

### 3.4 Conducted Band Edge Measurement

#### 3.4.1 Description of Conducted Band Edge Measurement

22.917(a) 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  $P(\text{Watts})$  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) 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  $P(\text{Watts})$  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 (f) For Band 12

For operations in the 698 -746 MHz band, the FCC limit is  $43 + 10\log_{10}(P[\text{Watts}])$  dB below the transmitter power  $P(\text{Watts})$  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 (g) 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  $P(\text{Watts})$  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.

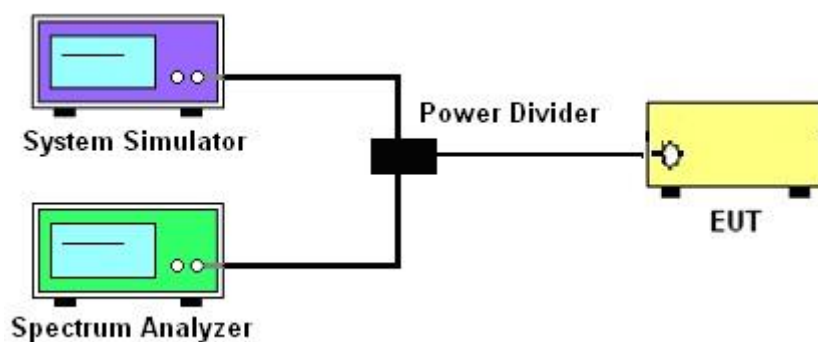
#### 3.4.2 Measuring Instruments

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 Base Station via power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Setting  $RBW \geq 1\%$  EBW, and measuring bandwidth = 1MHz.
3. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
4. The limit line is derived from  $43 + 10\log(P)$  dB below the transmitter power P(Watts)  
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$   
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}.$

### 3.4.4 Test Setup

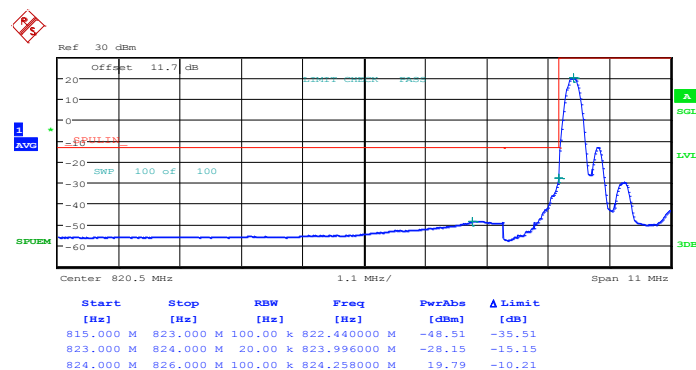




## 3.4.5 Test Result (Plots) of Conducted Band Edge

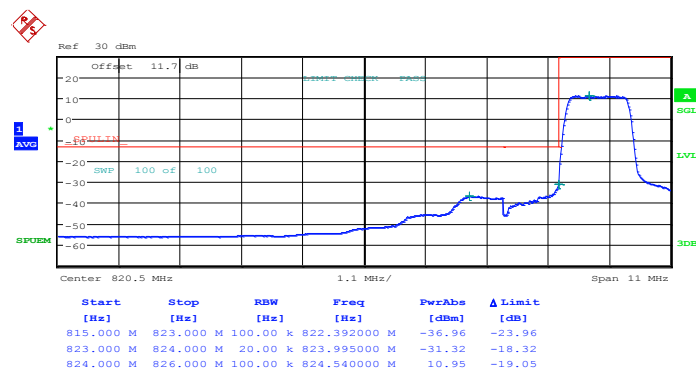
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 5 | Band Width : | 1.4MHz / QPSK |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 12:57:18

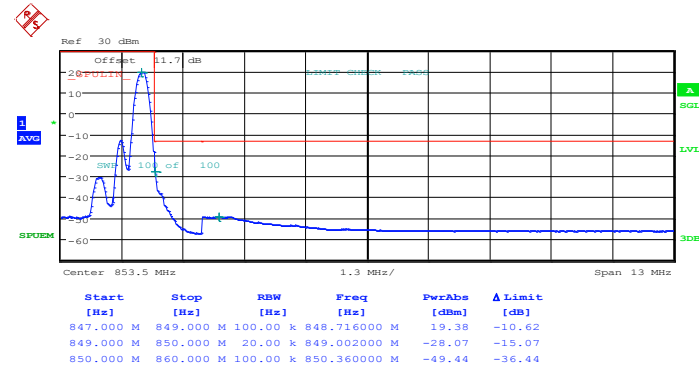
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 14.FEB.2014 12:58:44

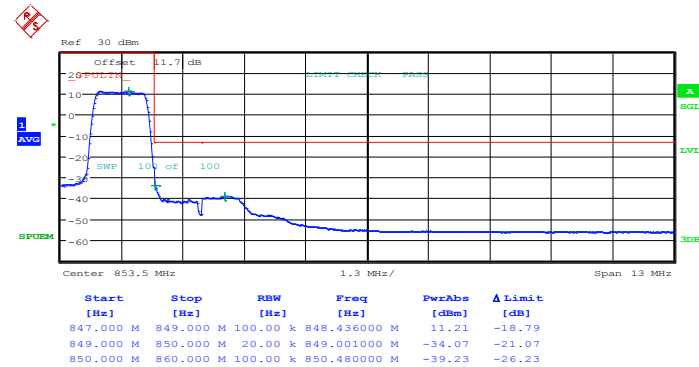


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 14.FEB.2014 13:07:00

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

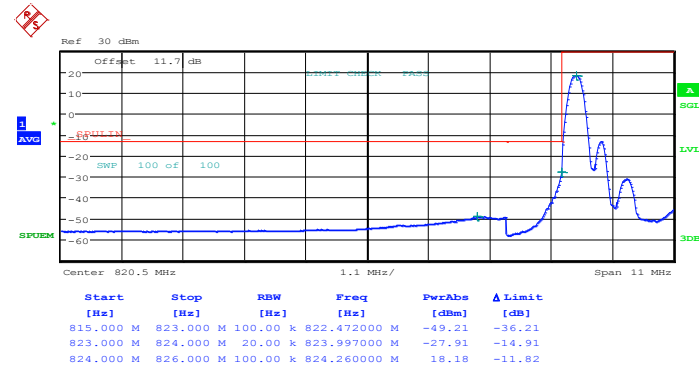


Date: 14.FEB.2014 13:05:35



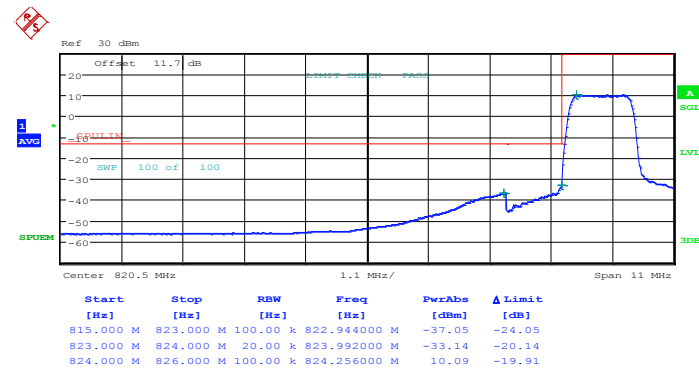
|        |            |              |                |
|--------|------------|--------------|----------------|
| Band : | LTE Band 5 | Band Width : | 1.4MHz / 16QAM |
|--------|------------|--------------|----------------|

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



Date: 14.FEB.2014 12:58:01

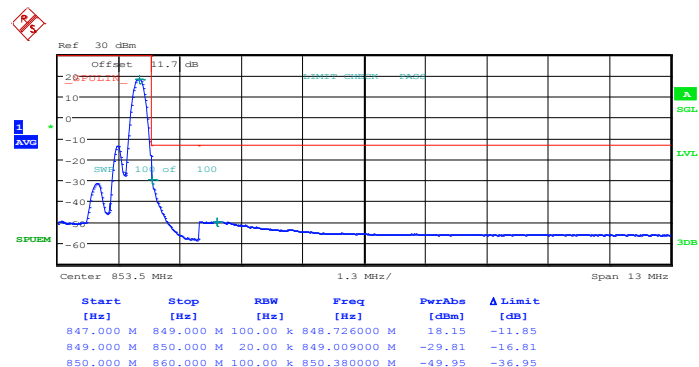
Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 14.FEB.2014 12:59:27

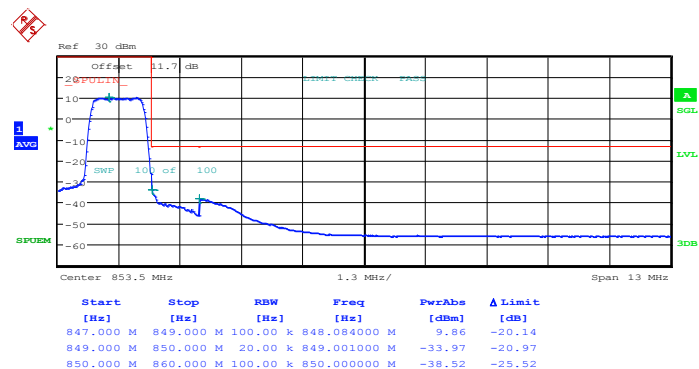


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 14.FEB.2014 13:07:43

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

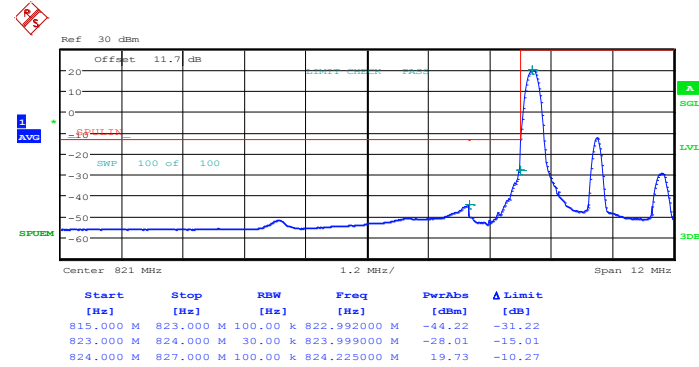


Date: 14.FEB.2014 13:06:17



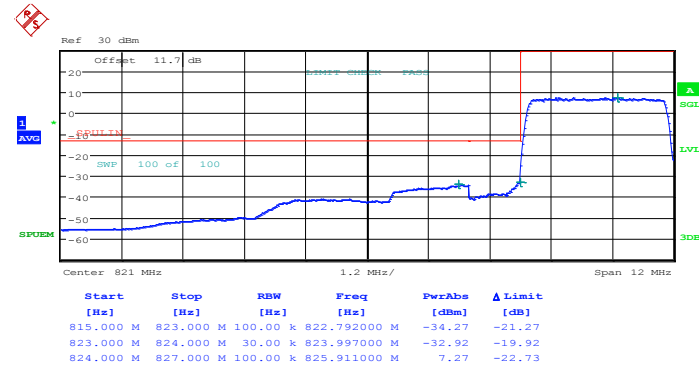
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 5 | Band Width : | 3MHz / QPSK |
|--------|------------|--------------|-------------|

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



Date: 14.FEB.2014 13:11:13

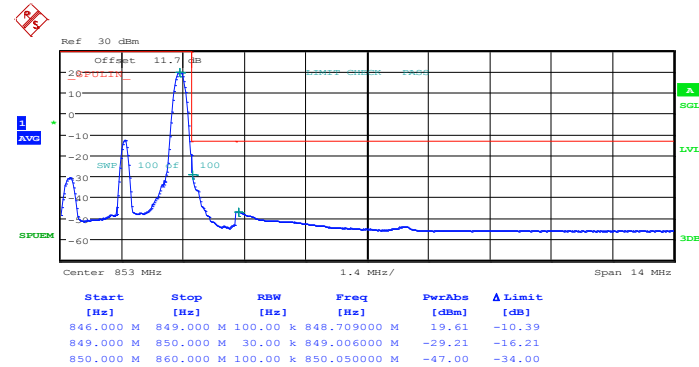
Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 14.FEB.2014 13:12:39

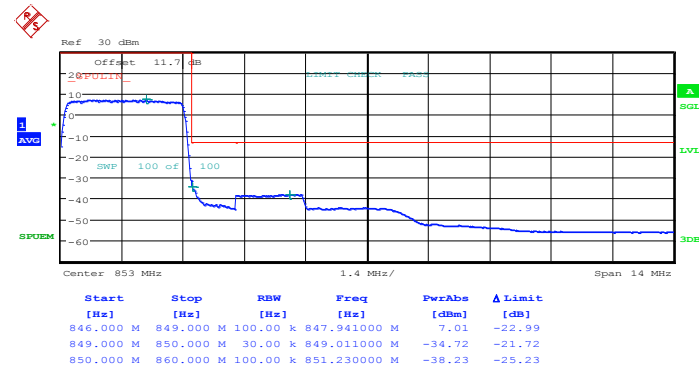


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 14.FEB.2014 13:19:29

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

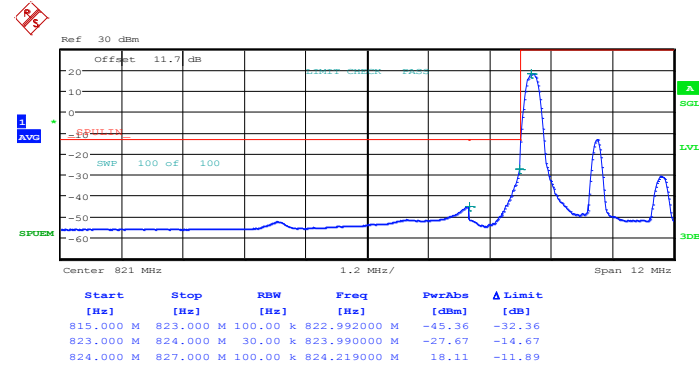


Date: 14.FEB.2014 13:20:55



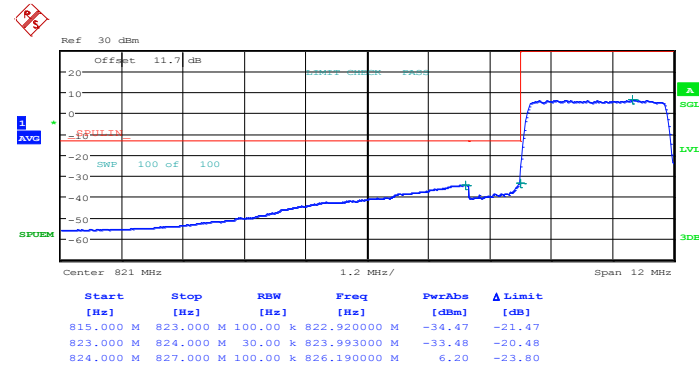
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 5 | Band Width : | 3MHz / 16QAM |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 13:11:56

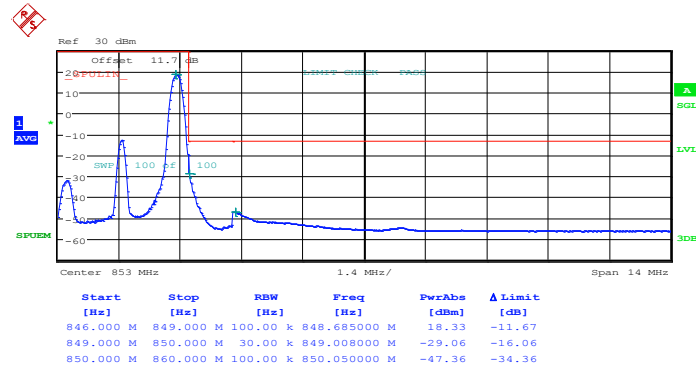
## Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Date: 14.FEB.2014 13:13:22

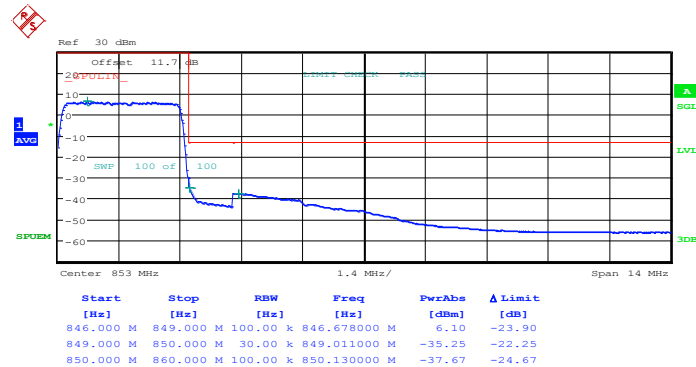


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14



Date: 14.FEB.2014 13:20:12

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

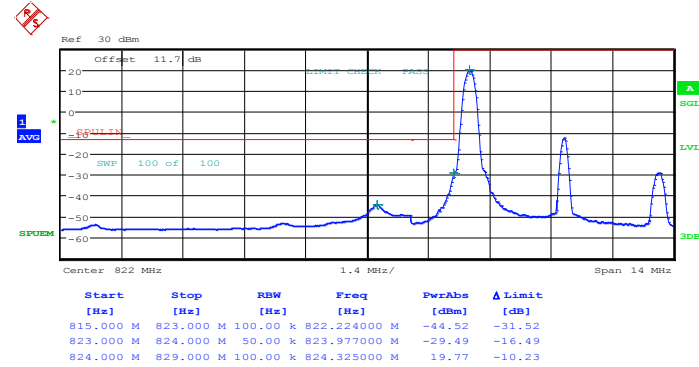


Date: 14.FEB.2014 13:21:38



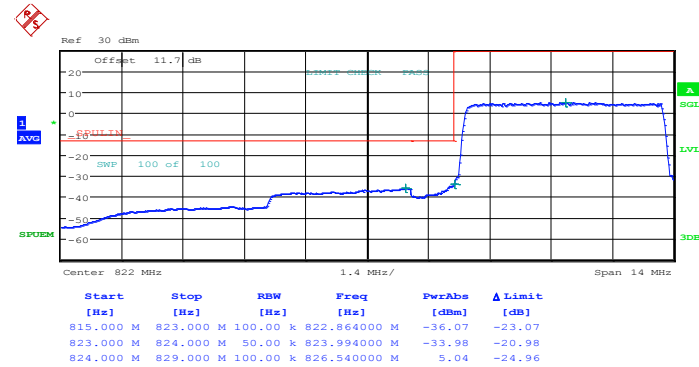
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 5 | Band Width : | 5MHz / QPSK |
|--------|------------|--------------|-------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 13:25:07

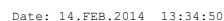
## Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 14.FEB.2014 13:26:33



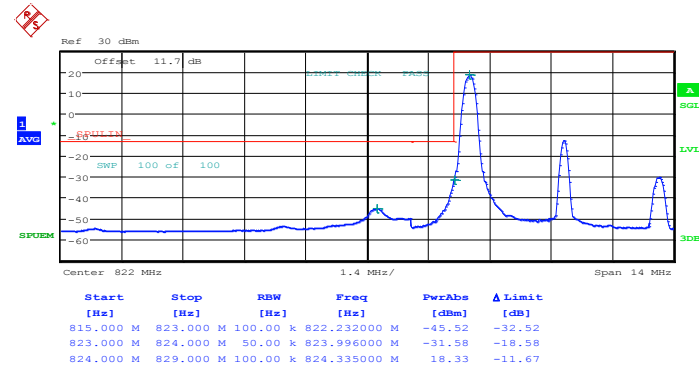
### Higher Band Edge Plot for QPSK-RB Size 25, RB Offset 0





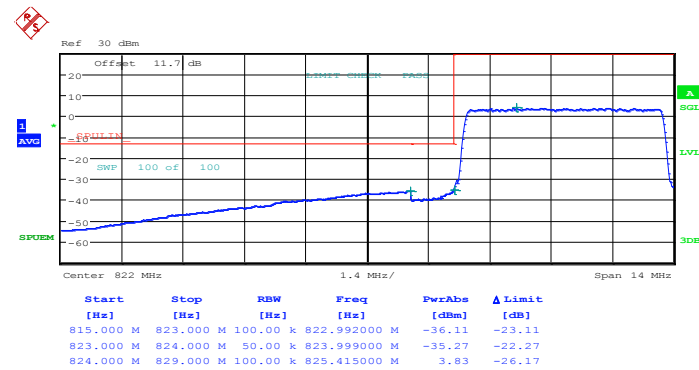
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 5 | Band Width : | 5MHz / 16QAM |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 13:25:50

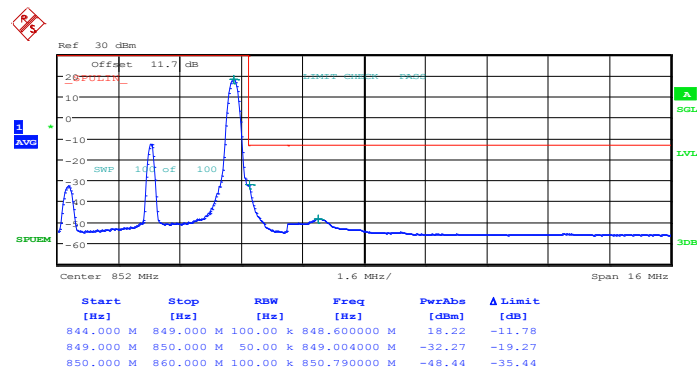
Lower Band Edge Plot for 16QAM -RB Size 25, RB Offset 0



Date: 14.FEB.2014 13:27:16

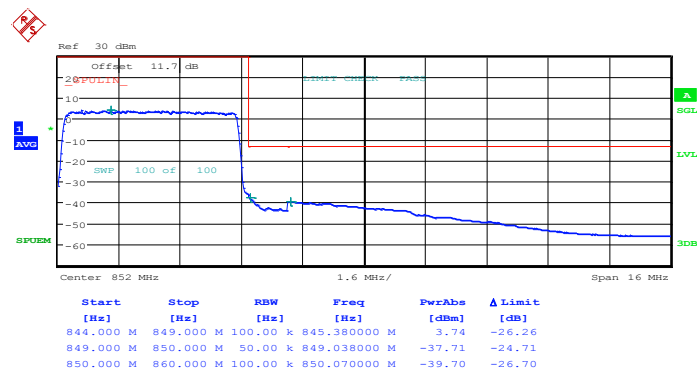


### Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 24



Date: 14.FEB.2014 13:34:07

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

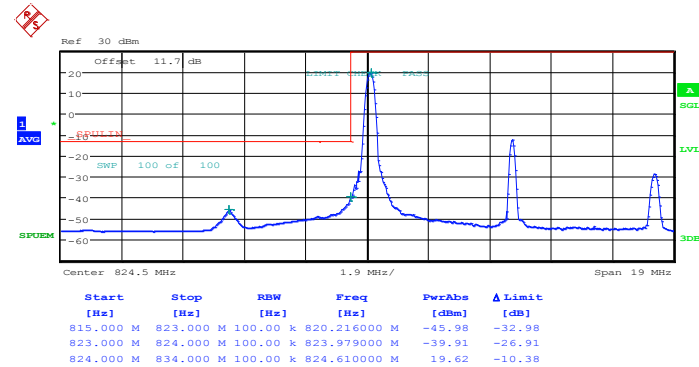


Date: 14.FEB.2014 13:35:33



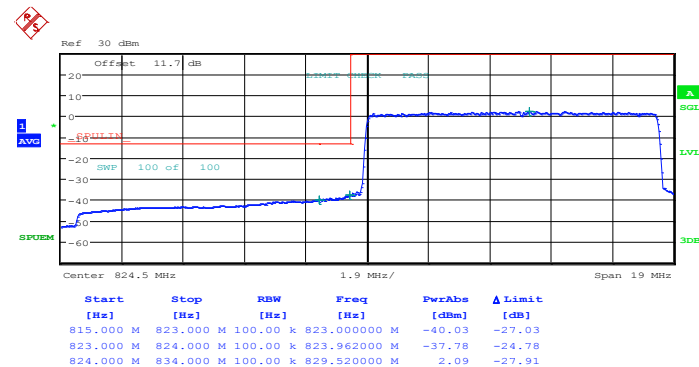
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 5 | Band Width : | 10MHz / QPSK |
|--------|------------|--------------|--------------|

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



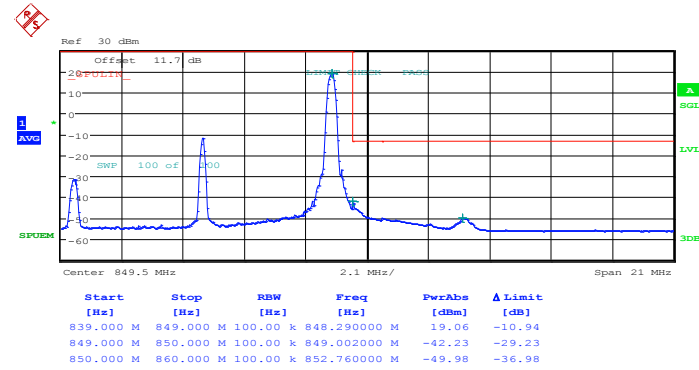
Date: 14.FEB.2014 13:39:03

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



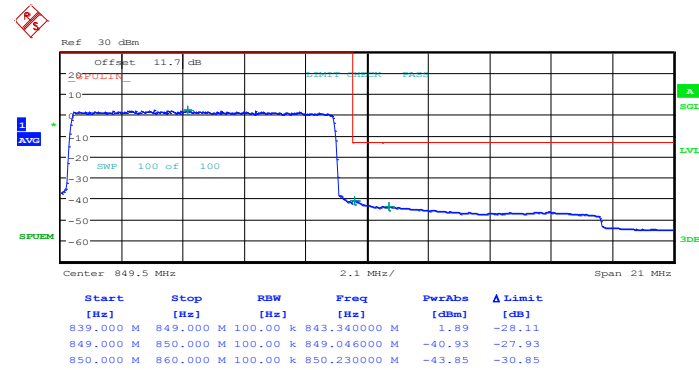
Date: 14.FEB.2014 13:40:29

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



Date: 14.FEB.2014 13:47:20

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

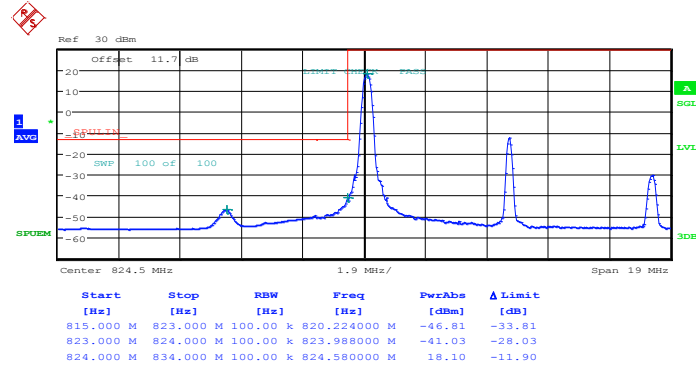


Date: 14.FEB.2014 13:48:46



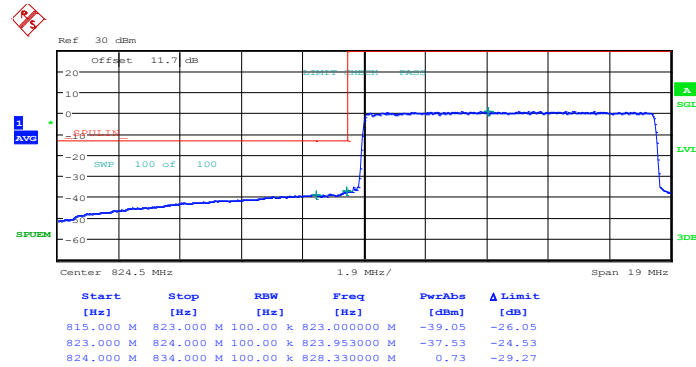
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 5 | Band Width : | 10MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 13:39:46

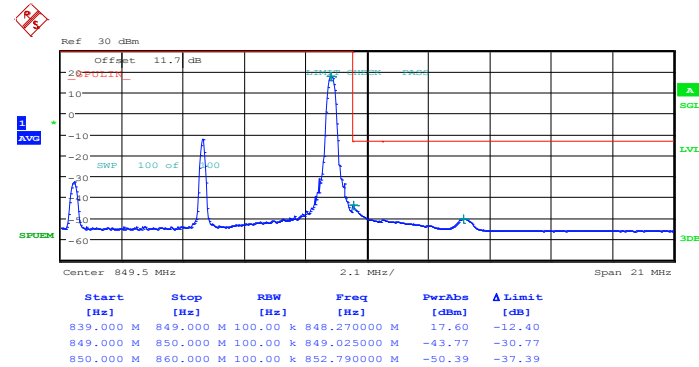
## Lower Band Edge Plot for 16QAM -RB Size 50, RB Offset 0



Date: 14.FEB.2014 13:41:12

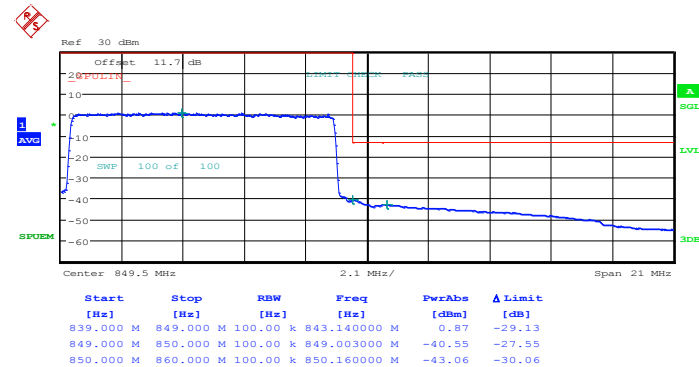


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 49



Date: 14.FEB.2014 13:48:03

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

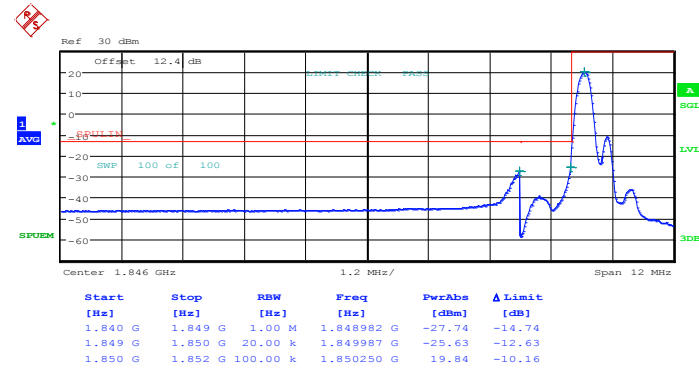


Date: 14.FEB.2014 13:49:29



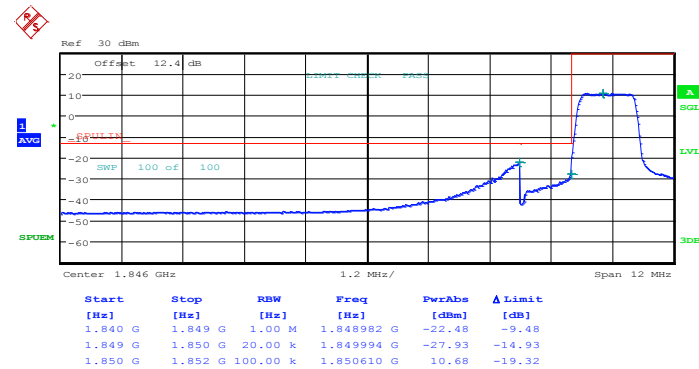
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 2 | Band Width : | 1.4MHz / QPSK |
|--------|------------|--------------|---------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 08:34:38

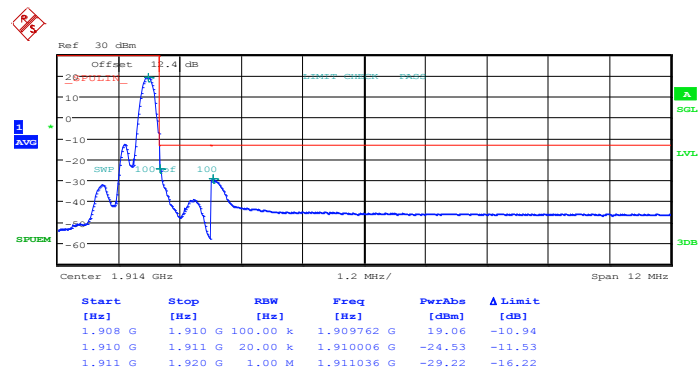
## Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 14.FEB.2014 08:36:04

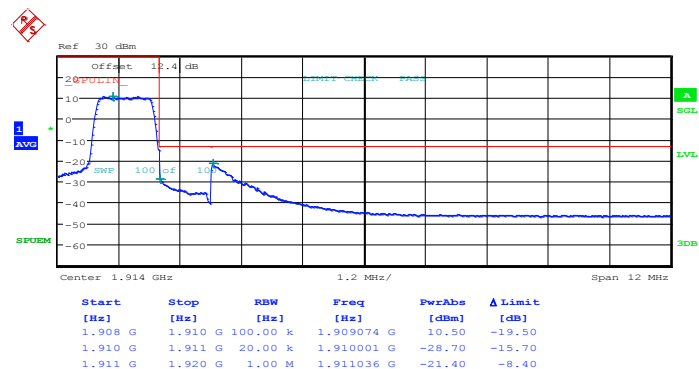


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 14.FEB.2014 08:42:55

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

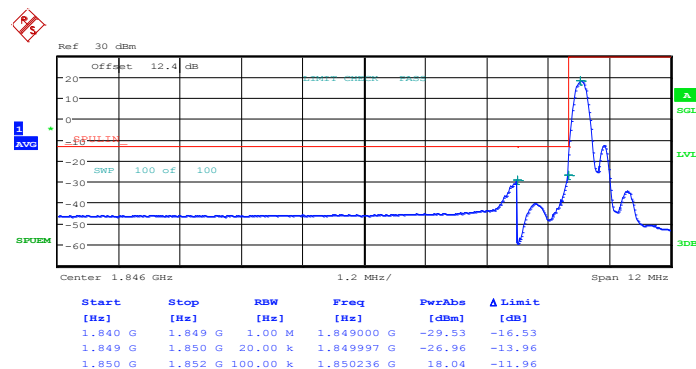


Date: 14.FEB.2014 08:44:21



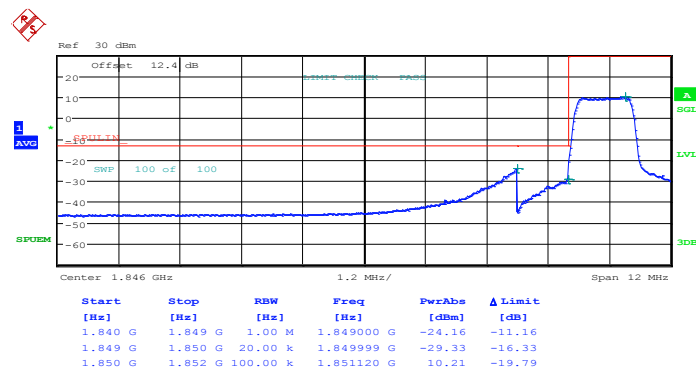
|        |            |              |                |
|--------|------------|--------------|----------------|
| Band : | LTE Band 2 | Band Width : | 1.4MHz / 16QAM |
|--------|------------|--------------|----------------|

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



Date: 14.FEB.2014 08:35:21

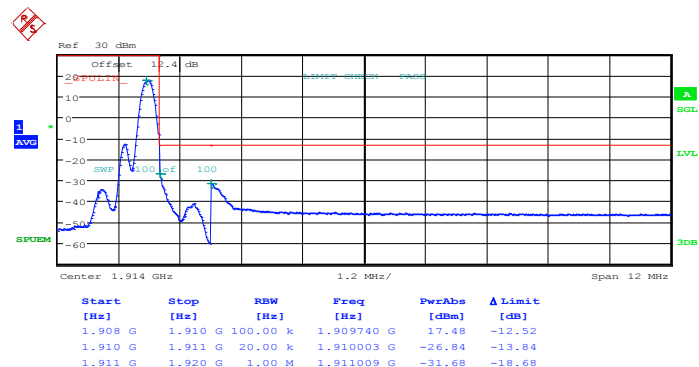
## Lower Band Edge Plot for 16QAM -RB Size 6, RB Offset 0



Date: 14.FEB.2014 08:36:47

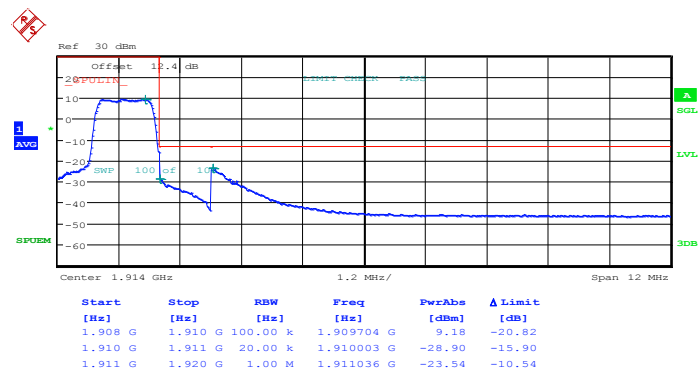


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 5



Date: 14.FEB.2014 08:43:38

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

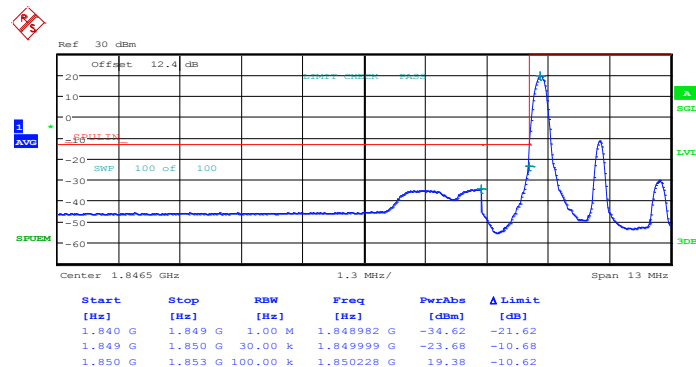


Date: 14.FEB.2014 08:45:04



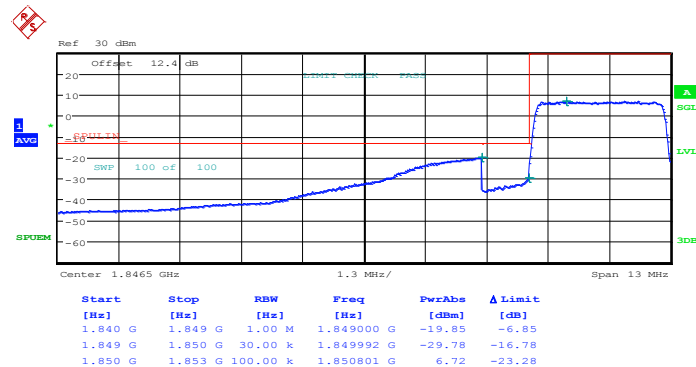
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 2 | Band Width : | 3MHz / QPSK |
|--------|------------|--------------|-------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 08:48:33

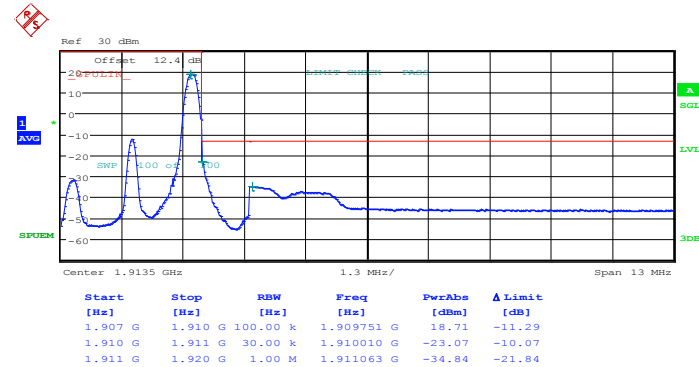
## Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 14.FEB.2014 08:49:59

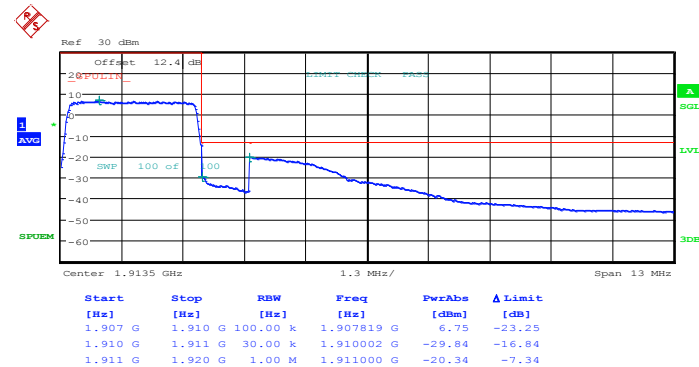


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 14.FEB.2014 08:56:51

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

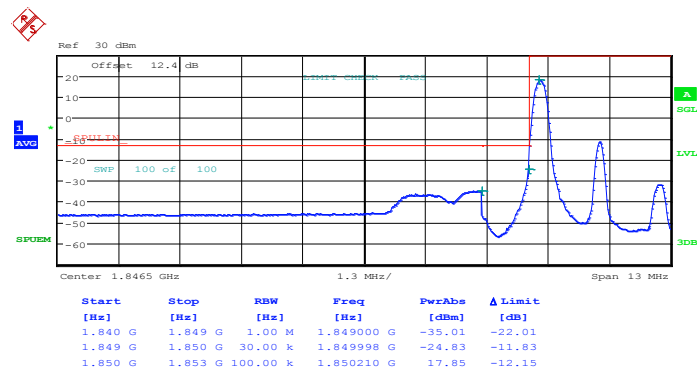


Date: 14.FEB.2014 08:58:16



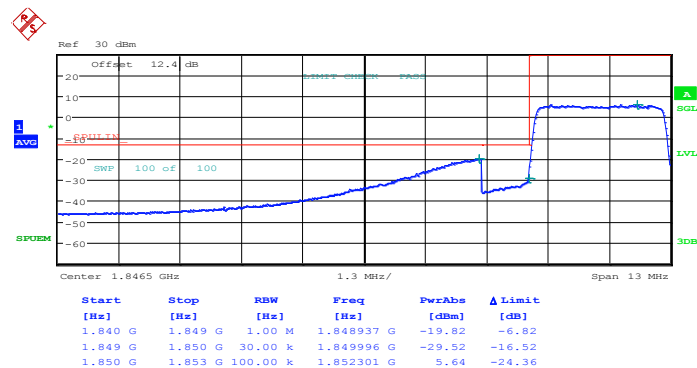
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 2 | Band Width : | 3MHz / 16QAM |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 08:49:16

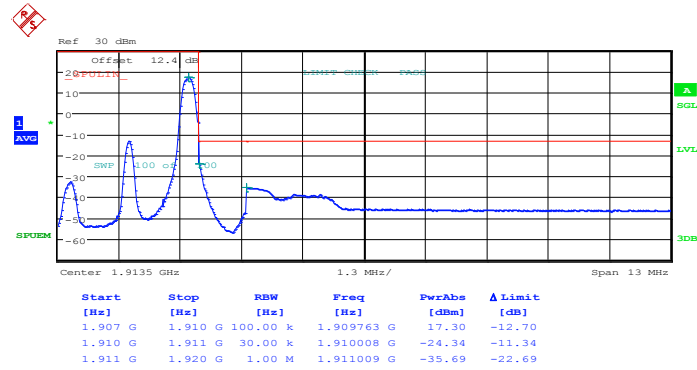
Lower Band Edge Plot for 16QAM -RB Size 15, RB Offset 0



Date: 14.FEB.2014 08:50:42

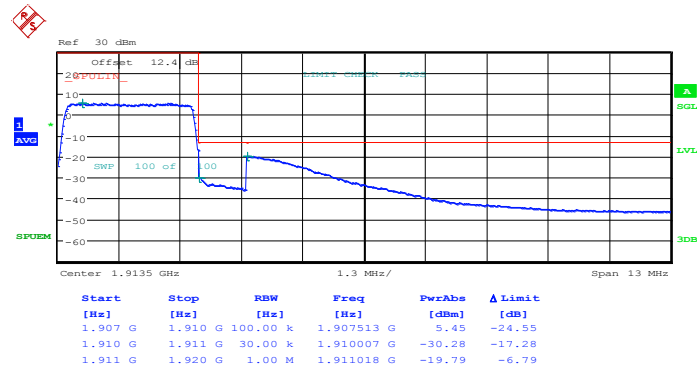


Higher Band Edge Plot for 16QAM -RB Size 1, RB Offset 14



Date: 14.FEB.2014 08:57:33

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

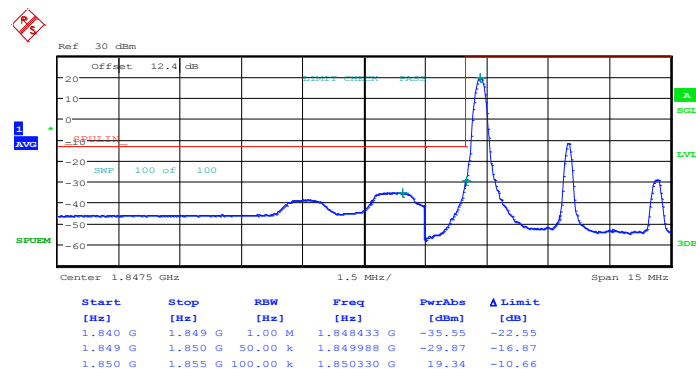


Date: 14.FEB.2014 08:58:59



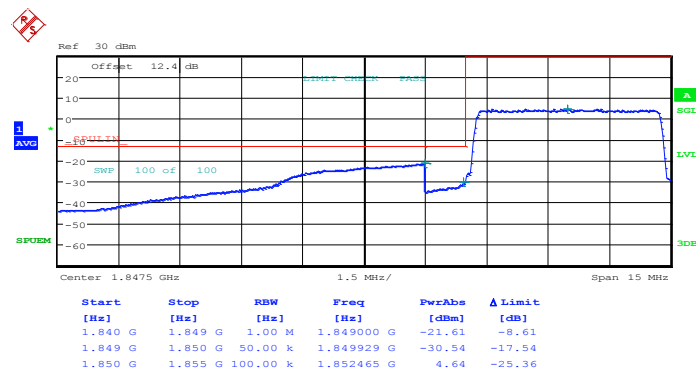
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 2 | Band Width : | 5MHz / QPSK |
|--------|------------|--------------|-------------|

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



Date: 14.FEB.2014 09:02:29

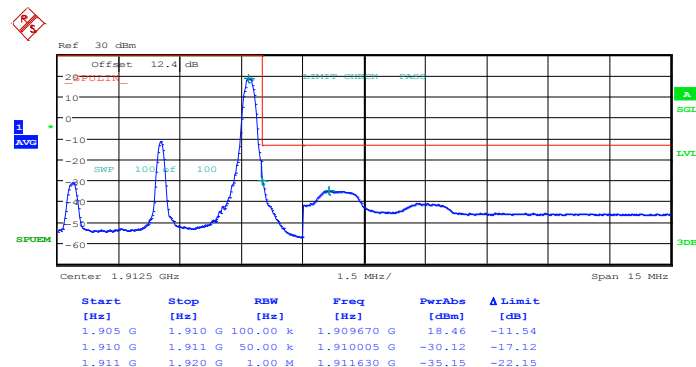
Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 14.FEB.2014 09:03:55

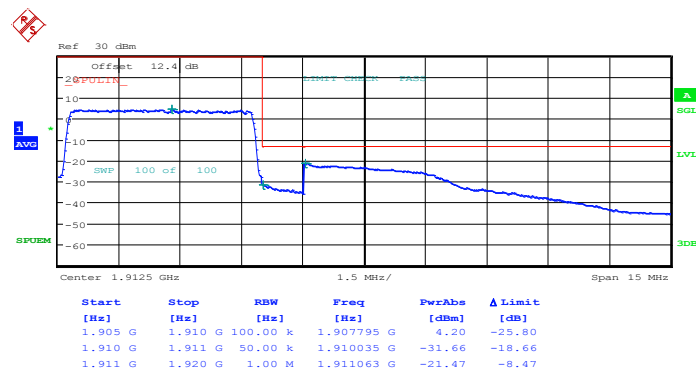


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 14.FEB.2014 09:10:46

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

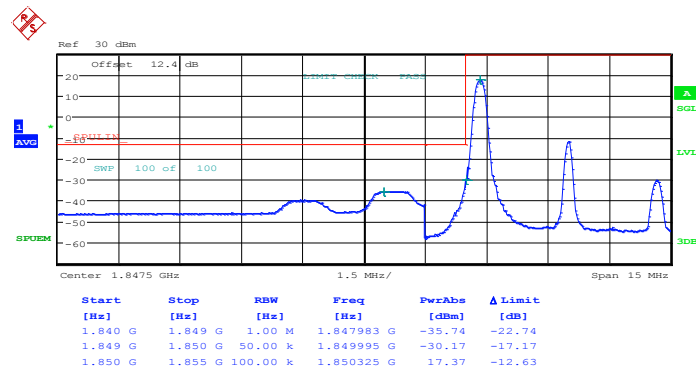


Date: 14.FEB.2014 09:12:10



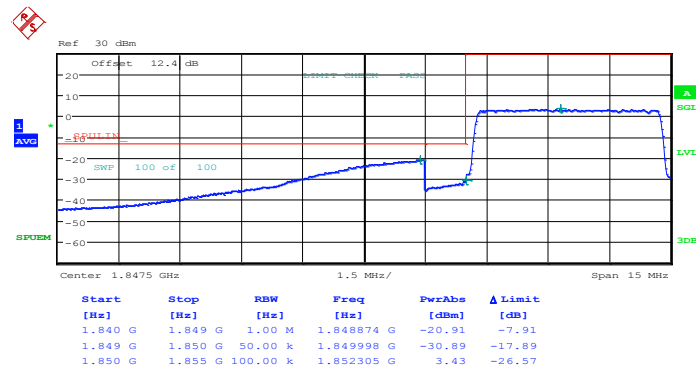
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 2 | Band Width : | 5MHz / 16QAM |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 09:03:12

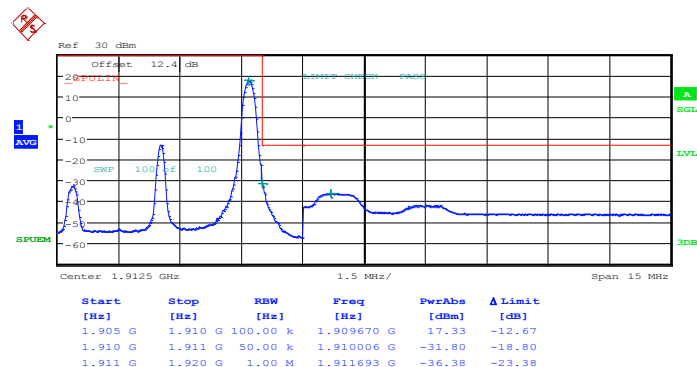
Lower Band Edge Plot for 16QAM-RB Size 25, RB Offset 0



