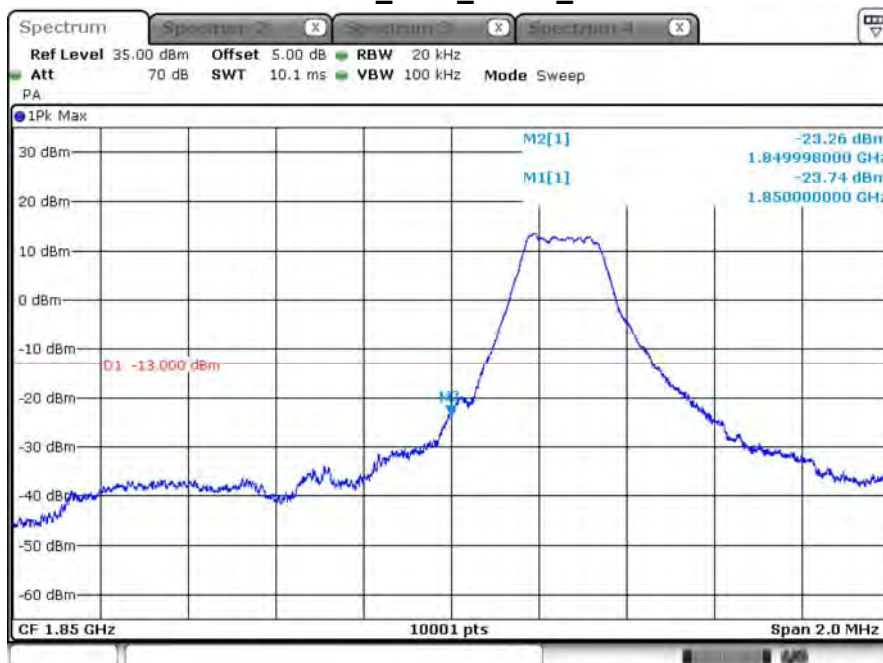


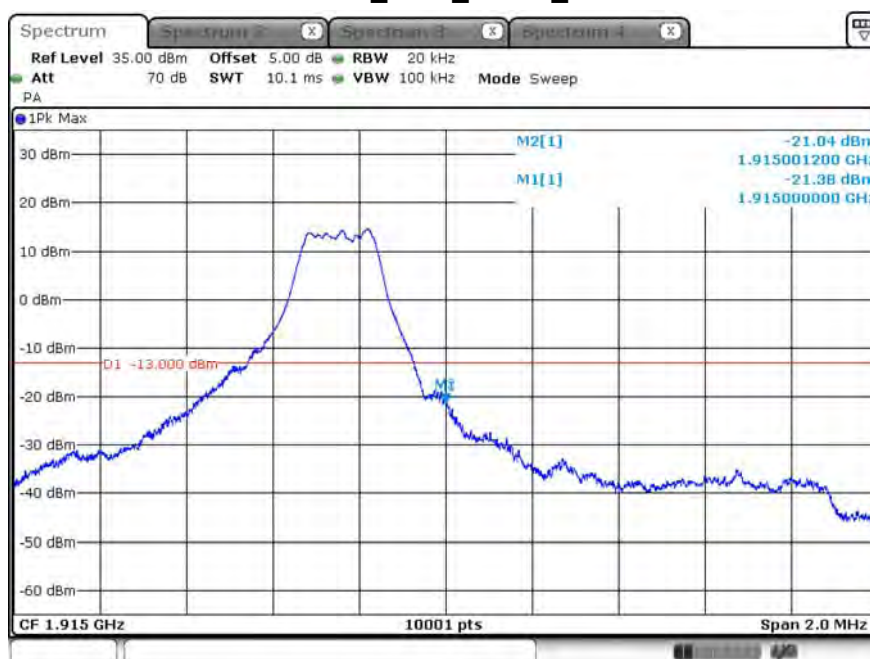
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 11: LTE Band 25                    |           |        |
| Date of Test | 2018/05/17                              | Test Site | SR10-H |

