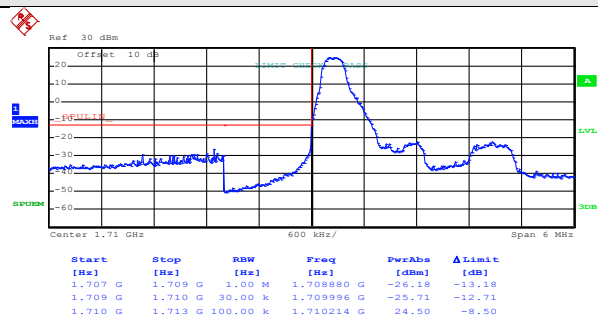


### Band edge emission:

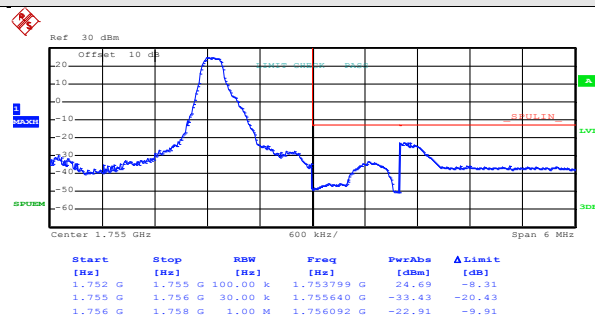
### LTE band 4 part:1.4MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)
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Date: 13.NOV.2016 21:49:08

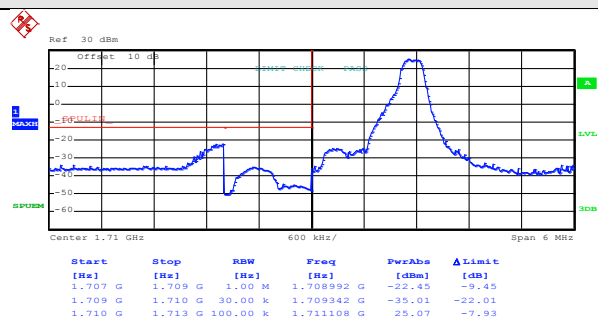
Lowest channel



Date: 13.NOV.2016 21:55:31

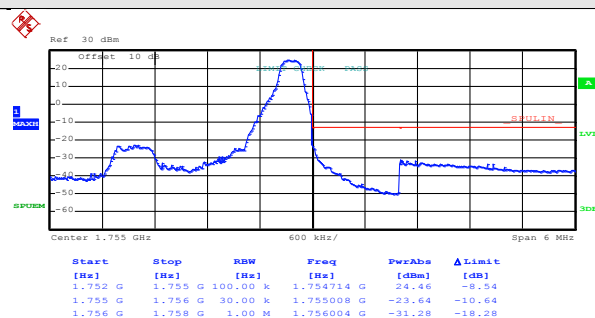
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 5)
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Date: 13.NOV.2016 21:51:24

Lowest channel

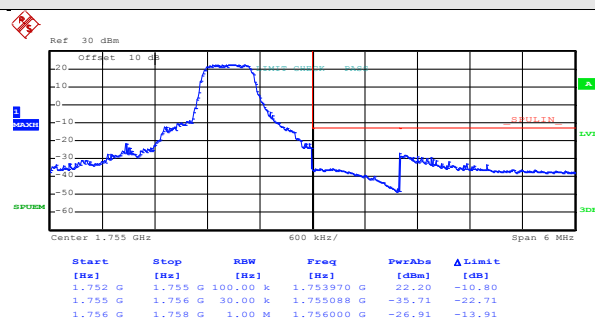
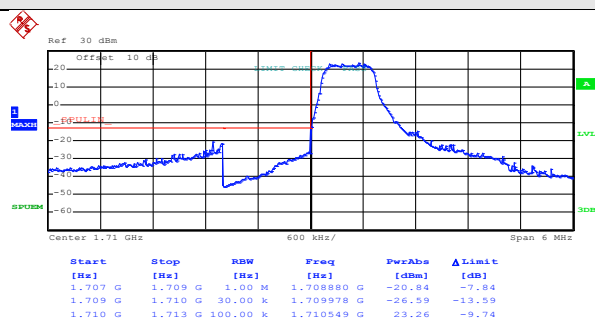


Date: 13.NOV.2016 21:56:08

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 3 & RB Offset 0)



Date: 13.NOV.2016 21:50:21

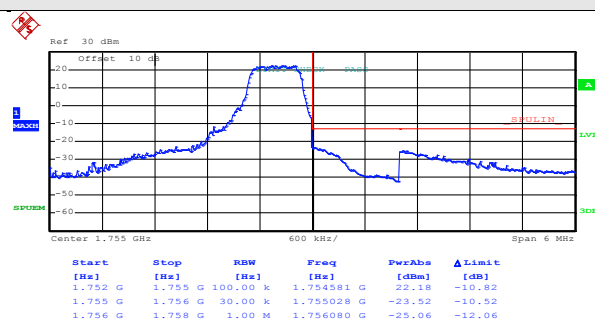
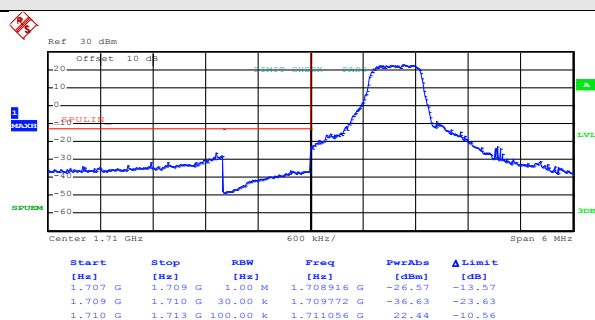
Date: 13.NOV.2016 21:56:41

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 3 & RB Offset 2)



Date: 13.NOV.2016 21:52:30

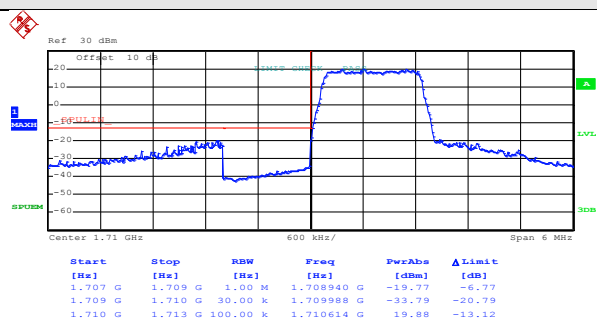
Date: 13.NOV.2016 21:57:13

Lowest channel

Highest channel

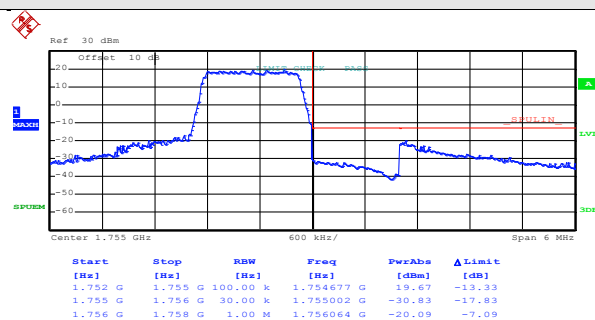
Test Mode:

LTE band 4(QPSK RB Size 6 & RB Offset 0)



Date: 13.NOV.2016 21:53:24

Lowest channel

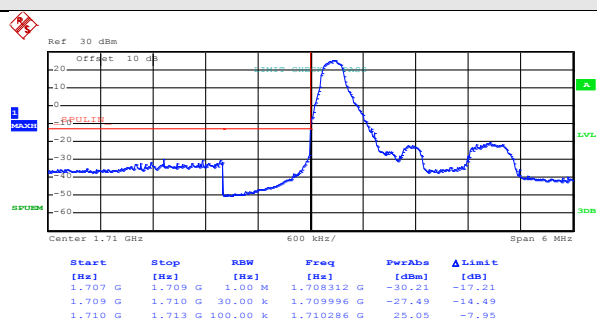


Date: 13.NOV.2016 21:57:43

Highest channel

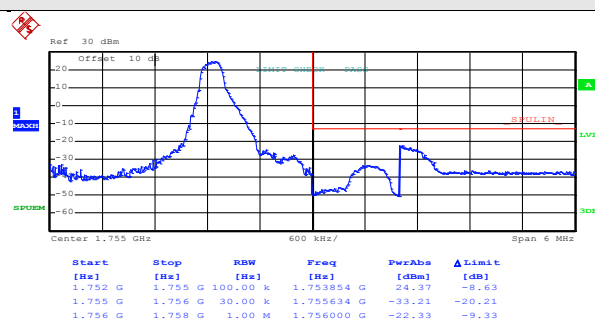
Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 13.NOV.2016 21:49:56

Lowest channel

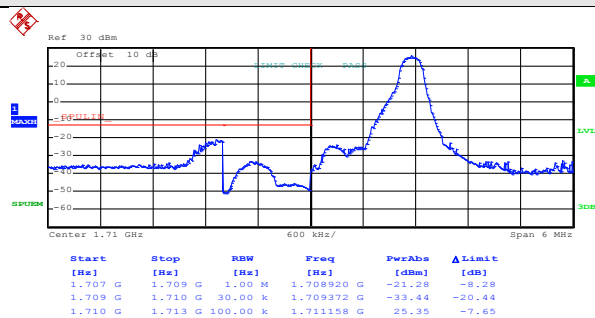


Date: 13.NOV.2016 21:55:47

Highest channel

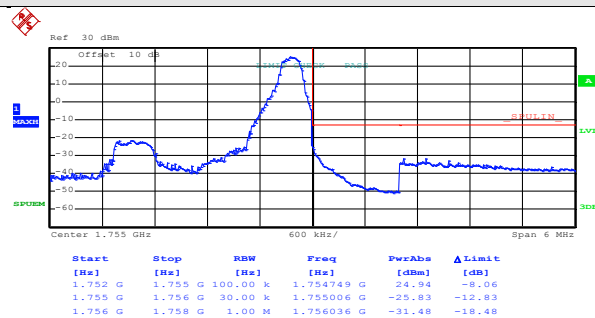
Test Mode:

LTE band 4(16QAM RB Size 1 &amp; RB Offset 5)



Date: 13.NOV.2016 21:51:57

Lowest channel

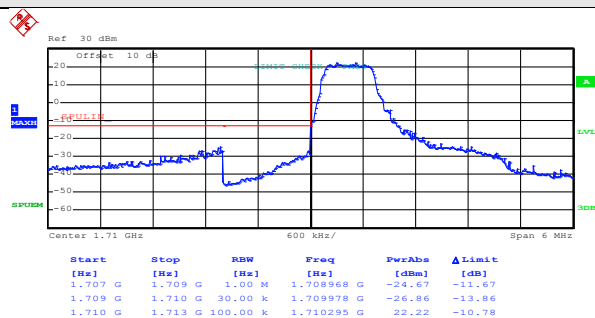


Date: 13.NOV.2016 21:56:22

Highest channel

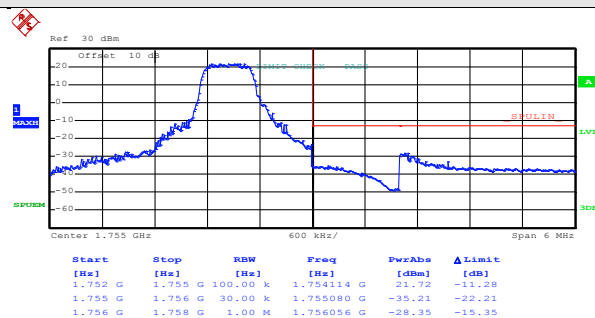
Test Mode:

LTE band 4(16QAM RB Size 3 &amp; RB Offset 0)



Date: 13.NOV.2016 21:50:43

Lowest channel

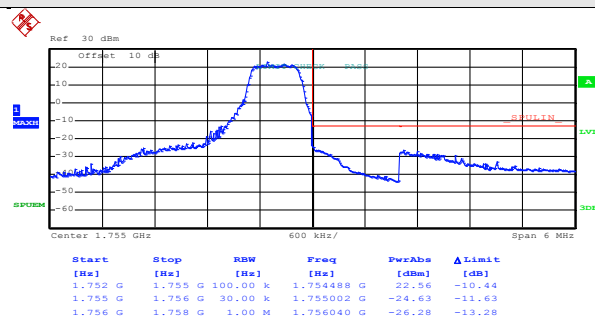
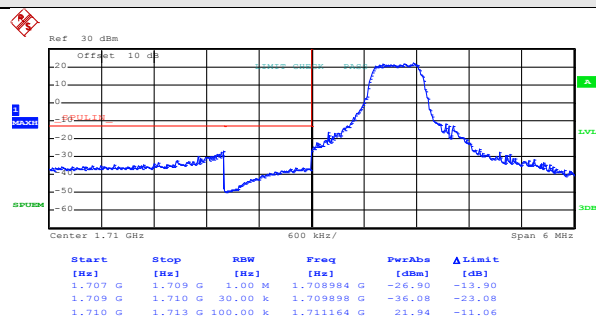


Date: 13.NOV.2016 21:56:54

Highest channel

Test Mode:

LTE band 4(16QAM RB Size 3 &amp; RB Offset 2)



Date: 13.NOV.2016 21:52:52

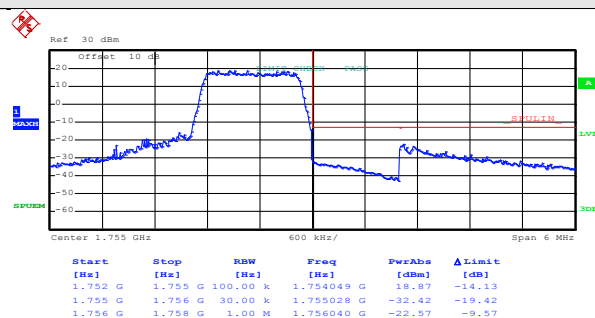
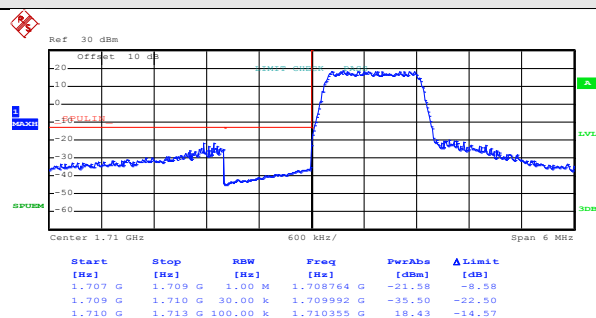
Date: 13.NOV.2016 21:57:27