Date: 14.FEB.2014 09:04:38

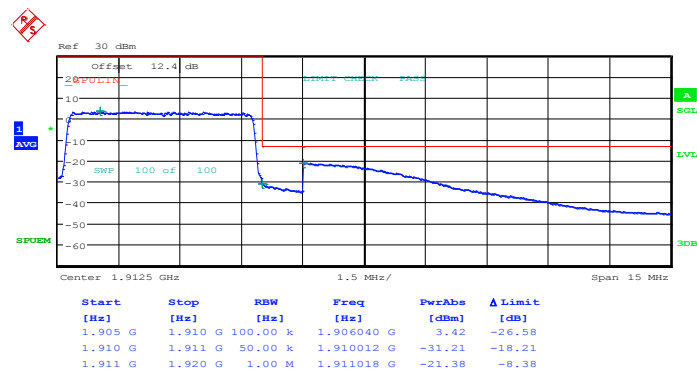


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 24



Date: 14.FEB.2014 09:11:28

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

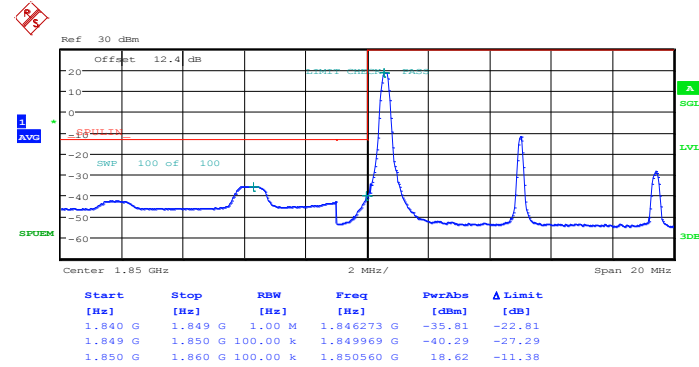


Date: 14.FEB.2014 09:12:53



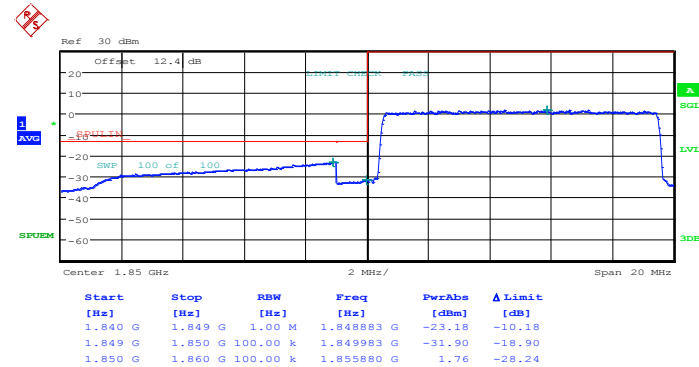
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 2 | Band Width : | 10MHz / QPSK |
|--------|------------|--------------|--------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 09:16:18

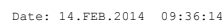
## Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 14.FEB.2014 09:17:43



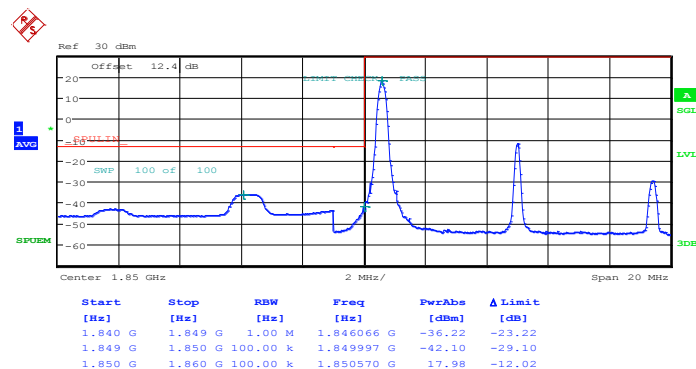
### Higher Band Edge Plot for QPSK-RB Size 50, RB Offset 0





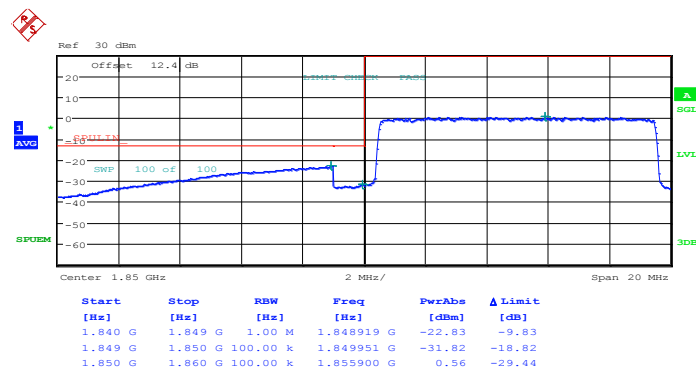
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 2 | Band Width : | 10MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 09:17:00

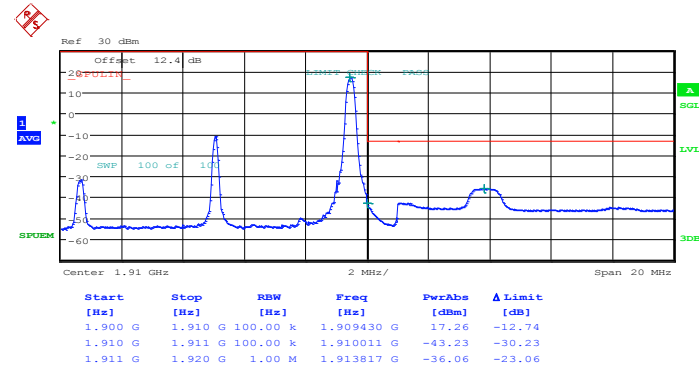
## Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 14.FEB.2014 09:18:25

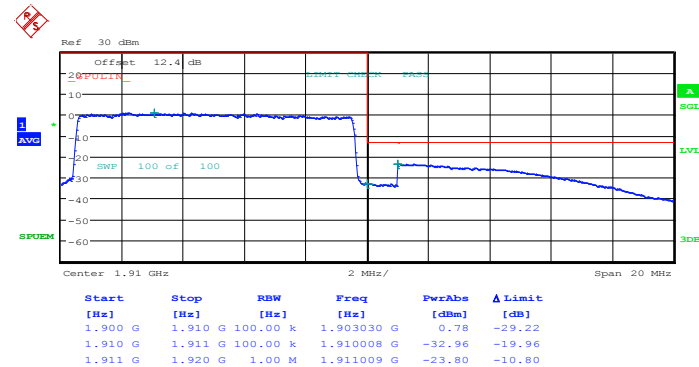


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 14.FEB.2014 09:35:31

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

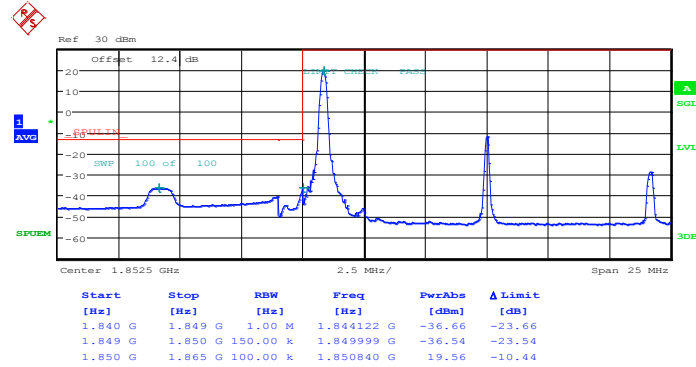


Date: 14.FEB.2014 09:36:57



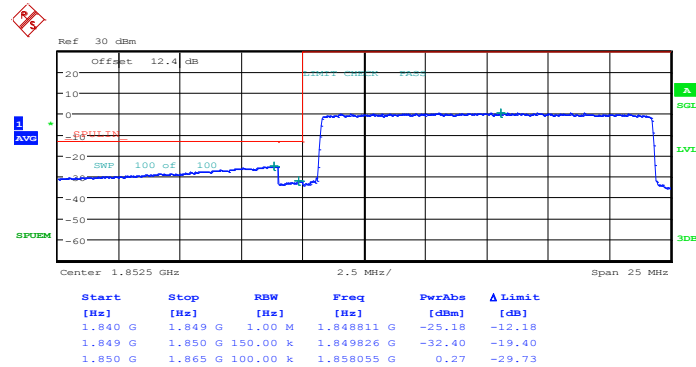
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 2 | Band Width : | 15MHz / QPSK |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 09:40:26

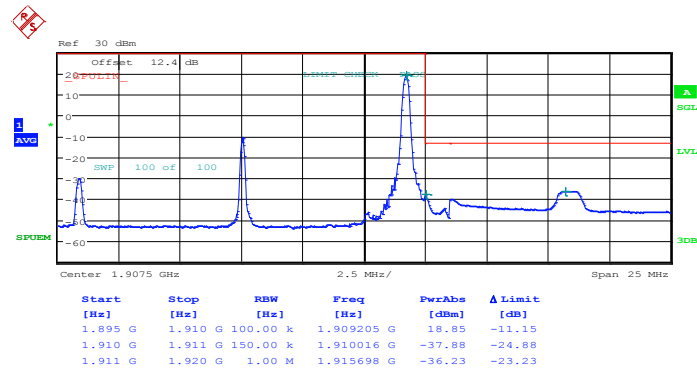
Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 14.FEB.2014 09:41:52

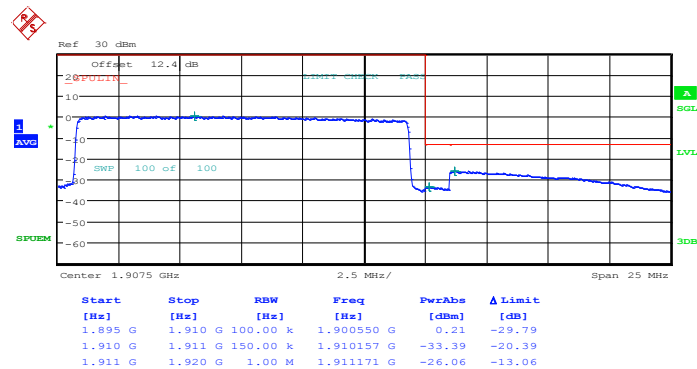


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 14.FEB.2014 09:48:44

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

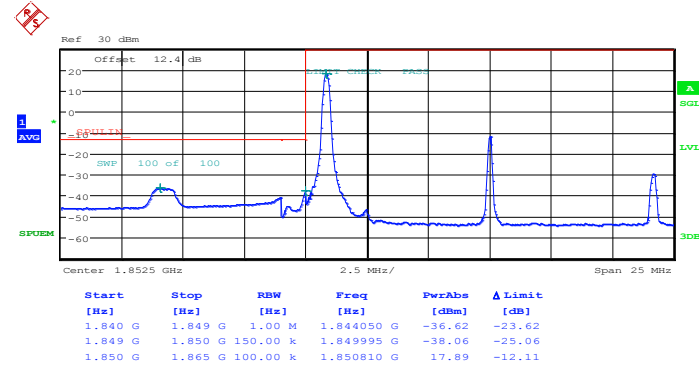


Date: 14.FEB.2014 09:50:09



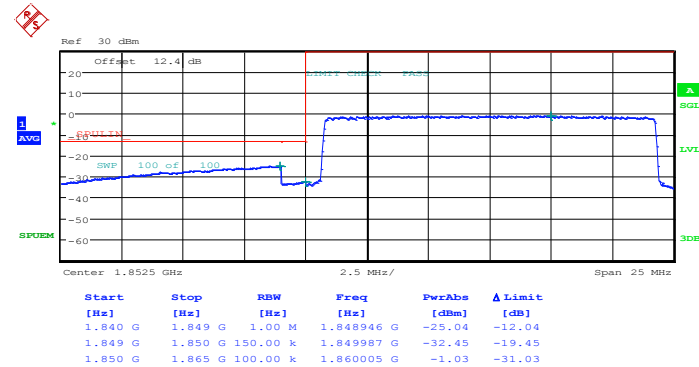
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 2 | Band Width : | 15MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 09:41:09

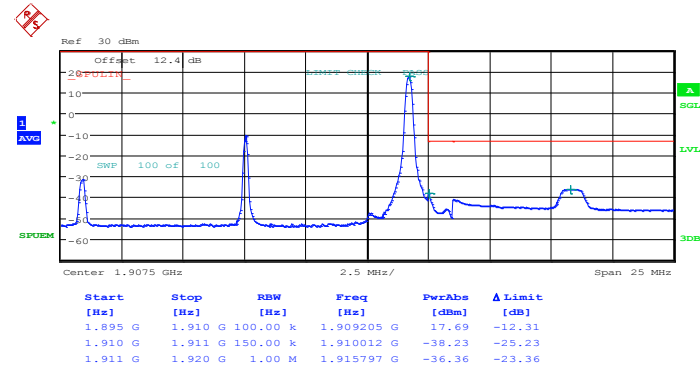
## Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 14.FEB.2014 09:42:35

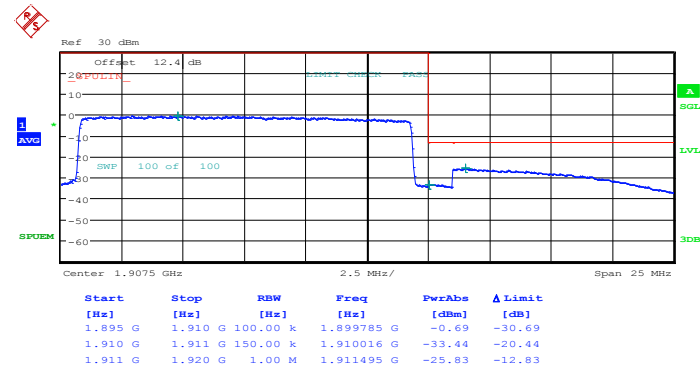


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 14.FEB.2014 09:49:26

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

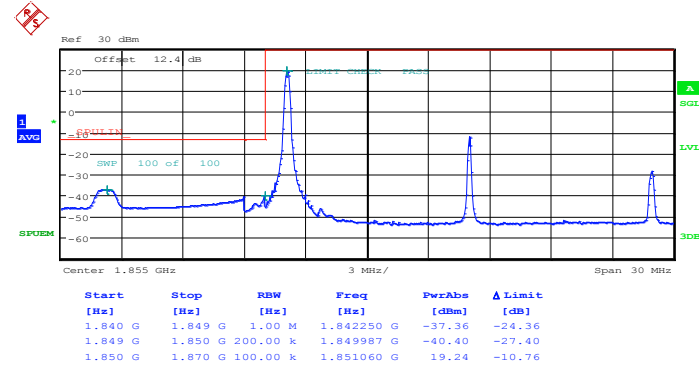


Date: 14.FEB.2014 09:50:52



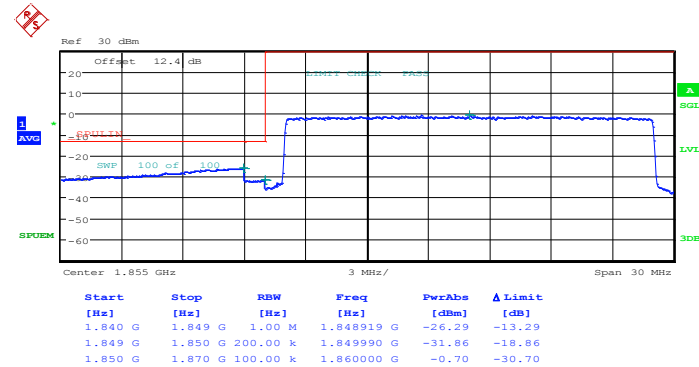
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 2 | Band Width : | 20MHz / QPSK |
|--------|------------|--------------|--------------|

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



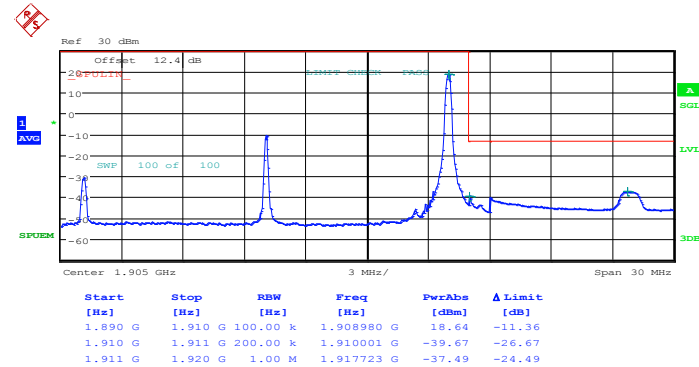
Date: 14.FEB.2014 09:56:08

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



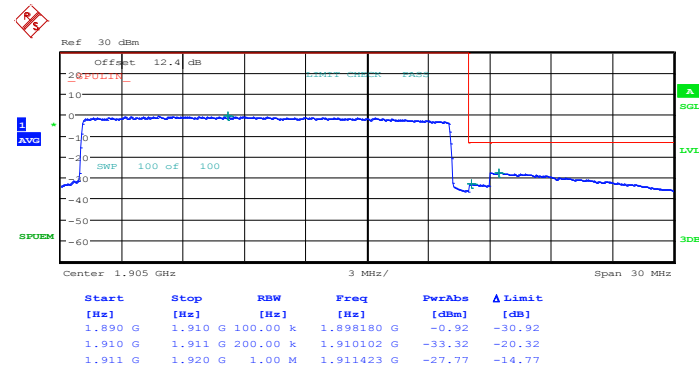
Date: 14.FEB.2014 09:57:34

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



Date: 14.FEB.2014 10:04:26

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

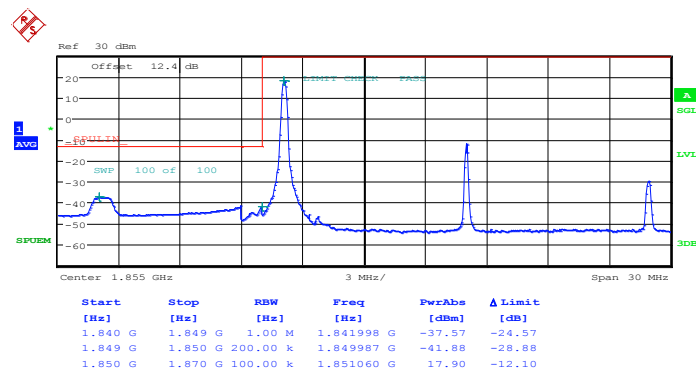


Date: 14.FEB.2014 10:05:52



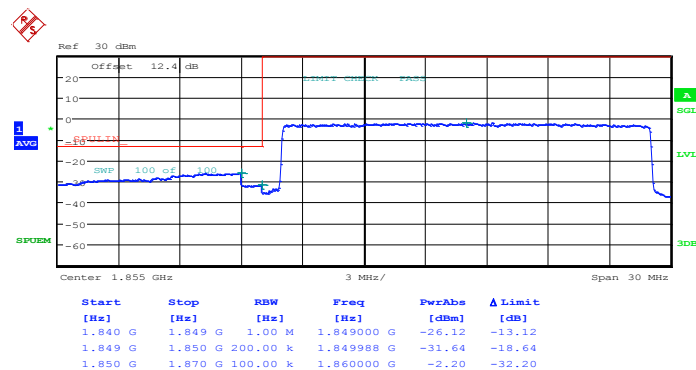
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 2 | Band Width : | 20MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 09:56:51

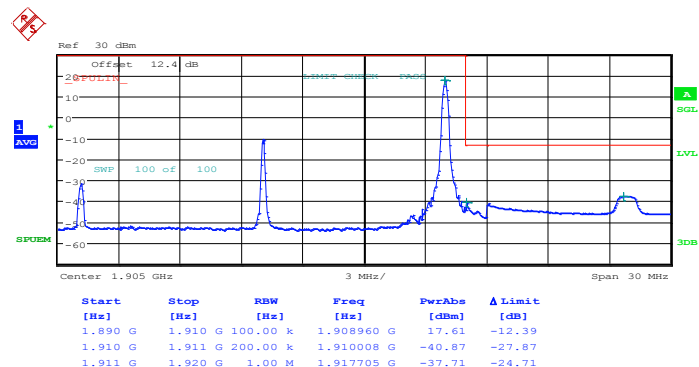
Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 14.FEB.2014 09:58:17

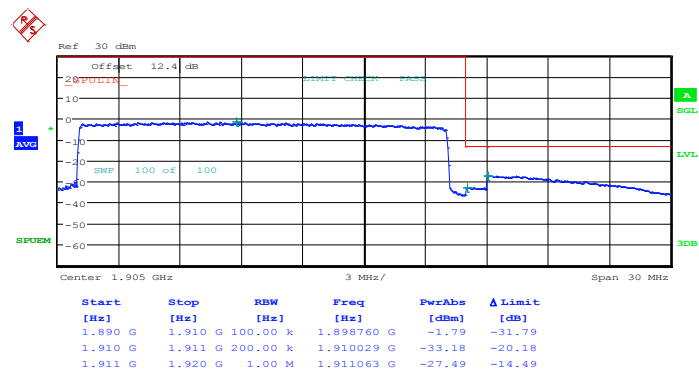


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 14.FEB.2014 10:05:09

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

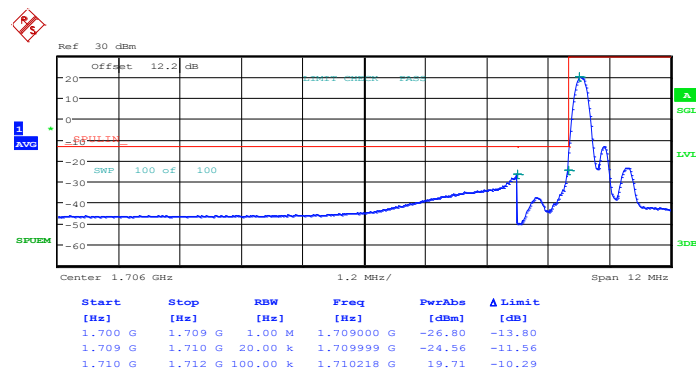


Date: 14.FEB.2014 10:06:35



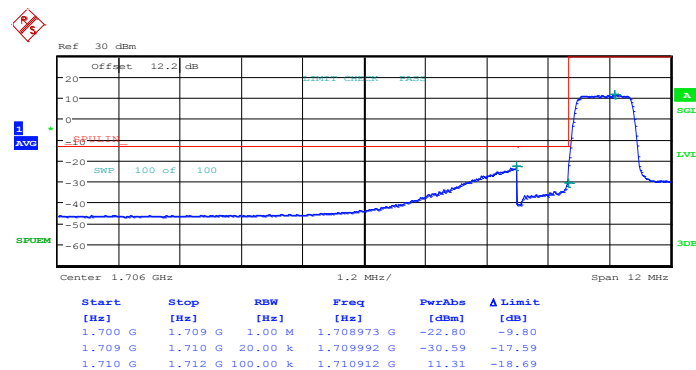
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 4 | Band Width : | 1.4MHz / QPSK |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 10:16:55

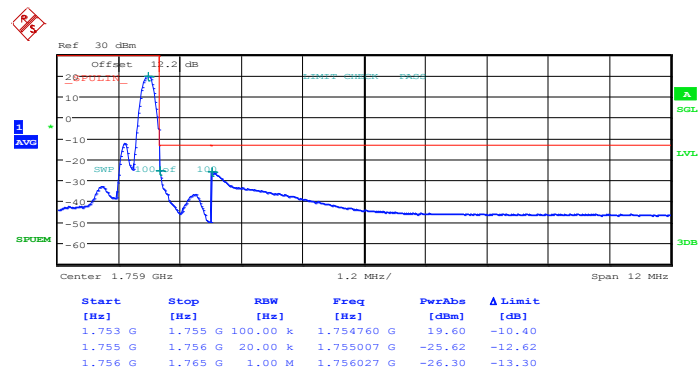
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 14.FEB.2014 10:18:21

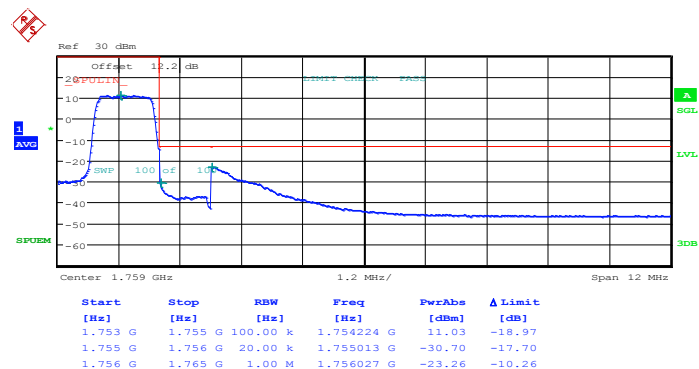


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 14.FEB.2014 10:25:13

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

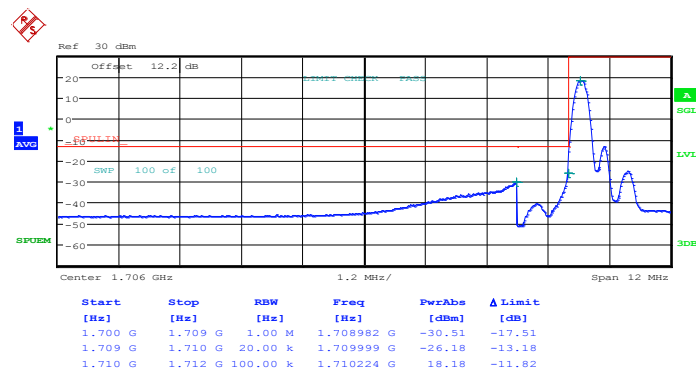


Date: 14.FEB.2014 10:26:39



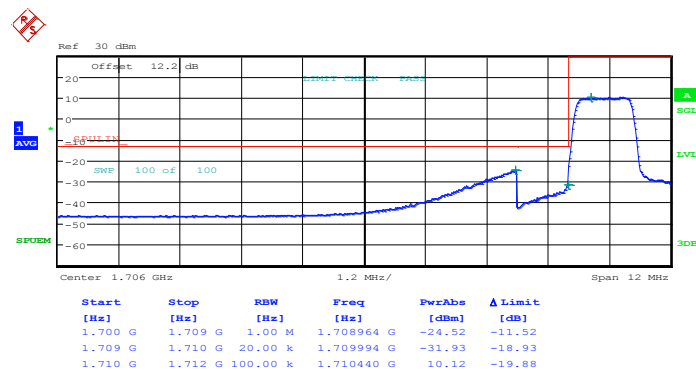
|        |            |              |                |
|--------|------------|--------------|----------------|
| Band : | LTE Band 4 | Band Width : | 1.4MHz / 16QAM |
|--------|------------|--------------|----------------|

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



Date: 14.FEB.2014 10:17:38

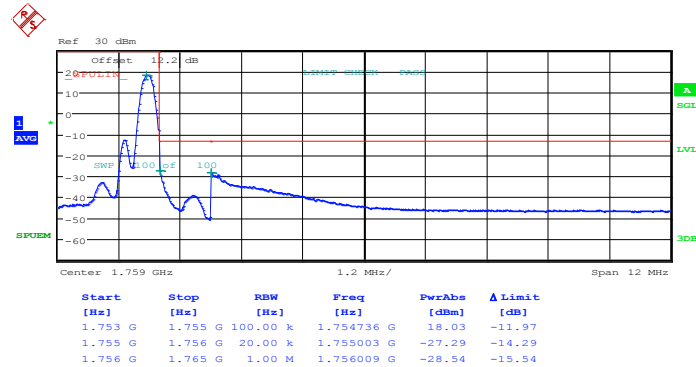
## Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 14.FEB.2014 10:19:04

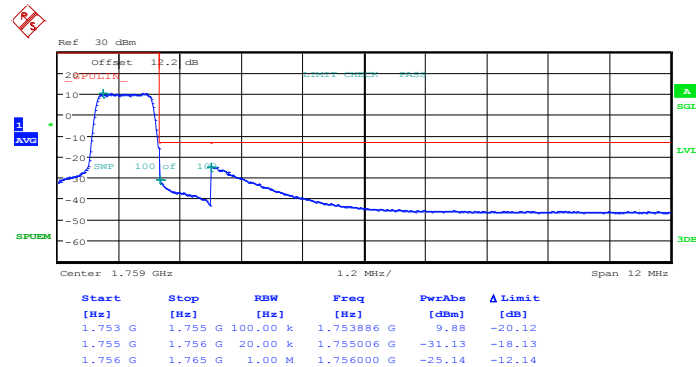


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 14.FEB.2014 10:25:56

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

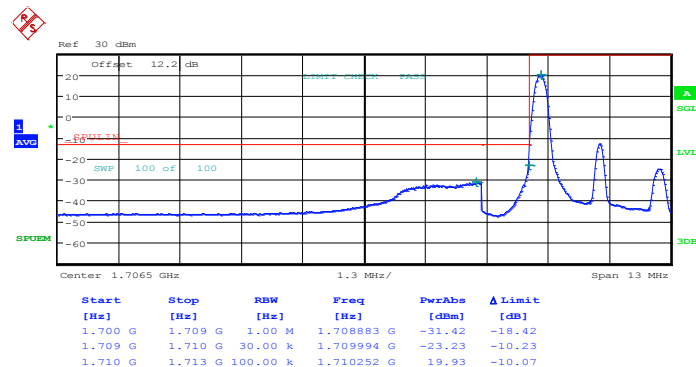


Date: 14.FEB.2014 10:27:22



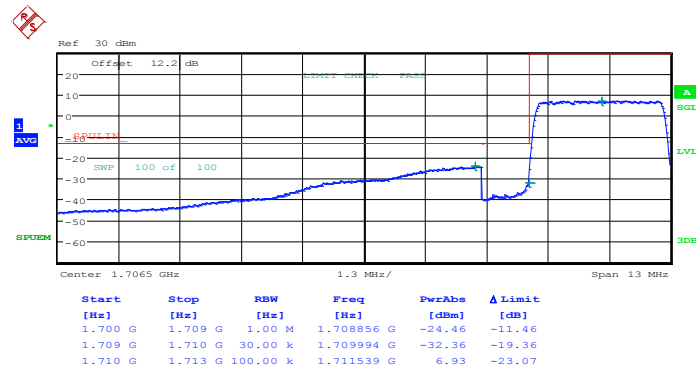
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 4 | Band Width : | 3MHz / QPSK |
|--------|------------|--------------|-------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 10:30:52

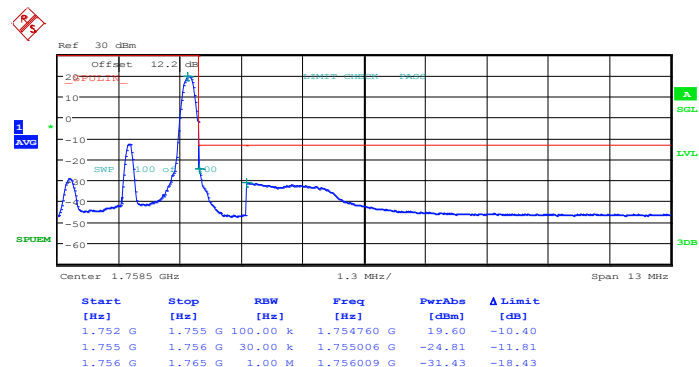
## Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 14.FEB.2014 10:32:18

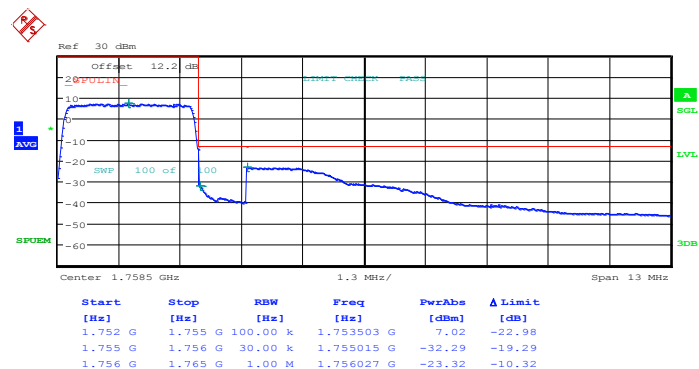


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 14.FEB.2014 10:39:10

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

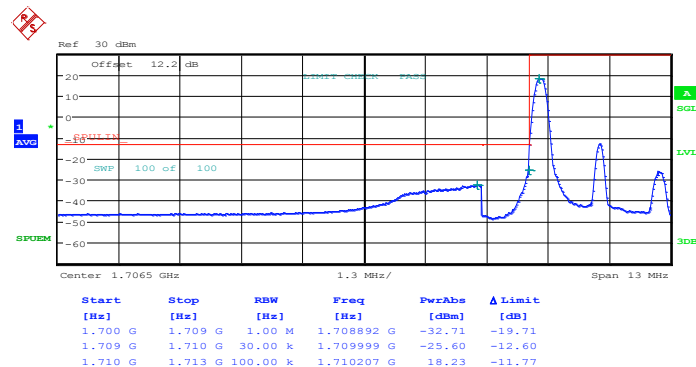


Date: 14.FEB.2014 10:40:36



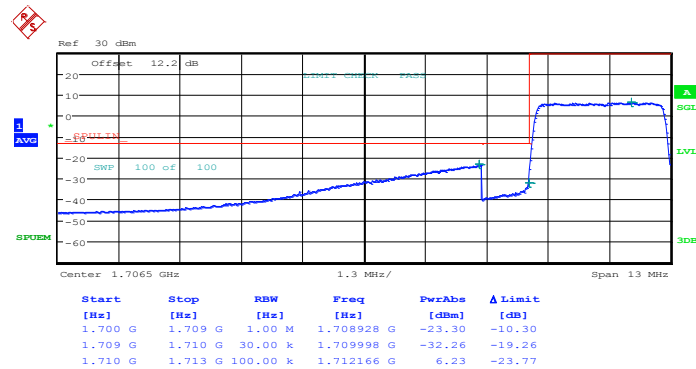
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 4 | Band Width : | 3MHz / 16QAM |
|--------|------------|--------------|--------------|

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



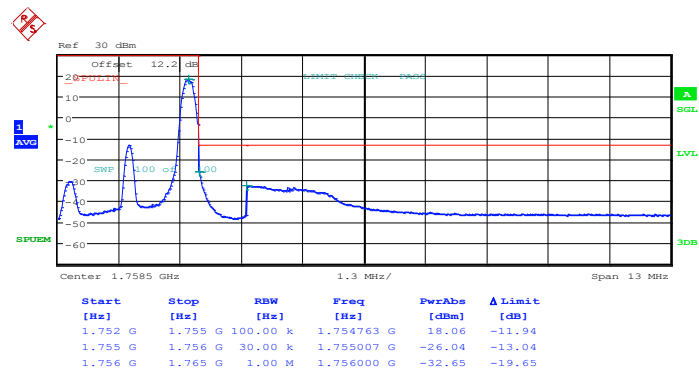
Date: 14.FEB.2014 10:31:35

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



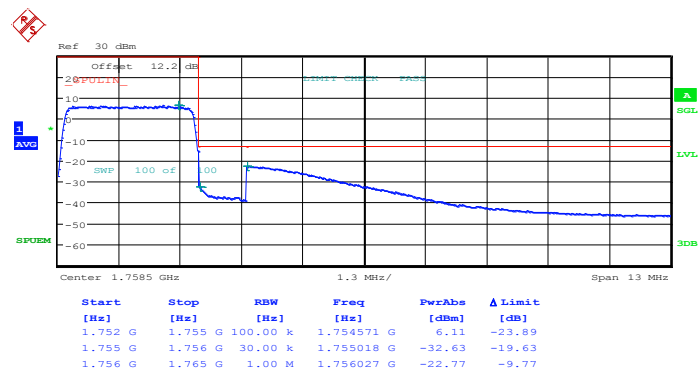
Date: 14.FEB.2014 10:33:01

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



Date: 14.FEB.2014 10:39:53

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

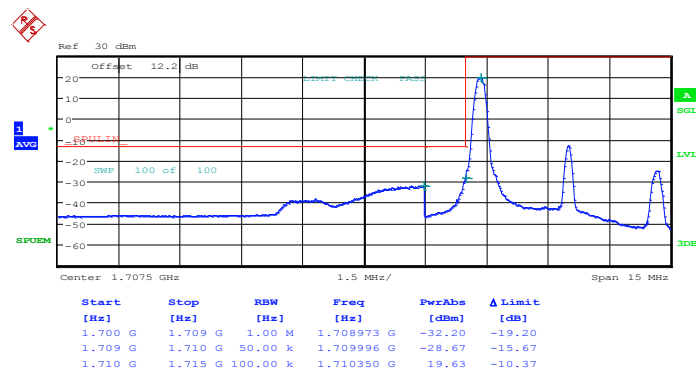


Date: 14.FEB.2014 10:41:19



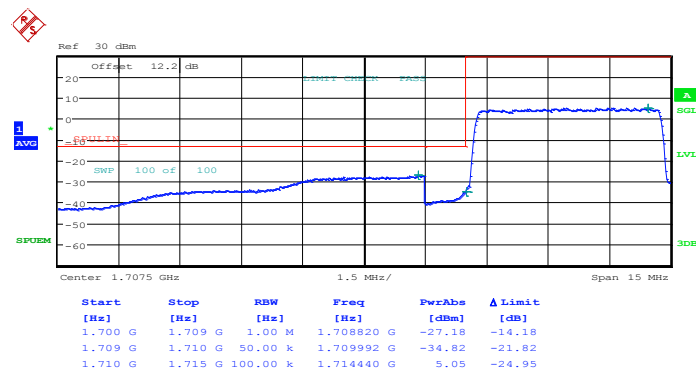
|        |            |              |             |
|--------|------------|--------------|-------------|
| Band : | LTE Band 4 | Band Width : | 5MHz / QPSK |
|--------|------------|--------------|-------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 10:44:49

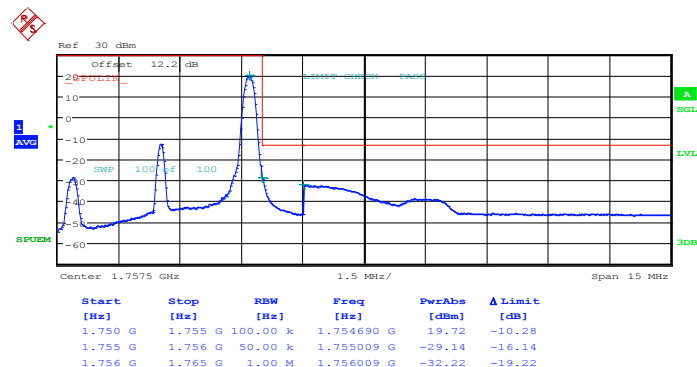
## Lower Band Edge Plot for QPSK-RB Size 25, RB Offset 0



Date: 14.FEB.2014 10:46:15

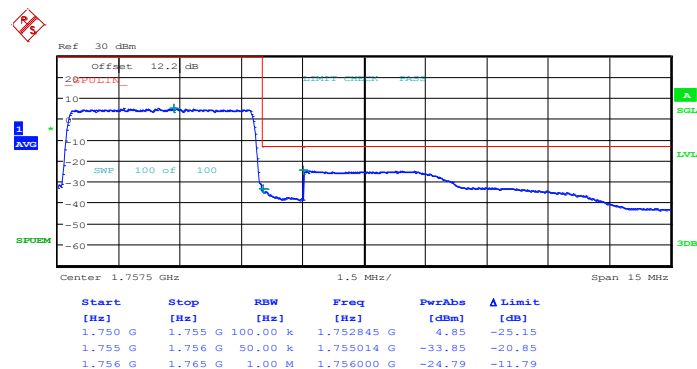


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 24



Date: 14.FEB.2014 10:53:07

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

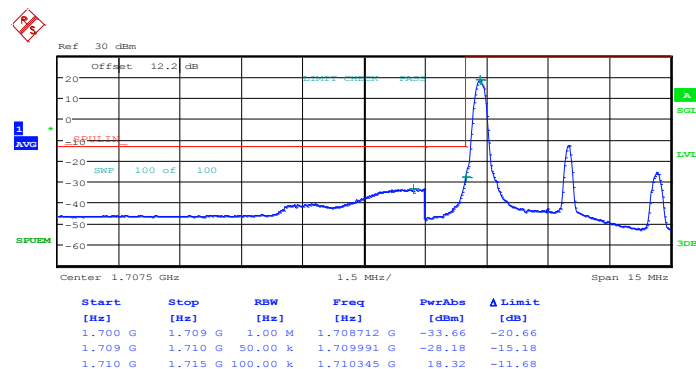


Date: 14.FEB.2014 10:54:33



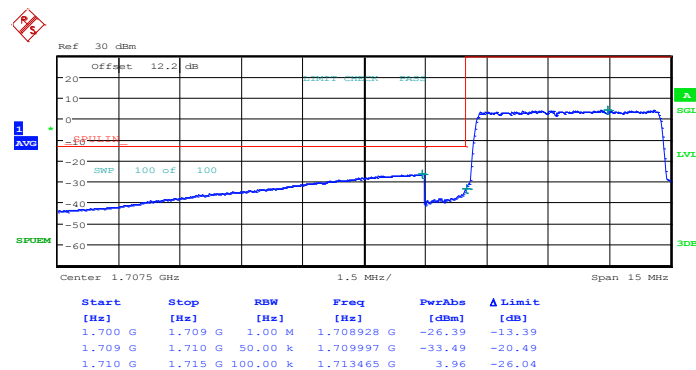
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 4 | Band Width : | 5MHz / 16QAM |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 10:45:32

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



Date: 14.FEB.2014 10:46:58



Center 1.7575 GHz

Span 15 MHz

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz]  | PwrAbs [dBm] | ΔLimit [dB] |
|------------|-----------|----------|------------|--------------|-------------|
| 1.750 G    | 1.755 G   | 100.00 k | 1.754680 G | -18.16       | -11.84      |
| 1.755 G    | 1.756 G   | 50.00 k  | 1.755003 G | -31.35       | -18.35      |
| 1.756 G    | 1.765 G   | 1.00 M   | 1.756027 G | -33.88       | -20.88      |

Date: 14.FEB.2014 10:53:50

Ref 30 dBm

Offset 12.2 dB

20 PUL

LIMIT SWFEN PASS

SWF 100 of 100

Center 1.7575 GHz

Span 15 MHz

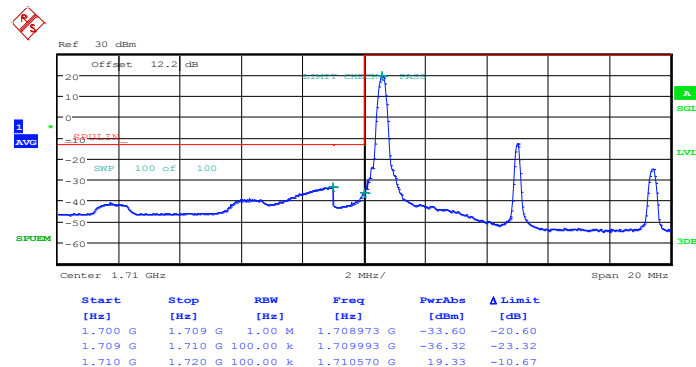
| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz]  | PwrAbs [dBm] | Limit [dB] |
|------------|-----------|----------|------------|--------------|------------|
| 1.750 G    | 1.755 G   | 100.00 k | 1.751415 G | 3.65         | -26.35     |
| 1.755 G    | 1.756 G   | 50.00 k  | 1.755021 G | -33.67       | -20.67     |
| 1.756 G    | 1.765 G   | 1.00 M   | 1.756207 G | -24.12       | -11.12     |

Date: 14.FEB.2014 10:55:16



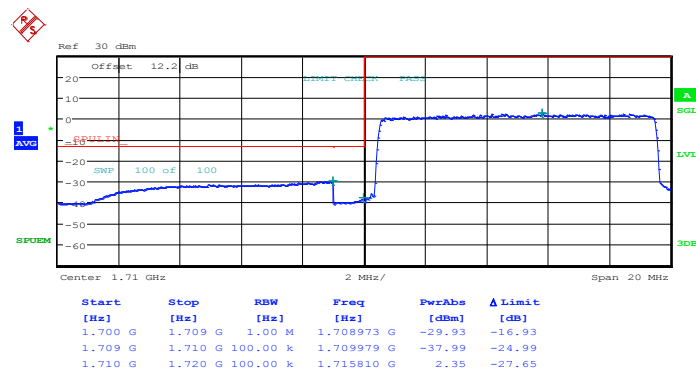
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 4 | Band Width : | 10MHz / QPSK |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 10:58:46

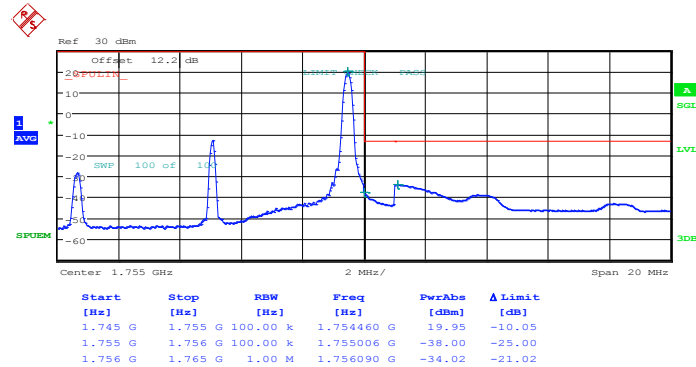
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 14.FEB.2014 11:00:12

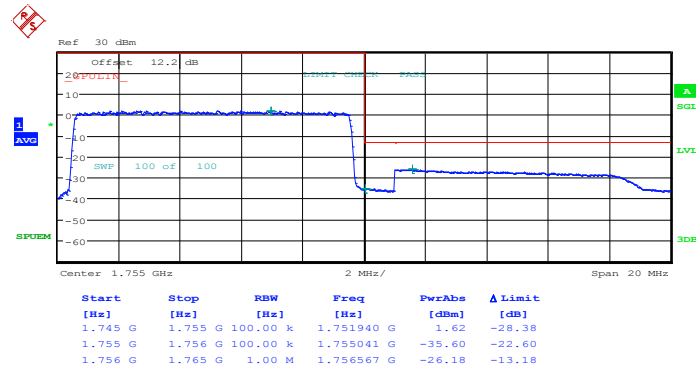


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 14.FEB.2014 11:07:04

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

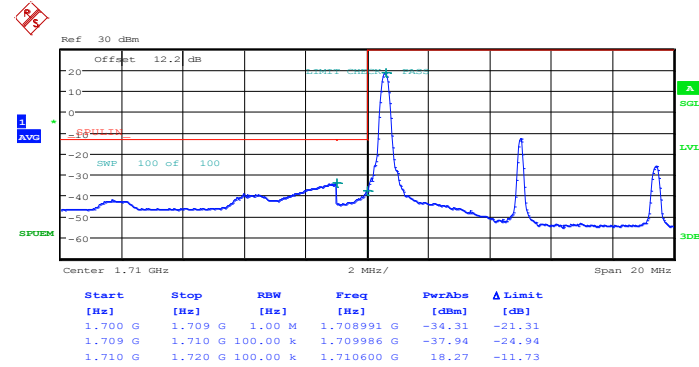


Date: 14.FEB.2014 11:08:30



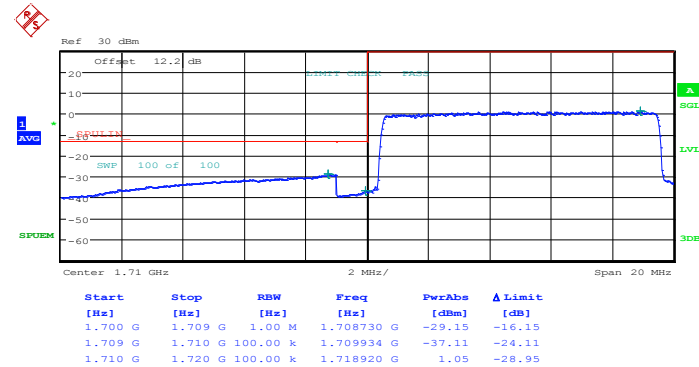
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 4 | Band Width : | 10MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 10:59:29

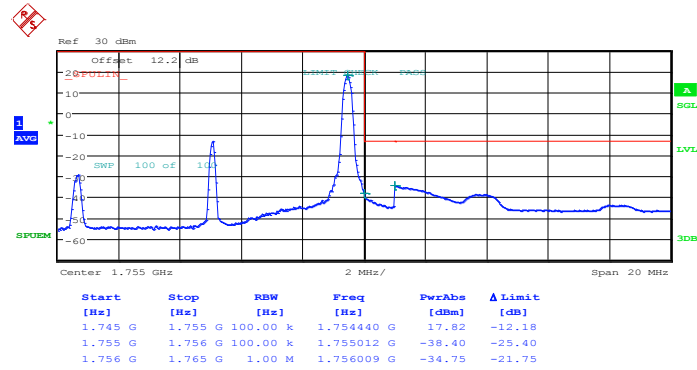
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 14.FEB.2014 11:00:55

