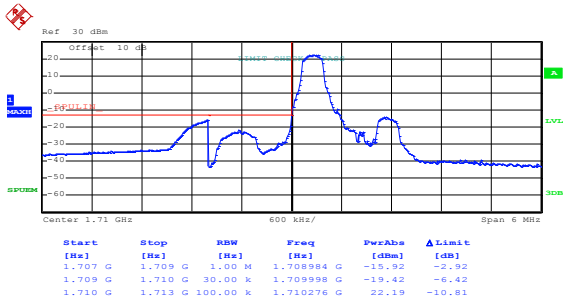
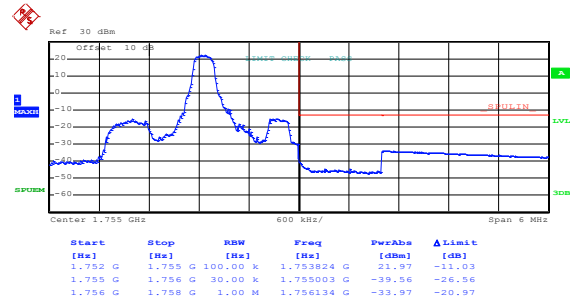


LTE Band 4, BW: 1.4MHz
QPSK & RB Size 1

Date: 14.FEB.2019 03:53:46

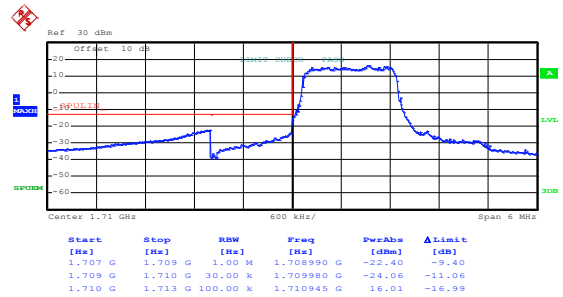
Lowest channel



Date: 14.FEB.2019 03:54:58

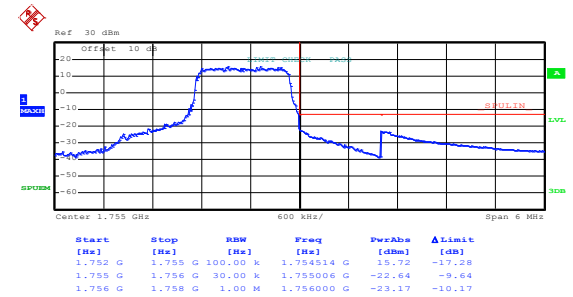
Highest channel

QPSK & RB Size 6



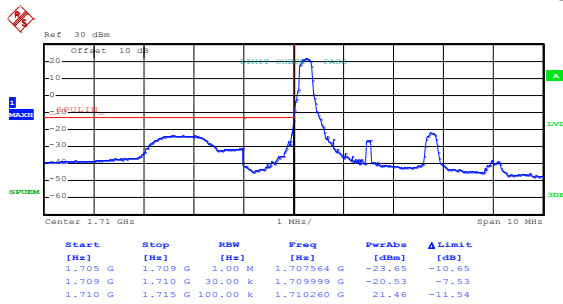
Date: 14.FEB.2019 03:54:10

Lowest channel



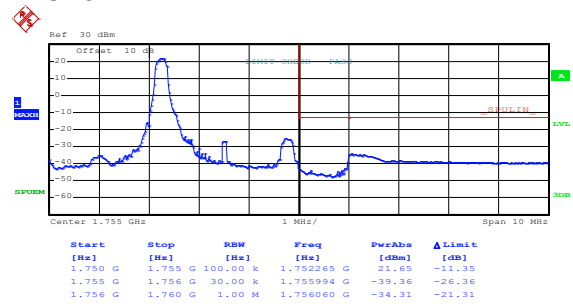
Date: 14.FEB.2019 03:54:37

Highest channel

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

Date: 14.FEB.2019 03:58:58

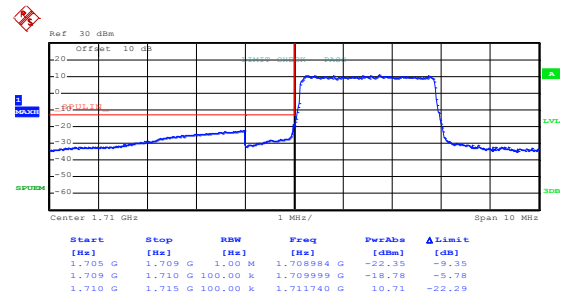
Lowest channel



Date: 14.FEB.2019 03:58:30

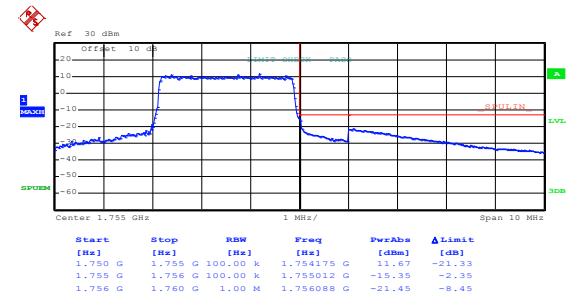
Highest channel

16QAM & RB Size 15



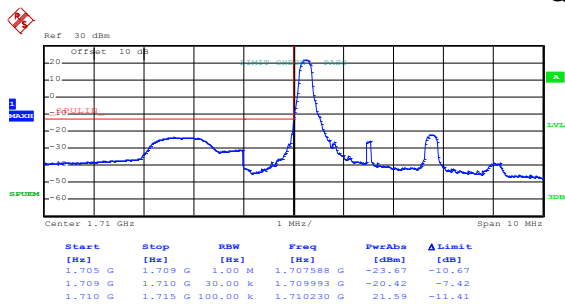
Date: 14.FEB.2019 03:59:30

Lowest channel



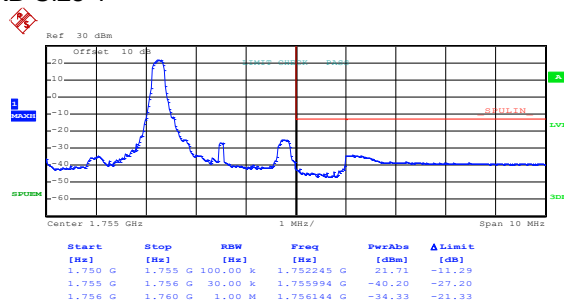
Date: 14.FEB.2019 03:58:02

Highest channel

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

Date: 14.FEB.2019 03:58:50

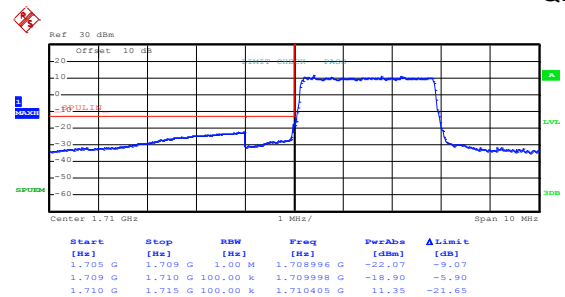
Lowest channel



Date: 14.FEB.2019 03:58:23

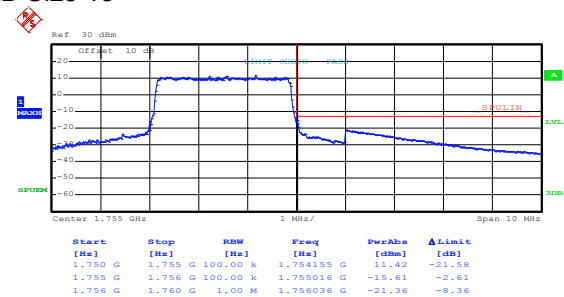
Highest channel

QPSK & RB Size 15



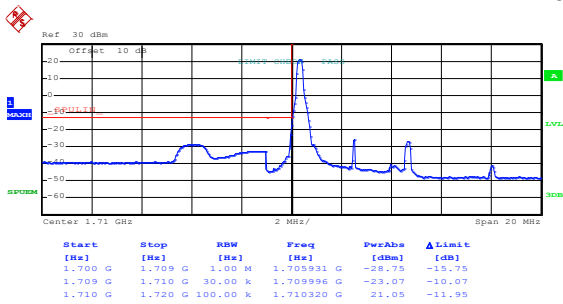
Date: 14.FEB.2019 03:59:20

Lowest channel



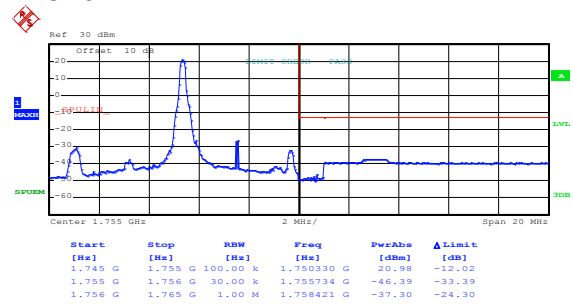
Date: 14.FEB.2019 03:57:52

Highest channel

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

Date: 14.FEB.2019 04:01:03

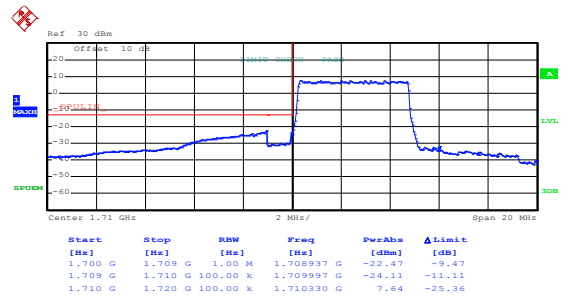
Lowest channel



Date: 14.FEB.2019 04:01:35

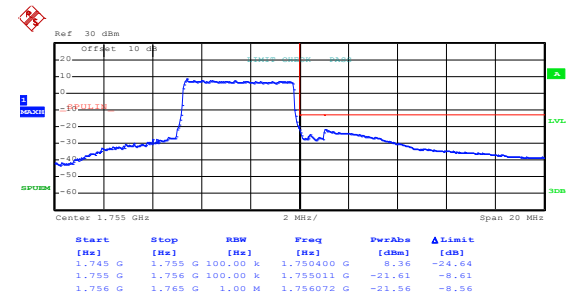
Highest channel

16QAM & RB Size 25