Lowest channel

Highest channel

Test Mode:

LTE band 4(16QAM RB Size 6 &amp; RB Offset 0)



Date: 13.NOV.2016 21:53:35

Date: 13.NOV.2016 21:57:54

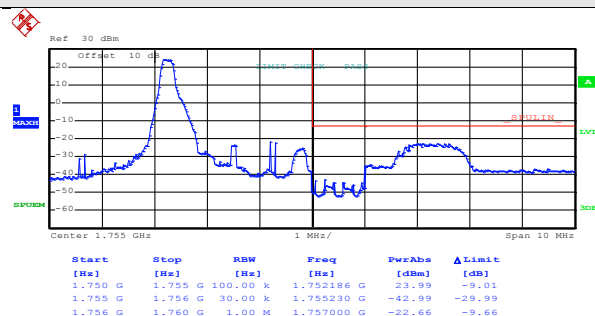
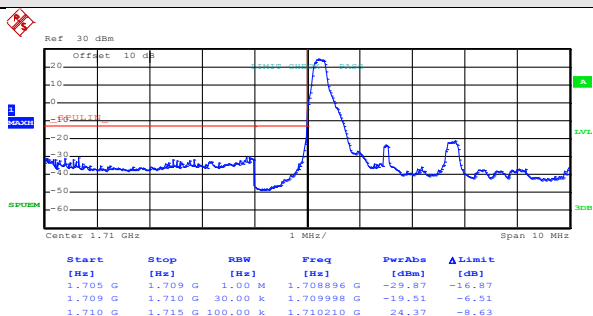
Lowest channel

Highest channel

3MHz:

Test Mode:

LTE band 4(QPSK RB Size 1 & RB Offset 0)



Date: 13.NOV.2016 21:59:30

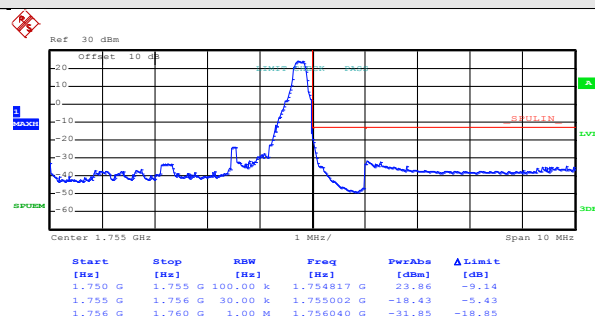
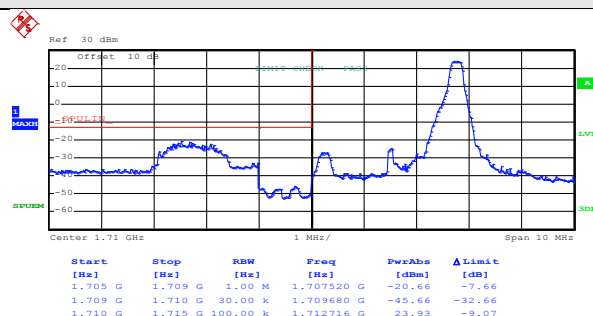
Date: 13.NOV.2016 22:03:08

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 1 & RB Offset 14)



Date: 13.NOV.2016 22:00:09

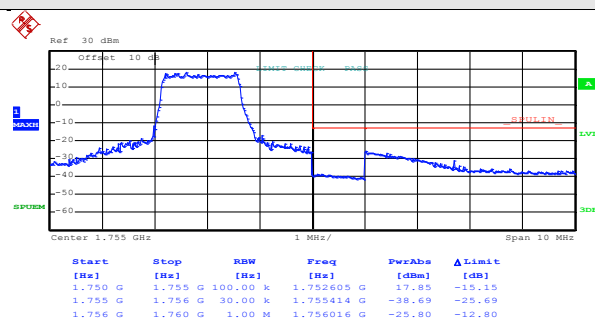
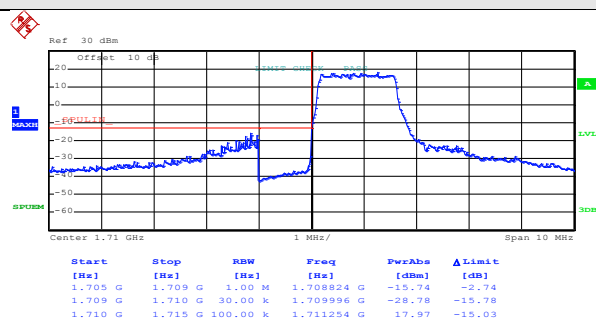
Date: 13.NOV.2016 22:03:45

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 8 & RB Offset 0)



Date: 13.NOV.2016 22:00:50

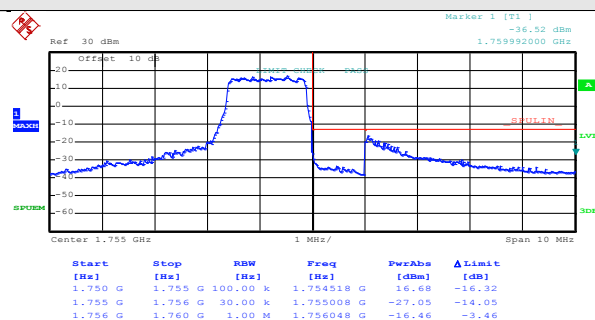
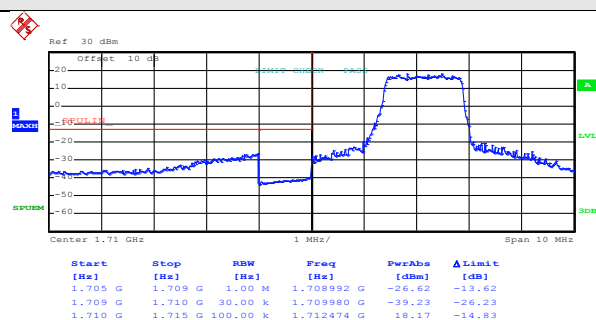
Date: 13.NOV.2016 22:04:15

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 8 & RB Offset 7)



Date: 13.NOV.2016 22:01:31

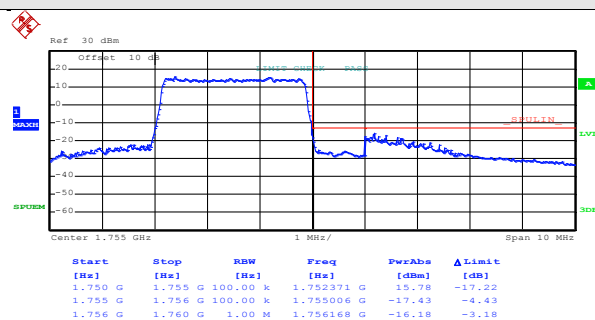
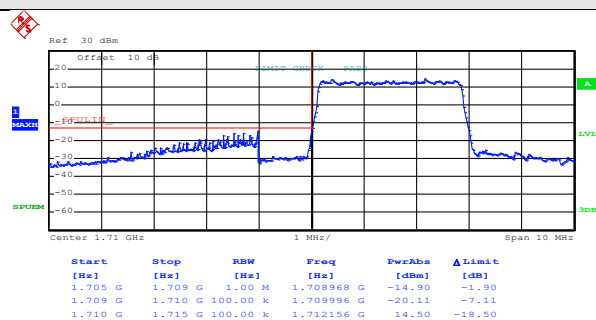
Date: 14.NOV.2016 00:04:55

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 15 & RB Offset 0)



Date: 13.NOV.2016 22:48:31

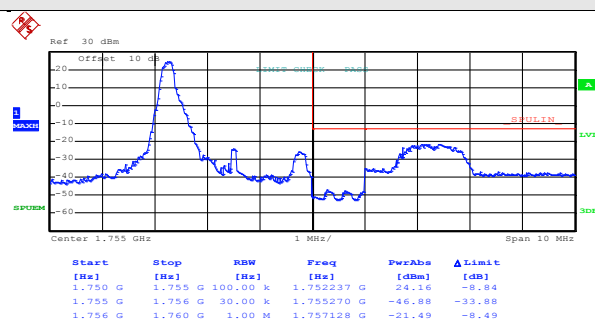
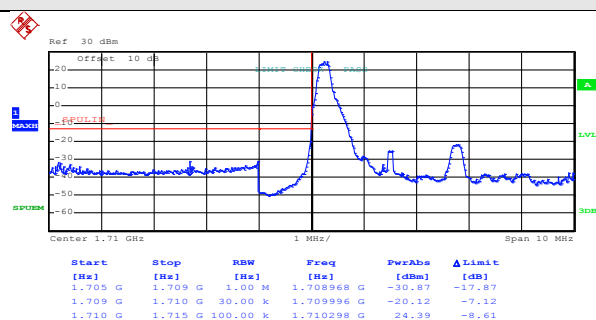
Date: 13.NOV.2016 22:05:57

Lowest channel

Highest channel

Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 13.NOV.2016 21:59:44

Date: 13.NOV.2016 22:03:27

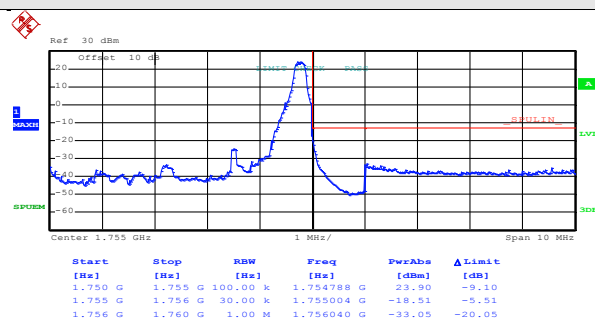
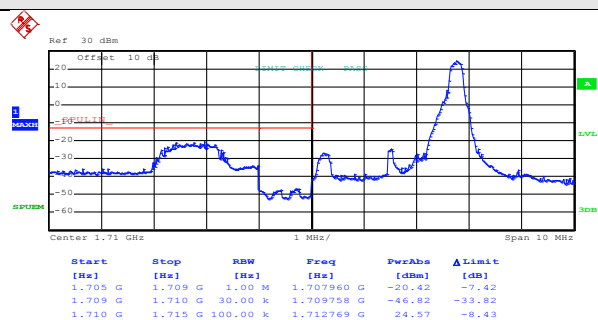
Lowest channel

Highest channel



Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 14)



Date: 13.NOV.2016 22:00:24

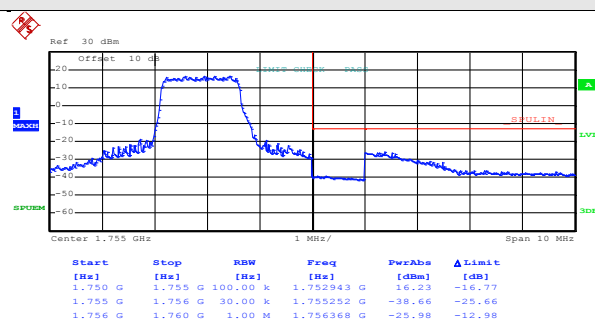
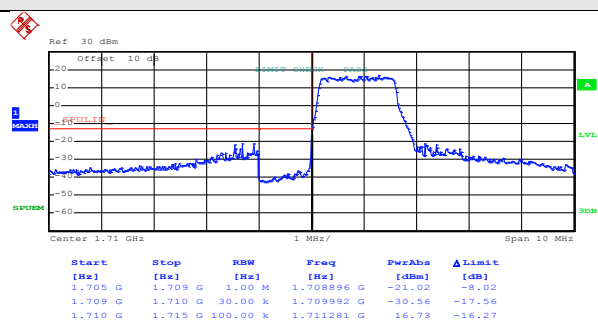
Date: 13.NOV.2016 22:03:58

Lowest channel

Highest channel

Test Mode:

LTE band 4(16QAM RB Size 8 & RB Offset 0)



Date: 13.NOV.2016 22:01:09

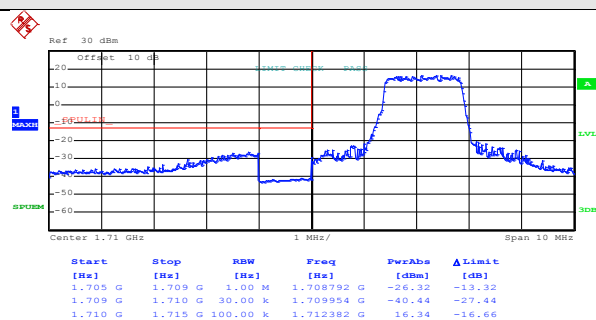
Date: 13.NOV.2016 22:04:27

Lowest channel

Highest channel

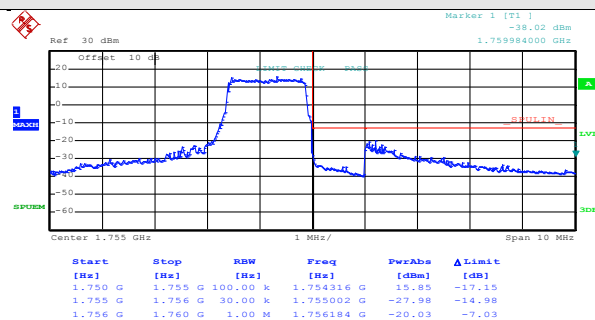
Test Mode:

LTE band 4(16QAM RB Size 8 &amp; RB Offset 7)