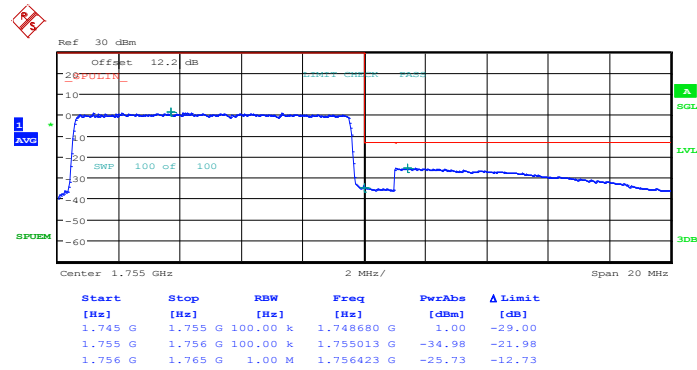


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 14.FEB.2014 11:07:47

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

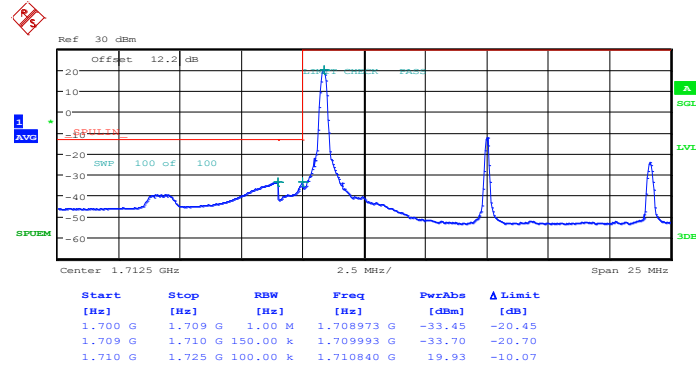


Date: 14.FEB.2014 11:09:13



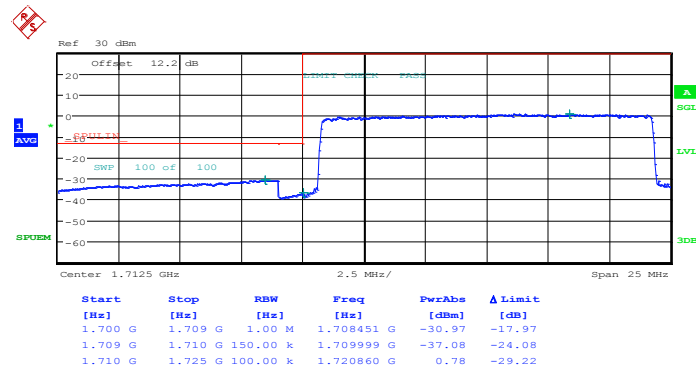
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 4 | Band Width : | 15MHz / QPSK |
|--------|------------|--------------|--------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 11:12:43

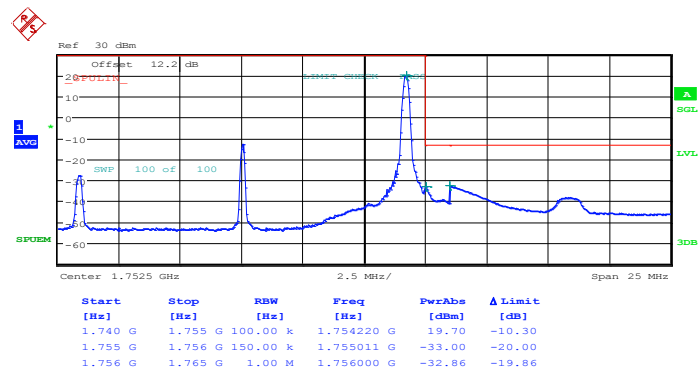
## Lower Band Edge Plot for QPSK-RB Size 75, RB Offset 0



Date: 14.FEB.2014 11:14:09

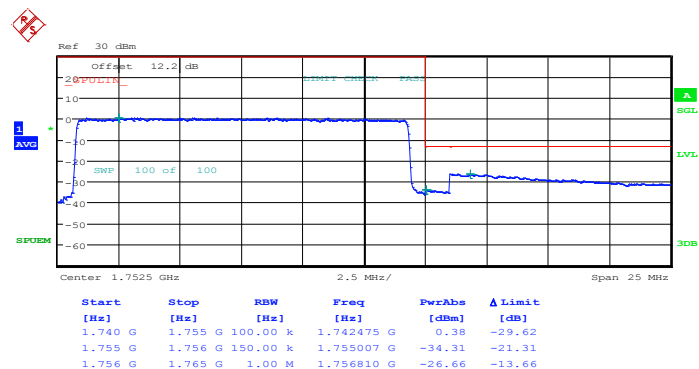


### Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 74



Date: 14.FEB.2014 11:21:02

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

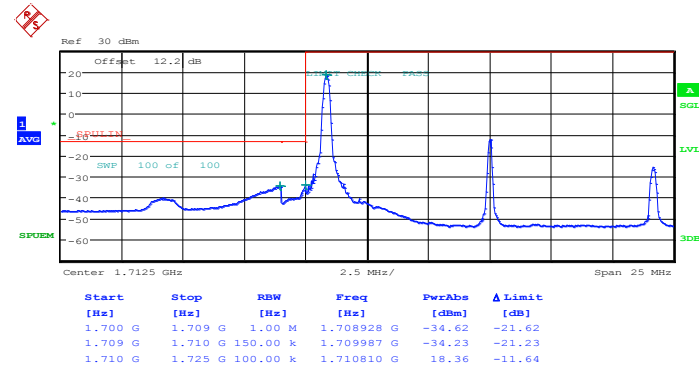


Date: 14.FEB.2014 11:22:28



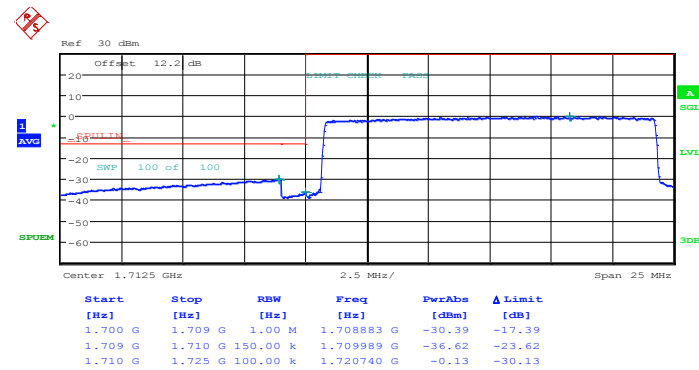
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 4 | Band Width : | 15MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 11:13:26

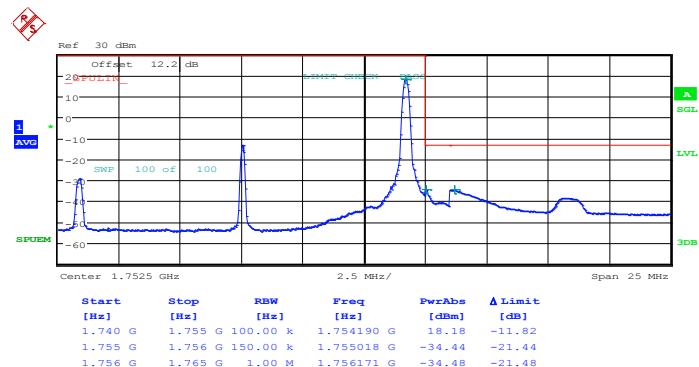
Lower Band Edge Plot for 16QAM-RB Size 75, RB Offset 0



Date: 14.FEB.2014 11:14:52

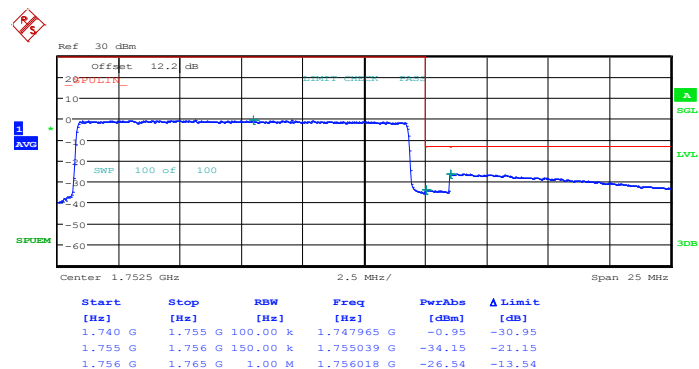


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 74



Date: 14.FEB.2014 11:21:45

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

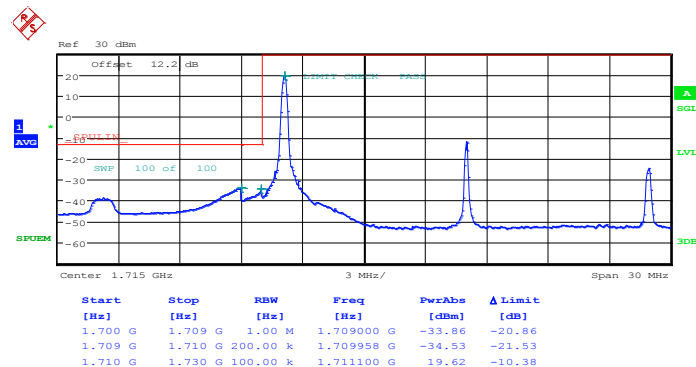


Date: 14.FEB.2014 11:23:11



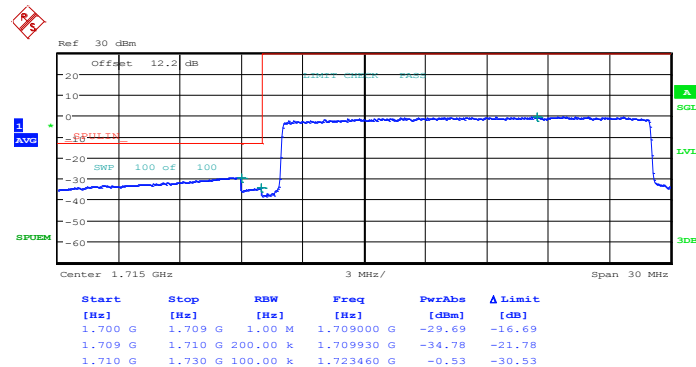
|        |            |              |              |
|--------|------------|--------------|--------------|
| Band : | LTE Band 4 | Band Width : | 20MHz / QPSK |
|--------|------------|--------------|--------------|

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



Date: 14.FEB.2014 11:26:41

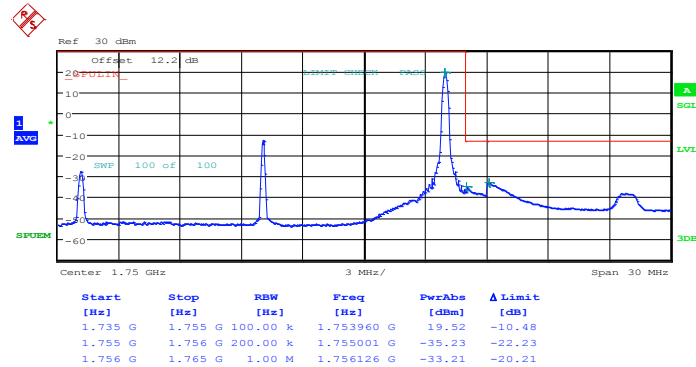
Lower Band Edge Plot for QPSK-RB Size 100, RB Offset 0



Date: 14.FEB.2014 11:28:07

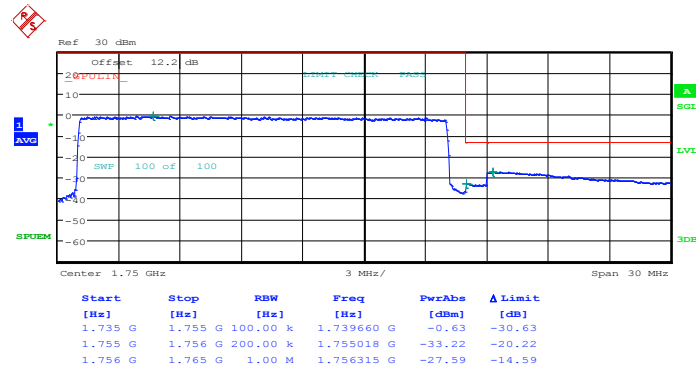


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 99



Date: 14.FEB.2014 11:34:59

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



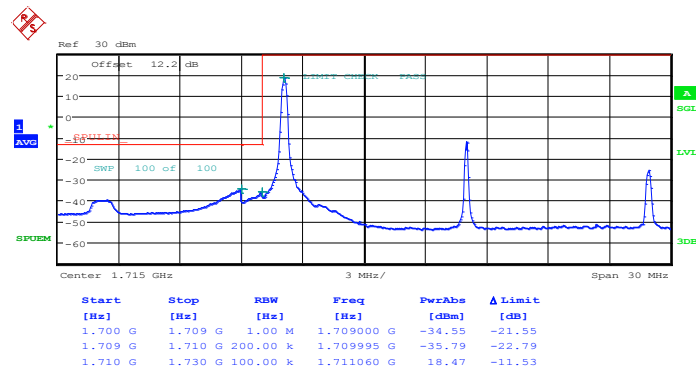
Date: 14.FEB.2014 11:36:25



Band : LTE Band 4

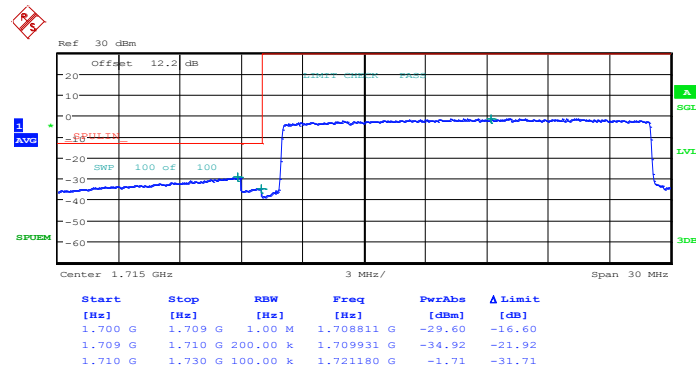
Band Width : 20MHz / 16QAM

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



Date: 14.FEB.2014 11:27:24

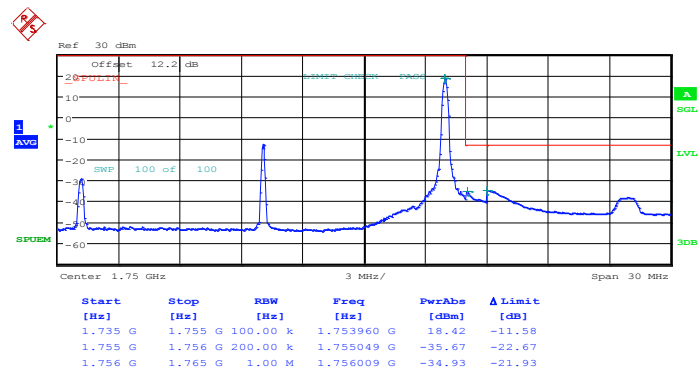
## Lower Band Edge Plot for 16QAM-RB Size 100, RB Offset 0



Date: 14.FEB.2014 11:28:50

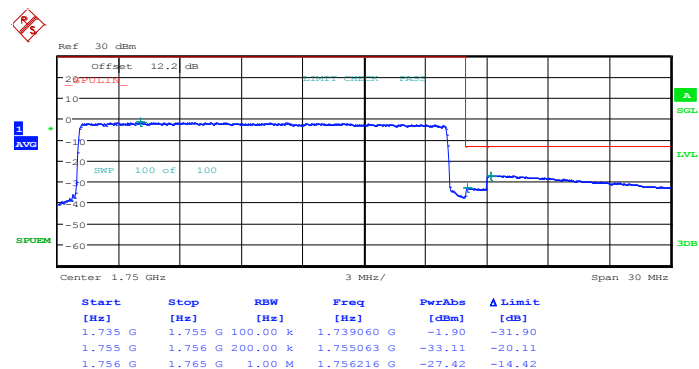


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 99



Date: 14.FEB.2014 11:35:42

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

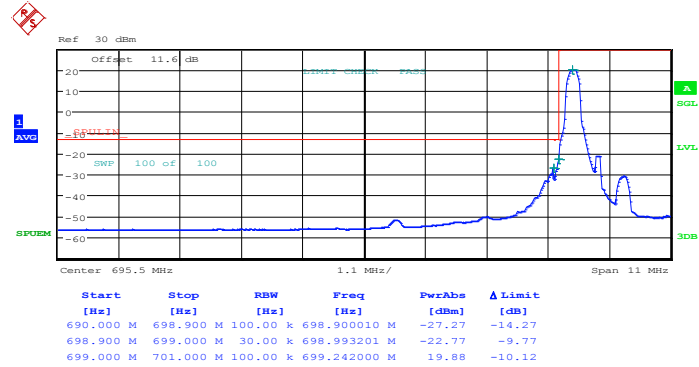


Date: 14.FEB.2014 11:37:08



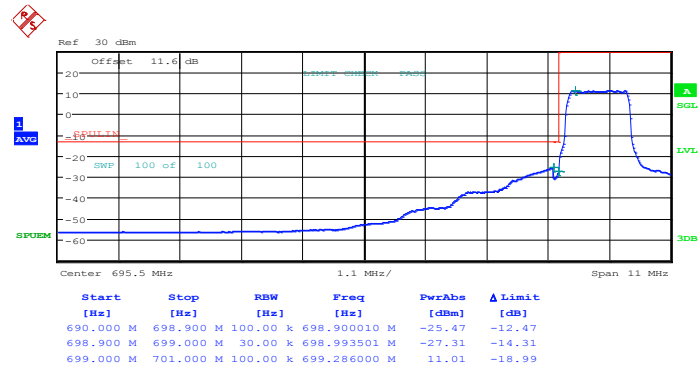
|        |             |              |               |
|--------|-------------|--------------|---------------|
| Band : | LTE Band 12 | Band Width : | 1.4MHz / QPSK |
|--------|-------------|--------------|---------------|

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



Date: 14.FEB.2014 14:35:48

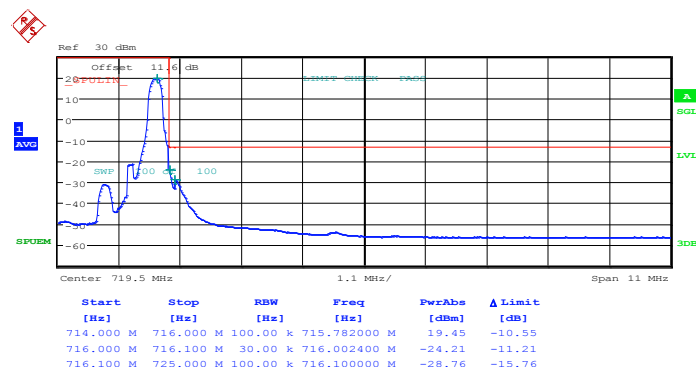
Lower Band Edge Plot for QPSK-RB Size 6, RB Offset 0



Date: 14.FEB.2014 14:33:39

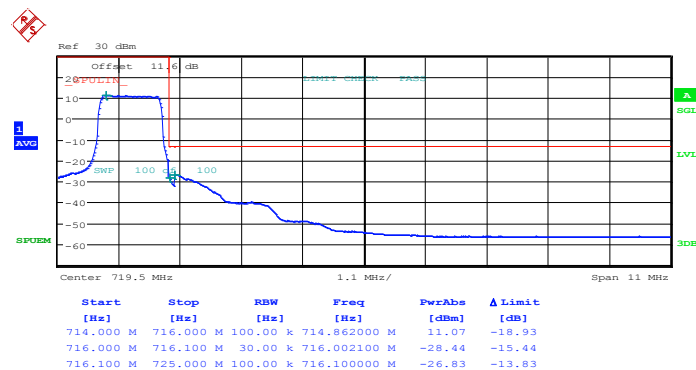


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 5



Date: 14.FEB.2014 14:44:04

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

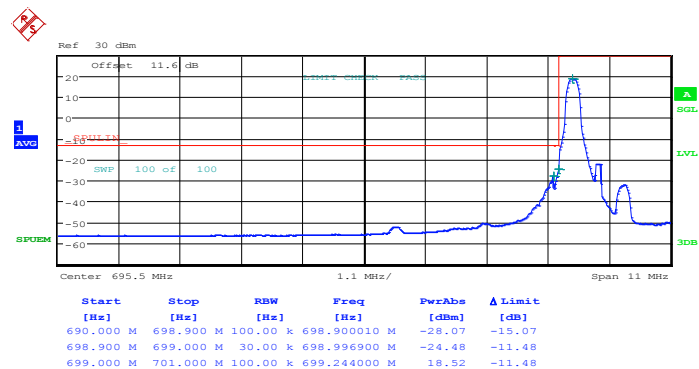


Date: 14.FEB.2014 14:41:56



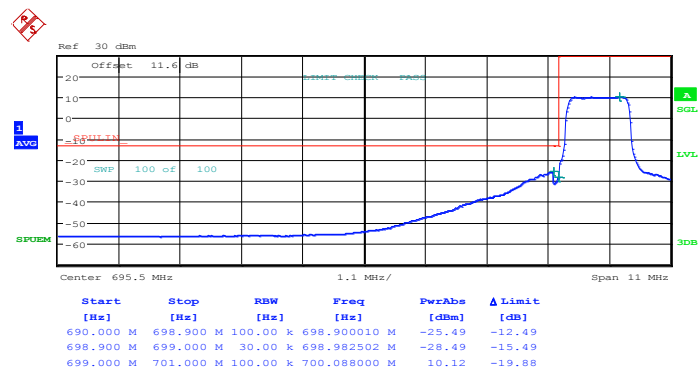
|        |             |              |                |
|--------|-------------|--------------|----------------|
| Band : | LTE Band 12 | Band Width : | 1.4MHz / 16QAM |
|--------|-------------|--------------|----------------|

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



Date: 14.FEB.2014 14:35:05

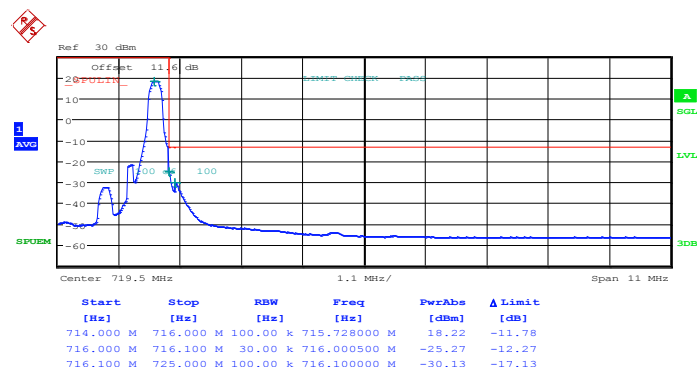
## Lower Band Edge Plot for 16QAM-RB Size 6, RB Offset 0



Date: 14.FEB.2014 14:34:22

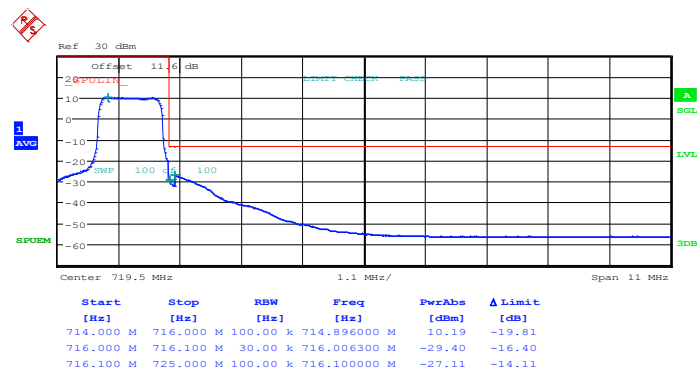


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 5



Date: 14.FEB.2014 14:43:21

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

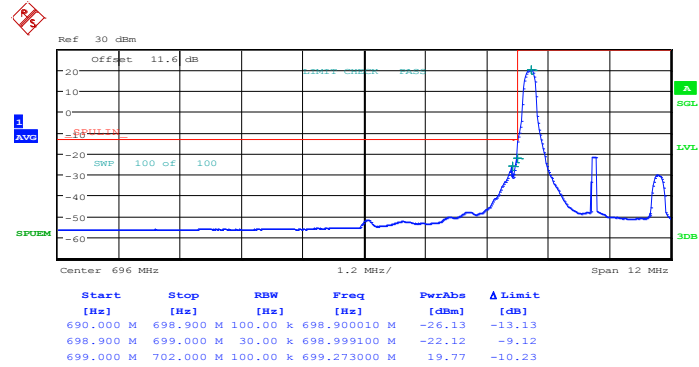


Date: 14.FEB.2014 14:42:39



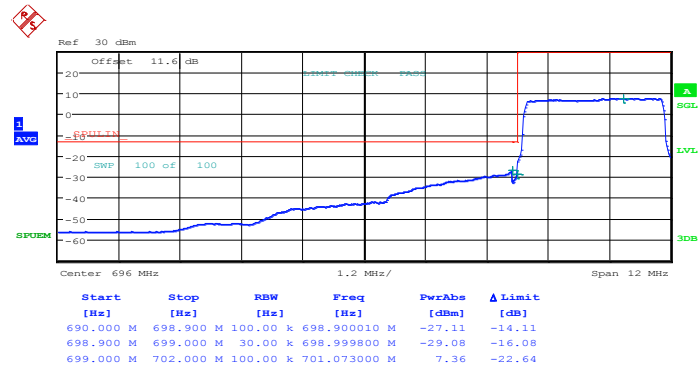
|        |             |              |             |
|--------|-------------|--------------|-------------|
| Band : | LTE Band 12 | Band Width : | 3MHz / QPSK |
|--------|-------------|--------------|-------------|

## Lower Band Edge Plot for QPSK-RB Size 1, RB Offset 0



Date: 14.FEB.2014 14:49:56

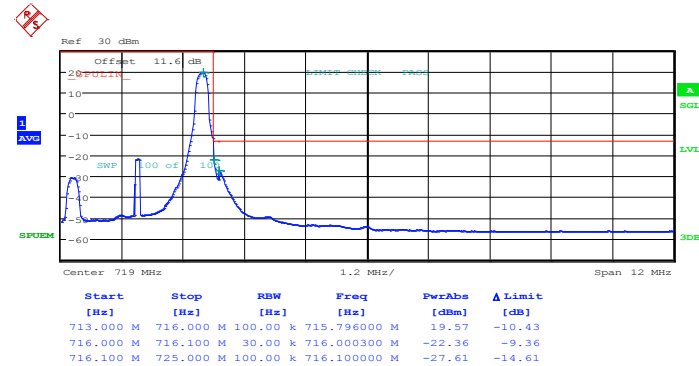
## Lower Band Edge Plot for QPSK-RB Size 15, RB Offset 0



Date: 14.FEB.2014 14:47:37

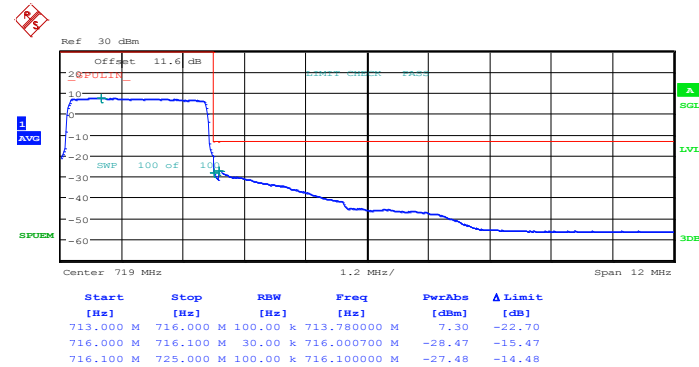


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 14



Date: 14.FEB.2014 14:58:16

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



Date: 14.FEB.2014 14:56:05



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



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





Ref 30 dBm

Offset 11.6 dB

20.00 dB

SWF 1.00 of 1.00

1 AMV

3dB

Center 719 MHz 1.2 MHz/ Span 12 MHz

| Start [Hz] | Stop [Hz] | RBW [Hz] | Freq [Hz]    | PwrAbs [dBm] | Δ Limit [dB] |
|------------|-----------|----------|--------------|--------------|--------------|
| 713.000 M  | 716.000 M | 100.00 k | 715.727000 M | 18.24        | -11.76       |
| 716.000 M  | 716.100 M | 30.00 k  | 716.000000 M | -23.58       | -10.58       |
| 716.100 M  | 725.000 M | 100.00 k | 716.100000 M | -29.15       | -16.15       |

Ref 30 dBm

Offset 11.6 dB

20 POLY

LIMIT SWCH PASS

SWF 100.000 kHz

Center 719 MHz

Span 12 MHz

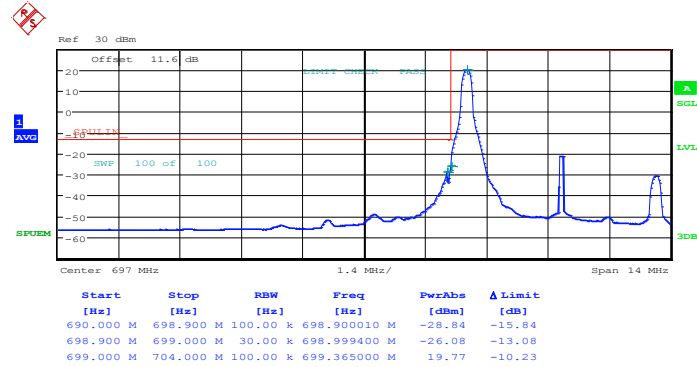
| Start [Hz] | Stop [Hz] | RBW [Hz]  | Freq [Hz]    | PwrAbs [dBm] | Limit [dB] |
|------------|-----------|-----------|--------------|--------------|------------|
| 713.000 M  | 716.000 M | 100.000 k | 713.579000 M | 6.25         | -23.75     |
| 716.000 M  | 716.100 M | 30.00 k   | 716.002200 M | -30.16       | -17.16     |
| 716.100 M  | 725.000 M | 100.00 k  | 716.100000 M | -28.51       | -15.51     |

Date: 14.FEB.2014 14:56:48



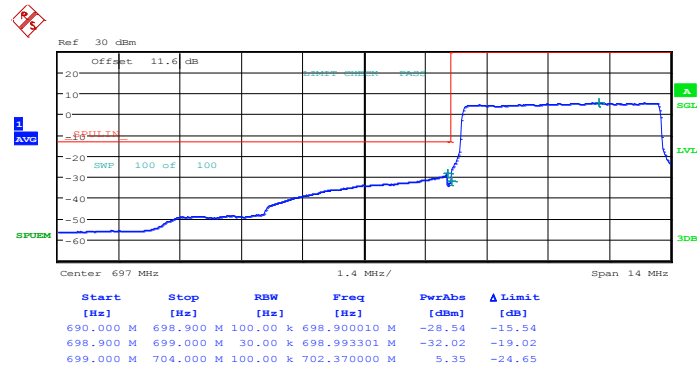
|        |             |              |             |
|--------|-------------|--------------|-------------|
| Band : | LTE Band 12 | Band Width : | 5MHz / QPSK |
|--------|-------------|--------------|-------------|

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



Date: 14.FEB.2014 15:04:24

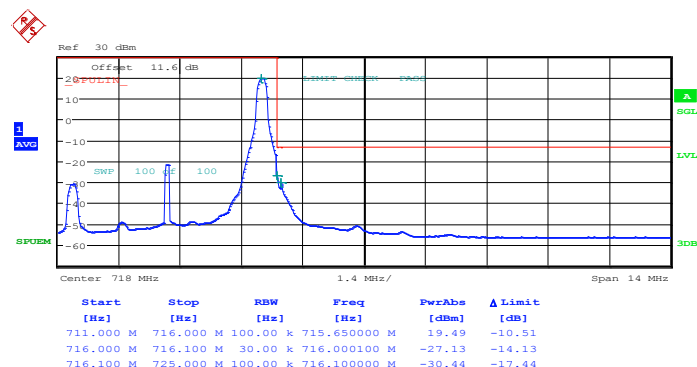
Lower Band Edge Plot for QPSK-RB Size 50, RB Offset 0



Date: 14.FEB.2014 15:01:53

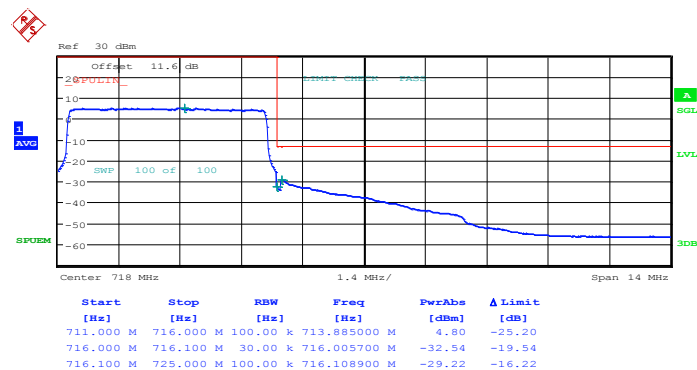


Higher Band Edge Plot for QPSK-RB Size 1, RB Offset 49



Date: 14.FEB.2014 15:12:14

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

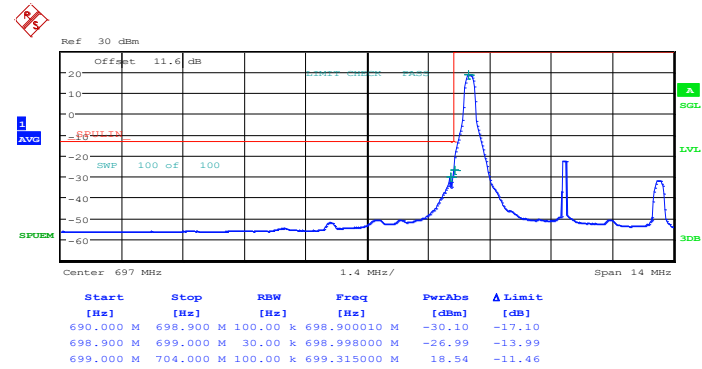


Date: 14.FEB.2014 15:11:26



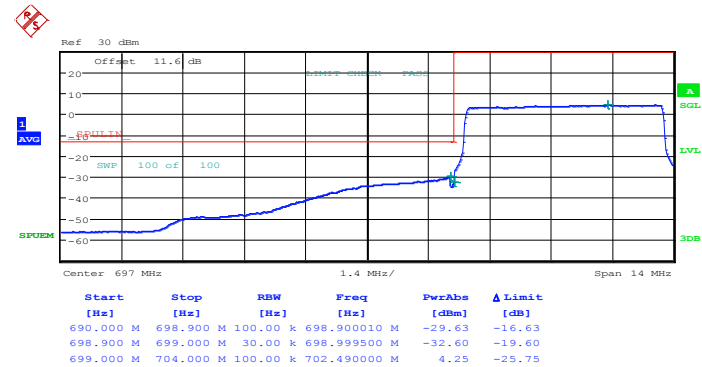
|        |             |              |              |
|--------|-------------|--------------|--------------|
| Band : | LTE Band 12 | Band Width : | 5MHz / 16QAM |
|--------|-------------|--------------|--------------|

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



Date: 14.FEB.2014 15:03:34

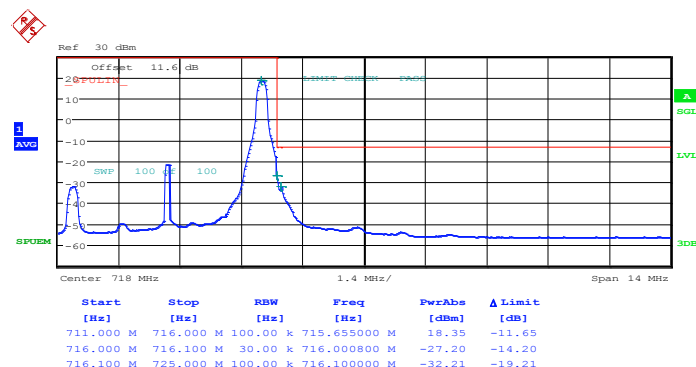
Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 14.FEB.2014 15:02:44

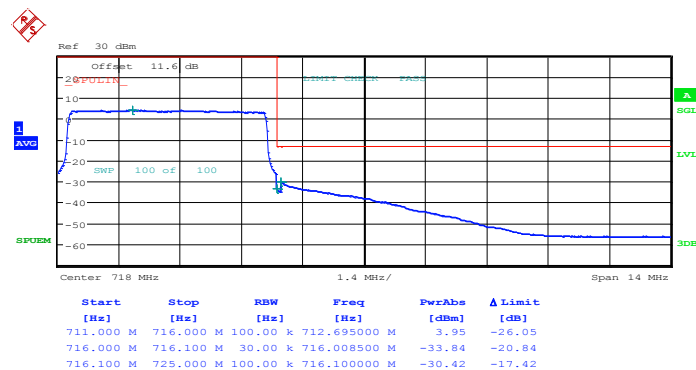


Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 14.FEB.2014 15:13:01

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

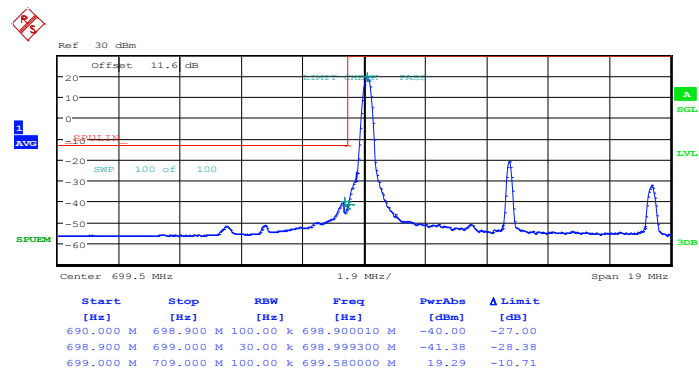


Date: 14.FEB.2014 15:20:56



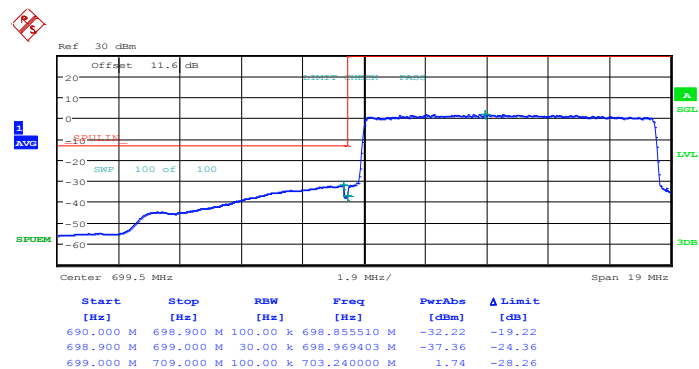
|        |             |              |              |
|--------|-------------|--------------|--------------|
| Band : | LTE Band 12 | Band Width : | 10MHz / QPSK |
|--------|-------------|--------------|--------------|

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



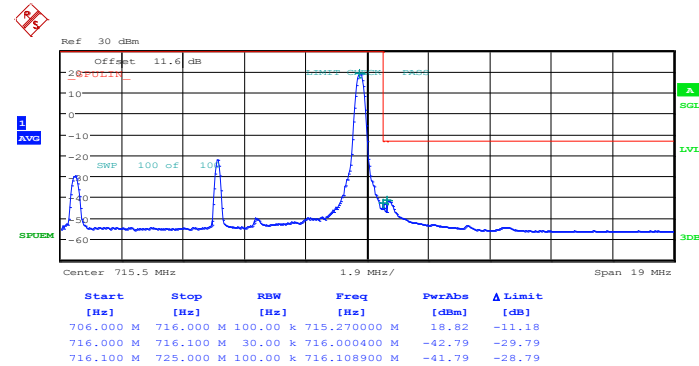
Date: 14.FEB.2014 15:40:56

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



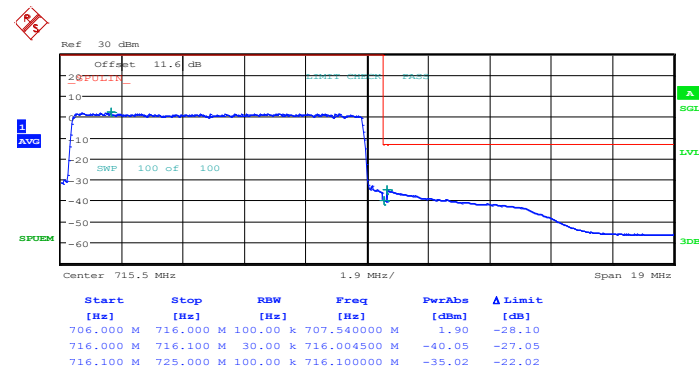
Date: 14.FEB.2014 15:38:46

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



Date: 14.FEB.2014 15:49:08

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

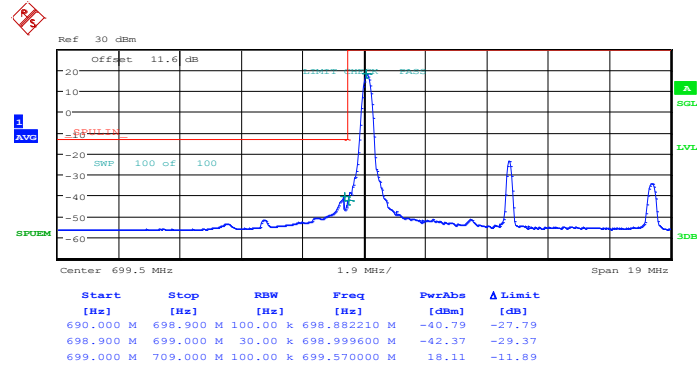


Date: 14.FEB.2014 15:54:22



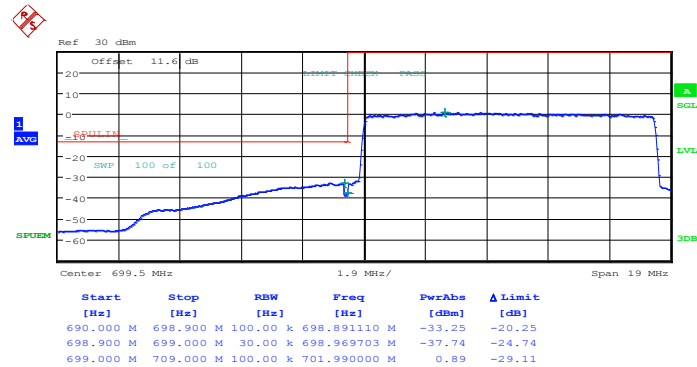
|        |            |              |               |
|--------|------------|--------------|---------------|
| Band : | LTE Band 7 | Band Width : | 10MHz / 16QAM |
|--------|------------|--------------|---------------|

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



Date: 14.FEB.2014 15:40:13

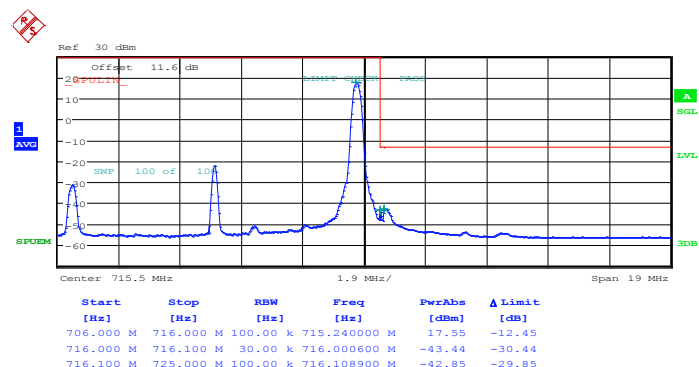
## Lower Band Edge Plot for 16QAM-RB Size 50, RB Offset 0



Date: 14.FEB.2014 15:39:29

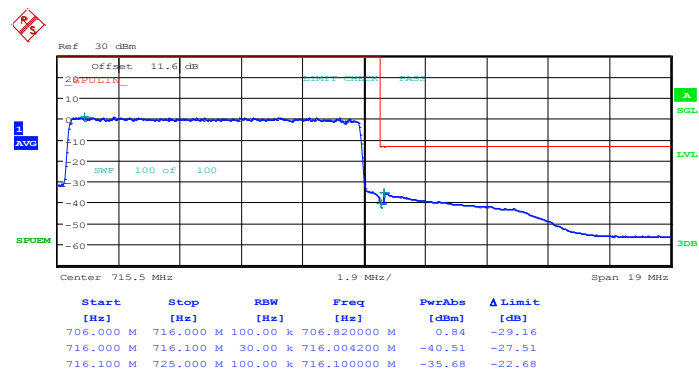


### Higher Band Edge Plot for 16QAM-RB Size 1, RB Offset 49



Date: 14.FEB.2014 15:48:25

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



Date: 14.FEB.2014 15:47:42

## 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 9 kHz up to a frequency including its 10<sup>th</sup> harmonic.

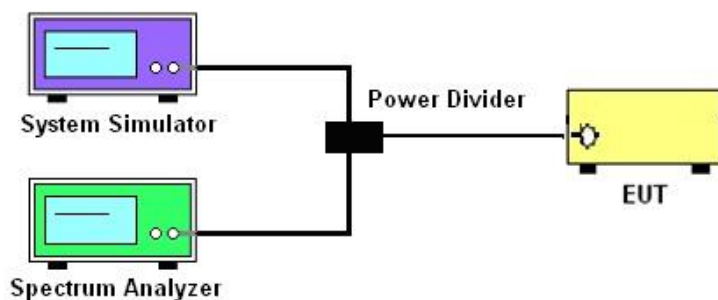
### 3.5.2 Measuring Instruments

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 base station via 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)  
 $= P(W) - [43 + 10\log(P)] \text{ (dB)}$   
 $= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$   
 $= -13\text{dBm}.$

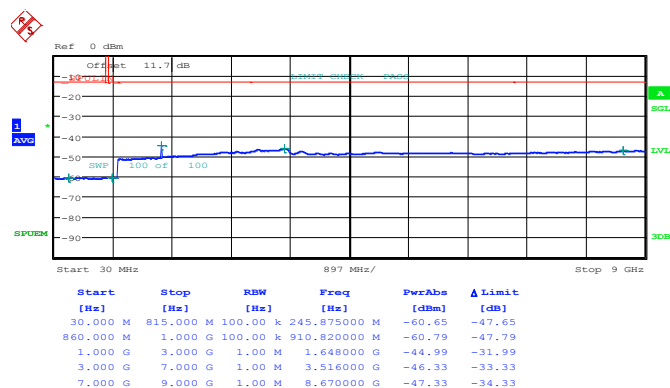
### 3.5.4 Test Setup



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

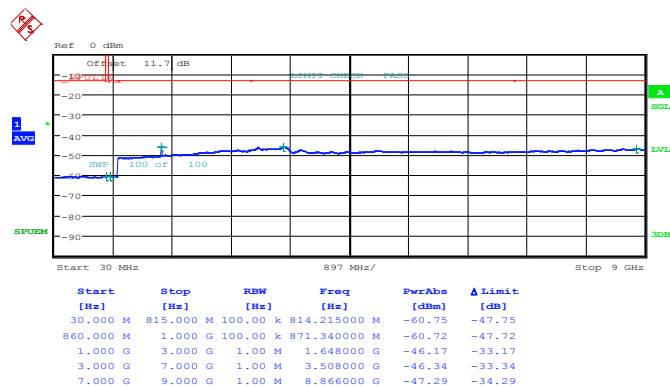
|                     |            |                  |               |
|---------------------|------------|------------------|---------------|
| <b>Band :</b>       | LTE Band 5 | <b>Channel :</b> | CH20407 (Low) |
| <b>Band Width :</b> | 1.4MHz     |                  |               |

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



Date: 14.FEB.2014 13:00:23

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

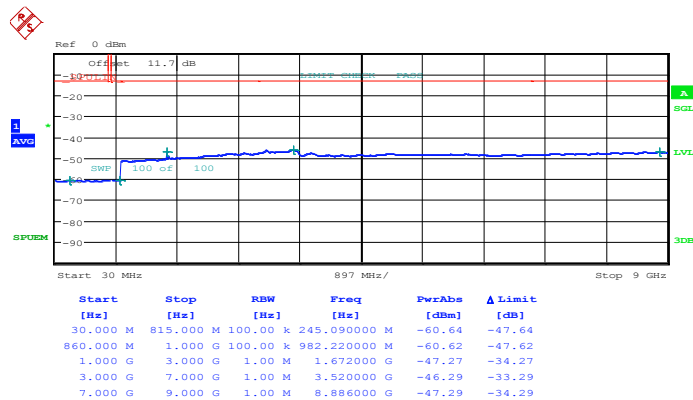


Date: 14.FEB.2014 13:01:19



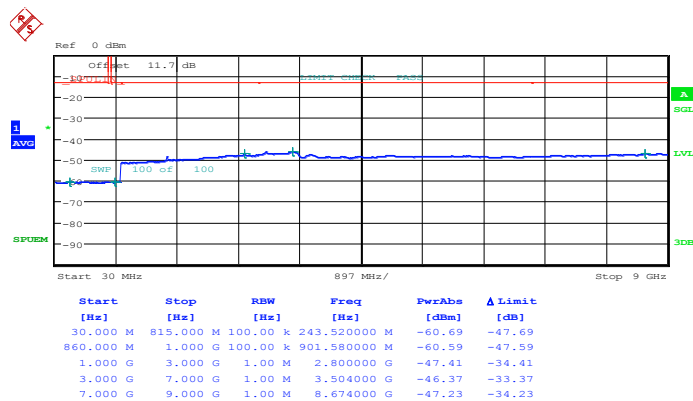
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 5 | Channel : | CH20525 (Middle) |
| Band Width : | 1.4MHz     |           |                  |

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



Date: 14.FEB.2014 13:03:05

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

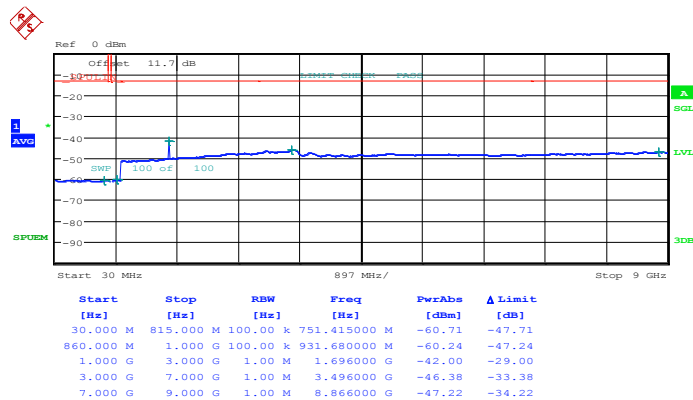


Date: 14.FEB.2014 13:04:01



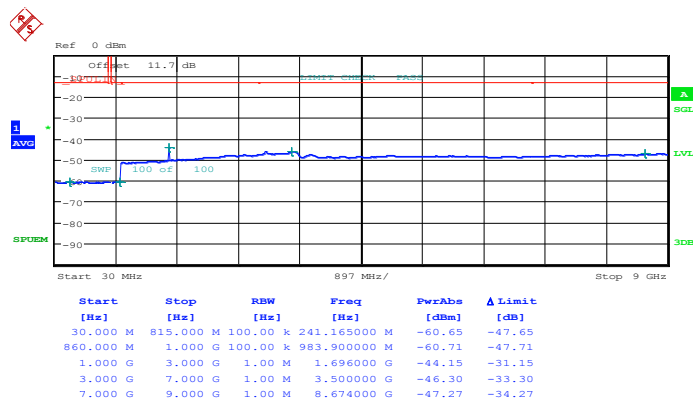
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 5 | Channel : | CH20643 (High) |
| Band Width : | 1.4MHz     |           |                |