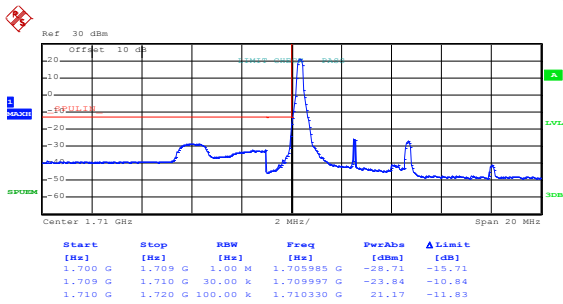
Date: 14.FEB.2019 04:00:32

Lowest channel



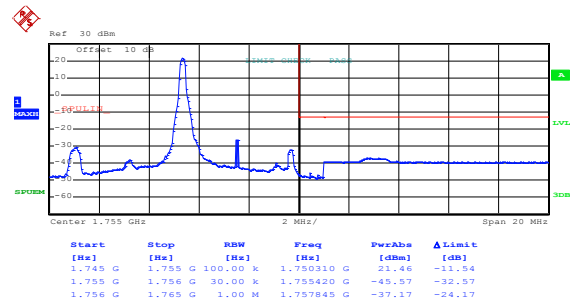
Date: 14.FEB.2019 04:02:08

Highest channel

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

Date: 14.FEB.2019 04:00:50

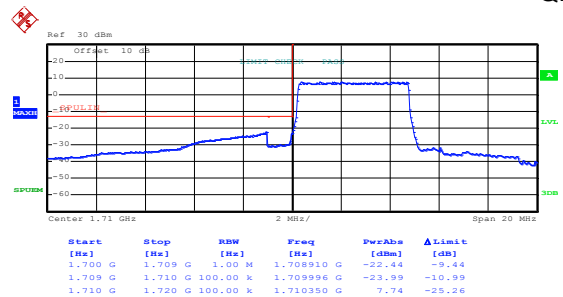
Lowest channel



Date: 14.FEB.2019 04:01:28

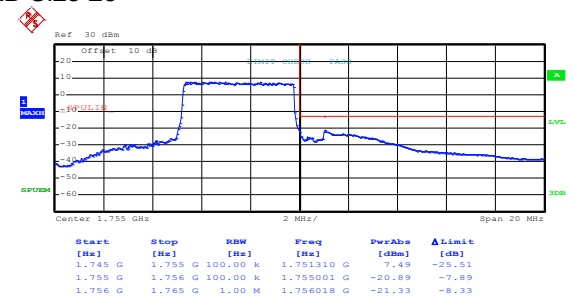
Highest channel

QPSK & RB Size 25



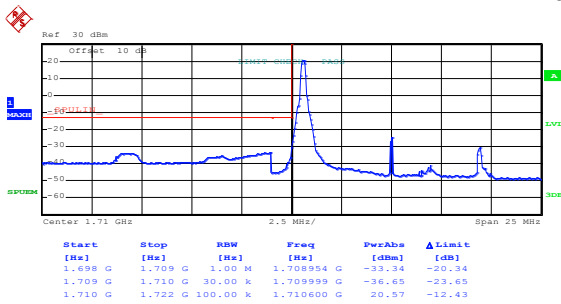
Date: 14.FEB.2019 04:00:20

Lowest channel



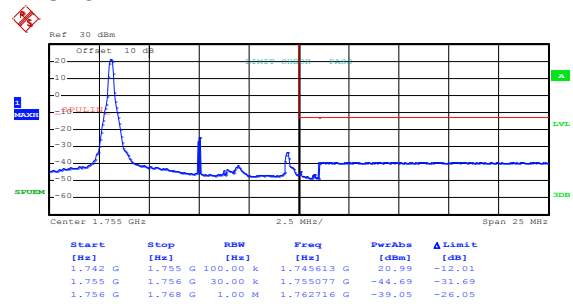
Date: 14.FEB.2019 04:01:56

Highest channel

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

Date: 14.FEB.2019 04:04:11

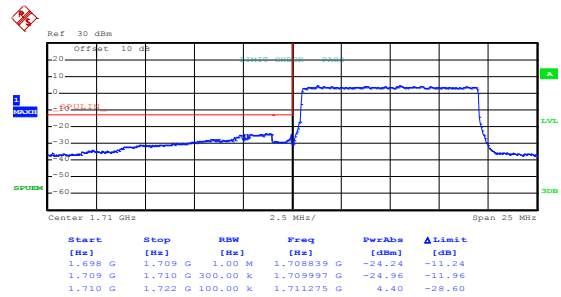
Lowest channel



Date: 14.FEB.2019 04:03:39

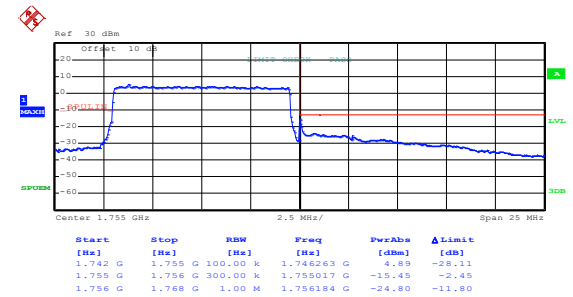
Highest channel

16QAM & RB Size 50



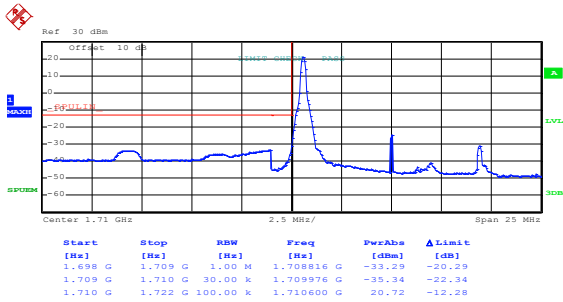
Date: 14.FEB.2019 04:04:40

Lowest channel



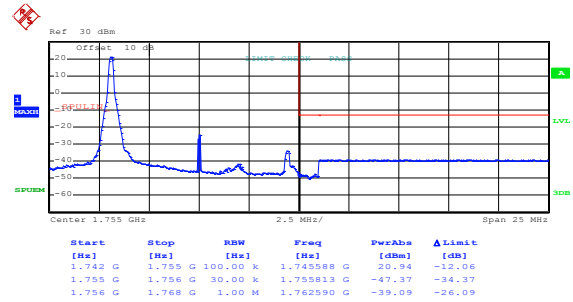
Date: 14.FEB.2019 04:03:06

Highest channel

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

Date: 14.FEB.2019 04:04:02

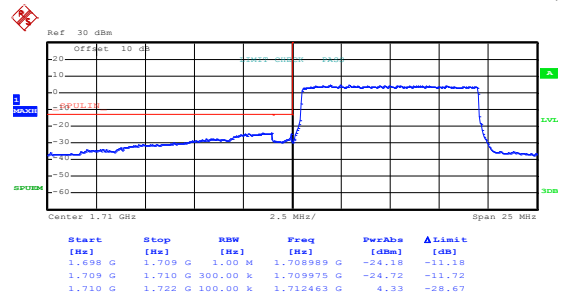
Lowest channel



Date: 14.FEB.2019 04:03:24

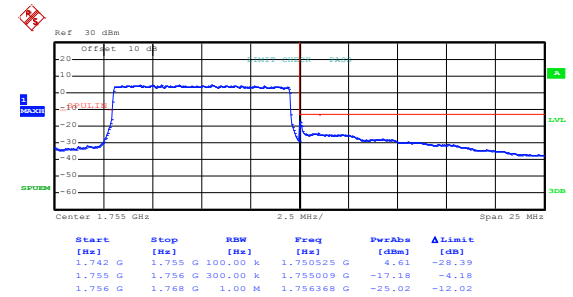
Highest channel

QPSK & RB Size 50



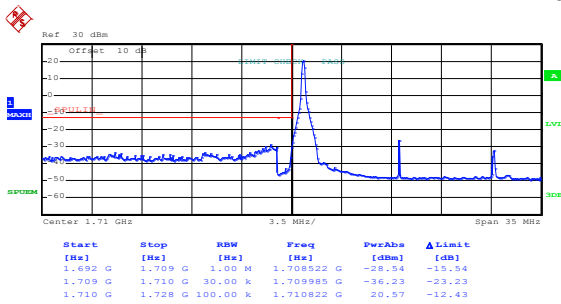
Date: 14.FEB.2019 04:04:32

Lowest channel



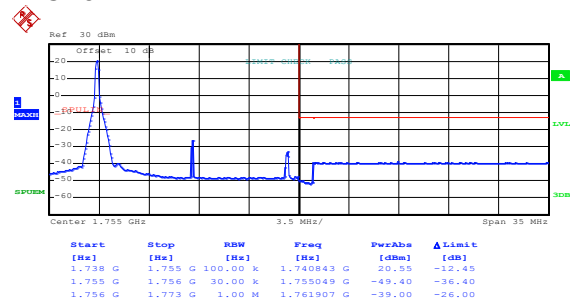
Date: 14.FEB.2019 04:02:58

Highest channel

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

Date: 14.FEB.2019 04:08:22

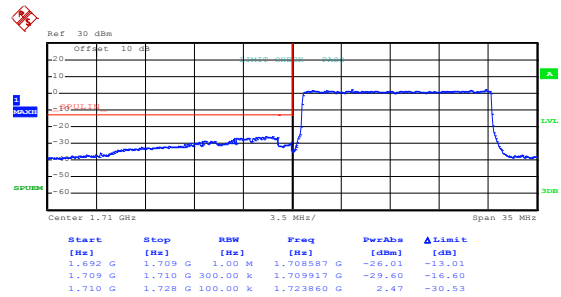
