

# FCC/ISED Test Report

Product Name : ME910C1-WW

Trade Name : 

Model No. : ME910C1-WW

FCC ID : RI7ME910C1WW

IC ID : 5131A-ME910C1WW

Applicant : Telit communications Spa

Address : Via Stazione di Prosecco 5/B  
34010 Sgonico  
Trieste-Italy

Date of Receipt : Jun. 14, 2018

Issued Date : Sep. 14, 2018

Report No. : 1860156R-HPUSP50V00-A

Report Version : V1.0



The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of DEKRA Testing and Certification Co., Ltd..

# Test Report Certification

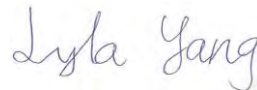
Issued Date : Sep. 14, 2018

Report No. : 1860156R-HPUSP50V00-A



Product Name : ME910C1-WW  
Applicant : Telit communications Spa  
Address : Via Stazione di Prosecco 5/B  
34010 Sgonico  
Trieste-Italy  
Manufacturer : Telit Wireless Solutions Co., LTD  
Model No. : ME910C1-WW  
FCC ID : RI7ME910C1WW  
IC : 5131A-ME910C1WW  
EUT Voltage : DC 3.8V  
Testing Voltage : DC 3.8V  
Trade Name :   
Applicable Standard : FCC CFR Title 47 Part 22 Subpart H  
FCC CFR Title 47 Part 24 Subpart E  
FCC CFR Title 47 Part 27 Subpart L  
FCC CFR Title 47 Part 90 Subpart S  
ANSI/TIA-603  
KDB 971168 D01 Power Meas License Digital Systems v03,  
RSS-132 Issue3, RSS-133 Issue6, RSS-139 Issue3  
Test Lab : Hsin Chu Laboratory  
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu  
County 310, Taiwan, R.O.C.  
TEL: +886-3-582-8001 / FAX: +886-3-582-8958  
Test Result : Complied

Documented By :



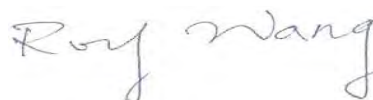
( Lyla Yang / Engineering Adm. Specialist )

Tested By :



( Clemens Fang / Engineer )

Approved By :



( Roy Wang / Director )

### Revision History

| Report No.            | Version | Description             | Issued Date   |
|-----------------------|---------|-------------------------|---------------|
| 1860156R-HPUSP50V00-A | V1.0    | Initial issue of report | Sep. 14, 2018 |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |
|                       |         |                         |               |

## TABLE OF CONTENTS

| Description                                      | Page |
|--------------------------------------------------|------|
| 1. General Information.....                      | 6    |
| 1.1. EUT Description .....                       | 6    |
| 1.2. Mode of Operation.....                      | 7    |
| 1.3. Tested System Details .....                 | 8    |
| 1.4. Configuration of Tested System.....         | 8    |
| 1.5. EUT Exercise Software.....                  | 8    |
| 2. Technical Test .....                          | 9    |
| 2.1. Summary of Test Result.....                 | 9    |
| 2.2. Test Environment.....                       | 13   |
| 2.3. List of Test Equipment .....                | 14   |
| 2.4. Measurement Uncertainty.....                | 16   |
| 3. RF Output Power .....                         | 17   |
| 3.1. Test Setup.....                             | 17   |
| 3.2. Test Procedure .....                        | 17   |
| 3.3. Test Method .....                           | 17   |
| 3.4. Test Result.....                            | 18   |
| 4. Occupied Bandwidth.....                       | 23   |
| 4.1. Test Setup.....                             | 23   |
| 4.2. Test Procedure .....                        | 23   |
| 4.3. Test Method .....                           | 23   |
| 4.4. Test Result.....                            | 24   |
| 5. Peak To Average Ratio .....                   | 59   |
| 5.1. Test Setup.....                             | 59   |
| 5.2. Test Procedure .....                        | 59   |
| 5.3. Test Method .....                           | 59   |
| 5.4. Test Result.....                            | 60   |
| 6. Spurious Emissions .....                      | 65   |
| 6.1. Test Setup.....                             | 65   |
| 6.2. Test Procedure .....                        | 66   |
| 6.3. Test Method .....                           | 66   |
| 6.4. Test Result.....                            | 67   |
| 7. Spurious Emissions at Antenna Terminals ..... | 87   |
| 7.1. Test Setup.....                             | 87   |
| 7.2. Test Procedure .....                        | 87   |
| 7.3. Test Method .....                           | 87   |

|                               |     |
|-------------------------------|-----|
| 7.4. Test Result.....         | 88  |
| 8. Frequency Stability .....  | 93  |
| 8.1. Test Setup.....          | 93  |
| 8.2. Test Procedure .....     | 93  |
| 8.3. Test Method .....        | 93  |
| 8.4. Test Result.....         | 94  |
| Attachment 1.....             | 109 |
| Test Setup Photograph .....   | 109 |
| Attachment 2.....             | 112 |
| EUT External Photograph.....  | 112 |
| Attachment 3.....             | 114 |
| EUT Internal Photograph ..... | 114 |

## 1. General Information

### 1.1. EUT Description

|                          |                                                                                                                                     |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Product Name             | ME910C1-WW                                                                                                                          |
| Trade Name               |                                                    |
| Model No.                | ME910C1-WW                                                                                                                          |
| Uplink Frequency Range   | LTE_NB-IoT_Band 2:1850~1910MHz<br>LTE_NB-IoT_Band 4:1710~1755MHz<br>LTE_NB-IoT_Band 5: 824~849MHz<br>LTE_NB-IoT_Band 26: 814~849MHz |
| Downlink Frequency Range | LTE_NB-IoT_Band 2:1930~1990MHz<br>LTE_NB-IoT_Band 4:2110~2155MHz<br>LTE_NB-IoT_Band 5: 869~894MHz<br>LTE_NB-IoT_Band 26: 859~894MHz |
| Modulation               | BPSK / QPSK                                                                                                                         |
| HW Version               | 0.0                                                                                                                                 |
| SW Version               | M0B.800003                                                                                                                          |
| IMEI No.                 | 353081099991658 #7<br>353081099992102 #8                                                                                            |

| Accessories Information |       |
|-------------------------|-------|
| Antenna                 | 1 pcs |

| Antenna Information |                    |
|---------------------|--------------------|
| MFR. / Model        | ATEL-CAB / T-AT305 |
| Antenna Type        | Dipole Antenna     |
| Antenna Gain        | 2.14dBi            |

Note:

- Regarding frequency band operation, the lowest, middle and highest frequency of channel were selected to perform the test, and the details were shown on this report.
- LTE NB-IoT/Cat M1 Band 26 from 824~849 MHz (CH26791-27039) complies with Part 22, and 814~824 MHz (CH26692-26788) is following Part 90 rule.
- The LTE band 26 frequency range is 824-849MHz for ISED.
- We have pre-scanned the RF output power on all mode. According to the results, the worst case was selected from RF output power to test other test item

## 1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

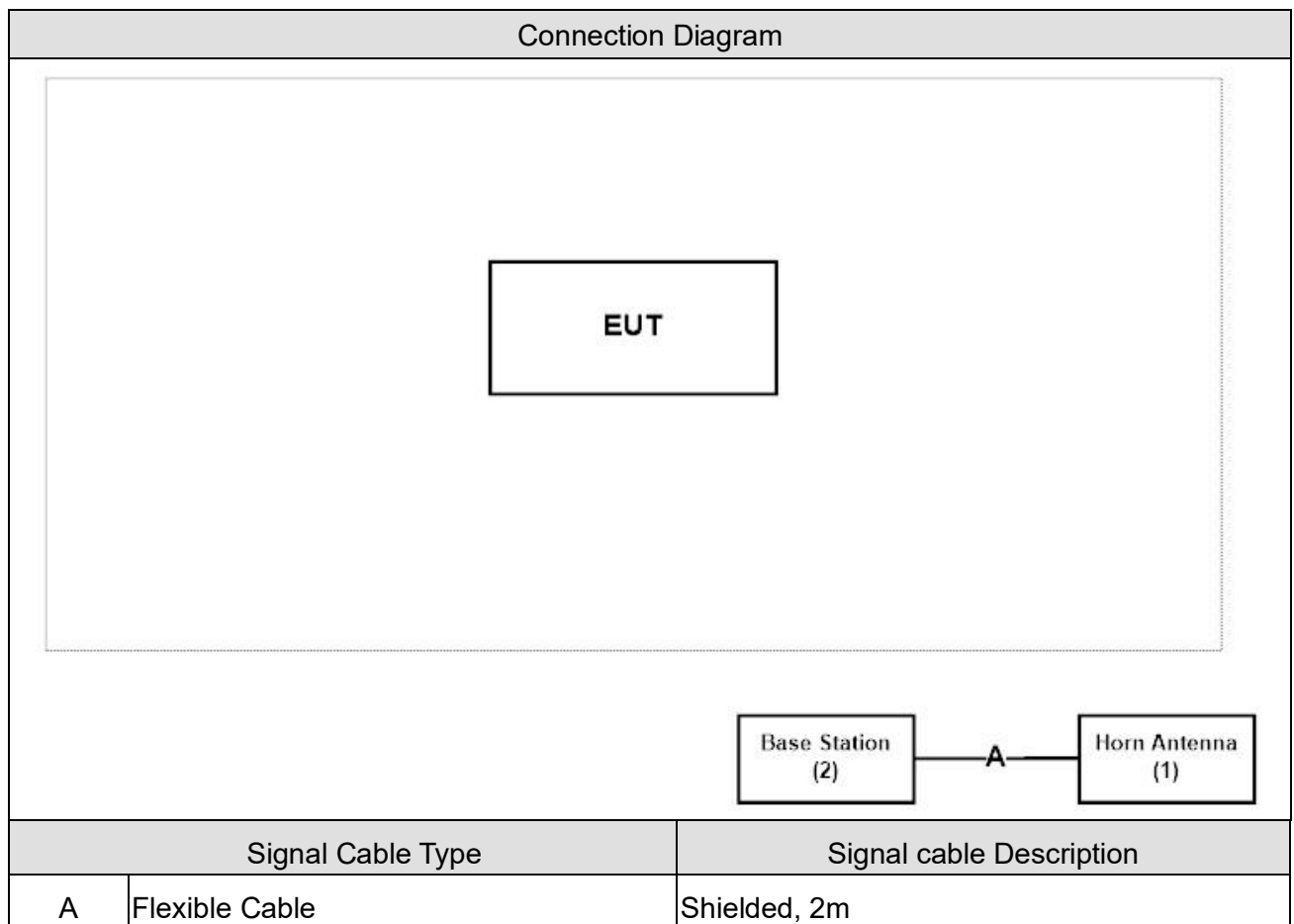
| Test Mode                  |
|----------------------------|
| Mode 1: LTE_NB-IoT_Band 2  |
| Mode 2: LTE_NB-IoT_Band 4  |
| Mode 3: LTE_NB-IoT_Band 5  |
| Mode 4: LTE_NB-IoT_Band 26 |

### 1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

| Product          | Manufacturer    | Model No. | Serial No. | Power Cord        |
|------------------|-----------------|-----------|------------|-------------------|
| 1   Horn Antenna | ELECTRO METRICS | EM-6961   | 103326     | --                |
| 2   Base Station | R&S             | CMW500    | 106071     | Non-Shielded, 2m. |

### 1.4. Configuration of Tested System



### 1.5. EUT Exercise Software

|   |                                                                    |
|---|--------------------------------------------------------------------|
| 1 | Setup the EUT and simulators as shown on 1.4.                      |
| 2 | Turn on the power of all equipment.                                |
| 3 | The EUT will continue receive the signal from LTE NB-IoT function. |
| 4 | Repeat the above procedure (3)                                     |

## 2. Technical Test

### 2.1. Summary of Test Result

- ☒ No deviations from the test standards
- ☐ Deviations from the test standards as below description:

Band 2

Uplink: 1850-1910MHz

Downlink: 1930-1990MHz

| LTE Band 2                                                |                               |           |                            |           |        |
|-----------------------------------------------------------|-------------------------------|-----------|----------------------------|-----------|--------|
| FCC Part 24 Subpart E                                     |                               |           |                            |           |        |
| Industry Canada RSS-133, Issue 6, Industry Canada RSS-GEN |                               |           |                            |           |        |
| Test item                                                 | FCC<br>Reference<br>section   | FCC Limit | IC<br>Reference<br>section | IC Limit  | Result |
| RF Output Power                                           | §2.1033<br>§2.1046<br>§24.232 | <2 Watts  | §6.4                       | <2 Watts  | Pass   |
| Occupied Bandwidth                                        | §2.1049                       | N/A       | RSS-GEN<br>§4.2            | N/A       | Pass   |
| Peak-to-average<br>power ratio                            | §24.232                       | <13 dB    | §6.4                       | <13 dB    | Pass   |
| Spurious Emissions                                        | §2.1053<br>§24.238            | <-13dBm   | §6.5                       | <-13dBm   | Pass   |
| Spurious Emissions<br>at Antenna Terminals                | §24.238                       | <-13dBm   | §6.5                       | <-13dBm   | Pass   |
| Frequency Stability                                       | §2.1055<br>§24.235            | <±2.5 ppm | §6.3                       | <±2.5 ppm | Pass   |

Band 4

Uplink: 1710-1755MHz

Downlink: 2100-2155MHz

| LTE Band 4                                                |                              |           |                      |                            |        |
|-----------------------------------------------------------|------------------------------|-----------|----------------------|----------------------------|--------|
| FCC Part 27 Subpart L                                     |                              |           |                      |                            |        |
| Industry Canada RSS-139, Issue 3, Industry Canada RSS-GEN |                              |           |                      |                            |        |
| Test item                                                 | FCC Reference section        | FCC Limit | IC Reference section | IC Limit                   | Result |
| RF Output Power                                           | §2.1033<br>§2.1046<br>§27.50 | <1 Watt   | §6.5                 | <1 Watt                    | Pass   |
| Occupied Bandwidth                                        | §2.1049                      | N/A       | RSS-GEN<br>§4.2      | N/A                        | Pass   |
| Peak-to-average power ratio                               | §27.50                       | <13 dB    | §6.5                 | <13 dB                     | Pass   |
| Spurious Emissions                                        | §2.1053<br>§27.53            | <-13dBm   | §6.6                 | <-13dBm                    | Pass   |
| Spurious Emissions at Antenna Terminals                   | §27.53                       | <-13dBm   | §6.6                 | <-13dBm                    | Pass   |
| Frequency Stability                                       | §2.1055<br>§27.54            | <2.5 ppm  | §6.4                 | Within the frequency range | Pass   |

Band 5

Uplink: 824-849MHz

Downlink: 869-894MHz

| LTE Band 5                                                |                               |           |                      |                                                              |        |
|-----------------------------------------------------------|-------------------------------|-----------|----------------------|--------------------------------------------------------------|--------|
| FCC Part 22 Subpart H                                     |                               |           |                      |                                                              |        |
| Industry Canada RSS-132, Issue 3, Industry Canada RSS-GEN |                               |           |                      |                                                              |        |
| Test item                                                 | FCC Reference section         | FCC Limit | IC Reference section | IC Limit                                                     | Result |
| RF Output Power                                           | §2.1033<br>§2.1046<br>§22.913 | <7 Watts  | §5.4                 | <7 Watts<br>EIRP:<br><11.5 Watts                             | Pass   |
| Occupied Bandwidth                                        | §2.1049                       | N/A       | RSS-GEN<br>§4.2      | N/A                                                          | Pass   |
| Peak-to-average power ratio                               | §22.913                       | <13 dB    | §5.4                 | <13 dB                                                       | Pass   |
| Spurious Emissions                                        | §2.1053<br>§22.917            | <-13dBm   | §5.5                 | <-13dBm                                                      | Pass   |
| Spurious Emissions at Antenna Terminals                   | §22.917                       | <-13dBm   | §5.5                 | <-13dBm                                                      | Pass   |
| Frequency Stability                                       | §2.1055<br>§22.335            | <±2.5 ppm | §5.3                 | <±2.5 ppm for mobile stations<br><±1.5 ppm for base stations | Pass   |

Band 26

Uplink: 814~849MHz (ISDE not support 814~824 MHz)

Downlink: 859~894MHz

| LTE Band 26                                               |                                             |                        |                      |             |        |
|-----------------------------------------------------------|---------------------------------------------|------------------------|----------------------|-------------|--------|
| FCC Part 22 Subpart H                                     |                                             |                        |                      |             |        |
| FCC Part 90 Subpart S                                     |                                             |                        |                      |             |        |
| Industry Canada RSS-132, Issue 3, Industry Canada RSS-GEN |                                             |                        |                      |             |        |
| Test item                                                 | FCC Reference section                       | FCC Limit              | IC Reference section | IC Limit    | Result |
| RF Output Power                                           | §2.1033<br>§2.1046<br>§90.635(b)<br>§22.913 | <7 Watts<br><100 Watts | §5.4                 | <11.5 Watts | Pass   |
| Occupied Bandwidth                                        | §2.1049                                     | N/A                    | RSS-GEN<br>§4.2      | N/A         | Pass   |
| Peak-to-average power ratio                               | §22.913                                     | <13 dB                 | §5.4                 | <13 dB      | Pass   |
| Spurious Emissions                                        | §2.1053<br>§90.691<br>§22.917               | <-13dBm                | §5.5                 | <-13dBm     | Pass   |
| Spurious Emissions at Antenna Terminals                   | §90.691<br>§22.917                          | <-13dBm                | §5.5                 | <-13dBm     | Pass   |
| Frequency Stability                                       | §2.1055<br>§90.213                          | <±2.5 ppm              | §5.2                 | <±2.5ppm    | Pass   |

## 2.2. Test Environment

| Items                      | Test Item                                  | Required<br>(IEC 68-1) | Actual   | Test Site |
|----------------------------|--------------------------------------------|------------------------|----------|-----------|
| Temperature (°C)           | RF Output Power                            | 15 - 35                | 25       | 3         |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |
| Temperature (°C)           | Occupied Bandwidth                         | 15 - 35                | 25       | 3         |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |
| Temperature (°C)           | Peak To Average Ratio                      | 15 - 35                | 25       | 3         |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |
| Temperature (°C)           | Spurious Emission                          | 15 - 35                | 25       | 2/3       |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |
| Temperature (°C)           | Spurious Emissions at<br>Antenna Terminals | 15 - 35                | 25       | 3         |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |
| Temperature (°C)           | Frequency Stability                        | 15 - 35                | 25       | 3         |
| Humidity (%RH)             |                                            | 20 - 75                | 50       |           |
| Barometric pressure (mbar) |                                            | 860 - 1060             | 950-1000 |           |

Note: Test site information refers to Laboratory Information.

**USA** : FCC Registration Number: TW3024  
**Canada** : IC Registration Number: 22397-1 / 22397-2 / 22397-3

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

<http://www.dekra.com.tw/english/about/certificates.aspx?bval=5>

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site : [http://www.dekra.com.tw/index\\_en.aspx](http://www.dekra.com.tw/index_en.aspx)

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

- 1 No. 75-2, 3rd Lin, WangYe Keng, Yonghxing Tsuen, Qionglin Shiang, Hsinchu County 307, Taiwan (R.O.C.)  
TEL: +886-3-592-8858 / FAX: +886-3-592-8859 E-Mail : [info.tw@dekra.com](mailto:info.tw@dekra.com)
- 2 No.372, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.  
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : [info.tw@dekra.com](mailto:info.tw@dekra.com)
- 3 No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu County 31061, Taiwan, R.O.C.  
TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : [info.tw@dekra.com](mailto:info.tw@dekra.com)

### 2.3. List of Test Equipment

#### RF Output Power / SR10-H

| Instrument                                | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|-------------------------------------------|--------------|-----------|------------|------------|----------------|
| High Speed Peak<br>Power Meter Dual Input | Anritsu      | ML2496A   | 1602004    | 2018/01/02 | 2019/01/01     |
| Wideband Radio<br>Communication Tester    | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                       | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                       | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

#### Occupied Bandwidth / SR10-H

| Instrument                             | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------------------|--------------|-----------|------------|------------|----------------|
| Signal Analyzer                        | R&S          | FSVA40    | 101455     | 2017/11/21 | 2018/11/20     |
| Wideband Radio<br>Communication Tester | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                    | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                    | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

#### Peak To Average Ratio / SR10-H

| Instrument                             | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------------------|--------------|-----------|------------|------------|----------------|
| Signal Analyzer                        | R&S          | FSVA40    | 101455     | 2017/11/21 | 2018/11/20     |
| Wideband Radio<br>Communication Tester | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                    | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                    | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

#### Conducted Band Edge Emissions / SR10-H

| Instrument                             | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------------------|--------------|-----------|------------|------------|----------------|
| Signal Analyzer                        | R&S          | FSVA40    | 101455     | 2017/11/21 | 2018/11/20     |
| Wideband Radio<br>Communication Tester | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                    | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                    | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

## Spurious Emission / CB4-H

| Instrument                 | Manufacturer | Model No.  | Serial No. | Cal. Date  | Next Cal. Date |
|----------------------------|--------------|------------|------------|------------|----------------|
| Signal Analyzer            | R&S          | FSVA40     | 101455     | 2017/11/21 | 2018/11/20     |
| Signal & Spectrum Analyzer | R&S          | FSV40      | 101049     | 2018/01/10 | 2019/01/09     |
| EXA Signal Analyzer        | Keysight     | N9010A     | MY51440132 | 2018/03/05 | 2019/03/04     |
| Bilog Antenna              | Teseq        | CBL6112D   | 23191      | 2018/06/26 | 2019/06/25     |
| Horn Antenna               | Schwarzbeck  | BBHA 9120D | 639        | 2018/06/01 | 2019/05/31     |
| Horn Antenna               | Schwarzbeck  | BBHA 9170  | 202        | 2018/01/31 | 2019/01/30     |
| Pre-Amplifier              | Dekra        | AP-025C    | 201801236  | 2018/02/26 | 2019/02/25     |
| Pre-Amplifier              | EMCI         | EMC11830I  | 980366     | 2018/01/08 | 2019/01/07     |
| Pre-Amplifier              | Dekra        | AP-400C    | 201801231  | 2017/12/13 | 2018/12/12     |
| EXA Signal Analyzer        | Keysight     | N9010A     | MY51440132 | 2018/03/05 | 2019/03/04     |

## Spurious Emissions at Antenna Terminals / SR10-H

| Instrument                          | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|-------------------------------------|--------------|-----------|------------|------------|----------------|
| Signal Analyzer                     | R&S          | FSVA40    | 101455     | 2017/11/21 | 2018/11/20     |
| Wideband Radio Communication Tester | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                 | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                 | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

## Frequency Stability Under Temperature &amp; Voltage Variations / SR10-H

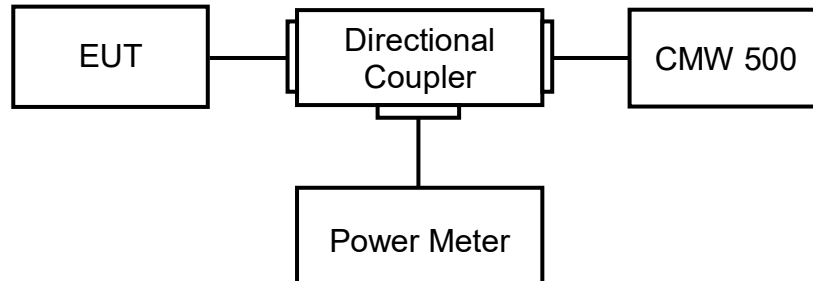
| Instrument                          | Manufacturer | Model No. | Serial No. | Cal. Date  | Next Cal. Date |
|-------------------------------------|--------------|-----------|------------|------------|----------------|
| Signal Analyzer                     | R&S          | FSVA40    | 101455     | 2017/11/21 | 2018/11/20     |
| Wideband Radio Communication Tester | R&S          | CMW500    | 150246     | 2018/03/30 | 2019/03/29     |
| Directional Coupler                 | Agilent      | 778D      | 20402      | 2017/09/25 | 2018/09/24     |
| EXA Signal Analyzer                 | Keysight     | N9010A    | MY51440132 | 2018/03/05 | 2019/03/04     |

## 2.4. Measurement Uncertainty

| Test Item                               | Uncertainty                                                                                      |
|-----------------------------------------|--------------------------------------------------------------------------------------------------|
| RF Output Power                         | $\pm 1.27\text{dB}$ .                                                                            |
| Occupied Bandwidth                      | $\pm 10\text{ Hz}$                                                                               |
| Peak To Average Ratio                   | not exceed 13 dB.                                                                                |
| Spurious Emissions                      | $\pm 1.27\text{ dB}$ for Conducted Measurement.<br>$\pm 3.2\text{ dB}$ for Radiated Measurement. |
| Spurious Emissions at Antenna Terminals | $\pm 3.2\text{ dB}$                                                                              |
| Frequency Stability                     | $\pm 10\text{ Hz}$                                                                               |

### 3. RF Output Power

#### 3.1. Test Setup



#### 3.2. Test Procedure

- The RF output of the transmitter was connected to base station simulator.
- The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement..
- Set EUT at maximum average power by base station emulator.
- Measure lowest, middle, and highest channels for each bandwidth and different modulation.

Effective Isotropic Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi)

Effective Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi) - 2.15dB

#### 3.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause5.2.4

ANSI C63.26-2015 Sub-clause 5.2.4.2

### 3.4. Test Result

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | RF Output Power           |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq. (MHz) | Modulation | BW (kHz) | RB No. | RB offset | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|---------|-------------|------------|----------|--------|-----------|------------------------------|--------------------------|----------------|
| 18601   | 1850.1      | BPSK       | 3.75     | 1      | 0         | 23.36                        | 0.355                    | 2              |
|         |             |            |          | 1      | 47        | 23.35                        | 0.354                    | 2              |
|         |             |            | 15       | 1      | 0         | 22.42                        | 0.286                    | 2              |
|         |             |            |          | 1      | 11        | 22.39                        | 0.284                    | 2              |
|         |             | QPSK       | 3.75     | 1      | 0         | 22.24                        | 0.274                    | 2              |
|         |             |            |          | 1      | 47        | 22.19                        | 0.271                    | 2              |
|         |             |            | 15       | 1      | 0         | 22.41                        | 0.285                    | 2              |
|         |             |            |          | 1      | 11        | 22.38                        | 0.283                    | 2              |
|         |             |            |          | 3      | 3         | 23.50                        | 0.366                    | 2              |
|         |             |            |          |        |           |                              |                          |                |
| 18900   | 1880        | BPSK       | 3.75     | 1      | 0         | 23.25                        | 0.346                    | 2              |
|         |             |            |          | 1      | 47        | 23.24                        | 0.345                    | 2              |
|         |             |            | 15       | 1      | 0         | 22.62                        | 0.299                    | 2              |
|         |             |            |          | 1      | 11        | 22.61                        | 0.299                    | 2              |
|         |             | QPSK       | 3.75     | 1      | 0         | 22.33                        | 0.282                    | 2              |
|         |             |            |          | 1      | 47        | 22.36                        | 0.296                    | 2              |
|         |             |            | 15       | 1      | 0         | 22.58                        | 0.297                    | 2              |
|         |             |            |          | 1      | 11        | 22.59                        | 0.297                    | 2              |
|         |             |            |          | 3      | 3         | 24.04                        | 0.415                    | 2              |
|         |             |            |          |        |           |                              |                          |                |
| 19199   | 1909.9      | BPSK       | 3.75     | 1      | 0         | 22.73                        | 0.31                     | 2              |
|         |             |            |          | 1      | 47        | 22.78                        | 0.244                    | 2              |
|         |             |            | 15       | 1      | 0         | 21.73                        | 0.243                    | 2              |
|         |             |            |          | 1      | 11        | 21.72                        | 0.23                     | 2              |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.47                        | 0.23                     | 2              |
|         |             |            |          | 1      | 47        | 21.49                        | 0.231                    | 2              |
|         |             |            | 15       | 1      | 0         | 21.70                        | 0.242                    | 2              |
|         |             |            |          | 1      | 11        | 21.71                        | 0.243                    | 2              |
|         |             |            |          | 3      | 3         | 23.31                        | 0.351                    | 2              |
|         |             |            |          |        |           |                              |                          |                |

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | RF Output Power           |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq. (MHz) | Modulation | BW (kHz) | RB No. | RB offset | Conducted Output Power (dBm) | RF Output Power (W) EIRP | Limit (W) EIRP |
|---------|-------------|------------|----------|--------|-----------|------------------------------|--------------------------|----------------|
| 19951   | 1710.1      | BPSK       | 3.75     | 1      | 0         | 22.39                        | 0.284                    | 1              |
|         |             |            |          | 1      | 47        | 22.40                        | 0.284                    | 1              |
|         |             |            | 15       | 1      | 0         | 21.14                        | 0.213                    | 1              |
|         |             |            |          | 1      | 11        | 21.13                        | 0.212                    | 1              |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.02                        | 0.207                    | 1              |
|         |             |            |          | 1      | 47        | 21.03                        | 0.207                    | 1              |
|         |             |            | 15       | 1      | 0         | 21.11                        | 0.211                    | 1              |
|         |             |            |          | 1      | 11        | 21.12                        | 0.212                    | 1              |
|         |             |            |          | 3      | 3         | 22.47                        | 0.289                    | 1              |
|         |             |            |          |        |           |                              |                          |                |
| 20175   | 1732.5      | BPSK       | 3.75     | 1      | 0         | 22.09                        | 0.265                    | 1              |
|         |             |            |          | 1      | 47        | 22.10                        | 0.265                    | 1              |
|         |             |            | 15       | 1      | 0         | 21.23                        | 0.217                    | 1              |
|         |             |            |          | 1      | 11        | 21.24                        | 0.218                    | 1              |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.13                        | 0.212                    | 1              |
|         |             |            |          | 1      | 47        | 21.12                        | 0.212                    | 1              |
|         |             |            | 15       | 1      | 0         | 21.22                        | 0.217                    | 1              |
|         |             |            |          | 1      | 11        | 21.21                        | 0.216                    | 1              |
|         |             |            |          | 3      | 3         | 22.58                        | 0.296                    | 1              |
|         |             |            |          |        |           |                              |                          |                |
| 20399   | 1754.9      | BPSK       | 3.75     | 1      | 0         | 21.98                        | 0.258                    | 1              |
|         |             |            |          | 1      | 47        | 21.95                        | 0.256                    | 1              |
|         |             |            | 15       | 1      | 0         | 21.20                        | 0.216                    | 1              |
|         |             |            |          | 1      | 11        | 21.18                        | 0.215                    | 1              |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.07                        | 0.209                    | 1              |
|         |             |            |          | 1      | 47        | 21.09                        | 0.21                     | 1              |
|         |             |            | 15       | 1      | 0         | 21.14                        | 0.213                    | 1              |
|         |             |            |          | 1      | 11        | 21.16                        | 0.214                    | 1              |
|         |             |            |          | 3      | 3         | 22.51                        | 0.292                    | 1              |
|         |             |            |          |        |           |                              |                          |                |

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | RF Output Power           |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq. (MHz) | Modulation | BW (kHz) | RB No. | RB offset | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|---------|-------------|------------|----------|--------|-----------|------------------------------|-------------------------|---------------|
| 20401   | 824.1       | BPSK       | 3.75     | 1      | 0         | 23.62                        | 0.230                   | 7             |
|         |             |            |          | 1      | 47        | 23.61                        | 0.229                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.86                        | 0.251                   | 7             |
|         |             |            |          | 1      | 11        | 21.85                        | 0.251                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.61                        | 0.237                   | 7             |
|         |             |            |          | 1      | 47        | 21.64                        | 0.239                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.82                        | 0.152                   | 7             |
|         |             |            |          | 1      | 11        | 21.84                        | 0.152                   | 7             |
|         |             |            |          | 3      | 3         | 23.94                        | 0.247                   | 7             |
|         |             |            |          |        |           |                              |                         |               |
| 20525   | 836.5       | BPSK       | 3.75     | 1      | 0         | 23.49                        | 0.223                   | 7             |
|         |             |            |          | 1      | 47        | 23.48                        | 0.222                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.75                        | 0.149                   | 7             |
|         |             |            |          | 1      | 11        | 21.74                        | 0.149                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.53                        | 0.142                   | 7             |
|         |             |            |          | 1      | 47        | 21.51                        | 0.141                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.72                        | 0.148                   | 7             |
|         |             |            |          | 1      | 11        | 21.70                        | 0.148                   | 7             |
|         |             |            |          | 3      | 3         | 23.96                        | 0.248                   | 7             |
|         |             |            |          |        |           |                              |                         |               |
| 20649   | 848.9       | BPSK       | 3.75     | 1      | 0         | 23.28                        | 0.212                   | 7             |
|         |             |            |          | 1      | 47        | 23.29                        | 0.213                   | 7             |
|         |             |            | 15       | 1      | 0         | 22.67                        | 0.303                   | 7             |
|         |             |            |          | 1      | 11        | 22.66                        | 0.302                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 22.52                        | 0.292                   | 7             |
|         |             |            |          | 1      | 47        | 22.49                        | 0.29                    | 7             |
|         |             |            | 15       | 1      | 0         | 22.65                        | 0.184                   | 7             |
|         |             |            |          | 1      | 11        | 22.64                        | 0.183                   | 7             |
|         |             |            |          | 3      | 3         | 23.88                        | 0.244                   | 7             |
|         |             |            |          |        |           |                              |                         |               |

|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | RF Output Power                      |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