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



Date: 14.FEB.2014 13:08:39

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

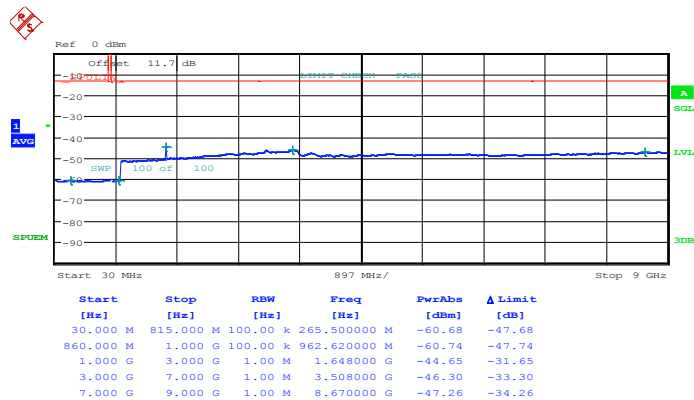


Date: 14.FEB.2014 13:09:35



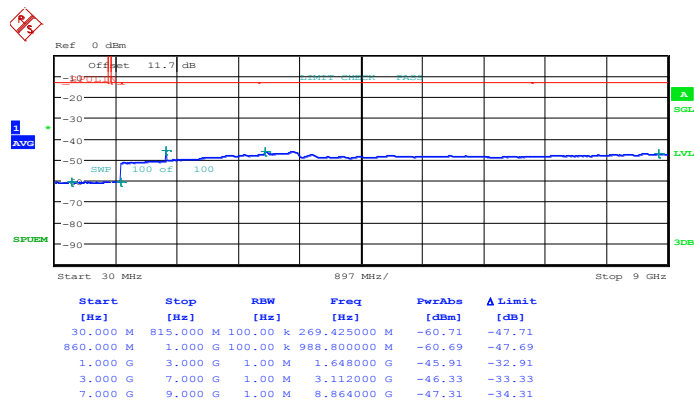
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 5 | Channel : | CH20415 (Low) |
| Band Width : | 3MHz       |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 13:14:18

16QAM (RB Size 1, RB Offset 0)

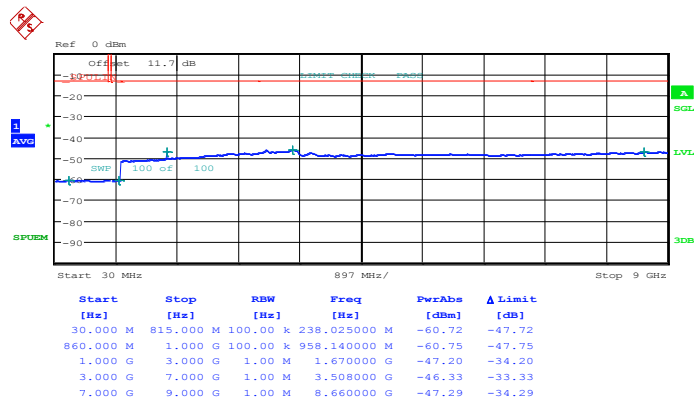


Date: 14.FEB.2014 13:15:14



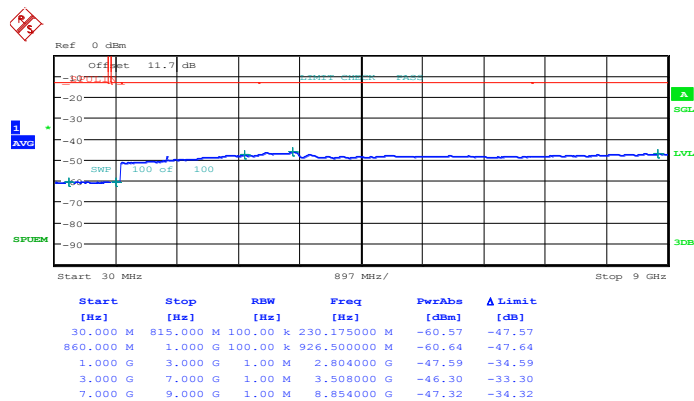
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 5 | Channel : | CH20525 (Middle) |
| Band Width : | 3MHz       |           |                  |

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



Date: 14.FEB.2014 13:17:00

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

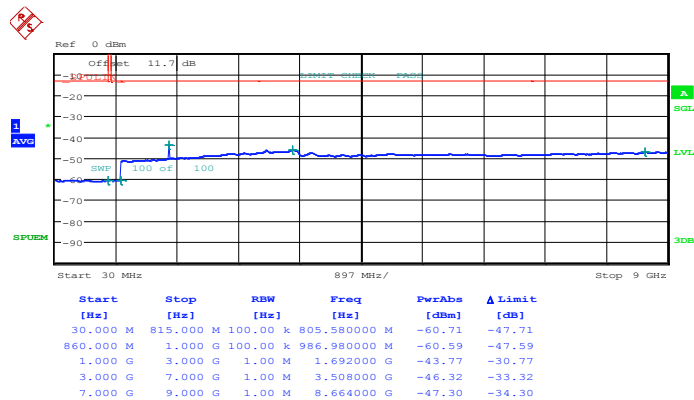


Date: 14.FEB.2014 13:17:56



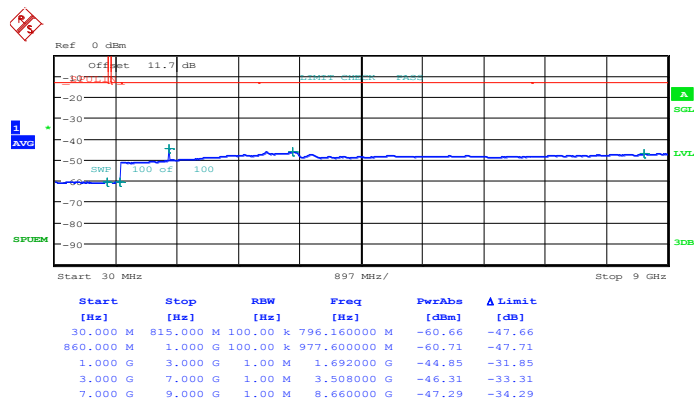
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 5 | Channel : | CH20635 (High) |
| Band Width : | 3MHz       |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 13:22:34

16QAM (RB Size 1, RB Offset 0)

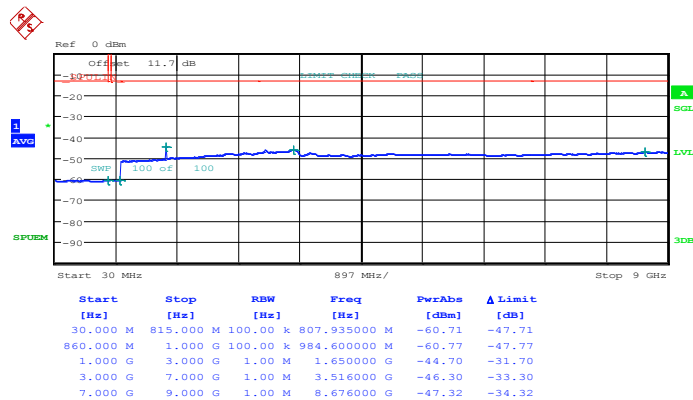


Date: 14.FEB.2014 13:23:30



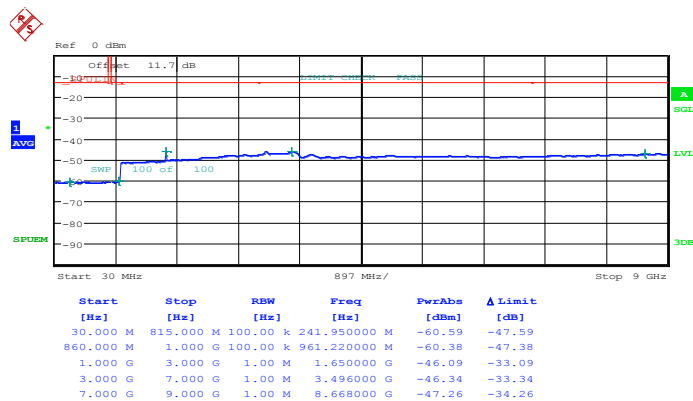
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 5 | Channel : | CH20425 (Low) |
| Band Width : | 5MHz       |           |               |

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



Date: 14.FEB.2014 13:28:12

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

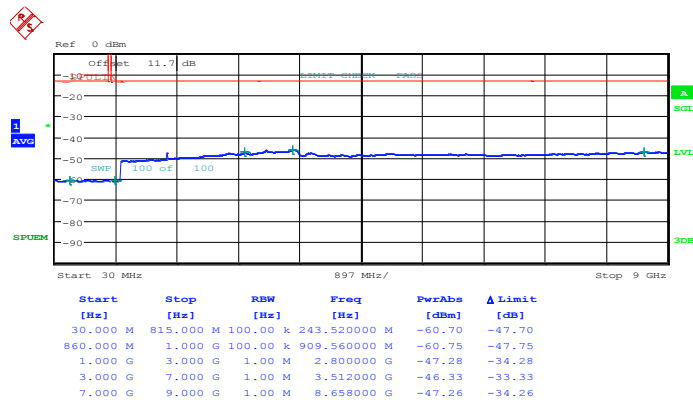


Date: 14.FEB.2014 13:29:08



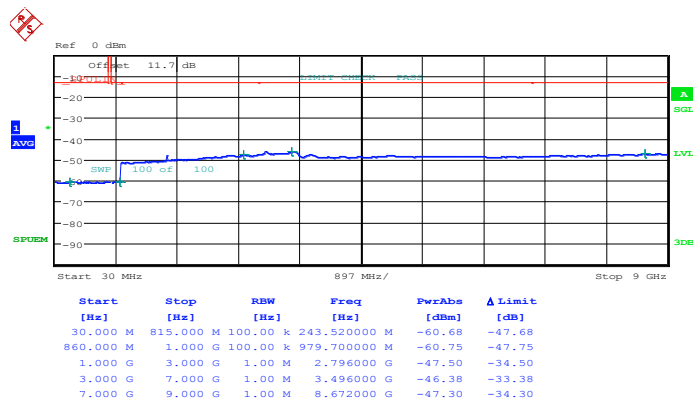
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 5 | Channel : | CH20525 (Middle) |
| Band Width : | 5MHz       |           |                  |

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



Date: 14.FEB.2014 13:30:55

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

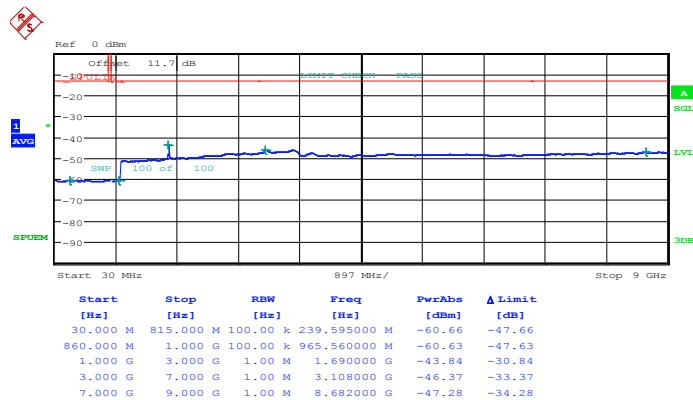


Date: 14.FEB.2014 13:31:51



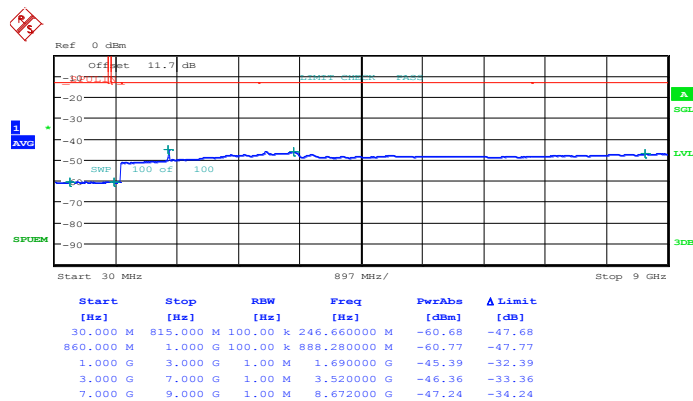
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 5 | Channel : | CH20625 (High) |
| Band Width : | 5MHz       |           |                |

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



Date: 14.FEB.2014 13:36:29

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

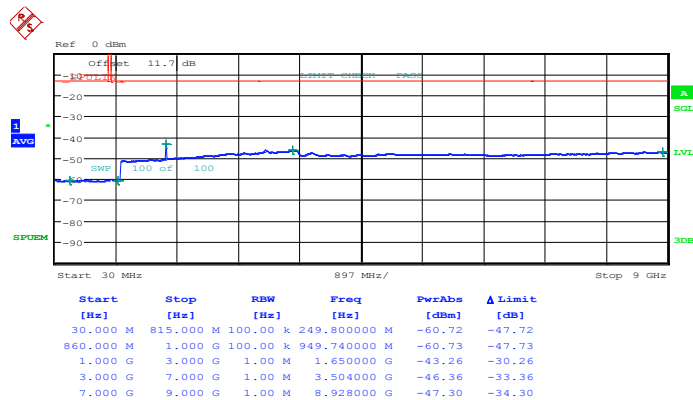


Date: 14.FEB.2014 13:37:25



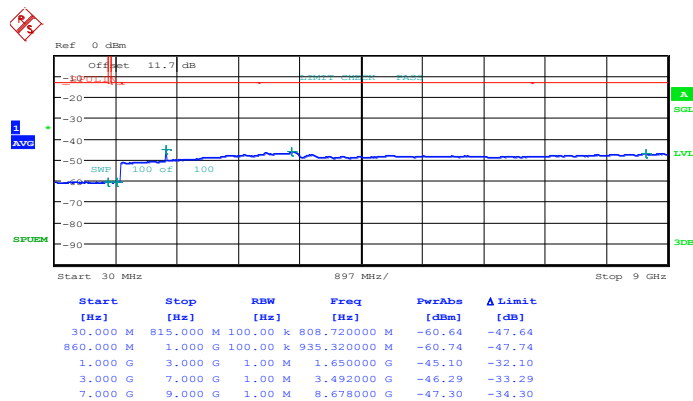
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 5 | Channel : | CH20450 (Low) |
| Band Width : | 10MHz      |           |               |

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



Date: 14.FEB.2014 13:42:08

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

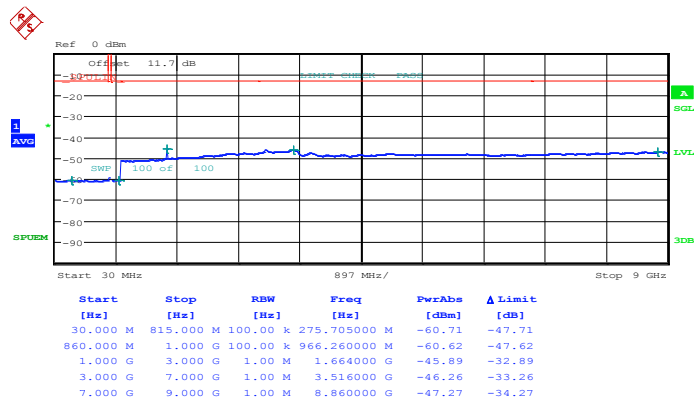


Date: 14.FEB.2014 13:43:04



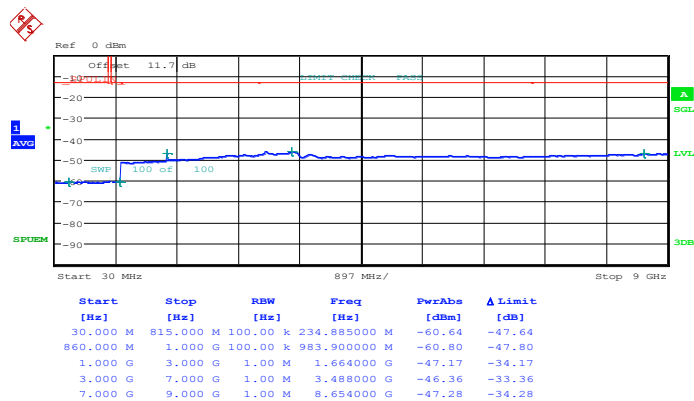
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 5 | Channel : | CH20525 (Middle) |
| Band Width : | 10MHz      |           |                  |

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



Date: 14.FEB.2014 13:44:51

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

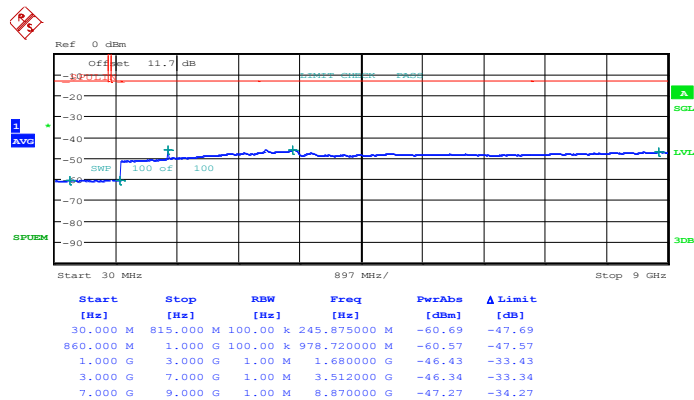


Date: 14.FEB.2014 13:45:47



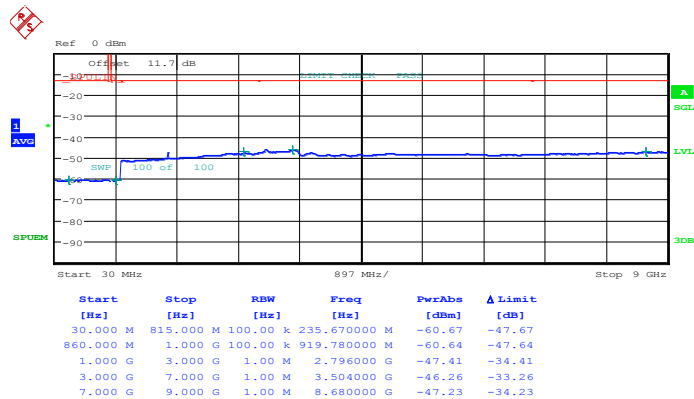
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 5 | Channel : | CH20600 (High) |
| Band Width : | 10MHz      |           |                |

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



Date: 14.FEB.2014 13:50:25

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

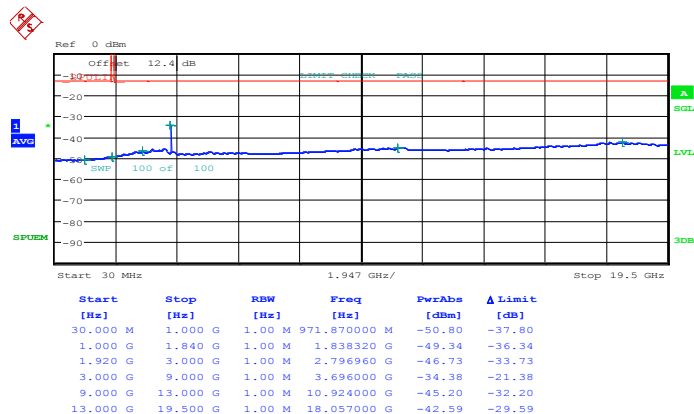


Date: 14.FEB.2014 13:51:21



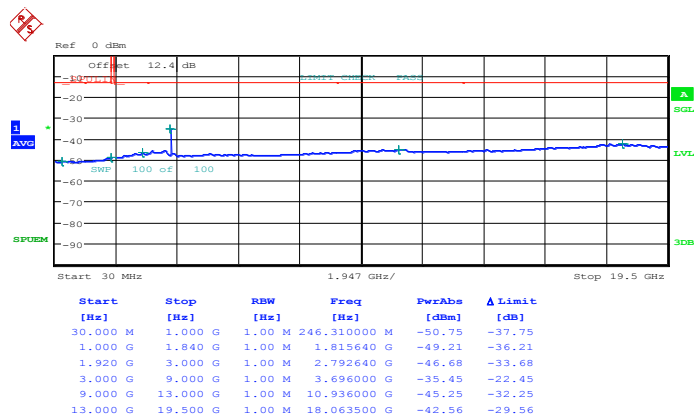
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18607 (Low) |
| Band Width : | 1.4MHz     |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 08:37:43

16QAM (RB Size 1, RB Offset 0)

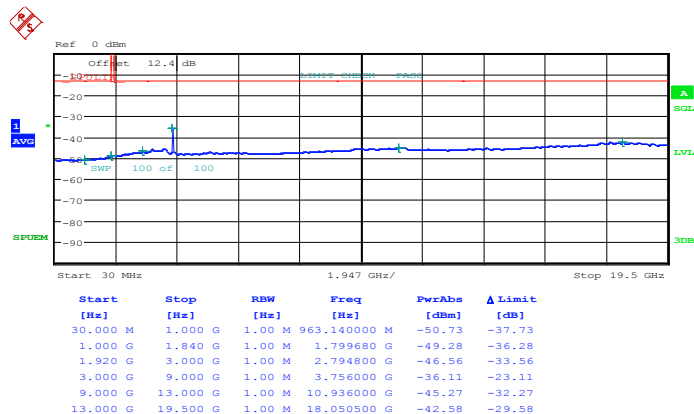


Date: 14.FEB.2014 08:38:39



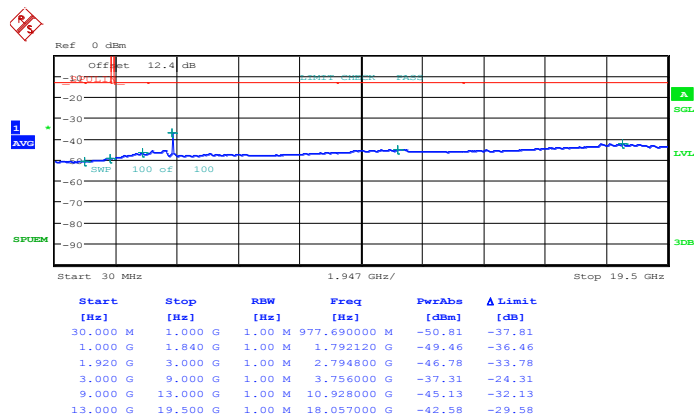
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 1.4MHz     |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 08:40:26

16QAM (RB Size 1, RB Offset 0)

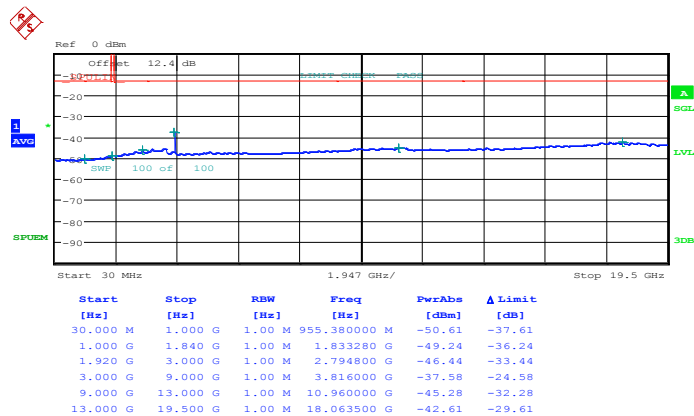


Date: 14.FEB.2014 08:41:22



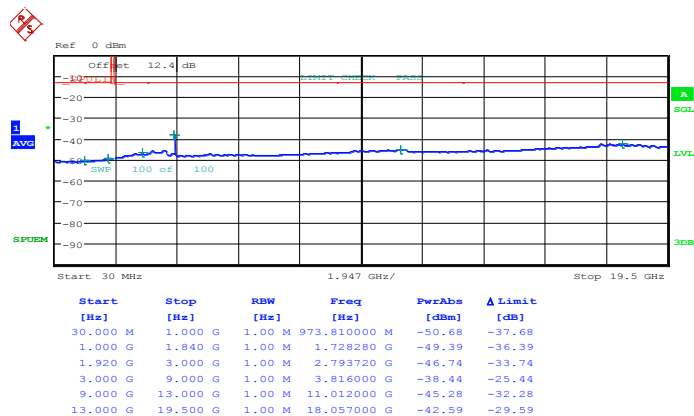
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 2 | Channel : | CH19193 (High) |
| Band Width : | 1.4MHz     |           |                |

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



Date: 14.FEB.2014 08:46:00

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

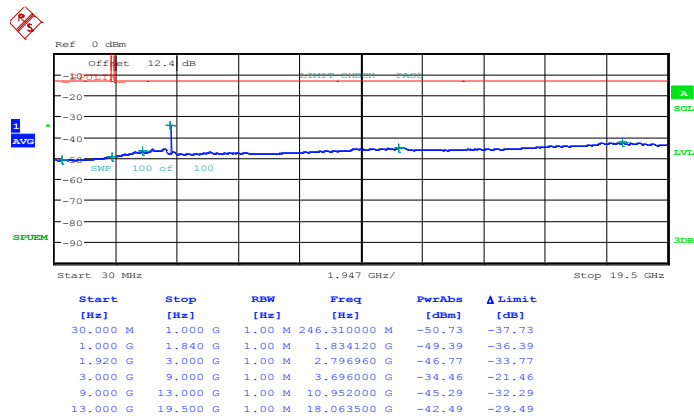


Date: 14.FEB.2014 08:46:56



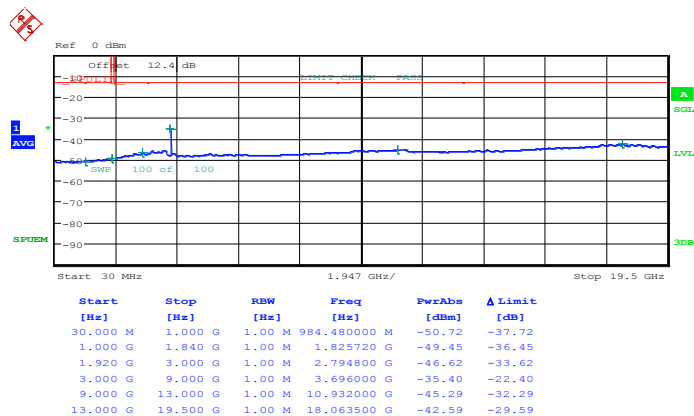
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18615 (Low) |
| Band Width : | 3MHz       |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 08:51:38

16QAM (RB Size 1, RB Offset 0)

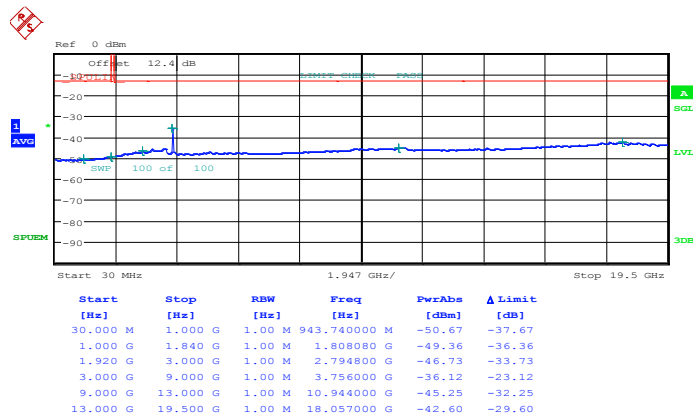


Date: 14.FEB.2014 08:52:34



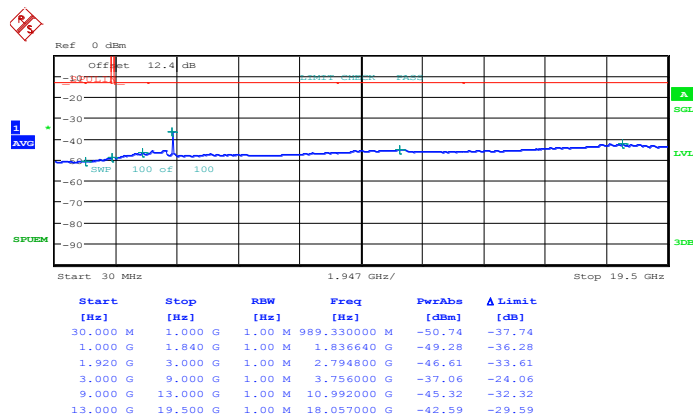
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 3MHz       |           |                  |

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



Date: 14.FEB.2014 08:54:21

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

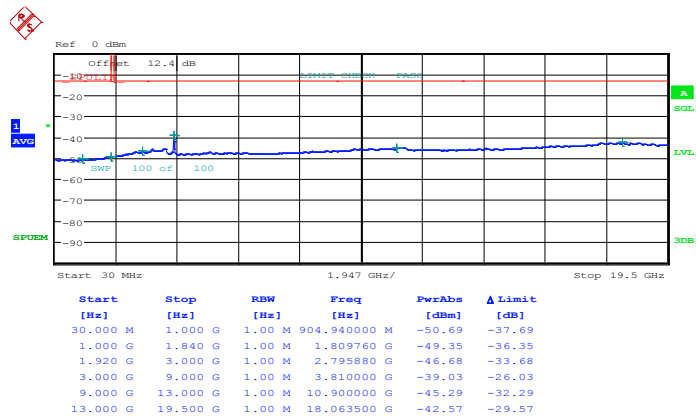


Date: 14.FEB.2014 08:55:17



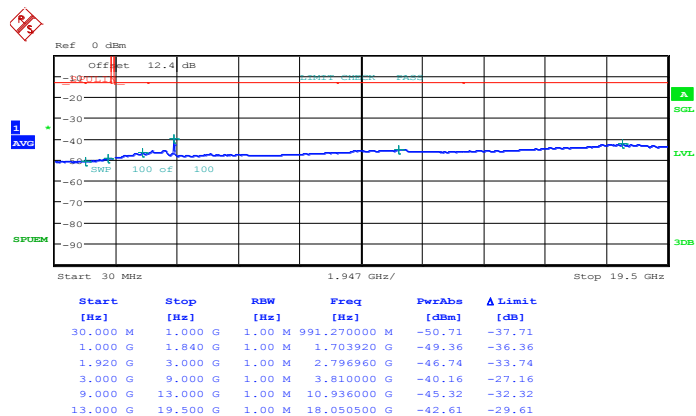
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 2 | Channel : | CH19185 (High) |
| Band Width : | 3MHz       |           |                |

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



Date: 14.FEB.2014 08:59:55

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

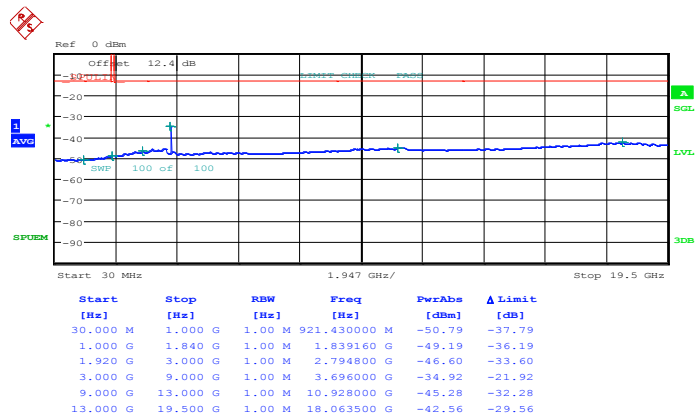


Date: 14.FEB.2014 09:00:51



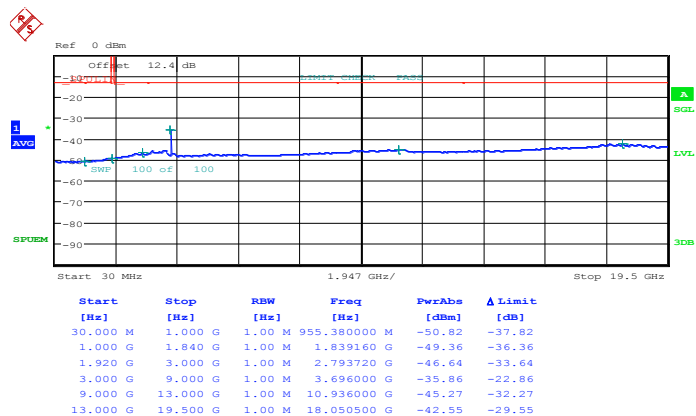
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18625 (Low) |
| Band Width : | 5MHz       |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:05:34

16QAM (RB Size 1, RB Offset 0)

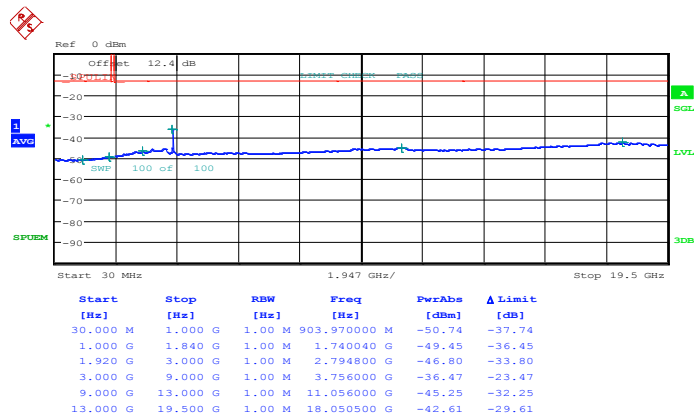


Date: 14.FEB.2014 09:06:30



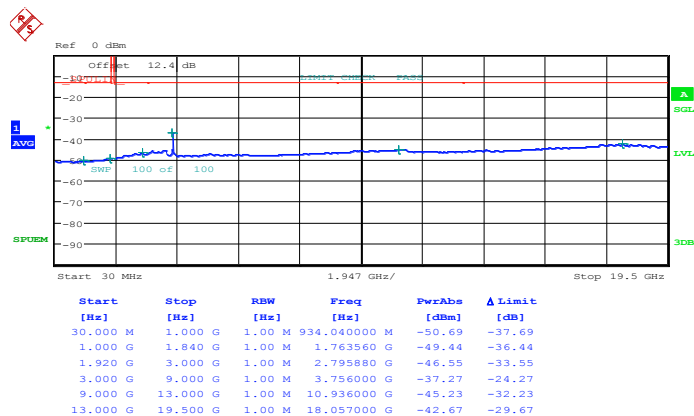
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 5MHz       |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:08:16

16QAM (RB Size 1, RB Offset 0)

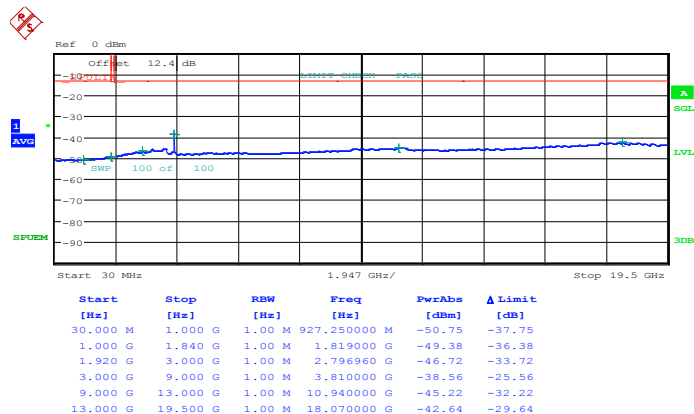


Date: 14.FEB.2014 09:09:12



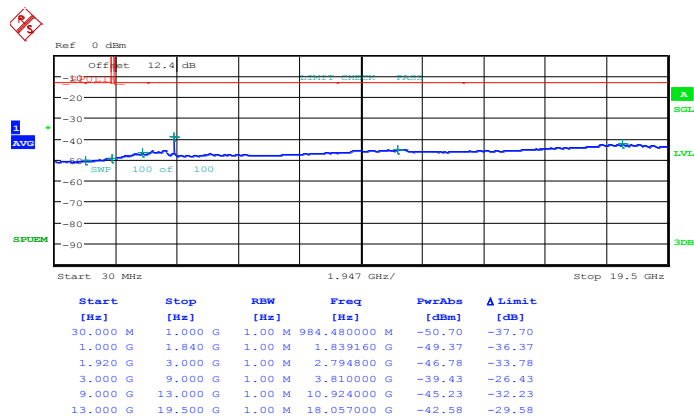
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 2 | Channel : | CH19175 (High) |
| Band Width : | 5MHz       |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:13:48

16QAM (RB Size 1, RB Offset 0)

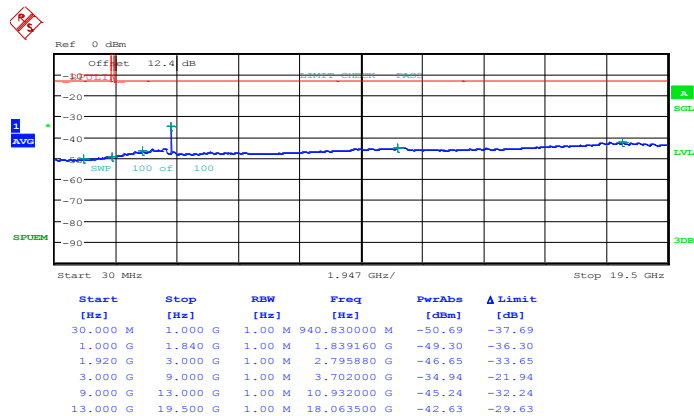


Date: 14.FEB.2014 09:14:44



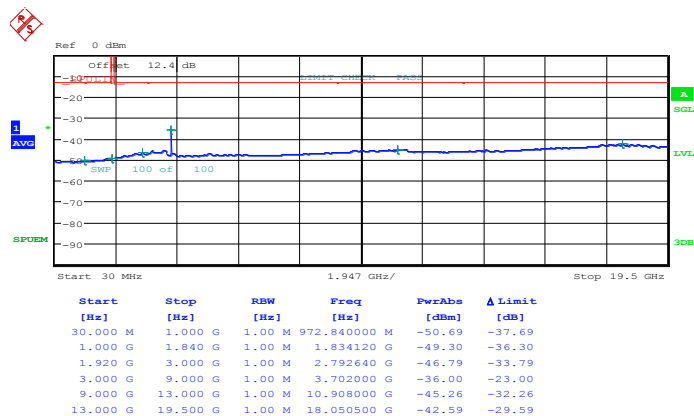
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18650 (Low) |
| Band Width : | 10MHz      |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:19:20

16QAM (RB Size 1, RB Offset 0)

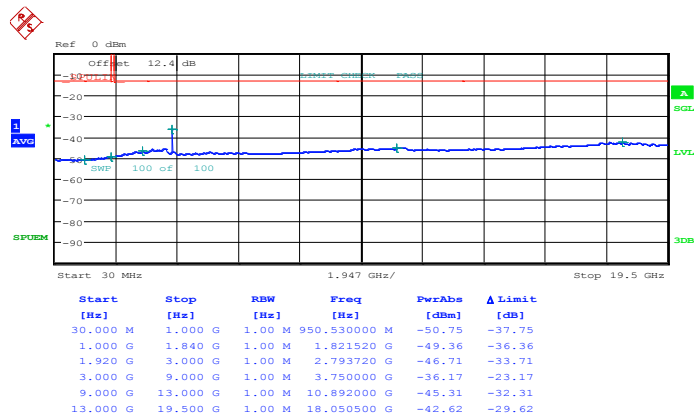


Date: 14.FEB.2014 09:20:16



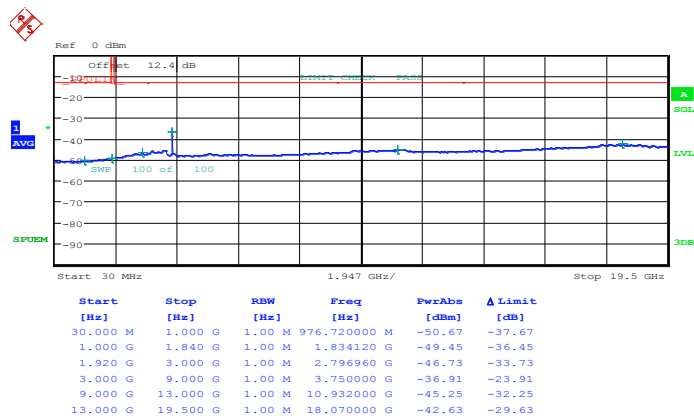
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 10MHz      |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:32:18

16QAM (RB Size 1, RB Offset 0)

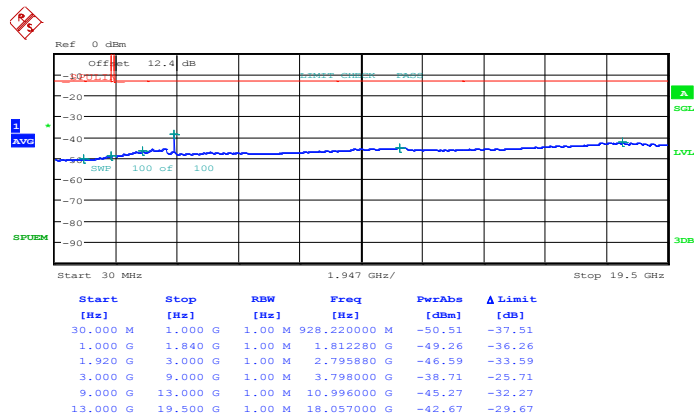


Date: 14.FEB.2014 09:33:15



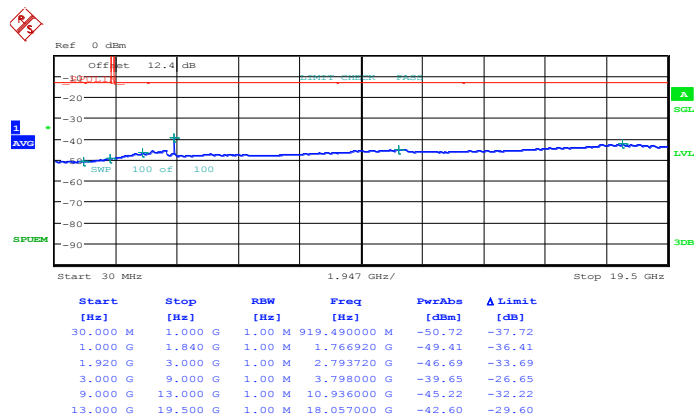
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 2 | Channel : | CH19150 (High) |
| Band Width : | 10MHz      |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:37:53

16QAM (RB Size 1, RB Offset 0)

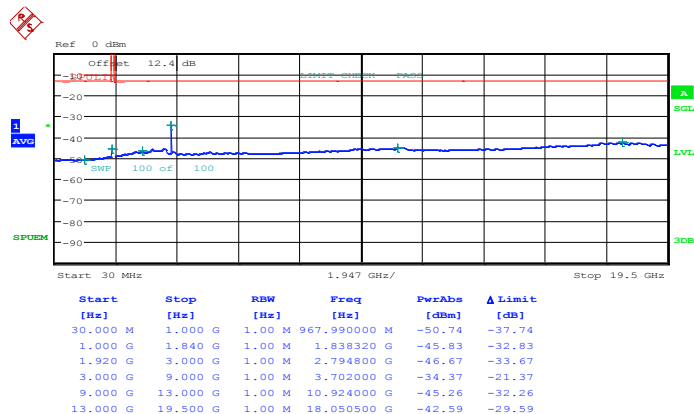


Date: 14.FEB.2014 09:38:49



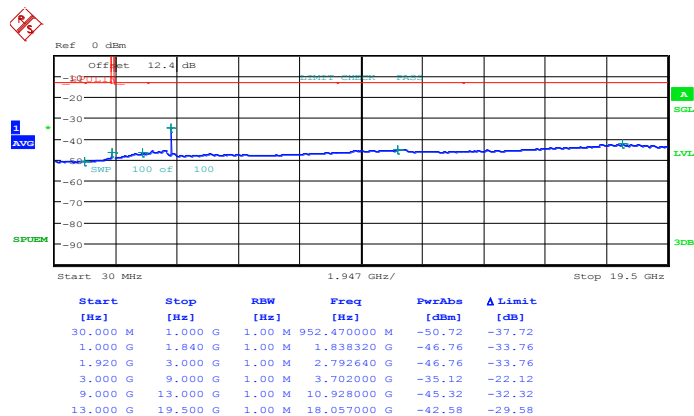
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18675 (Low) |
| Band Width : | 15MHz      |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:43:31

16QAM (RB Size 1, RB Offset 0)

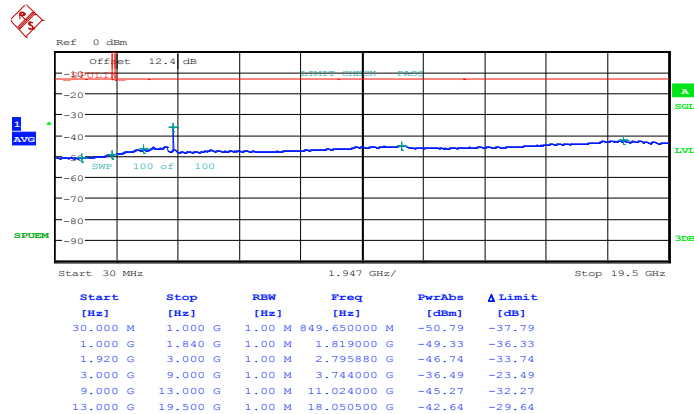


Date: 14.FEB.2014 09:44:28



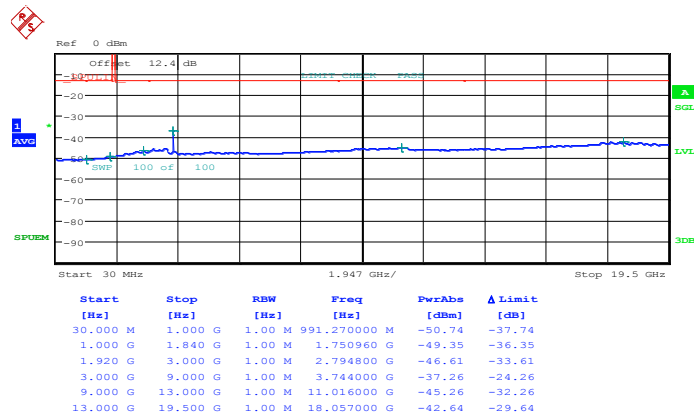
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 15MHz      |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:46:14

16QAM (RB Size 1, RB Offset 0)

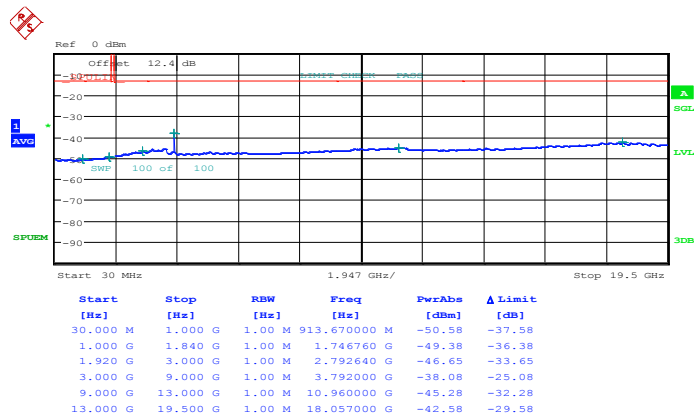


Date: 14.FEB.2014 09:47:10



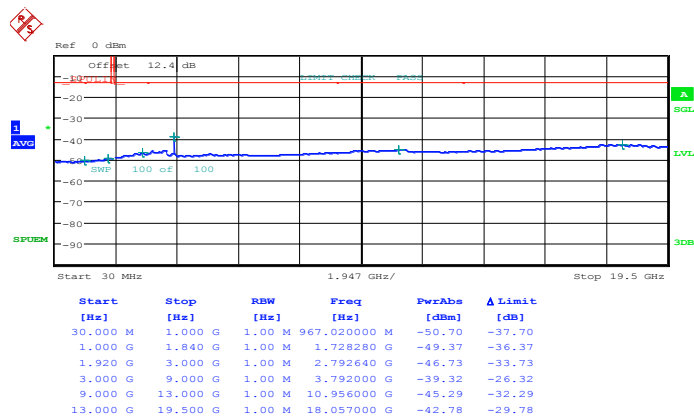
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 2 | Channel : | CH19125 (High) |
| Band Width : | 15MHz      |           |                |

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



Date: 14.FEB.2014 09:51:48

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

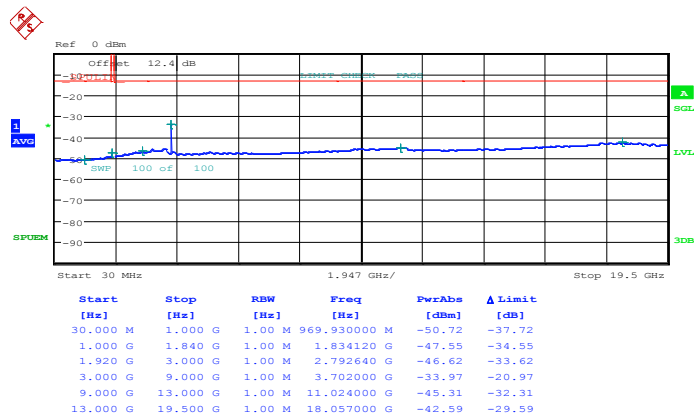


Date: 14.FEB.2014 09:52:44



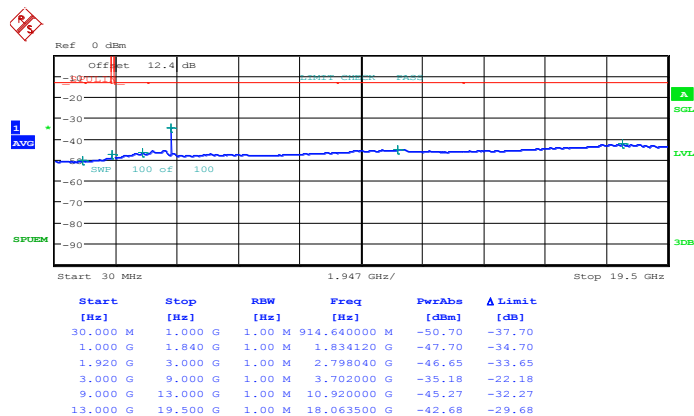
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 2 | Channel : | CH18700 (Low) |
| Band Width : | 20MHz      |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 09:59:13

16QAM (RB Size 1, RB Offset 0)