## CH26047\_1.4M\_QPSK\_1RB0



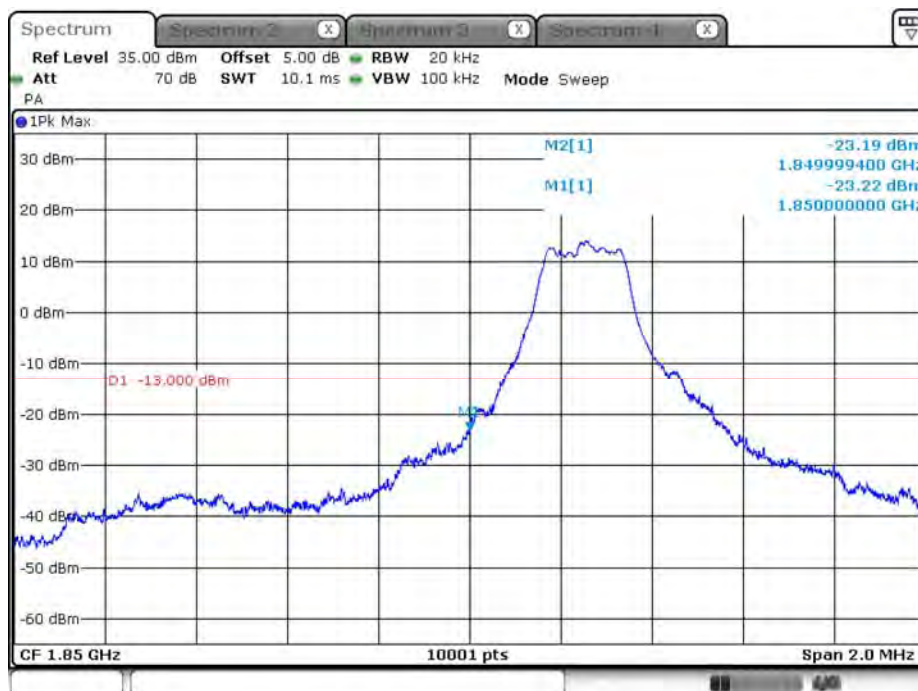
Date: 17 MAY 2018 15:53:16

## CH26683\_1.4M\_QPSK\_1RB5



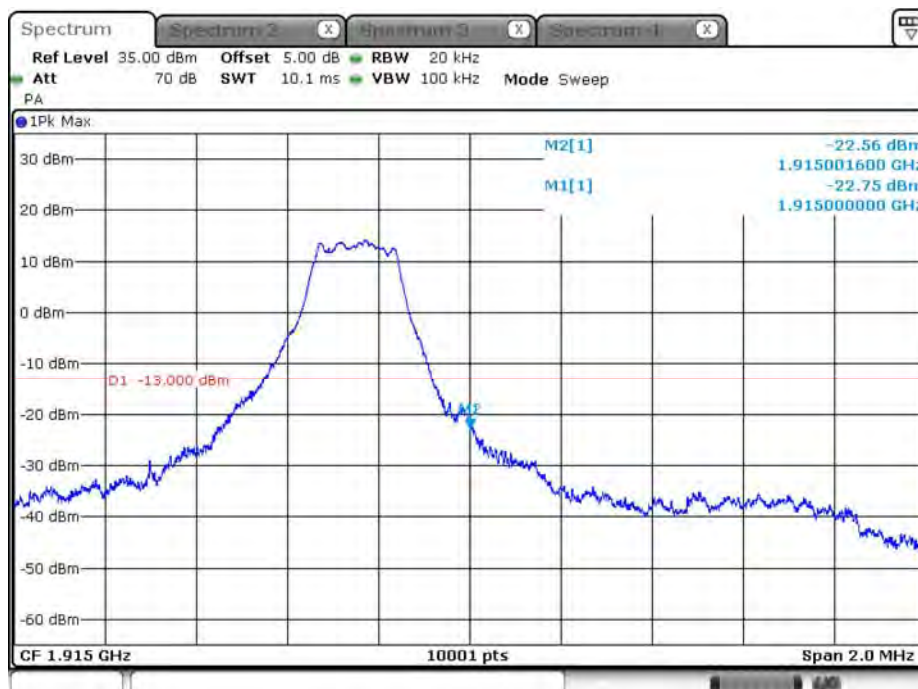
Date: 17 MAY 2018 15:59:44

## CH26047\_1.4M\_16-QAM\_1RB0



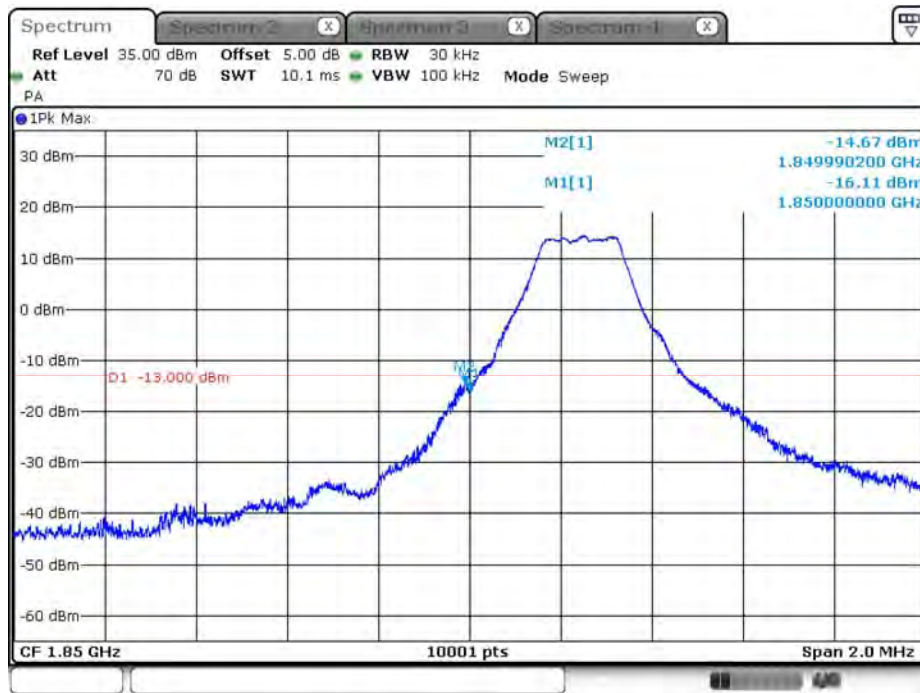
Date: 17.MAY.2018 15:56:23

## CH26683\_1.4M\_16-QAM\_1RB5



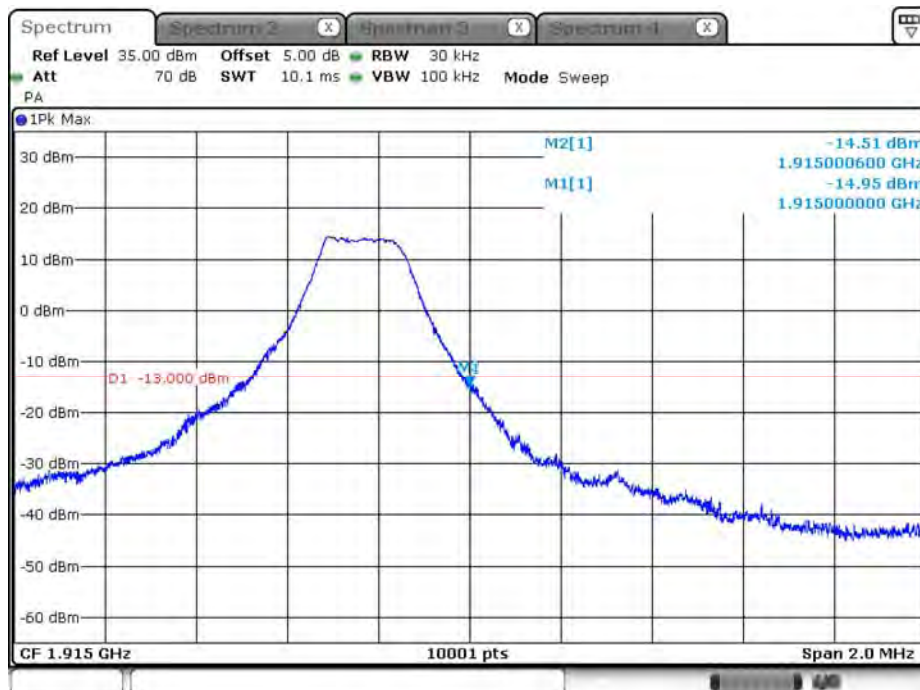
Date: 17.MAY.2018 16:01:36

## CH26055\_3M\_QPSK\_1RB0



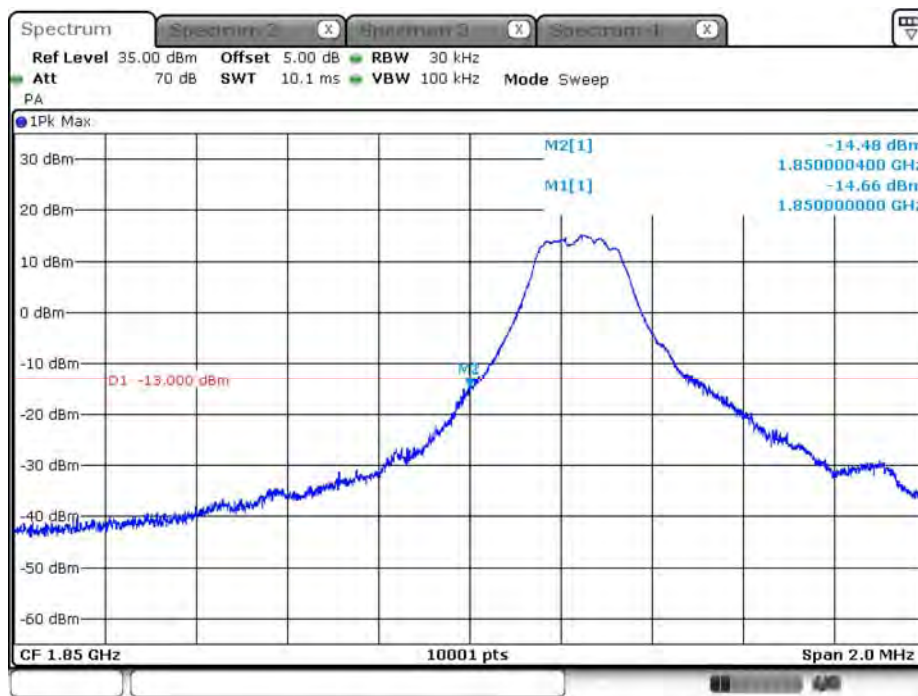
Date: 17.MAY.2018 16:04:07

## CH26675\_3M\_QPSK\_1RB14



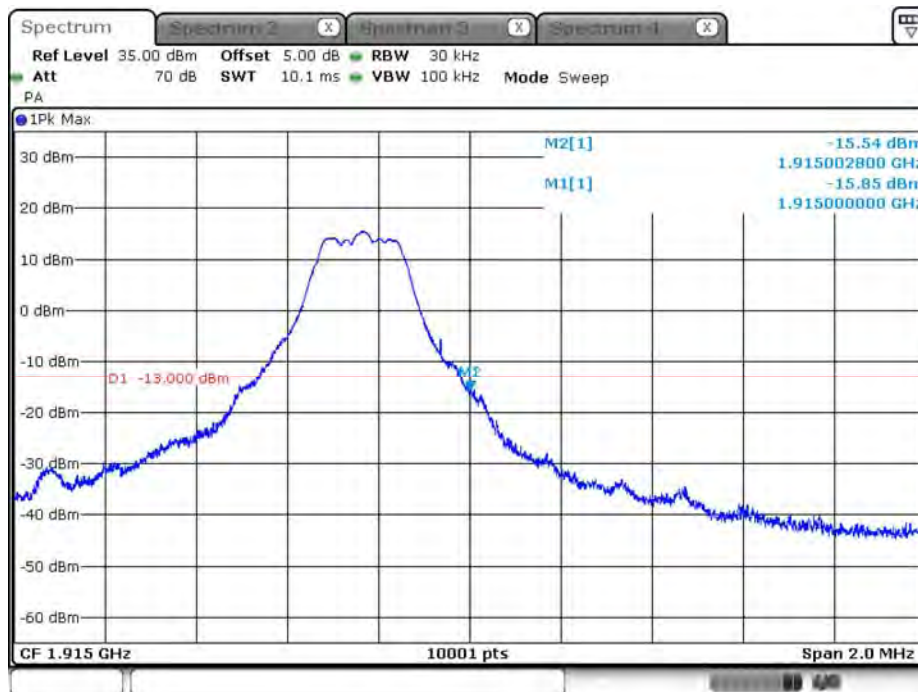
Date: 17.MAY.2018 16:09:27

## CH26055\_3M\_16-QAM\_1RB0



Date: 17.MAY.2018 16:06:48

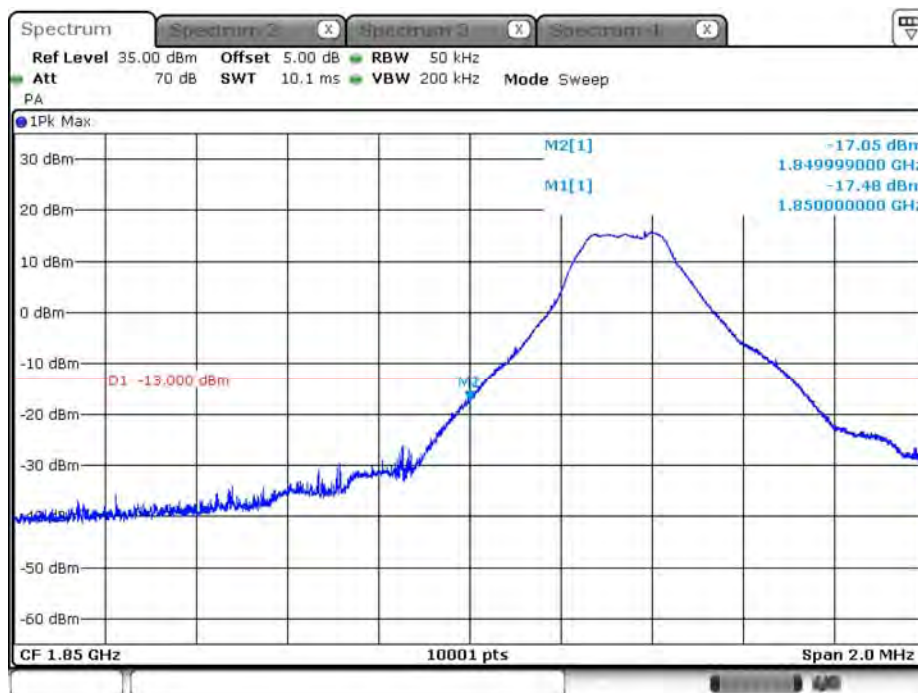
## CH26675\_3M\_16-QAM\_1RB14



Date: 17.MAY.2018 16:12:08

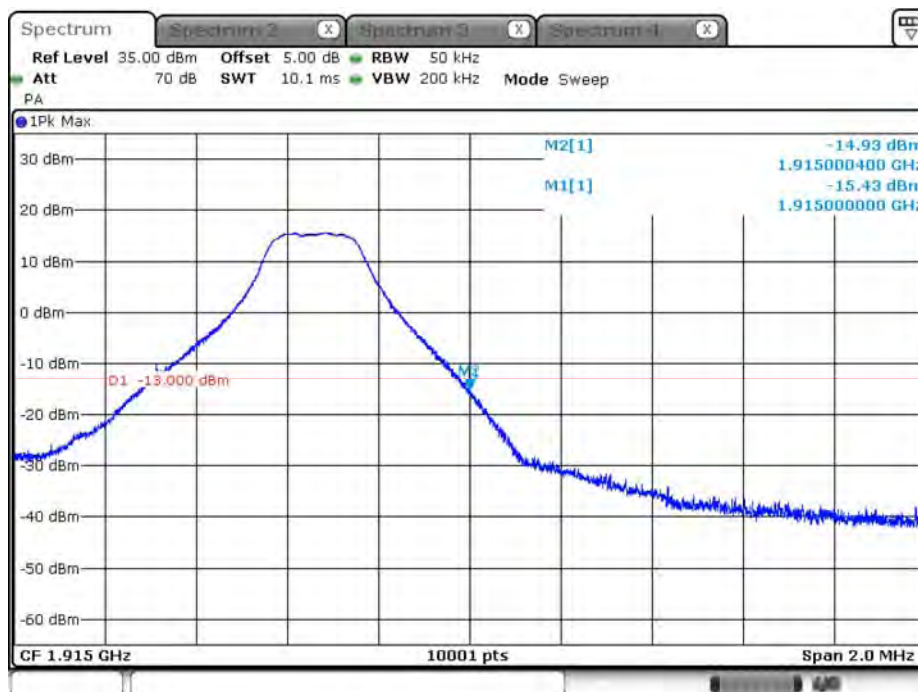


## CH26065\_5M\_QPSK\_1RB0



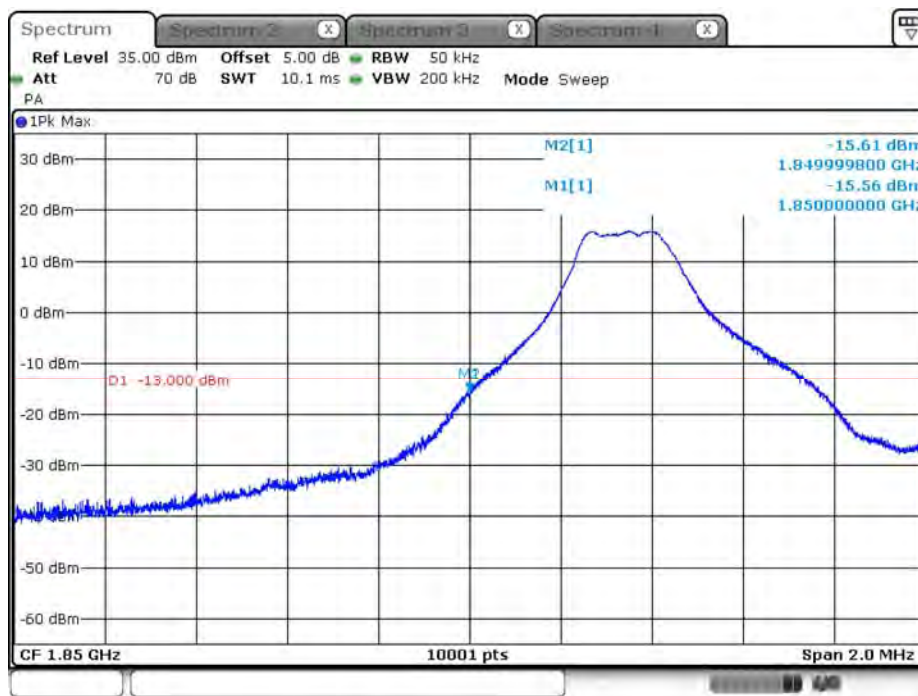
Date: 17.MAY.2018 16:23:37

## CH26665\_5M\_QPSK\_1RB24



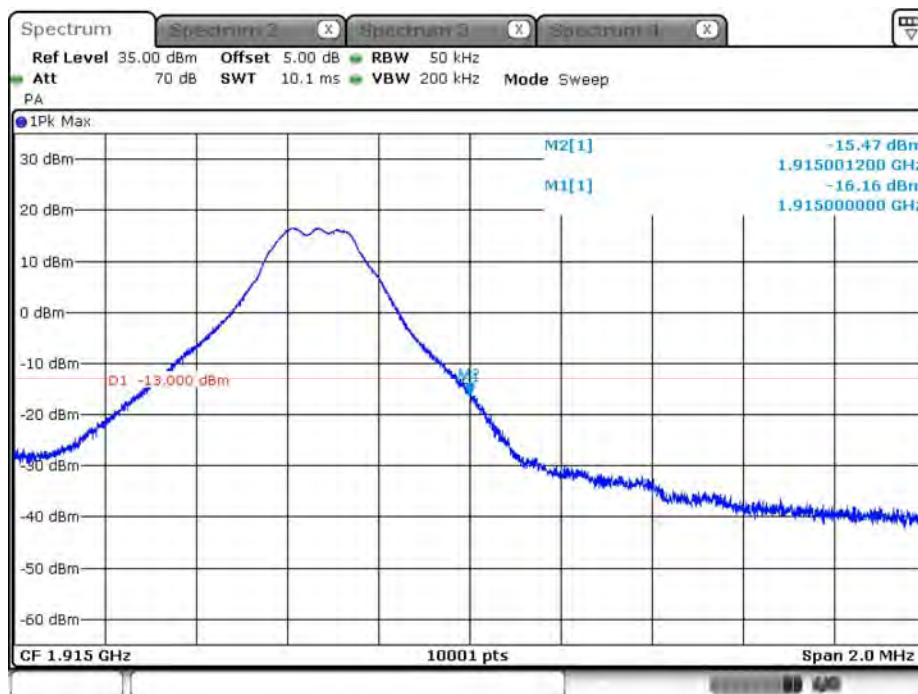
Date: 17.MAY.2018 16:30:46

## CH26065\_5M\_16-QAM\_1RB0



Date: 17.MAY.2018 16:26:49

## CH26665\_5M\_16-QAM\_1RB24



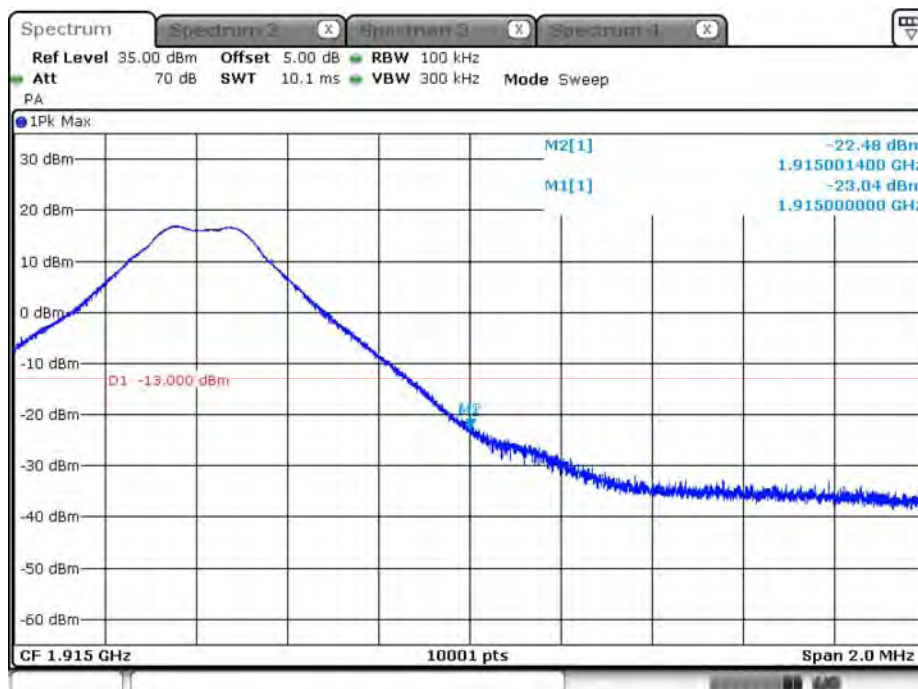
Date: 17.MAY.2018 16:33:12

## CH26090\_10M\_QPSK\_1RB0



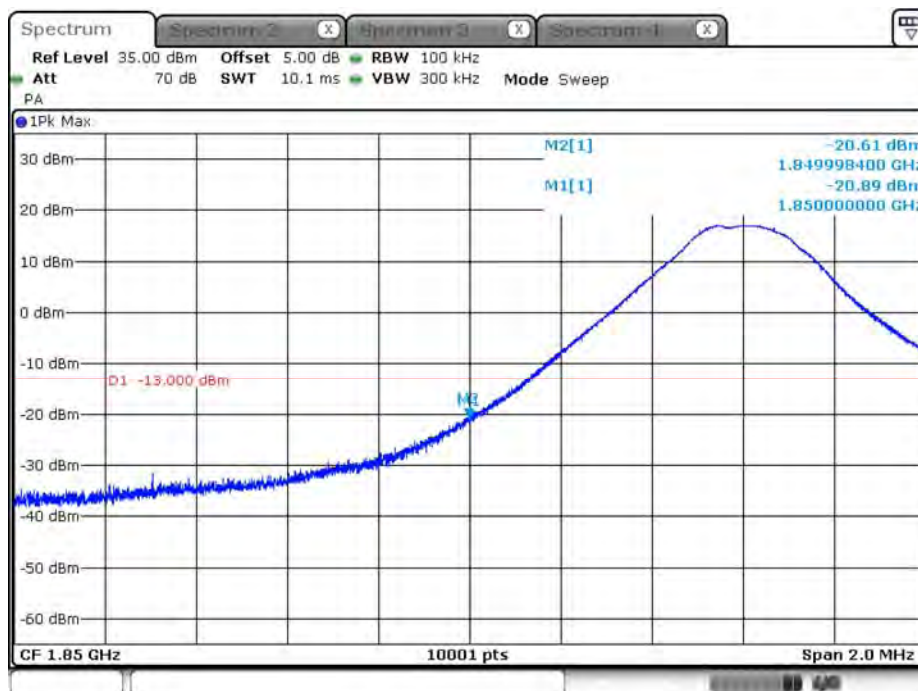
Date: 17 MAY 2018 16:36:22

## CH26640\_10M\_QPSK\_1RB49



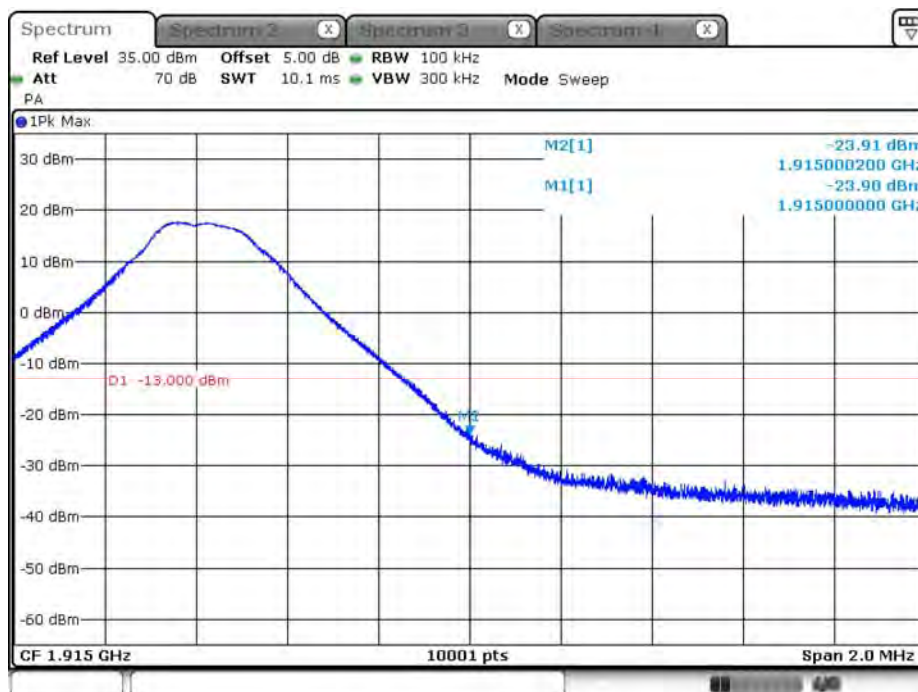
Date: 17 MAY 2018 16:44:26

## CH26090\_10M\_16-QAM\_1RB0



Date: 17.MAY.2018 16:40:34

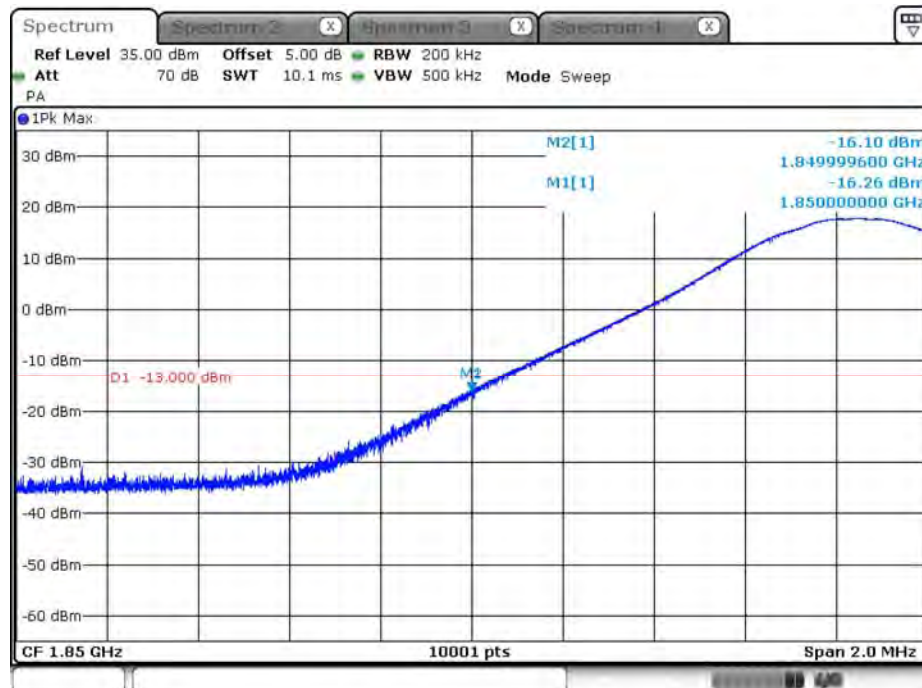
## CH26640\_10M\_16-QAM\_1RB49



Date: 17.MAY.2018 16:46:43

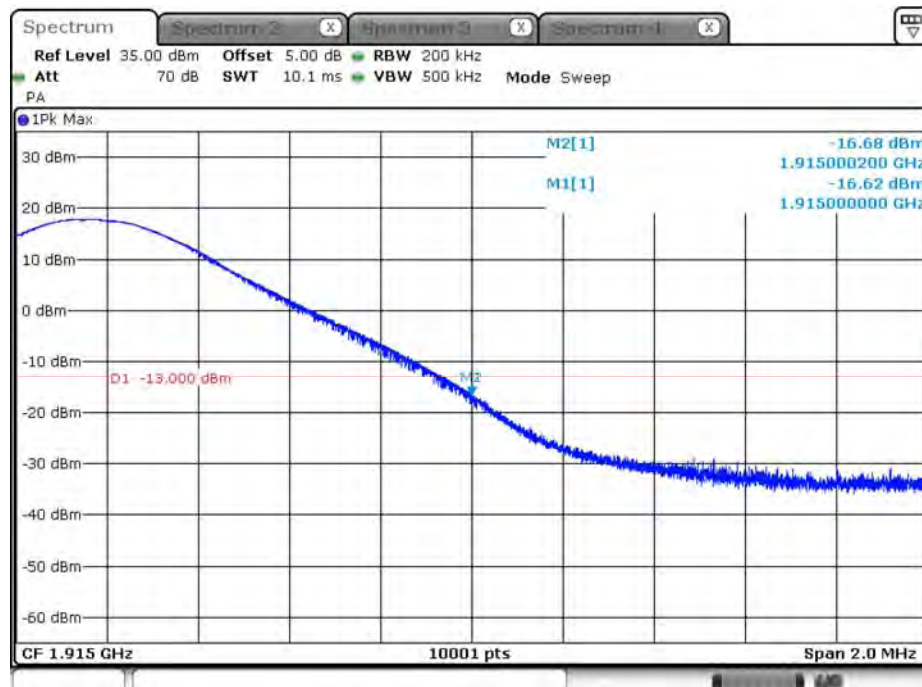


## CH26115\_15M\_QPSK\_1RB0



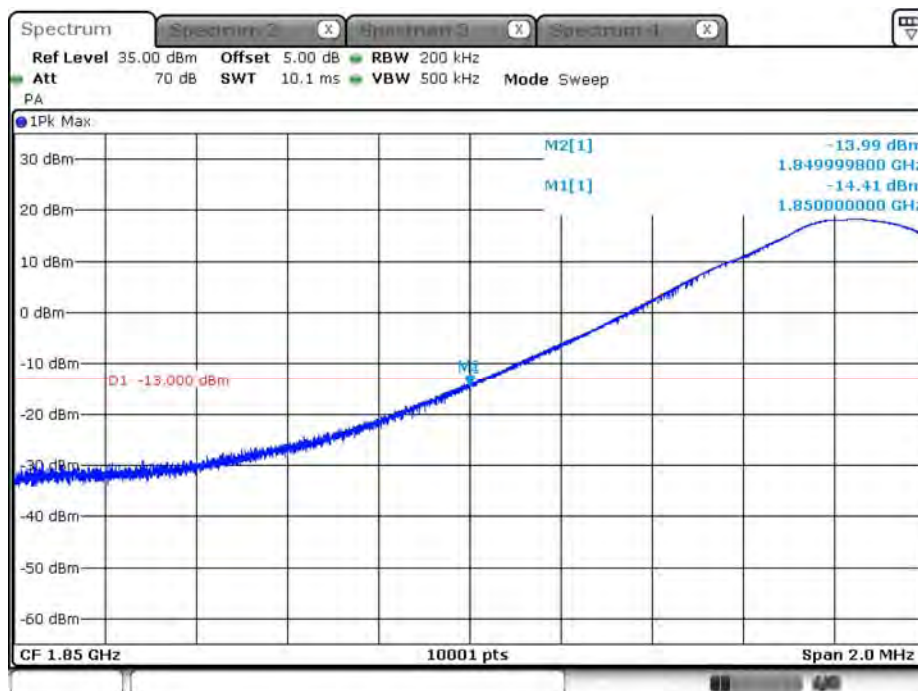
Date: 17.MAY.2018 16:57:40

## CH26615\_15M\_QPSK\_1RB74



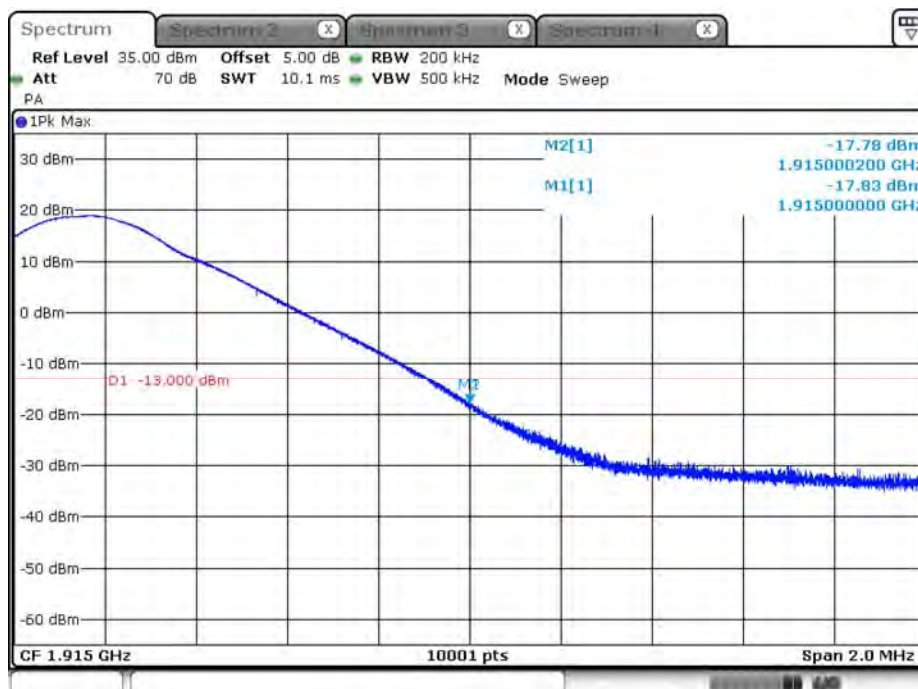
Date: 17.MAY.2018 17:10:47

## CH26115\_15M\_16-QAM\_1RB0



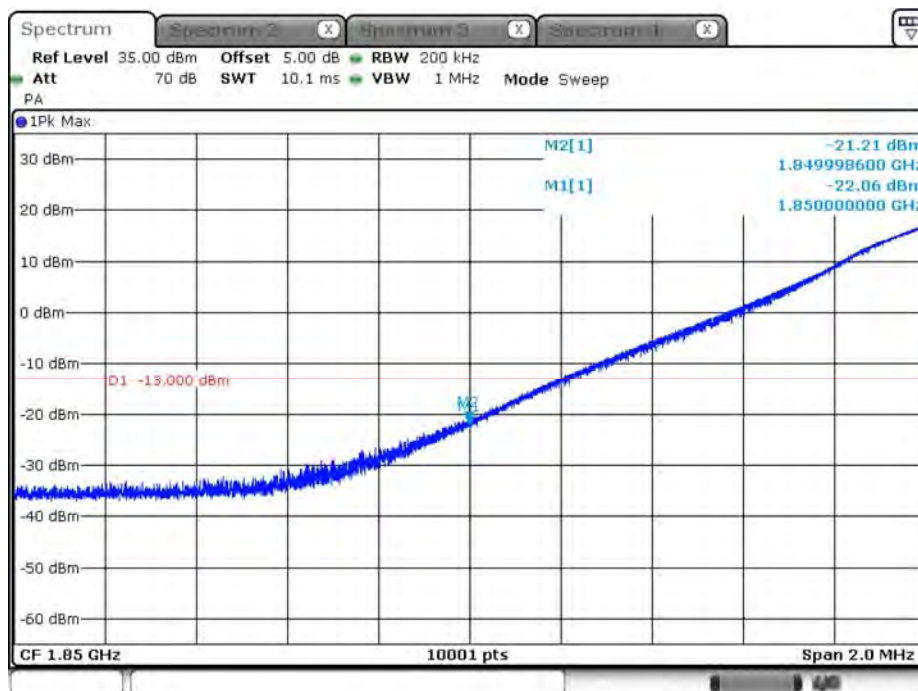
Date: 17.MAY.2018 17:03:25

## CH26615\_15M\_16-QAM\_1RB74



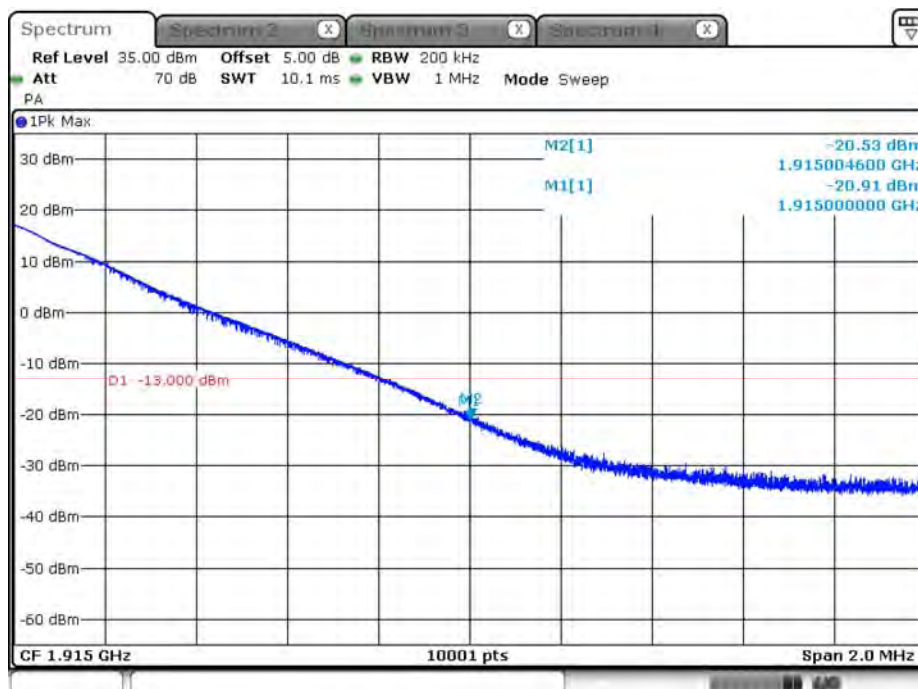
Date: 17.MAY.2018 17:16:24

## CH26140\_20M\_QPSK\_1RB0



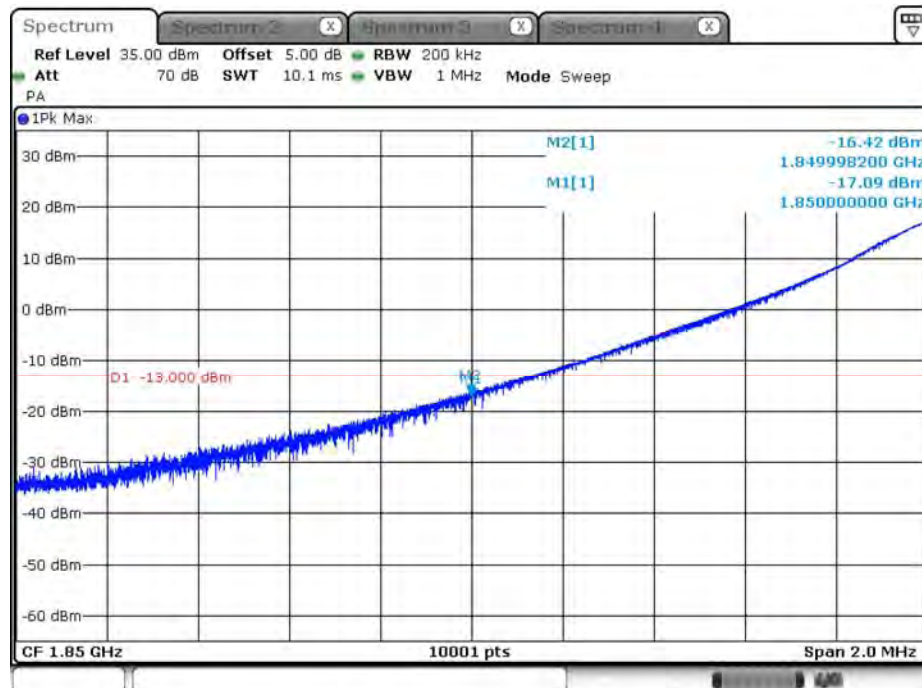
Date: 17.MAY.2018 17:21:39

## CH26590\_20M\_QPSK\_1RB99



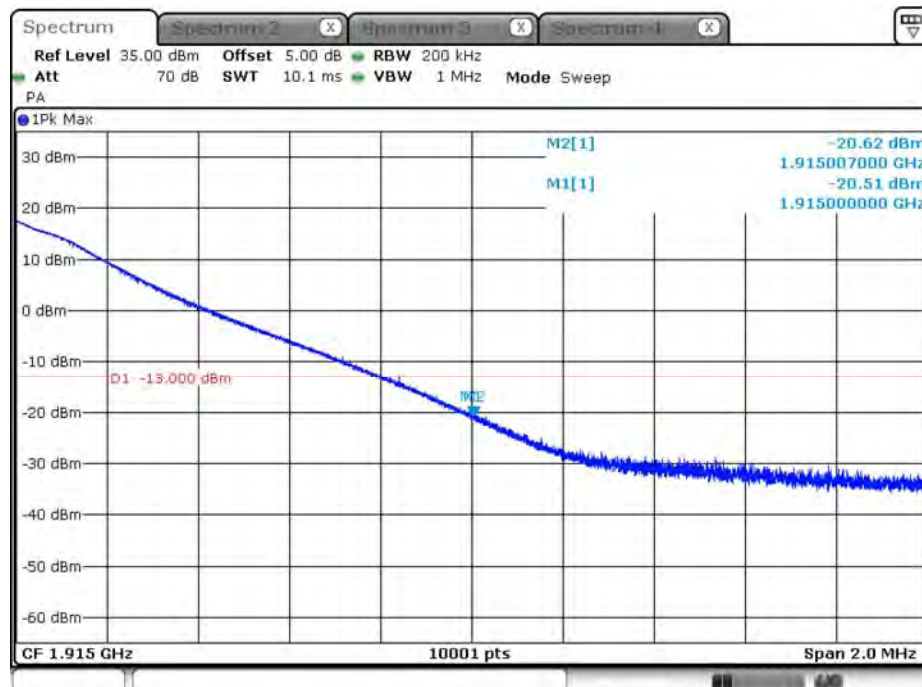
Date: 17.MAY.2018 17:29:20

## CH26140\_20M\_16-QAM\_1RB0



Date: 17.MAY.2018 17:24:20

## CH26590\_20M\_16-QAM\_1RB99

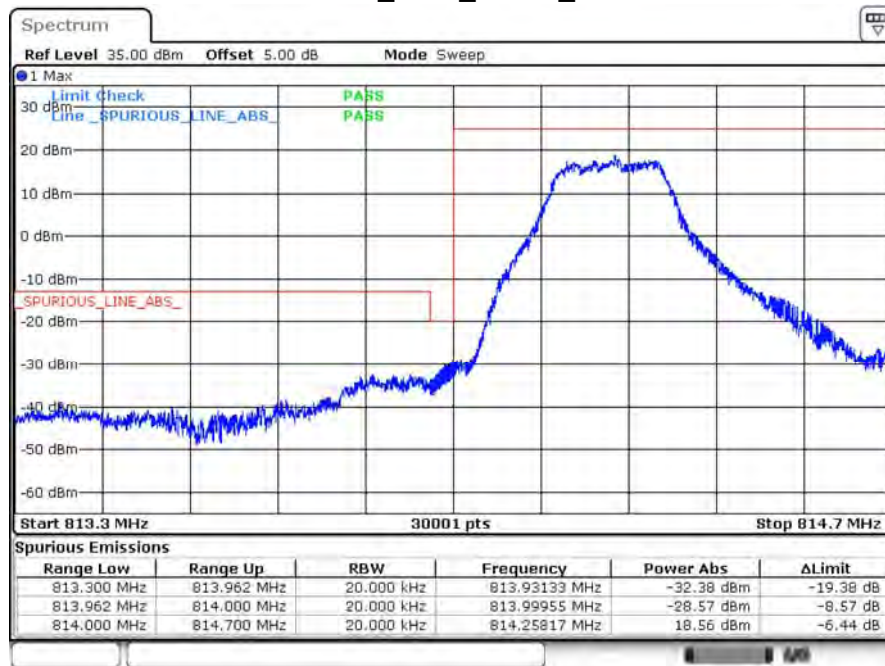


Date: 17.MAY.2018 17:34:52



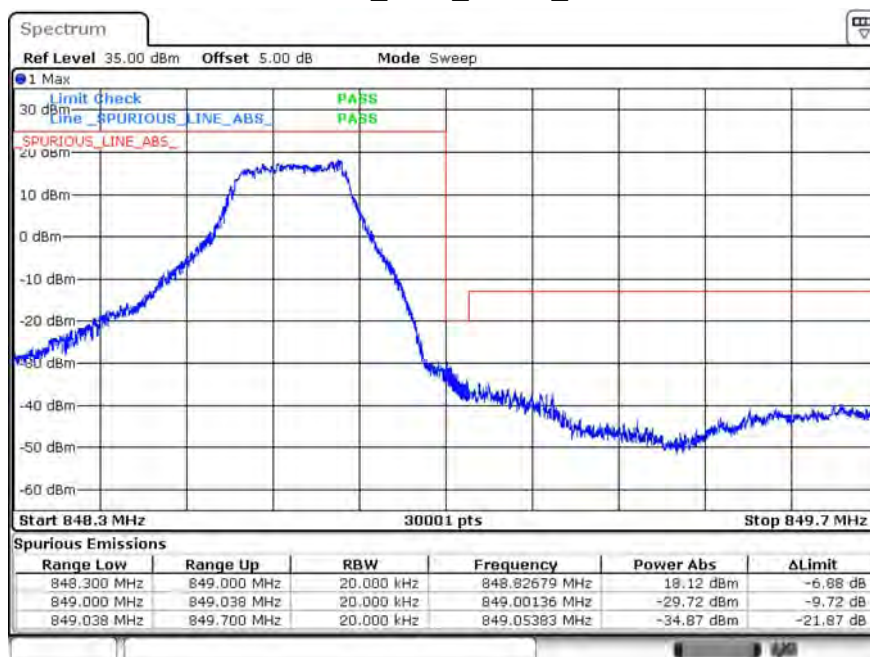
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 12: LTE Band 26                    |           |        |
| Date of Test | 2018/08/21                              | Test Site | SR10-H |