Lowest channel



Date: 14.FEB.2019 04:09:00

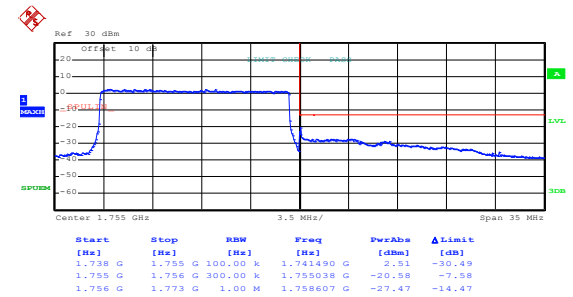
Highest channel

16QAM & RB Size 75



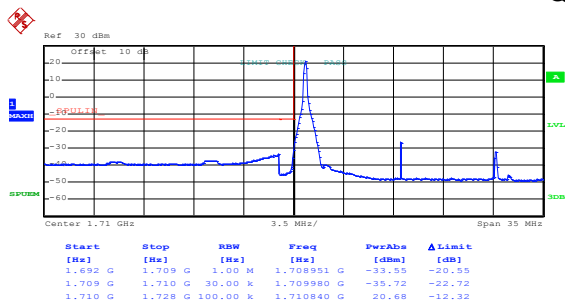
Date: 14.FEB.2019 04:07:50

Lowest channel



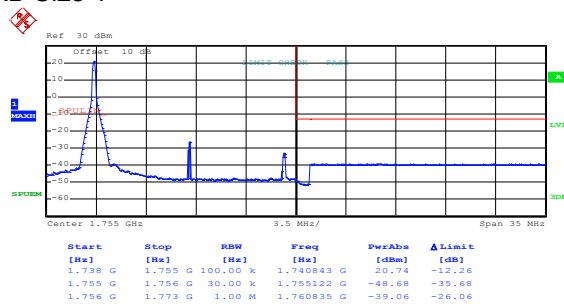
Date: 14.FEB.2019 04:09:30

Highest channel

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

Date: 14.FEB.2019 04:08:08

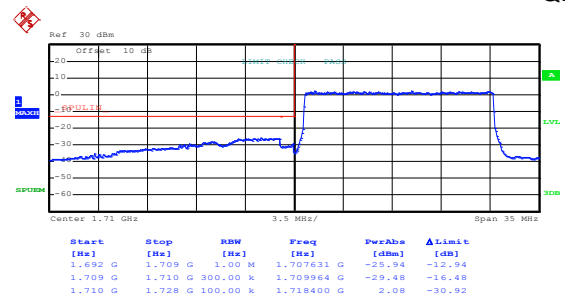
Lowest channel



Date: 14.FEB.2019 04:08:50

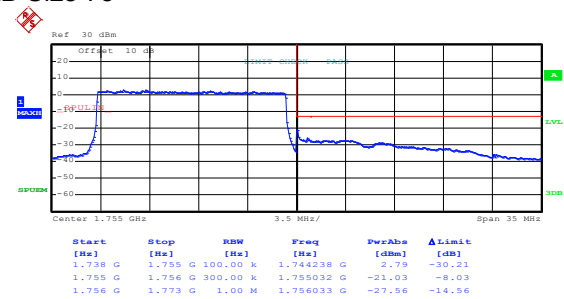
Highest channel

QPSK & RB Size 75



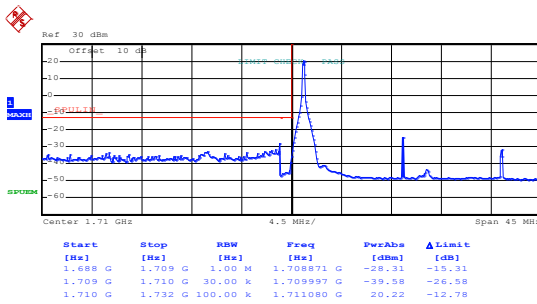
Date: 14.FEB.2019 04:07:42

Lowest channel



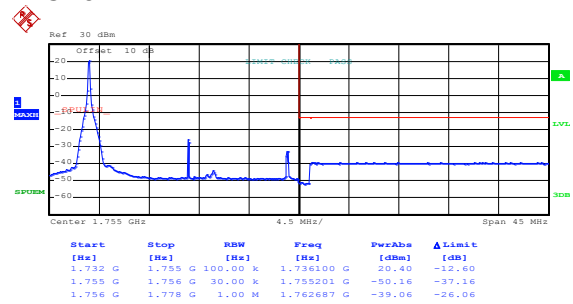
Date: 14.FEB.2019 04:09:22

Highest channel

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

Date: 14.FEB.2019 04:11:09

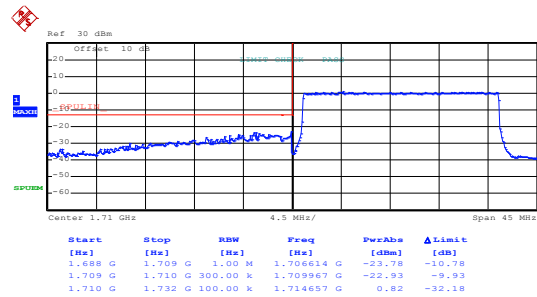
Lowest channel



Date: 14.FEB.2019 04:10:43

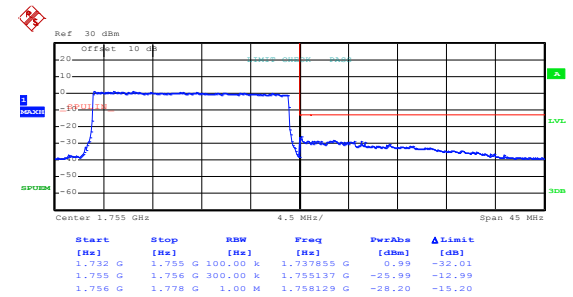
Highest channel

16QAM & RB Size 100



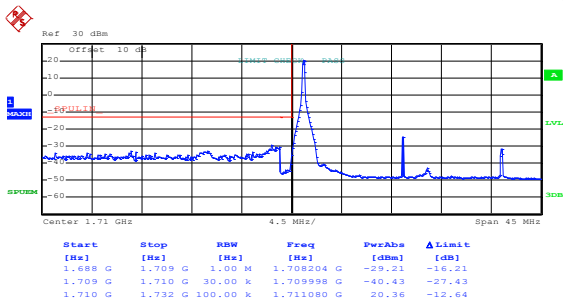
Date: 14.FEB.2019 04:11:35

Lowest channel



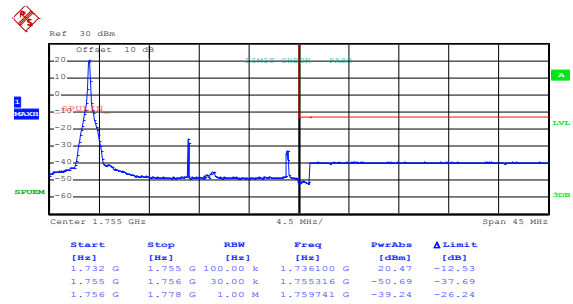
Date: 14.FEB.2019 04:10:19

Highest channel

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

Date: 14.FEB.2019 04:11:02

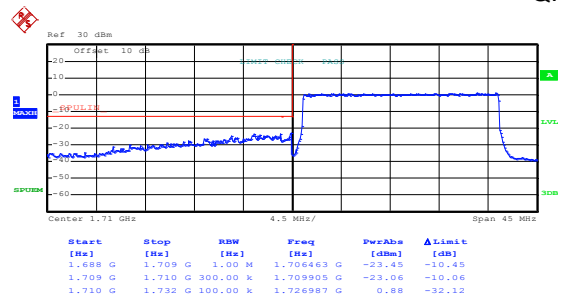
Lowest channel



Date: 14.FEB.2019 04:10:36

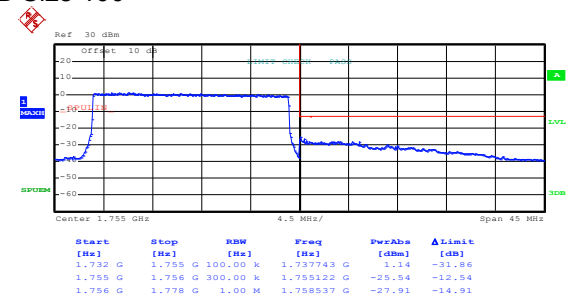
Highest channel

QPSK & RB Size 100



Date: 14.FEB.2019 04:11:26

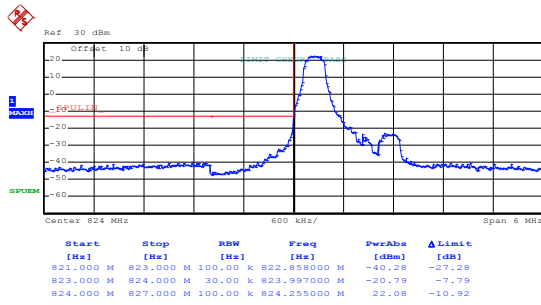
Lowest channel



Date: 14.FEB.2019 04:10:12

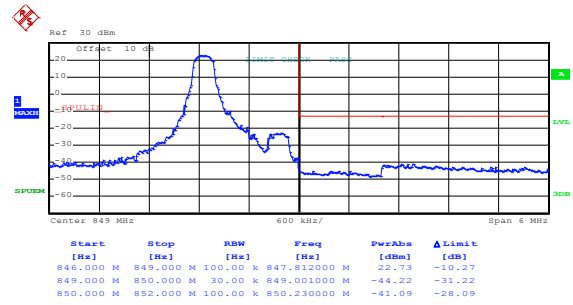
Highest channel

LTE Band 5 part:

