.20	H	-38.54		
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: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3703.00	Vertical	-39.48	-13.00	Pass
5554.50	V	-40.17		
7406.00	V	-38.52		
3703.00	Horizontal	-45.13		
5554.50	H	-41.95		
7406.00	H	-38.47		
Middle Channel				
3760.00	Vertical	-39.54	-13.00	Pass
5640.00	V	-40.78		
7520.00	V	-38.61		
3760.00	Horizontal	-45.23		
5640.00	H	-41.66		
7520.00	H	-38.71		
Highest Channel				
3817.00	Vertical	-39.61	-13.00	Pass
5725.50	V	-40.12		
7634.00	V	-38.52		
3817.00	Horizontal	-45.76		
5725.50	H	-41.23		
7634.00	H	-38.13		
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: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3705.00	Vertical	-39.26	-13.00	Pass
5557.50	V	-40.85		
7410.00	V	-38.34		
3705.00	Horizontal	-45.23		
5557.50	H	-41.11		
7410.00	H	-38.84		
Middle Channel				
3760.00	Vertical	-39.43	-13.00	Pass
5640.00	V	-40.21		
7520.00	V	-38.56		
3760.00	Horizontal	-45.18		
5640.00	H	-41.55		
7520.00	H	-38.47		
Highest Channel				
3815.00	Vertical	-39.61	-13.00	Pass
5722.50	V	-40.23		
7630.00	V	-38.55		
3815.00	Horizontal	-45.19		
5722.50	H	-41.22		
7630.00	H	-38.17		
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: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3710.00	Vertical	-39.12	-13.00	Pass
5565.00	V	-40.23		
7420.00	V	-38.61		
3710.00	Horizontal	-45.28		
5565.00	H	-41.17		
7420.00	H	-38.69		
Middle Channel				
3760.00	Vertical	-39.23	-13.00	Pass
5640.00	V	-40.15		
7520.00	V	-38.25		
3760.00	Horizontal	-45.97		
5640.00	H	-41.21		
7520.00	H	-38.97		
Highest Channel				
3810.00	Vertical	-39.53	-13.00	Pass
5715.00	V	-40.29		
7620.00	V	-38.58		
3810.00	Horizontal	-45.69		
5715.00	H	-41.77		
7620.00	H	-38.26		
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: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3715.00	Vertical	-39.38	-13.00	Pass
5572.50	V	-40.23		
7430.00	V	-38.25		
3715.00	Horizontal	-45.19		
5572.50	H	-41.71		
7430.00	H	-38.56		
Middle Channel				
3760.00	Vertical	-39.66	-13.00	Pass
5640.00	V	-40.85		
7520.00	V	-38.16		
3760.00	Horizontal	-45.87		
5640.00	H	-41.16		
7520.00	H	-38.23		
Highest Channel				
3805.00	Vertical	-39.11	-13.00	Pass
5707.50	V	-40.85		
7610.00	V	-38.47		
3805.00	Horizontal	-45.29		
5707.50	H	-41.33		
7610.00	H	-38.16		
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 2, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3720.00	Vertical	-39.63	-13.00	Pass
5580.00	V	-40.17		
7440.00	V	-38.52		
3720.00	Horizontal	-45.18		
5580.00	H	-41.97		
7440.00	H	-38.16		
Middle Channel				
3760.00	Vertical	-39.62	-13.00	Pass
5640.00	V	-40.92		
7520.00	V	-38.14		
3760.00	Horizontal	-45.23		
5640.00	H	-41.11		
7520.00	H	-38.29		
Highest Channel				
3800.00	Vertical	-39.71	-13.00	Pass
5700.00	V	-40.85		
7600.00	V	-38.41		
3800.00	Horizontal	-45.23		
5700.00	H	-41.43		
7600.00	H	-38.69		