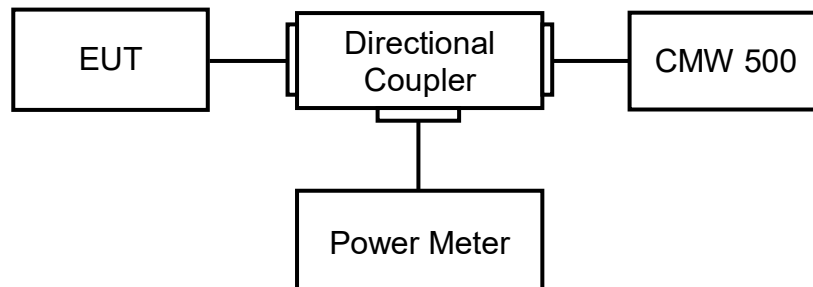
| Channel | Freq. (MHz) | Modulation | BW (kHz) | RB No. | RB offset | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|---------|-------------|------------|----------|--------|-----------|------------------------------|-------------------------|---------------|
| 26791   | 824.1       | BPSK       | 3.75     | 1      | 0         | 23.68                        | 0.233                   | 7             |
|         |             |            |          | 1      | 47        | 23.67                        | 0.232                   | 7             |
|         |             |            | 15       | 1      | 0         | 23.66                        | 0.380                   | 7             |
|         |             |            |          | 1      | 11        | 23.65                        | 0.379                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 23.62                        | 0.377                   | 7             |
|         |             |            |          | 1      | 47        | 23.59                        | 0.374                   | 7             |
|         |             |            | 15       | 1      | 0         | 23.66                        | 0.232                   | 7             |
|         |             |            |          | 1      | 11        | 23.65                        | 0.231                   | 7             |
|         |             |            |          | 3      | 3         | 23.87                        | 0.243                   | 7             |
|         |             |            |          |        |           |                              |                         |               |
| 26915   | 836.5       | BPSK       | 3.75     | 1      | 0         | 23.49                        | 0.223                   | 7             |
|         |             |            |          | 1      | 47        | 23.48                        | 0.222                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.75                        | 0.149                   | 7             |
|         |             |            |          | 1      | 11        | 21.73                        | 0.149                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.48                        | 0.140                   | 7             |
|         |             |            |          | 1      | 47        | 21.47                        | 0.140                   | 7             |
|         |             |            | 15       | 1      | 0         | 21.72                        | 0.148                   | 7             |
|         |             |            |          | 1      | 11        | 21.73                        | 0.149                   | 7             |
|         |             |            |          | 3      | 3         | 23.73                        | 0.236                   | 7             |
|         |             |            |          |        |           |                              |                         |               |
| 27039   | 848.9       | BPSK       | 3.75     | 1      | 0         | 23.28                        | 0.212                   | 7             |
|         |             |            |          | 1      | 47        | 23.29                        | 0.213                   | 7             |
|         |             |            | 15       | 1      | 0         | 22.65                        | 0.301                   | 7             |
|         |             |            |          | 1      | 11        | 22.64                        | 0.301                   | 7             |
|         |             | QPSK       | 3.75     | 1      | 0         | 22.30                        | 0.278                   | 7             |
|         |             |            |          | 1      | 47        | 22.28                        | 0.277                   | 7             |
|         |             |            | 15       | 1      | 0         | 22.56                        | 0.180                   | 7             |
|         |             |            |          | 1      | 11        | 22.55                        | 0.179                   | 7             |
|         |             |            |          | 3      | 3         | 23.76                        | 0.237                   | 7             |
|         |             |            |          |        |           |                              |                         |               |

|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | RF Output Power                      |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

| Channel | Freq. (MHz) | Modulation | BW (kHz) | RB No. | RB offset | Conducted Output Power (dBm) | RF Output Power (W) ERP | Limit (W) ERP |
|---------|-------------|------------|----------|--------|-----------|------------------------------|-------------------------|---------------|
| 26692   | 814.2       | BPSK       | 3.75     | 1      | 0         | 23.69                        | 0.233                   | 100           |
|         |             |            |          | 1      | 47        | 23.68                        | 0.233                   | 100           |
|         |             |            | 15       | 1      | 0         | 21.94                        | 0.256                   | 100           |
|         |             |            |          | 1      | 11        | 21.93                        | 0.255                   | 100           |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.75                        | 0.245                   | 100           |
|         |             |            |          | 1      | 47        | 21.73                        | 0.244                   | 100           |
|         |             |            | 15       | 1      | 0         | 21.93                        | 0.156                   | 100           |
|         |             |            |          | 1      | 11        | 21.92                        | 0.155                   | 100           |
|         |             |            |          | 3      | 3         | 23.74                        | 0.236                   | 100           |
|         |             |            |          |        |           |                              |                         |               |
| 26740   | 819         | BPSK       | 3.75     | 1      | 0         | 23.67                        | 0.232                   | 100           |
|         |             |            |          | 1      | 47        | 23.66                        | 0.232                   | 100           |
|         |             |            | 15       | 1      | 0         | 22.02                        | 0.159                   | 100           |
|         |             |            |          | 1      | 11        | 22.01                        | 0.158                   | 100           |
|         |             | QPSK       | 3.75     | 1      | 0         | 21.94                        | 0.156                   | 100           |
|         |             |            |          | 1      | 47        | 21.91                        | 0.155                   | 100           |
|         |             |            | 15       | 1      | 0         | 22.01                        | 0.158                   | 100           |
|         |             |            |          | 1      | 11        | 22.00                        | 0.158                   | 100           |
|         |             |            |          | 3      | 3         | 23.84                        | 0.242                   | 100           |
|         |             |            |          |        |           |                              |                         |               |
| 26788   | 823.8       | BPSK       | 3.75     | 1      | 0         | 23.68                        | 0.233                   | 100           |
|         |             |            |          | 1      | 47        | 23.66                        | 0.232                   | 100           |
|         |             |            | 15       | 1      | 0         | 23.66                        | 0.380                   | 100           |
|         |             |            |          | 1      | 11        | 23.64                        | 0.378                   | 100           |
|         |             | QPSK       | 3.75     | 1      | 0         | 23.56                        | 0.372                   | 100           |
|         |             |            |          | 1      | 47        | 23.58                        | 0.373                   | 100           |
|         |             |            | 15       | 1      | 0         | 23.62                        | 0.230                   | 100           |
|         |             |            |          | 1      | 11        | 23.63                        | 0.230                   | 100           |
|         |             |            |          | 3      | 3         | 23.88                        | 0.244                   | 100           |
|         |             |            |          |        |           |                              |                         |               |

## 4. Occupied Bandwidth

### 4.1. Test Setup



### 4.2. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 26 dB bandwidth and 99% occupied bandwidth of the low & middle & high channel for the highest RF powers were measured.

### 4.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 4.2 & 4.3  
ANSI C63.26-2015 Sub-clause 5.4.3 & 5.4.4

#### 4.4. Test Result

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Occupied Bandwidth        |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

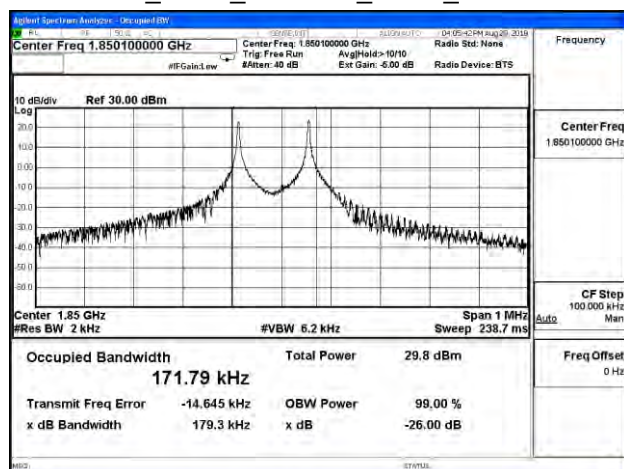
| NB-IoT Band 2_3.75K_BPSK_1RB0 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                        | 179.300                     | 171.790                    | N/A         |
| 1880                          | 178.300                     | 169.880                    | N/A         |
| 1909.9                        | 176.000                     | 167.880                    | N/A         |

| NB-IoT Band 2_3.75K_BPSK_1RB47 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                         | 69.060                      | 69.009                     | N/A         |
| 1880                           | 71.060                      | 68.811                     | N/A         |
| 1909.9                         | 70.070                      | 66.137                     | N/A         |

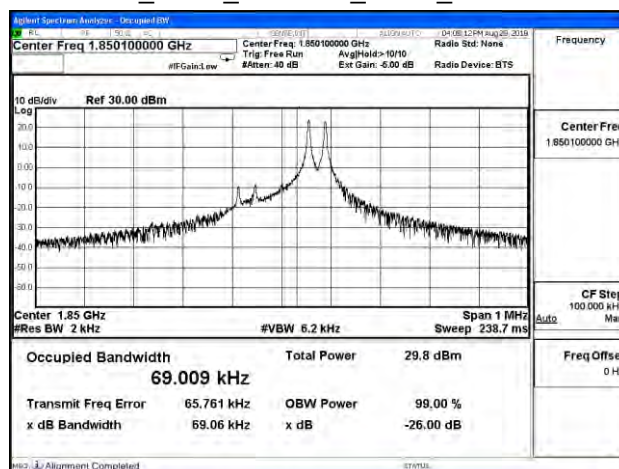
| NB-IoT Band 2_15K_BPSK_1RB0 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                      | 118.700                     | 129.670                    | N/A         |
| 1880                        | 114.400                     | 130.830                    | N/A         |
| 1909.9                      | 116.700                     | 136.670                    | N/A         |

| NB-IoT Band 2_15K_BPSK_1RB11 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                       | 238.600                     | 207.430                    | N/A         |
| 1880                         | 238.200                     | 208.120                    | N/A         |
| 1909.9                       | 239.000                     | 207.390                    | N/A         |

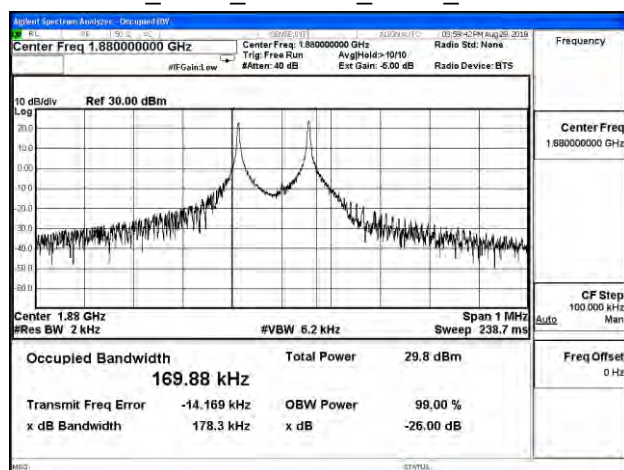
B2\_3.75K\_CH18601\_BPSK\_1RB0



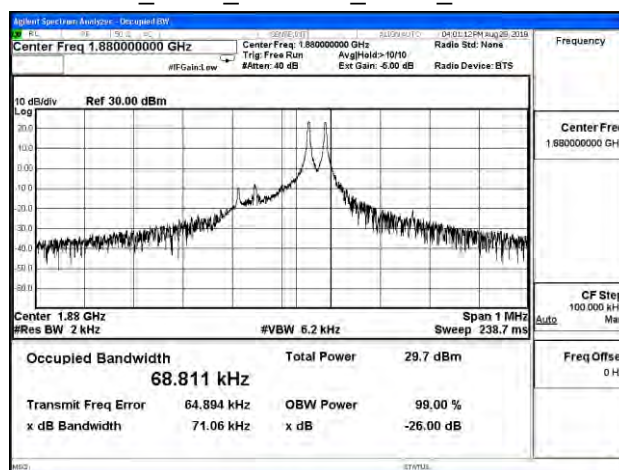
B2\_3.75K\_CH18601\_BPSK\_1RB47



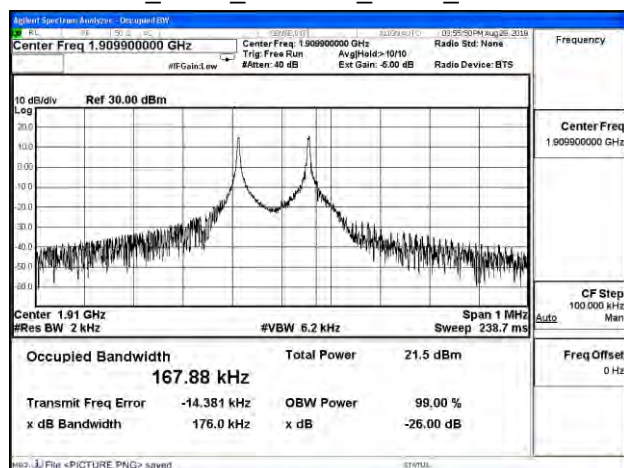
B2\_3.75K\_CH18900\_BPSK\_1RB0



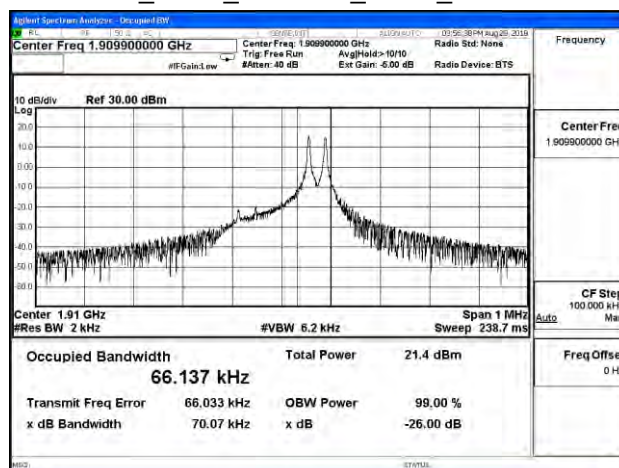
B2\_3.75K\_CH18900\_BPSK\_1RB47



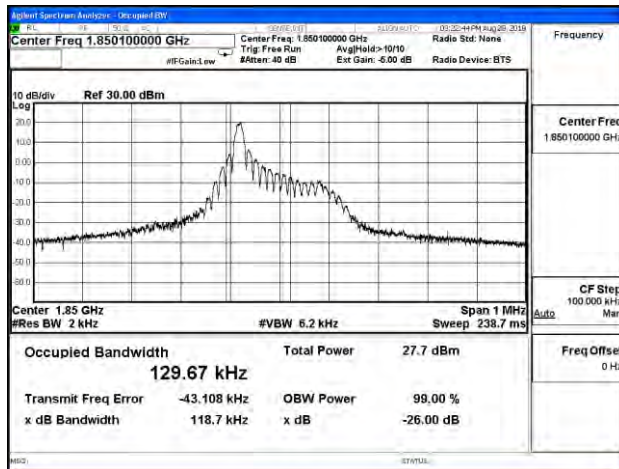
B2\_3.75K\_CH19199\_BPSK\_1RB0



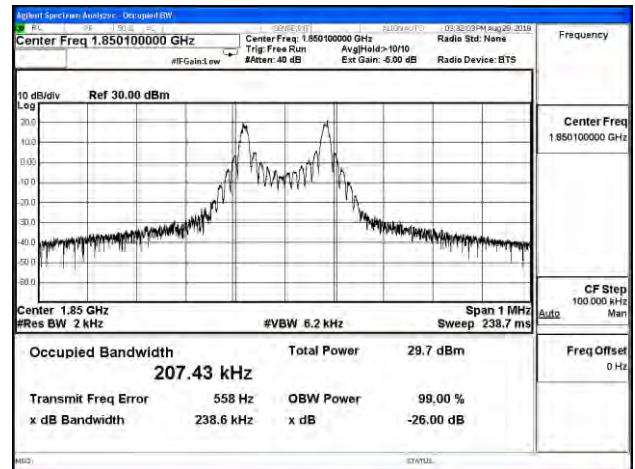
B2\_3.75K\_CH19199\_BPSK\_1RB47



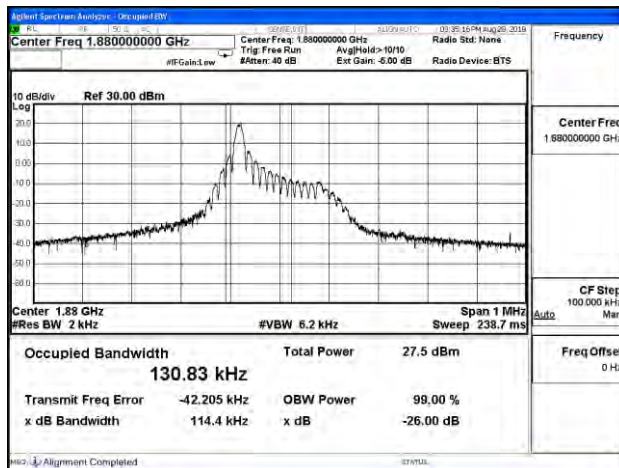
B2\_15K\_CH18601\_BPSK\_1RB0



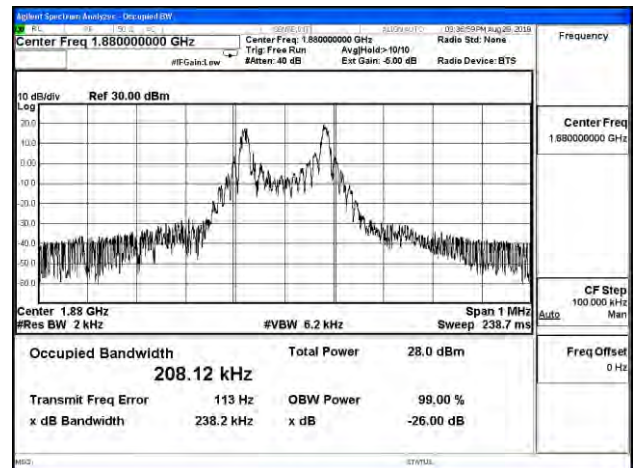
B2\_15K\_CH18601\_BPSK\_1RB11



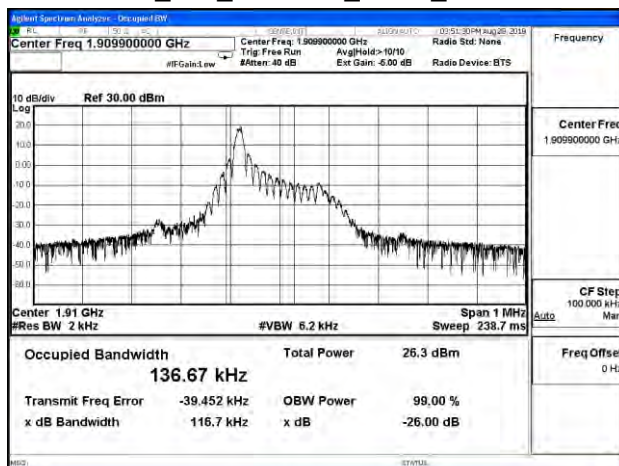
B2\_15K\_CH18900\_BPSK\_1RB0



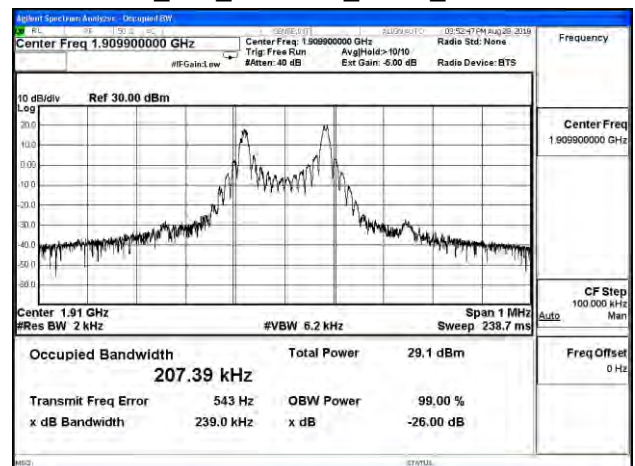
B2\_15K\_CH18900\_BPSK\_1RB11



B2\_15K\_CH19199\_BPSK\_1RB0



B2\_15K\_CH19199\_BPSK\_1RB11



| NB-IoT Band 2_3.75K_QPSK_1RB0 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                        | 180.800                     | 172.000                    | N/A         |
| 1880                          | 179.100                     | 169.690                    | N/A         |
| 1909.9                        | 179.900                     | 168.680                    | N/A         |

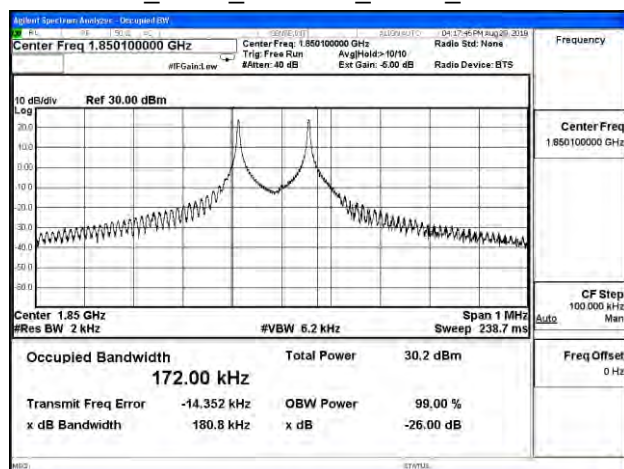
| NB-IoT Band 2_3.75K_QPSK_1RB47 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                         | 72.040                      | 69.893                     | N/A         |
| 1880                           | 71.820                      | 70.175                     | N/A         |
| 1909.9                         | 70.780                      | 63.874                     | N/A         |

| NB-IoT Band 2_15K_QPSK_1RB0 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                      | 116.900                     | 125.560                    | N/A         |
| 1880                        | 129.900                     | 126.320                    | N/A         |
| 1909.9                      | 116.700                     | 126.050                    | N/A         |

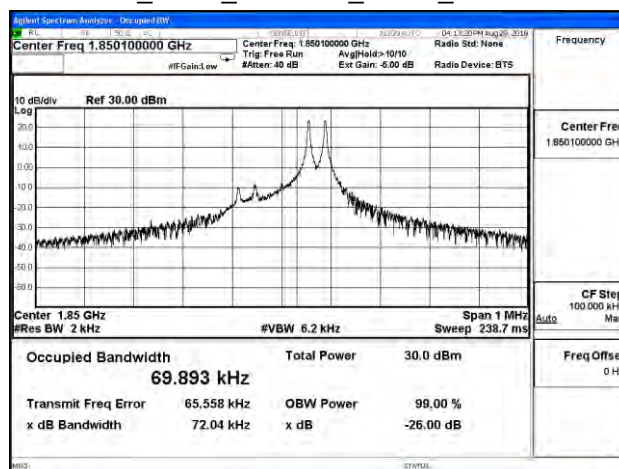
| NB-IoT Band 2_15K_QPSK_1RB11 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                       | 240.400                     | 208.000                    | N/A         |
| 1880                         | 240.500                     | 207.310                    | N/A         |
| 1909.9                       | 241.000                     | 207.210                    | N/A         |

| NB-IoT Band 2_15K_QPSK_12RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1850.1                       | 204.500                     | 140.720                    | N/A         |
| 1880                         | 203.900                     | 141.170                    | N/A         |
| 1909.9                       | 205.200                     | 140.600                    | N/A         |

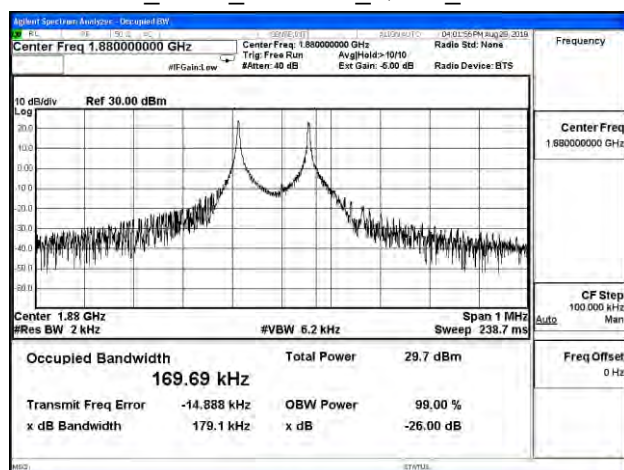
B2\_3.75K\_CH18601\_QPSK\_1RB0



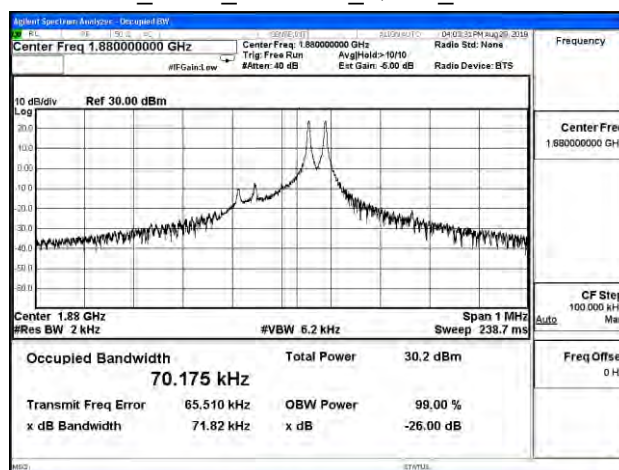
B2\_3.75K\_CH18601\_QPSK\_1RB47



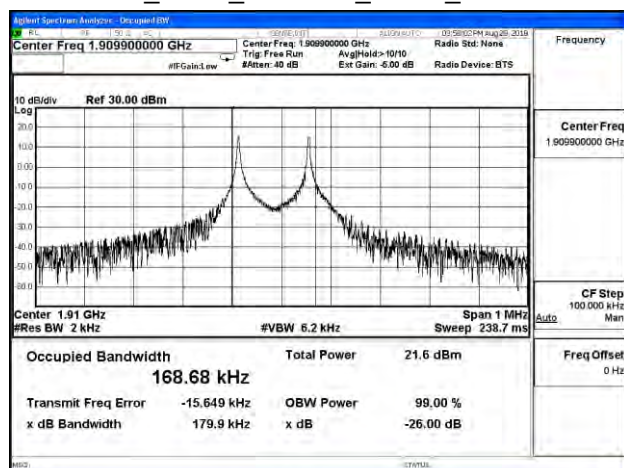
B2\_3.75K\_CH18900\_QPSK\_1RB0



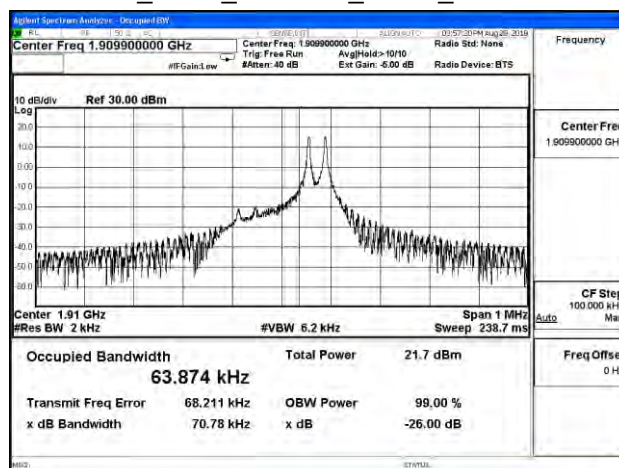
B2\_3.75K\_CH18900\_QPSK\_1RB47



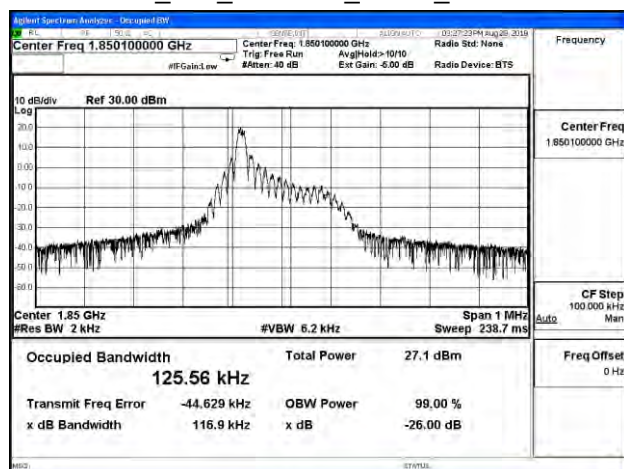
B2\_3.75K\_CH19199\_QPSK\_1RB0



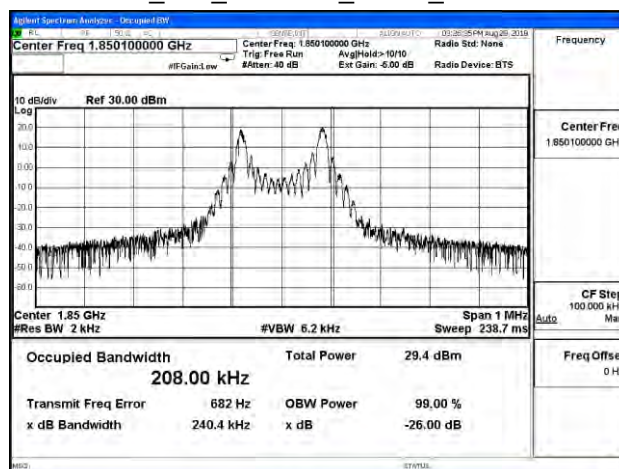
B2\_3.75K\_CH19199\_QPSK\_1RB47



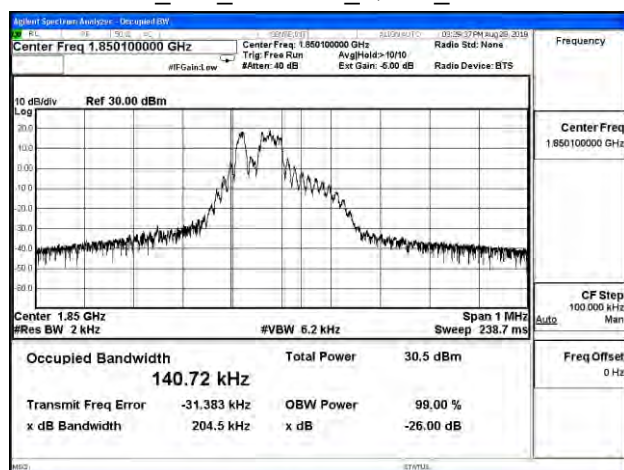
B2\_15K\_CH18601\_QPSK\_1RB0



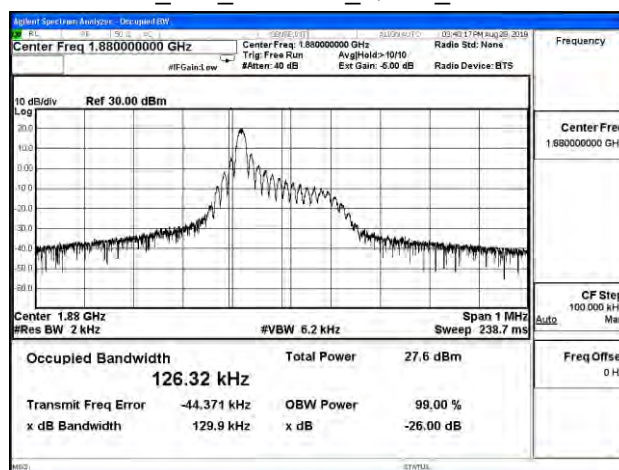
B2\_15K\_CH18601\_QPSK\_1RB11



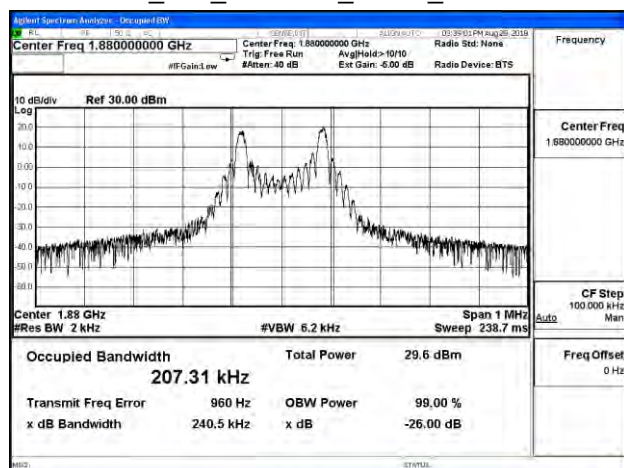
B2\_15K\_CH18601\_QPSK\_3RB3



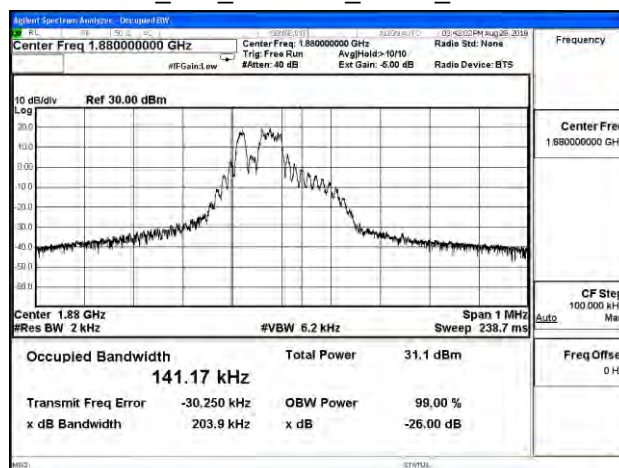
B2\_15K\_CH18900\_QPSK\_1RB0



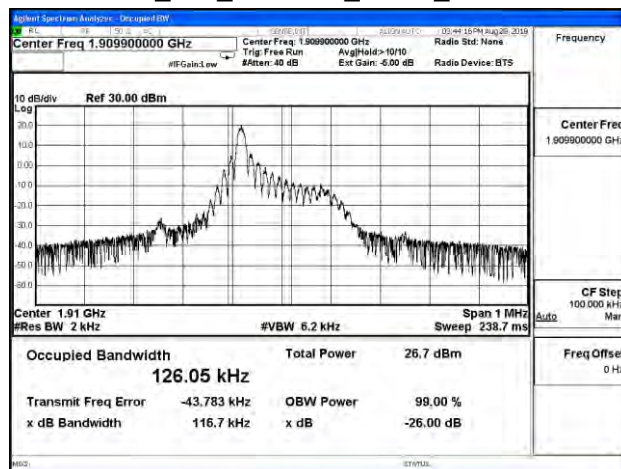
B2\_15K\_CH18900\_QPSK\_1RB11



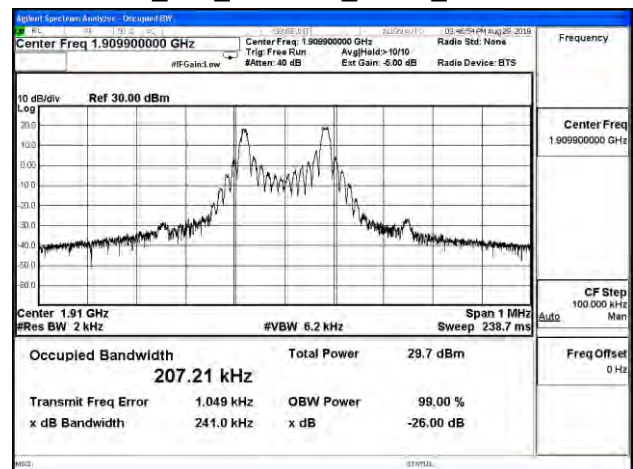
B2\_15K\_CH18900\_QPSK\_3RB3



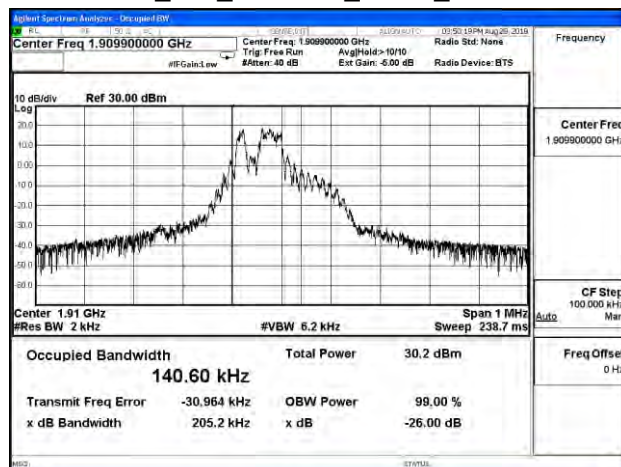
B2\_15K\_CH19199\_QPSK\_1RB0



B2\_15K\_CH19199\_QPSK\_1RB11



B2\_15K\_CH19199\_QPSK\_3RB3



|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Occupied Bandwidth        |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