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

Date: 14.FEB.2019 03:40:09

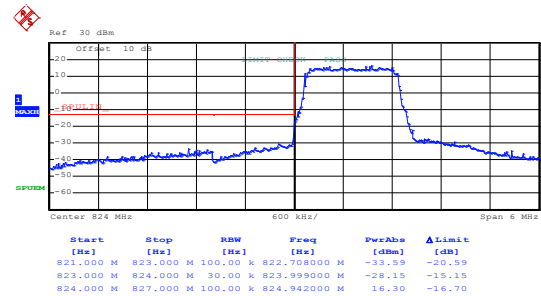
Lowest channel



Date: 14.FEB.2019 03:41:29

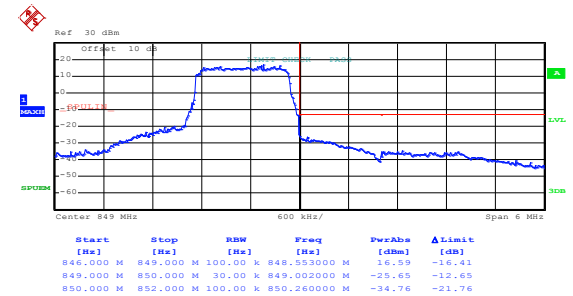
Highest channel

16QAM & RB Size 6



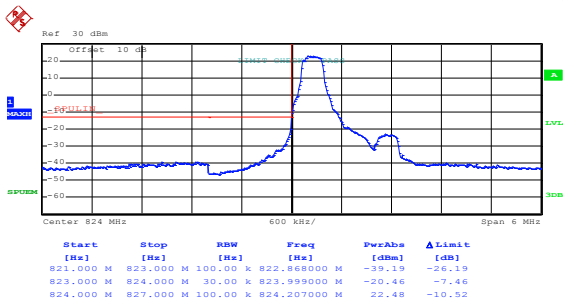
Date: 14.FEB.2019 03:40:34

Lowest channel



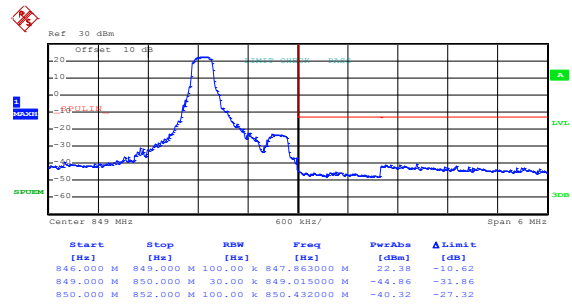
Date: 14.FEB.2019 03:41:04

Highest channel

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

Date: 14.FEB.2019 03:40:00

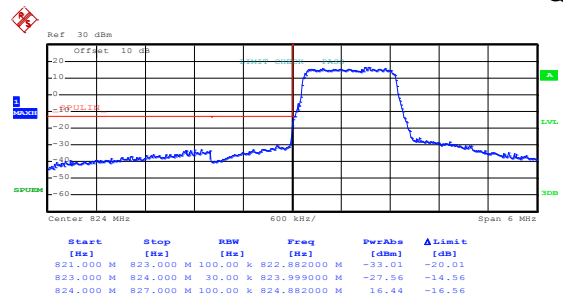
Lowest channel



Date: 14.FEB.2019 03:41:19

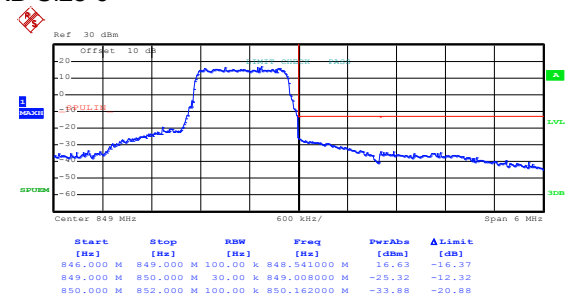
Highest channel

QPSK & RB Size 6



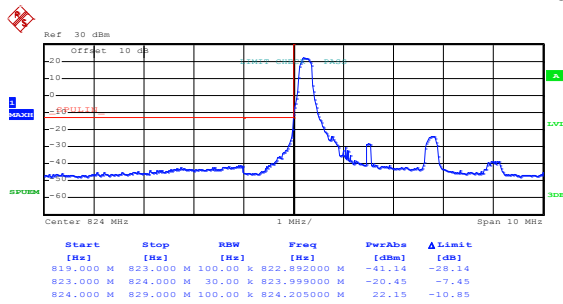
Date: 14.FEB.2019 03:40:28

Lowest channel



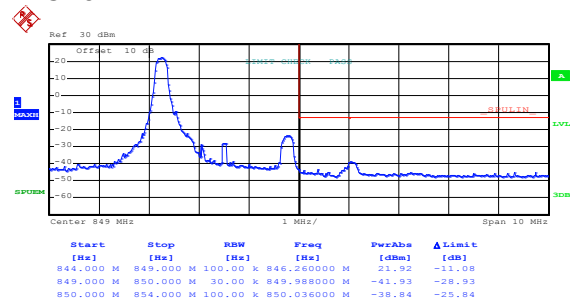
Date: 14.FEB.2019 03:40:56

Highest channel

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

Date: 14.FEB.2019 03:46:14

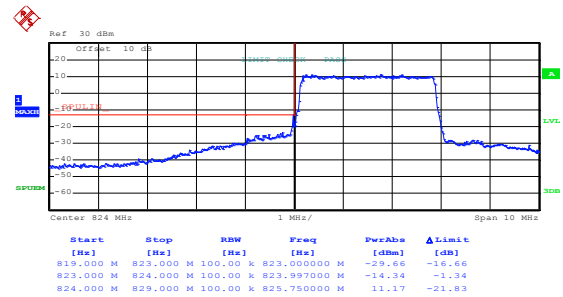
Lowest channel



Date: 14.FEB.2019 03:45:26

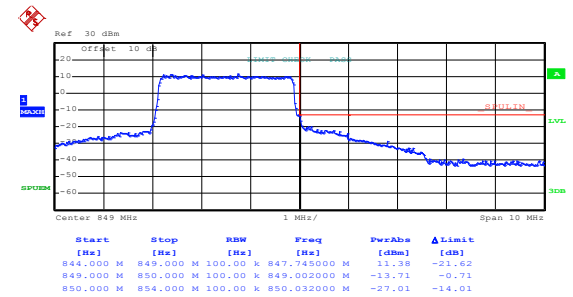
Highest channel

16QAM & RB Size 15



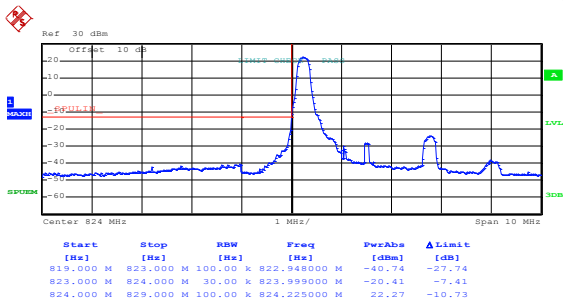
Date: 14.FEB.2019 03:46:51

Lowest channel



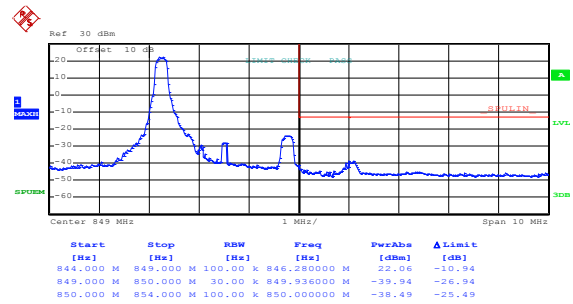
Date: 14.FEB.2019 03:45:01

Highest channel

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

Date: 14.FEB.2019 03:46:05

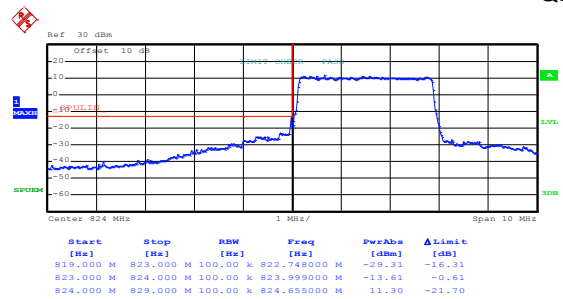
Lowest channel



Date: 14.FEB.2019 03:45:18

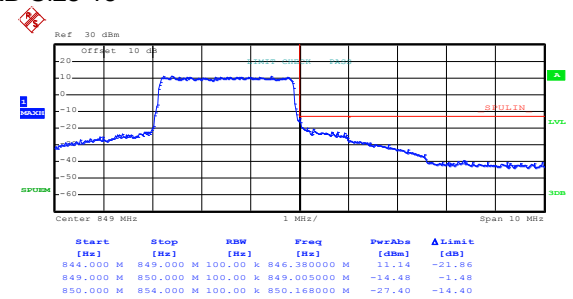
Highest channel

QPSK & RB Size 15



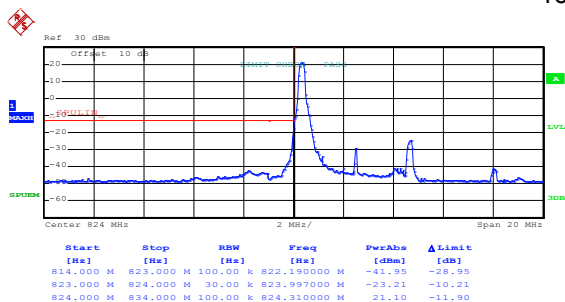
Date: 14.FEB.2019 03:46:40

Lowest channel



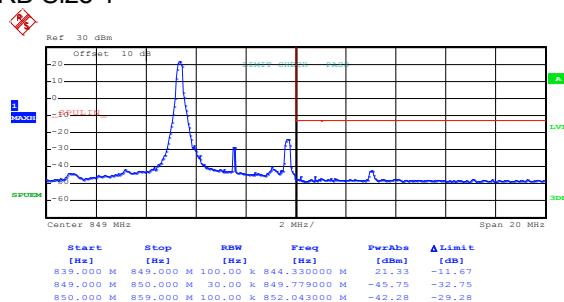
Date: 14.FEB.2019 03:44:53

Highest channel