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	-32.22	-13.00	Pass
5132.10	V	-40.82		
6842.80	V	-39.53		
3421.40	Horizontal	-36.93		
5132.10	H	-41.25		
6842.80	H	-37.48		
Middle Channel				
3465.00	Vertical	-32.16	-13.00	Pass
5197.50	V	-40.28		
6930.00	V	-39.71		
3465.00	Horizontal	-36.15		
5197.50	H	-41.28		
6930.00	H	-37.35		
Highest Channel				
3508.60	Vertical	-32.41	-13.00	Pass
5262.90	V	-40.15		
7017.20	V	-39.23		
3508.60	Horizontal	-36.17		
5262.90	H	-41.85		
7017.20	H	-37.16		
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 4, WB: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3423.00	Vertical	-32.83	-13.00	Pass
5134.50	V	-40.16		
6846.00	V	-39.22		
3423.00	Horizontal	-36.51		
5134.50	H	-41.17		
6846.00	H	-37.52		
Middle Channel				
3465.00	Vertical	-32.92	-13.00	Pass
5197.50	V	-41.16		
6930.00	V	-39.53		
3465.00	Horizontal	-36.82		
5197.50	H	-43.16		
6930.00	H	-37.86		
Highest Channel				
3507.00	Vertical	-32.59	-13.00	Pass
5260.50	V	-40.83		
7014.00	V	-39.62		
3507.00	Horizontal	-36.16		
5260.50	H	-41.52		
7014.00	H	-37.13		
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: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3507.00	Vertical	-32.59	-13.00	Pass
5260.50	V	-40.83		
7014.00	V	-39.62		
3507.00	Horizontal	-36.16		
5260.50	H	-41.52		
7014.00	H	-37.13		
Middle Channel				
3465.00	Vertical	-32.85	-13.00	Pass
5197.50	V	-40.92		
6930.00	V	-39.69		
3465.00	Horizontal	-36.65		
5197.50	H	-41.13		
6930.00	H	-37.28		
Highest Channel				
3505.00	Vertical	-32.52	-13.00	Pass
5257.50	V	-40.61		
7010.00	V	-39.86		
3505.00	Horizontal	-36.71		
5257.50	H	-41.55		
7010.00	H	-37.56		
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: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3430.00	Vertical	-32.64	-13.00	Pass
5145.00	V	-40.62		
6860.00	V	-39.51		
3430.00	Horizontal	-36.28		
5145.00	H	-41.51		
6860.00	H	-37.62		
Middle Channel				
3465.00	Vertical	-32.41	-13.00	Pass
5197.50	V	-41.62		
6930.00	V	-39.16		
3465.00	Horizontal	-36.52		
5197.50	H	-42.26		
6930.00	H	-37.16		
Highest Channel				
3500.00	Vertical	-32.95	-13.00	Pass
5250.00	V	-40.52		
7000.00	V	-39.16		
3500.00	Horizontal	-36.22		
5250.00	H	-41.18		
7000.00	H	-37.29		
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: 15MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3435.00	Vertical	-32.69	-13.00	Pass
5152.50	V	-40.26		
6870.00	V	-39.71		
3435.00	Horizontal	-36.52		
5152.50	H	-41.70		
6870.00	H	-37.63		
Middle Channel				
3465.00	Vertical	-32.16	-13.00	Pass
5197.50	V	-40.23		
6930.00	V	-39.52		
3465.00	Horizontal	-36.47		
5197.50	H	-41.26		
6930.00	H	-37.85		
Highest Channel				
3495.00	Vertical	-32.96	-13.00	Pass
5242.50	V	-40.16		
6990.00	V	-39.15		
3495.00	Horizontal	-36.83		
5242.50	H	-41.33		
6990.00	H	-37.89		
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.				