## CH26697\_1.4M\_QPSK\_1RB0



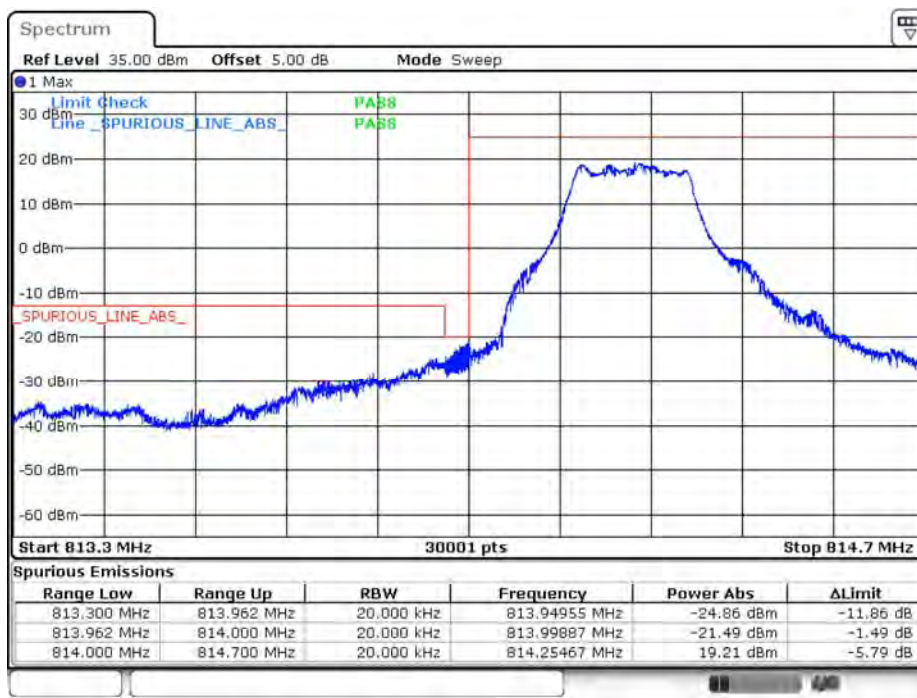
Date: 21 AUG 2018 17:27:54

## CH27033\_1.4M\_QPSK\_1RB5



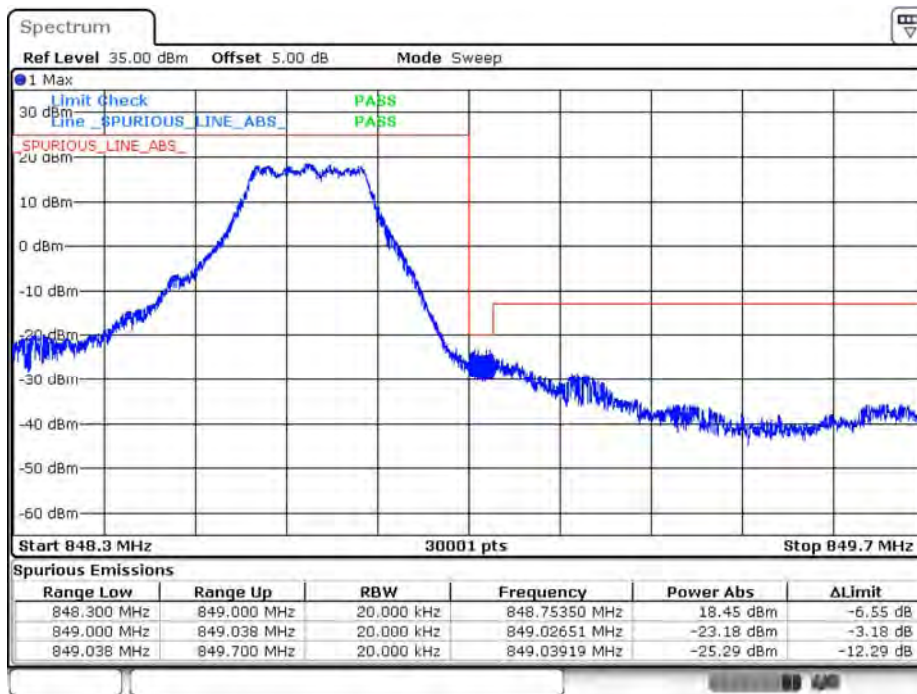
Date: 21 AUG 2018 17:31:39

## CH26697\_1.4M\_16-QAM\_1RB0



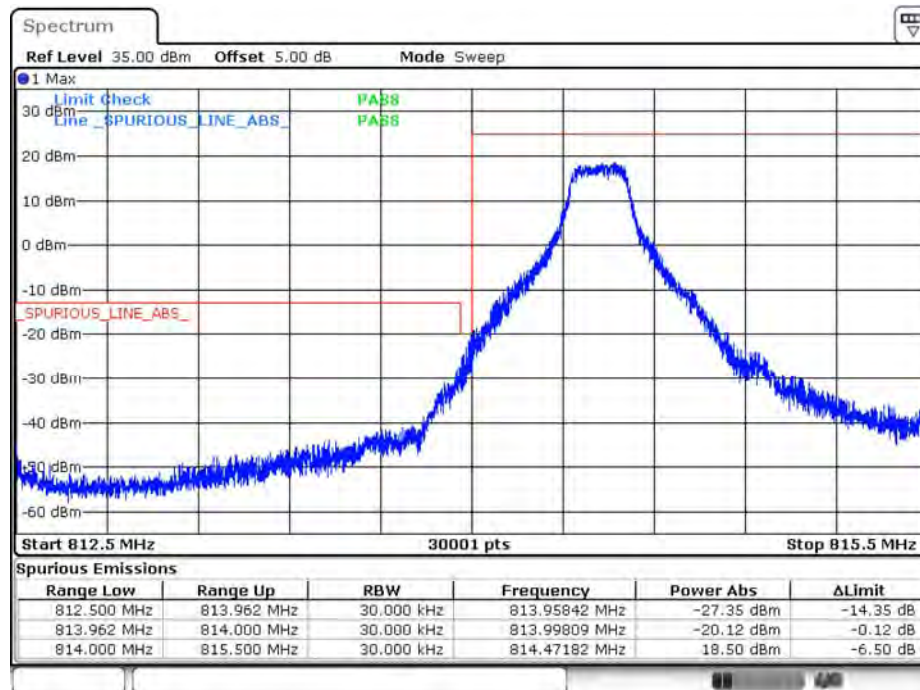
Date: 21 AUG 2018 17:29:13

## CH27033\_1.4M\_16-QAM\_1RB5



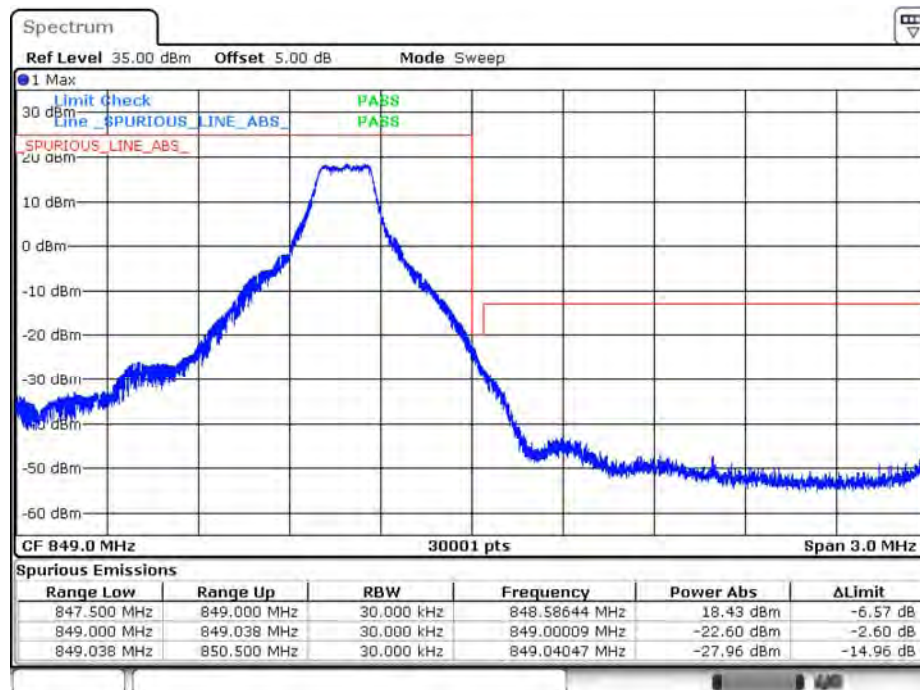
Date: 21 AUG 2018 17:30:42

## CH26705\_3M\_QPSK\_1RB0



Date: 21.AUG.2018 17:37:59

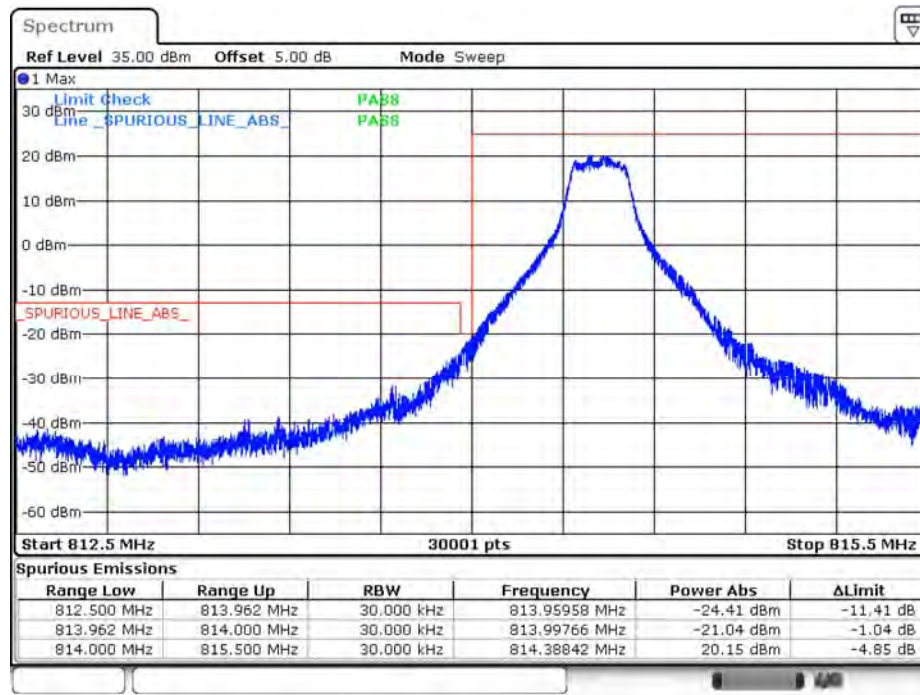
## CH27025\_3M\_QPSK\_1RB14



Date: 21.AUG.2018 17:45:16

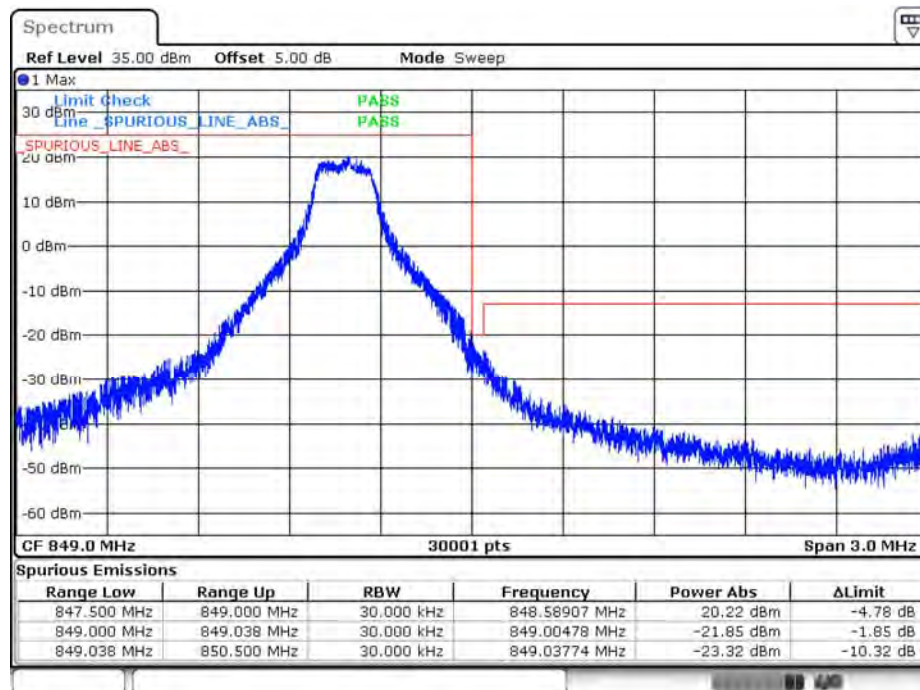


## CH26705\_3M\_16-QAM\_1RB0



Date: 21.AUG.2018 17:41:12

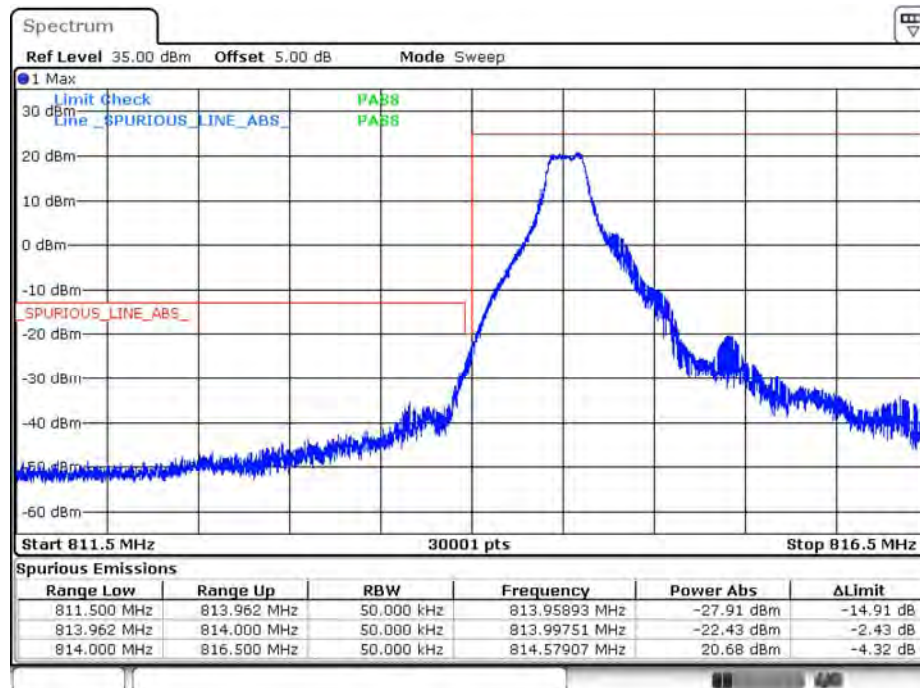
## CH27025\_3M\_16-QAM\_1RB14



Date: 21.AUG.2018 17:44:04

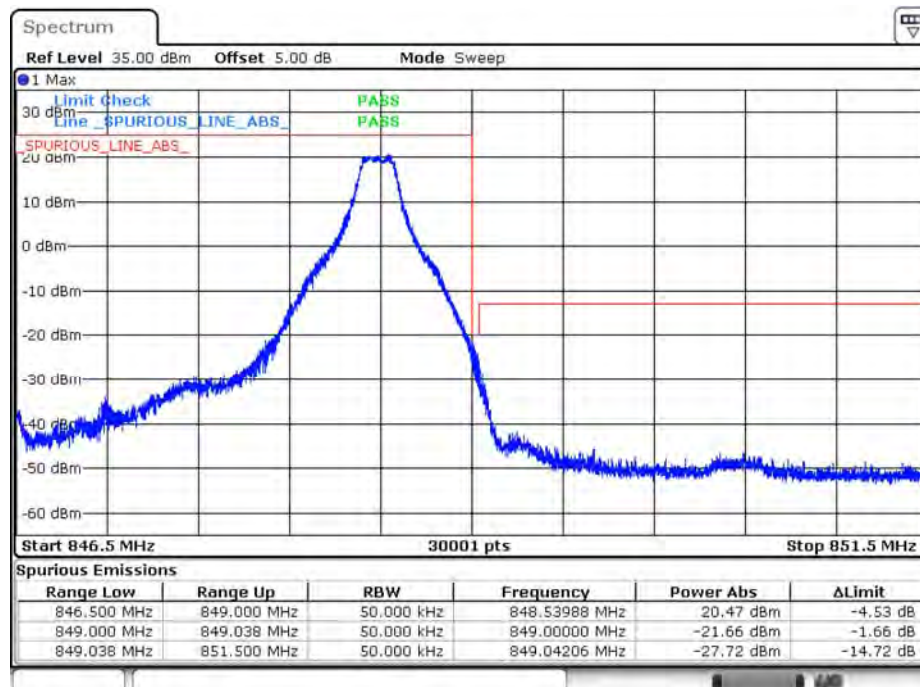


## CH26715\_5M\_QPSK\_1RB0



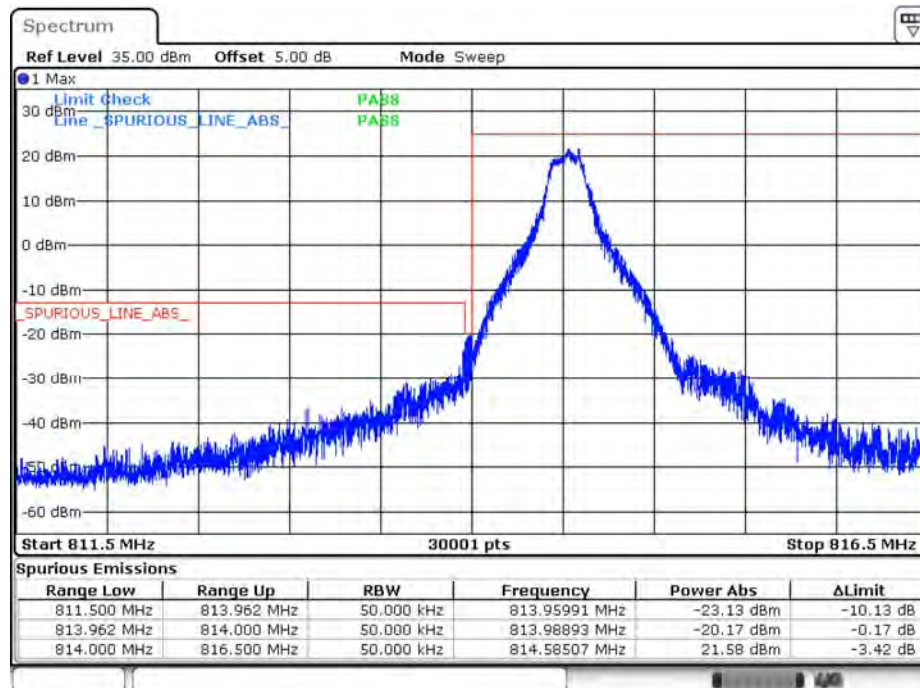
Date: 21.AUG.2018 17:50:41

## CH27015\_5M\_QPSK\_1RB24



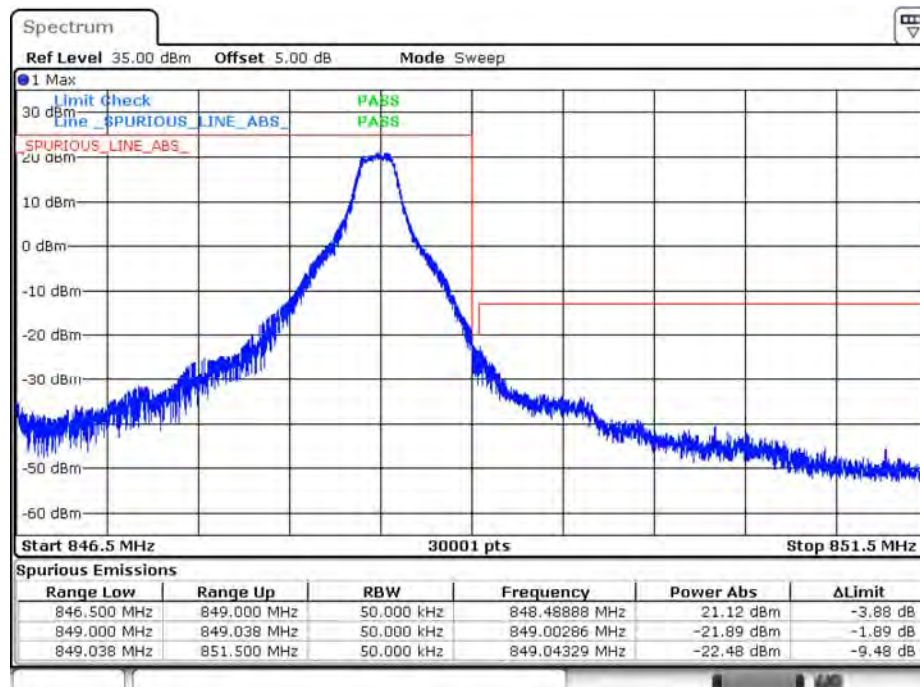
Date: 21.AUG.2018 17:54:24

## CH26715\_5M\_16-QAM\_1RB0



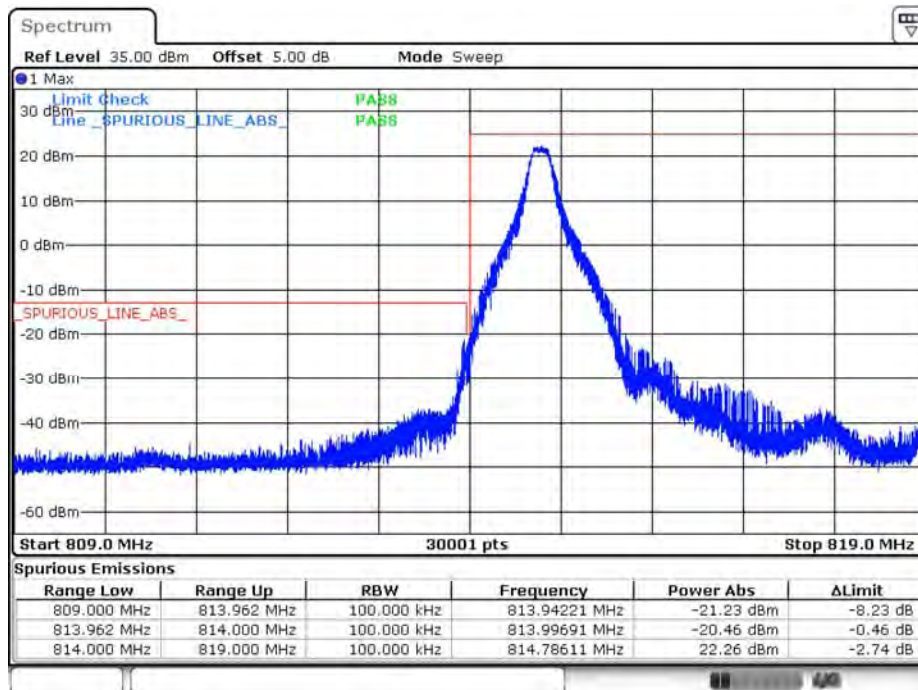
Date: 21.AUG.2018 17:51:51

## CH27015\_5M\_16-QAM\_1RB24



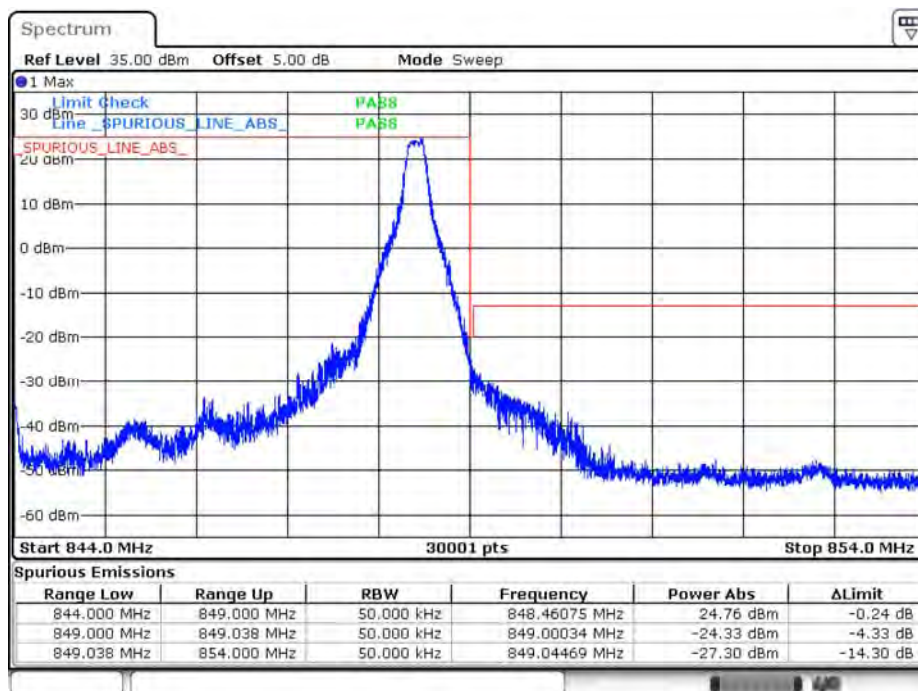
Date: 21.AUG.2018 17:53:30

## CH26740\_10M\_QPSK\_1RB0



Date: 21 AUG 2018 18:44:34

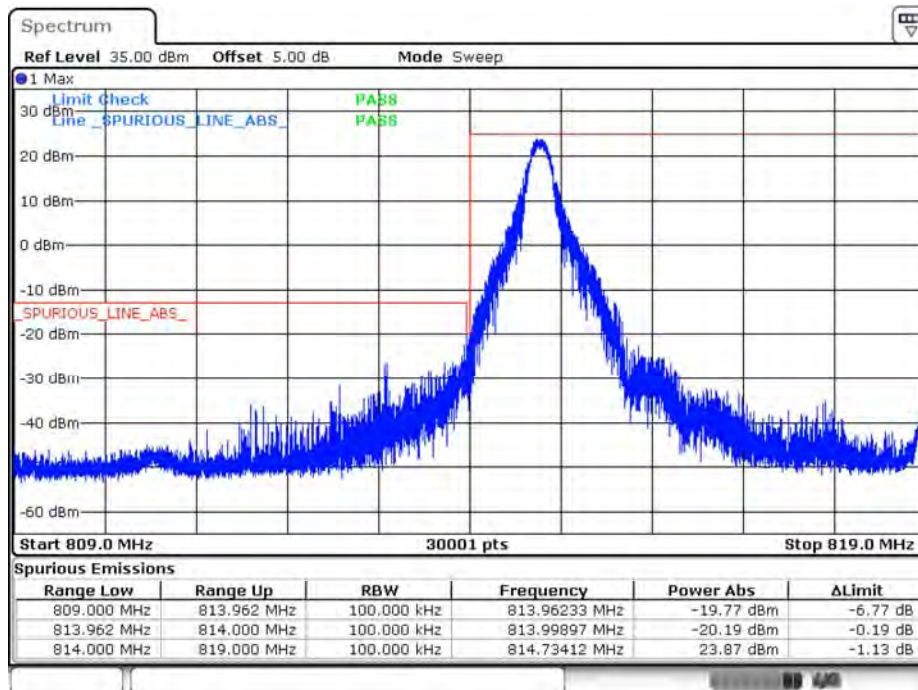
## CH26990\_10M\_QPSK\_1RB49



Date: 21 AUG 2018 18:36:57

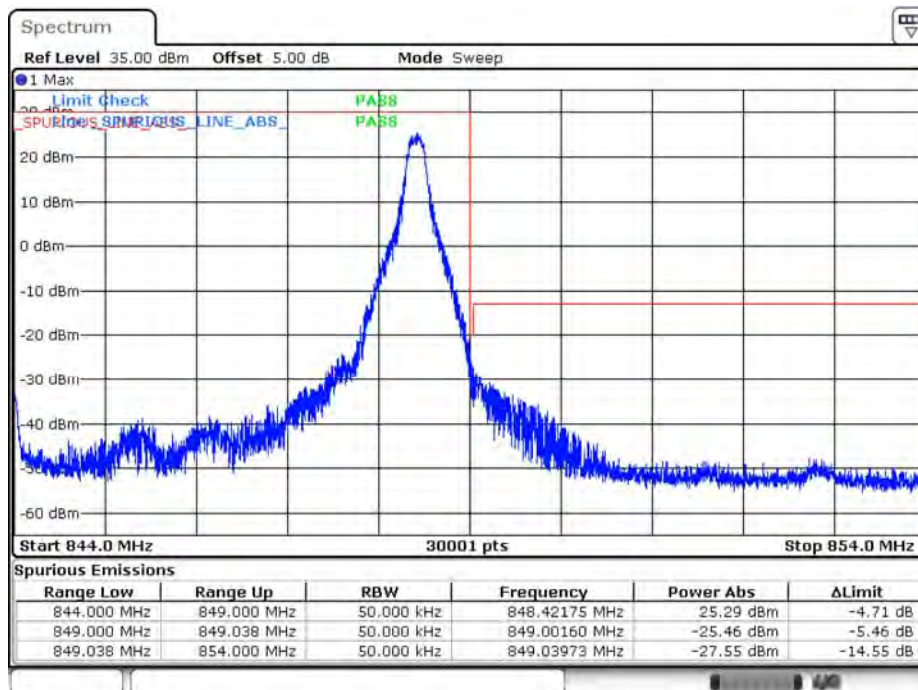


## CH26740\_10M\_16-QAM\_1RB0



Date: 21 AUG 2018 18:43:48

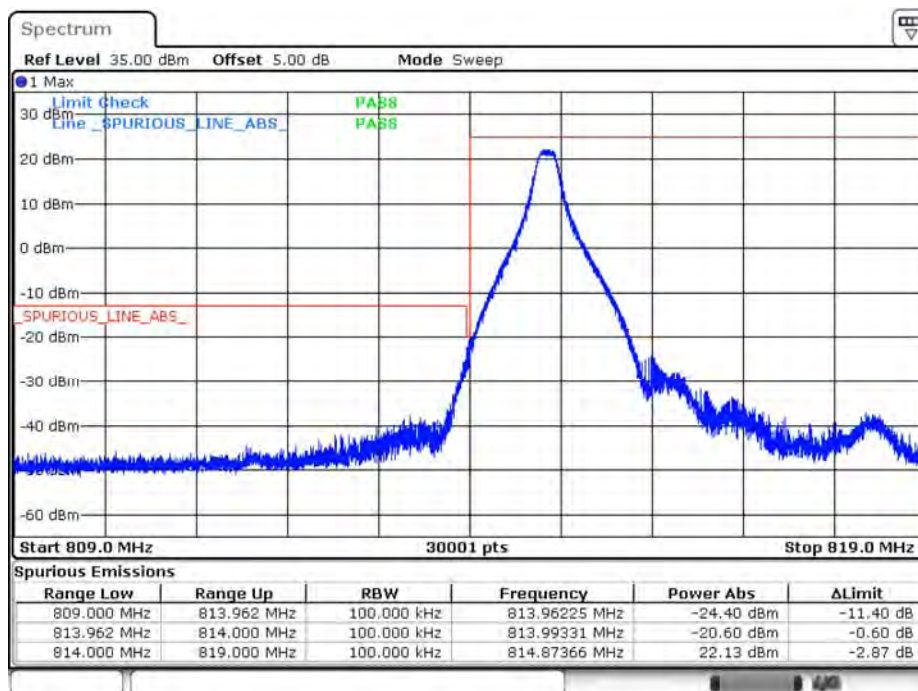
## CH26990\_10M\_16-QAM\_1RB49



Date: 21 AUG 2018 18:39:56

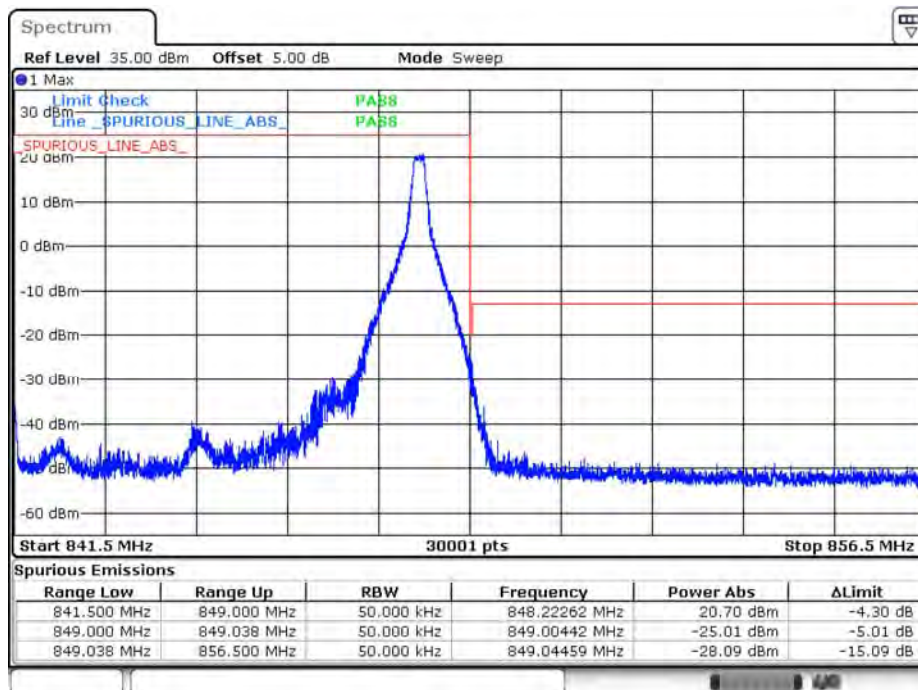


## CH26765\_15M\_QPSK\_1RB0



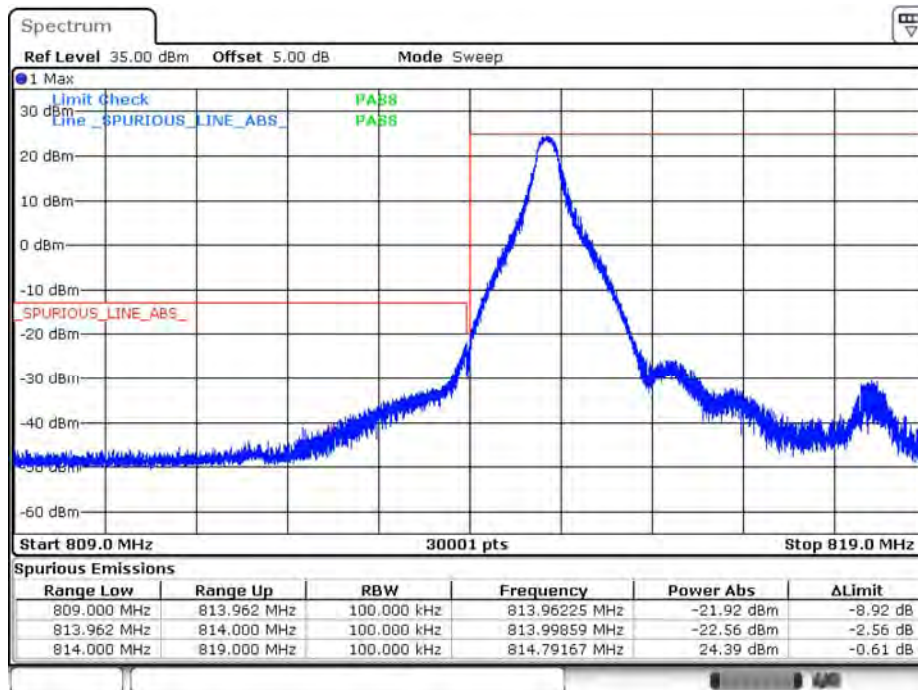
Date: 21 AUG 2018 18:02:34

## CH26965\_15M\_QPSK\_1RB74



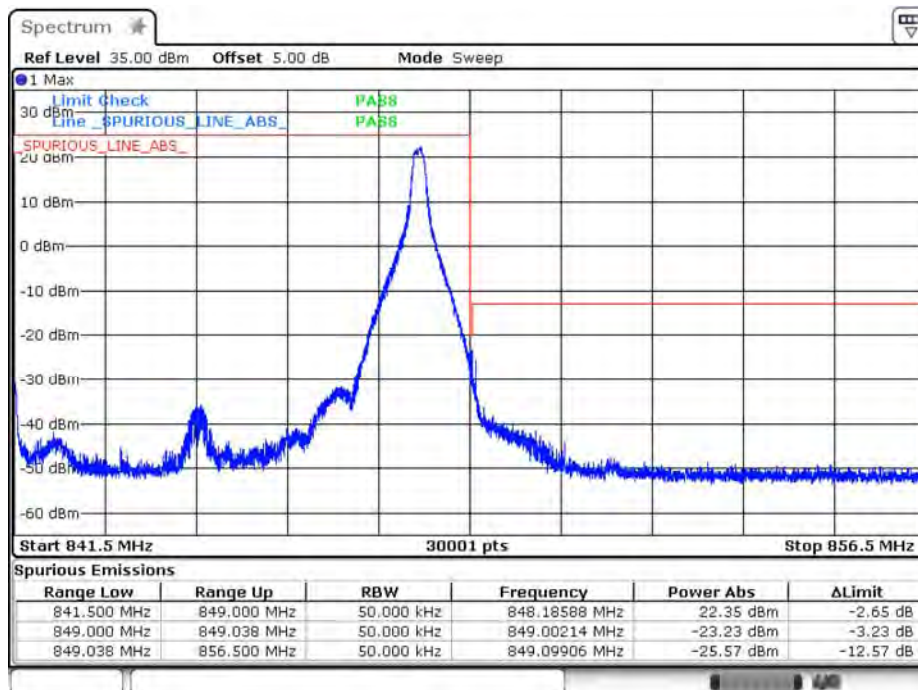
Date: 21 AUG 2018 18:06:54

## CH26765\_15M\_16-QAM\_1RB0



Date: 21.AUG.2018 18:03:54

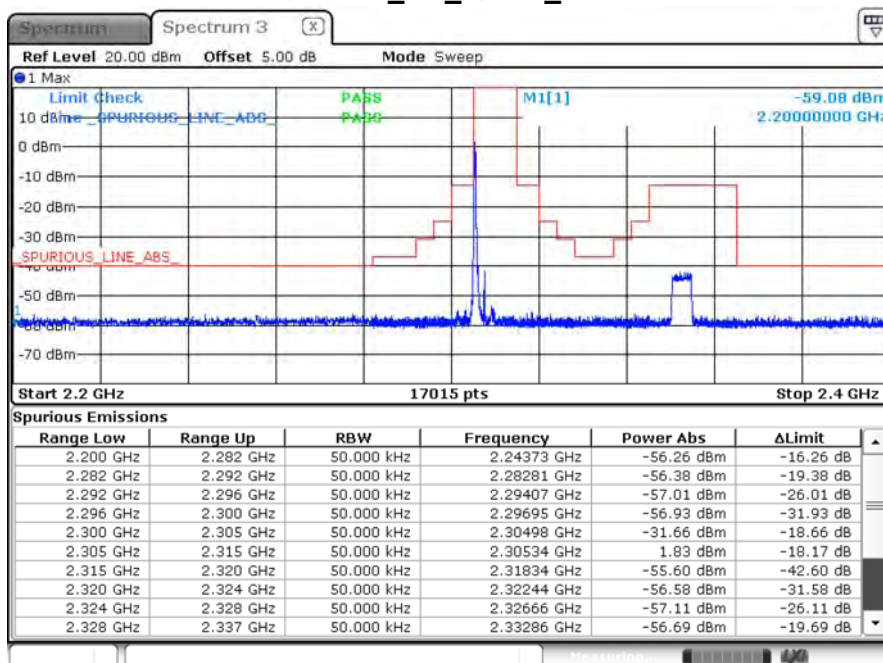
## CH26965\_15M\_16-QAM\_1RB74



Date: 21.AUG.2018 18:05:37

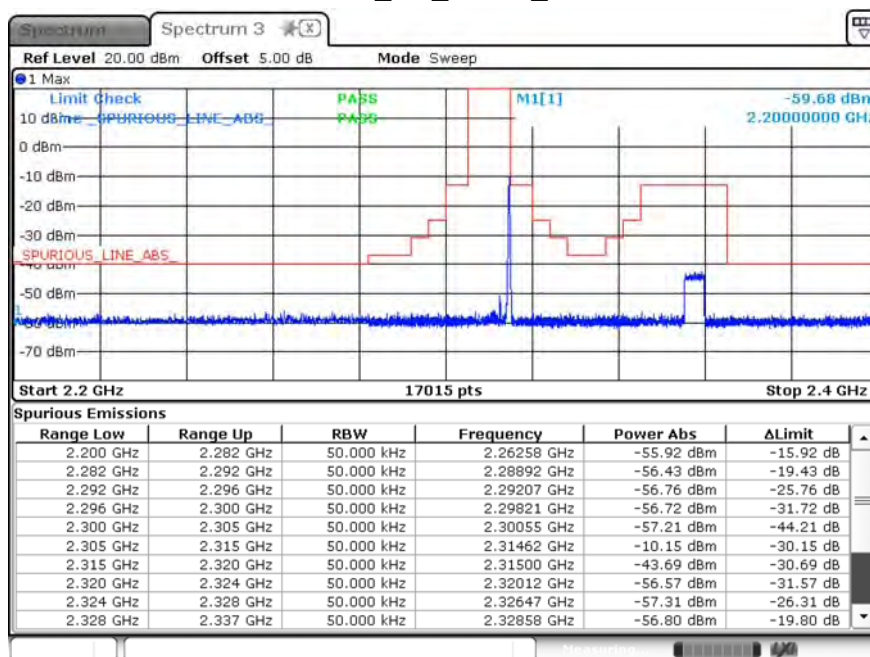
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 13: LTE Band 30                    |           |        |
| Date of Test | 2018/05/24                              | Test Site | SR10-H |