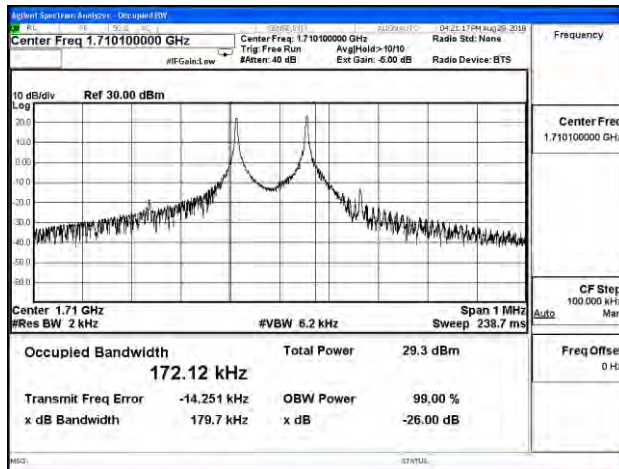
| NB-IoT Band 4_3.75K_ BPSK_1RB0 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                         | 179.700                     | 172.120                    | N/A         |
| 1732.5                         | 178.900                     | 170.310                    | N/A         |
| 1754.9                         | 175.700                     | 166.860                    | N/A         |

| NB-IoT Band 4_3.75K_ BPSK_1RB47 |                             |                            |             |
|---------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                 | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                          | 69.500                      | 64.242                     | N/A         |
| 1732.5                          | 76.410                      | 67.399                     | N/A         |
| 1754.9                          | 68.820                      | 63.404                     | N/A         |

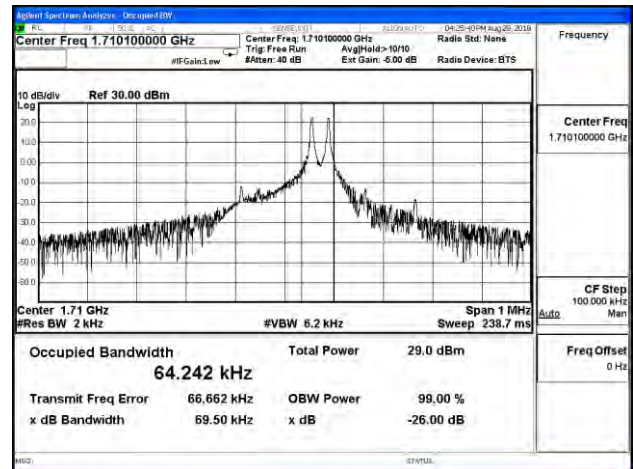
| NB-IoT Band 4_15K_ BPSK_1RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                       | 115.800                     | 127.730                    | N/A         |
| 1732.5                       | 112.500                     | 126.520                    | N/A         |
| 1754.9                       | 116.000                     | 131.360                    | N/A         |

| NB-IoT Band 4_15K_ BPSK_1RB11 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                        | 239.100                     | 206.550                    | N/A         |
| 1732.5                        | 240.100                     | 206.580                    | N/A         |
| 1754.9                        | 240.300                     | 206.870                    | N/A         |

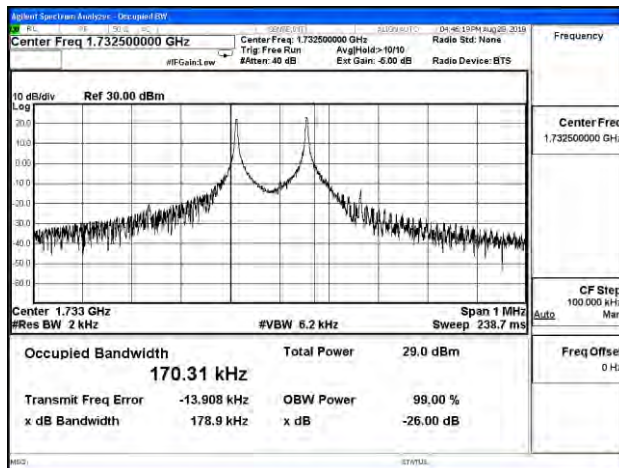
B4\_3.75K\_CH19951\_BPSK\_1RB0



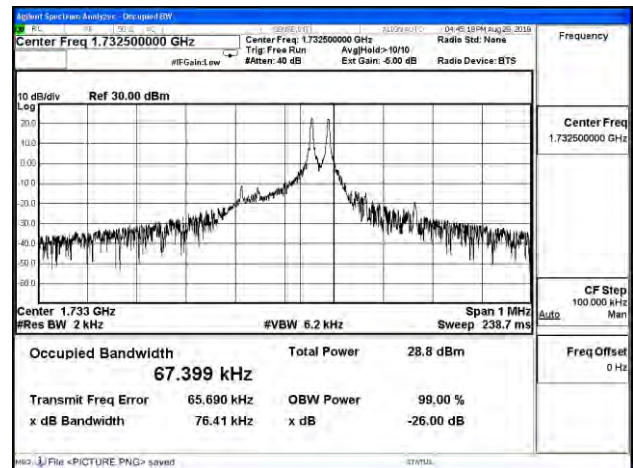
B4\_3.75K\_CH19951\_BPSK\_1RB47



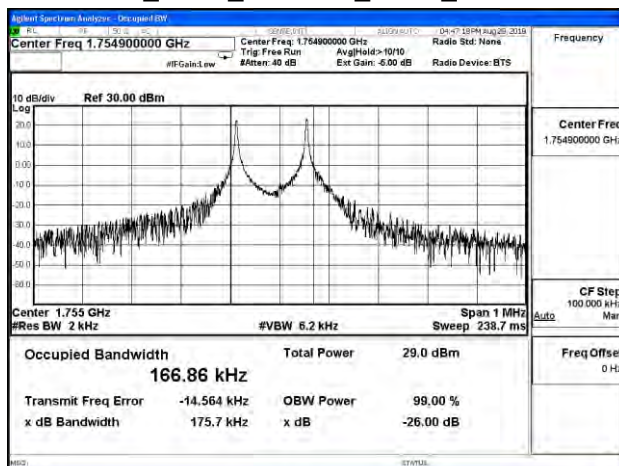
B4\_3.75K\_CH20175\_BPSK\_1RB0



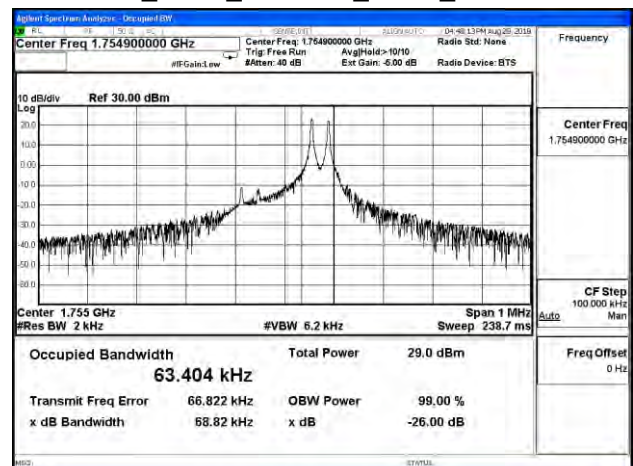
B4\_3.75K\_CH20175\_BPSK\_1RB47



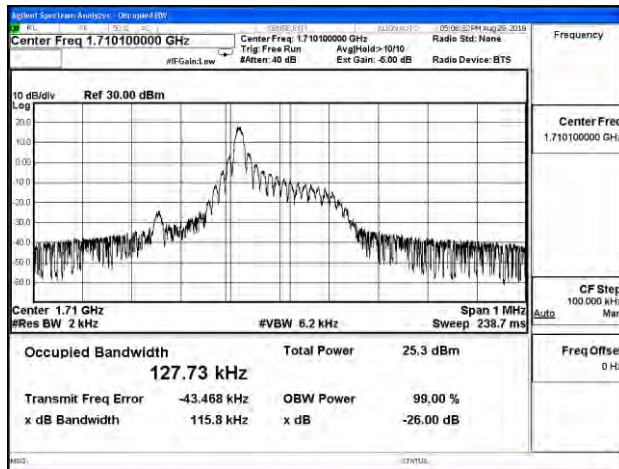
B4\_3.75K\_CH20399\_BPSK\_1RB0



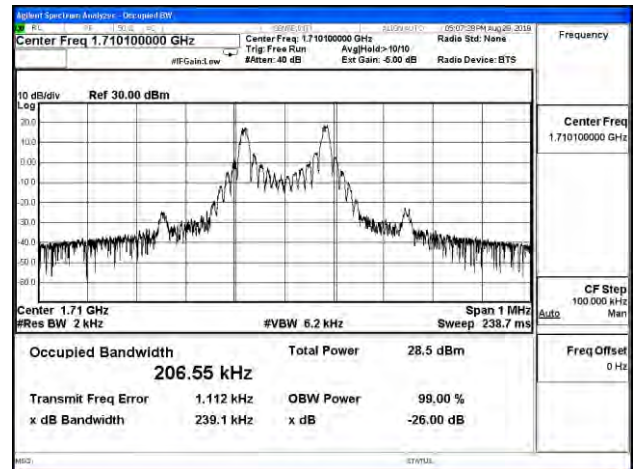
B4\_3.75K\_CH20399\_BPSK\_1RB47



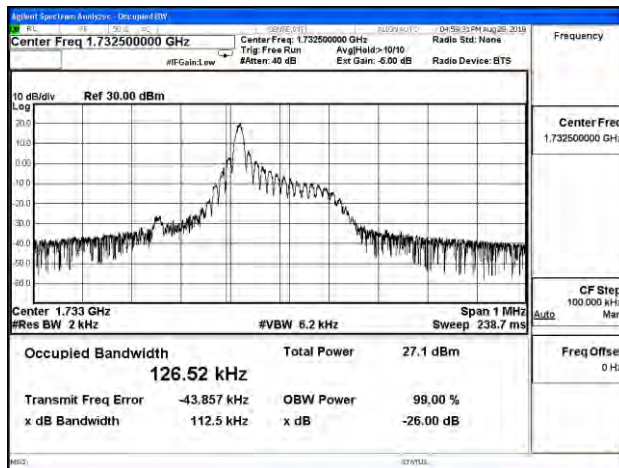
B4\_15K\_CH19951\_BPSK\_1RB0



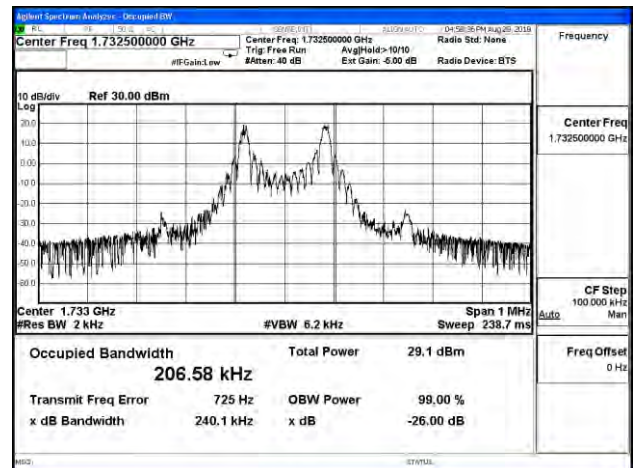
B4\_15K\_CH19951\_BPSK\_1RB11



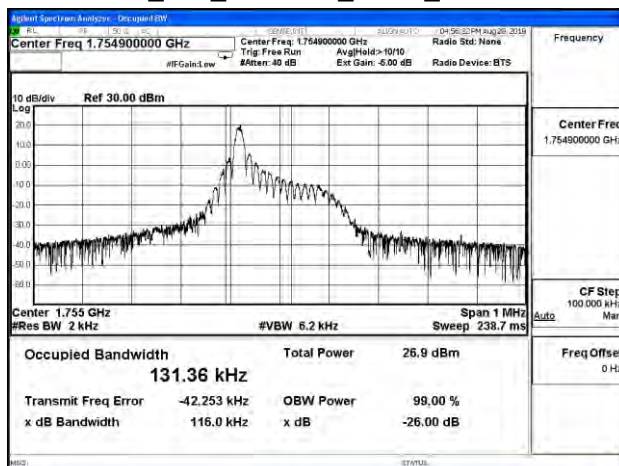
B4\_15K\_CH20175\_BPSK\_1RB0



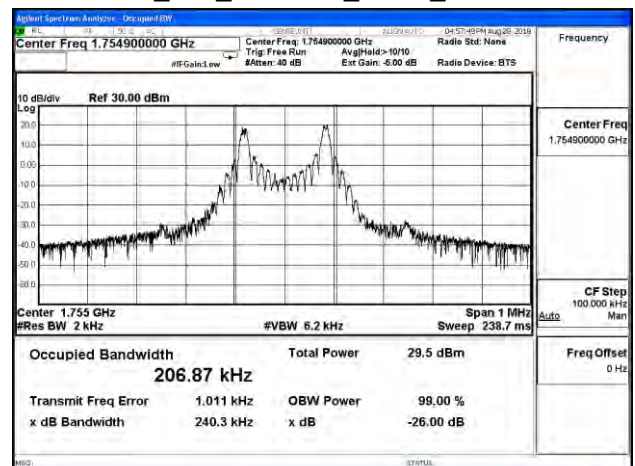
B4\_15K\_CH20175\_BPSK\_1RB11



B2\_15K\_CH18900\_BPSK\_1RB11



B4\_15K\_CH20399\_BPSK\_1RB11



| NB-IoT Band 4_3.75K_QPSK_1RB0 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                        | 179.400                     | 169.930                    | N/A         |
| 1732.5                        | 180.000                     | 171.110                    | N/A         |
| 1754.9                        | 180.800                     | 171.090                    | N/A         |

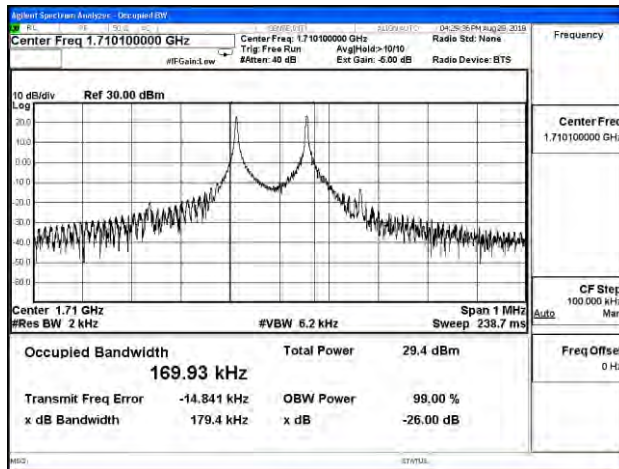
| NB-IoT Band 4_3.75K_QPSK_1RB47 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                         | 71.410                      | 66.459                     | N/A         |
| 1732.5                         | 72.230                      | 67.671                     | N/A         |
| 1754.9                         | 68.960                      | 68.198                     | N/A         |

| NB-IoT Band 4_15K_QPSK_1RB0 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                      | 116.300                     | 127.950                    | N/A         |
| 1732.5                      | 116.400                     | 120.260                    | N/A         |
| 1754.9                      | 117.800                     | 130.370                    | N/A         |

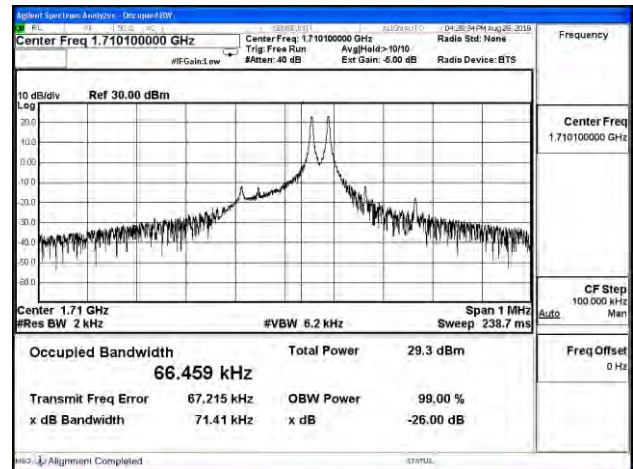
| NB-IoT Band 4_15K_QPSK_1RB11 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                       | 240.100                     | 208.310                    | N/A         |
| 1732.5                       | 242.100                     | 207.490                    | N/A         |
| 1754.9                       | 240.500                     | 206.600                    | N/A         |

| NB-IoT Band 4_15K_QPSK_3RB3 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 1710.1                      | 202.600                     | 140.630                    | N/A         |
| 1732.5                      | 206.300                     | 141.300                    | N/A         |
| 1754.9                      | 206.000                     | 141.620                    | N/A         |

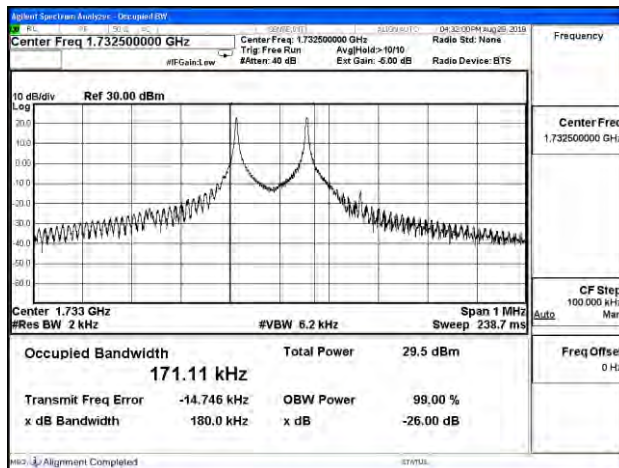
B4\_3.75K\_CH19951\_QPSK\_1RB0



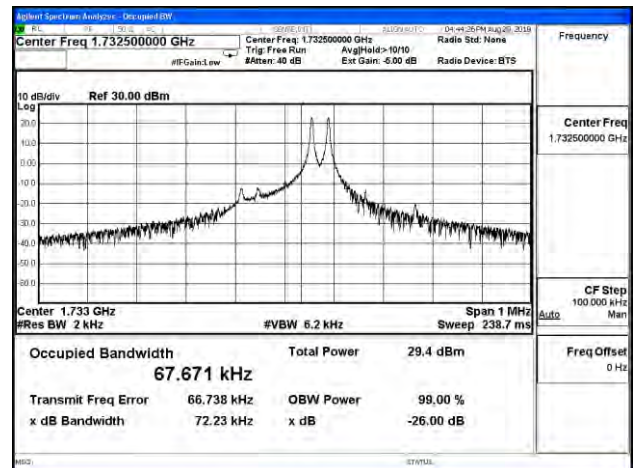
B4\_3.75K\_CH19951\_QPSK\_1RB47



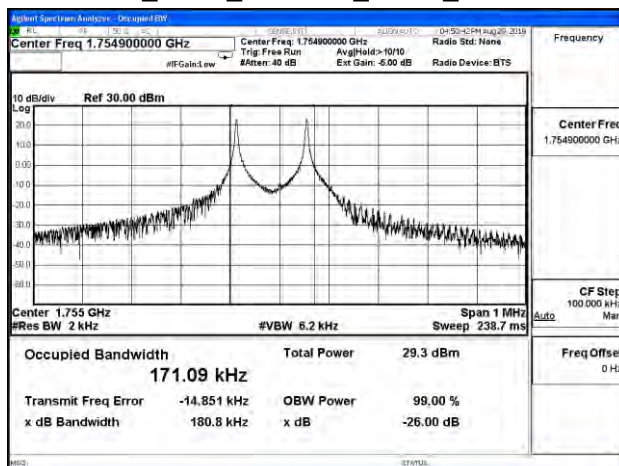
B4\_3.75K\_CH20175\_QPSK\_1RB0



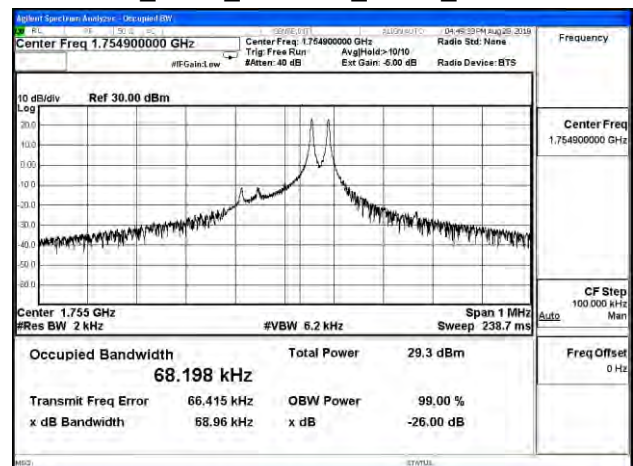
B4\_3.75K\_CH20175\_QPSK\_1RB47



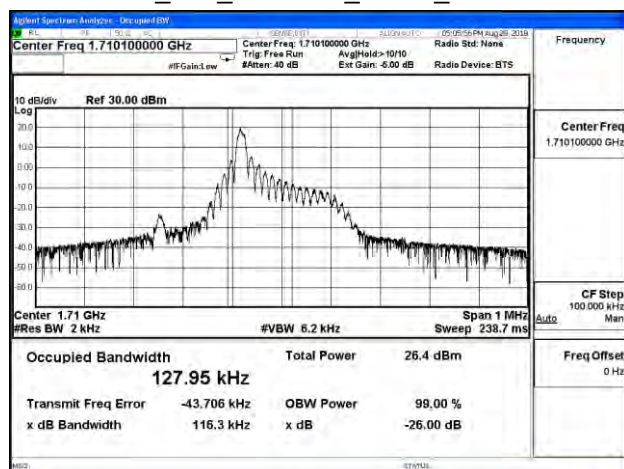
B4\_3.75K\_CH20399\_QPSK\_1RB0



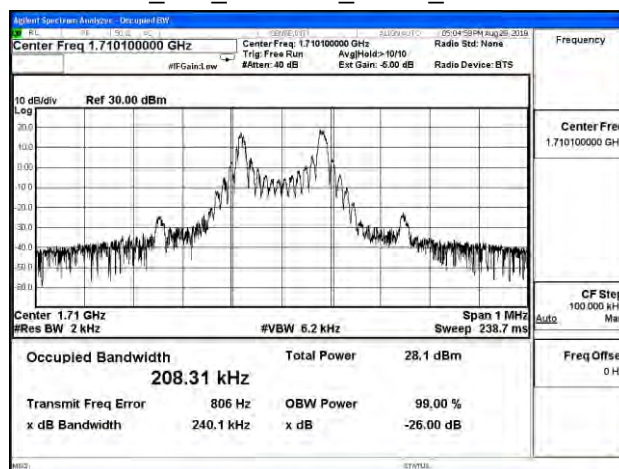
B4\_3.75K\_CH20399\_QPSK\_1RB47



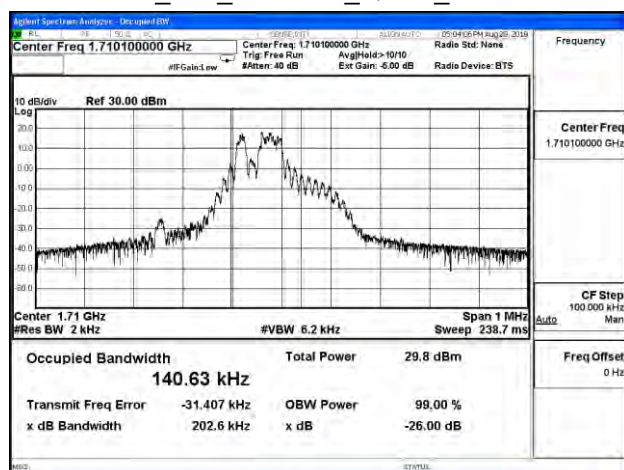
B4\_15K\_CH19951\_QPSK\_1RB0



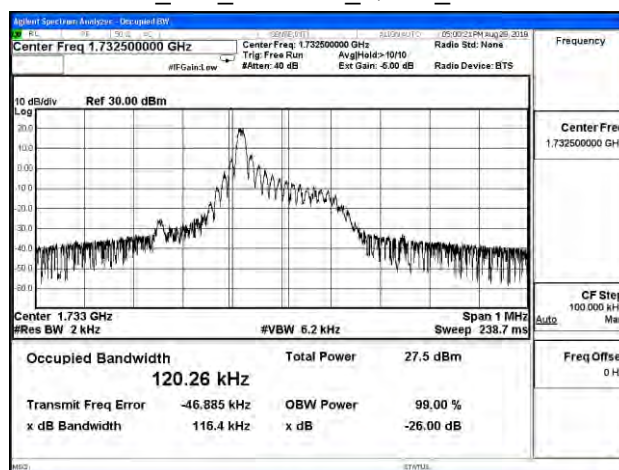
B4\_15K\_CH19951\_QPSK\_1RB11



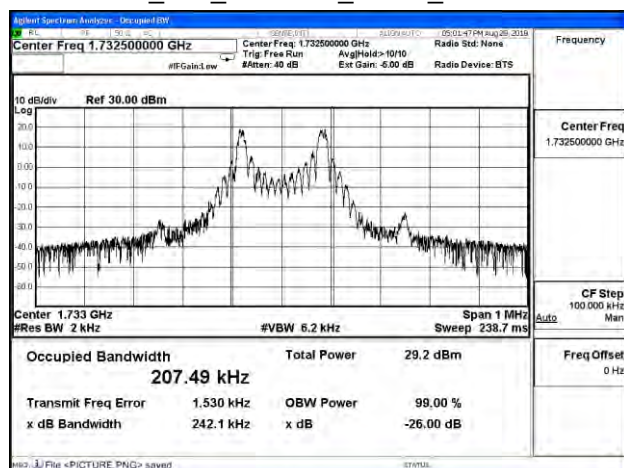
B4\_15K\_CH19951\_QPSK\_3RB3



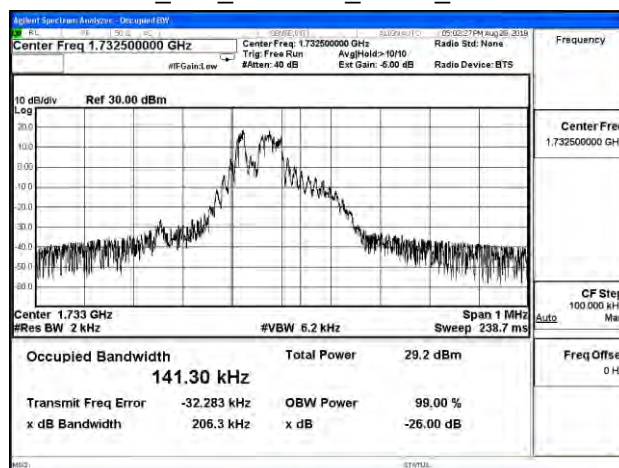
B4\_15K\_CH20175\_QPSK\_1RB0



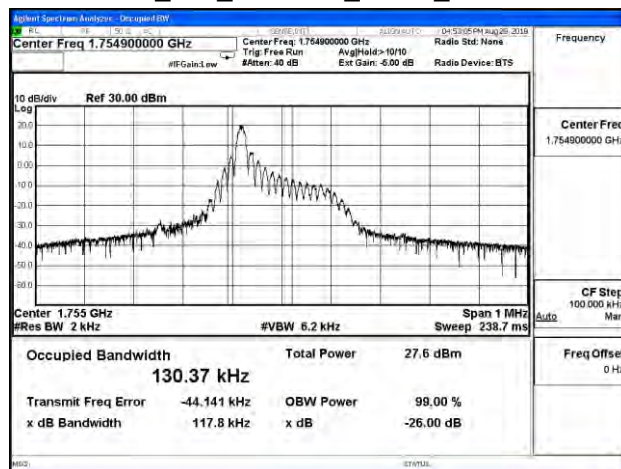
B4\_15K\_CH20175\_QPSK\_1RB11



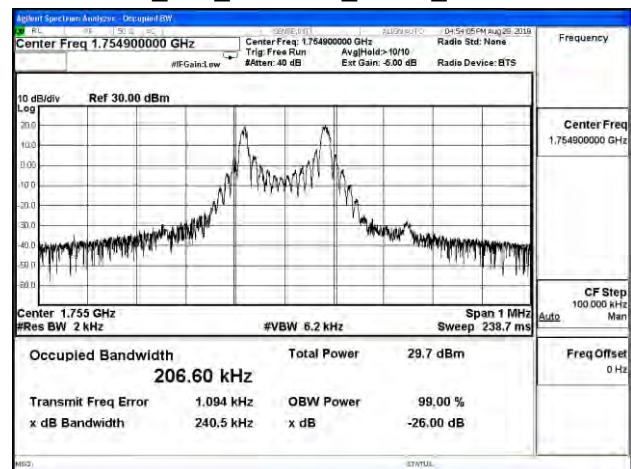
B4\_15K\_CH20175\_QPSK\_3RB3



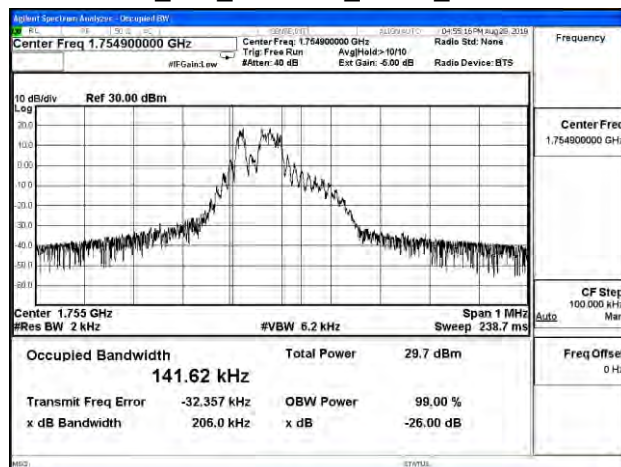
## B4\_15K\_CH20399\_QPSK\_1RB0



## B4\_15K\_CH20399\_QPSK\_1RB11



## B4\_15K\_CH20399\_QPSK\_3RB3



|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Occupied Bandwidth        |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

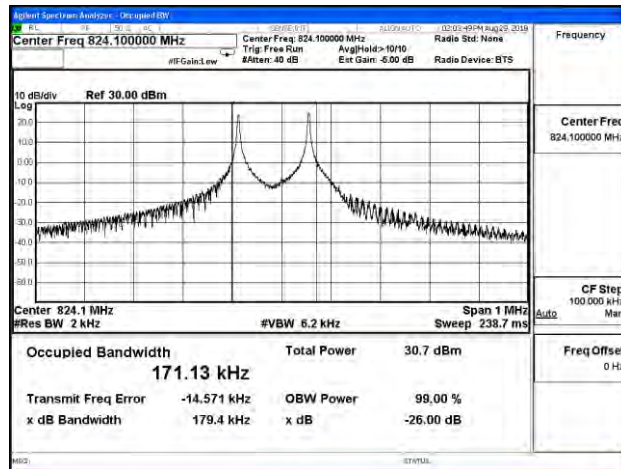
| NB-IoT Band 5_3.75K_BPSK_1RB0 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                         | 179.400                     | 171.130                    | N/A         |
| 836.5                         | 179.300                     | 172.170                    | N/A         |
| 848.9                         | 178.100                     | 171.380                    | N/A         |

| NB-IoT Band 5_3.75K_BPSK_1RB47 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                          | 70.930                      | 68.638                     | N/A         |
| 836.5                          | 70.570                      | 65.359                     | N/A         |
| 848.9                          | 68.750                      | 65.843                     | N/A         |