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	-32.75	-13.00	Pass
5160.00	V	-40.16		
6880.00	V	-39.22		
3440.00	Horizontal	-36.19		
5160.00	H	-41.53		
6880.00	H	-37.16		
Middle Channel				
3465.00	Vertical	-32.85	-13.00	Pass
5197.50	V	-41.62		
6930.00	V	-39.26		
3465.00	Horizontal	-36.13		
5197.50	H	-42.25		
6930.00	H	-37.95		
Highest Channel				
3490.00	Vertical	-32.74	-13.00	Pass
5235.00	V	-40.13		
6980.00	V	-39.26		
3490.00	Horizontal	-36.14		
5235.00	H	-41.85		
6980.00	H	-37.52		
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	-37.41	-13.00	Pass
2099.10	V	-46.60		
2798.80	V	-30.54		
1399.40	Horizontal	-37.55		
2099.10	H	-47.36		
2798.80	H	-30.64		
Middle Channel				
1415.00	Vertical	-37.52	-13.00	Pass
2122.50	V	-46.23		
2830.00	V	-30.37		
1415.00	Horizontal	-37.15		
2122.50	H	-47.85		
2830.00	H	-30.26		
Highest Channel				
1430.60	Vertical	-37.51	-13.00	Pass
2145.90	V	-46.58		
2861.20	V	-30.23		
1430.60	Horizontal	-37.15		
2145.90	H	-47.18		
2861.20	H	-30.26		
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: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1401.00	Vertical	-37.62	-13.00	Pass
2101.50	V	-46.26		
2802.00	V	-30.96		
1401.00	Horizontal	-37.16		
2101.50	H	-47.23		
2802.00	H	-30.95		
Middle Channel				
1415.00	Vertical	-37.41	-13.00	Pass
2122.50	V	-46.85		
2830.00	V	-30.39		
1415.00	Horizontal	-37.23		
2122.50	H	-47.16		
2830.00	H	-30.52		
Highest Channel				
1429.00	Vertical	-37.61	-13.00	Pass
2143.50	V	-46.82		
2858.00	V	-30.71		
1429.00	Horizontal	-37.55		
2143.50	H	-47.19		
2858.00	H	-30.67		
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: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1403.00	Vertical	-37.61	-13.00	Pass
2104.50	V	-46.26		
2806.00	V	-30.50		
1403.00	Horizontal	-37.41		
2104.50	H	-47.22		
2806.00	H	-30.15		
Middle Channel				
1415.00	Vertical	-37.16	-13.00	Pass
2122.50	V	-46.92		
2830.00	V	-30.82		
1415.00	Horizontal	-37.54		
2122.50	H	-47.26		
2830.00	H	-30.62		
Highest Channel				
1427.00	Vertical	-37.61	-13.00	Pass
2410.50	V	-46.85		
2854.00	V	-30.92		
1427.00	Horizontal	-37.61		
2410.50	H	-47.23		
2854.00	H	-30.69		
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	-37.62	-13.00	Pass
2112.00	V	-46.13		
2816.00	V	-30.58		
1408.00	Horizontal	-37.16		
2112.00	H	-47.85		
2816.00	H	-30.61		
Middle Channel				
1415.00	Vertical	-37.52	-13.00	Pass
2122.50	V	-46.16		
2830.00	V	-30.97		
1415.00	Horizontal	-37.41		
2122.50	H	-47.23		
2830.00	H	-30.19		
Highest Channel				
1422.00	Vertical	-37.52	-13.00	Pass
2133.00	V	-46.92		
2844.00	V	-30.48		
1422.00	Horizontal	-37.11		
2133.00	H	-47.26		
2844.00	H	-30.66		
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 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	$\pm 2.5\text{ppm}$
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					
12.0	-30	199	0.105851	±2.5	Pass
	-20	180	0.095745		
	-10	123	0.065426		
	0	165	0.087766		
	10	144	0.076596		
	20	111	0.059043		
	30	174	0.092553		
	40	158	0.084043		
	50	100	0.053191		
16QAM					
12.0	-30	199	0.105851	±2.5	Pass
	-20	181	0.096277		
	-10	123	0.065426		
	0	165	0.087766		
	10	144	0.076596		
	20	171	0.090957		
	30	102	0.054255		
	40	115	0.061170		
	50	118	0.062766		
Note: Only the worst case shown in the report.					

