



### 3.4 Conducted Band Edge Measurement

#### 3.4.1 Description of Conducted Band Edge Measurement

22.917(a) and RSS – 132 for Band 5

For operations in the 824 – 849 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a) and RSS – 133 for Band 2

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c) and RSS – 130 for Band 13

For operations in the 776-788 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least  $65 + 10 \log_{10} p(\text{watts})$ , dB, for mobile and portable equipment.

27.53 (g) and RSS – 130 for Band 17

For operations in the 698 -746 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h) and RSS – 139 for Band 4

For operations in the 1710 – 1755 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The emissions be operated in the 2496-2690 MHz band, the attenuation factor shall be not less than  $43 + 10 \log (P)$  dB at the channel edge and  $55 + 10 \log (P)$  dB at 5.5 megahertz from the channel edges.

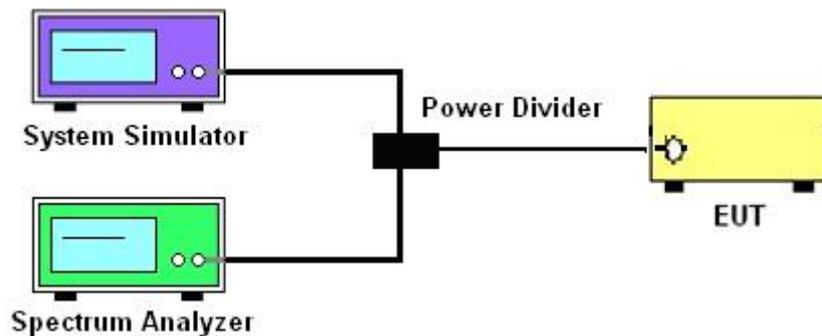
### 3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.4.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set RBW  $\geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with RMS detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
5. The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$ dBm.

### 3.4.4 Test Setup

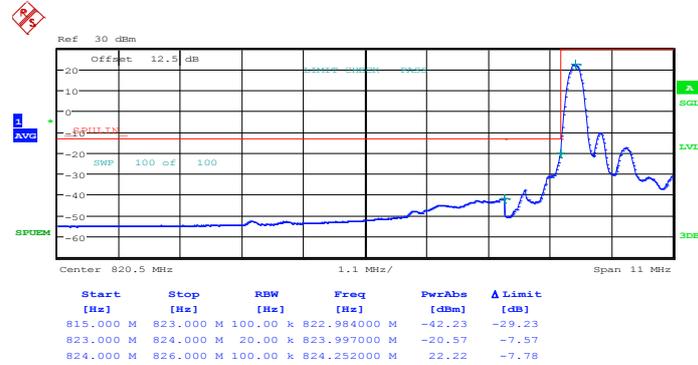




### 3.4.5 Test Result (Plots) of Conducted Band Edge

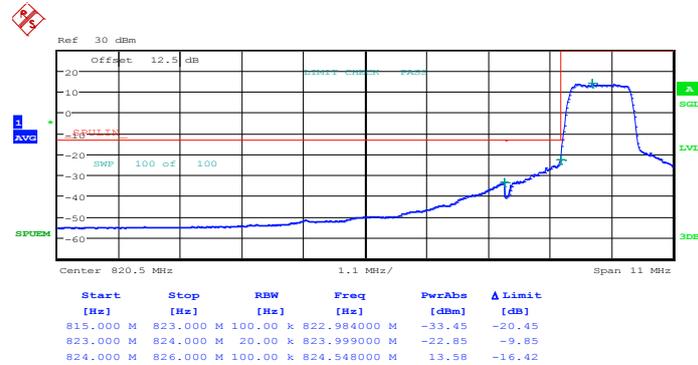
<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	1.4MHz / QPSK
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#### Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 23:29:12

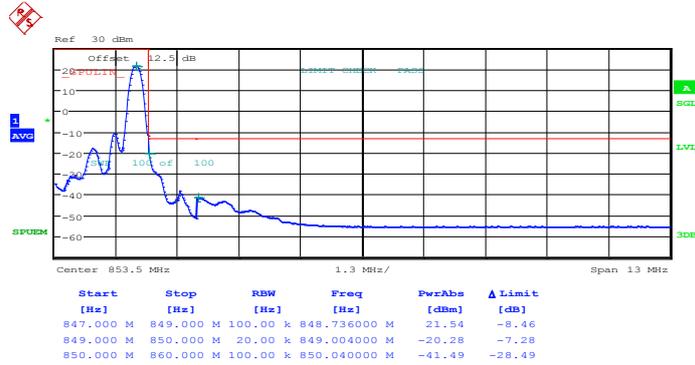
#### Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 9.JUL.2014 23:45:18

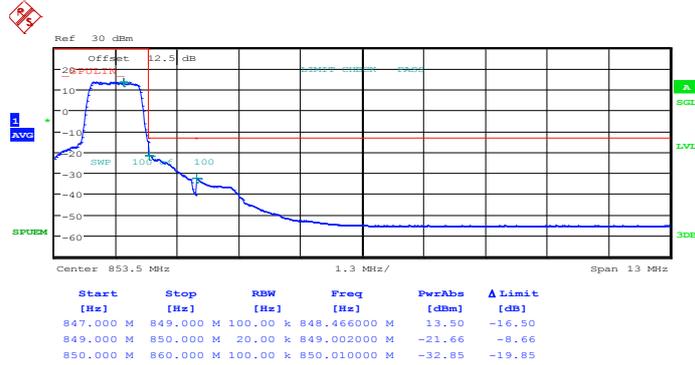


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 9.JUL.2014 23:54:15

Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

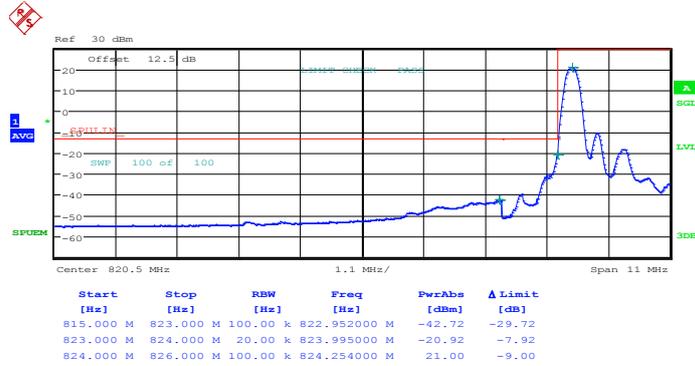


Date: 9.JUL.2014 23:52:44



<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 9.JUL.2014 23:44:33

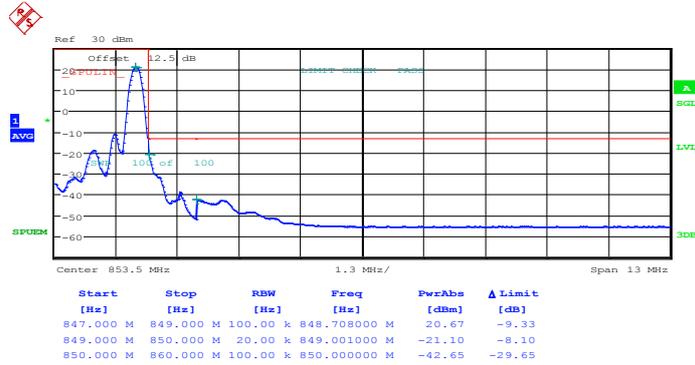
Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



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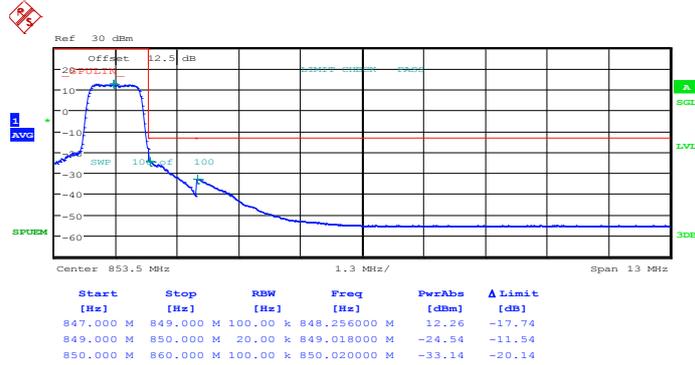


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 9.JUL.2014 23:55:00

Higher Band Edge Plot for 16QAM -RB Size 6, RB Offset 0

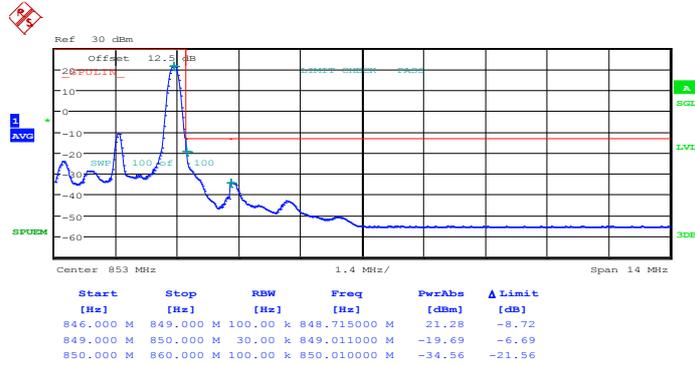


Date: 9.JUL.2014 23:53:30



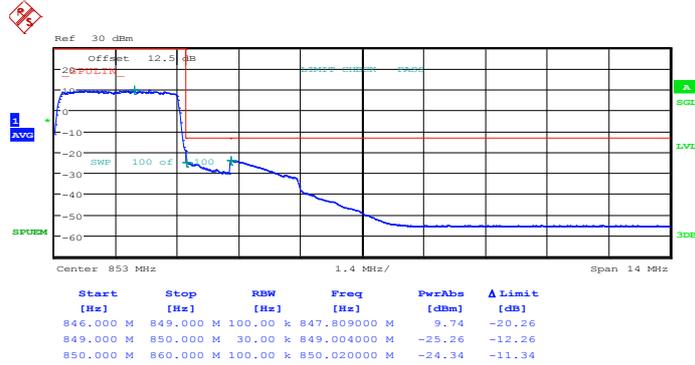


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 10.JUL.2014 00:07:51

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

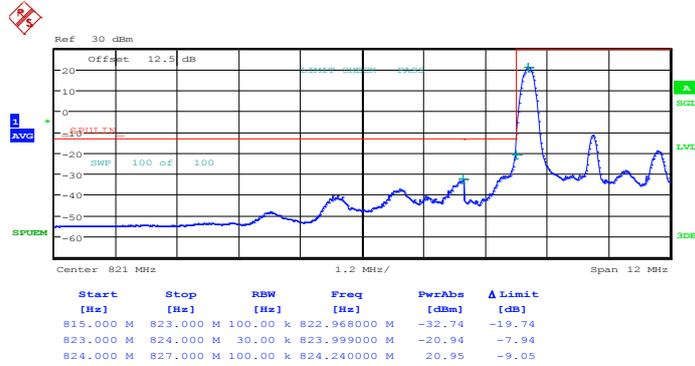


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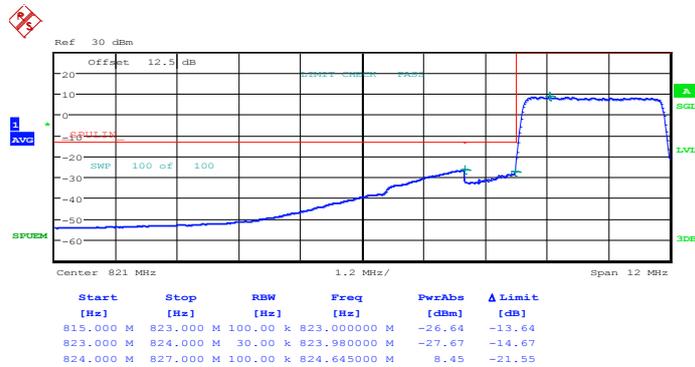
<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 9.JUL.2014 23:59:29

Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Date: 10.JUL.2014 00:00:59

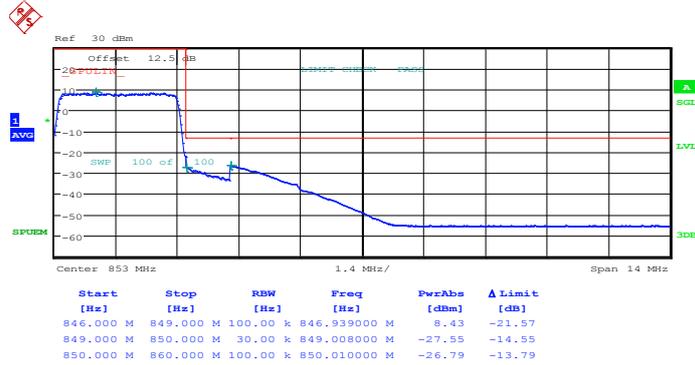


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14



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Higher Band Edge Plot for 16QAM -RB Size 15, RB Offset 0

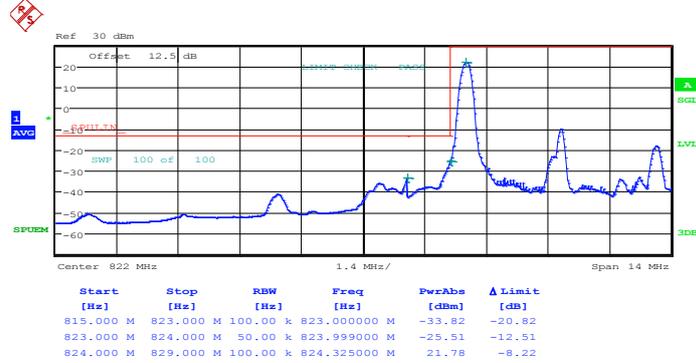


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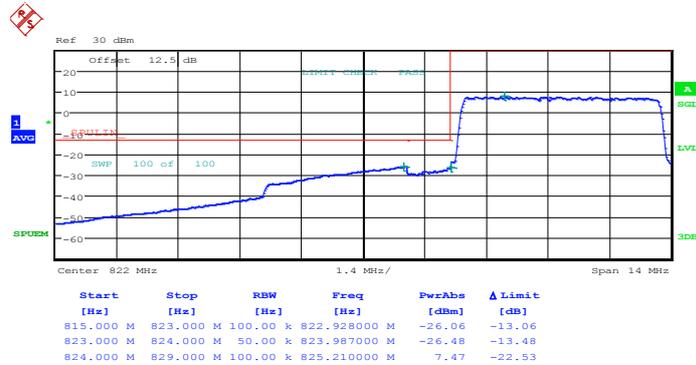
<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.JUL.2014 00:13:56

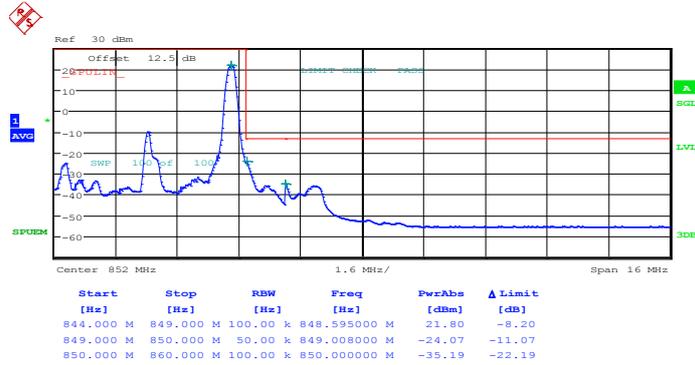
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Date: 10.JUL.2014 00:15:29

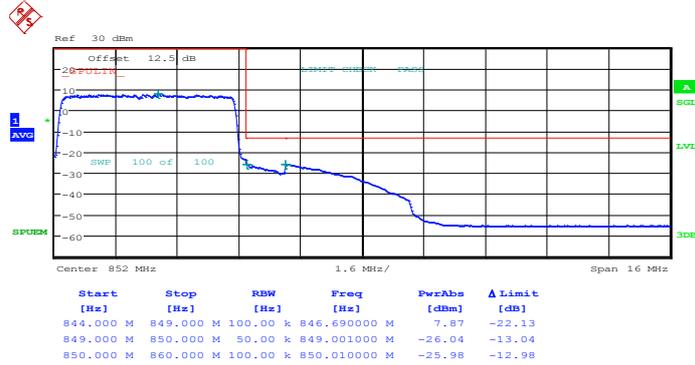


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 10.JUL.2014 00:23:28

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

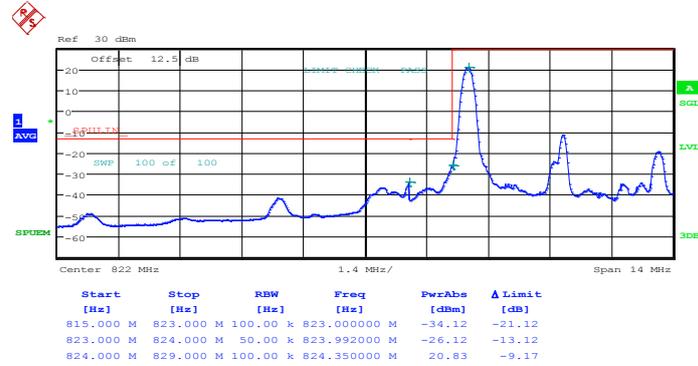


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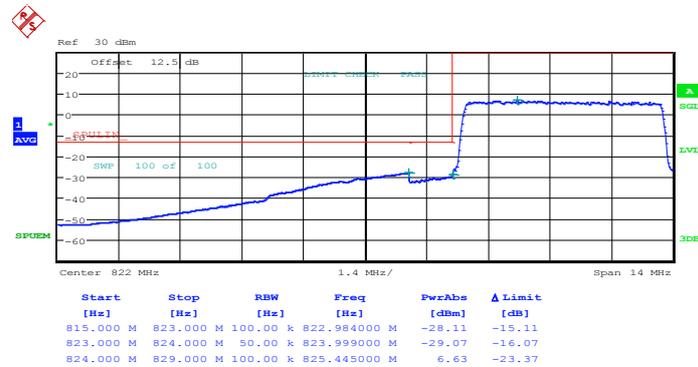
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 10.JUL.2014 00:14:42

Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0



Date: 10.JUL.2014 00:16:15

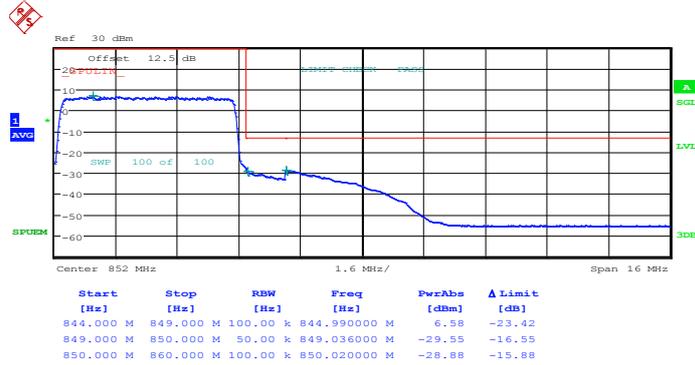


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24



Date: 10.JUL.2014 00:24:16

Higher Band Edge Plot for 16QAM -RB Size 25, RB Offset 0

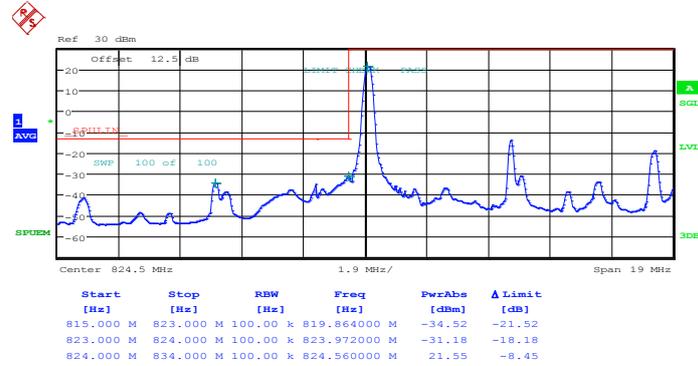


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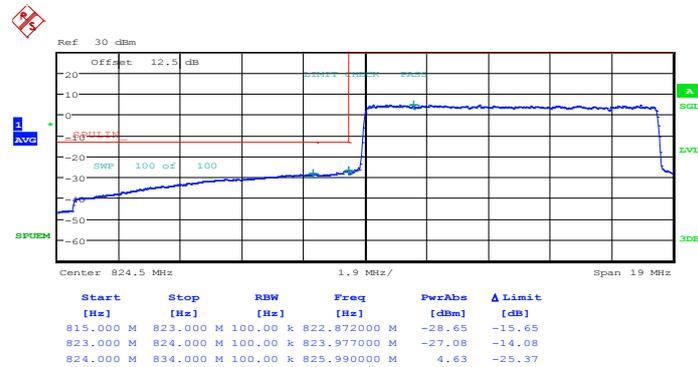
<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.JUL.2014 00:30:01

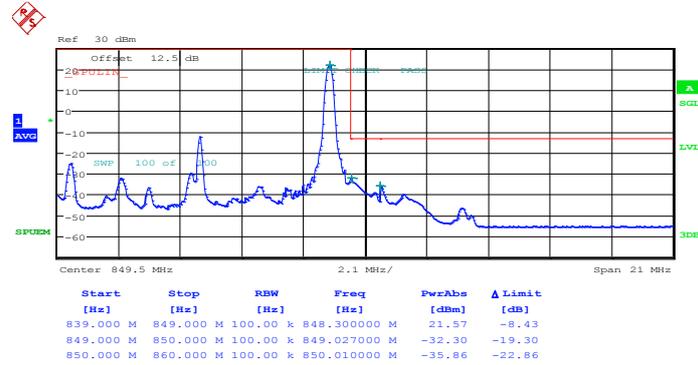
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 10.JUL.2014 00:31:40



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 10.JUL.2014 00:40:16

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

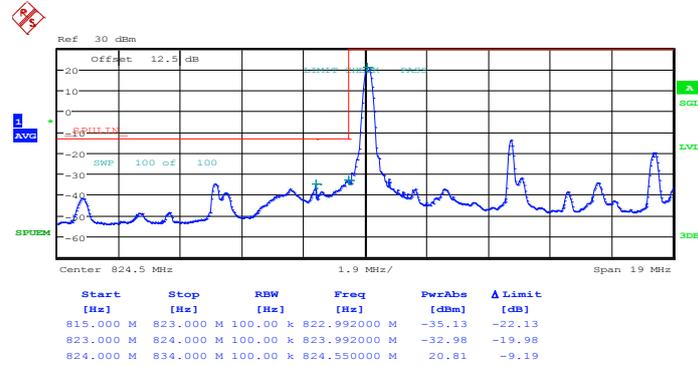


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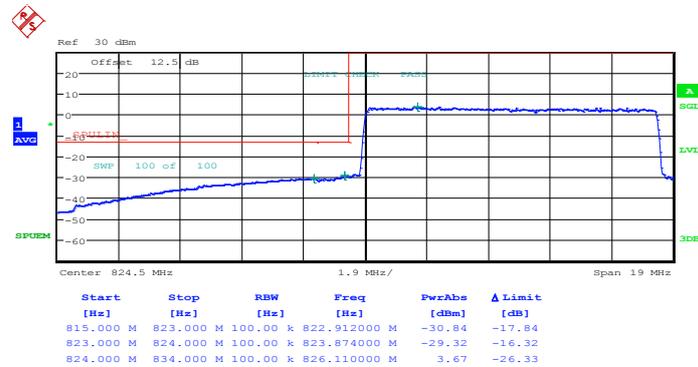
<b>Band :</b>	LTE Band 5	<b>Band Width :</b>	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 10.JUL.2014 00:30:50

Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



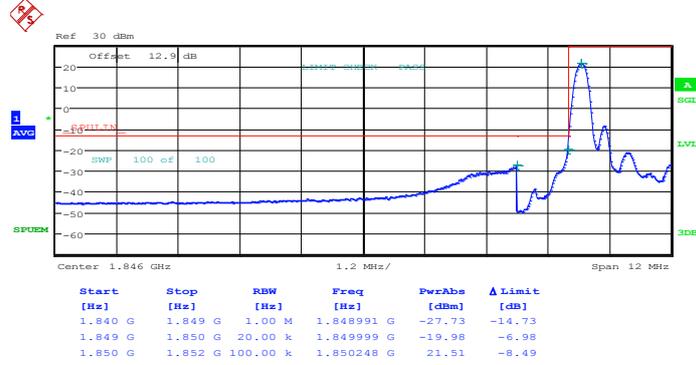
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<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 7.JUL.2014 23:48:27

Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 7.JUL.2014 23:49:58

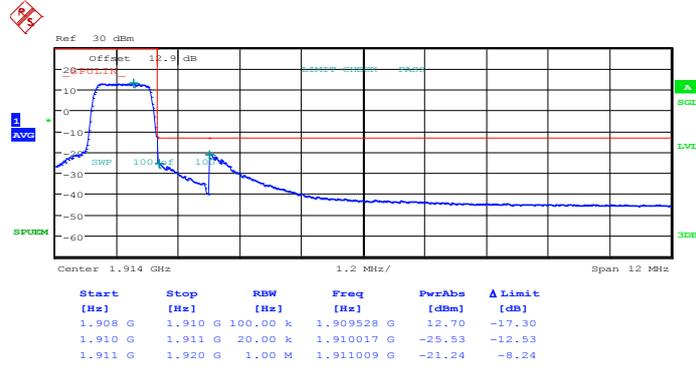


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 7.JUL.2014 23:57:25

Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0

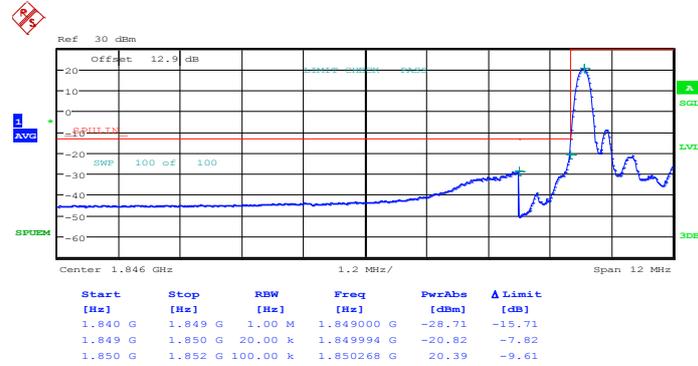


Date: 7.JUL.2014 23:58:56



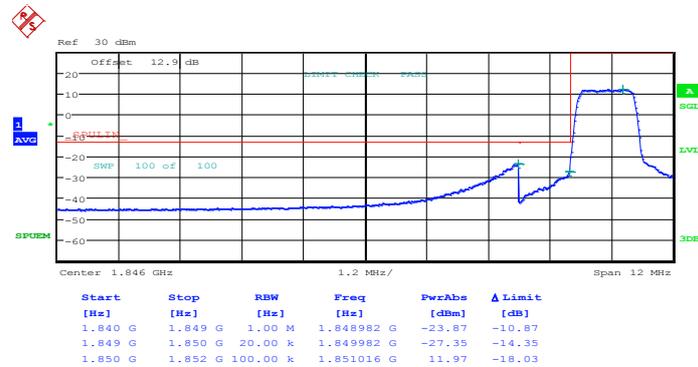
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 7.JUL.2014 23:49:12

Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 7.JUL.2014 23:50:43

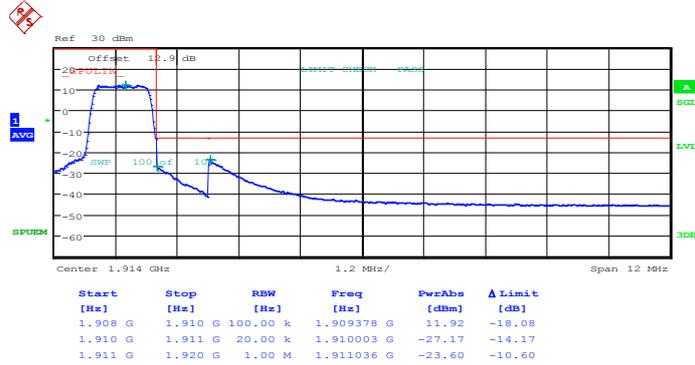


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 7.JUL.2014 23:58:10

Higher Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 7.JUL.2014 23:59:41



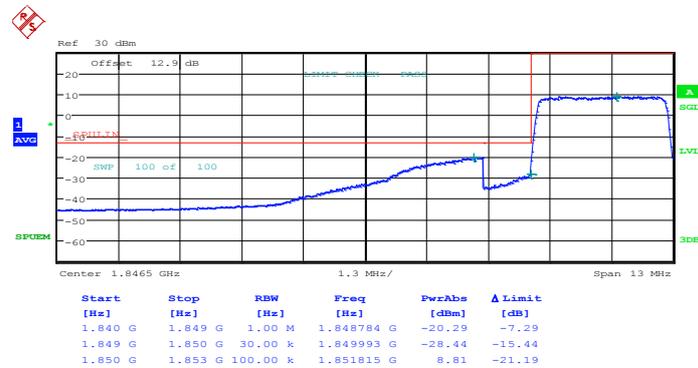
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8 JUL 2014 00:03:25

Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 8 JUL 2014 00:04:56

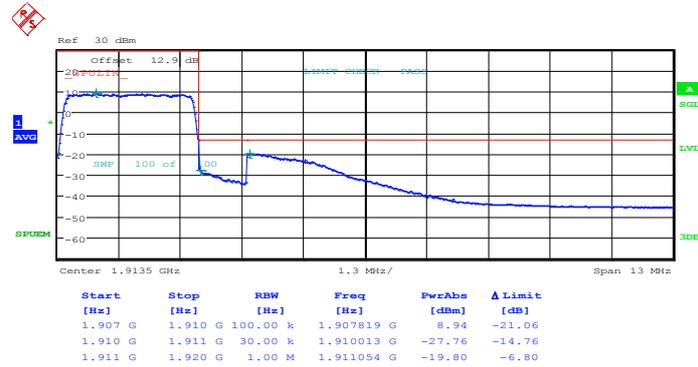


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 8.JUL.2014 00:12:24

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0

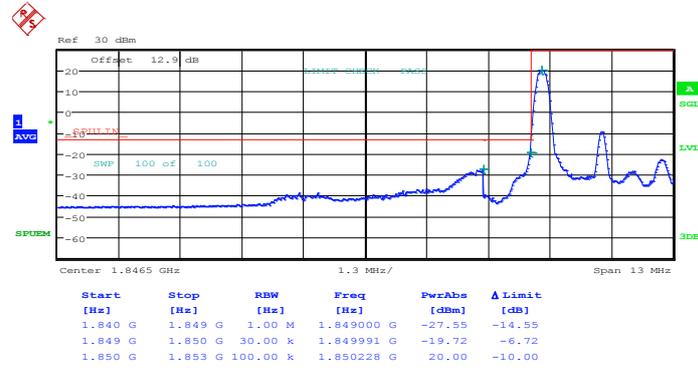


Date: 8.JUL.2014 00:13:57



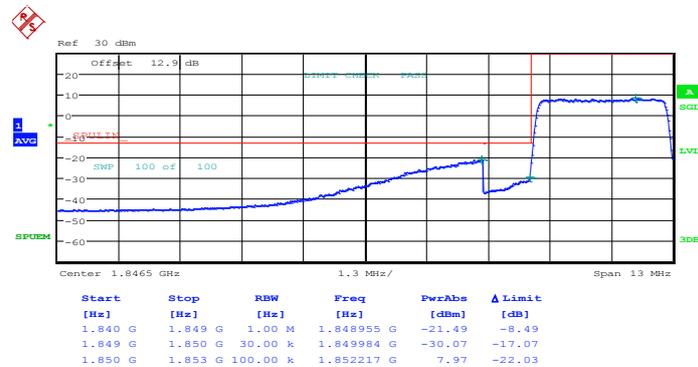
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:04:10

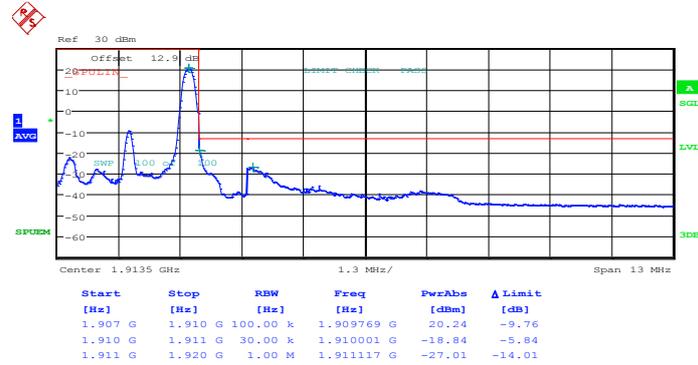
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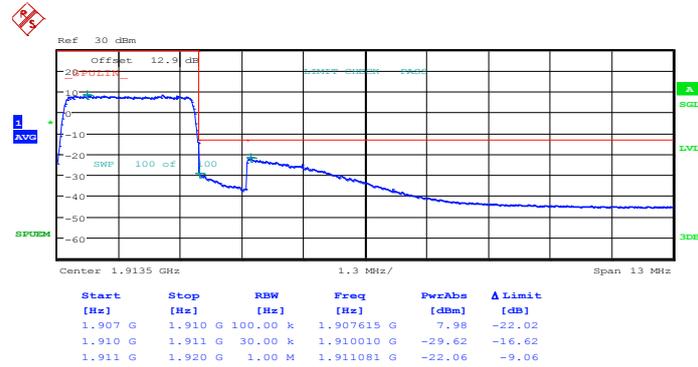


