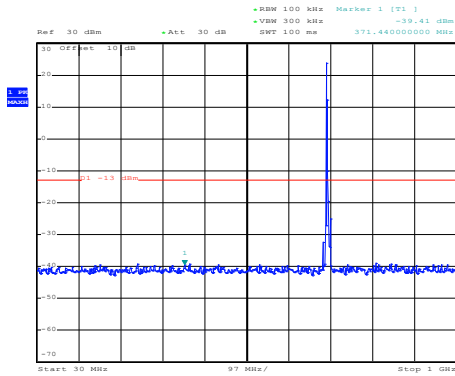
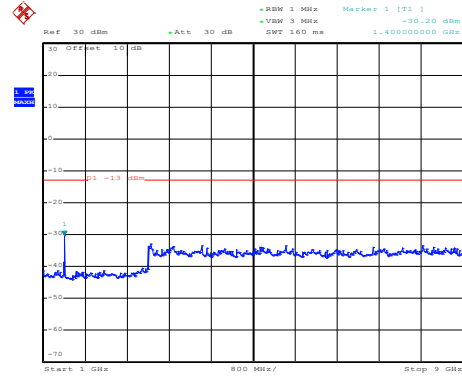


LTE Band 12: 16 QAM & RB Size 1 BW: 5MHz Lowest channel



Date: 31.JUL.2019 19:54:30

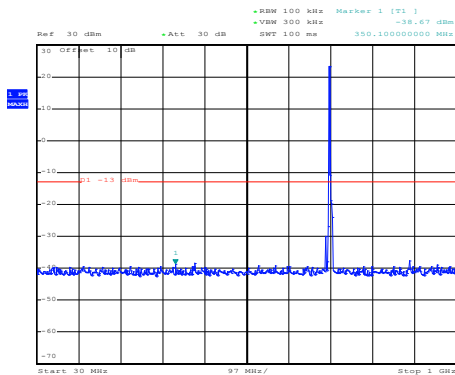
30MHz~1GHz



Date: 2.AUG.2019 11:24:32

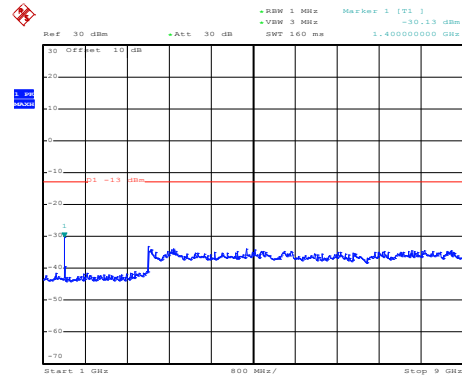
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:56:05

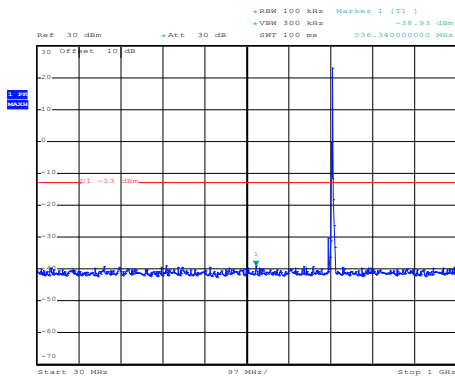
30MHz~1GHz



Date: 2.AUG.2019 11:25:50

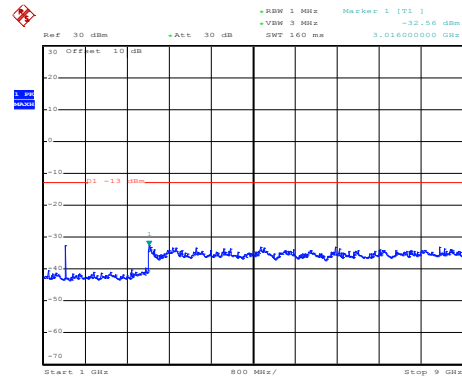
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:56:35

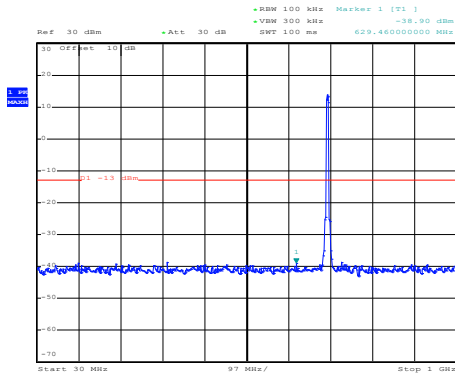
30MHz~1GHz



Date: 2.AUG.2019 11:26:24

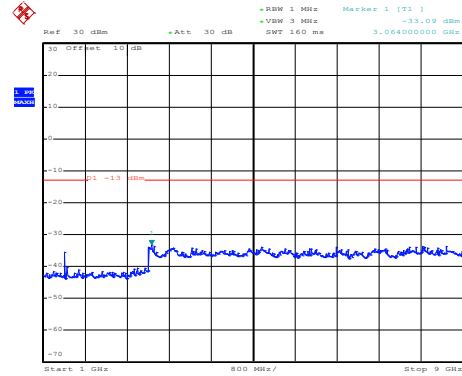
1GHz~25GHz

LTE Band 12: 16 QAM & RB Size 25 BW: 5MHz Lowest channel



Date: 31.JUL.2019 19:54:56

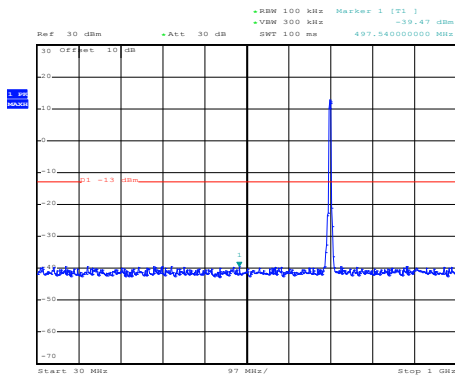
30MHz~1GHz



Date: 2.AUG.2019 11:24:54

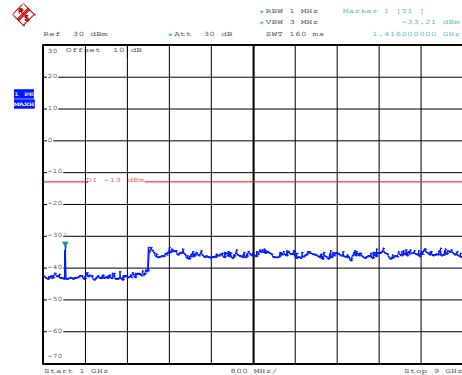
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:55:38

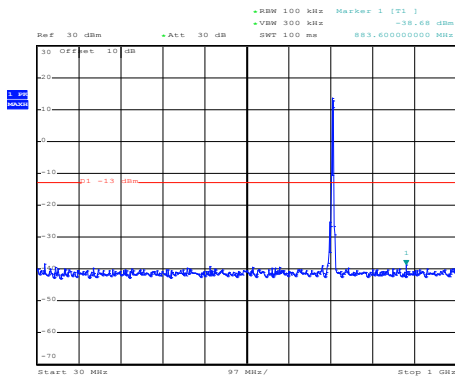
30MHz~1GHz



Date: 2.AUG.2019 11:25:31

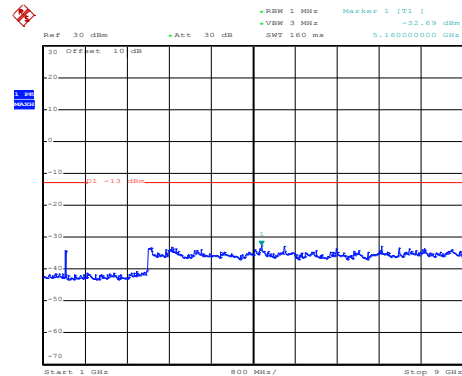
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:57:00

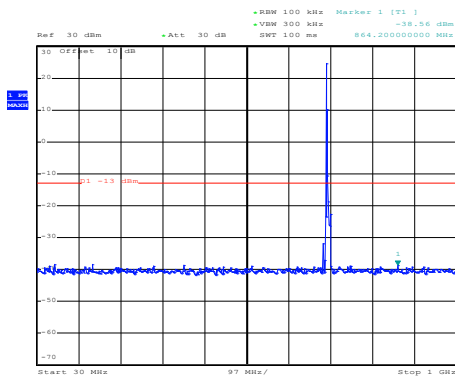
30MHz~1GHz



Date: 2.AUG.2019 11:26:52

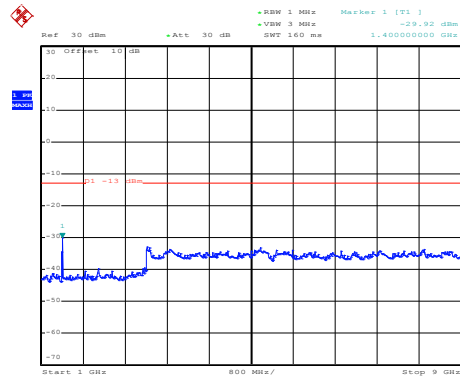
1GHz~25GHz

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



Date: 31.JUL.2019 19:54:19

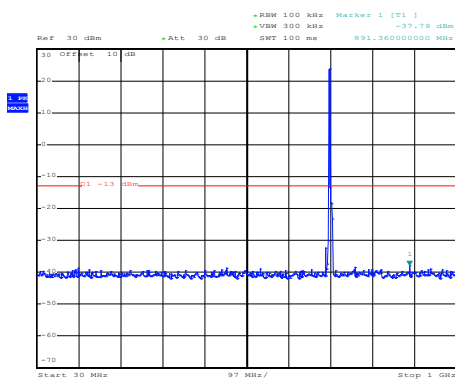
30MHz~1GHz



Date: 2.AUG.2019 11:24:23

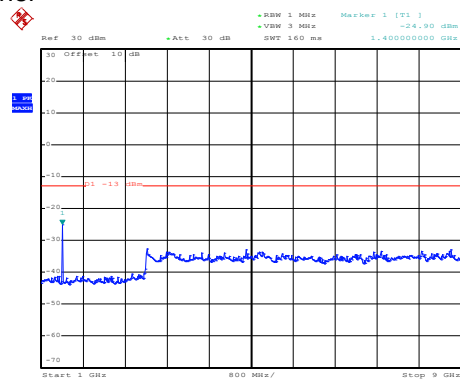
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:55:54

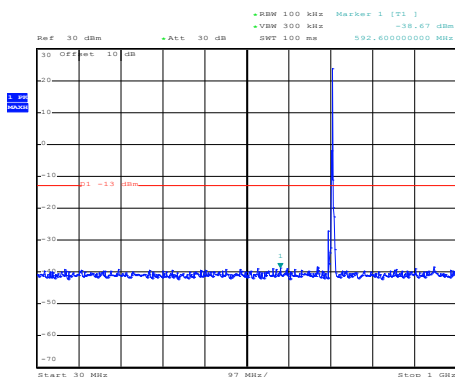
30MHz~1GHz



Date: 2.AUG.2019 11:25:44

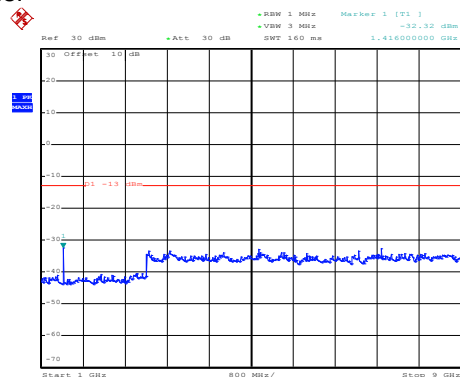
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:56:25

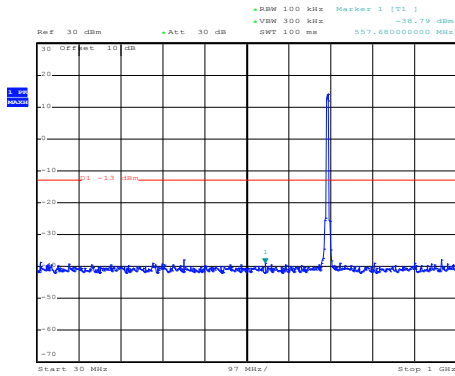
30MHz~1GHz



Date: 2.AUG.2019 11:26:09

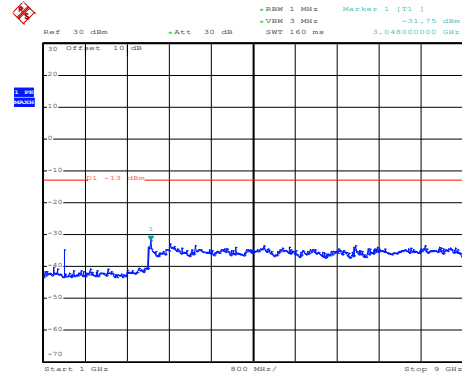
1GHz~25GHz

LTE Band 12: QPSK & RB Size 25 BW: 5MHz Lowest channel



Date: 31.JUL.2019 19:54:45

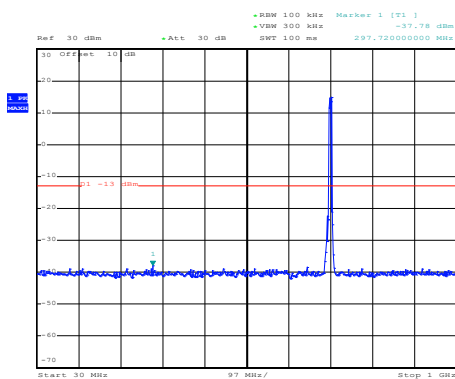
30MHz~1GHz



Date: 2.AUG.2019 11:24:46

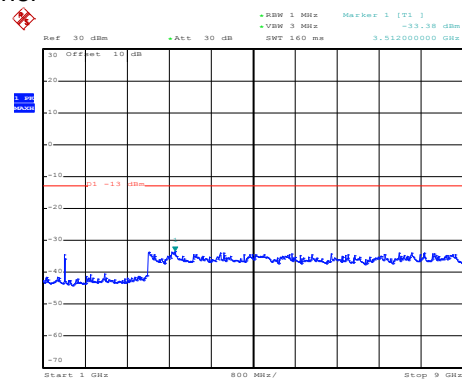
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:55:30

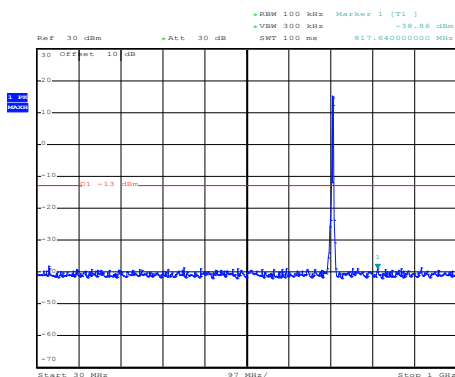
30MHz~1GHz



Date: 2.AUG.2019 11:25:19

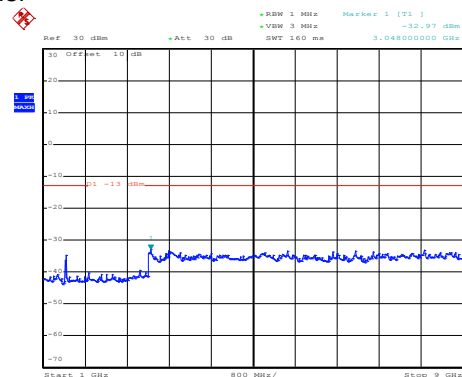
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:56:52

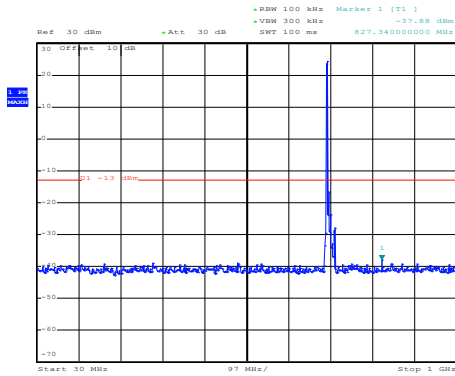
30MHz~1GHz



Date: 2.AUG.2019 11:26:39

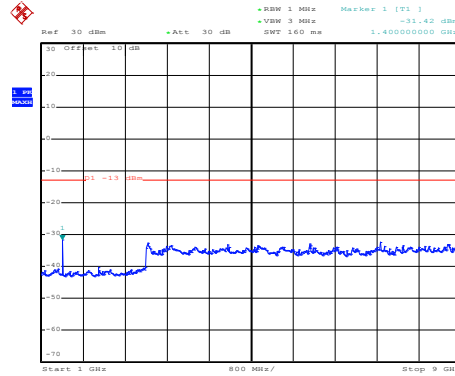
1GHz~25GHz

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



Date: 31.JUL.2019 19:57:59

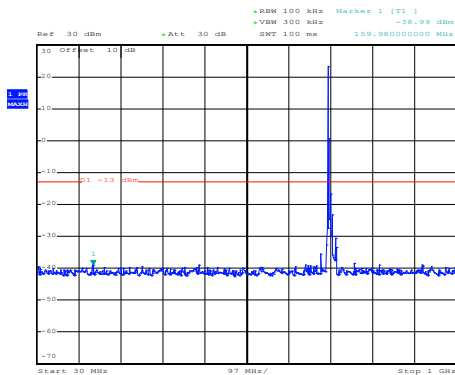
30MHz~1GHz



Date: 2.AUG.2019 11:19:36

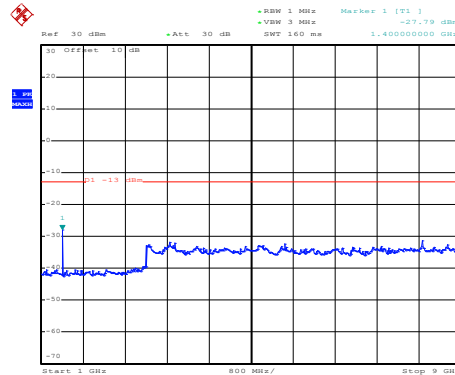
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:59:20

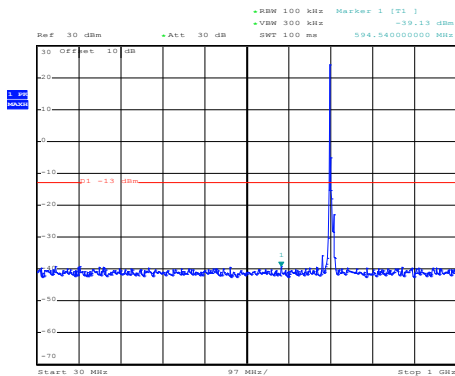
30MHz~1GHz



Date: 2.AUG.2019 11:22:16

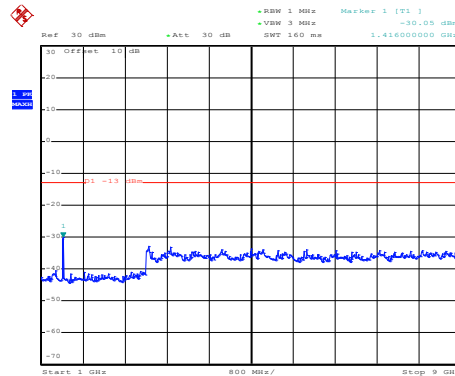
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:59:53