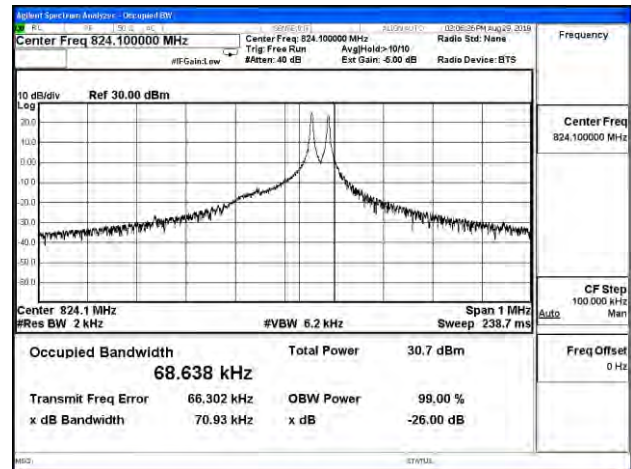
| NB-IoT Band 5_15K_BPSK_1RB0 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                       | 118.700                     | 131.110                    | N/A         |
| 836.5                       | 115.700                     | 127.440                    | N/A         |
| 848.9                       | 117.100                     | 125.280                    | N/A         |

| NB-IoT Band 5_15K_BPSK_1RB11 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                        | 238.400                     | 208.080                    | N/A         |
| 836.5                        | 237.700                     | 207.680                    | N/A         |
| 848.9                        | 240.200                     | 207.190                    | N/A         |

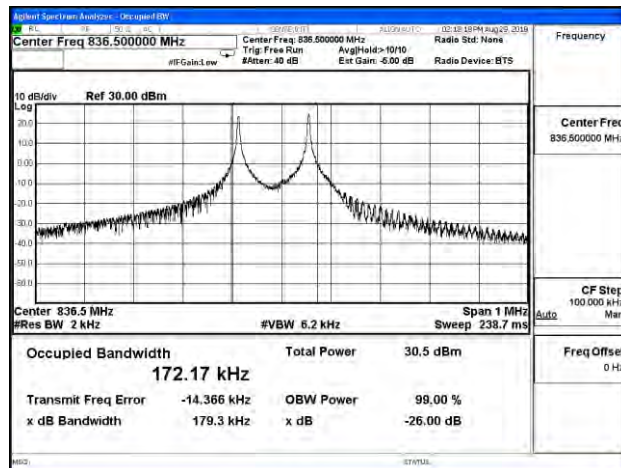
B5\_3.75K\_CH20401\_BPSK\_1RB0



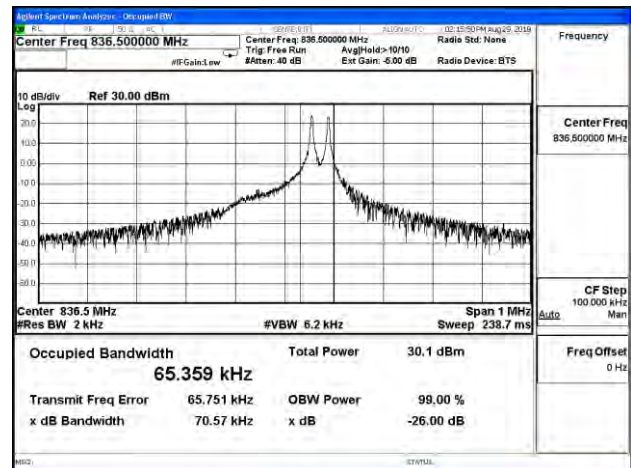
B5\_3.75K\_CH20401\_BPSK\_1RB47



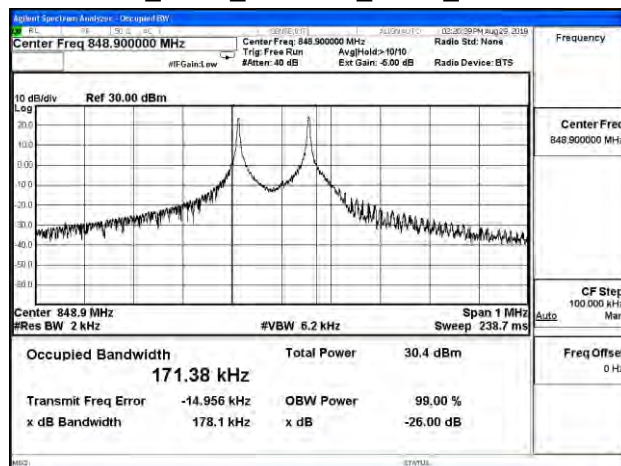
B5\_3.75K\_CH20525\_BPSK\_1RB0



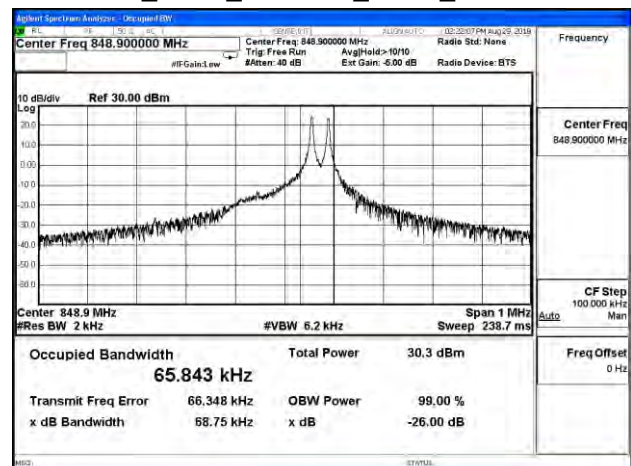
B5\_3.75K\_CH20525\_BPSK\_1RB47



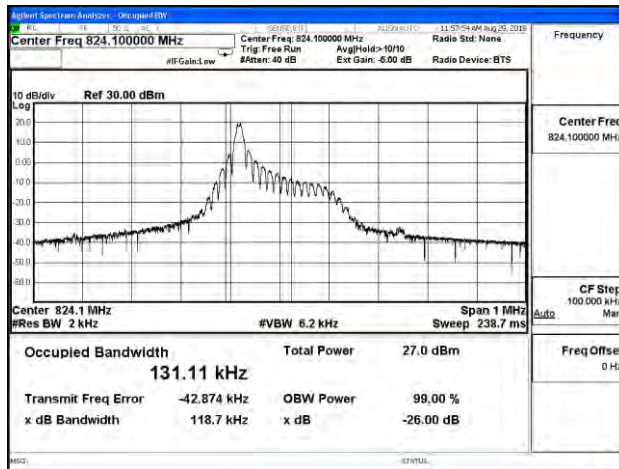
B5\_3.75K\_CH20649\_BPSK\_1RB0



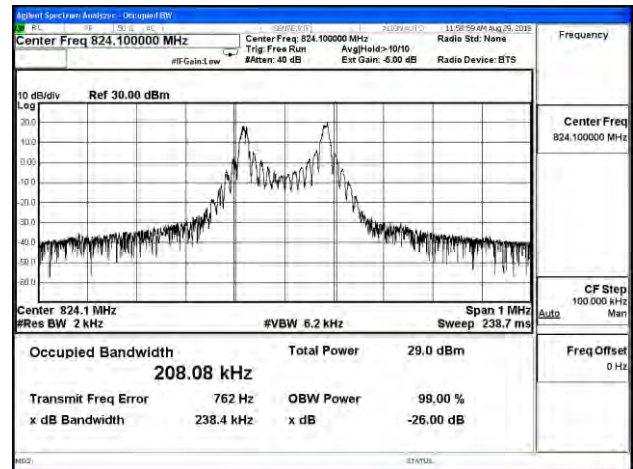
B5\_3.75K\_CH20649\_BPSK\_1RB47



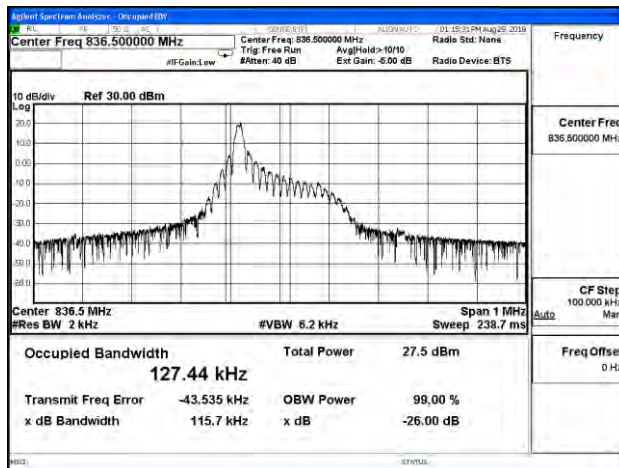
B5\_15K\_CH20401\_BPSK\_1RB0



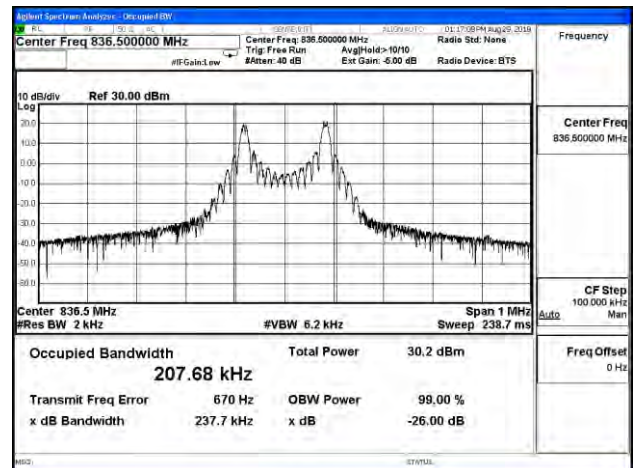
B5\_15K\_CH20401\_BPSK\_1RB11



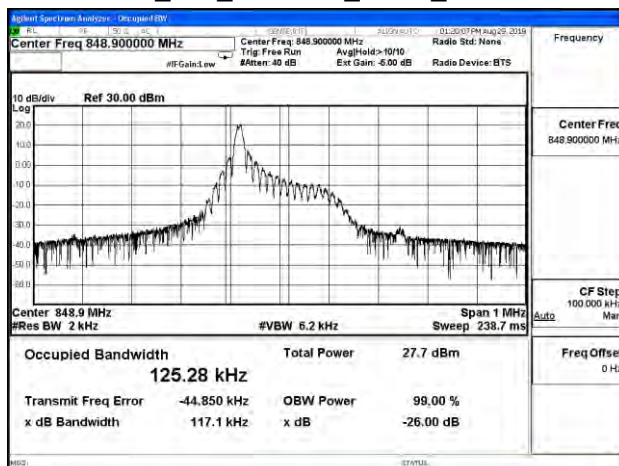
B5\_15K\_CH20525\_BPSK\_1RB0



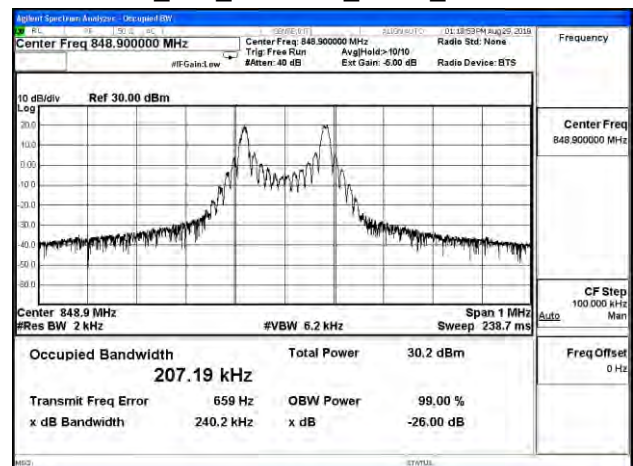
B5\_15K\_CH20525\_BPSK\_1RB11



B5\_15K\_CH20649\_BPSK\_1RB0



B5\_15K\_CH20649\_BPSK\_1RB11



| NB-IoT Band 5_3.75K_QPSK_1RB0 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                         | 180.800                     | 171.880                    | N/A         |
| 836.5                         | 179.600                     | 169.190                    | N/A         |
| 848.9                         | 180.300                     | 170.980                    | N/A         |

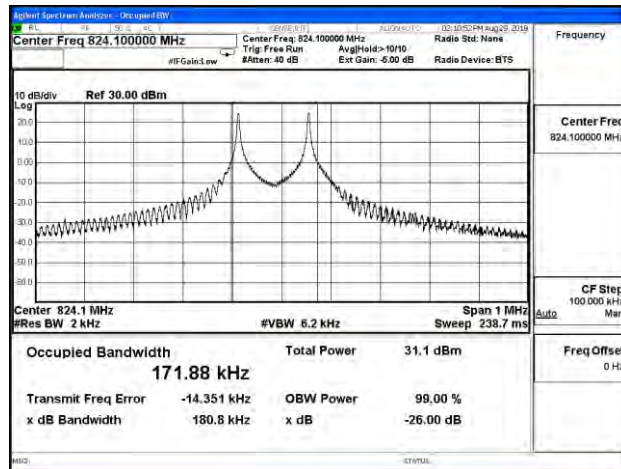
| NB-IoT Band 5_3.75K_QPSK_1RB47 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                          | 71.740                      | 64.676                     | N/A         |
| 836.5                          | 71.140                      | 64.638                     | N/A         |
| 848.9                          | 67.760                      | 62.559                     | N/A         |

| NB-IoT Band 5_15K_QPSK_1RB0 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                       | 116.200                     | 119.360                    | N/A         |
| 836.5                       | 131.900                     | 126.050                    | N/A         |
| 848.9                       | 130.600                     | 126.670                    | N/A         |

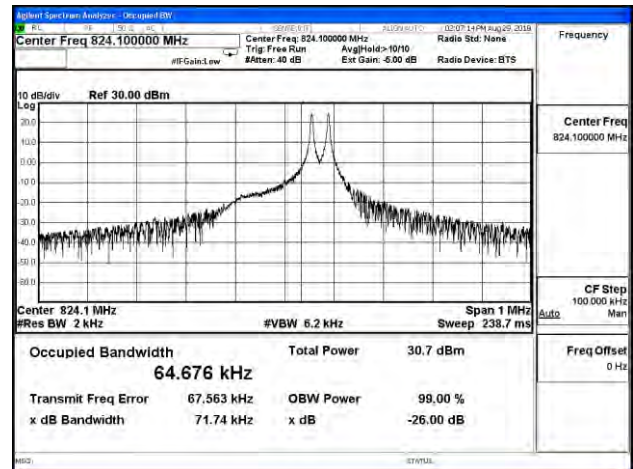
| NB-IoT Band 5_15K_QPSK_1RB11 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                        | 239.300                     | 205.880                    | N/A         |
| 836.5                        | 239.900                     | 207.650                    | N/A         |
| 848.9                        | 238.500                     | 207.360                    | N/A         |

| NB-IoT Band 5_15K_QPSK_3RB3 |                             |                            |             |
|-----------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)             | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                       | 199.800                     | 136.840                    | N/A         |
| 836.5                       | 205.300                     | 141.270                    | N/A         |
| 848.9                       | 202.700                     | 140.860                    | N/A         |

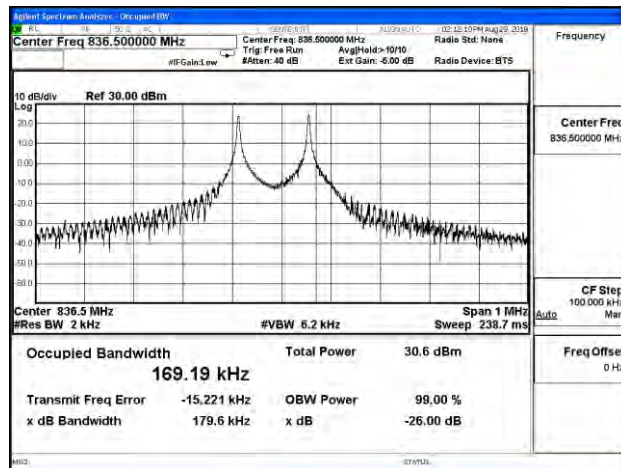
B5\_3.75K\_CH20401\_QPSK\_1RB0



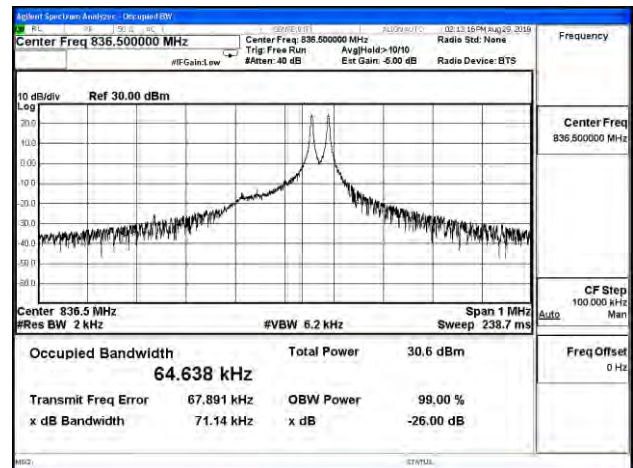
B5\_3.75K\_CH20401\_QPSK\_1RB47



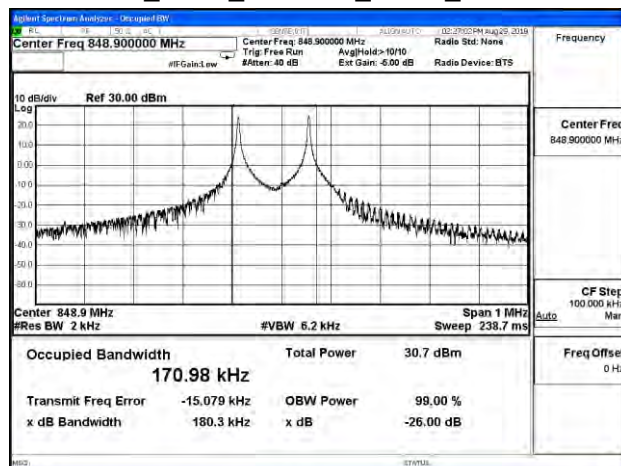
B5\_3.75K\_CH20525\_QPSK\_1RB0



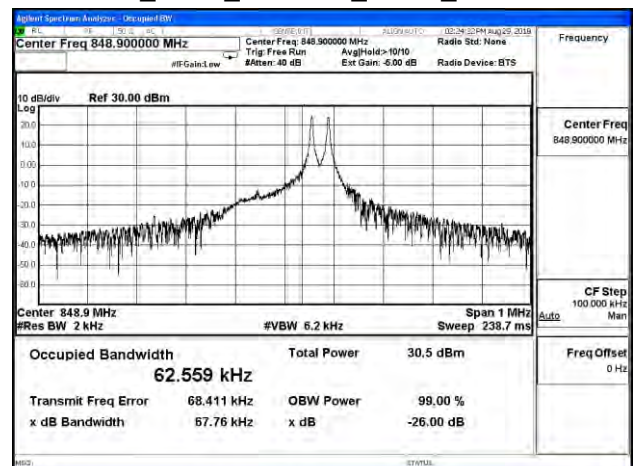
B5\_3.75K\_CH20525\_QPSK\_1RB47



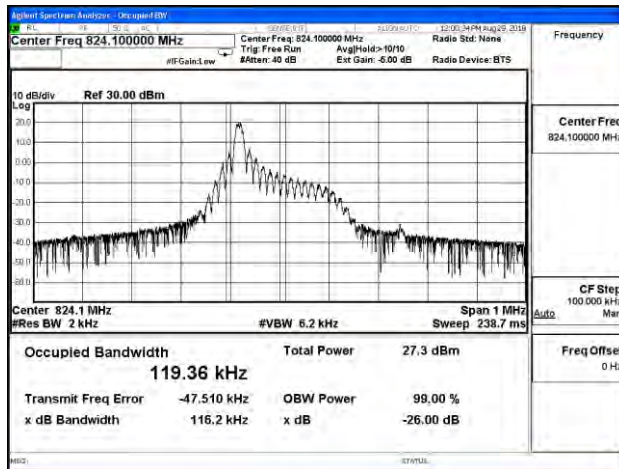
B5\_3.75K\_CH20649\_QPSK\_1RB0



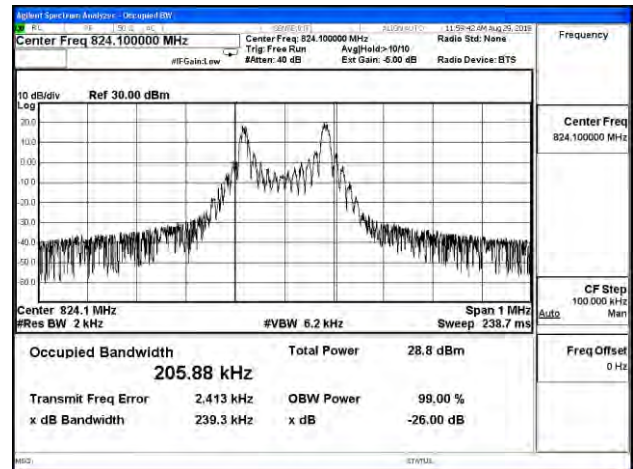
B5\_3.75K\_CH20649\_QPSK\_1RB47



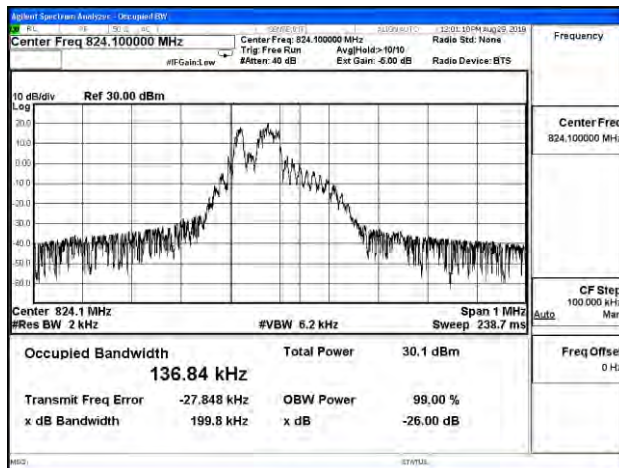
B5\_15K\_CH20401\_QPSK\_1RB0



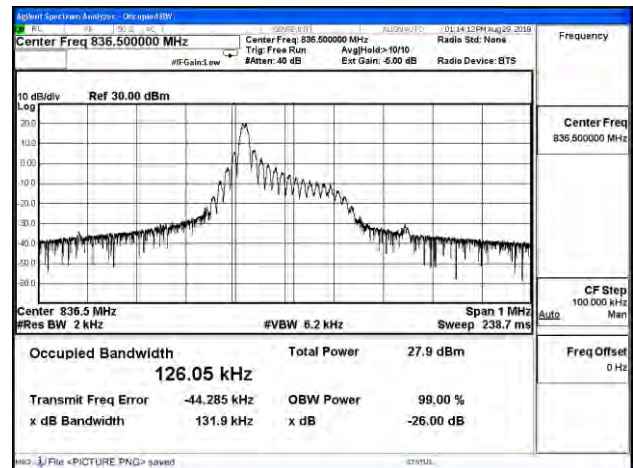
B5\_15K\_CH20401\_QPSK\_1RB11



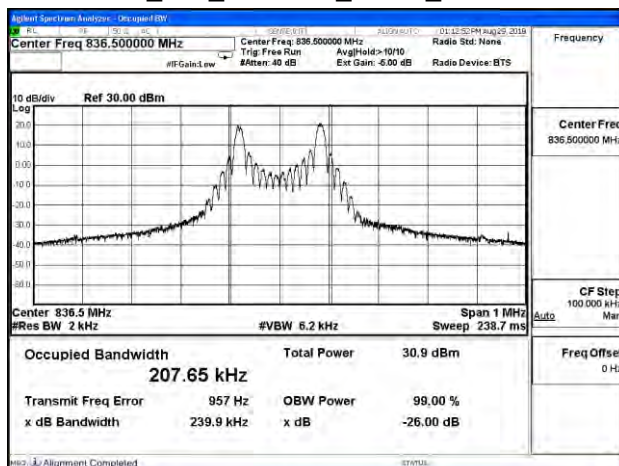
B5\_15K\_CH20401\_QPSK\_3RB3



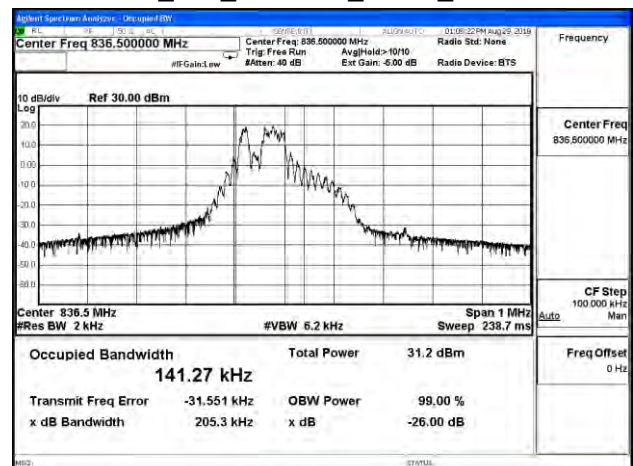
B5\_15K\_CH20525\_QPSK\_1RB0



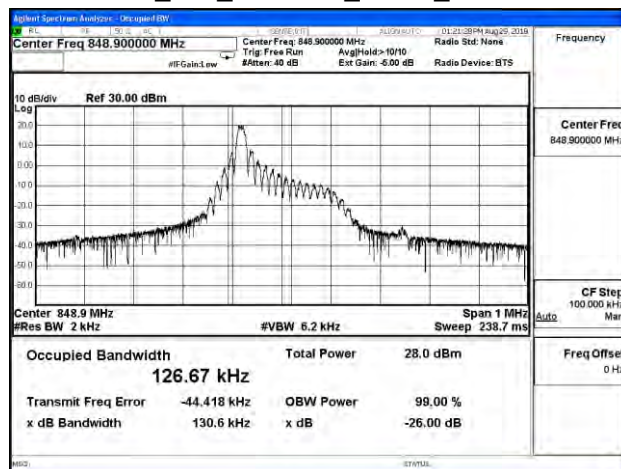
B5\_15K\_CH20525\_QPSK\_1RB11



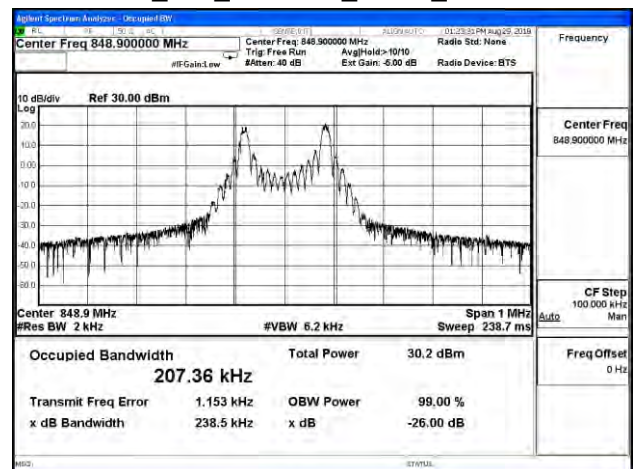
B5\_15K\_CH20525\_QPSK\_3RB3



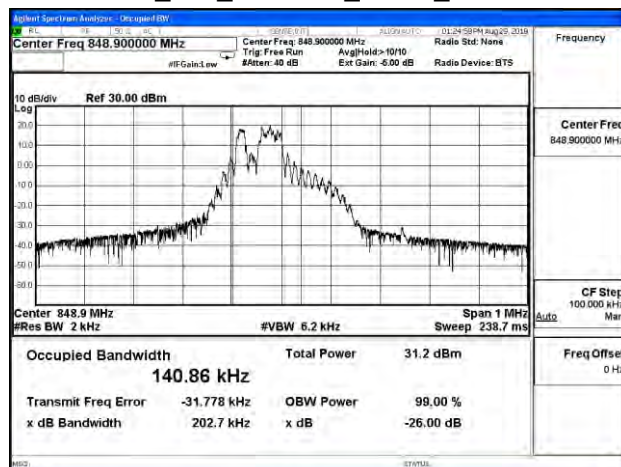
B5\_15K\_CH20649\_QPSK\_1RB0



B5\_15K\_CH20649\_QPSK\_1RB11



B5\_15K\_CH20649\_QPSK\_3RB3



|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Occupied Bandwidth                   |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

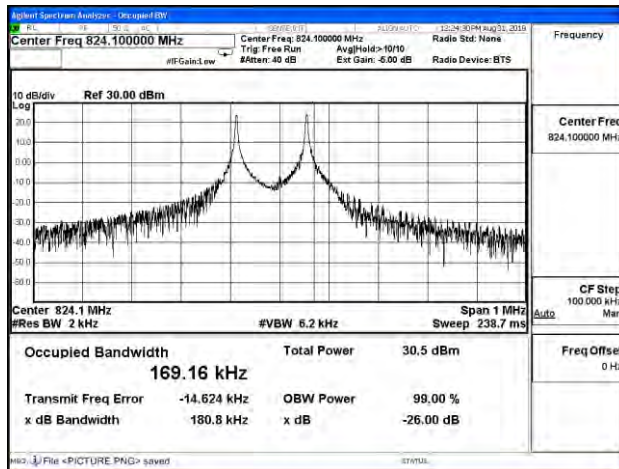
| NB-IoT Band 26_3.75K_BPSK_1RB0 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                          | 180.800                     | 169.160                    | N/A         |
| 836.5                          | 179.000                     | 169.970                    | N/A         |
| 848.9                          | 176.900                     | 168.540                    | N/A         |

| NB-IoT Band 26_3.75K_BPSK_1RB47 |                             |                            |             |
|---------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                 | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                           | 70.450                      | 67.775                     | N/A         |
| 836.5                           | 73.820                      | 67.069                     | N/A         |
| 848.9                           | 69.600                      | 67.323                     | N/A         |

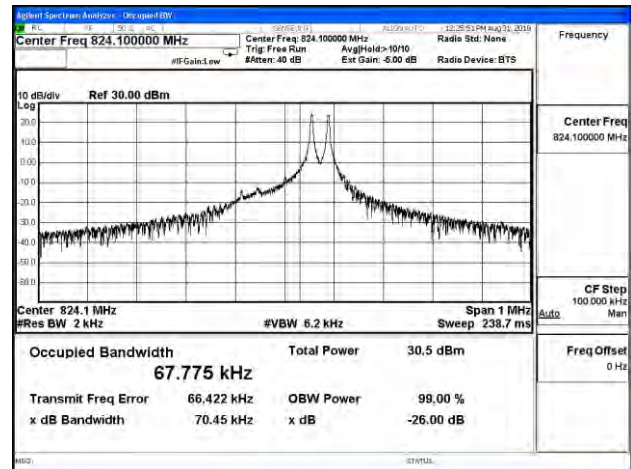
| NB-IoT Band 26_15K_BPSK_1RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                        | 117.900                     | 129.120                    | N/A         |
| 836.5                        | 113.900                     | 122.660                    | N/A         |
| 848.9                        | 101.100                     | 114.570                    | N/A         |

| NB-IoT Band 26_15K_BPSK_1RB11 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                         | 237.700                     | 206.700                    | N/A         |
| 836.5                         | 240.300                     | 207.900                    | N/A         |
| 848.9                         | 237.500                     | 207.670                    | N/A         |