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14



Date: 8.JUL.2014 00:13:10

Higher Band Edge Plot for 16QAM -RB Size 15, RB Offset 0

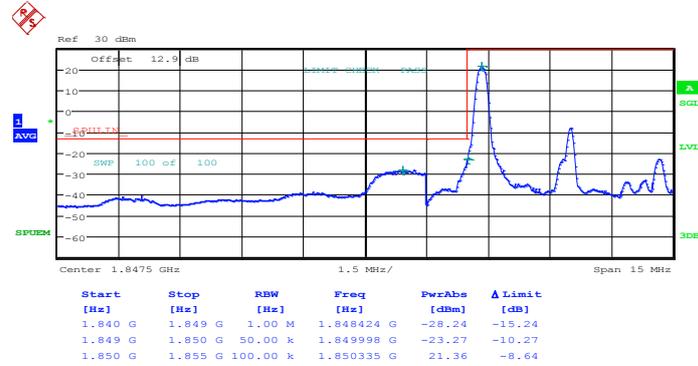


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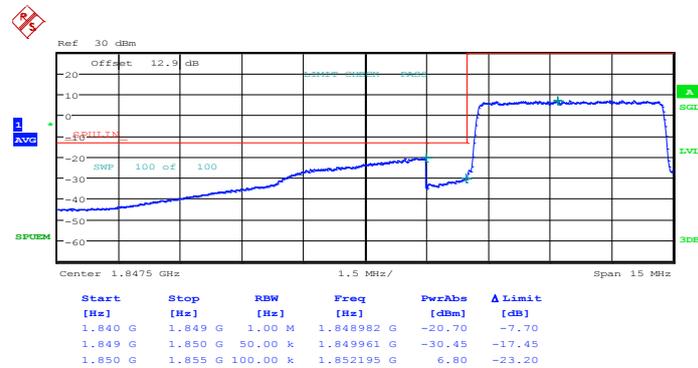
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:18:36

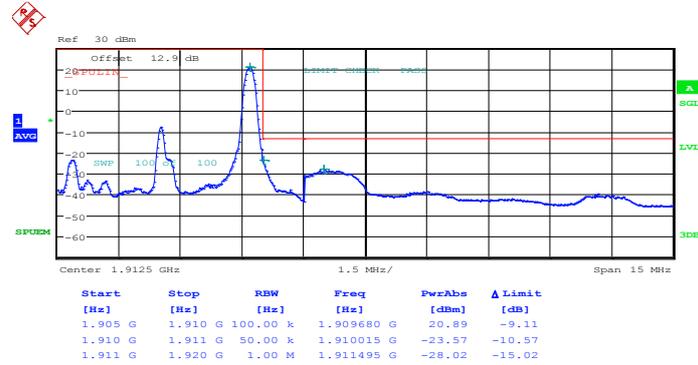
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 8.JUL.2014 00:20:11

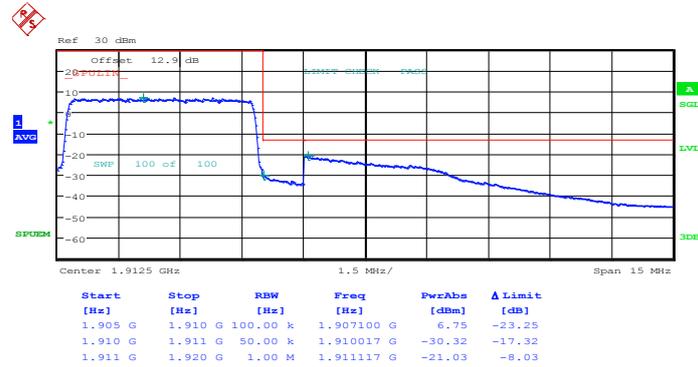


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 8.JUL.2014 00:28:21

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

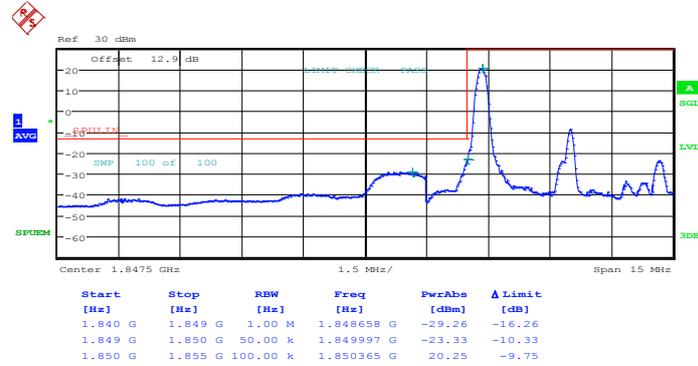


Date: 8.JUL.2014 00:30:01



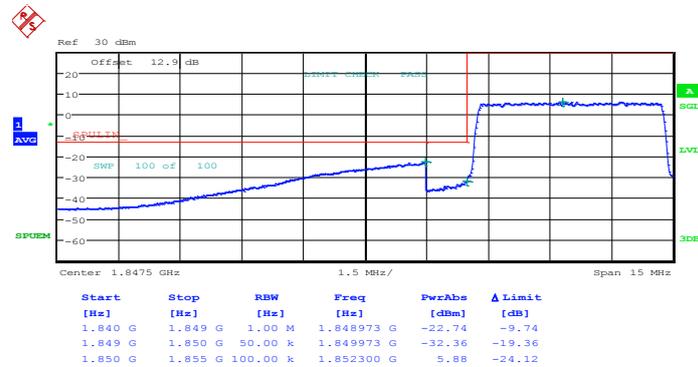
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:19:24

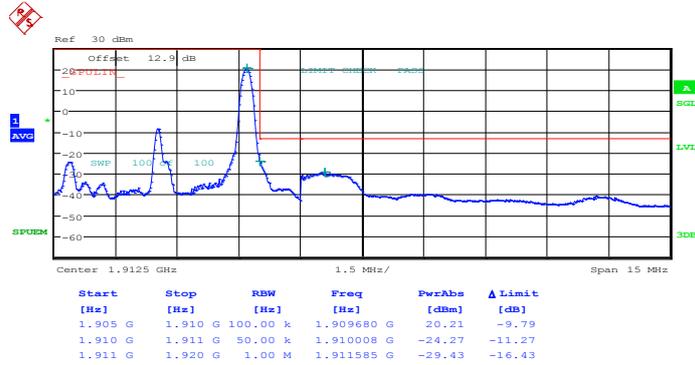
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 8.JUL.2014 00:20:59

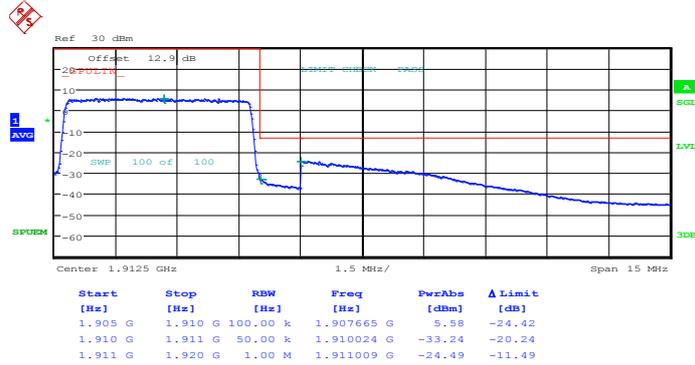


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 8.JUL.2014 00:29:12

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

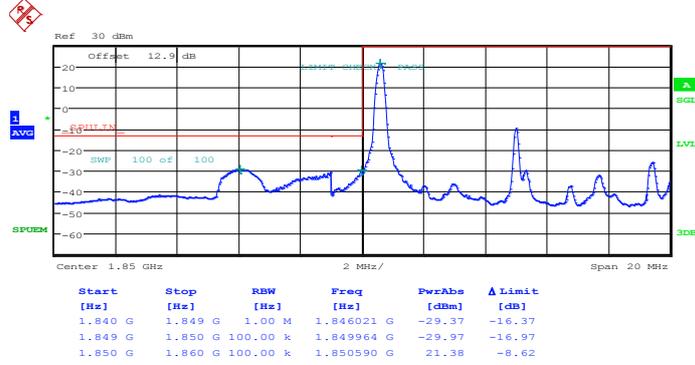


Date: 8.JUL.2014 00:30:51



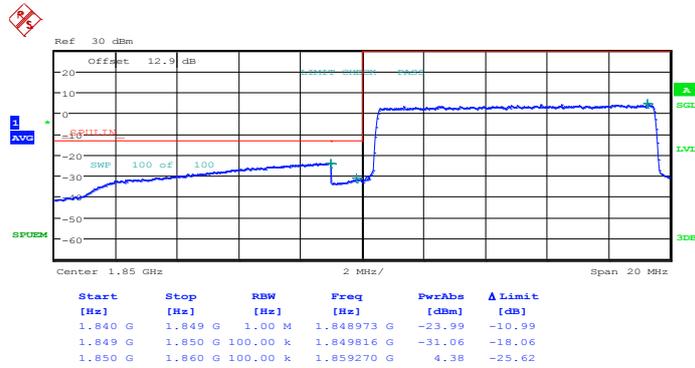
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:35:06

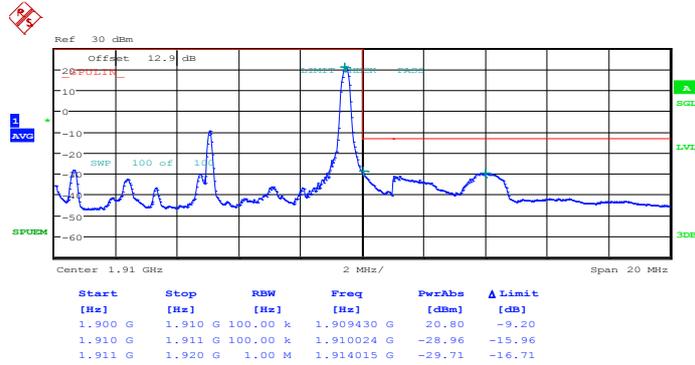
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



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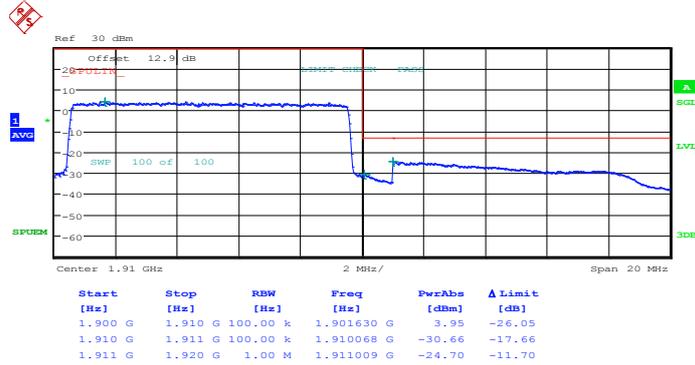


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 8.JUL.2014 00:45:37

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

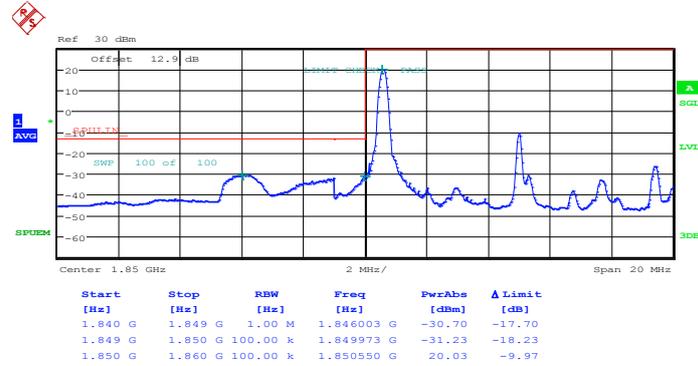


Date: 8.JUL.2014 00:47:22



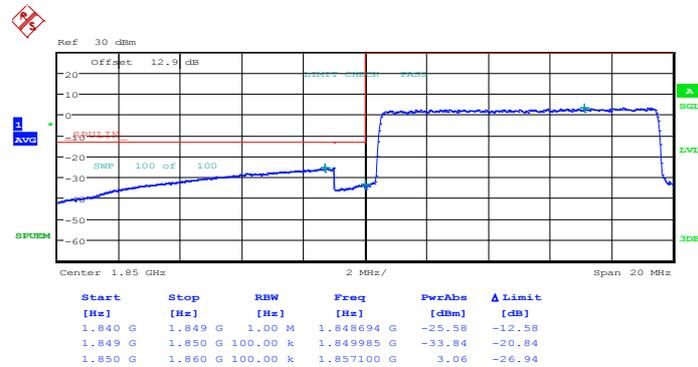
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:35:57

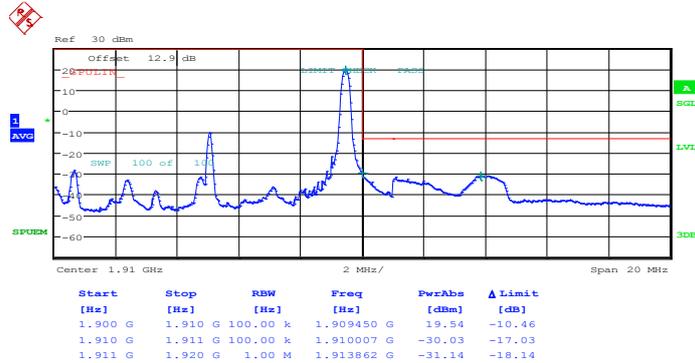
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 8.JUL.2014 00:37:38

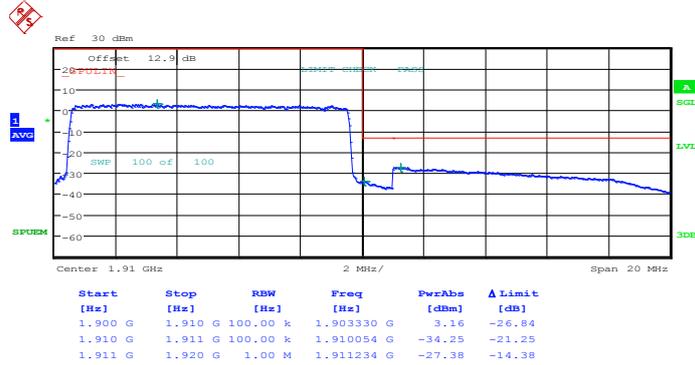


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 8.JUL.2014 00:46:29

Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0

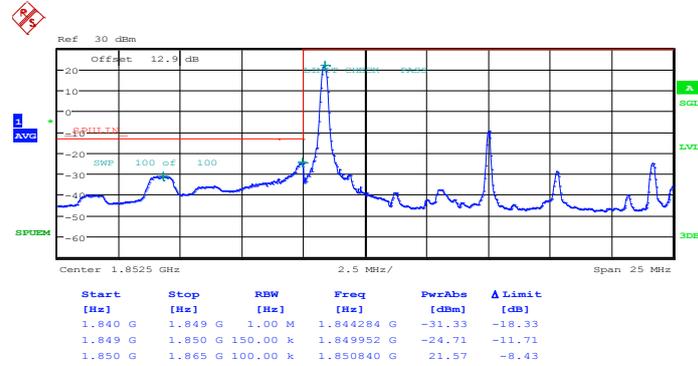


Date: 8.JUL.2014 00:48:15



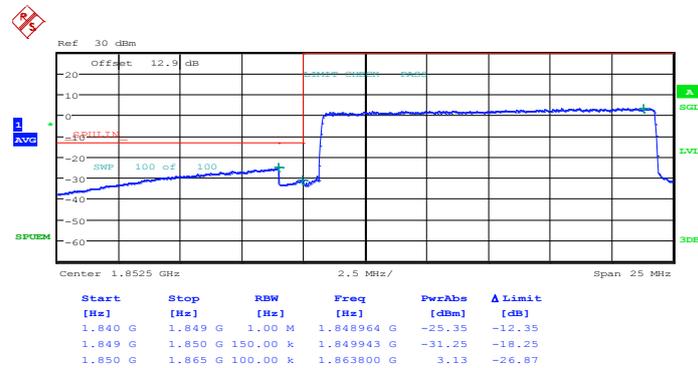
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:52:52

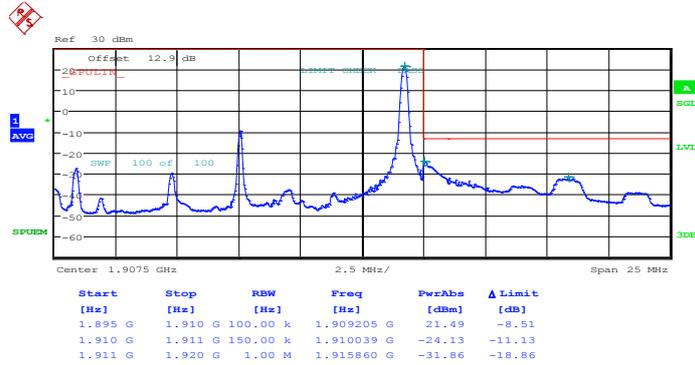
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 8.JUL.2014 00:54:39



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 8.JUL.2014 01:04:19

Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

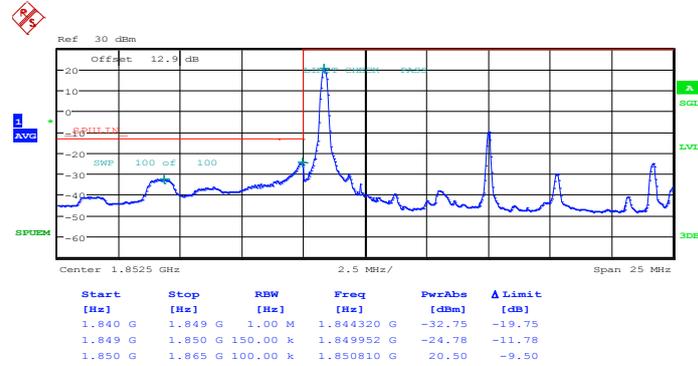


Date: 8.JUL.2014 01:06:11



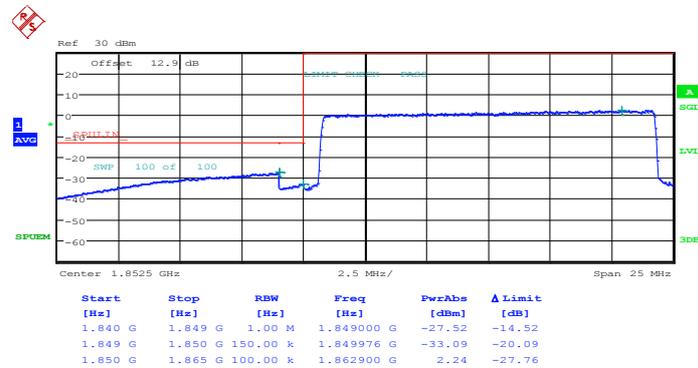
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.JUL.2014 00:53:45

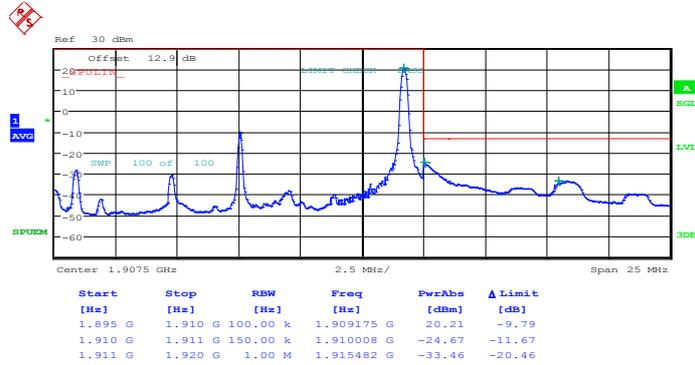
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 8.JUL.2014 00:55:33

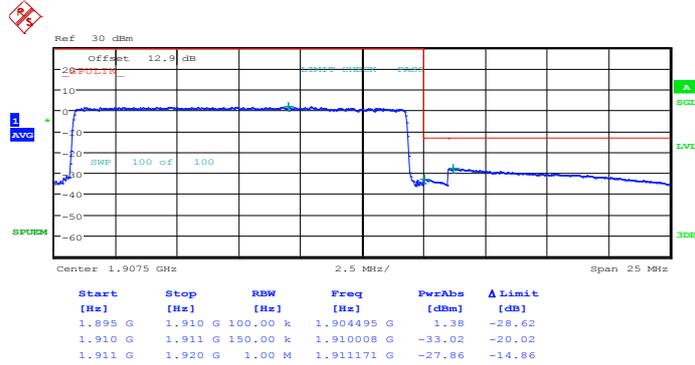


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 8.JUL.2014 01:05:15

Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0

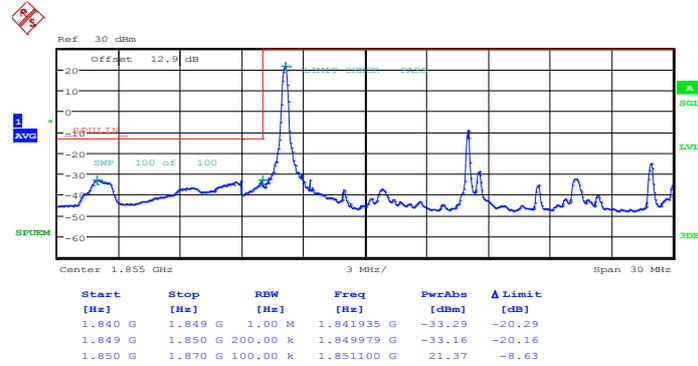


Date: 8.JUL.2014 01:07:07



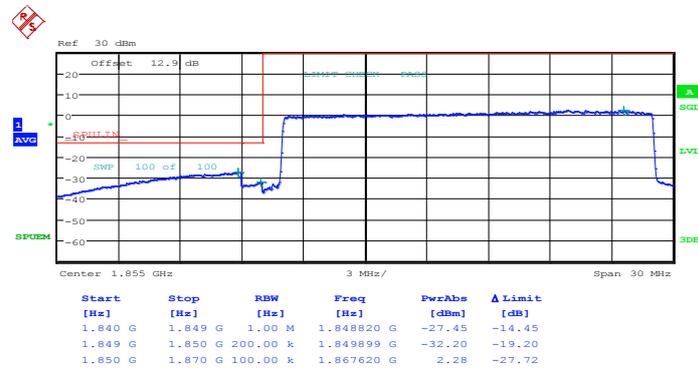
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 8.JUL.2014 01:12:10

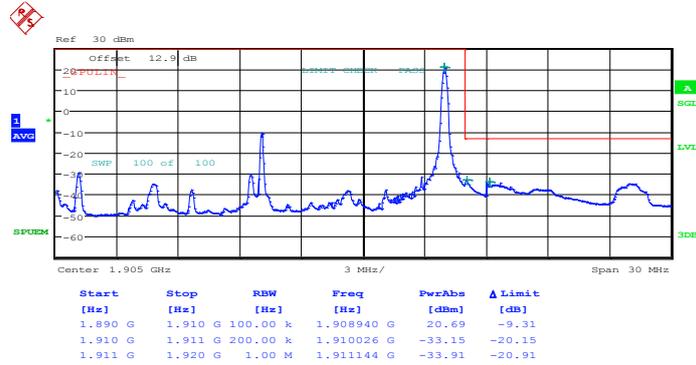
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 8.JUL.2014 01:14:06

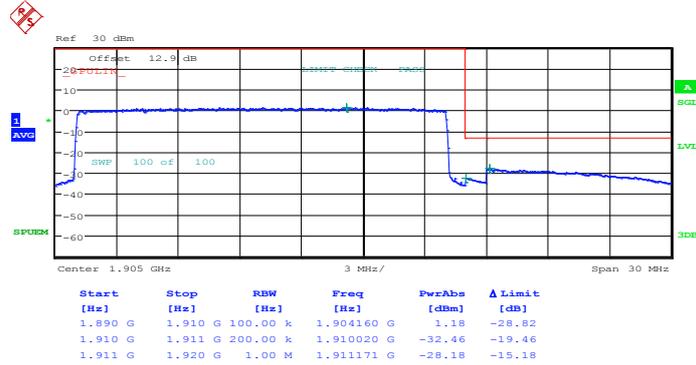


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 8.JUL.2014 01:24:37

Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0

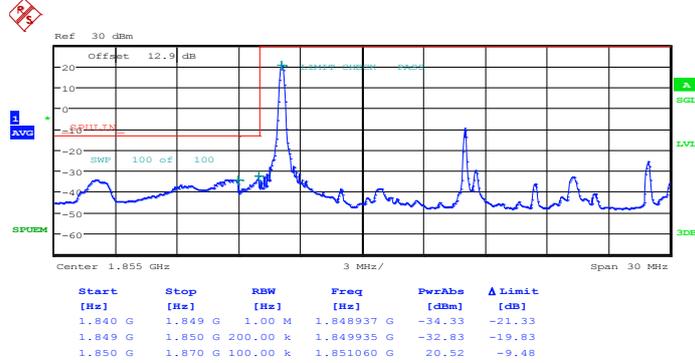


Date: 8.JUL.2014 01:26:37



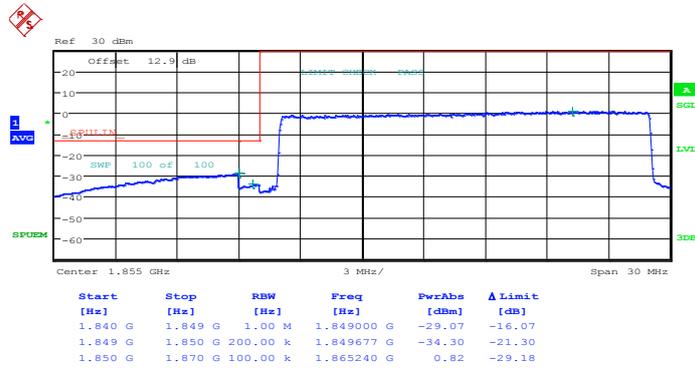
<b>Band :</b>	LTE Band 2	<b>Band Width :</b>	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 8.JUL.2014 01:13:07

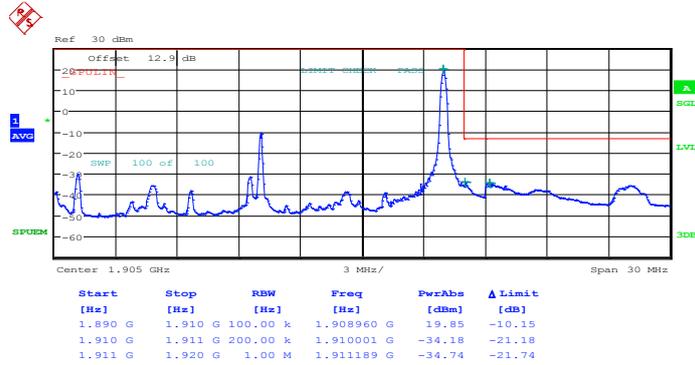
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 8.JUL.2014 01:15:04

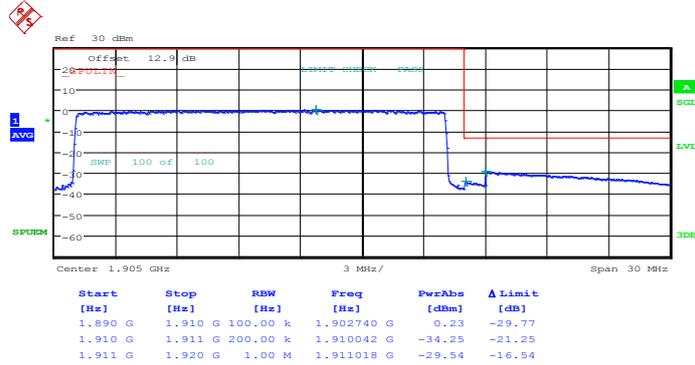


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 8.JUL.2014 01:25:37

Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0

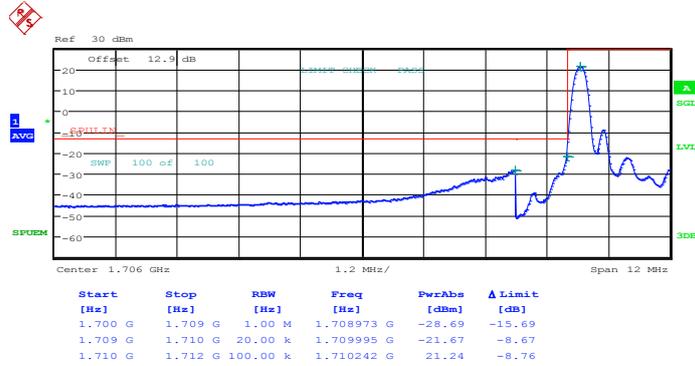


Date: 8.JUL.2014 01:27:37



<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	1.4MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:04:44

Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 9.JUL.2014 21:06:15

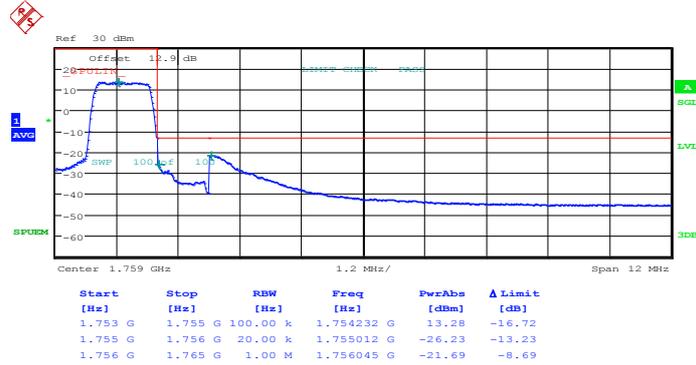


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 9.JUL.2014 21:13:42

Higher Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 9.JUL.2014 21:15:13



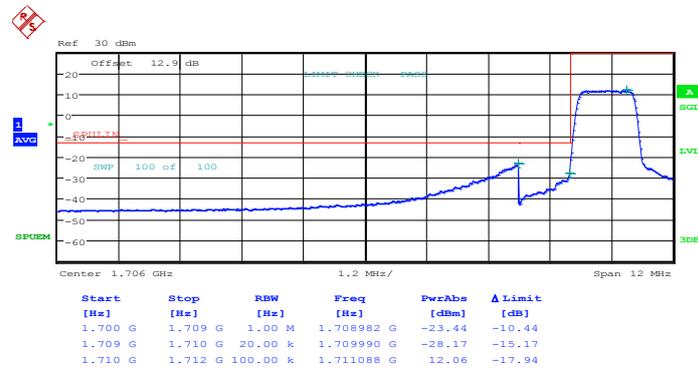
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	1.4MHz / 16QAM
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Lower Band Edge Plot for 16QAM -RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:05:29

Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 9.JUL.2014 21:07:00

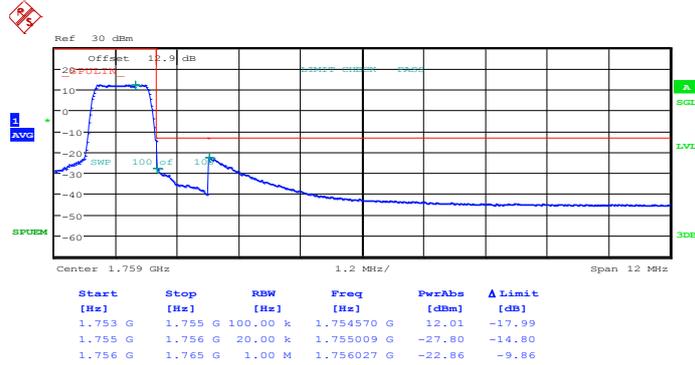


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 9.JUL.2014 21:14:27

Higher Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 9.JUL.2014 21:15:58



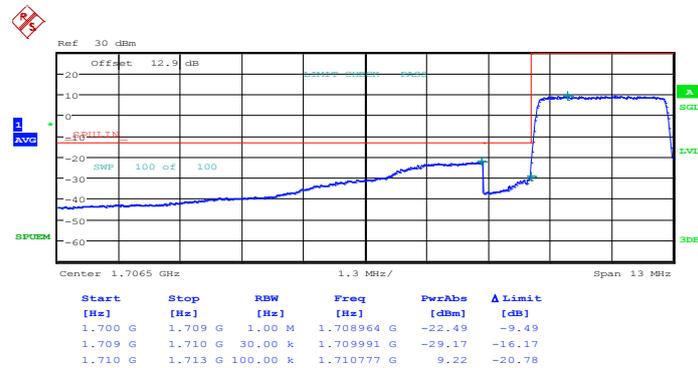
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	3MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:19:42

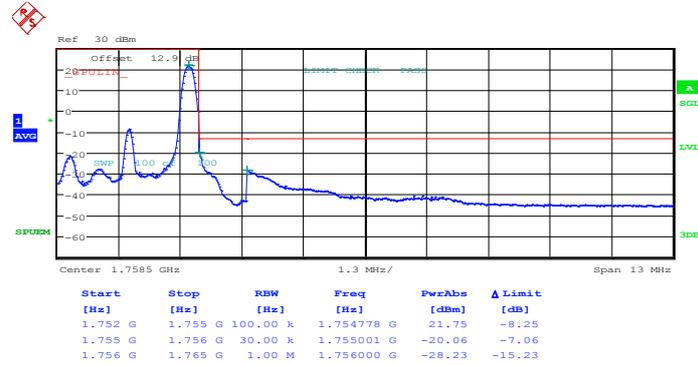
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 9.JUL.2014 21:21:13