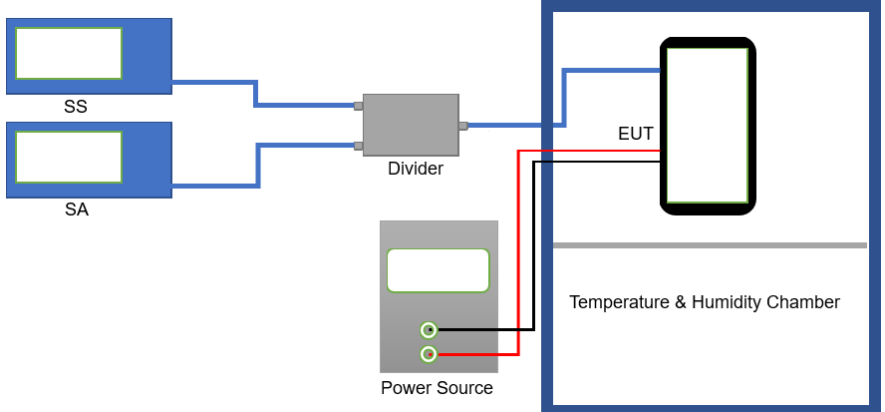
LTE Band 4 part:

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					
12.0	-30	199	0.105851	±2.5	Pass
	-20	181	0.096277		
	-10	123	0.065426		
	0	165	0.087766		
	10	144	0.076596		
	20	171	0.090957		
	30	102	0.054255		
	40	115	0.061170		
	50	118	0.062766		
16QAM					
12.0	-30	197	0.113709	±2.5	Pass
	-20	180	0.103896		
	-10	155	0.089466		
	0	171	0.098701		
	10	132	0.076190		
	20	145	0.083694		
	30	122	0.070418		
	40	100	0.057720		
	50	119	0.068687		
Note: Only the worst case shown in the report.					

LTE Band 12 part:

Reference Frequency: LTE Band 12 (10MHz) Middle channel=23095 channel=707.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
12.0	-30	198	0.279859	±2.5	Pass
	-20	155	0.219081		
	-10	163	0.230389		
	0	123	0.173852		
	10	188	0.265724		
	20	174	0.245936		
	30	114	0.161131		
	40	105	0.148410		
	50	150	0.212014		
16QAM					
12.0	-30	123	0.173852	±2.5	Pass
	-20	150	0.212014		
	-10	166	0.234629		
	0	122	0.172438		
	10	144	0.203534		
	20	140	0.197880		
	30	156	0.220495		
	40	133	0.187986		
	50	138	0.195053		
Note: Only the worst case shown in the report.					

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 24.235, Part 27.54, Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
Test setup:	 The diagram illustrates the test setup. A Signal Source (SS) and a Spectrum Analyzer (SA) are connected to a Divider. The output of the Divider is connected to the EUT (Equipment Under Test) inside a Temperature & Humidity Chamber. A Power Source is also connected 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	12.0	98	0.052128	±2.5	Pass
	10.2	65	0.034574		
	13.8	74	0.039362		
16QAM					
25	12.0	80	0.042553	±2.5	Pass
	10.2	96	0.051064		
	13.8	48	0.025532		
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	12.0	98	0.056566	±2.5	Pass
	10.2	65	0.037518		
	13.8	74	0.042713		
16QAM					
25	12.0	80	0.046176	±2.5	Pass
	10.2	96	0.055411		
	13.8	48	0.027706		
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 (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	12.0	98	0.138516	±2.5	Pass
	10.2	65	0.091873		
	13.8	74	0.104594		
16QAM					
25	12.0	80	0.113074	±2.5	Pass
	10.2	96	0.135689		
	13.8	48	0.067845		
Note: Only the worst case shown in the report.					