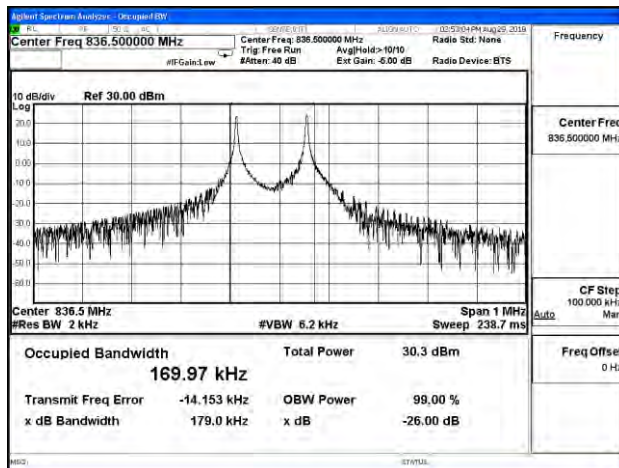
B26\_3.75K\_CH26791\_BPSK\_1RB0



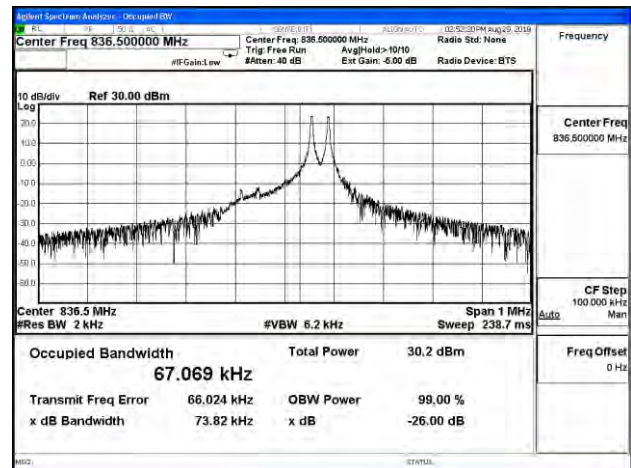
B26\_3.75K\_CH26791\_BPSK\_1RB47



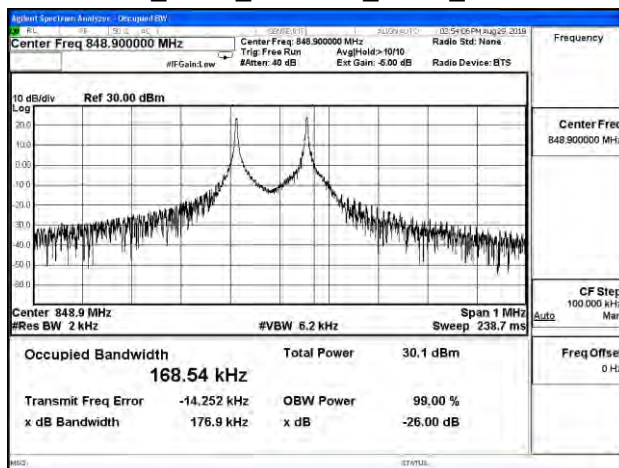
B26\_3.75K\_CH26915\_BPSK\_1RB0



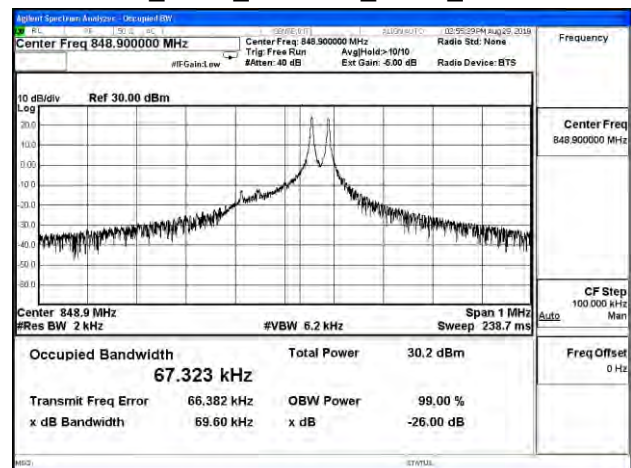
B26\_3.75K\_CH26915\_BPSK\_1RB47



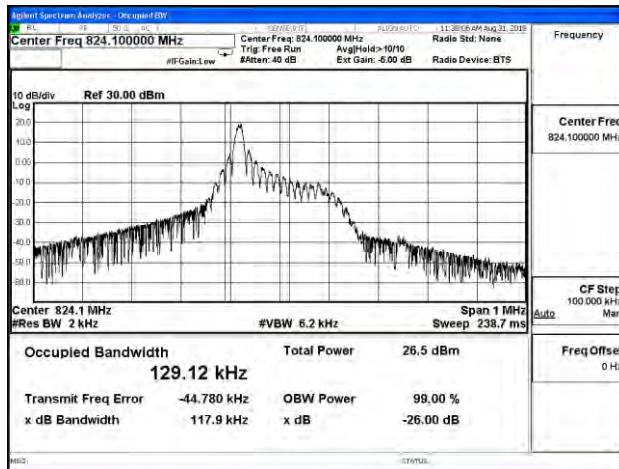
B26\_3.75K\_CH27039\_BPSK\_1RB0



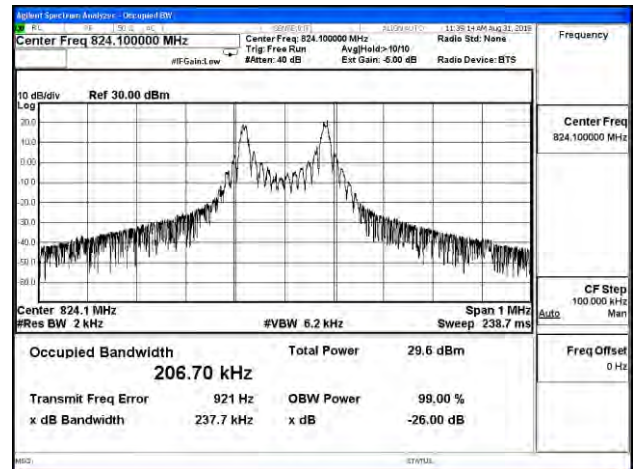
B26\_3.75K\_CH27039\_BPSK\_1RB47



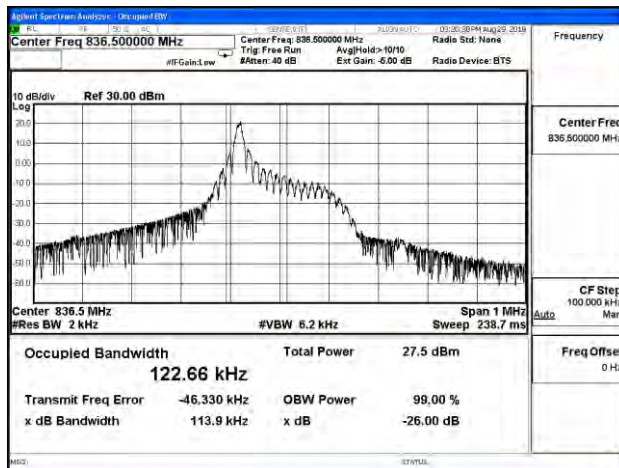
B26\_15K\_CH26791\_BPSK\_1RB0



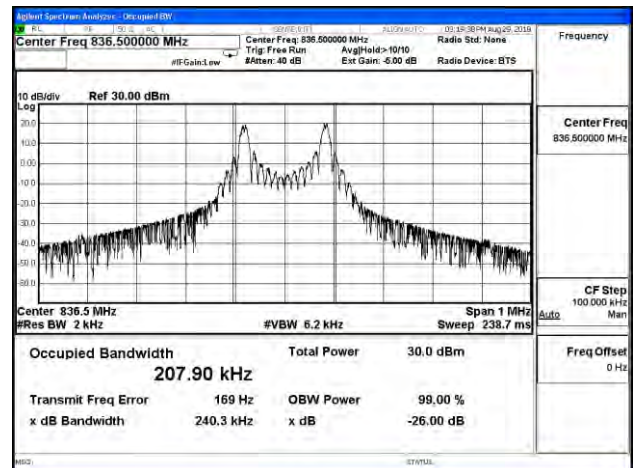
B26\_15K\_CH26791\_BPSK\_1RB11



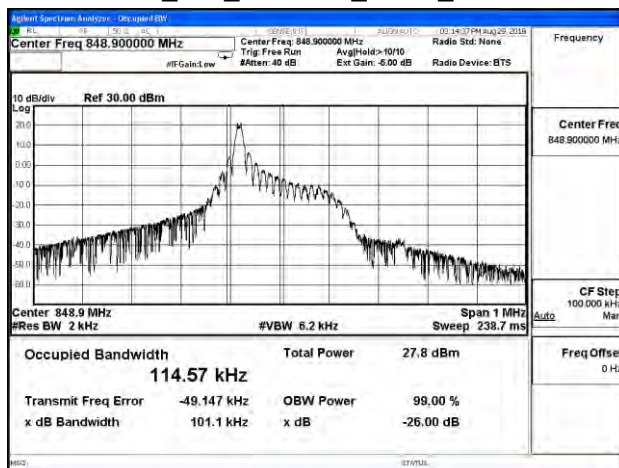
B26\_15K\_CH26915\_BPSK\_1RB0



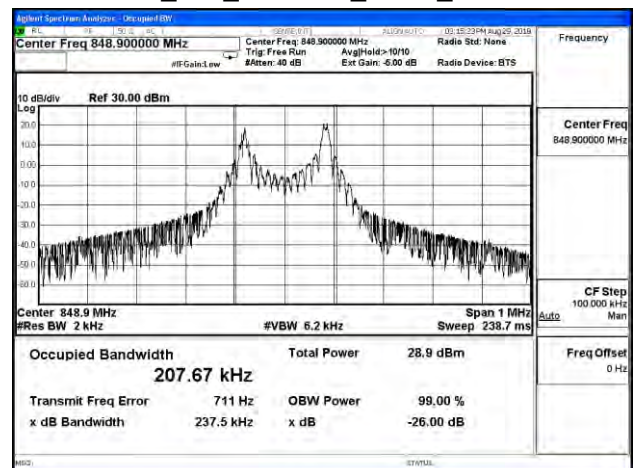
B26\_15K\_CH26915\_BPSK\_1RB11



B26\_15K\_CH27039\_BPSK\_1RB0



B26\_15K\_CH27039\_BPSK\_1RB11



| NB-IoT Band 26_3.75K_QPSK_1RB0 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                          | 180.800                     | 171.720                    | N/A         |
| 836.5                          | 181.300                     | 170.110                    | N/A         |
| 848.9                          | 180.100                     | 168.140                    | N/A         |

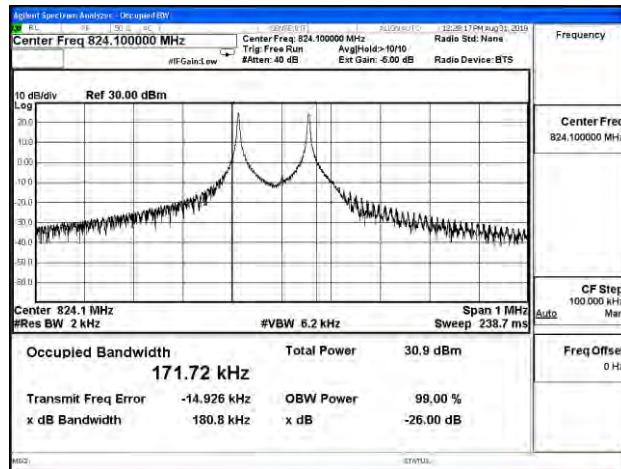
| NB-IoT Band 26_3.75K_QPSK_1RB47 |                             |                            |             |
|---------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                 | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                           | 71.450                      | 65.598                     | N/A         |
| 836.5                           | 71.330                      | 64.955                     | N/A         |
| 848.9                           | 72.070                      | 65.599                     | N/A         |

| NB-IoT Band 26_15K_QPSK_1RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                        | 114.900                     | 131.440                    | N/A         |
| 836.5                        | 117.800                     | 127.490                    | N/A         |
| 848.9                        | 129.000                     | 128.080                    | N/A         |

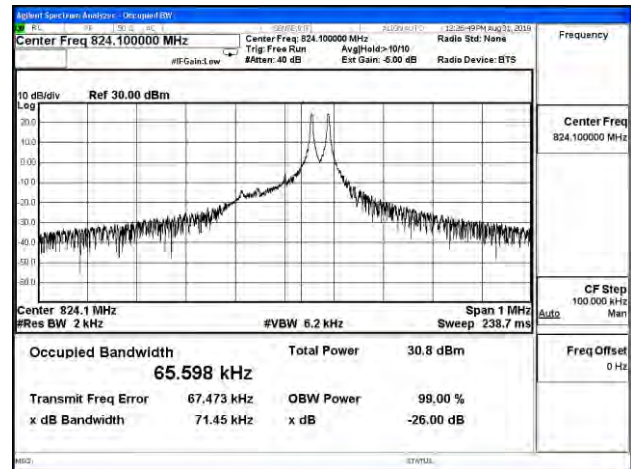
| NB-IoT Band 26_15K_QPSK_1RB11 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                         | 240.200                     | 207.060                    | N/A         |
| 836.5                         | 237.300                     | 208.580                    | N/A         |
| 848.9                         | 235.200                     | 208.920                    | N/A         |

| NB-IoT Band 26_15K_QPSK_3RB3 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 824.1                        | 204.800                     | 140.630                    | N/A         |
| 836.5                        | 203.000                     | 143.050                    | N/A         |
| 848.9                        | 203.800                     | 141.700                    | N/A         |

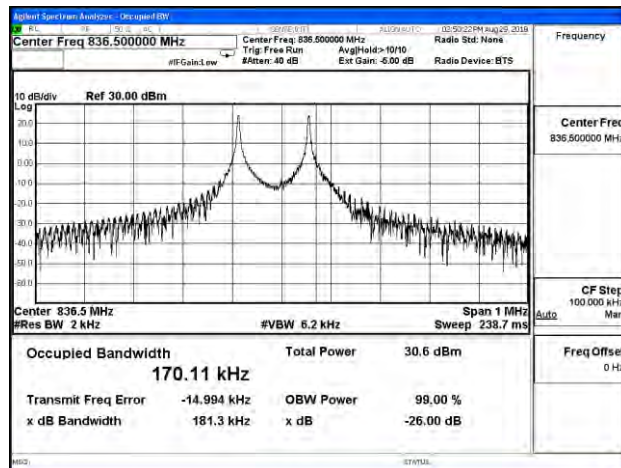
B26\_3.75K\_CH26791\_QPSK\_1RB0



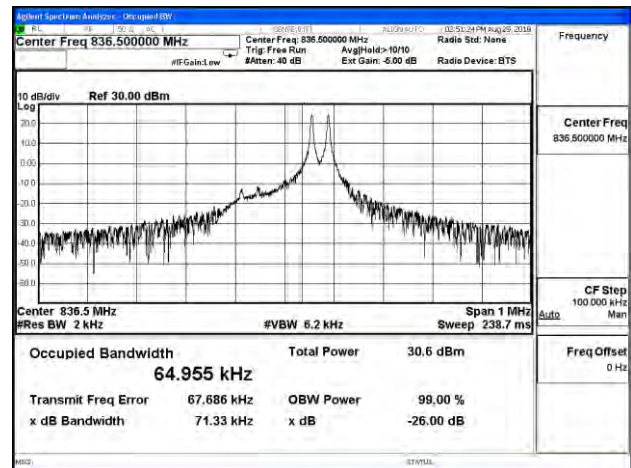
B26\_3.75K\_CH26791\_QPSK\_1RB47



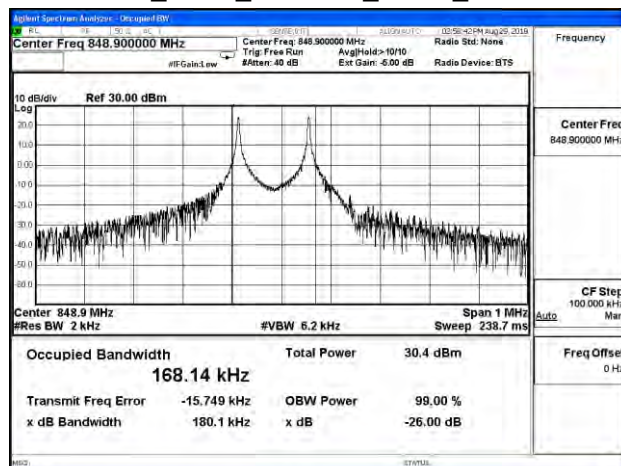
B26\_3.75K\_CH26915\_QPSK\_1RB0



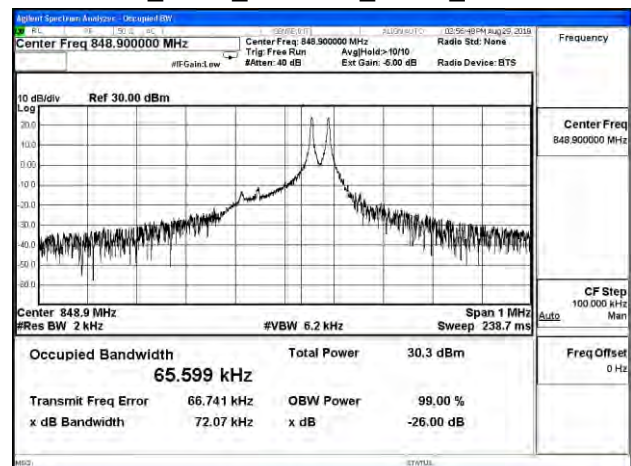
B26\_3.75K\_CH26915\_QPSK\_1RB47



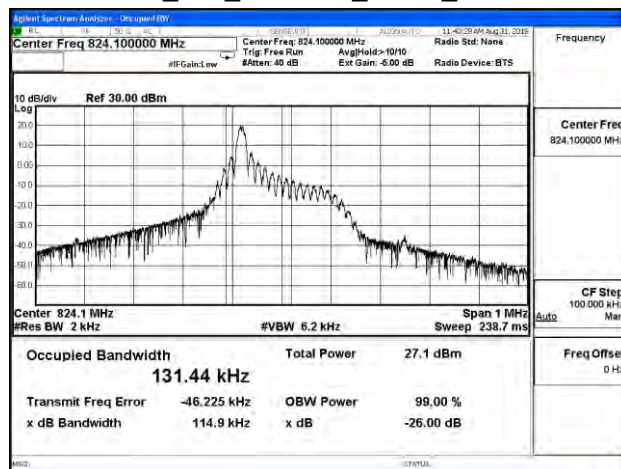
B26\_3.75K\_CH27039\_QPSK\_1RB0



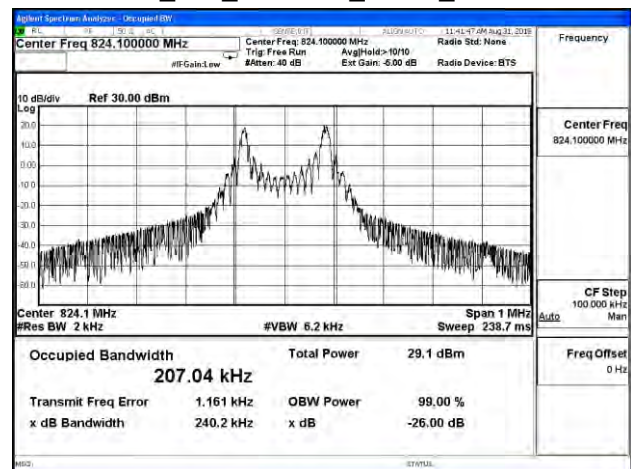
B26\_3.75K\_CH27039\_QPSK\_1RB47



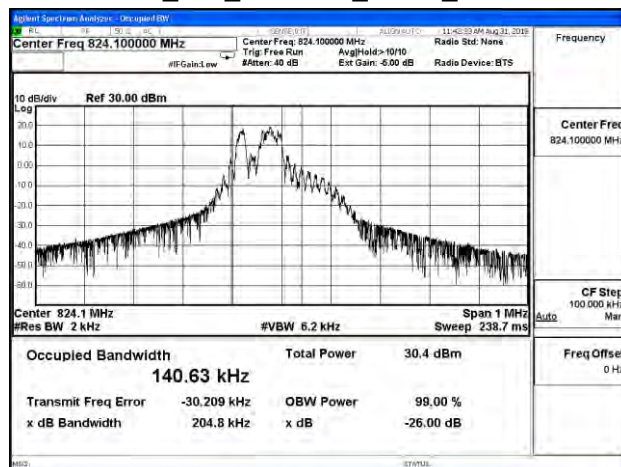
B26\_15K\_CH26791\_QPSK\_1RB0



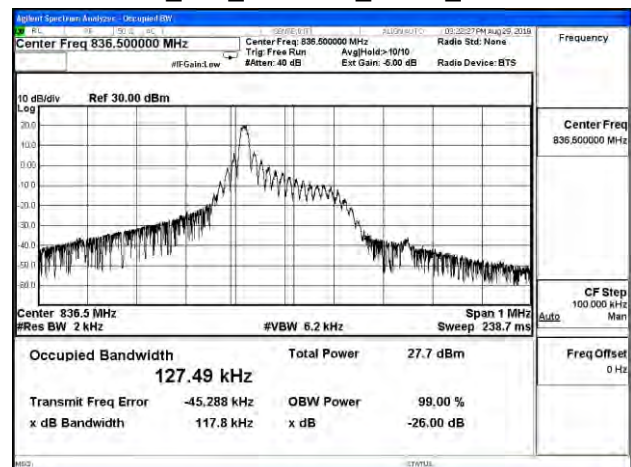
B26\_15K\_CH26791\_QPSK\_1RB11



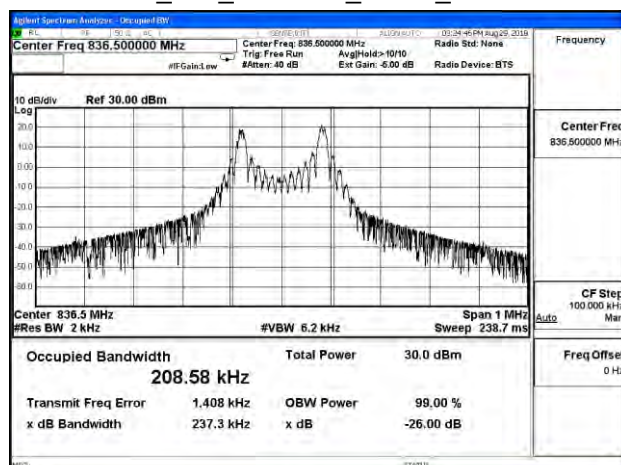
B26\_15K\_CH26791\_QPSK\_3RB3



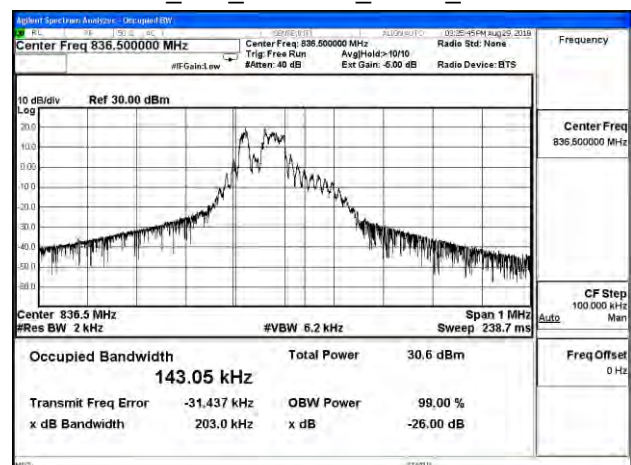
B26\_15K\_CH26915\_QPSK\_1RB0



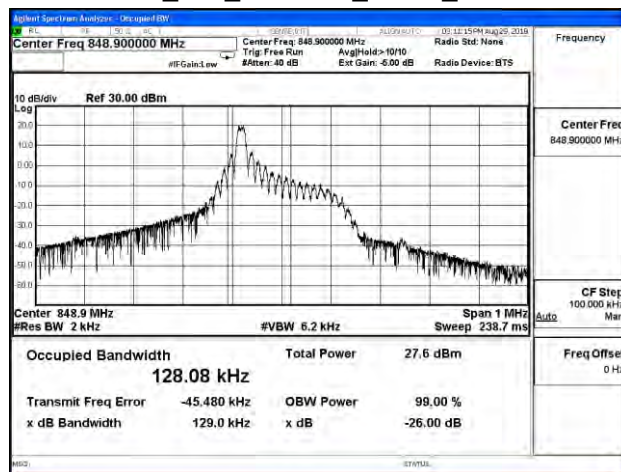
B26\_15K\_CH26915\_QPSK\_1RB11



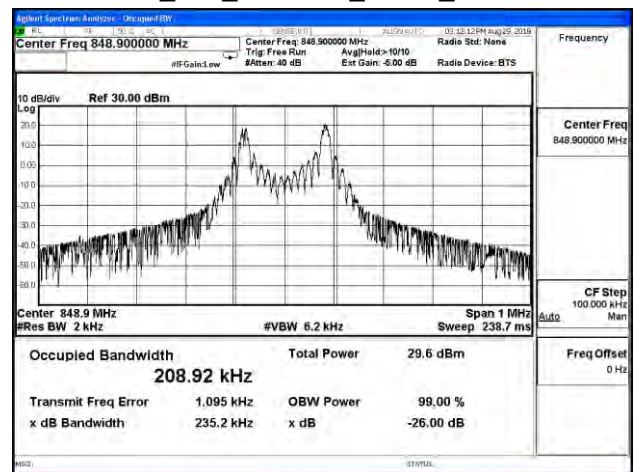
B26\_15K\_CH26915\_QPSK\_3RB3



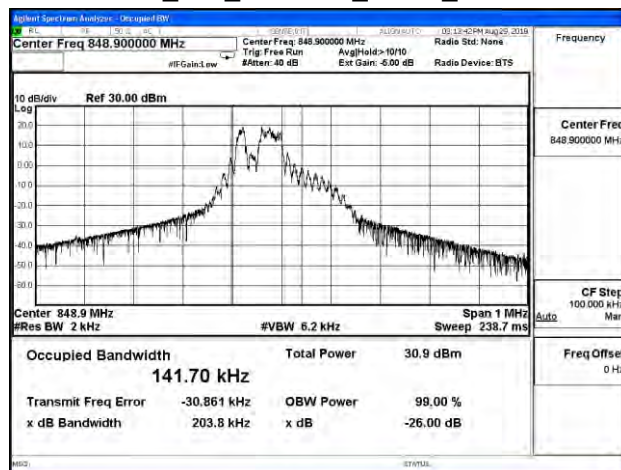
B26\_15K\_CH27039\_QPSK\_1RB0



B26\_15K\_CH27039\_QPSK\_1RB11



B26\_15K\_CH27039\_QPSK\_3RB3



|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Occupied Bandwidth                   |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

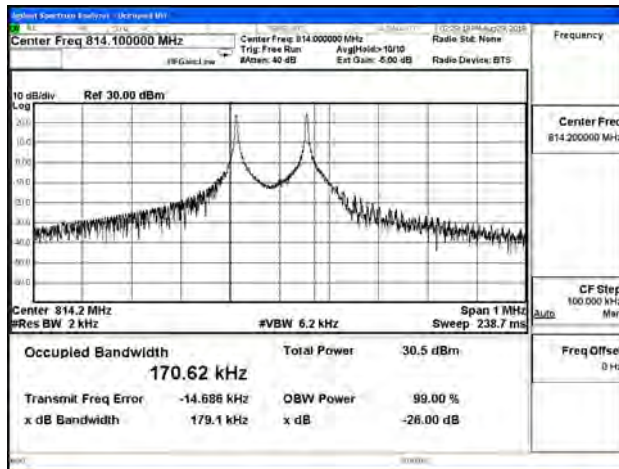
| NB-IoT Band 26_3.75K_BPSK_1RB0 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                          | 179.100                     | 170.620                    | N/A         |
| 819                            | 179.200                     | 168.190                    | N/A         |
| 823.8                          | 179.600                     | 172.680                    | N/A         |

| NB-IoT Band 26_3.75K_BPSK_1RB47 |                             |                            |             |
|---------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                 | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                           | 70.020                      | 66.010                     | N/A         |
| 819                             | 70.030                      | 67.841                     | N/A         |
| 823.8                           | 71.810                      | 65.765                     | N/A         |

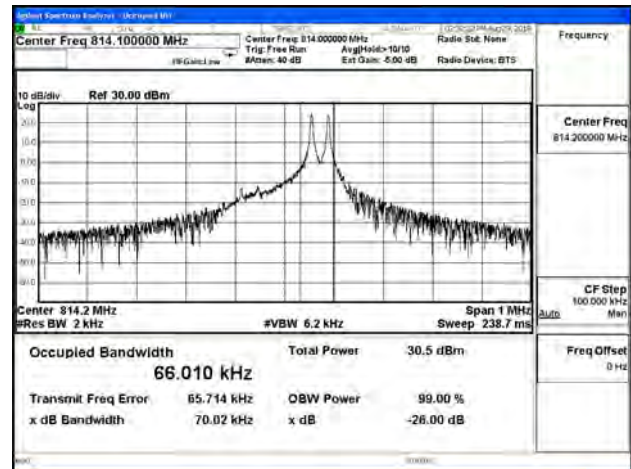
| NB-IoT Band 26_15K_BPSK_1RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                        | 99.010                      | 115.840                    | N/A         |
| 819                          | 117.200                     | 127.880                    | N/A         |
| 823.8                        | 116.500                     | 128.450                    | N/A         |

| NB-IoT Band 26_15K_BPSK_1RB11 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                         | 240.500                     | 206.400                    | N/A         |
| 819                           | 239.900                     | 208.640                    | N/A         |
| 823.8                         | 237.200                     | 209.430                    | N/A         |

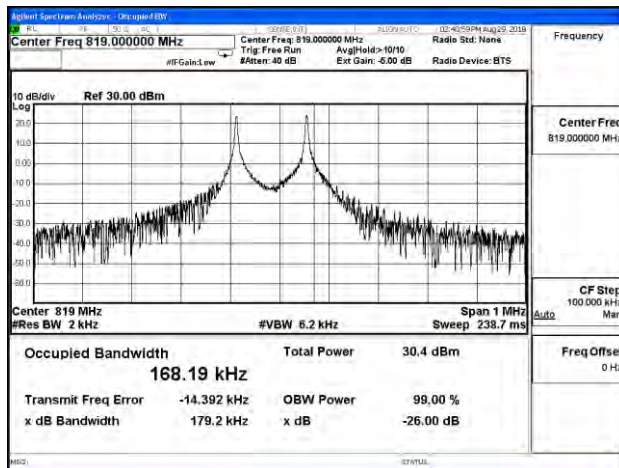
B26\_3.75K\_CH26692\_BPSK\_1RB0



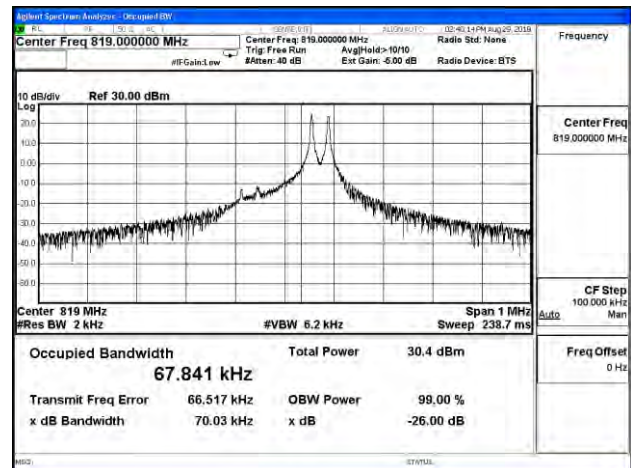
B26\_3.75K\_CH26692\_BPSK\_1RB47



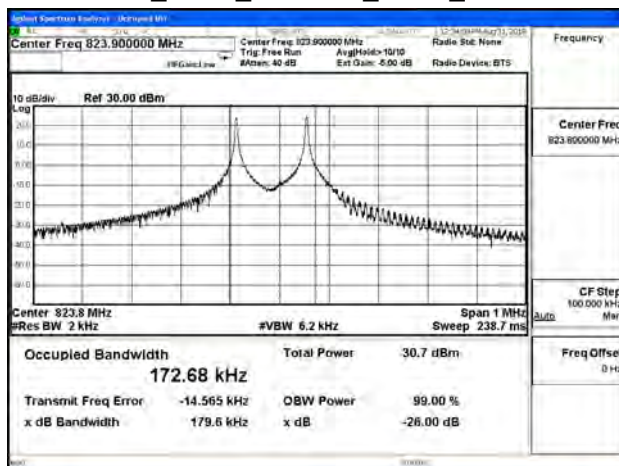
B26\_3.75K\_CH26740\_BPSK\_1RB0



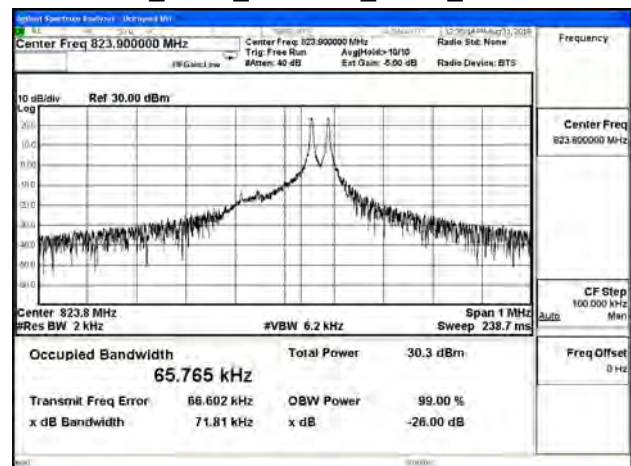
B26\_3.75K\_CH26740\_BPSK\_1RB47



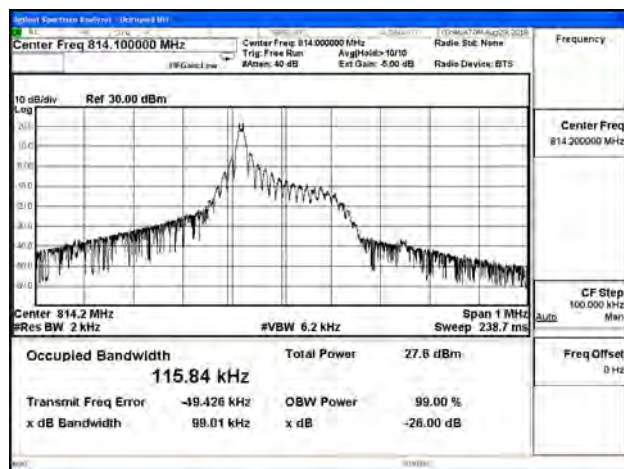
B26\_3.75K\_CH26788\_BPSK\_1RB0



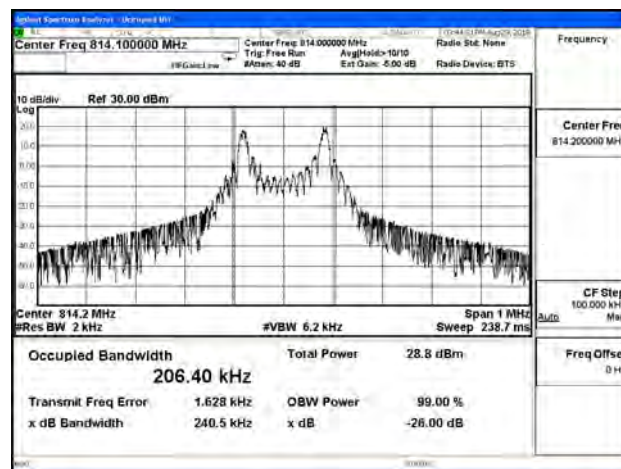
B26\_3.75K\_CH26788\_BPSK\_1RB47



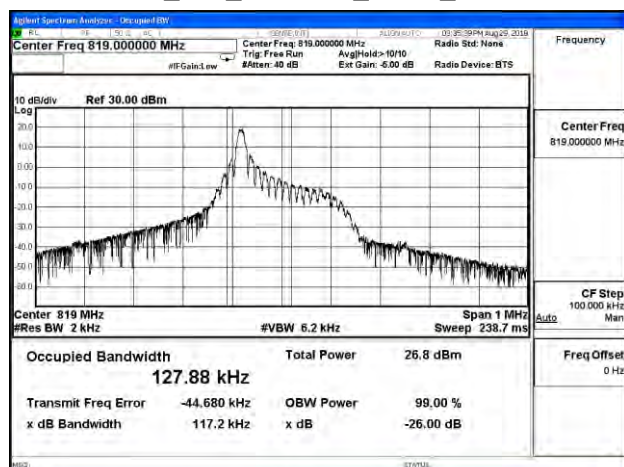
B26\_15K\_CH26692\_BPSK\_1RB0



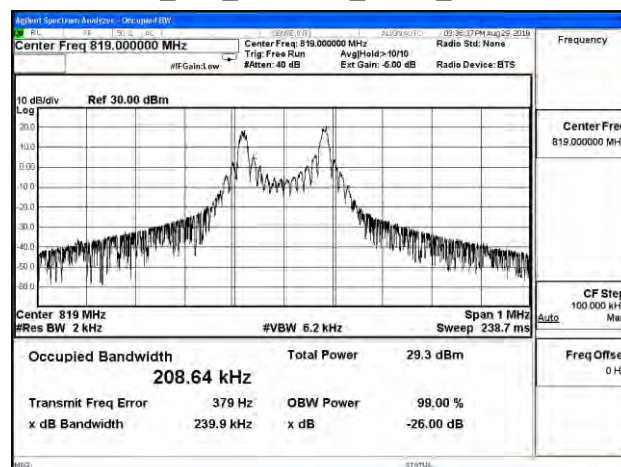
B26\_15K\_CH26692\_BPSK\_1RB11



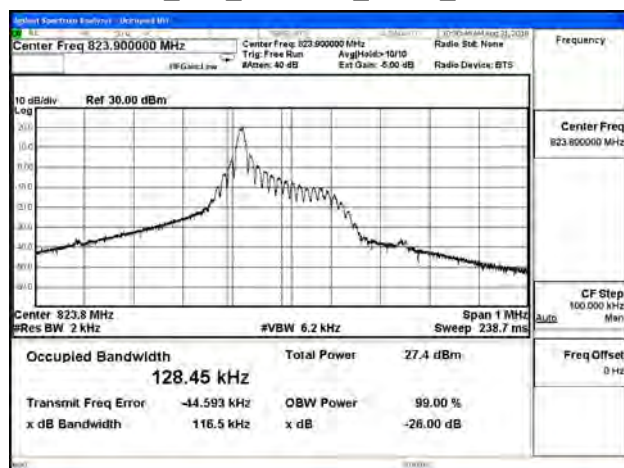
B26\_15K\_CH26740\_BPSK\_1RB0



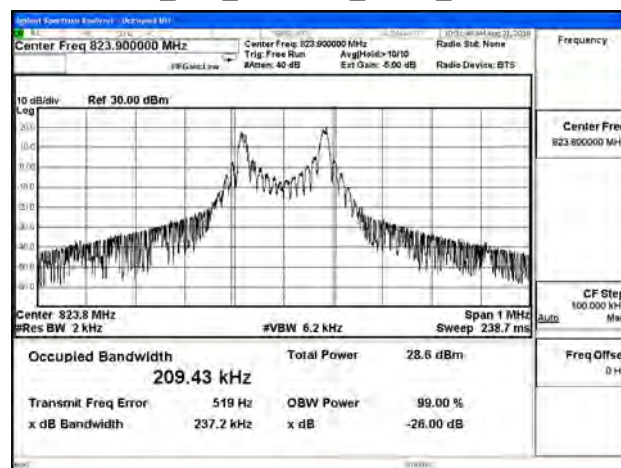
B26\_15K\_CH26740\_BPSK\_1RB11



B26\_15K\_CH26788\_BPSK\_1RB0



B26\_15K\_CH26788\_BPSK\_1RB11



| NB-IoT Band 26_3.75K_QPSK_1RB0 |                             |                            |             |
|--------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                          | 178.100                     | 171.010                    | N/A         |
| 819                            | 179.000                     | 169.950                    | N/A         |
| 823.8                          | 179.600                     | 168.630                    | N/A         |

