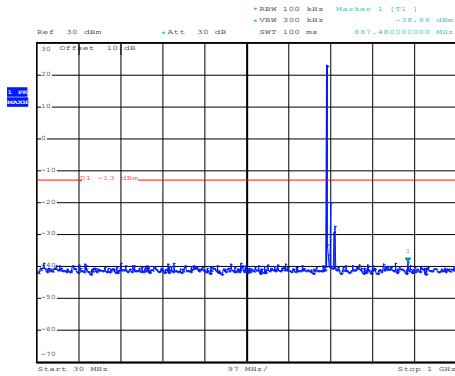
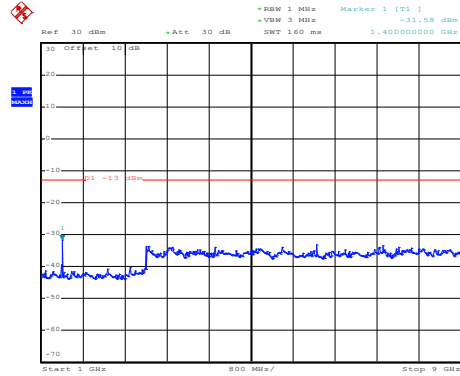


LTE Band 12: 16 QAM & RB Size 1 BW: 10MHz Lowest channel



Date: 5.JUL.2019 18:11:12

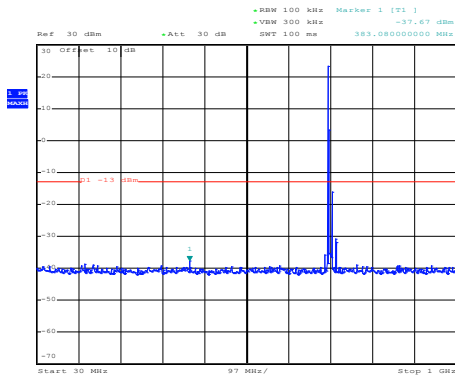
30MHz~1GHz



Date: 9.JUL.2019 15:24:30

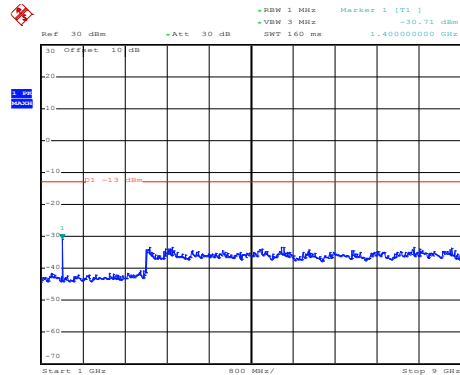
1GHz~9GHz

Middle channel



Date: 5.JUL.2019 18:10:38

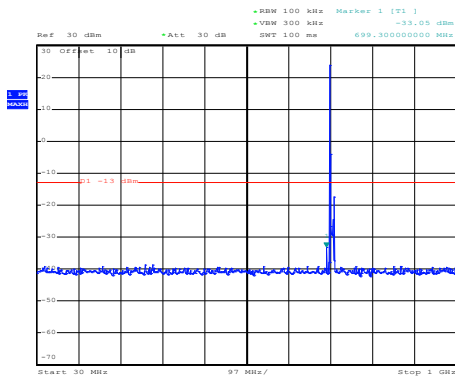
30MHz~1GHz



Date: 9.JUL.2019 15:25:33

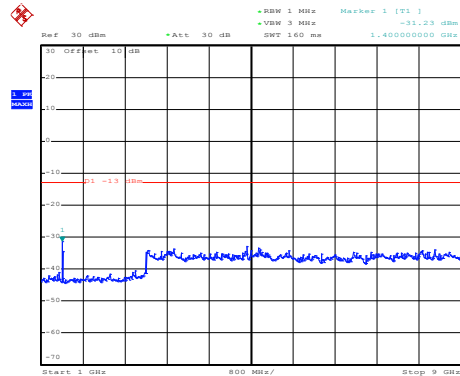
1GHz~9GHz

High channel



Date: 5.JUL.2019 18:08:59

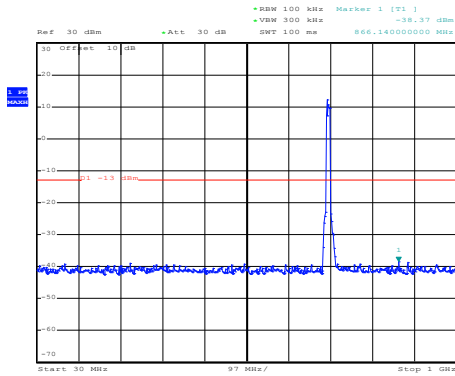
30MHz~1GHz



Date: 9.JUL.2019 15:26:04

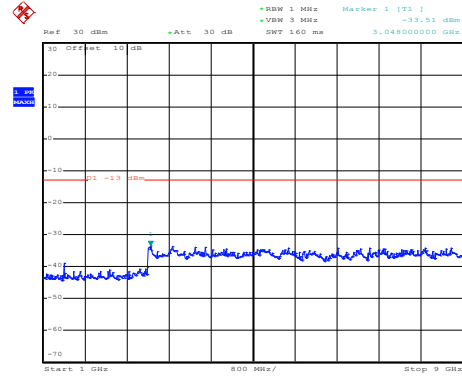
1GHz~9GHz

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



Date: 5.JUL.2019 18:11:39

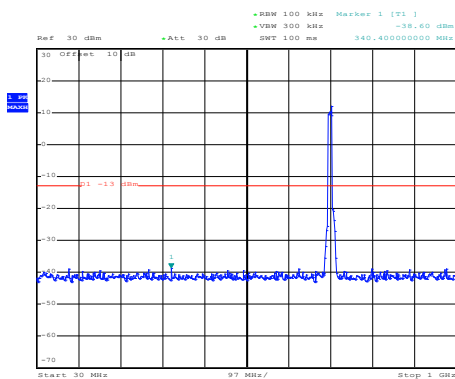
30MHz~1GHz



Date: 9.JUL.2019 15:24:52

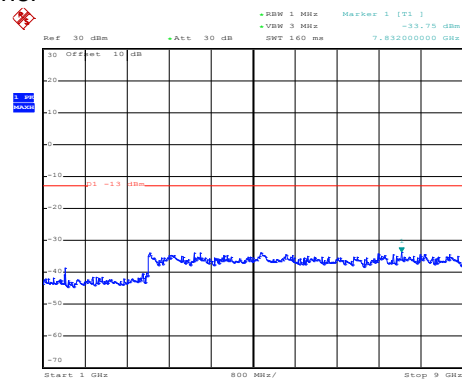
1GHz~9GHz

Middle channel



Date: 5.JUL.2019 18:10:11

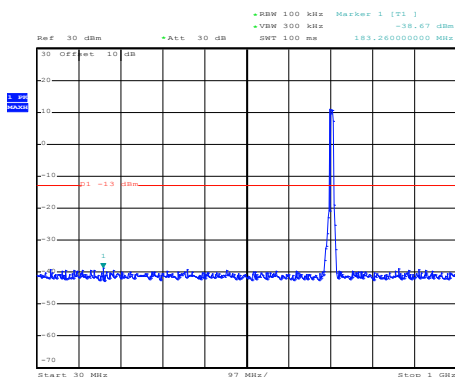
30MHz~1GHz



Date: 9.JUL.2019 15:25:15

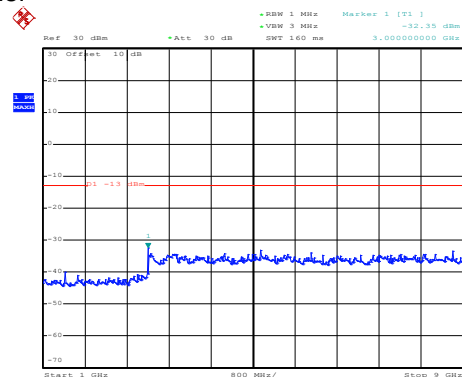
1GHz~9GHz

High channel



Date: 5.JUL.2019 18:09:30

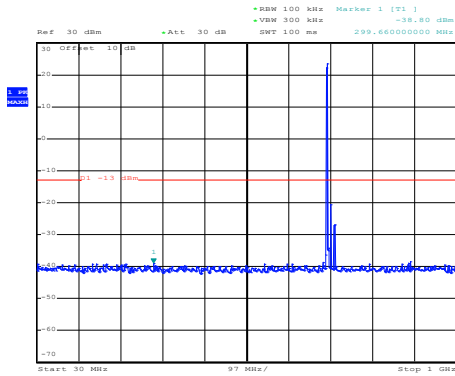
30MHz~1GHz



Date: 9.JUL.2019 15:26:21

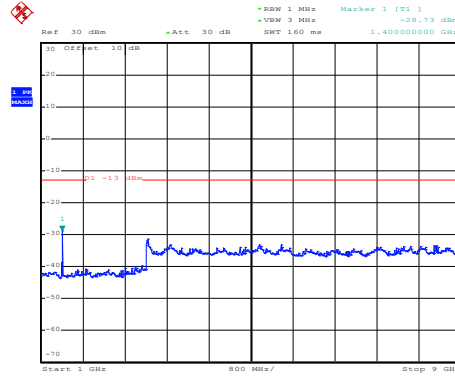
1GHz~9GHz

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



Date: 5.JUL.2019 18:11:02

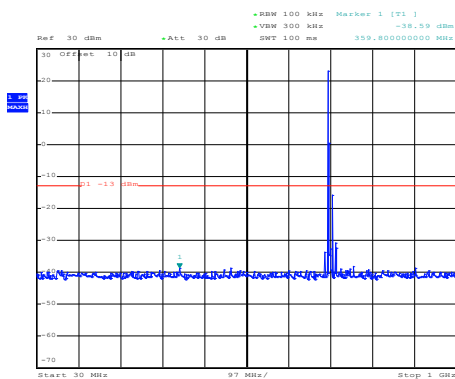
30MHz~1GHz



Date: 9.JUL.2019 15:24:14

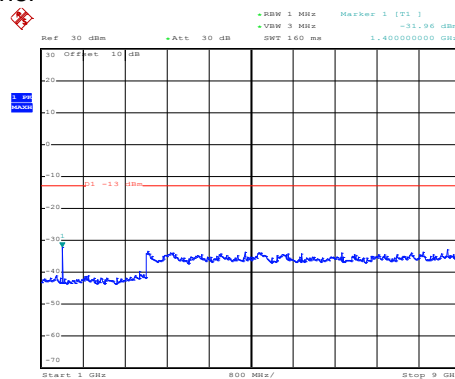
1GHz~9GHz

Middle channel



Date: 5.JUL.2019 18:10:24

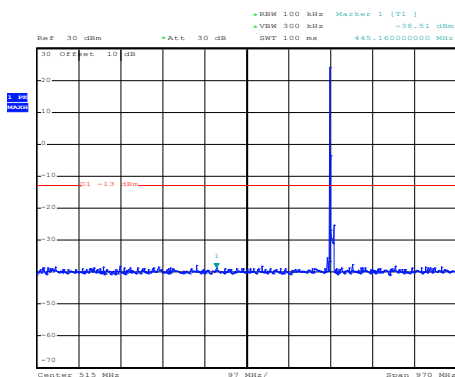
30MHz~1GHz



Date: 9.JUL.2019 15:25:25

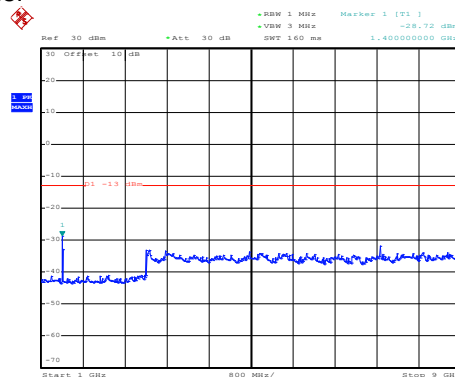
1GHz~9GHz

High channel



Date: 5.JUL.2019 18:03:23

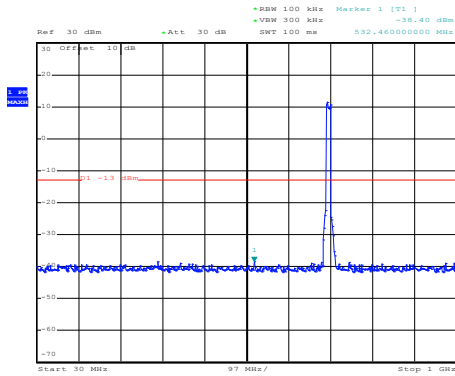
30MHz~1GHz



Date: 9.JUL.2019 15:25:55

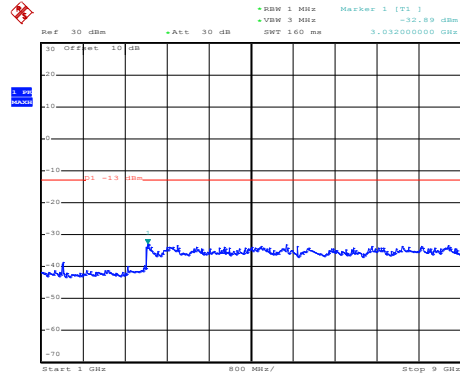
1GHz~9GHz

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



Date: 5 JUL 2019 18:11:30

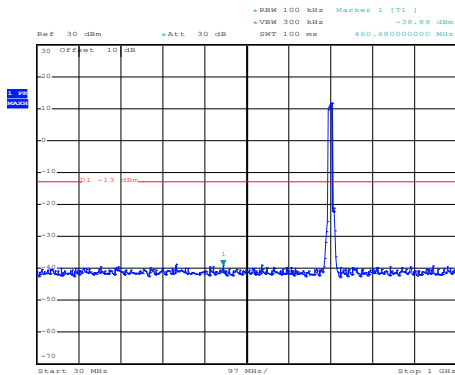
30MHz~1GHz



Date: 9 JUL 2019 15:24:47

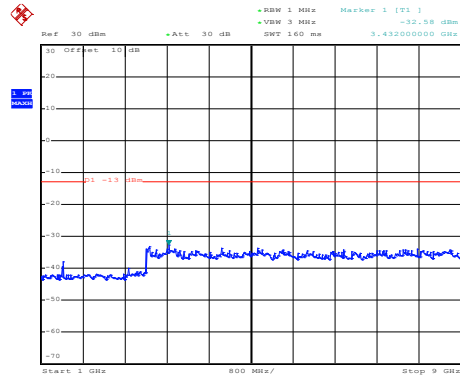
1GHz~9GHz

Middle channel



Date: 5 JUL 2019 18:10:04

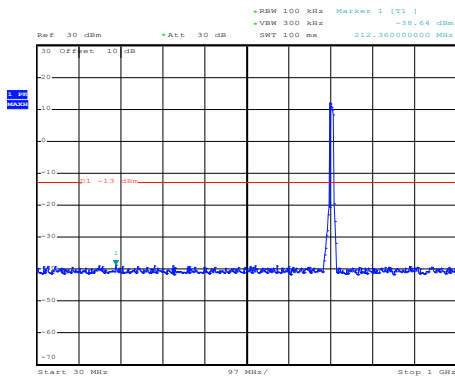
30MHz~1GHz



Date: 9 JUL 2019 15:25:10

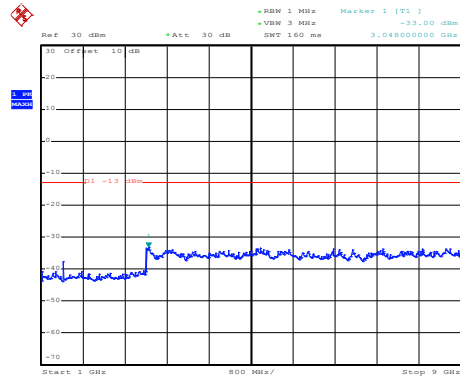
1GHz~9GHz

High channel



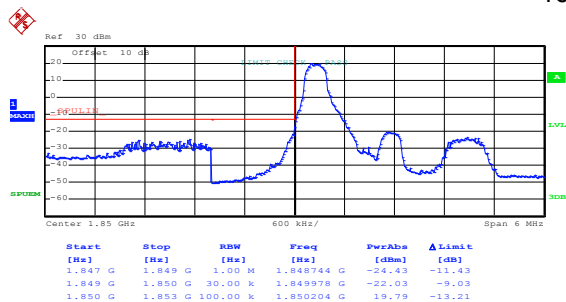
Date: 5 JUL 2019 18:09:21

30MHz~1GHz



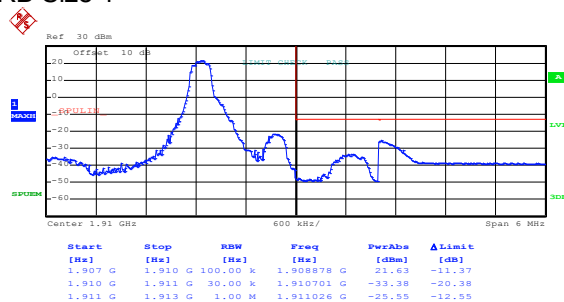
Date: 9 JUL 2019 15:26:15

1GHz~9GHz

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

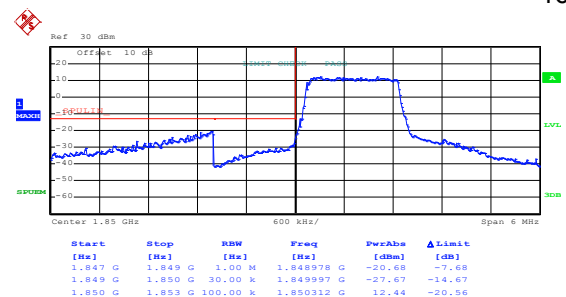