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 9.JUL.2014 21:28:47

Higher Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 9.JUL.2014 21:30:20



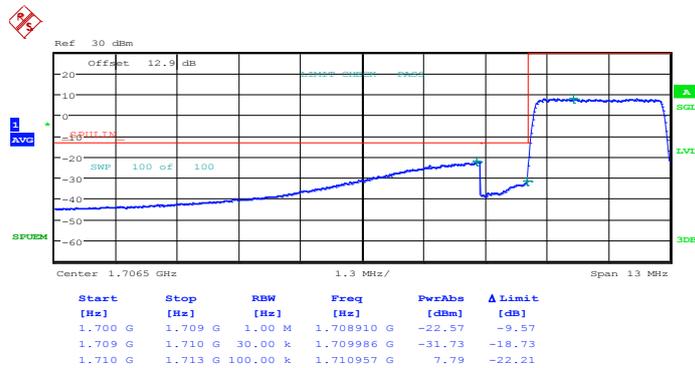
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	3MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:20:27

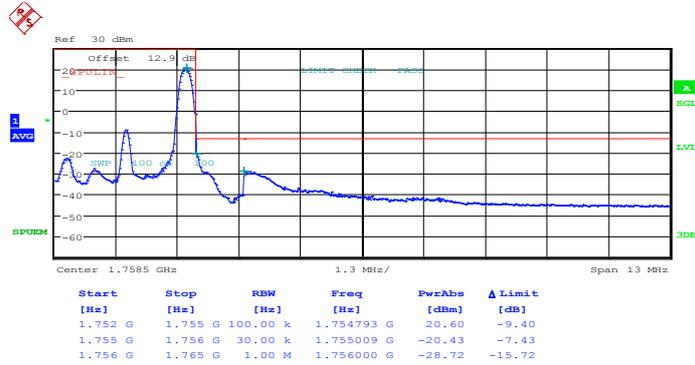
Lower Band Edge Plot for 16QAM-RB Size 15, RB Offset 0



Date: 9.JUL.2014 21:21:58

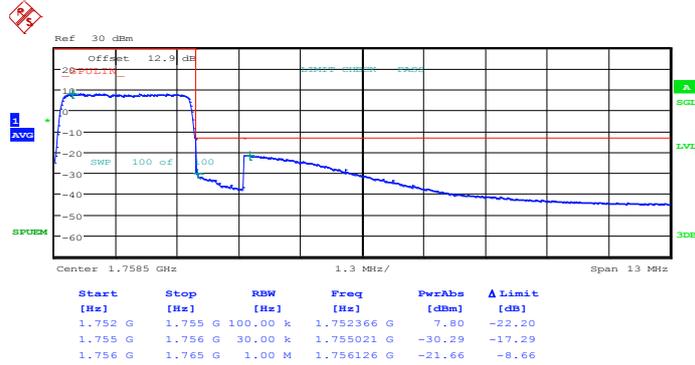


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 14



Date: 9.JUL.2014 21:29:33

Higher Band Edge Plot for 16QAM-RB Size 15, RB Offset 0

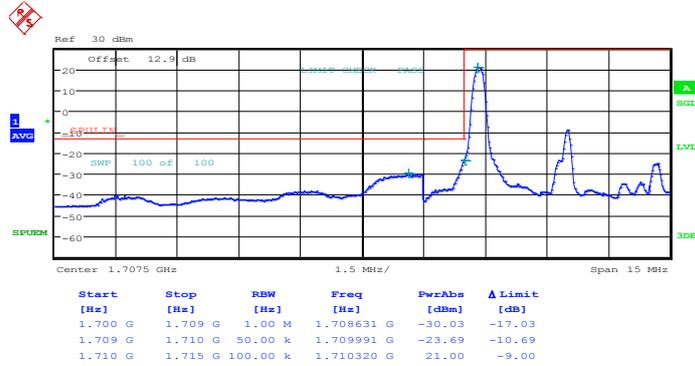


Date: 9.JUL.2014 21:31:07



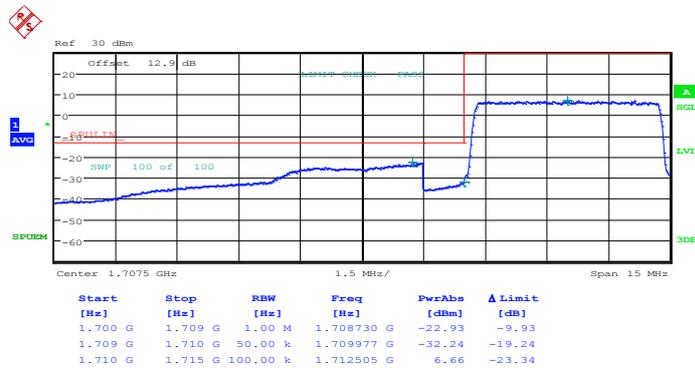
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:36:40

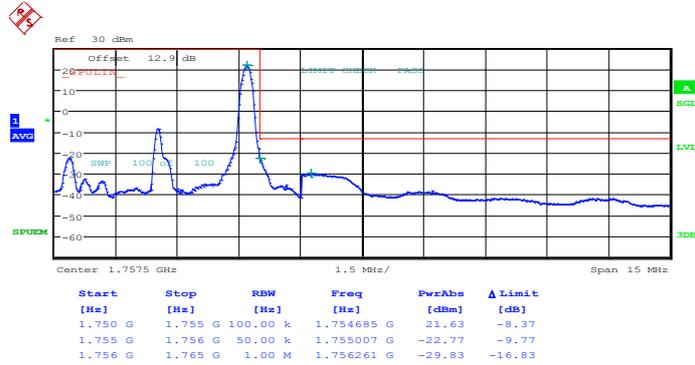
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 9.JUL.2014 21:38:11



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 9.JUL.2014 21:45:35

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

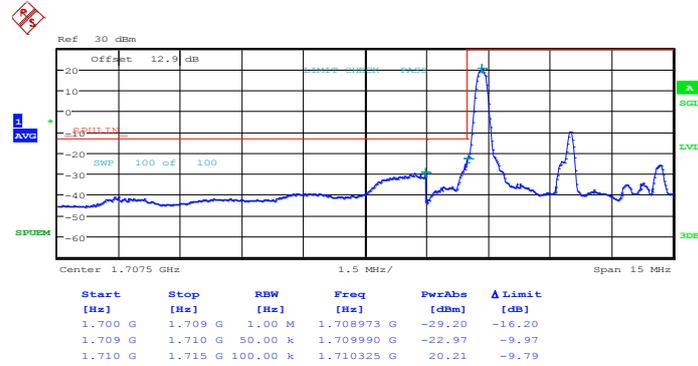


Date: 9.JUL.2014 21:47:06



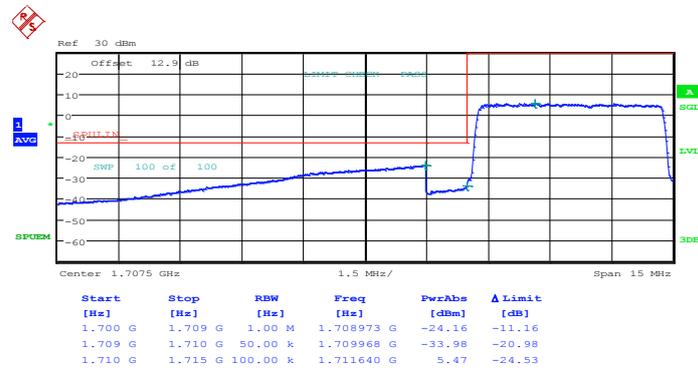
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:37:25

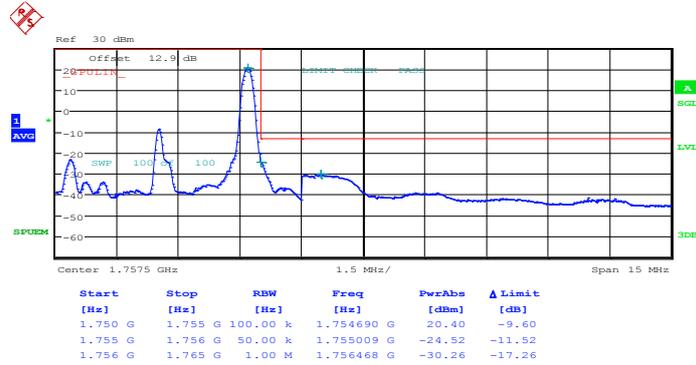
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 9.JUL.2014 21:38:56

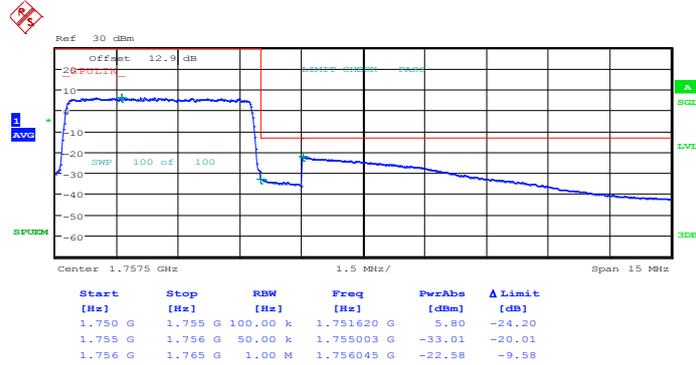


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 9.JUL.2014 21:46:20

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

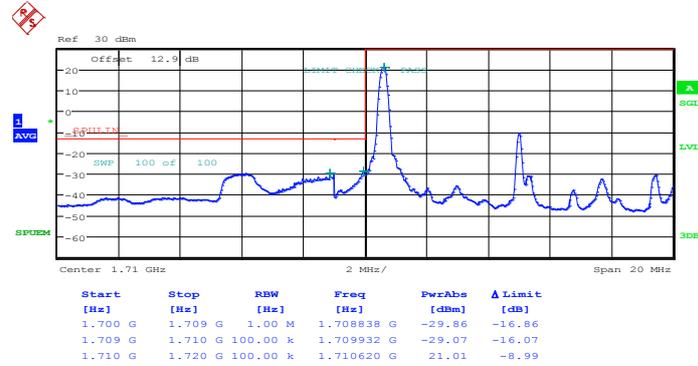


Date: 9.JUL.2014 21:47:51



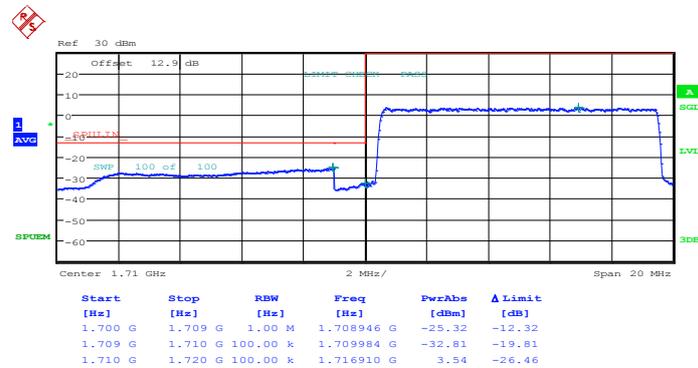
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:51:34

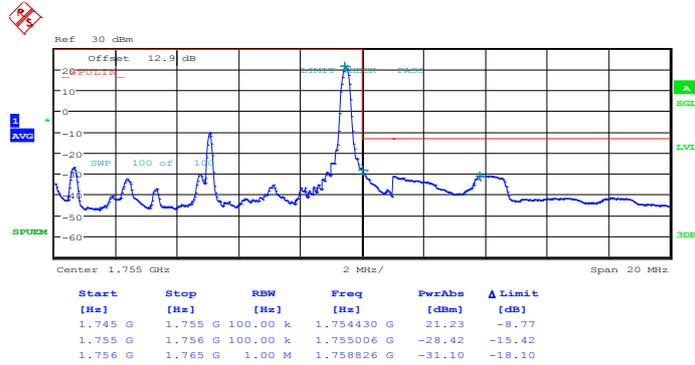
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 9.JUL.2014 21:53:04

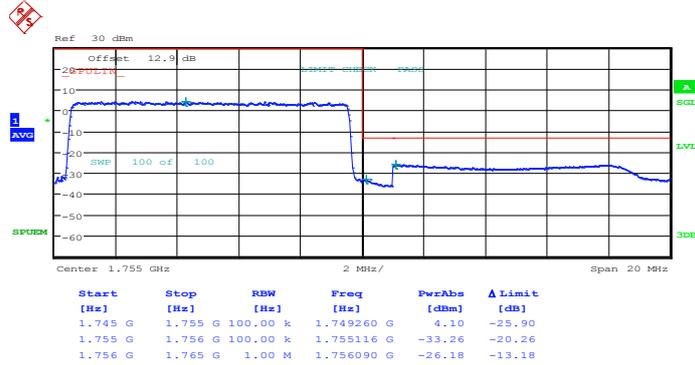


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 9.JUL.2014 22:00:30

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

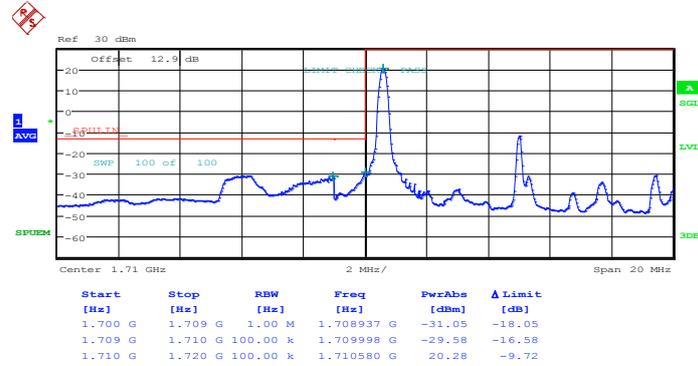


Date: 9.JUL.2014 22:02:00



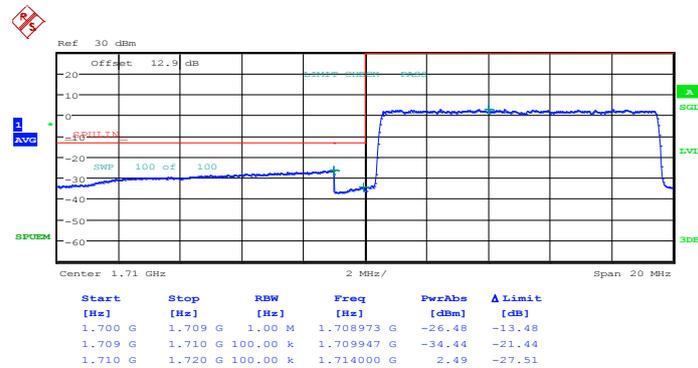
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 21:52:19

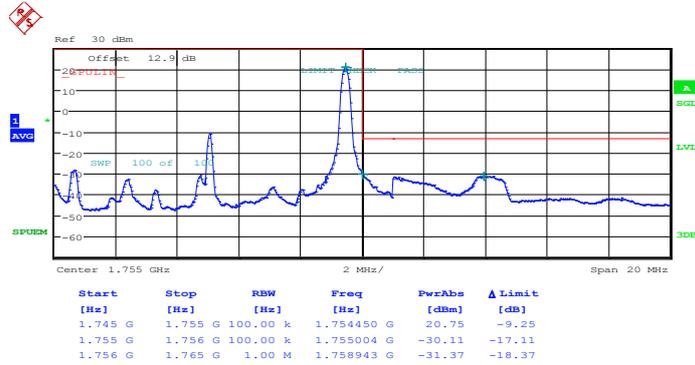
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 9.JUL.2014 21:53:50

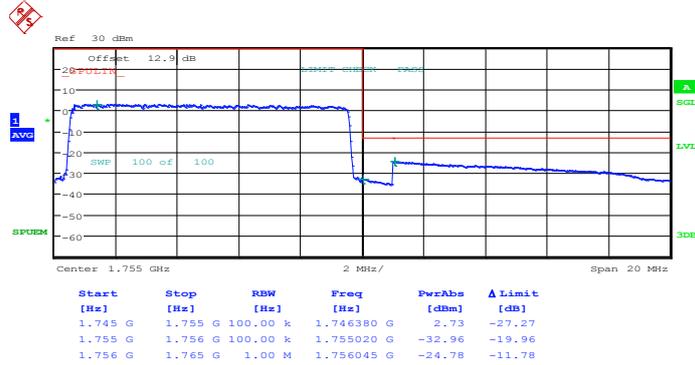


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 9.JUL.2014 22:01:15

Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0

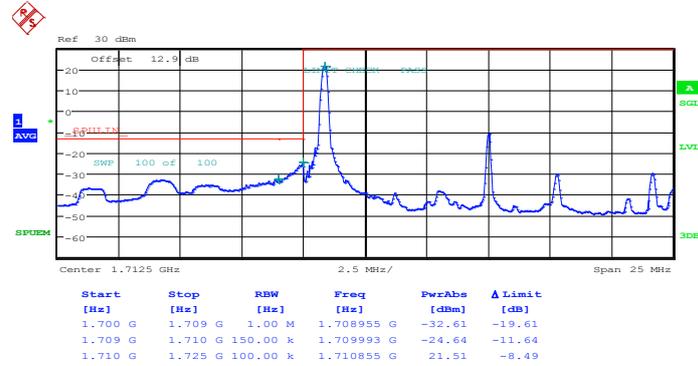


Date: 9.JUL.2014 22:02:45



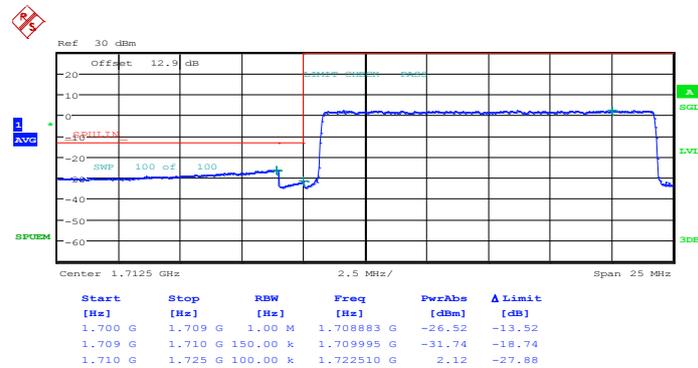
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	15MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:06:28

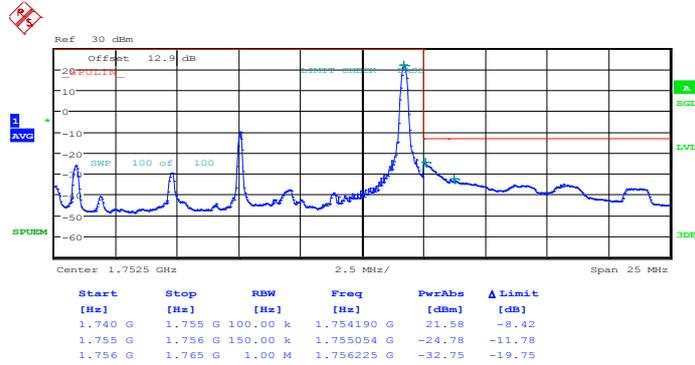
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 9.JUL.2014 22:07:59



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 9.JUL.2014 22:15:26

Higher Band Edge Plot for QPSK-RB Size 75, RB Offset 0

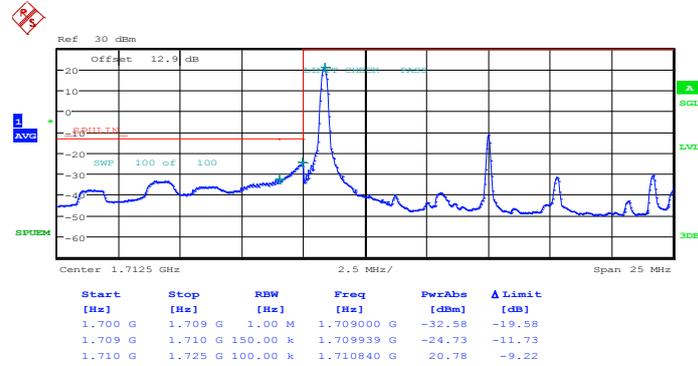


Date: 9.JUL.2014 22:16:57



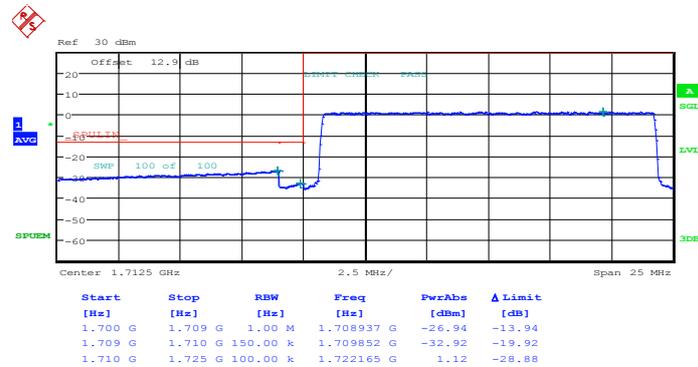
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	15MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:07:14

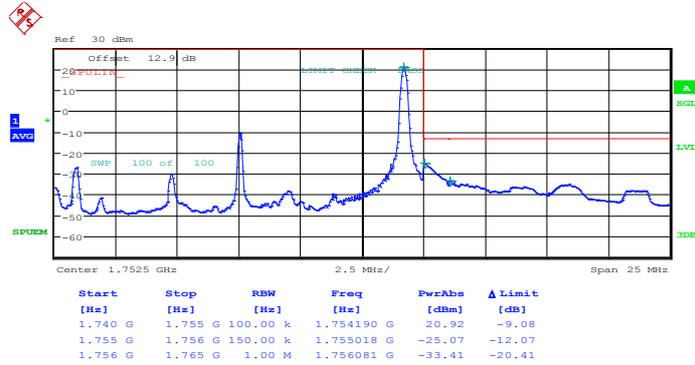
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 9.JUL.2014 22:08:44



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 9.JUL.2014 22:16:11

Higher Band Edge Plot for 16QAM-RB Size 75, RB Offset 0

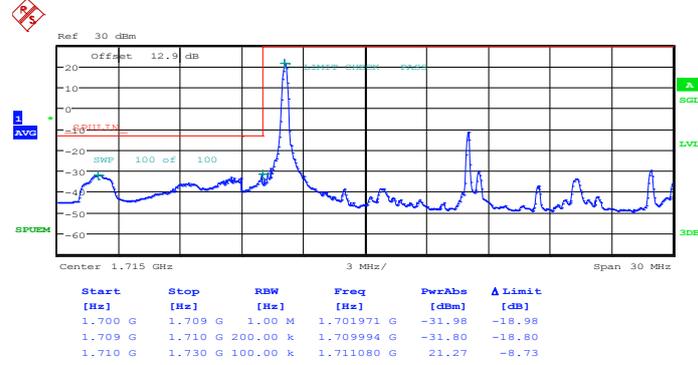


Date: 9.JUL.2014 22:17:42



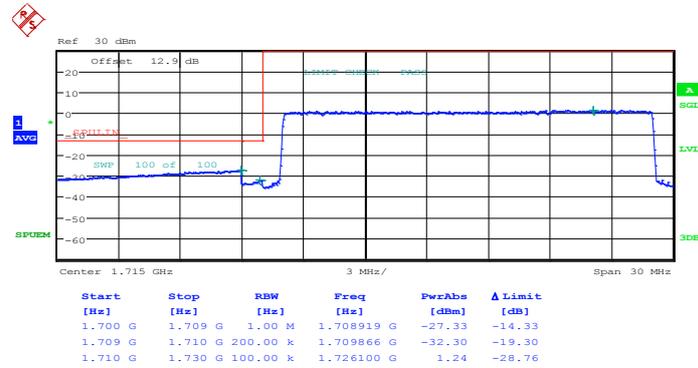
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	20MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:21:25

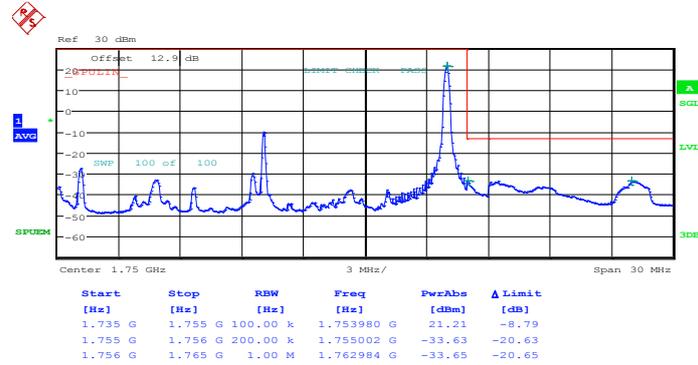
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 9.JUL.2014 22:22:56

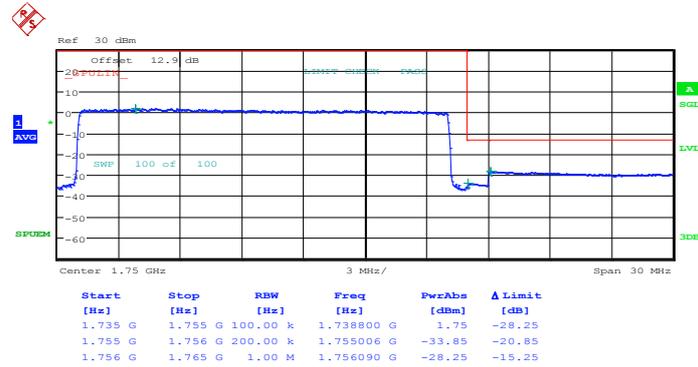


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 9.JUL.2014 22:30:22

Higher Band Edge Plot for QPSK-RB Size 100, RB Offset 0

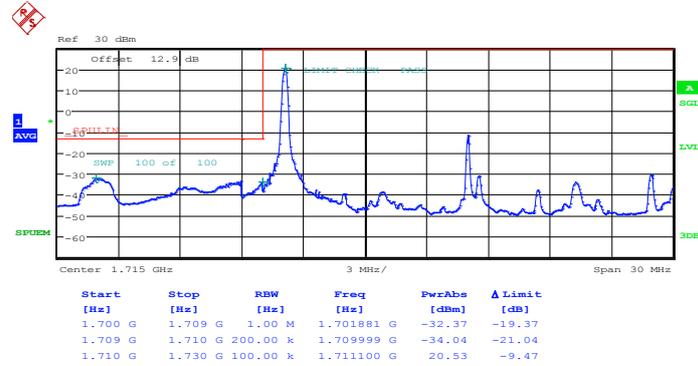


Date: 9.JUL.2014 22:31:53



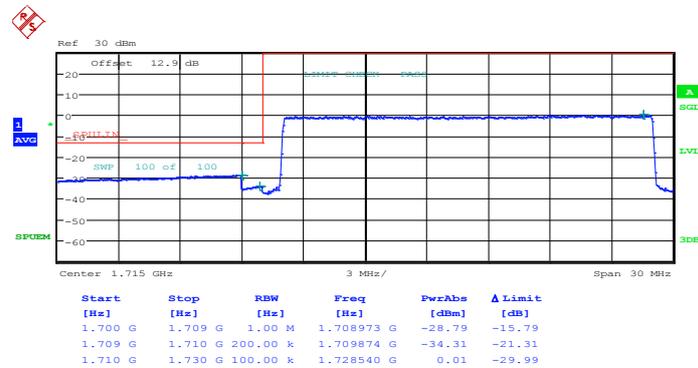
<b>Band :</b>	LTE Band 4	<b>Band Width :</b>	20MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:22:10

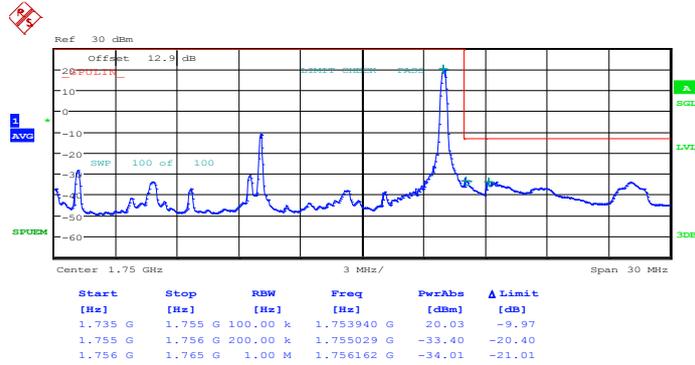
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 9.JUL.2014 22:23:41

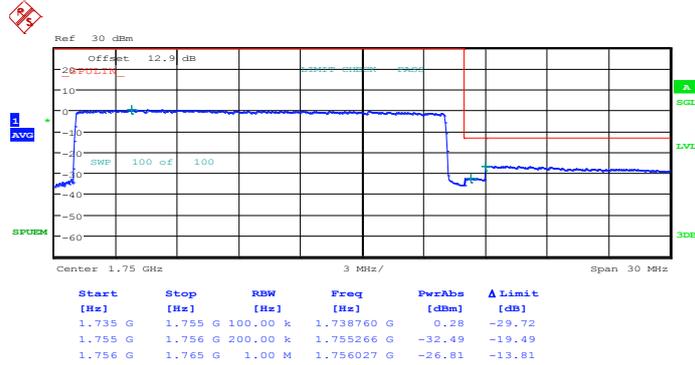


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 9.JUL.2014 22:31:07

Higher Band Edge Plot for 16QAM-RB Size 100, RB Offset 0

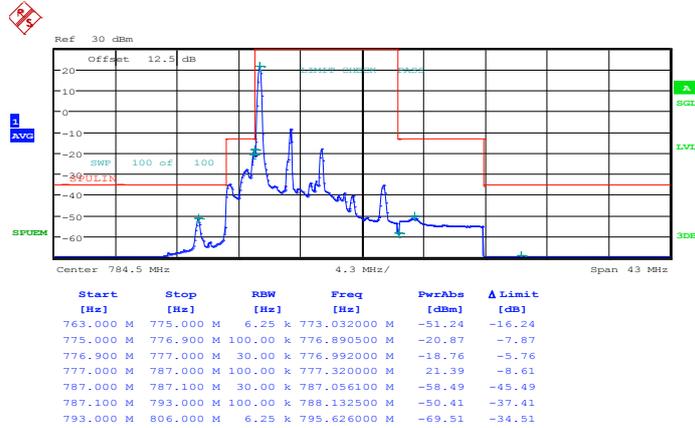


Date: 9.JUL.2014 22:32:38



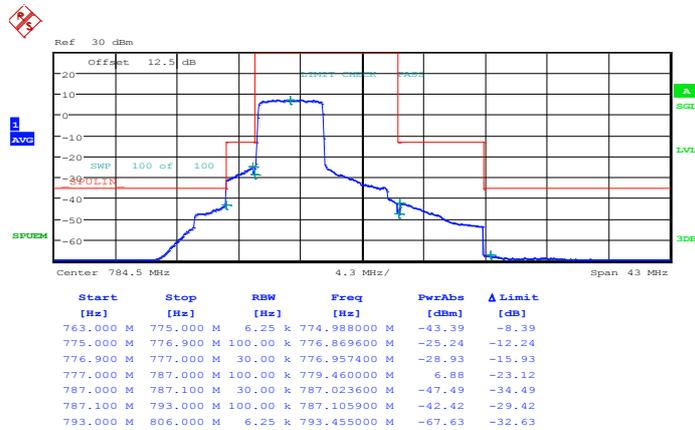
<b>Band :</b>	LTE Band 13	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 10.JUL.2014 23:13:19

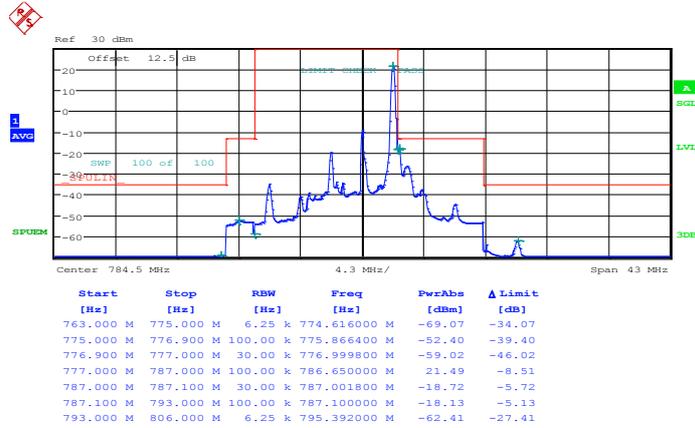
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 10.JUL.2014 23:34:42