## CH27685\_5M\_QPSK\_1RB0



Date: 17.AUG.2018 21:33:55

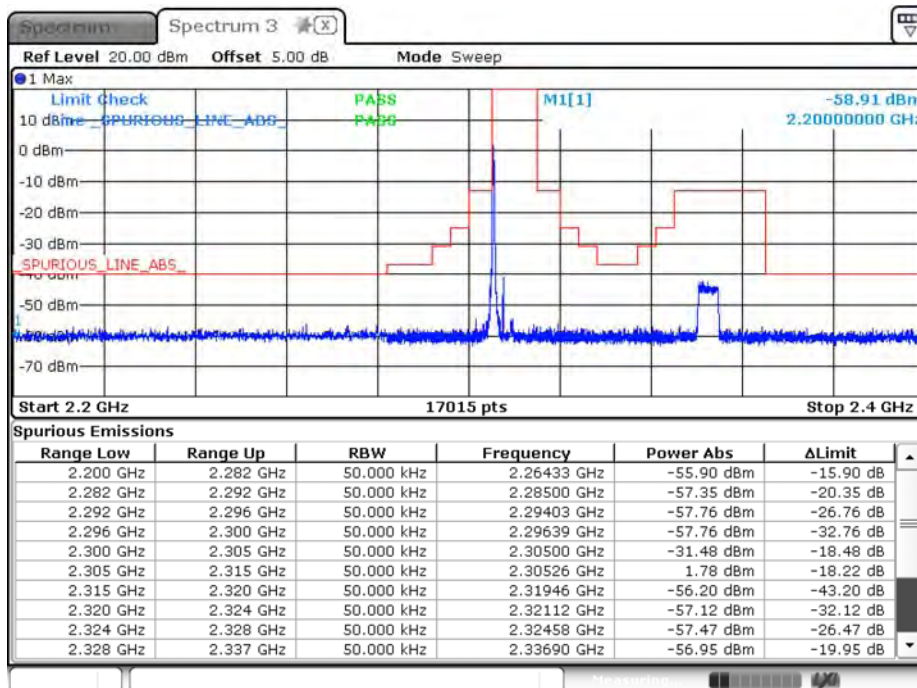
## CH27735\_5M\_QPSK\_1RB24



Date: 17.AUG.2018 21:36:51

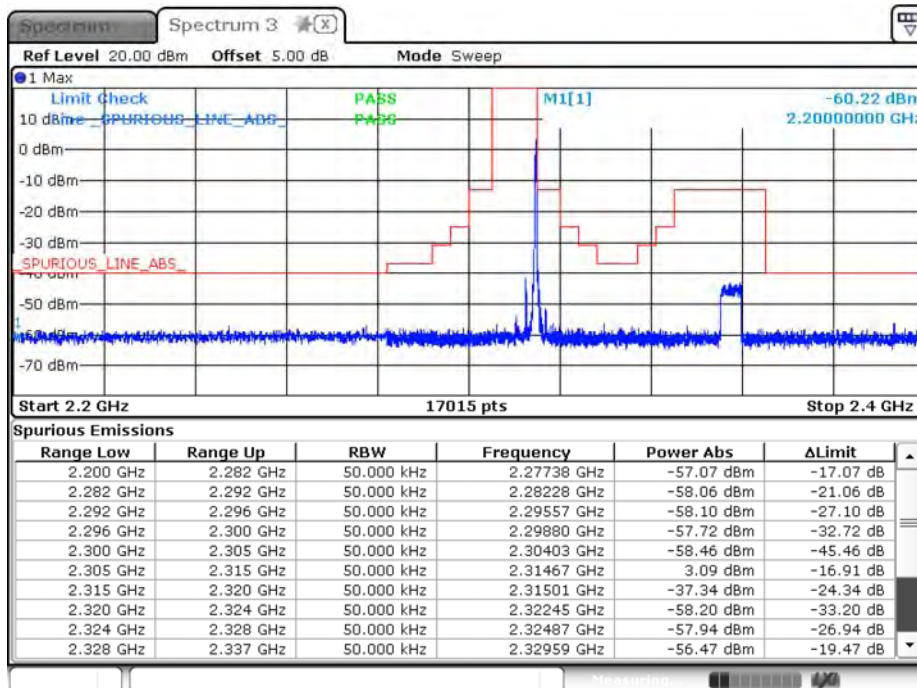


## CH27685\_5M\_16-QAM\_1RB0



Date: 17.AUG.2018 21:38:31

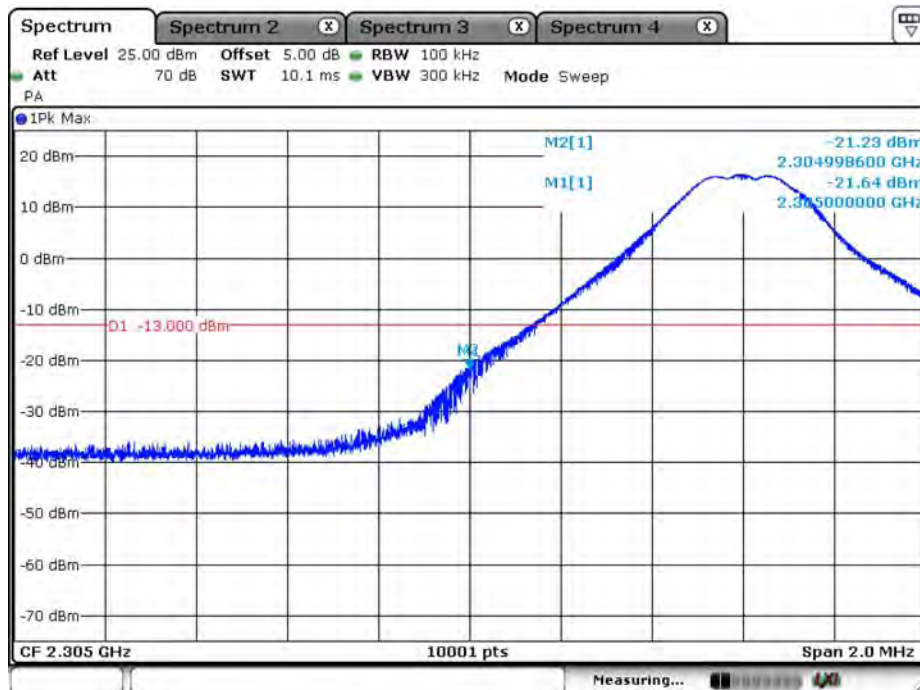
## CH27735\_5M\_16-QAM\_1RB24



Date: 17.AUG.2018 21:37:28

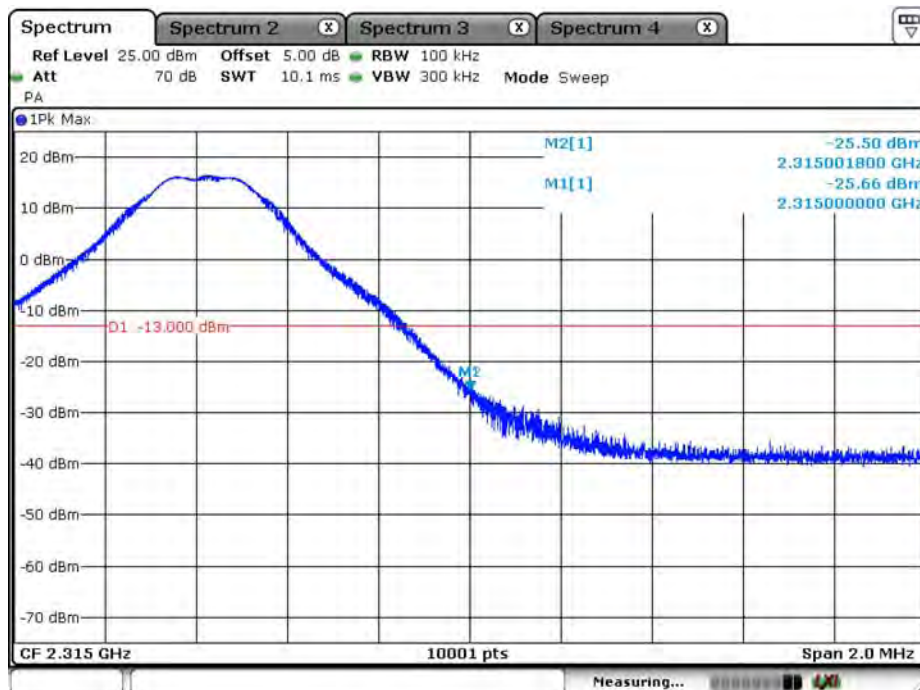


## CH27710\_10M\_QPSK\_1RB0



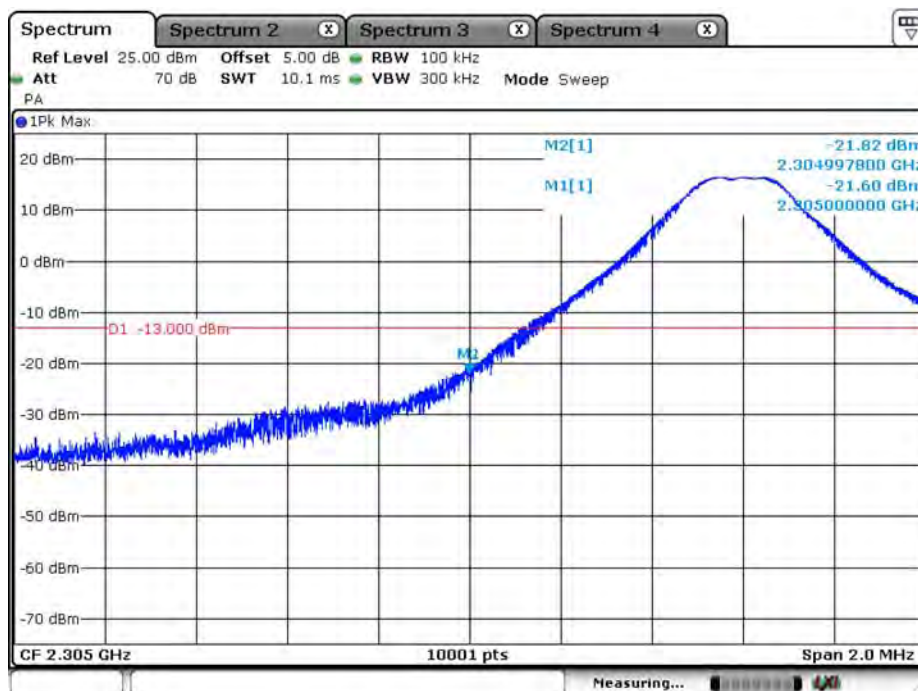
Date: 24.MAY.2018 17:38:26

## CH27710\_10M\_QPSK\_1RB49



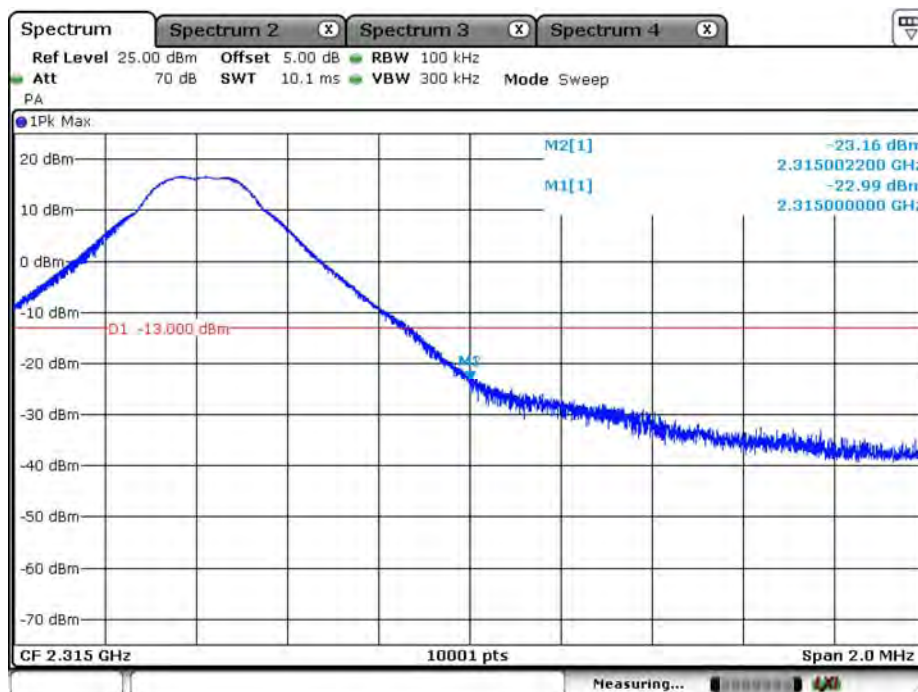
Date: 24.MAY.2018 17:41:21

## CH27710\_10M\_16-QAM\_1RB0



Date: 24.MAY.2018 17:39:22

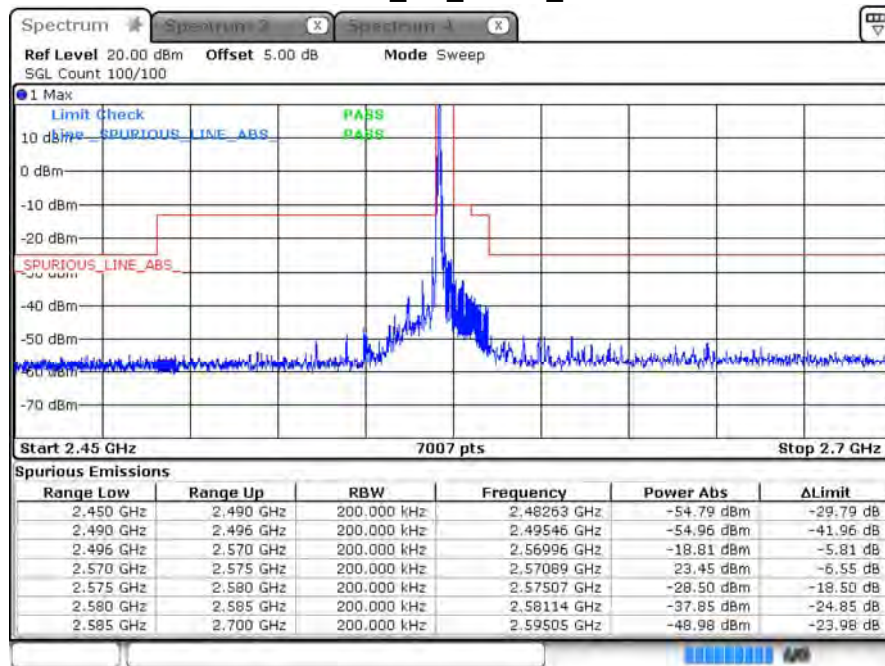
## CH27710\_10M\_16-QAM\_1RB49



Date: 24.MAY.2018 17:43:41

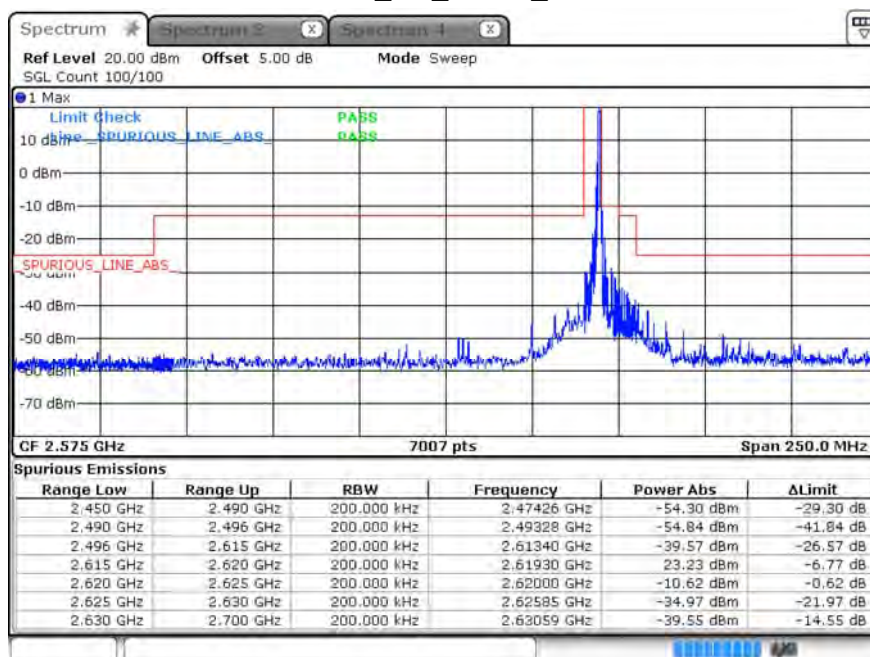
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 14: LTE Band 38                    |           |        |
| Date of Test | 2018/08/18                              | Test Site | SR10-H |

## CH37775\_5M\_QPSK\_1RB0



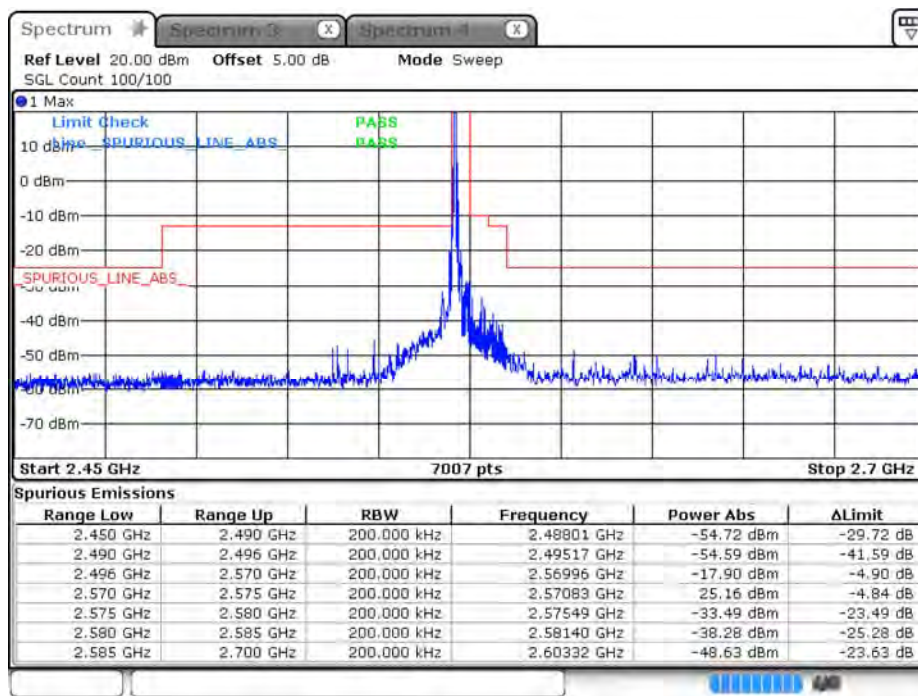
Date: 18.AUG.2018 04:57:57

## CH38225\_5M\_QPSK\_1RB24

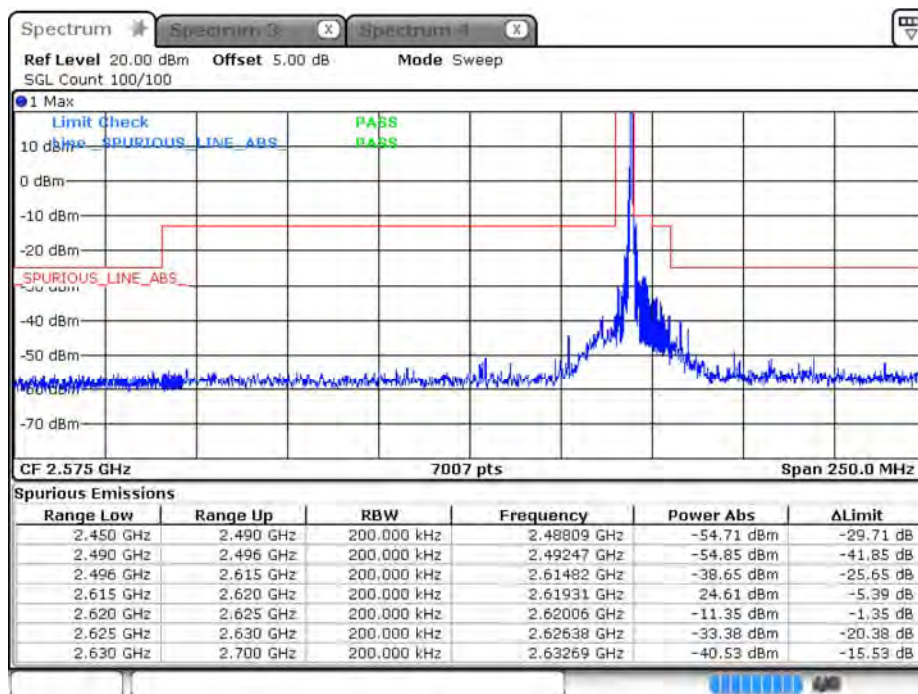


Date: 18.AUG.2018 05:07:35





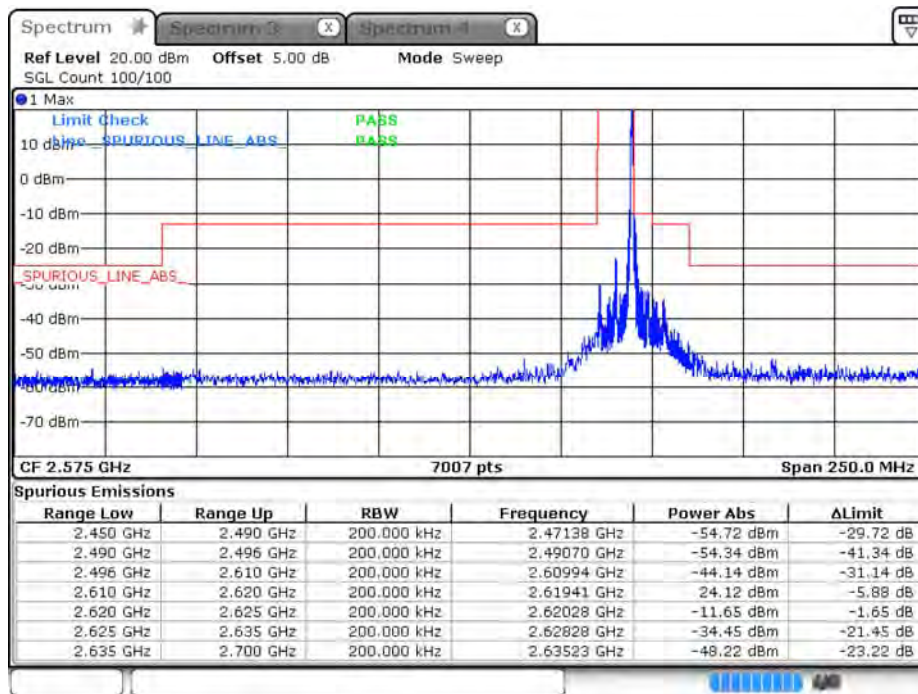
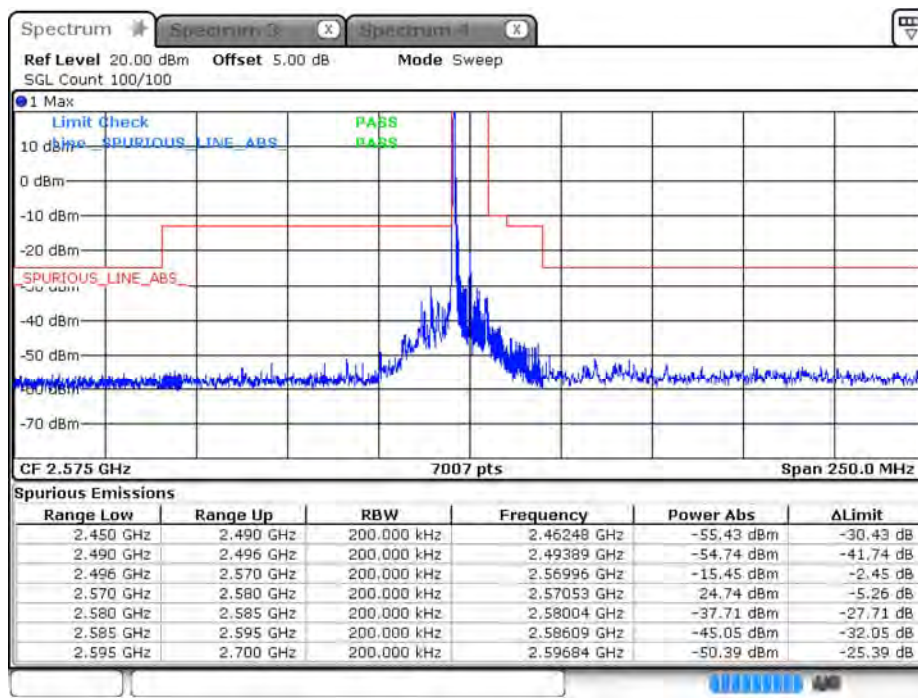
Date: 18 AUG 2018 04:58:27

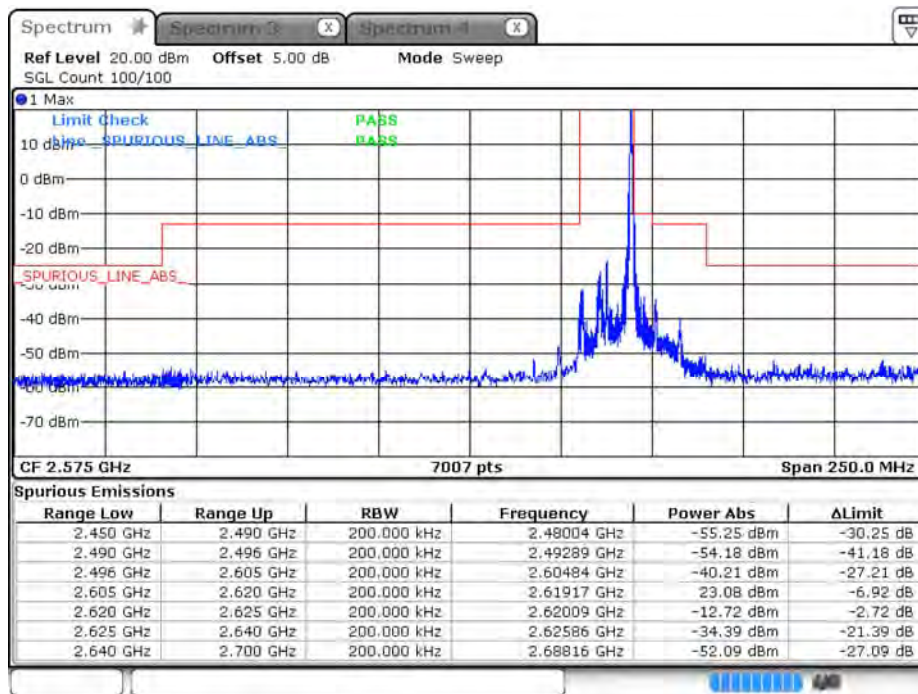
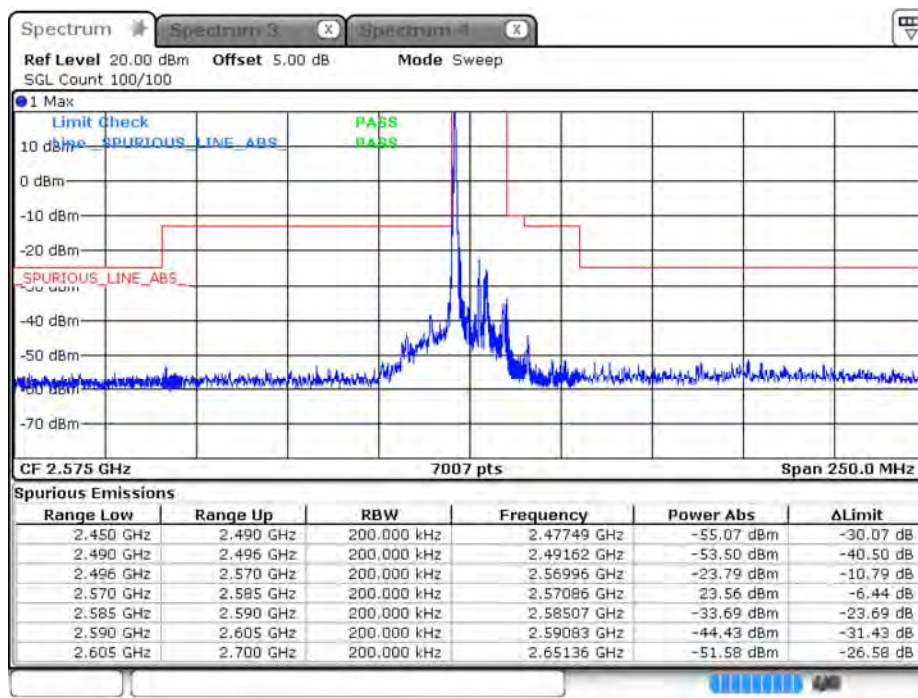


Date: 18 AUG 2018 05:08:12





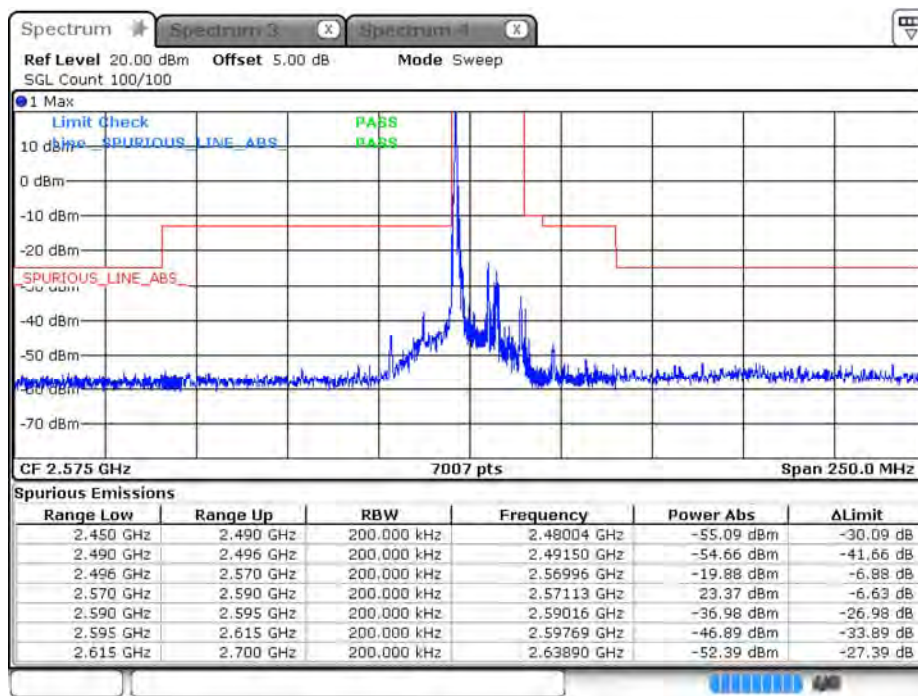




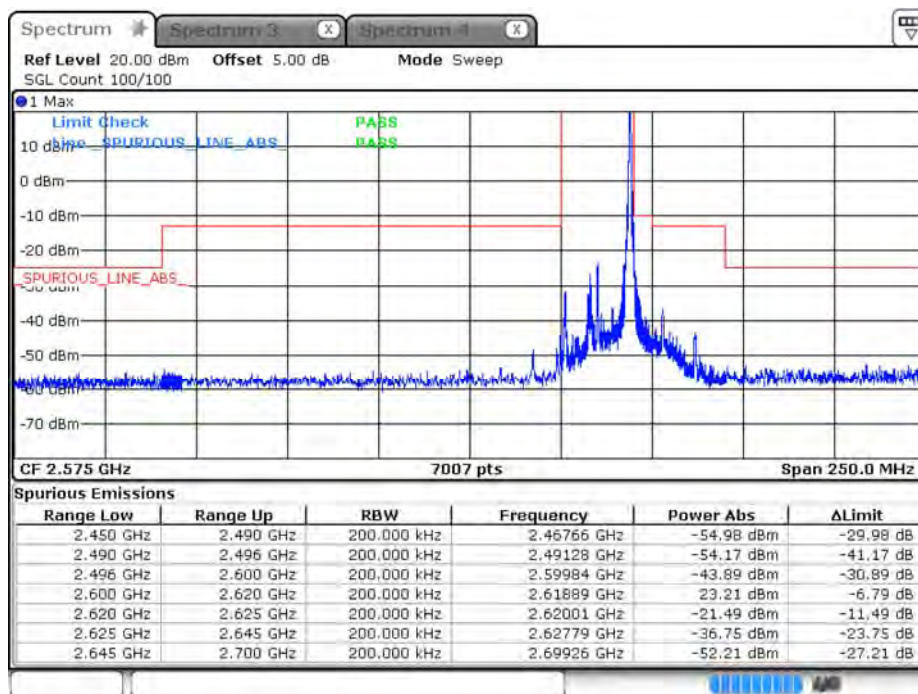




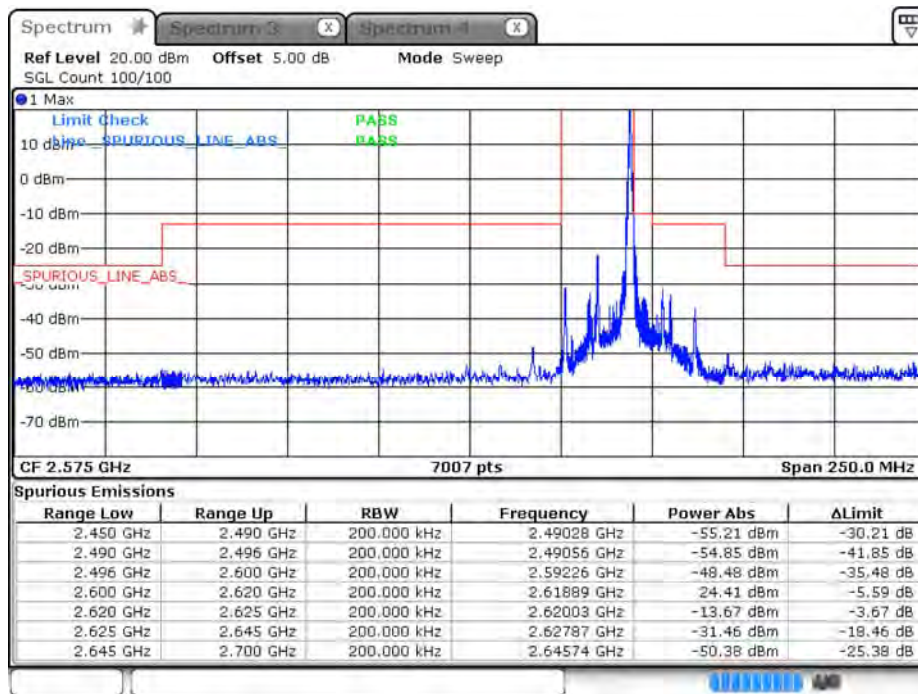
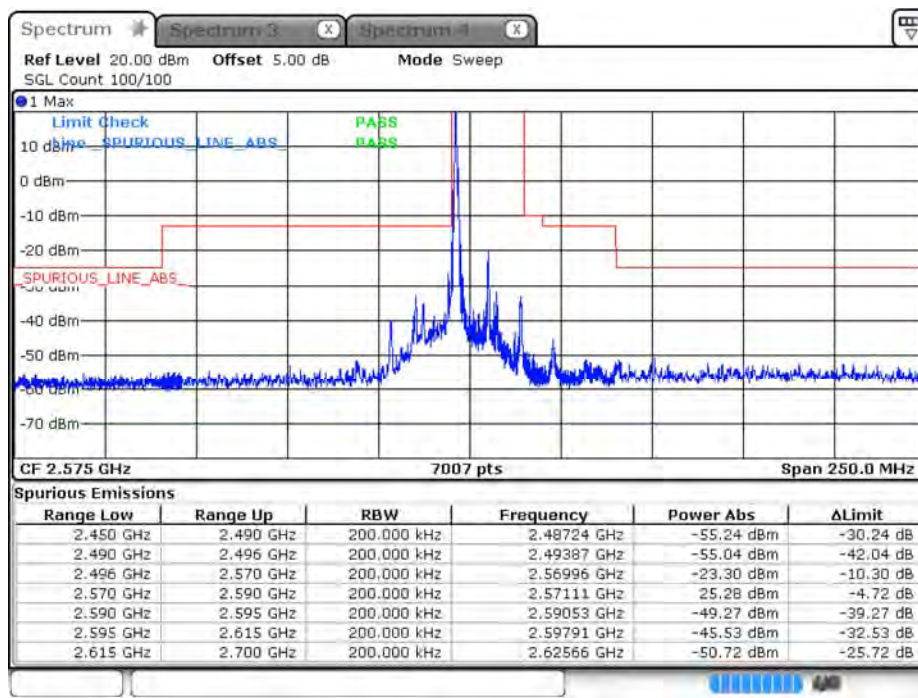




Date: 18 AUG 2018 05:05:08

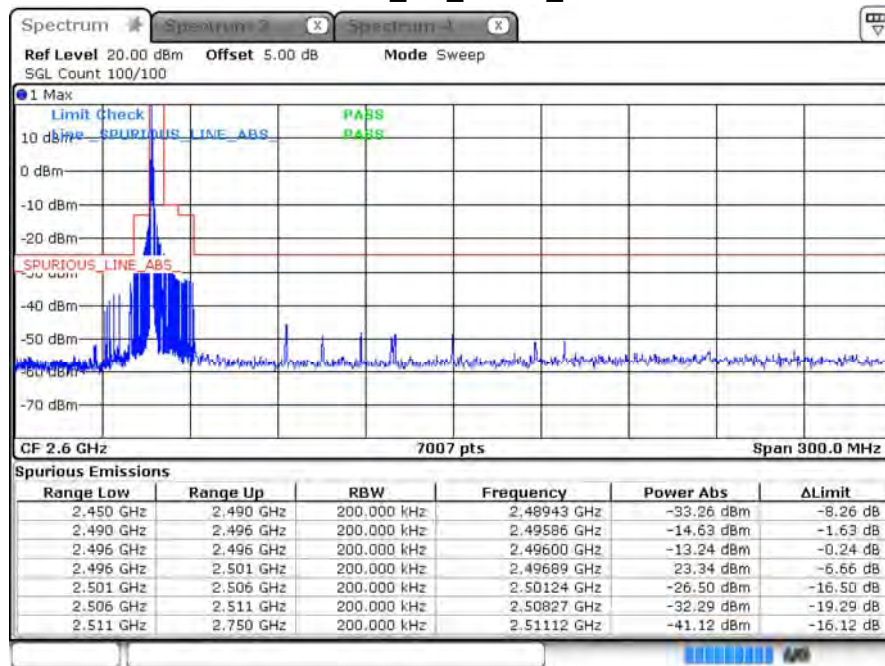


Date: 18 AUG 2018 05:14:49



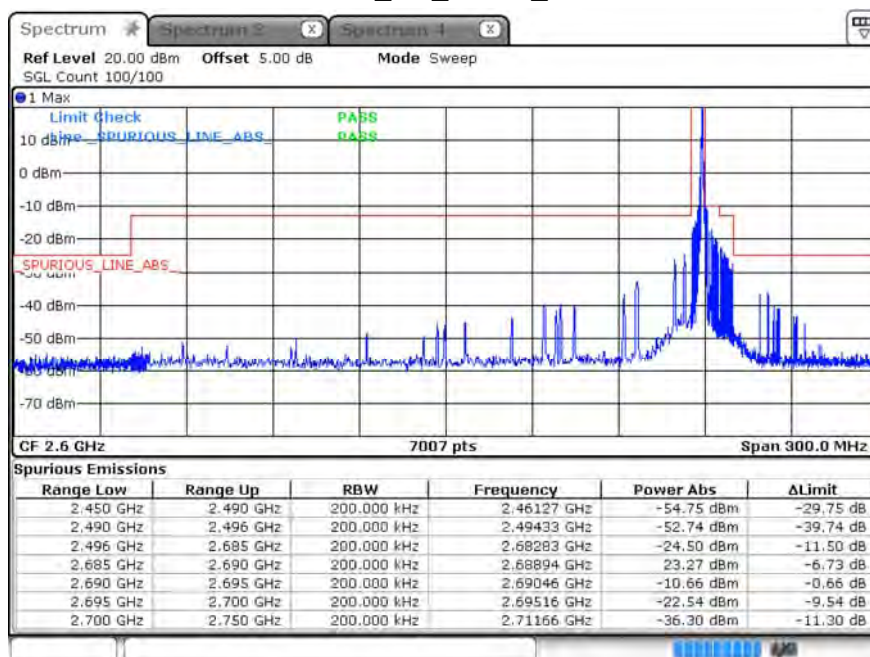
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 15: LTE Band 41                    |           |        |
| Date of Test | 2018/08/18                              | Test Site | SR10-H |