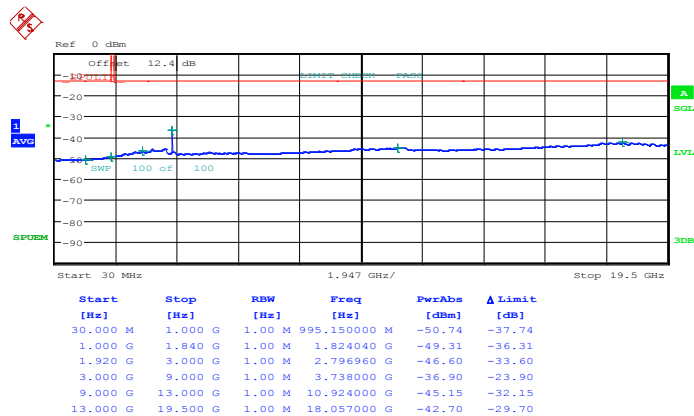


Date: 14.FEB.2014 10:00:10



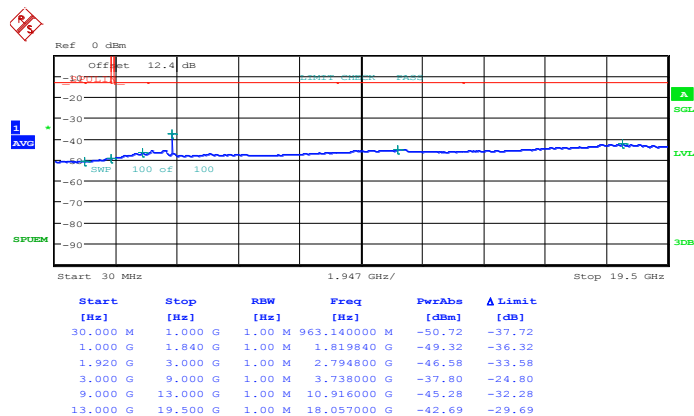
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 2 | Channel : | CH18900 (Middle) |
| Band Width : | 20MHz      |           |                  |

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



Date: 14.FEB.2014 10:01:56

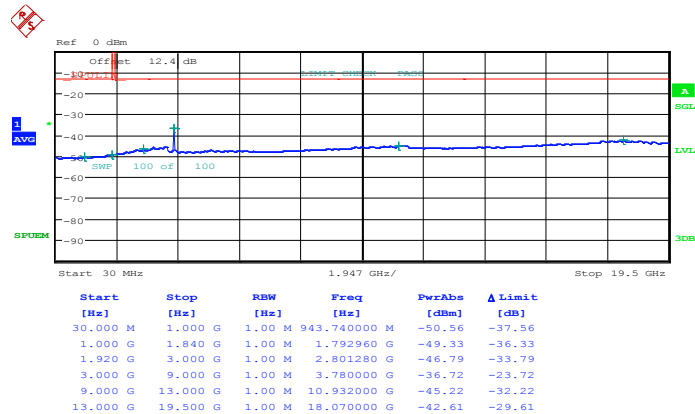
## 16QAM (RB Size 1, RB Offset 0)



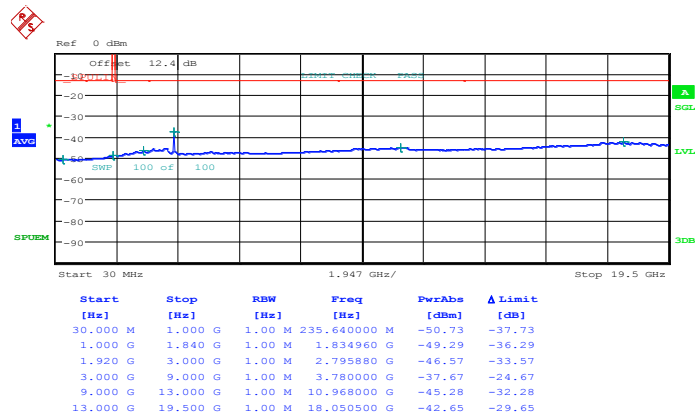
Date: 14.FEB.2014 10:02:52



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

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

Date: 14.FEB.2014 10:07:31

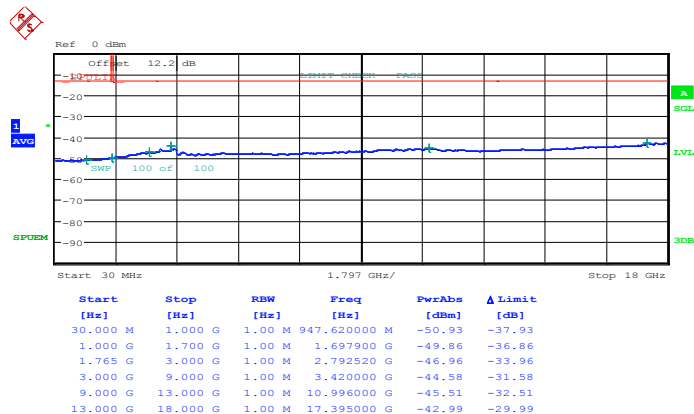
**16QAM (RB Size 1, RB Offset 0)**

Date: 14.FEB.2014 10:08:27



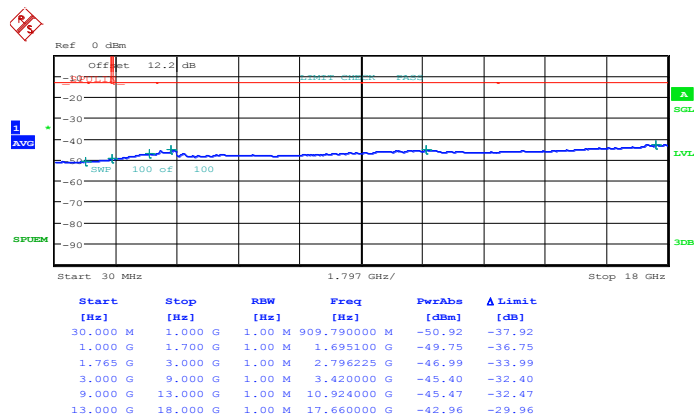
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH19957 (Low) |
| Band Width : | 1.4MHz     |           |               |

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



Date: 14.FEB.2014 10:20:00

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

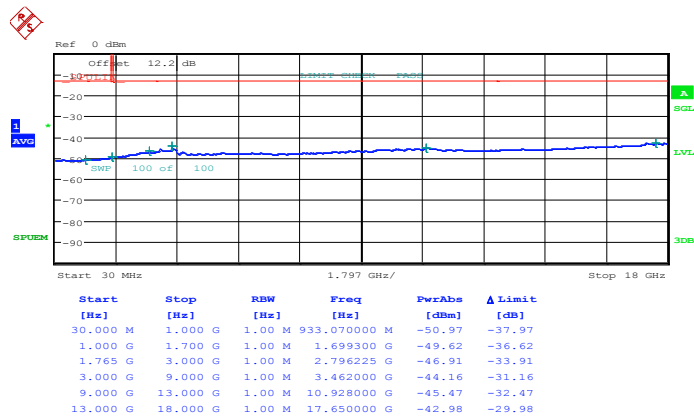


Date: 14.FEB.2014 10:20:57



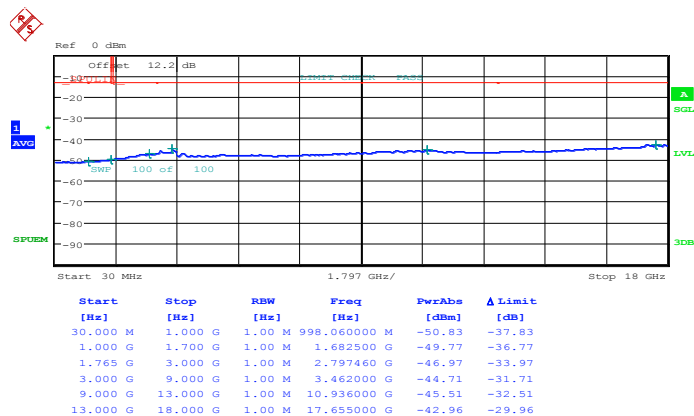
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 1.4MHz     |           |                  |

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



Date: 14.FEB.2014 10:22:43

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

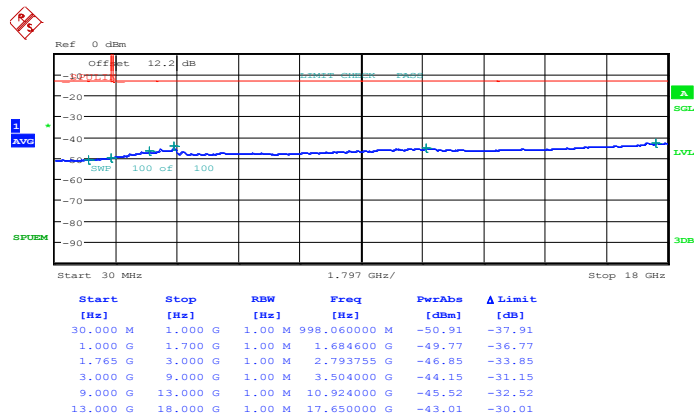


Date: 14.FEB.2014 10:23:40



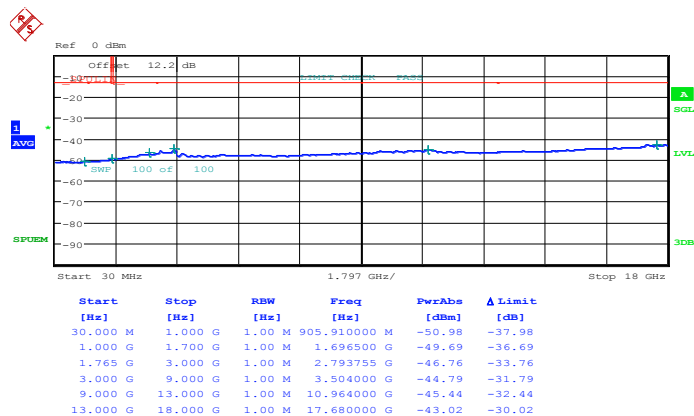
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20393 (High) |
| Band Width : | 1.4MHz     |           |                |

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



Date: 14.FEB.2014 10:28:18

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

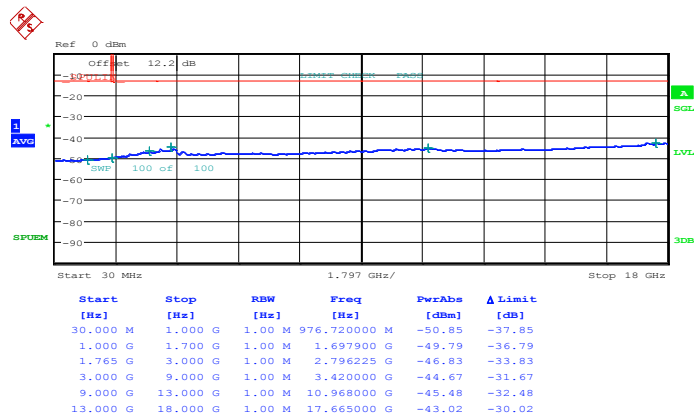


Date: 14.FEB.2014 10:29:15



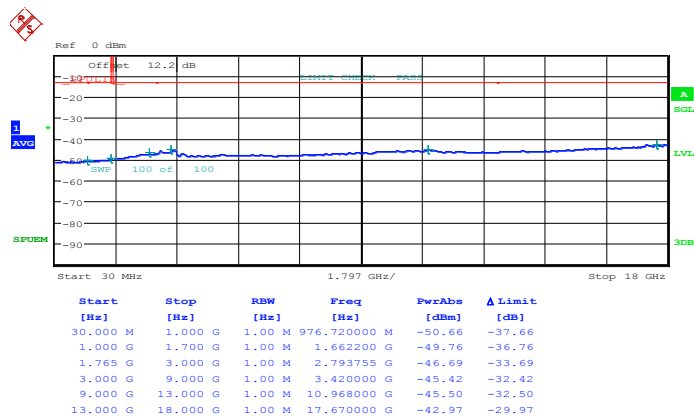
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH19965 (Low) |
| Band Width : | 3MHz       |           |               |

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



Date: 14.FEB.2014 10:33:57

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

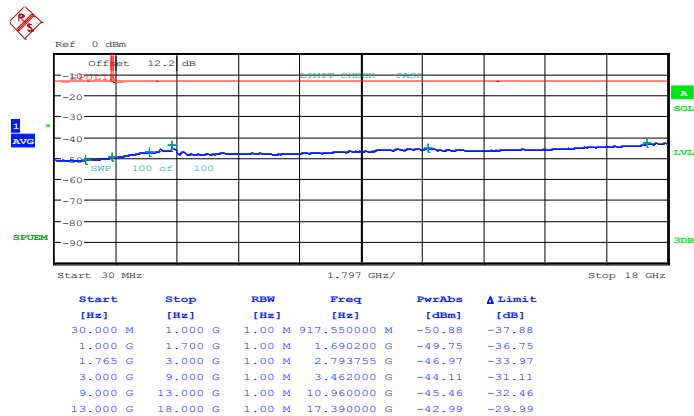


Date: 14.FEB.2014 10:34:54



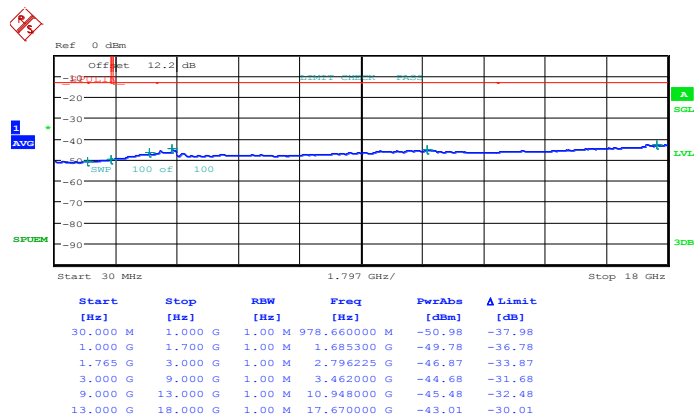
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 3MHz       |           |                  |

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



Date: 14.FEB.2014 10:36:40

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

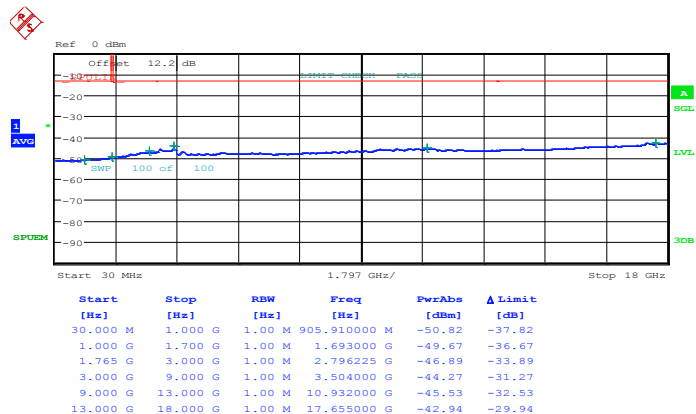


Date: 14.FEB.2014 10:37:37



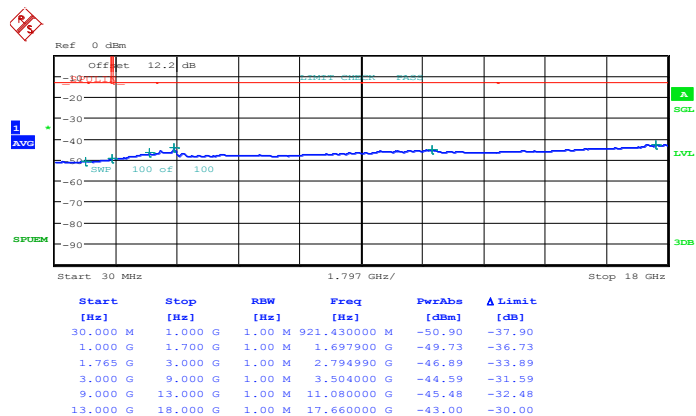
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20385 (High) |
| Band Width : | 3MHz       |           |                |

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



Date: 14.FEB.2014 10:42:15

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

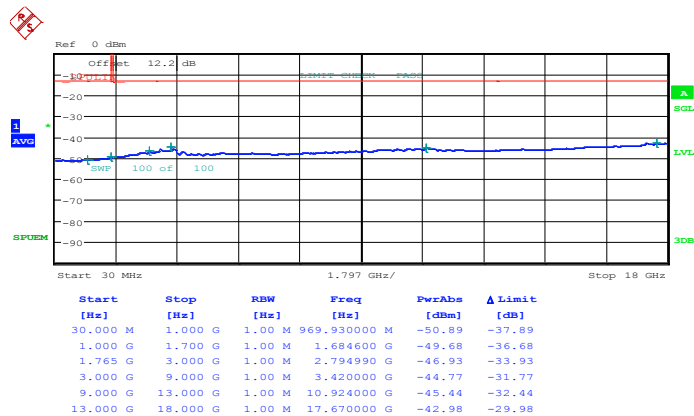


Date: 14.FEB.2014 10:43:11



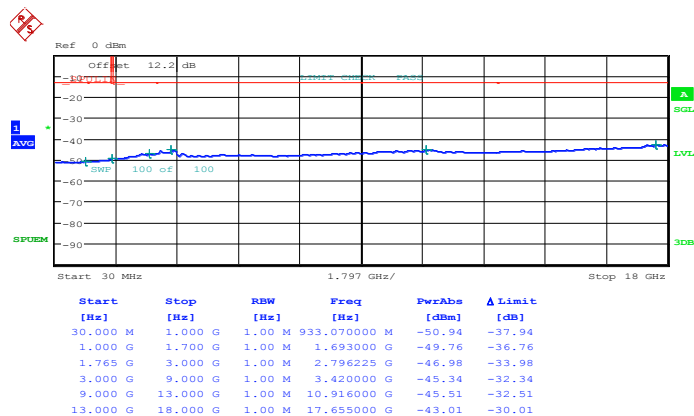
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH19975 (Low) |
| Band Width : | 5MHz       |           |               |

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



Date: 14.FEB.2014 10:47:54

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

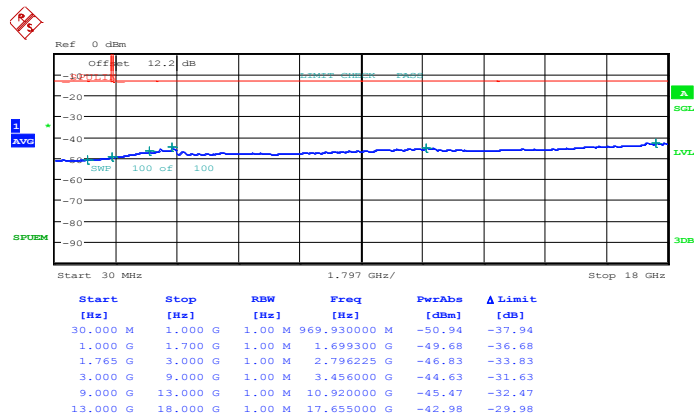


Date: 14.FEB.2014 10:48:50



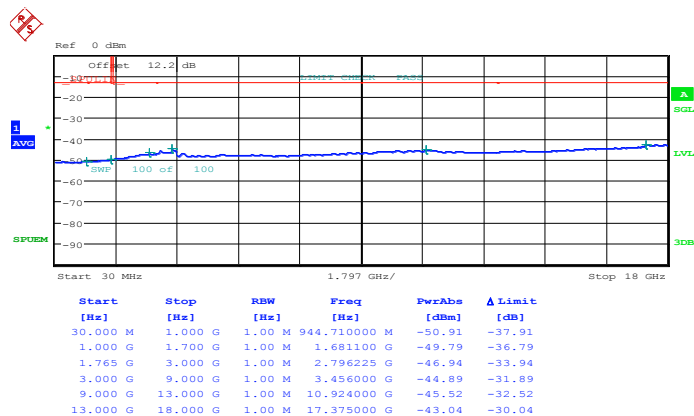
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 5MHz       |           |                  |

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



Date: 14.FEB.2014 10:50:37

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

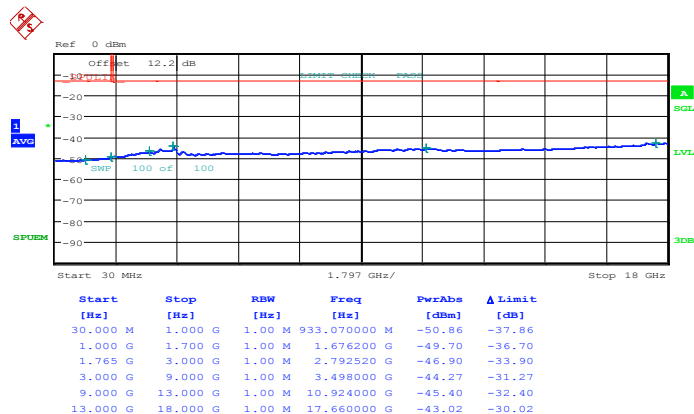


Date: 14.FEB.2014 10:51:34



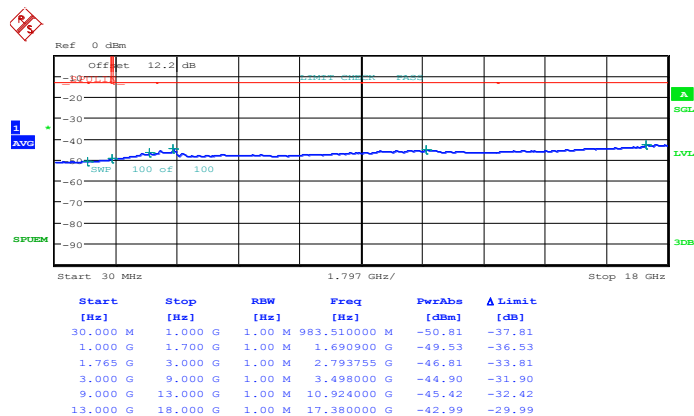
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20375 (High) |
| Band Width : | 5MHz       |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 10:56:12

16QAM (RB Size 1, RB Offset 0)

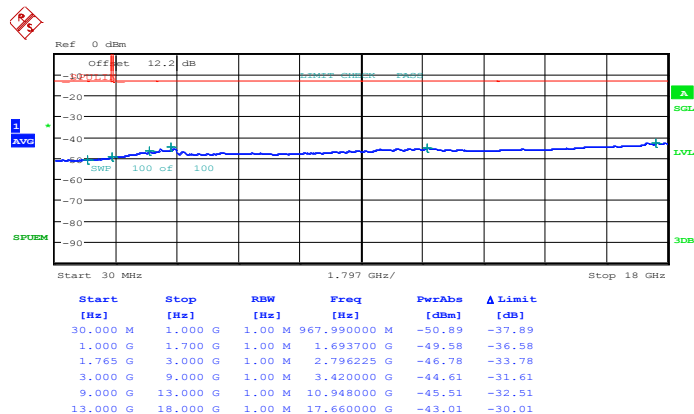


Date: 14.FEB.2014 10:57:09



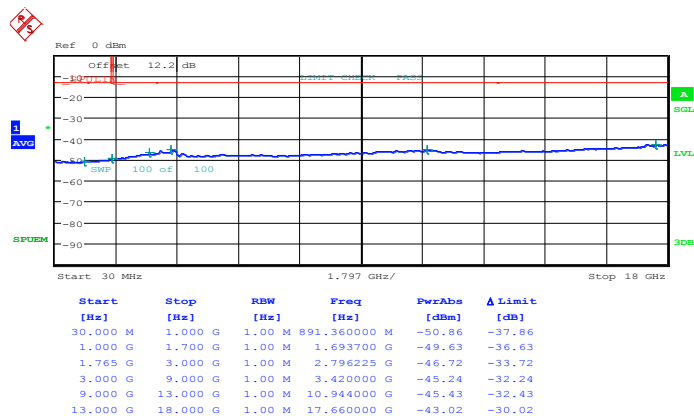
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH20000 (Low) |
| Band Width : | 10MHz      |           |               |

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



Date: 14.FEB.2014 11:01:51

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

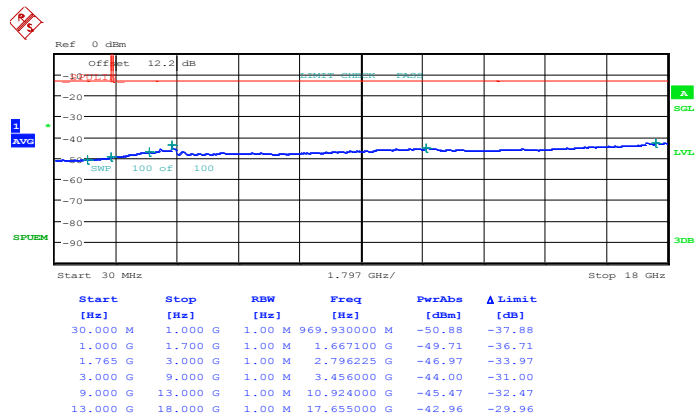


Date: 14.FEB.2014 11:02:48



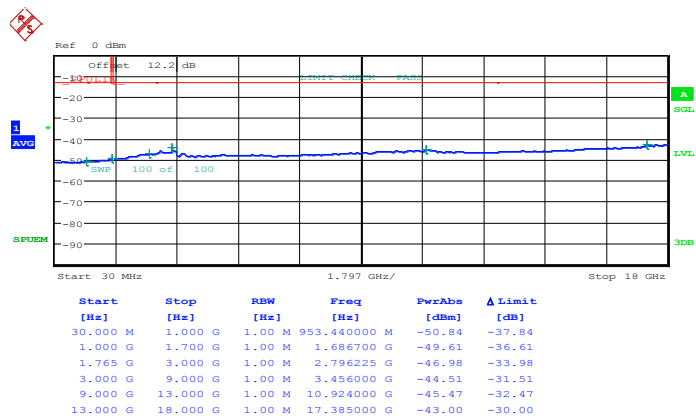
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 10MHz      |           |                  |

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



Date: 14.FEB.2014 11:04:34

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

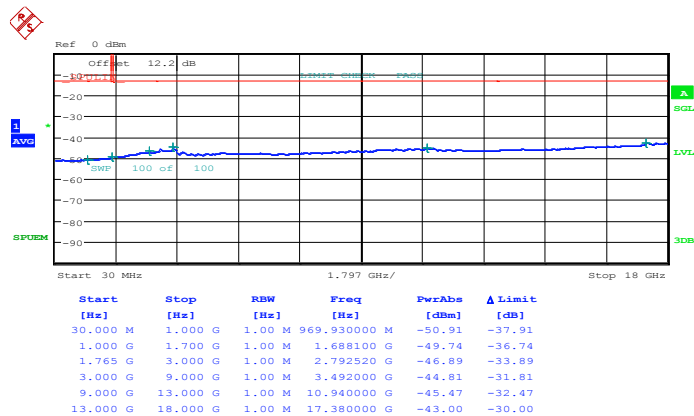


Date: 14.FEB.2014 11:05:31



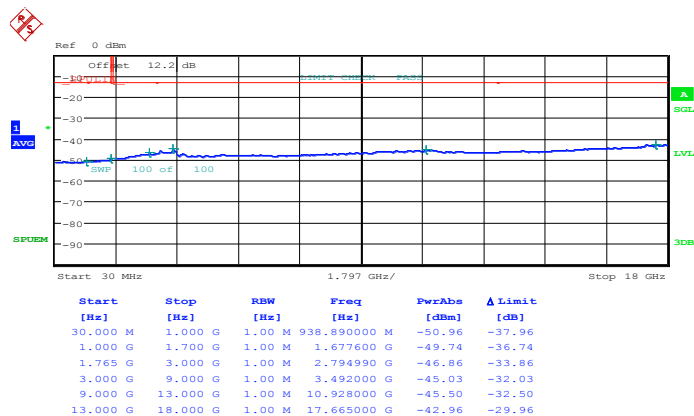
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20350 (High) |
| Band Width : | 10MHz      |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 11:10:09

16QAM (RB Size 1, RB Offset 0)

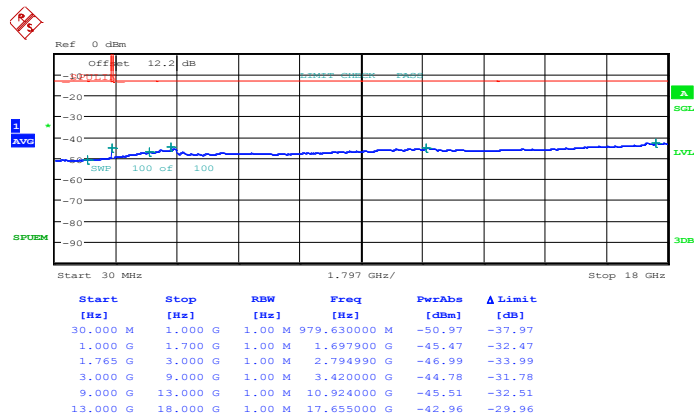


Date: 14.FEB.2014 11:11:06



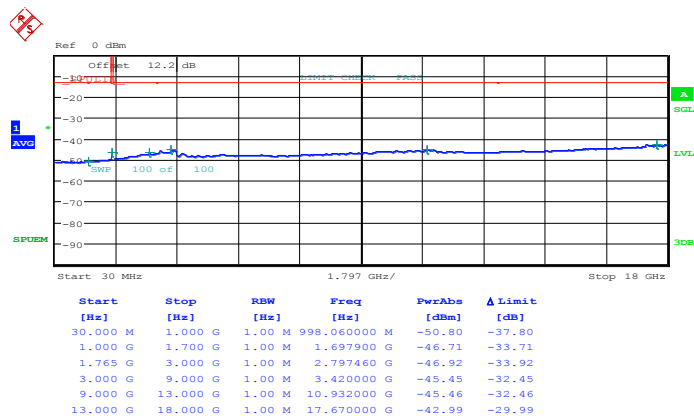
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH20025 (Low) |
| Band Width : | 15MHz      |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 11:15:48

16QAM (RB Size 1, RB Offset 0)

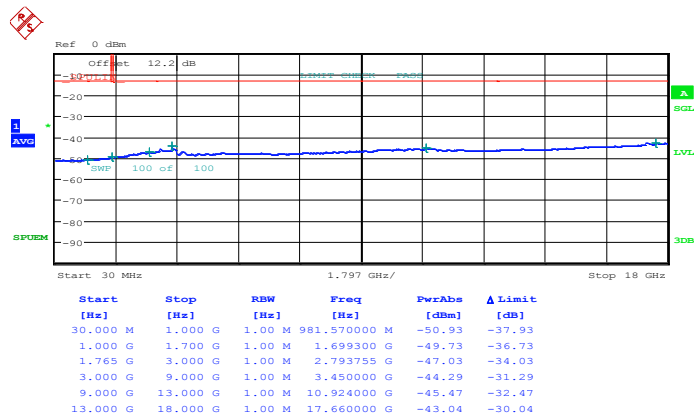


Date: 14.FEB.2014 11:16:44



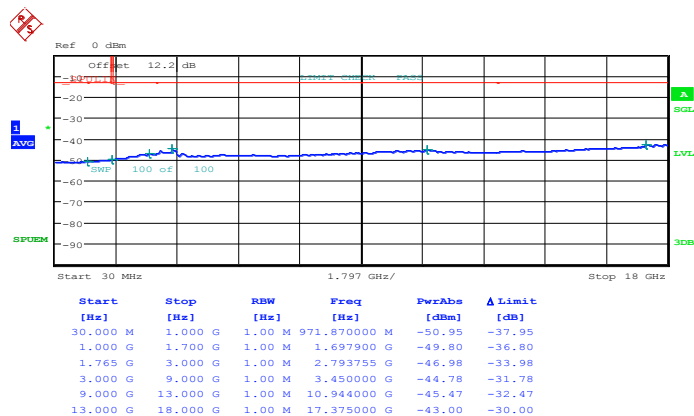
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 15MHz      |           |                  |

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



Date: 14.FEB.2014 11:18:31

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

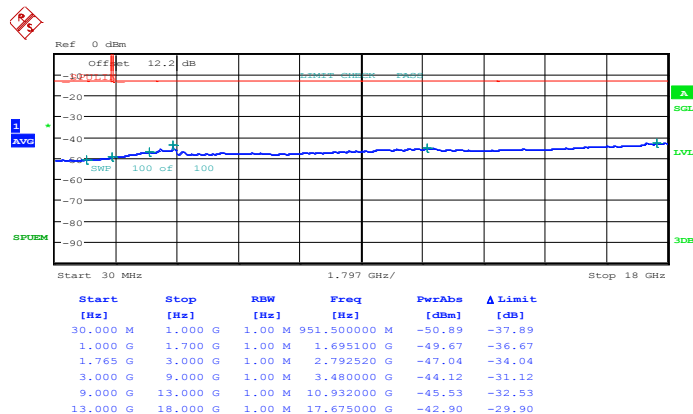


Date: 14.FEB.2014 11:19:28



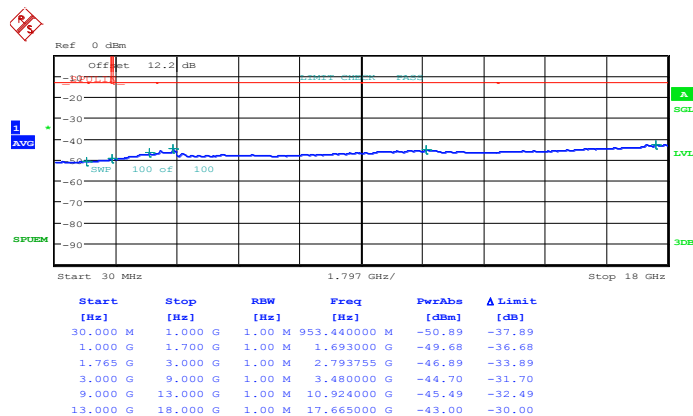
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20325 (High) |
| Band Width : | 15MHz      |           |                |

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



Date: 14.FEB.2014 11:24:07

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

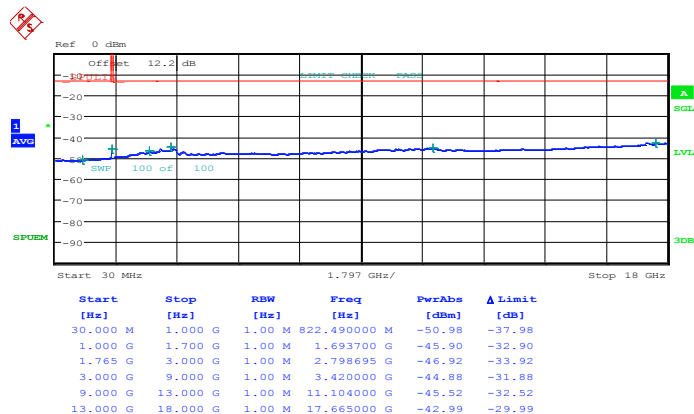


Date: 14.FEB.2014 11:25:04



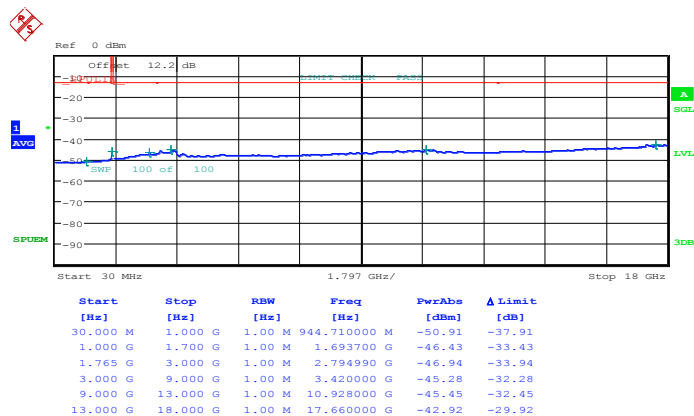
|              |            |           |               |
|--------------|------------|-----------|---------------|
| Band :       | LTE Band 4 | Channel : | CH20050 (Low) |
| Band Width : | 20MHz      |           |               |

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



Date: 14.FEB.2014 11:29:46

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

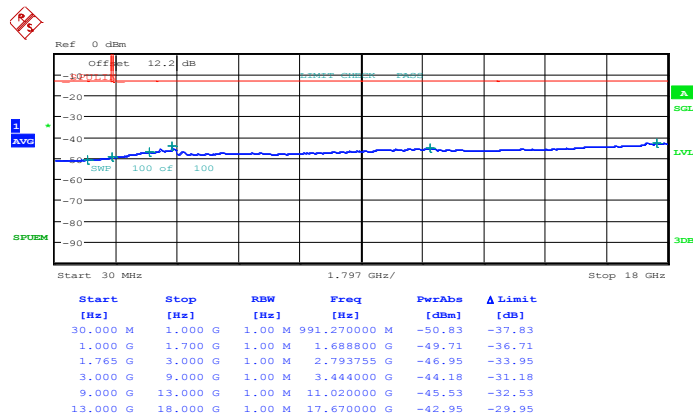


Date: 14.FEB.2014 11:30:43



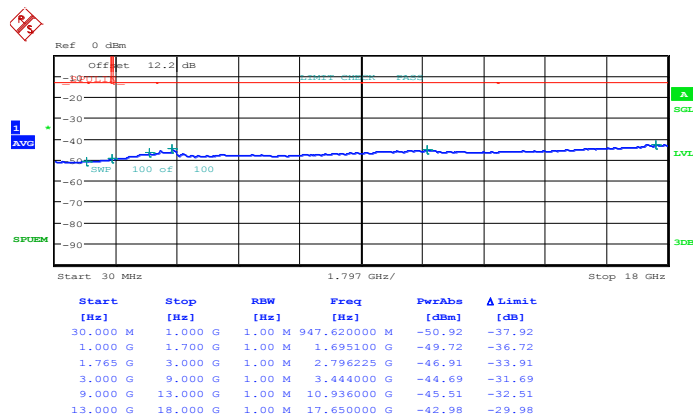
|              |            |           |                  |
|--------------|------------|-----------|------------------|
| Band :       | LTE Band 4 | Channel : | CH20175 (Middle) |
| Band Width : | 20MHz      |           |                  |

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



Date: 14.FEB.2014 11:32:29

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

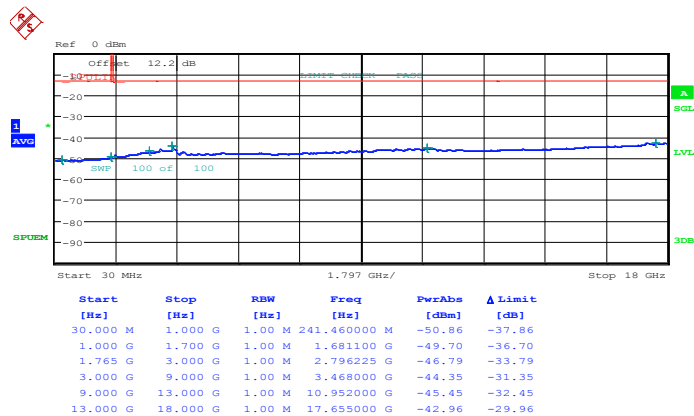


Date: 14.FEB.2014 11:33:25



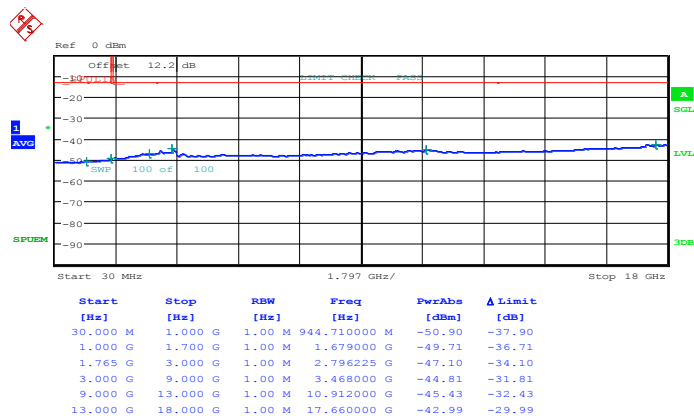
|              |            |           |                |
|--------------|------------|-----------|----------------|
| Band :       | LTE Band 4 | Channel : | CH20300 (High) |
| Band Width : | 20MHz      |           |                |

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



Date: 14.FEB.2014 11:38:04

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

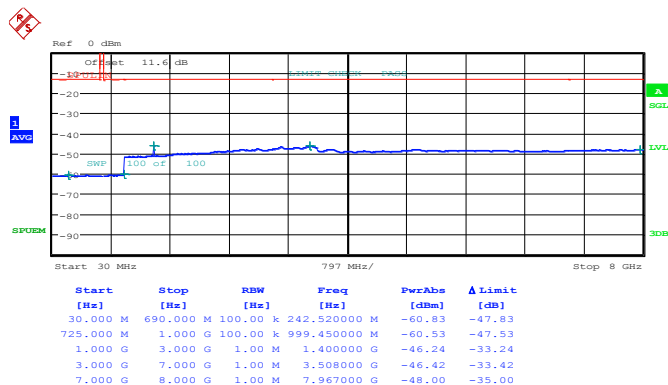


Date: 14.FEB.2014 11:39:00



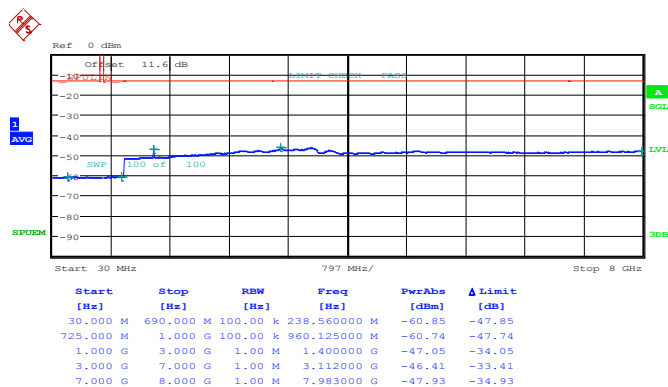
|              |             |           |               |
|--------------|-------------|-----------|---------------|
| Band :       | LTE Band 12 | Channel : | CH23017 (Low) |
| Band Width : | 1.4MHz      |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 14:36:44

16QAM (RB Size 1, RB Offset 0)

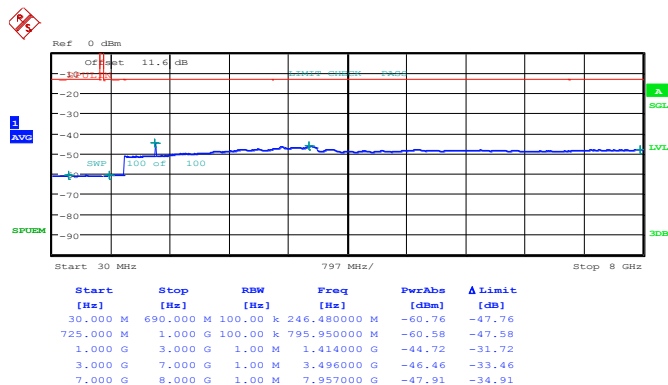


Date: 14.FEB.2014 14:37:40



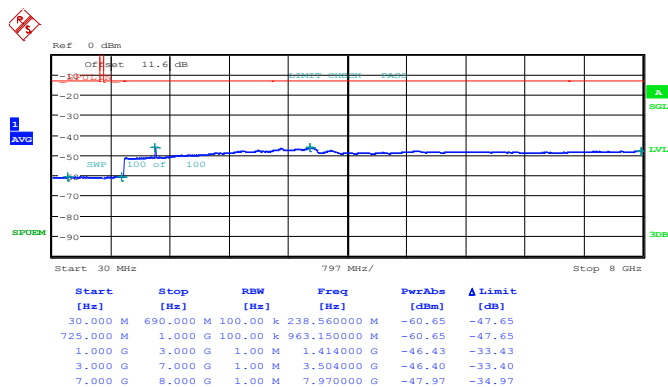
|              |             |           |                  |
|--------------|-------------|-----------|------------------|
| Band :       | LTE Band 12 | Channel : | CH23095 (Middle) |
| Band Width : | 1.4MHz      |           |                  |

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



Date: 14.FEB.2014 14:40:23

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

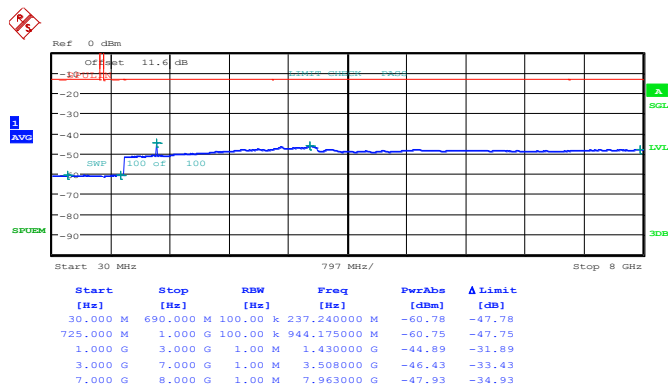


Date: 14.FEB.2014 14:39:27



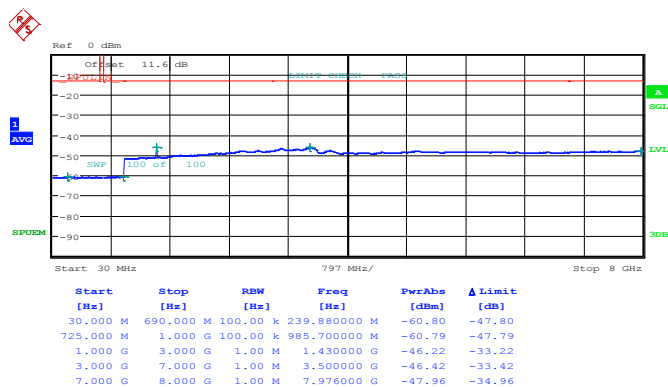
|              |             |           |                |
|--------------|-------------|-----------|----------------|
| Band :       | LTE Band 13 | Channel : | CH23173 (High) |
| Band Width : | 1.4MHz      |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 14:45:01

16QAM (RB Size 1, RB Offset 0)

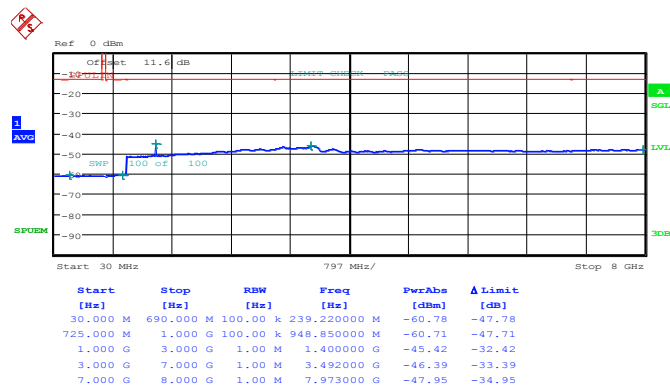


Date: 14.FEB.2014 14:45:57



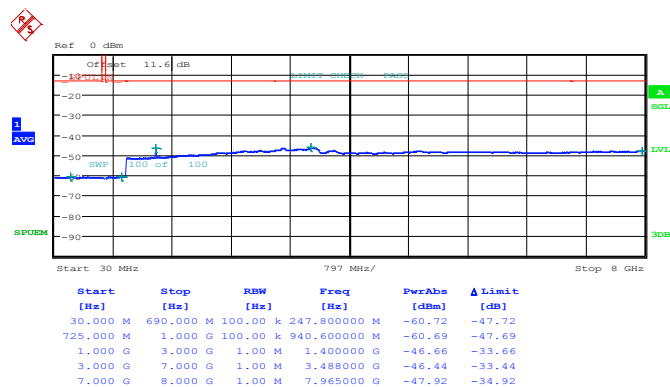
|              |             |           |               |
|--------------|-------------|-----------|---------------|
| Band :       | LTE Band 12 | Channel : | CH23025 (Low) |
| Band Width : | 3MHz        |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 14:50:52

16QAM (RB Size 1, RB Offset 0)

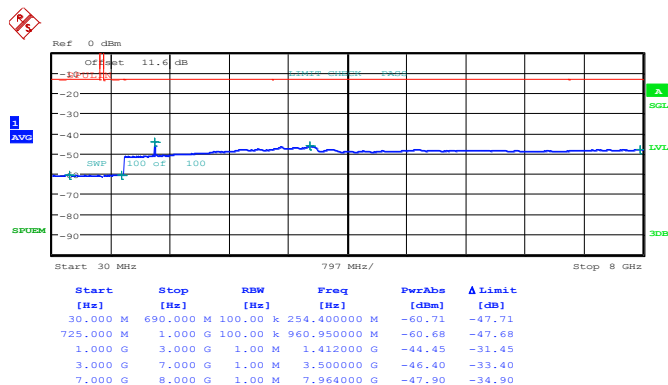


Date: 14.FEB.2014 14:51:48



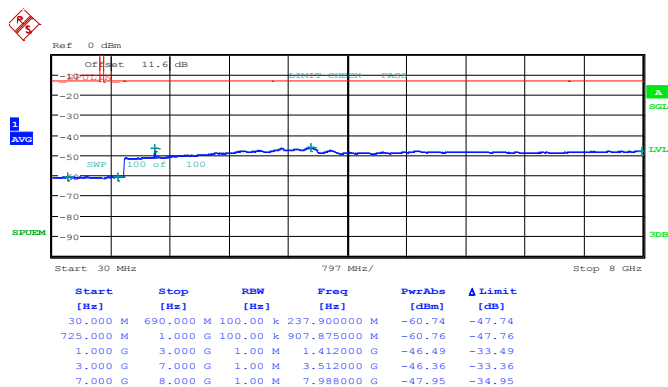
|              |             |           |                  |
|--------------|-------------|-----------|------------------|
| Band :       | LTE Band 12 | Channel : | CH23095 (Middle) |
| Band Width : | 3MHz        |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 14:54:30

16QAM (RB Size 1, RB Offset 0)

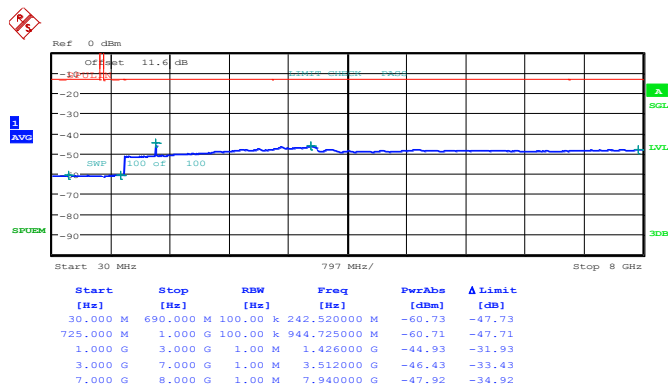


Date: 14.FEB.2014 14:53:34



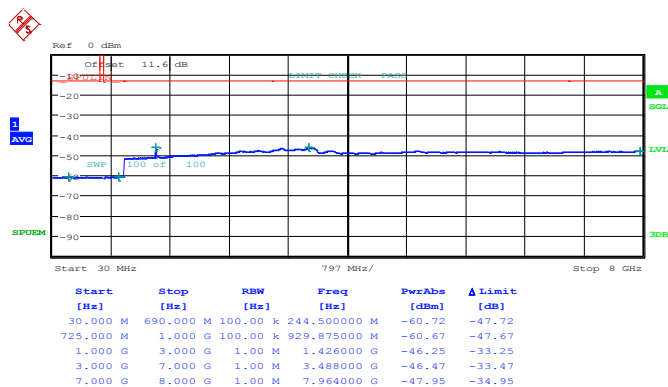
|              |             |           |                |
|--------------|-------------|-----------|----------------|
| Band :       | LTE Band 12 | Channel : | CH23165 (High) |
| Band Width : | 3MHz        |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 14:59:12