Date: 10.JUL.2019 14:16:11

Lowest channel



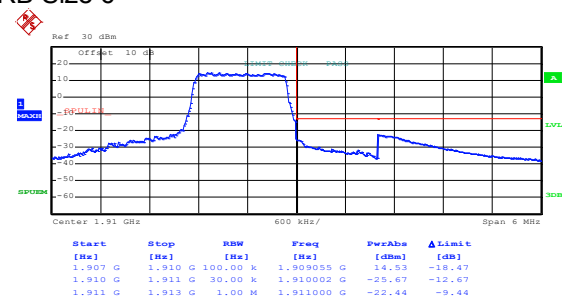
Date: 10.JUL.2019 14:19:48

Highest channel

16QAM & RB Size 6

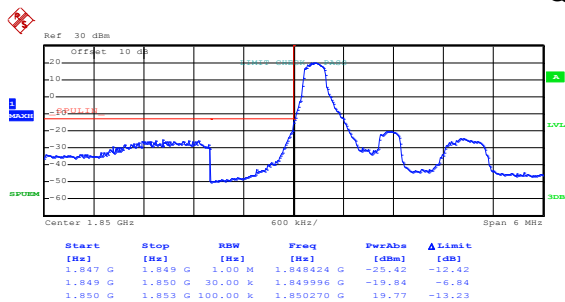
Date: 10.JUL.2019 14:17:41

Lowest channel



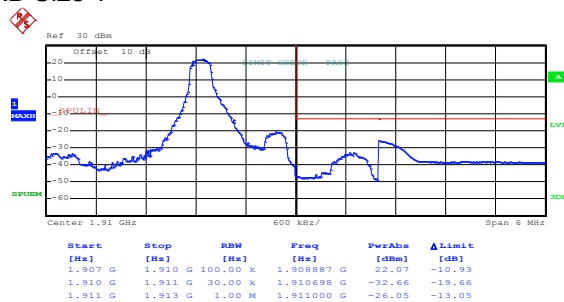
Date: 10.JUL.2019 14:20:37

Highest channel

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

Date: 10.JUL.2019 14:16:30

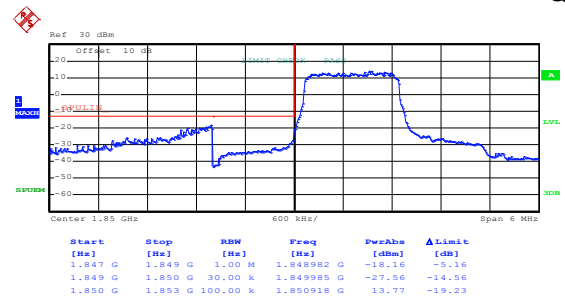
Lowest channel



Date: 10.JUL.2019 14:19:24

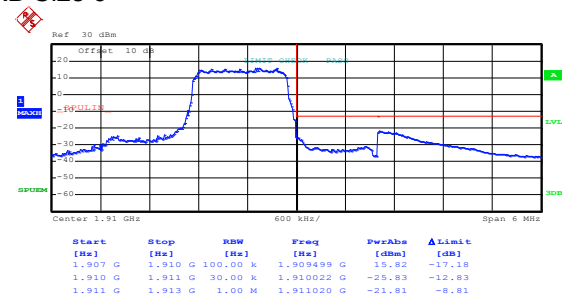
Highest channel

QPSK & RB Size 6



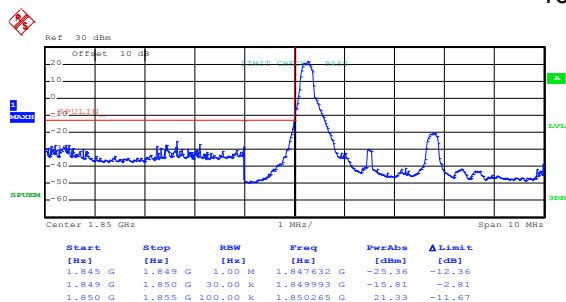
Date: 10.JUL.2019 14:17:31

Lowest channel



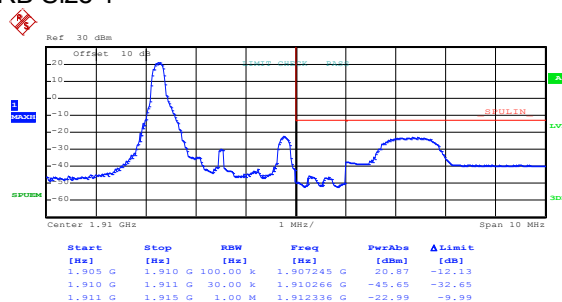
Date: 10.JUL.2019 14:20:03

Highest channel

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

Date: 10.JUL.2019 14:31:41

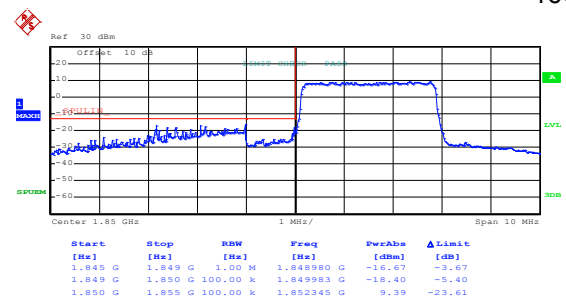
Lowest channel



Date: 10.JUL.2019 14:23:09

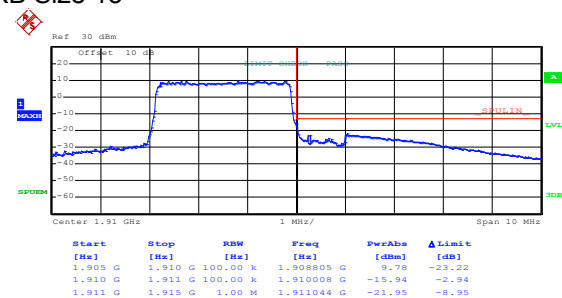
Highest channel

16QAM & RB Size 15



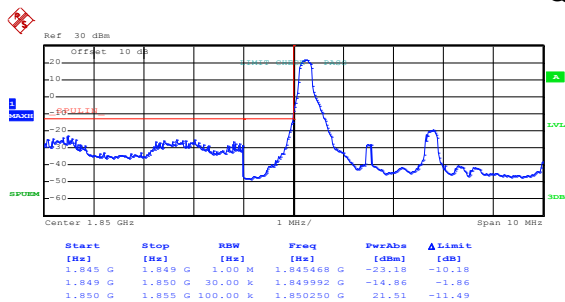
Date: 10.JUL.2019 14:30:45

Lowest channel



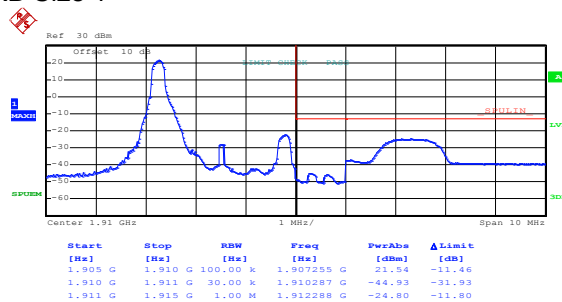
Date: 10.JUL.2019 14:29:25

Highest channel

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

Date: 10.JUL.2019 14:31:30

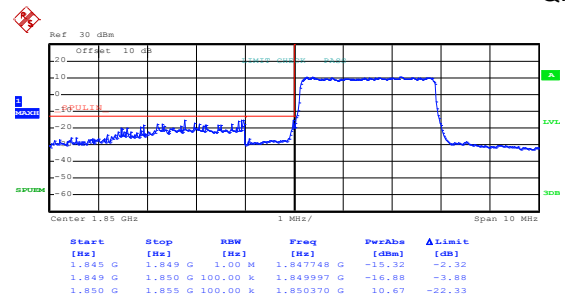
Lowest channel



Date: 10.JUL.2019 14:22:52

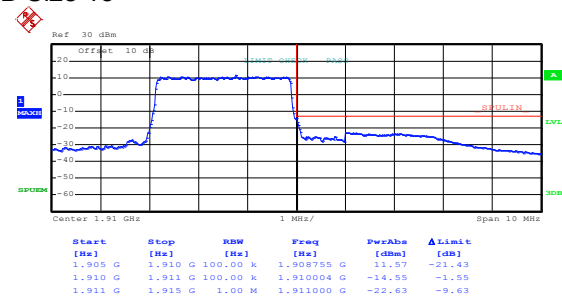
Highest channel

QPSK & RB Size 15



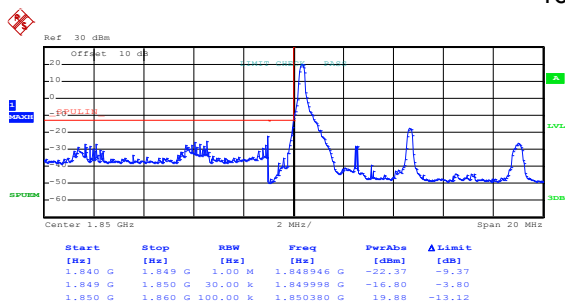
Date: 10.JUL.2019 14:30:34

Lowest channel



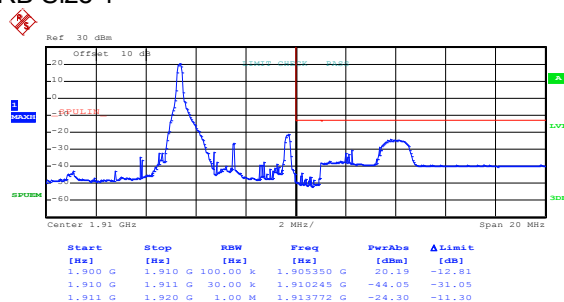
Date: 10.JUL.2019 14:29:12

Highest channel

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

Date: 10.JUL.2019 14:33:11

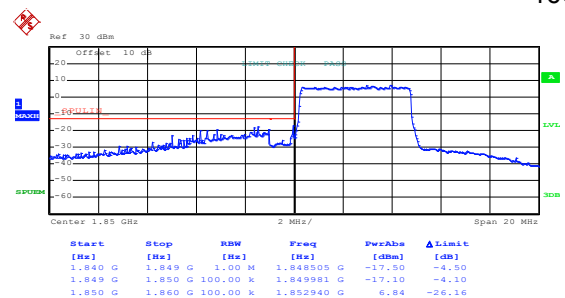
Lowest channel



Date: 10.JUL.2019 14:36:12

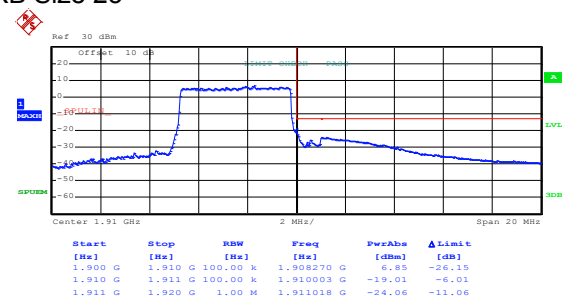
Highest channel

16QAM & RB Size 25



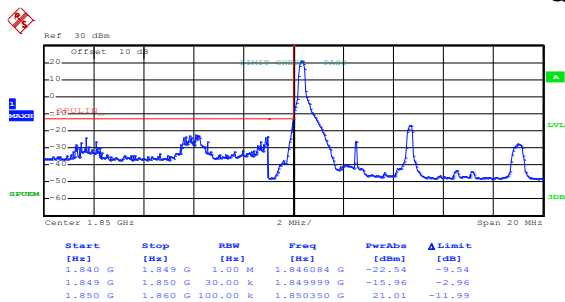
Date: 10.JUL.2019 14:34:04

Lowest channel



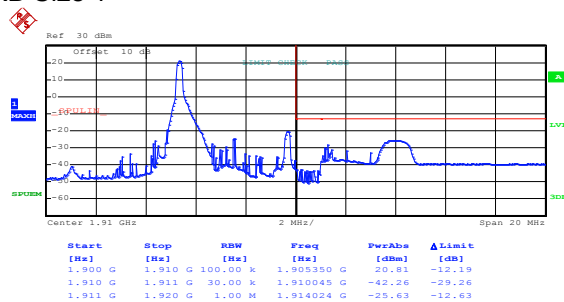
Date: 10.JUL.2019 14:35:22

Highest channel

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

Date: 10.JUL.2019 14:33:02

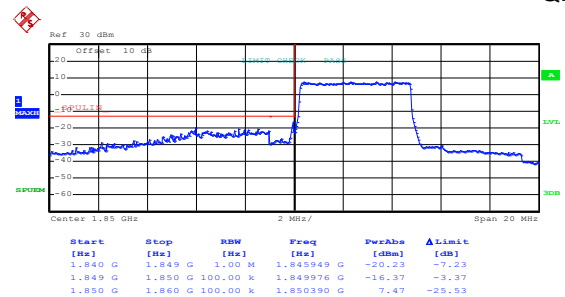
Lowest channel



Date: 10.JUL.2019 14:36:02

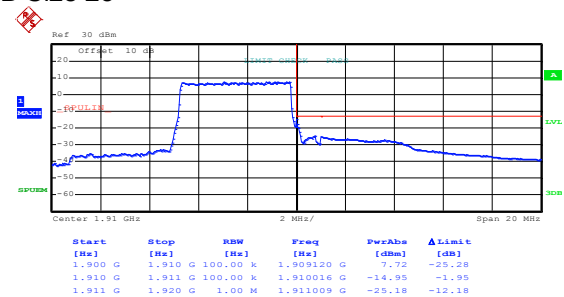
Highest channel

QPSK & RB Size 25



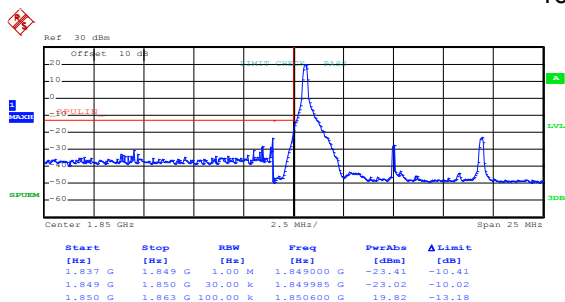
Date: 10.JUL.2019 14:33:54

Lowest channel



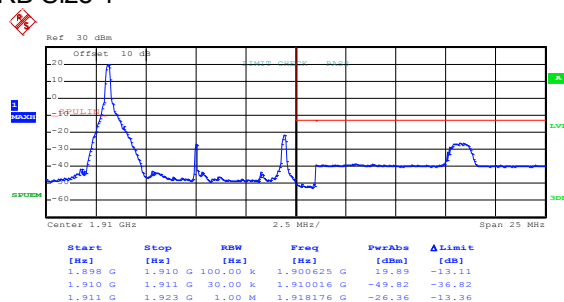
Date: 10.JUL.2019 14:35:11

Highest channel

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