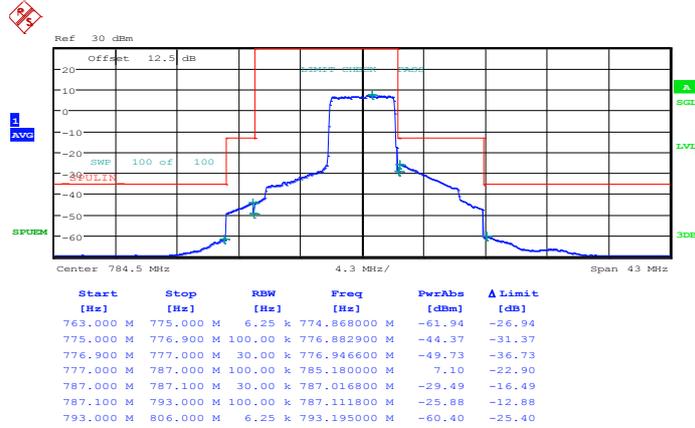


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 10.JUL.2014 23:46:43

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

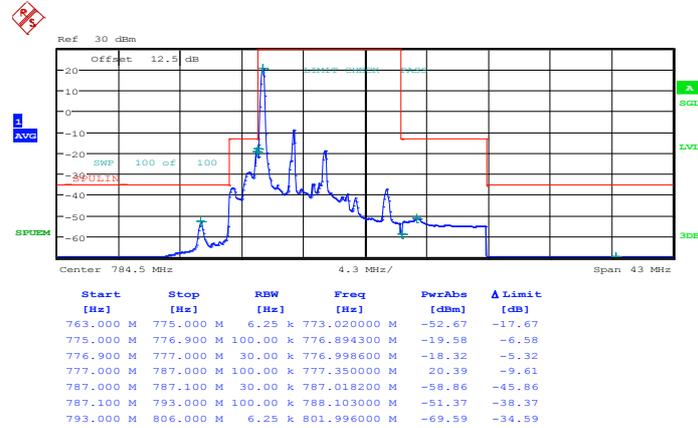


Date: 10.JUL.2014 23:37:29



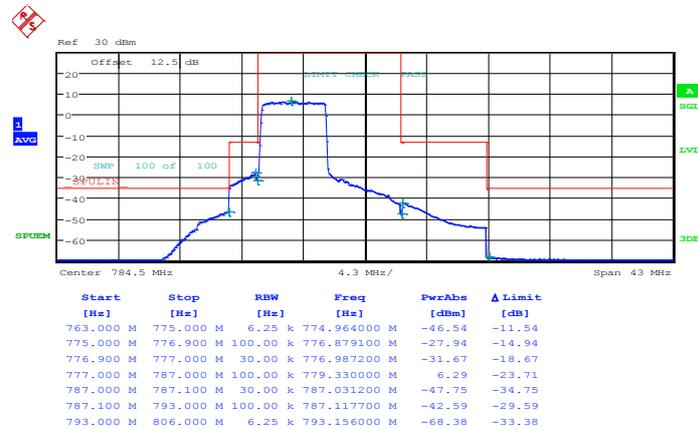
<b>Band :</b>	LTE Band 13	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 10.JUL.2014 23:29:29

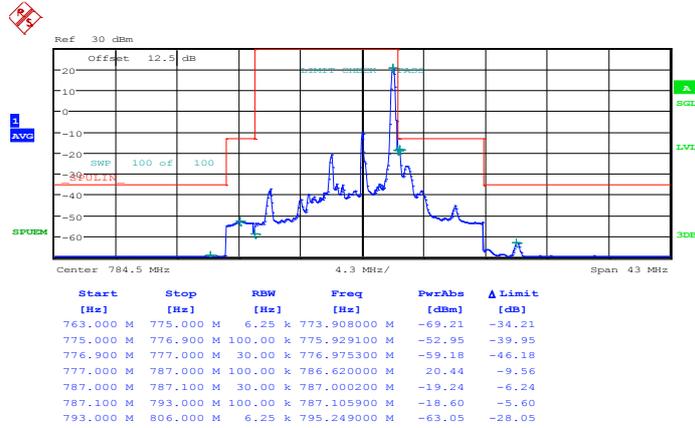
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 10.JUL.2014 23:32:23

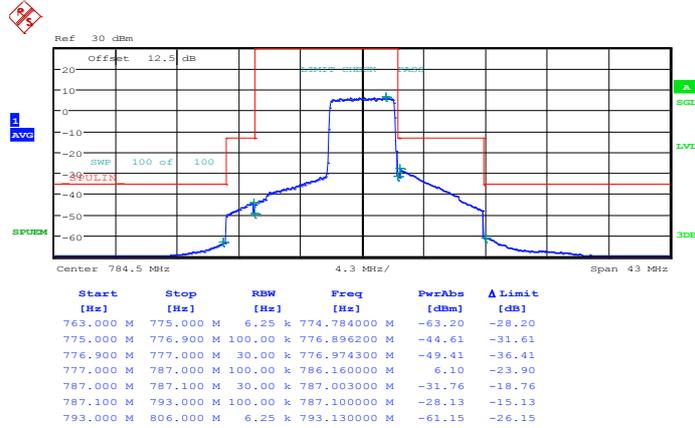


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 10.JUL.2014 23:43:30

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

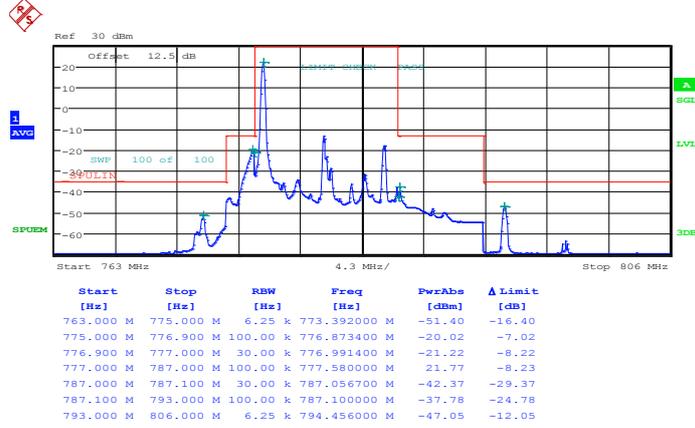


Date: 10.JUL.2014 23:40:53



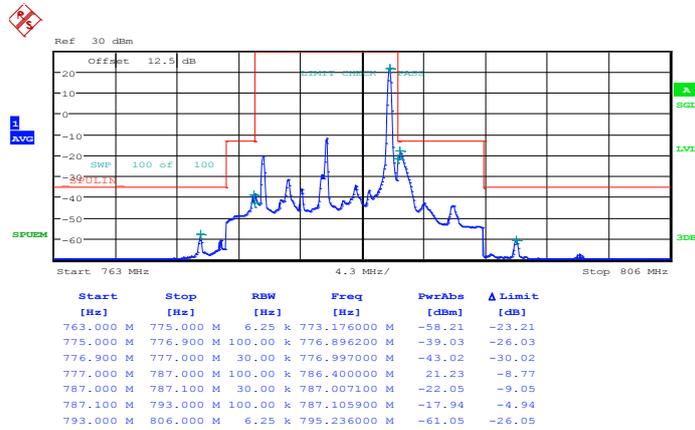
<b>Band :</b>	LTE Band 13	<b>Band Width :</b>	10MHz / QPSK
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Middle Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 11.JUL.2014 00:08:58

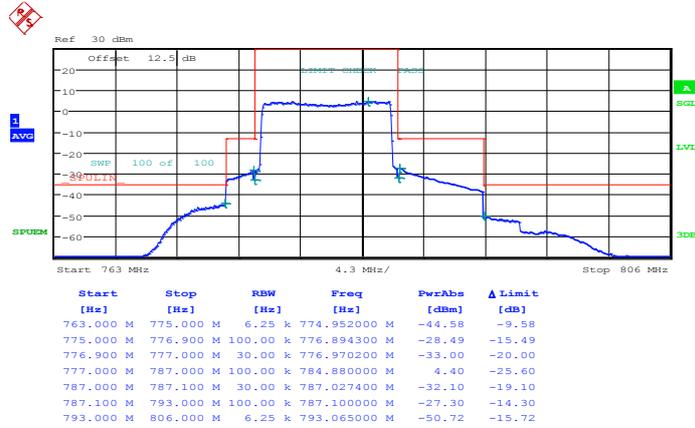
Middle Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 11.JUL.2014 00:17:40



Middle Band Edge Plot for QPSK-RB Size 1, RB Offset 49

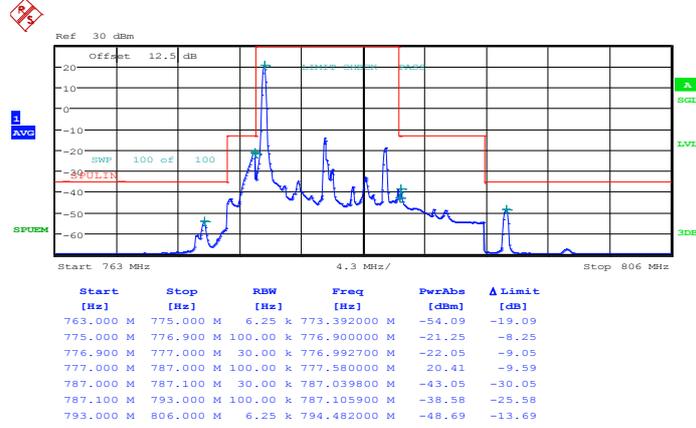


Date: 11.JUL.2014 00:20:33



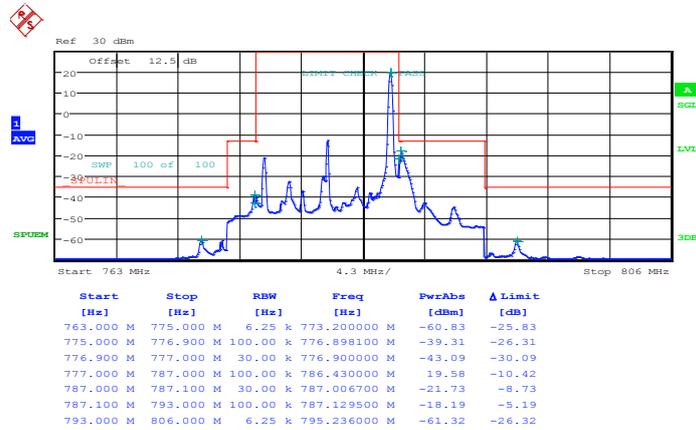
Band :	LTE Band 13	Band Width :	10MHz / 16QAM
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Middle Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 11.JUL.2014 00:11:23

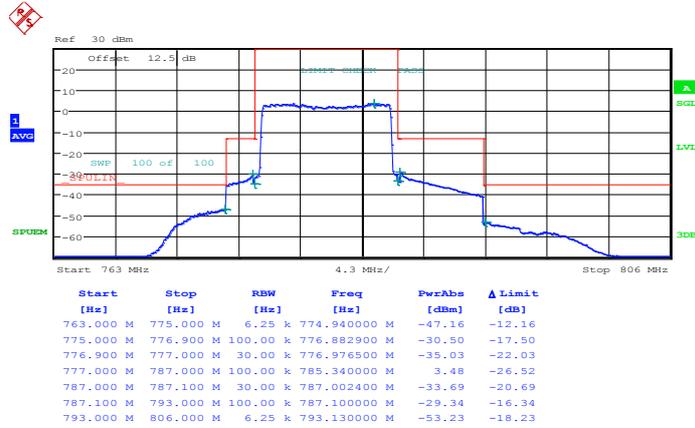
Middle Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 11.JUL.2014 00:14:46



Middle Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 11.JUL.2014 00:23:17



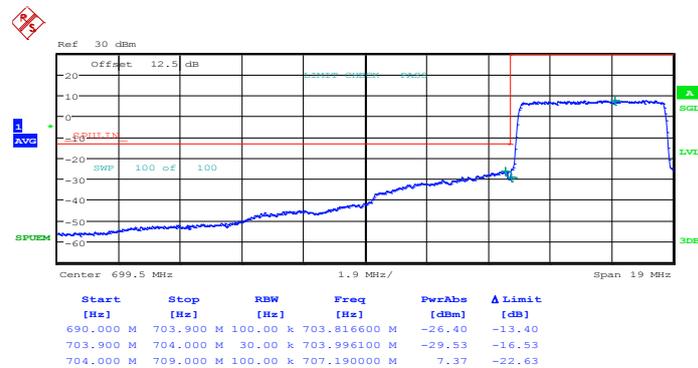
<b>Band :</b>	LTE Band 17	<b>Band Width :</b>	5MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:47:39

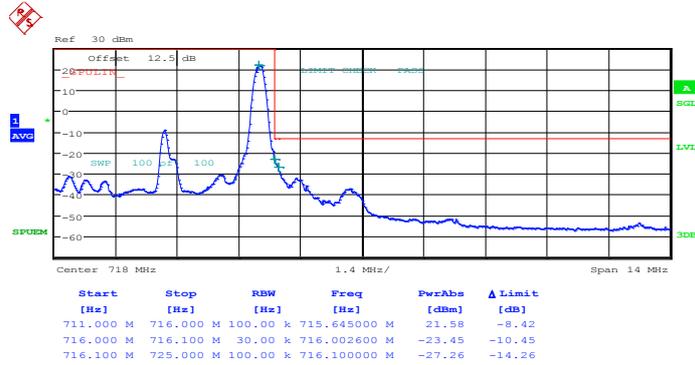
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 9.JUL.2014 22:49:10



Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 9.JUL.2014 22:56:36

Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0

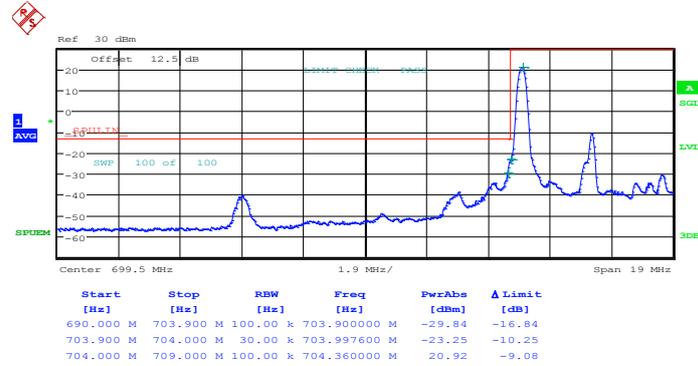


Date: 9.JUL.2014 22:58:07



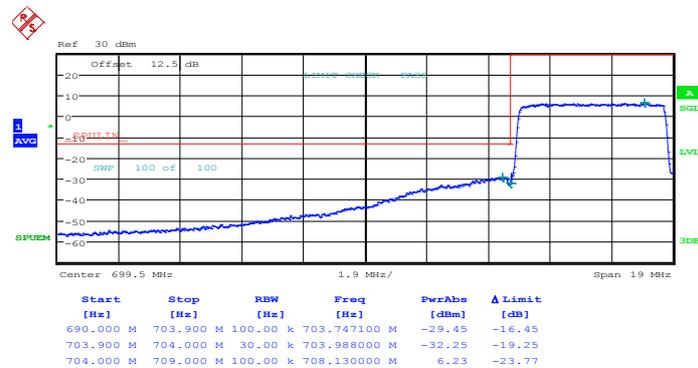
<b>Band :</b>	LTE Band 17	<b>Band Width :</b>	5MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 22:48:25

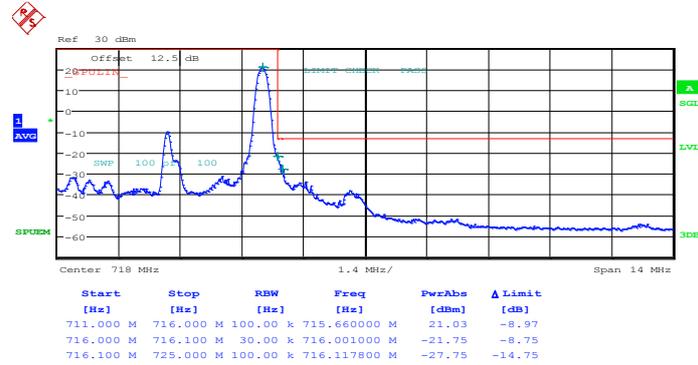
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 9.JUL.2014 22:49:55



Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 9.JUL.2014 22:57:22

Higher Band Edge Plot for 16QAM-RB Size 25, RB Offset 0

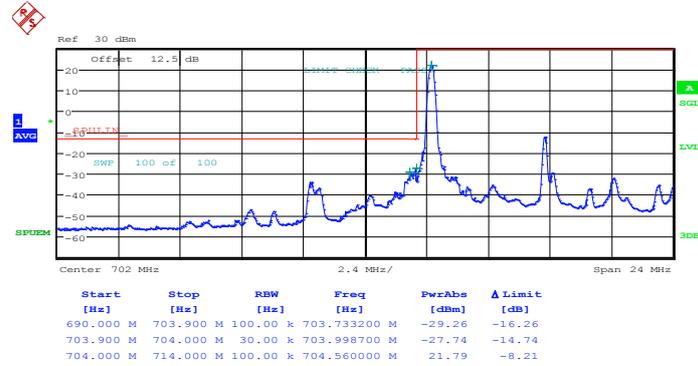


Date: 9.JUL.2014 22:58:52



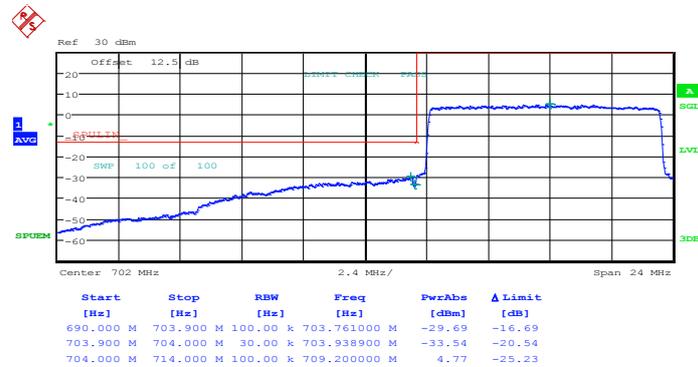
Band :	LTE Band 17	Band Width :	10MHz / QPSK
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Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 9.JUL.2014 23:02:35

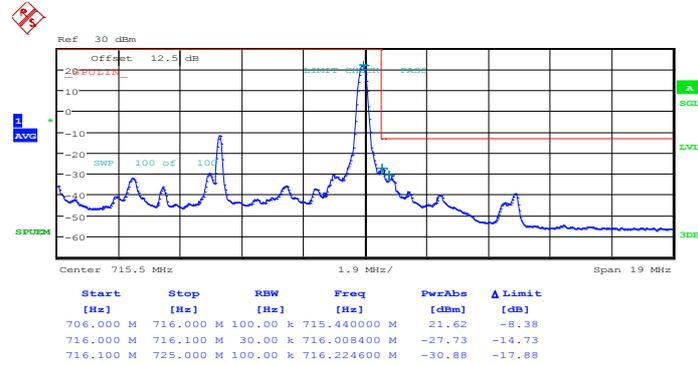
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 9.JUL.2014 23:04:06

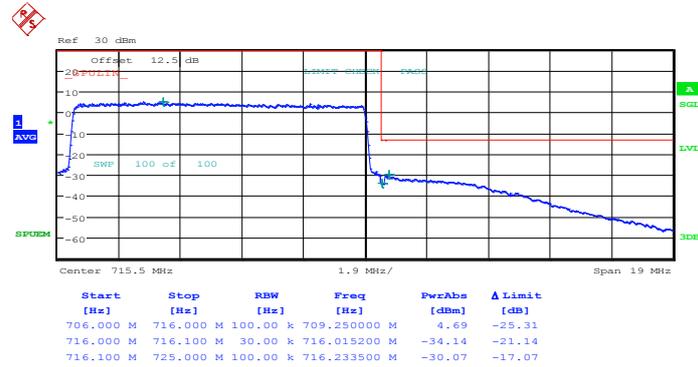


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 9.JUL.2014 23:11:32

Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0

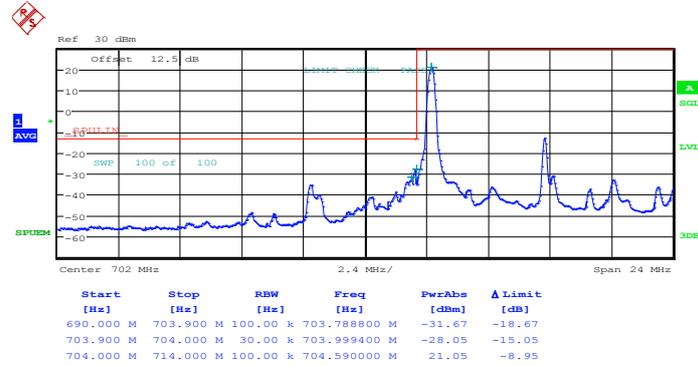


Date: 9.JUL.2014 23:13:03



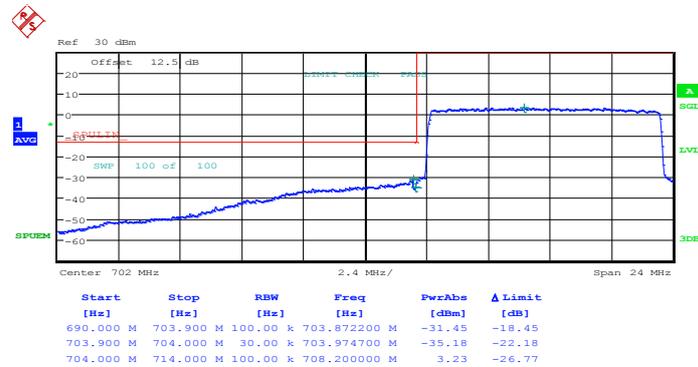
<b>Band :</b>	LTE Band 17	<b>Band Width :</b>	10MHz / 16QAM
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Lower Band Edge Plot for 16QAM-RB Size 1, RB Offset 0



Date: 9.JUL.2014 23:03:21

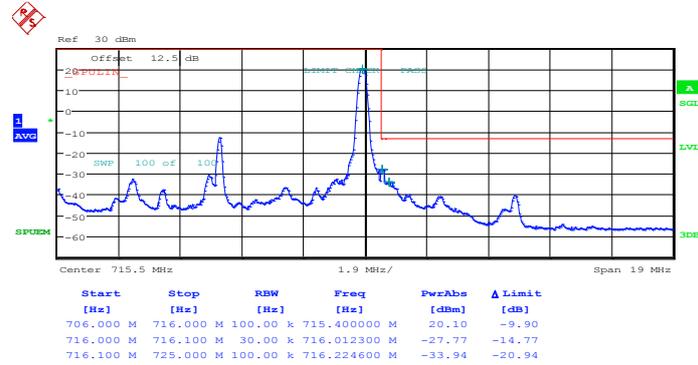
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 9.JUL.2014 23:04:51

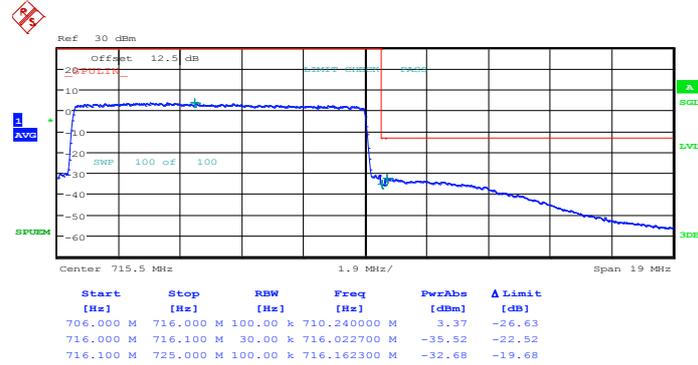


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 9.JUL.2014 23:12:17

Higher Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 9.JUL.2014 23:13:48

## 3.5 Conducted Spurious Emission Measurement

### 3.5.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30MHz up to a frequency including its 10<sup>th</sup> harmonic.

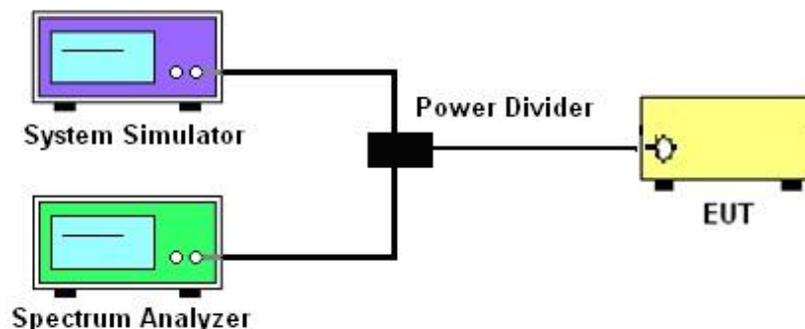
### 3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.5.3 Test Procedures

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The middle channel for the highest RF power within the transmitting frequency was measured.
4. The conducted spurious emission for the whole frequency range was taken.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$ dBm.

### 3.5.4 Test Setup

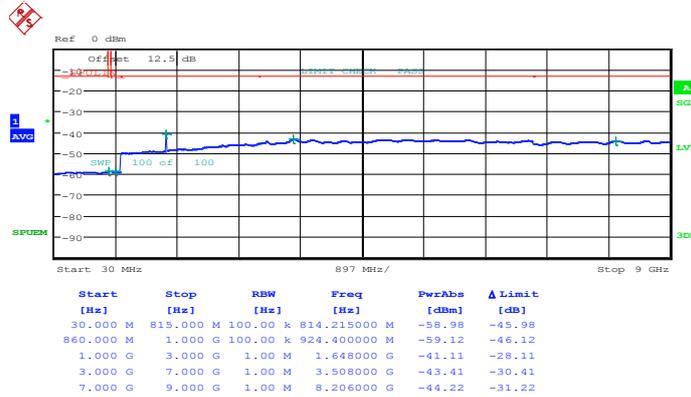




### 3.5.5 Test Result (Plots) of Conducted Spurious Emission

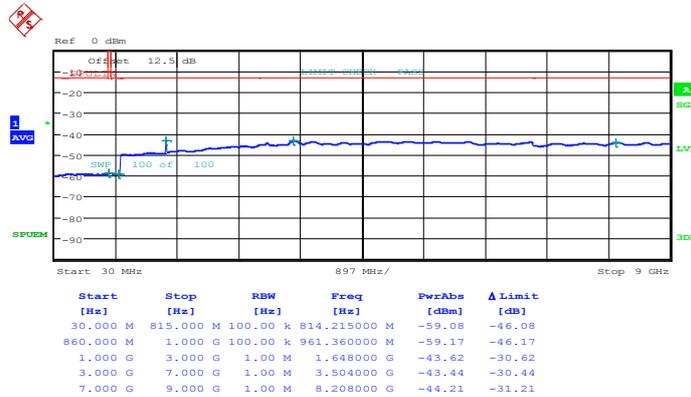
Band :	LTE Band 5	Channel :	CH20407 (Low)
Band Width :	1.4MHz		

#### QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 23:47:02

#### 16QAM (RB Size 1, RB Offset 0)

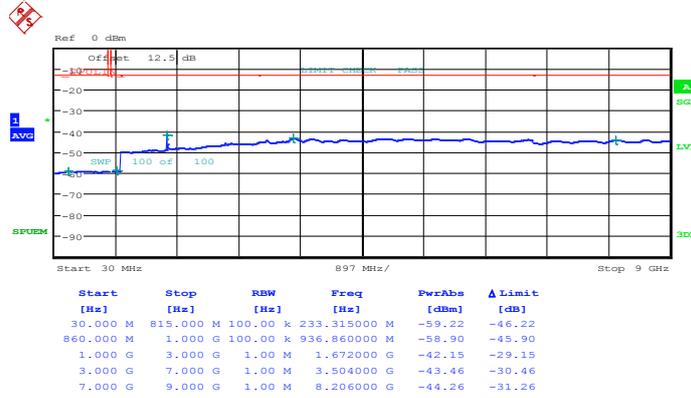


Date: 9.JUL.2014 23:48:01



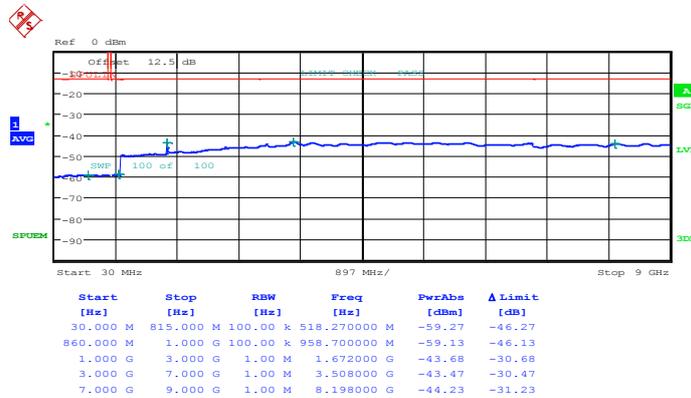
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20525 (Middle)
<b>Band Width :</b>	1.4MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 23:50:00

16QAM (RB Size 1, RB Offset 0)

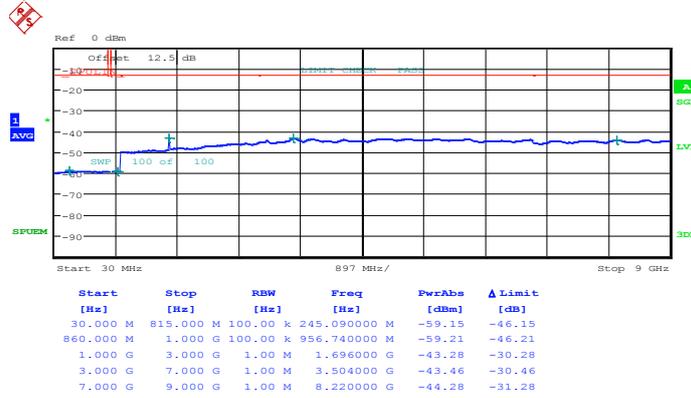


Date: 9.JUL.2014 23:50:58



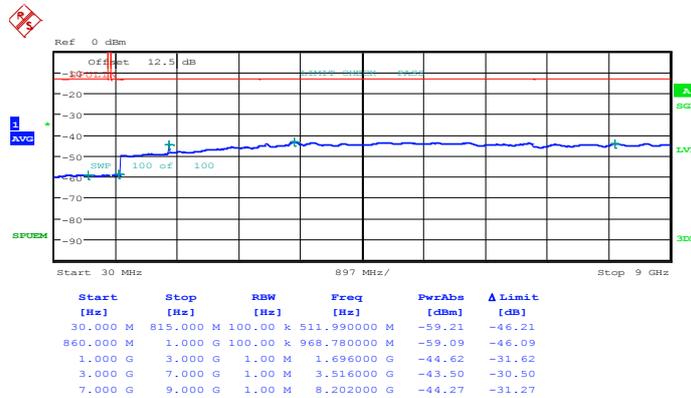
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20643 (High)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 23:55:59

**16QAM (RB Size 1, RB Offset 0)**

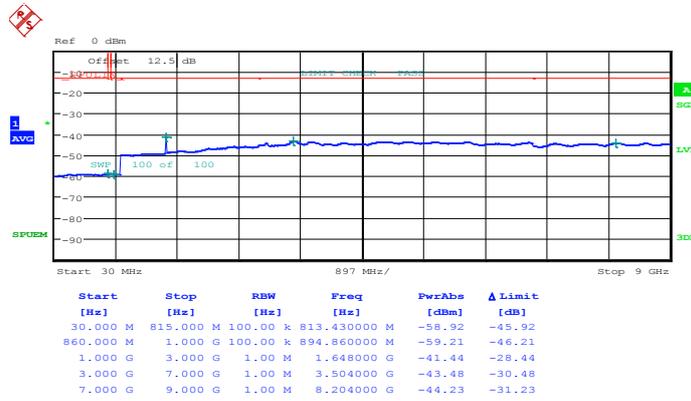


Date: 9.JUL.2014 23:56:57



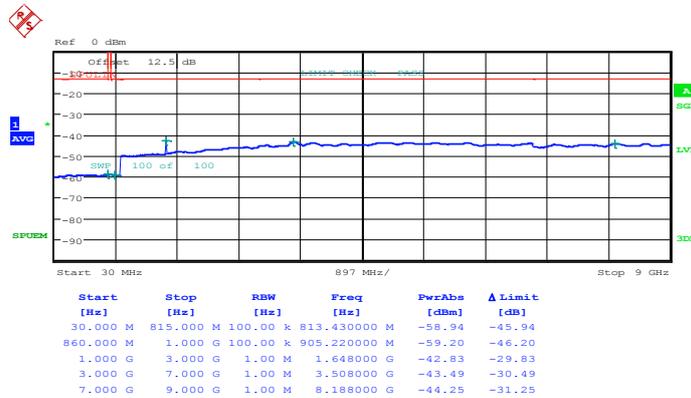
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20415 (Low)
<b>Band Width :</b>	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.JUL.2014 00:01:58

16QAM (RB Size 1, RB Offset 0)