16QAM (RB Size 1, RB Offset 0)

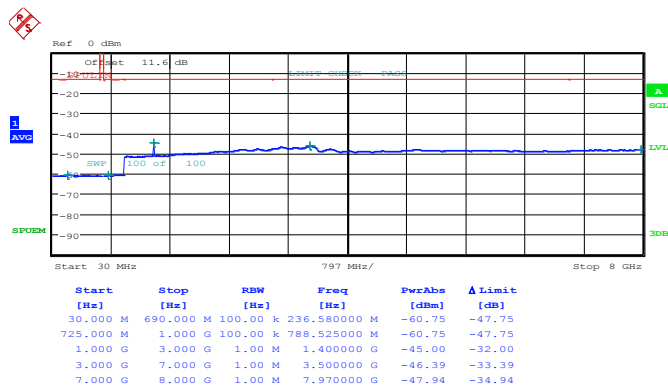


Date: 14.FEB.2014 15:00:08



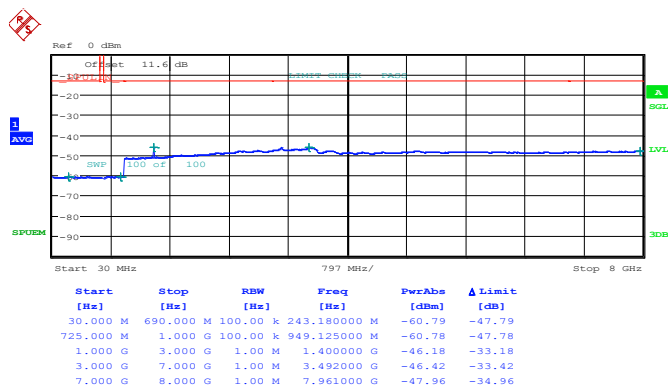
|              |             |           |               |
|--------------|-------------|-----------|---------------|
| Band :       | LTE Band 12 | Channel : | CH23035 (Low) |
| Band Width : | 5MHz        |           |               |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 15:05:20

16QAM (RB Size 1, RB Offset 0)

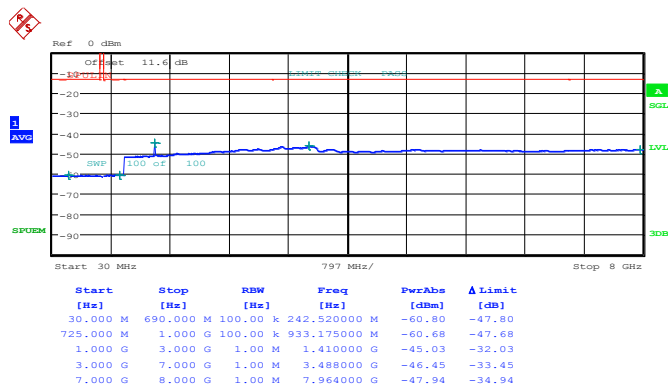


Date: 14.FEB.2014 15:06:17



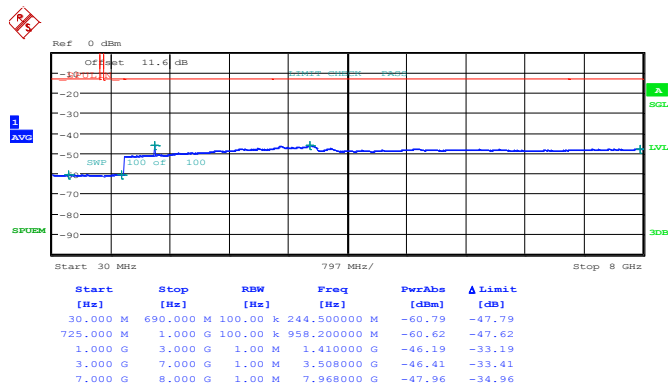
|              |             |           |                  |
|--------------|-------------|-----------|------------------|
| Band :       | LTE Band 12 | Channel : | CH23095 (Middle) |
| Band Width : | 5MHz        |           |                  |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 15:08:59

16QAM (RB Size 1, RB Offset 0)

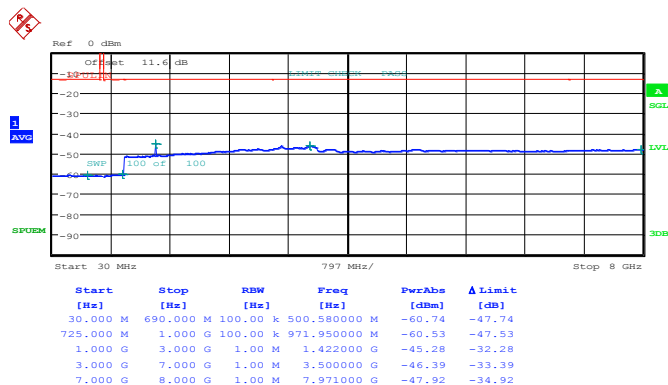


Date: 14.FEB.2014 15:08:03



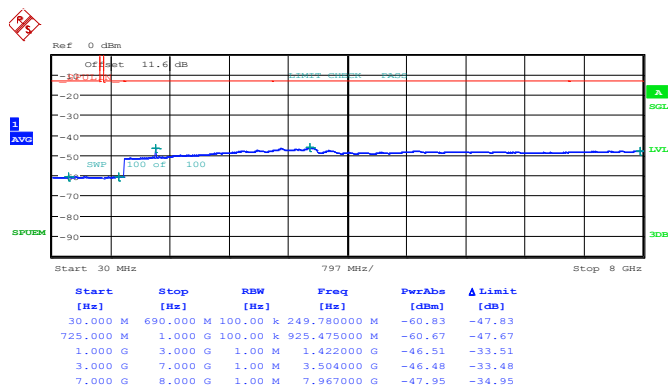
|              |             |           |                |
|--------------|-------------|-----------|----------------|
| Band :       | LTE Band 12 | Channel : | CH23155 (High) |
| Band Width : | 5MHz        |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 15:14:54

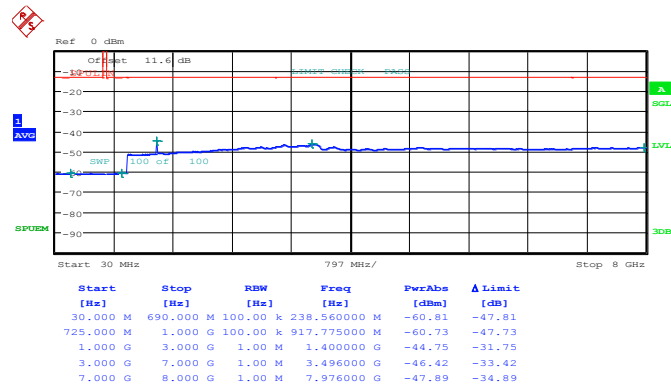
16QAM (RB Size 1, RB Offset 0)



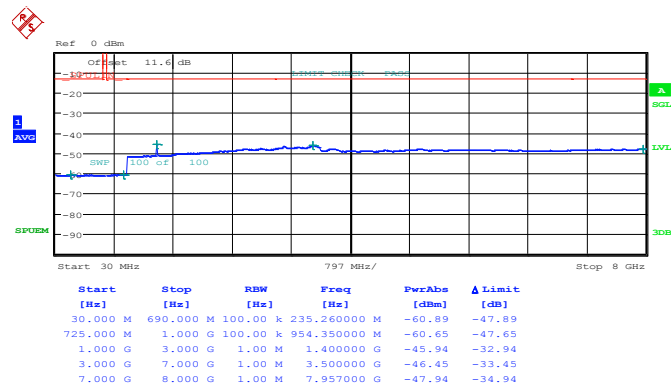
Date: 14.FEB.2014 15:13:58



|                     |             |                  |               |
|---------------------|-------------|------------------|---------------|
| <b>Band :</b>       | LTE Band 12 | <b>Channel :</b> | CH23060 (Low) |
| <b>Band Width :</b> | 10MHz       |                  |               |

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

Date: 14.FEB.2014 15:41:52

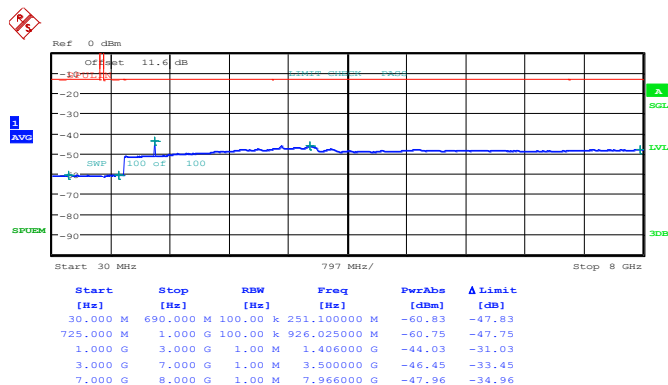
**16QAM (RB Size 1, RB Offset 0)**

Date: 14.FEB.2014 15:42:49



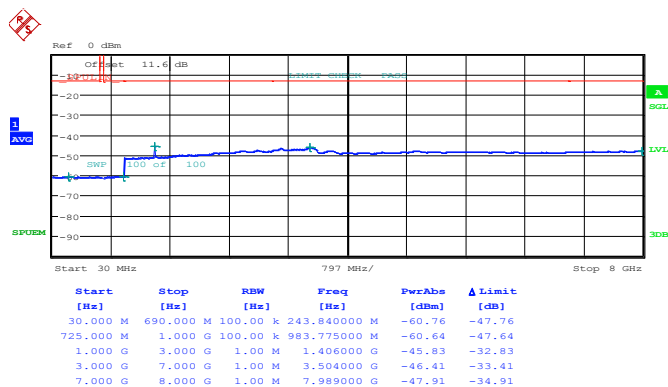
|              |             |           |                  |
|--------------|-------------|-----------|------------------|
| Band :       | LTE Band 12 | Channel : | CH23095 (Middle) |
| Band Width : | 10MHz       |           |                  |

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



Date: 14.FEB.2014 15:45:32

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

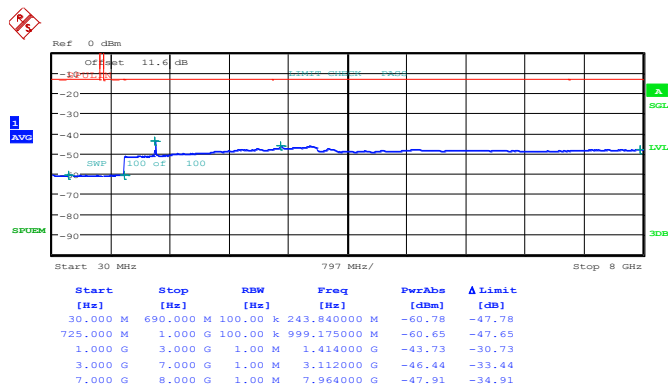


Date: 14.FEB.2014 15:44:35



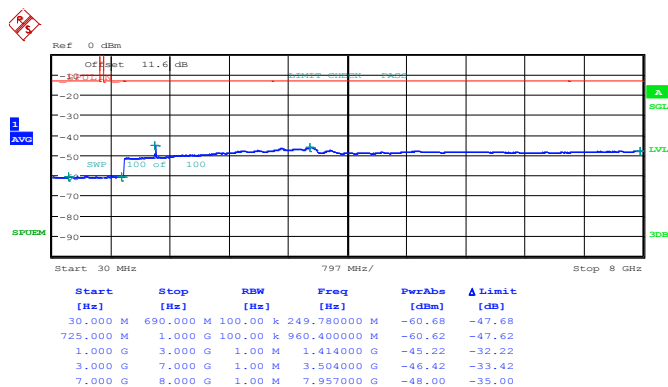
|              |             |           |                |
|--------------|-------------|-----------|----------------|
| Band :       | LTE Band 12 | Channel : | CH23130 (High) |
| Band Width : | 10MHz       |           |                |

QPSK (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 15:50:04

16QAM (RB Size 1, RB Offset 0)



Date: 14.FEB.2014 15:51:01

## 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.

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)

$$= P(W) - [43 + 10\log(P)] \text{ (dB)}$$

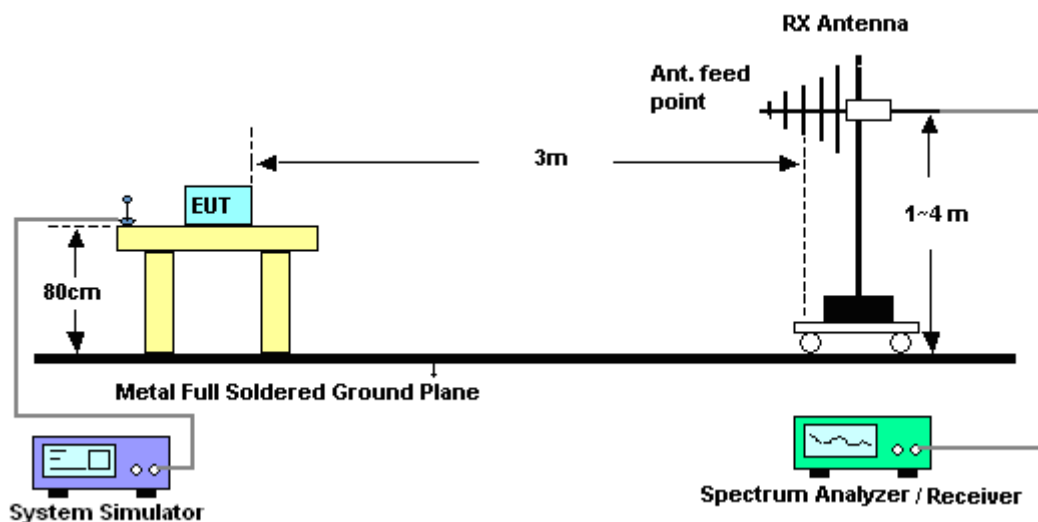
$$= [30 + 10\log(P)] \text{ (dBm)} - [43 + 10\log(P)] \text{ (dB)}$$

$$= -13\text{dBm}.$$

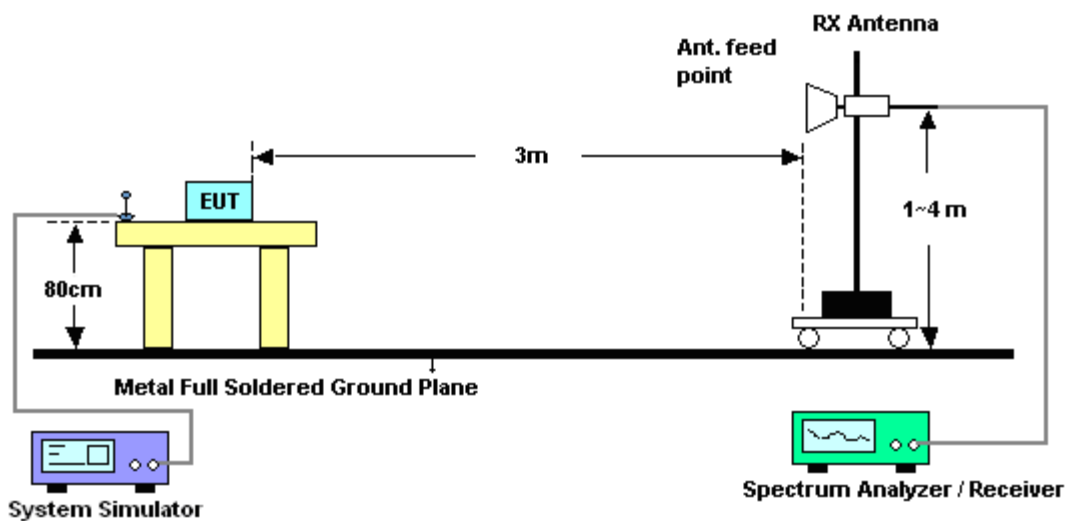
11. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
12. ERP (dBm) = EIRP - 2.15

### 3.6.4 Test Setup

For radiated emissions from 30MHz to 1GHz

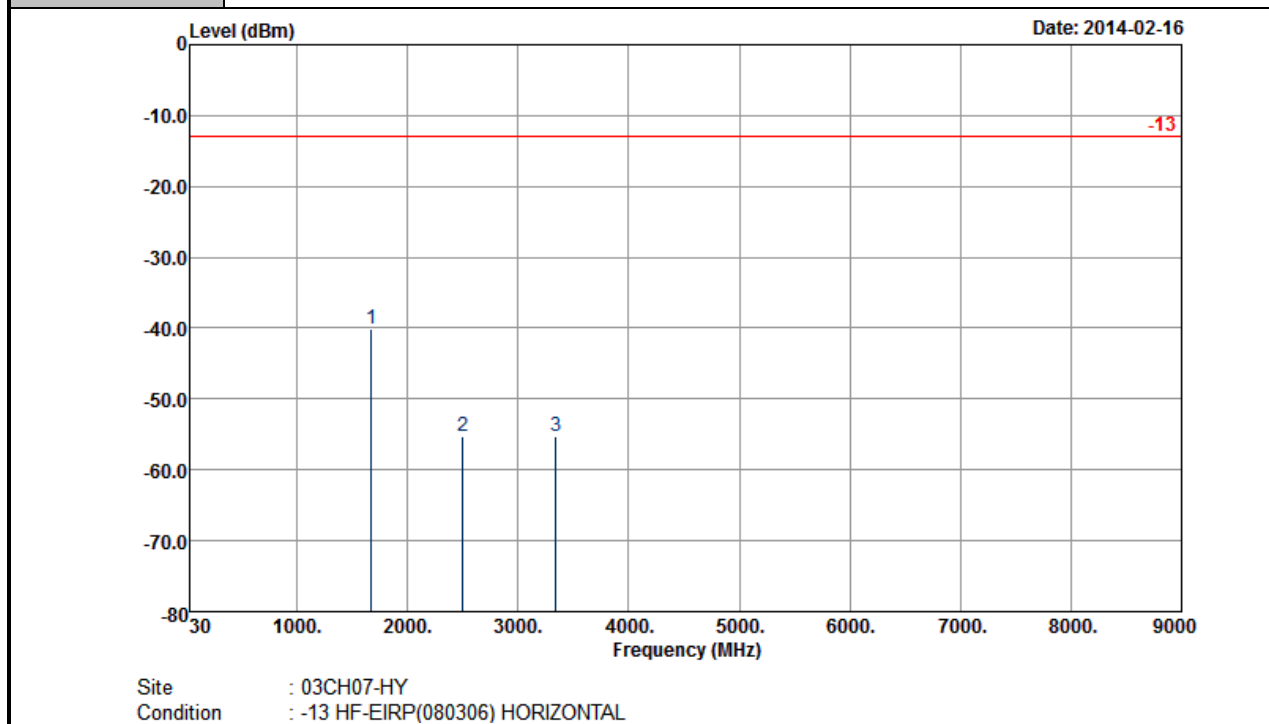


For radiated emissions above 1GHz



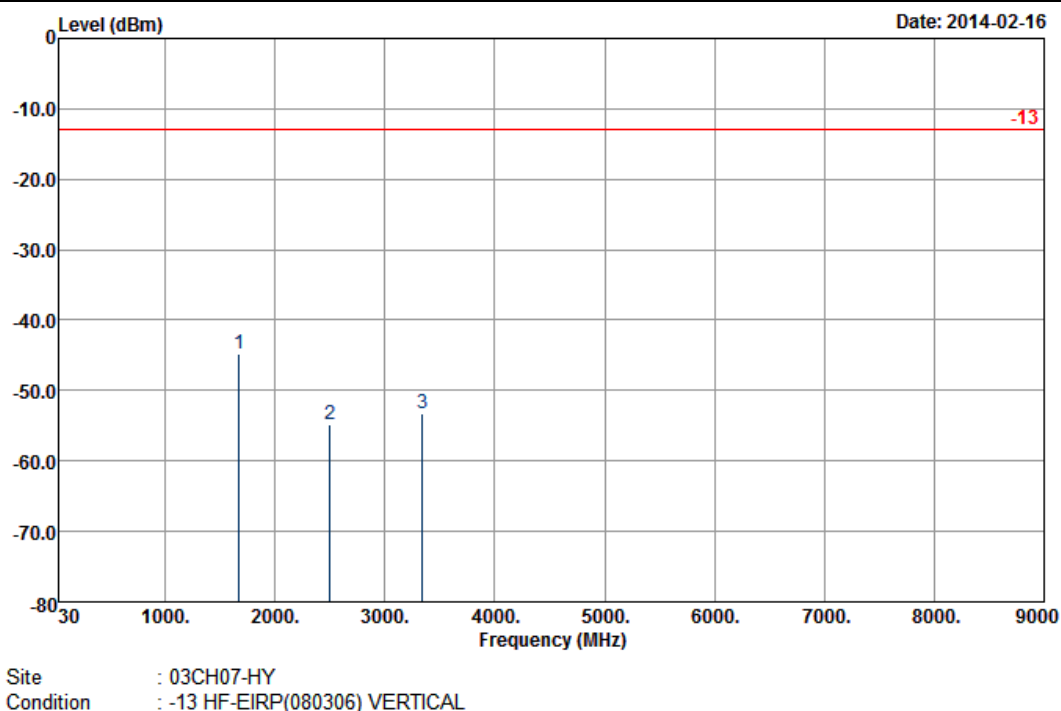
**3.6.5 Test Result of Field Strength of Spurious Radiated**

|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 1.4MHz QPSK RB Size 3 Offset 0                                                         | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1672                 | -40.13         | -13              | -27.13                  | -48.95                    | -44                      | 1.62                       | 5.49                          | H                       | Pass   |
| 2504                 | -55.16         | -13              | -42.16                  | -68.44                    | -59.28                   | 2.1                        | 6.22                          | H                       | Pass   |
| 3344                 | -55.21         | -13              | -42.21                  | -69.43                    | -60.25                   | 3.03                       | 8.07                          | H                       | Pass   |

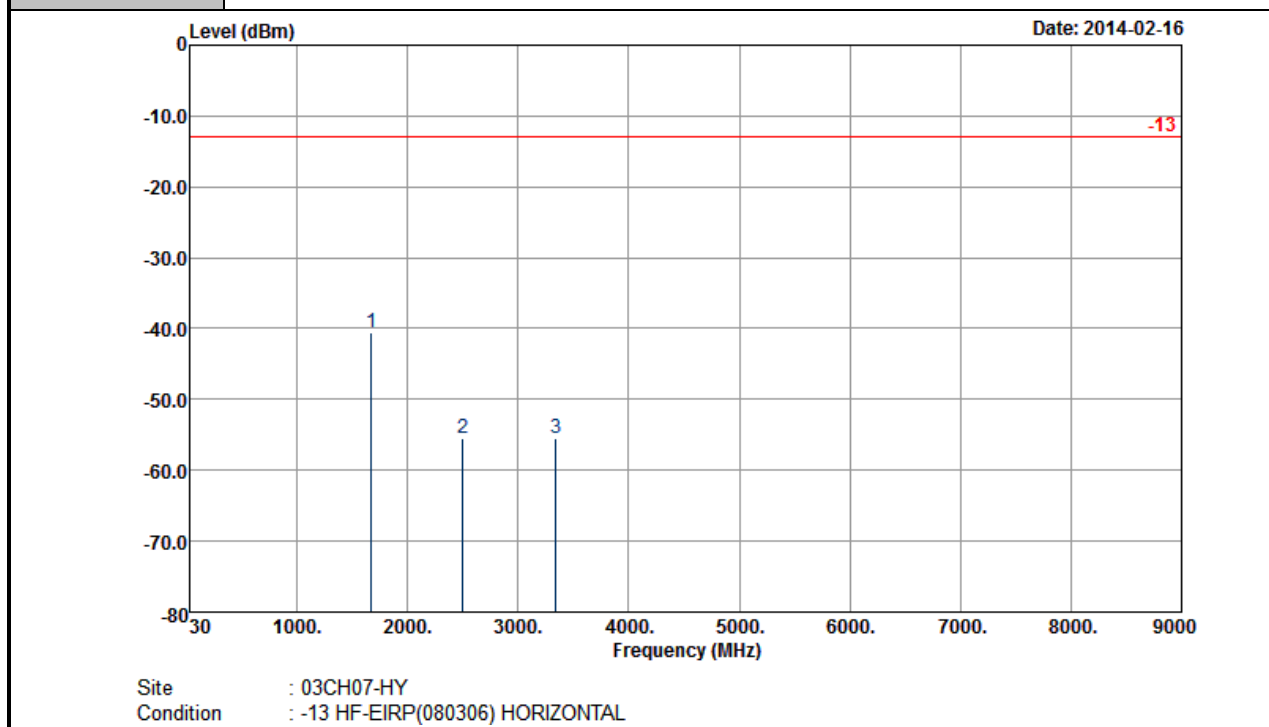
|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 1.4MHz QPSK RB Size 3 Offset 0                                                         | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1672                 | -44.68         | -13              | -31.68                  | -55.82                  | -48.55                   | 1.62                       | 5.49                        | V                     | Pass   |
| 2504                 | -54.75         | -13              | -41.75                  | -68.24                  | -58.87                   | 2.1                        | 6.22                        | V                     | Pass   |
| 3344                 | -53.35         | -13              | -40.35                  | -68.87                  | -58.39                   | 3.03                       | 8.07                        | V                     | Pass   |

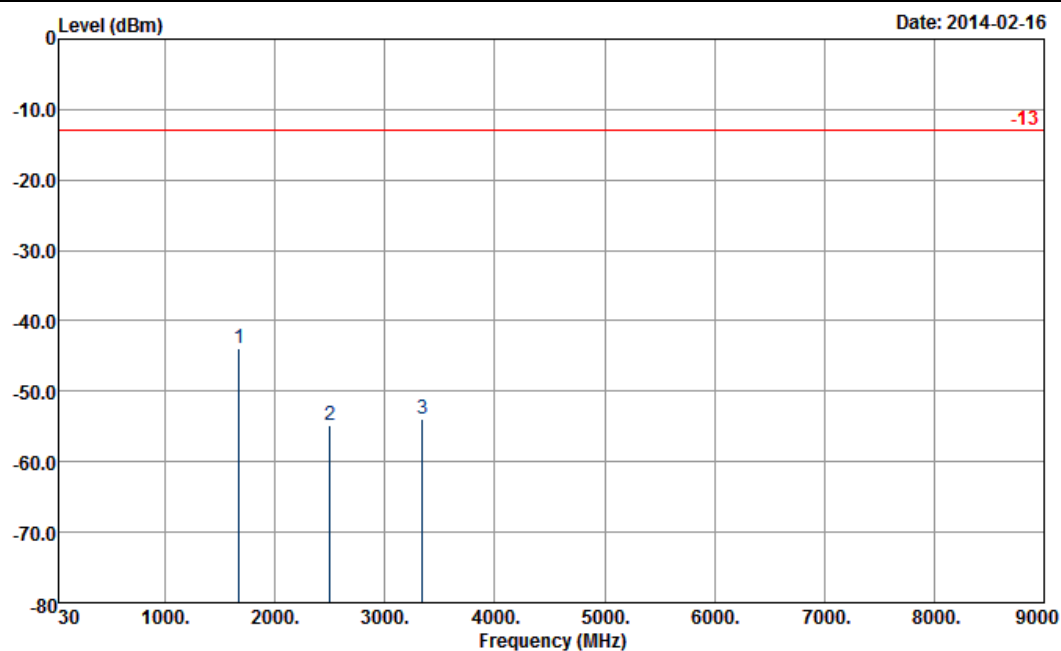


|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 5                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 3MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



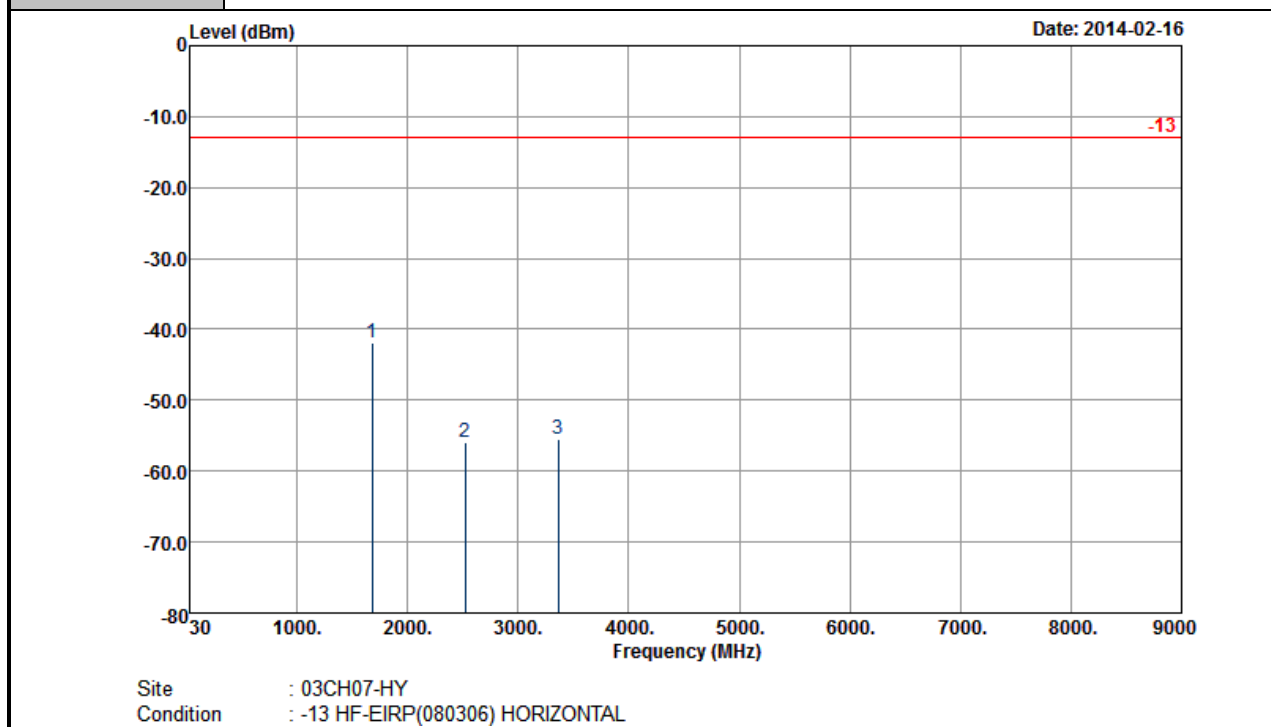
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1672                 | -40.56         | -13              | -27.56                  | -49.47                    | -44.43                   | 1.62                       | 5.49                          | H                       | Pass   |
| 2504                 | -55.47         | -13              | -42.47                  | -68.68                    | -59.59                   | 2.1                        | 6.22                          | H                       | Pass   |
| 3344                 | -55.59         | -13              | -42.59                  | -69.67                    | -60.63                   | 3.03                       | 8.07                          | H                       | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 3MHz QPSK RB Size 1 Offset 0                                                           | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



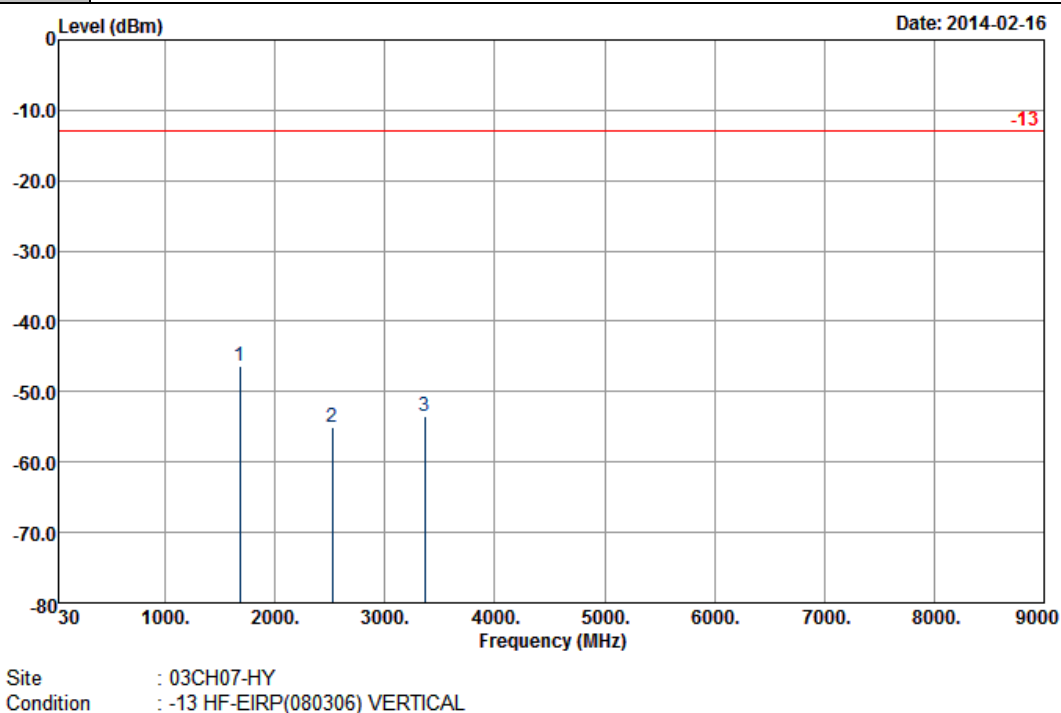
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1672                 | -43.99         | -13              | -30.99                  | -55.14                  | -47.86                   | 1.62                       | 5.49                        | V                     | Pass   |
| 2504                 | -54.83         | -13              | -41.83                  | -68.36                  | -58.95                   | 2.1                        | 6.22                        | V                     | Pass   |
| 3344                 | -53.84         | -13              | -40.84                  | -69.29                  | -58.88                   | 3.03                       | 8.07                        | V                     | Pass   |

|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 5MHz QPSK RB Size 1 Offset 24                                                          | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



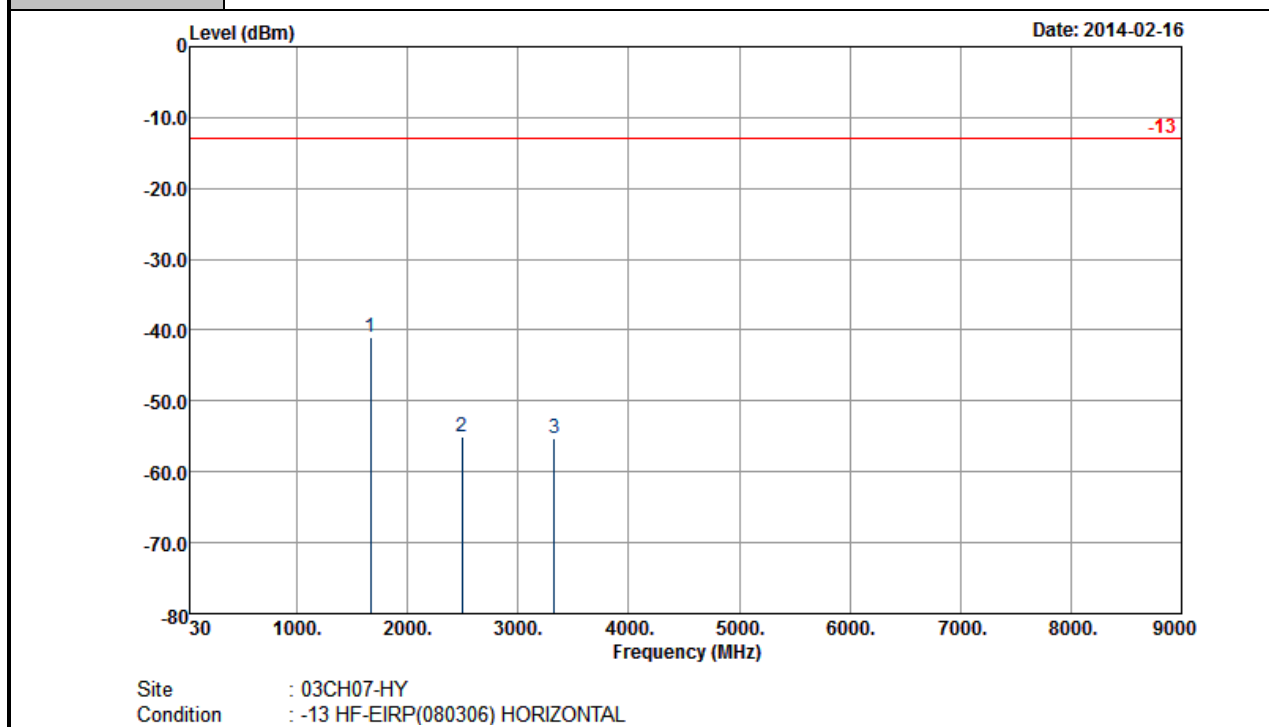
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1680                 | -41.86         | -13              | -28.86                  | -50.74                    | -45.73                   | 1.62                       | 5.49                          | H                       | Pass   |
| 2520                 | -56.04         | -13              | -43.04                  | -69.27                    | -60.16                   | 2.1                        | 6.22                          | H                       | Pass   |
| 3360                 | -55.47         | -13              | -42.47                  | -69.57                    | -60.51                   | 3.03                       | 8.07                          | H                       | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 5MHz QPSK RB Size 1 Offset 24                                                          | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



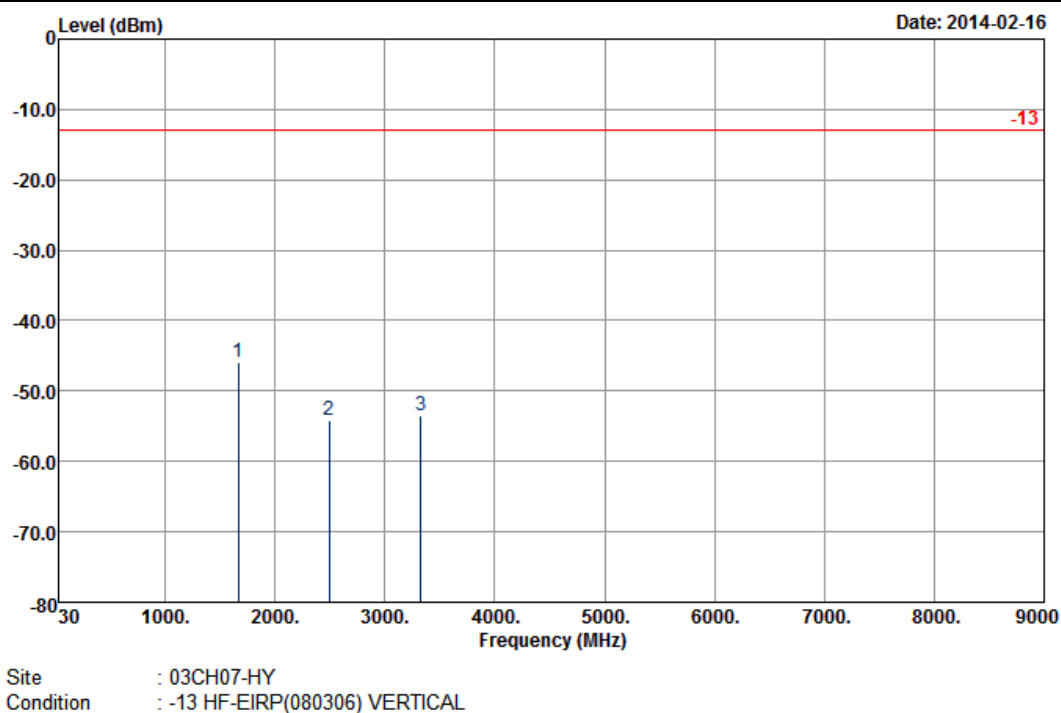
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1680                 | -46.41         | -13              | -33.41                  | -57.59                  | -50.28                   | 1.62                       | 5.49                        | V                     | Pass   |
| 2520                 | -55.05         | -13              | -42.05                  | -68.74                  | -59.17                   | 2.1                        | 6.22                        | V                     | Pass   |
| 3360                 | -53.44         | -13              | -40.44                  | -69.26                  | -58.48                   | 3.03                       | 8.07                        | V                     | Pass   |

|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 10MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1664                 | -41.06         | -13              | -28.06                  | -49.91                    | -44.93                   | 1.62                       | 5.49                          | H                       | Pass   |
| 2496                 | -55.07         | -13              | -42.07                  | -68.36                    | -59.19                   | 2.1                        | 6.22                          | H                       | Pass   |
| 3328                 | -55.32         | -13              | -42.32                  | -69.45                    | -60.36                   | 3.03                       | 8.07                          | H                       | Pass   |

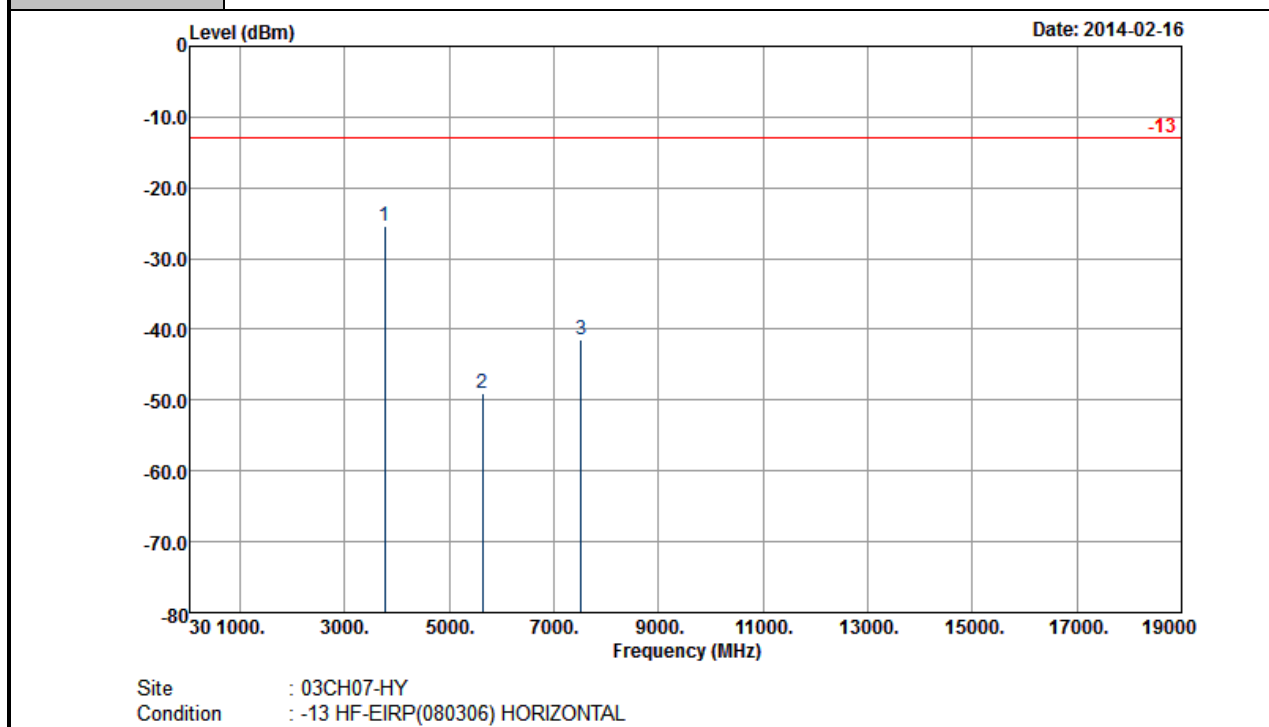
|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 5                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 10MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1664                 | -45.85         | -13              | -32.85                  | -56.89                  | -49.72                   | 1.62                       | 5.49                        | V                     | Pass   |
| 2496                 | -54.14         | -13              | -41.14                  | -67.87                  | -58.26                   | 2.1                        | 6.22                        | V                     | Pass   |
| 3328                 | -53.42         | -13              | -40.42                  | -69.18                  | -58.46                   | 3.03                       | 8.07                        | V                     | Pass   |



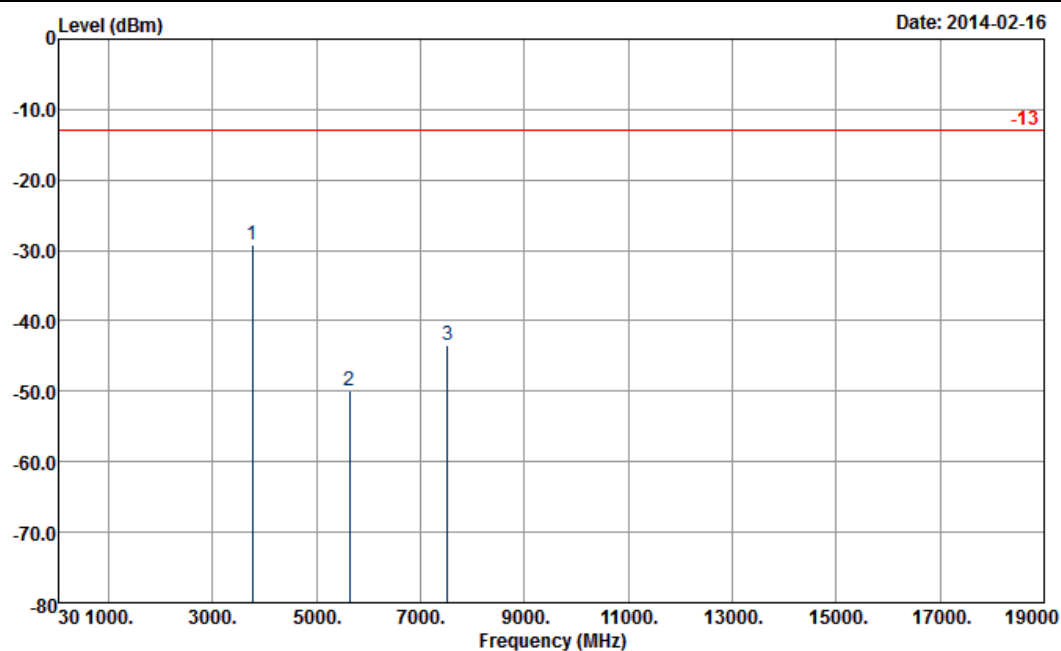
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -25.32          | -13              | -12.32                  | -40.67                  | -31.62                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5632                 | -48.96          | -13              | -35.96                  | -69.66                  | -56.67                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7515                 | -41.49          | -13              | -28.49                  | -68.9                   | -50.02                   | 3.59                       | 12.12                       | H                     | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

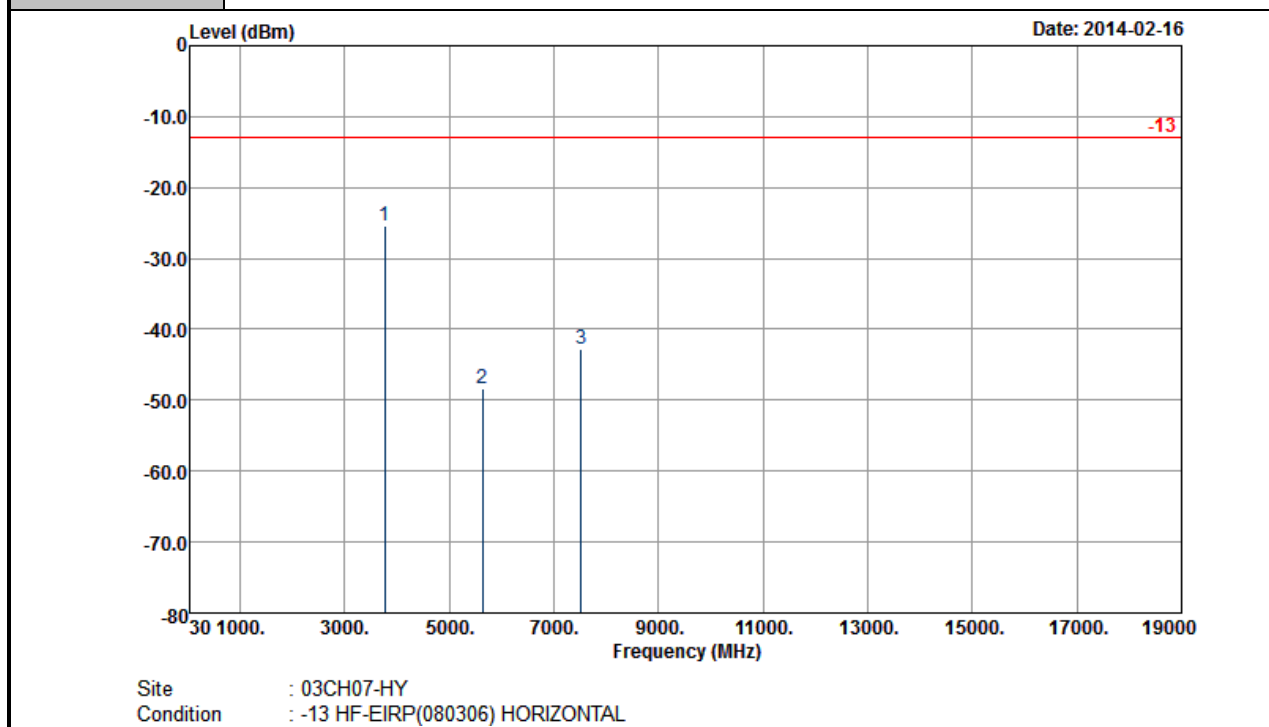


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -29.11          | -13              | -16.11                  | -45.41                  | -35.41                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5632                 | -49.92          | -13              | -36.92                  | -70.35                  | -57.63                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7515                 | -43.47          | -13              | -30.47                  | -70.6                   | -52                      | 3.59                       | 12.12                       | V                     | Pass   |