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

Date: 14.FEB.2019 03:48:06

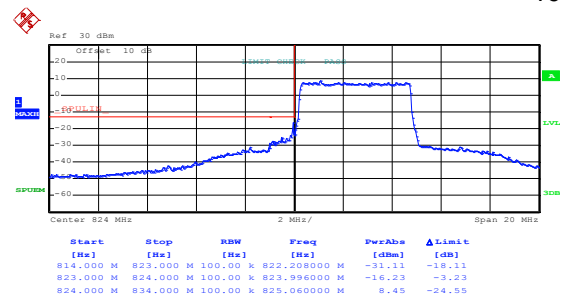
Lowest channel



Date: 14.FEB.2019 03:48:34

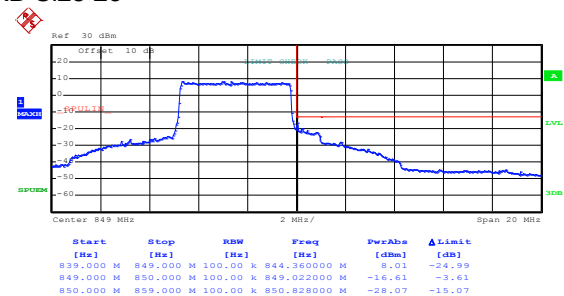
Highest channel

16QAM & RB Size 25



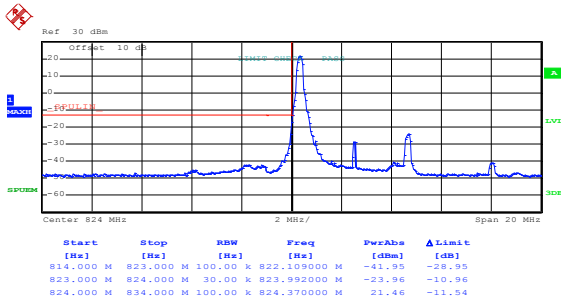
Date: 14.FEB.2019 03:47:42

Lowest channel



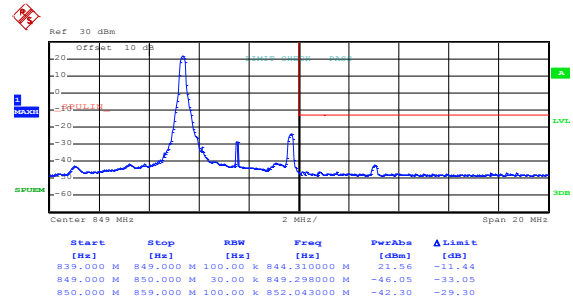
Date: 14.FEB.2019 03:49:11

Highest channel

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

Date: 14.FEB.2019 03:47:59

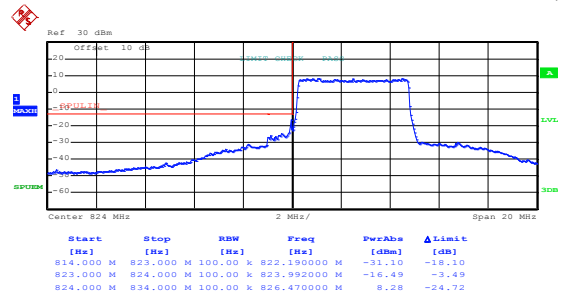
Lowest channel



Date: 14.FEB.2019 03:48:25

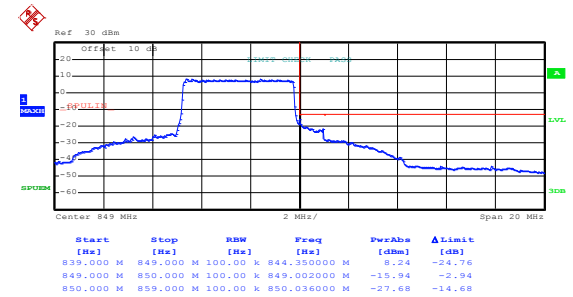
Highest channel

QPSK & RB Size 25



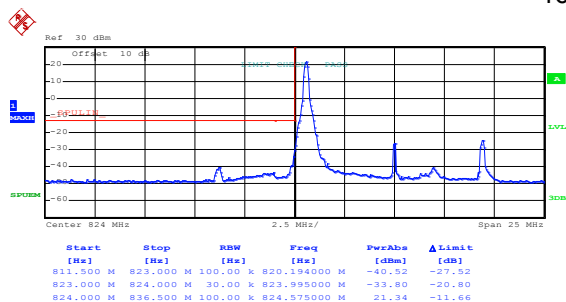
Date: 14.FEB.2019 03:47:34

Lowest channel



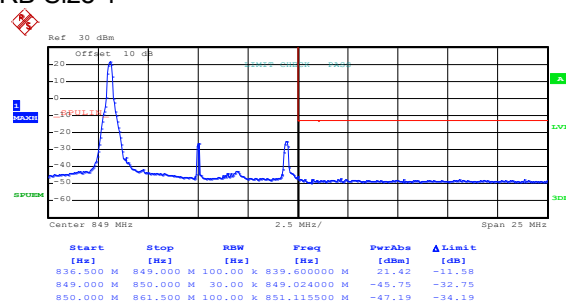
Date: 14.FEB.2019 03:49:02

Highest channel

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

Date: 14.FEB.2019 03:50:59

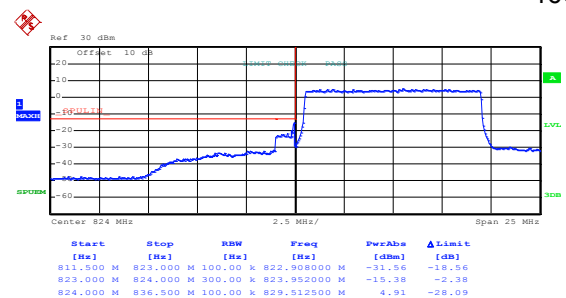
Lowest channel



Date: 14.FEB.2019 03:50:32

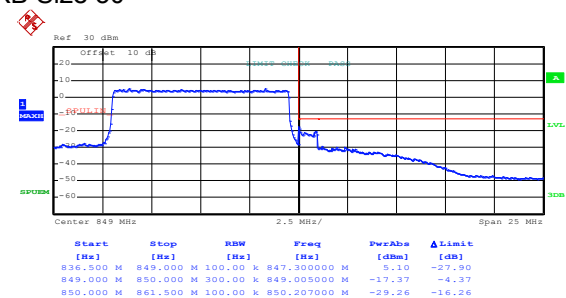
Highest channel

16QAM & RB Size 50



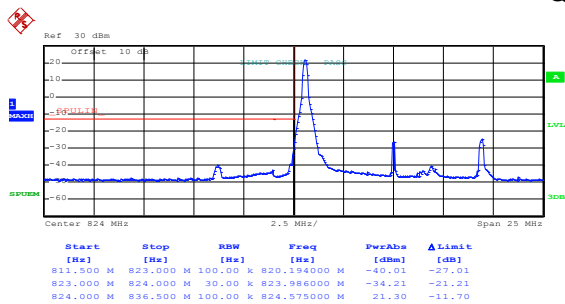
Date: 14.FEB.2019 03:51:27

Lowest channel



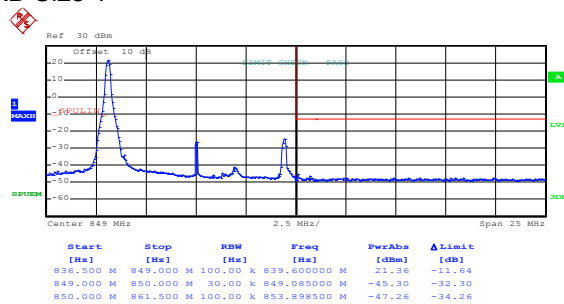
Date: 14.FEB.2019 03:50:06

Highest channel

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

Date: 14.FEB.2019 03:50:51

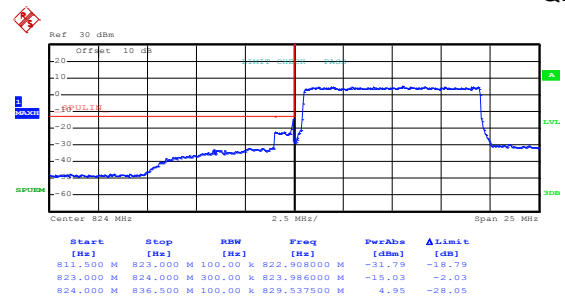
Lowest channel



Date: 14.FEB.2019 03:50:25

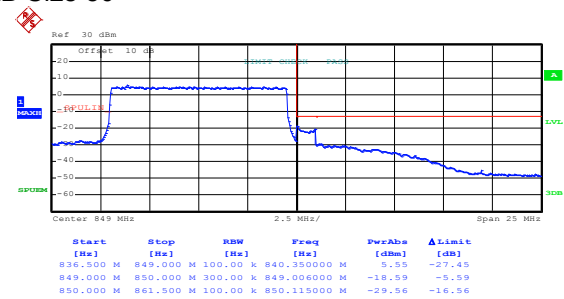
Highest channel

QPSK & RB Size 50



Date: 14.FEB.2019 03:51:18

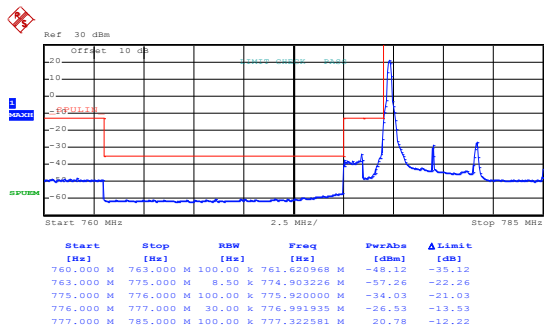
Lowest channel



Date: 14.FEB.2019 03:49:58

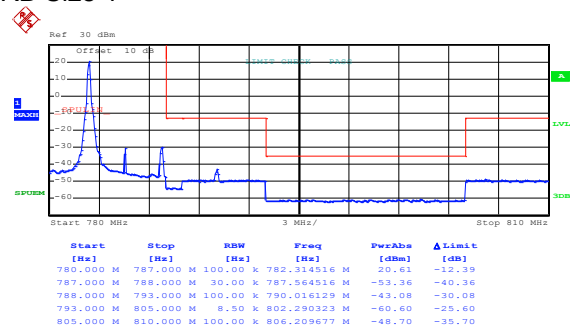
Highest channel

LTE Band 13 part:

LTE Band 13, BW: 5MHz
16QAM & RB Size 1

Date: 14.FEB.2019 03:34:15

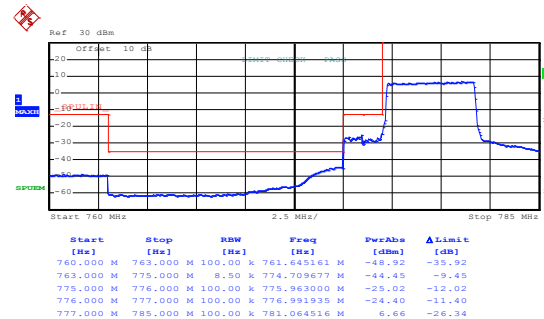
Lowest channel



Date: 14.FEB.2019 03:31:43

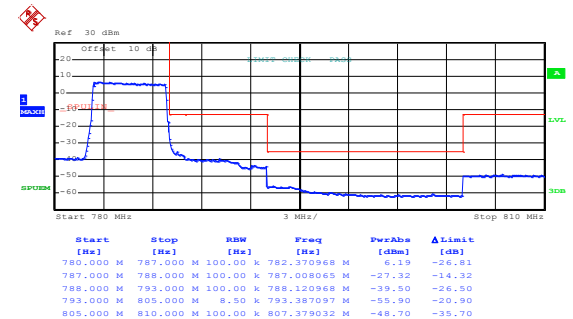
Highest channel

16QAM & RB Size 25



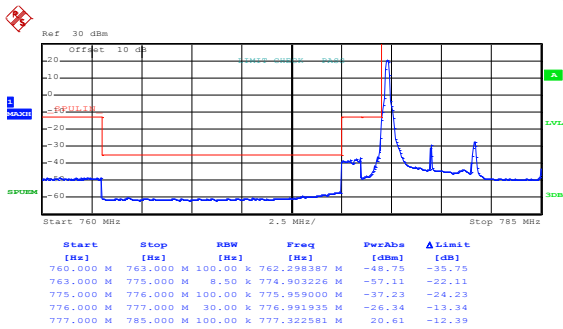
Date: 14.FEB.2019 03:33:36

Lowest channel



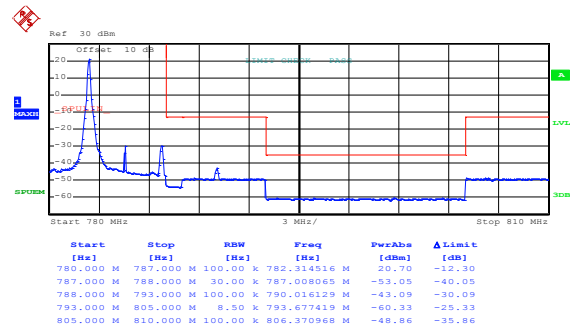
Date: 14.FEB.2019 03:32:31

Highest channel

LTE Band 13, BW: 5MHz
QPSK & RB Size 1

Date: 14.FEB.2019 03:34:03

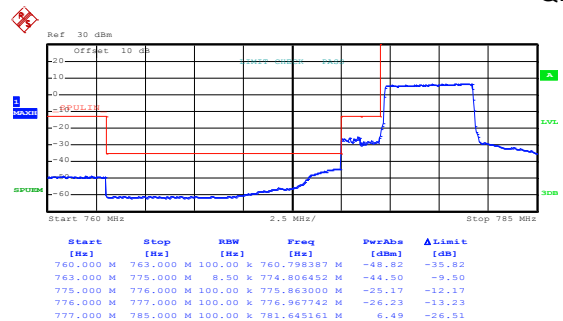
Lowest channel



Date: 14.FEB.2019 03:31:29

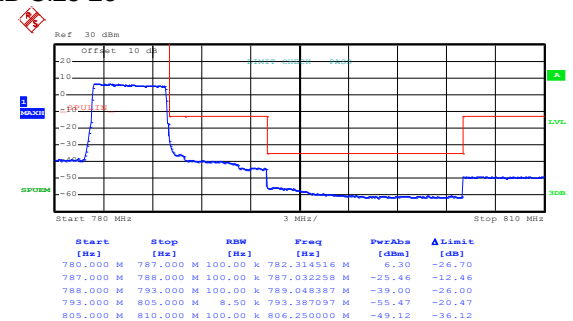
Highest channel

QPSK & RB Size 25



Date: 14.FEB.2019 03:33:24

Lowest channel

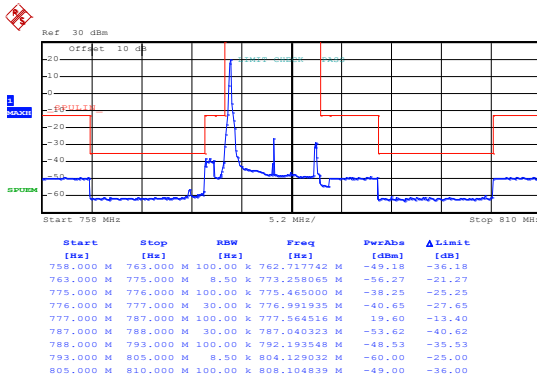


Date: 14.FEB.2019 03:32:20

Highest channel

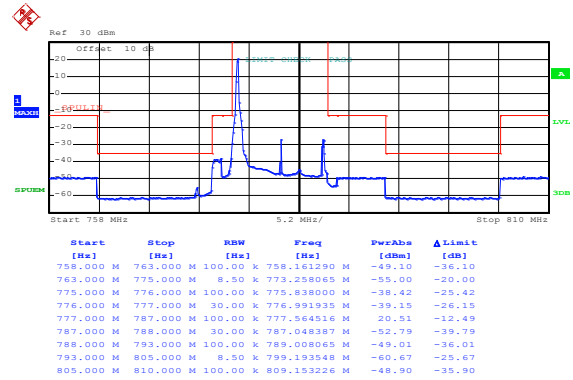
LTE Band 13, BW: 10MHz

16QAM & RB Size 1



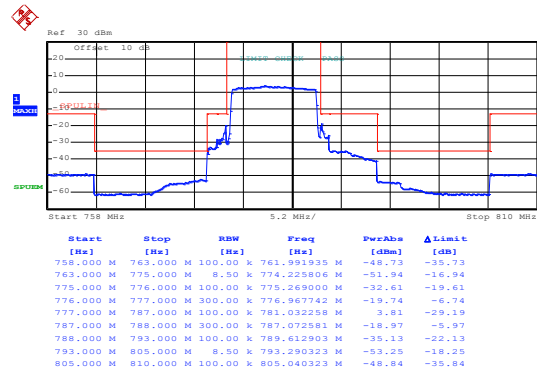
Date: 14.FEB.2019 03:24:45

QPSK & RB Size 1



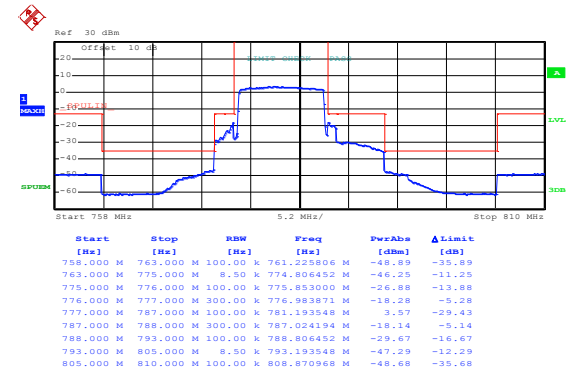
Date: 14.FEB.2019 03:24:24

16QAM & RB Size 50



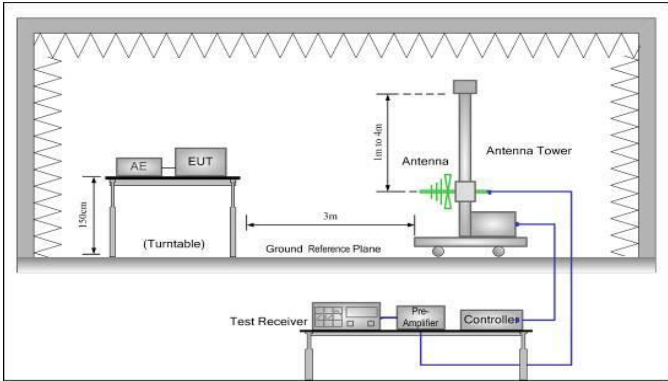
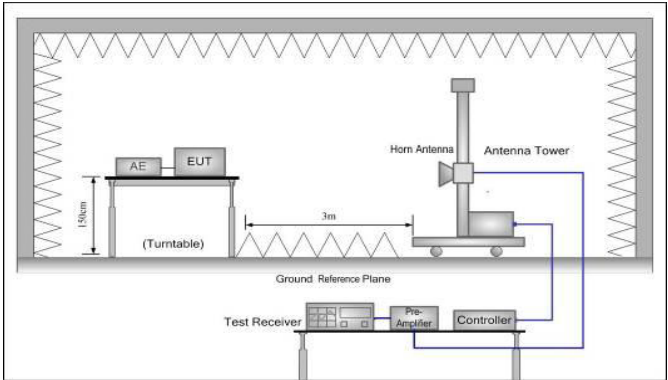
Date: 14.FEB.2019 04:45:34