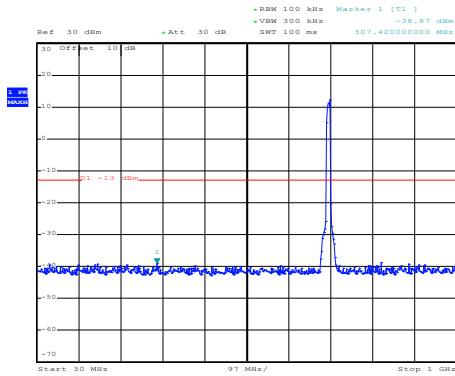
30MHz~1GHz



Date: 2.AUG.2019 11:23:51

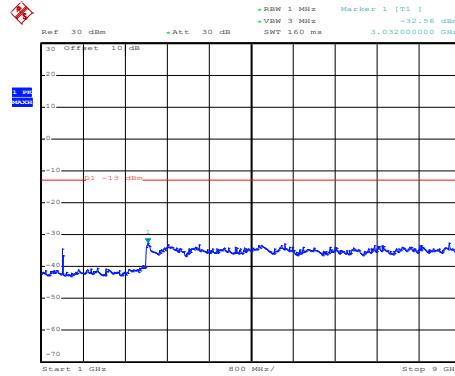
1GHz~25GHz

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



Date: 31.JUL.2019 19:58:25

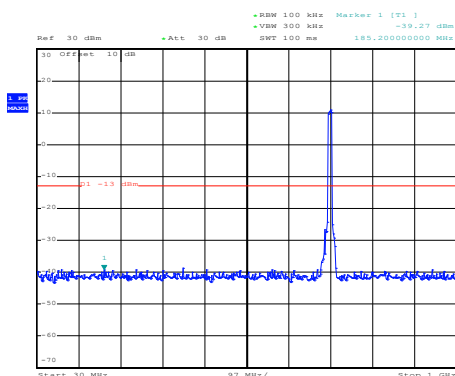
30MHz~1GHz



Date: 2.AUG.2019 11:18:59

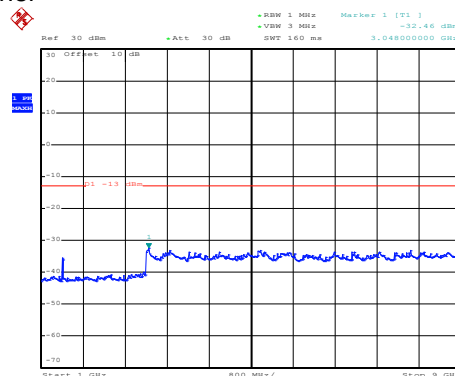
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:58:53

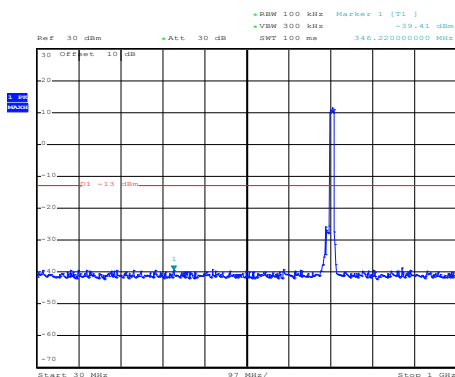
30MHz~1GHz



Date: 2.AUG.2019 11:23:06

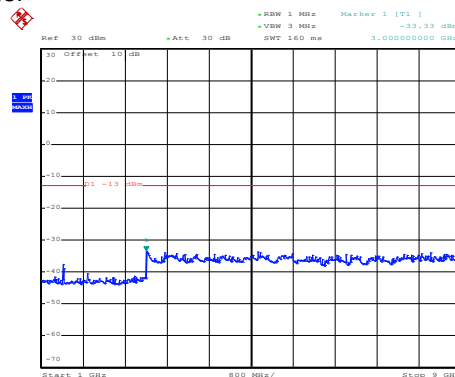
1GHz~25GHz

High channel



Date: 31.JUL.2019 20:00:24

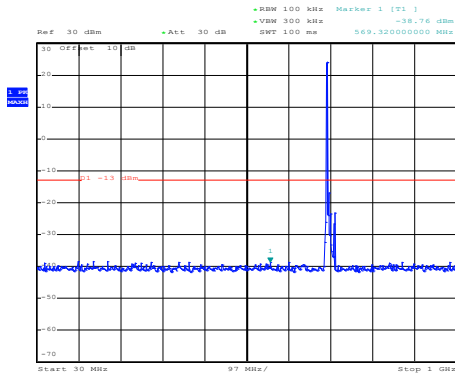
30MHz~1GHz



Date: 2.AUG.2019 11:23:33

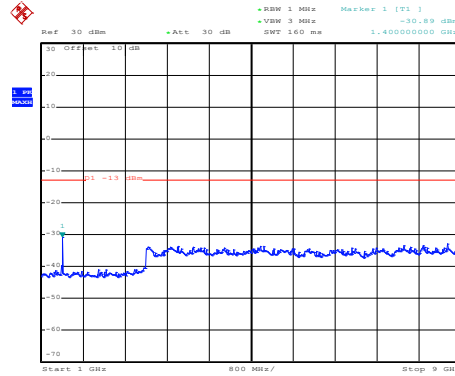
1GHz~25GHz

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



Date: 31.JUL.2019 19:57:46

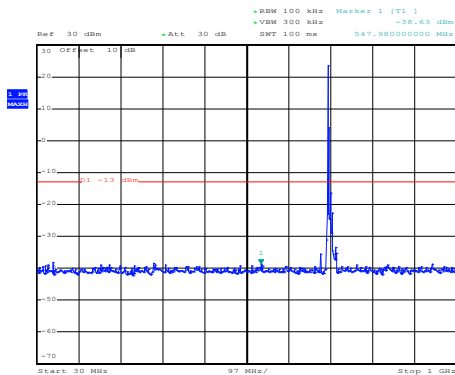
30MHz~1GHz



Date: 2.AUG.2019 11:19:12

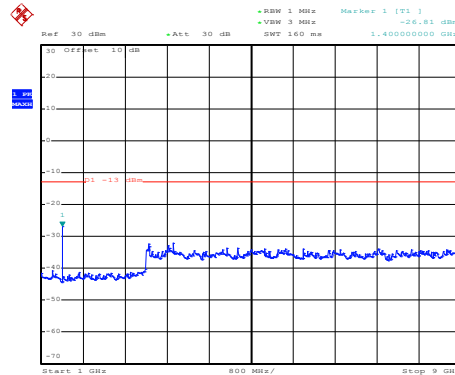
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:59:10