## CH39675\_5M\_QPSK\_1RB0



Date: 18 AUG 2018 06:16:09

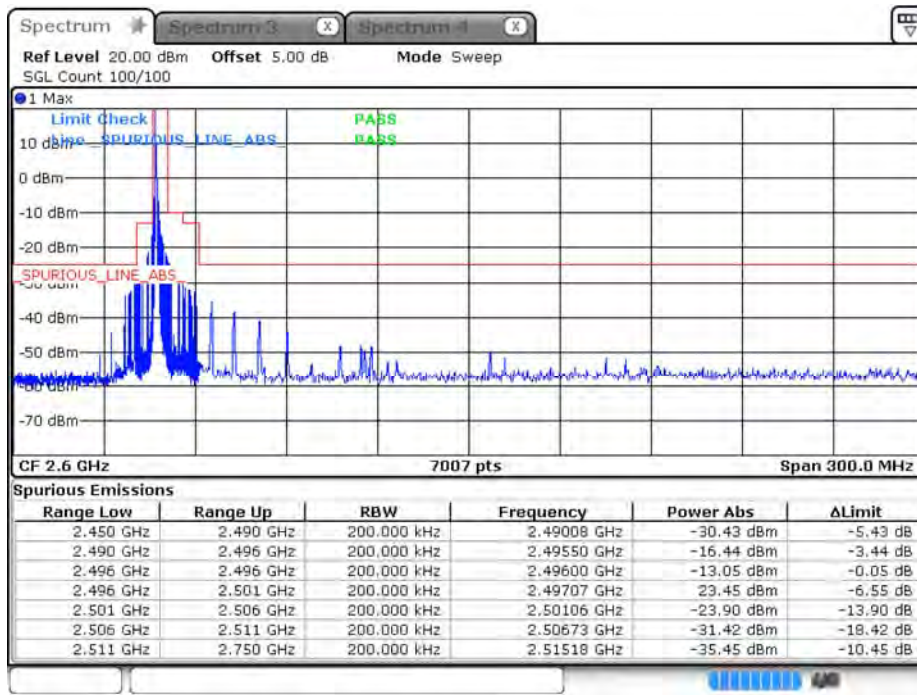
## CH41565\_5M\_QPSK\_1RB24



Date: 18 AUG 2018 05:52:00

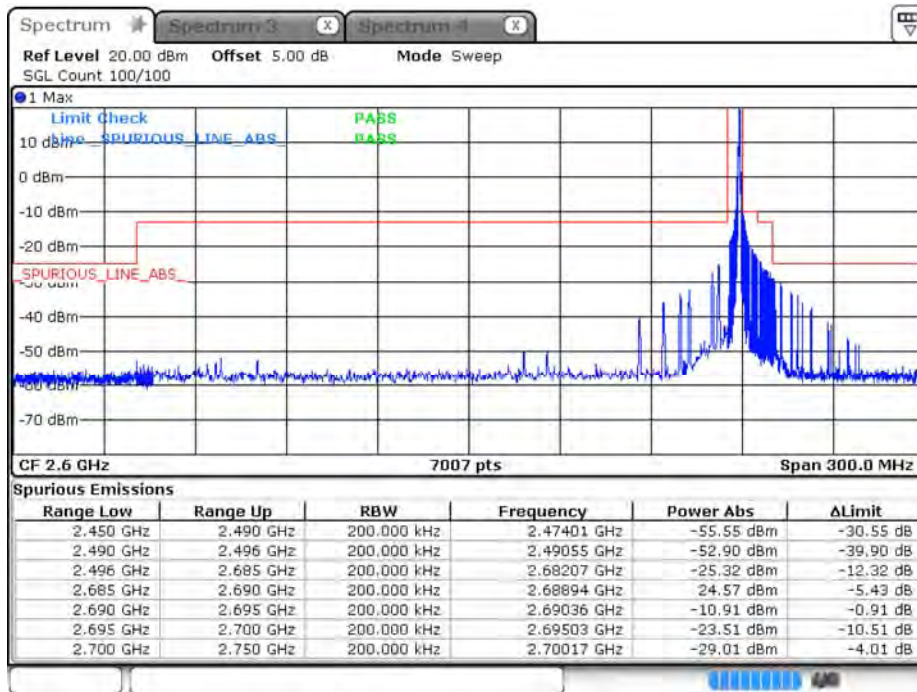


## CH39675\_5M\_16-QAM\_1RB0



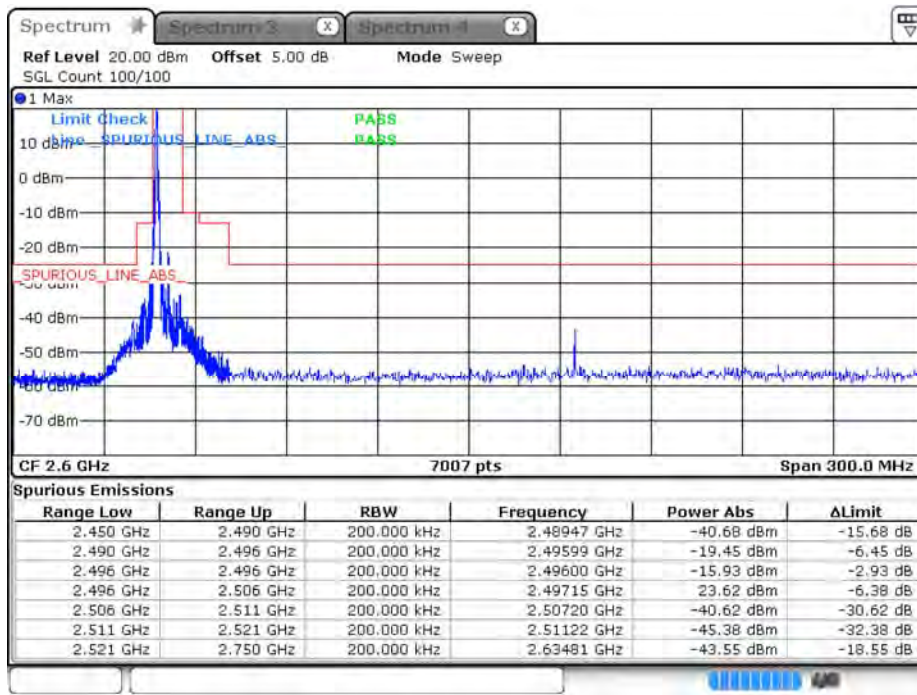
Date: 18 AUG 2018 06:19:15

## CH41565\_5M\_16-QAM\_1RB24



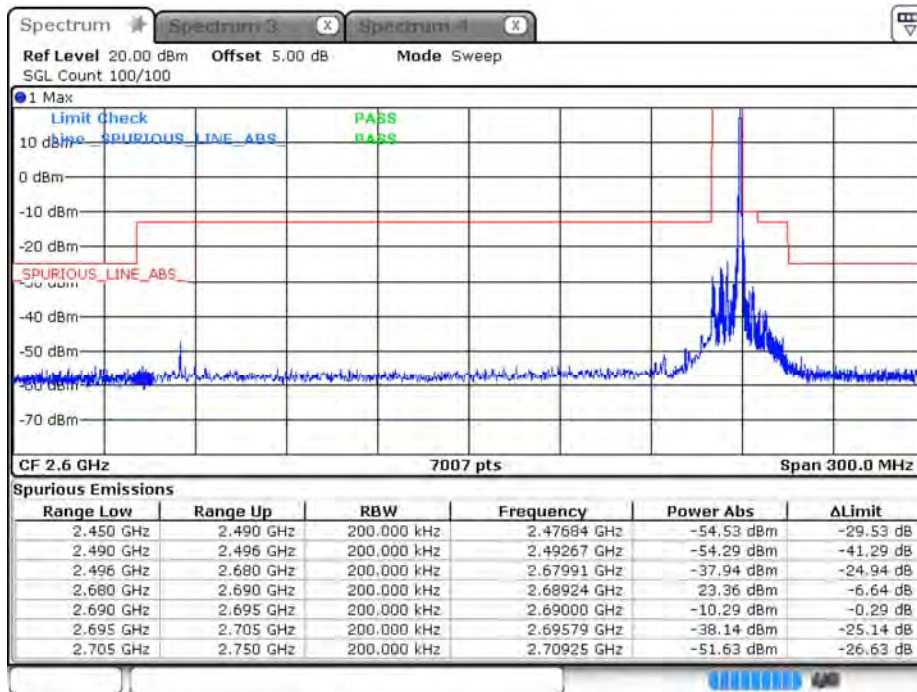
Date: 18 AUG 2018 05:54:22

## CH39700\_10M\_QPSK\_1RB0



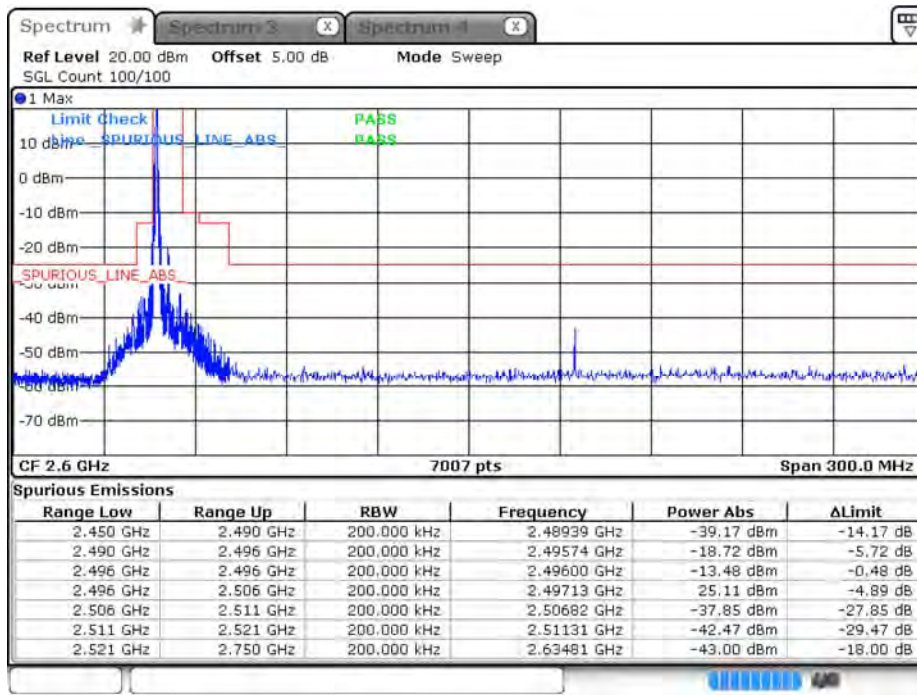
Date: 18 AUG 2018 06:07:24

## CH41540\_10M\_QPSK\_1RB49



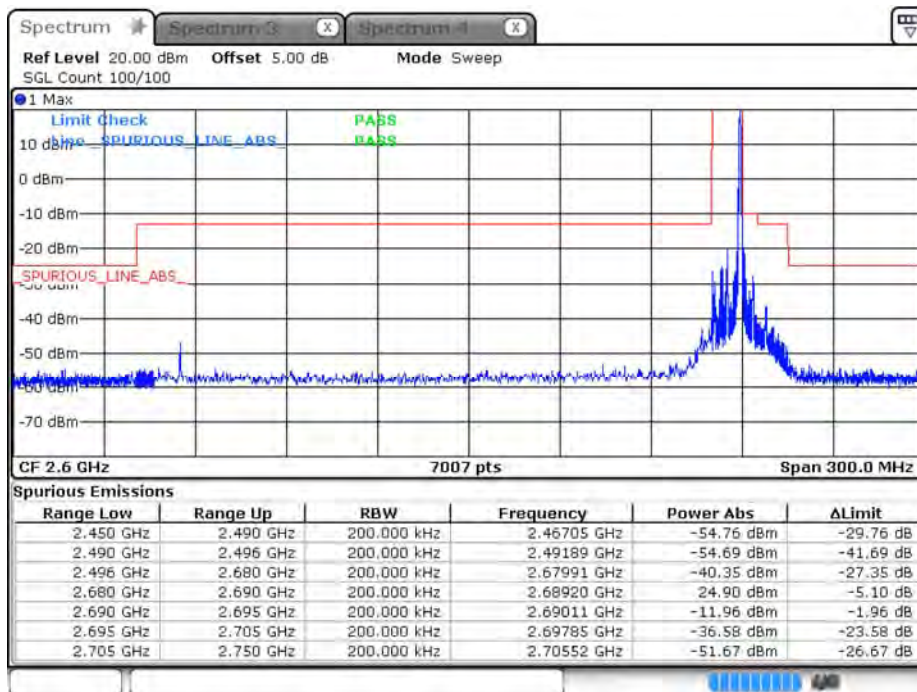
Date: 18 AUG 2018 05:34:39

## CH39700\_10M\_16-QAM\_1RB0



Date: 18 AUG 2018 06:08:54

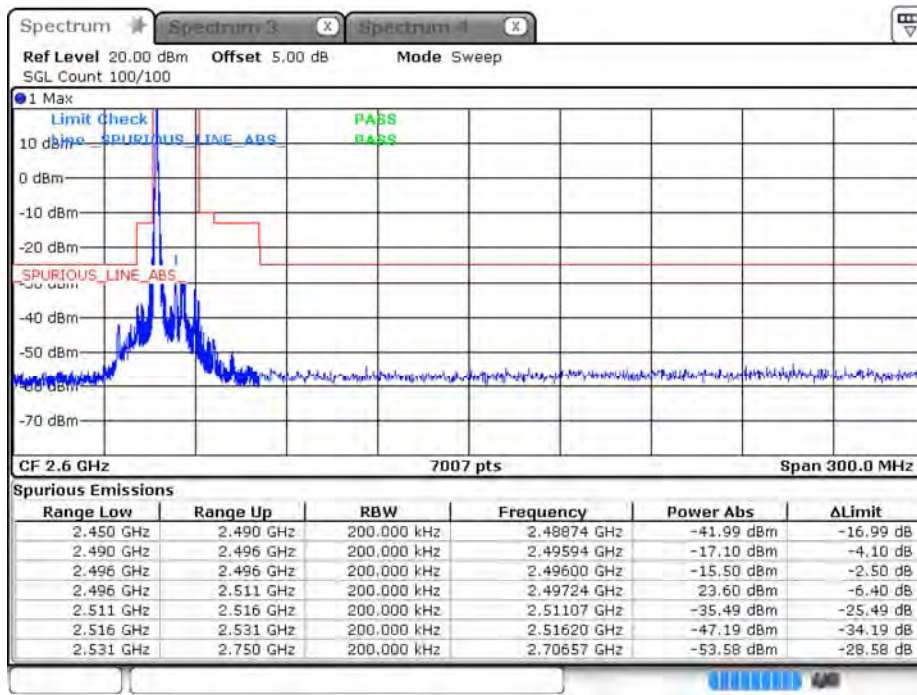
## CH41540\_10M\_16-QAM\_1RB49



Date: 18 AUG 2018 05:35:40

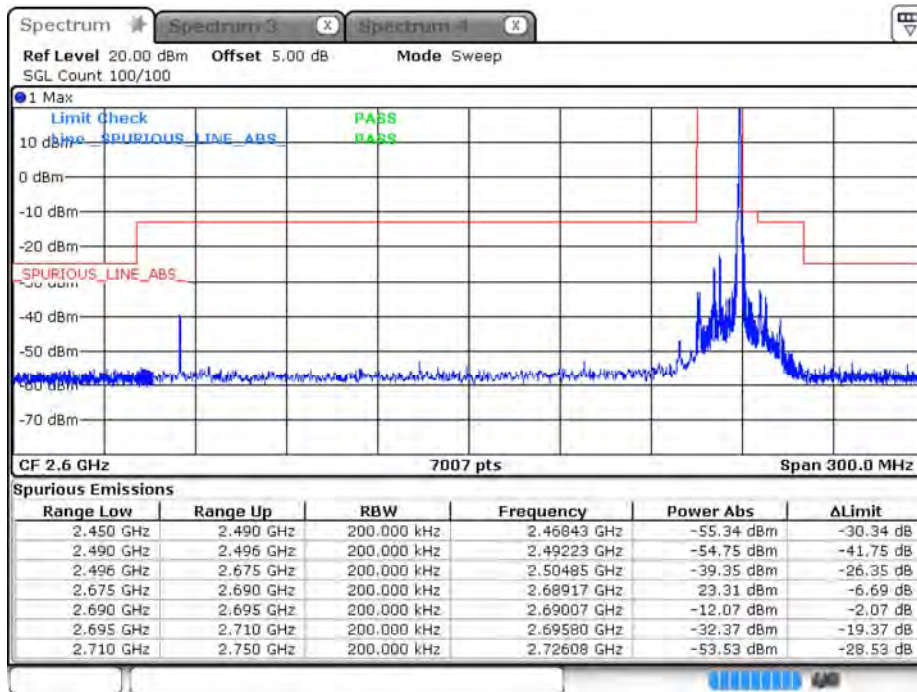


## CH39725\_15M\_QPSK\_1RB0



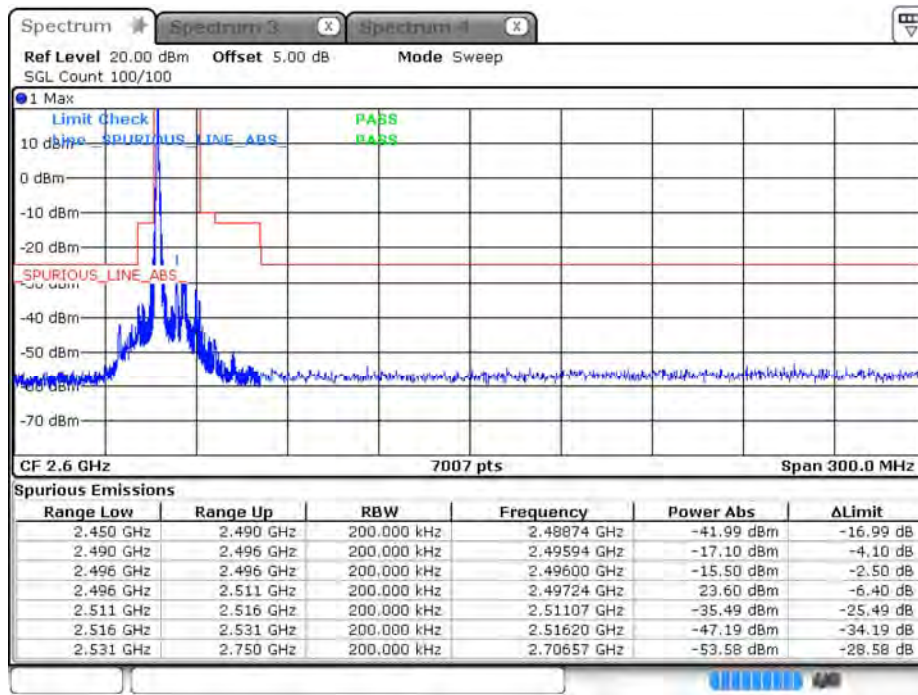
Date: 18 AUG 2018 06:03:30

## CH41515\_15M\_QPSK\_1RB0



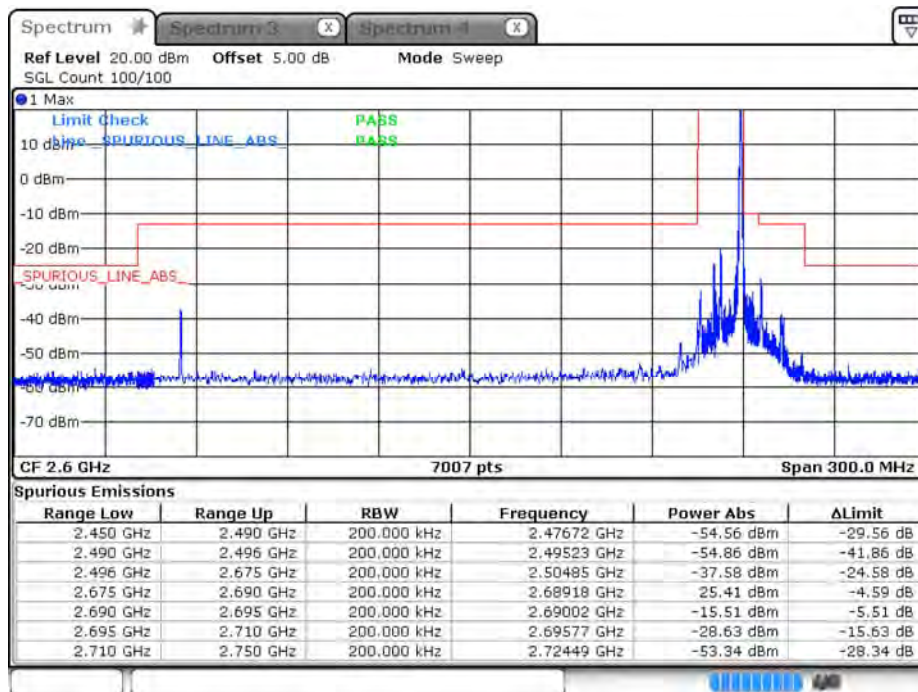
Date: 18 AUG 2018 05:42:49

## CH39725\_15M\_16-QAM\_1RB0



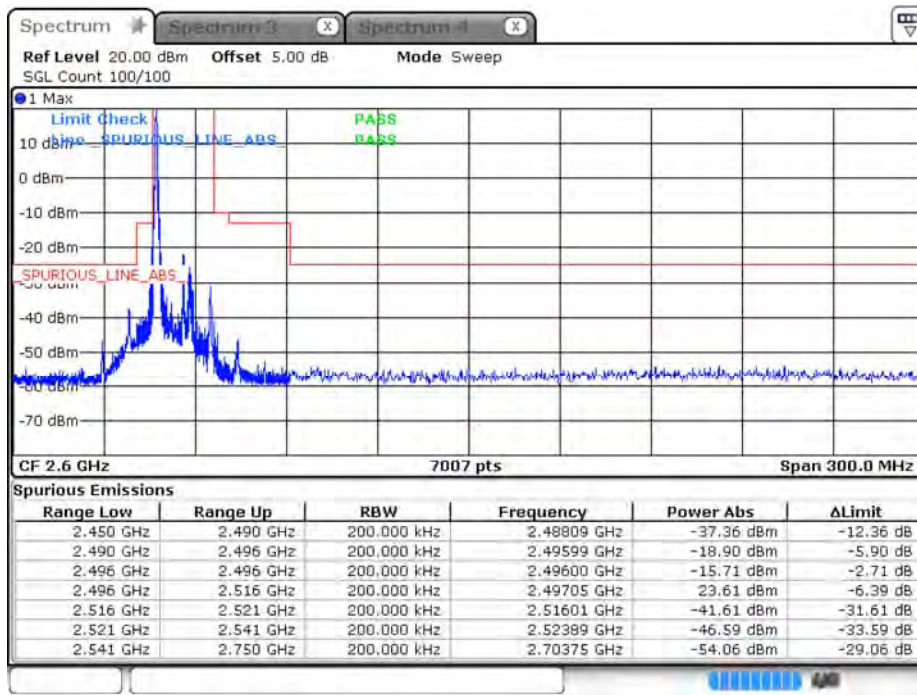
Date: 18 AUG 2018 06:03:30

## CH41515\_15M\_16-QAM\_1RB49



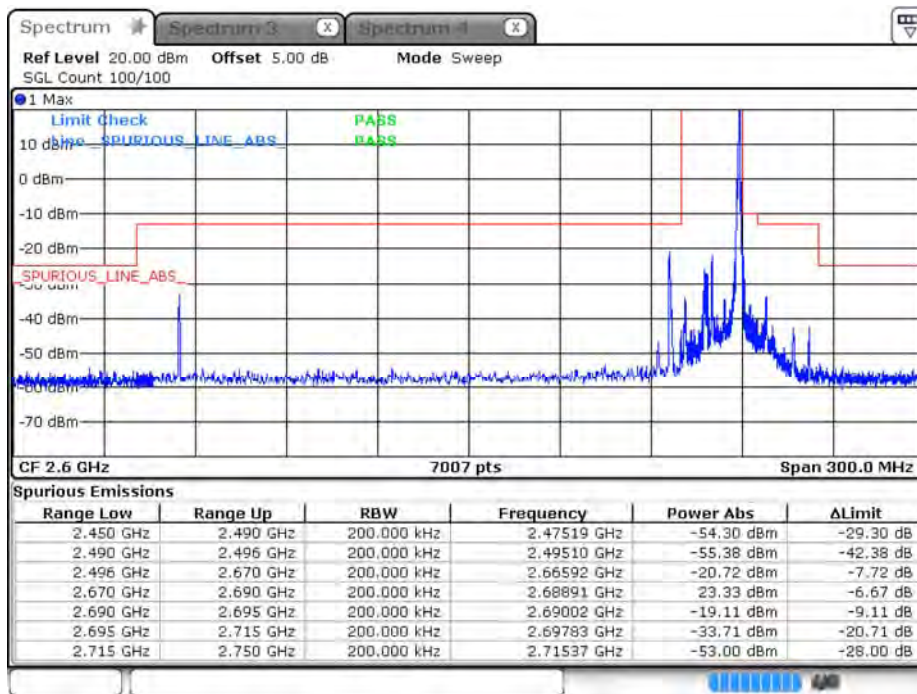
Date: 18 AUG 2018 05:43:34

## CH39750\_20M\_QPSK\_1RB0



Date: 18 AUG 2018 05:59:50

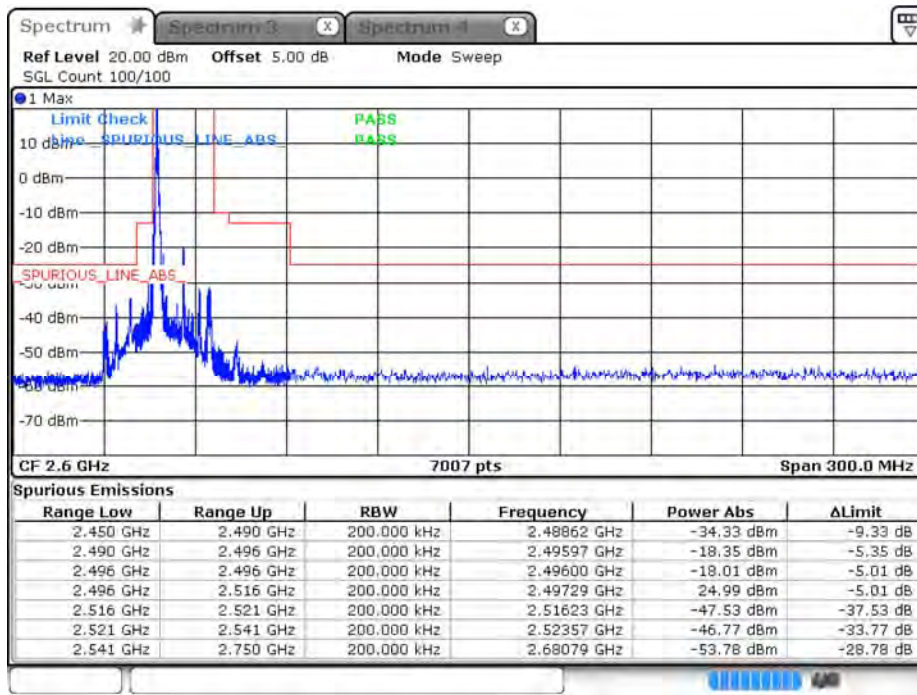
## CH41490\_20M\_QPSK\_1RB99



Date: 18 AUG 2018 05:45:59

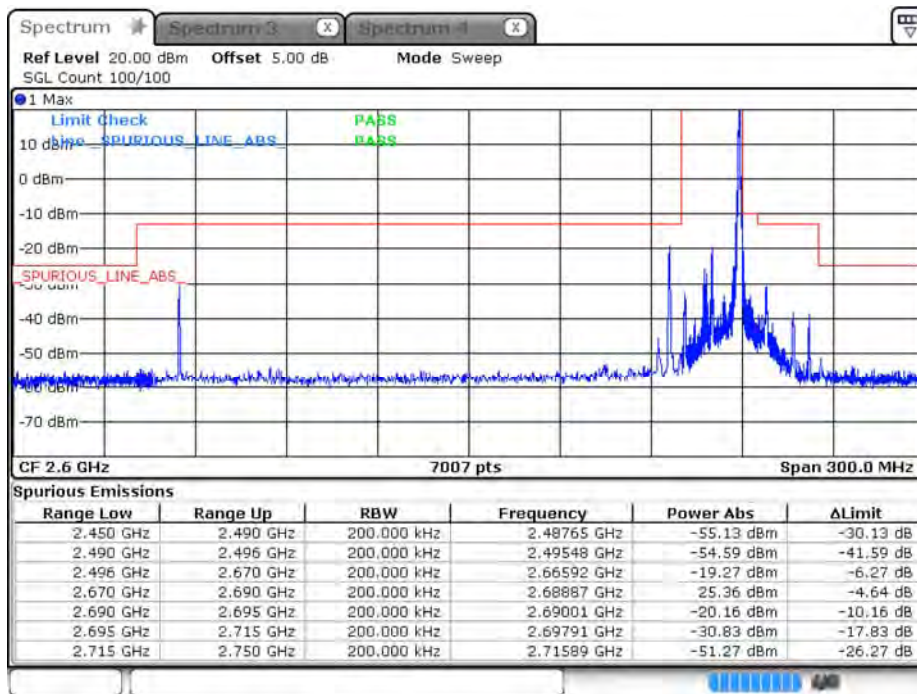


## CH39750\_20M\_16-QAM\_1RB0



Date: 18 AUG 2018 06:00:43

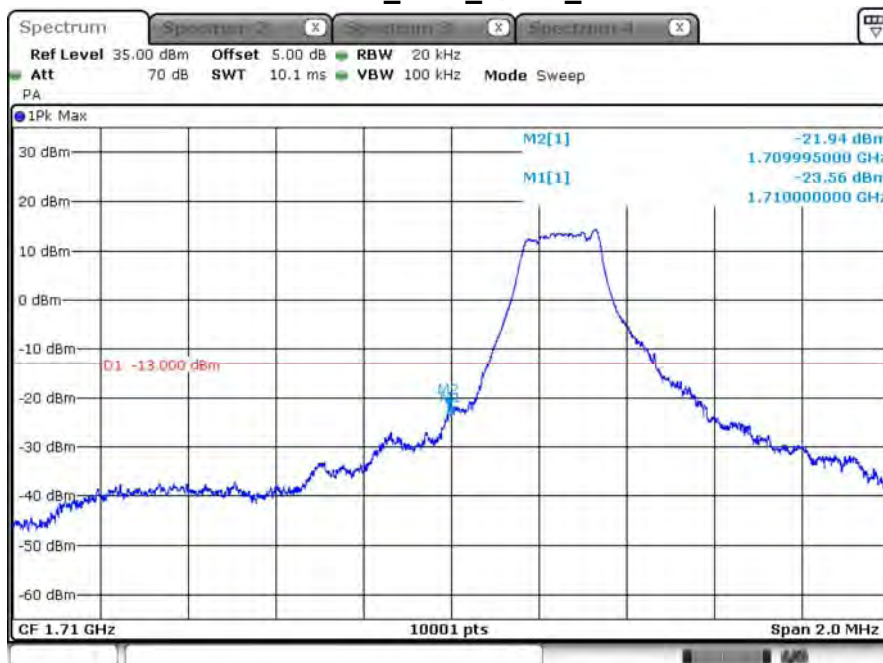
## CH41490\_20M\_16-QAM\_1RB99



Date: 18 AUG 2018 05:46:42

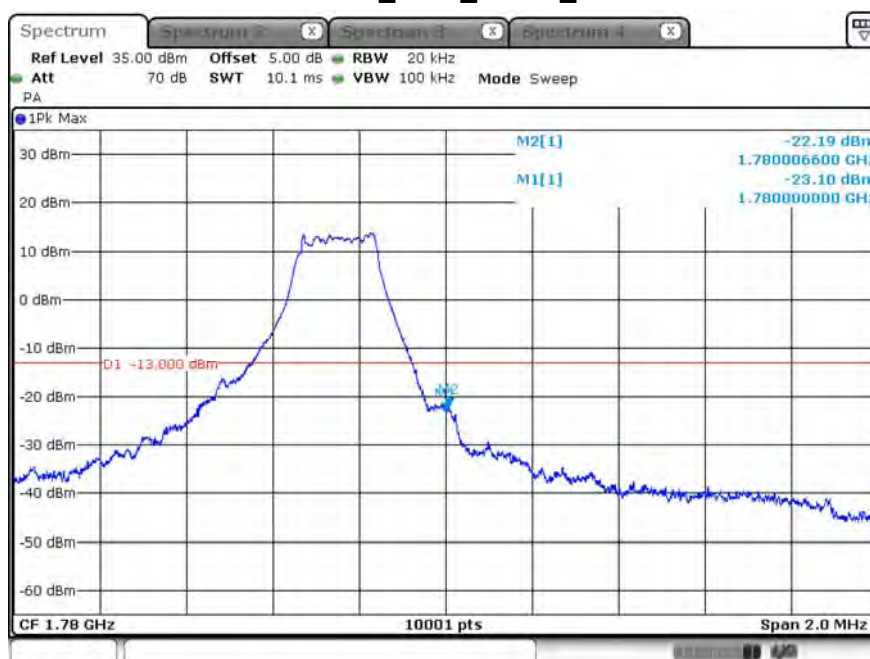
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 16: LTE Band 66                    |           |        |
| Date of Test | 2018/05/17                              | Test Site | SR10-H |