Date: 13.NOV.2016 22:01:49

Lowest channel

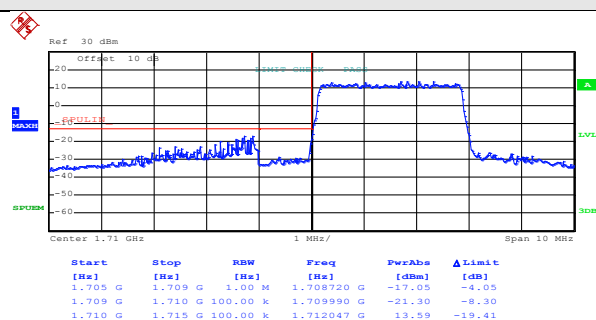


Date: 14.NOV.2016 00:05:18

Highest channel

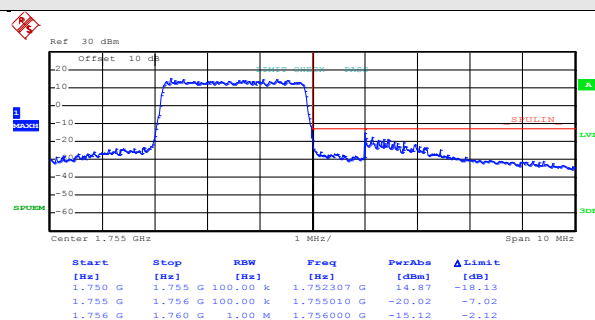
Test Mode:

LTE band 4(16QAM RB Size 15 &amp; RB Offset 0)



Date: 13.NOV.2016 22:48:50

Lowest channel

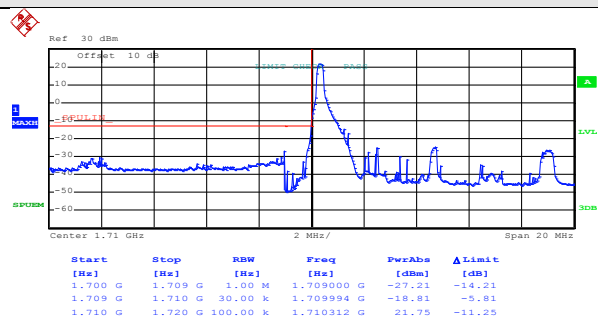


Date: 13.NOV.2016 22:06:13

Highest channel

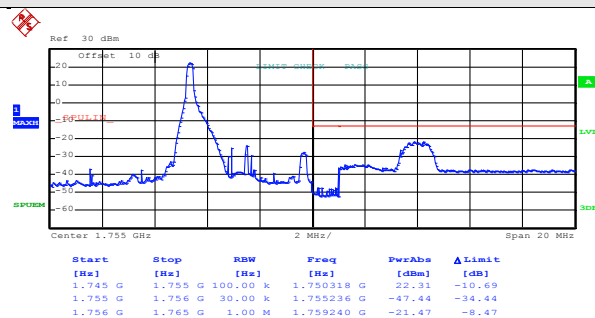
5MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)
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Date: 13.NOV.2016 22:08:25

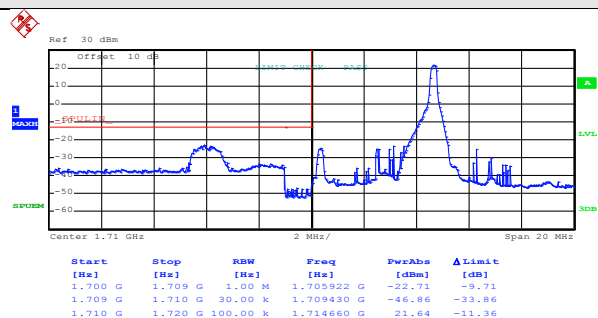
Lowest channel



Date: 13.NOV.2016 22:13:28

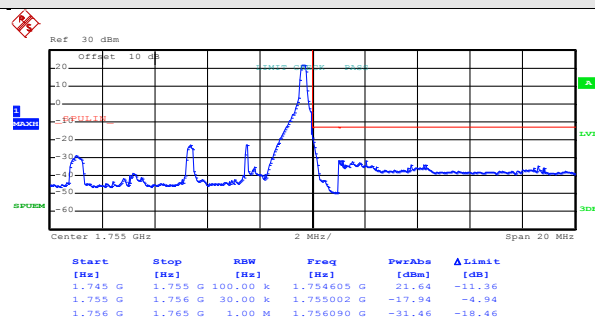
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 24)
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Date: 13.NOV.2016 22:09:54

Lowest channel

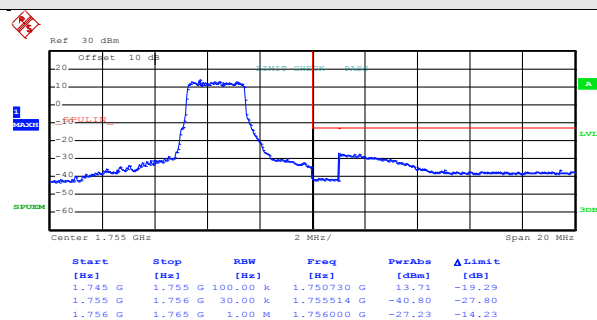
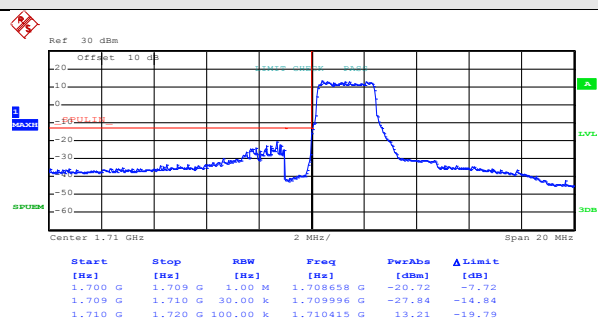


Date: 13.NOV.2016 22:14:01

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 12 & RB Offset 0)



Date: 13.NOV.2016 22:10:31

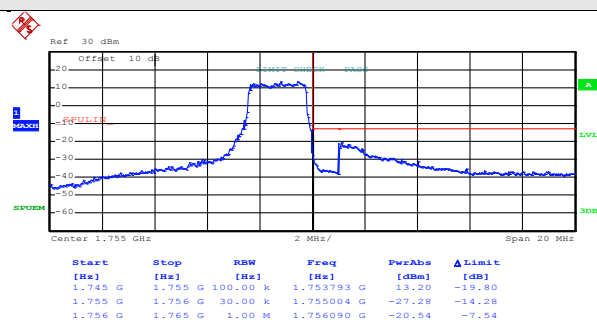
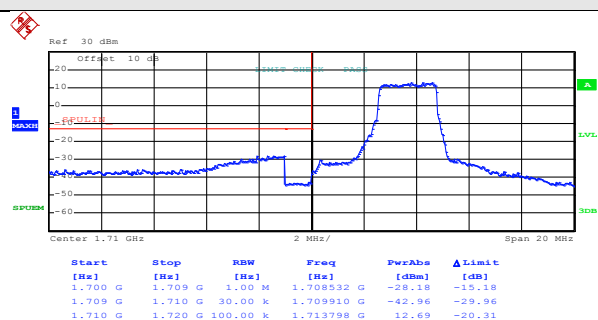
Date: 13.NOV.2016 22:14:40

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 12 & RB Offset 11)



Date: 13.NOV.2016 22:11:08

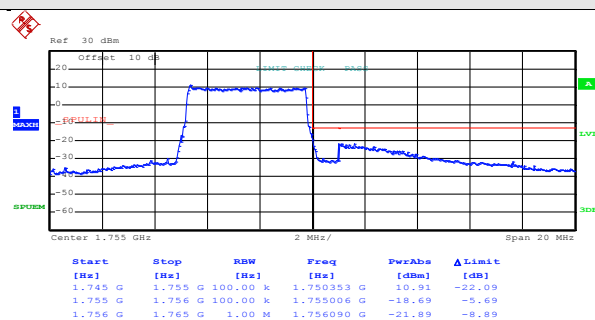
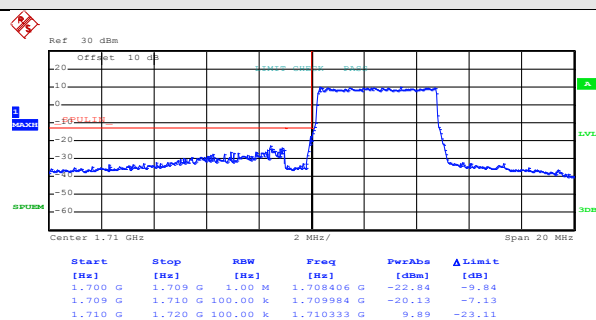
Date: 13.NOV.2016 22:15:14

Lowest channel

Highest channel

Test Mode:

LTE band 4(QPSK RB Size 25 &amp; RB Offset 0)



Date: 13.NOV.2016 22:12:43

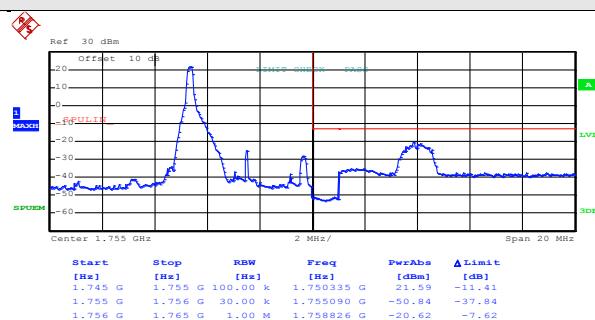
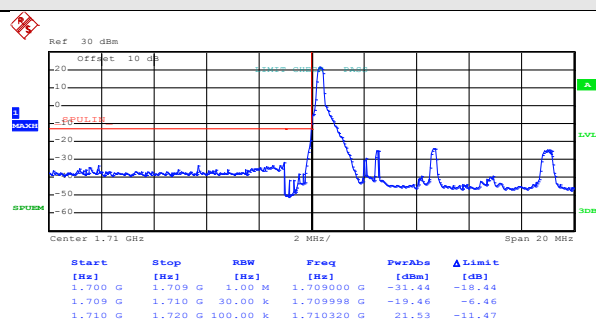
Date: 13.NOV.2016 22:16:03

Lowest channel

Highest channel

Test Mode:

LTE band 4(16QAM RB Size 1 &amp; RB Offset 0)



Date: 13.NOV.2016 22:09:36

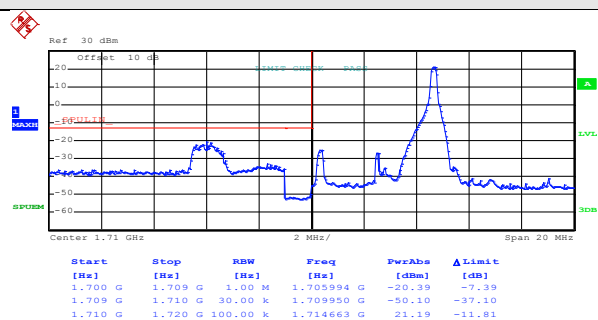
Date: 13.NOV.2016 22:13:40

Lowest channel

Highest channel

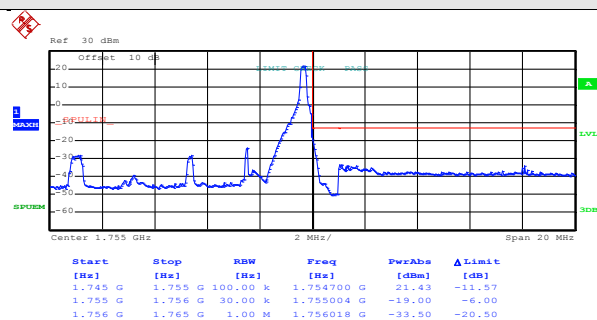
Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 24)



Date: 13.NOV.2016 22:10:08

Lowest channel

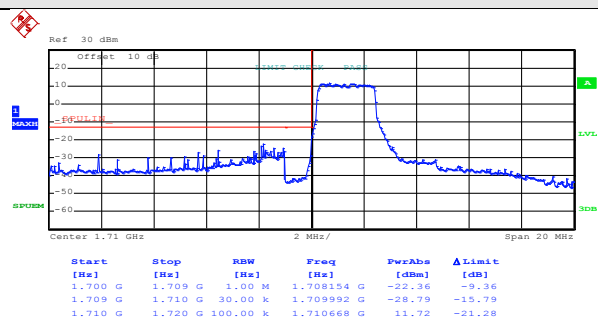


Date: 13.NOV.2016 22:14:14

Highest channel

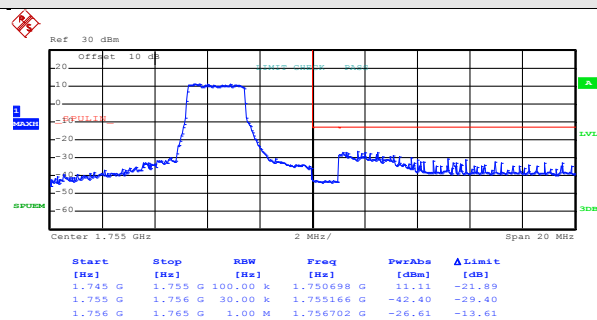
Test Mode:

LTE band 4(16QAM RB Size 12 & RB Offset 0)



Date: 13.NOV.2016 22:10:44

Lowest channel

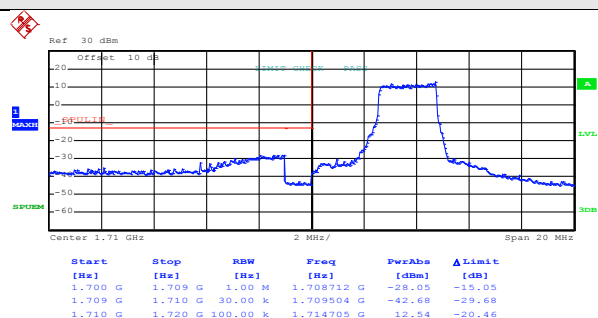


Date: 13.NOV.2016 22:14:53

Highest channel

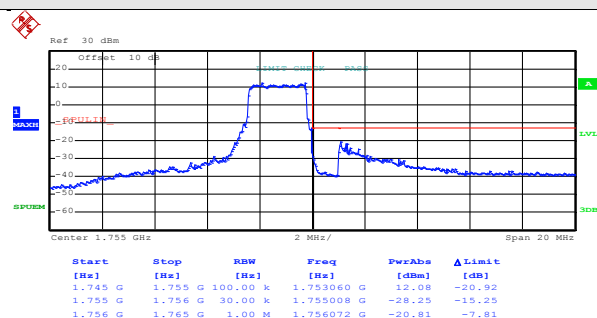
Test Mode:

LTE band 4(16QAM RB Size 12 & RB Offset 11)



Date: 13.NOV.2016 22:11:24

Lowest channel

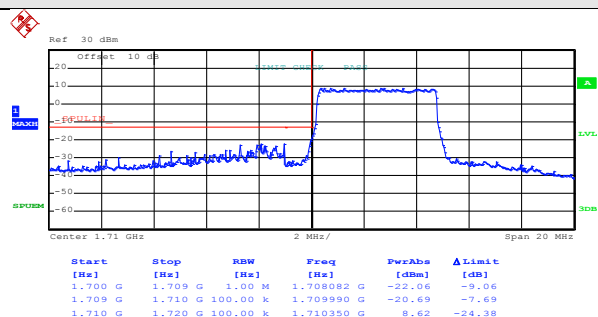


Date: 13.NOV.2016 22:15:28

Highest channel

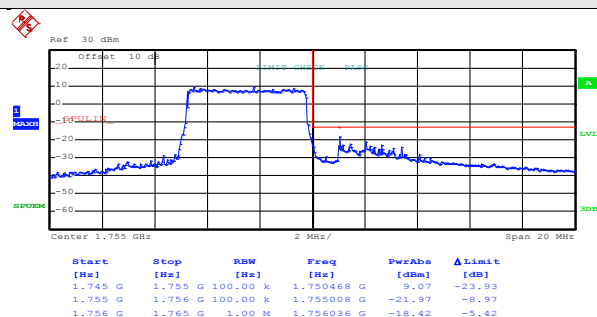
Test Mode:

LTE band 4(16QAM RB Size 25 & RB Offset 0)



Date: 13.NOV.2016 22:12:31

Lowest channel

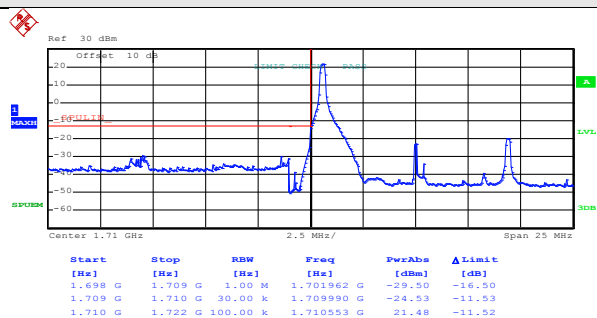


Date: 13.NOV.2016 22:16:13

Highest channel

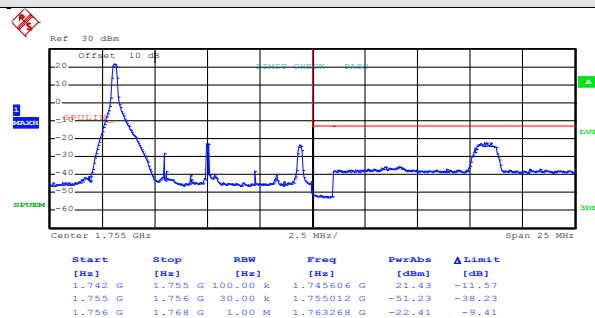
10MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)
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Date: 13.NOV.2016 22:17:37

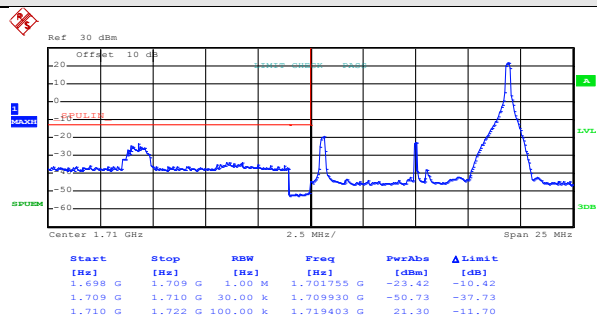
Lowest channel



Date: 13.NOV.2016 22:21:41

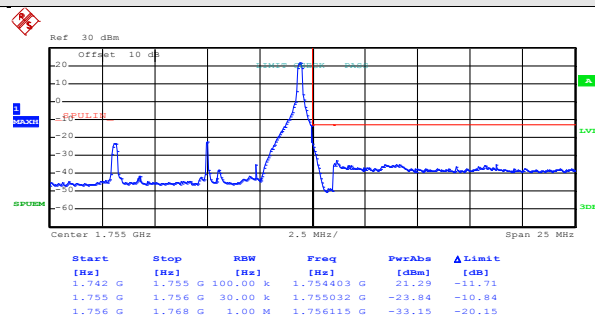
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 49)
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Date: 13.NOV.2016 22:18:20

Lowest channel



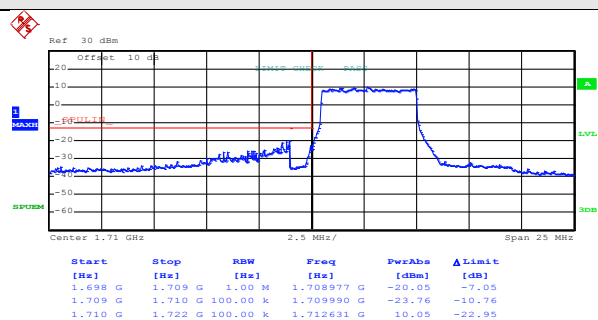
Date: 13.NOV.2016 22:22:11

Highest channel



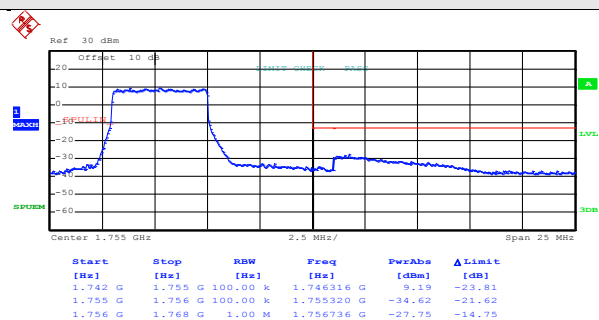
Test Mode:

LTE band 4(QPSK RB Size 25 &amp; RB Offset 0)



Date: 13.NOV.2016 22:19:22

Lowest channel

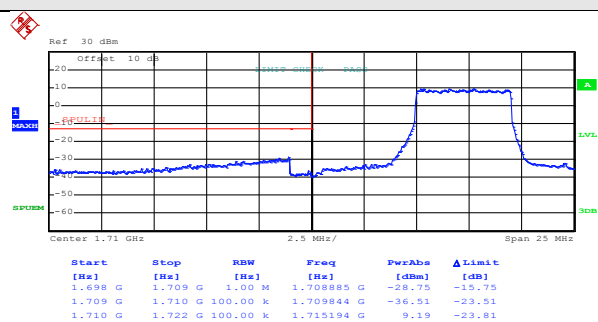


Date: 13.NOV.2016 22:23:04

Highest channel

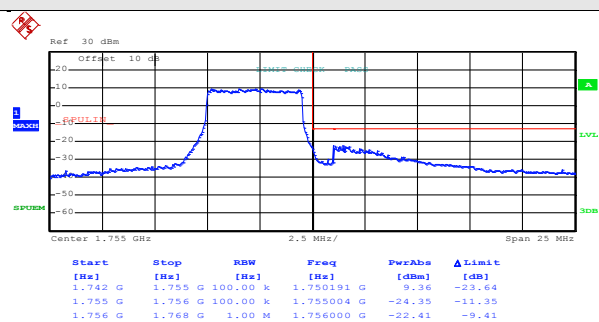
Test Mode:

LTE band 4(QPSK RB Size 25 &amp; RB Offset 24)



Date: 13.NOV.2016 22:20:03

Lowest channel

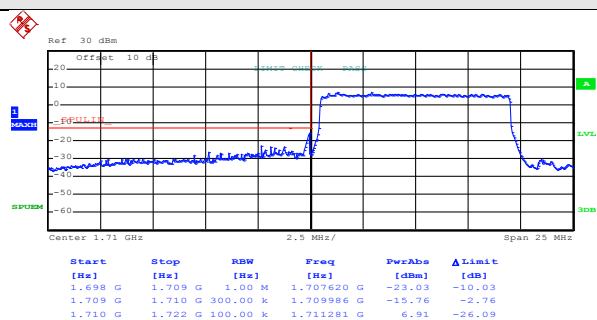


Date: 13.NOV.2016 22:23:44

Highest channel

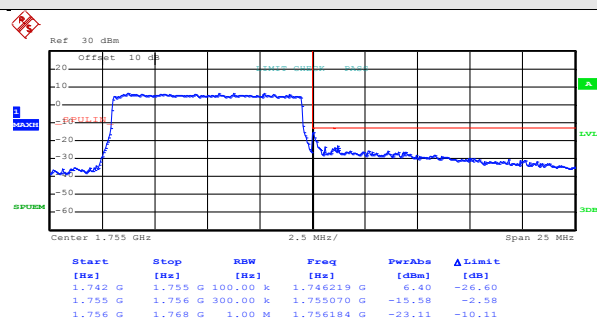
Test Mode:

LTE band 4(QPSK RB Size 50 & RB Offset 0)



Date: 13.NOV.2016 22:20:54

Lowest channel

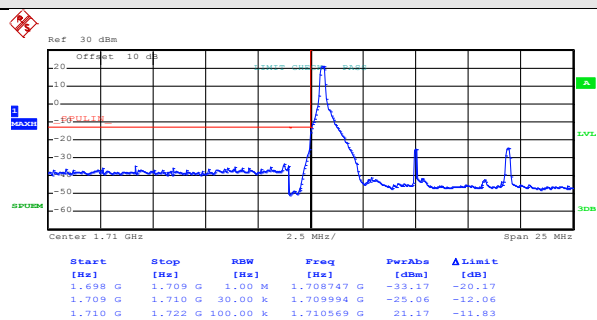


Date: 13.NOV.2016 22:24:22

Highest channel

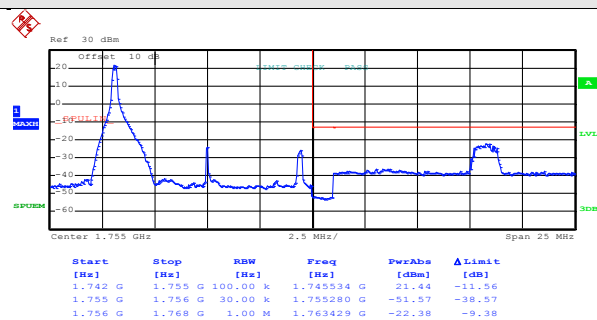
Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 0)



Date: 13.NOV.2016 22:18:02

Lowest channel

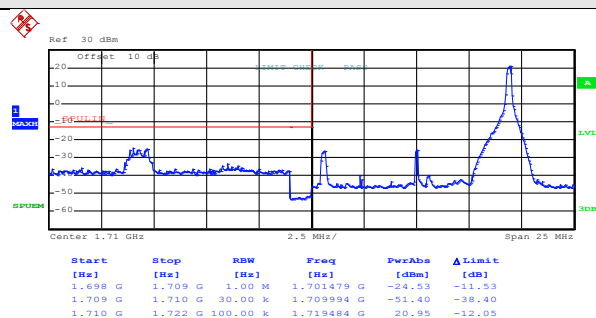


Date: 13.NOV.2016 22:21:54

Highest channel

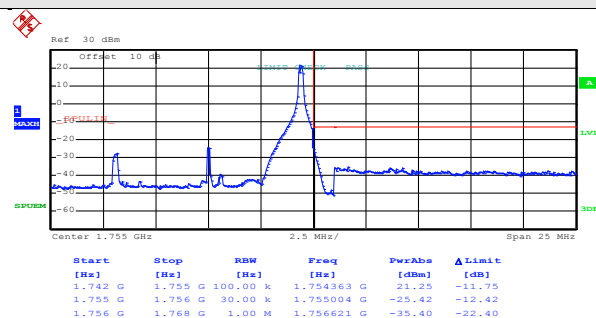
Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 49)



Date: 13.NOV.2016 22:18:32

Lowest channel

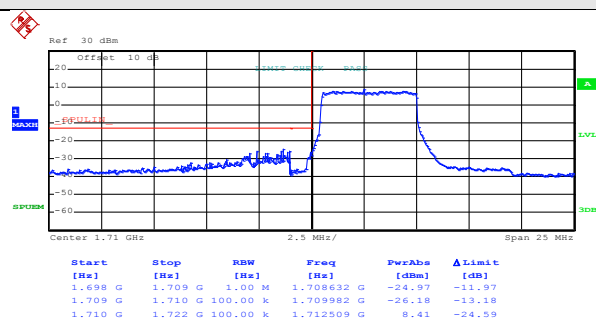


Date: 13.NOV.2016 22:22:23

Highest channel

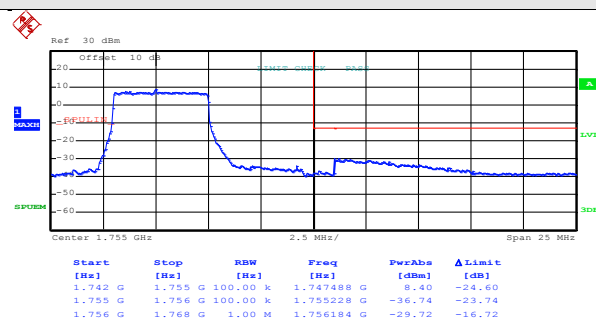
Test Mode:

LTE band 4(16QAM RB Size 25 & RB Offset 0)