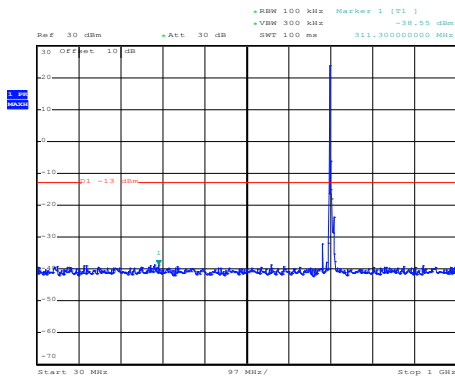
30MHz~1GHz



Date: 2.AUG.2019 11:20:25

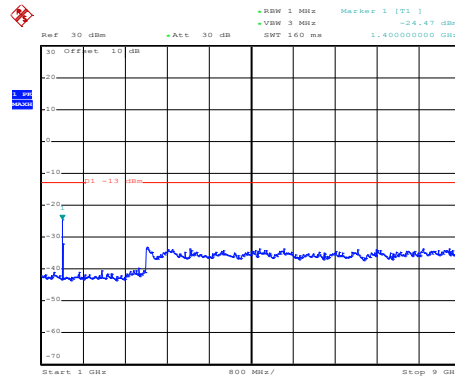
1GHz~25GHz

High channel



Date: 31.JUL.2019 19:59:41

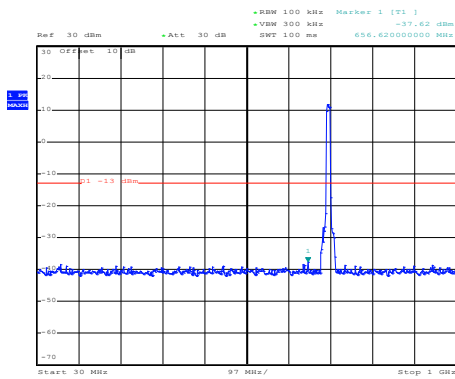
30MHz~1GHz



Date: 2.AUG.2019 11:23:45

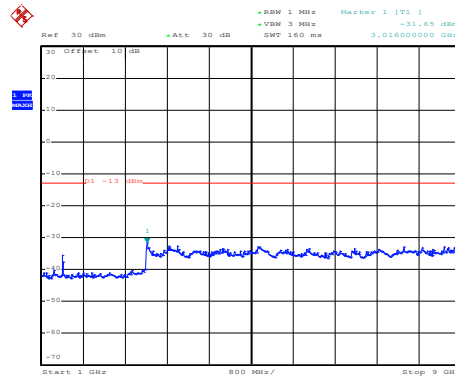
1GHz~25GHz

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



Date: 31.JUL.2019 19:58:16

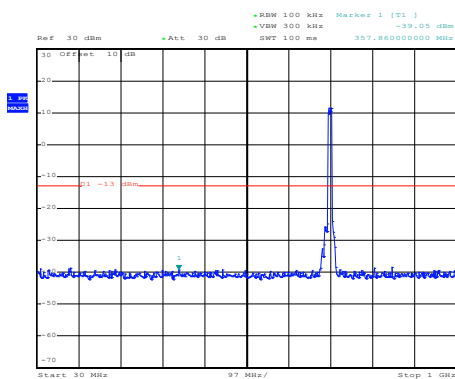
30MHz~1GHz



Date: 2.AUG.2019 11:18:21

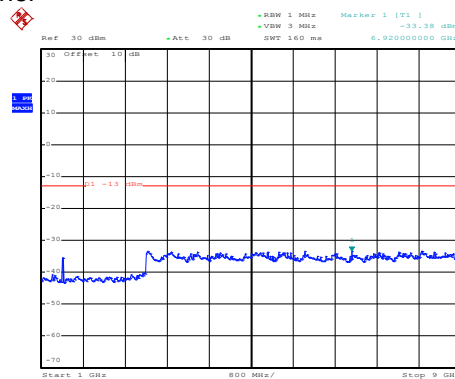
1GHz~25GHz

Middle channel



Date: 31.JUL.2019 19:58:44

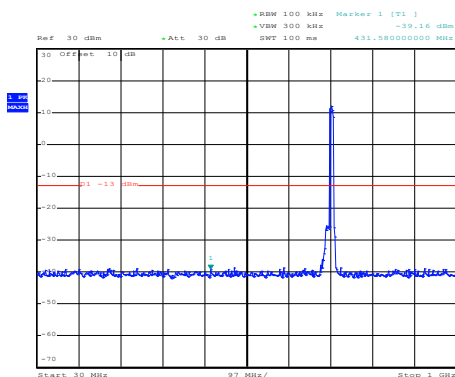
30MHz~1GHz



Date: 2.AUG.2019 11:22:38

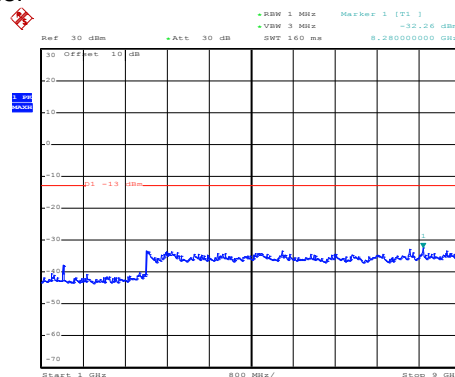
1GHz~25GHz

High channel



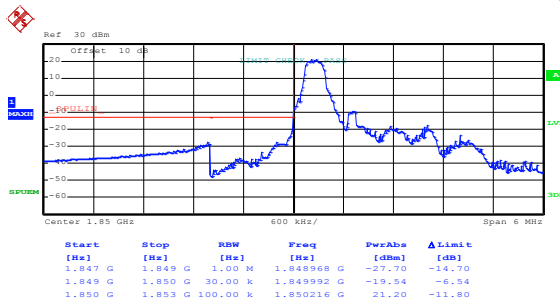
Date: 31.JUL.2019 20:00:10

30MHz~1GHz



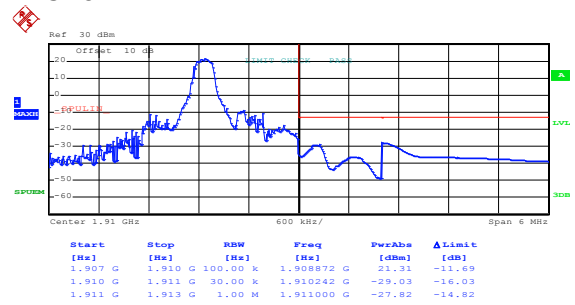
Date: 2.AUG.2019 11:23:26

1GHz~25GHz

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

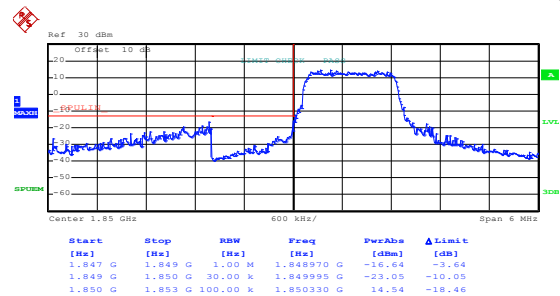
Date: 2.AUG.2019 14:55:07

Lowest channel



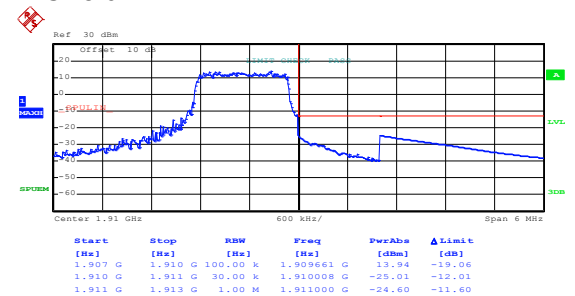
Date: 2.AUG.2019 14:53:18

Highest channel

16QAM & RB Size 6

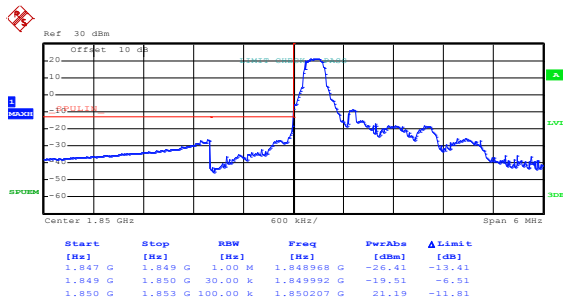
Date: 2.AUG.2019 14:54:07

Lowest channel



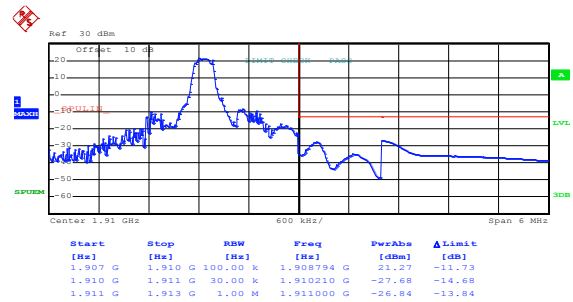
Date: 2.AUG.2019 14:53:42

Highest channel

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

Date: 2.AUG.2019 14:54:59

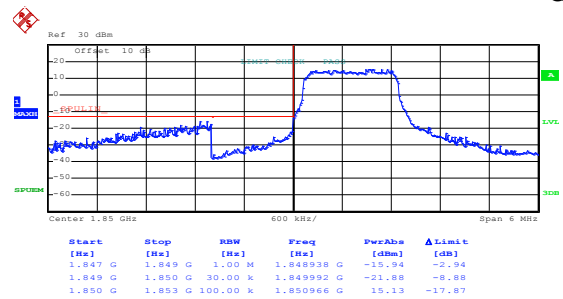
Lowest channel



Date: 2.AUG.2019 14:53:03

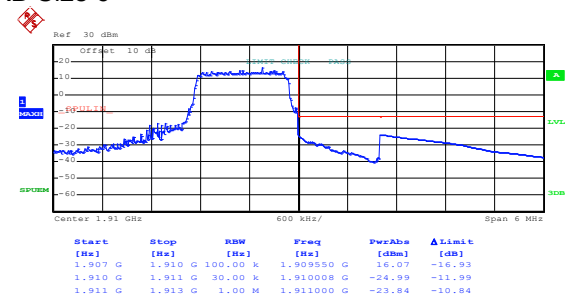
Highest channel

QPSK & RB Size 6



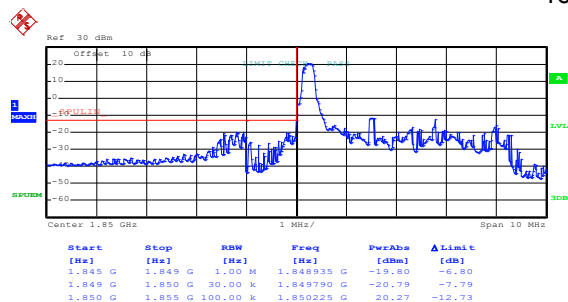
Date: 2.AUG.2019 14:54:01

Lowest channel



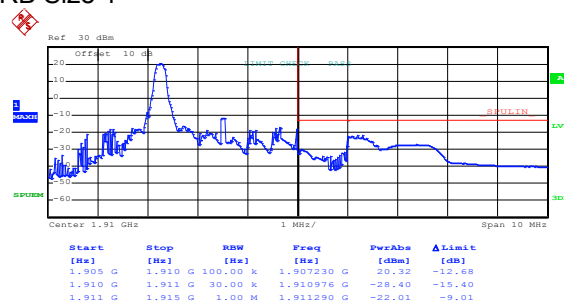
Date: 2.AUG.2019 14:53:32

Highest channel

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

Date: 2.AUG.2019 14:35:49

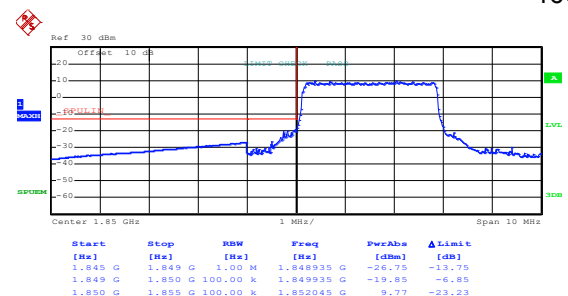
Lowest channel



Date: 2.AUG.2019 14:52:05

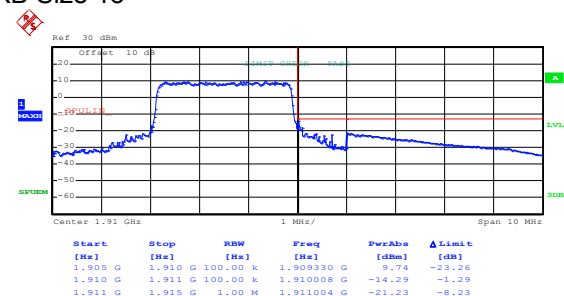
Highest channel

16QAM & RB Size 15



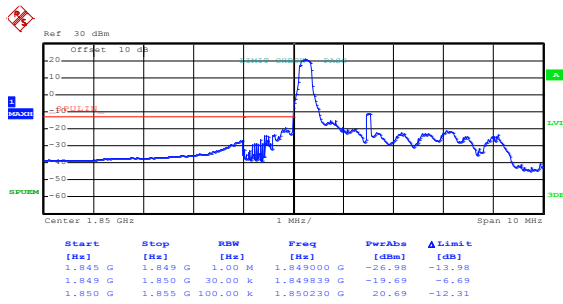
Date: 2.AUG.2019 14:45:11

Lowest channel



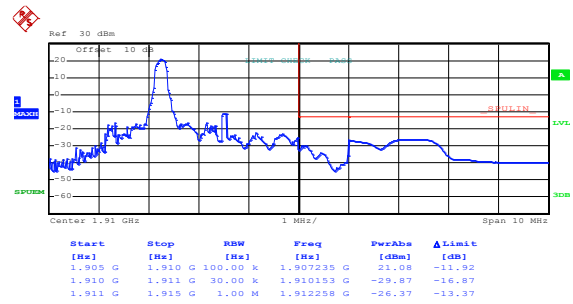
Date: 2.AUG.2019 14:46:37

Highest channel

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

Date: 2.AUG.2019 14:35:41

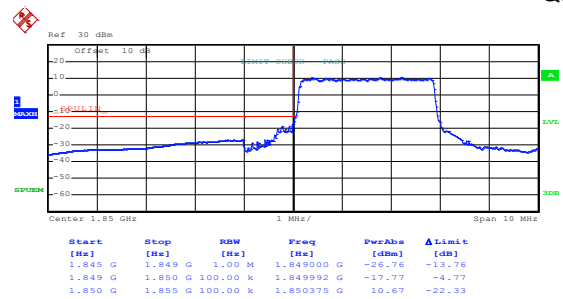
Lowest channel



Date: 2.AUG.2019 14:52:16

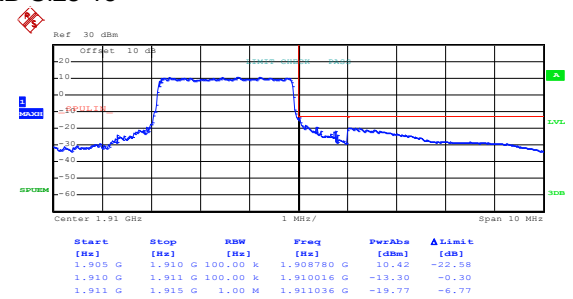
Highest channel

QPSK & RB Size 15



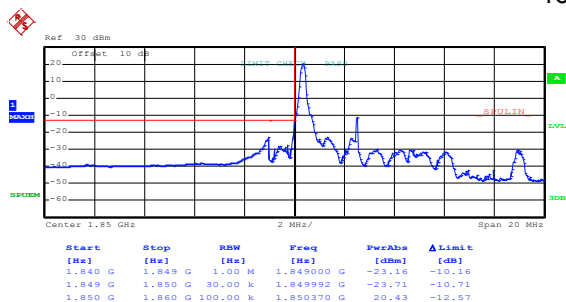
Date: 2.AUG.2019 14:45:02

Lowest channel



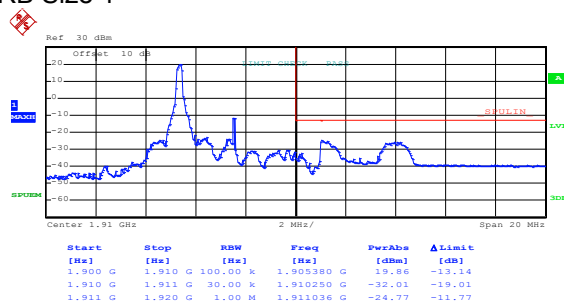
Date: 2.AUG.2019 14:46:27

Highest channel

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

Date: 2.AUG.2019 14:33:37

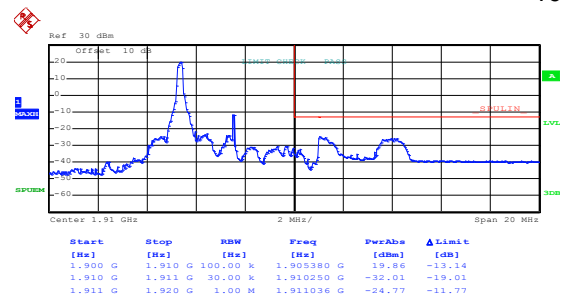
Lowest channel



Date: 2.AUG.2019 14:31:58

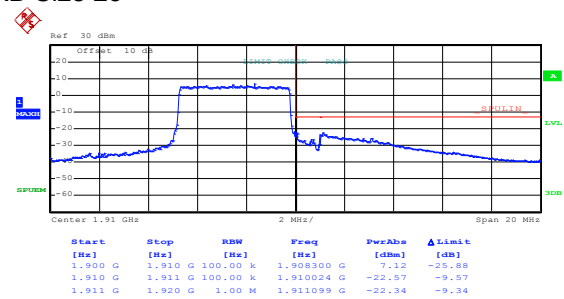
Highest channel

16QAM & RB Size 25



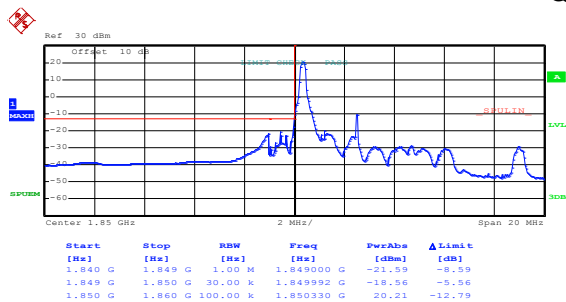
Date: 2.AUG.2019 14:31:58

Lowest channel



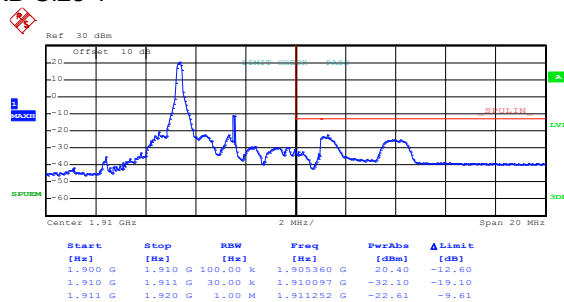
Date: 2.AUG.2019 14:32:28