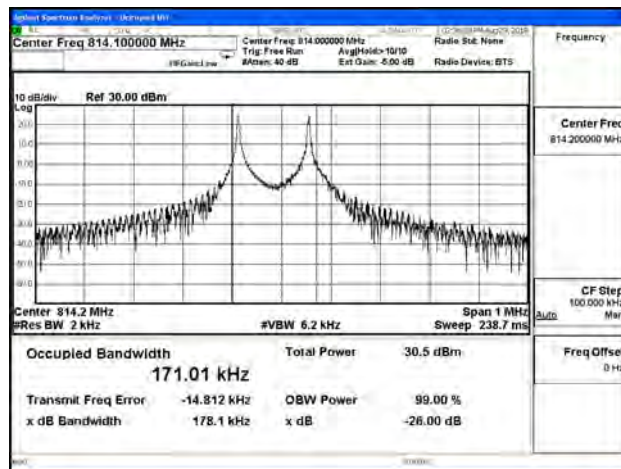
| NB-IoT Band 26_3.75K_QPSK_1RB47 |                             |                            |             |
|---------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)                 | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                           | 70.960                      | 64.632                     | N/A         |
| 819                             | 71.450                      | 65.774                     | N/A         |
| 823.8                           | 70.910                      | 64.850                     | N/A         |

| NB-IoT Band 26_15K_QPSK_1RB0 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                        | 116.100                     | 116.500                    | N/A         |
| 819                          | 129.400                     | 127.880                    | N/A         |
| 823.8                        | 130.200                     | 126.980                    | N/A         |

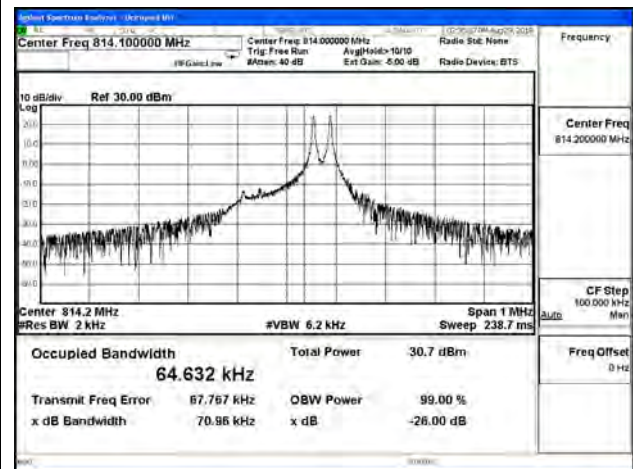
| NB-IoT Band 26_15K_QPSK_1RB11 |                             |                            |             |
|-------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)               | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                         | 240.500                     | 207.790                    | N/A         |
| 819                           | 238.900                     | 205.640                    | N/A         |
| 823.8                         | 239.600                     | 205.060                    | N/A         |

| NB-IoT Band 26_15K_QPSK_3RB3 |                             |                            |             |
|------------------------------|-----------------------------|----------------------------|-------------|
| Frequency (MHz)              | 26dB BW Measure Level (kHz) | 99% BW Measure Level (kHz) | Limit (MHz) |
| 814.2                        | 202.200                     | 140.080                    | N/A         |
| 819                          | 201.800                     | 139.360                    | N/A         |
| 823.8                        | 204.800                     | 142.340                    | N/A         |

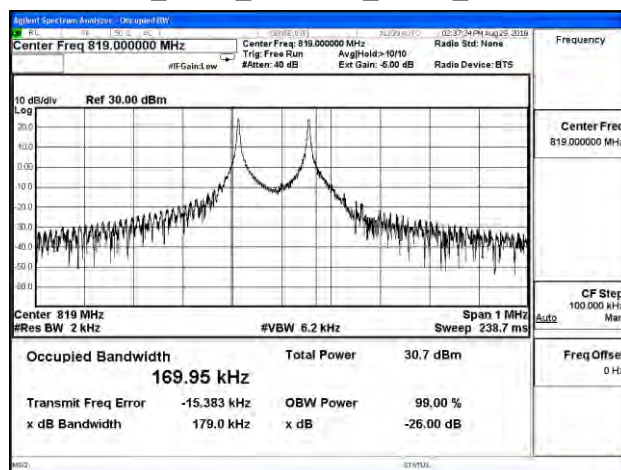
B26\_3.75K\_CH26692\_QPSK\_1RB0



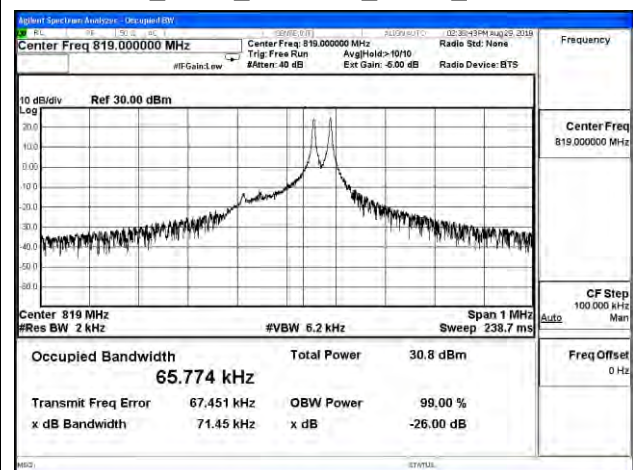
B26\_3.75K\_CH26692\_QPSK\_1RB47



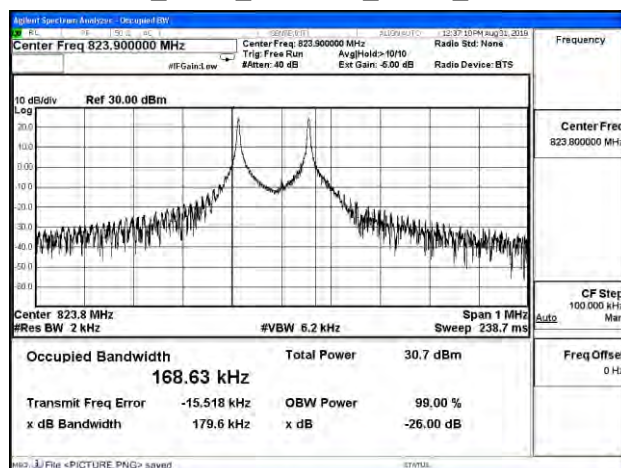
B26\_3.75K\_CH26740\_QPSK\_1RB0



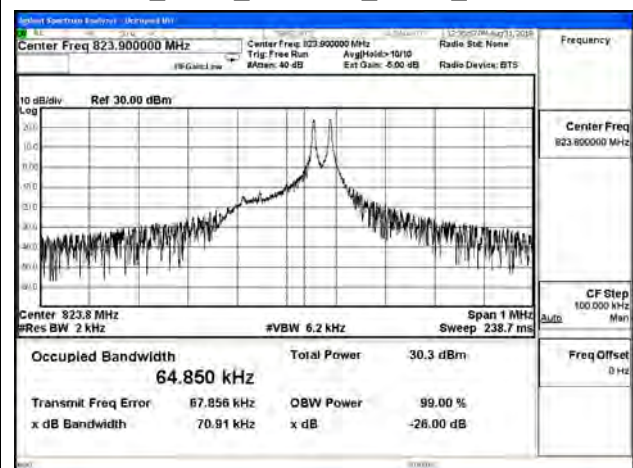
B26\_3.75K\_CH26740\_QPSK\_1RB47



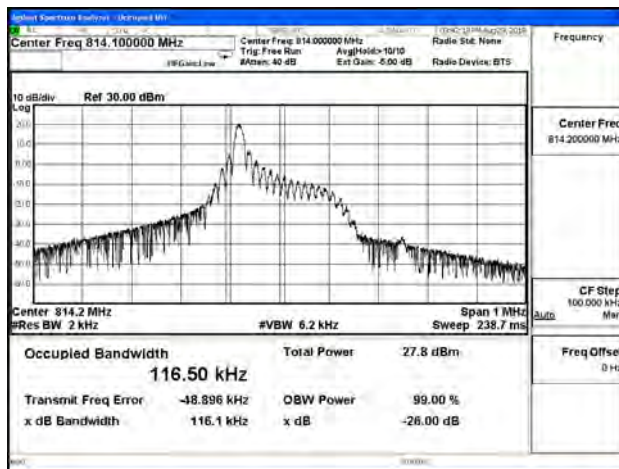
B26\_3.75K\_CH26788\_QPSK\_1RB0



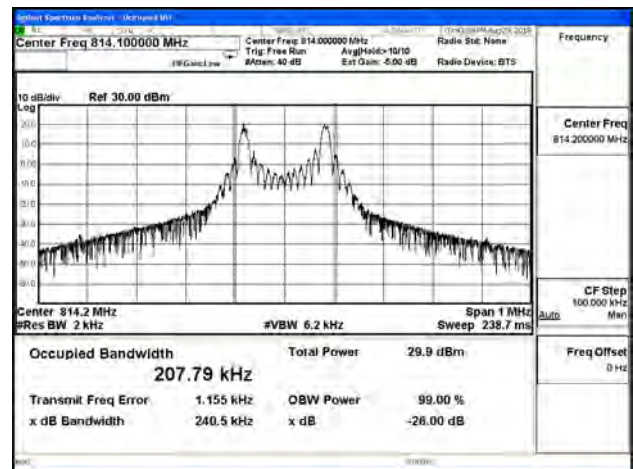
B26\_3.75K\_CH26788\_QPSK\_1RB47



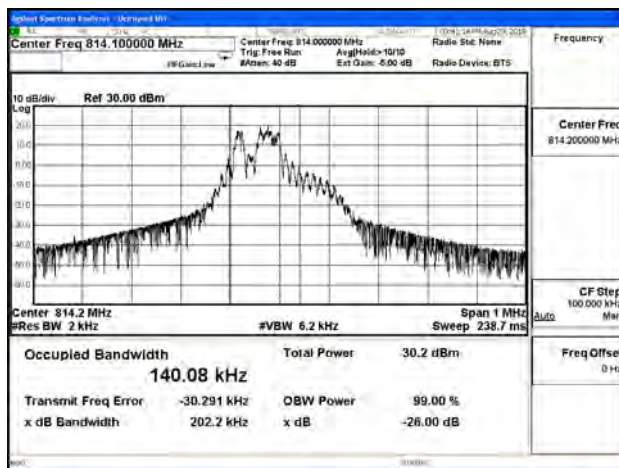
B26\_15K\_CH26692\_QPSK\_1RB0



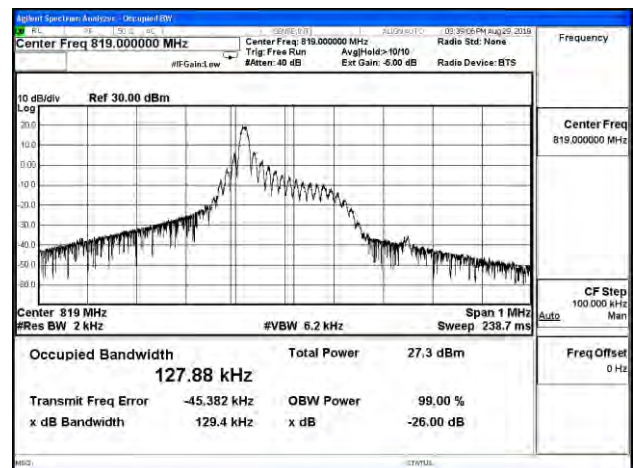
B26\_15K\_CH26692\_QPSK\_1RB11



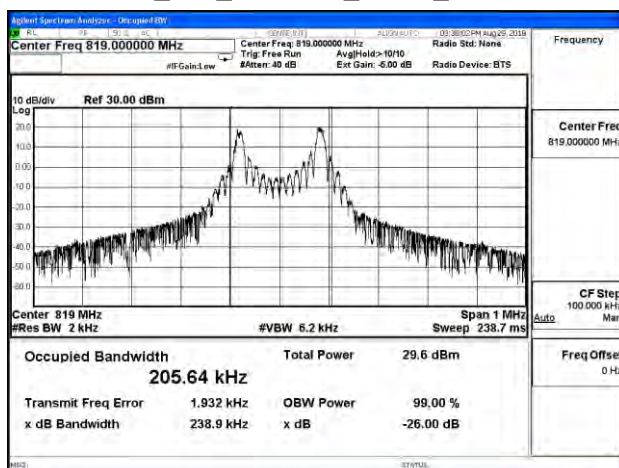
B26\_15K\_CH26692\_QPSK\_3RB3



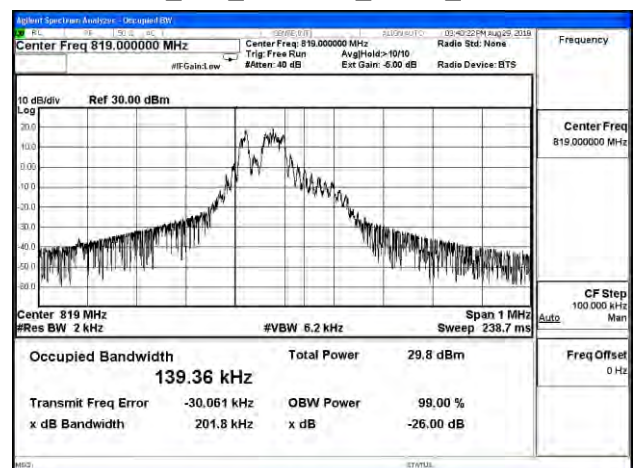
B26\_15K\_CH26740\_QPSK\_1RB0



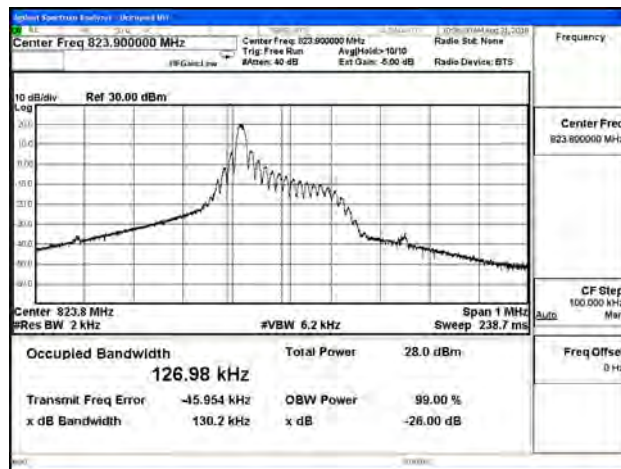
B26\_15K\_CH26740\_QPSK\_1RB11



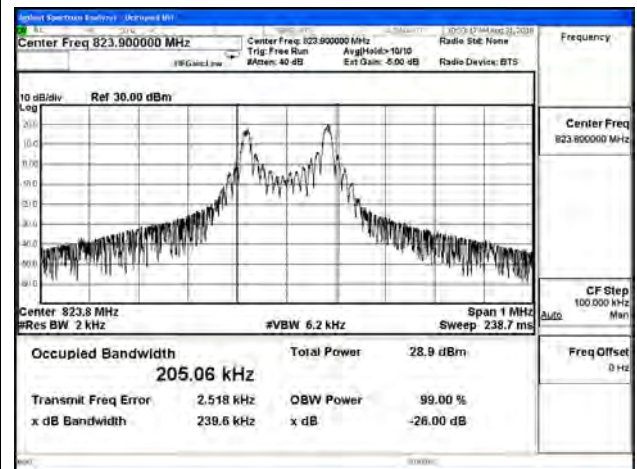
B26\_15K\_CH26740\_QPSK\_3RB3



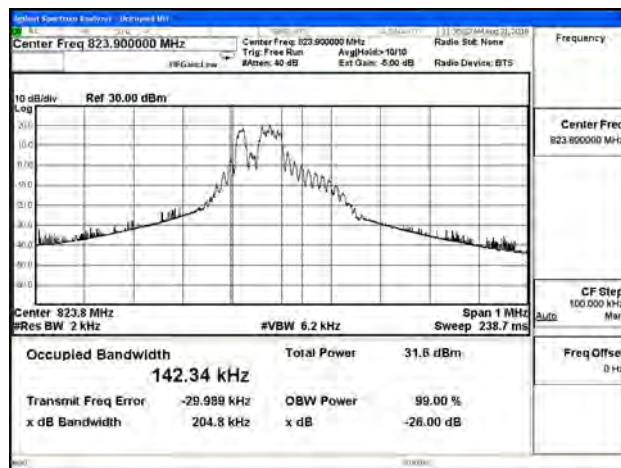
B26\_15K\_CH26788\_QPSK\_1RB0



B26\_15K\_CH26788\_QPSK\_1RB11

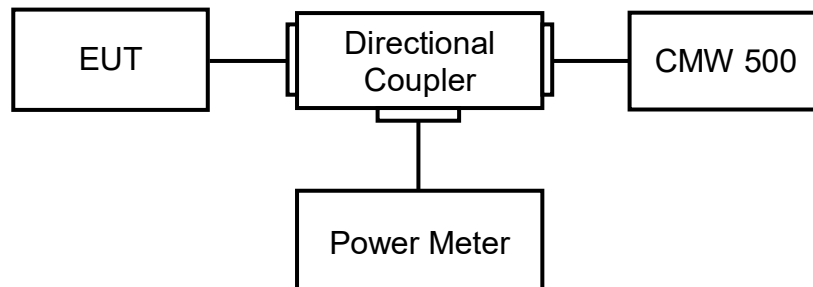


B26\_15K\_CH26788\_QPSK\_3RB3



## 5. Peak To Average Ratio

### 5.1. Test Setup



### 5.2. Test Procedure

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1 %.

### 5.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.7.2  
ANSI C63.26-2015 Sub-clause 5.2.3.4

#### 5.4. Test Result

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Peak To Average Ratio     |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq.<br>(MHz) | Modulation | BW<br>(kHz) | RB<br>No. | RB<br>offset | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|----------------|------------|-------------|-----------|--------------|---------------|------------------|--------------|
| 18601   | 1850.1         | BPSK       | 3.75        | 1         | 0            | 25.9          | 23.23            | 2.67         |
|         |                | QPSK       | 15          | 3         | 3            | 28.33         | 23.93            | 4.4          |
| 18900   | 1880           | BPSK       | 3.75        | 1         | 0            | 26.12         | 23.49            | 2.63         |
|         |                | QPSK       | 15          | 3         | 3            | 28.86         | 24.24            | 4.62         |
| 19199   | 1909.9         | BPSK       | 3.75        | 1         | 47           | 26.42         | 23.35            | 3.07         |
|         |                | QPSK       | 15          | 3         | 3            | 28.73         | 23.47            | 5.26         |

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Peak To Average Ratio     |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq.<br>(MHz) | Modulation | BW<br>(kHz) | RB<br>No. | RB<br>offset | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|----------------|------------|-------------|-----------|--------------|---------------|------------------|--------------|
| 19951   | 1710.1         | BPSK       | 3.75        | 1         | 47           | 25.03         | 22.60            | 2.43         |
|         |                | QPSK       | 15          | 3         | 3            | 27.46         | 22.62            | 4.84         |
| 20175   | 1732.5         | BPSK       | 3.75        | 1         | 47           | 24.91         | 22.32            | 2.59         |
|         |                | QPSK       | 15          | 3         | 3            | 27.42         | 22.02            | 5.4          |
| 20399   | 1754.9         | BPSK       | 3.75        | 1         | 0            | 24.79         | 22.29            | 2.5          |
|         |                | QPSK       | 15          | 3         | 3            | 27.48         | 23.19            | 4.29         |

|              |                           |           |        |
|--------------|---------------------------|-----------|--------|
| Product      | ME910C1-WW                |           |        |
| Test Item    | Peak To Average Ratio     |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5 |           |        |
| Date of Test | 2018/08/28                | Test Site | SR10-H |

| Channel | Freq.<br>(MHz) | Modulation | BW<br>(kHz) | RB<br>No. | RB<br>offset | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|----------------|------------|-------------|-----------|--------------|---------------|------------------|--------------|
| 20401   | 824.1          | BPSK       | 3.75        | 1         | 0            | 25.58         | 22.43            | 3.15         |
|         |                | QPSK       | 15          | 3         | 3            | 28.62         | 21.81            | 6.81         |
| 20525   | 836.5          | BPSK       | 3.75        | 1         | 0            | 26.08         | 23.86            | 2.22         |
|         |                | QPSK       | 15          | 3         | 3            | 28.51         | 24.33            | 4.18         |
| 20649   | 848.9          | BPSK       | 3.75        | 1         | 47           | 25.93         | 23.71            | 2.22         |
|         |                | QPSK       | 15          | 3         | 3            | 28.69         | 22.02            | 6.67         |

|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Peak To Average Ratio                |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

| Channel | Freq.<br>(MHz) | Modulation | BW<br>(kHz) | RB<br>No. | RB<br>offset | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|----------------|------------|-------------|-----------|--------------|---------------|------------------|--------------|
| 26791   | 824.1          | BPSK       | 3.75        | 1         | 0            | 26.29         | 24.13            | 2.16         |
|         |                | QPSK       | 15          | 3         | 3            | 28.61         | 22.71            | 5.9          |
| 26915   | 836.5          | BPSK       | 3.75        | 1         | 0            | 26.3          | 23.81            | 2.49         |
|         |                | QPSK       | 15          | 3         | 3            | 28.35         | 22.75            | 5.6          |
| 27039   | 848.9          | BPSK       | 3.75        | 1         | 47           | 25.89         | 23.70            | 2.19         |
|         |                | QPSK       | 15          | 3         | 3            | 28.43         | 23.42            | 5.01         |

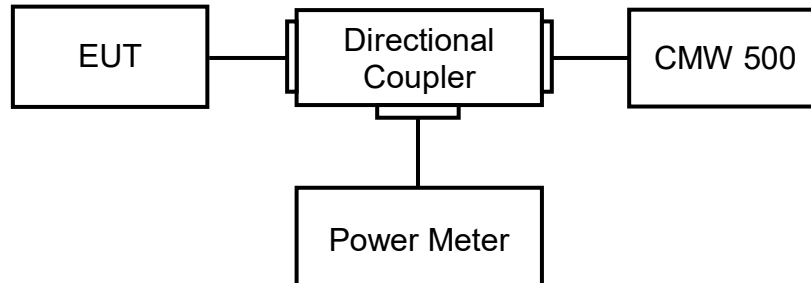
|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Peak To Average Ratio                |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90) |           |        |
| Date of Test | 2018/08/28                           | Test Site | SR10-H |

| Channel | Freq.<br>(MHz) | Modulation | BW<br>(kHz) | RB<br>No. | RB<br>offset | Peak<br>(dBm) | Average<br>(dBm) | PAPR<br>(dB) |
|---------|----------------|------------|-------------|-----------|--------------|---------------|------------------|--------------|
| 26692   | 814.2          | BPSK       | 3.75        | 1         | 0            | 26.3          | 24.23            | 2.07         |
|         |                | QPSK       | 15          | 3         | 3            | 28.16         | 22.53            | 5.63         |
| 26740   | 819            | BPSK       | 3.75        | 1         | 0            | 26.11         | 24.07            | 2.04         |
|         |                | QPSK       | 15          | 3         | 3            | 28.67         | 24.57            | 4.1          |
| 26788   | 823.8          | BPSK       | 3.75        | 1         | 0            | 26.24         | 24.13            | 2.11         |
|         |                | QPSK       | 15          | 3         | 3            | 28.64         | 23.67            | 4.97         |

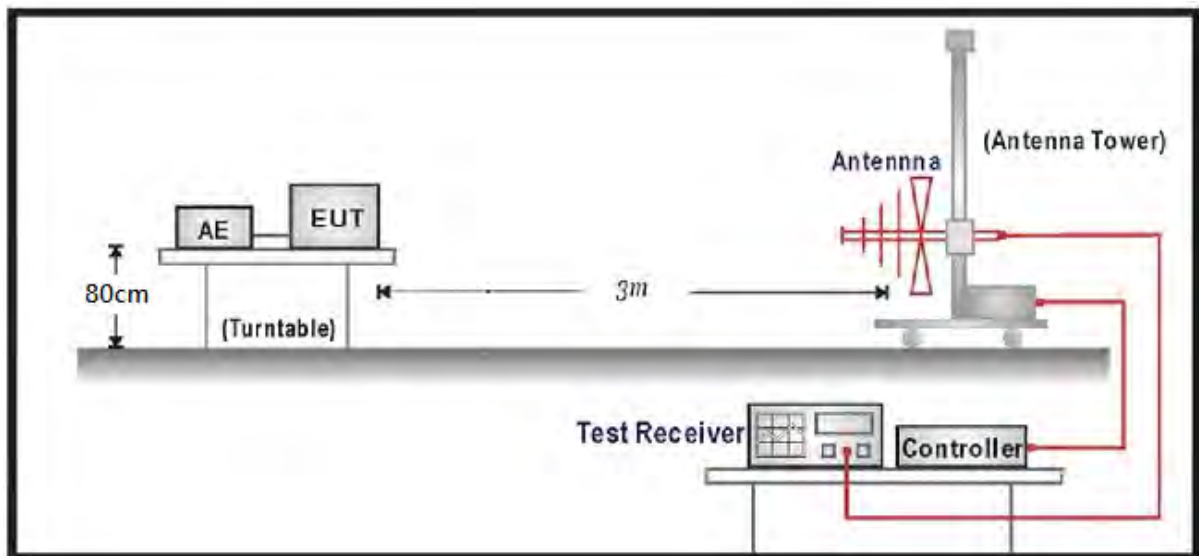
## 6. Spurious Emissions

### 6.1. Test Setup

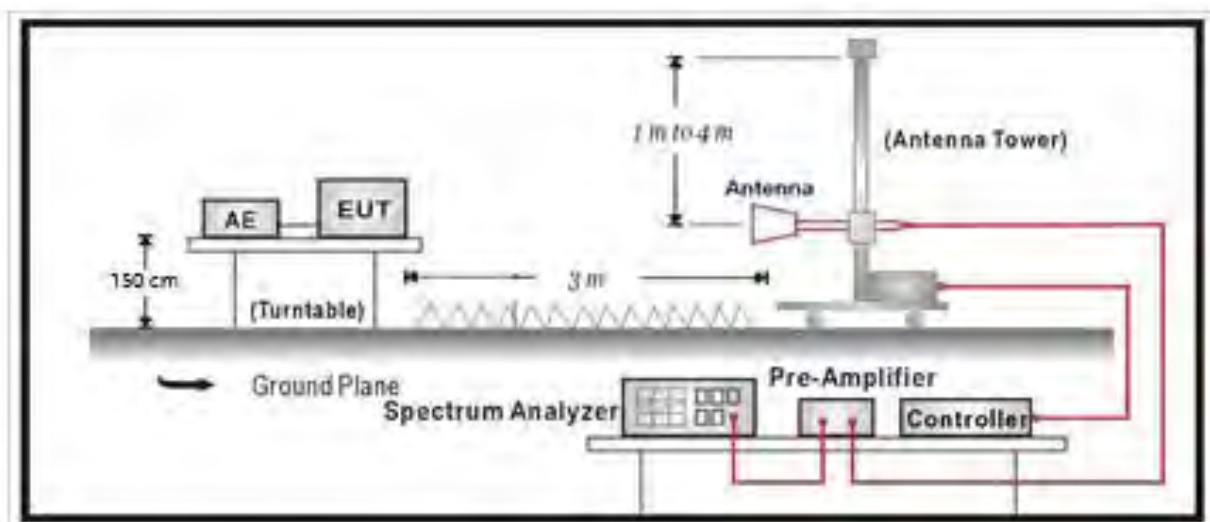
Conducted Spurious Measurement: below 1GHz



Radiated Spurious Measurement: below 1GHz



Radiated Spurious Measurement: above 1GHz



## 6.2. Test Procedure

### Conducted Spurious Measurement:

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- c) EUT Communicate with CMW500, then select a channel for testing.
- d) Add a correction factor to the display of spectrum, and then test.
- e) The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10<sup>th</sup> harmonic.