Date: 10.JUL.2019 14:42:09

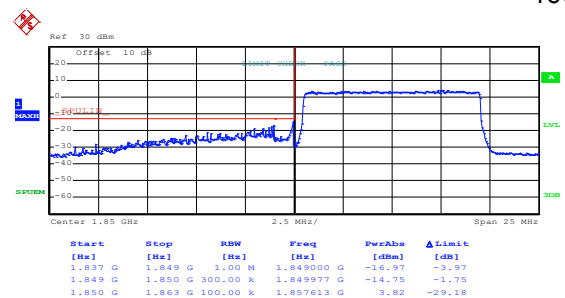
Lowest channel



Date: 10.JUL.2019 14:38:10

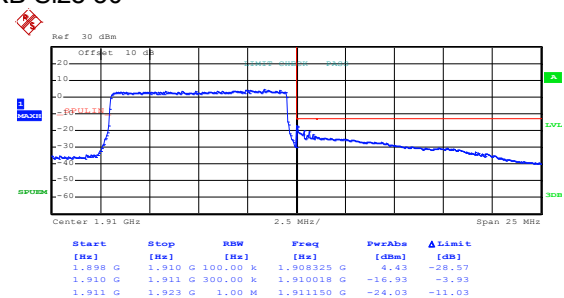
Highest channel

16QAM & RB Size 50



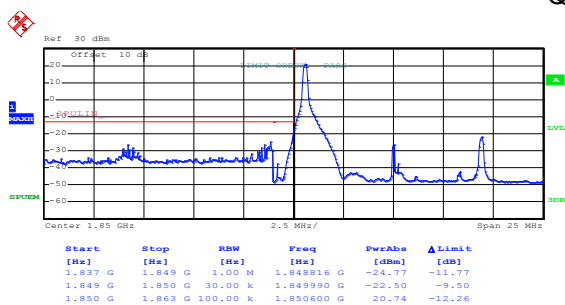
Date: 10.JUL.2019 14:41:22

Lowest channel



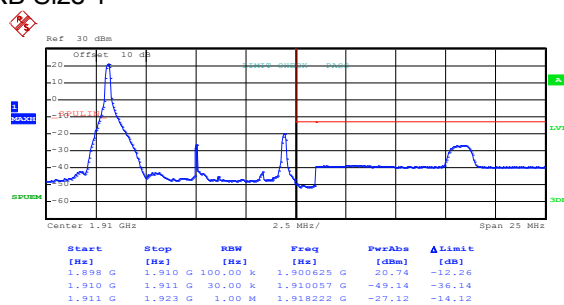
Date: 10.JUL.2019 14:39:26

Highest channel

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

Date: 10.JUL.2019 14:42:01

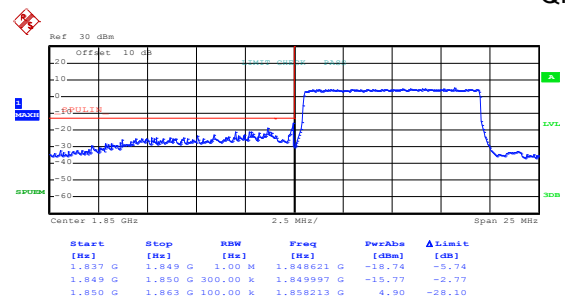
Lowest channel



Date: 10.JUL.2019 14:38:01

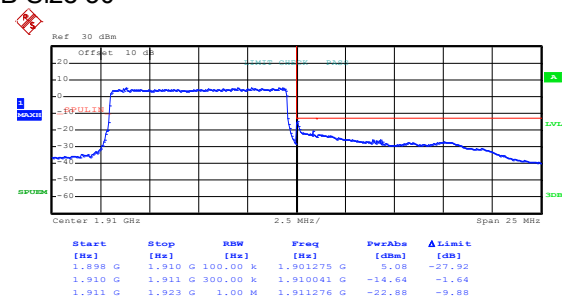
Highest channel

QPSK & RB Size 50



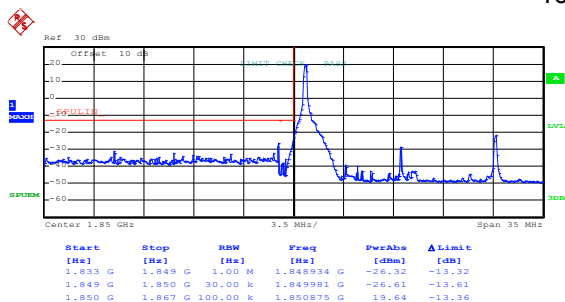
Date: 10.JUL.2019 14:41:09

Lowest channel



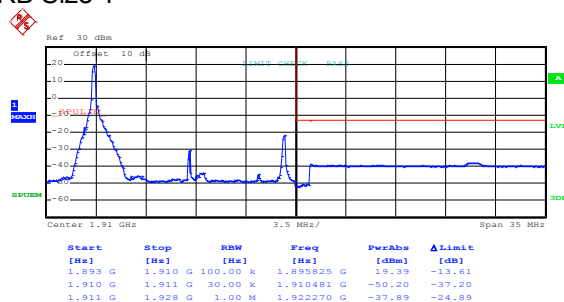
Date: 10.JUL.2019 14:39:16

Highest channel

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

Date: 10.JUL.2019 14:43:24

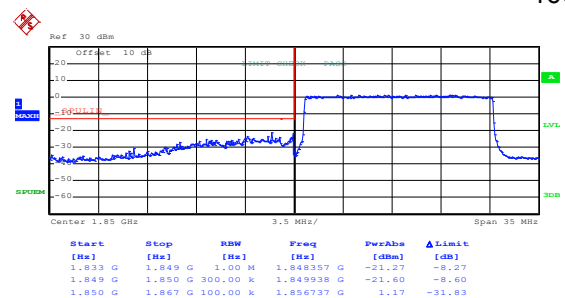
Lowest channel



Date: 10.JUL.2019 14:45:44

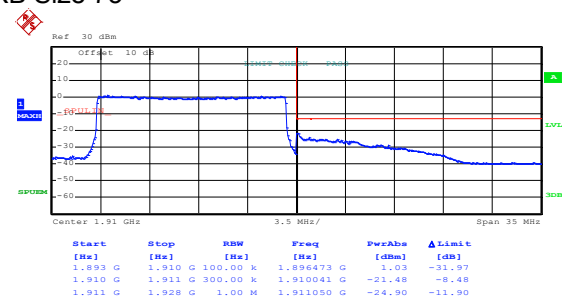
Highest channel

16QAM & RB Size 75



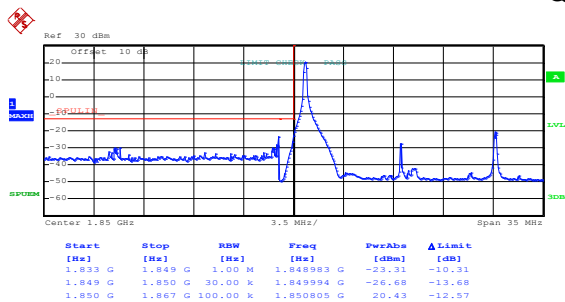
Date: 10.JUL.2019 14:44:07

Lowest channel



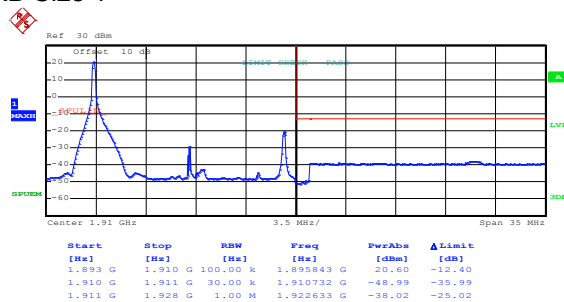
Date: 10.JUL.2019 14:45:04

Highest channel

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

Date: 10.JUL.2019 14:43:15

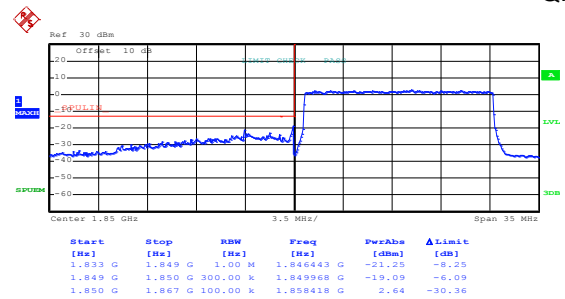
Lowest channel



Date: 10.JUL.2019 14:45:35

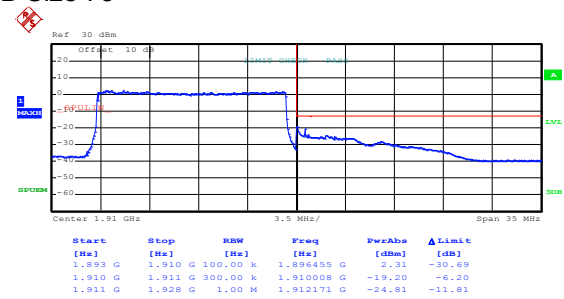
Highest channel

QPSK & RB Size 75



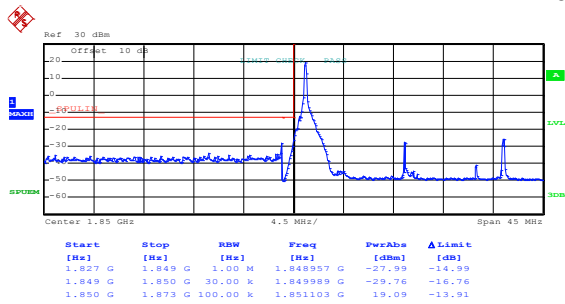
Date: 10.JUL.2019 14:44:02

Lowest channel



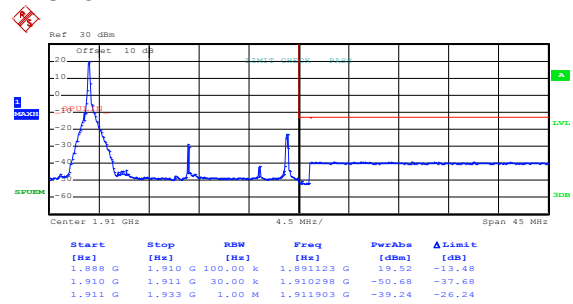
Date: 10.JUL.2019 14:44:57

Highest channel

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

Date: 10.JUL.2019 14:49:01

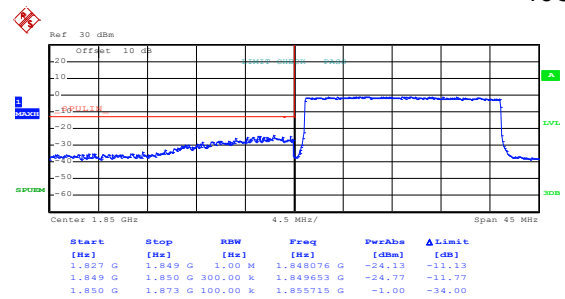
Lowest channel



Date: 10.JUL.2019 14:47:03

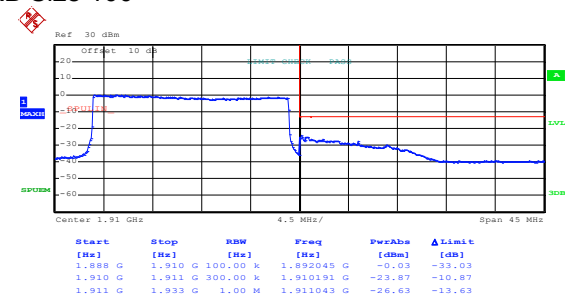
Highest channel

16QAM & RB Size 100



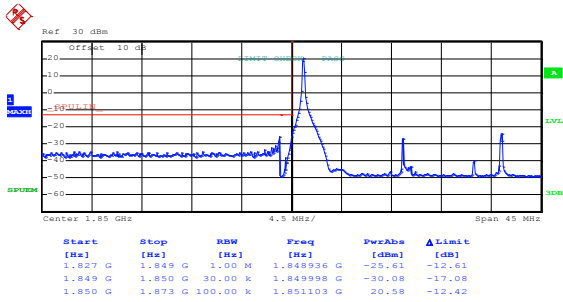
Date: 10.JUL.2019 14:48:33

Lowest channel



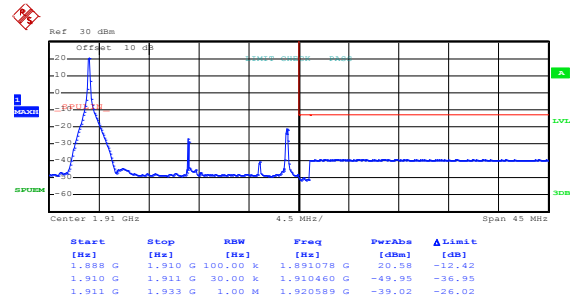
Date: 10.JUL.2019 14:47:42

Highest channel

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

Date: 10.JUL.2019 14:48:54

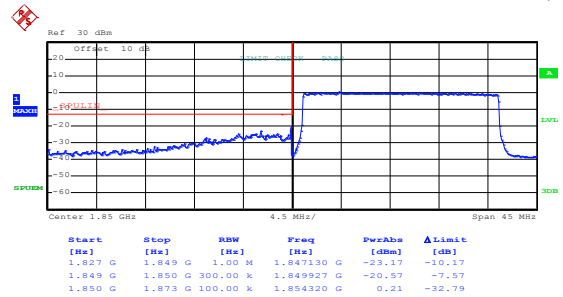
Lowest channel



Date: 10.JUL.2019 14:46:50

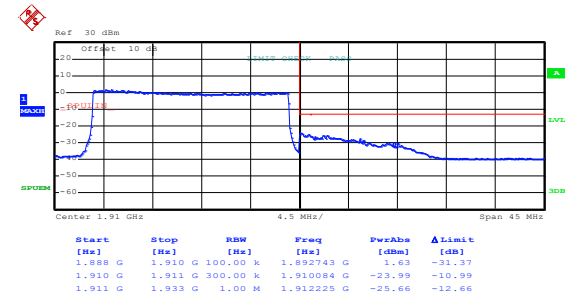
Highest channel

QPSK & RB Size 100



Date: 10.JUL.2019 14:48:24

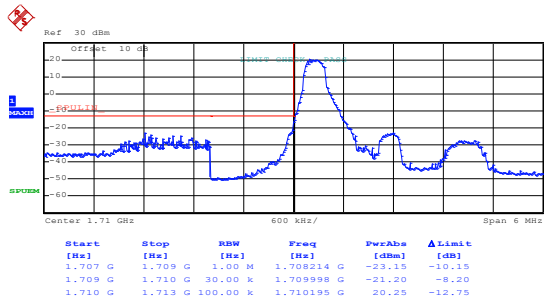
Lowest channel



Date: 10.JUL.2019 14:47:35

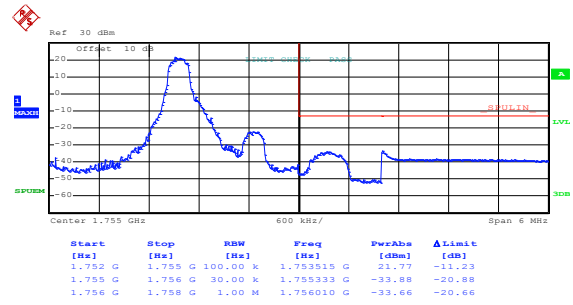
Highest channel

LTE Band 4 part:

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

Date: 10.JUL.2019 15:43:37

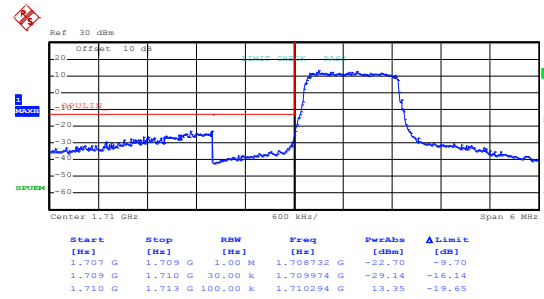
Lowest channel



Date: 10.JUL.2019 15:47:00

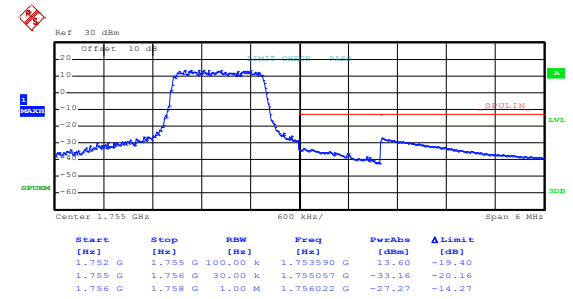
Highest channel

16QAM & RB Size 6



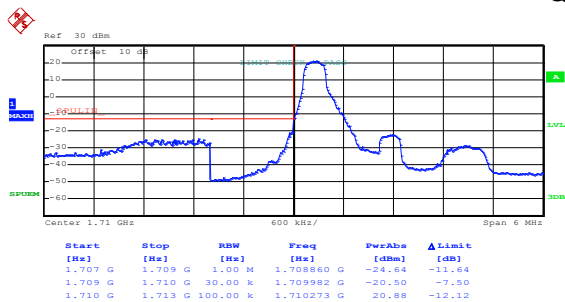
Date: 10.JUL.2019 15:45:20

Lowest channel



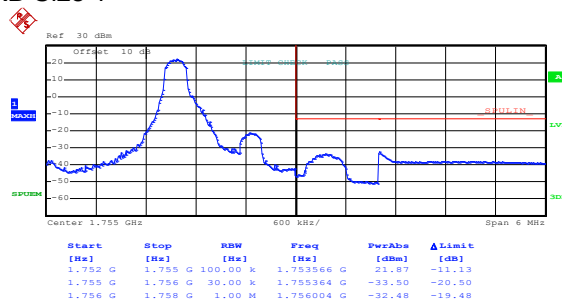
Date: 10.JUL.2019 15:46:29

Highest channel

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

Date: 10.JUL.2019 15:43:15

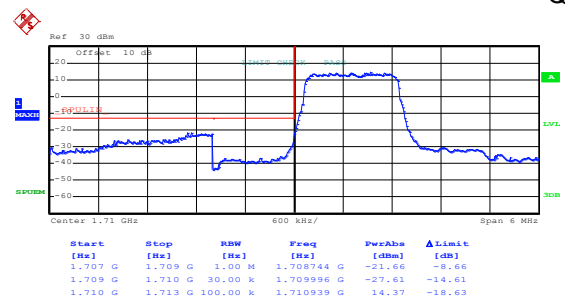
Lowest channel



Date: 10.JUL.2019 15:46:51

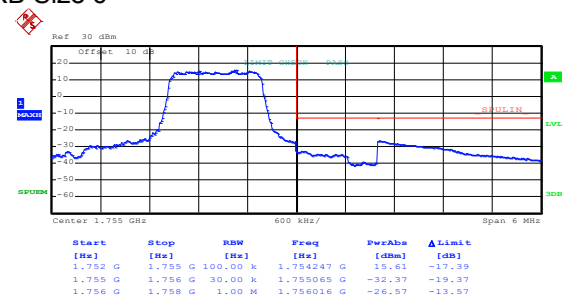
Highest channel

QPSK & RB Size 6



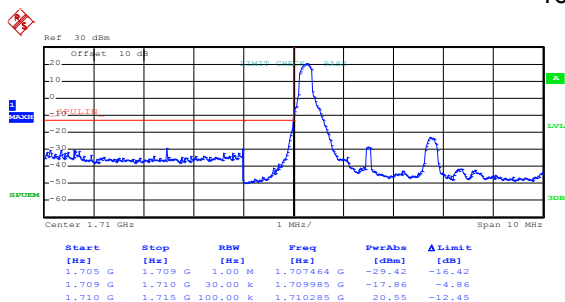
Date: 10.JUL.2019 15:45:10

Lowest channel



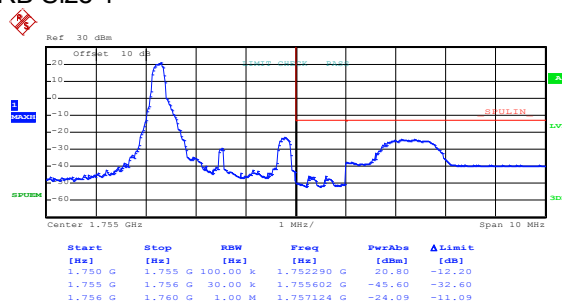
Date: 10.JUL.2019 15:46:23

Highest channel

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

Date: 10.JUL.2019 15:51:26

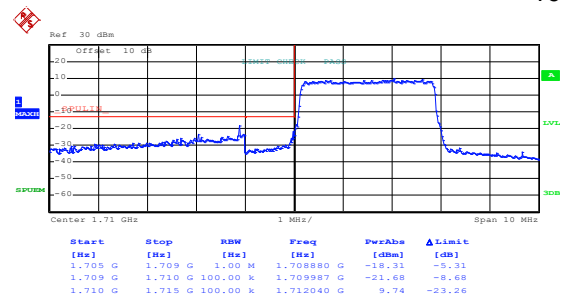
Lowest channel



Date: 10.JUL.2019 15:48:18

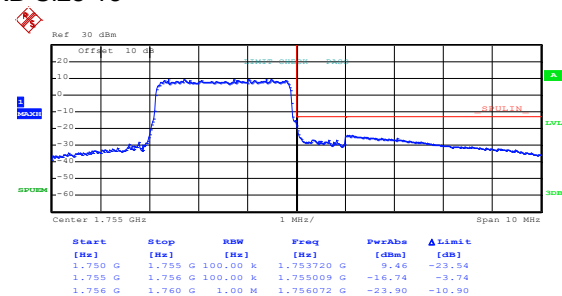
Highest channel

16QAM & RB Size 15



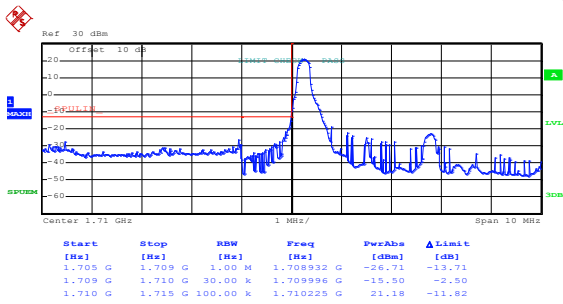
Date: 10.JUL.2019 15:52:02

Lowest channel



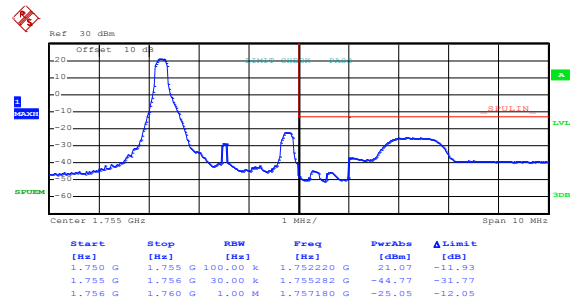
Date: 10.JUL.2019 15:49:07

Highest channel

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

Date: 10.JUL.2019 15:51:17

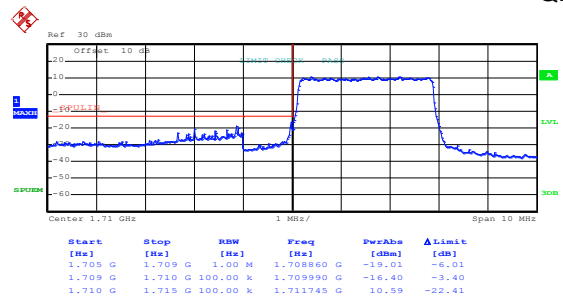
Lowest channel



Date: 10.JUL.2019 15:48:11

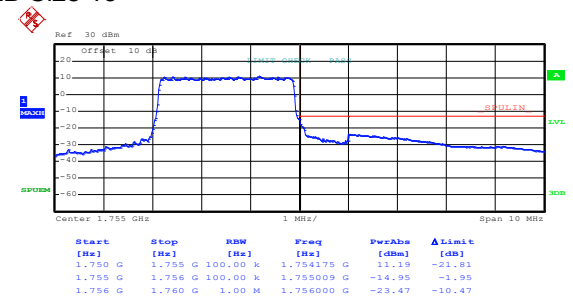
Highest channel

QPSK & RB Size 15



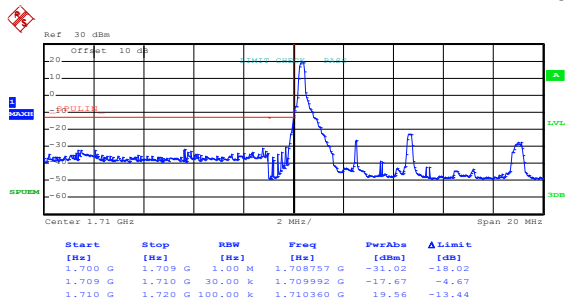
Date: 10.JUL.2019 15:51:56

Lowest channel



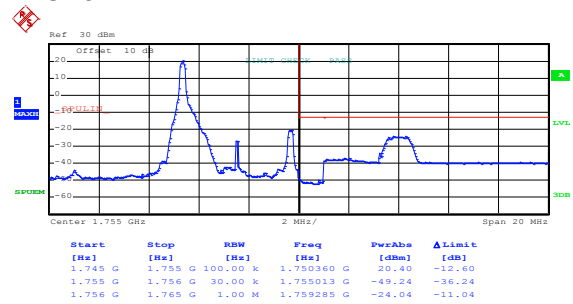
Date: 10.JUL.2019 15:49:01

Highest channel

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

Date: 10.JUL.2019 15:53:53

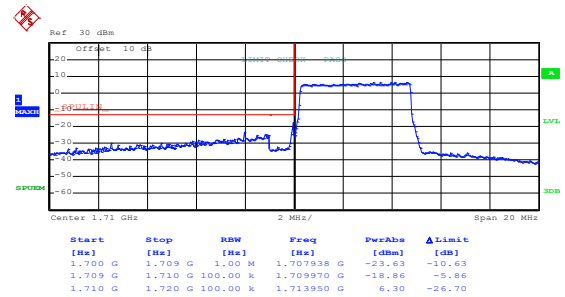
Lowest channel



Date: 10.JUL.2019 15:54:58

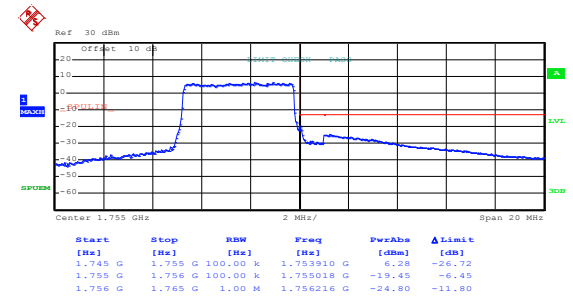
Highest channel

16QAM & RB Size 25



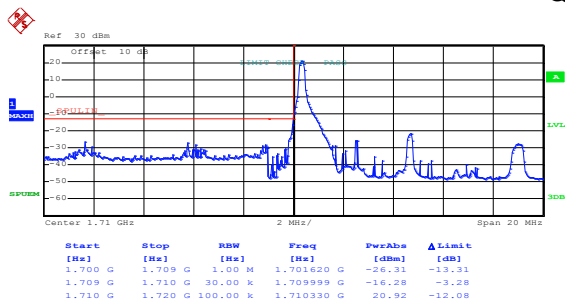
Date: 10.JUL.2019 15:53:15

Lowest channel



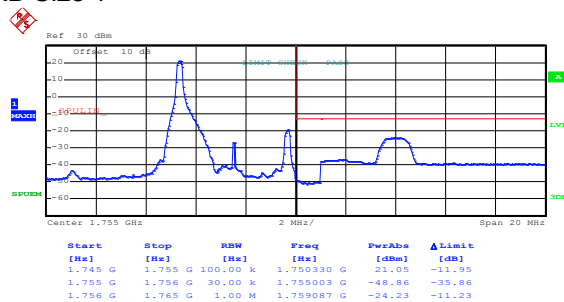
Date: 10.JUL.2019 15:55:32

Highest channel

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

Date: 10.JUL.2019 15:53:36

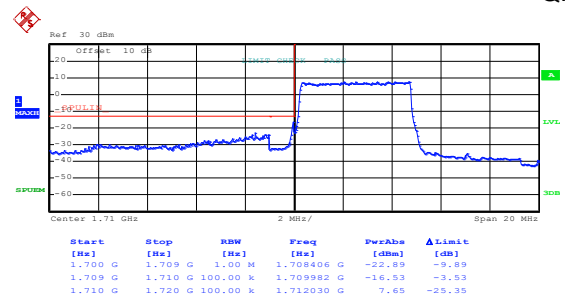
Lowest channel



Date: 10.JUL.2019 15:54:51

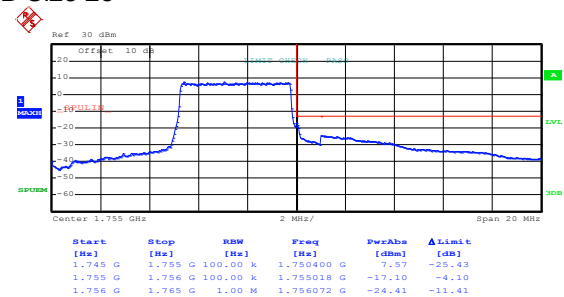
Highest channel

QPSK & RB Size 25



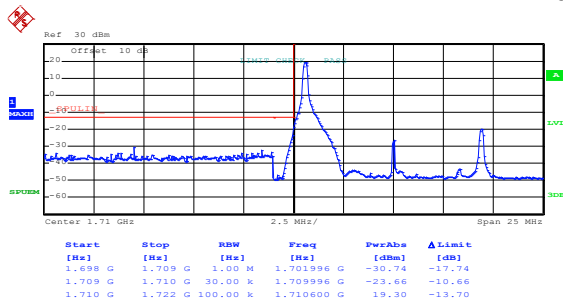
Date: 10.JUL.2019 15:53:09

Lowest channel



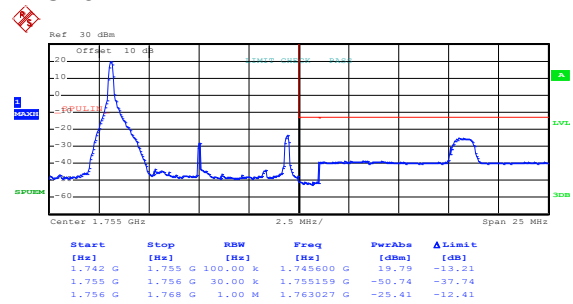
Date: 10.JUL.2019 15:55:25

Highest channel