Highest channel

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

Date: 2.AUG.2019 14:33:30

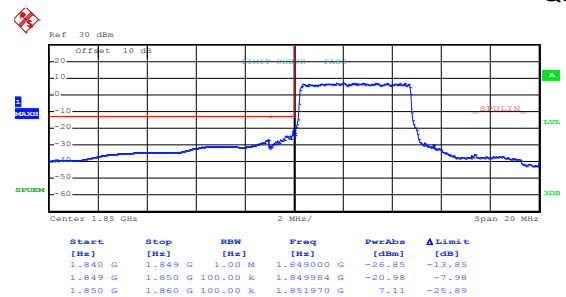
Lowest channel



Date: 2.AUG.2019 14:31:51

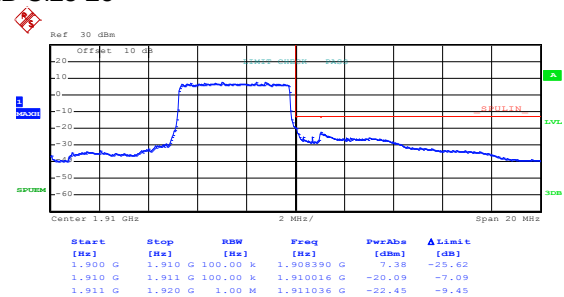
Highest channel

QPSK & RB Size 25



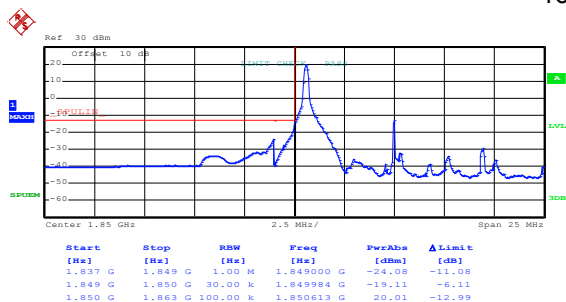
Date: 2.AUG.2019 14:33:05

Lowest channel



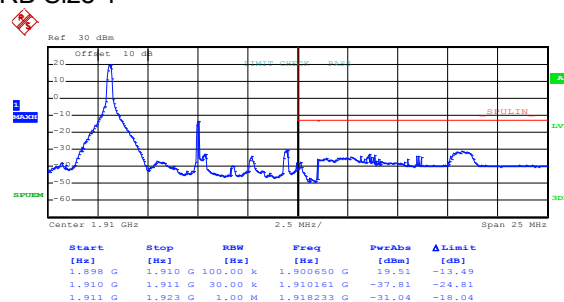
Date: 2.AUG.2019 14:32:22

Highest channel

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

Date: 2.AUG.2019 14:28:03

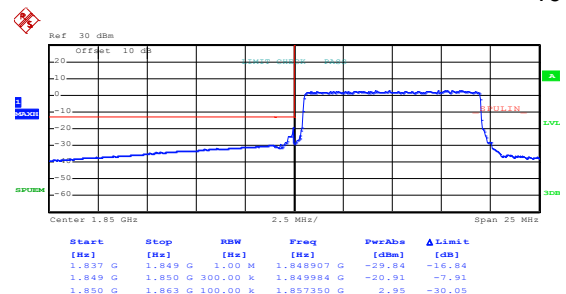
Lowest channel



Date: 2.AUG.2019 14:31:05

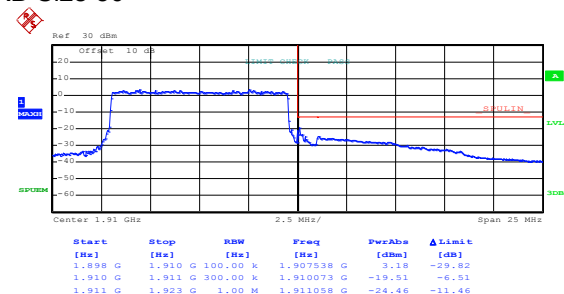
Highest channel

16QAM & RB Size 50



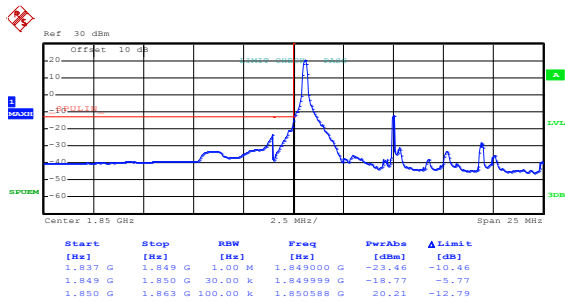
Date: 2.AUG.2019 14:30:03

Lowest channel



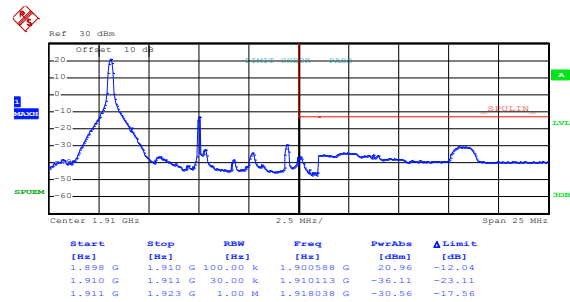
Date: 2.AUG.2019 14:30:37

Highest channel

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

Date: 2.AUG.2019 14:27:56

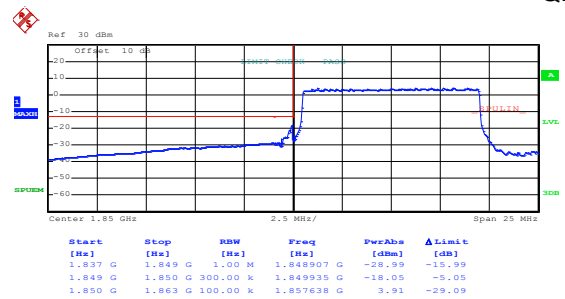
Lowest channel



Date: 2.AUG.2019 14:30:57

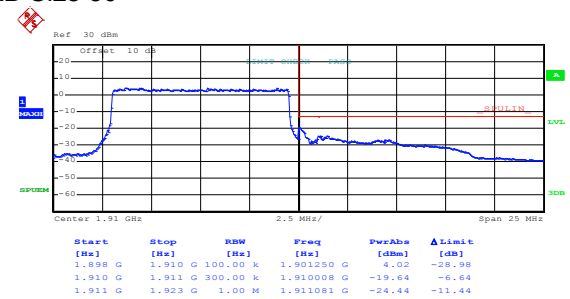
Highest channel

QPSK & RB Size 50



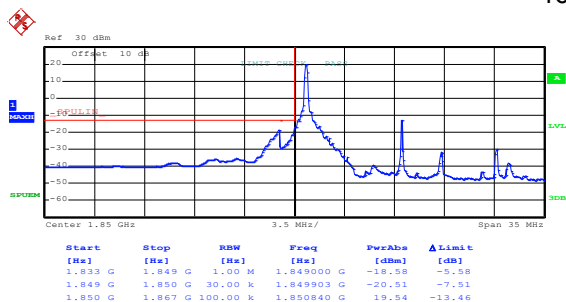
Date: 2.AUG.2019 14:29:57

Lowest channel



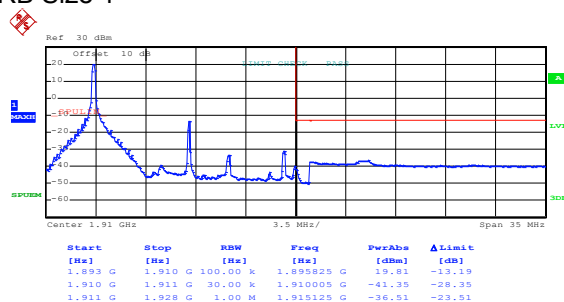
Date: 2.AUG.2019 14:30:30

Highest channel

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

Date: 2.AUG.2019 14:27:12

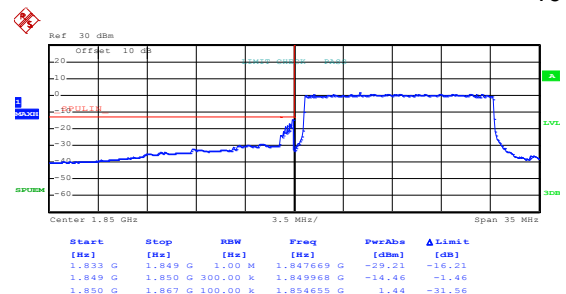
Lowest channel



Date: 2.AUG.2019 14:25:18

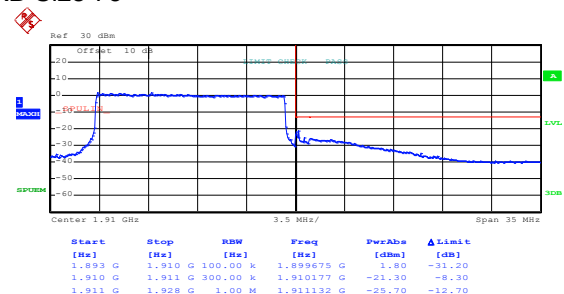
Highest channel

16QAM & RB Size 75



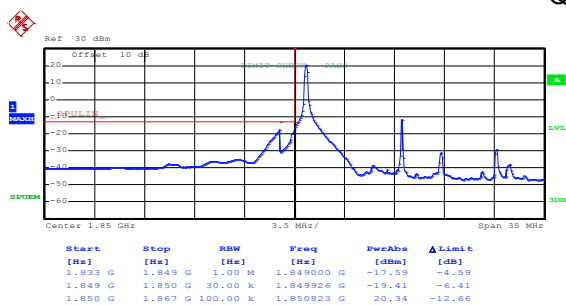
Date: 2.AUG.2019 14:26:47

Lowest channel



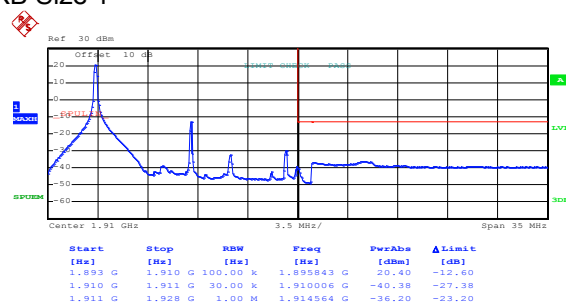
Date: 2.AUG.2019 14:26:10

Highest channel

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

Date: 2.AUG.2019 14:27:04

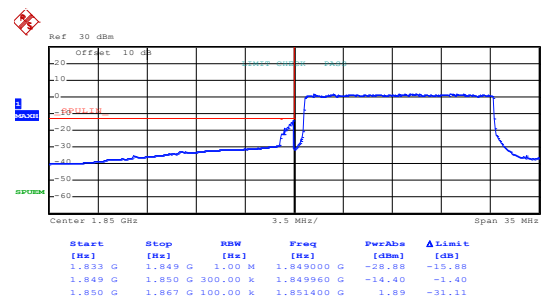
Lowest channel



Date: 2.AUG.2019 14:25:08

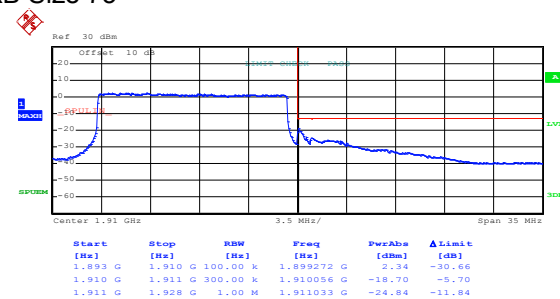
Highest channel

QPSK & RB Size 75



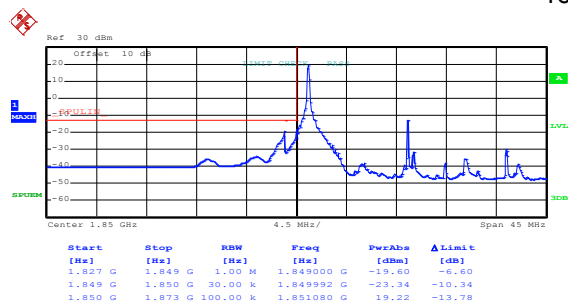
Date: 2.AUG.2019 14:26:41

Lowest channel



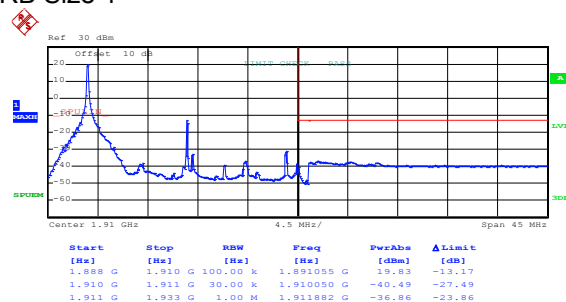
Date: 2.AUG.2019 14:26:02

Highest channel

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

Date: 2.AUG.2019 14:22:01

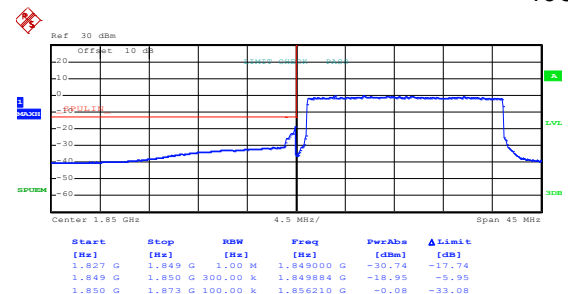
Lowest channel



Date: 2.AUG.2019 14:24:09

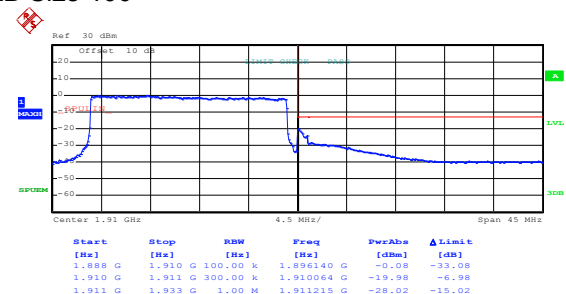
Highest channel

16QAM & RB Size 100



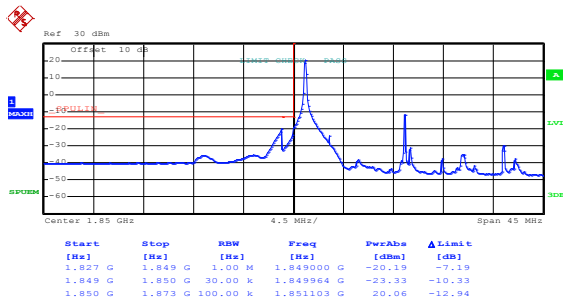
Date: 2.AUG.2019 14:22:35

Lowest channel



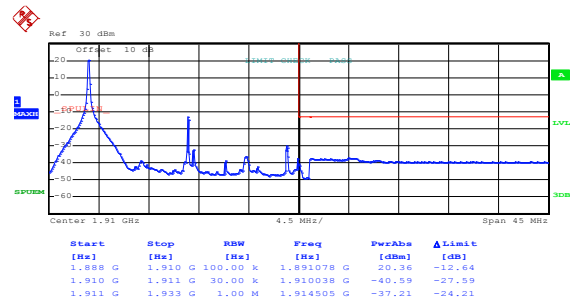
Date: 2.AUG.2019 14:23:35

Highest channel

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

Date: 2.AUG.2019 14:21:50

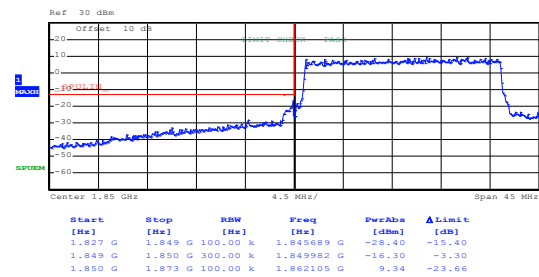
Lowest channel



Date: 2.AUG.2019 14:23:58

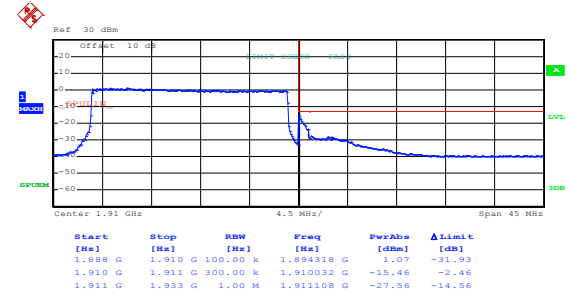
Highest channel

QPSK & RB Size 100



Date: 12.AUG.2019 16:48:46

Lowest channel

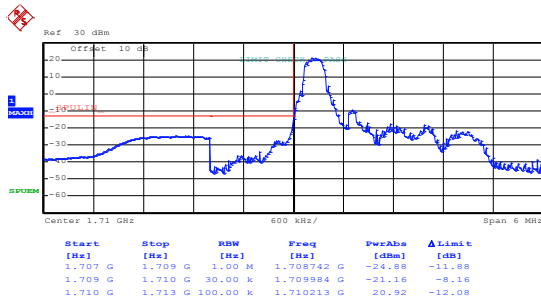


Date: 2.AUG.2019 14:23:29

Highest channel

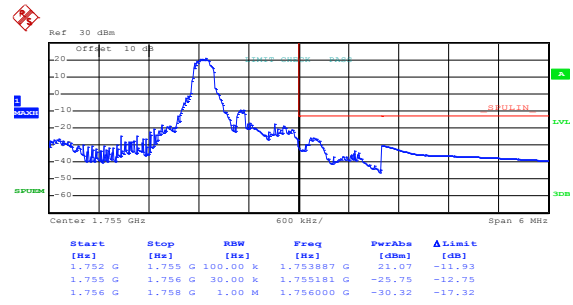
LTE Band 4 part:

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



Date: 2.AUG.2019 14:02:38

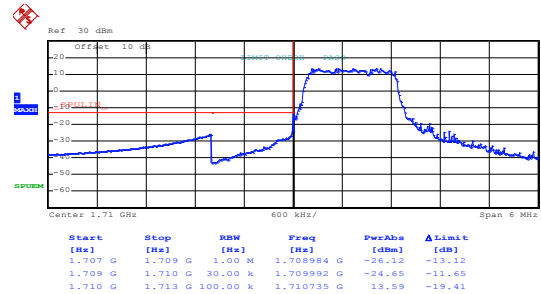
Lowest channel



Date: 2.AUG.2019 14:04:17

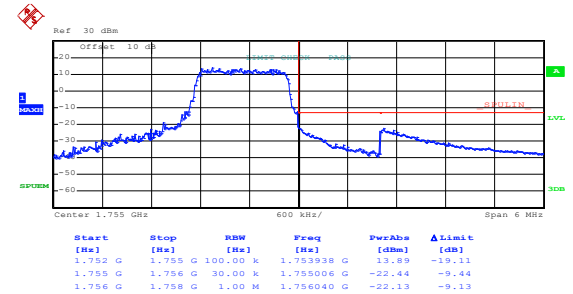
Highest channel

16QAM & RB Size 6



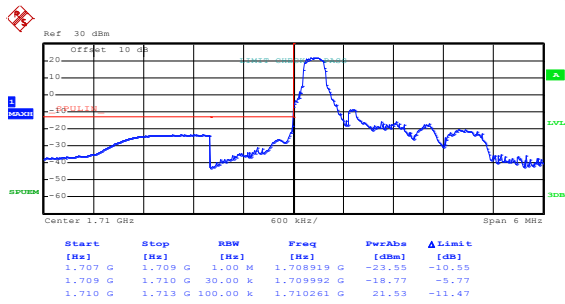
Date: 2.AUG.2019 14:02:57

Lowest channel



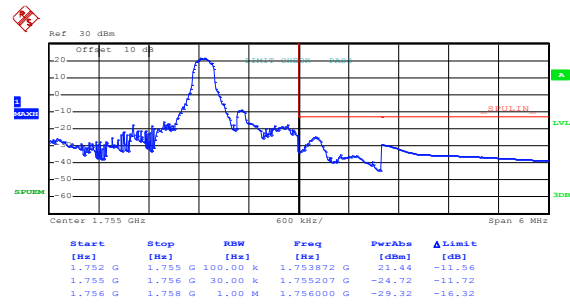
Date: 2.AUG.2019 14:03:31

Highest channel

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

Date: 2.AUG.2019 14:02:25

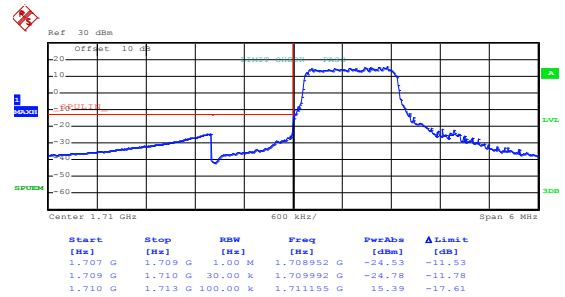
Lowest channel



Date: 2.AUG.2019 14:04:06

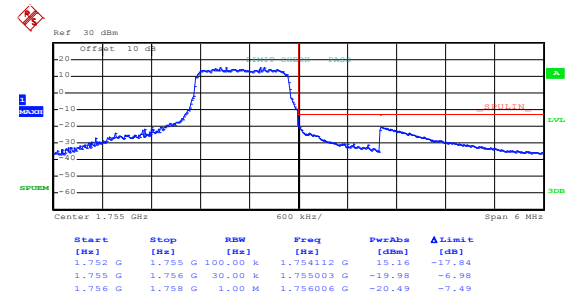
Highest channel

QPSK & RB Size 6



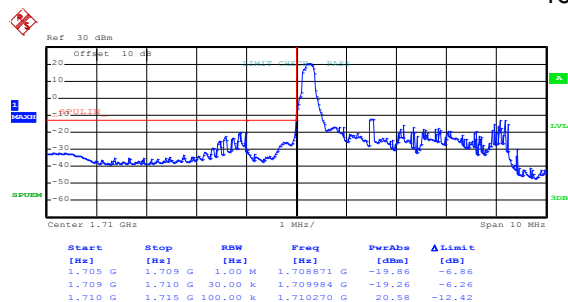
Date: 2.AUG.2019 14:02:51

Lowest channel



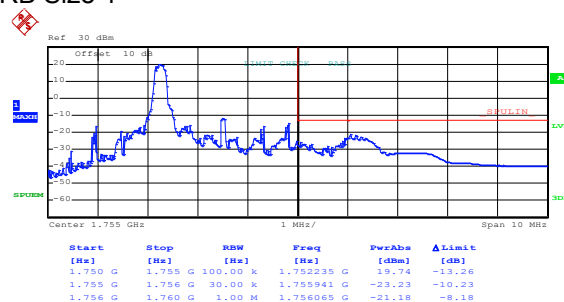
Date: 2.AUG.2019 14:03:26

Highest channel

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

Date: 2.AUG.2019 14:07:22

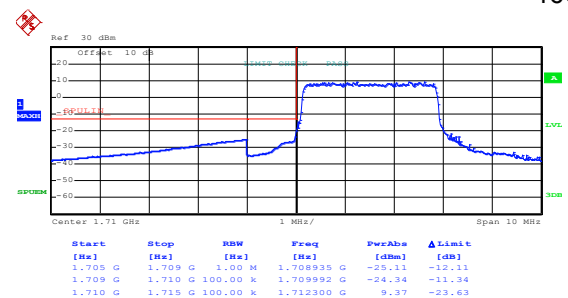
Lowest channel



Date: 2.AUG.2019 14:05:32

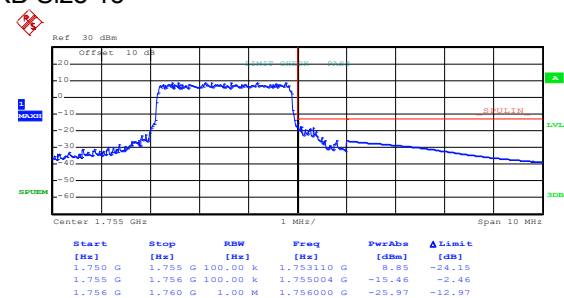
Highest channel

16QAM & RB Size 15



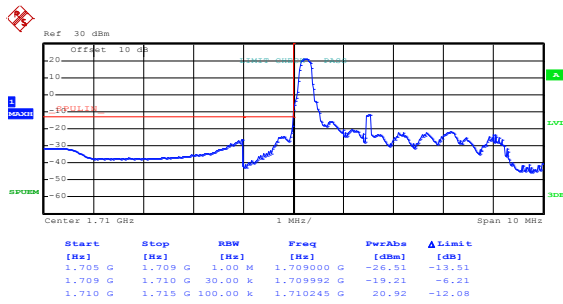
Date: 2.AUG.2019 14:06:56

Lowest channel



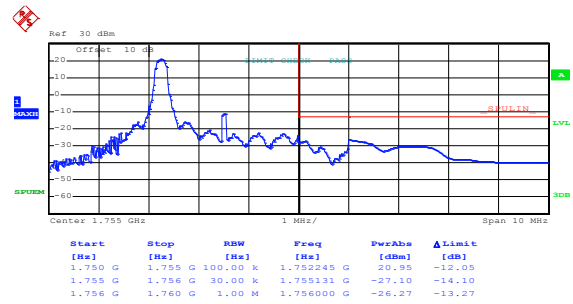
Date: 2.AUG.2019 14:06:14

Highest channel

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

Date: 2.AUG.2019 14:07:12

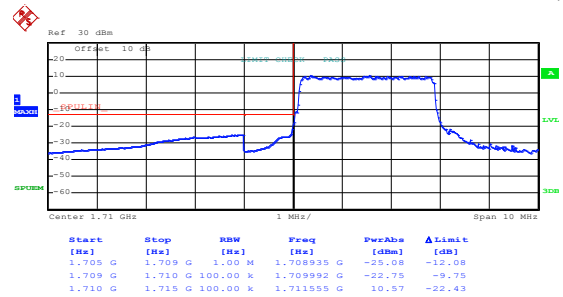
Lowest channel



Date: 2.AUG.2019 14:05:24

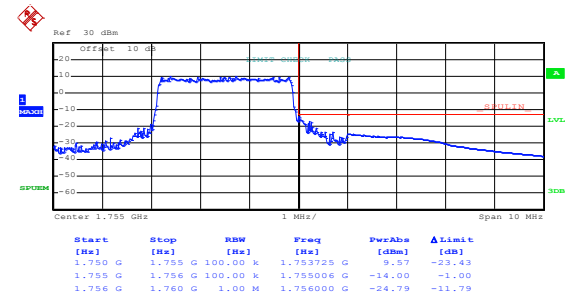
Highest channel

QPSK & RB Size 15



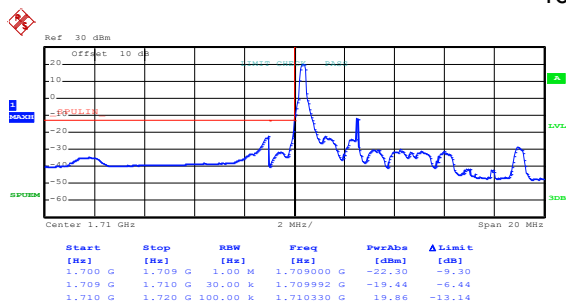
Date: 2.AUG.2019 14:06:49

Lowest channel



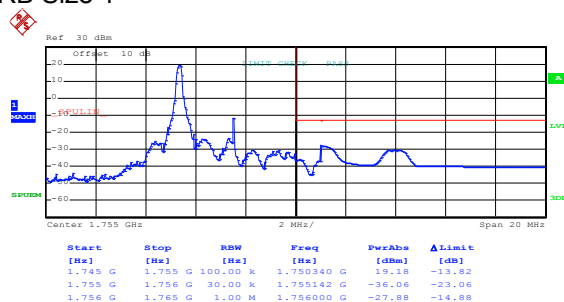
Date: 2.AUG.2019 14:06:07

Highest channel

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

Date: 2.AUG.2019 14:11:06

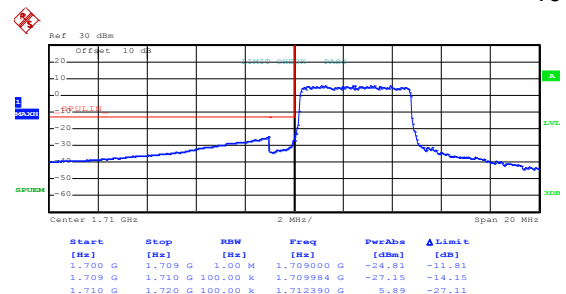
Lowest channel



Date: 2.AUG.2019 14:09:59

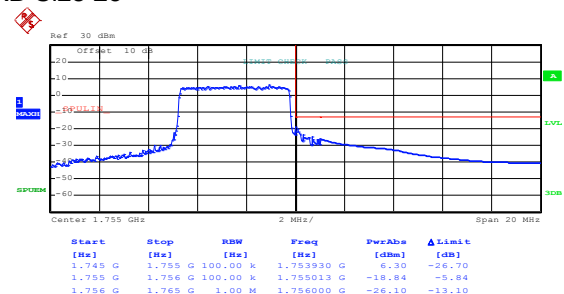
Highest channel

16QAM & RB Size 25



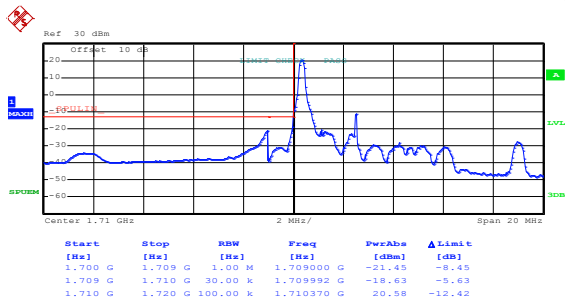
Date: 2.AUG.2019 14:08:37

Lowest channel



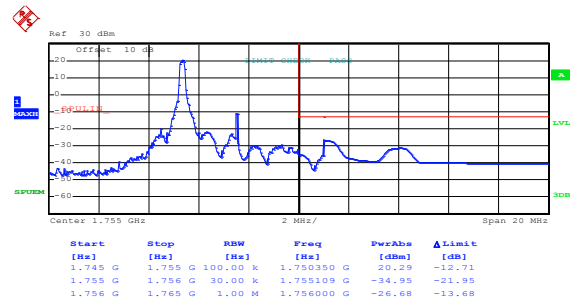
Date: 2.AUG.2019 14:09:13

Highest channel

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

Date: 2.AUG.2019 14:08:03

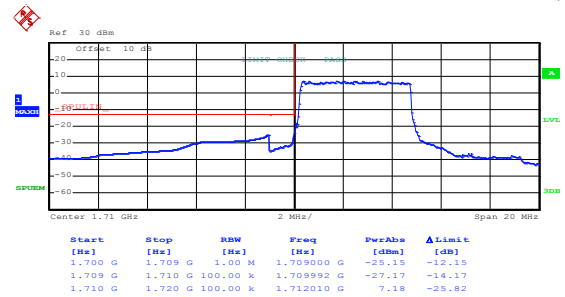
Lowest channel



Date: 2.AUG.2019 14:09:32

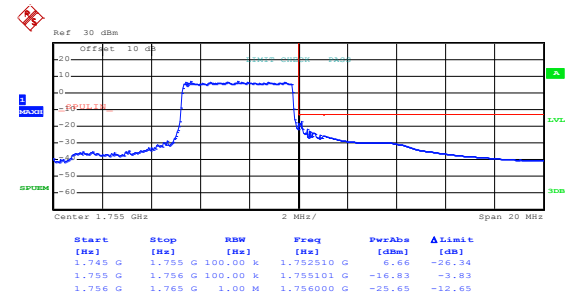
Highest channel

QPSK & RB Size 25



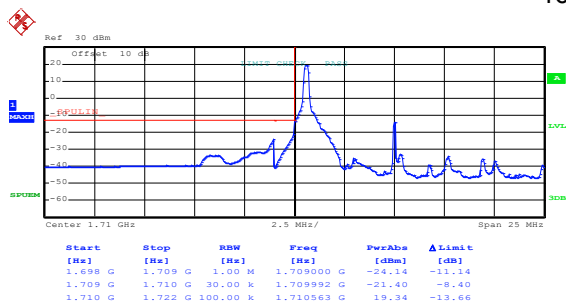
Date: 2.AUG.2019 14:08:31

Lowest channel



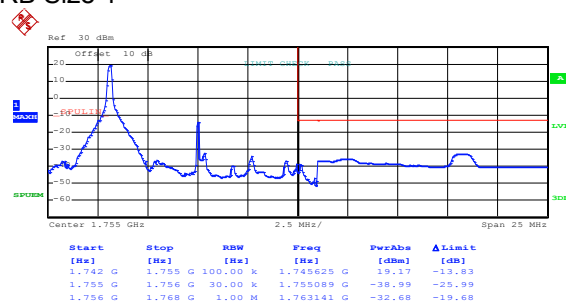
Date: 2.AUG.2019 14:09:07

Highest channel

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

Date: 2.AUG.2019 14:11:59

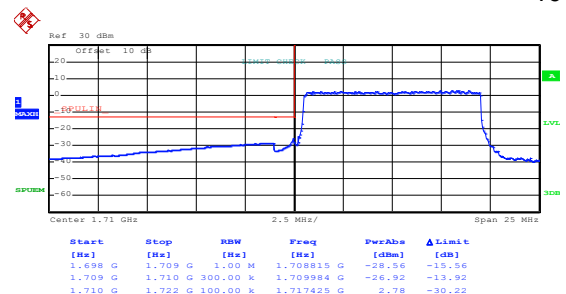
Lowest channel



Date: 2.AUG.2019 14:14:07

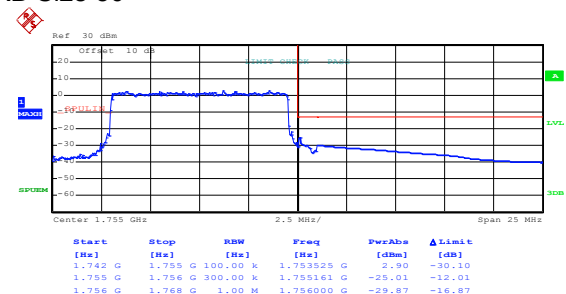
Highest channel

16QAM & RB Size 50



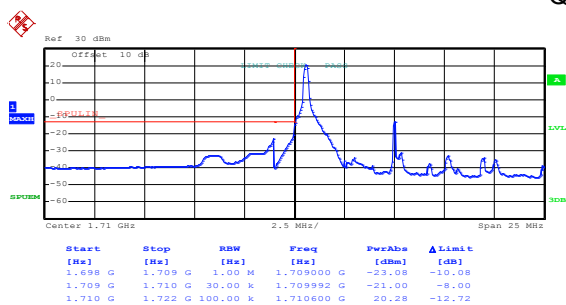
Date: 2.AUG.2019 14:12:30

Lowest channel



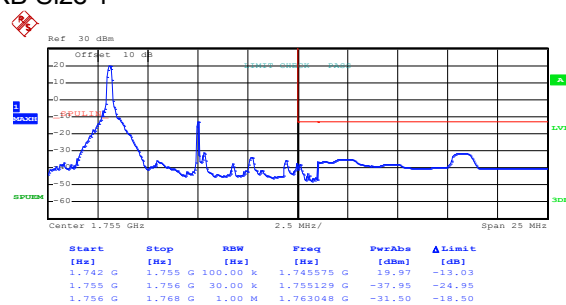
Date: 2.AUG.2019 14:13:37

Highest channel

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

Date: 2.AUG.2019 14:11:52

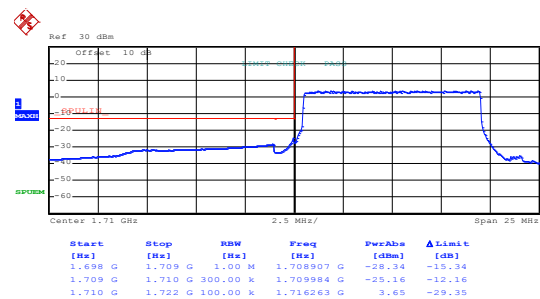
Lowest channel



Date: 2.AUG.2019 14:13:57

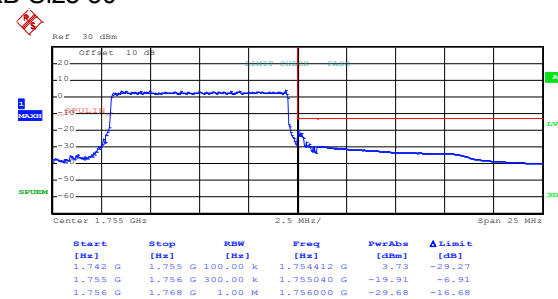
Highest channel

QPSK & RB Size 50



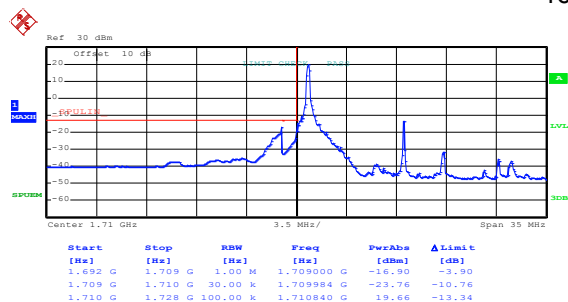
Date: 2.AUG.2019 14:12:23

Lowest channel



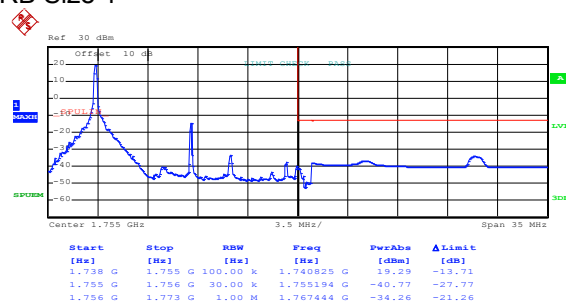
Date: 2.AUG.2019 14:13:31

Highest channel

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

Date: 2.AUG.2019 14:17:02

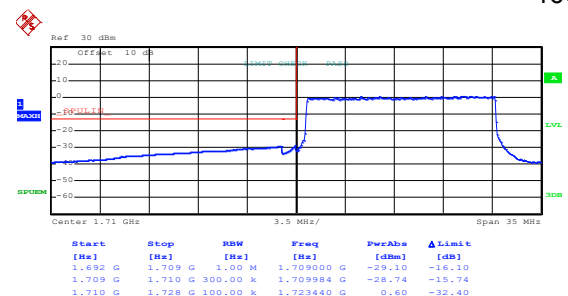
Lowest channel



Date: 2.AUG.2019 14:15:05

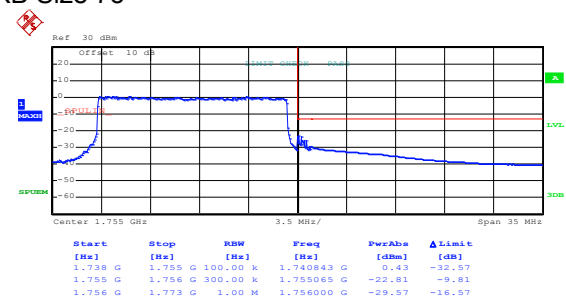
Highest channel

16QAM & RB Size 75



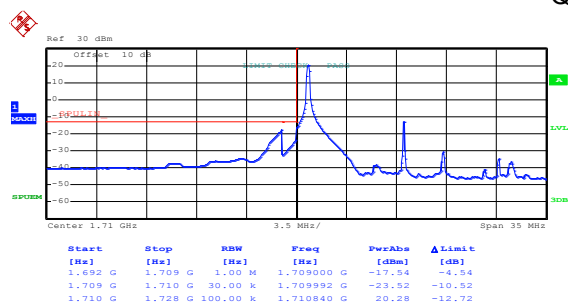
Date: 2.AUG.2019 14:16:15

Lowest channel



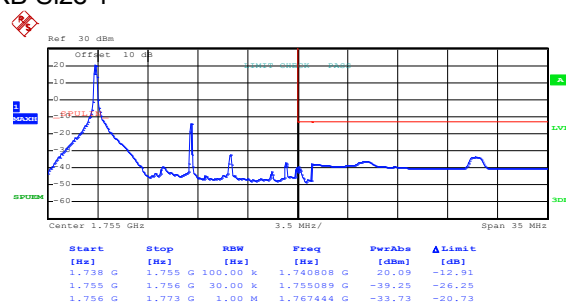
Date: 2.AUG.2019 14:15:34

Highest channel

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

Date: 2.AUG.2019 14:16:52

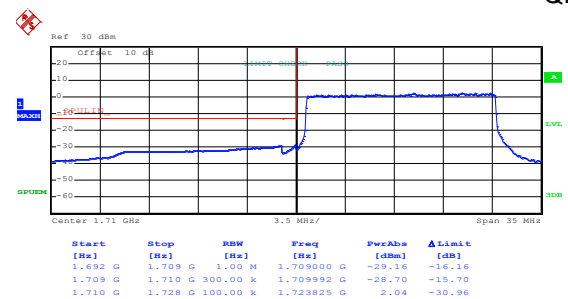
Lowest channel



Date: 2.AUG.2019 14:14:53

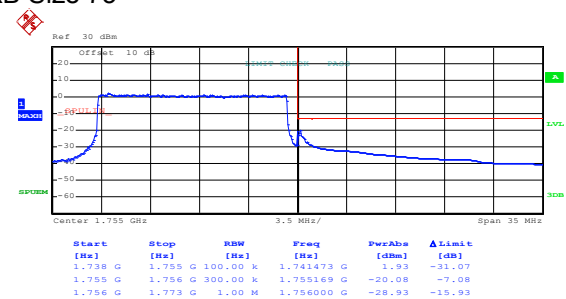
Highest channel

QPSK & RB Size 75



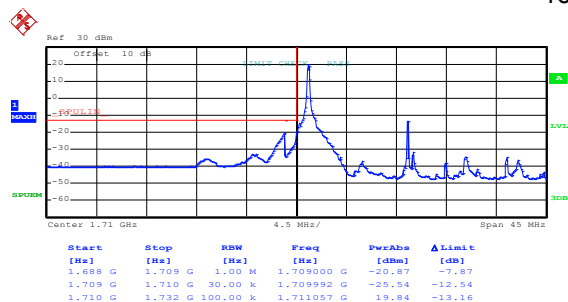
Date: 2.AUG.2019 14:16:08

Lowest channel



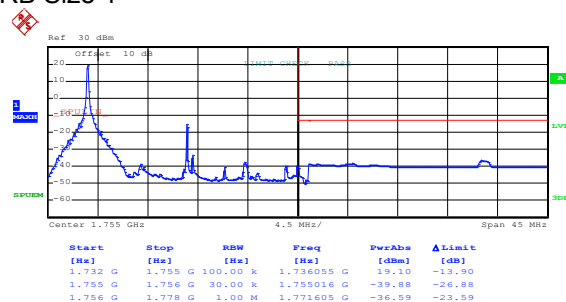
Date: 2.AUG.2019 14:15:26

Highest channel

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

Date: 2.AUG.2019 14:18:13

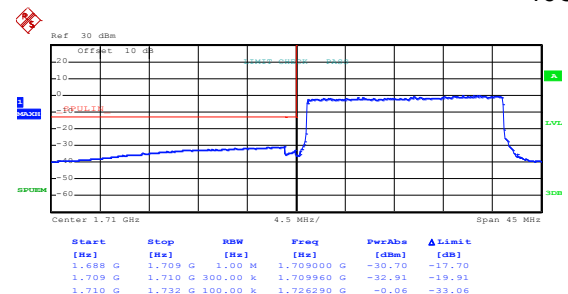
Lowest channel



Date: 2.AUG.2019 14:20:01

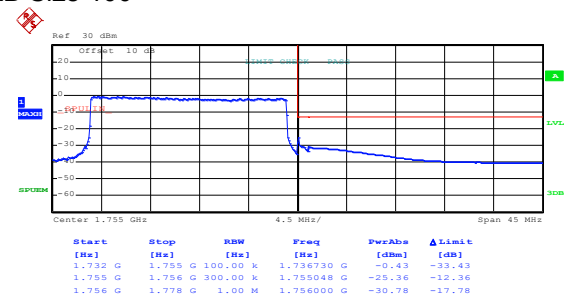
Highest channel

16QAM & RB Size 100



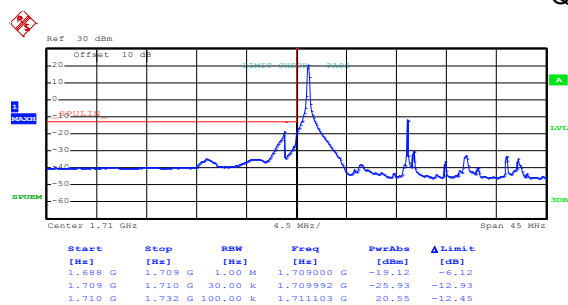
Date: 2.AUG.2019 14:18:36

Lowest channel



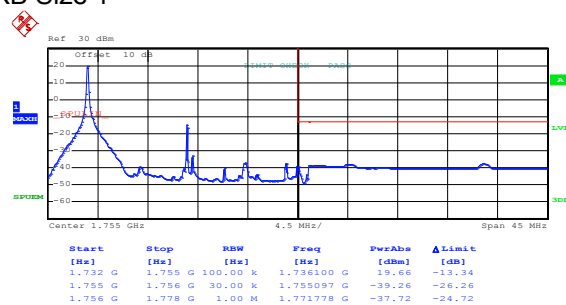
Date: 2.AUG.2019 14:19:29

Highest channel

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

Date: 2.AUG.2019 14:18:06

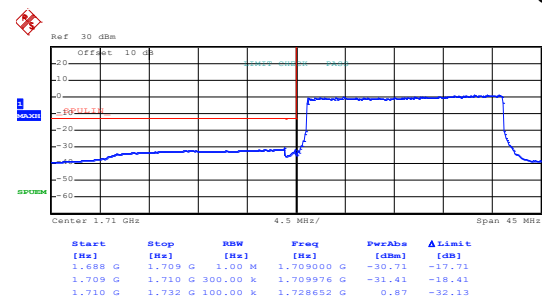
Lowest channel



Date: 2.AUG.2019 14:19:50

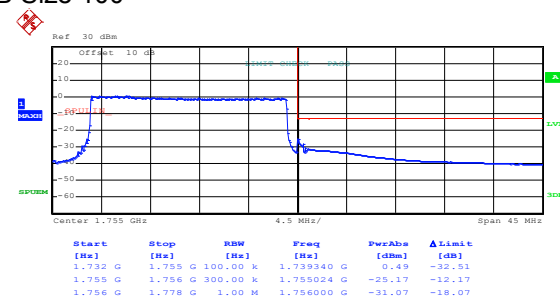
Highest channel

QPSK & RB Size 100



Date: 2.AUG.2019 14:18:30

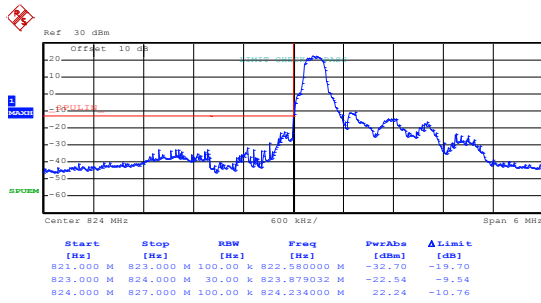
Lowest channel



Date: 2.AUG.2019 14:19:22

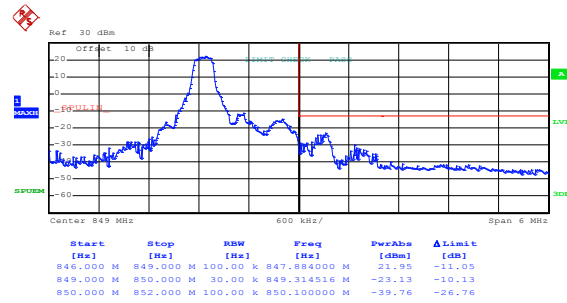
Highest channel

LTE Band 5 part:

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

Date: 2.AUG.2019 13:58:52

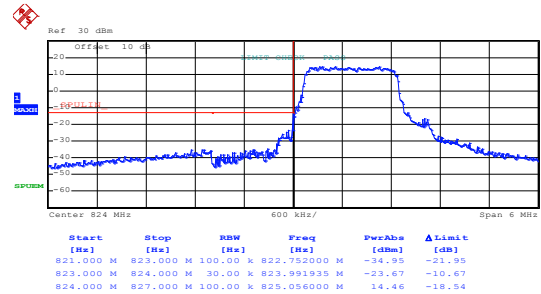
Lowest channel



Date: 2.AUG.2019 13:57:37

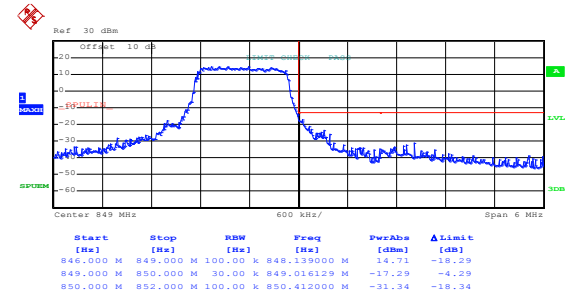
Highest channel

16QAM & RB Size 6



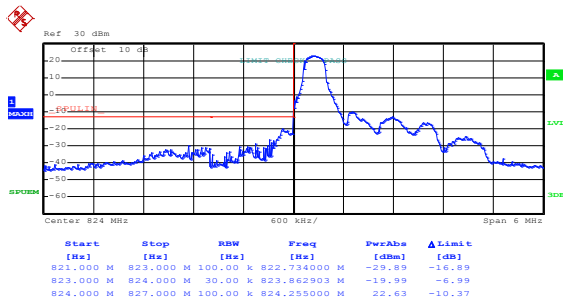
Date: 2.AUG.2019 13:58:36

Lowest channel



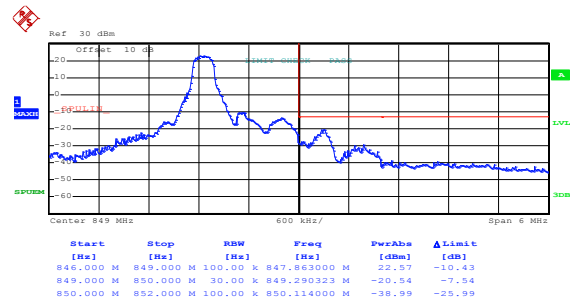
Date: 2.AUG.2019 13:57:56

Highest channel

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

Date: 2.AUG.2019 13:58:45

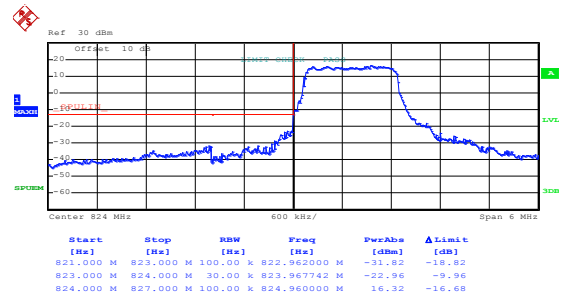
Lowest channel



Date: 2.AUG.2019 13:57:30

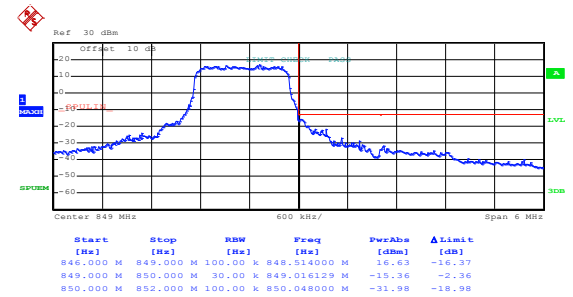
Highest channel

QPSK & RB Size 6



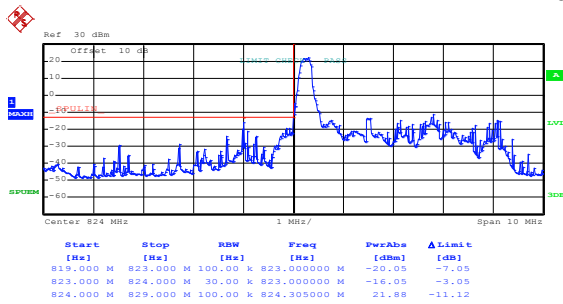
Date: 2.AUG.2019 13:58:31

Lowest channel



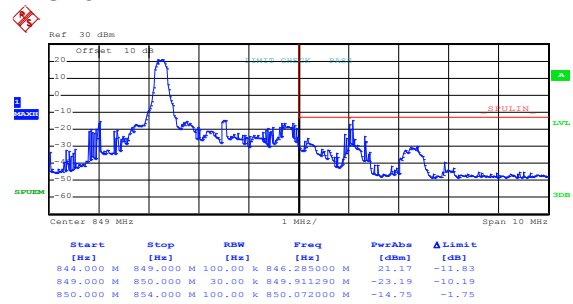
Date: 2.AUG.2019 13:57:50

Highest channel

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

Date: 2.AUG.2019 13:54:55

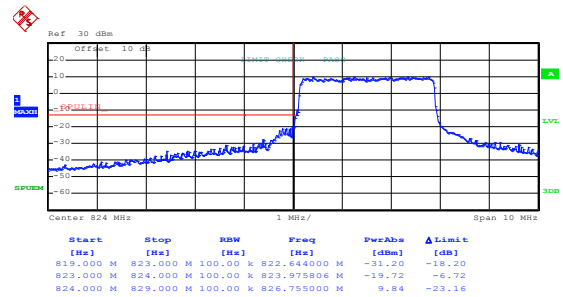
Lowest channel



Date: 2.AUG.2019 13:56:16

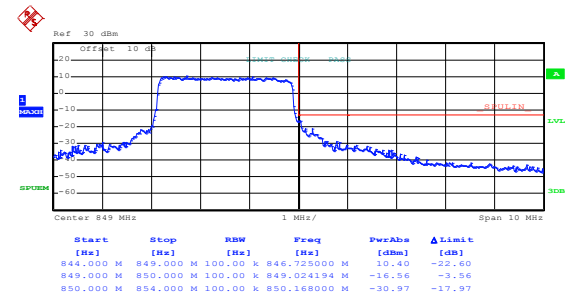
Highest channel

16QAM & RB Size 15



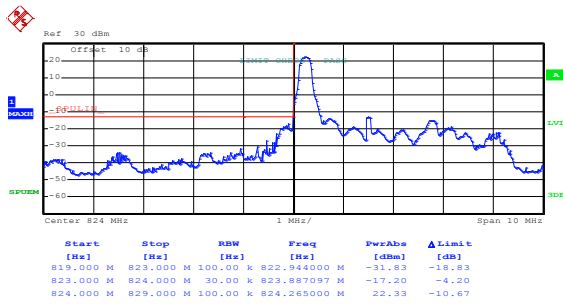
Date: 2.AUG.2019 13:55:20

Lowest channel



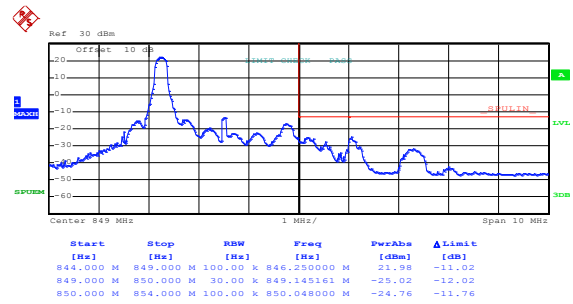
Date: 2.AUG.2019 13:55:52

Highest channel

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

Date: 2.AUG.2019 13:54:44

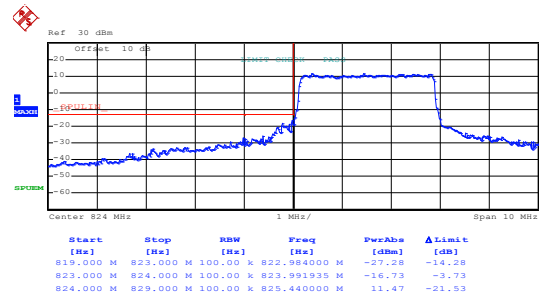
Lowest channel



Date: 2.AUG.2019 13:56:09

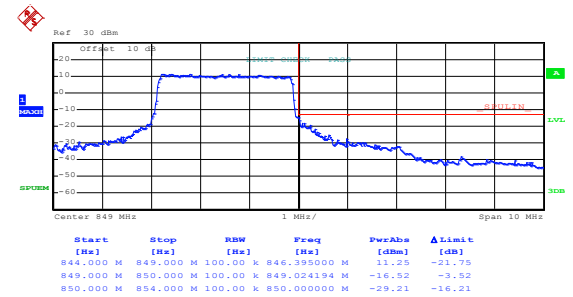
Highest channel

QPSK & RB Size 15



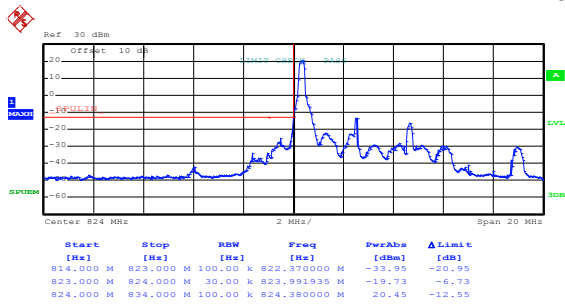
Date: 2.AUG.2019 13:55:15

Lowest channel



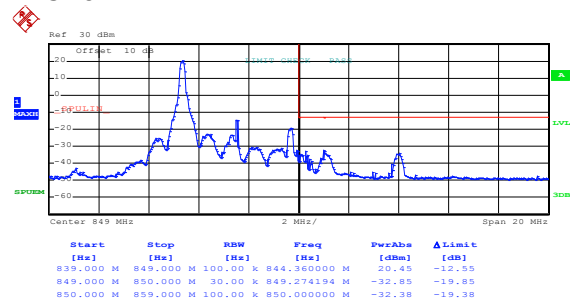
Date: 2.AUG.2019 13:55:46

Highest channel

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

Date: 2.AUG.2019 13:53:57

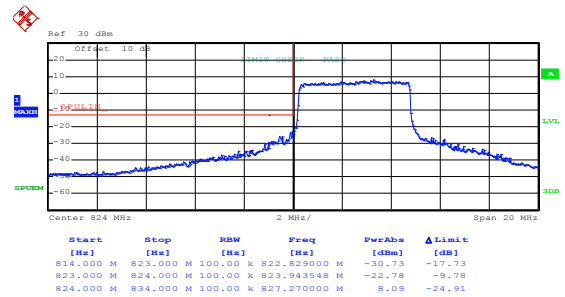
Lowest channel



Date: 2.AUG.2019 13:52:20

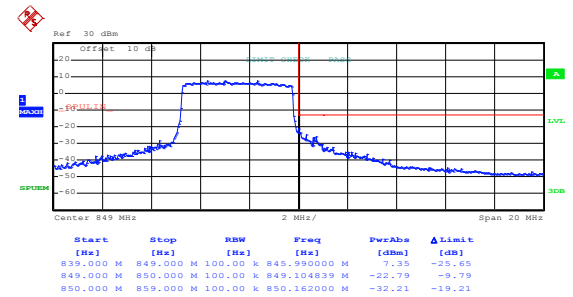
Highest channel

16QAM & RB Size 25



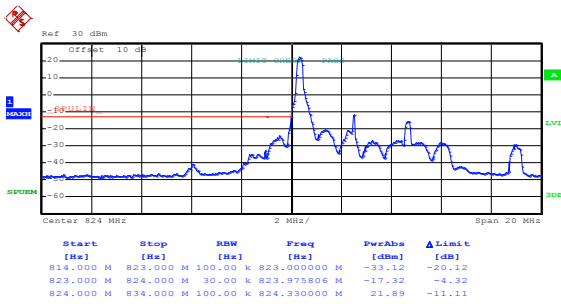
Date: 2.AUG.2019 13:53:31

Lowest channel



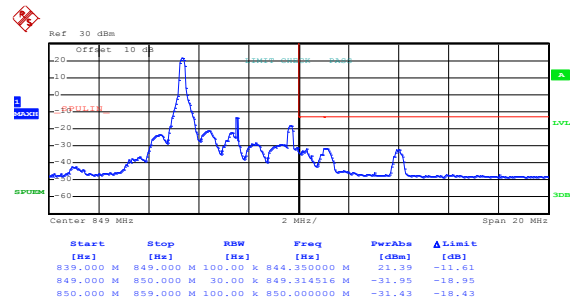
Date: 2.AUG.2019 13:52:48

Highest channel

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

Date: 2.AUG.2019 13:53:50

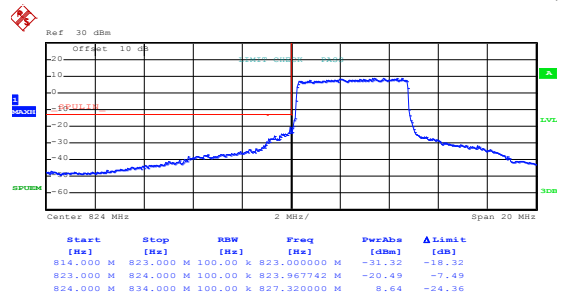
Lowest channel



Date: 2.AUG.2019 13:52:12

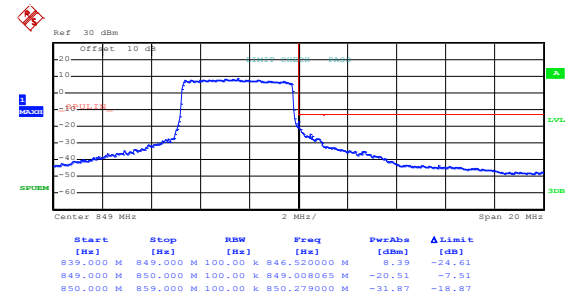
Highest channel

QPSK & RB Size 25



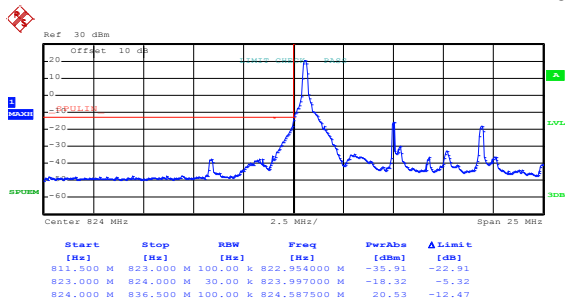
Date: 2.AUG.2019 13:53:24

Lowest channel



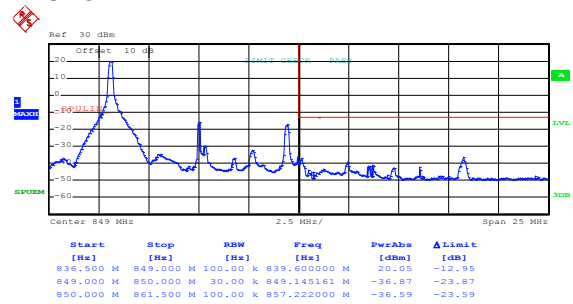
Date: 2.AUG.2019 13:52:41

Highest channel

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

Date: 2.AUG.2019 13:48:44

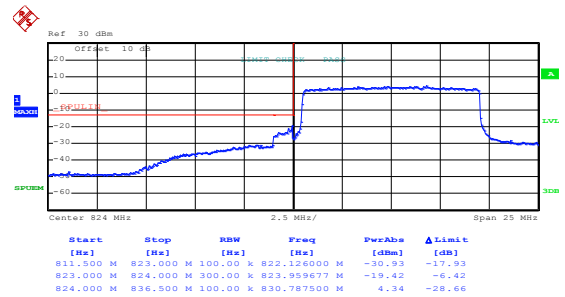
Lowest channel



Date: 2.AUG.2019 13:50:54

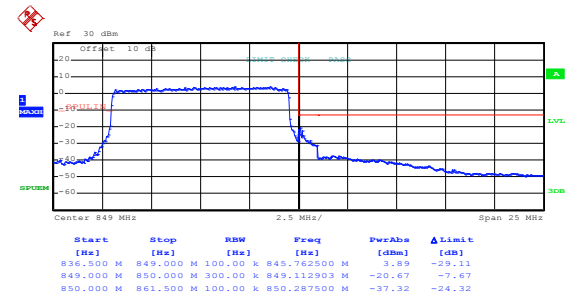
Highest channel

16QAM & RB Size 50



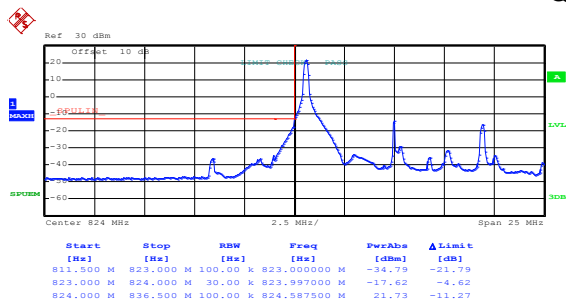
Date: 2.AUG.2019 13:49:31

Lowest channel



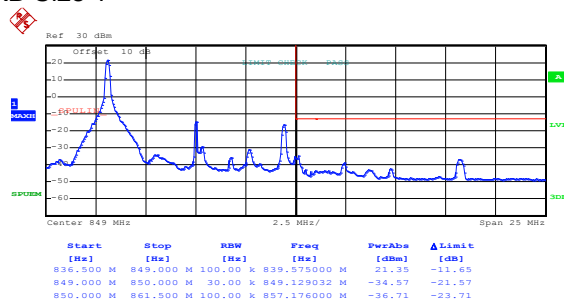
Date: 2.AUG.2019 13:50:16

Highest channel

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

Date: 2.AUG.2019 13:48:36

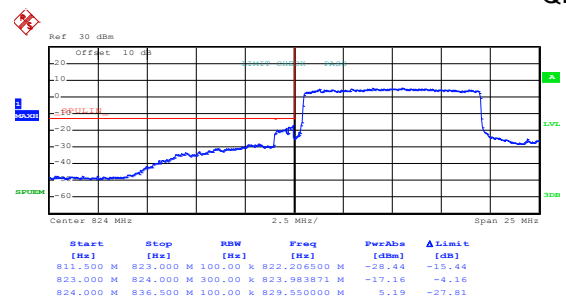
Lowest channel



Date: 2.AUG.2019 13:50:43

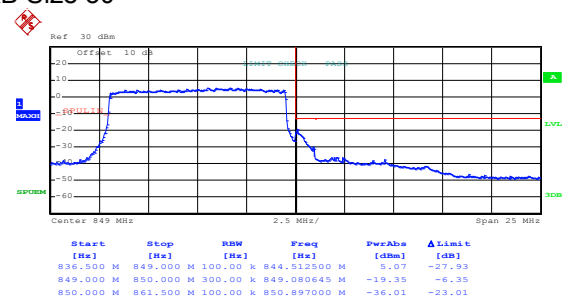
Highest channel

QPSK & RB Size 50



Date: 2.AUG.2019 13:49:22

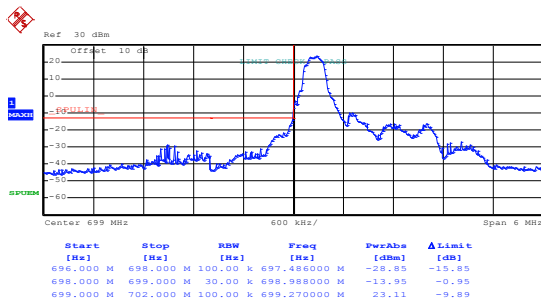
Lowest channel



Date: 2.AUG.2019 13:50:10

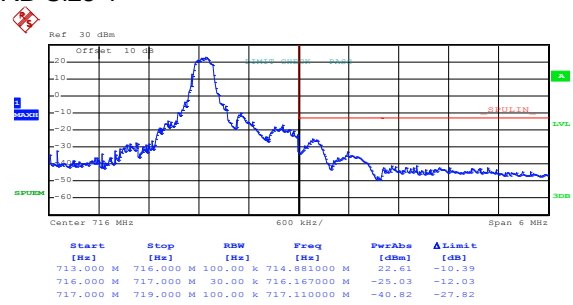
Highest channel

LTE band 12 part:

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

Date: 2.AUG.2019 11:48:37

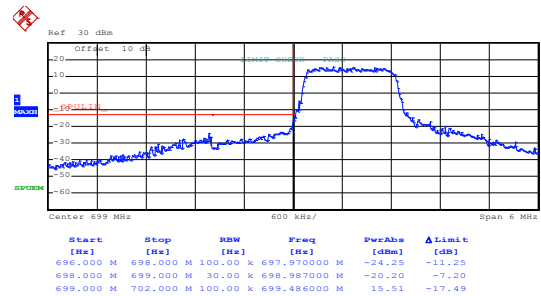
Lowest channel



Date: 2.AUG.2019 11:50:31

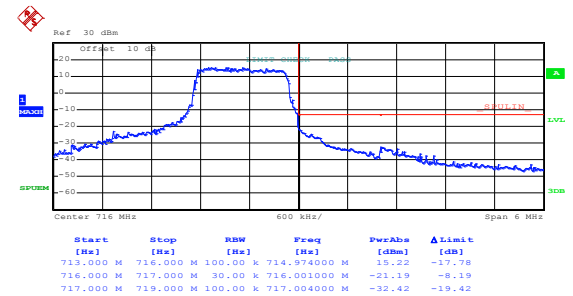
Highest channel

16QAM & RB Size 6



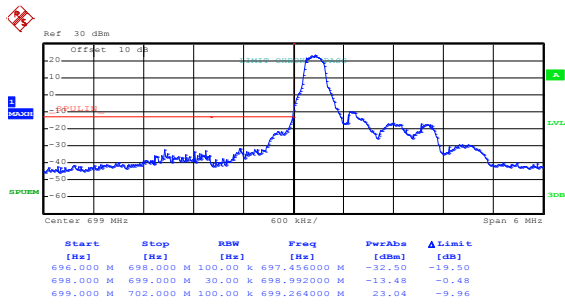
Date: 2.AUG.2019 11:48:59

Lowest channel



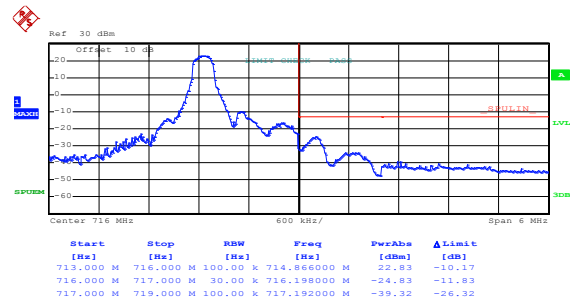
Date: 2.AUG.2019 11:50:10

Highest channel

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

Date: 2.AUG.2019 11:48:19

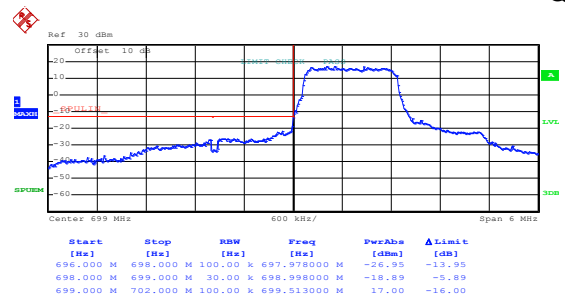
Lowest channel



Date: 2.AUG.2019 11:50:24

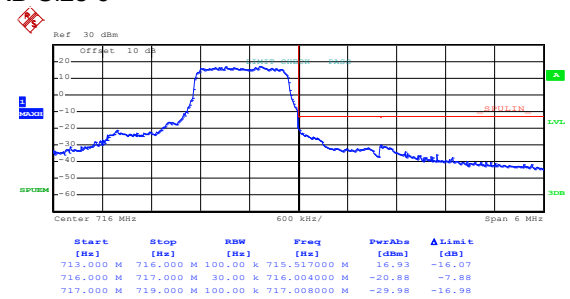
Highest channel

QPSK & RB Size 6



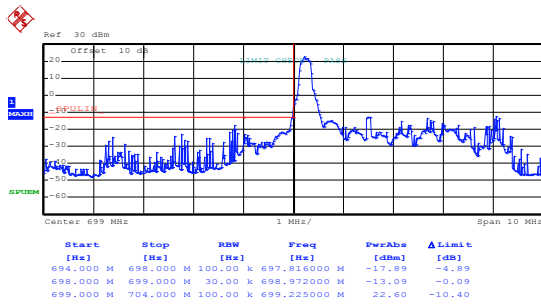
Date: 2.AUG.2019 11:48:53

Lowest channel



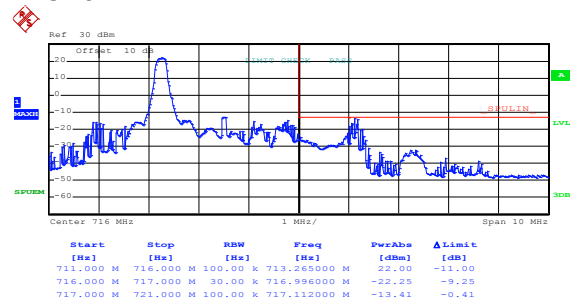
Date: 2.AUG.2019 11:50:05

Highest channel

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

Date: 2.AUG.2019 11:54:31

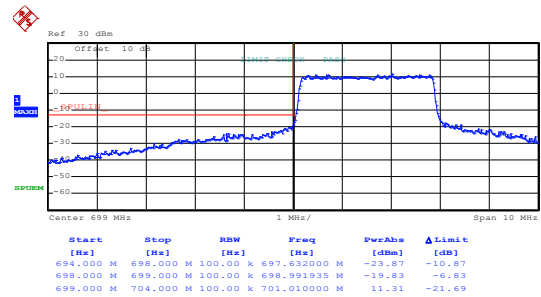
Lowest channel



Date: 2.AUG.2019 11:59:06

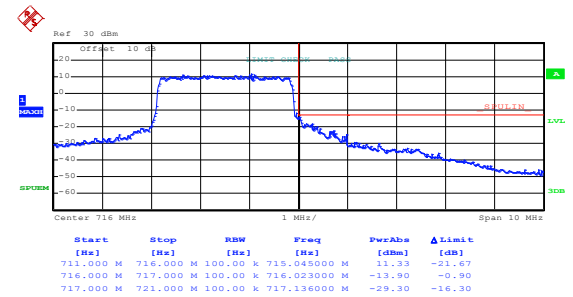
Highest channel

16QAM & RB Size 15



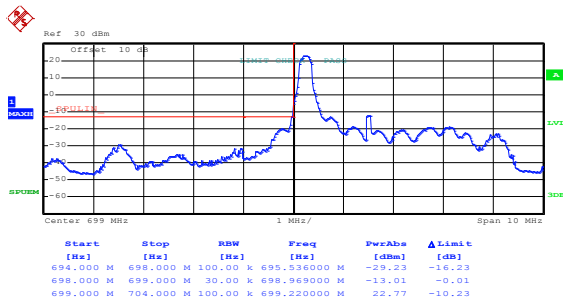
Date: 2.AUG.2019 11:56:06

Lowest channel



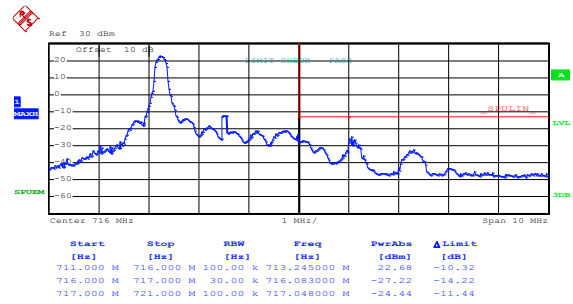
Date: 2.AUG.2019 11:56:56

Highest channel

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

Date: 2.AUG.2019 11:54:23

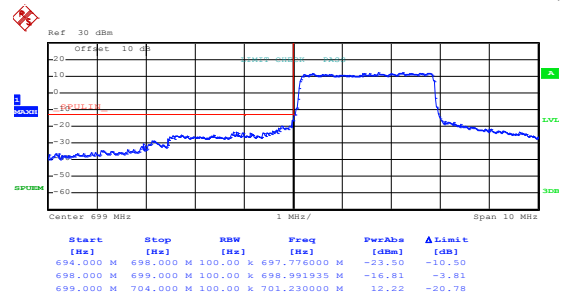
Lowest channel



Date: 2.AUG.2019 11:57:19

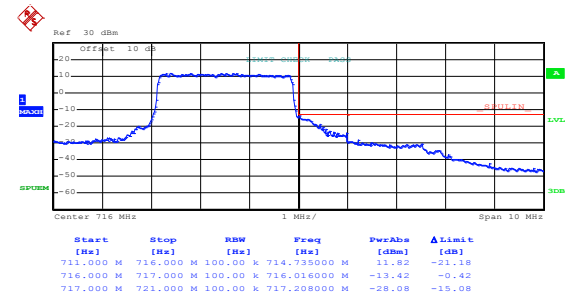
Highest channel

QPSK & RB Size 15



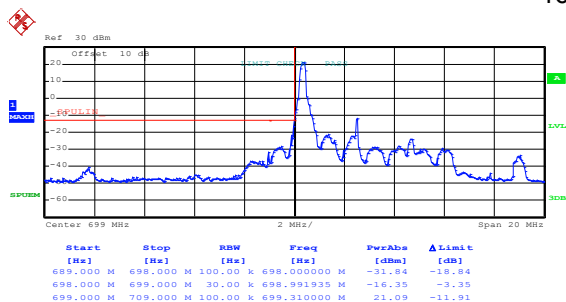
Date: 2.AUG.2019 11:55:55

Lowest channel



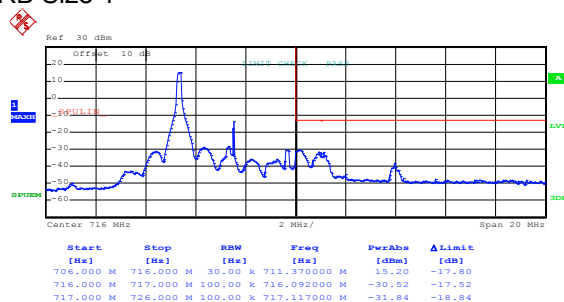
Date: 2.AUG.2019 11:56:50

Highest channel

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

Date: 2.AUG.2019 12:00:55

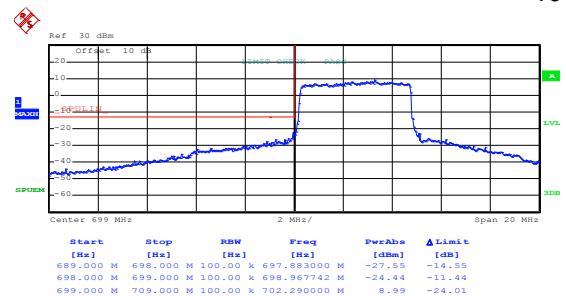
Lowest channel



Date: 2.AUG.2019 12:03:13

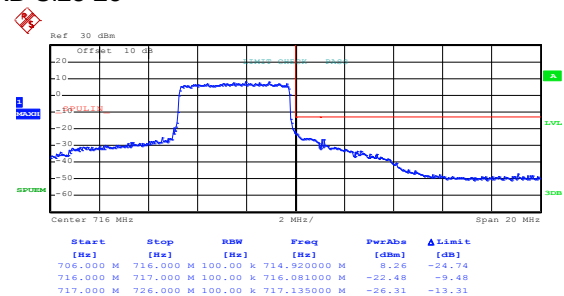
Highest channel

16QAM & RB Size 25



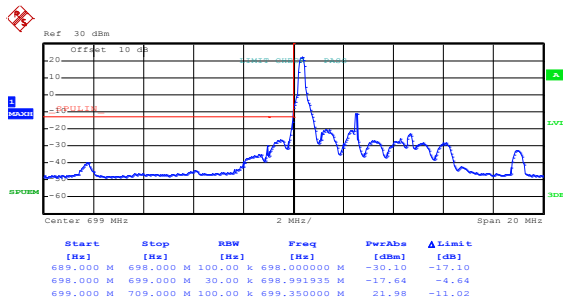
Date: 2.AUG.2019 12:01:26

Lowest channel



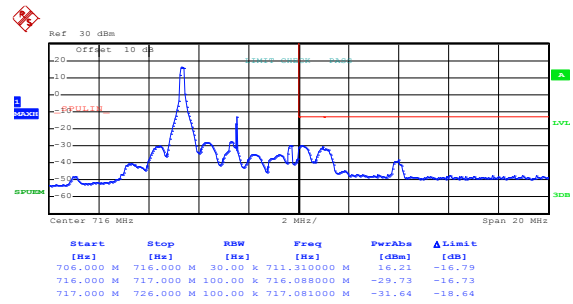
Date: 2.AUG.2019 12:02:31

Highest channel

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

Date: 2.AUG.2019 12:00:48

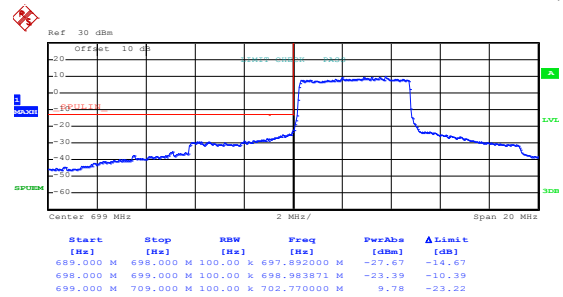
Lowest channel



Date: 2.AUG.2019 12:03:03

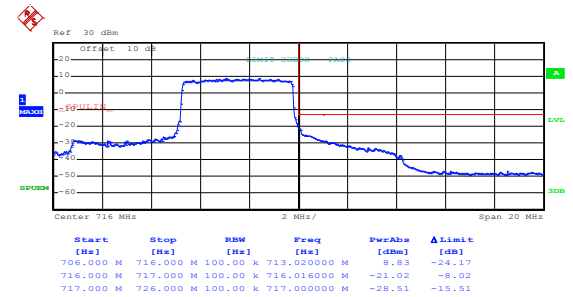
Highest channel

QPSK & RB Size 25



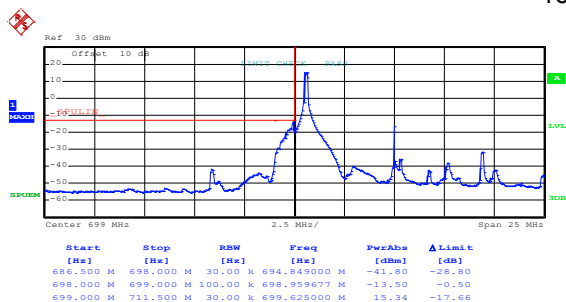
Date: 2.AUG.2019 12:01:19

Lowest channel



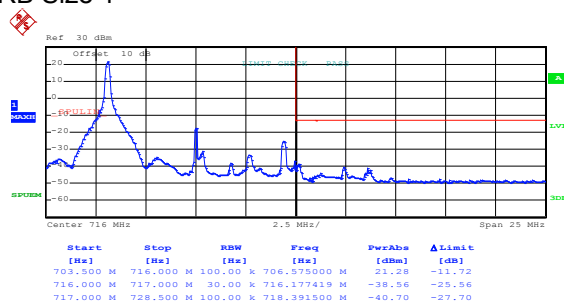
Date: 2.AUG.2019 12:02:26

Highest channel

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

Date: 2.AUG.2019 12:06:21

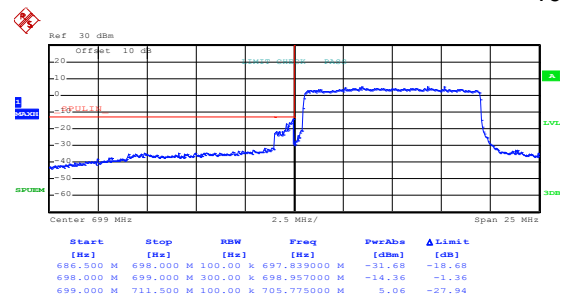
Lowest channel



Date: 2.AUG.2019 13:46:26

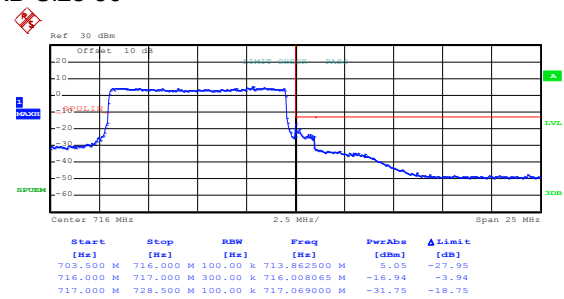
Highest channel

16QAM & RB Size 50



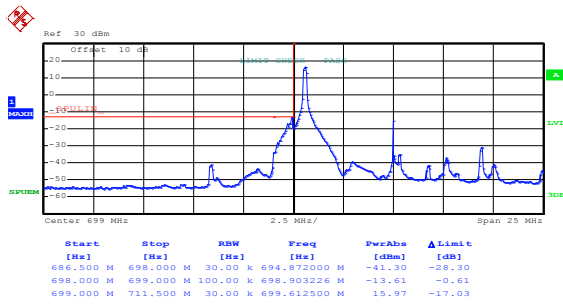
Date: 2.AUG.2019 13:43:38

Lowest channel



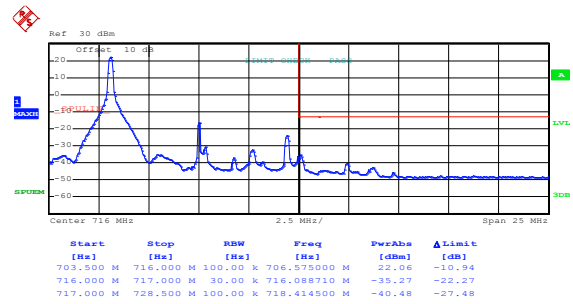
Date: 2.AUG.2019 13:45:53

Highest channel

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

Date: 2.AUG.2019 12:06:09

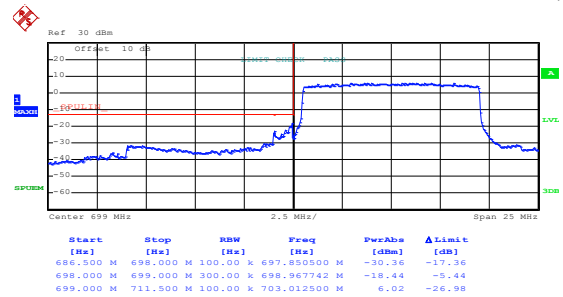
Lowest channel



Date: 2.AUG.2019 13:46:19

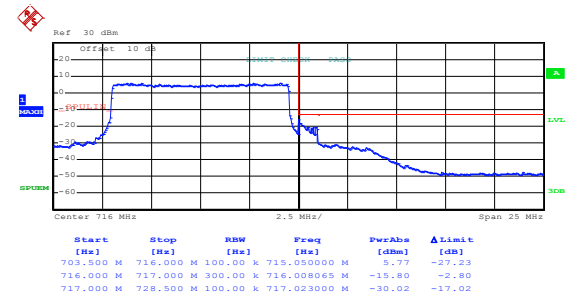
Highest channel

QPSK & RB Size 50



Date: 2.AUG.2019 13:44:27

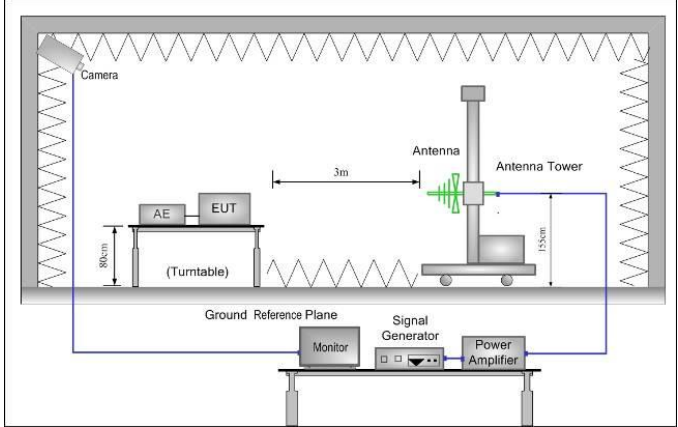
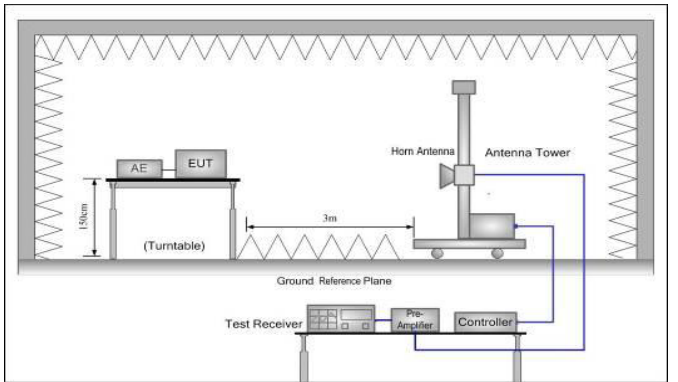
Lowest channel