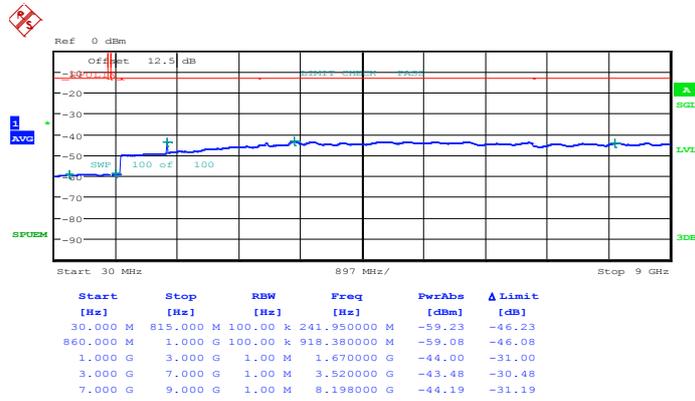


Date: 10.JUL.2014 00:02:56



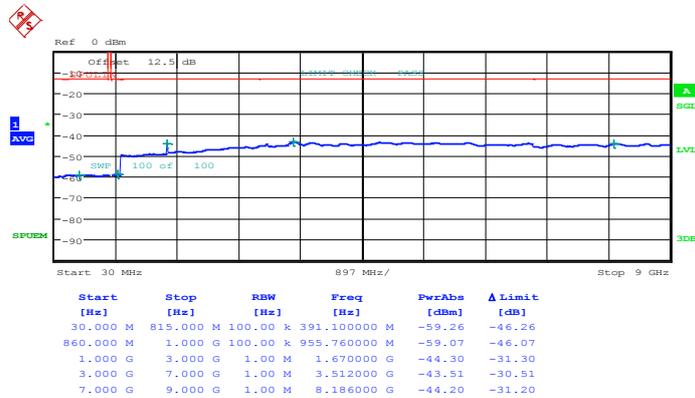
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20525 (Middle)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 00:04:56

**16QAM (RB Size 1, RB Offset 0)**

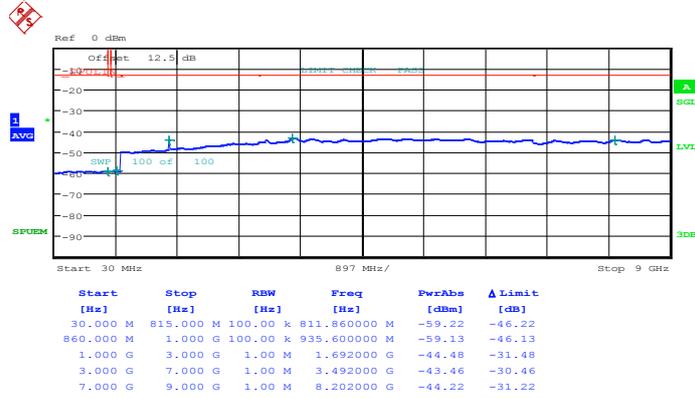


Date: 10.JUL.2014 00:06:02



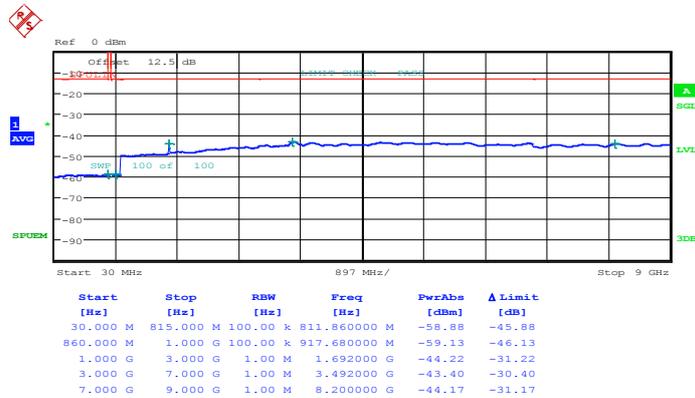
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20635 (High)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 00:11:08

**16QAM (RB Size 1, RB Offset 0)**

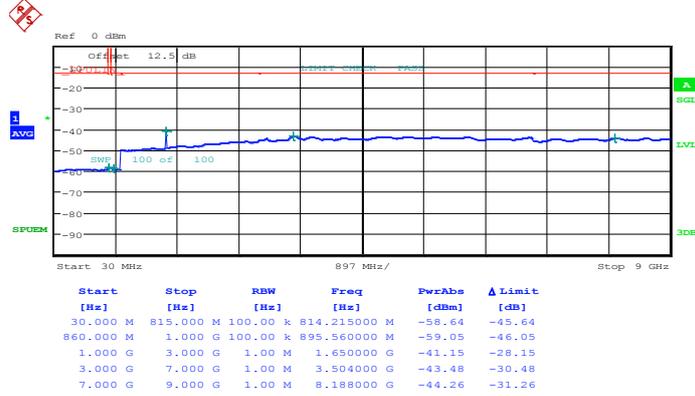


Date: 10.JUL.2014 00:12:07



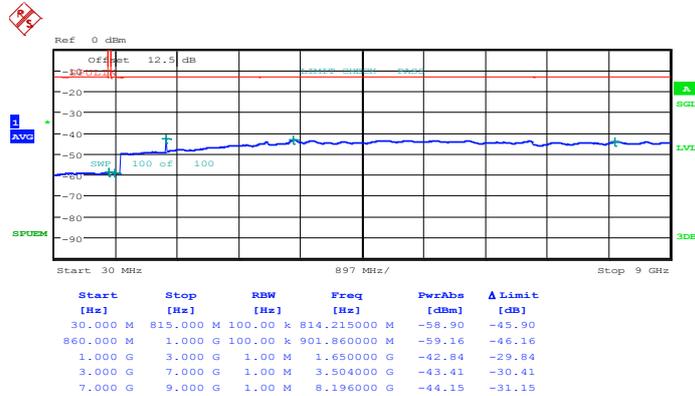
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20425 (Low)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 00:17:15

**16QAM (RB Size 1, RB Offset 0)**

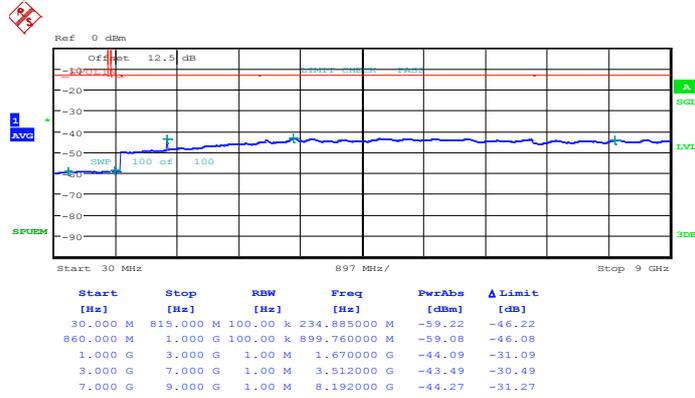


Date: 10.JUL.2014 00:18:14



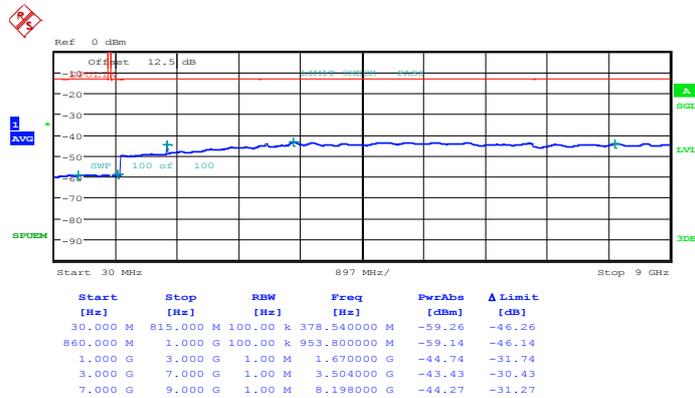
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20525 (Middle)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 00:20:21

**16QAM (RB Size 1, RB Offset 0)**

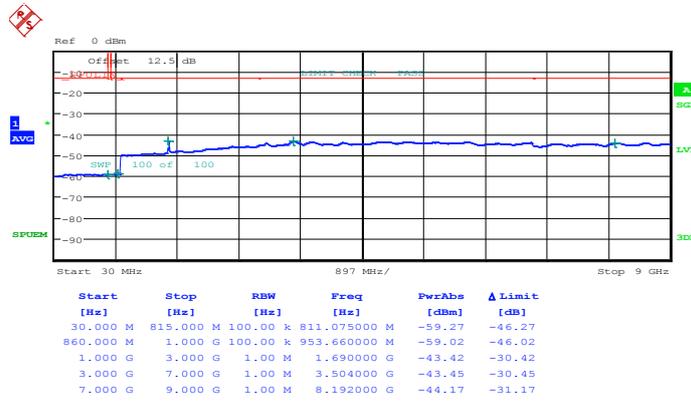


Date: 10.JUL.2014 00:21:22



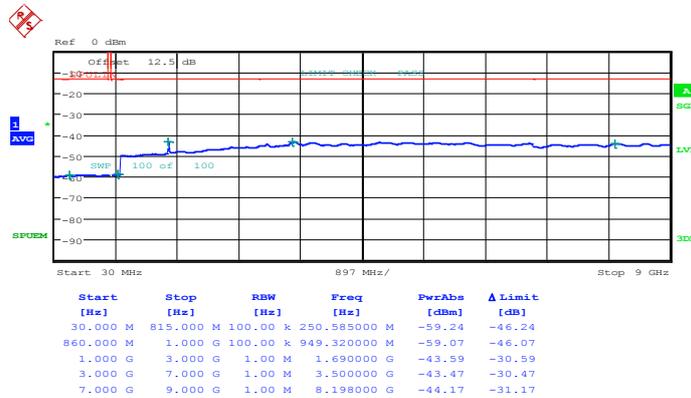
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20625 (High)
<b>Band Width :</b>	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.JUL.2014 00:26:54

16QAM (RB Size 1, RB Offset 0)

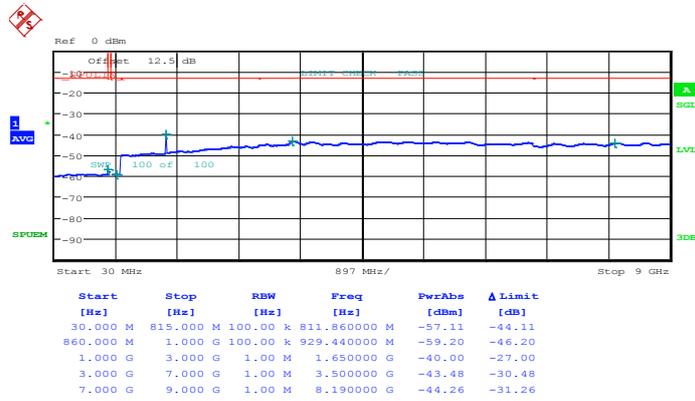


Date: 10.JUL.2014 00:27:56



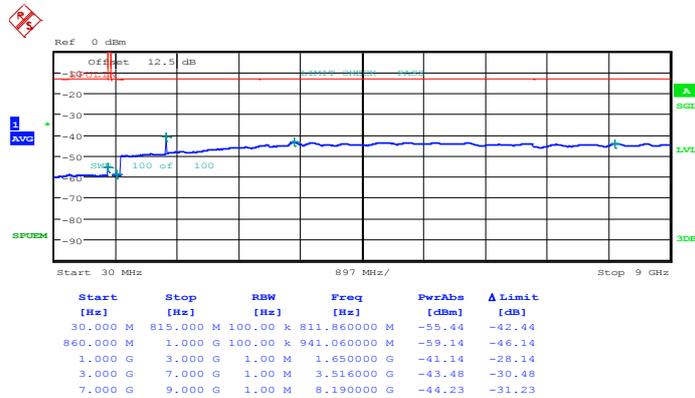
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20450 (Low)
<b>Band Width :</b>	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.JUL.2014 00:33:32

16QAM (RB Size 1, RB Offset 0)

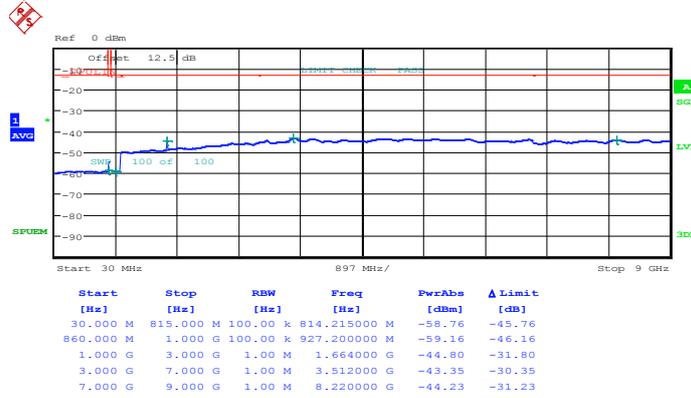


Date: 10.JUL.2014 00:34:35



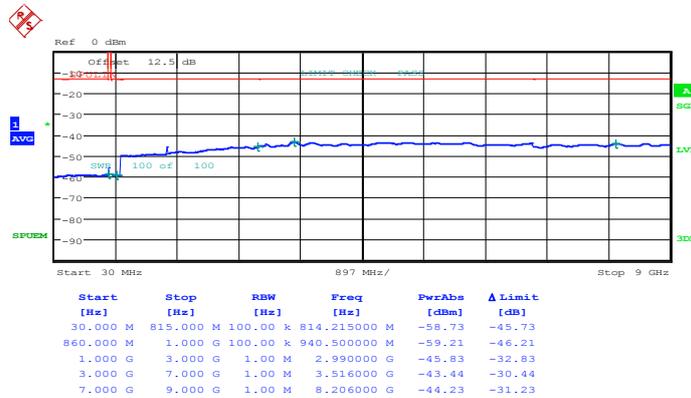
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20525 (Middle)
<b>Band Width :</b>	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.JUL.2014 00:36:58

16QAM (RB Size 1, RB Offset 0)

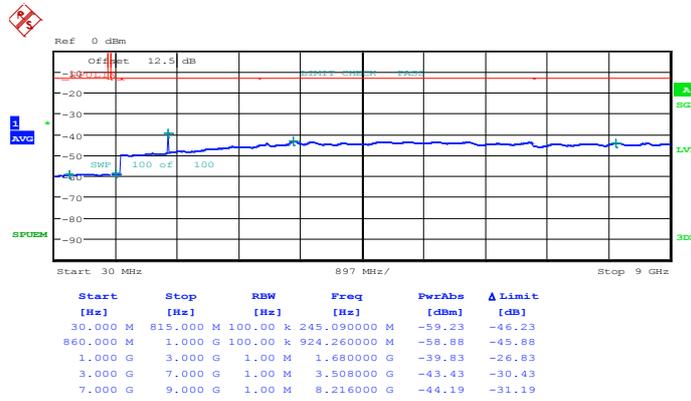


Date: 10.JUL.2014 00:38:02



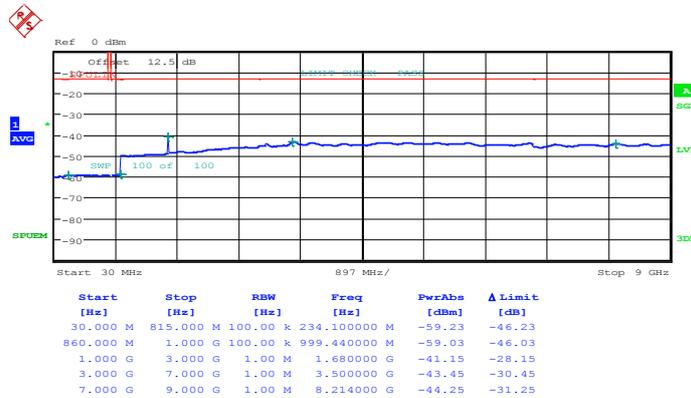
<b>Band :</b>	LTE Band 5	<b>Channel :</b>	CH20600 (High)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 00:43:56

**16QAM (RB Size 1, RB Offset 0)**

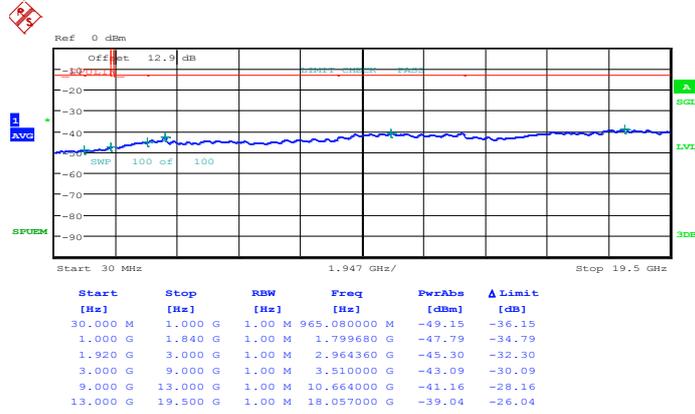


Date: 10.JUL.2014 00:45:01



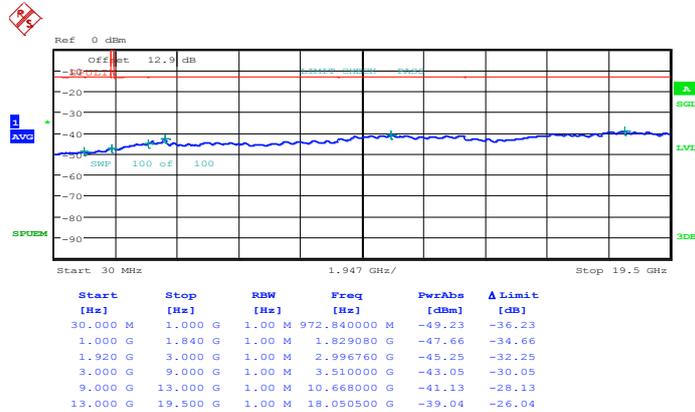
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18607 (Low)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 7.JUL.2014 23:51:42

**16QAM (RB Size 1, RB Offset 0)**

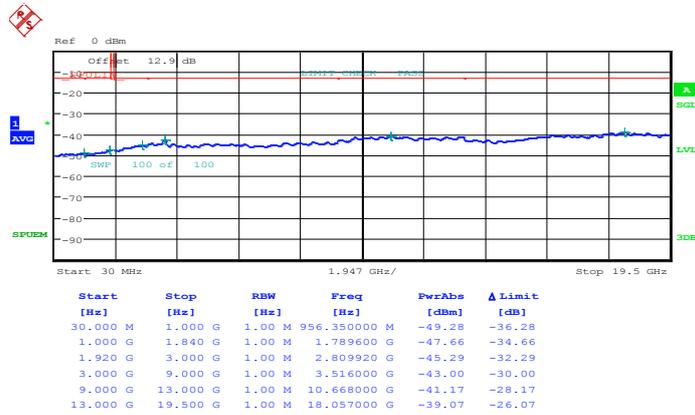


Date: 7.JUL.2014 23:52:41



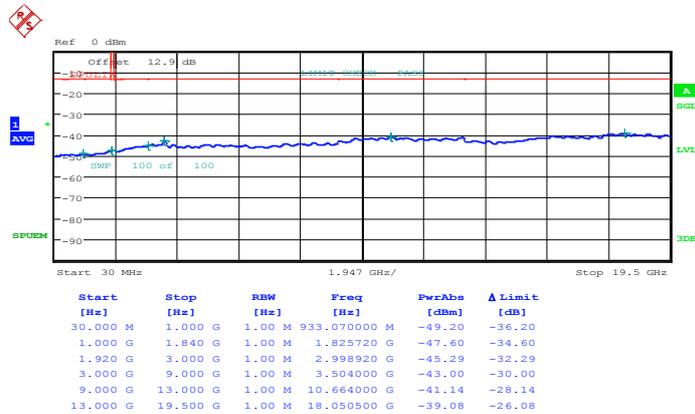
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 7.JUL.2014 23:54:40

**16QAM (RB Size 1, RB Offset 0)**

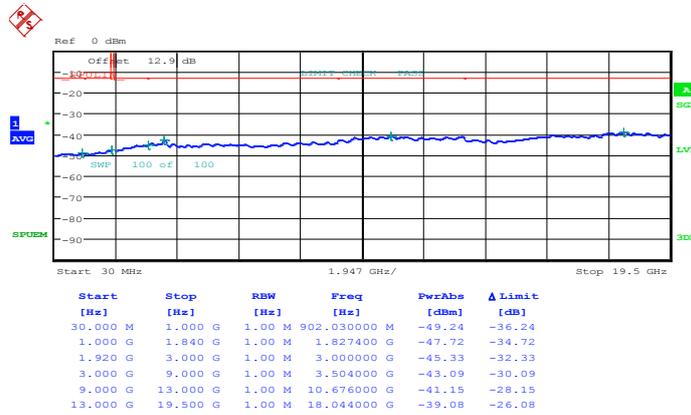


Date: 7.JUL.2014 23:55:39



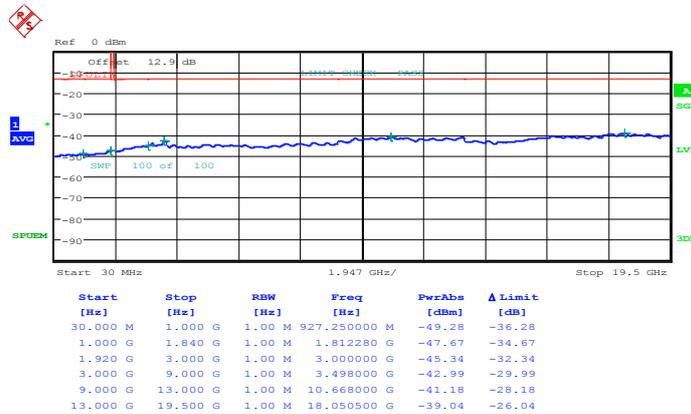
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19193 (High)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:00:40

**16QAM (RB Size 1, RB Offset 0)**

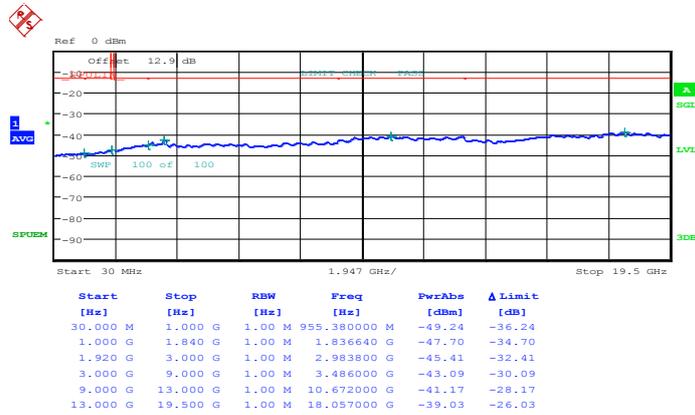


Date: 8.JUL.2014 00:01:39



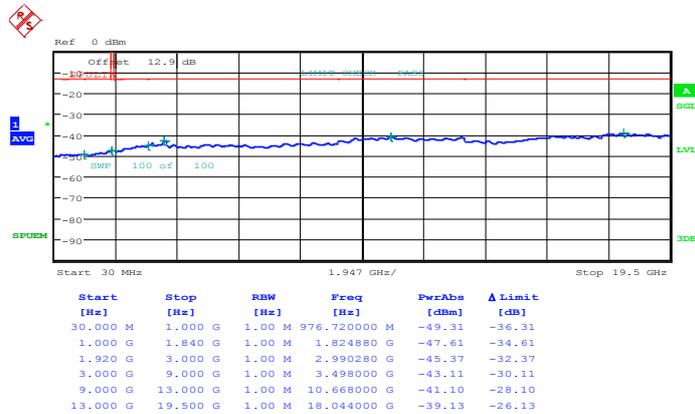
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18615 (Low)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:06:40

**16QAM (RB Size 1, RB Offset 0)**

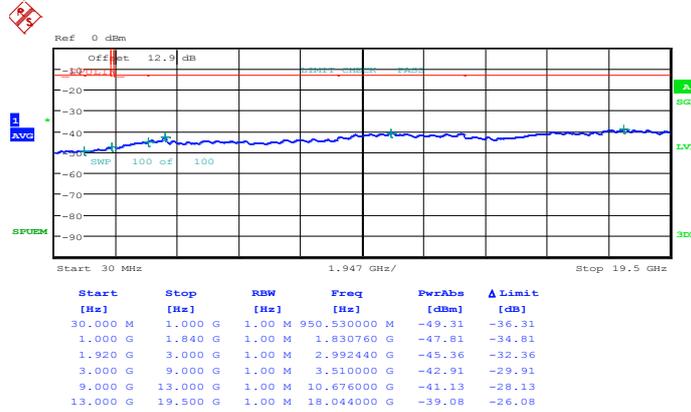


Date: 8.JUL.2014 00:07:39



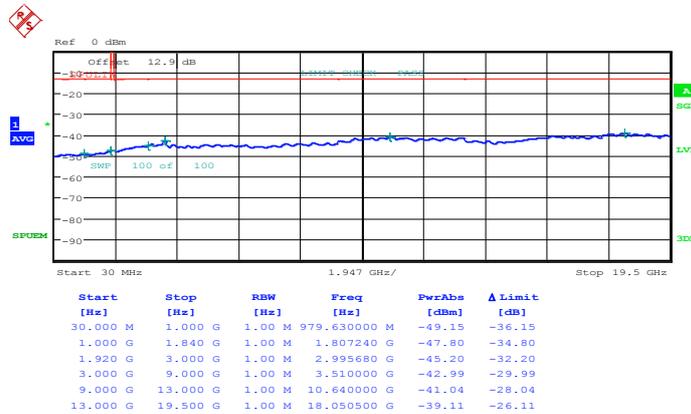
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 00:09:38

16QAM (RB Size 1, RB Offset 0)

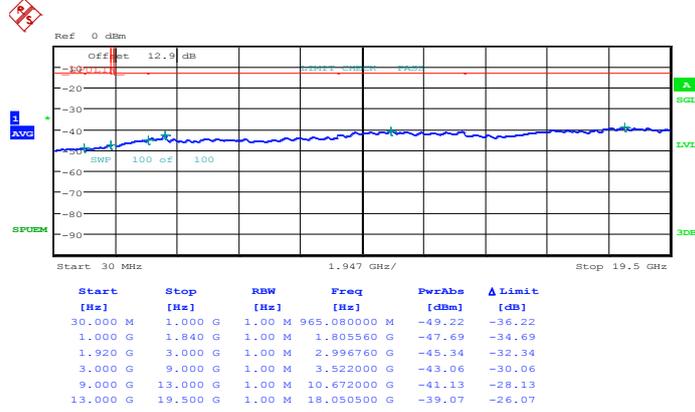


Date: 8.JUL.2014 00:10:37



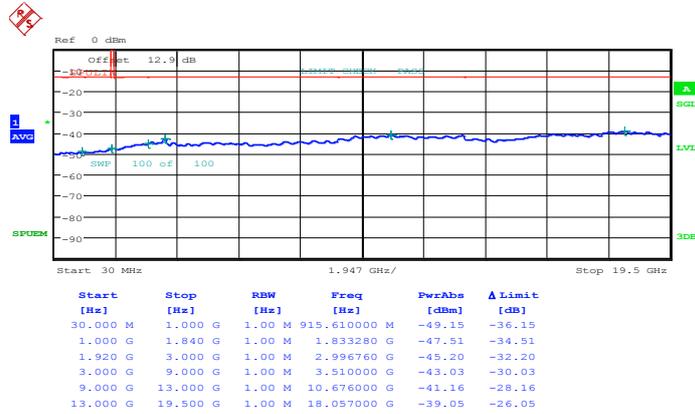
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19185 (High)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:15:43

**16QAM (RB Size 1, RB Offset 0)**

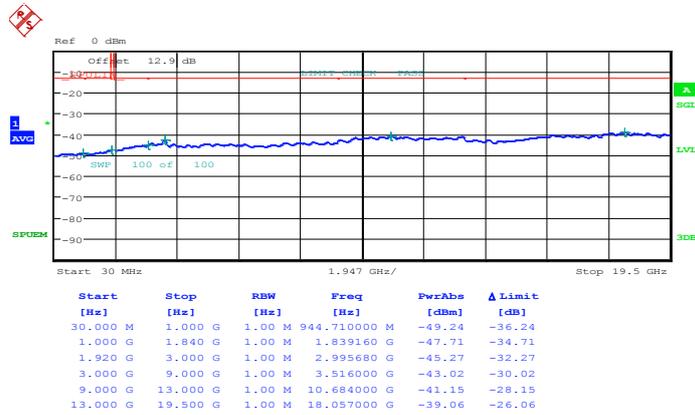


Date: 8.JUL.2014 00:16:43



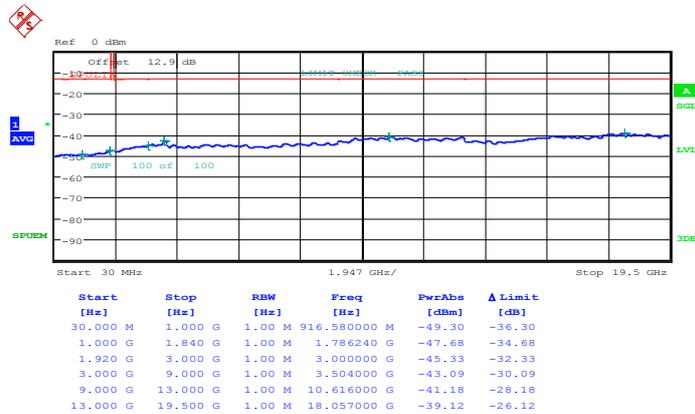
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18625 (Low)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:22:00

**16QAM (RB Size 1, RB Offset 0)**

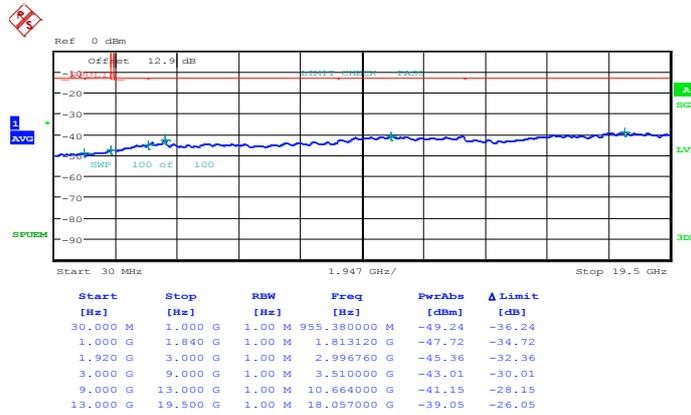


Date: 8.JUL.2014 00:23:01



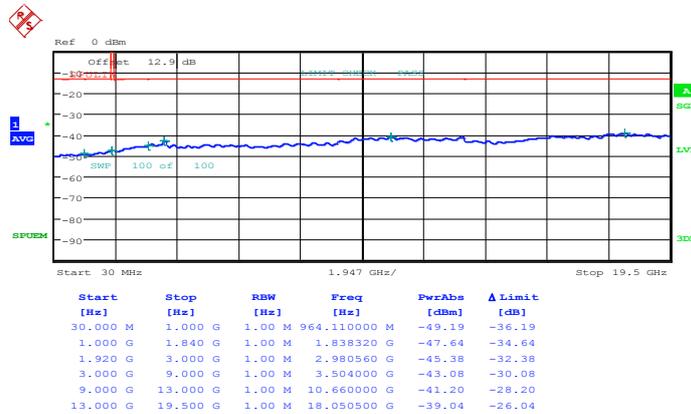
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:25:14

**16QAM (RB Size 1, RB Offset 0)**

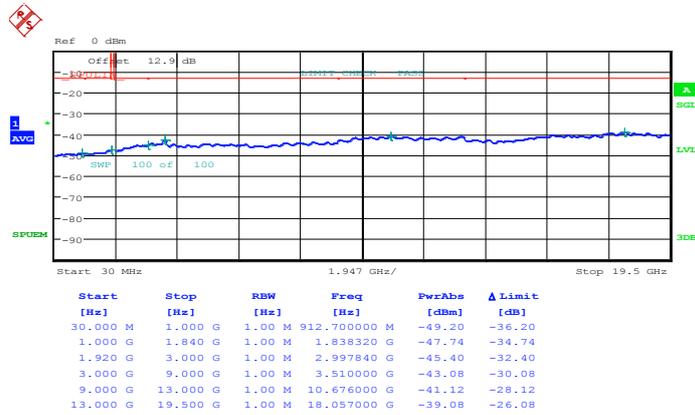


Date: 8.JUL.2014 00:26:16



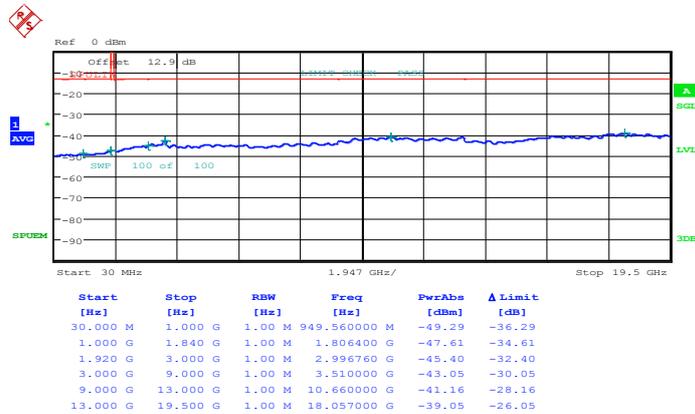
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19175 (High)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:31:53