Date: 13.NOV.2016 22:19:36

Lowest channel

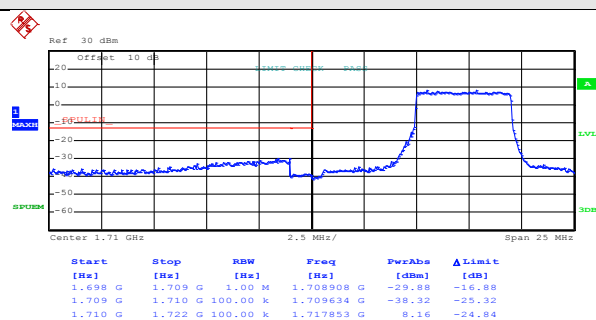


Date: 13.NOV.2016 22:23:14

Highest channel

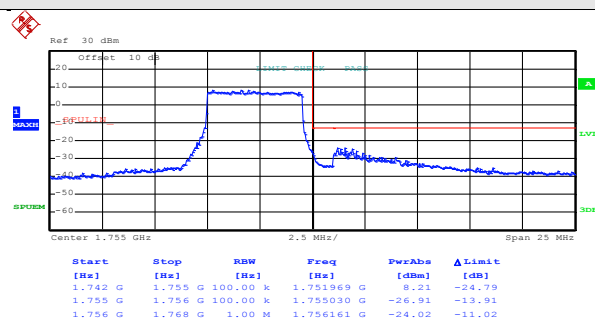
Test Mode:

LTE band 4(16QAM RB Size 25 &amp; RB Offset 24)



Date: 13.NOV.2016 22:20:15

Lowest channel

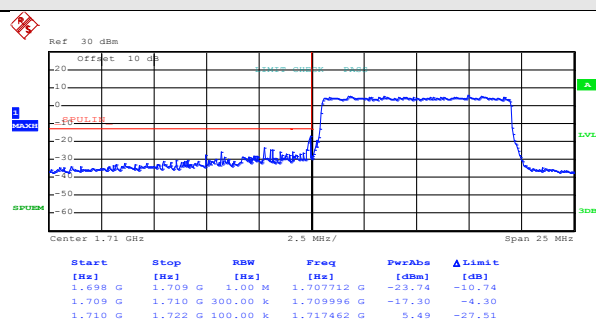


Date: 13.NOV.2016 22:23:56

Highest channel

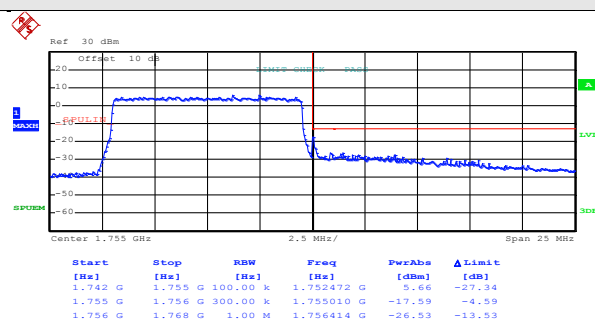
Test Mode:

LTE band 4(16QAM RB Size 50 &amp; RB Offset 0)



Date: 13.NOV.2016 22:21:05

Lowest channel

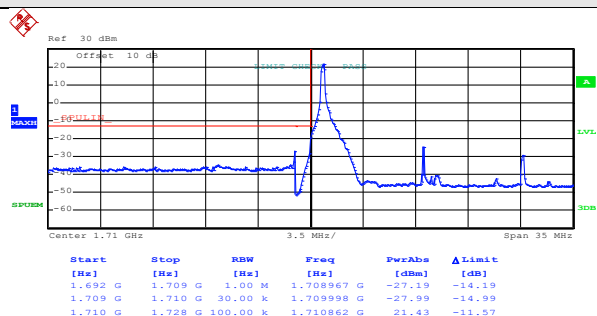


Date: 13.NOV.2016 22:24:34

Highest channel

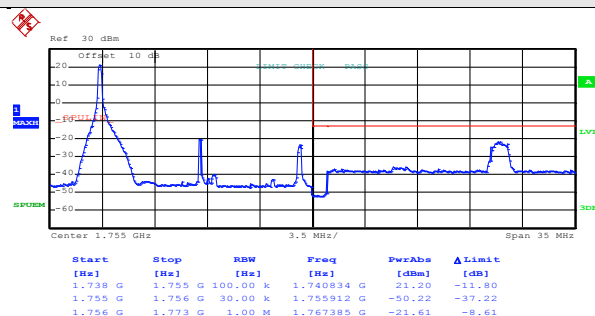
15MHz:

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 0)
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Date: 13.NOV.2016 22:25:48

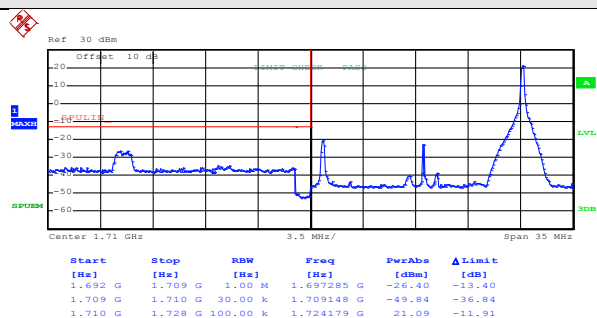
Lowest channel



Date: 13.NOV.2016 22:29:53

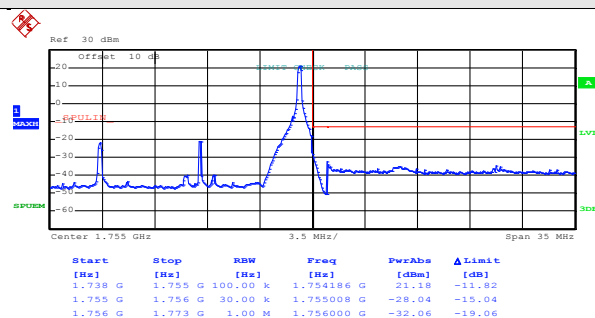
Highest channel

Test Mode:	LTE band 4(QPSK RB Size 1 & RB Offset 74)
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Date: 13.NOV.2016 22:26:39

Lowest channel

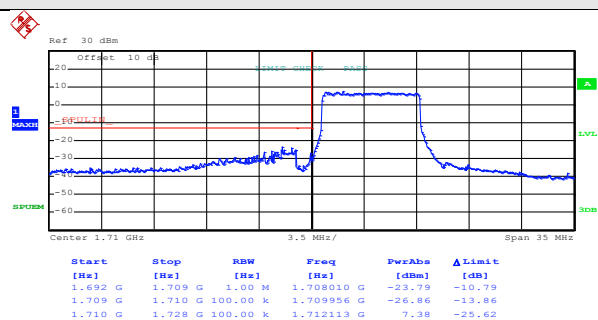


Date: 13.NOV.2016 22:30:23

Highest channel

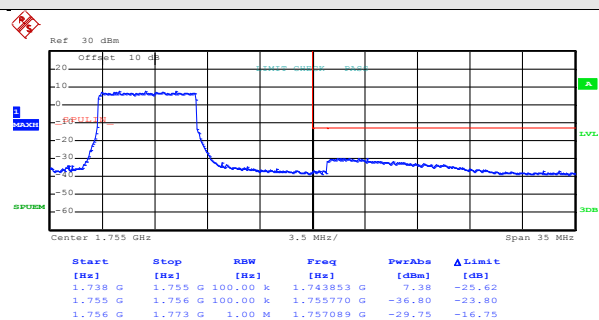
Test Mode:

LTE band 4(QPSK RB Size 36 &amp; RB Offset 0)



Date: 13.NOV.2016 22:27:34

Lowest channel

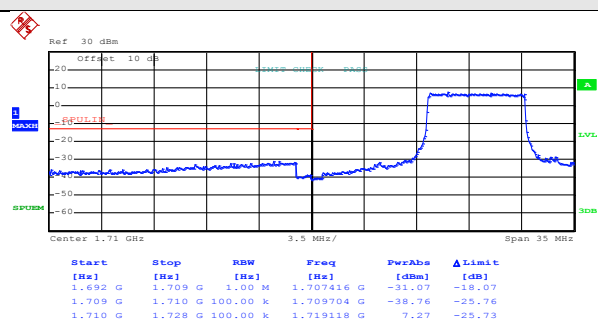


Date: 13.NOV.2016 22:31:11

Highest channel

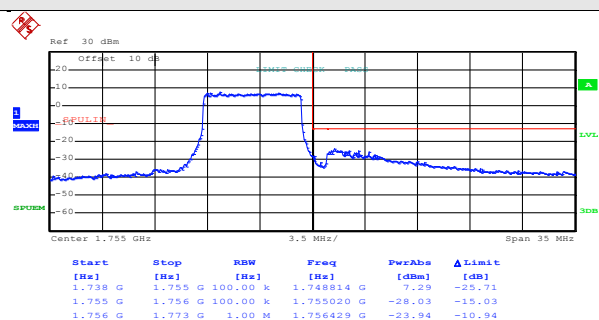
Test Mode:

LTE band 4(QPSK RB Size 36 &amp; RB Offset 37)



Date: 13.NOV.2016 22:28:07

Lowest channel

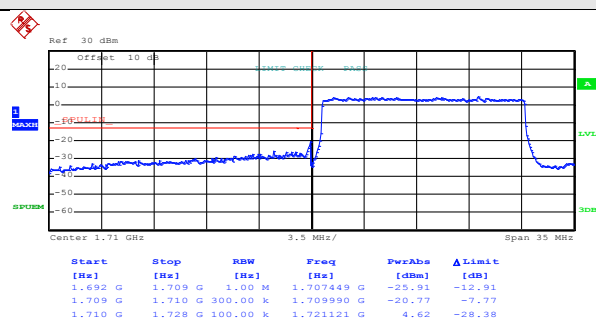


Date: 13.NOV.2016 22:31:42

Highest channel

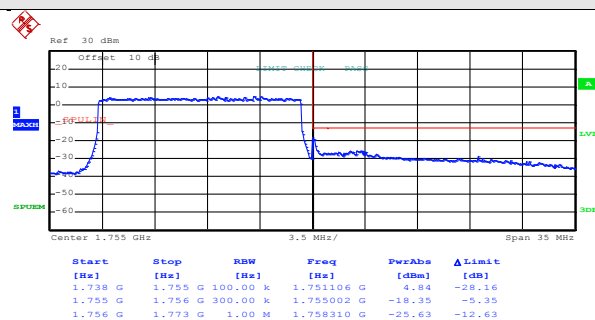
Test Mode:

LTE band 4(QPSK RB Size 75 &amp; RB Offset 0)



Date: 13.NOV.2016 22:29:05

Lowest channel

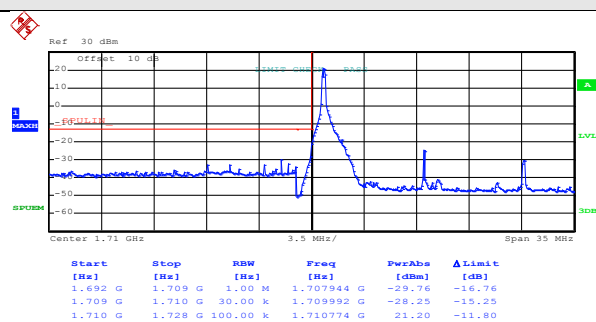


Date: 13.NOV.2016 22:32:48

Highest channel

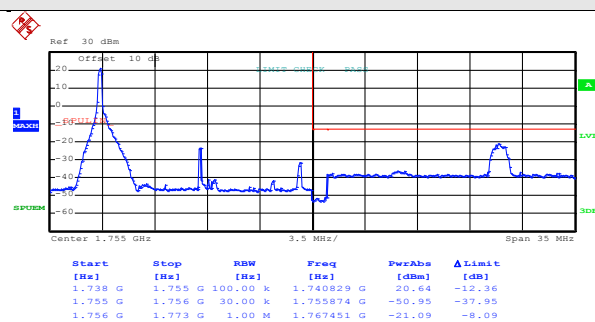
Test Mode:

LTE band 4(16QAM RB Size 1 &amp; RB Offset 0)



Date: 13.NOV.2016 22:26:14

Lowest channel

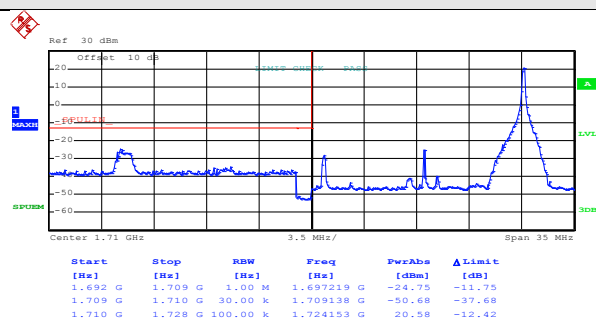


Date: 13.NOV.2016 22:30:06

Highest channel

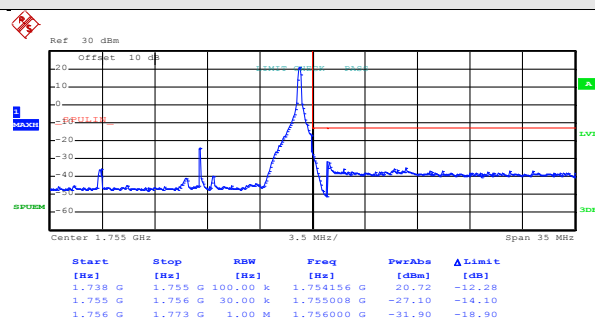
Test Mode:

LTE band 4(16QAM RB Size 1 & RB Offset 74)