QPSK & RB Size 50



Date: 13.FEB.2019 12:15:23

6.5 Field strength of spurious radiation measurement

Test Requirement:	Part 22.917(a), Part 24.238 (a), Part 27.53(c)(f),Part 27.53(h)
Test Method:	ANSI/TIA-603-D 2010
Limit:	LTE Band 2 & 4 & 5: The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB (-13 dBm). LTE Band 13: The power of any emission shall be attenuated outside the band below the transmitter power (P) by at least $43 + 10 \log(P)$ dB (-13 dBm). For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals.
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	-36.46	-13.00	Pass
5552.10	V	-43.60		
7402.00	V	-38.18		
3701.40	Horizontal	-39.80		
5552.10	H	-42.33		
7402.00	H	-37.04		
Middle Channel				
3760.00	Vertical	-36.95	-13.00	Pass
5640.00	V	-43.15		
7520.00	V	-38.22		
3760.00	Horizontal	-39.46		
5640.00	H	-42.84		
7520.00	H	-37.61		
Highest Channel				
3816.60	Vertical	-36.96	-13.00	Pass
5724.90	V	-43.11		
7633.20	V	-38.17		
3816.60	Horizontal	-39.54		
5724.90	H	-42.29		
7633.20	H	-37.66		
Note: 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

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	-36.41	-13.00	Pass
5554.50	V	-43.15		
7406.00	V	-38.85		
3703.00	Horizontal	-39.61		
5554.50	H	-42.16		
7406.00	H	-37.47		
Middle Channel				
3760.00	Vertical	-36.85	-13.00	Pass
5640.00	V	-43.61		
7520.00	V	-38.92		
3760.00	Horizontal	-39.47		
5640.00	H	-42.13		
7520.00	H	-37.15		
Highest Channel				
3817.00	Vertical	-36.82	-13.00	Pass
5725.50	V	-43.19		
7634.00	V	-38.53		
3817.00	Horizontal	-39.17		
5725.50	H	-42.16		
7634.00	H	-37.53		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 2, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3705.00	Vertical	-36.94	-13.00	Pass
5557.50	V	-43.15		
7410.00	V	-38.64		
3705.00	Horizontal	-39.15		
5557.50	H	-42.51		
7410.00	H	-37.41		
Middle Channel				
3760.00	Vertical	-36.97	-13.00	Pass
5640.00	V	-43.14		
7520.00	V	-38.24		
3760.00	Horizontal	-39.61		
5640.00	H	-42.25		
7520.00	H	-37.11		
Highest Channel				
3815.00	Vertical	-36.64	-13.00	Pass
5722.50	V	-43.96		
7630.00	V	-38.51		
3815.00	Horizontal	-39.15		
5722.50	H	-42.67		
7630.00	H	-37.17		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 2, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3710.00	Vertical	-36.48	-13.00	Pass
5565.00	V	-43.17		
7420.00	V	-38.57		
3710.00	Horizontal	-39.36		
5565.00	H	-42.17		
7420.00	H	-37.54		
Middle Channel				
3760.00	Vertical	-36.93	-13.00	Pass
5640.00	V	-43.15		
7520.00	V	-38.26		
3760.00	Horizontal	-39.79		
5640.00	H	-42.61		
7520.00	H	-37.42		
Highest Channel				
3810.00	Vertical	-36.87	-13.00	Pass
5715.00	V	-43.88		
7620.00	V	-38.41		
3810.00	Horizontal	-39.16		
5715.00	H	-42.58		
7620.00	H	-37.41		
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	-36.94	-13.00	Pass
5572.50	V	-43.58		
7430.00	V	-38.61		
3715.00	Horizontal	-39.26		
5572.50	H	-42.51		
7430.00	H	-37.94		
Middle Channel				
3760.00	Vertical	-36.69	-13.00	Pass
5640.00	V	-43.15		
7520.00	V	-38.62		
3760.00	Horizontal	-39.73		
5640.00	H	-42.47		
7520.00	H	-37.16		
Highest Channel				
3805.00	Vertical	-36.95	-13.00	Pass
5707.50	V	-43.15		
7610.00	V	-38.61		
3805.00	Horizontal	-39.48		
5707.50	H	-42.13		
7610.00	H	-37.23		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 2, WB: 20MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
3720.00	Vertical	-36.47	-13.00	Pass
5580.00	V	-43.51		
7440.00	V	-38.26		
3720.00	Horizontal	-39.28		
5580.00	H	-42.79		
7440.00	H	-37.41		
Middle Channel				
3760.00	Vertical	-36.85	-13.00	Pass
5640.00	V	-43.87		
7520.00	V	-38.61		
3760.00	Horizontal	-39.14		
5640.00	H	-42.96		
7520.00	H	-37.57		
Highest Channel				
3800.00	Vertical	-36.19	-13.00	Pass
5700.00	V	-43.51		
7600.00	V	-38.96		
3800.00	Horizontal	-39.57		
5700.00	H	-42.15		
7600.00	H	-37.64		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 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	-48.35	-13.00	Pass
5132.10	V	-44.34		
6842.80	V	-38.88		
3421.40	Horizontal	-45.12		
5132.10	H	-44.73		
6842.80	H	-39.00		
Middle Channel				
3465.00	Vertical	-48.53	-13.00	Pass
5197.50	V	-44.15		
6930.00	V	-38.92		
3465.00	Horizontal	-45.17		
5197.50	H	-44.85		
6930.00	H	-39.43		
Highest Channel				
3508.60	Vertical	-48.27	-13.00	Pass
5262.90	V	-44.92		
7017.20	V	-38.46		
3508.60	Horizontal	-45.29		
5262.90	H	-44.23		
7017.20	H	-39.71		
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	-48.51	-13.00	Pass
5134.50	V	-44.29		
6846.00	V	-38.15		
3423.00	Horizontal	-45.83		
5134.50	H	-44.29		
6846.00	H	-39.73		
Middle Channel				
3465.00	Vertical	-39.58	-13.00	Pass
5197.50	V	-44.83		
6930.00	V	-38.51		
3465.00	Horizontal	-45.83		
5197.50	H	-44.24		
6930.00	H	-39.95		
Highest Channel				
3507.00	Vertical	-48.57	-13.00	Pass
5260.50	V	-44.18		
7014.00	V	-38.62		
3507.00	Horizontal	-45.73		
5260.50	H	-45.12		
7014.00	H	-39.27		
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	-48.87	-13.00	Pass
5137.50	V	-44.29		
6850.00	V	-38.61		
3425.00	Horizontal	-45.29		
5137.50	H	-44.13		
6850.00	H	-39.78		
Middle Channel				
3465.00	Vertical	-48.63	-13.00	Pass
5197.50	V	-44.89		
6930.00	V	-38.61		
3465.00	Horizontal	-45.21		
5197.50	H	-44.19		
6930.00	H	-39.23		
Highest Channel				
3505.00	Vertical	-48.89	-13.00	Pass
5257.50	V	-44.73		
7010.00	V	-38.69		
3505.00	Horizontal	-45.73		
5257.50	H	-44.34		
7010.00	H	-39.15		
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	-48.83	-13.00	Pass
5145.00	V	-44.72		
6860.00	V	-38.64		
3430.00	Horizontal	-45.19		
5145.00	H	-44.83		
6860.00	H	-39.27		
Middle Channel				
3465.00	Vertical	-39.89	-13.00	Pass
5197.50	V	-44.17		
6930.00	V	-38.61		
3465.00	Horizontal	-45.18		
5197.50	H	-44.82		
6930.00	H	-39.74		
Highest Channel				
3500.00	Vertical	-48.52	-13.00	Pass
5250.00	V	-44.93		
7000.00	V	-38.24		
3500.00	Horizontal	-45.39		
5250.00	H	-45.72		
7000.00	H	-39.81		
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	-48.51	-13.00	Pass
5152.50	V	-44.89		
6870.00	V	-38.29		
3435.00	Horizontal	-45.71		
5152.50	H	-44.28		
6870.00	H	-39.54		
Middle Channel				
3465.00	Vertical	-48.89	-13.00	Pass
5197.50	V	-44.26		
6930.00	V	-38.16		
3465.00	Horizontal	-45.72		
5197.50	H	-44.54		
6930.00	H	-39.71		
Highest Channel				
3495.00	Vertical	-48.25	-13.00	Pass
5242.50	V	-44.34		
6990.00	V	-38.16		
3495.00	Horizontal	-45.78		
5242.50	H	-44.18		
6990.00	H	-39.66		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