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

Date: 10.JUL.2019 15:58:31

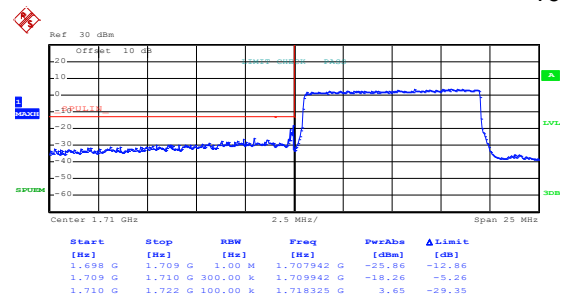
Lowest channel



Date: 10.JUL.2019 15:57:54

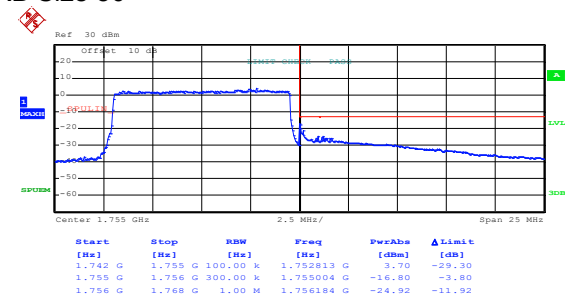
Highest channel

16QAM & RB Size 50



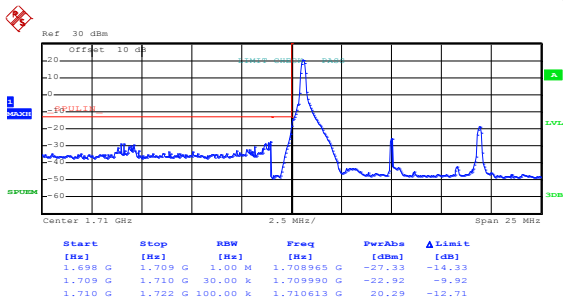
Date: 10.JUL.2019 15:59:38

Lowest channel



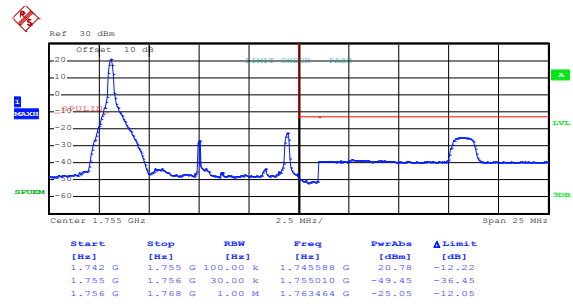
Date: 10.JUL.2019 15:57:20

Highest channel

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

Date: 10.JUL.2019 15:58:22

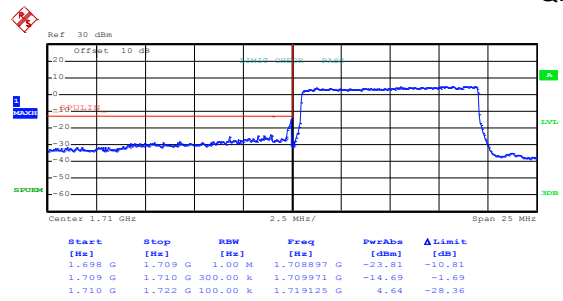
Lowest channel



Date: 10.JUL.2019 15:57:45

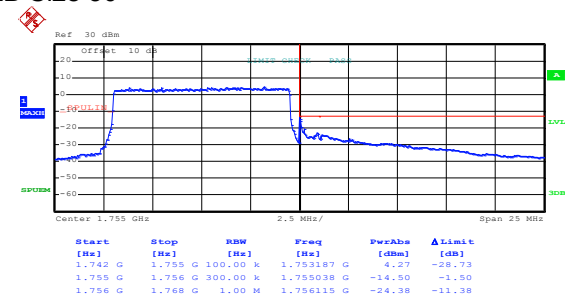
Highest channel

QPSK & RB Size 50



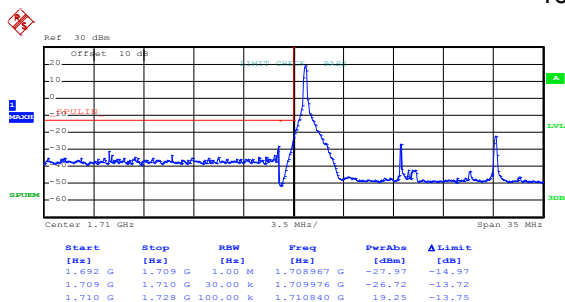
Date: 10.JUL.2019 15:59:23

Lowest channel



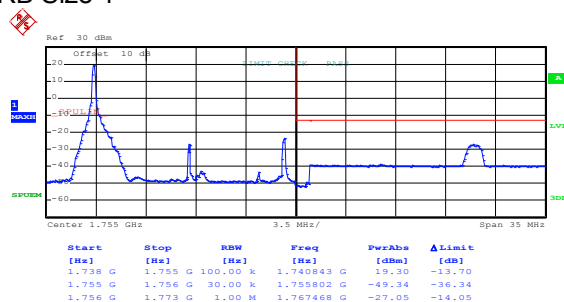
Date: 10.JUL.2019 15:57:13

Highest channel

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

Date: 10.JUL.2019 16:03:22

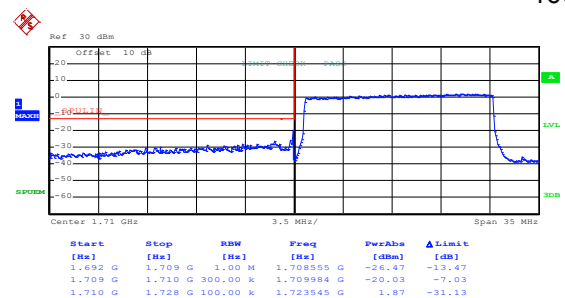
Lowest channel



Date: 10.JUL.2019 16:04:27

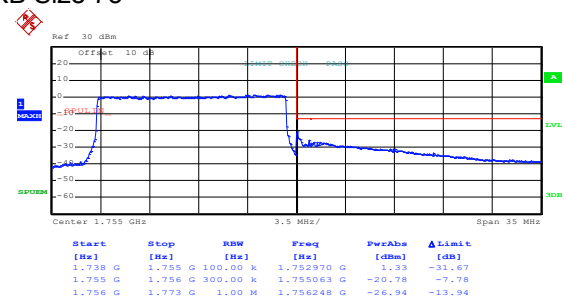
Highest channel

16QAM & RB Size 75



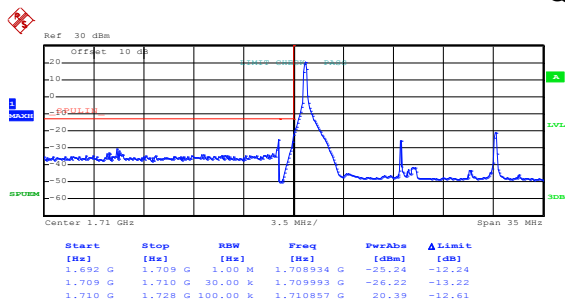
Date: 10.JUL.2019 16:02:43

Lowest channel



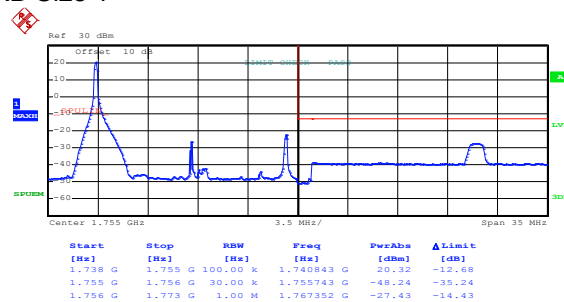
Date: 10.JUL.2019 16:04:56

Highest channel

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

Date: 10.JUL.2019 16:03:07

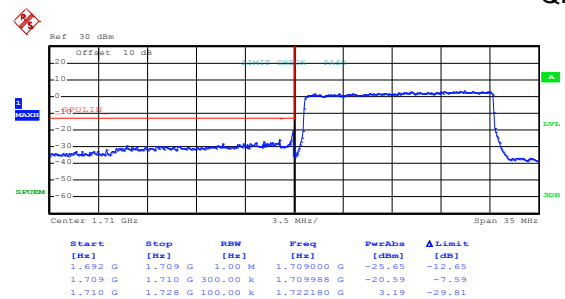
Lowest channel



Date: 10.JUL.2019 16:04:19

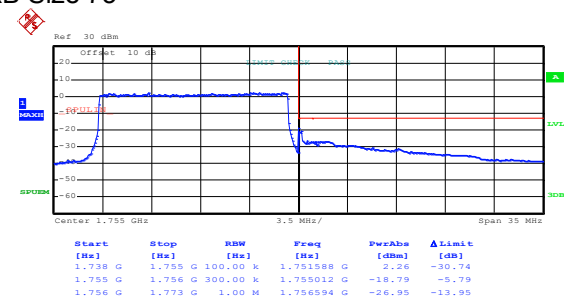
Highest channel

QPSK & RB Size 75



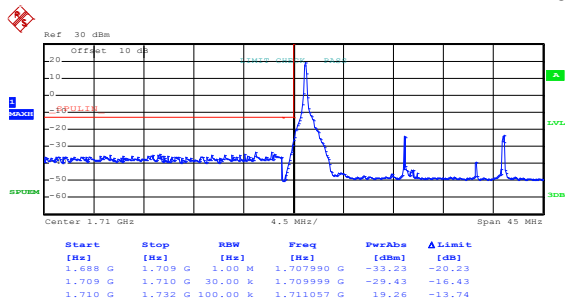
Date: 10.JUL.2019 16:02:36

Lowest channel



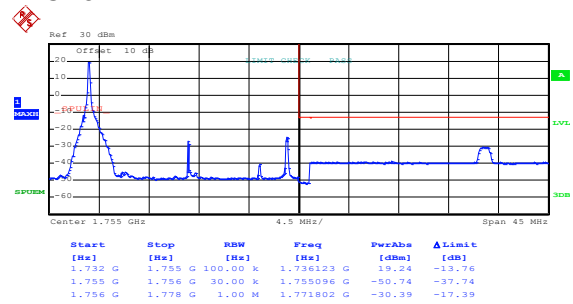
Date: 10.JUL.2019 16:04:49

Highest channel

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

Date: 10.JUL.2019 16:07:36

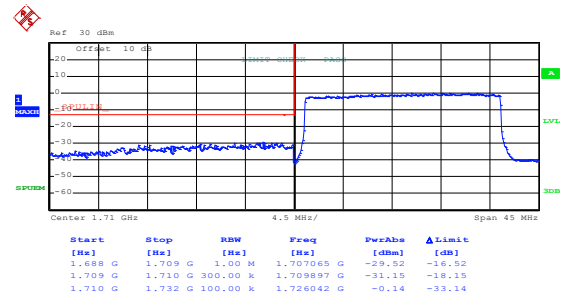
Lowest channel



Date: 10.JUL.2019 16:06:51

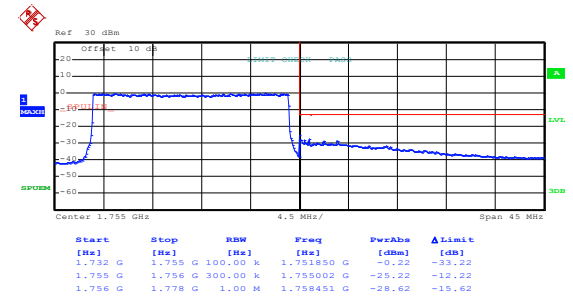
Highest channel

16QAM & RB Size 100



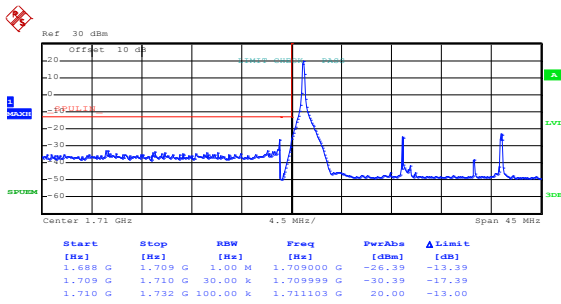
Date: 10.JUL.2019 16:08:12

Lowest channel



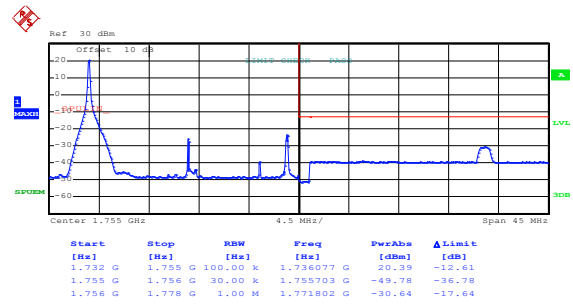
Date: 10.JUL.2019 16:06:14

Highest channel

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

Date: 10.JUL.2019 16:07:29

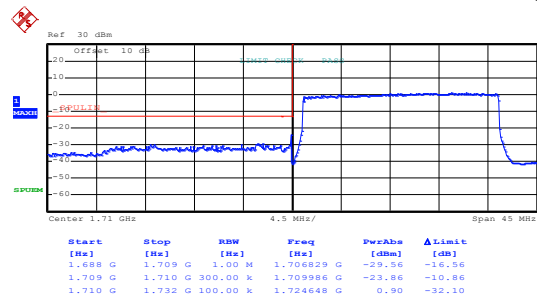
Lowest channel



Date: 10.JUL.2019 16:06:39

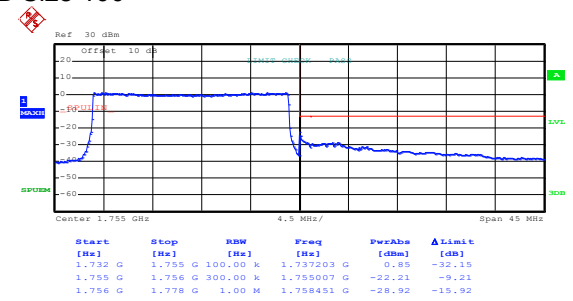
Highest channel

QPSK & RB Size 100



Date: 10.JUL.2019 16:08:04

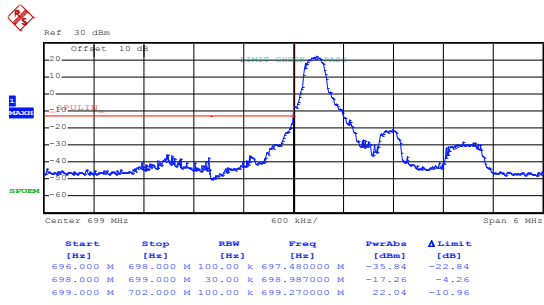
Lowest channel



Date: 10.JUL.2019 16:06:07

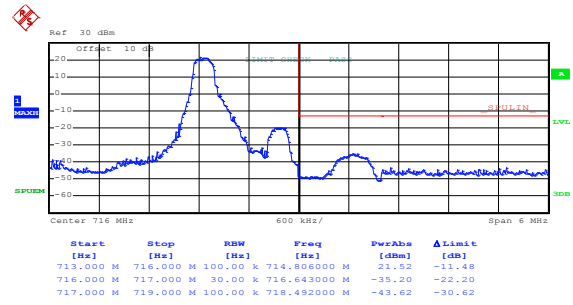
Highest channel

LTE band 12 part:

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

Date: 10.JUL.2019 16:14:41

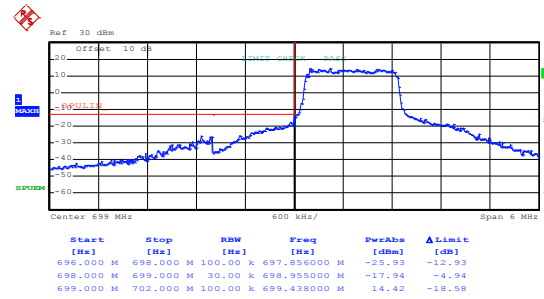
Lowest channel



Date: 10.JUL.2019 16:16:14

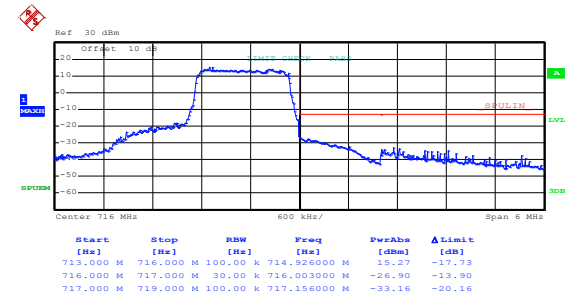
Highest channel

16QAM & RB Size 6



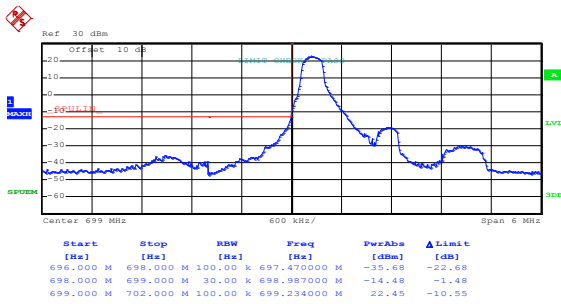
Date: 10.JUL.2019 16:15:13

Lowest channel



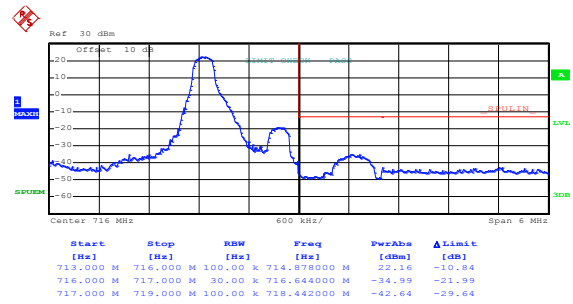
Date: 10.JUL.2019 16:15:51

Highest channel

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

Date: 10.JUL.2019 16:14:25

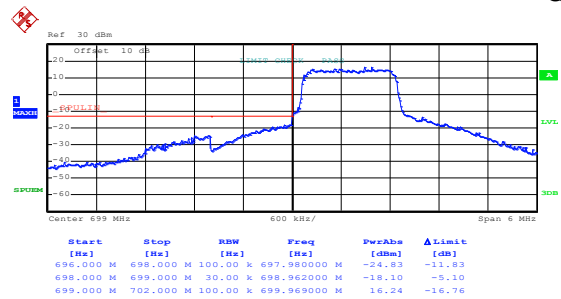
Lowest channel



Date: 10.JUL.2019 16:16:05

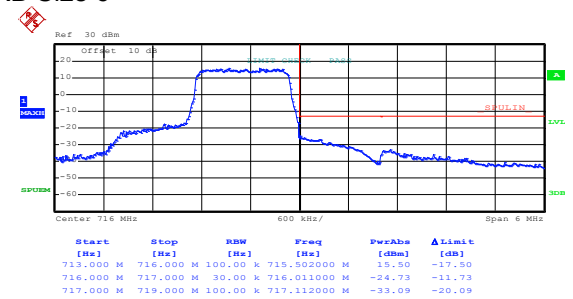
Highest channel

QPSK & RB Size 6



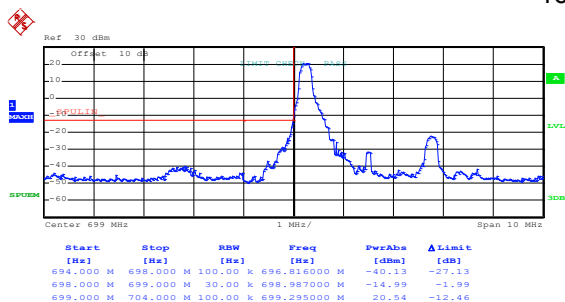
Date: 10.JUL.2019 16:15:04

Lowest channel



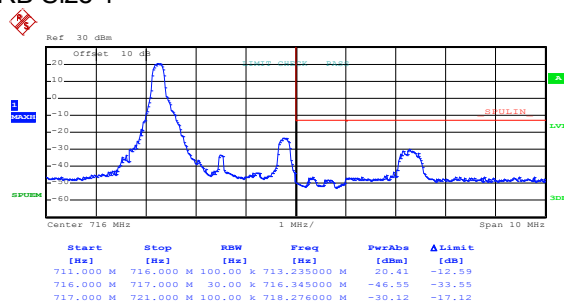
Date: 10.JUL.2019 16:15:42

Highest channel

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

Date: 10.JUL.2019 16:20:08

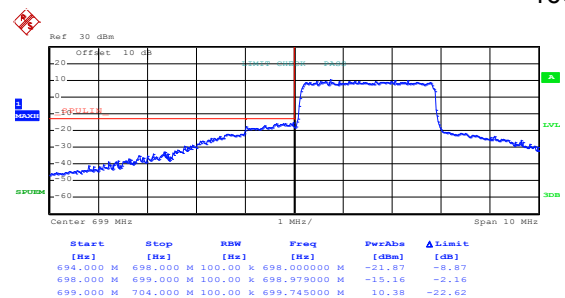
Lowest channel



Date: 10.JUL.2019 16:17:30

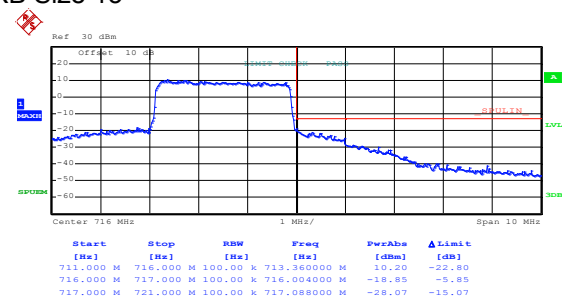
Highest channel

16QAM & RB Size 15



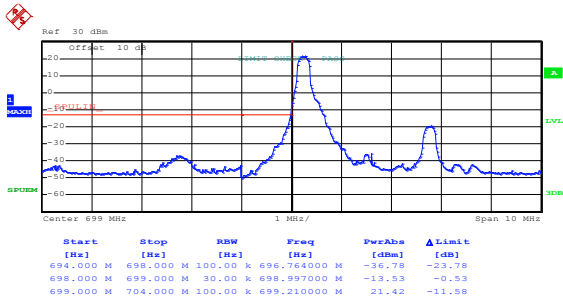
Date: 10.JUL.2019 16:19:43

Lowest channel



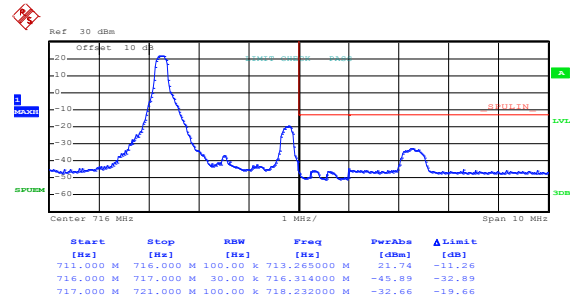
Date: 10.JUL.2019 16:18:44

Highest channel

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

Date: 10.JUL.2019 16:20:00

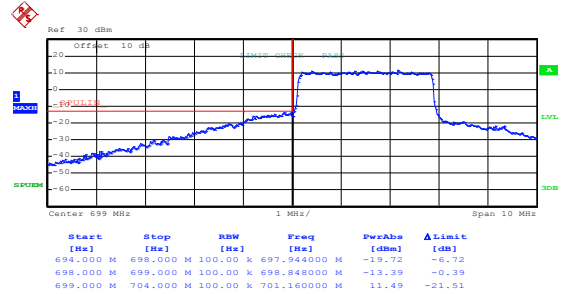
Lowest channel



Date: 10.JUL.2019 16:17:22

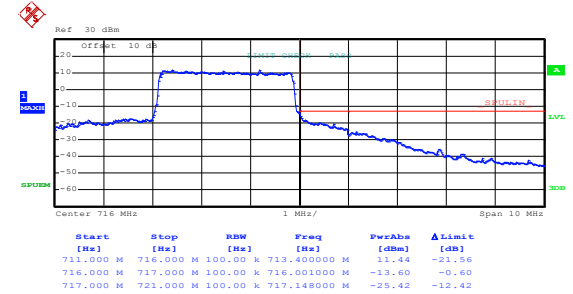
Highest channel

QPSK & RB Size 15



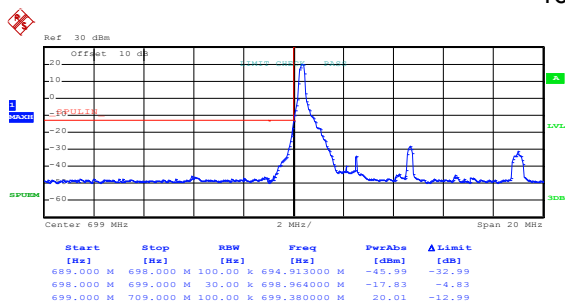
Date: 10.JUL.2019 16:19:34

Lowest channel



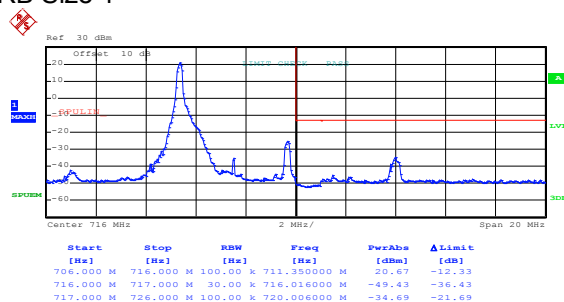
Date: 10.JUL.2019 16:18:34