**16QAM (RB Size 1, RB Offset 0)**

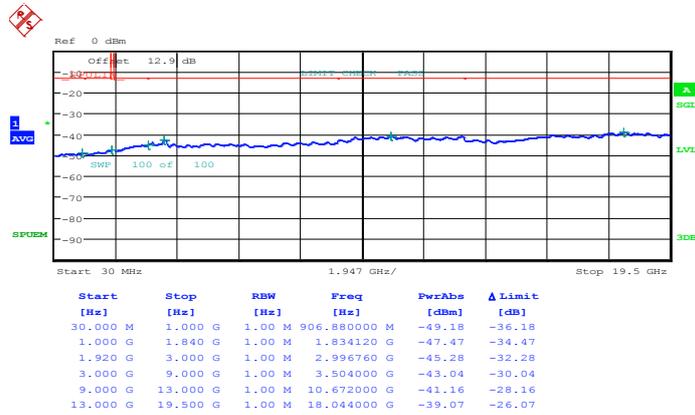


Date: 8.JUL.2014 00:32:57



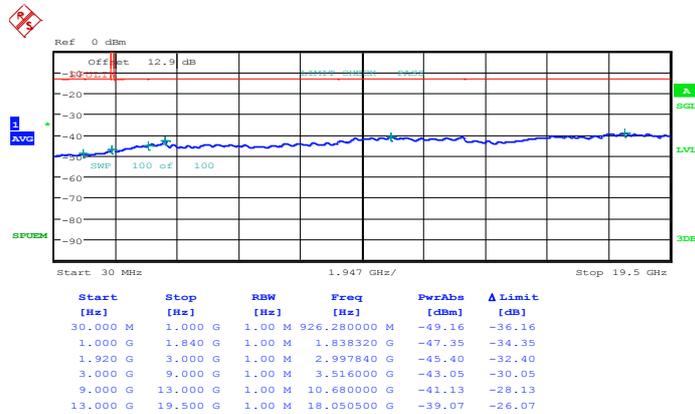
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18650 (Low)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:38:41

**16QAM (RB Size 1, RB Offset 0)**

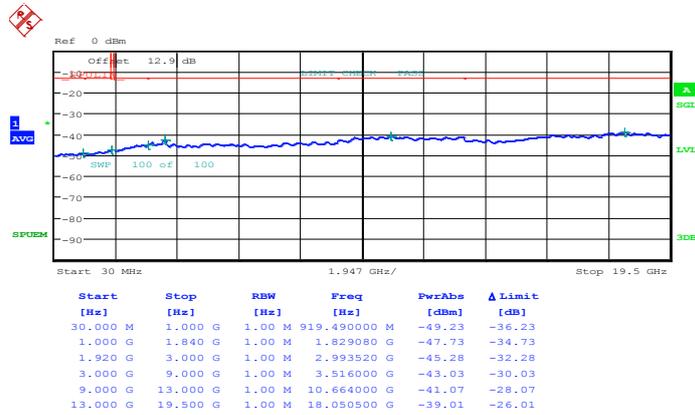


Date: 8.JUL.2014 00:39:45



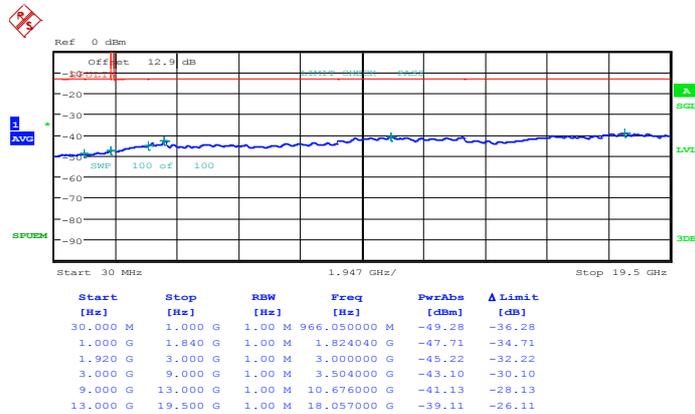
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:42:13

**16QAM (RB Size 1, RB Offset 0)**

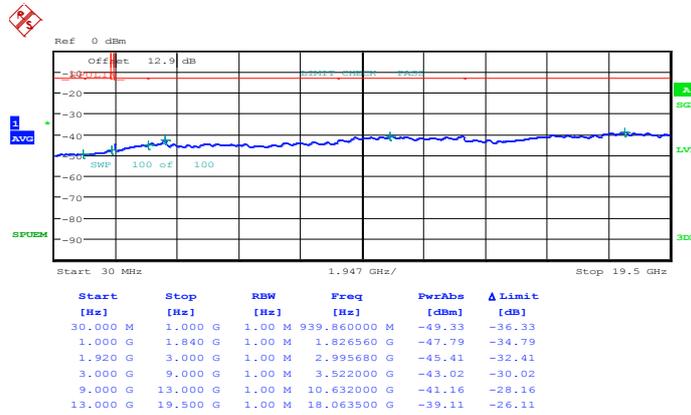


Date: 8.JUL.2014 00:43:18



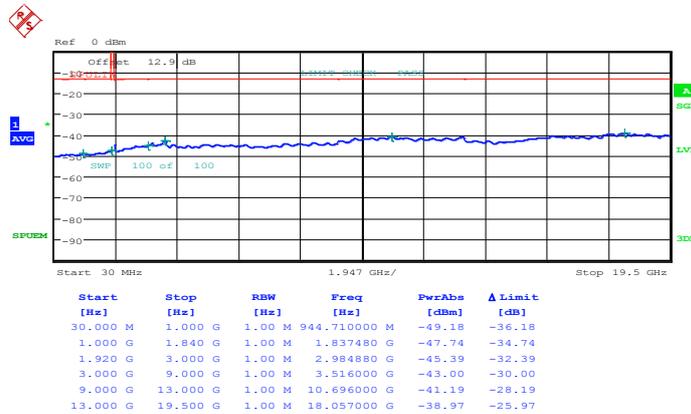
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19150 (High)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:49:20

**16QAM (RB Size 1, RB Offset 0)**

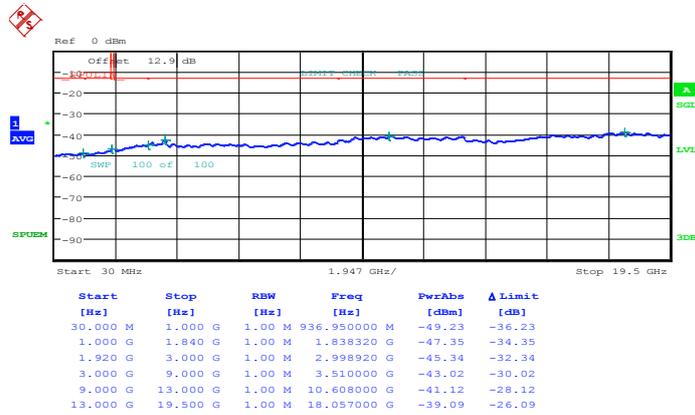


Date: 8.JUL.2014 00:50:27



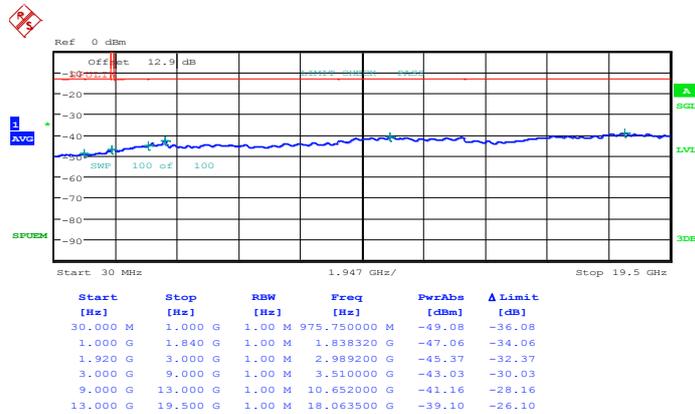
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18675 (Low)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 00:56:40

**16QAM (RB Size 1, RB Offset 0)**

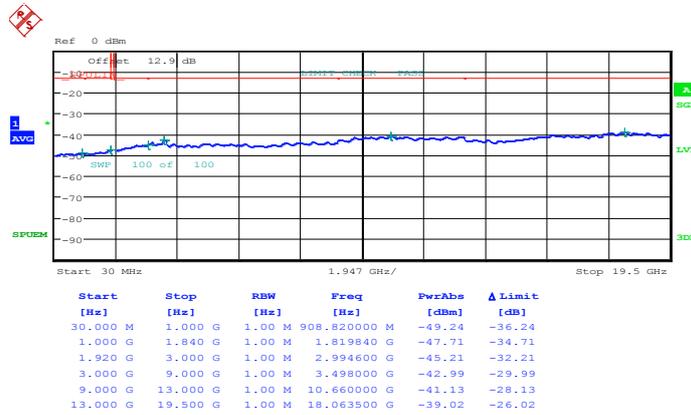


Date: 8.JUL.2014 00:57:47



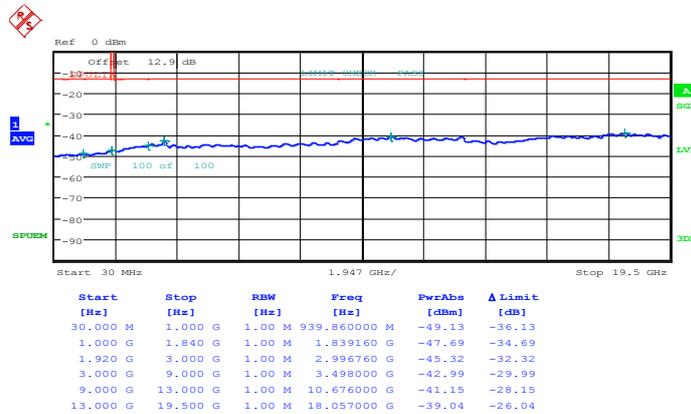
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 01:00:32

**16QAM (RB Size 1, RB Offset 0)**

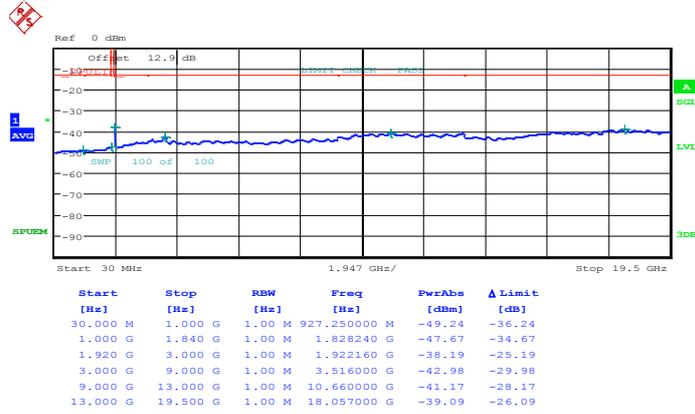


Date: 8.JUL.2014 01:01:40



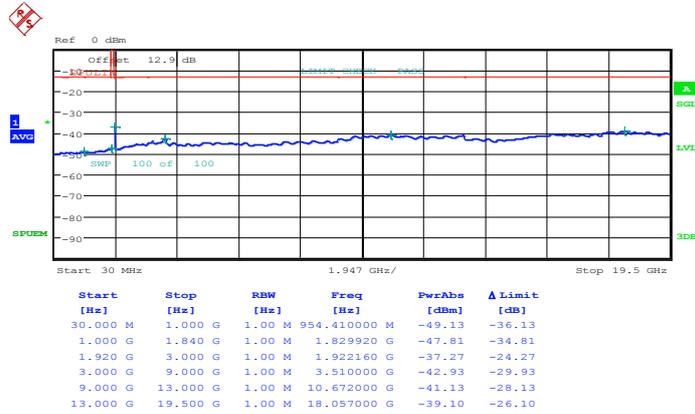
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19125 (High)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 01:08:16

**16QAM (RB Size 1, RB Offset 0)**

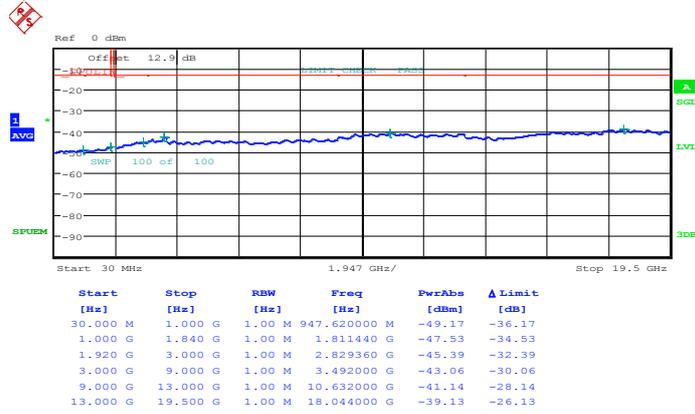


Date: 8.JUL.2014 01:09:26



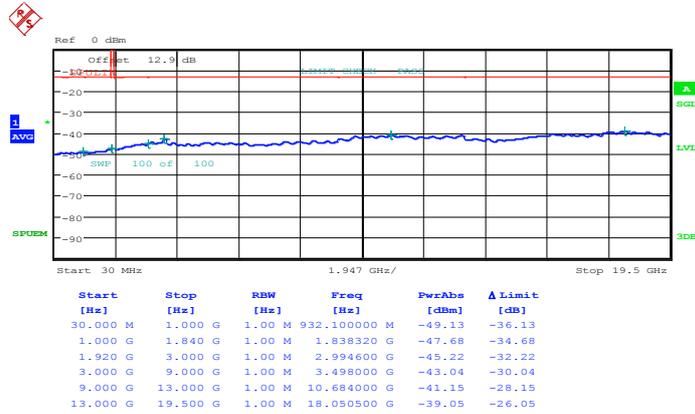
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18700 (Low)
<b>Band Width :</b>	20MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 01:16:15

**16QAM (RB Size 1, RB Offset 0)**

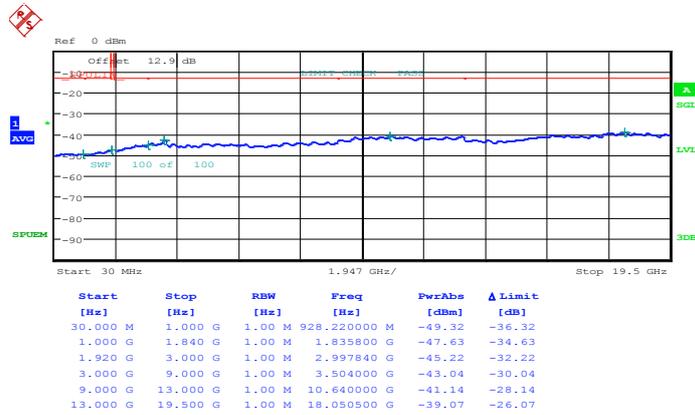


Date: 8.JUL.2014 01:17:26



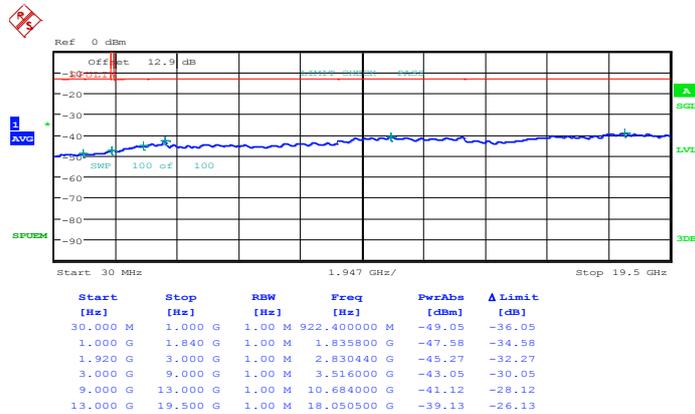
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH18900 (Middle)
<b>Band Width :</b>	20MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 8.JUL.2014 01:20:30

**16QAM (RB Size 1, RB Offset 0)**

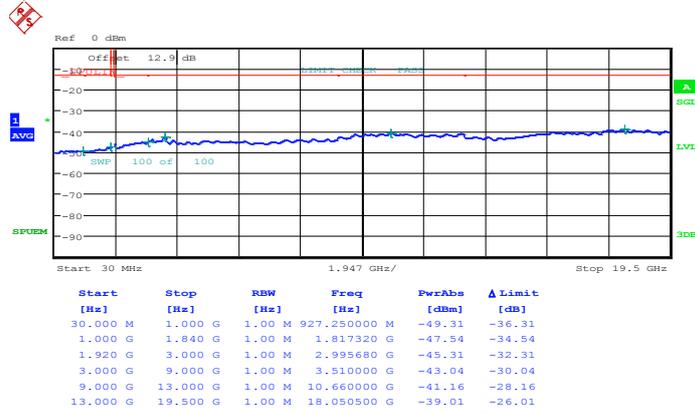


Date: 8.JUL.2014 01:21:42



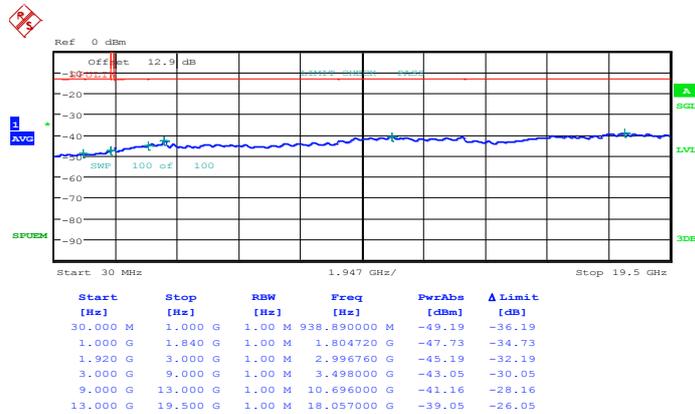
<b>Band :</b>	LTE Band 2	<b>Channel :</b>	CH19100 (High)
<b>Band Width :</b>	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 8.JUL.2014 01:28:51

16QAM (RB Size 1, RB Offset 0)

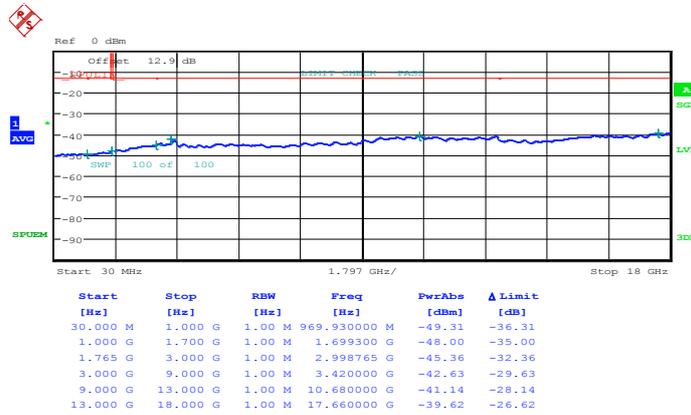


Date: 8.JUL.2014 01:30:05



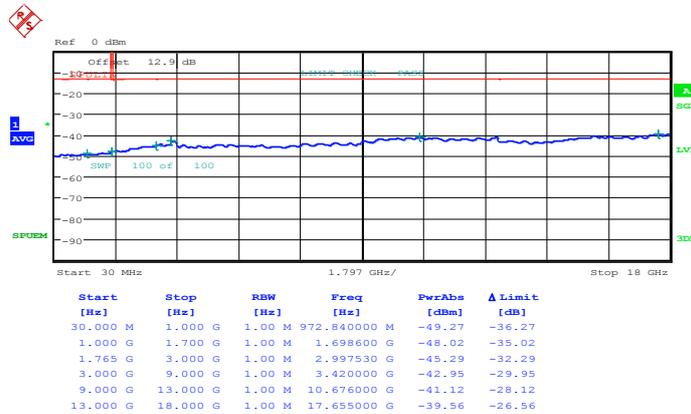
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH19957 (Low)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:07:58

**16QAM (RB Size 1, RB Offset 0)**

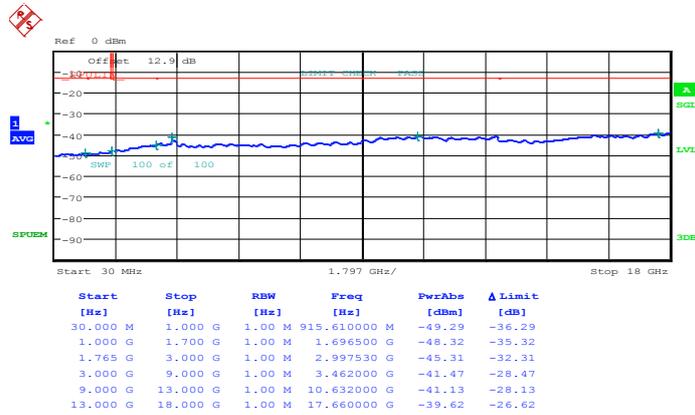


Date: 9.JUL.2014 21:08:57



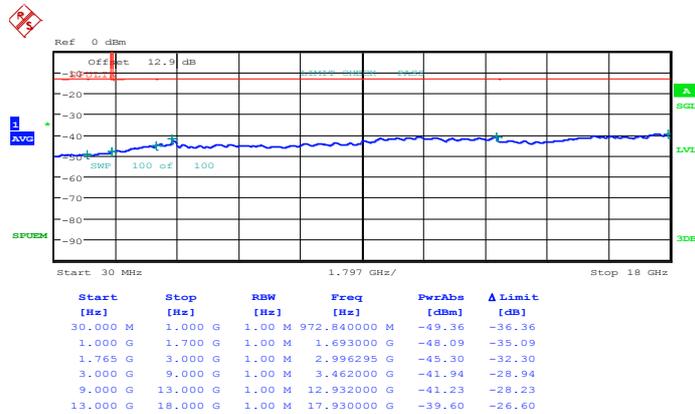
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:10:57

**16QAM (RB Size 1, RB Offset 0)**

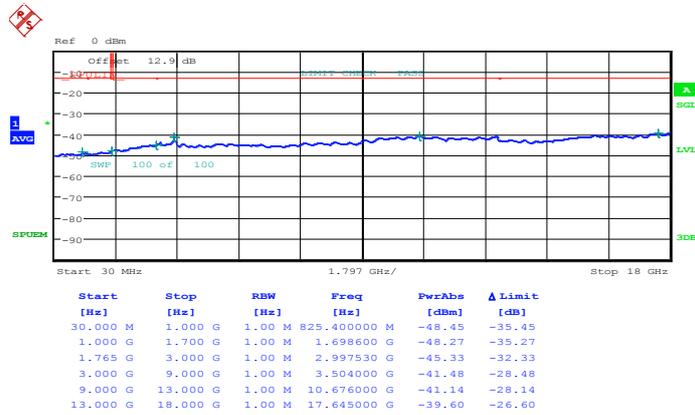


Date: 9.JUL.2014 21:11:55



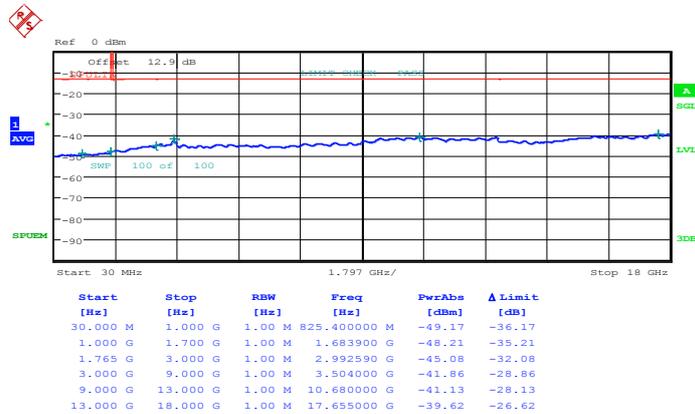
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20393 (High)
<b>Band Width :</b>	1.4MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:16:56

**16QAM (RB Size 1, RB Offset 0)**

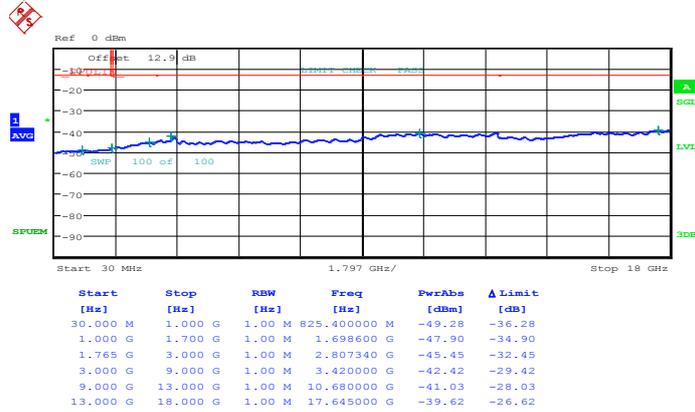


Date: 9.JUL.2014 21:17:55



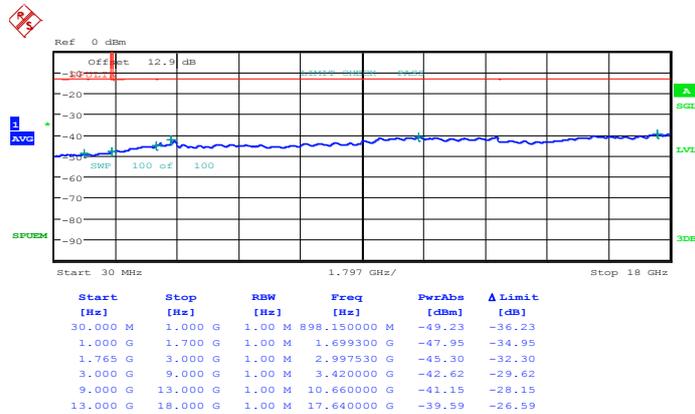
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH19965 (Low)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:22:56

**16QAM (RB Size 1, RB Offset 0)**

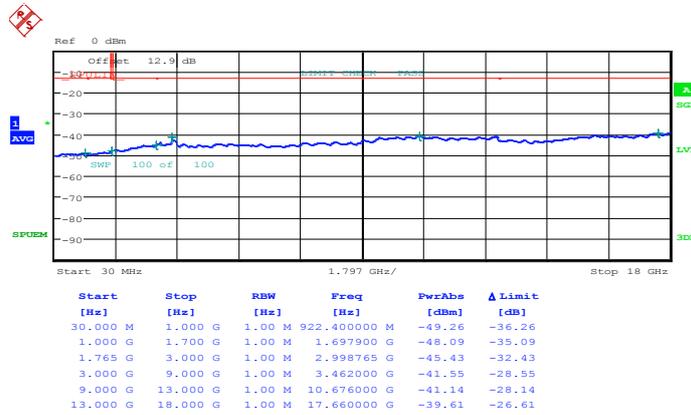


Date: 9.JUL.2014 21:23:55



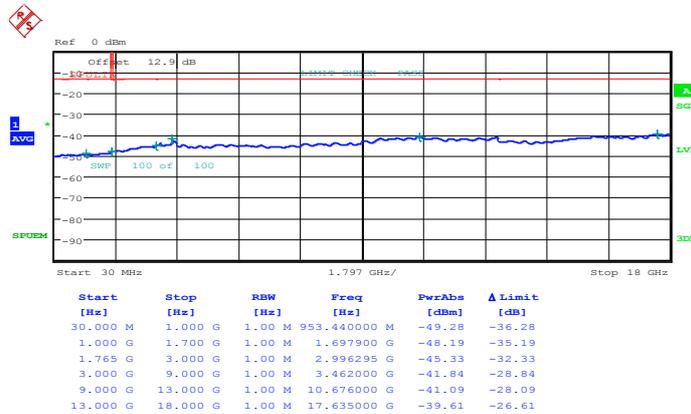
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	3MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 21:25:55

16QAM (RB Size 1, RB Offset 0)

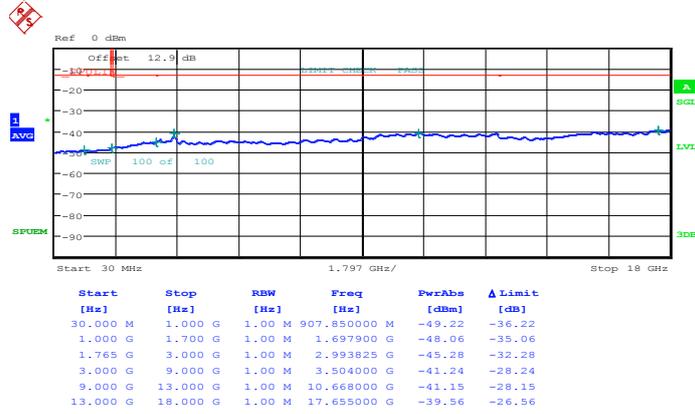


Date: 9.JUL.2014 21:26:53



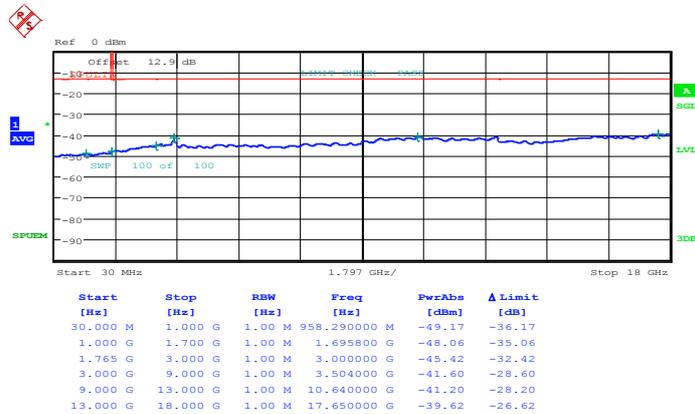
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20385 (High)
<b>Band Width :</b>	3MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:32:06

**16QAM (RB Size 1, RB Offset 0)**

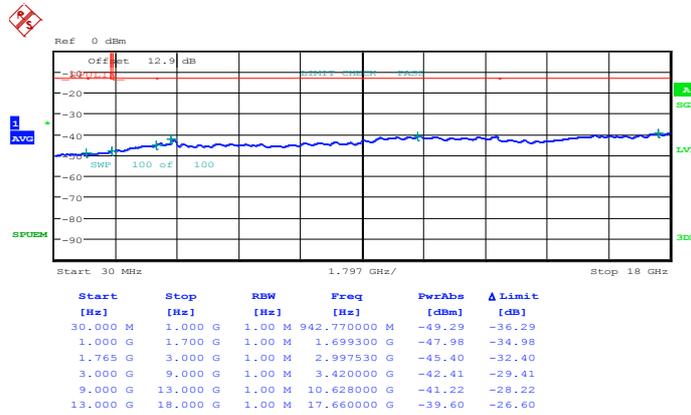


Date: 9.JUL.2014 21:33:05



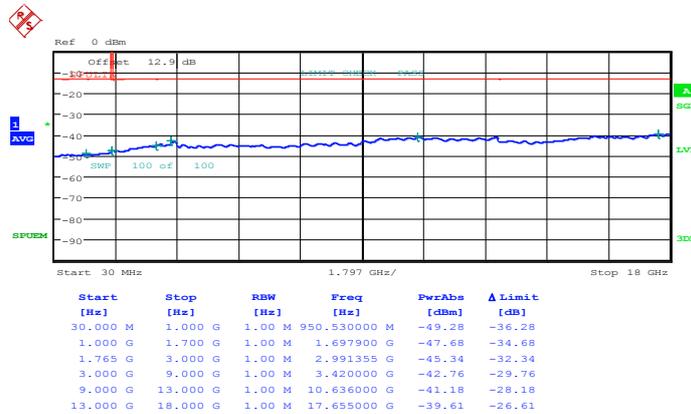
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH19975 (Low)
<b>Band Width :</b>	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 21:39:54

16QAM (RB Size 1, RB Offset 0)

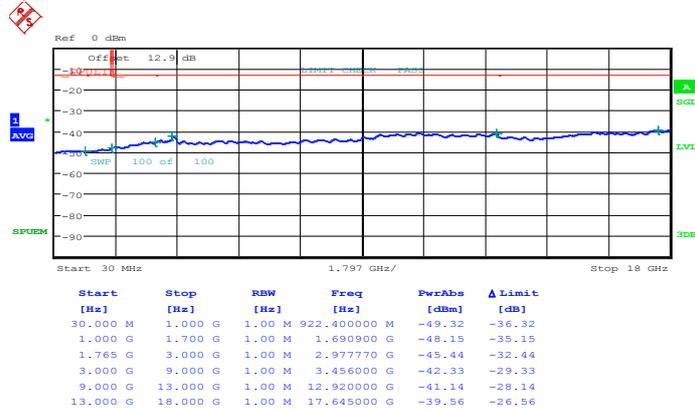


Date: 9.JUL.2014 21:40:53



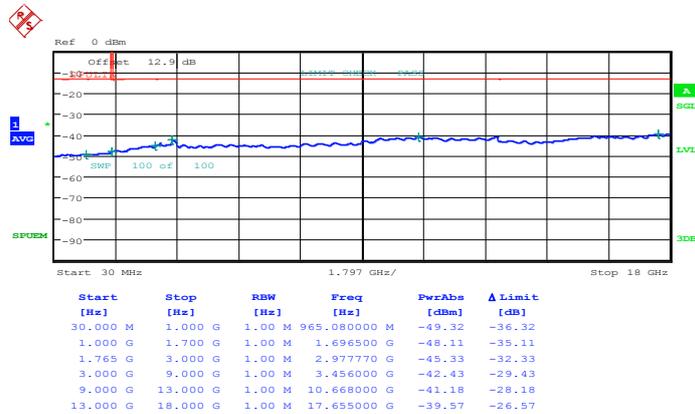
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:42:51