## CH131979\_1.4M\_QPSK\_1RB0



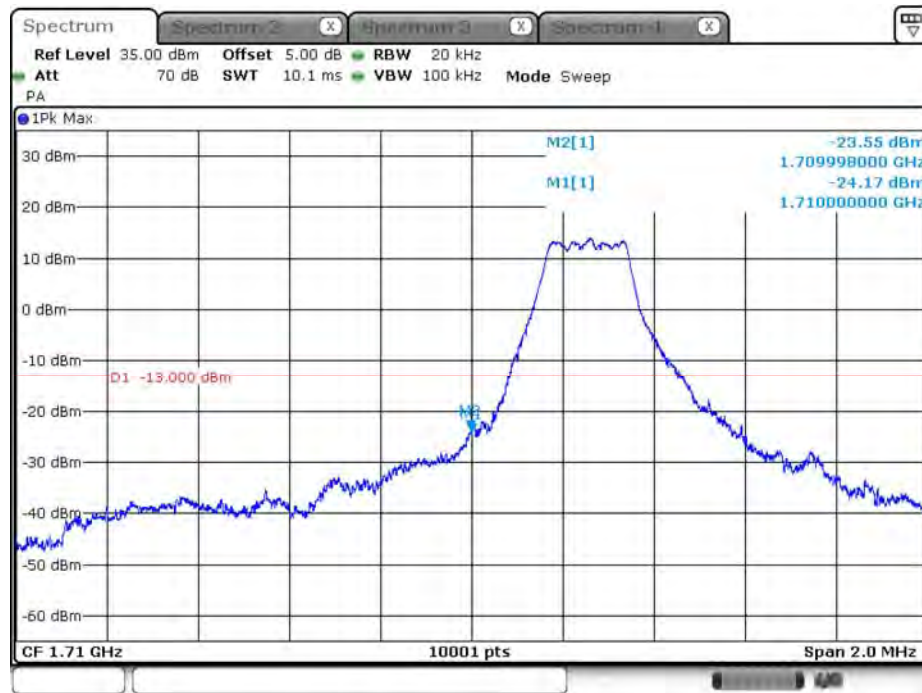
Date: 17 MAY 2018 17:40:30

## CH132665\_1.4M\_QPSK\_1RB5



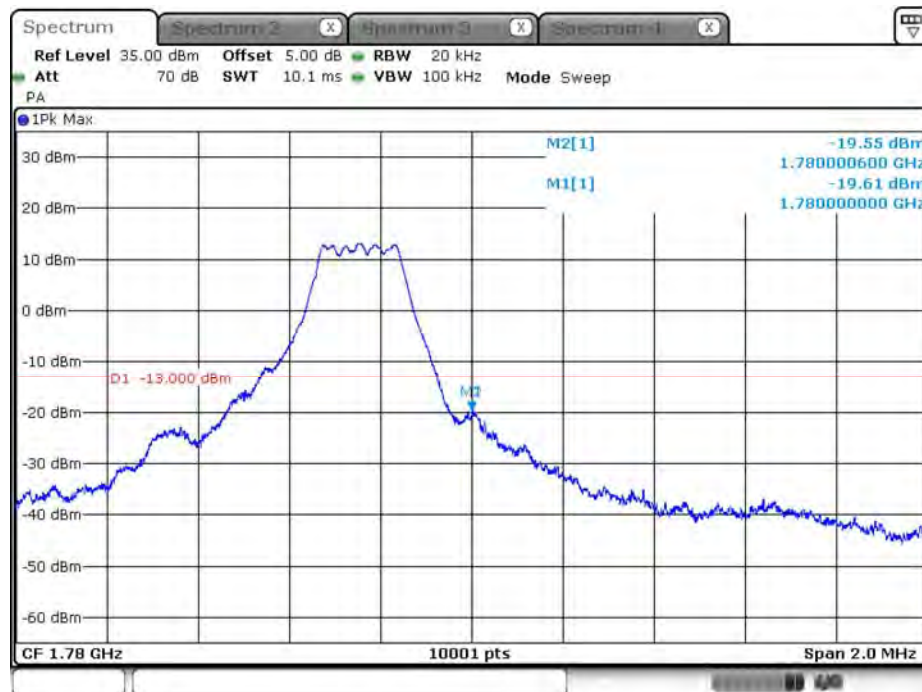
Date: 17 MAY 2018 17:54:05

## CH131979\_1.4M\_16-QAM\_1RB0



Date: 17.MAY.2018 17:43:15

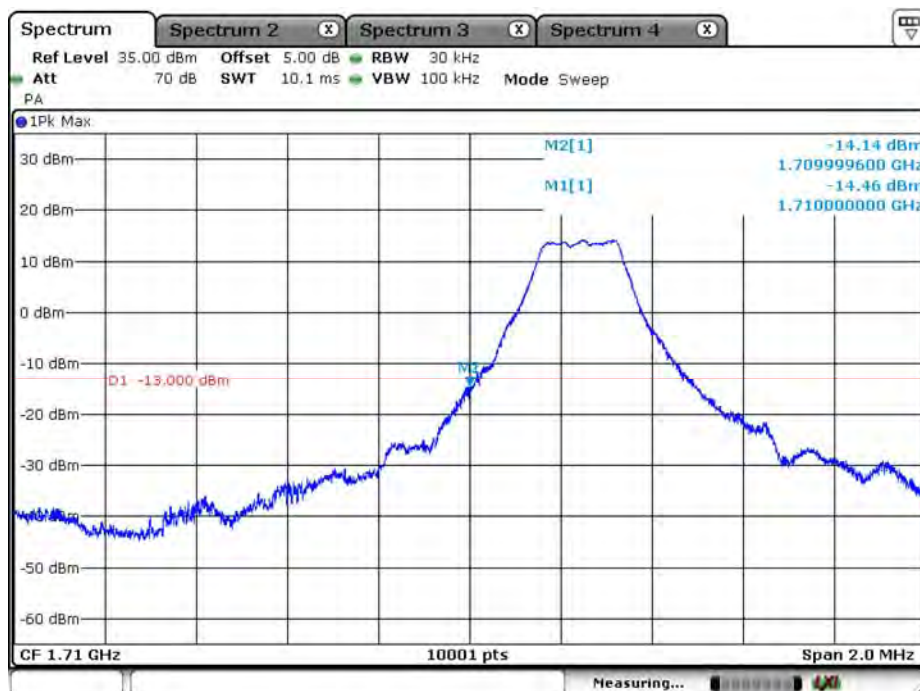
## CH132665\_1.4M\_16-QAM\_1RB5



Date: 17.MAY.2018 17:57:28

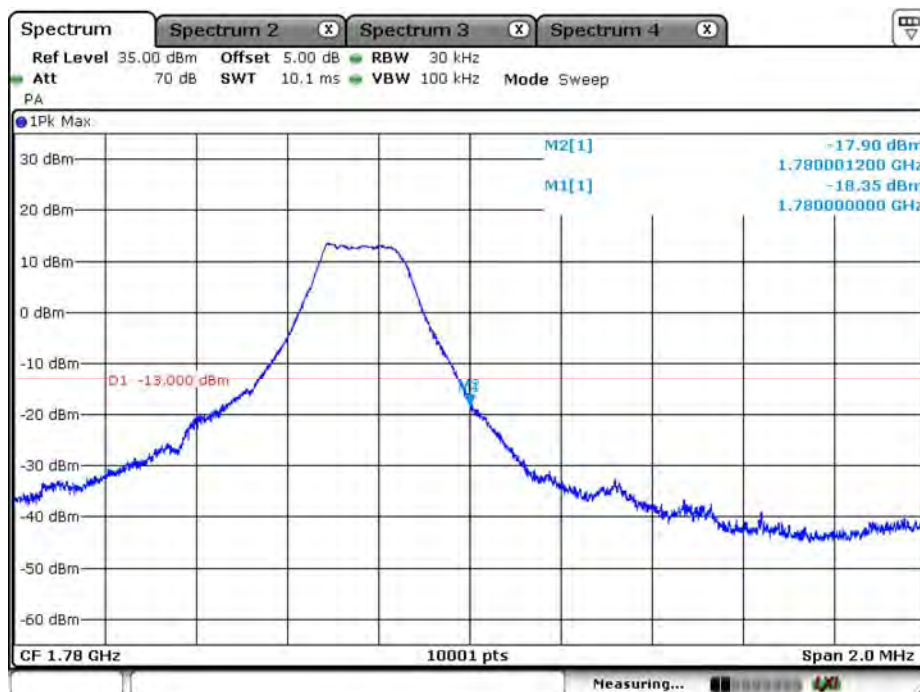


## CH131987\_3M\_QPSK\_1RB0



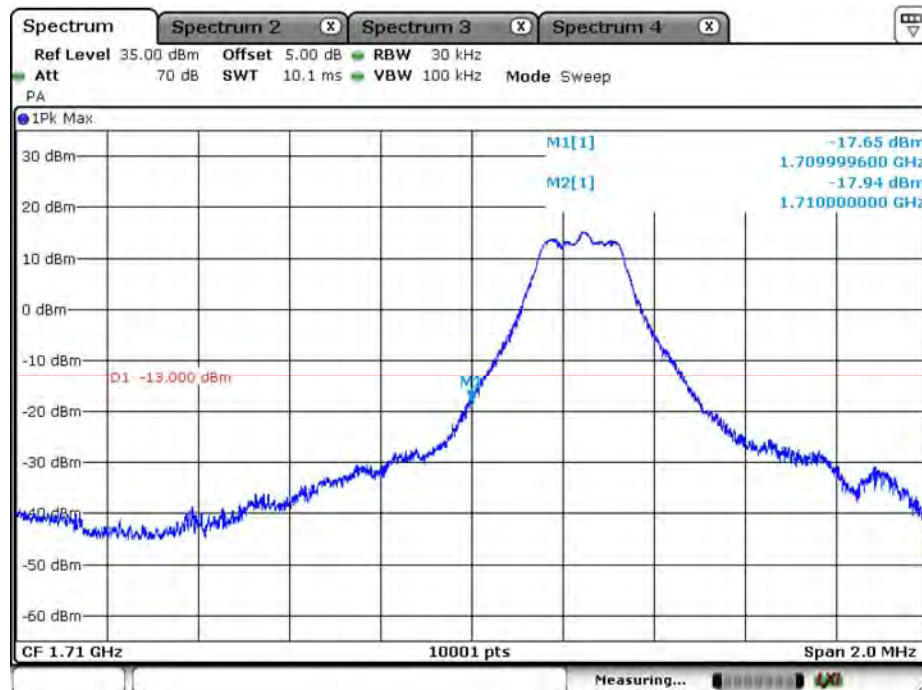
Date: 22.MAY.2018 09:44:47

## CH132657\_3M\_QPSK\_1RB14



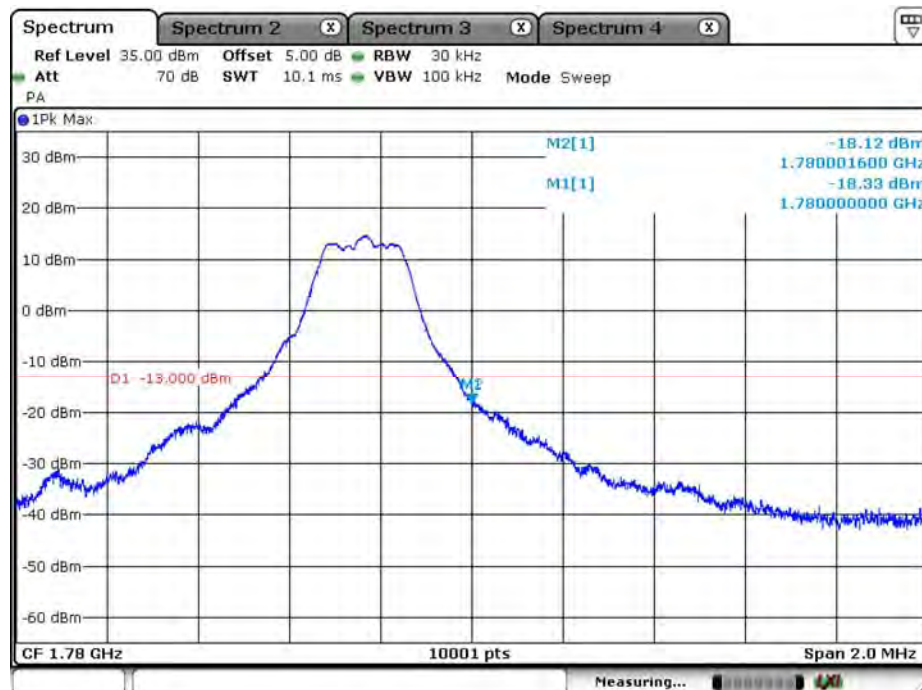
Date: 22.MAY.2018 10:43:39

## CH131987\_3M\_16-QAM\_1RB0



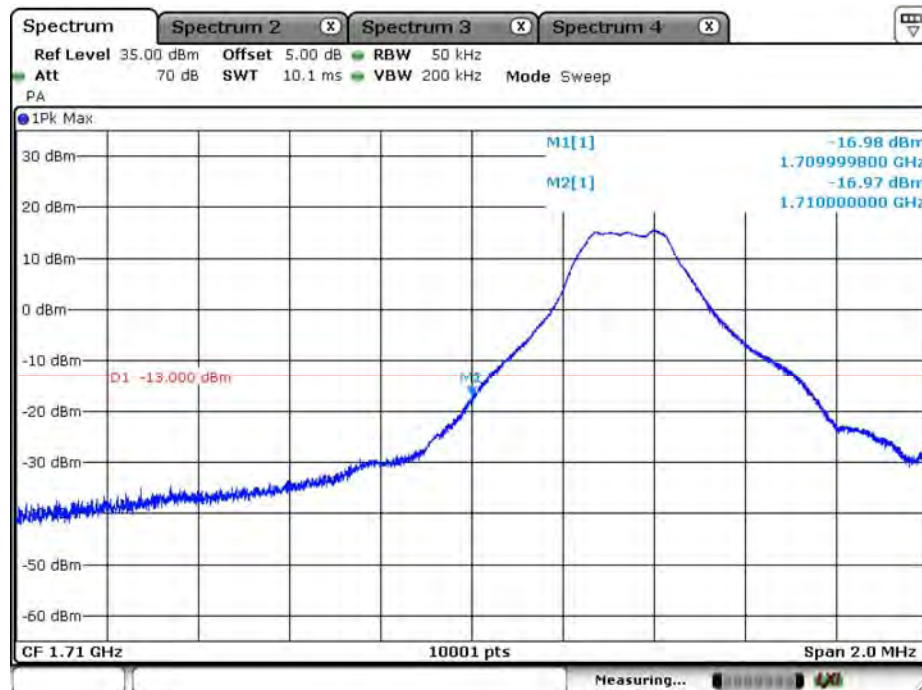
Date: 22.MAY.2018 09:51:50

## CH132657\_3M\_16-QAM\_1RB14



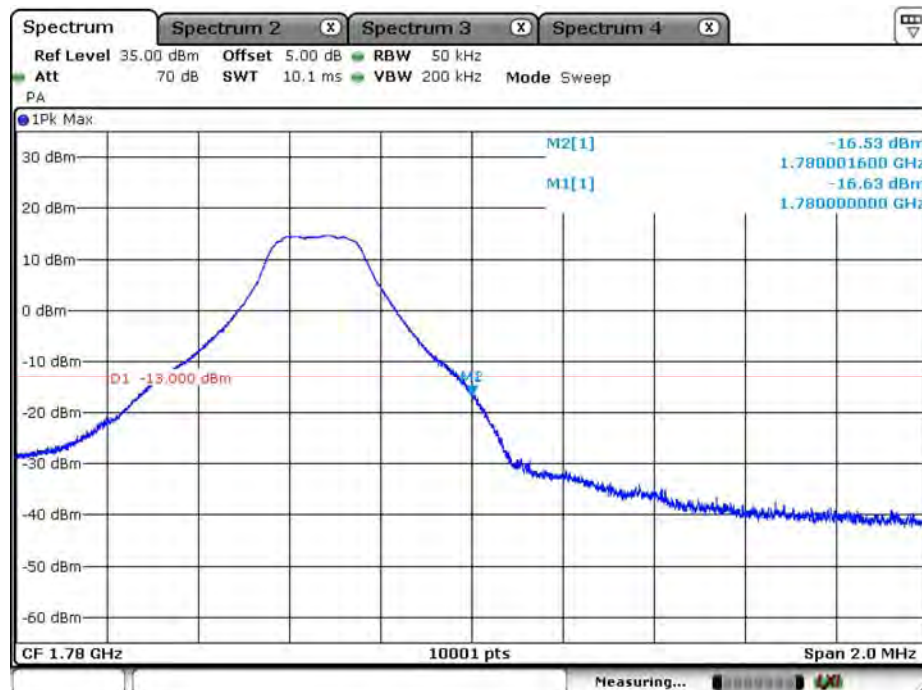
Date: 22.MAY.2018 10:41:58

## CH131997\_5M\_QPSK\_1RB0



Date: 22.MAY.2018 09:48:48

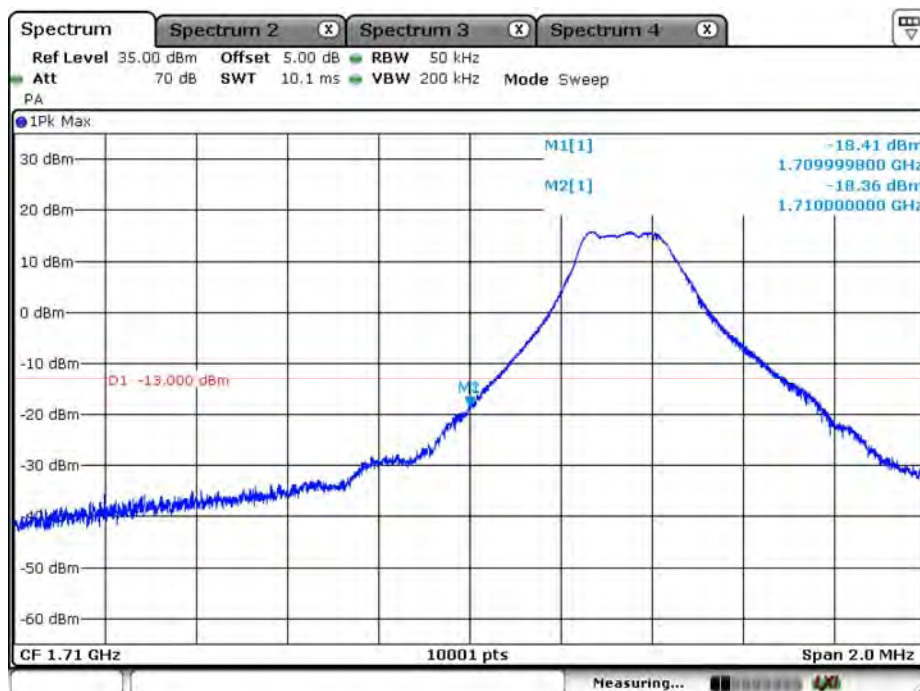
## CH132647\_5M\_QPSK\_1RB24



Date: 22.MAY.2018 10:39:36

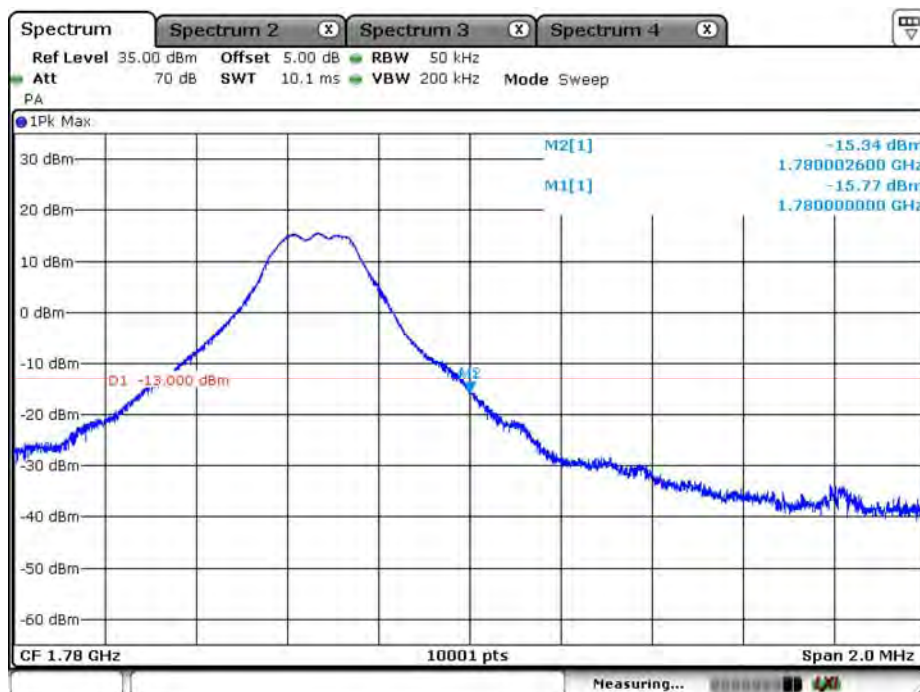


## CH131997\_5M\_16-QAM\_1RB0



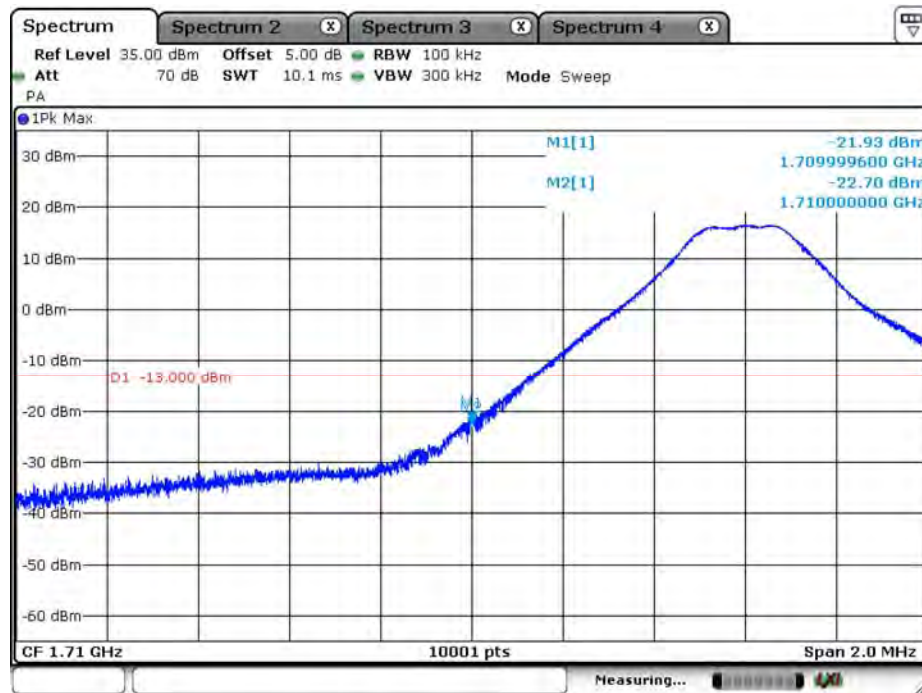
Date: 22.MAY.2018 09:50:13

## CH132647\_5M\_16-QAM\_1RB24



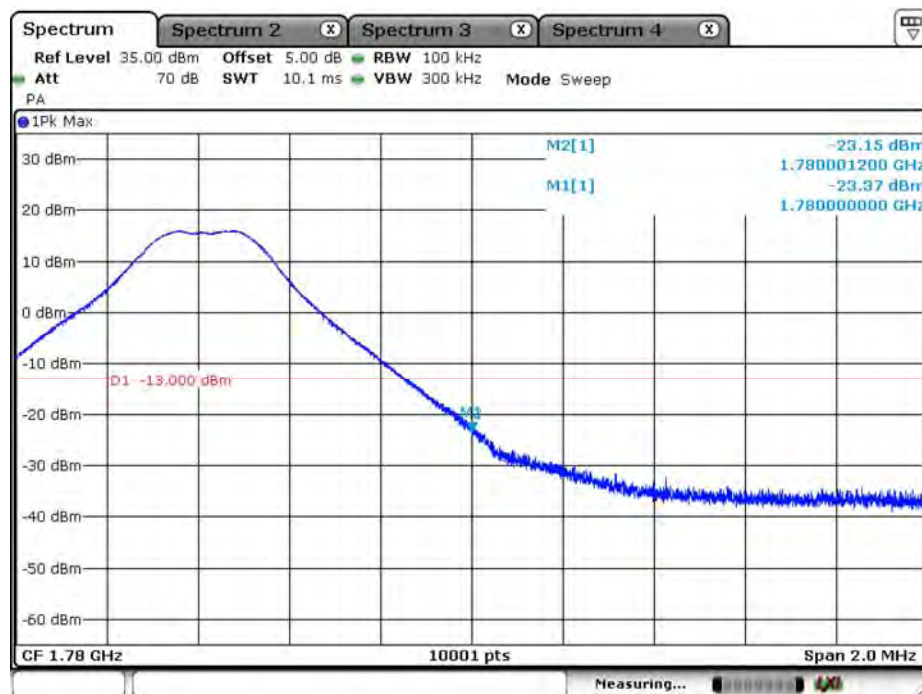
Date: 22.MAY.2018 10:34:38

## CH132022\_10M\_QPSK\_1RB0



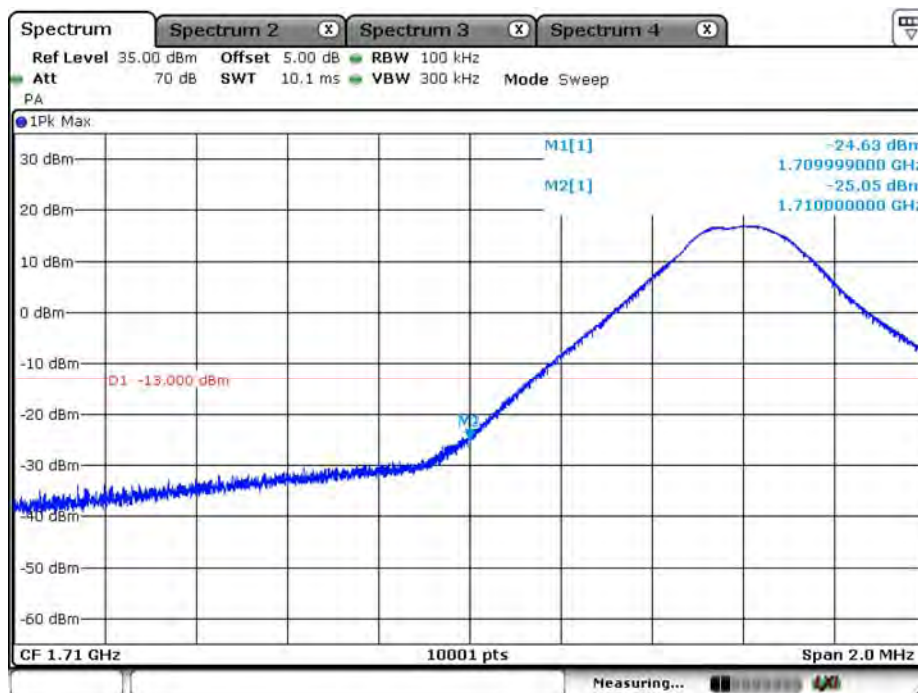
Date: 22.MAY.2018 09:54:07

## CH132622\_10M\_QPSK\_1RB49



Date: 22.MAY.2018 10:29:53

## CH132022\_10M\_16-QAM\_1RB0



Date: 22.MAY.2018 09:56:11

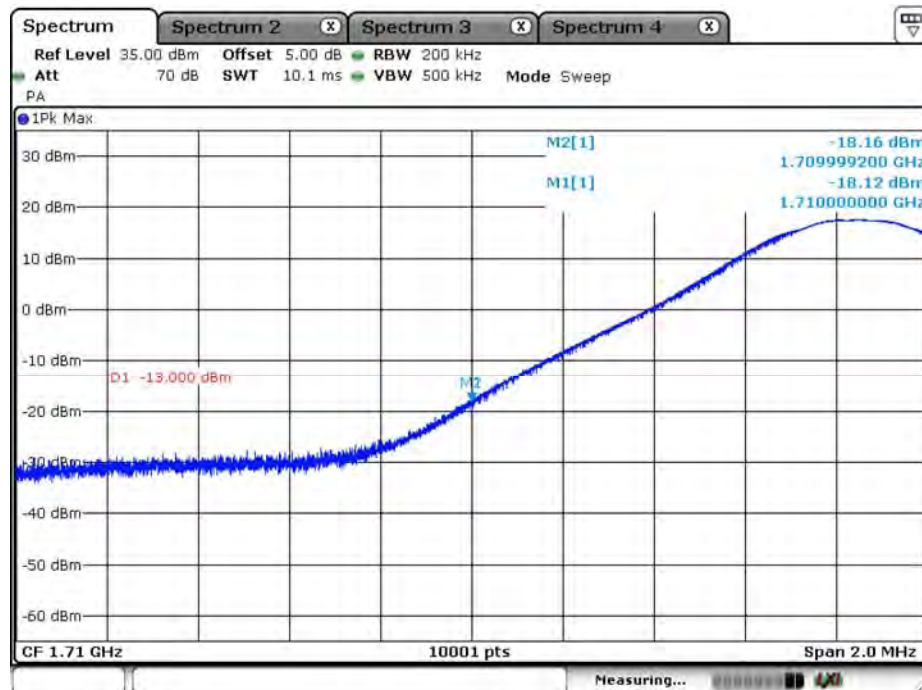
## CH132622\_10M\_16-QAM\_1RB49



Date: 22.MAY.2018 10:25:41

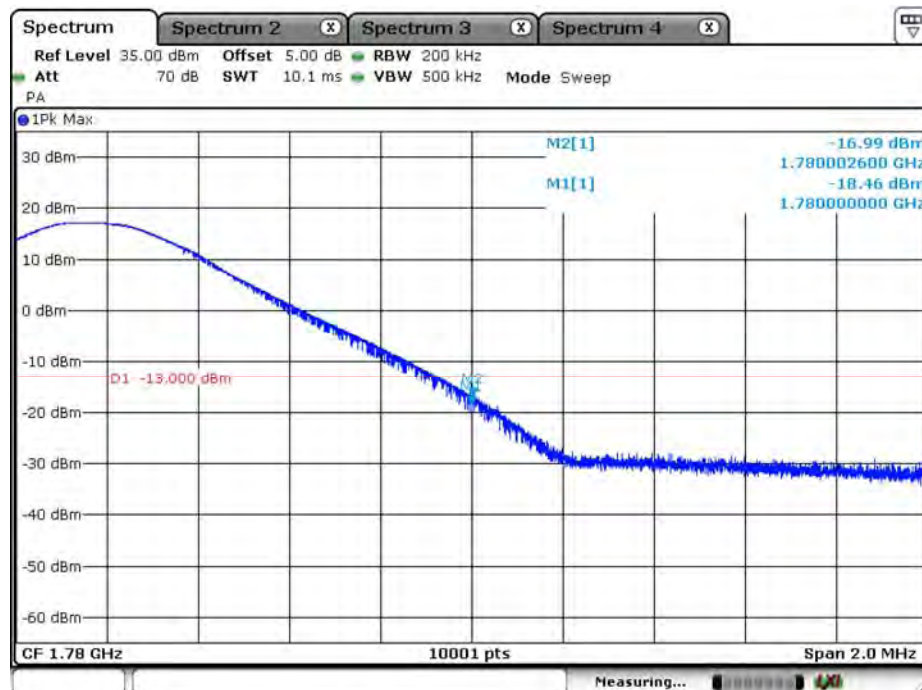


## CH132047\_15M\_QPSK\_1RB0



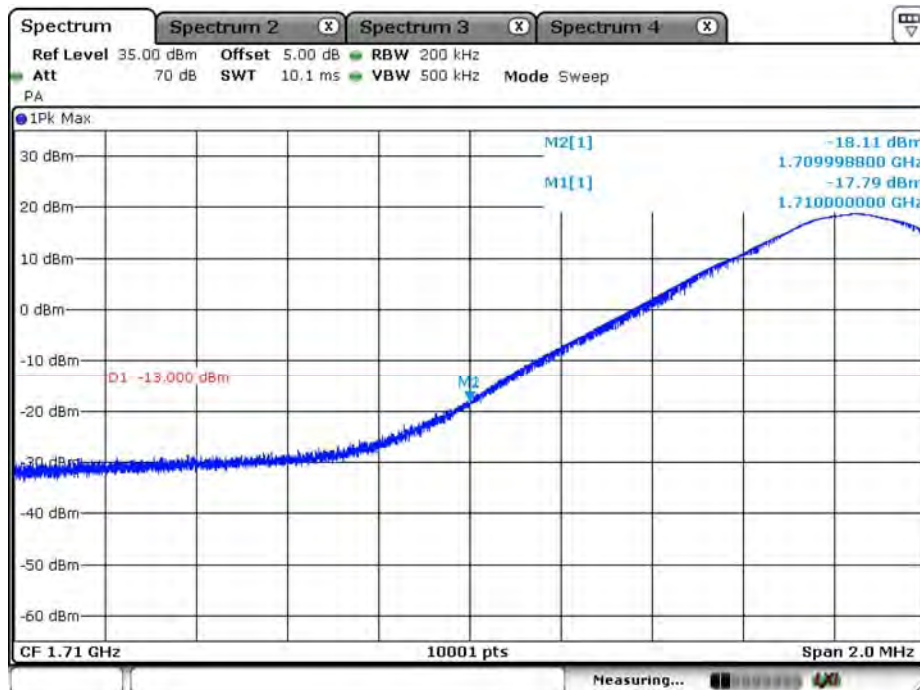
Date: 22.MAY.2018 09:58:21

## CH132597\_15M\_QPSK\_1RB74



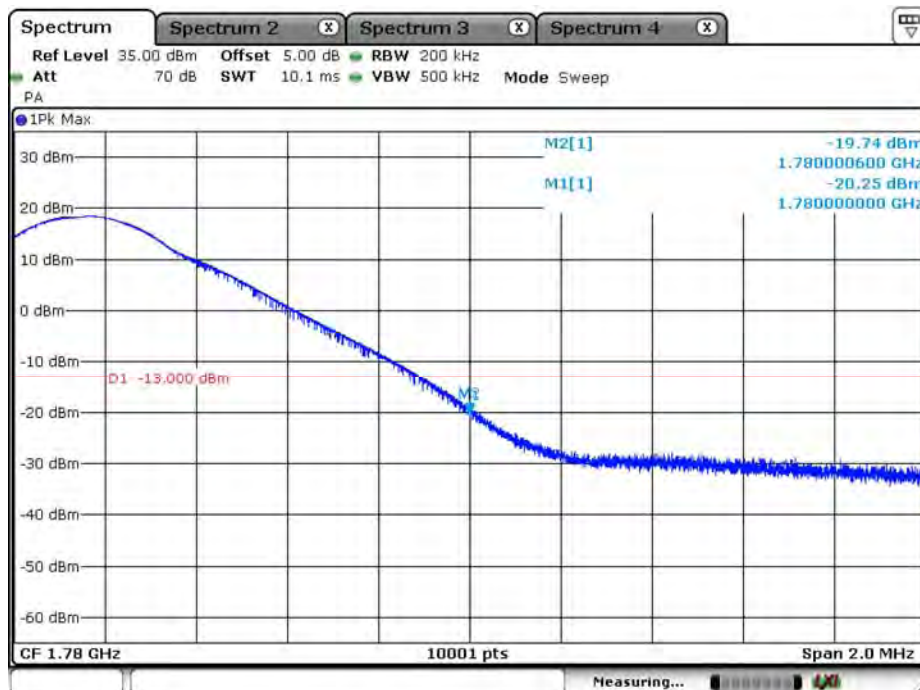
Date: 22.MAY.2018 10:21:48

## CH132047\_15M\_16-QAM\_1RB0



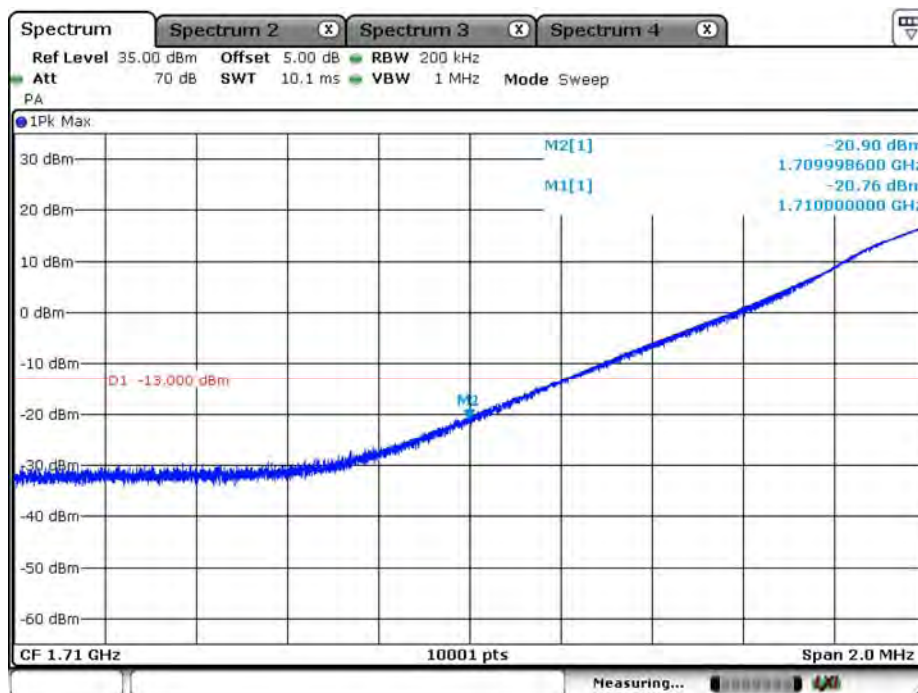
Date: 22.MAY.2018 10:01:24

## CH132597\_15M\_16-QAM\_1RB74



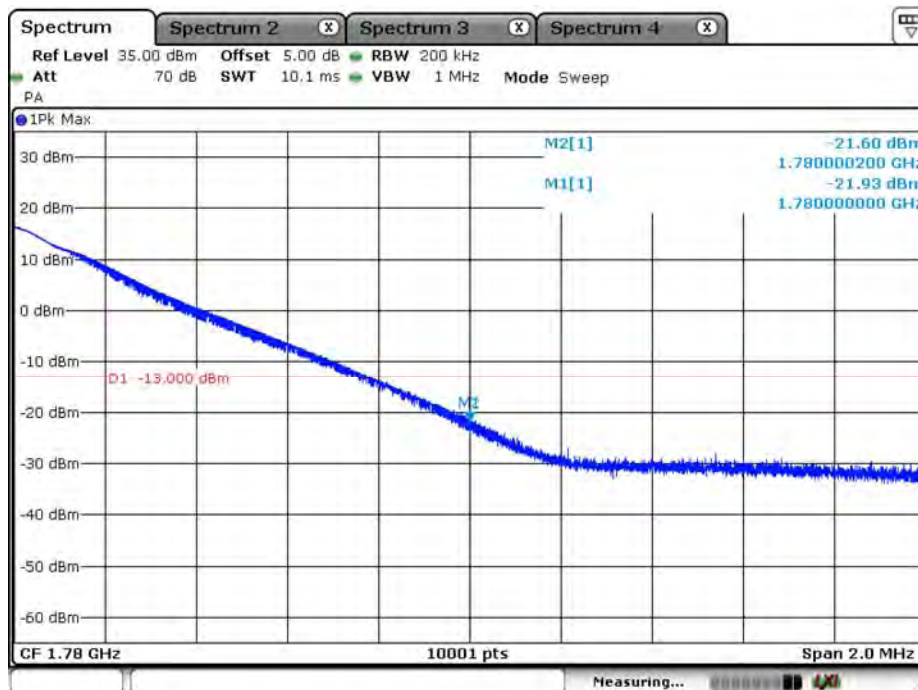
Date: 22.MAY.2018 10:18:15

## CH132072\_20M\_QPSK\_1RB0



Date: 22.MAY.2018 10:04:24

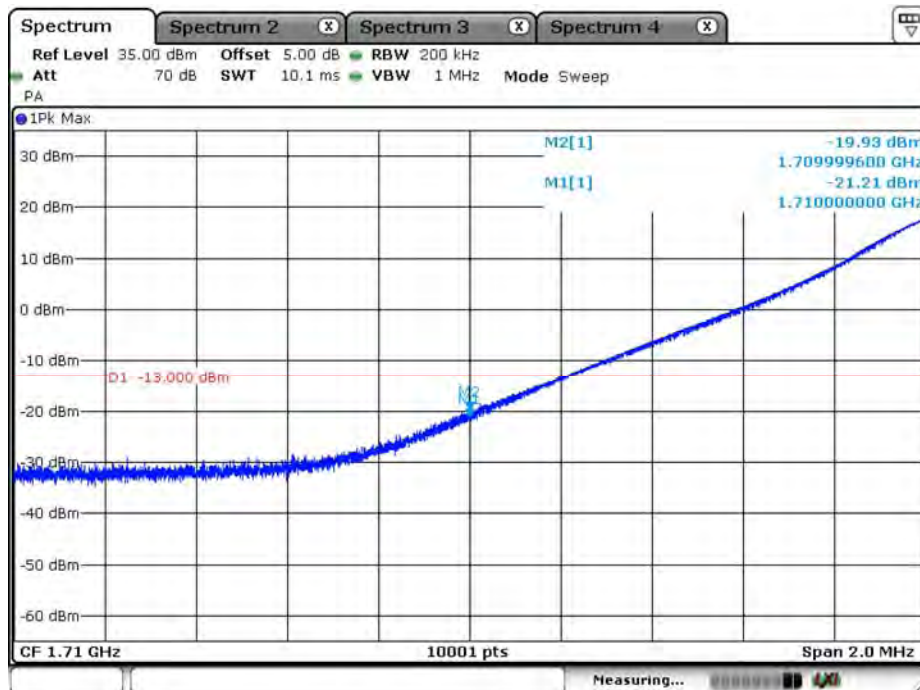
## CH132572\_20M\_QPSK\_1RB99



Date: 22.MAY.2018 10:09:34