Date: 13.NOV.2016 22:26:55

Lowest channel

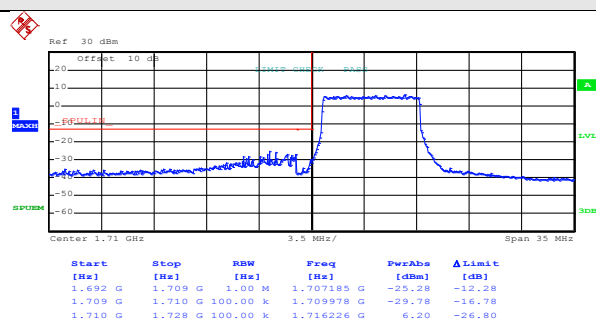


Date: 13.NOV.2016 22:30:37

Highest channel

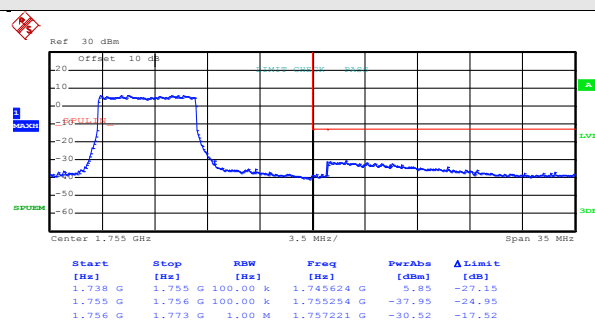
Test Mode:

LTE band 4(16QAM RB Size 36 & RB Offset 0)



Date: 13.NOV.2016 22:27:48

Lowest channel



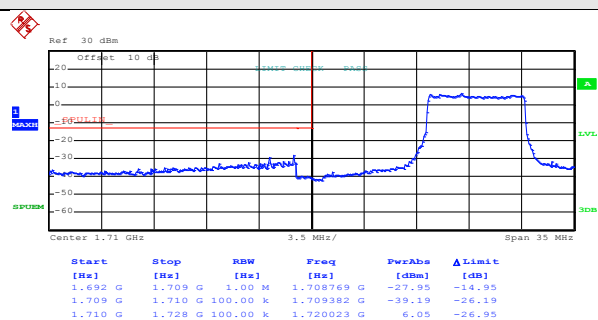
Date: 13.NOV.2016 22:31:23

Highest channel



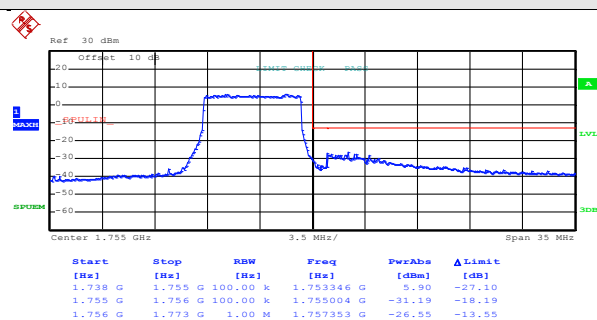
Test Mode:

LTE band 4(16QAM RB Size 36 & RB Offset 37)



Date: 13.NOV.2016 22:28:20

Lowest channel

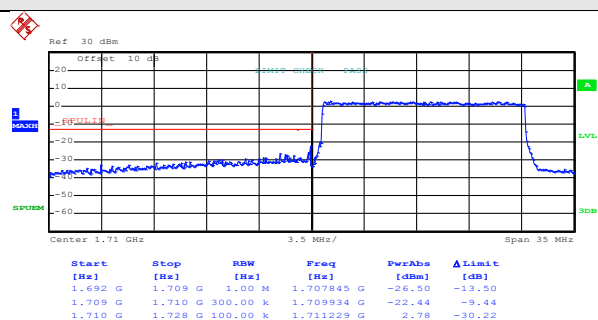


Date: 13.NOV.2016 22:31:56

Highest channel

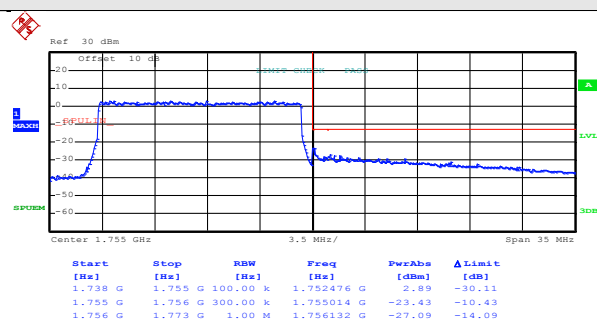
Test Mode:

LTE band 4(16QAM RB Size 75 & RB Offset 0)



Date: 13.NOV.2016 22:29:18

Lowest channel



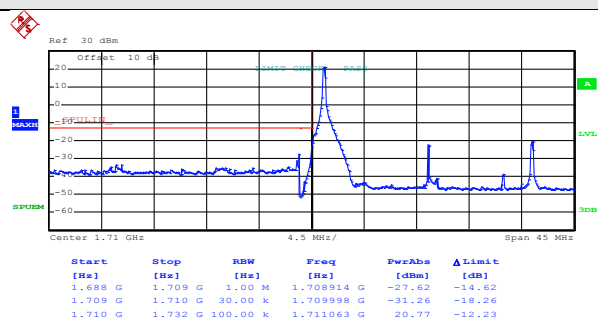
Date: 13.NOV.2016 22:32:59

Highest channel

20MHz:

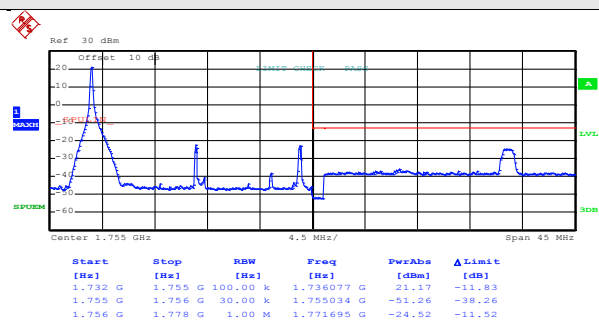
Test Mode:

LTE band 4(QPSK RB Size 1 &amp; RB Offset 0)



Date: 13.NOV.2016 22:34:36

Lowest channel

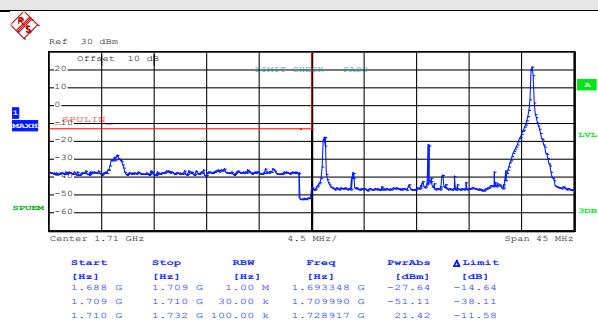


Date: 13.NOV.2016 22:38:15

Highest channel

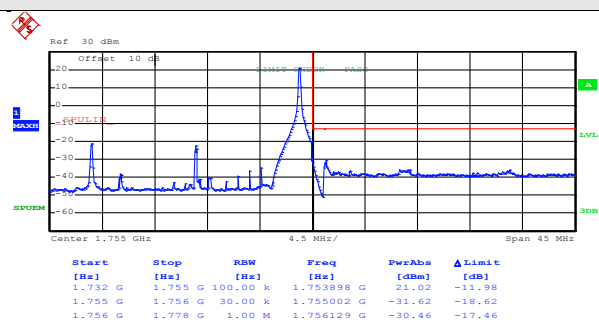
Test Mode:

LTE band 4(QPSK RB Size 1 &amp; RB Offset 99)



Date: 13.NOV.2016 22:35:13

Lowest channel

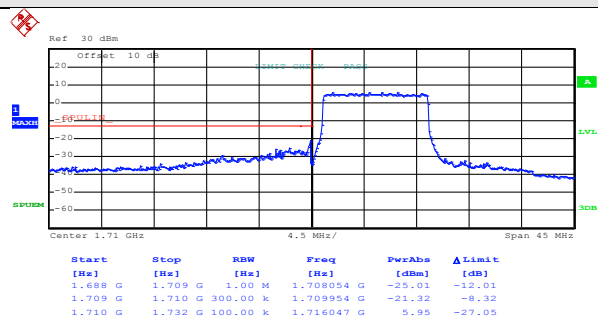


Date: 13.NOV.2016 22:38:54

Highest channel

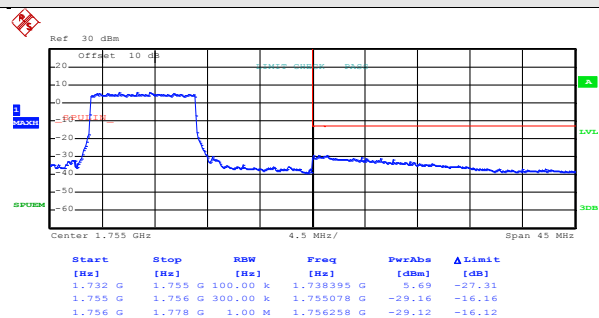
Test Mode:

LTE band 4(QPSK RB Size 50 &amp; RB Offset 0)



Date: 13.NOV.2016 22:36:13

Lowest channel

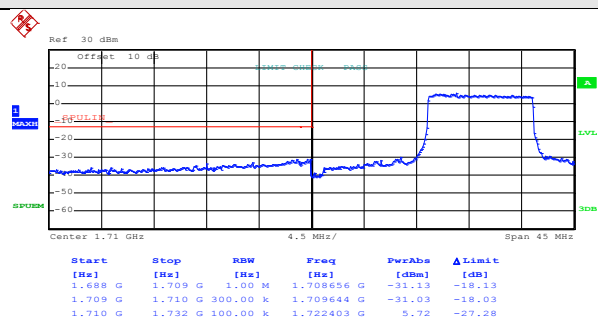


Date: 13.NOV.2016 22:39:49

Highest channel

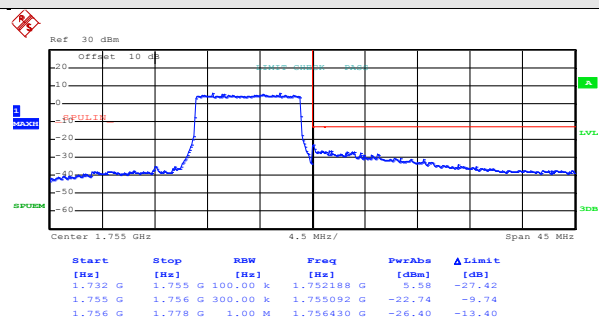
Test Mode:

LTE band 4(QPSK RB Size 50 &amp; RB Offset 49)



Date: 13.NOV.2016 22:36:46

Lowest channel

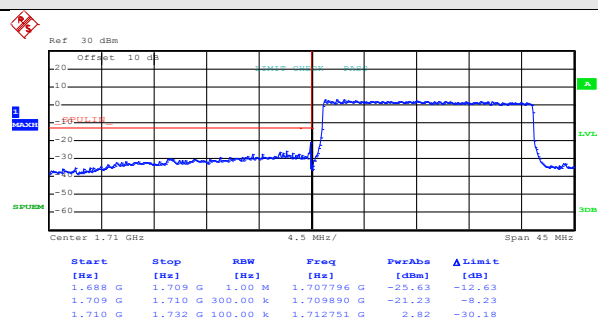


Date: 13.NOV.2016 22:40:31

Highest channel

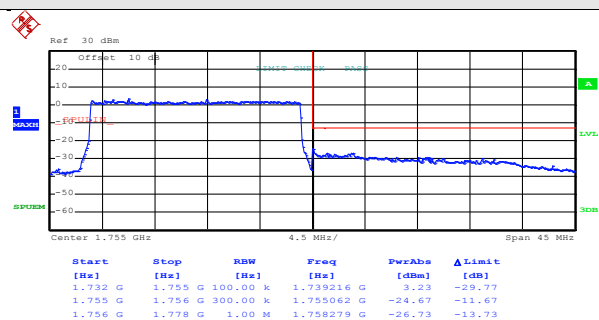
Test Mode:

LTE band 4(QPSK RB Size 100 &amp; RB Offset 0)



Date: 13.NOV.2016 22:37:24

Lowest channel

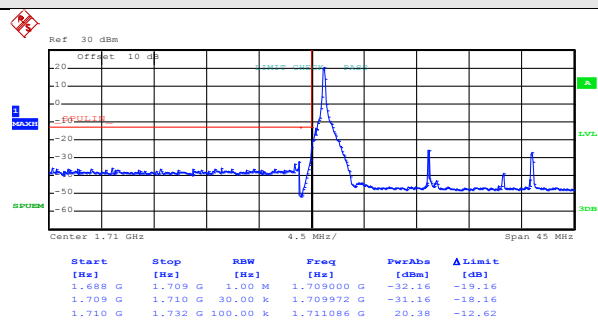


Date: 13.NOV.2016 22:41:08

Highest channel

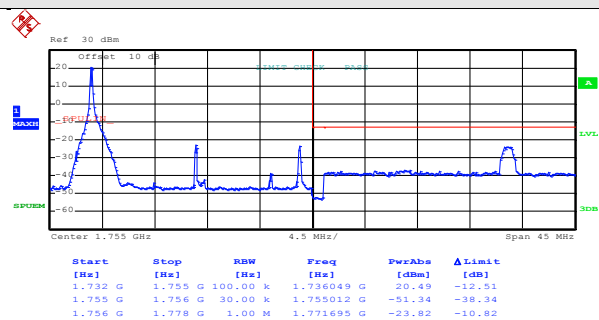
Test Mode:

LTE band 4(16QAM RB Size 1 &amp; RB Offset 0)



Date: 13.NOV.2016 22:34:48

Lowest channel

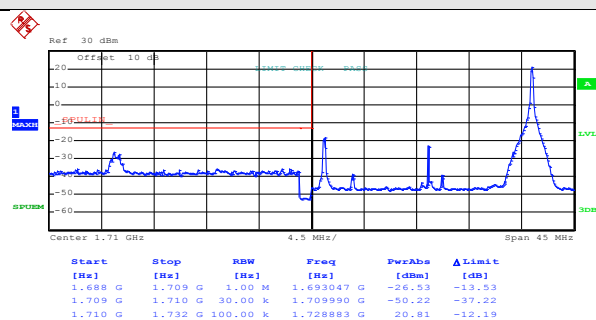


Date: 13.NOV.2016 22:38:26

Highest channel

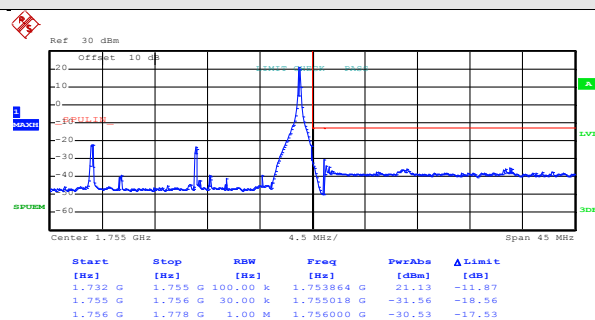
Test Mode:

LTE band 4(16QAM RB Size 1 &amp; RB Offset 99)



Date: 13.NOV.2016 22:35:27

Lowest channel

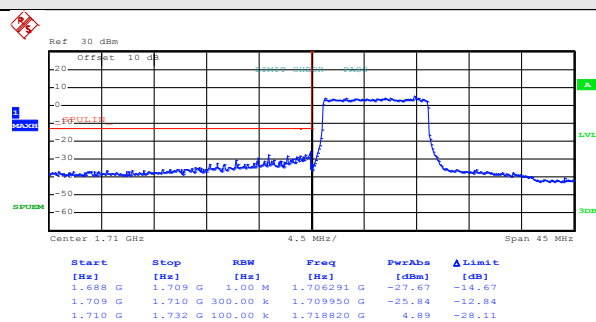


Date: 13.NOV.2016 22:39:07

Highest channel

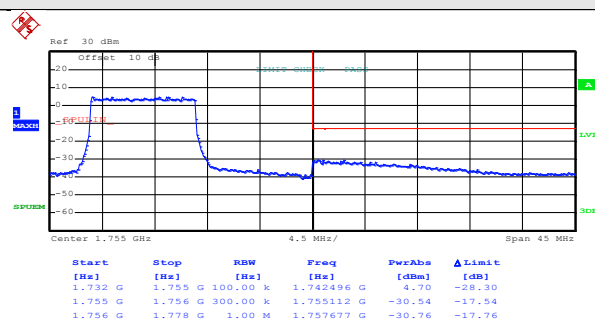
Test Mode:

LTE band 4(16QAM RB Size 50 &amp; RB Offset 0)



Date: 13.NOV.2016 22:36:26

Lowest channel

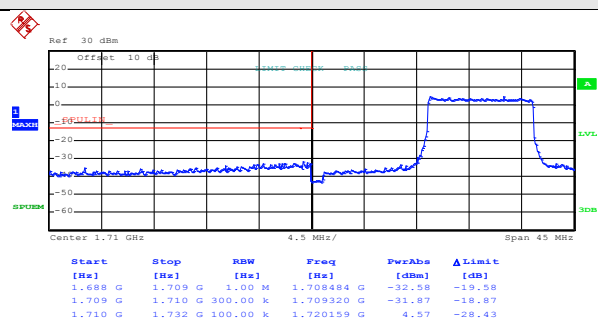


Date: 13.NOV.2016 22:40:11

Highest channel

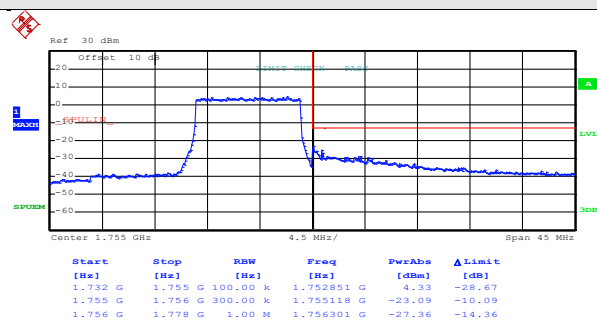
Test Mode:

LTE band 4(16QAM RB Size 50 & RB Offset 49)



Date: 13.NOV.2016 22:37:03

Lowest channel

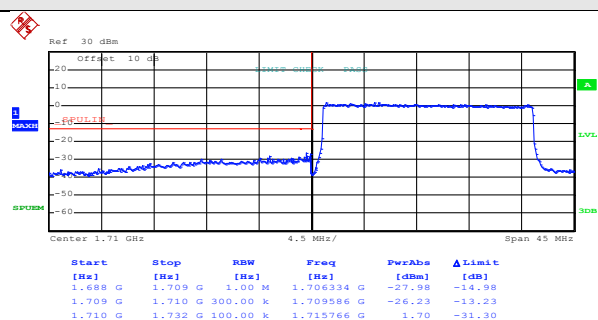


Date: 13.NOV.2016 22:40:47

Highest channel

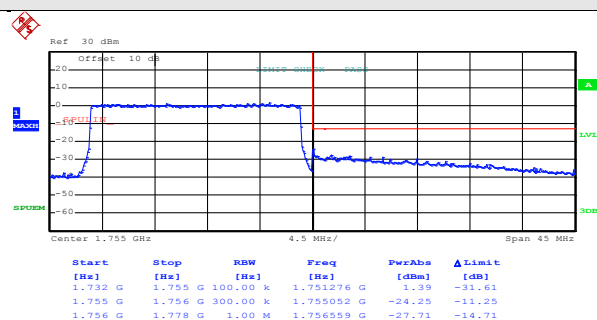
Test Mode:

LTE band 4(16QAM RB Size 100 & RB Offset 0)



Date: 13.NOV.2016 22:37:33

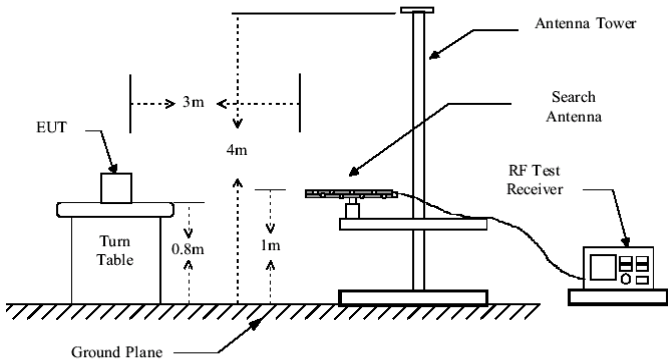
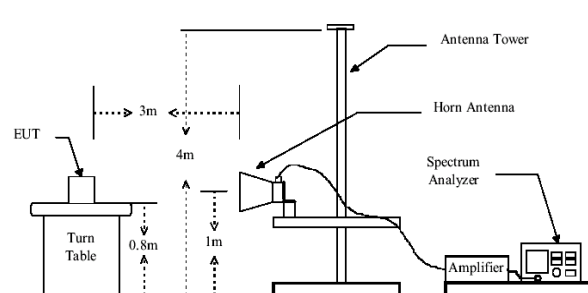
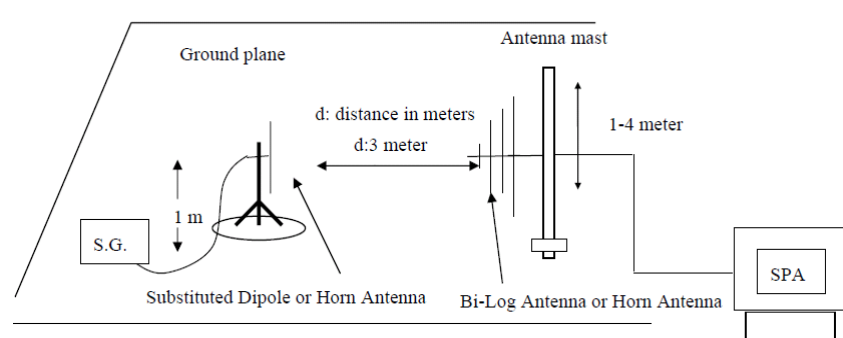
Lowest channel



Date: 13.NOV.2016 22:41:19

Highest channel

## 6.10 ERP, EIRP Measurement

Test Requirement:	part 27.50 (h)
Test Method:	FCC part2.1046
Limit:	LTE Band 4: 1W EIRP
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 

Test Procedure:	<ol style="list-style-type: none"> <li>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.</li> <li>2. During the measurement, the EUT was communication with the station. The highest emission was recorded with the rotation of the turntable and the lowering of the test antenna from 4m to 1m. The reading was recorded and the field strength (E in dBuV/m) was calculated.</li> <li>3. ERP in frequency band below 1GHz were measured using a substitution method. The EUT was replaced by dipole antenna connected, the S.G. output was recorded and ERP was calculated as follows:  <math display="block">\text{ERP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBd)} - \text{Cable Loss (dB)}</math> </li> <li>4. EIRP in frequency band above 1GHz were measured using a substitution method. The EUT was replaced by or horn antenna connected, the S.G. output was recorded and EIRP was calculated as follows:  <math display="block">\text{EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain (dBi)} - \text{Cable Loss (dB)}</math> </li> <li>5. The worse case was relating to the conducted output power.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed



Measurement Data (worst case):

LTE band 4 part

Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	22.87	30.00	Pass
					H	17.76		
1710.70	19957	16QAM	1.4	H	V	23.46		
					H	18.87		
1.4MHz(RB size 3 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	23.01	30.00	Pass
					H	17.82		
1710.70	19957	16QAM	1.4	H	V	26.61		
					H	19.56		
1.4MHz(RB size 6 & RB offset 0)								
1710.70	19957	QPSK	1.4	H	V	21.42	30.00	Pass
					H	16.23		
1710.70	19957	16QAM	1.4	H	V	22.14		
					H	17.93		

Middle channel

Initial Channel								
Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	22.93	30.00	Pass
					H	17.74		
1732.50	20175	16QAM	1.4	H	V	23.51		
					H	18.98		
1.4MHz(RB size 3 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	23.03	30.00	Pass
					H	17.80		
1732.50	20175	16QAM	1.4	H	V	26.63		
					H	19.54		
1.4MHz(RB size 6 & RB offset 0)								
1732.50	20175	QPSK	1.4	H	V	21.41	30.00	Pass
					H	16.20		
1732.50	20175	16QAM	1.4	H	V	22.12		
					H	17.92		

## Highest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
1.4MHz(RB size 1 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	23.02	30.00	Pass
					H	17.54		
1754.30	20393	16QAM	1.4	H	V	23.52		
					H	18.90		
1.4MHz(RB size 3 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	23.06	30.00	Pass
					H	17.81		
1754.30	20393	16QAM	1.4	H	V	26.62		
					H	19.52		
1.4MHz(RB size 6 & RB offset 0)								
1754.30	20393	QPSK	1.4	H	V	21.42	30.00	Pass
					H	16.23		
1754.30	20393	16QAM	1.4	H	V	22.16		
					H	17.89		

## Lowest channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	24.99	30.00	Pass
					H	20.48		
1720.00	20050	16QAM	20	H	V	25.16		
					H	20.37		
20MHz(RB size 50 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	23.16	30.00	Pass
					H	18.57		
1720.00	20050	16QAM	20	H	V	23.68		
					H	19.19		
20MHz(RB size 100 & RB offset 0)								
1720.00	20050	QPSK	20	H	V	22.27	30.00	Pass
					H	17.66		
1720.00	20050	16QAM	20	H	V	22.27		
					H	17.64		

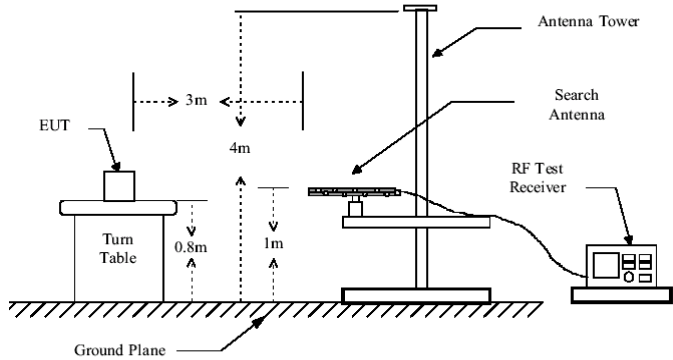
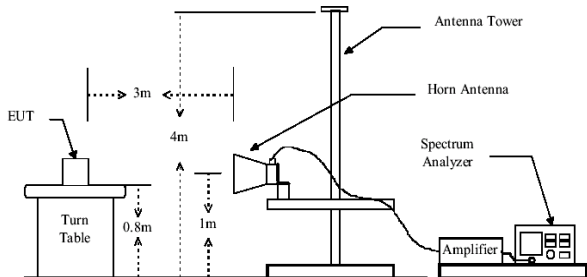
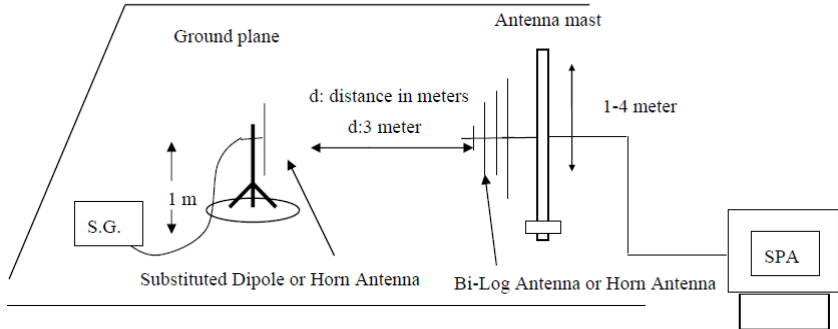
## Middle channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	24.94	30.00	Pass
					H	20.49		
1732.50	20175	16QAM	20	H	V	25.06		
					H	20.36		
20MHz(RB size 50 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	23.12	30.00	Pass
					H	18.57		
1732.50	20175	16QAM	20	H	V	23.63		
					H	19.09		
20MHz(RB size 100 & RB offset 0)								
1732.50	20175	QPSK	20	H	V	22.29	30.00	Pass
					H	17.56		
1732.50	20175	16QAM	20	H	V	22.23		
					H	17.68		

## High channel

Frequency (MHz)	UL Channel	Modulation	BW (MHz)	EUT Pol.	Antenna Pol.	EIRP(dBm)	Limit (dBm)	Result
20MHz(RB size 1 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	24.91	30.00	Pass
					H	20.52		
1745.00	20300	16QAM	20	H	V	25.03		
					H	20.37		
20MHz(RB size 50 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	23.14	30.00	Pass
					H	18.54		
1745.00	20300	16QAM	20	H	V	23.61		
					H	19.04		
20MHz(RB size 100 & RB offset 0)								
1745.00	20300	QPSK	20	H	V	22.32	30.00	Pass
					H	17.54		
1745.00	20300	16QAM	20	H	V	22.26		
					H	17.69		

## 6.11 Field strength of spurious radiation measurement

Test Requirement:	Part 27.53(h)
Test Method:	FCC part2.1053
Limit:	LTE Band 4: -13dBm,
Test setup:	<p>Below 1GHz</p>  <p>Above 1GHz</p>  <p>Substituted method:</p> 
Test Procedure:	<ol style="list-style-type: none"> <li>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.</li> <li>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.</li> <li>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.</li> <li>4. The spurious emissions attenuation was calculated as the difference</li> </ol>

	<p>between radiated power at the fundamental frequency and the spurious emissions frequency.</p> $\text{ERP / EIRP} = \text{S.G. output (dBm)} + \text{Antenna Gain(dB/dBi)} - \text{Cable Loss (dB)}$
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details.
Test results:	Passed

## Measurement Data (worst case):

### Below 1GHz:

The emission levels of below 1 GHz are 20 dB lower than the limit so not show in this report.