**16QAM (RB Size 1, RB Offset 0)**

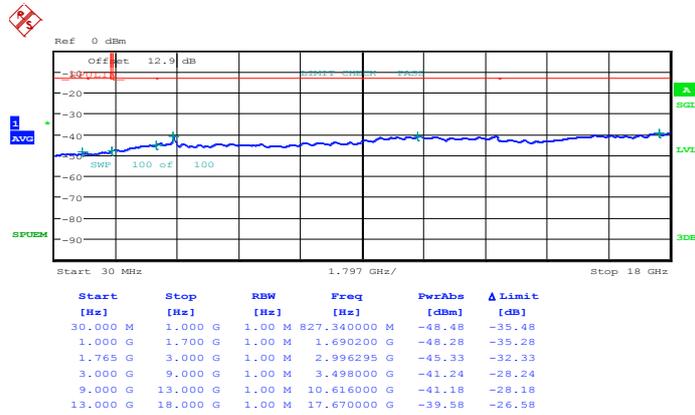


Date: 9.JUL.2014 21:43:49



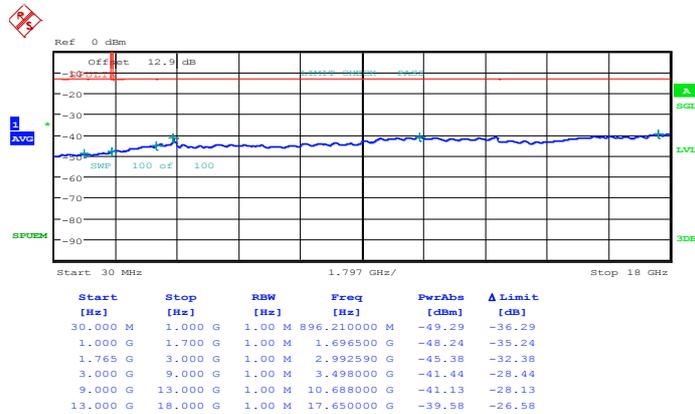
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20375 (High)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 21:48:49

**16QAM (RB Size 1, RB Offset 0)**

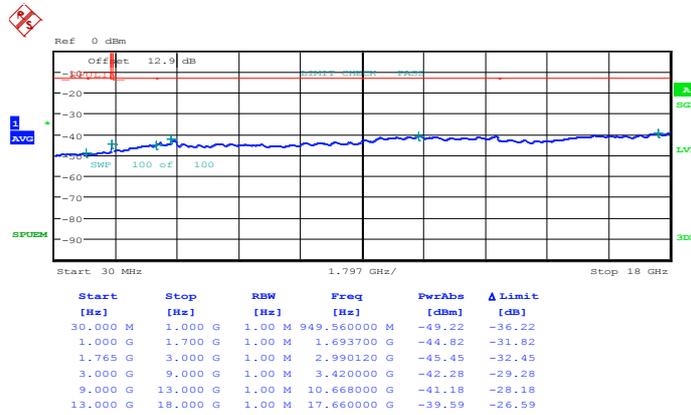


Date: 9.JUL.2014 21:49:48



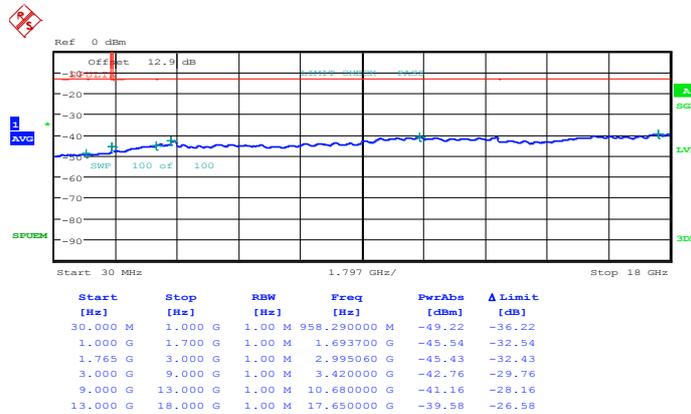
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20000 (Low)
<b>Band Width :</b>	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 21:54:48

16QAM (RB Size 1, RB Offset 0)

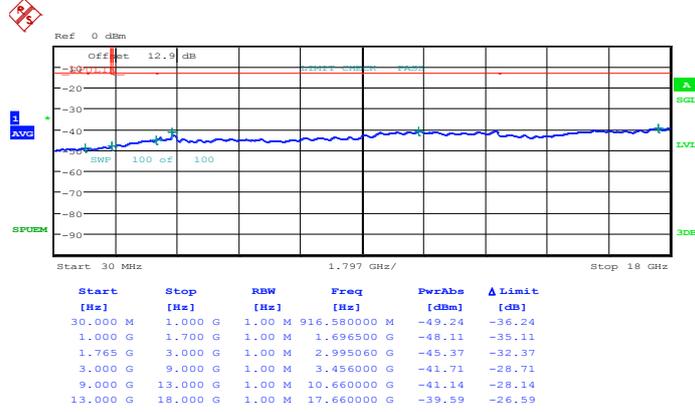


Date: 9.JUL.2014 21:55:46



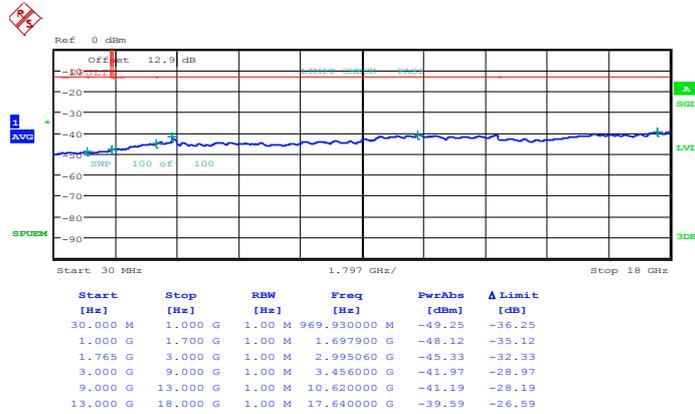
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 21:57:45

16QAM (RB Size 1, RB Offset 0)

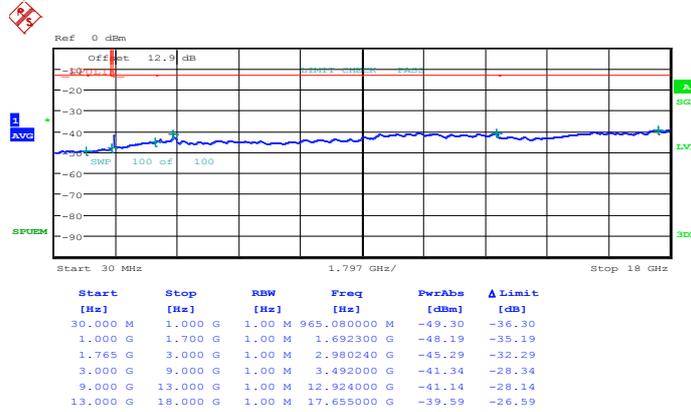


Date: 9.JUL.2014 21:58:44



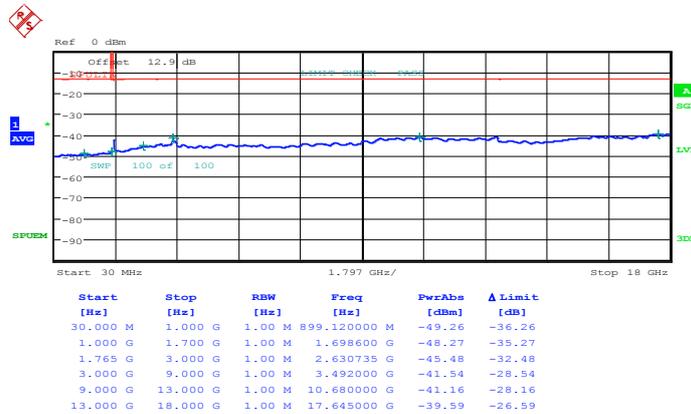
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20350 (High)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:03:44

**16QAM (RB Size 1, RB Offset 0)**

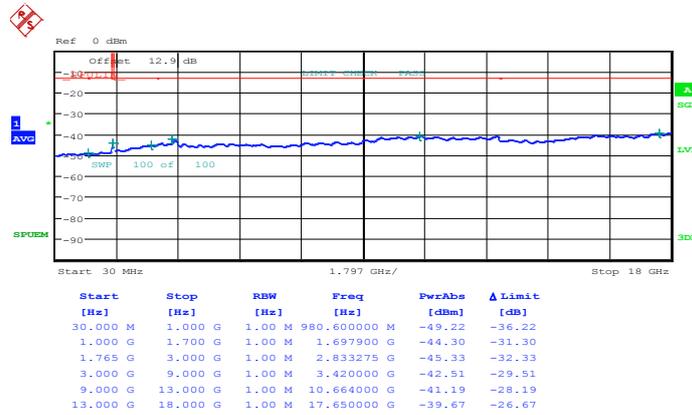


Date: 9.JUL.2014 22:04:42



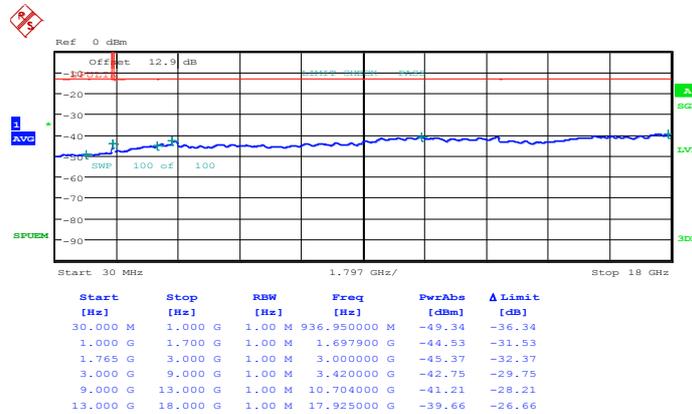
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20025 (Low)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:09:43

**16QAM (RB Size 1, RB Offset 0)**

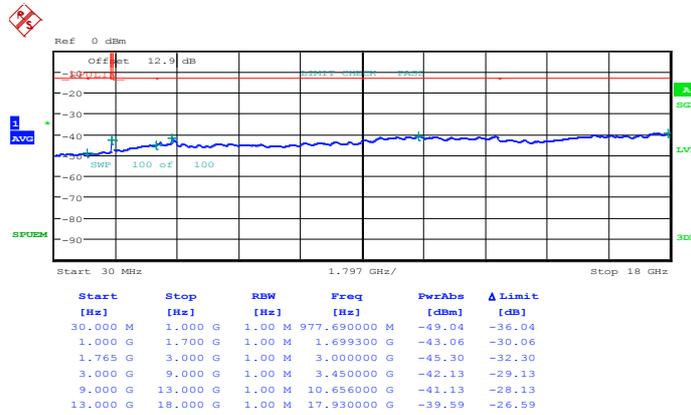


Date: 9.JUL.2014 22:10:41



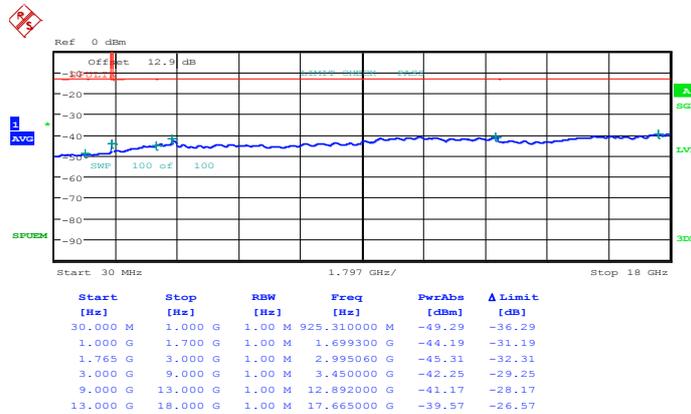
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:12:40

**16QAM (RB Size 1, RB Offset 0)**

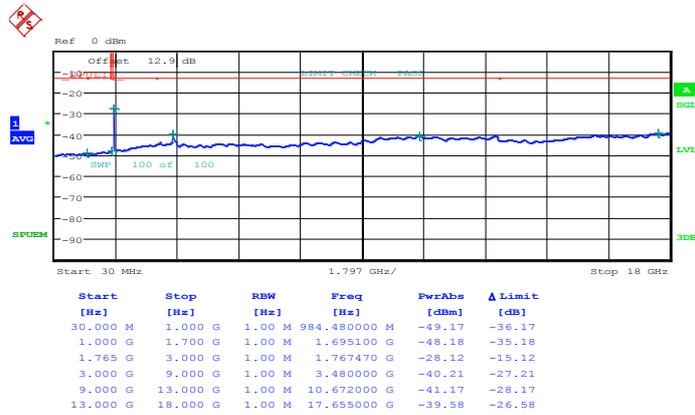


Date: 9.JUL.2014 22:13:39



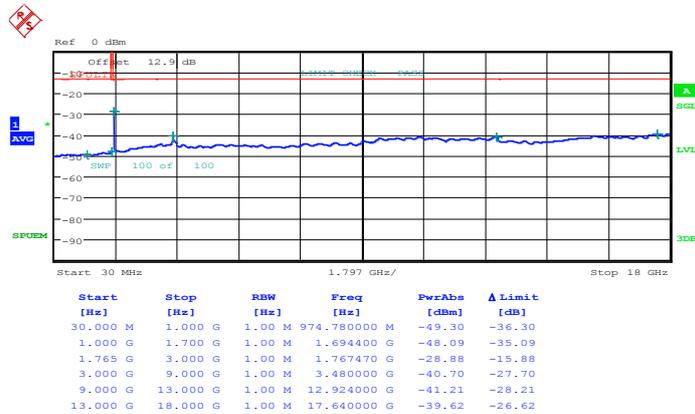
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20325 (High)
<b>Band Width :</b>	15MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:18:41

**16QAM (RB Size 1, RB Offset 0)**

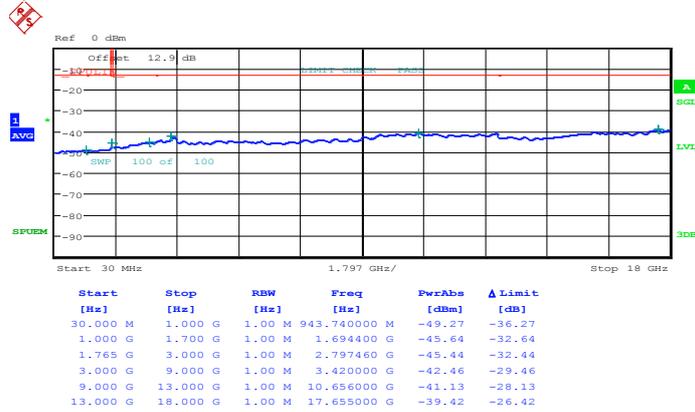


Date: 9.JUL.2014 22:19:39



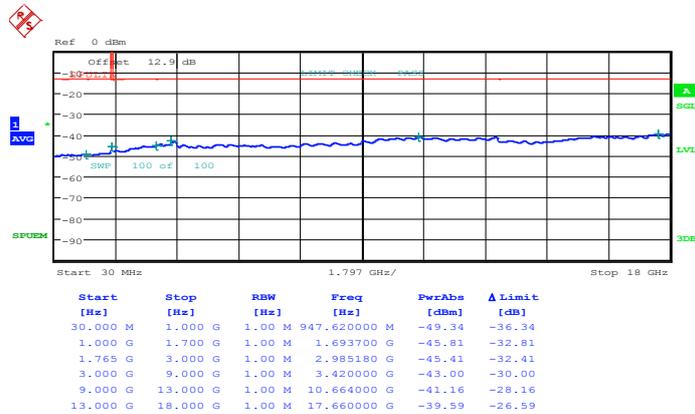
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20050 (Low)
<b>Band Width :</b>	20MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 22:24:40

16QAM (RB Size 1, RB Offset 0)

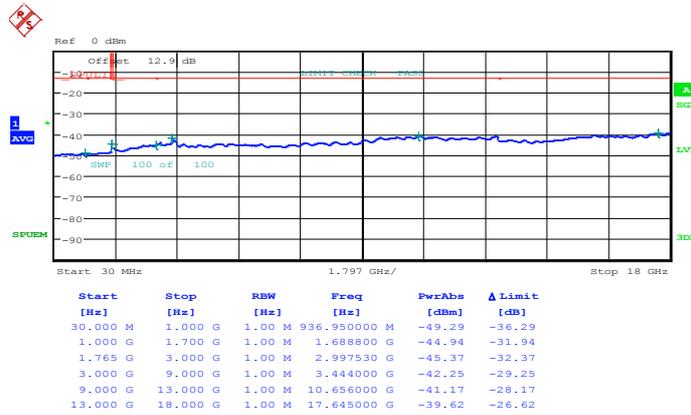


Date: 9.JUL.2014 22:25:38



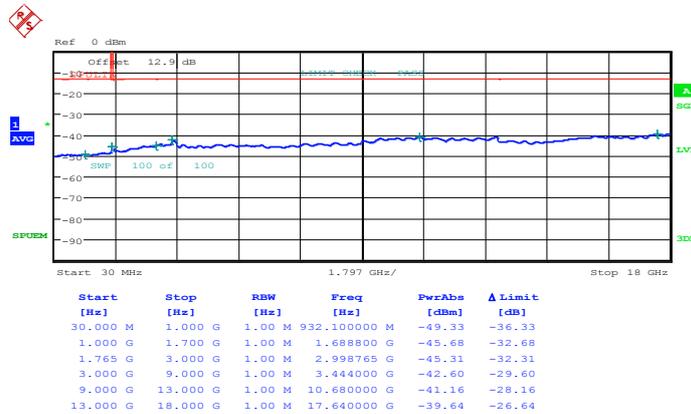
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20175 (Middle)
<b>Band Width :</b>	20MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:27:37

**16QAM (RB Size 1, RB Offset 0)**

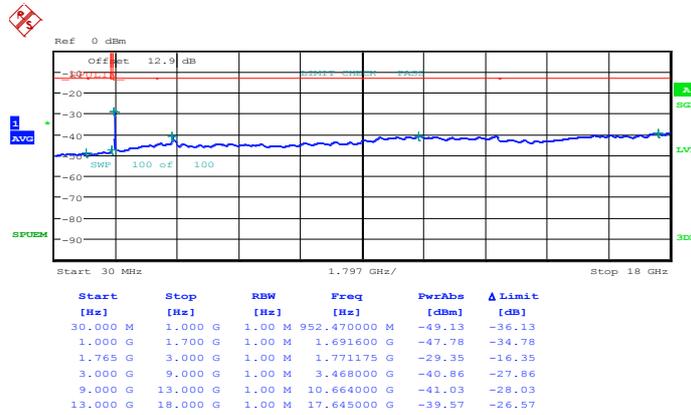


Date: 9.JUL.2014 22:28:35



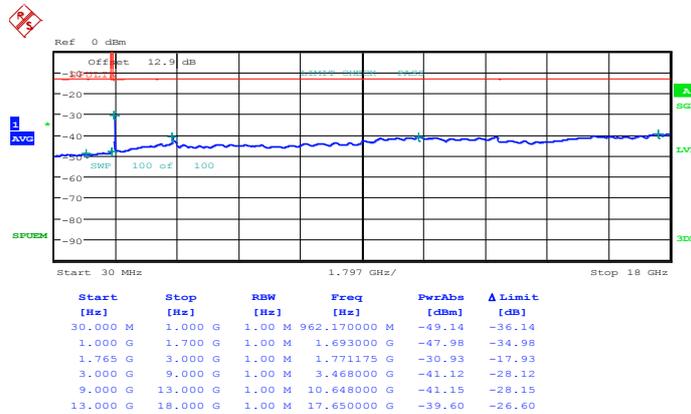
<b>Band :</b>	LTE Band 4	<b>Channel :</b>	CH20300 (High)
<b>Band Width :</b>	20MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:33:37

**16QAM (RB Size 1, RB Offset 0)**

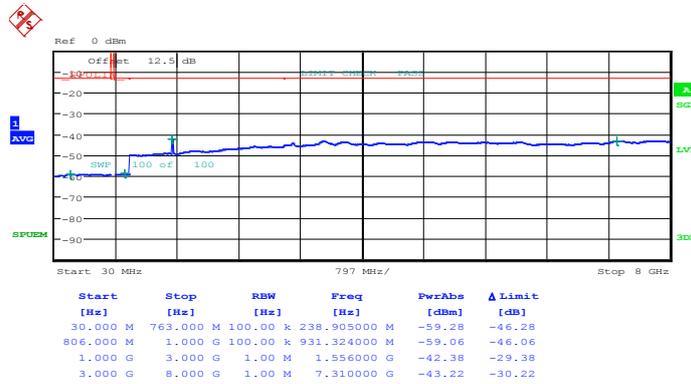


Date: 9.JUL.2014 22:34:35



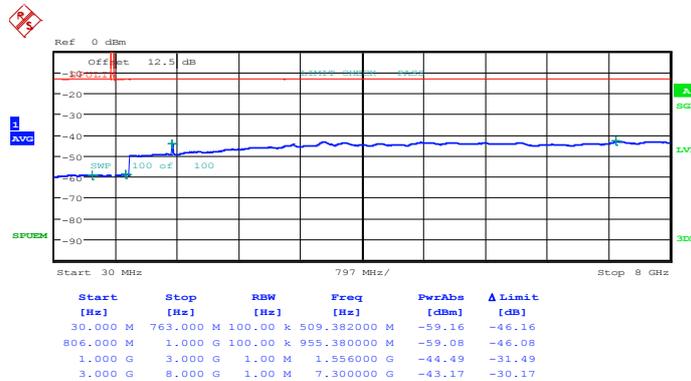
<b>Band :</b>	LTE Band 13	<b>Channel :</b>	CH23205 (Low)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 23:57:55

**16QAM (RB Size 1, RB Offset 0)**

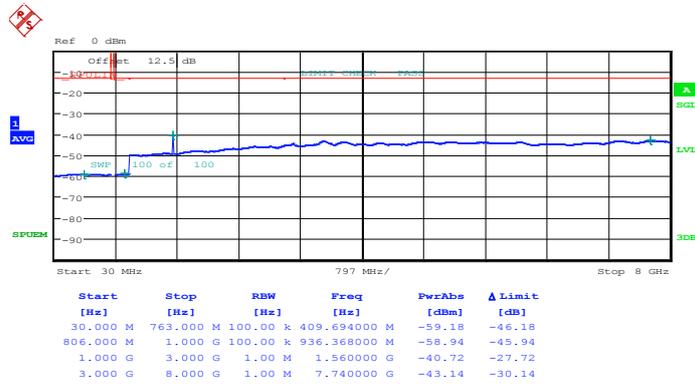


Date: 10.JUL.2014 23:59:14



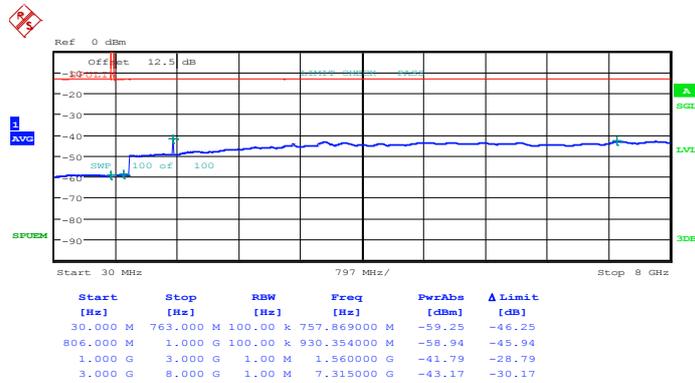
<b>Band :</b>	LTE Band 13	<b>Channel :</b>	CH23230 (Middle)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 10.JUL.2014 23:56:19

**16QAM (RB Size 1, RB Offset 0)**

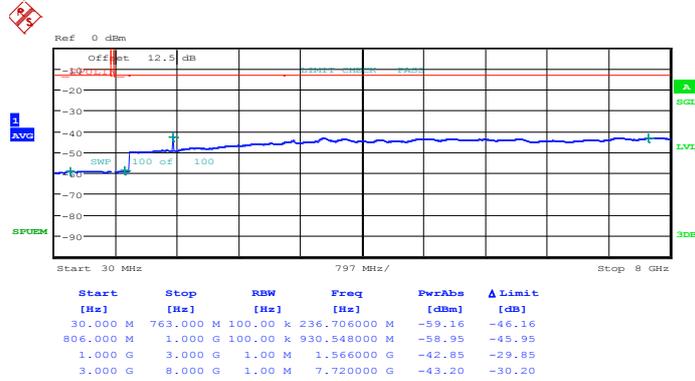


Date: 10.JUL.2014 23:54:36



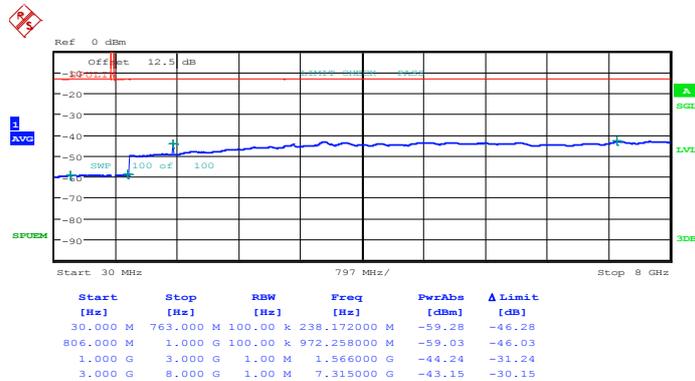
<b>Band :</b>	LTE Band 13	<b>Channel :</b>	CH23255 (High)
<b>Band Width :</b>	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 10.JUL.2014 23:48:21

16QAM (RB Size 1, RB Offset 0)

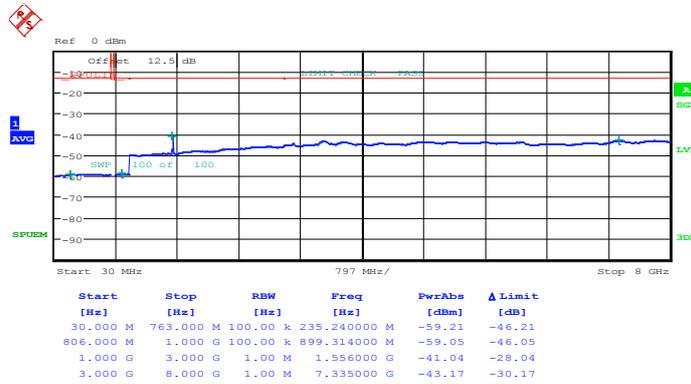


Date: 10.JUL.2014 23:53:07



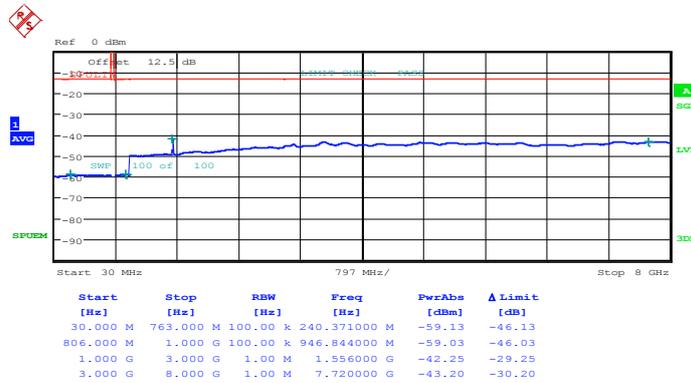
<b>Band :</b>	LTE Band 13	<b>Channel :</b>	CH23230 (Middle)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 11.JUL.2014 00:06:15

**16QAM (RB Size 1, RB Offset 0)**

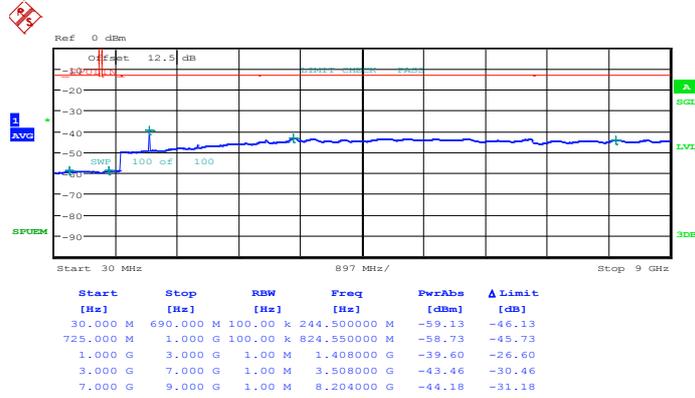


Date: 11.JUL.2014 00:05:07



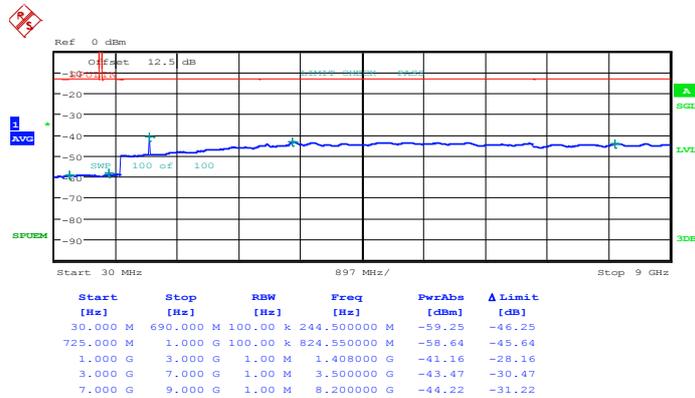
<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23755 (Low)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:50:54

**16QAM (RB Size 1, RB Offset 0)**

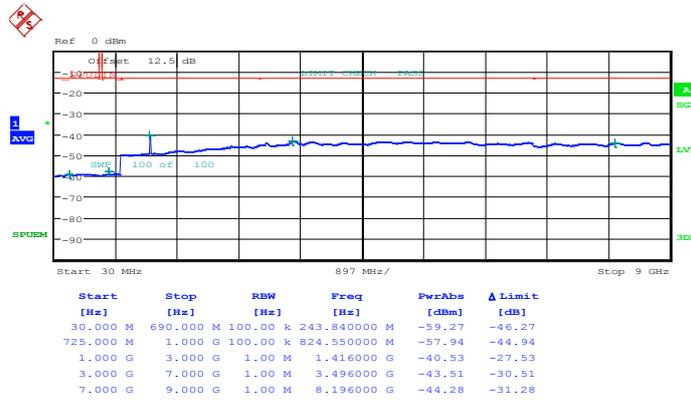


Date: 9.JUL.2014 22:51:52



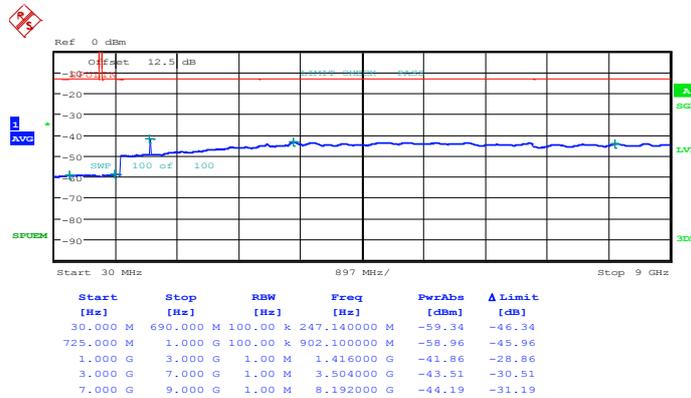
<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23790 (Middle)
<b>Band Width :</b>	5MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 22:53:52

**16QAM (RB Size 1, RB Offset 0)**

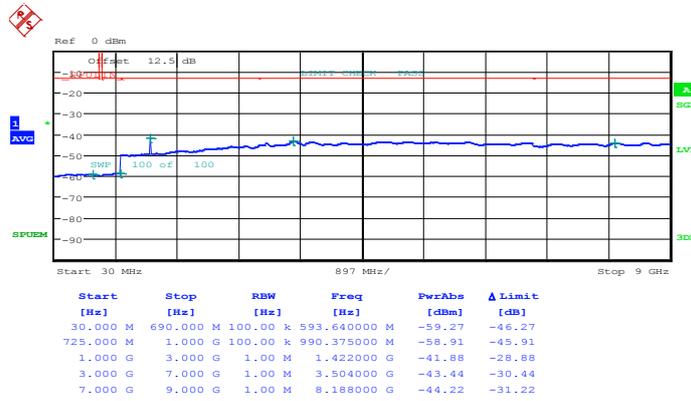


Date: 9.JUL.2014 22:54:50



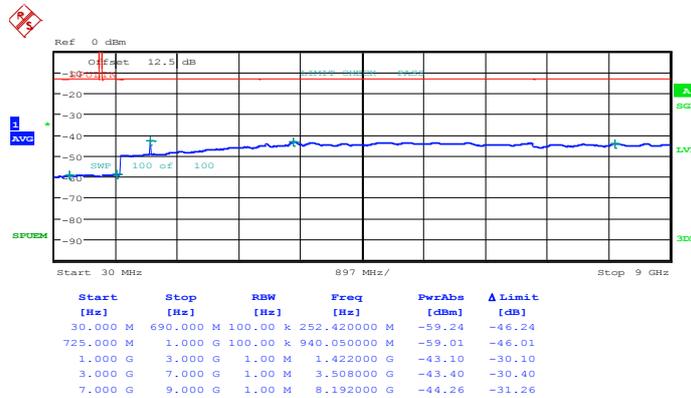
<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23825 (High)
<b>Band Width :</b>	5MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 22:59:51