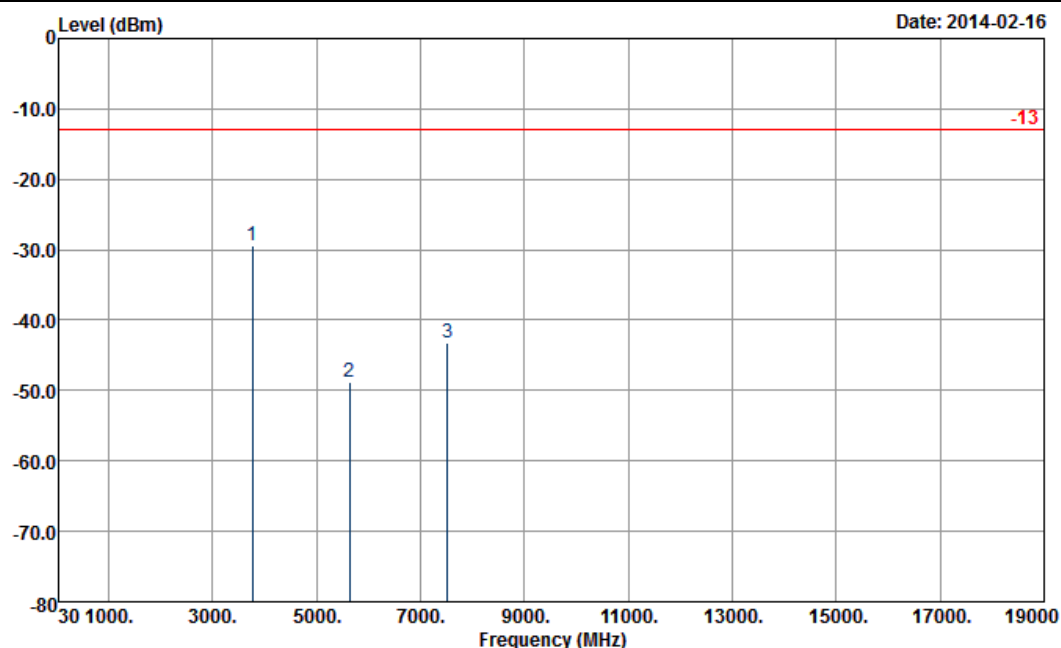
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 3MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -25.44          | -13              | -12.44                  | -40.69                  | -31.74                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5632                 | -48.44          | -13              | -35.44                  | -69.18                  | -56.15                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7515                 | -42.79          | -13              | -29.79                  | -70.14                  | -51.32                   | 3.59                       | 12.12                       | H                     | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 3MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

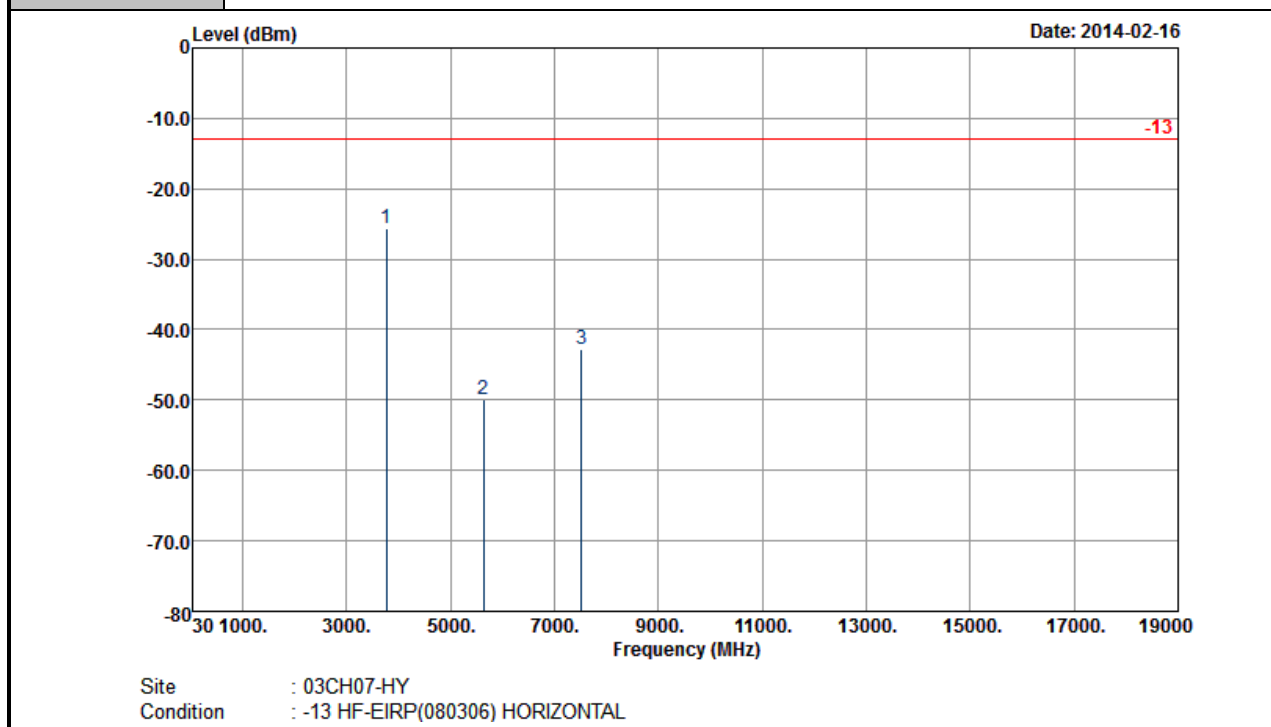


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -29.36          | -13              | -16.36                  | -45.58                  | -35.66                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5632                 | -48.87          | -13              | -35.87                  | -69.36                  | -56.58                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7515                 | -43.16          | -13              | -30.16                  | -70.23                  | -51.69                   | 3.59                       | 12.12                       | V                     | Pass   |



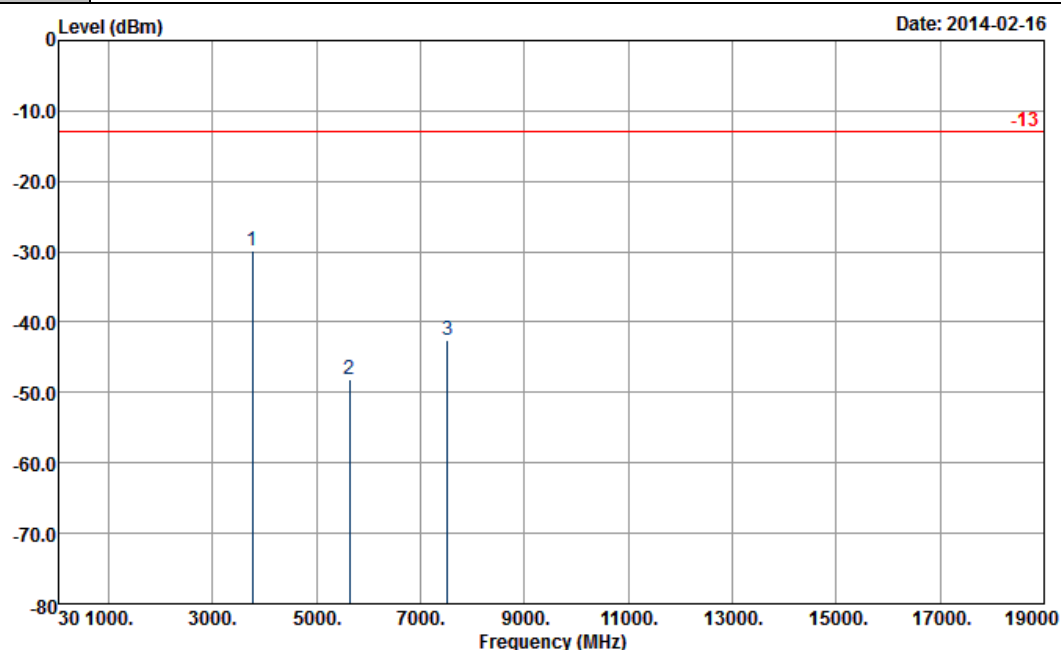
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 5MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -25.56          | -13              | -12.56                  | -40.92                  | -31.86                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5632                 | -49.98          | -13              | -36.98                  | -70.66                  | -57.69                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7515                 | -42.83          | -13              | -29.83                  | -70.29                  | -51.36                   | 3.59                       | 12.12                       | H                     | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 5MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

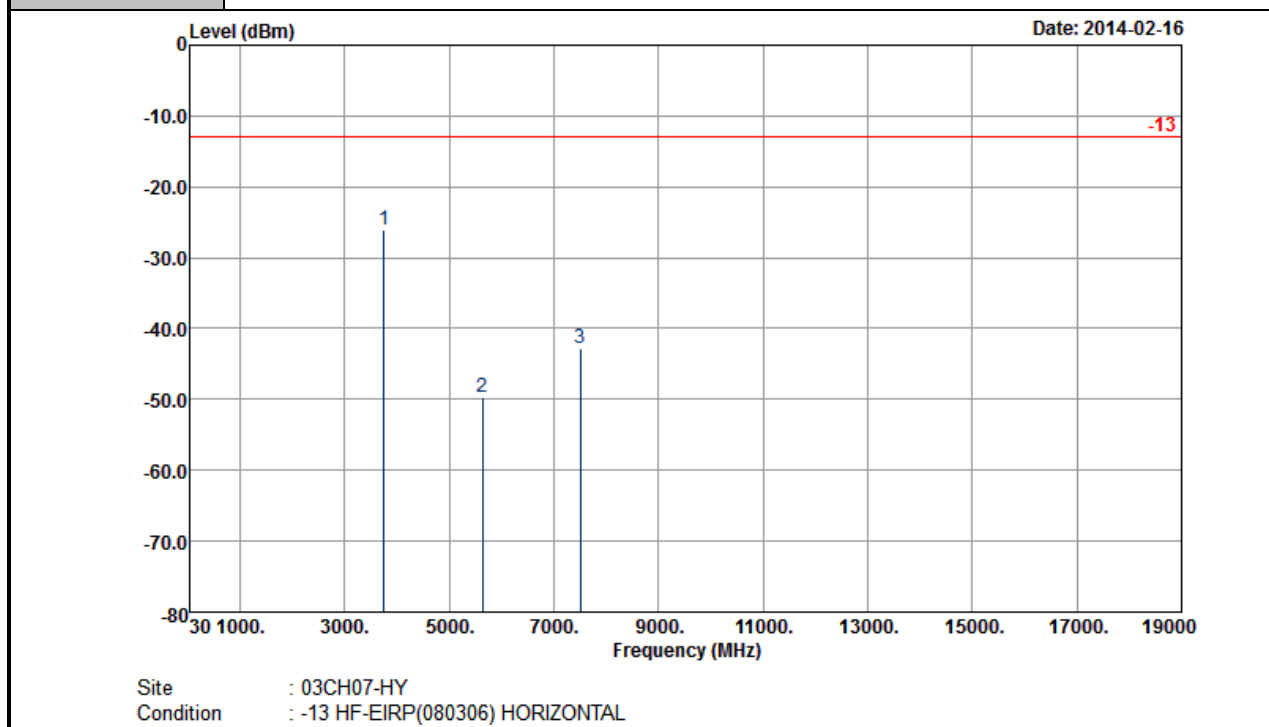


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3756                 | -29.84          | -13              | -16.84                  | -46.17                  | -36.14                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5632                 | -48.20          | -13              | -35.20                  | -68.62                  | -55.91                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7515                 | -42.47          | -13              | -29.47                  | -69.68                  | -51                      | 3.59                       | 12.12                       | V                     | Pass   |



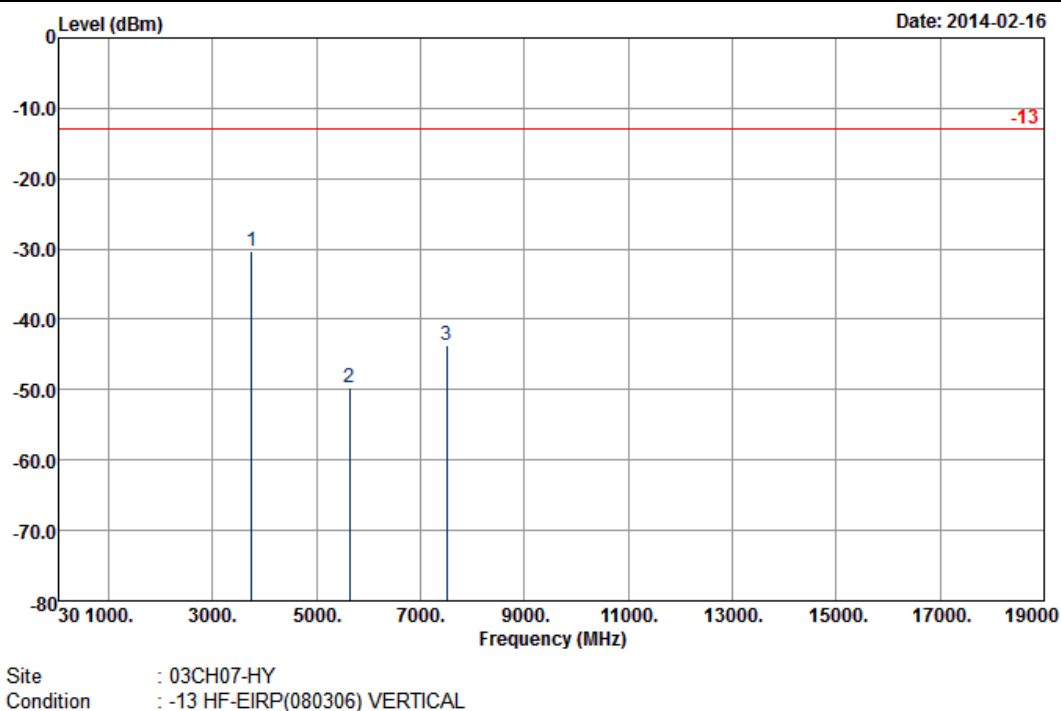
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 10MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3749                 | -26.02          | -13              | -13.02                  | -41.35                  | -32.32                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5625                 | -49.68          | -13              | -36.68                  | -70.33                  | -57.39                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7501                 | -42.88          | -13              | -29.88                  | -70.3                   | -51.41                   | 3.59                       | 12.12                       | H                     | Pass   |



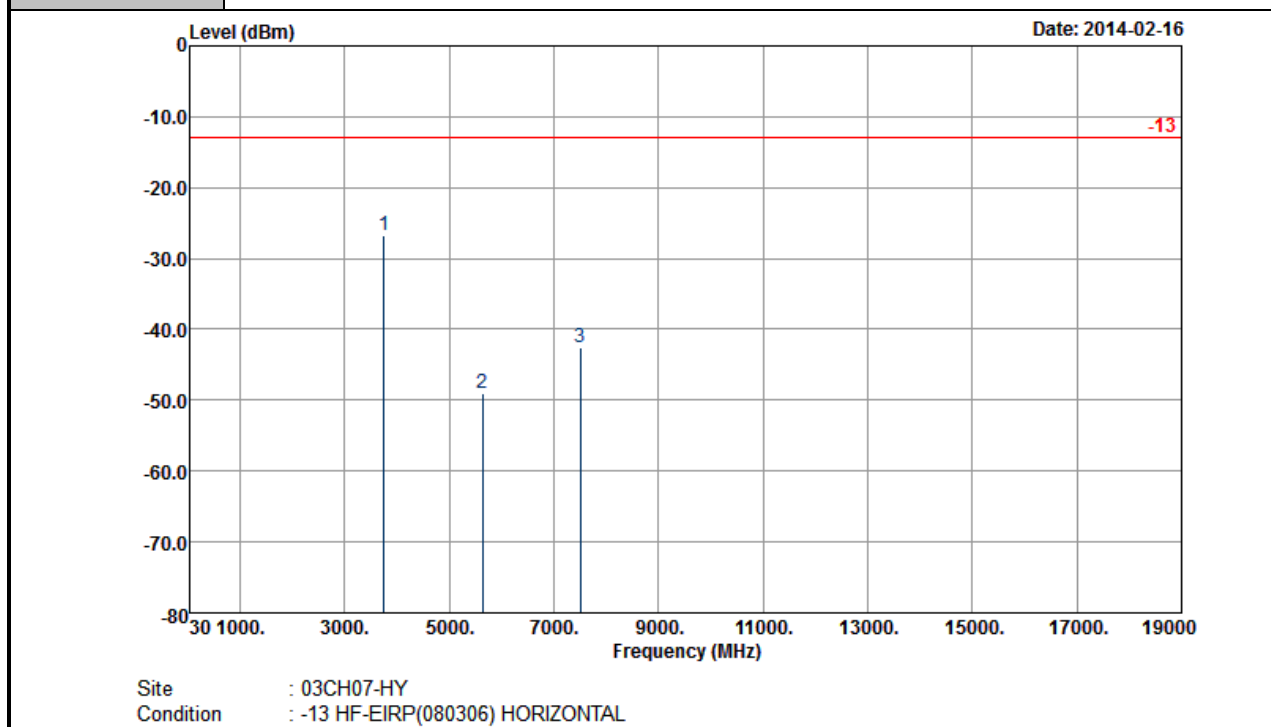
|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 2                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 10MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3749                 | -30.38          | -13              | -17.38                  | -46.61                  | -36.68                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5625                 | -49.78          | -13              | -36.78                  | -70.21                  | -57.49                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7501                 | -43.62          | -13              | -30.62                  | -70.99                  | -52.15                   | 3.59                       | 12.12                       | V                     | Pass   |

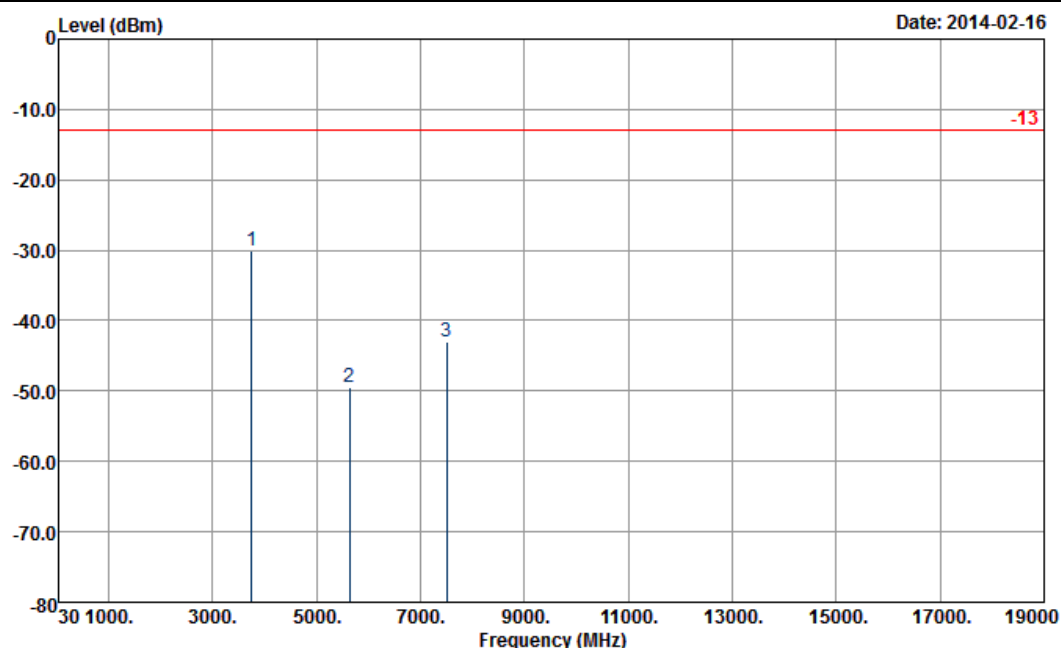


|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 15MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



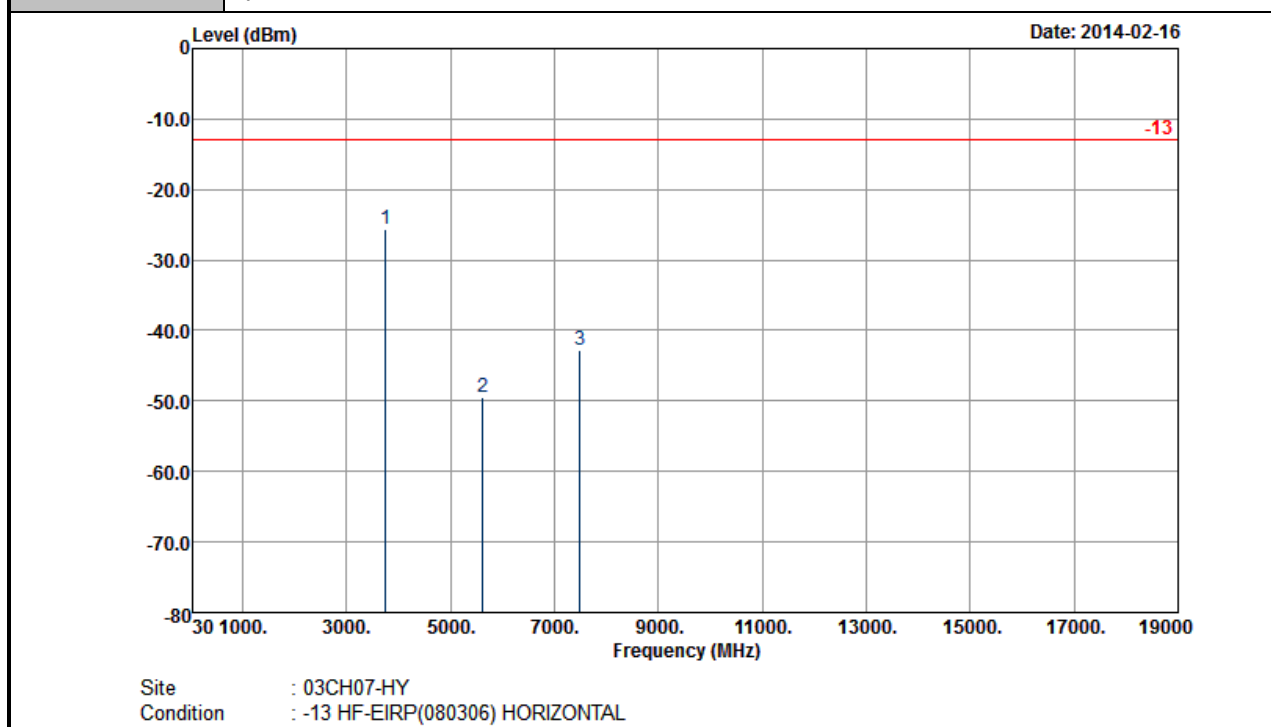
| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3749                 | -26.72          | -13              | -13.72                  | -42.07                  | -33.02                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5625                 | -49.07          | -13              | -36.07                  | -69.7                   | -56.78                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7501                 | -42.61          | -13              | -29.61                  | -70.07                  | -51.14                   | 3.59                       | 12.12                       | H                     | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 2                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 15MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3749                 | -30.19          | -13              | -17.19                  | -46.49                  | -36.49                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5625                 | -49.58          | -13              | -36.58                  | -70.09                  | -57.29                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7501                 | -42.93          | -13              | -29.93                  | -70.26                  | -51.46                   | 3.59                       | 12.12                       | V                     | Pass   |

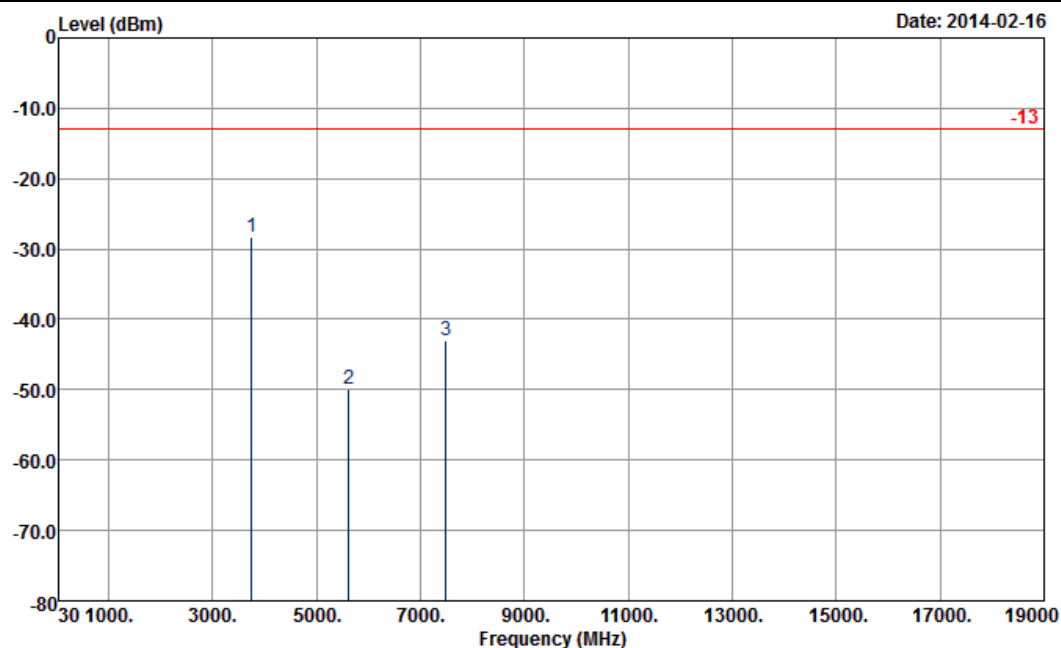
|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 2                                                                             | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 20MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3742                 | -25.69          | -13              | -12.69                  | -40.93                  | -31.99                   | 2.51                       | 8.81                        | H                     | Pass   |
| 5611                 | -49.41          | -13              | -36.41                  | -69.98                  | -57.12                   | 2.99                       | 10.70                       | H                     | Pass   |
| 7487                 | -42.83          | -13              | -29.83                  | -70.34                  | -51.36                   | 3.59                       | 12.12                       | H                     | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 2                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 20MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

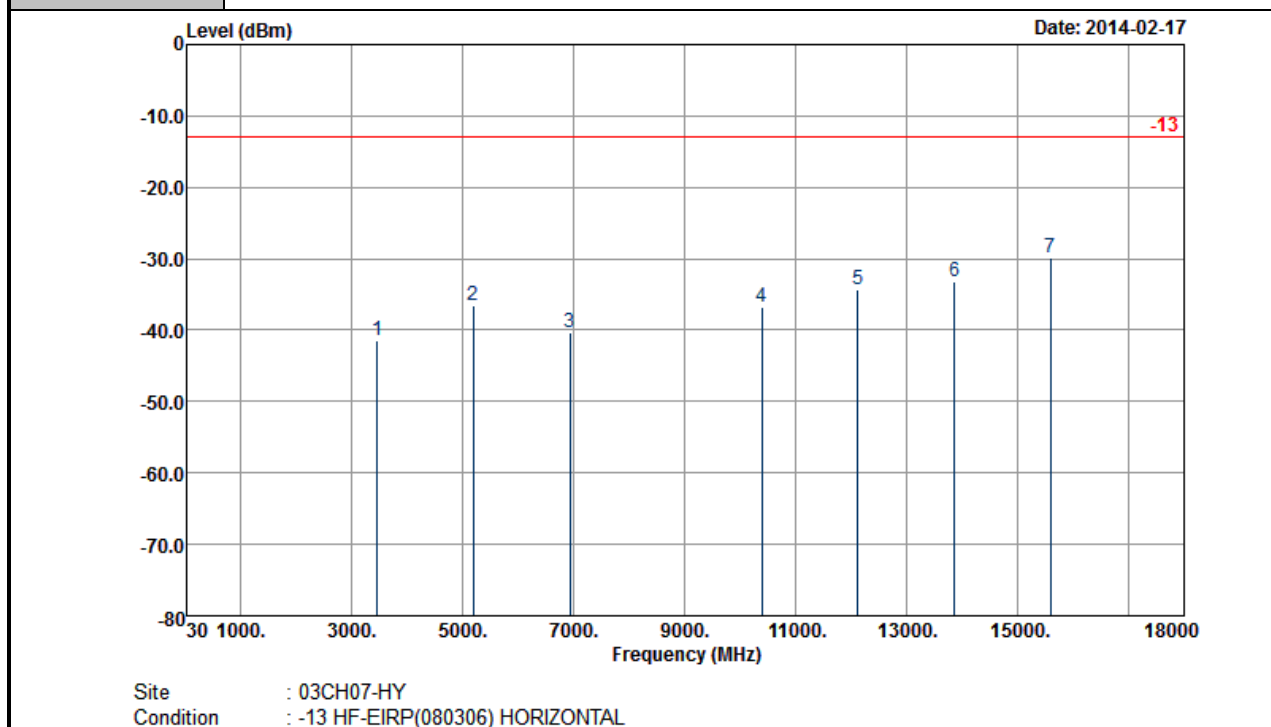


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3742                 | -28.31          | -13              | -15.31                  | -44.56                  | -34.61                   | 2.51                       | 8.81                        | V                     | Pass   |
| 5611                 | -49.82          | -13              | -36.82                  | -70.28                  | -57.53                   | 2.99                       | 10.70                       | V                     | Pass   |
| 7487                 | -42.95          | -13              | -29.95                  | -70.26                  | -51.48                   | 3.59                       | 12.12                       | V                     | Pass   |

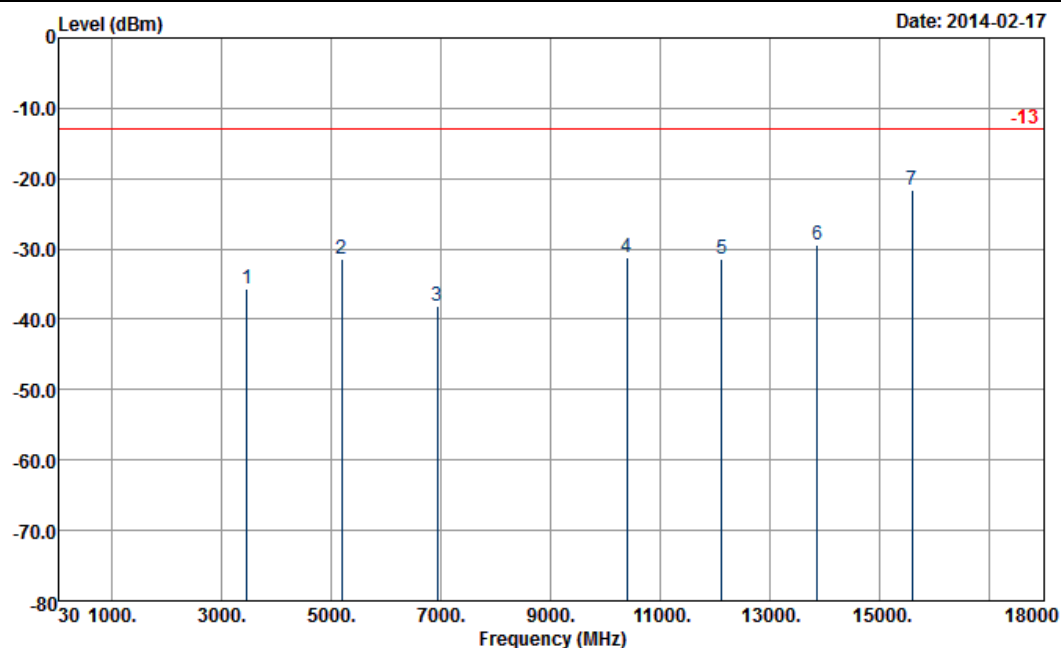


|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|-----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3464                 | -41.42          | -13              | -28.42                  | -55.77                    | -45.25                   | 4.48                       | 8.31                          | H                       | Pass   |
| 5196                 | -36.53          | -13              | -23.53                  | -55.35                    | -41.17                   | 5.332                      | 9.98                          | H                       | Pass   |
| 6932                 | -40.42          | -13              | -27.42                  | -66.61                    | -45.66                   | 6.1                        | 11.34                         | H                       | Pass   |
| 10392                | -36.68          | -13              | -23.68                  | -66                       | -40.97                   | 8.65                       | 12.94                         | H                       | Pass   |
| 12128                | -34.31          | -13              | -21.31                  | -65.98                    | -38.62                   | 8.59                       | 12.90                         | H                       | Pass   |
| 13859                | -33.21          | -13              | -20.21                  | -67.02                    | -39.26                   | 8.14                       | 14.19                         | H                       | Pass   |
| 15591                | -29.89          | -13              | -16.89                  | -63.88                    | -34.38                   | 9.45                       | 13.94                         | H                       | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 4                                                                             | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |

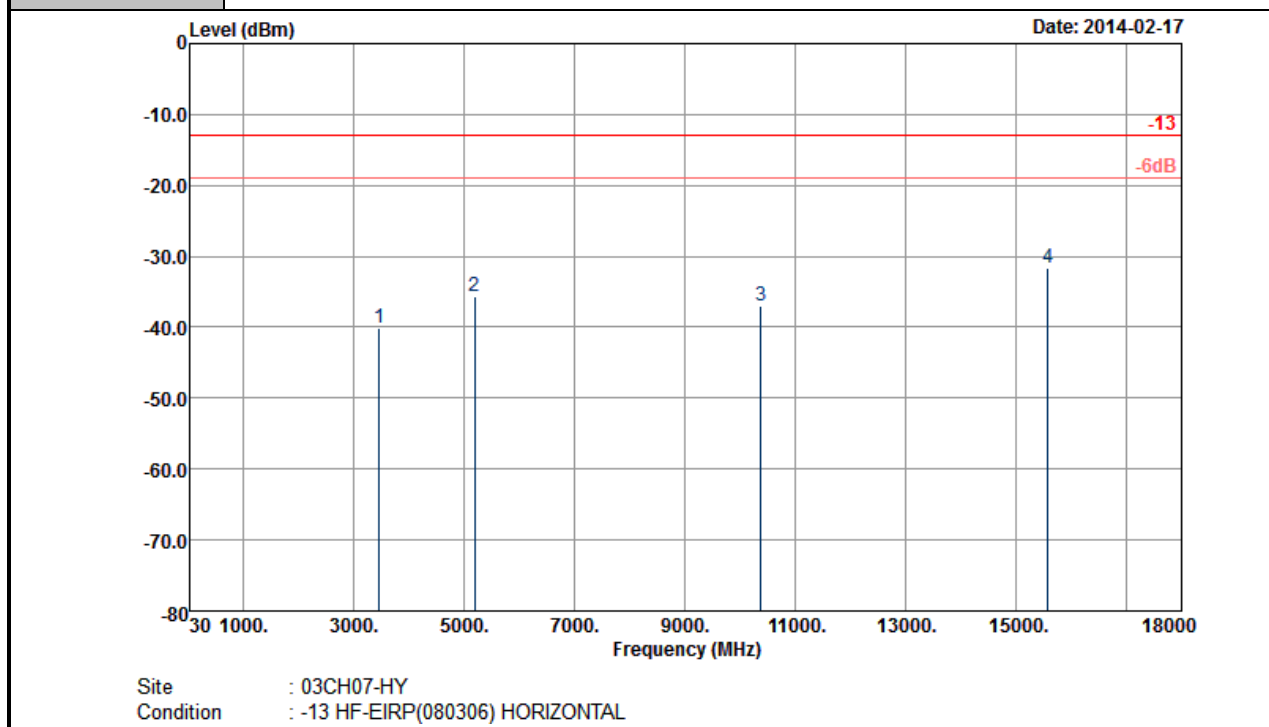


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3464                 | -35.63          | -13              | -22.63                  | -51.19                  | -39.46                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5196                 | -31.51          | -13              | -18.51                  | -50.38                  | -36.15                   | 5.332                      | 9.98                        | V                     | Pass   |
| 6932                 | -38.01          | -13              | -25.01                  | -63.39                  | -43.25                   | 6.1                        | 11.34                       | V                     | Pass   |
| 10392                | -31.22          | -13              | -18.22                  | -59.45                  | -35.51                   | 8.65                       | 12.94                       | V                     | Pass   |
| 12128                | -31.40          | -13              | -18.40                  | -61.52                  | -35.71                   | 8.59                       | 12.90                       | V                     | Pass   |
| 13859                | -29.41          | -13              | -16.41                  | -61.76                  | -35.46                   | 8.14                       | 14.19                       | V                     | Pass   |
| 15591                | -21.62          | -13              | -8.62                   | -54.93                  | -26.11                   | 9.45                       | 13.94                       | V                     | Pass   |



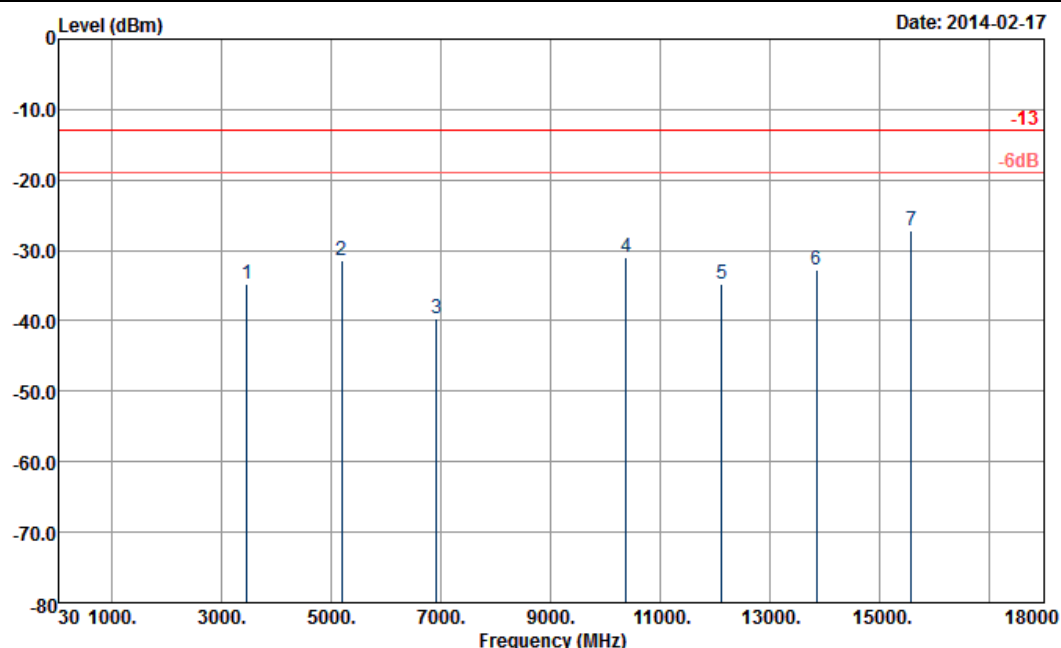
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 3MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|-----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3462                 | -40.10          | -13              | -27.10                  | -54.41                    | -43.93                   | 4.48                       | 8.31                          | H                       | Pass   |
| 5191                 | -35.75          | -13              | -22.75                  | -54.56                    | -40.39                   | 5.332                      | 9.98                          | H                       | Pass   |
| 10384                | -36.89          | -13              | -23.89                  | -66.12                    | -41.18                   | 8.65                       | 12.94                         | H                       | Pass   |
| 15584                | -31.72          | -13              | -18.72                  | -65.69                    | -36.21                   | 9.45                       | 13.94                         | H                       | Pass   |



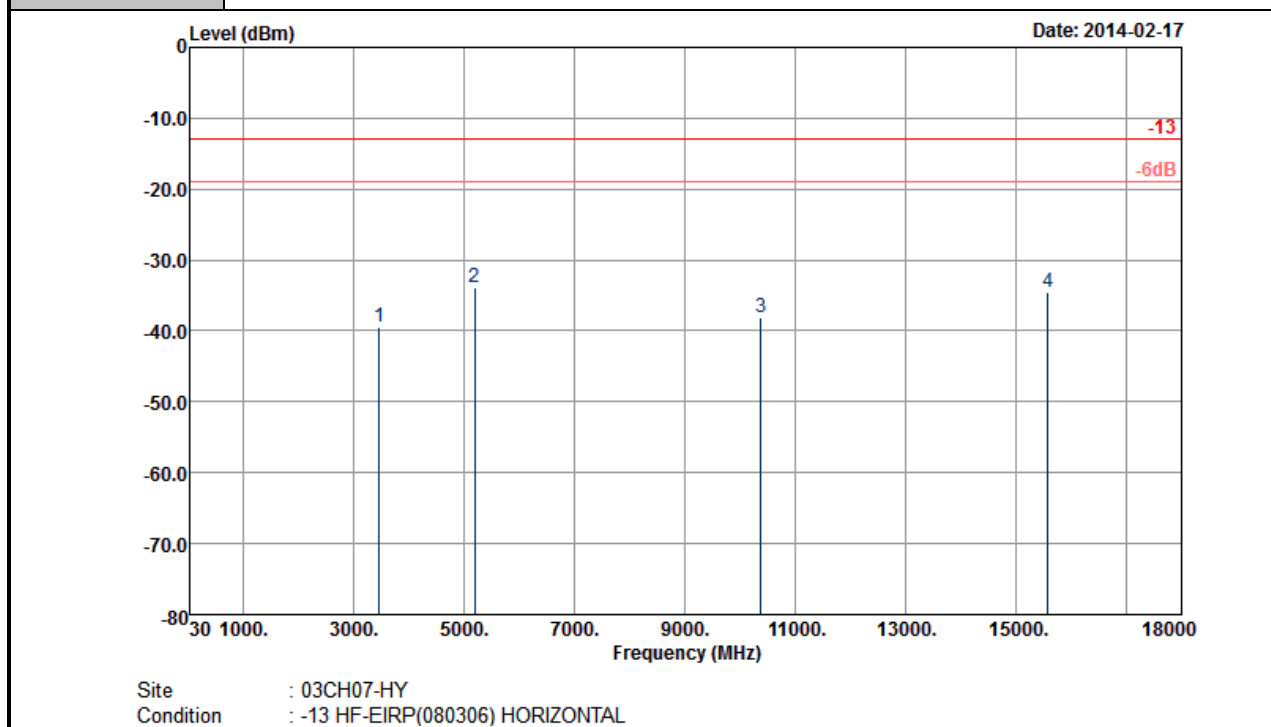
|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 3MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |



Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3462                 | -34.68          | -13              | -21.68                  | -50.25                  | -38.51                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5191                 | -31.43          | -13              | -18.43                  | -50.27                  | -36.07                   | 5.332                      | 9.98                        | V                     | Pass   |
| 6927                 | -39.57          | -13              | -26.57                  | -64.94                  | -44.81                   | 6.1                        | 11.34                       | V                     | Pass   |
| 10384                | -31.00          | -13              | -18.00                  | -59.21                  | -35.29                   | 8.65                       | 12.94                       | V                     | Pass   |
| 12120                | -34.70          | -13              | -21.70                  | -64.74                  | -39.01                   | 8.59                       | 12.90                       | V                     | Pass   |
| 13848                | -32.85          | -13              | -19.85                  | -65.12                  | -38.9                    | 8.14                       | 14.19                       | V                     | Pass   |
| 15584                | -27.16          | -13              | -14.16                  | -60.45                  | -31.65                   | 9.45                       | 13.94                       | V                     | Pass   |

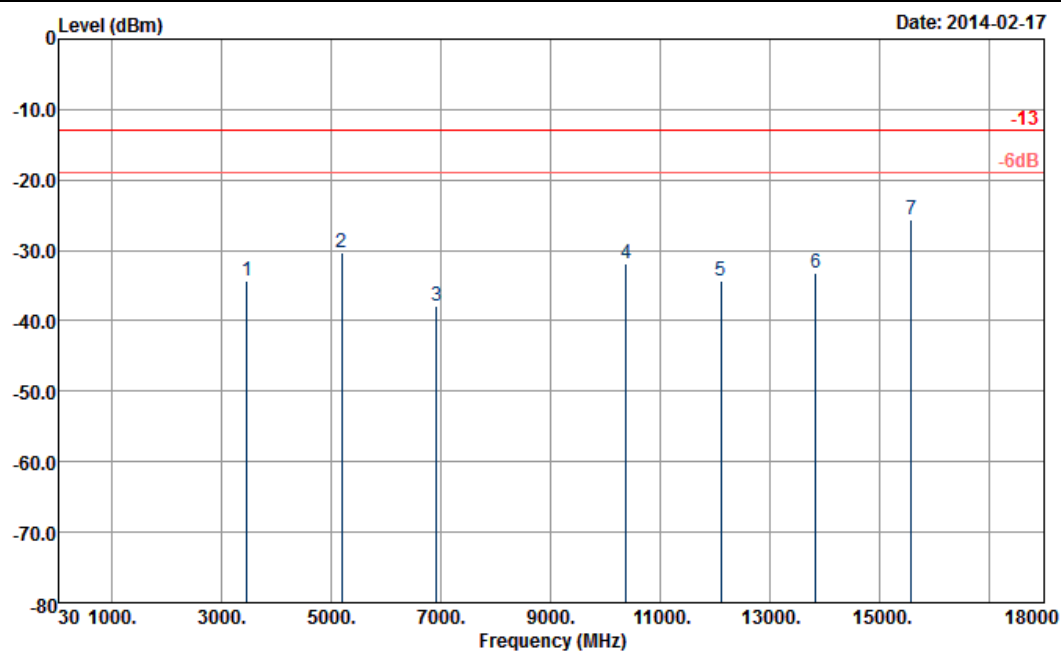
|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 4                                                                             | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 5MHz QPSK RB Size 1 Offset 0                                                           | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|-----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3462                 | -39.53          | -13              | -26.53                  | -53.89                    | -43.36                   | 4.48                       | 8.31                          | H                       | Pass   |
| 5191                 | -33.92          | -13              | -20.92                  | -52.74                    | -38.56                   | 5.332                      | 9.98                          | H                       | Pass   |
| 10384                | -38.04          | -13              | -25.04                  | -67.29                    | -42.33                   | 8.65                       | 12.94                         | H                       | Pass   |
| 15576                | -34.63          | -13              | -21.63                  | -68.57                    | -39.12                   | 9.45                       | 13.94                         | H                       | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 5MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

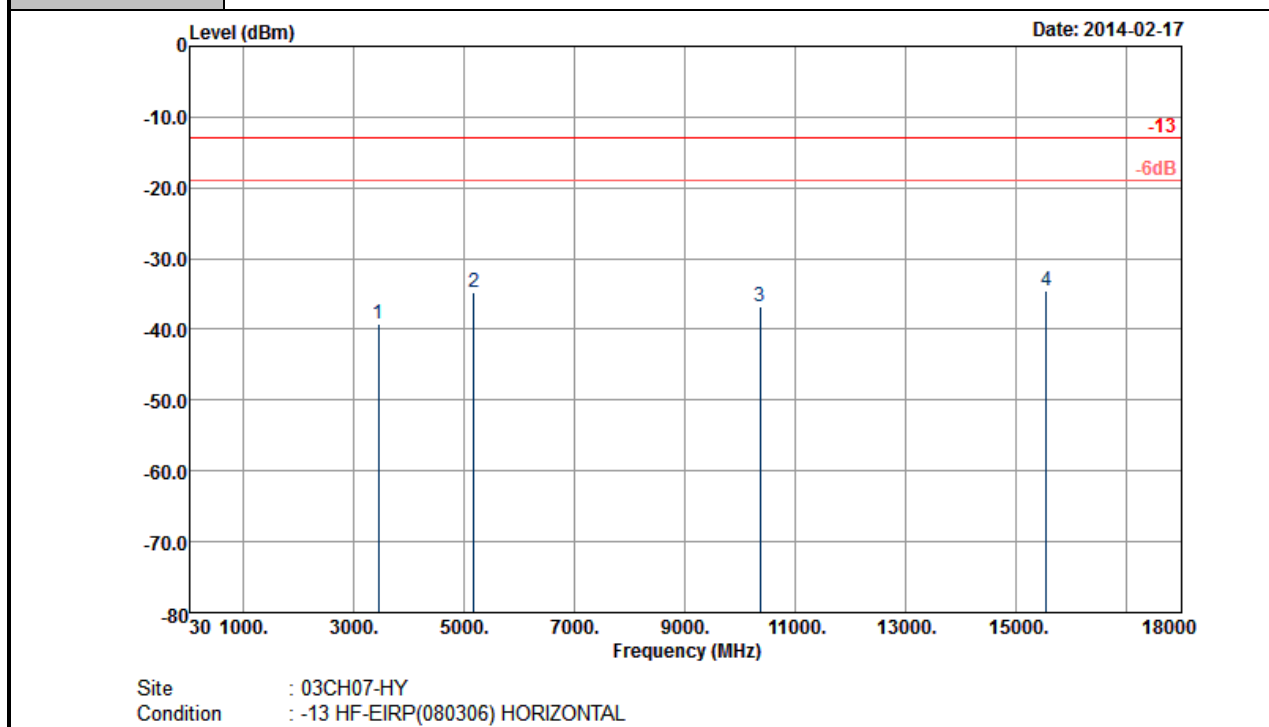


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3462                 | -34.25          | -13              | -21.25                  | -49.8                   | -38.08                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5191                 | -30.40          | -13              | -17.40                  | -49.27                  | -35.04                   | 5.332                      | 9.98                        | V                     | Pass   |
| 6920                 | -37.81          | -13              | -24.81                  | -63.1                   | -43.05                   | 6.1                        | 11.34                       | V                     | Pass   |
| 10384                | -31.85          | -13              | -18.85                  | -60.09                  | -36.14                   | 8.65                       | 12.94                       | V                     | Pass   |
| 12112                | -34.29          | -13              | -21.29                  | -64.33                  | -38.6                    | 8.59                       | 12.90                       | V                     | Pass   |
| 13840                | -33.26          | -13              | -20.26                  | -65.51                  | -39.31                   | 8.14                       | 14.19                       | V                     | Pass   |
| 15576                | -25.63          | -13              | -12.63                  | -58.85                  | -30.12                   | 9.45                       | 13.94                       | V                     | Pass   |