Highest channel

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

Date: 10.JUL.2019 16:21:07

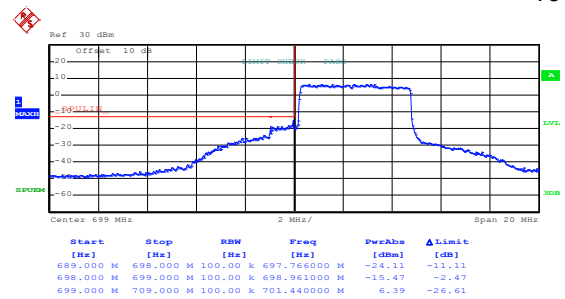
Lowest channel



Date: 10.JUL.2019 16:23:55

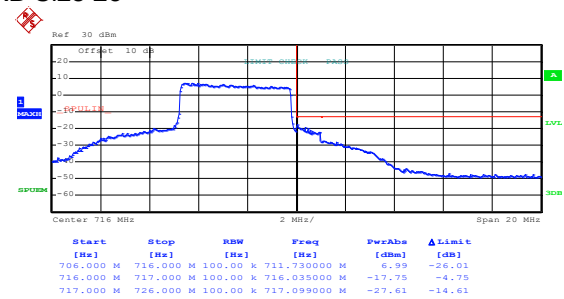
Highest channel

16QAM & RB Size 25



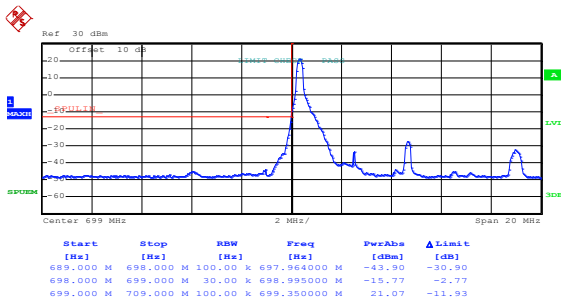
Date: 10.JUL.2019 16:21:48

Lowest channel



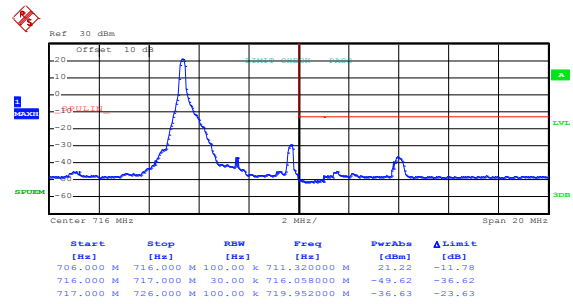
Date: 10.JUL.2019 16:23:23

Highest channel

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

Date: 10.JUL.2019 16:20:58

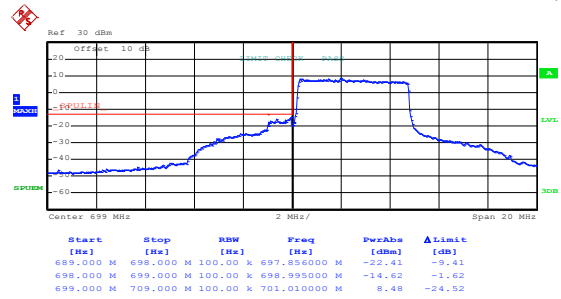
Lowest channel



Date: 10.JUL.2019 16:23:48

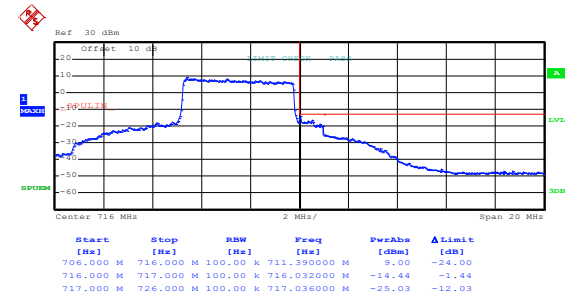
Highest channel

QPSK & RB Size 25



Date: 10.JUL.2019 16:21:39

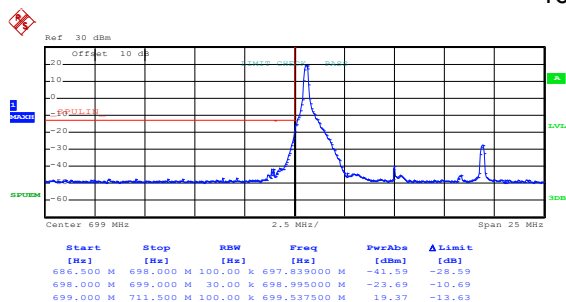
Lowest channel



Date: 10.JUL.2019 16:23:16

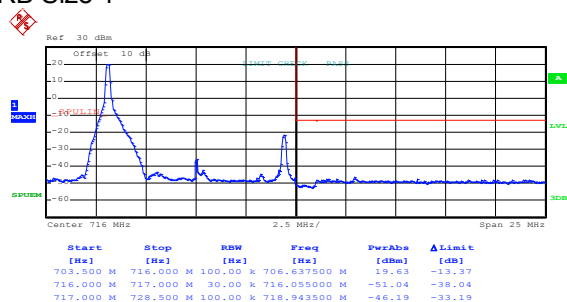
Highest channel

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



Date: 10.JUL.2019 16:29:13

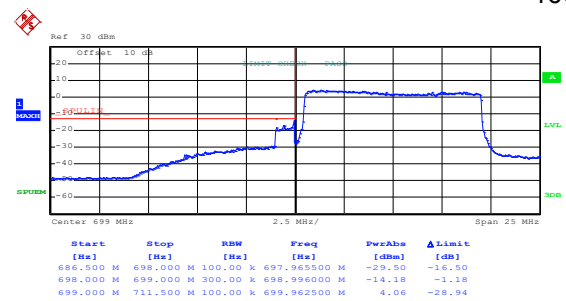
Lowest channel



Date: 10.JUL.2019 16:25:23

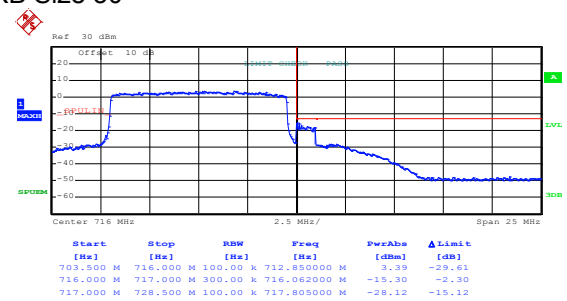
Highest channel

16QAM & RB Size 50



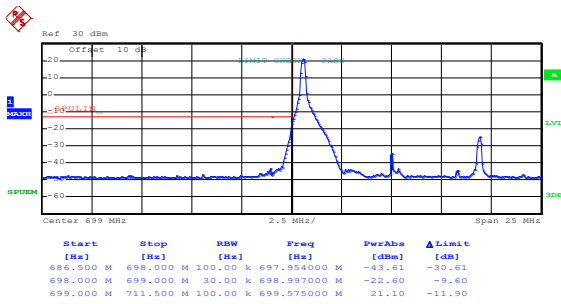
Date: 10.JUL.2019 16:28:41

Lowest channel



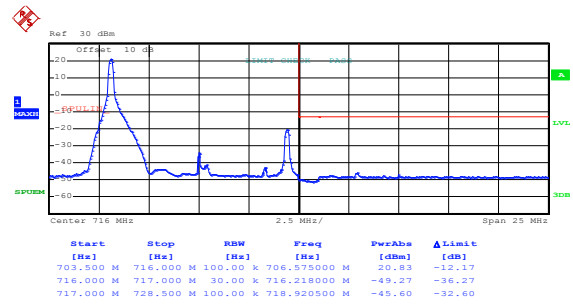
Date: 10.JUL.2019 16:25:58

Highest channel

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

Date: 10.JUL.2019 16:29:04

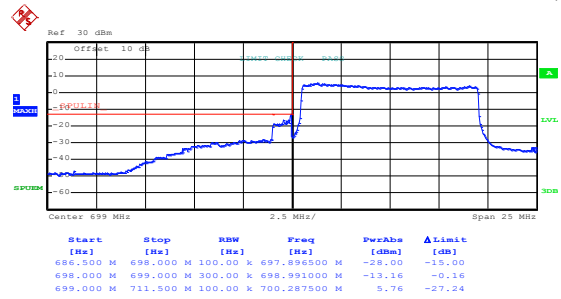
Lowest channel



Date: 10.JUL.2019 16:25:13

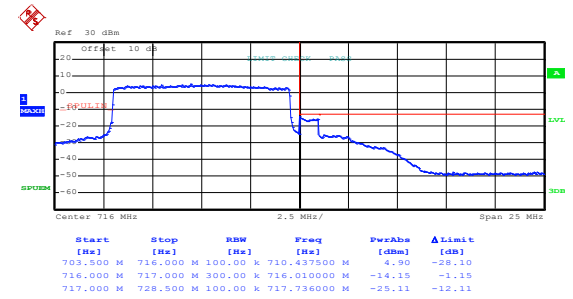
Highest channel

QPSK & RB Size 50



Date: 10.JUL.2019 16:28:15

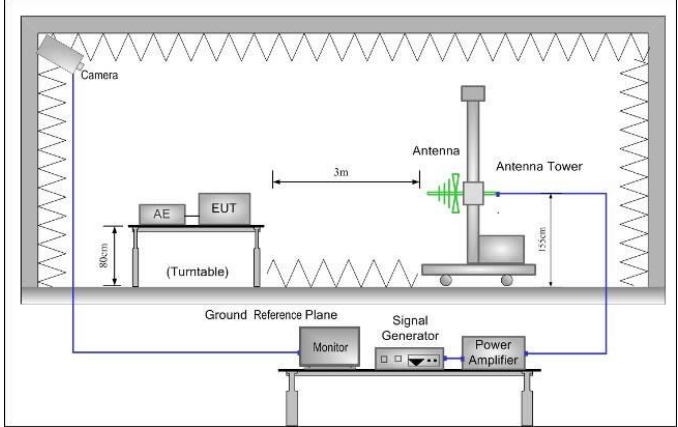
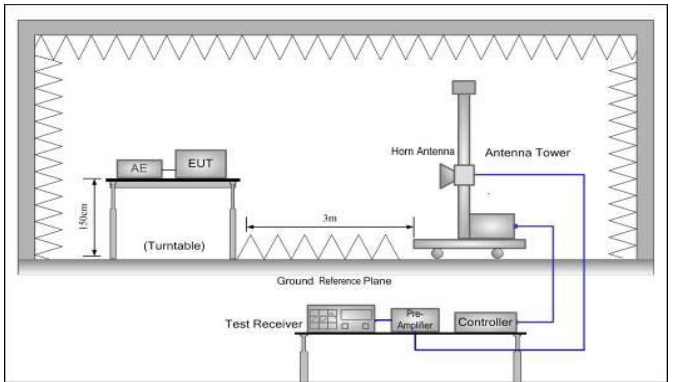
Lowest channel