16QAM (RB Size 1, RB Offset 0)

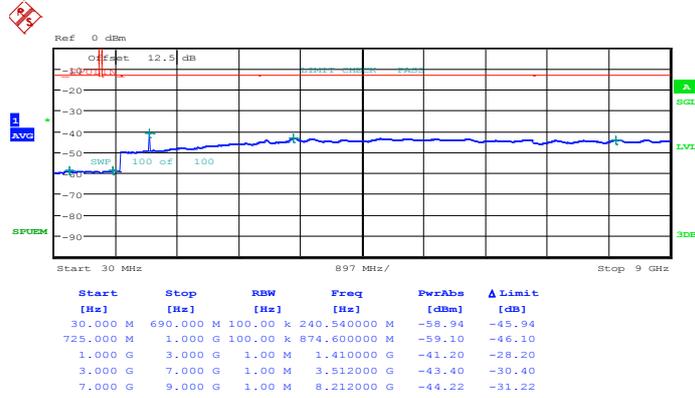


Date: 9.JUL.2014 23:00:49



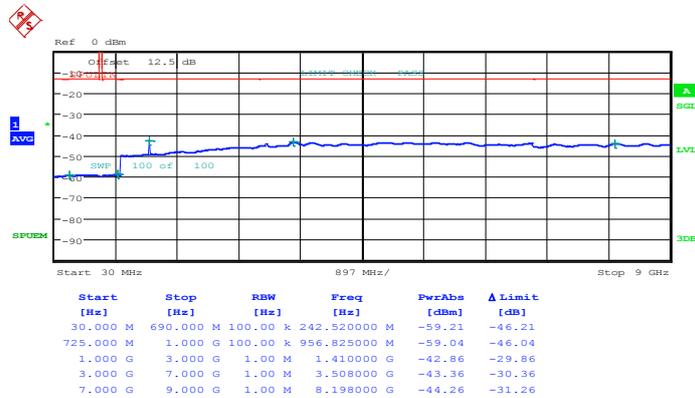
<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23780 (Low)
<b>Band Width :</b>	10MHz		

QPSK (RB Size 1, RB Offset 0)



Date: 9.JUL.2014 23:05:50

16QAM (RB Size 1, RB Offset 0)

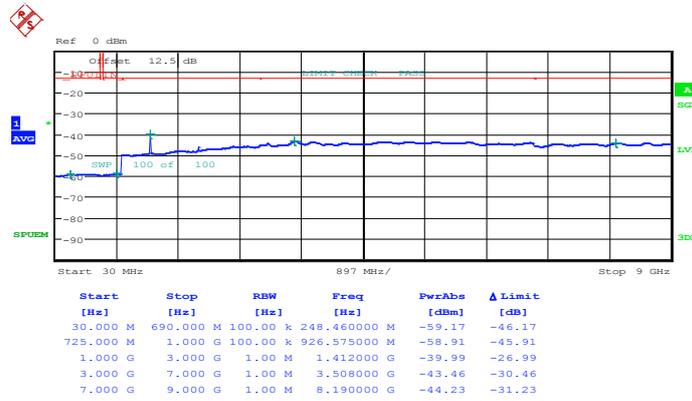


Date: 9.JUL.2014 23:06:48



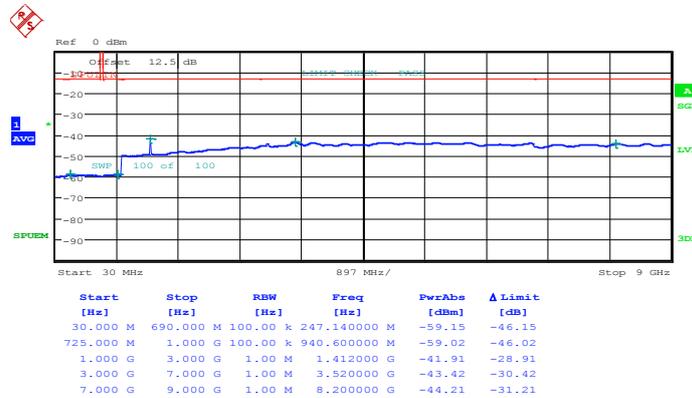
<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23790 (Middle)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 23:08:47

**16QAM (RB Size 1, RB Offset 0)**

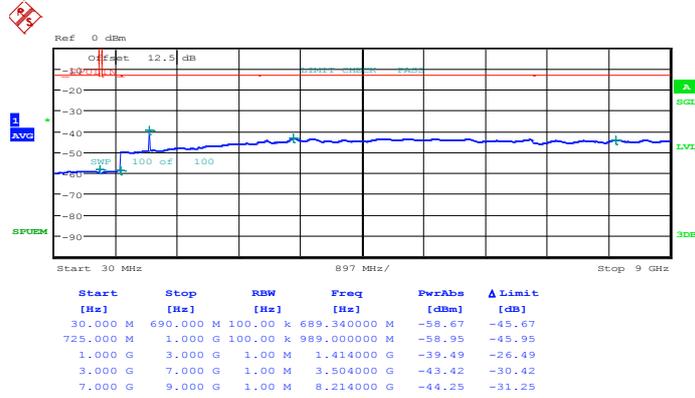


Date: 9.JUL.2014 23:09:46



<b>Band :</b>	LTE Band 17	<b>Channel :</b>	CH23800 (High)
<b>Band Width :</b>	10MHz		

**QPSK (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 23:14:46

**16QAM (RB Size 1, RB Offset 0)**



Date: 9.JUL.2014 23:15:45



## 3.6 Radiated Spurious Emission Measurement

### 3.6.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI / TIA / EIA-603-C-2004. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB.

For LTE Band, 13, 17

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, and  $-80$  dBW EIRP for discrete emissions of less than 700 Hz bandwidth.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.

### 3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

### 3.6.3 Test Procedures

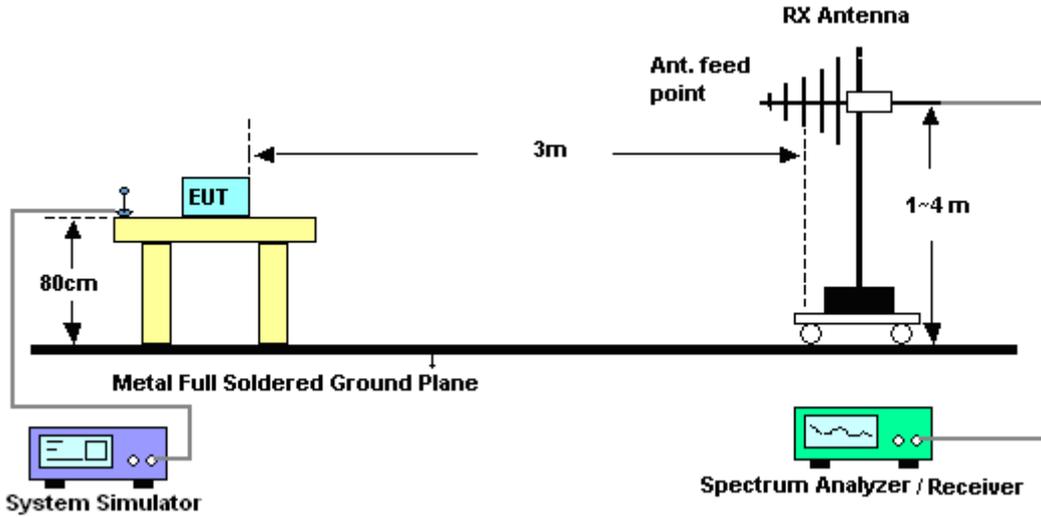
1. The EUT was placed on a rotatable wooden table with 0.8 meter above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
7. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
8. Taking the record of output power at antenna port.
9. Repeat step 7 to step 8 for another polarization.
10. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

The limit line is derived from  $43 + 10\log(P)$ dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)]$  (dB)  
 $= [30 + 10\log(P)]$  (dBm) -  $[43 + 10\log(P)]$  (dB)  
 $= -13$ dBm.

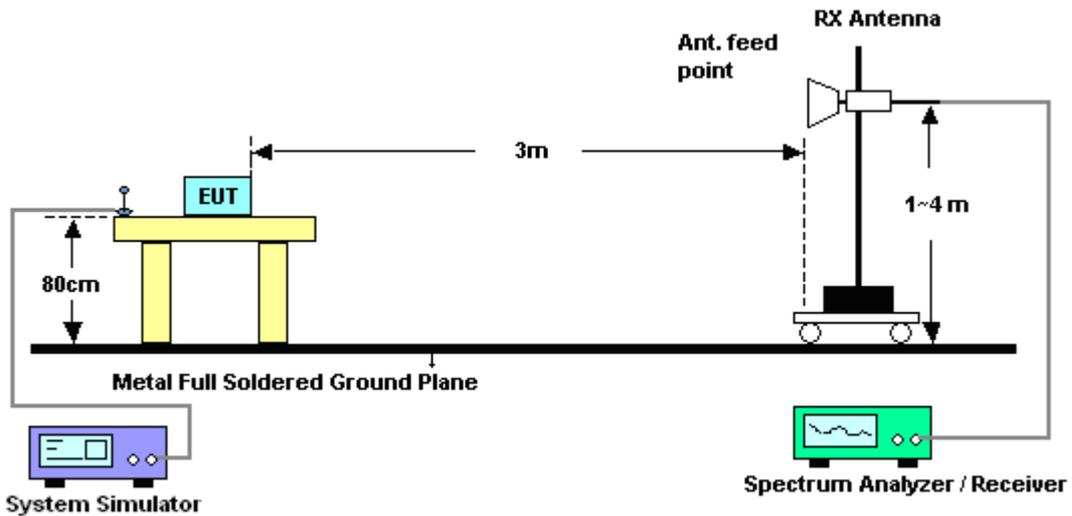
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

### 3.6.4 Test Setup

For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz





3.6.5 Test Result of Field Strength of Spurious Radiated

<b>Band :</b>	LTE Band 5				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-38.84	-13	-25.84	-45.61	-40.56	1.62	5.49	H	Pass
2504	-49.83	-13	-36.83	-60.91	-51.8	2.1	6.22	H	Pass
3344	-46.86	-13	-33.86	-58.85	-49.75	3.03	8.07	H	Pass
4176	-50.90	-13	-37.90	-65	-55.44	2.52	9.21	H	Pass

<b>Band :</b>	LTE Band 5				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-43.73	-13	-30.73	-52.72	-45.45	1.62	5.49	V	Pass
2504	-48.26	-13	-35.26	-59.76	-50.23	2.1	6.22	V	Pass
3344	-43.9	-13	-30.90	-57.27	-46.79	3.03	8.07	V	Pass
4176	-50.3	-13	-37.30	-65.21	-54.84	2.52	9.21	V	Pass
5016	-48.82	-13	-35.82	-64.74	-54.27	3.1	10.70	V	Pass
5848	-45.85	-13	-32.85	-64.93	-51.09	2.92	10.31	V	Pass



<b>Band :</b>	LTE Band 5					<b>Temperature :</b>	23~25°C		
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0					<b>Relative Humidity :</b>	44~48%		
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu					<b>Polarization :</b>	Horizontal		
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-39.93	-13	-26.93	-46.64	-41.65	1.62	5.49	H	Pass
2504	-49.39	-13	-36.39	-60.55	-51.36	2.1	6.22	H	Pass
3344	-46.69	-13	-33.69	-58.56	-49.58	3.03	8.07	H	Pass
4176	-48.15	-13	-35.15	-62.17	-52.69	2.52	9.21	H	Pass

<b>Band :</b>	LTE Band 5					<b>Temperature :</b>	23~25°C		
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0					<b>Relative Humidity :</b>	44~48%		
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu					<b>Polarization :</b>	Vertical		
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1672	-44.97	-13	-31.97	-53.95	-46.69	1.62	5.49	V	Pass
2504	-47.57	-13	-34.57	-59.07	-49.54	2.1	6.22	V	Pass
3344	-43.14	-13	-30.14	-56.58	-46.03	3.03	8.07	V	Pass
4176	-49.34	-13	-36.34	-64.26	-53.88	2.52	9.21	V	Pass



<b>Band :</b>	LTE Band 5					<b>Temperature :</b>	23~25°C		
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0					<b>Relative Humidity :</b>	44~48%		
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu					<b>Polarization :</b>	Horizontal		
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1664	-39.31	-13	-26.31	-45.94	-41.03	1.62	5.49	H	Pass
2504	-48.62	-13	-35.62	-59.7	-50.59	2.1	6.22	H	Pass
3336	-45.77	-13	-32.77	-57.73	-48.66	3.03	8.07	H	Pass
4168	-49.32	-13	-36.32	-63.5	-53.86	2.52	9.21	H	Pass

<b>Band :</b>	LTE Band 5					<b>Temperature :</b>	23~25°C		
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0					<b>Relative Humidity :</b>	44~48%		
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu					<b>Polarization :</b>	Vertical		
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1664	-42.29	-13	-29.29	-51.2	-44.01	1.62	5.49	V	Pass
2504	-47.92	-13	-34.92	-59.44	-49.89	2.1	6.22	V	Pass
3336	-43.47	-13	-30.47	-56.9	-46.36	3.03	8.07	V	Pass
4168	-48.17	-13	-35.17	-63.14	-52.71	2.52	9.21	V	Pass
5008	-47.9	-13	-34.90	-63.77	-53.35	3.1	10.70	V	Pass
5840	-45.79	-13	-32.79	-64.92	-51.03	2.92	10.31	V	Pass



<b>Band :</b>	LTE Band 5				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1664	-36.73	-13	-23.73	-43.43	-38.45	1.62	5.49	H	Pass
2496	-50.95	-13	-37.95	-62.08	-52.92	2.1	6.22	H	Pass
3328	-44.37	-13	-31.37	-56.3	-47.26	3.03	8.07	H	Pass
4160	-48.04	-13	-35.04	-62.12	-52.58	2.52	9.21	H	Pass
4992	-52.82	-13	-39.82	-68.5	-58.27	3.1	10.70	H	Pass
5824	-46.51	-13	-33.51	-65.76	-51.75	2.92	10.31	H	Pass

<b>Band :</b>	LTE Band 5				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1664	-43.06	-13	-30.06	-51.92	-44.78	1.62	5.49	V	Pass
2496	-48.48	-13	-35.48	-59.95	-50.45	2.1	6.22	V	Pass
3328	-42.65	-13	-29.65	-56.03	-45.54	3.03	8.07	V	Pass
4160	-47.3	-13	-34.30	-62.24	-51.84	2.52	9.21	V	Pass
4992	-47.41	-13	-34.41	-63.34	-52.86	3.1	10.70	V	Pass
5824	-45.91	-13	-32.91	-64.96	-51.15	2.92	10.31	V	Pass



<b>Band :</b>	LTE Band 2				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3756	-45.95	-13	-32.95	-61.27	-52.25	2.51	8.81	H	Pass
5639	-22.65	-13	-9.65	-43.43	-30.36	2.99	10.70	H	Pass
7515	-33.36	-13	-20.36	-60.78	-41.89	3.59	12.12	H	Pass
9398	-35.58	-13	-22.58	-62.03	-44.68	4.1	13.20	H	Pass
11278	-36.12	-13	-23.12	-65.52	-45.16	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3756	-47.75	-13	-34.75	-64.05	-54.05	2.51	8.81	V	Pass
5639	-26.80	-13	-13.80	-47.37	-34.51	2.99	10.70	V	Pass
7515	-36.88	-13	-23.88	-63.98	-45.41	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3756	-44.59	-13	-31.59	-59.95	-50.89	2.51	8.81	H	Pass
5639	-23.00	-13	-10.00	-43.75	-30.71	2.99	10.70	H	Pass
7515	-30.91	-13	-17.91	-58.35	-39.44	3.59	12.12	H	Pass
9391	-36.97	-13	-23.97	-63.44	-46.07	4.1	13.20	H	Pass
11269	-36.29	-13	-23.29	-65.63	-45.33	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3756	-46.49	-13	-33.49	-62.77	-52.79	2.51	8.81	V	Pass
5639	-29.60	-13	-16.60	-50.16	-37.31	2.99	10.70	V	Pass
7515	-38.93	-13	-25.93	-66.15	-47.46	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3756	-43.83	-13	-30.83	-59.18	-50.13	2.51	8.81	H	Pass
5632	-22.94	-13	-9.94	-43.65	-30.65	2.99	10.70	H	Pass
7508	-34.98	-13	-21.98	-62.38	-43.51	3.59	12.12	H	Pass
9391	-35.13	-13	-22.13	-61.55	-44.23	4.1	13.20	H	Pass
11269	-36.18	-13	-23.18	-65.55	-45.22	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3756	-46.86	-13	-33.86	-63.16	-53.16	2.51	8.81	V	Pass
5632	-29.80	-13	-16.80	-50.29	-37.51	2.99	10.70	V	Pass
7508	-39.36	-13	-26.36	-66.53	-47.89	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3749	-44.72	-13	-31.72	-60.07	-51.02	2.51	8.81	H	Pass
5625	-21.52	-13	-8.52	-42.22	-29.23	2.99	10.70	H	Pass
7501	-32.72	-13	-19.72	-60.25	-41.25	3.59	12.12	H	Pass
9377	-35.19	-13	-22.19	-61.63	-44.29	4.1	13.20	H	Pass
11251	-35.82	-13	-22.82	-65.14	-44.86	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3749	-47.16	-13	-34.16	-63.45	-53.46	2.51	8.81	V	Pass
5625	-28.83	-13	-15.83	-49.34	-36.54	2.99	10.70	V	Pass
7501	-38.18	-13	-25.18	-65.49	-46.71	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3749	-44.71	-13	-31.71	-60.06	-51.01	2.51	8.81	H	Pass
5618	-21.59	-13	-8.59	-42.29	-29.3	2.99	10.70	H	Pass
7494	-33.93	-13	-20.93	-61.5	-42.46	3.59	12.12	H	Pass
9370	-35.19	-13	-22.19	-61.61	-44.29	4.1	13.20	H	Pass
11242	-34.71	-13	-21.71	-64.01	-43.75	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3749	-45.39	-13	-32.39	-61.63	-51.69	2.51	8.81	V	Pass
5618	-27.41	-13	-14.41	-47.96	-35.12	2.99	10.70	V	Pass
7494	-39.45	-13	-26.45	-6.73	-47.98	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3742	-43.26	-13	-30.26	-58.54	-49.56	2.51	8.81	H	Pass
5611	-23.98	-13	-10.98	-44.48	-31.69	2.99	10.70	H	Pass
7487	-33.53	-13	-20.53	-61.07	-42.06	3.59	12.12	H	Pass
9356	-35.61	-13	-22.61	-62.01	-44.71	4.1	13.20	H	Pass
11224	-35.94	-13	-22.94	-65.25	-44.98	4.27	13.31	H	Pass

<b>Band :</b>	LTE Band 2		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3742	-44.59	-13	-31.59	-60.78	-50.89	2.51	8.81	V	Pass
5611	-28.28	-13	-15.28	-48.73	-35.99	2.99	10.70	V	Pass
7487	-38.21	-13	-25.21	-65.47	-46.74	3.59	12.12	V	Pass



<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3462	-47.07	-13	-34.07	-61.82	-50.9	4.48	8.31	H	Pass
5198	-33.86	-13	-20.86	-52.74	-38.5	5.332	9.98	H	Pass
6927	-28.96	-13	-15.96	-55.5	-34.2	6.1	11.34	H	Pass
8663	-42.58	-13	-29.58	-68.54	-47.5	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	1.4MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3462	-45.17	-13	-32.17	-60.67	-49	4.48	8.31	V	Pass
5198	-25.46	-13	-12.46	-44.29	-30.1	5.332	9.98	V	Pass
6927	-29.46	-13	-16.46	-54.8	-34.7	6.1	11.34	V	Pass
8663	-40.38	-13	-27.38	-66.07	-45.3	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3462	-45.87	-13	-32.87	-60.35	-49.7	4.48	8.31	H	Pass
5191	-32.06	-13	-19.06	-51.03	-36.7	5.332	9.98	H	Pass
6927	-33.36	-13	-20.36	-59.66	-38.6	6.1	11.34	H	Pass
8656	-42.28	-13	-29.28	-68.19	-47.2	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	3MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3462	-45.27	-13	-32.27	-60.9	-49.1	4.48	8.31	V	Pass
5191	-27.46	-13	-14.46	-46.58	-32.1	5.332	9.98	V	Pass
6927	-31.26	-13	-18.26	-56.76	-36.5	6.1	11.34	V	Pass
8656	-41.58	-13	-28.58	-67.05	-46.5	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 4		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3462	-46.17	-13	-33.17	-60.57	-50	4.48	8.31	H	Pass
5191	-33.16	-13	-20.16	-52.08	-37.8	5.332	9.98	H	Pass
6920	-34.96	-13	-21.96	-61.15	-40.2	6.1	11.34	H	Pass
8649	-42.88	-13	-29.88	-68.72	-47.8	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
3462	-45.87	-13	-32.87	-61.73	-49.7	4.48	8.31	V	Pass
5191	-25.66	-13	-12.66	-44.81	-30.3	5.332	9.98	V	Pass
6920	-32.96	-13	-19.96	-58.37	-38.2	6.1	11.34	V	Pass
8649	-41.38	-13	-28.38	-66.94	-46.3	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3455	-45.47	-13	-32.47	-60.24	-49.3	4.48	8.31	H	Pass
5184	-33.16	-13	-20.16	-52.26	-37.8	5.332	9.98	H	Pass
6913	-33.36	-13	-20.36	-59.94	-38.6	6.1	11.34	H	Pass
8642	-42.88	-13	-29.88	-68.58	-47.8	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3455	-45.27	-13	-32.27	-61.21	-49.1	4.48	8.31	V	Pass
5184	-26.36	-13	-13.36	-45.22	-31	5.332	9.98	V	Pass
6913	-31.26	-13	-18.26	-56.63	-36.5	6.1	11.34	V	Pass
8642	-42.08	-13	-29.08	-67.28	-47	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3448	-46.37	-13	-33.37	-61.01	-50.2	4.48	8.31	H	Pass
5177	-31.46	-13	-18.46	-50.59	-36.1	5.332	9.98	H	Pass
6906	-30.66	-13	-17.66	-56.84	-35.9	6.1	11.34	H	Pass
8628	-41.28	-13	-28.28	-66.91	-46.2	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	15MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3448	-45.37	-13	-32.37	-61.1	-49.2	4.48	8.31	V	Pass
5177	-26.06	-13	-13.06	-45.11	-30.7	5.332	9.98	V	Pass
6906	-28.26	-13	-15.26	-53.86	-33.5	6.1	11.34	V	Pass
8628	-40.78	-13	-27.78	-66.09	-45.7	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3448	-46.27	-13	-33.27	-60.59	-50.1	4.48	8.31	H	Pass
5170	-31.86	-13	-18.86	-50.63	-36.5	5.332	9.98	H	Pass
6892	-30.86	-13	-17.86	-57.42	-36.1	6.1	11.34	H	Pass
8621	-41.68	-13	-28.68	-67.36	-46.6	8.25	13.17	H	Pass

<b>Band :</b>	LTE Band 4				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	20MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	EIRP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
3448	-43.27	-13	-30.27	-58.81	-47.1	4.48	8.31	V	Pass
5170	-24.56	-13	-11.56	-43.59	-29.2	5.332	9.98	V	Pass
6892	-29.46	-13	-16.46	-54.78	-34.7	6.1	11.34	V	Pass
8621	-41.38	-13	-28.38	-66.83	-46.3	8.25	13.17	V	Pass



<b>Band :</b>	LTE Band 13				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1560	-49.19	-42.15	-7.04	-55.38	-51.02	1.51	5.49	H	Pass
2336	-40.20	-13	-27.20	-50.53	-42.12	1.98	6.05	H	Pass
3120	-50.41	-13	-37.41	-62	-53.43	2.39	7.56	H	Pass
3896	-50.36	-13	-37.36	-64.11	-54.54	2.52	8.85	H	Pass

<b>Band :</b>	LTE Band 13				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1560	-46.89	-42.15	-4.74	-55.3	-48.72	1.51	5.49	V	Pass
2336	-37.84	-13	-24.84	-49.16	-39.76	1.98	6.05	V	Pass
3120	-47.5	-13	-34.50	-61.06	-50.52	2.39	7.56	V	Pass
3896	-48.72	-13	-35.72	-63.29	-52.9	2.52	8.85	V	Pass



<b>Band :</b>	LTE Band 13		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Horizontal					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1552	-47.28	-13	-34.28	-55.55	-49.11	1.51	5.49	H	Pass
2336	-43.10	-13	-30.10	-55.57	-45.02	1.98	6.05	H	Pass
3112	-41.69	-13	-28.69	-55.4	-44.71	2.39	7.56	H	Pass
3888	-44.43	-13	-31.43	-60.34	-48.61	2.52	8.85	H	Pass

<b>Band :</b>	LTE Band 13		<b>Temperature :</b>	23~25°C					
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0		<b>Relative Humidity :</b>	44~48%					
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu		<b>Polarization :</b>	Vertical					
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1552	-45.8	-13	-32.80	-56.23	-47.63	1.51	5.49	V	Pass
2336	-35.41	-13	-22.41	-48.87	-37.33	1.98	6.05	V	Pass
3112	-43.95	-13	-30.95	-59.66	-46.97	2.39	7.56	V	Pass
3888	-46.64	-13	-33.64	-63.38	-50.82	2.52	8.85	V	Pass



<b>Band :</b>	LTE Band 17				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1416	-52.76	-13	-39.76	-58.84	-54.69	1.53	5.61	H	Pass
2120	-48.21	-13	-35.21	-57.26	-50.23	1.85	6.02	H	Pass
2832	-51.24	-13	-38.24	-62.57	-53.85	2.24	7.00	H	Pass

<b>Band :</b>	LTE Band 17				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	5MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization (H/V)	Result
1416	-54.46	-13	-41.46	-62.59	-56.39	1.53	5.61	V	Pass
2120	-50.64	-13	-37.64	-61.57	-52.66	1.85	6.02	V	Pass
2832	-49.8	-13	-36.80	-62.68	-52.41	2.24	7.00	V	Pass



<b>Band :</b>	LTE Band 17				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Horizontal			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1408	-55.33	-13	-42.33	-61.3	-57.26	1.53	5.61	H	Pass
2112	-39.71	-13	-26.71	-48.71	-41.73	1.85	6.02	H	Pass
2824	-52.20	-13	-39.20	-63.44	-54.81	2.24	7.00	H	Pass

<b>Band :</b>	LTE Band 17				<b>Temperature :</b>	23~25°C			
<b>Test Mode :</b>	10MHz QPSK RB Size 1 Offset 0				<b>Relative Humidity :</b>	44~48%			
<b>Test Engineer :</b>	Kai Wang, Stan Hsieh, and Ken Wu				<b>Polarization :</b>	Vertical			
<b>Remark :</b>	Spurious emissions within 30-10th harmonic were found more than 20dB below limit line.								
Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading ( dBm )	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain ( dBi )	Polarization ( H/V )	Result
1408	-55.58	-13	-42.58	-63.84	-57.51	1.53	5.61	V	Pass
2112	-46.1	-13	-33.10	-57.02	-48.12	1.85	6.02	V	Pass
2824	-50.84	-13	-37.84	-63.69	-53.45	2.24	7.00	V	Pass

## 3.7 Frequency Stability Measurement

### 3.7.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within  $\pm 0.00025\%$  ( $\pm 2.5\text{ppm}$ ) of the center frequency.

### 3.7.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

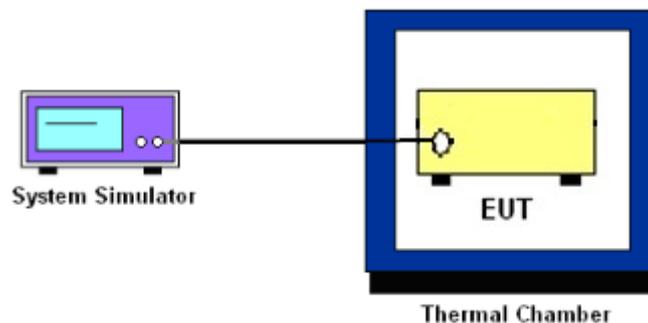
### 3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the system simulator.
2. With power OFF, the temperature was decreased to  $-30^{\circ}\text{C}$  and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
3. With power OFF, the temperature was raised in  $10^{\circ}\text{C}$  step up to  $50^{\circ}\text{C}$ . The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

### 3.7.4 Test Procedures for Voltage Variation

1. The EUT was placed in a temperature chamber at  $25\pm 5^{\circ}\text{C}$  and connected with the system simulator.
2. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value measured at the input to the EUT.
3. The variation in frequency was measured for the worst case.

### 3.7.5 Test Setup





3.7.6 Test Result of Temperature Variation

Band :	LTE Band 5 (QPSK)	Limit (ppm) :	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0060		PASS
40	0.0077		
30	0.0048		
20(Ref.)	0.0000		
10	0.0013		
0	0.0010		
-10	0.0084		
-20	0.0069		
-30	0.0057		



Band :	LTE Band 2 (QPSK)	Limit (ppm) :	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0010		PASS
40	0.0007		
30	0.0006		
20(Ref.)	0.0000		
10	0.0030		
0	0.0017		
-10	0.0043		
-20	0.0014		
-30	0.0002		

Band :	LTE Band 4 (QPSK)	Limit (ppm) :	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0000		PASS
40	0.0042		
30	0.0044		
20(Ref.)	0.0000		
10	0.0039		
0	0.0031		
-10	0.0039		
-20	0.0024		
-30	0.0050		



<b>Band :</b>	LTE Band 13 (QPSK)	<b>Limit (ppm) :</b>	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0042		PASS
40	0.0045		
30	0.0014		
20(Ref.)	0.0000		
10	0.0013		
0	0.0008		
-10	0.0003		
-20	0.0000		
-30	0.0064		

<b>Band :</b>	LTE Band 17 (QPSK)	<b>Limit (ppm) :</b>	2.5
Temperature (°C)	BW 10MHz		Result
	Deviation (ppm)		
50	0.0003		PASS
40	0.0045		
30	0.0017		
20(Ref.)	0.0000		
10	0.0048		
0	0.0013		
-10	0.0011		
-20	0.0015		
-30	0.0013		



3.7.7 Test Result of Voltage Variation

Band	Bandwidth	Voltage (Volt)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 5	10M	132	0.0002	2.5	PASS
		Normal	0.0054		
		108	0.0057		
LTE Band 2	10M	132	0.0011	2.5	PASS
		Normal	0.0006		
		108	0.0018		
LTE Band 4	10M	132	0.0004	2.5	PASS
		Normal	0.0043		
		108	0.0008		
LTE Band 13	10M	132	0.0008	2.5	PASS
		Normal	0.0054		
		108	0.0042		
LTE Band 17	10M	132	0.0052	2.5	PASS
		Normal	0.0003		
		108	0.0059		

Remark:

- 1. Normal Voltage = 120V.
- 2. The manufacturer declared that the EUT could work properly between voltage 108V ~ 132V.



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 09, 2014	Jul. 07, 2014~ Jul. 11, 2014	Jun. 08, 2015	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D3SP	TBN-930701	N/A	Jul. 19, 2013	Jul. 07, 2014~ Jul. 11, 2014	Jul. 18, 2014	Conducted (TH02-HY)
LTE Base Station	Anritsu	MT8820C	6201026480	30MHz~2.7GHz SISO	Jan. 07, 2014	Jul. 07, 2014~ Jul. 11, 2014	Jan. 06, 2015	Conducted (TH02-HY)
Spectrum Analyzer	Rohde & Schwarz	FSV30	101749	10Hz ~ 30GHz	Feb. 10, 2014	Jul. 18, 2014~ Jul. 24, 2014	Feb. 09, 2015	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Oct. 10, 2013	Jul. 18, 2014~ Jul. 24, 2014	Oct. 09, 2014	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 22, 2013	Jul. 18, 2014~ Jul. 24, 2014	Aug. 21, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	10 MHz ~ 1000MHz	Mar. 17, 2014	Jul. 18, 2014~ Jul. 24, 2014	Mar. 16, 2015	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Nov. 29, 2013	Jul. 18, 2014~ Jul. 24, 2014	Nov. 28, 2014	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jul. 18, 2014~ Jul. 24, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	M-400-0	114/8000604	N/A	N/A	Jul. 18, 2014~ Jul. 24, 2014	N/A	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBEC K	BBHA 9170	BBHA91702 51	15GHz- 40GHz	Oct. 03, 2013	Jul. 18, 2014~ Jul. 24, 2014	Oct. 02, 2014	Radiation (03CH07-HY)



## 5 Uncertainty of Evaluation

### Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ( $U = 2Uc(y)$ )	4.50
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