### Above 1GHz

For above 1 GHz, all test modes were performed, and just the worst case shown in the report.

## LTE Band 4 Part:

## 1.4MHz(RB size 1 &amp; RB offset 0) for QPSK

1.4MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3421.40	Vertical	-46.37	-13.00	Pass
5132.10	V	-30.80		
6842.80	V	-35.36		
3421.40	Horizontal	-45.77		
5132.10	H	-34.32		
6842.80	H	-37.86		
Middle				
3465.00	Vertical	-46.47	-13.00	Pass
5197.50	V	-35.12		
6930.00	V	-36.25		
3465.00	Horizontal	-49.03		
5197.50	H	-40.54		
6930.00	H	-38.28		
Highest				
3508.60	Vertical	-46.85	-13.00	Pass
5262.90	V	-37.07		
7017.20	V	-35.78		
3508.60	Horizontal	-49.66		
5262.90	H	-43.71		
7017.20	H	-38.32		

3MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3423.00	Vertical	-45.99	-13.00	Pass
5134.50	V	-29.89		
6846.00	V	-35.26		
3423.00	Horizontal	-46.13		
5134.50	H	-33.72		
6846.00	H	-37.26		
Middle				
3465.00	Vertical	-49.92	-13.00	Pass
5197.50	V	-35.84		
6930.00	V	-35.47		
3465.00	Horizontal	-48.02		
5197.50	H	-39.44		
6930.00	H	-37.38		
Highest				
3507.00	Vertical	-47.88	-13.00	Pass
5260.50	V	-37.42		
7014.00	V	-35.32		
3507.00	Horizontal	-47.44		
5260.50	H	-38.53		
7014.00	H	-34.91		

5MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3425.00	Vertical	-46.42	-13.00	Pass
5137.50	V	-30.15		
6850.00	V	-35.39		
3425.00	Horizontal	-45.72		
5137.50	H	-34.36		
6850.00	H	-37.89		
Middle				
3465.00	Vertical	-49.42	-13.00	Pass
5197.50	V	-35.16		
6930.00	V	-36.29		
3465.00	Horizontal	-49.06		
5197.50	H	-40.55		
6930.00	H	-39.32		
Highest				
3505.00	Vertical	-46.81	-13.00	Pass
5257.50	V	-37.03		
7010.00	V	-35.82		
3505.00	Horizontal	-49.61		
5257.50	H	-43.76		
7010.00	H	-38.34		

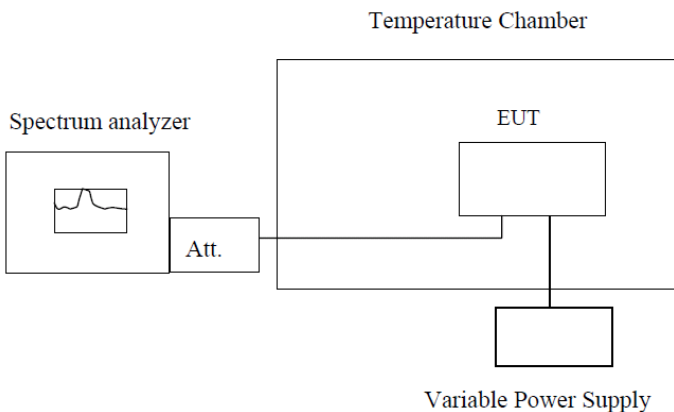


10MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3430.00	Vertical	-45.94	-13.00	Pass
5145.00	V	-29.96		
6860.00	V	-35.23		
3430.00	Horizontal	-46.10		
5145.00	H	-33.67		
6860.00	H	-37.12		
Middle				
3465.00	Vertical	-49.91	-13.00	Pass
5197.50	V	-35.39		
6930.00	V	-36.42		
3465.00	Horizontal	-48.06		
5197.50	H	-39.37		
6930.00	H	-37.36		
Highest				
3500.00	Vertical	-47.89	-13.00	Pass
5250.00	V	-37.36		
7000.00	V	-35.31		
3500.00	Horizontal	-47.49		
5250.00	H	-38.52		
7000.00	H	-34.93		

15MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3435.00	Vertical	-46.52	-13.00	Pass
5152.50	V	-30.16		
6870.00	V	-35.48		
3435.00	Horizontal	-45.72		
5152.50	H	-34.69		
6870.00	H	-37.82		
Middle				
3465.00	Vertical	-49.52	-13.00	Pass
5197.50	V	-35.17		
6930.00	V	-36.32		
3465.00	Horizontal	-49.03		
5197.50	H	-40.56		
6930.00	H	-39.35		
Highest				
3495.00	Vertical	-46.81	-13.00	Pass
5242.50	V	-37.06		
6990.00	V	-35.88		
3495.00	Horizontal	-49.37		
5242.50	H	-43.70		
6990.00	H	-38.39		

20MHz(RB size 1 & RB offset 0) for QPSK				
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
Lowest				
3440.00	Vertical	-45.99	-13.00	Pass
5160.00	V	-29.97		
6880.00	V	-35.11		
3440.00	Horizontal	-46.00		
5160.00	H	-33.65		
6880.00	H	-37.09		
Middle				
3465.00	Vertical	-47.89	-13.00	Pass
5197.50	V	-35.35		
6930.00	V	-36.34		
3465.00	Horizontal	-48.03		
5197.50	H	-39.34		
6930.00	H	-37.28		
Highest				
3490.00	Vertical	-47.85	-13.00	Pass
5235.00	V	-37.34		
6980.00	V	-35.32		
3490.00	Horizontal	-47.46		
5235.00	H	-38.43		
6980.00	H	-34.92		

## 6.12 Frequency stability V.S. Temperature measurement

Test Requirement:	FCC Part2.1055(a)(1)(b)
Test Method:	FCC Part2.1055(a)(1)(b)
Limit:	±2.5ppm
Test setup:	 <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> <li>1. The equipment under test was connected to an external DC power supply and input rated voltage.</li> <li>2. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators.</li> <li>3. The EUT was placed inside the temperature chamber.</li> <li>4. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 25°C operating frequency as reference frequency.</li> <li>5. Turn EUT off and set the chamber temperature to –30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency.</li> <li>6. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details
Test results:	Passed
Remark:	All three channels of all modulations have been tested, but only the worst channel and the worst modulation show in this test item.

Measurement Data (the worst channel):

**LTE Band 4(QPSK):**

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	163	0.094084	±2.5	Pass
	-20	122	0.070418		
	-10	130	0.075036		
	0	144	0.083117		
	10	155	0.089466		
	20	107	0.061760		
	30	126	0.072727		
	40	137	0.079076		
	50	146	0.084271		

Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	160	0.092352	±2.5	Pass
	-20	137	0.079076		
	-10	148	0.085426		
	0	159	0.091775		
	10	140	0.080808		
	20	136	0.078499		
	30	145	0.083694		
	40	127	0.073304		
	50	109	0.062915		

Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	177	0.102165	±2.5	Pass
	-20	136	0.078499		
	-10	125	0.072150		
	0	141	0.081385		
	10	150	0.086580		
	20	132	0.076190		
	30	106	0.061183		
	40	128	0.073882		
	50	147	0.084848		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	169	0.097547	±2.5	Pass
	-20	125	0.072150		
	-10	163	0.094084		
	0	160	0.092352		
	10	157	0.090620		
	20	113	0.065224		
	30	128	0.073882		
	40	136	0.078499		
	50	150	0.086580		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	177	0.102165	±2.5	Pass
	-20	135	0.077922		
	-10	146	0.084271		
	0	128	0.073882		
	10	145	0.083694		
	20	109	0.062915		
	30	158	0.091198		
	40	139	0.080231		
	50	127	0.073304		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	185	0.106782	±2.5	Pass
	-20	136	0.078499		
	-10	178	0.102742		
	0	147	0.084848		
	10	169	0.097547		
	20	138	0.079654		
	30	170	0.098124		
	40	160	0.092352		
	50	125	0.072150		

**LTE Band 4(16QAM):**

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	138	0.079654	±2.5	Pass
	-20	122	0.070418		
	-10	130	0.075036		
	0	108	0.062338		
	10	105	0.060606		
	20	144	0.083117		
	30	127	0.073304		
	40	120	0.069264		
	50	136	0.078499		

Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	155	0.089466	±2.5	Pass
	-20	134	0.077345		
	-10	174	0.100433		
	0	162	0.093506		
	10	158	0.091198		
	20	147	0.084848		
	30	144	0.083117		
	40	169	0.097547		
	50	136	0.078499		

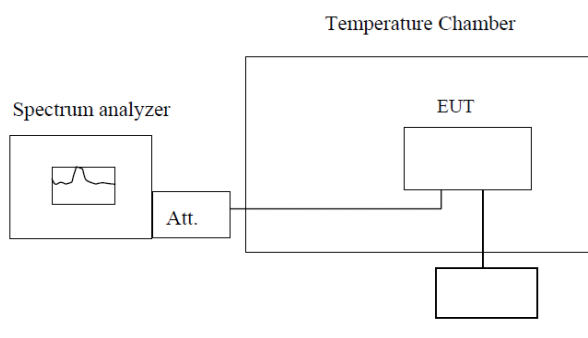
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz

Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	128	0.073882	±2.5	Pass
	-20	174	0.100433		
	-10	168	0.096970		
	0	138	0.079654		
	10	158	0.091198		
	20	169	0.097547		
	30	145	0.083694		
	40	138	0.079654		
	50	125	0.072150		

Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	163	0.094084	±2.5	Pass
	-20	145	0.083694		
	-10	177	0.102165		
	0	163	0.094084		
	10	152	0.087734		
	20	155	0.089466		
	30	163	0.094084		
	40	155	0.089466		
	50	128	0.073882		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	167	0.096392	±2.5	Pass
	-20	185	0.106782		
	-10	142	0.081962		
	0	169	0.097547		
	10	120	0.069264		
	20	127	0.073304		
	30	148	0.085426		
	40	144	0.083117		
	50	103	0.059452		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Power supplied (Vdc)	Temperature (°C)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
3.80	-30	179	0.103319	±2.5	Pass
	-20	163	0.094084		
	-10	158	0.091198		
	0	177	0.102165		
	10	125	0.072150		
	20	136	0.078499		
	30	134	0.077345		
	40	108	0.062338		
	50	120	0.069264		



## 6.13 Frequency stability V.S. Voltage measurement

Test Requirement:	FCC Part2.1055(d)(1)(2)
Test Method:	FCC Part2.1055(d)(1)(2)
Limit:	2.5ppm
Test setup:	 <p><b>Note :</b> Measurement setup for testing on Antenna connector</p>
Test procedure:	<ol style="list-style-type: none"> <li>1. Set chamber temperature to 25°C. Use a variable DC power source to power the EUT and set the voltage to rated voltage.</li> <li>2. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.</li> <li>3. Reduce the input voltage to specify extreme voltage variation (+/- 15%) and endpoint, record the maximum frequency change.</li> </ol>
Test Instruments:	Refer to section 5.8 for details
Test mode:	Refer to section 5.3 for details, and all channels have been tested, only shows the worst channel data in this report.
Test results:	Passed

## Measurement Data (the worst channel):

## LTE Band 4(QPSK):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	63	0.036364	±2.5	Pass
	3.80	74	0.042713		
	3.23	96	0.055411		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	74	0.042713	±2.5	Pass
	3.80	75	0.043290		
	3.23	80	0.046176		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	69	0.039827	±2.5	Pass
	3.80	75	0.043290		
	3.23	90	0.051948		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	63	0.036364	±2.5	Pass
	3.80	88	0.050794		
	3.23	75	0.043290		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	58	0.033478	±2.5	Pass
	3.80	60	0.034632		
	3.23	71	0.040981		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	66	0.038095	±2.5	Pass
	3.80	85	0.049062		
	3.23	90	0.051948		

## LTE Band 4(16QAM):

Reference Frequency: LTE Band 4(1.4MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	77	0.044444	±2.5	Pass
	3.80	89	0.051371		
	3.23	80	0.046176		
Reference Frequency: LTE Band 4(3MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	63	0.036364	±2.5	Pass
	3.80	67	0.038672		
	3.23	99	0.057143		
Reference Frequency: LTE Band 4(5MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	57	0.032900	±2.5	Pass
	3.80	49	0.028283		
	3.23	72	0.041558		
Reference Frequency: LTE Band 4(10MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	68	0.039250	±2.5	Pass
	3.80	69	0.039827		
	3.23	75	0.043290		
Reference Frequency: LTE Band 4(15MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	80	0.046176	±2.5	Pass
	3.80	67	0.038672		
	3.23	83	0.047908		
Reference Frequency: LTE Band 4(20MHz) Middle channel=20175 channel=1732.50MHz					
Temperature (°C)	Power supplied (Vdc)	Frequency error		Limit (ppm)	Result
		Hz	ppm		
25	4.37	95	0.054834	±2.5	Pass
	3.80	77	0.044444		
	3.23	66	0.038095		