Date: 10.JUL.2019 16:25:51

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 24.232(c), part 27.50(c)(10), Part 27.50(d)(4)
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 a 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	-50.11	-13.00	Pass
5552.10	V	-44.68		
7402.00	V	-39.85		
3701.40	Horizontal	-51.73		
5552.10	H	-45.08		
7402.00	H	-40.11		
Middle Channel				
3760.00	Vertical	-50.84	-13.00	Pass
5640.00	V	-44.37		
7520.00	V	-39.56		
3760.00	Horizontal	-51.60		
5640.00	H	-45.57		
7520.00	H	-40.64		
Highest Channel				
3816.60	Vertical	-50.60	-13.00	Pass
5724.90	V	-44.72		
7633.20	V	-39.74		
3816.60	Horizontal	-51.48		
5724.90	H	-45.79		
7633.20	H	-40.46		
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	-50.38	-13.00	Pass
5554.50	V	-44.36		
7406.00	V	-39.91		
3703.00	Horizontal	-51.73		
5554.50	H	-45.01		
7406.00	H	-40.79		
Middle Channel				
3760.00	Vertical	-50.34	-13.00	Pass
5640.00	V	-44.54		
7520.00	V	-39.80		
3760.00	Horizontal	-51.73		
5640.00	H	-45.32		
7520.00	H	-40.42		
Highest Channel				
3817.00	Vertical	-50.33	-13.00	Pass
5725.50	V	-44.85		
7634.00	V	-39.01		
3817.00	Horizontal	-51.19		
5725.50	H	-45.37		
7634.00	H	-40.79		
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	-50.47	-13.00	Pass
5557.50	V	-44.41		
7410.00	V	-39.73		
3705.00	Horizontal	-51.12		
5557.50	H	-45.74		
7410.00	H	-40.09		
Middle Channel				
3760.00	Vertical	-50.47	-13.00	Pass
5640.00	V	-44.85		
7520.00	V	-39.42		
3760.00	Horizontal	-51.45		
5640.00	H	-45.48		
7520.00	H	-40.04		
Highest Channel				
3815.00	Vertical	-50.74	-13.00	Pass
5722.50	V	-44.12		
7630.00	V	-39.85		
3815.00	Horizontal	-51.11		
5722.50	H	-45.61		
7630.00	H	-40.48		
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	-50.55	-13.00	Pass
5565.00	V	-44.68		
7420.00	V	-39.42		
3710.00	Horizontal	-51.69		
5565.00	H	-45.44		
7420.00	H	-40.11		
Middle Channel				
3760.00	Vertical	-50.69	-13.00	Pass
5640.00	V	-44.44		
7520.00	V	-39.28		
3760.00	Horizontal	-51.86		
5640.00	H	-45.31		
7520.00	H	-40.45		
Highest Channel				
3810.00	Vertical	-50.31	-13.00	Pass
5715.00	V	-44.43		
7620.00	V	-39.48		
3810.00	Horizontal	-51.33		
5715.00	H	-45.49		
7620.00	H	-40.34		
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	-50.32	-13.00	Pass
5572.50	V	-44.09		
7430.00	V	-39.12		
3715.00	Horizontal	-51.75		
5572.50	H	-45.68		
7430.00	H	-40.59		
Middle Channel				
3760.00	Vertical	-50.19	-13.00	Pass
5640.00	V	-44.38		
7520.00	V	-39.45		
3760.00	Horizontal	-51.68		
5640.00	H	-45.56		
7520.00	H	-40.41		
Highest Channel				
3805.00	Vertical	-50.45	-13.00	Pass
5707.50	V	-44.64		
7610.00	V	-39.85		
3805.00	Horizontal	-51.79		
5707.50	H	-45.56		
7610.00	H	-40.57		
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	-50.11	-13.00	Pass
5580.00	V	-44.22		
7440.00	V	-39.08		
3720.00	Horizontal	-51.12		
5580.00	H	-45.69		
7440.00	H	-40.68		
Middle Channel				
3760.00	Vertical	-50.44	-13.00	Pass
5640.00	V	-44.85		
7520.00	V	-39.16		
3760.00	Horizontal	-51.08		
5640.00	H	-45.92		
7520.00	H	-40.79		
Highest Channel				
3800.00	Vertical	-50.36	-13.00	Pass
5700.00	V	-44.19		
7600.00	V	-39.58		
3800.00	Horizontal	-51.81		
5700.00	H	-45.16		
7600.00	H	-40.22		
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	-43.29	-13.00	Pass
5132.10	V	-45.12		
6842.80	V	-40.46		
3421.40	Horizontal	-48.64		
5132.10	H	-45.78		
6842.80	H	-40.12		
Middle Channel				
3465.00	Vertical	-43.13	-13.00	Pass
5197.50	V	-45.15		
6930.00	V	-40.37		
3465.00	Horizontal	-48.31		
5197.50	H	-45.46		
6930.00	H	-40.85		
Highest Channel				
3508.60	Vertical	-43.22	-13.00	Pass
5262.90	V	-45.74		
7017.20	V	-40.40		
3508.60	Horizontal	-48.28		
5262.90	H	-45.22		
7017.20	H	-40.36		
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	-43.17	-13.00	Pass
5134.50	V	-45.27		
6846.00	V	-40.43		
3423.00	Horizontal	-48.12		
5134.50	H	-45.31		
6846.00	H	-40.95		
Middle Channel				
3465.00	Vertical	-43.31	-13.00	Pass
5197.50	V	-45.46		
6930.00	V	-40.89		
3465.00	Horizontal	-48.16		
5197.50	H	-45.89		
6930.00	H	-40.53		
Highest Channel				
3507.00	Vertical	-43.14	-13.00	Pass
5260.50	V	-45.35		
7014.00	V	-40.45		
3507.00	Horizontal	-48.52		
5260.50	H	-45.93		
7014.00	H	-40.18		
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				
3425.00	Vertical	-43.17	-13.00	Pass
5137.50	V	-45.89		
6850.00	V	-40.04		
3425.00	Horizontal	-48.16		
5137.50	H	-45.35		
6850.00	H	-40.36		
Middle Channel				
3465.00	Vertical	-43.04	-13.00	Pass
5197.50	V	-45.28		
6930.00	V	-40.73		
3465.00	Horizontal	-48.38		
5197.50	H	-45.54		
6930.00	H	-40.51		
Highest Channel				
3505.00	Vertical	-43.25	-13.00	Pass
5257.50	V	-45.16		
7010.00	V	-40.32		
3505.00	Horizontal	-48.53		
5257.50	H	-45.29		
7010.00	H	-40.93		
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	-43.32	-13.00	Pass
5145.00	V	-45.20		
6860.00	V	-40.80		
3430.00	Horizontal	-48.82		
5145.00	H	-45.75		
6860.00	H	-40.11		
Middle Channel				
3465.00	Vertical	-43.41	-13.00	Pass
5197.50	V	-45.88		
6930.00	V	-40.95		
3465.00	Horizontal	-48.76		
5197.50	H	-45.76		
6930.00	H	-40.13		
Highest Channel				
3500.00	Vertical	-43.36	-13.00	Pass
5250.00	V	-45.28		
7000.00	V	-40.96		
3500.00	Horizontal	-48.28		
5250.00	H	-45.13		
7000.00	H	-40.36		
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	-43.28	-13.00	Pass
5152.50	V	-45.88		
6870.00	V	-40.67		
3435.00	Horizontal	-48.54		
5152.50	H	-45.86		
6870.00	H	-40.82		
Middle Channel				
3465.00	Vertical	-43.82	-13.00	Pass
5197.50	V	-45.84		
6930.00	V	-40.74		
3465.00	Horizontal	-48.44		
5197.50	H	-45.63		
6930.00	H	-40.23		
Highest Channel				
3495.00	Vertical	-43.42	-13.00	Pass
5242.50	V	-45.35		
6990.00	V	-40.74		
3495.00	Horizontal	-48.09		
5242.50	H	-45.80		
6990.00	H	-40.36		
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	-43.95	-13.00	Pass
5160.00	V	-45.33		
6880.00	V	-40.53		
3440.00	Horizontal	-48.96		
5160.00	H	-45.10		
6880.00	H	-40.22		
Middle Channel				
3465.00	Vertical	-43.29	-13.00	Pass
5197.50	V	-45.53		
6930.00	V	-40.31		
3465.00	Horizontal	-48.21		
5197.50	H	-45.29		
6930.00	H	-40.25		
Highest Channel				
3490.00	Vertical	-43.18	-13.00	Pass
5235.00	V	-45.30		
6980.00	V	-40.76		
3490.00	Horizontal	-48.18		
5235.00	H	-45.25		
6980.00	H	-40.89		
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 12 part:

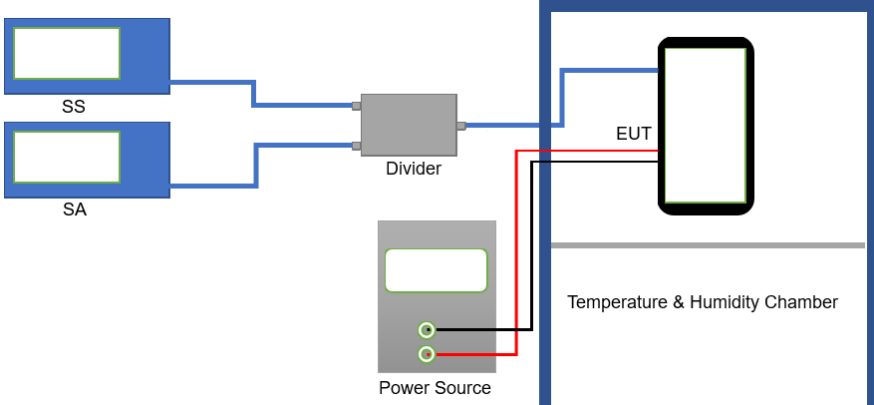
LTE Band 12, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1399.40	Vertical	-55.07	-13.00	Pass
2099.10	V	-56.74		
2798.80	V	-52.63		
1399.40	Horizontal	-55.63		
2099.10	H	-57.03		
2798.80	H	-53.61		
Middle Channel				
1415.00	Vertical	-55.14	-13.00	Pass
2122.50	V	-56.55		
2830.00	V	-52.64		
1415.00	Horizontal	-55.03		
2122.50	H	-57.39		
2830.00	H	-53.43		
Highest Channel				
1430.60	Vertical	-55.36	-13.00	Pass
2145.90	V	-56.36		
2861.20	V	-52.56		
1430.60	Horizontal	-55.58		
2145.90	H	-57.67		
2861.20	H	-53.26		
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	-55.46	-13.00	Pass
2101.50	V	-56.13		
2802.00	V	-52.77		
1401.00	Horizontal	-55.28		
2101.50	H	-57.45		
2802.00	H	-53.69		
Middle Channel				
1415.00	Vertical	-55.40	-13.00	Pass
2122.50	V	-56.81		
2830.00	V	-52.91		
1415.00	Horizontal	-55.41		
2122.50	H	-57.45		
2830.00	H	-53.14		
Highest Channel				
1429.00	Vertical	-55.48	-13.00	Pass
2143.50	V	-56.12		
2858.00	V	-52.18		
1429.00	Horizontal	-55.13		
2143.50	H	-57.33		
2858.00	H	-53.28		
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	-55.77	-13.00	Pass
2104.50	V	-56.43		
2806.00	V	-52.29		
1403.00	Horizontal	-55.91		
2104.50	H	-57.49		
2806.00	H	-53.16		
Middle Channel				
1415.00	Vertical	-55.67	-13.00	Pass
2122.50	V	-56.92		
2830.00	V	-52.43		
1415.00	Horizontal	-55.46		
2122.50	H	-57.28		
2830.00	H	-53.45		
Highest Channel				
1427.00	Vertical	-55.37	-13.00	Pass
2410.50	V	-56.51		
2854.00	V	-52.33		
1427.00	Horizontal	-55.81		
2410.50	H	-57.47		
2854.00	H	-53.19		
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	-55.77	-13.00	Pass
2112.00	V	-56.38		
2816.00	V	-52.27		
1408.00	Horizontal	-55.63		
2112.00	H	-57.12		
2816.00	H	-53.28		
Middle Channel				
	Vertical		-13.00	Pass
1415.00	Vertical	-55.28		
2122.50	V	-56.29		
2830.00	V	-52.30		
1415.00	Horizontal	-55.32		
2122.50	H	-57.37		
Highest Channel				
1422.00	Vertical	-55.77	-13.00	Pass
2133.00	V	-56.46		
2844.00	V	-52.23		
1422.00	Horizontal	-55.46		
2133.00	H	-57.41		
2844.00	H	-53.34		
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 24.232(c), part 27.50(c)(10), Part 27.50(d)(4)
Test Method:	ANSI/TIA-603-D 2010
Limit:	$\pm 2.5\text{ppm}$
Test setup:	 The diagram illustrates the test setup. A Signal Source (SS) and a Spectrum Analyzer (SA) are connected to a Divider. 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. 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					
3.70	-30	195	0.103723	±2.5	Pass
	-20	175	0.093085		
	-10	146	0.077660		
	0	132	0.070213		
	10	158	0.084043		
	20	137	0.072872		
	30	161	0.085638		
	40	130	0.069149		
	50	105	0.055851		
16QAM					
3.70	-30	187	0.099468	±2.5	Pass
	-20	162	0.086170		
	-10	105	0.055851		
	0	122	0.064894		
	10	174	0.092553		
	20	101	0.053723		
	30	104	0.055319		
	40	133	0.070745		
	50	172	0.091489		
Note: Only the worst case shown in the report.					

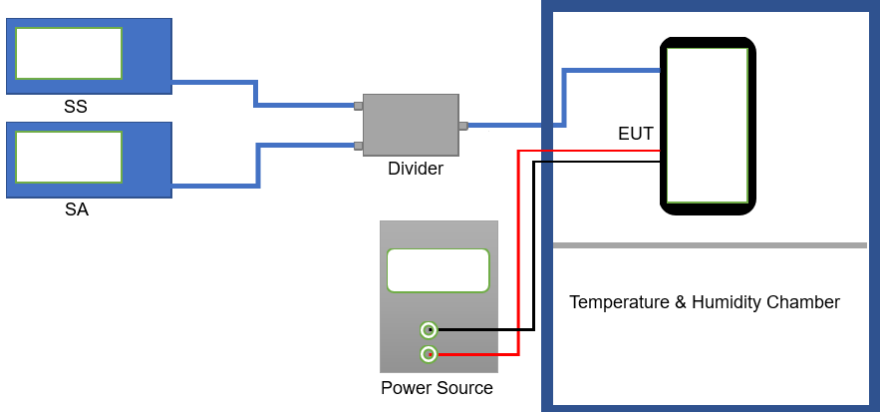
LTE Band 4 part:

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					
3.70	-30	192	0.110823	±2.5	Pass
	-20	125	0.072150		
	-10	136	0.078499		
	0	112	0.064646		
	10	138	0.079654		
	20	147	0.084848		
	30	141	0.081385		
	40	170	0.098124		
	50	174	0.100433		
16QAM					
3.70	-30	185	0.106782	±2.5	Pass
	-20	105	0.060606		
	-10	151	0.087157		
	0	126	0.072727		
	10	143	0.082540		
	20	103	0.059452		
	30	165	0.095238		
	40	142	0.081962		
	50	181	0.104473		
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					
3.70	-30	186	0.262898	±2.5	Pass
	-20	152	0.214841		
	-10	115	0.162544		
	0	162	0.228975		
	10	134	0.189399		
	20	133	0.187986		
	30	165	0.233216		
	40	124	0.175265		
	50	118	0.166784		
16QAM					
3.70	-30	178	0.251590	±2.5	Pass
	-20	116	0.163958		
	-10	136	0.192226		
	0	152	0.214841		
	10	104	0.146996		
	20	137	0.193640		
	30	165	0.233216		
	40	129	0.182332		
	50	153	0.216254		
Note: Only the worst case shown in the report.					

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 24.232(c), part 27.50(c)(10), Part 27.50(d)(4)
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	4.20	92	0.048936	±2.5	Pass
	3.70	57	0.030319		
	3.50	61	0.032447		
16QAM					
25	4.20	81	0.043085	±2.5	Pass
	3.70	62	0.032979		
	3.50	52	0.027660		
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	4.20	92	0.053102	±2.5	Pass
	3.70	56	0.032323		
	3.50	63	0.036364		
16QAM					
25	4.20	81	0.046753	±2.5	Pass
	3.70	73	0.042136		
	3.50	67	0.038672		
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	4.20	91	0.128622	±2.5	Pass
	3.70	68	0.096113		
	3.50	57	0.080565		
16QAM					
25	4.20	87	0.122968	±2.5	Pass
	3.70	65	0.091873		
	3.50	52	0.073498		
Note: Only the worst case shown in the report.					