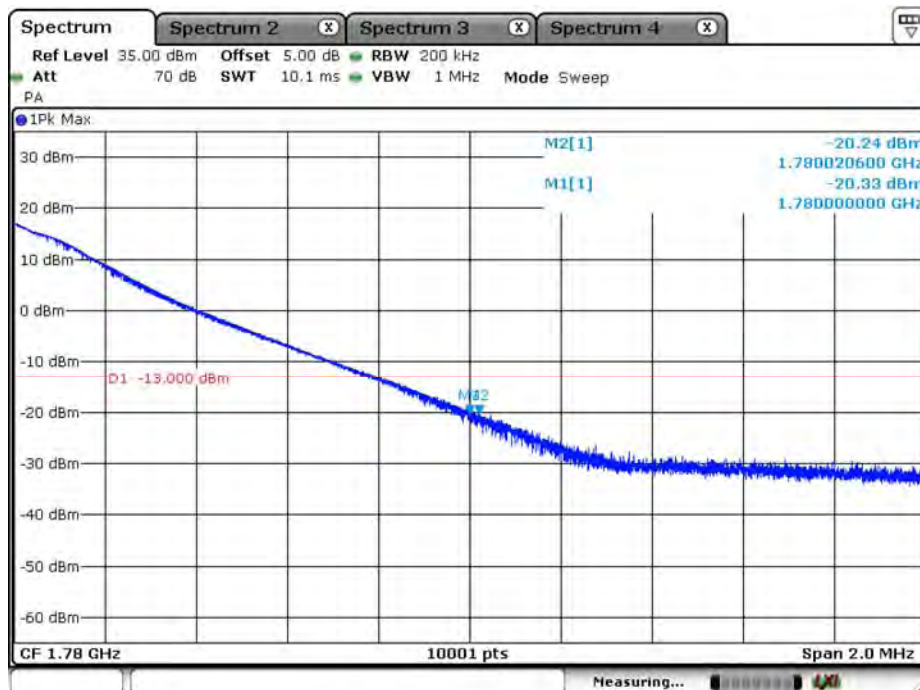


## CH132072\_20M\_16-QAM\_1RB0



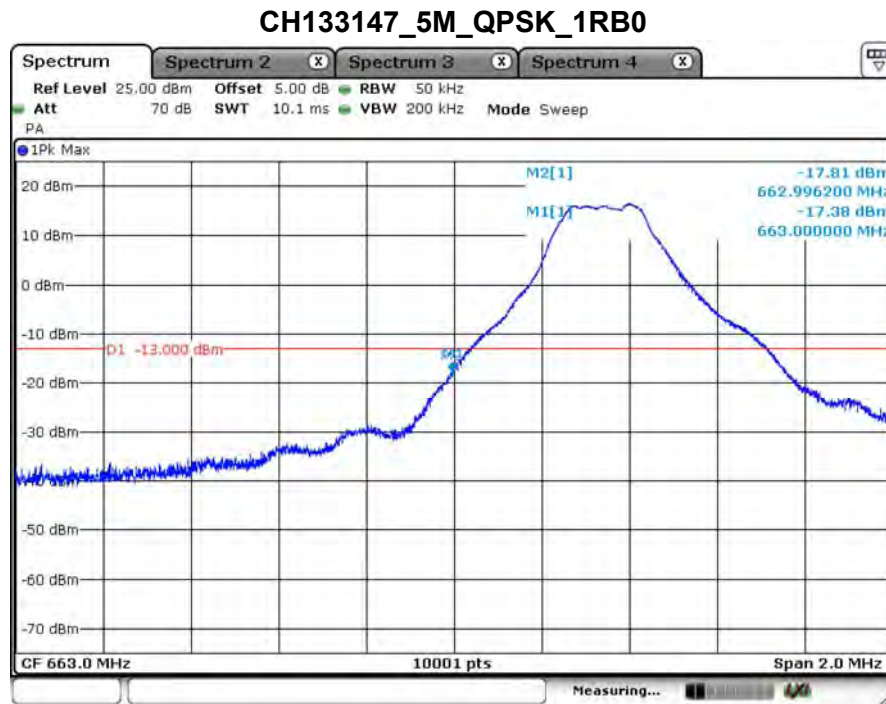
Date: 22.MAY.2018 10:06:25

## CH132572\_20M\_16-QAM\_1RB99

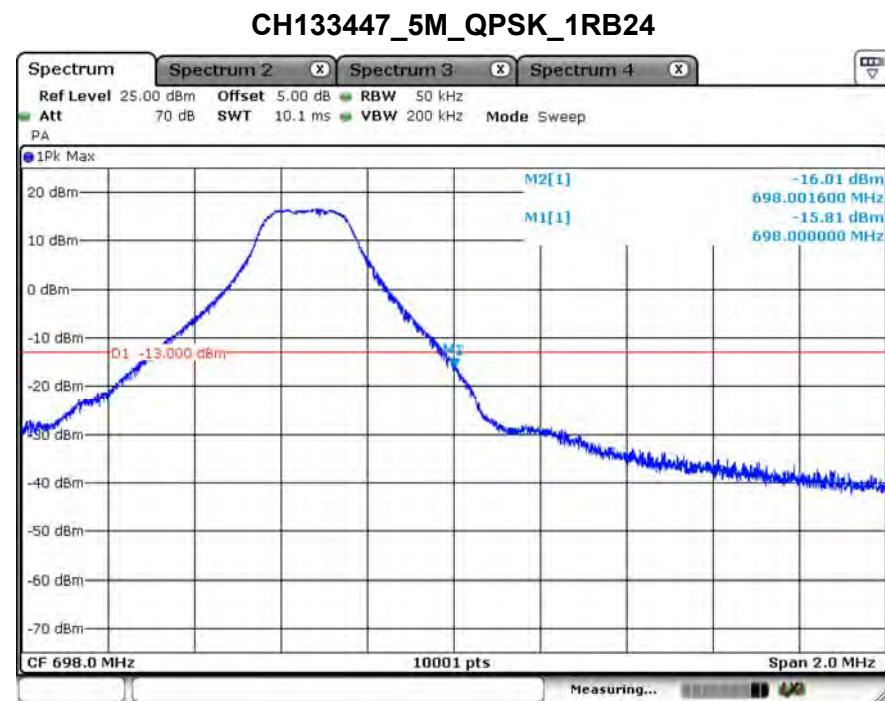


Date: 22.MAY.2018 10:12:47

|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | LM960                                   |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 17: LTE Band 71                    |           |        |
| Date of Test | 2018/05/24                              | Test Site | SR10-H |

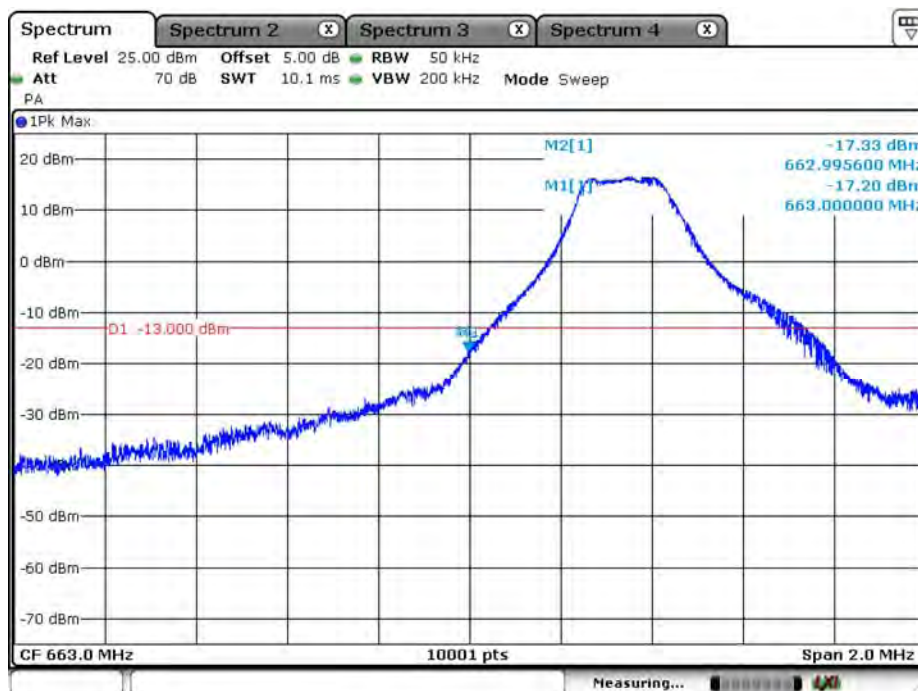


Date: 24 MAY 2018 17:30:48



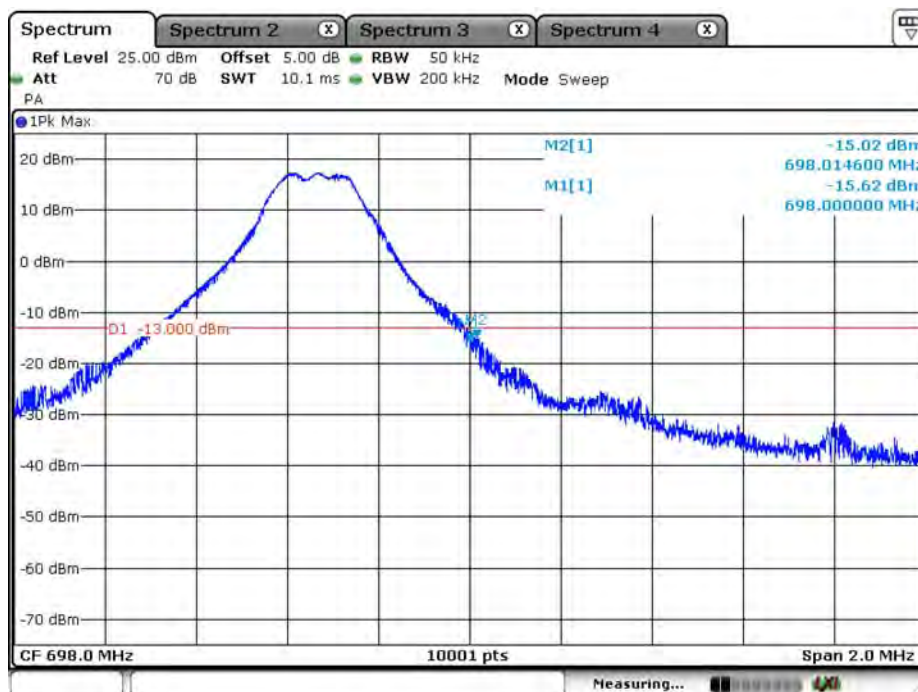
Date: 24 MAY 2018 17:33:58

## CH133147\_5M\_16-QAM\_1RB0



Date: 24.MAY.2018 17:31:41

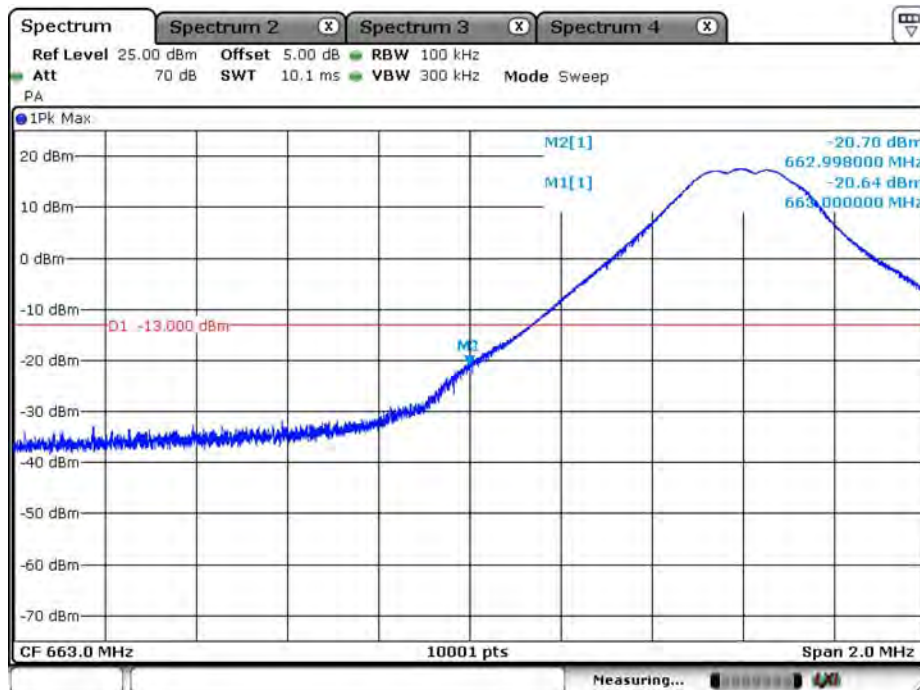
## CH133447\_5M\_16-QAM\_1RB24



Date: 24.MAY.2018 17:35:22

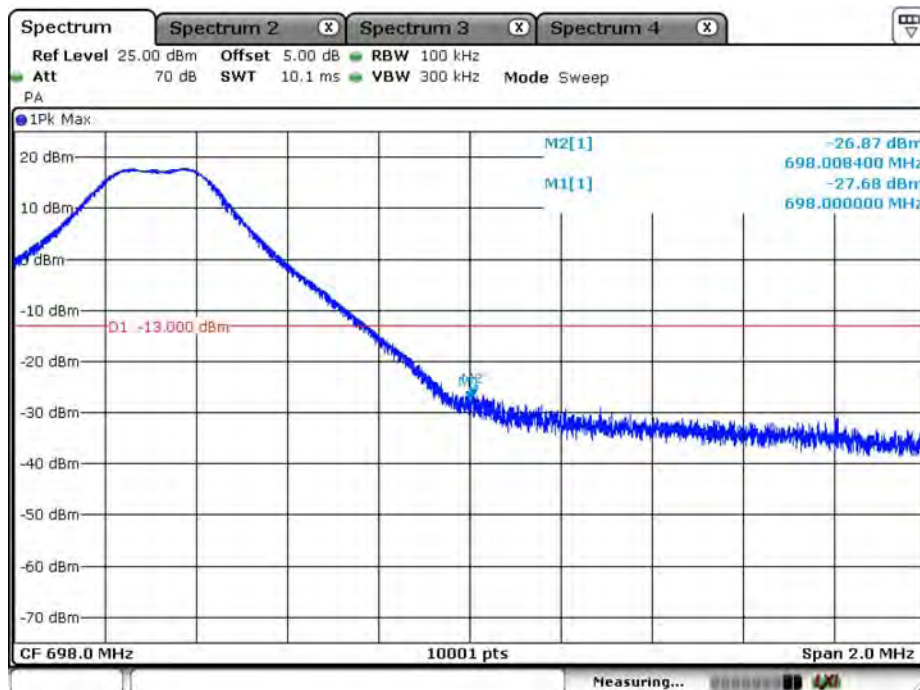


## CH133172\_10M\_QPSK\_1RB0

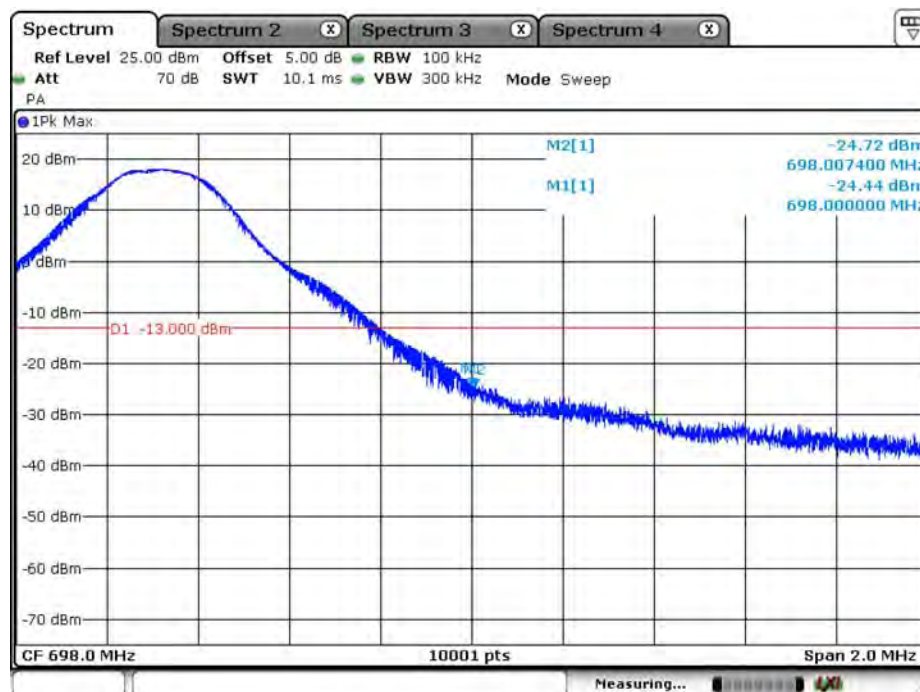
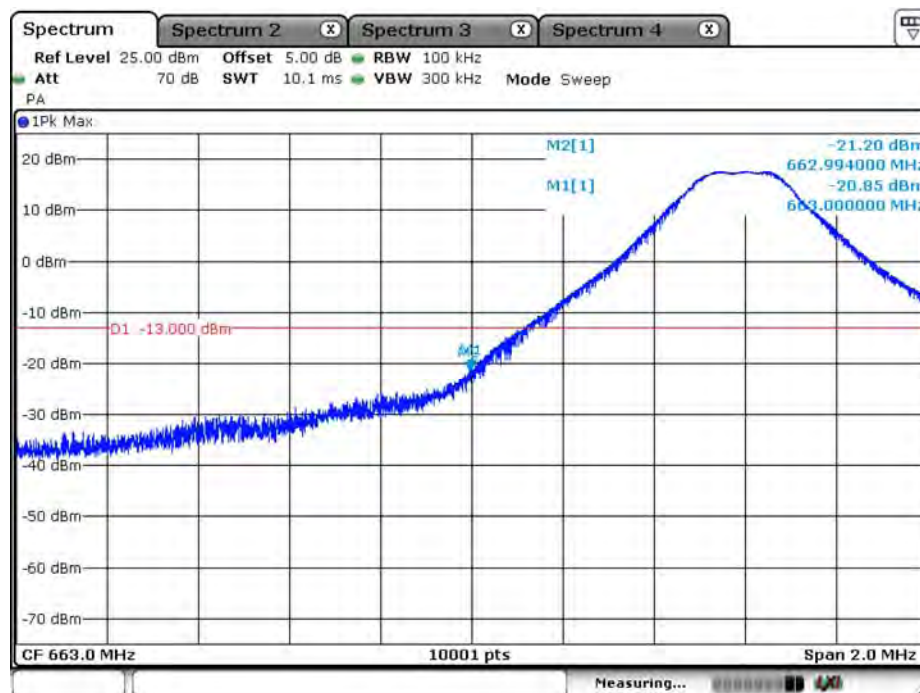


Date: 24.MAY.2018 17:47:42

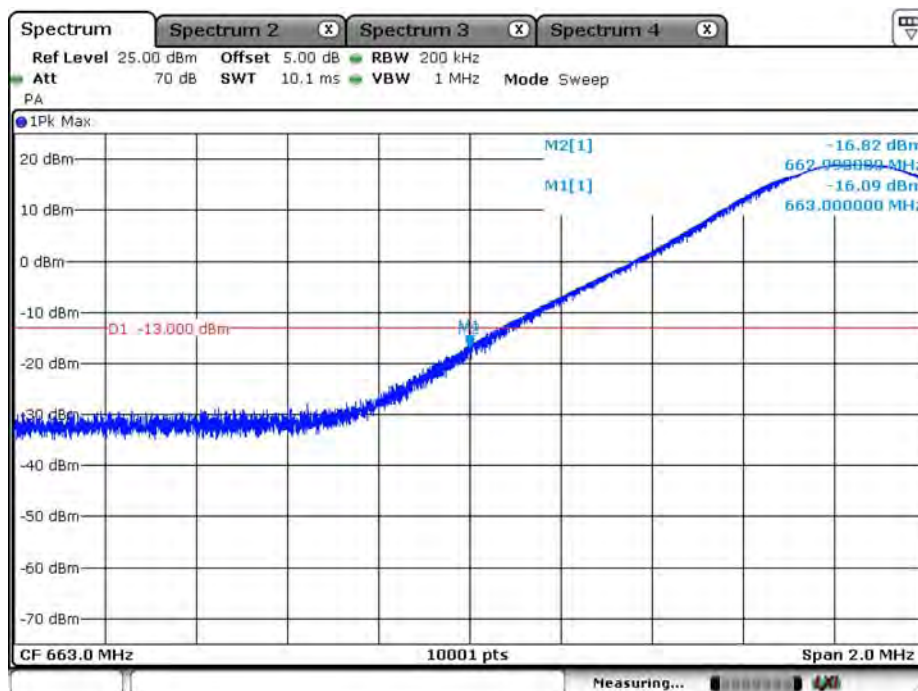
## CH133421\_10M\_QPSK\_1RB49



Date: 24.MAY.2018 17:50:21

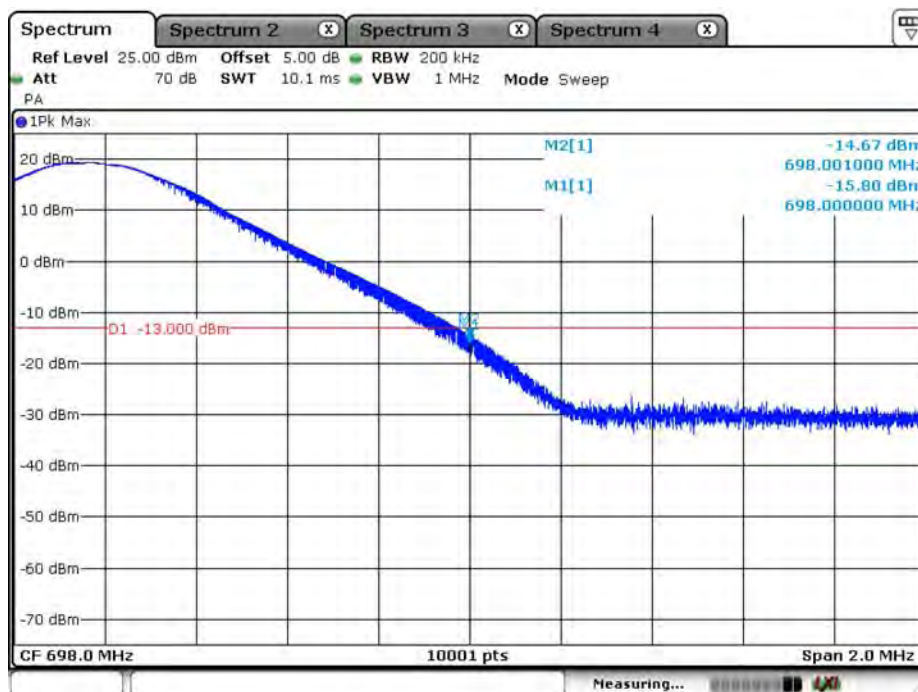


## CH133197\_15M\_QPSK\_1RB0



Date: 24.MAY.2018 17:56:33

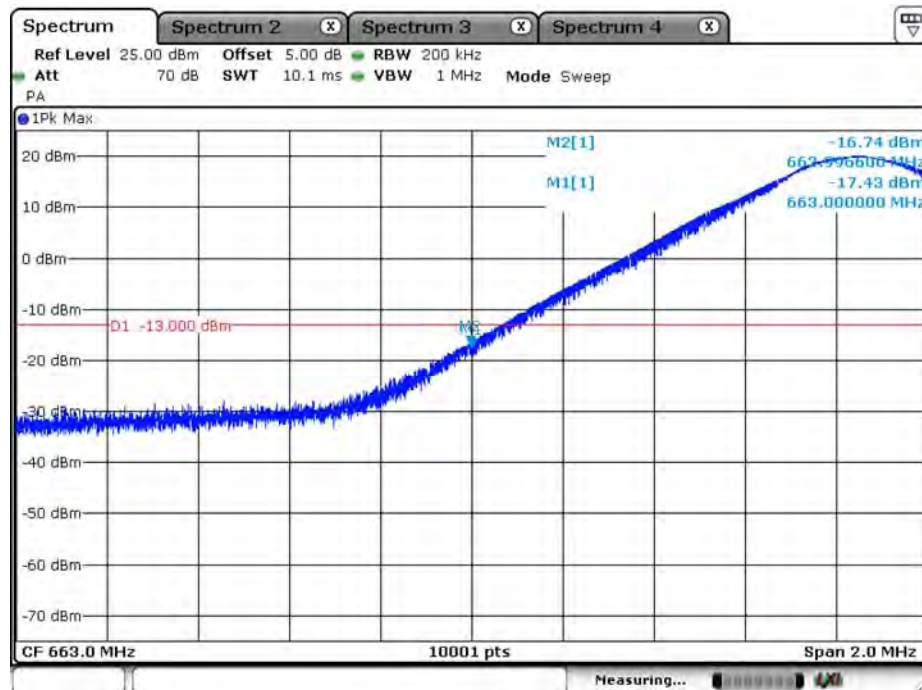
## CH133397\_15M\_QPSK\_1RB74



Date: 24.MAY.2018 18:00:49

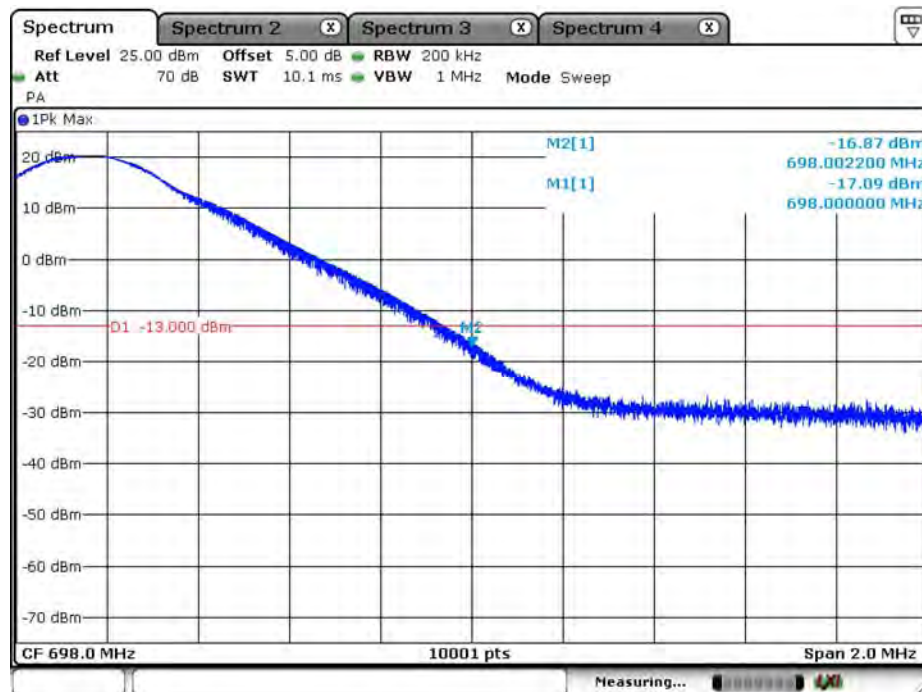


## CH133197\_15M\_16-QAM\_1RB0



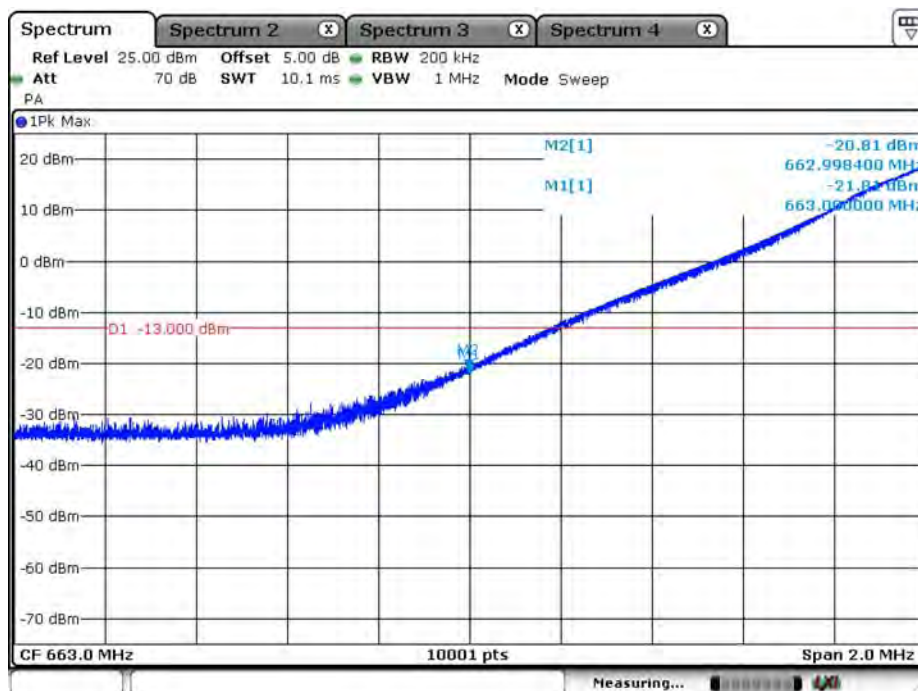
Date: 24.MAY.2018 17:58:27

## CH133397\_15M\_16-QAM\_1RB74



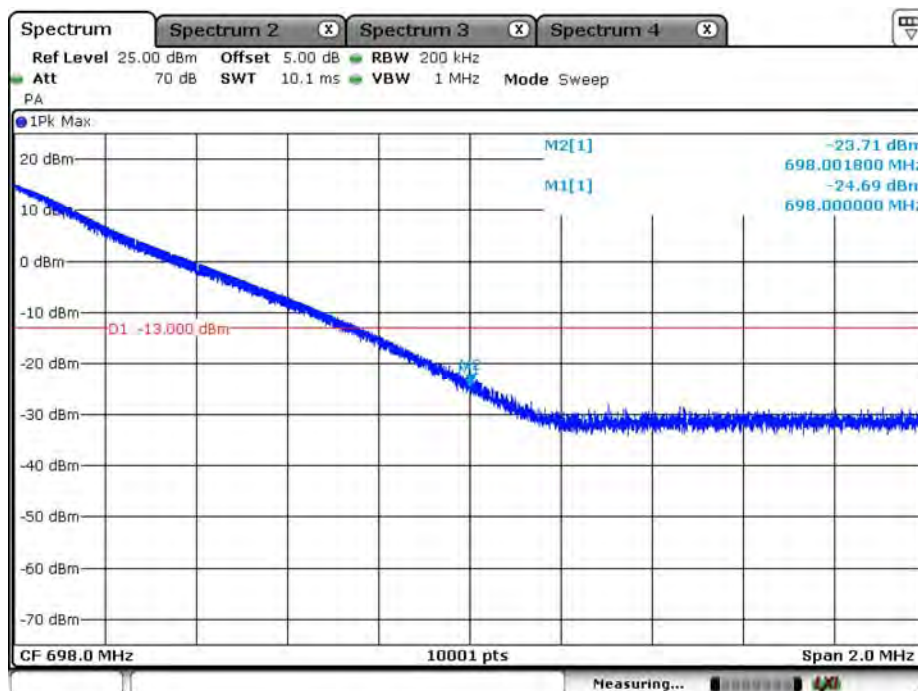
Date: 24.MAY.2018 18:02:14

## CH133222\_20M\_QPSK\_1RB0



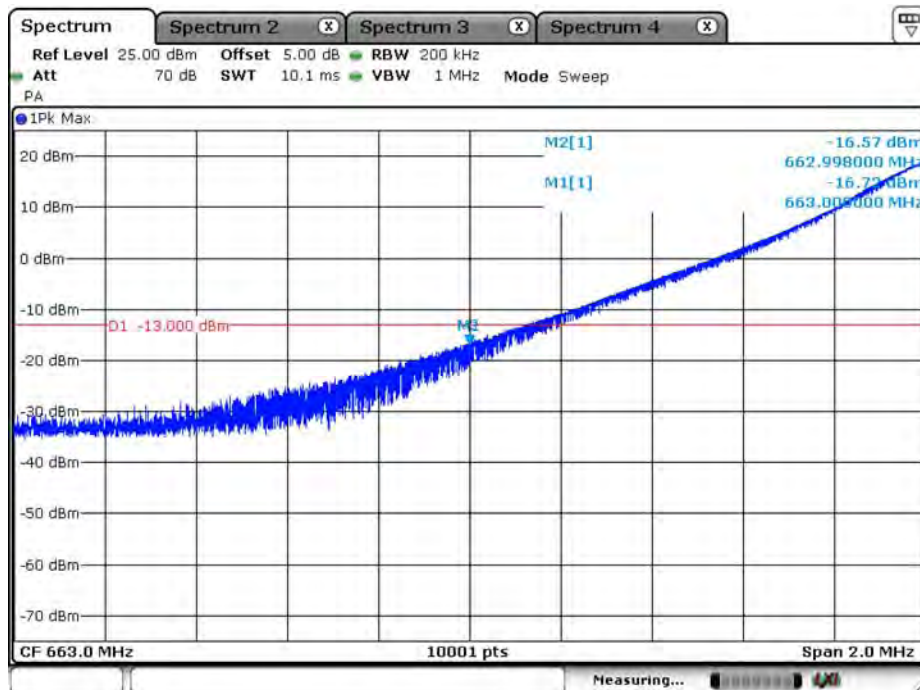
Date: 24.MAY.2018 18:05:23

## CH133371\_20M\_QPSK\_1RB99



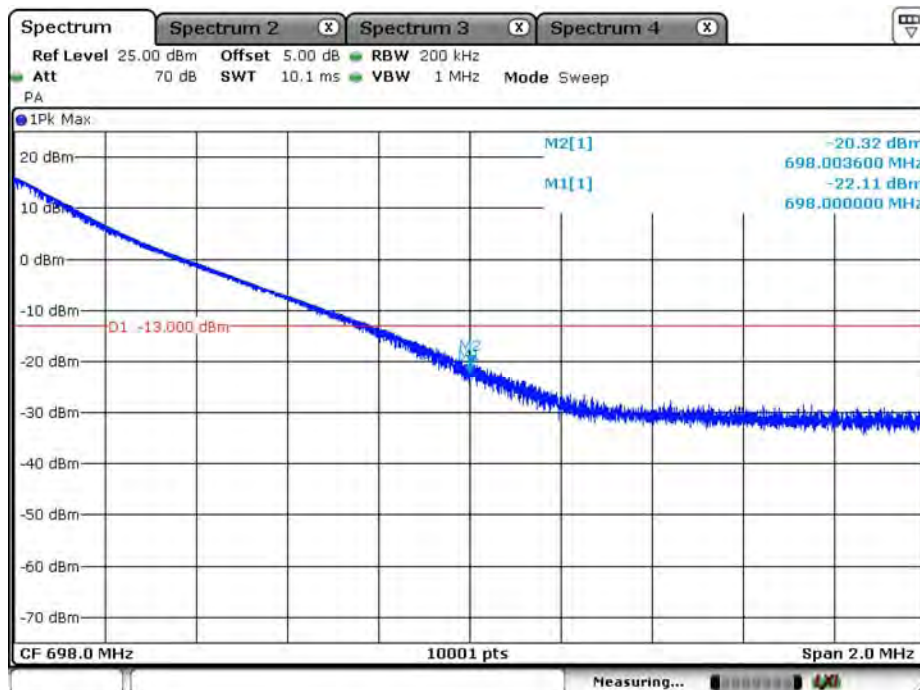
Date: 24.MAY.2018 18:08:11

## CH133222\_20M\_16-QAM\_1RB0



Date: 24.MAY.2018 18:06:38

## CH133371\_20M\_16-QAM\_1RB99

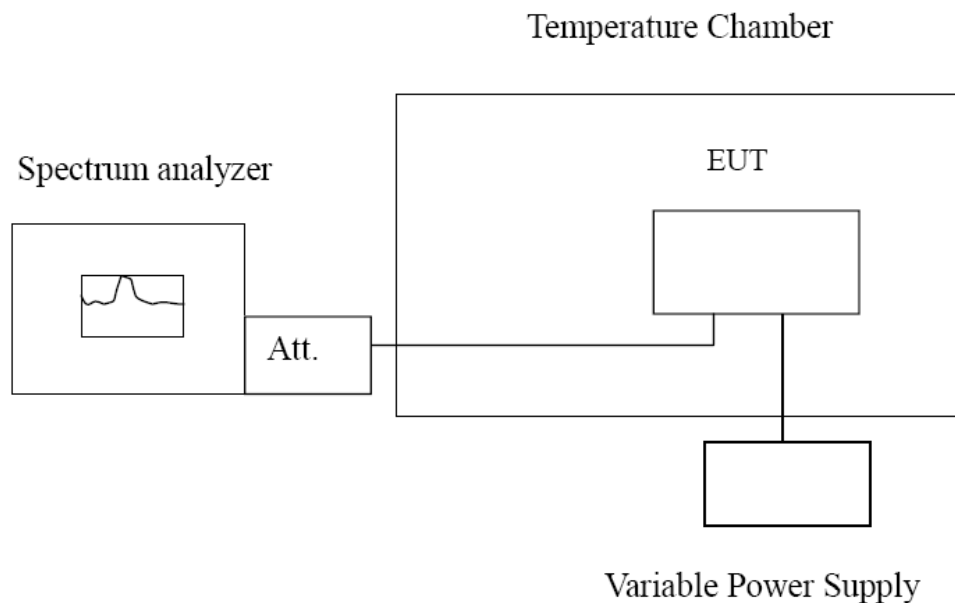


Date: 24.MAY.2018 18:10:03



## 8. Frequency Stability

### 8.1. Test Setup



### 8.2. Test Procedure

#### Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

#### Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency.