### Radiated Spurious Measurement:

- a) The EUT was placed on a rotatable wooden table with 1.5 meter above ground.
- b) The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- c) The table was rotated 360 degrees to determine the position of the highest spurious emission.
- d) The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- e) Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 1MHz, Sweep 500ms, Taking the record of maximum spurious emission.
- f) A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- g) Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- h) Taking the record of output power at antenna port.
- i) Repeat step 7 to step 8 for another polarization.
- j)  $EIRP = SG - \text{Cable loss} + \text{Antenna Gain}$

## 6.3. Test Method

### Conducted Spurious Measurement:

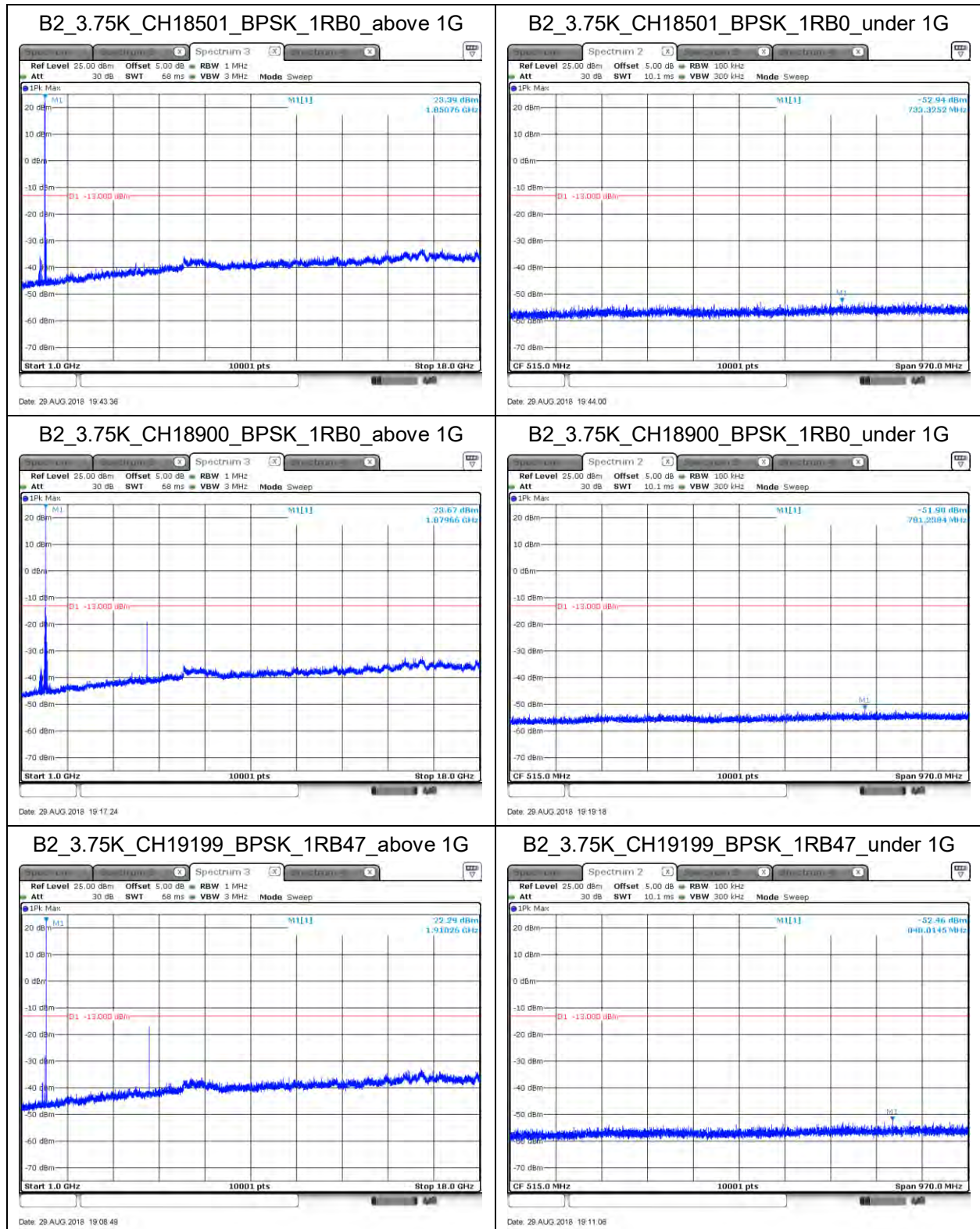
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause6.1  
ANSI C63.26-2015 Sub-clause 5.7

### Radiated Spurious Measurement:

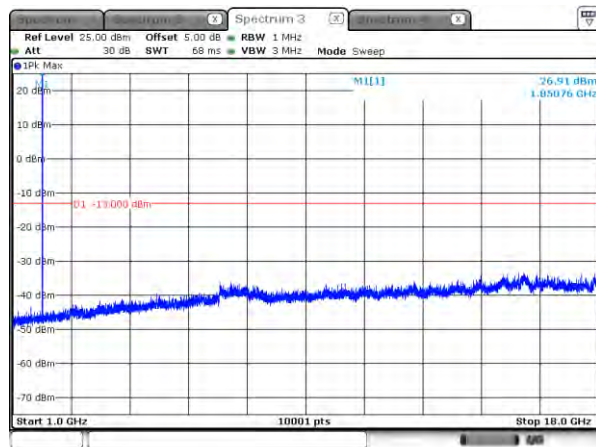
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause5.8  
ANSI C63.26-2015 Sub-clause 5.5.3.2

## 6.4. Test Result

|              |                              |           |        |
|--------------|------------------------------|-----------|--------|
| Product      | ME910C1-WW                   |           |        |
| Test Item    | Conducted Spurious Emissions |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2    |           |        |
| Date of Test | 2018/08/29                   | Test Site | SR10-H |

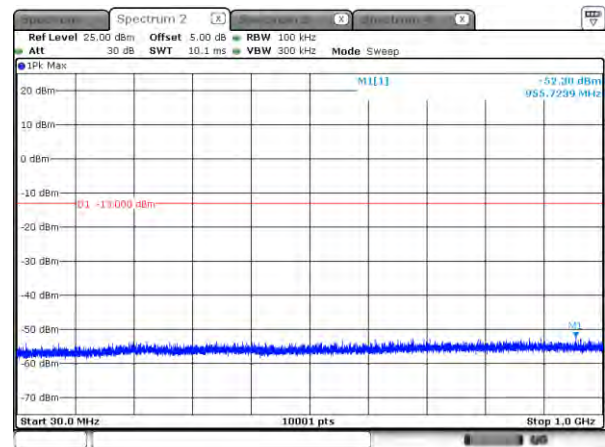


B2\_15K\_CH18501\_QPSK\_3RB3\_above 1G



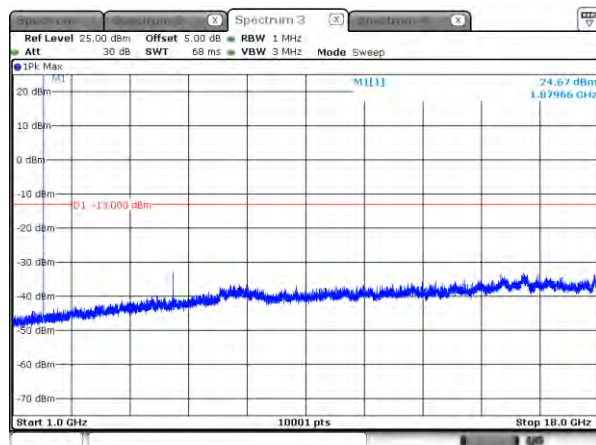
Date: 29 AUG 2018 17:22:28

B2\_15K\_CH18501\_QPSK\_3RB3\_under 1G



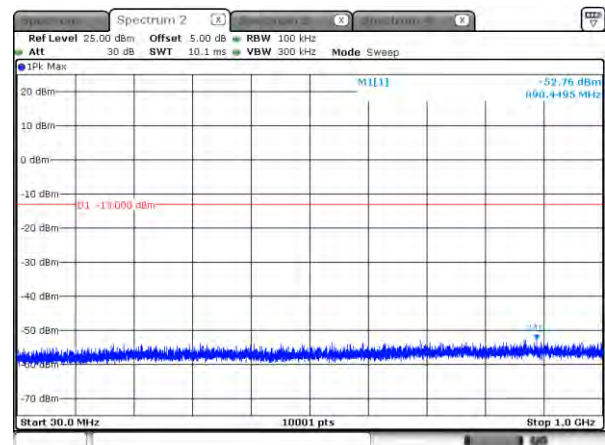
Date: 29 AUG 2018 17:21:59

B2\_15K\_CH18900\_QPSK\_3RB3\_above 1G



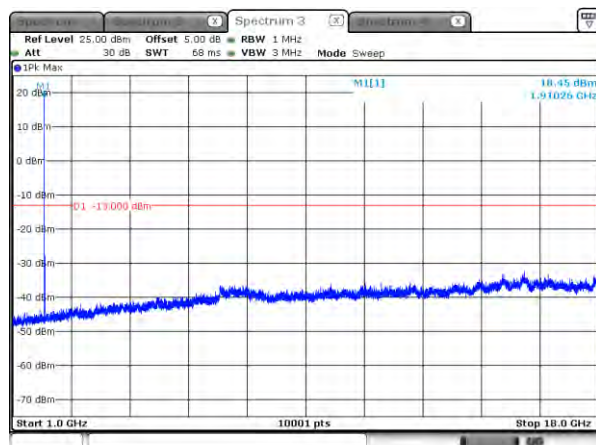
Date: 29 AUG 2018 17:32:18

B2\_15K\_CH18900\_QPSK\_3RB3\_under 1G



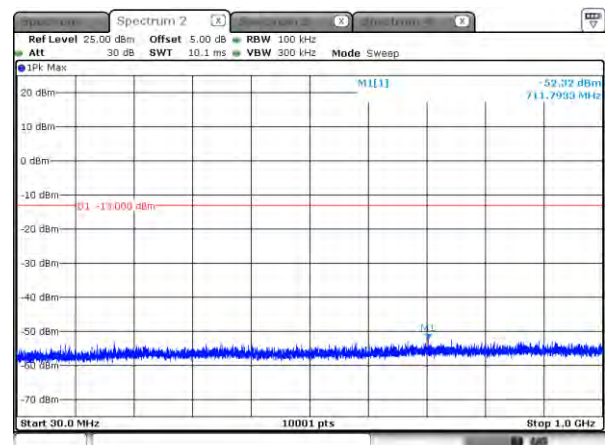
Date: 29 AUG 2018 17:32:51

B2\_15K\_CH19199\_QPSK\_3RB3\_above1G



Date: 29 AUG 2018 18:24:28

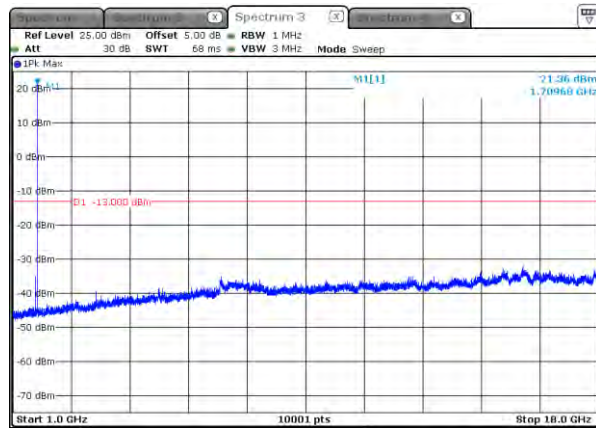
B2\_15K\_CH19199\_QPSK\_3RB3\_under 1G



Date: 29 AUG 2018 17:46:37

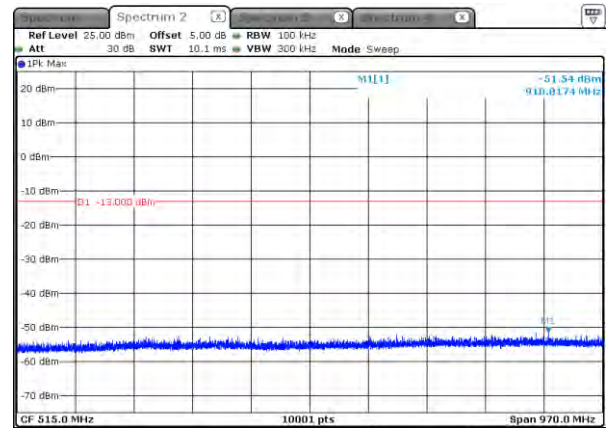
|              |                              |           |        |
|--------------|------------------------------|-----------|--------|
| Product      | ME910C1-WW                   |           |        |
| Test Item    | Conducted Spurious Emissions |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4    |           |        |
| Date of Test | 2018/08/29                   | Test Site | SR10-H |

B4\_3.75K\_CH19951\_BPSK\_1RB47\_above 1G



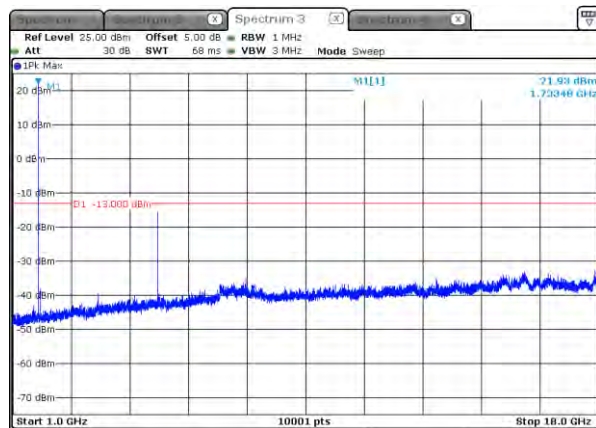
Date: 29 AUG 2018 19:55:08

B4\_3.75K\_CH19951\_BPSK\_1RB47\_under 1G



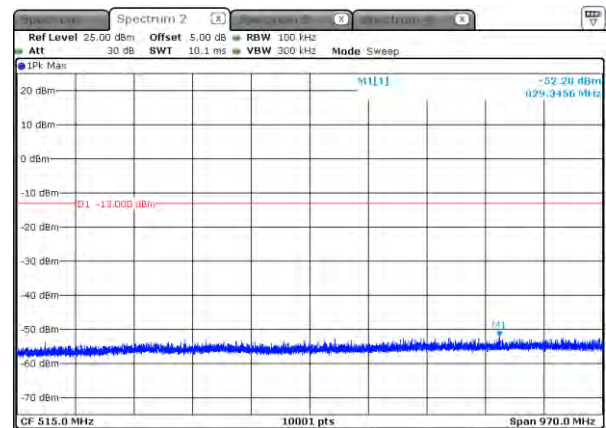
Date: 29 AUG 2018 19:57:40

B4\_3.75K\_CH20175\_BPSK\_1RB47\_above 1G



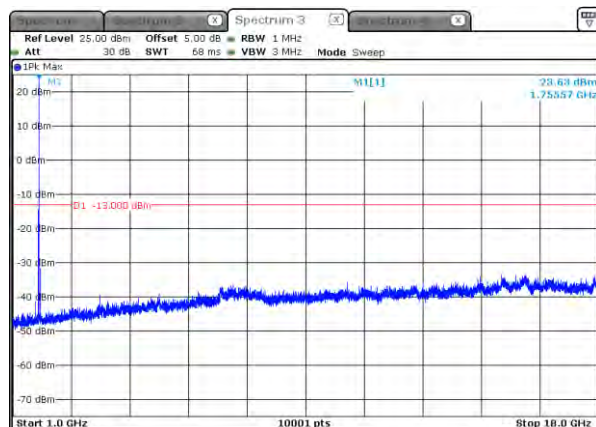
Date: 29 AUG 2018 20:12:19

B4\_3.75K\_CH20175\_BPSK\_1RB47\_under 1G



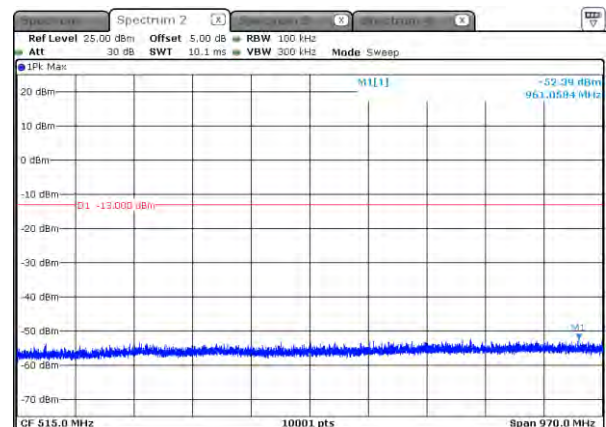
Date: 29 AUG 2018 20:11:49

B4\_3.75K\_CH20399\_BPSK\_1RB0\_above 1G



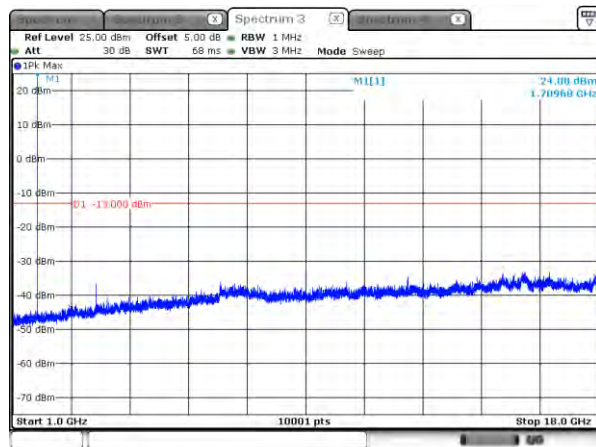
Date: 29 AUG 2018 20:16:00

B4\_3.75K\_CH20399\_BPSK\_1RB0\_under 1G



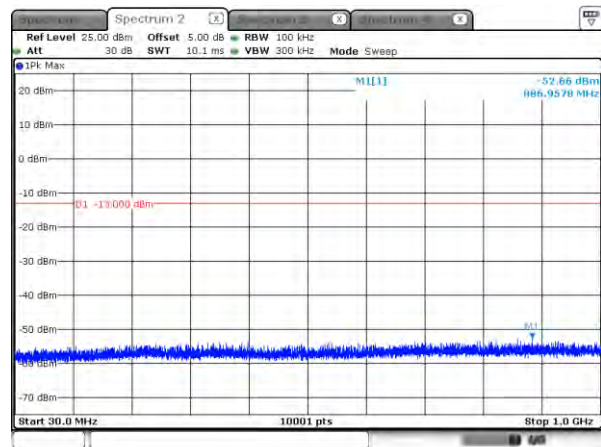
Date: 29 AUG 2018 20:15:28

B4\_15K\_CH19951\_QPSK\_3RB3\_above 1G



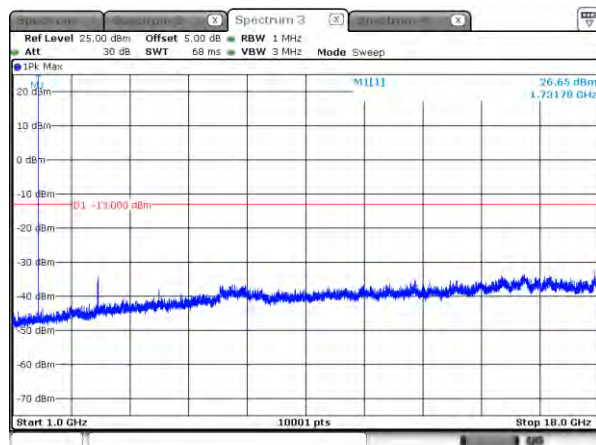
Date: 30 AUG 2018 15:47:04

B4\_15K\_CH19951\_QPSK\_3RB3\_under 1G



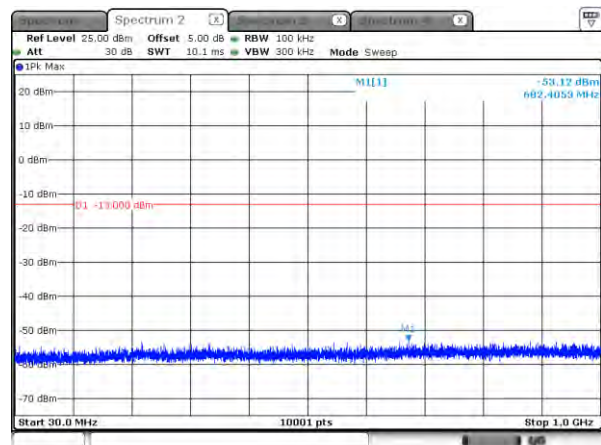
Date: 30 AUG 2018 15:48:38

B4\_15K\_CH20175\_QPSK\_3RB3\_above 1G



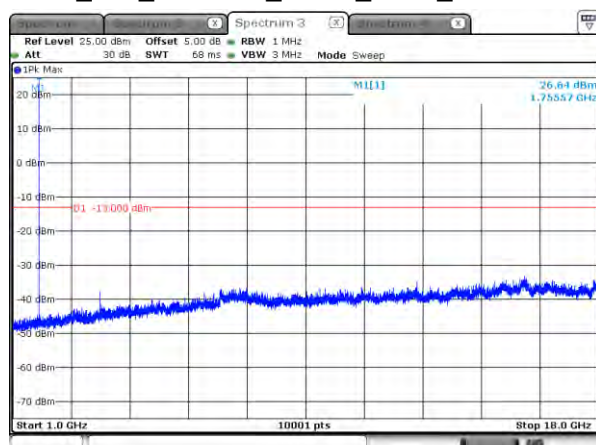
Date: 30 AUG 2018 15:38:50

B4\_15K\_CH20175\_QPSK\_3RB3\_under 1G



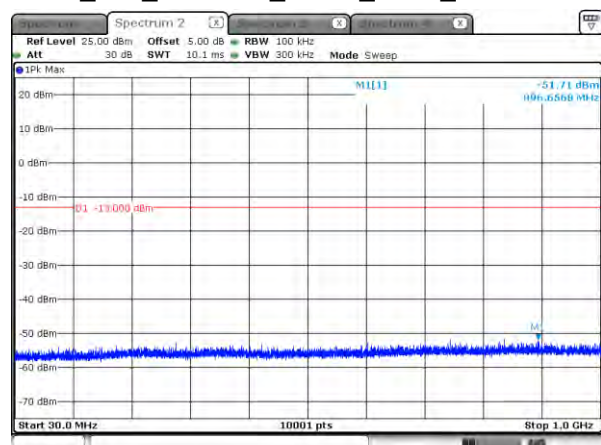
Date: 30 AUG 2018 15:39:32

B4\_15K\_CH20399\_QPSK\_3RB3\_above 1G



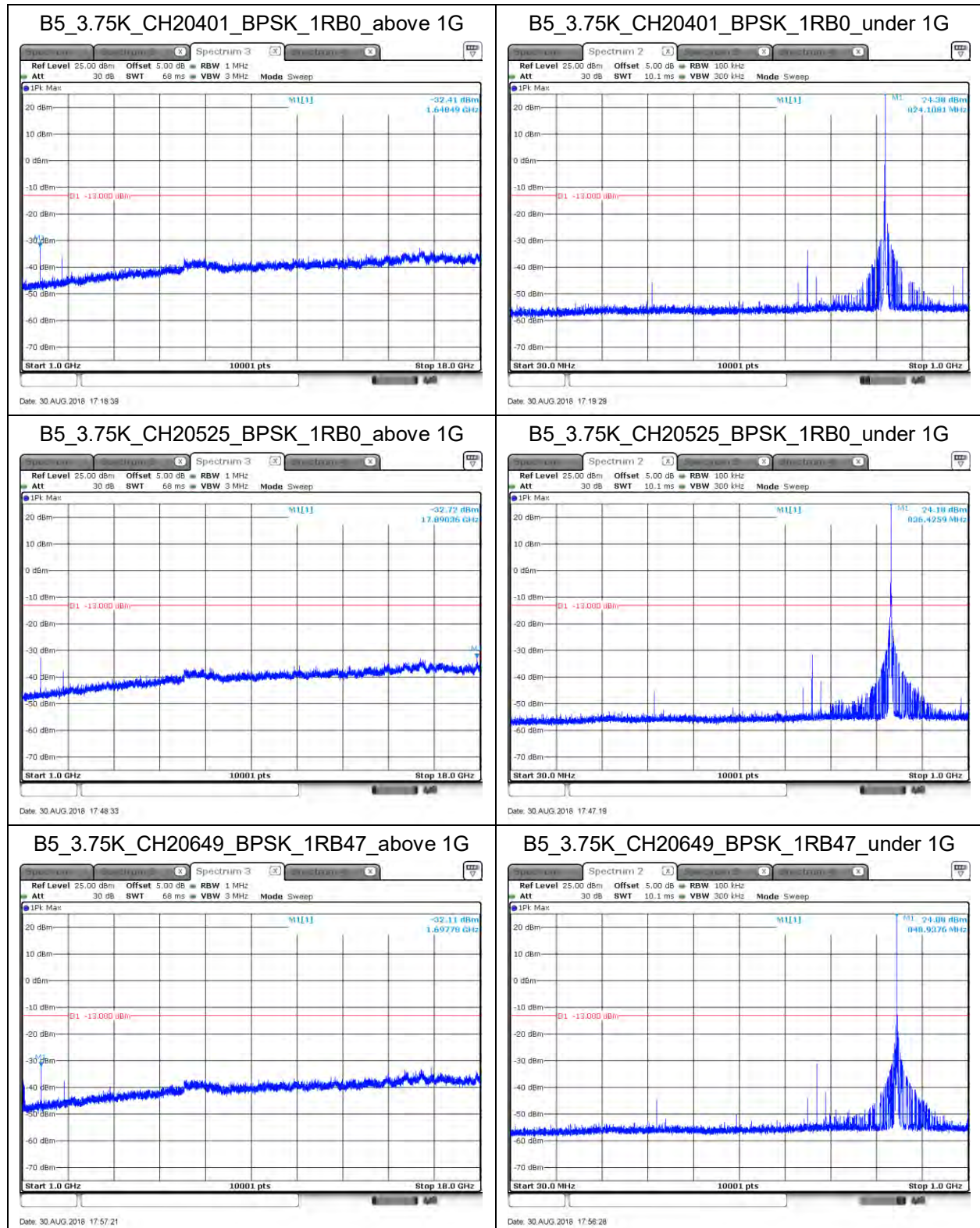
Date: 30 AUG 2018 15:52:28

B4\_15K\_CH20399\_QPSK\_3RB3\_under 1G

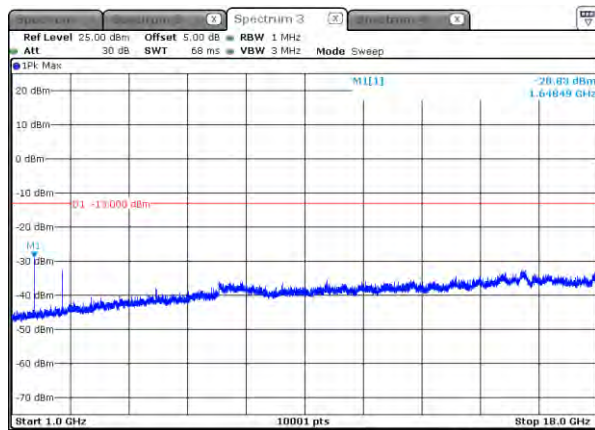


Date: 30 AUG 2018 15:53:33

|              |                              |           |        |
|--------------|------------------------------|-----------|--------|
| Product      | ME910C1-WW                   |           |        |
| Test Item    | Conducted Spurious Emissions |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5    |           |        |
| Date of Test | 2018/08/29                   | Test Site | SR10-H |

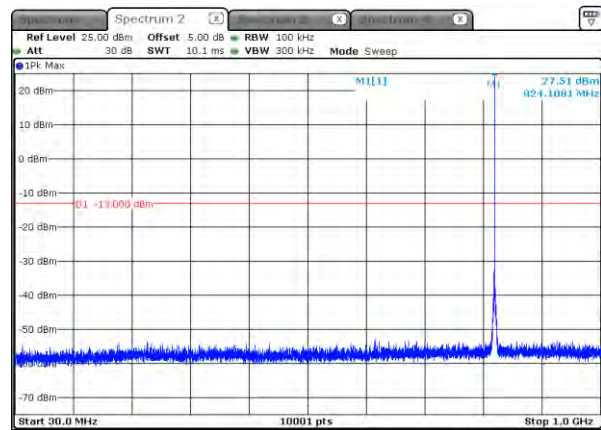


B5\_15K\_CH20401\_QPSK\_3RB3\_above 1G



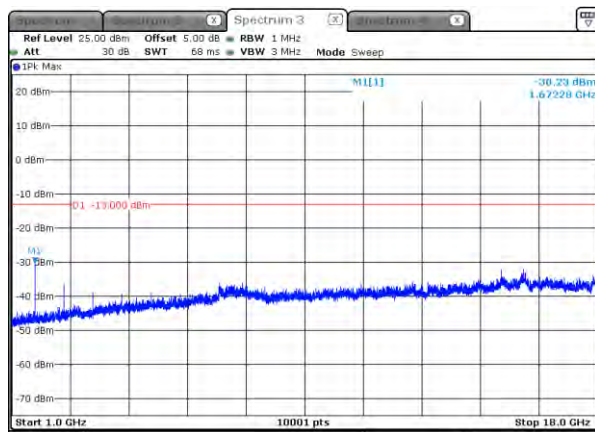
Date: 30 AUG 2018 15:59:21

B5\_15K\_CH20401\_QPSK\_3RB3\_under 1G



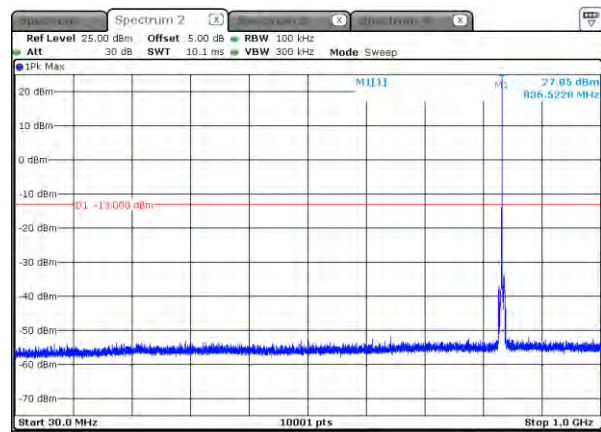
Date: 30 AUG 2018 15:59:51

B5\_15K\_CH20525\_QPSK\_3RB3\_above 1G



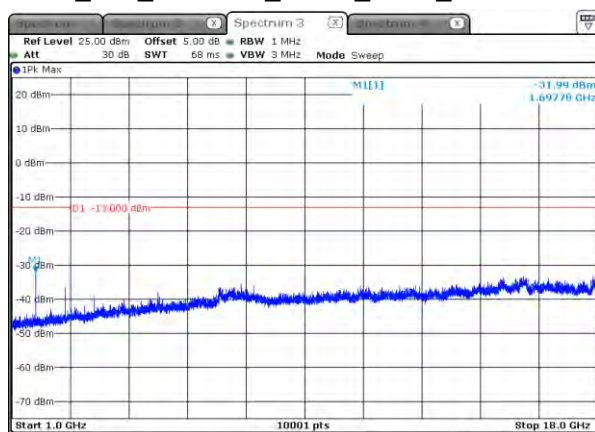
Date: 30 AUG 2018 16:01:52

B5\_15K\_CH20525\_QPSK\_3RB3\_under 1G



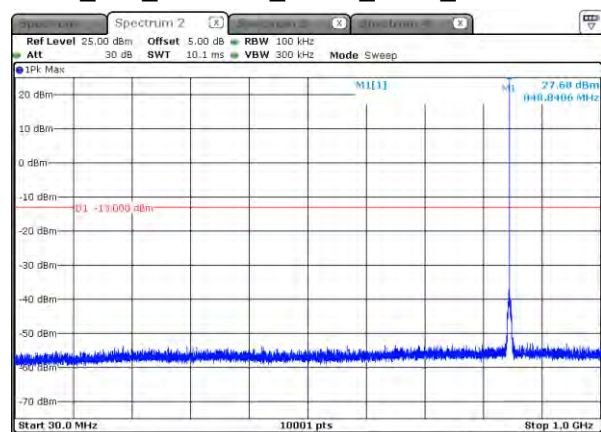
Date: 30 AUG 2018 16:01:29

B5\_15K\_CH20649\_QPSK\_3RB3\_above 1G



Date: 30 AUG 2018 16:07:42

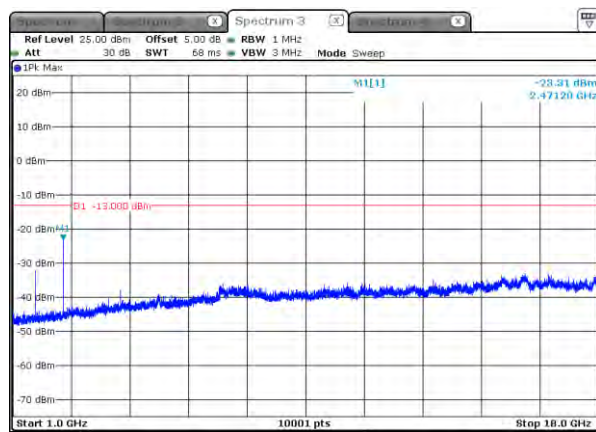
B5\_15K\_CH20649\_QPSK\_3RB3\_under 1G



Date: 30 AUG 2018 16:08:13

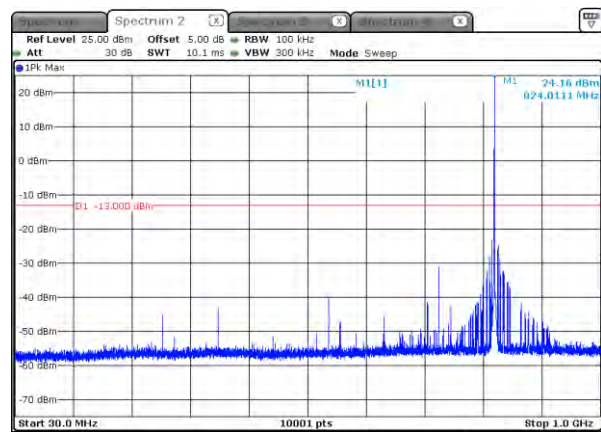
|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Conducted Spurious Emissions         |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22) |           |        |
| Date of Test | 2018/08/29                           | Test Site | SR10-H |