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	-48.85	-13.00	Pass
5160.00	V	-44.73		
6880.00	V	-38.26		
3440.00	Horizontal	-45.78		
5160.00	H	-44.18		
6880.00	H	-39.89		
Middle Channel				
3465.00	Vertical	-39.41	-13.00	Pass
5197.50	V	-44.81		
6930.00	V	-38.26		
3465.00	Horizontal	-45.89		
5197.50	H	-44.18		
6930.00	H	-39.85		
Highest Channel				
3490.00	Vertical	-48.71	-13.00	Pass
5235.00	V	-44.29		
6980.00	V	-38.61		
3490.00	Horizontal	-45.83		
5235.00	H	-45.97		
6980.00	H	-39.17		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 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	-46.75	-13.00	Pass
2474.10	V	-55.58		
3298.80	V	-50.03		
1649.40	Horizontal	-50.05		
2474.10	H	-56.08		
3298.80	H	-51.08		
Middle Channel				
1673.00	Vertical	-46.18	-13.00	Pass
2509.50	V	-55.83		
3346.00	V	-50.29		
1673.00	Horizontal	-50.71		
2509.50	H	-56.18		
3346.00	H	-51.92		
Highest Channel				
1696.60	Vertical	-46.23	-13.00	Pass
2544.90	V	-55.18		
3393.20	V	-50.63		
1696.60	Horizontal	-50.44		
2544.90	H	-56.17		
3393.20	H	-51.39		
Note: 1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report. 2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 5, WB: 3MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1651.00	Vertical	-46.15	-13.00	Pass
2476.50	V	-55.83		
3302.00	V	-50.47		
1651.00	Horizontal	-50.19		
2476.50	H	-56.92		
3302.00	H	-51.34		
Middle Channel				
1673.00	Vertical	-46.83	-13.00	Pass
2509.50	V	-55.61		
3346.00	V	-50.71		
1673.00	Horizontal	-50.31		
2509.50	H	-56.19		
3346.00	H	-51.52		
Highest Channel				
1695.00	Vertical	-46.27	-13.00	Pass
2542.50	V	-55.26		
3390.00	V	-50.31		
1695.00	Horizontal	-50.19		
2542.50	H	-56.93		
3390.00	H	-51.41		
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	-46.97	-13.00	Pass
2479.50	V	-55.18		
3306.00	V	-50.29		
1653.00	Horizontal	-50.61		
2479.50	H	-56.71		
3306.00	H	-51.13		
Middle Channel				
1673.00	Vertical	-46.39	-13.00	Pass
2509.50	V	-55.83		
3346.00	V	-50.47		
1673.00	Horizontal	-50.39		
2509.50	H	-56.12		
3346.00	H	-51.48		
Highest Channel				
1693.00	Vertical	-46.83	-13.00	Pass
2539.50	V	-55.97		
3386.00	V	-50.16		
1693.00	Horizontal	-50.25		
2539.50	H	-56.73		
3386.00	H	-51.64		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 5, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1658.00	Vertical	-46.92	-13.00	Pass
2487.00	V	-55.71		
3316.00	V	-50.29		
1658.00	Horizontal	-50.61		
2487.00	H	-56.71		
3316.00	H	-51.15		
Middle Channel				
1673.00	Vertical	-46.19	-13.00	Pass
2509.50	V	-55.83		
3346.00	V	-50.29		
1673.00	Horizontal	-50.69		
2509.50	H	-56.71		
3346.00	H	-51.15		
Highest Channel				
1688.00	Vertical	-46.89	-13.00	Pass
2532.00	V	-55.83		
3376.00	V	-50.79		
1688.00	Horizontal	-50.21		
2532.00	H	-56.73		
3376.00	H	-51.55		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

LTE Band 13 part:

LTE Band 13, WB: 5MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest Channel				
1559.00	Vertical	-59.29	-13.00	Pass
2338.50	V	-55.17		
3118.00	V	-51.70		
1559.00	Horizontal	-58.58		
2338.50	H	-56.05		
3118.00	H	-50.69		
Middle Channel				
1564.00	Vertical	-59.13	-13.00	Pass
2346.00	V	-55.86		
3128.00	V	-51.73		
1564.00	Horizontal	-58.29		
2346.00	H	-56.71		
3128.00	H	-50.25		
Highest Channel				
1569.00	Vertical	-59.63	-13.00	Pass
2353.50	V	-55.73		
3138.00	V	-51.29		
1569.00	Horizontal	-58.61		
2353.50	H	-56.49		
3138.00	H	-50.12		
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 13, WB: 10MHz				
RB size 1 & RB offset 0				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Middle Channel				
1564.00	Vertical	-59.43	-13.00	Pass
2346.00	V	-55.18		
3128.00	V	-51.58		
1564.00	Horizontal	-58.71		
2346.00	H	-56.23		
3128.00	H	-50.69		
Note:				
1. The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.				
2. For above 1 GHz, all test modes were performed, and just the worst case shown in the report.				

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					
3.80	-30	200	0.106383	±2.5	Pass
	-20	157	0.083511		
	-10	165	0.087766		
	0	125	0.066489		
	10	190	0.101064		
	20	176	0.093617		
	30	116	0.061702		
	40	107	0.056915		
	50	152	0.080851		
16QAM					
3.80	-30	125	0.066489	±2.5	Pass
	-20	152	0.080851		
	-10	168	0.089362		
	0	124	0.065957		
	10	146	0.077660		
	20	142	0.075532		
	30	158	0.084043		
	40	135	0.071809		
	50	140	0.074468		
Note: Only the worst case shown in the report.					

LTE Band 4 part:

Reference Frequency: LTE Band 4 (10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	196	0.113131	±2.5	Pass
	-20	153	0.088312		
	-10	161	0.092929		
	0	121	0.069841		
	10	186	0.107359		
	20	172	0.099278		
	30	112	0.064646		
	40	103	0.059452		
	50	148	0.085426		
16QAM					
3.80	-30	121	0.069841	±2.5	Pass
	-20	148	0.085426		
	-10	164	0.094661		
	0	120	0.069264		
	10	142	0.081962		
	20	138	0.079654		
	30	154	0.088889		
	40	131	0.075613		
	50	136	0.078499		
Note: Only the worst case shown in the report.					

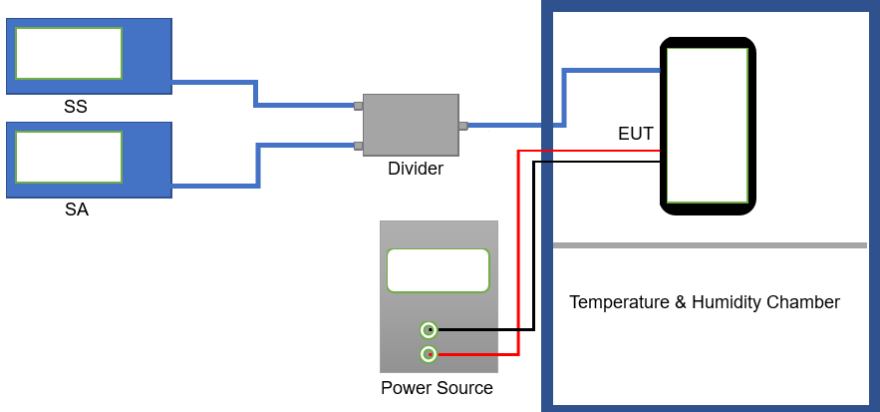
LTE Band 5 part:

Reference Frequency: LTE Band 5 (10MHz) Middle channel=20525 channel=836.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.80	-30	197	0.235505	±2.5	Pass
	-20	154	0.184100		
	-10	162	0.193664		
	0	122	0.145846		
	10	187	0.223551		
	20	173	0.206814		
	30	113	0.135087		
	40	104	0.124328		
	50	149	0.178123		
16QAM					
3.80	-30	122	0.145846	±2.5	Pass
	-20	149	0.178123		
	-10	165	0.197250		
	0	121	0.144650		
	10	143	0.170950		
	20	139	0.166169		
	30	155	0.185296		
	40	132	0.157800		
	50	137	0.163778		
Note: Only the worst case shown in the report.					

LTE Band 13 part:

Reference Frequency: LTE Band 13 (10MHz) Middle channel=23230 channel=782.00MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
3.85	-30	193	0.2468031	±2.5	Pass
	-20	150	0.1918159		
	-10	158	0.2020460		
	0	118	0.1508951		
	10	183	0.2340153		
	20	169	0.2161125		
	30	109	0.1393862		
	40	100	0.1278772		
	50	145	0.1854220		
16QAM					
3.85	-30	118	0.1508951	±2.5	Pass
	-20	145	0.1854220		
	-10	161	0.2058824		
	0	117	0.1496164		
	10	139	0.1777494		
	20	135	0.1726343		
	30	151	0.1930946		
	40	128	0.1636829		
	50	133	0.1700767		
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:	$\pm 2.5\text{ppm}$
Test setup:	 The diagram illustrates the test setup. A Signal Source (SS) and a Spectrum Analyzer (SA) are connected to a Divider. The 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	4.35	100	0.053191	±2.5	Pass
	3.80	67	0.035638		
	3.50	76	0.040426		
16QAM					
25	4.35	82	0.043617	±2.5	Pass
	3.80	98	0.052128		
	3.50	50	0.026596		
Note: Only the worst case shown in the report.					

LTE Band 4 part:

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	96	0.055411	±2.5	Pass
	3.80	63	0.036364		
	3.50	72	0.041558		
16QAM					
25	4.35	78	0.045022	±2.5	Pass
	3.80	94	0.054257		
	3.50	46	0.026551		
Note: Only the worst case shown in the report.					

LTE Band 5 part:

Reference Frequency: LTE Band 5(10MHz) Middle channel=20525 channel=836.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.35	97	0.115959	±2.5	Pass
	3.80	64	0.076509		
	3.50	73	0.087268		
16QAM					
25	4.35	79	0.094441	±2.5	Pass
	3.80	95	0.113568		
	3.50	47	0.056186		
Note: Only the worst case shown in the report.					

LTE Band 13 part:

Reference Frequency: LTE Band 13(10MHz) Middle channel=23230 Frequency=782.00MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
QPSK					
25	4.40	96	0.1227621	±2.5	Pass
	3.85	63	0.0805627		
	3.50	72	0.0920716		
16QAM					
25	4.40	78	0.0997442	±2.5	Pass
	3.85	94	0.1202046		
	3.50	46	0.0588235		
Note: Only the worst case shown in the report.					