Date: 2.AUG.2019 13:45:46

Highest channel

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(b), Part 24.238 (a), Part 27.53(g), Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & 4 & 5 & 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	-43.82	-13.00	Pass
5552.10	V	-37.33		
7402.00	V	-33.06		
3701.40	Horizontal	-43.99		
5552.10	H	-36.34		
7402.00	H	-33.67		
Middle Channel				
3760.00	Vertical	-49.14	-13.00	Pass
5640.00	V	-42.83		
7520.00	V	-34.09		
3760.00	Horizontal	-49.97		
5640.00	H	-42.89		
7520.00	H	-38.30		
Highest Channel				
3816.60	Vertical	-45.61	-13.00	Pass
5724.90	V	-39.30		
7633.20	V	-33.98		
3816.60	Horizontal	-45.04		
5724.90	H	-38.31		
7633.20	H	-34.90		
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	-45.36	-13.00	Pass
5554.50	V	-39.61		
7406.00	V	-35.24		
3703.00	Horizontal	-46.15		
5554.50	H	-41.72		
7406.00	H	-33.32		
Middle Channel				
3760.00	Vertical	-43.62	-13.00	Pass
5640.00	V	-36.67		
7520.00	V	-36.59		
3760.00	Horizontal	-49.13		
5640.00	H	-36.64		
7520.00	H	-33.45		
Highest Channel				
3817.00	Vertical	-45.21	-13.00	Pass
5725.50	V	-36.67		
7634.00	V	-36.49		
3817.00	Horizontal	-45.19		
5725.50	H	-41.70		
7634.00	H	-36.49		
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	-44.69	-13.00	Pass
5557.50	V	-46.51		
7410.00	V	-32.74		
3705.00	Horizontal	-42.65		
5557.50	H	-34.61		
7410.00	H	-34.98		
Middle Channel				
3760.00	Vertical	-49.52	-13.00	Pass
5640.00	V	-42.15		
7520.00	V	-33.75		
3760.00	Horizontal	-48.51		
5640.00	H	-41.57		
7520.00	H	-37.49		
Highest Channel				
3815.00	Vertical	-44.61	-13.00	Pass
5722.50	V	-39.67		
7630.00	V	-34.51		
3815.00	Horizontal	-45.21		
5722.50	H	-37.48		
7630.00	H	-36.26		
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: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3710.00	Vertical	-46.37	-13.00	Pass
5565.00	V	-39.51		
7420.00	V	-33.26		
3710.00	Horizontal	-46.51		
5565.00	H	-42.57		
7420.00	H	-34.31		
Middle Channel				
3760.00	Vertical	-45.21	-13.00	Pass
5640.00	V	-37.94		
7520.00	V	-36.65		
3760.00	Horizontal	-49.65		
5640.00	H	-39.61		
7520.00	H	-33.55		
Highest Channel				
3810.00	Vertical	-44.61	-13.00	Pass
5715.00	V	-37.64		
7620.00	V	-36.62		
3810.00	Horizontal	-46.58		
5715.00	H	-42.19		
7620.00	H	-34.78		
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	-45.21	-13.00	Pass
5572.50	V	-46.37		
7430.00	V	-31.69		
3715.00	Horizontal	-42.51		
5572.50	H	-34.67		
7430.00	H	-33.62		
Middle Channel				
3760.00	Vertical	-45.81	-13.00	Pass
5640.00	V	-41.27		
7520.00	V	-32.56		
3760.00	Horizontal	-46.58		
5640.00	H	-42.61		
7520.00	H	-36.79		
Highest Channel				
3805.00	Vertical	-45.21	-13.00	Pass
5707.50	V	-37.64		
7610.00	V	-35.61		
3805.00	Horizontal	-46.19		
5707.50	H	-38.54		
7610.00	H	-34.79		
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: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3720.00	Vertical	-47.20	-13.00	Pass
5580.00	V	-40.73		
7440.00	V	-34.50		
3720.00	Horizontal	-45.96		
5580.00	H	-41.20		
7440.00	H	-35.25		
Middle Channel				
3760.00	Vertical	-44.67	-13.00	Pass
5640.00	V	-38.91		
7520.00	V	-35.24		
3760.00	Horizontal	-50.32		
5640.00	H	-40.95		
7520.00	H	-34.22		
Highest Channel				
3800.00	Vertical	-46.15	-13.00	Pass
5700.00	V	-38.65		
7600.00	V	-33.94		
3800.00	Horizontal	-45.54		
5700.00	H	-43.59		
7600.00	H	-35.53		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 4 part:

LTE Band 4, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3421.40	Vertical	-45.27	-13.00	Pass
5132.10	V	-40.49		
6842.80	V	-38.35		
3421.40	Horizontal	-44.51		
5132.10	H	-40.46		
6842.80	H	-35.65		
Middle Channel				
3465.00	Vertical	-44.31	-13.00	Pass
5197.50	V	-40.75		
6930.00	V	-36.00		
3465.00	Horizontal	-44.19		
5197.50	H	-42.12		
6930.00	H	-35.19		
Highest Channel				
3508.60	Vertical	-45.35	-13.00	Pass
5262.90	V	-41.47		
7017.20	V	-36.05		
3508.60	Horizontal	-46.39		
5262.90	H	-41.30		
7017.20	H	-34.80		
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	-46.36	-13.00	Pass
5134.50	V	-37.69		
6846.00	V	-3659.00		
3423.00	Horizontal	-42.61		
5134.50	H	-37.64		
6846.00	H	-31.26		
Middle Channel				
3465.00	Vertical	-44.61	-13.00	Pass
5197.50	V	-36.32		
6930.00	V	-35.64		
3465.00	Horizontal	-42.17		
5197.50	H	-42.77		
6930.00	H	-31.69		
Highest Channel				
3507.00	Vertical	-43.62	-13.00	Pass
5260.50	V	-42.69		
7014.00	V	-35.75		
3507.00	Horizontal	-45.69		
5260.50	H	-42.87		
7014.00	H	-31.43		
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	-46.36	-13.00	Pass
5137.50	V	-39.61		
6850.00	V	-37.42		
3425.00	Horizontal	-43.21		
5137.50	H	-39.64		
6850.00	H	-35.19		
Middle Channel				
3465.00	Vertical	-45.26	-13.00	Pass
5197.50	V	-39.61		
6930.00	V	-37.64		
3465.00	Horizontal	-43.51		
5197.50	H	-42.69		
6930.00	H	-34.65		
Highest Channel				
3505.00	Vertical	-44.51	-13.00	Pass
5257.50	V	-42.67		
7010.00	V	-36.69		
3505.00	Horizontal	-45.81		
5257.50	H	-42.12		
7010.00	H	-33.47		
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	-45.23	-13.00	Pass
5145.00	V	-37.64		
6860.00	V	-36.36		
3430.00	Horizontal	-42.56		
5145.00	H	-36.95		
6860.00	H	-31.45		
Middle Channel				
3465.00	Vertical	-45.25	-13.00	Pass
5197.50	V	-37.49		
6930.00	V	-36.61		
3465.00	Horizontal	-42.56		
5197.50	H	-41.73		
6930.00	H	-32.49		
Highest Channel				
3500.00	Vertical	-46.31	-13.00	Pass
5250.00	V	-42.67		
7000.00	V	-35.69		
3500.00	Horizontal	-44.69		
5250.00	H	-42.61		
7000.00	H	-32.44		
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	-45.62	-13.00	Pass
5152.50	V	-37.64		
6870.00	V	-36.63		
3435.00	Horizontal	-42.51		
5152.50	H	-38.64		
6870.00	H	-34.79		
Middle Channel				
3465.00	Vertical	-45.21	-13.00	Pass
5197.50	V	-39.64		
6930.00	V	-36.69		
3465.00	Horizontal	-42.58		
5197.50	H	-41.64		
6930.00	H	-34.76		
Highest Channel				
3495.00	Vertical	-45.21	-13.00	Pass
5242.50	V	-41.67		
6990.00	V	-36.69		
3495.00	Horizontal	-45.19		
5242.50	H	-41.27		
6990.00	H	-33.49		
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	-46.32	-13.00	Pass
5160.00	V	-36.34		
6880.00	V	-37.64		
3440.00	Horizontal	-41.60		
5160.00	H	-37.69		
6880.00	H	-32.51		
Middle Channel				
3465.00	Vertical	-44.36	-13.00	Pass
5197.50	V	-36.64		
6930.00	V	-37.64		
3465.00	Horizontal	-41.25		
5197.50	H	-42.61		
6930.00	H	-33.69		
Highest Channel				
3490.00	Vertical	-45.69	-13.00	Pass
5235.00	V	-41.27		
6980.00	V	-35.69		
3490.00	Horizontal	-44.21		
5235.00	H	-42.67		
6980.00	H	-32.19		
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 5 part:

LTE Band 5, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1649.40	Vertical	-50.75	-13.00	Pass
2474.10	V	-51.40		
3298.80	V	-48.12		
1649.40	Horizontal	-51.63		
2474.10	H	-50.80		
3298.80	H	-47.90		
Middle Channel				
1673.00	Vertical	-47.52	-13.00	Pass
2509.50	V	-51.22		
3346.00	V	-46.81		
1673.00	Horizontal	-48.17		
2509.50	H	-51.59		
3346.00	H	-48.28		
Highest Channel				
1696.60	Vertical	-45.88	-13.00	Pass
2544.90	V	-49.88		
3393.20	V	-46.58		
1696.60	Horizontal	-45.40		
2544.90	H	-51.36		
3393.20	H	-46.20		
Note: 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 5, WB: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1651.00	Vertical	-49.62	-13.00	Pass
2476.50	V	-53.23		
3302.00	V	-52.61		
1651.00	Horizontal	-49.67		
2476.50	H	-51.34		
3302.00	H	-47.93		
Middle Channel				
1673.00	Vertical	-45.21	-13.00	Pass
2509.50	V	-52.36		
3346.00	V	-46.67		
1673.00	Horizontal	-45.19		
2509.50	H	-47.85		
3346.00	H	-46.11		
Highest Channel				
1695.00	Vertical	-47.52	-13.00	Pass
2542.50	V	-49.31		
3390.00	V	-45.27		
1695.00	Horizontal	-46.19		
2542.50	H	-49.13		
3390.00	H	-43.35		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 5, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1653.00	Vertical	-49.32	-13.00	Pass
2479.50	V	-52.36		
3306.00	V	-47.61		
1653.00	Horizontal	-52.56		
2479.50	H	-49.67		
3306.00	H	-46.18		
Middle Channel				
1673.00	Vertical	-46.25	-13.00	Pass
2509.50	V	-49.12		
3346.00	V	-45.27		
1673.00	Horizontal	-47.61		
2509.50	H	-52.58		
3346.00	H	-47.84		
Highest Channel				
1693.00	Vertical	-44.61	-13.00	Pass
2539.50	V	-48.21		
3386.00	V	-45.77		
1693.00	Horizontal	-46.85		
2539.50	H	-46.19		
3386.00	H	-45.12		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 5, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1658.00	Vertical	-50.78	-13.00	Pass
2487.00	V	-51.27		
3316.00	V	-51.17		
1658.00	Horizontal	-49.72		
2487.00	H	-52.74		
3316.00	H	-48.59		
Middle Channel				
1673.00	Vertical	-49.45	-13.00	Pass
2509.50	V	-52.46		
3346.00	V	-47.59		
1673.00	Horizontal	-45.56		
2509.50	H	-48.90		
3346.00	H	-47.08		
Highest Channel				
1688.00	Vertical	-48.10	-13.00	Pass
2532.00	V	-50.65		
3376.00	V	-45.29		
1688.00	Horizontal	-47.03		
2532.00	H	-50.68		
3376.00	H	-44.07		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 12 part:

LTE Band 12, WB: 1.4MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1399.40	Vertical	-51.83	-13.00	Pass
2099.10	V	-53.98		
2798.80	V	-48.73		
1399.40	Horizontal	-50.83		
2099.10	H	-53.48		
2798.80	H	-48.80		
Middle Channel				
1415.00	Vertical	-43.49	-13.00	Pass
2122.50	V	-53.30		
2830.00	V	-53.15		
1415.00	Horizontal	-47.64		
2122.50	H	-55.06		
2830.00	H	-51.42		
Highest Channel				
1430.60	Vertical	-43.96	-13.00	Pass
2145.90	V	-50.51		
2861.20	V	-50.15		
1430.60	Horizontal	-47.13		
2145.90	H	-54.68		
2861.20	H	-48.77		
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	-49.62	-13.00	Pass
2101.50	V	-51.36		
2802.00	V	-49.61		
1401.00	Horizontal	-50.23		
2101.50	H	-49.72		
2802.00	H	-51.15		
Middle Channel				
1415.00	Vertical	-49.61	-13.00	Pass
2122.50	V	-51.24		
2830.00	V	-52.63		
1415.00	Horizontal	-49.61		
2122.50	H	-48.72		
2830.00	H	-49.23		
Highest Channel				
1429.00	Vertical	-48.31	-13.00	Pass
2143.50	V	-51.46		
2858.00	V	-50.23		
1429.00	Horizontal	-46.25		
2143.50	H	-45.87		
2858.00	H	-47.13		
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 12, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1403.00	Vertical	-49.36	-13.00	Pass
2104.50	V	-52.61		
2806.00	V	-47.65		
1403.00	Horizontal	-49.61		
2104.50	H	-53.21		
2806.00	H	-47.59		
Middle Channel				
1415.00	Vertical	-43.26	-13.00	Pass
2122.50	V	-52.14		
2830.00	V	-53.75		
1415.00	Horizontal	-46.14		
2122.50	H	-55.13		
2830.00	H	-54.13		
Highest Channel				
1427.00	Vertical	-43.61	-13.00	Pass
2410.50	V	-49.86		
2854.00	V	-51.37		
1427.00	Horizontal	-46.53		
2410.50	H	-52.76		
2854.00	H	-47.18		
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 12, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1408.00	Vertical	-53.14	-13.00	Pass
2112.00	V	-53.77		
2816.00	V	-50.79		
1408.00	Horizontal	-52.75		
2112.00	H	-56.28		
2816.00	H	-51.56		
Middle Channel				
1415.00	Vertical	-50.89	-13.00	Pass
2122.50	V	-53.61		
2830.00	V	-52.38		
1415.00	Horizontal	-52.01		
2122.50	H	-53.87		
2830.00	H	-49.68		
Highest Channel				
1422.00	Vertical	-49.36	-13.00	Pass
2133.00	V	-52.24		
2844.00	V	-51.64		
1422.00	Horizontal	-46.76		
2133.00	H	-49.61		
2844.00	H	-48.72		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

6.6 Frequency stability V.S. Temperature measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(a)(1)(b)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
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	186	0.098936	Within authorized band for LTE band 2	Pass
	-20	162	0.086170		
	-10	157	0.083511		
	0	154	0.081915		
	10	126	0.067021		
	20	167	0.088830		
	30	136	0.072340		
	40	125	0.066489		
	50	123	0.065426		
16QAM					
12.0	-30	135	0.071809	Within authorized band for LTE band 2	Pass
	-20	154	0.081915		
	-10	125	0.066489		
	0	157	0.083511		
	10	135	0.071809		
	20	155	0.082447		
	30	126	0.067021		
	40	143	0.076064		
	50	146	0.077660		
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	192	0.110823	Within authorized band for LTE band 4	Pass
	-20	162	0.093506		
	-10	136	0.078499		
	0	132	0.076190		
	10	147	0.084848		
	20	147	0.084848		
	30	141	0.081385		
	40	150	0.086580		
	50	126	0.072727		
16QAM					
12.0	-30	132	0.076190	Within authorized band for LTE band 4	Pass
	-20	154	0.088889		
	-10	163	0.094084		
	0	127	0.073304		
	10	145	0.083694		
	20	139	0.080231		
	30	165	0.095238		
	40	139	0.080231		
	50	182	0.105051		
Note: Only the worst case shown in the report.					

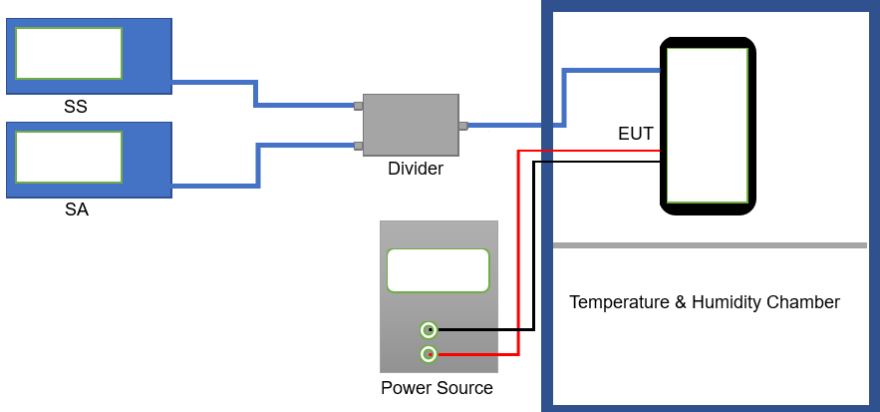
LTE Band 5 part:

Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
12.0	-30	197	0.235505	±2.5	Pass
	-20	165	0.197250		
	-10	137	0.163778		
	0	159	0.190078		
	10	146	0.174537		
	20	176	0.210400		
	30	165	0.197250		
	40	153	0.182905		
	50	114	0.136282		
16QAM					
12.0	-30	162	0.193664	±2.5	Pass
	-20	147	0.175732		
	-10	136	0.162582		
	0	157	0.187687		
	10	152	0.181710		
	20	136	0.162582		
	30	116	0.138673		
	40	114	0.136282		
	50	137	0.163778		
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	185	0.261484	Within authorized band for LTE band 12	Pass
	-20	162	0.228975		
	-10	141	0.199293		
	0	123	0.173852		
	10	145	0.204947		
	20	136	0.192226		
	30	111	0.156890		
	40	106	0.149823		
	50	147	0.207774		
16QAM					
12.0	-30	154	0.217668	Within authorized band for LTE band 12	Pass
	-20	133	0.187986		
	-10	145	0.204947		
	0	105	0.148410		
	10	113	0.159717		
	20	125	0.176678		
	30	129	0.182332		
	40	137	0.193640		
	50	122	0.172438		
Note: Only the worst case shown in the report.					

6.7 Frequency stability V.S. Voltage measurement

Test Requirement:	Part 22.355, Part 24.235, Part 27.54, Part 2.1055(d)(2)
Test Method:	ANSI/TIA-603-D 2010
Limit:	±2.5ppm
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. 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	12.8	98	0.052128	Within authorized band for LTE band 2	Pass
	12.0	65	0.034574		
	11.2	74	0.039362		
16QAM					
25	12.8	80	0.042553	Within authorized band for LTE band 2	Pass
	12.0	96	0.051064		
	11.2	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 (℃)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	12.8	84	0.048485	Within authorized band for LTE band 4	Pass
	12.0	92	0.053102		
	11.2	67	0.038672		
16QAM					
25	12.8	75	0.043290	Within authorized band for LTE band 4	Pass
	12.0	68	0.039250		
	11.2	84	0.048485		
Note: Only the worst case shown in the report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	12.8	93	0.111178	±2.5	Pass
	12.0	75	0.089659		
	11.2	68	0.081291		
16QAM					
25	12.8	82	0.098027	±2.5	Pass
	12.0	89	0.106396		
	11.2	54	0.064555		
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	12.8	95	0.134276	Within authorized band for LTE band 12	Pass
	12.0	58	0.081979		
	11.2	41	0.057951		
16QAM					
25	12.8	81	0.114488	Within authorized band for LTE band 12	Pass
	12.0	46	0.065018		
	11.2	59	0.083392		
Note: Only the worst case shown in the report.					