Reduce the input voltage to specify extreme voltage variation ( $\pm 15\%$ ) and endpoint, record the maximum frequency change.

### 8.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 9

ANSI C63.26: 2015 Sub-clause 5.6

**8.4. Test Result**

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 1: LTE Band 2                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

1860MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 9                    | -0.0050               |
| 3.3           | -12                  | 0.0067                |
| 3.1           | 8                    | -0.0044               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -12                  | 0.0066                |
| -20         | -10                  | 0.0055                |
| -10         | -10                  | 0.0052                |
| 0           | 9                    | -0.0047               |
| +10         | 7                    | -0.0036               |
| +20         | -12                  | 0.0067                |
| +30         | -8                   | 0.0044                |
| +40         | -10                  | 0.0054                |
| +50         | 7                    | -0.0040               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 1: LTE Band 2                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1880MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 13                   | -0.0070               |
| 3.3           | -9                   | 0.0049                |
| 3.1           | 11                   | -0.0061               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 17                   | -0.0089               |
| -20         | 16                   | -0.0085               |
| -10         | 14                   | -0.0075               |
| 0           | 13                   | -0.0067               |
| +10         | -10                  | 0.0052                |
| +20         | -9                   | 0.0049                |
| +30         | 11                   | -0.0059               |
| +40         | 9                    | -0.0047               |
| +50         | 13                   | -0.0069               |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 1: LTE Band 2                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1900MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 13                   | -0.0067               |
| 3.3           | 9                    | -0.0047               |
| 3.1           | 14                   | -0.0075               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 10                   | -0.0050               |
| -20         | 10                   | -0.0051               |
| -10         | 10                   | -0.0051               |
| 0           | 11                   | -0.0057               |
| +10         | -8                   | 0.0043                |
| +20         | 9                    | -0.0047               |
| +30         | -9                   | 0.0046                |
| +40         | -8                   | 0.0042                |
| +50         | 14                   | -0.0071               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 2: LTE Band 4                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1720MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -11                  | 0.0060                |
| 3.3           | -8                   | 0.0041                |
| 3.1           | -8                   | 0.0044                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -10                  | 0.0055                |
| -20         | -10                  | 0.0052                |
| -10         | -10                  | 0.0056                |
| 0           | -10                  | 0.0052                |
| +10         | -7                   | 0.0037                |
| +20         | -8                   | 0.0043                |
| +30         | 7                    | -0.0037               |
| +40         | 6                    | -0.0032               |
| +50         | 9                    | -0.0049               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 2: LTE Band 4                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1732.5MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 5                    | -0.0029               |
| 3.3           | 4                    | -0.0023               |
| 3.1           | 6                    | -0.0030               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -5                   | 0.0029                |
| -20         | -4                   | 0.0024                |
| -10         | -7                   | 0.0038                |
| 0           | -5                   | 0.0028                |
| +10         | -4                   | 0.0024                |
| +20         | 4                    | -0.0021               |
| +30         | -4                   | 0.0023                |
| +40         | -6                   | 0.0030                |
| +50         | -7                   | 0.0037                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 2: LTE Band 4                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1745MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -6                   | 0.0033                |
| 3.3           | 6                    | -0.0033               |
| 3.1           | -4                   | 0.0023                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 12                   | -0.0064               |
| -20         | 11                   | -0.0056               |
| -10         | 10                   | -0.0053               |
| 0           | 10                   | -0.0050               |
| +10         | 7                    | -0.0037               |
| +20         | 6                    | -0.0031               |
| +30         | -7                   | 0.0035                |
| +40         | -8                   | 0.0040                |
| +50         | -9                   | 0.0046                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 3: LTE Band 5                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 829MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -6                   | 0.0068                |
| 3.3           | -5                   | 0.0064                |
| 3.1           | -4                   | 0.0053                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -6                   | 0.0077                |
| -20         | -9                   | 0.0106                |
| -10         | -8                   | 0.0095                |
| 0           | -10                  | 0.0118                |
| +10         | -5                   | 0.0055                |
| +20         | -6                   | 0.0077                |
| +30         | -6                   | 0.0071                |
| +40         | -4                   | 0.0051                |
| +50         | -6                   | 0.0076                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 3: LTE Band 5                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 836.5MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -7                   | 0.0079                |
| 3.3           | -8                   | 0.0091                |
| 3.1           | -6                   | 0.0068                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -9                   | 0.0103                |
| -20         | -10                  | 0.0117                |
| -10         | -4                   | 0.0045                |
| 0           | -4                   | 0.0044                |
| +10         | -5                   | 0.0064                |
| +20         | 6                    | -0.0071               |
| +30         | -5                   | 0.0065                |
| +40         | -9                   | 0.0105                |
| +50         | 6                    | -0.0071               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 3: LTE Band 5                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 844MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 6                    | -0.0069               |
| 3.3           | 8                    | -0.0092               |
| 3.1           | -11                  | 0.0127                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 8                    | -0.0090               |
| -20         | -3                   | 0.0034                |
| -10         | -9                   | 0.0104                |
| 0           | 3                    | -0.0037               |
| +10         | -5                   | 0.0057                |
| +20         | 5                    | -0.0058               |
| +30         | -4                   | 0.0050                |
| +40         | -3                   | 0.0034                |
| +50         | 3                    | -0.0040               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 4: LTE Band 7                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2510MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 5                    | -0.0063               |
| 3.3           | 9                    | -0.0111               |
| 3.1           | -9                   | 0.0101                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -3                   | 0.0040                |
| -20         | 6                    | -0.0070               |
| -10         | -4                   | 0.0042                |
| 0           | -9                   | 0.0101                |
| +10         | 5                    | -0.0060               |
| +20         | 8                    | -0.0097               |
| +30         | 5                    | -0.0054               |
| +40         | -9                   | 0.0104                |
| +50         | -3                   | 0.0040                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 4: LTE Band 7                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2535MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 9                    | -0.0102               |
| 3.3           | 3                    | -0.0035               |
| 3.1           | -7                   | 0.0088                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -3                   | 0.0040                |
| -20         | 2                    | -0.0027               |
| -10         | -4                   | 0.0042                |
| 0           | 4                    | -0.0042               |
| +10         | 6                    | -0.0067               |
| +20         | 7                    | -0.0084               |
| +30         | 5                    | -0.0054               |
| +40         | -4                   | 0.0045                |
| +50         | -3                   | 0.0040                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 4: LTE Band 7                                         |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2560MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 6                    | -0.0067               |
| 3.3           | 8                    | -0.0093               |
| 3.1           | -5                   | 0.0057                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0061               |
| -20         | -7                   | 0.0081                |
| -10         | -6                   | 0.0073                |
| 0           | 6                    | -0.0067               |
| +10         | 7                    | -0.0081               |
| +20         | 7                    | -0.0084               |
| +30         | -8                   | 0.0095                |
| +40         | -7                   | 0.0085                |
| +50         | -10                  | 0.0114                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 5: LTE Band 12                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 704MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 6                    | -0.0071               |
| 3.3           | 8                    | -0.0089               |
| 3.1           | -5                   | 0.0058                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0062               |
| -20         | -7                   | 0.0079                |
| -10         | -6                   | 0.0073                |
| 0           | 5                    | -0.0065               |
| +10         | 7                    | -0.0085               |
| +20         | 7                    | -0.0083               |
| +30         | -8                   | 0.0096                |
| +40         | -7                   | 0.0085                |
| +50         | -9                   | 0.0111                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 5: LTE Band 12                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 707.5MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 5                    | -0.0060               |
| 3.3           | 7                    | -0.0089               |
| 3.1           | -10                  | 0.0119                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0055               |
| -20         | -9                   | 0.0105                |
| -10         | 5                    | -0.0063               |
| 0           | -7                   | 0.0080                |
| +10         | -6                   | 0.0074                |
| +20         | -7                   | 0.0089                |
| +30         | -7                   | 0.0082                |
| +40         | -4                   | 0.0050                |
| +50         | -3                   | 0.0034                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 5: LTE Band 12                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 711MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -9                   | 0.0106                |
| 3.3           | 7                    | -0.0084               |
| 3.1           | -4                   | 0.0053                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 7                    | -0.0089               |
| -20         | -4                   | 0.0042                |
| -10         | -9                   | 0.0106                |
| 0           | 4                    | -0.0044               |
| +10         | -5                   | 0.0063                |
| +20         | 4                    | -0.0053               |
| +30         | -5                   | 0.0056                |
| +40         | -3                   | 0.0036                |
| +50         | 3                    | -0.0038               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 6: LTE Band 13                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 782MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -8                   | 0.0097                |
| 3.3           | -5                   | 0.0064                |
| 3.1           | -5                   | 0.0064                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -8                   | 0.0091                |
| -20         | -9                   | 0.0112                |
| -10         | -3                   | 0.0041                |
| 0           | -5                   | 0.0055                |
| +10         | -5                   | 0.0059                |
| +20         | 6                    | -0.0068               |
| +30         | -5                   | 0.0063                |
| +40         | -8                   | 0.0100                |
| +50         | 6                    | -0.0067               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 7: LTE Band 14                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 790.5MHz\_5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 56                   | -0.0708               |
| 3.3           | -39                  | 0.0493                |
| 3.1           | -16                  | 0.0202                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 47                   | -0.0595               |
| -20         | -37                  | 0.0468                |
| -10         | 28                   | -0.0354               |
| 0           | 23                   | -0.0291               |
| 10          | 29                   | -0.0367               |
| 20          | 45                   | -0.0569               |
| 30          | 40                   | -0.0506               |
| 40          | 51                   | -0.0645               |
| 50          | -28                  | 0.0354                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 7: LTE Band 14                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 790.5MHz\_5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 37                   | -0.0468               |
| 3.3           | -9                   | 0.0114                |
| 3.1           | 14                   | -0.0177               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 52                   | -0.0658               |
| -20         | 43                   | -0.0544               |
| -10         | 33                   | -0.0417               |
| 0           | 44                   | -0.0557               |
| 10          | -13                  | 0.0164                |
| 20          | 15                   | -0.0190               |
| 30          | -11                  | 0.0139                |
| 40          | -56                  | 0.0708                |
| 50          | 19                   | -0.0240               |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 7: LTE Band 14                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 793MHz\_10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 33                   | -0.0416               |
| 3.3           | -17                  | 0.0214                |
| 3.1           | 11                   | -0.0139               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 54                   | -0.0681               |
| -20         | 15                   | -0.0189               |
| -10         | 56                   | -0.0706               |
| 0           | -43                  | 0.0542                |
| 10          | -48                  | 0.0605                |
| 20          | 63                   | -0.0794               |
| 30          | 46                   | -0.0580               |
| 40          | 51                   | -0.0643               |
| 50          | 38                   | -0.0479               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 7: LTE Band 14                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 793MHz\_10M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 25                   | -0.0315               |
| 3.3           | -23                  | 0.0290                |
| 3.1           | 28                   | -0.0353               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 67                   | -0.0845               |
| -20         | 36                   | -0.0454               |
| -10         | -17                  | 0.0214                |
| 0           | -27                  | 0.0340                |
| 10          | 21                   | -0.0265               |
| 20          | 34                   | -0.0429               |
| 30          | -24                  | 0.0303                |
| 40          | -51                  | 0.0643                |
| 50          | -14                  | 0.0177                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 8: LTE Band 17                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 709MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 8                    | -0.0046               |
| 3.3           | 8                    | -0.0048               |
| 3.1           | 8                    | -0.0045               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -25                  | 0.0146                |
| -20         | -25                  | 0.0144                |
| -10         | -26                  | 0.0154                |
| 0           | -19                  | 0.0112                |
| +10         | -14                  | 0.0083                |
| +20         | 8                    | -0.0047               |
| +30         | 7                    | -0.0043               |
| +40         | 15                   | -0.0090               |
| +50         | 17                   | -0.0101               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 8: LTE Band 17                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 710MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -4                   | 0.0022                |
| 3.3           | 4                    | -0.0025               |
| 3.1           | -3                   | 0.0020                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 6                    | -0.0032               |
| -20         | 4                    | -0.0024               |
| -10         | 5                    | -0.0027               |
| 0           | -18                  | 0.0104                |
| +10         | 13                   | -0.0076               |
| +20         | 4                    | -0.0023               |
| +30         | 7                    | -0.0042               |
| +40         | -12                  | 0.0069                |
| +50         | 15                   | -0.0085               |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 8: LTE Band 17                                        |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 711MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -6                   | 0.0036                |
| 3.3           | -5                   | 0.0031                |
| 3.1           | -5                   | 0.0030                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 27                   | -0.0152               |
| -20         | 27                   | -0.0154               |
| -10         | 27                   | -0.0152               |
| 0           | 20                   | -0.0116               |
| +10         | 18                   | -0.0100               |
| +20         | -5                   | 0.0029                |
| +30         | -9                   | 0.0053                |
| +40         | -12                  | 0.0070                |
| +50         | -15                  | 0.0087                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 822.5MHz\_5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -23                  | 0.0280                |
| 3.3           | -29                  | 0.0353                |
| 3.1           | -39                  | 0.0474                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 25                   | -0.0304               |
| -20         | -33                  | 0.0401                |
| -10         | -15                  | 0.0182                |
| 0           | -62                  | 0.0754                |
| 10          | 53                   | -0.0644               |
| 20          | 11                   | -0.0134               |
| 30          | 28                   | -0.0340               |
| 40          | -84                  | 0.1021                |
| 50          | -14                  | 0.0170                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 822.5MHz\_5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 44                   | -0.0535               |
| 3.3           | 35                   | -0.0426               |
| 3.1           | -27                  | 0.0328                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 14                   | -0.0170               |
| -20         | 31                   | -0.0377               |
| -10         | 33                   | -0.0401               |
| 0           | -41                  | 0.0498                |
| 10          | 67                   | -0.0815               |
| 20          | 39                   | -0.0474               |
| 30          | 31                   | -0.0377               |
| 40          | 11                   | -0.0134               |
| 50          | -61                  | 0.0742                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 825MHz\_10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -62                  | 0.0752                |
| 3.3           | 29                   | -0.0352               |
| 3.1           | -32                  | 0.0388                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 14                   | -0.0170               |
| -20         | -37                  | 0.0448                |
| -10         | -69                  | 0.0836                |
| 0           | 47                   | -0.0570               |
| 10          | -25                  | 0.0303                |
| 20          | 14                   | -0.0170               |
| 30          | -16                  | 0.0194                |
| 40          | -29                  | 0.0352                |
| 50          | 58                   | -0.0703               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 825MHz\_10M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 28                   | -0.0339               |
| 3.3           | 58                   | -0.0703               |
| 3.1           | -15                  | 0.0182                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -22                  | 0.0267                |
| -20         | 32                   | -0.0388               |
| -10         | -49                  | 0.0594                |
| 0           | 55                   | -0.0667               |
| 10          | 34                   | -0.0412               |
| 20          | -25                  | 0.0303                |
| 30          | 16                   | -0.0194               |
| 40          | -61                  | 0.0739                |
| 50          | -13                  | 0.0158                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 822.5MHz\_15M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 17                   | -0.0206               |
| 3.3           | 51                   | -0.0618               |
| 3.1           | 46                   | -0.0558               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 62                   | -0.0752               |
| -20         | 22                   | -0.0267               |
| -10         | 29                   | -0.0352               |
| 0           | 33                   | -0.0400               |
| 10          | -19                  | 0.0230                |
| 20          | 24                   | -0.0291               |
| 30          | -39                  | 0.0473                |
| 40          | 13                   | -0.0158               |
| 50          | -37                  | 0.0448                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 9: LTE Band 18                                        |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 822.5MHz\_15M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -29                  | 0.0352                |
| 3.3           | -37                  | 0.0448                |
| 3.1           | -19                  | 0.0230                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -17                  | 0.0206                |
| -20         | 14                   | -0.0170               |
| -10         | -31                  | 0.0376                |
| 0           | -28                  | 0.0339                |
| 10          | 25                   | -0.0303               |
| 20          | -12                  | 0.0145                |
| 30          | -26                  | 0.0315                |
| 40          | 47                   | -0.0570               |
| 50          | 41                   | -0.0497               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 10: LTE Band 19                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 56                   | -0.0708               |
| 3.3           | -39                  | 0.0493                |
| 3.1           | -16                  | 0.0202                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 47                   | -0.0595               |
| -20         | -37                  | 0.0468                |
| -10         | 28                   | -0.0354               |
| 0           | 23                   | -0.0291               |
| 10          | 29                   | -0.0367               |
| 20          | 45                   | -0.0569               |
| 30          | 40                   | -0.0506               |
| 40          | 51                   | -0.0645               |
| 50          | -28                  | 0.0354                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 10: LTE Band 19                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 37                   | -0.0468               |
| 3.3           | -9                   | 0.0114                |
| 3.1           | 14                   | -0.0177               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 52                   | -0.0658               |
| -20         | 43                   | -0.0544               |
| -10         | 33                   | -0.0417               |
| 0           | 44                   | -0.0557               |
| 10          | -13                  | 0.0164                |
| 20          | 15                   | -0.0190               |
| 30          | -11                  | 0.0139                |
| 40          | -56                  | 0.0708                |
| 50          | 19                   | -0.0240               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 10: LTE Band 19                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 33                   | -0.0416               |
| 3.3           | -17                  | 0.0214                |
| 3.1           | 11                   | -0.0139               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 54                   | -0.0681               |
| -20         | 15                   | -0.0189               |
| -10         | 56                   | -0.0706               |
| 0           | -43                  | 0.0542                |
| 10          | -48                  | 0.0605                |
| 20          | 63                   | -0.0794               |
| 30          | 46                   | -0.0580               |
| 40          | 51                   | -0.0643               |
| 50          | 38                   | -0.0479               |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 10: LTE Band 19                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 25                   | -0.0315               |
| 3.3           | -23                  | 0.0290                |
| 3.1           | 28                   | -0.0353               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 67                   | -0.0845               |
| -20         | 36                   | -0.0454               |
| -10         | -17                  | 0.0214                |
| 0           | -27                  | 0.0340                |
| 10          | 21                   | -0.0265               |
| 20          | 34                   | -0.0429               |
| 30          | -24                  | 0.0303                |
| 40          | -51                  | 0.0643                |
| 50          | -14                  | 0.0177                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 11: LTE Band 25                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1860MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 22                   | -0.0263               |
| 3.3           | 17                   | -0.0203               |
| 3.1           | 21                   | -0.0254               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -17                  | 0.0210                |
| -20         | 16                   | -0.0195               |
| -10         | 17                   | -0.0203               |
| 0           | 18                   | -0.0215               |
| +10         | 17                   | -0.0209               |
| +20         | 17                   | -0.0203               |
| +30         | 16                   | -0.0197               |
| +40         | 19                   | -0.0230               |
| +50         | 19                   | -0.0236               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 11: LTE Band 25                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1882.5MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 22                   | -0.0258               |
| 3.3           | 20                   | -0.0233               |
| 3.1           | 22                   | -0.0263               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 19                   | -0.0230               |
| -20         | 19                   | -0.0223               |
| -10         | 18                   | -0.0210               |
| 0           | 21                   | -0.0254               |
| +10         | 19                   | -0.0224               |
| +20         | 20                   | -0.0233               |
| +30         | 18                   | -0.0215               |
| +40         | 16                   | -0.0192               |
| +50         | 18                   | -0.0217               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 11: LTE Band 25                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1905MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 24                   | -0.0281               |
| 3.3           | 19                   | -0.0218               |
| 3.1           | 21                   | -0.0249               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 19                   | -0.0220               |
| -20         | 16                   | -0.0193               |
| -10         | 16                   | -0.0189               |
| 0           | 14                   | -0.0168               |
| +10         | 16                   | -0.0186               |
| +20         | 19                   | -0.0218               |
| +30         | 17                   | -0.0205               |
| +40         | 22                   | -0.0254               |
| +50         | 18                   | -0.0207               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 12: LTE Band 26                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 56                   | -0.0708               |
| 3.3           | -39                  | 0.0493                |
| 3.1           | -16                  | 0.0202                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 47                   | -0.0595               |
| -20         | -37                  | 0.0468                |
| -10         | 28                   | -0.0354               |
| 0           | 23                   | -0.0291               |
| 10          | 29                   | -0.0367               |
| 20          | 45                   | -0.0569               |
| 30          | 40                   | -0.0506               |
| 40          | 51                   | -0.0645               |
| 50          | -28                  | 0.0354                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 12: LTE Band 26                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 37                   | -0.0468               |
| 3.3           | -9                   | 0.0114                |
| 3.1           | 14                   | -0.0177               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 52                   | -0.0658               |
| -20         | 43                   | -0.0544               |
| -10         | 33                   | -0.0417               |
| 0           | 44                   | -0.0557               |
| 10          | -13                  | 0.0164                |
| 20          | 15                   | -0.0190               |
| 30          | -11                  | 0.0139                |
| 40          | -56                  | 0.0708                |
| 50          | 19                   | -0.0240               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 12: LTE Band 26                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 33                   | -0.0416               |
| 3.3           | -17                  | 0.0214                |
| 3.1           | 11                   | -0.0139               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 54                   | -0.0681               |
| -20         | 15                   | -0.0189               |
| -10         | 56                   | -0.0706               |
| 0           | -43                  | 0.0542                |
| 10          | -48                  | 0.0605                |
| 20          | 63                   | -0.0794               |
| 30          | 46                   | -0.0580               |
| 40          | 51                   | -0.0643               |
| 50          | 38                   | -0.0479               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 12: LTE Band 26                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 25                   | -0.0315               |
| 3.3           | -23                  | 0.0290                |
| 3.1           | 28                   | -0.0353               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 67                   | -0.0845               |
| -20         | 36                   | -0.0454               |
| -10         | -17                  | 0.0214                |
| 0           | -27                  | 0.0340                |
| 10          | 21                   | -0.0265               |
| 20          | 34                   | -0.0429               |
| 30          | -24                  | 0.0303                |
| 40          | -51                  | 0.0643                |
| 50          | -14                  | 0.0177                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 13: LTE Band 30                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 56                   | -0.0708               |
| 3.3           | -39                  | 0.0493                |
| 3.1           | -16                  | 0.0202                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 47                   | -0.0595               |
| -20         | -37                  | 0.0468                |
| -10         | 28                   | -0.0354               |
| 0           | 23                   | -0.0291               |
| 10          | 29                   | -0.0367               |
| 20          | 45                   | -0.0569               |
| 30          | 40                   | -0.0506               |
| 40          | 51                   | -0.0645               |
| 50          | -28                  | 0.0354                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 13: LTE Band 30                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 37                   | -0.0468               |
| 3.3           | -9                   | 0.0114                |
| 3.1           | 14                   | -0.0177               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 52                   | -0.0658               |
| -20         | 43                   | -0.0544               |
| -10         | 33                   | -0.0417               |
| 0           | 44                   | -0.0557               |
| 10          | -13                  | 0.0164                |
| 20          | 15                   | -0.0190               |
| 30          | -11                  | 0.0139                |
| 40          | -56                  | 0.0708                |
| 50          | 19                   | -0.0240               |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 13: LTE Band 30                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 33                   | -0.0416               |
| 3.3           | -17                  | 0.0214                |
| 3.1           | 11                   | -0.0139               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 54                   | -0.0681               |
| -20         | 15                   | -0.0189               |
| -10         | 56                   | -0.0706               |
| 0           | -43                  | 0.0542                |
| 10          | -48                  | 0.0605                |
| 20          | 63                   | -0.0794               |
| 30          | 46                   | -0.0580               |
| 40          | 51                   | -0.0643               |
| 50          | 38                   | -0.0479               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 13: LTE Band 30                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 25                   | -0.0315               |
| 3.3           | -23                  | 0.0290                |
| 3.1           | 28                   | -0.0353               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 67                   | -0.0845               |
| -20         | 36                   | -0.0454               |
| -10         | -17                  | 0.0214                |
| 0           | -27                  | 0.0340                |
| 10          | 21                   | -0.0265               |
| 20          | 34                   | -0.0429               |
| 30          | -24                  | 0.0303                |
| 40          | -51                  | 0.0643                |
| 50          | -14                  | 0.0177                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 14: LTE Band 38                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2580MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 6                    | -0.0071               |
| 3.3           | 9                    | -0.0111               |
| 3.1           | -5                   | 0.0058                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0062               |
| -20         | -7                   | 0.0079                |
| -10         | 5                    | -0.0054               |
| 0           | -9                   | 0.0104                |
| +10         | 5                    | -0.0062               |
| +20         | 6                    | -0.0070               |
| +30         | -4                   | 0.0042                |
| +40         | -9                   | 0.0101                |
| +50         | -9                   | 0.0111                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 14: LTE Band 38                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2595MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -8                   | 0.0094                |
| 3.3           | 7                    | -0.0089               |
| 3.1           | -5                   | 0.0063                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -7                   | 0.0082                |
| -20         | -4                   | 0.0050                |
| -10         | 5                    | -0.0063               |
| 0           | 6                    | -0.0071               |
| +10         | -4                   | 0.0042                |
| +20         | -9                   | 0.0105                |
| +30         | 5                    | -0.0063               |
| +40         | -7                   | 0.0080                |
| +50         | 6                    | -0.0071               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 14: LTE Band 38                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2610MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 7                    | -0.0080               |
| 3.3           | 6                    | -0.0071               |
| 3.1           | -9                   | 0.0110                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0055               |
| -20         | -8                   | 0.0098                |
| -10         | 5                    | -0.0060               |
| 0           | -7                   | 0.0082                |
| +10         | -6                   | 0.0067                |
| +20         | -7                   | 0.0082                |
| +30         | -7                   | 0.0084                |
| +40         | -4                   | 0.0048                |
| +50         | -3                   | 0.0034                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 15: LTE Band 41                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2506MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -7                   | 0.0085                |
| 3.3           | -5                   | 0.0061                |
| 3.1           | -5                   | 0.0064                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -7                   | 0.0085                |
| -20         | -9                   | 0.0113                |
| -10         | -3                   | 0.0036                |
| 0           | -5                   | 0.0057                |
| +10         | -5                   | 0.0057                |
| +20         | 5                    | -0.0066               |
| +30         | -5                   | 0.0056                |
| +40         | -8                   | 0.0094                |
| +50         | -6                   | 0.0073                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 15: LTE Band 41                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2593MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -7                   | 0.0079                |
| 3.3           | 7                    | -0.0080               |
| 3.1           | -5                   | 0.0058                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -8                   | 0.0098                |
| -20         | -6                   | 0.0070                |
| -10         | 5                    | -0.0063               |
| 0           | 5                    | -0.0066               |
| +10         | -5                   | 0.0055                |
| +20         | -8                   | 0.0093                |
| +30         | 5                    | -0.0063               |
| +40         | -7                   | 0.0084                |
| +50         | -4                   | 0.0048                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 15: LTE Band 41                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 2680MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 7                    | -0.0080               |
| 3.3           | 6                    | -0.0074               |
| 3.1           | -9                   | 0.0106                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 4                    | -0.0051               |
| -20         | -7                   | 0.0084                |
| -10         | 5                    | -0.0063               |
| 0           | -6                   | 0.0066                |
| +10         | -6                   | 0.0072                |
| +20         | -6                   | 0.0072                |
| +30         | -5                   | 0.0063                |
| +40         | -5                   | 0.0058                |
| +50         | -2                   | 0.0027                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 16: LTE Band 66                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1720MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 2                    | -0.0025               |
| 3.3           | 2                    | -0.0030               |
| 3.1           | 3                    | -0.0032               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -5                   | 0.0066                |
| -20         | -6                   | 0.0070                |
| -10         | -5                   | 0.0062                |
| 0           | -4                   | 0.0050                |
| +10         | -3                   | 0.0042                |
| +20         | 2                    | -0.0024               |
| +30         | -3                   | 0.0032                |
| +40         | 4                    | -0.0054               |
| +50         | 3                    | -0.0035               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 16: LTE Band 66                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

## 1745MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 2                    | -0.0023               |
| 3.3           | 3                    | -0.0033               |
| 3.1           | -3                   | 0.0032                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -2                   | 0.0028                |
| -20         | 3                    | -0.0030               |
| -10         | 4                    | -0.0049               |
| 0           | -2                   | 0.0029                |
| +10         | 3                    | -0.0037               |
| +20         | 3                    | -0.0036               |
| +30         | 2                    | -0.0025               |
| +40         | -2                   | 0.0026                |
| +50         | -3                   | 0.0041                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 16: LTE Band 66                                       |           |        |
| Date of Test | 2018/05/16                                                 | Test Site | SR10-H |

1770MHz

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | -3                   | 0.0034                |
| 3.3           | -2                   | 0.0028                |
| 3.1           | -3                   | 0.0031                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0065               |
| -20         | 5                    | -0.0059               |
| -10         | 5                    | -0.0057               |
| 0           | 5                    | -0.0055               |
| +10         | 3                    | -0.0035               |
| +20         | -2                   | 0.0024                |
| +30         | -2                   | 0.0028                |
| +40         | 4                    | -0.0044               |
| +50         | -4                   | 0.0047                |



|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 17: LTE Band 71                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 56                   | -0.0708               |
| 3.3           | -39                  | 0.0493                |
| 3.1           | -16                  | 0.0202                |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 47                   | -0.0595               |
| -20         | -37                  | 0.0468                |
| -10         | 28                   | -0.0354               |
| 0           | 23                   | -0.0291               |
| 10          | 29                   | -0.0367               |
| 20          | 45                   | -0.0569               |
| 30          | 40                   | -0.0506               |
| 40          | 51                   | -0.0645               |
| 50          | -28                  | 0.0354                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 17: LTE Band 71                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 5M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 37                   | -0.0468               |
| 3.3           | -9                   | 0.0114                |
| 3.1           | 14                   | -0.0177               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 52                   | -0.0658               |
| -20         | 43                   | -0.0544               |
| -10         | 33                   | -0.0417               |
| 0           | 44                   | -0.0557               |
| 10          | -13                  | 0.0164                |
| 20          | 15                   | -0.0190               |
| 30          | -11                  | 0.0139                |
| 40          | -56                  | 0.0708                |
| 50          | 19                   | -0.0240               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 17: LTE Band 71                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 10M\_QPSK

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 33                   | -0.0416               |
| 3.3           | -17                  | 0.0214                |
| 3.1           | 11                   | -0.0139               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 54                   | -0.0681               |
| -20         | 15                   | -0.0189               |
| -10         | 56                   | -0.0706               |
| 0           | -43                  | 0.0542                |
| 10          | -48                  | 0.0605                |
| 20          | 63                   | -0.0794               |
| 30          | 46                   | -0.0580               |
| 40          | 51                   | -0.0643               |
| 50          | 38                   | -0.0479               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | LM960                                                      |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 17: LTE Band 71                                       |           |        |
| Date of Test | 2018/05/14                                                 | Test Site | SR10-H |

## 10M\_16-QAM

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 3.6           | 25                   | -0.0315               |
| 3.3           | -23                  | 0.0290                |
| 3.1           | 28                   | -0.0353               |

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 67                   | -0.0845               |
| -20         | 36                   | -0.0454               |
| -10         | -17                  | 0.0214                |
| 0           | -27                  | 0.0340                |
| 10          | 21                   | -0.0265               |
| 20          | 34                   | -0.0429               |
| 30          | -24                  | 0.0303                |
| 40          | -51                  | 0.0643                |
| 50          | -14                  | 0.0177                |