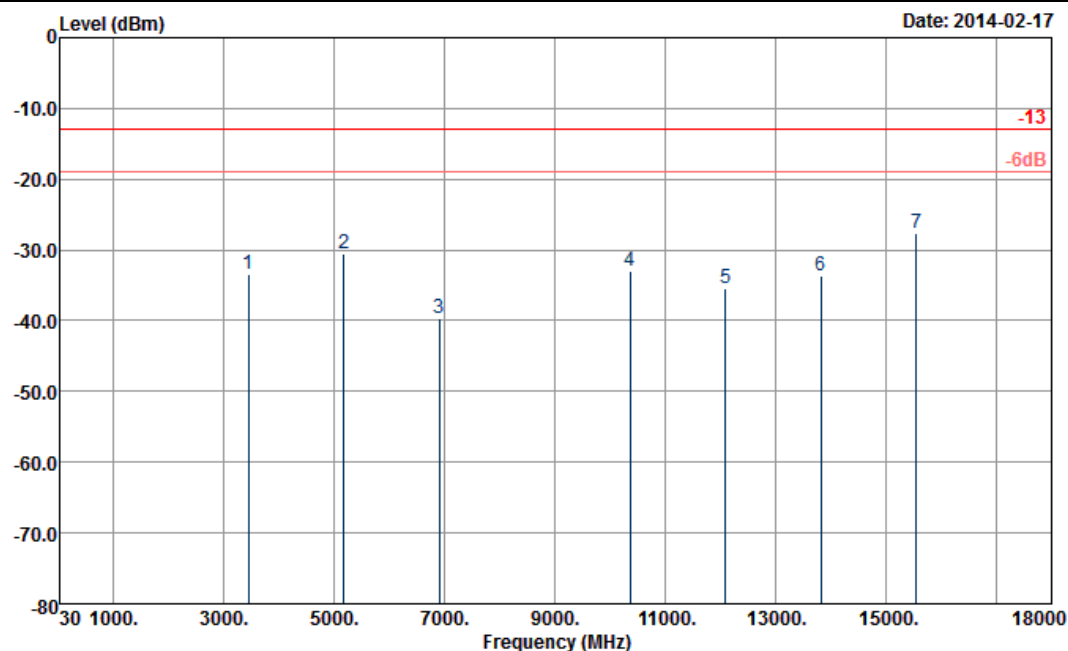
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 10MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|-----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3455                 | -39.21          | -13              | -26.21                  | -53.5                     | -43.04                   | 4.48                       | 8.31                          | H                       | Pass   |
| 5184                 | -34.69          | -13              | -21.69                  | -53.44                    | -39.33                   | 5.332                      | 9.98                          | H                       | Pass   |
| 10368                | -36.73          | -13              | -23.73                  | -65.95                    | -41.02                   | 8.65                       | 12.94                         | H                       | Pass   |
| 15552                | -34.63          | -13              | -21.63                  | -68.5                     | -39.12                   | 9.45                       | 13.94                         | H                       | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 10MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

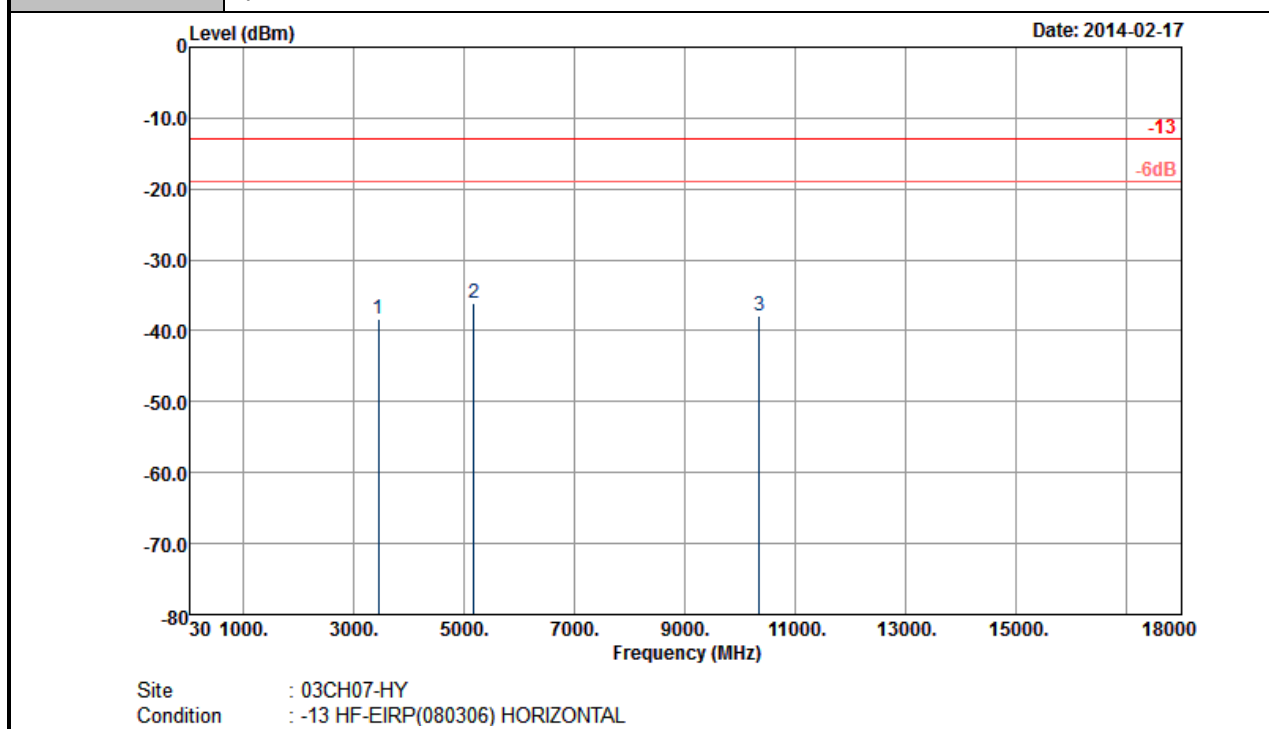


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3455                 | -33.53          | -13              | -20.53                  | -49.14                  | -37.36                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5184                 | -30.64          | -13              | -17.64                  | -49.42                  | -35.28                   | 5.332                      | 9.98                        | V                     | Pass   |
| 6913                 | -39.63          | -13              | -26.63                  | -64.93                  | -44.87                   | 6.1                        | 11.34                       | V                     | Pass   |
| 10368                | -33.01          | -13              | -20.01                  | -61.21                  | -37.3                    | 8.65                       | 12.94                       | V                     | Pass   |
| 12096                | -35.53          | -13              | -22.53                  | -65.55                  | -39.84                   | 8.59                       | 12.90                       | V                     | Pass   |
| 13824                | -33.75          | -13              | -20.75                  | -66.02                  | -39.8                    | 8.14                       | 14.19                       | V                     | Pass   |
| 15552                | -27.53          | -13              | -14.53                  | -60.69                  | -32.02                   | 9.45                       | 13.94                       | V                     | Pass   |



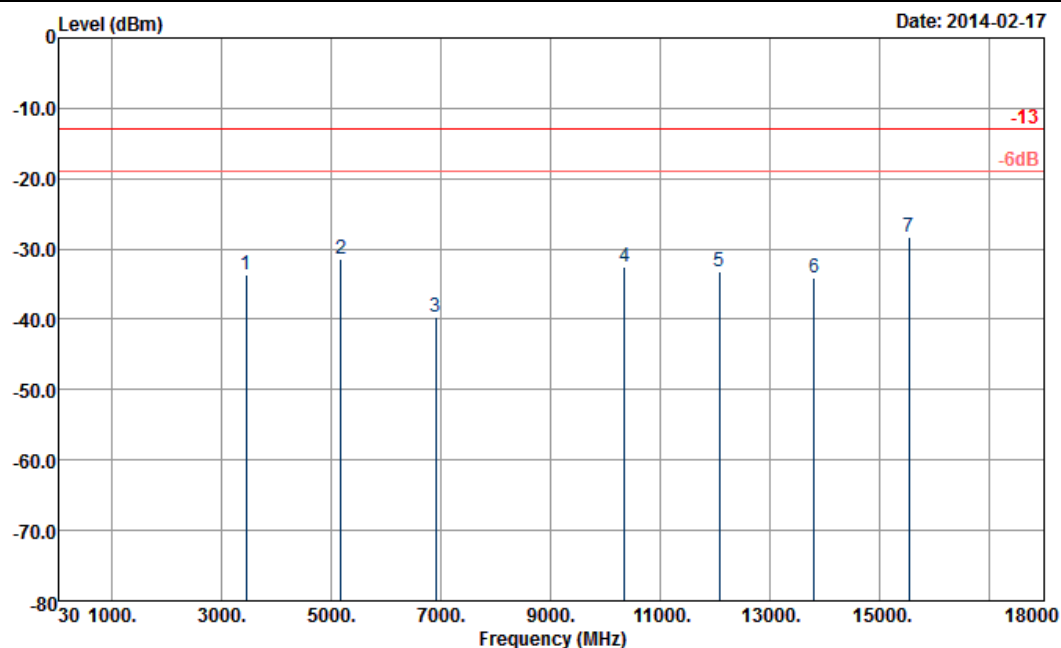
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 15MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3448                 | -38.39          | -13              | -25.39                  | -52.7                   | -42.22                   | 4.48                       | 8.31                        | H                     | Pass   |
| 5177                 | -36.07          | -13              | -23.07                  | -54.81                  | -40.71                   | 5.332                      | 9.98                        | H                     | Pass   |
| 10352                | -37.83          | -13              | -24.83                  | -67.04                  | -42.12                   | 8.65                       | 12.94                       | H                     | Pass   |



|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 15MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |

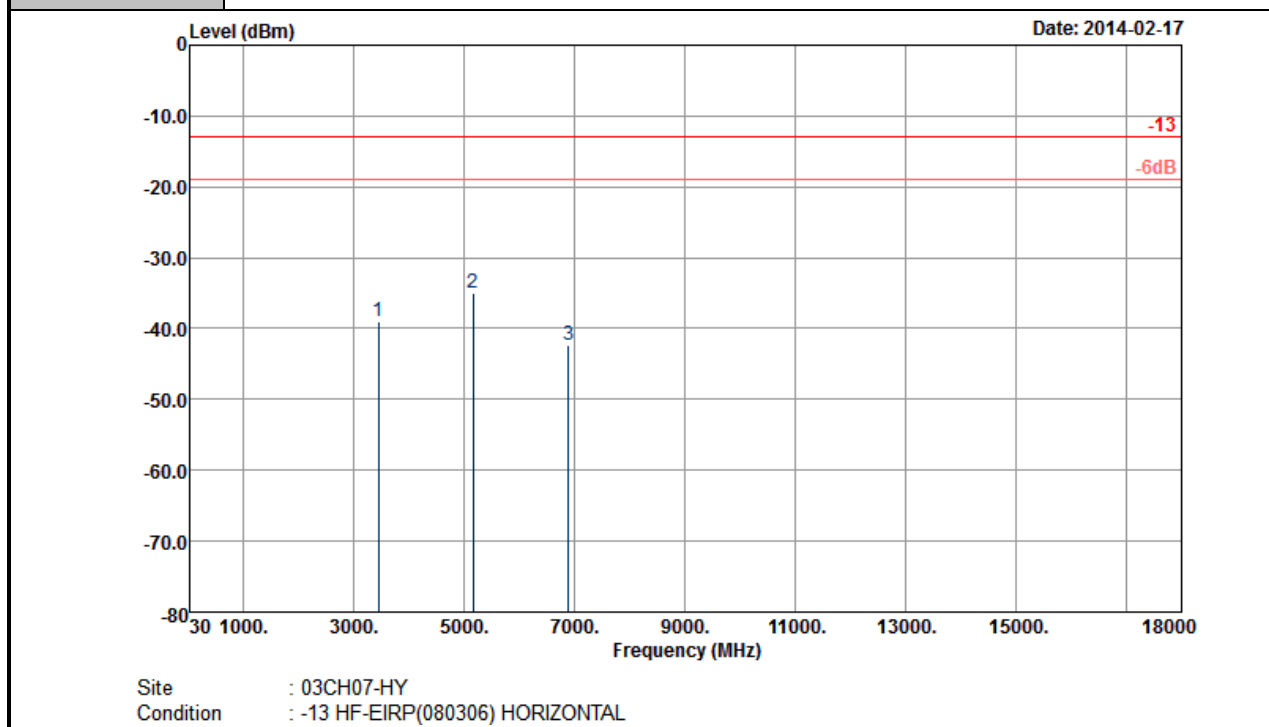


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3448                 | -33.71          | -13              | -20.71                  | -49.27                  | -37.54                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5177                 | -31.41          | -13              | -18.41                  | -50.34                  | -36.05                   | 5.332                      | 9.98                        | V                     | Pass   |
| 6906                 | -39.56          | -13              | -26.56                  | -64.8                   | -44.8                    | 6.1                        | 11.34                       | V                     | Pass   |
| 10352                | -32.62          | -13              | -19.62                  | -60.81                  | -36.91                   | 8.65                       | 12.94                       | V                     | Pass   |
| 12080                | -33.10          | -13              | -20.10                  | -63.09                  | -37.41                   | 8.59                       | 12.90                       | V                     | Pass   |
| 13808                | -34.16          | -13              | -21.16                  | -66.4                   | -40.21                   | 8.14                       | 14.19                       | V                     | Pass   |
| 15536                | -28.29          | -13              | -15.29                  | -61.38                  | -32.78                   | 9.45                       | 13.94                       | V                     | Pass   |



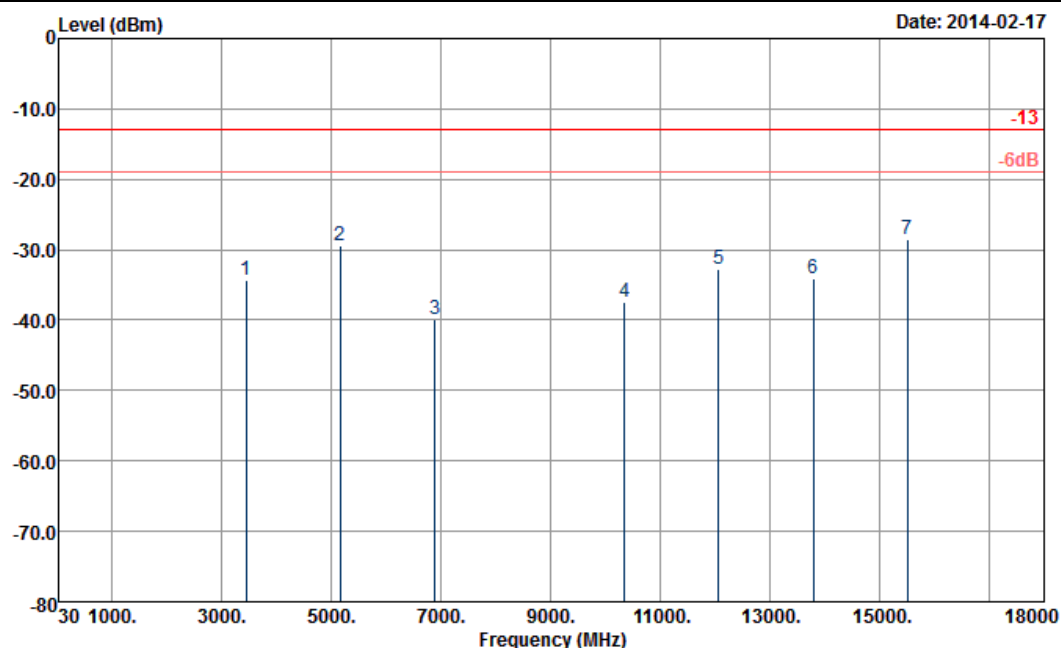
|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C    |
| Test Mode :     | 20MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |



| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|-----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 3448                 | -38.99          | -13              | -25.99                  | -53.29                    | -42.82                   | 4.48                       | 8.31                          | H                       | Pass   |
| 5170                 | -35.08          | -13              | -22.08                  | -53.74                    | -39.72                   | 5.332                      | 9.98                          | H                       | Pass   |
| 6892                 | -42.36          | -13              | -29.36                  | -68.4                     | -47.6                    | 6.1                        | 11.34                         | H                       | Pass   |



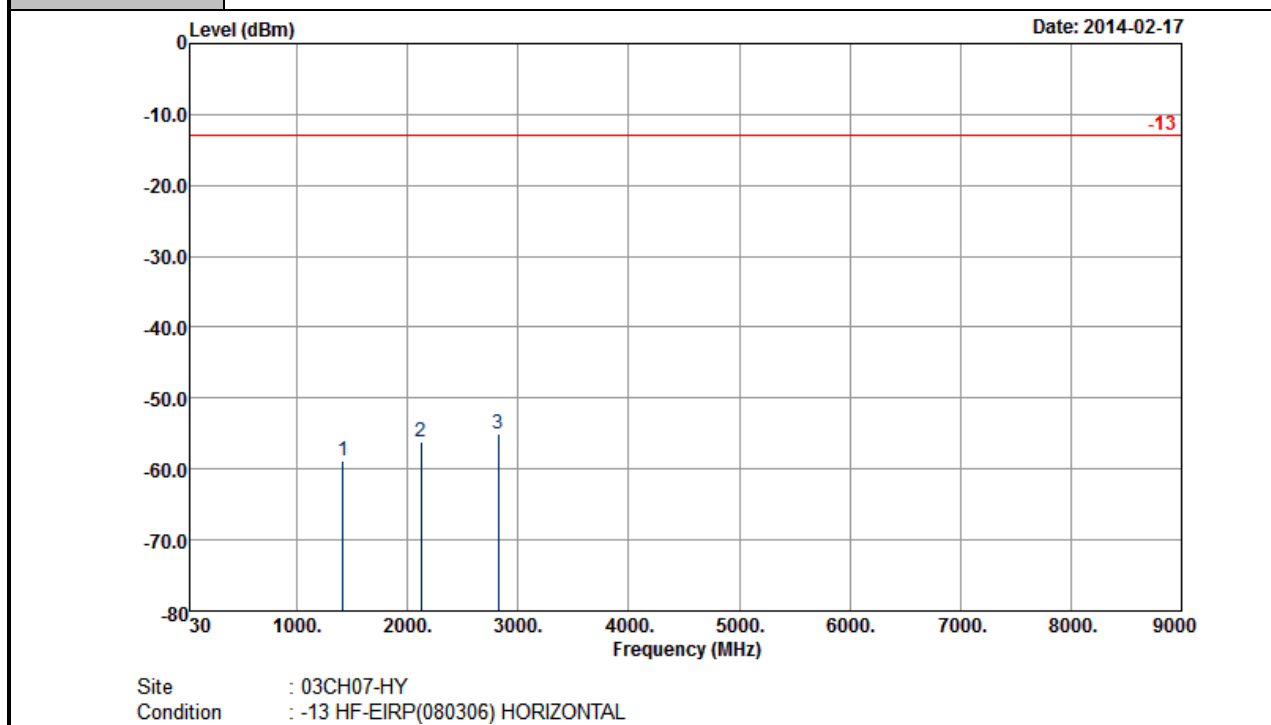
|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 4                                                                             | Temperature :       | 23~26°C  |
| Test Mode :     | 20MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |



Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) VERTICAL

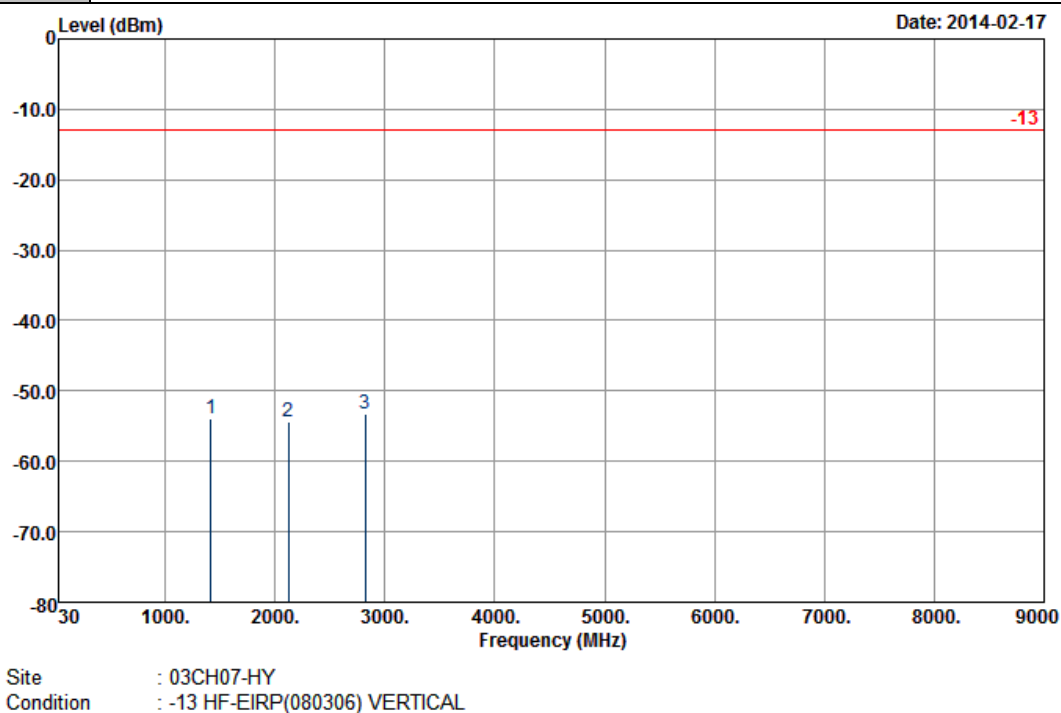
| Frequency<br>( MHz ) | EIRP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|-----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 3448                 | -34.41          | -13              | -21.41                  | -49.99                  | -38.24                   | 4.48                       | 8.31                        | V                     | Pass   |
| 5170                 | -29.36          | -13              | -16.36                  | -48.07                  | -34                      | 5.332                      | 9.98                        | V                     | Pass   |
| 6892                 | -39.84          | -13              | -26.84                  | -65.1                   | -45.08                   | 6.1                        | 11.34                       | V                     | Pass   |
| 10344                | -37.43          | -13              | -24.43                  | -65.64                  | -41.72                   | 8.65                       | 12.94                       | V                     | Pass   |
| 12064                | -32.69          | -13              | -19.69                  | -62.62                  | -37                      | 8.59                       | 12.90                       | V                     | Pass   |
| 13792                | -34.14          | -13              | -21.14                  | -66.35                  | -40.19                   | 8.14                       | 14.19                       | V                     | Pass   |
| 15512                | -28.57          | -13              | -15.57                  | -61.62                  | -33.06                   | 9.45                       | 13.94                       | V                     | Pass   |

|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



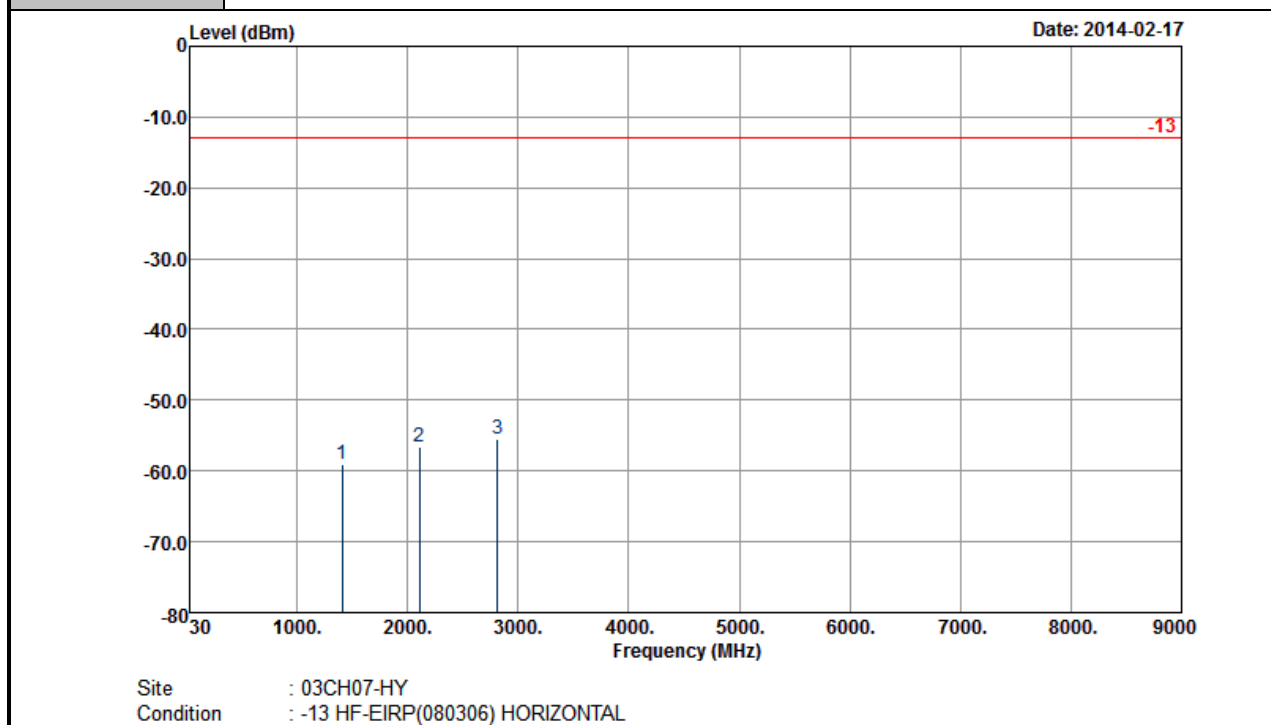
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1416                 | -58.92         | -13              | -45.92                  | -66.97                    | -60.62                   | 1.47                       | 5.32                          | H                       | Pass   |
| 2120                 | -56.25         | -13              | -43.25                  | -67.46                    | -58.22                   | 1.86                       | 5.98                          | H                       | Pass   |
| 2824                 | -55.08         | -13              | -42.08                  | -68.44                    | -58.15                   | 2.21                       | 7.43                          | H                       | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 1.4MHz QPSK RB Size 1 Offset 0                                                         | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



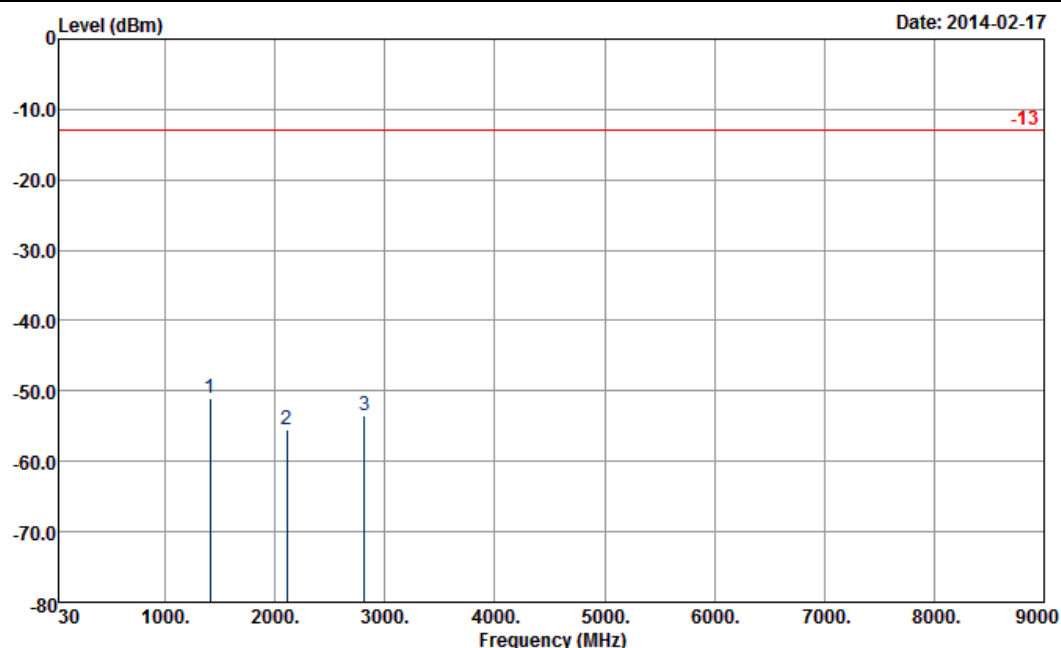
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1416                 | -54.01         | -13              | -41.01                  | -64.3                   | -55.71                   | 1.47                       | 5.32                        | V                     | Pass   |
| 2120                 | -54.41         | -13              | -41.41                  | -67.57                  | -56.38                   | 1.86                       | 5.98                        | V                     | Pass   |
| 2824                 | -53.35         | -13              | -40.35                  | -68.32                  | -56.42                   | 2.21                       | 7.43                        | V                     | Pass   |

|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 3MHz QPSK RB Size 1 Offset 0                                                           | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



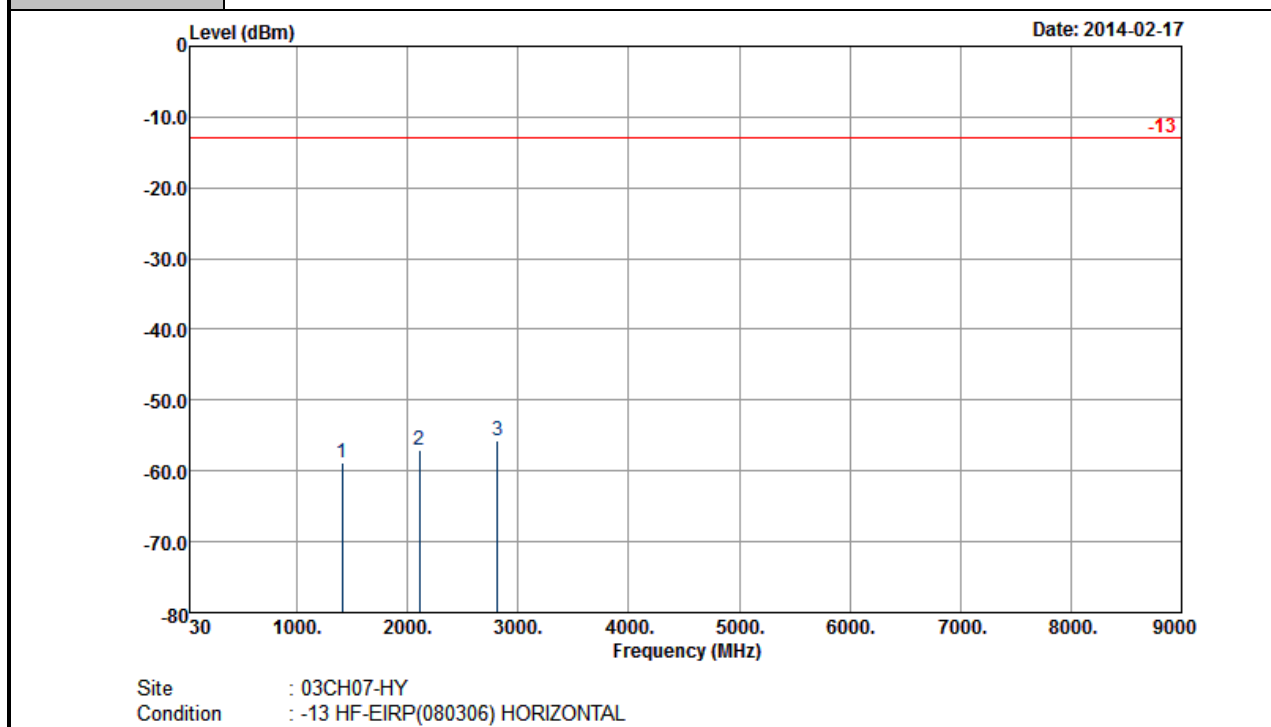
| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1408                 | -58.99         | -13              | -45.99                  | -67.11                    | -60.69                   | 1.47                       | 5.32                          | H                       | Pass   |
| 2112                 | -56.61         | -13              | -43.61                  | -67.79                    | -58.58                   | 1.86                       | 5.98                          | H                       | Pass   |
| 2816                 | -55.39         | -13              | -42.39                  | -68.87                    | -58.46                   | 2.21                       | 7.43                          | H                       | Pass   |

|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 3MHz QPSK RB Size 1 Offset 0                                                           | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1408                 | -50.98         | -13              | -37.98                  | -61.26                  | -52.68                   | 1.47                       | 5.32                        | V                     | Pass   |
| 2112                 | -55.52         | -13              | -42.52                  | -68.74                  | -57.49                   | 1.86                       | 5.98                        | V                     | Pass   |
| 2816                 | -53.46         | -13              | -40.46                  | -68.46                  | -56.53                   | 2.21                       | 7.43                        | V                     | Pass   |

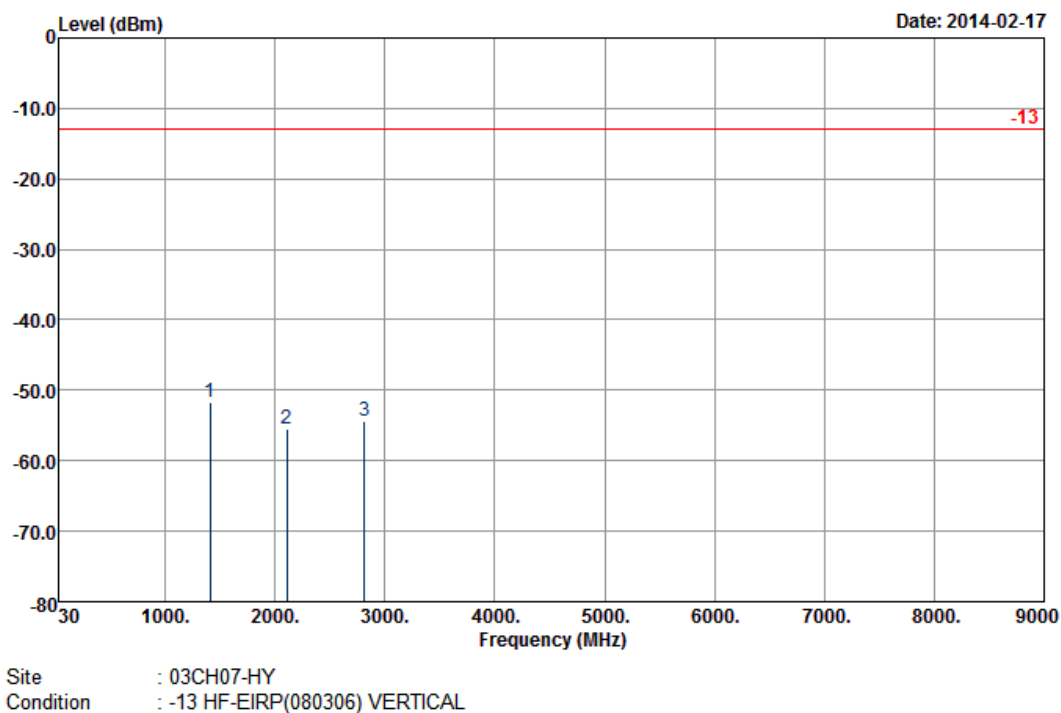
|                        |                                                                                        |                            |            |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|------------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C    |
| <b>Test Mode :</b>     | 5MHz QPSK RB Size 1 Offset 0                                                           | <b>Relative Humidity :</b> | 48~52%     |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Horizontal |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |            |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1408                 | -58.81         | -13              | -45.81                  | -66.95                    | -60.51                   | 1.47                       | 5.32                          | H                       | Pass   |
| 2112                 | -57.05         | -13              | -44.05                  | -68.22                    | -59.02                   | 1.86                       | 5.98                          | H                       | Pass   |
| 2816                 | -55.79         | -13              | -42.79                  | -69.16                    | -58.86                   | 2.21                       | 7.43                          | H                       | Pass   |



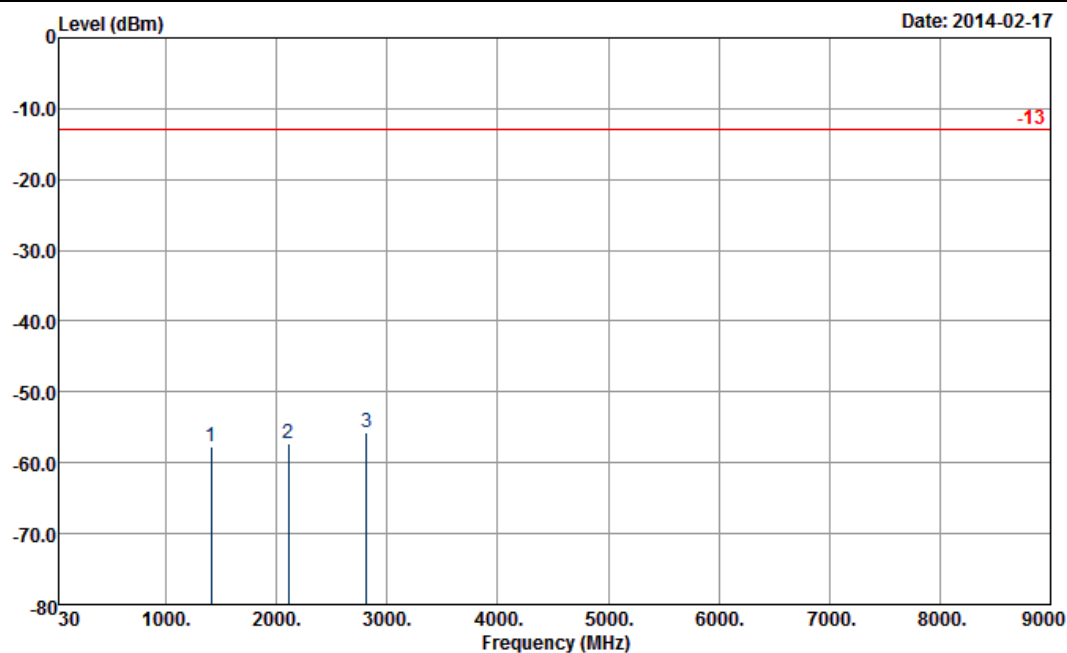
|                 |                                                                                        |                     |          |
|-----------------|----------------------------------------------------------------------------------------|---------------------|----------|
| Band :          | LTE Band 12                                                                            | Temperature :       | 23~26°C  |
| Test Mode :     | 5MHz QPSK RB Size 1 Offset 0                                                           | Relative Humidity : | 48~52%   |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Vertical |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |          |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1408                 | -51.73         | -13              | -38.73                  | -62.1                   | -53.43                   | 1.47                       | 5.32                        | V                     | Pass   |
| 2112                 | -55.39         | -13              | -42.39                  | -68.55                  | -57.36                   | 1.86                       | 5.98                        | V                     | Pass   |
| 2816                 | -54.38         | -13              | -41.38                  | -69.52                  | -57.45                   | 2.21                       | 7.43                        | V                     | Pass   |



|                 |                                                                                        |                     |            |
|-----------------|----------------------------------------------------------------------------------------|---------------------|------------|
| Band :          | LTE Band 12                                                                            | Temperature :       | 23~26°C    |
| Test Mode :     | 10MHz QPSK RB Size 1 Offset 0                                                          | Relative Humidity : | 48~52%     |
| Test Engineer : | Stan Hsieh                                                                             | Polarization :      | Horizontal |
| Remark :        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                     |            |

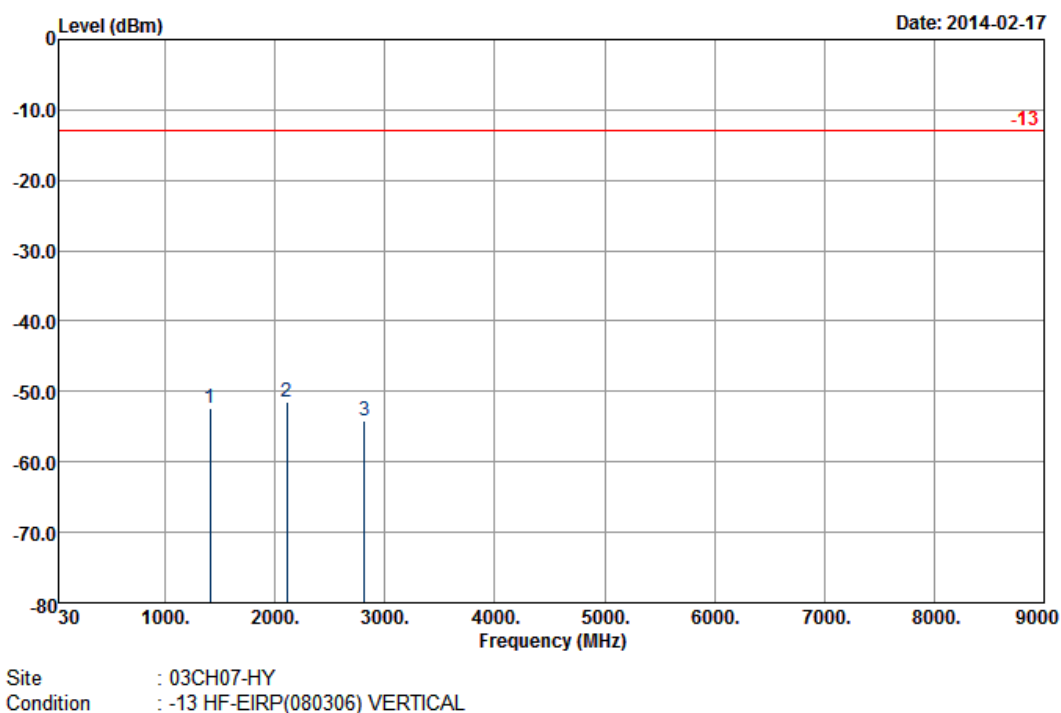


Site : 03CH07-HY  
Condition : -13 HF-EIRP(080306) HORIZONTAL

| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>( dBm ) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>( dBi ) | Polarization<br>( H/V ) | Result |
|----------------------|----------------|------------------|-------------------------|---------------------------|--------------------------|----------------------------|-------------------------------|-------------------------|--------|
| 1408                 | -57.82         | -13              | -44.82                  | -65.95                    | -59.52                   | 1.47                       | 5.32                          | H                       | Pass   |
| 2112                 | -57.18         | -13              | -44.18                  | -68.35                    | -59.15                   | 1.86                       | 5.98                          | H                       | Pass   |
| 2816                 | -55.81         | -13              | -42.81                  | -69.29                    | -58.88                   | 2.21                       | 7.43                          | H                       | Pass   |



|                        |                                                                                        |                            |          |
|------------------------|----------------------------------------------------------------------------------------|----------------------------|----------|
| <b>Band :</b>          | LTE Band 12                                                                            | <b>Temperature :</b>       | 23~26°C  |
| <b>Test Mode :</b>     | 10MHz QPSK RB Size 1 Offset 0                                                          | <b>Relative Humidity :</b> | 48~52%   |
| <b>Test Engineer :</b> | Stan Hsieh                                                                             | <b>Polarization :</b>      | Vertical |
| <b>Remark :</b>        | Spurious emissions within 30-10th harmonic were found more than 20dB below limit line. |                            |          |



| Frequency<br>( MHz ) | ERP<br>( dBm ) | Limit<br>( dBm ) | Over<br>Limit<br>( dB ) | SPA<br>Reading<br>(dBm) | S.G.<br>Power<br>( dBm ) | TX Cable<br>loss<br>( dB ) | TX Antenna<br>Gain<br>(dBi) | Polarization<br>(H/V) | Result |
|----------------------|----------------|------------------|-------------------------|-------------------------|--------------------------|----------------------------|-----------------------------|-----------------------|--------|
| 1408                 | -52.31         | -13              | -39.31                  | -62.66                  | -54.01                   | 1.47                       | 5.32                        | V                     | Pass   |
| 2112                 | -51.52         | -13              | -38.52                  | -64.75                  | -53.49                   | 1.86                       | 5.98                        | V                     | Pass   |
| 2816                 | -54.16         | -13              | -41.16                  | -69.07                  | -57.23                   | 2.21                       | 7.43                        | 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.

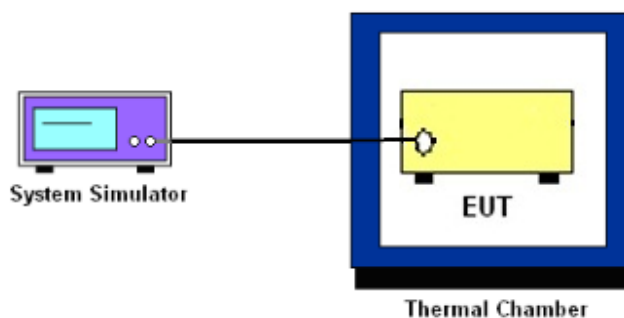
#### 3.7.3 Test Procedures for Temperature Variation

1. The EUT was set up in the thermal chamber and connected with the base station.
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 base station.
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 (FCC)**

| <b>Band :</b>    | LTE Band 5 (QPSK) | <b>Limit (ppm) :</b> | 2.5 |
|------------------|-------------------|----------------------|-----|
| Temperature (°C) | BW 10MHz          | Result               |     |
|                  | Deviation (ppm)   |                      |     |
| 50               | 0.0044            | PASS                 |     |
| 40               | 0.0030            |                      |     |
| 30               | 0.0016            |                      |     |
| 20               | 0.0022            |                      |     |
| 10               | 0.0044            |                      |     |
| 0                | 0.0014            |                      |     |
| -10              | 0.0001            |                      |     |
| -20              | 0.0012            |                      |     |
| -30              | 0.0042            |                      |     |

| <b>Band :</b>    | LTE Band 2 (QPSK) | <b>Limit (ppm) :</b> | 2.5 |
|------------------|-------------------|----------------------|-----|
| Temperature (°C) | BW 10MHz          | Result               |     |
|                  | Deviation (ppm)   |                      |     |
| 50               | 0.0012            | PASS                 |     |
| 40               | 0.0041            |                      |     |
| 30               | 0.0003            |                      |     |
| 20               | 0.0037            |                      |     |
| 10               | 0.0016            |                      |     |
| 0                | 0.0014            |                      |     |
| -10              | 0.0013            |                      |     |
| -20              | 0.0005            |                      |     |
| -30              | 0.0033            |                      |     |

| <b>Band :</b>    | LTE Band 4 (QPSK) | <b>Limit (ppm) :</b> | 2.5 |
|------------------|-------------------|----------------------|-----|
| Temperature (°C) | BW 10MHz          | Result               |     |
|                  | Deviation (ppm)   |                      |     |
| 50               | 0.0012            | PASS                 |     |
| 40               | 0.0186            |                      |     |
| 30               | 0.0008            |                      |     |
| 20               | 0.0029            |                      |     |
| 10               | 0.0069            |                      |     |
| 0                | 0.0029            |                      |     |
| -10              | 0.0048            |                      |     |
| -20              | 0.0156            |                      |     |
| -30              | 0.0187            |                      |     |

| <b>Band :</b>    | LTE Band 12 (QPSK) | <b>Limit (ppm) :</b> | 2.5 |
|------------------|--------------------|----------------------|-----|
| Temperature (°C) | BW 10MHz           | Result               |     |
|                  | Deviation (ppm)    |                      |     |
| 50               | 0.0048             | PASS                 |     |
| 40               | 0.0066             |                      |     |
| 30               | 0.0030             |                      |     |
| 20               | 0.0045             |                      |     |
| 10               | 0.0031             |                      |     |
| 0                | 0.0004             |                      |     |
| -10              | 0.0007             |                      |     |
| -20              | 0.0061             |                      |     |
| -30              | 0.0033             |                      |     |

**3.7.7 Test Result of Voltage Variation (FCC)**

| Band        | Bandwidth | Voltage (Volt) | Deviation (ppm) | Limit (ppm) | Result |
|-------------|-----------|----------------|-----------------|-------------|--------|
| LTE Band 5  | 10M       | 3.50           | 0.0008          | 2.5         | PASS   |
|             |           | Normal         | 0.0026          |             |        |
|             |           | 4.20           | 0.0041          |             |        |
| LTE Band 2  | 10M       | 3.50           | 0.0047          | 2.5         | PASS   |
|             |           | Normal         | 0.0007          |             |        |
|             |           | 4.20           | 0.0029          |             |        |
| LTE Band 4  | 10M       | 3.50           | 0.0051          | 2.5         | PASS   |
|             |           | Normal         | 0.0006          |             |        |
|             |           | 4.20           | 0.0213          |             |        |
| LTE Band 12 | 10M       | 3.50           | 0.0025          | 2.5         | PASS   |
|             |           | Normal         | 0.0059          |             |        |
|             |           | 4.20           | 0.0024          |             |        |

**Remark:**

1. Normal Voltage = 3.70V.
2. The manufacturer declared that the EUT could work properly between voltage 3.50V ~ 4.20V.



## 4 List of Measuring Equipment

| Instrument                | Manufacturer    | Model No.     | Serial No.   | Characteristics   | Calibration Date | Test Date                     | Due Date      | Remark                |
|---------------------------|-----------------|---------------|--------------|-------------------|------------------|-------------------------------|---------------|-----------------------|
| LTE Base Station          | Anritsu         | MT8820C       | 6201026480   | 30MHz~2.7GHz SISO | Jan. 07, 2014    | Feb. 14, 2014                 | Jan. 06, 2015 | Conducted (TH02-HY)   |
| Spectrum Analyzer         | Rohde & Schwarz | FSP40         | 100055       | 9kHz~40GHz        | Jun. 07, 2013    | Feb. 14, 2014                 | Jun. 06, 2014 | Conducted (TH02-HY)   |
| Thermal Chamber           | Ten Billion     | TTH-D3SP      | TBN-930701   | N/A               | Jul. 19, 2013    | Feb. 14, 2014                 | Jul. 18, 2014 | Conducted (TH02-HY)   |
| Spectrum Analyzer         | Rohde & Schwarz | FSP30         | 101067       | 9KHz ~ 30GHz      | Nov. 20, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Nov. 19, 2014 | Radiation (03CH07-HY) |
| Bilog Antenna             | Schaffner       | CBL6111C      | 2726         | 30MHz ~ 1GHz      | Oct. 10, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Oct. 09, 2014 | Radiation (03CH07-HY) |
| Double Ridge Horn Antenna | ESCO            | 3117          | 75962        | 1GHz~18GHz        | Aug. 22, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Aug. 21, 2014 | Radiation (03CH07-HY) |
| Preamplifier              | COM-POWER       | PA-103A       | 161241       | 30MHz~1GHz        | Feb. 26, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Feb. 25, 2014 | Radiation (03CH07-HY) |
| Preamplifier              | Agilent         | 8449B         | 3008A02362   | 1 GHz~26.5 GHz    | Nov. 29, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Nov. 28, 2014 | Radiation (03CH07-HY) |
| SHF-EHF Horn Antenna      | SCHWARZBEC K    | BBHA 9170     | BBHA91702 51 | 15GHz- 40GHz      | Oct. 03, 2013    | Feb. 16, 2014 ~ Feb. 17, 2014 | Oct. 02, 2014 | Radiation (03CH07-HY) |
| Turn Table                | ChainTek        | ChainTek 3000 | N/A          | 0 ~ 360 degree    | N/A              | Feb. 16, 2014 ~ Feb. 17, 2014 | N/A           | Radiation (03CH07-HY) |
| Antenna Mast              | ChainTek        | M-400-0       | 114/8000604  | N/A               | N/A              | Feb. 16, 2014 ~ Feb. 17, 2014 | N/A           | Radiation (03CH07-HY) |



## **5 Uncertainty of Evaluation**

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

|                                                                                         |             |
|-----------------------------------------------------------------------------------------|-------------|
| <b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2Uc(y)</math>)</b> | <b>4.50</b> |
|-----------------------------------------------------------------------------------------|-------------|