B26\_3.75K\_CH26790\_BPSK\_1RB0\_above 1G



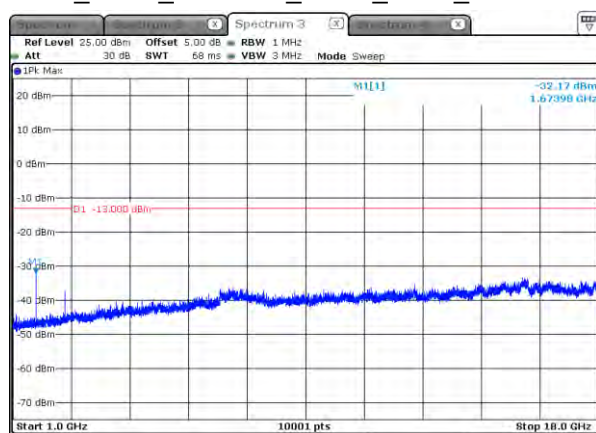
Date: 30 AUG 2018 17:02:02

B26\_3.75K\_CH26790\_BPSK\_1RB0\_under 1G



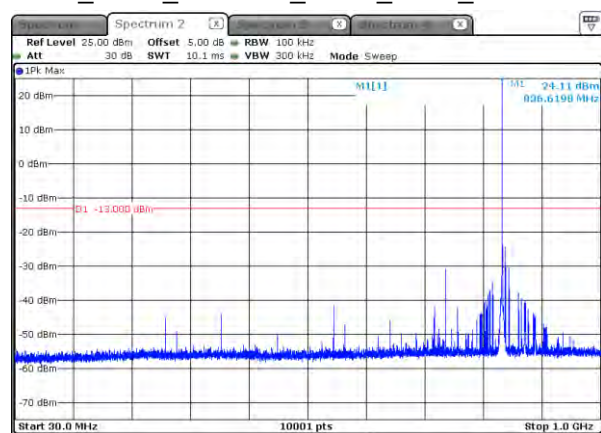
Date: 30 AUG 2018 17:02:41

B26\_3.75K\_CH26915\_BPSK\_1RB0\_above 1G



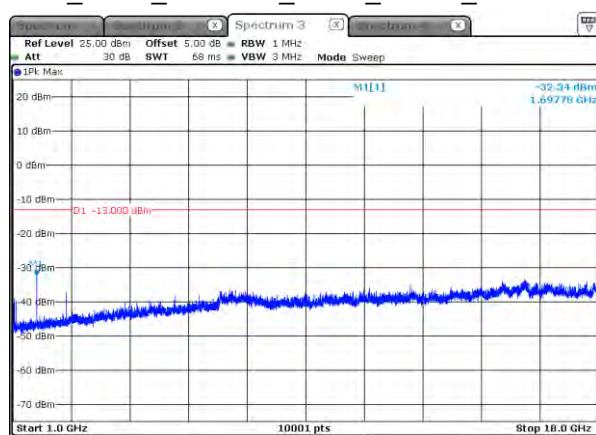
Date: 30 AUG 2018 17:00:58

B26\_3.75K\_CH26915\_BPSK\_1RB0\_under 1G



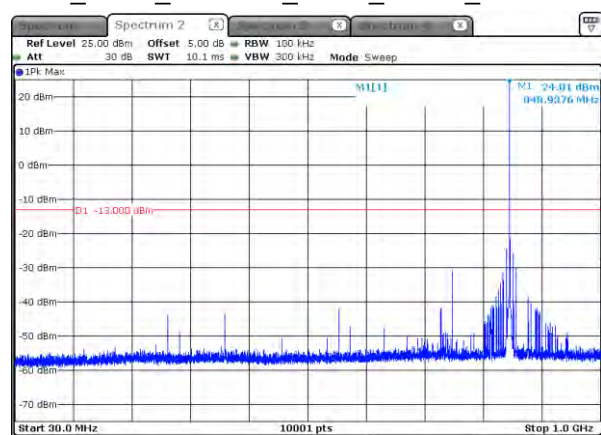
Date: 30 AUG 2018 18:58:15

B26\_3.75K\_CH27039\_BPSK\_1RB47\_above 1G

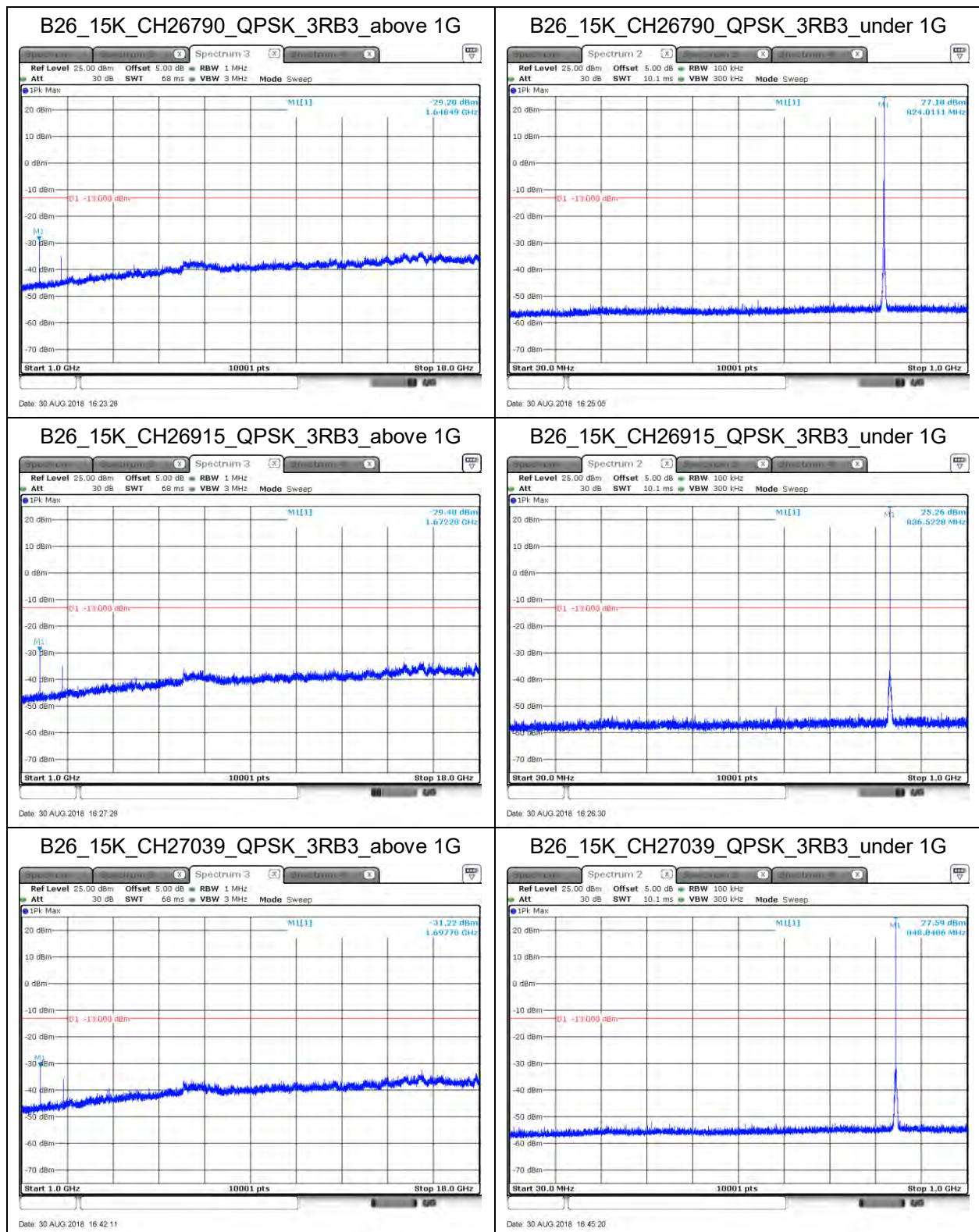


Date: 30 AUG 2018 18:51:12

B26\_3.75K\_CH27039\_BPSK\_1RB47\_under 1G

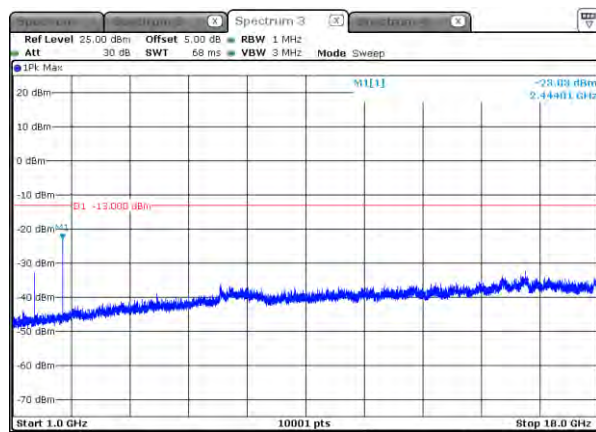


Date: 30 AUG 2018 18:51:44



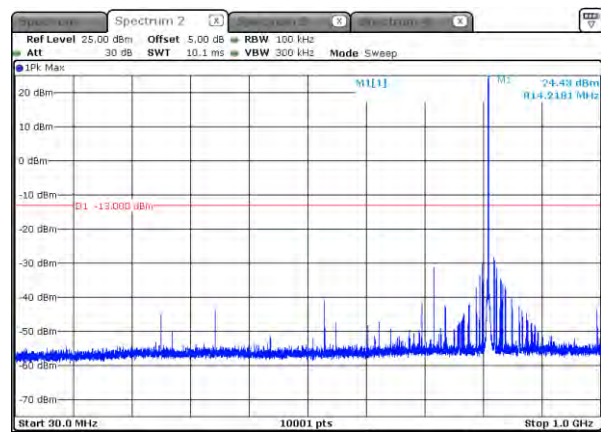
|              |                                      |           |        |
|--------------|--------------------------------------|-----------|--------|
| Product      | ME910C1-WW                           |           |        |
| Test Item    | Conducted Spurious Emissions         |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90) |           |        |
| Date of Test | 2018/08/29                           | Test Site | SR10-H |

B26\_3.75K\_CH26692\_BPSK\_1RB0\_above 1G



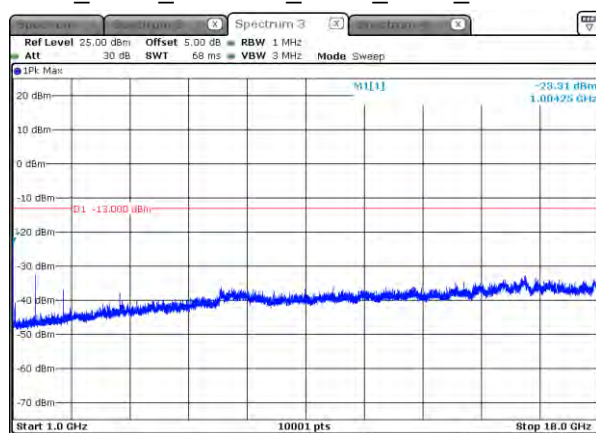
Date: 30.AUG.2018 17:12:00

B26\_3.75K\_CH26692\_BPSK\_1RB0\_under 1G



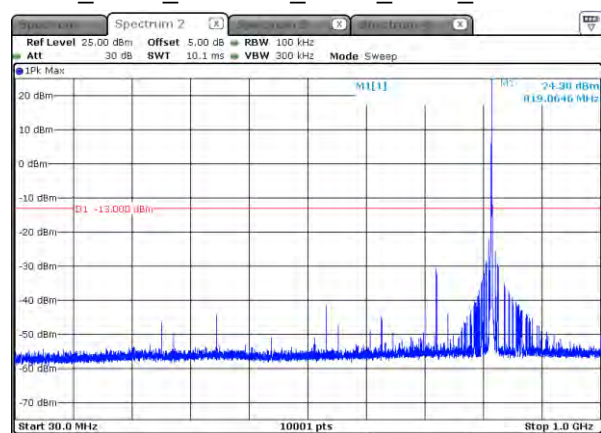
Date: 30.AUG.2018 17:13:08

B26\_3.75K\_CH26740\_BPSK\_1RB0\_above 1G



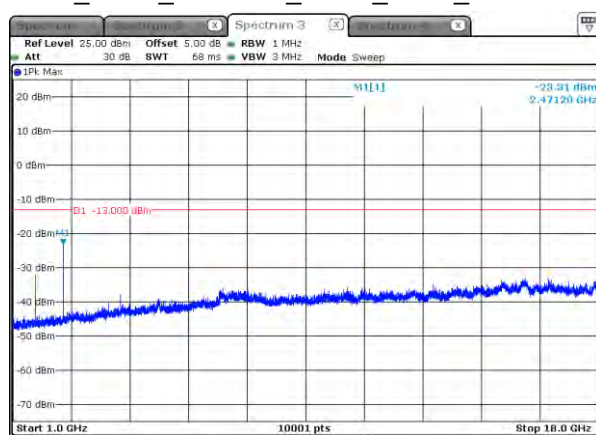
Date: 30.AUG.2018 17:10:42

B26\_3.75K\_CH26740\_BPSK\_1RB0\_under 1G



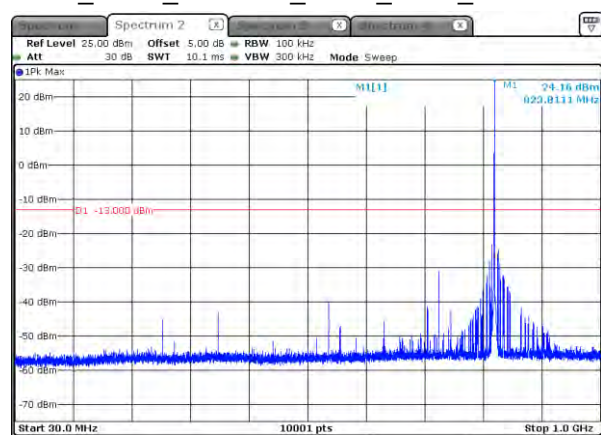
Date: 30.AUG.2018 17:09:59

B26\_3.75K\_CH26788\_BPSK\_1RB0\_above 1G

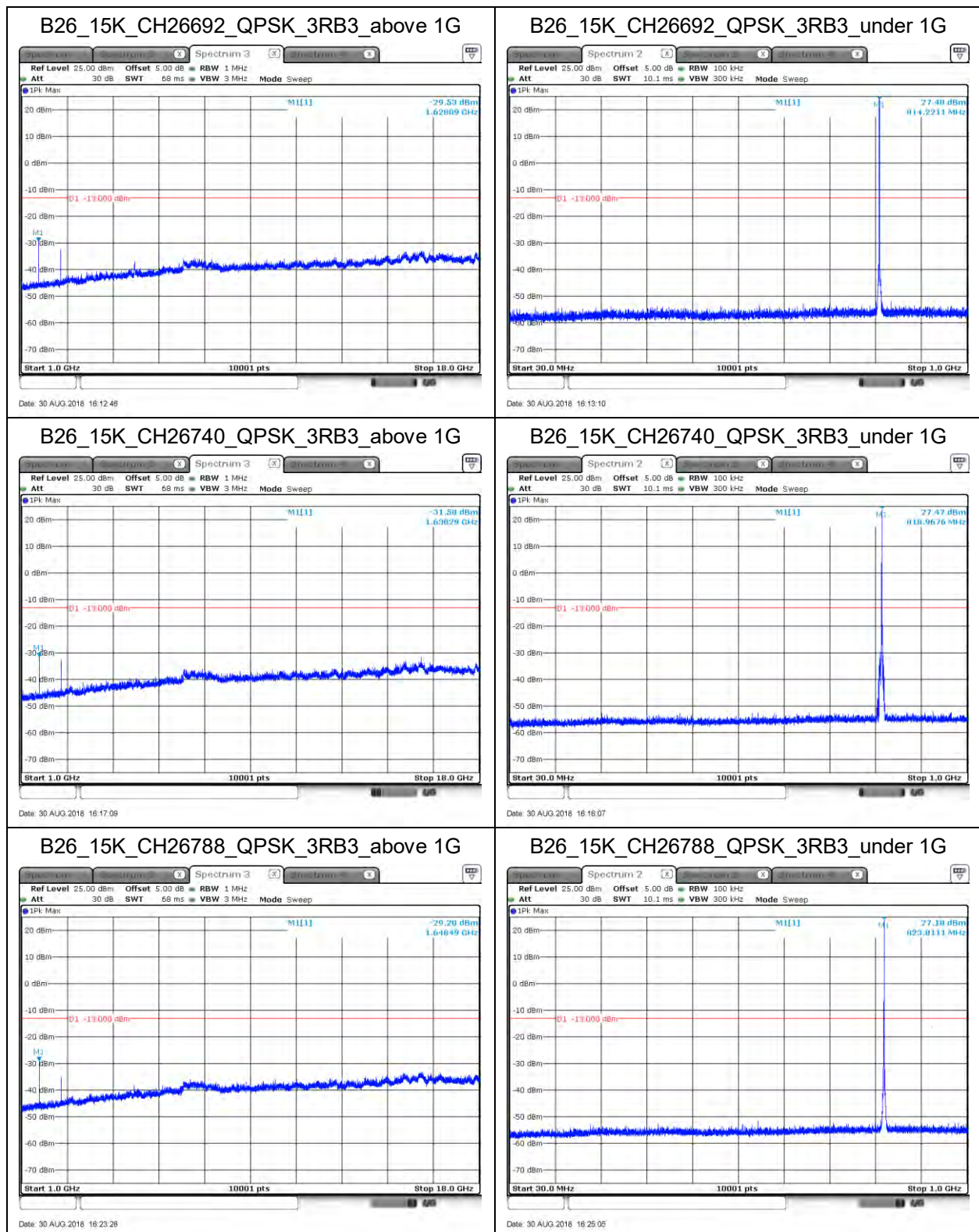


Date: 30.AUG.2018 17:02:02

B26\_3.75K\_CH26788\_BPSK\_1RB0\_under 1G



Date: 30.AUG.2018 17:02:41



|              |                             |           |       |
|--------------|-----------------------------|-----------|-------|
| Product      | ME910C1-WW                  |           |       |
| Test Item    | Radiated Spurious Emissions |           |       |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2   |           |       |
| Date of Test | 2018/09/05                  | Test Site | CB4-H |

## NB-IoT\_Band2\_BPSK\_3.75K\_1RB0

| Frequency (MHz)                | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|--------------------------------|------------------|----------------|------------------|-----------------|------------|------------|-------------|-------------|
| Low Channel 18601 (1850.1MHz)  |                  |                |                  |                 |            |            |             |             |
| 3700.20                        | -62.060          | H              | -54.176          | 4.283           | 11.940     | -46.520    | -13         | -33.520     |
| 5550.30                        | -71.390          | H              | -62.939          | 5.201           | 12.900     | -55.240    | -13         | -42.240     |
| 3700.20                        | -54.560          | V              | -46.676          | 4.283           | 11.940     | -39.020    | -13         | -26.020     |
| 5550.30                        | -68.370          | V              | -59.919          | 5.201           | 12.900     | -52.220    | -13         | -39.220     |
| Middle Channel 18900 (1880MHz) |                  |                |                  |                 |            |            |             |             |
| 3760.00                        | -56.860          | H              | -49.527          | 4.335           | 11.832     | -42.030    | -13         | -29.030     |
| 5640.00                        | -70.740          | H              | -61.795          | 5.235           | 12.900     | -54.130    | -13         | -41.130     |
| 3760.00                        | -56.680          | V              | -48.557          | 4.335           | 11.832     | -41.060    | -13         | -28.060     |
| 5640.00                        | -69.870          | V              | -61.075          | 5.235           | 12.900     | -53.410    | -13         | -40.410     |
| High Channel 19199 (1909.9MHz) |                  |                |                  |                 |            |            |             |             |
| 3819.80                        | -60.840          | H              | -53.268          | 4.386           | 11.724     | -45.930    | -13         | -32.930     |
| 5729.70                        | -72.320          | H              | -63.020          | 5.270           | 12.900     | -55.390    | -13         | -42.390     |
| 3819.80                        | -58.170          | V              | -49.828          | 4.386           | 11.724     | -42.490    | -13         | -29.490     |
| 5729.70                        | -70.820          | V              | -61.680          | 5.270           | 12.900     | -54.050    | -13         | -41.050     |

## NB-IoT\_Band2\_QPSK\_15K\_3RB3

| Frequency<br>(MHz)             | SA<br>Reading<br>(dBm) | Ant.Pol.<br>(H/V) | SG<br>Reading<br>(dBm) | Cable<br>Loss (dB) | Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|--------------------------------|------------------------|-------------------|------------------------|--------------------|---------------|---------------|----------------|----------------|
| Low Channel 18601 (1850.1MHz)  |                        |                   |                        |                    |               |               |                |                |
| 3700.20                        | -61.930                | H                 | -54.846                | 4.283              | 11.940        | -47.190       | -13            | -34.190        |
| 5550.30                        | -71.090                | H                 | -62.489                | 5.201              | 12.900        | -54.790       | -13            | -41.790        |
| 3700.20                        | -56.640                | V                 | -48.756                | 4.283              | 11.940        | -41.100       | -13            | -28.100        |
| 5550.30                        | -71.540                | V                 | -63.089                | 5.201              | 12.900        | -55.390       | -13            | -42.390        |
| Middle Channel 18900 (1880MHz) |                        |                   |                        |                    |               |               |                |                |
| 3760.00                        | -55.700                | H                 | -48.367                | 4.335              | 11.832        | -40.870       | -13            | -27.870        |
| 5640.00                        | -70.720                | H                 | -61.775                | 5.235              | 12.900        | -54.110       | -13            | -41.110        |
| 3760.00                        | -55.440                | V                 | -47.317                | 4.335              | 11.832        | -39.820       | -13            | -26.820        |
| 5640.00                        | -71.420                | V                 | -62.625                | 5.235              | 12.900        | -54.960       | -13            | -41.960        |
| High Channel 19199 (1909.9MHz) |                        |                   |                        |                    |               |               |                |                |
| 3819.80                        | -58.160                | H                 | -50.588                | 4.386              | 11.724        | -43.250       | -13            | -30.250        |
| 5729.70                        | -71.320                | H                 | -62.020                | 5.270              | 12.900        | -54.390       | -13            | -41.390        |
| 3819.80                        | -53.550                | V                 | -45.208                | 4.386              | 11.724        | -37.870       | -13            | -24.870        |
| 5729.70                        | -70.580                | V                 | -61.440                | 5.270              | 12.900        | -53.810       | -13            | -40.810        |

|              |                             |           |       |
|--------------|-----------------------------|-----------|-------|
| Product      | ME910C1-WW                  |           |       |
| Test Item    | Radiated Spurious Emissions |           |       |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4   |           |       |
| Date of Test | 2018/09/05                  | Test Site | CB4-H |

## NB-IoT\_Band4\_BPSK\_3.75K\_1RB47

| Frequency (MHz)                  | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|----------------------------------|------------------|----------------|------------------|-----------------|------------|------------|-------------|-------------|
| Low Channel 19951 (1710.1MHz)    |                  |                |                  |                 |            |            |             |             |
| 3420.20                          | -57.380          | H              | -51.239          | 4.064           | 12.093     | -43.210    | -13         | -30.210     |
| 5130.30                          | -67.780          | H              | -59.080          | 5.075           | 12.235     | -51.920    | -13         | -38.920     |
| 3420.20                          | -57.210          | V              | -50.339          | 4.064           | 12.093     | -42.310    | -13         | -29.310     |
| 5130.30                          | -69.780          | V              | -61.400          | 5.075           | 12.235     | -54.240    | -13         | -41.240     |
| Middle Channel 20175 (1732.5MHz) |                  |                |                  |                 |            |            |             |             |
| 3465.00                          | -55.730          | H              | -49.589          | 4.090           | 12.209     | -41.470    | -13         | -28.470     |
| 5197.50                          | -71.820          | H              | -63.182          | 5.094           | 12.356     | -55.920    | -13         | -42.920     |
| 3465.00                          | -57.490          | V              | -50.569          | 4.090           | 12.209     | -42.450    | -13         | -29.450     |
| 5197.50                          | -71.370          | V              | -63.012          | 5.094           | 12.356     | -55.750    | -13         | -42.750     |
| High Channel 20399 (1754.9MHz)   |                  |                |                  |                 |            |            |             |             |
| 3509.80                          | -59.120          | H              | -52.943          | 4.119           | 12.282     | -44.780    | -13         | -31.780     |
| 5264.70                          | -66.620          | H              | -58.023          | 5.113           | 12.476     | -50.660    | -13         | -37.660     |
| 3509.80                          | -60.600          | V              | -53.613          | 4.119           | 12.282     | -45.450    | -13         | -32.450     |
| 5264.70                          | -68.450          | V              | -60.103          | 5.113           | 12.476     | -52.740    | -13         | -39.740     |

## NB-IoT\_Band4\_QPSK\_15K\_3RB3

| Frequency<br>(MHz)               | SA<br>Reading<br>(dBm) | Ant.Pol.<br>(H/V) | SG<br>Reading<br>(dBm) | Cable<br>Loss (dB) | Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|----------------------------------|------------------------|-------------------|------------------------|--------------------|---------------|---------------|----------------|----------------|
| Low Channel 19951 (1710.1MHz)    |                        |                   |                        |                    |               |               |                |                |
| 3420.20                          | -53.070                | H                 | -46.929                | 4.064              | 12.093        | -38.900       | -13            | -25.900        |
| 5130.30                          | -71.180                | H                 | -62.480                | 5.075              | 12.235        | -55.320       | -13            | -42.320        |
| 3420.20                          | -53.470                | V                 | -46.599                | 4.064              | 12.093        | -38.570       | -13            | -25.570        |
| 5130.30                          | -71.290                | V                 | -62.910                | 5.075              | 12.235        | -55.750       | -13            | -42.750        |
| Middle Channel 20175 (1732.5MHz) |                        |                   |                        |                    |               |               |                |                |
| 3465.00                          | -50.370                | H                 | -44.229                | 4.090              | 12.209        | -36.110       | -13            | -23.110        |
| 5197.50                          | -72.380                | H                 | -63.742                | 5.094              | 12.356        | -56.480       | -13            | -43.480        |
| 3465.00                          | -50.380                | V                 | -43.459                | 4.090              | 12.209        | -35.340       | -13            | -22.340        |
| 5197.50                          | -71.630                | V                 | -63.272                | 5.094              | 12.356        | -56.010       | -13            | -43.010        |
| High Channel 20399 (1754.9MHz)   |                        |                   |                        |                    |               |               |                |                |
| 3509.80                          | -54.300                | H                 | -48.123                | 4.119              | 12.282        | -39.960       | -13            | -26.960        |
| 5264.70                          | -71.430                | H                 | -62.833                | 5.113              | 12.476        | -55.470       | -13            | -42.470        |
| 3509.80                          | -53.770                | V                 | -46.783                | 4.119              | 12.282        | -38.620       | -13            | -25.620        |
| 5264.70                          | -71.820                | V                 | -63.473                | 5.113              | 12.476        | -56.110       | -13            | -43.110        |

|              |                             |           |       |
|--------------|-----------------------------|-----------|-------|
| Product      | ME910C1-WW                  |           |       |
| Test Item    | Radiated Spurious Emissions |           |       |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5   |           |       |
| Date of Test | 2018/09/06                  | Test Site | CB4-H |

## NB-IoT\_Band5\_BPSK\_3.75K\_1RB0

| Frequency (MHz)                 | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---------------------------------|------------------|----------------|------------------|-----------------|------------|------------|-------------|-------------|
| Low Channel 20401 (824.1MHz)    |                  |                |                  |                 |            |            |             |             |
| 1648.20                         | -36.070          | H              | -34.375          | 2.790           | 8.745      | -28.420    | -13         | -15.420     |
| 2472.30                         | -59.690          | H              | -54.789          | 3.437           | 10.556     | -47.670    | -13         | -34.670     |
| 1648.20                         | -35.550          | V              | -33.335          | 2.790           | 8.745      | -27.380    | -13         | -14.380     |
| 2472.30                         | -57.150          | V              | -51.939          | 3.437           | 10.556     | -44.820    | -13         | -31.820     |
| Middle Channel 20525 (836.5MHz) |                  |                |                  |                 |            |            |             |             |
| 1673.00                         | -41.170          | H              | -39.597          | 2.812           | 8.819      | -33.590    | -13         | -20.590     |
| 2509.50                         | -63.430          | H              | -58.615          | 3.463           | 10.608     | -51.470    | -13         | -38.470     |
| 1673.00                         | -42.170          | V              | -40.027          | 2.812           | 8.819      | -34.020    | -13         | -21.020     |
| 2509.50                         | -64.090          | V              | -58.915          | 3.463           | 10.608     | -51.770    | -13         | -38.770     |
| High Channel 20649 (848.9MHz)   |                  |                |                  |                 |            |            |             |             |
| 1697.80                         | -39.940          | H              | -38.448          | 2.835           | 8.893      | -32.390    | -13         | -19.390     |
| 2546.70                         | -62.950          | H              | -58.128          | 3.489           | 10.637     | -50.980    | -13         | -37.980     |
| 1697.80                         | -41.660          | V              | -39.568          | 2.835           | 8.893      | -33.510    | -13         | -20.510     |
| 2546.70                         | -63.920          | V              | -58.728          | 3.489           | 10.637     | -51.580    | -13         | -38.580     |

## NB-IoT\_Band5\_QPSK\_15K\_3RB3

| Frequency<br>(MHz)              | SA<br>Reading<br>(dBm) | Ant.Pol.<br>(H/V) | SG<br>Reading<br>(dBm) | Cable<br>Loss (dB) | Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------------------------------|------------------------|-------------------|------------------------|--------------------|---------------|---------------|----------------|----------------|
| Low Channel 20401 (824.1MHz)    |                        |                   |                        |                    |               |               |                |                |
| 1648.20                         | -32.780                | H                 | -31.085                | 2.790              | 8.745         | -25.130       | -13            | -12.130        |
| 2472.30                         | -59.370                | H                 | -54.469                | 3.437              | 10.556        | -47.350       | -13            | -34.350        |
| 1648.20                         | -35.600                | V                 | -33.385                | 2.790              | 8.745         | -27.430       | -13            | -14.430        |
| 2472.30                         | -60.650                | V                 | -55.439                | 3.437              | 10.556        | -48.320       | -13            | -35.320        |
| Middle Channel 20525 (836.5MHz) |                        |                   |                        |                    |               |               |                |                |
| 1673.00                         | -36.240                | H                 | -34.667                | 2.812              | 8.819         | -28.660       | -13            | -15.660        |
| 2509.50                         | -65.280                | H                 | -60.465                | 3.463              | 10.608        | -53.320       | -13            | -40.320        |
| 1673.00                         | -37.490                | V                 | -35.347                | 2.812              | 8.819         | -29.340       | -13            | -16.340        |
| 2509.50                         | -68.080                | V                 | -62.905                | 3.463              | 10.608        | -55.760       | -13            | -42.760        |
| High Channel 20649 (848.9MHz)   |                        |                   |                        |                    |               |               |                |                |
| 1697.80                         | -40.110                | H                 | -38.618                | 2.835              | 8.893         | -32.560       | -13            | -19.560        |
| 2546.70                         | -67.070                | H                 | -62.248                | 3.489              | 10.637        | -55.100       | -13            | -42.100        |
| 1697.80                         | -40.980                | V                 | -38.888                | 2.835              | 8.893         | -32.830       | -13            | -19.830        |
| 2546.70                         | -66.990                | V                 | -61.798                | 3.489              | 10.637        | -54.650       | -13            | -41.650        |

|              |                                      |           |       |
|--------------|--------------------------------------|-----------|-------|
| Product      | ME910C1-WW                           |           |       |
| Test Item    | Radiated Spurious Emissions          |           |       |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22) |           |       |
| Date of Test | 2018/09/06                           | Test Site | CB4-H |

## NB-IoT\_Band26\_BPSK\_3.75K\_1RB0

| Frequency (MHz)                 | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|---------------------------------|------------------|----------------|------------------|-----------------|------------|------------|-------------|-------------|
| Low Channel 26791 (824.1MHz)    |                  |                |                  |                 |            |            |             |             |
| 1648.20                         | -38.350          | H              | -36.655          | 2.790           | 8.745      | -30.700    | -13         | -17.700     |
| 2472.30                         | -59.580          | H              | -54.679          | 3.437           | 10.556     | -47.560    | -13         | -34.560     |
| 1648.20                         | -40.520          | V              | -38.305          | 2.790           | 8.745      | -32.350    | -13         | -19.350     |
| 2472.30                         | -59.090          | V              | -53.879          | 3.437           | 10.556     | -46.760    | -13         | -33.760     |
| Middle Channel 26915 (836.5MHz) |                  |                |                  |                 |            |            |             |             |
| 1673.00                         | -39.320          | H              | -37.747          | 2.812           | 8.819      | -31.740    | -13         | -18.740     |
| 2509.50                         | -63.570          | H              | -58.755          | 3.463           | 10.608     | -51.610    | -13         | -38.610     |
| 1673.00                         | -42.900          | V              | -40.757          | 2.812           | 8.819      | -34.750    | -13         | -21.750     |
| 2509.50                         | -64.370          | V              | -59.195          | 3.463           | 10.608     | -52.050    | -13         | -39.050     |
| High Channel 27039 (848.9MHz)   |                  |                |                  |                 |            |            |             |             |
| 1697.80                         | -43.080          | H              | -41.588          | 2.835           | 8.893      | -35.530    | -13         | -22.530     |
| 2546.70                         | -63.890          | H              | -59.068          | 3.489           | 10.637     | -51.920    | -13         | -38.920     |
| 1697.80                         | -42.190          | V              | -40.098          | 2.835           | 8.893      | -34.040    | -13         | -21.040     |
| 2546.70                         | -63.260          | V              | -58.068          | 3.489           | 10.637     | -50.920    | -13         | -37.920     |

## NB-IoT\_Band26\_QPSK\_15K\_3RB3

| Frequency<br>(MHz)              | SA<br>Reading<br>(dBm) | Ant.Pol.<br>(H/V) | SG<br>Reading<br>(dBm) | Cable<br>Loss (dB) | Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|---------------------------------|------------------------|-------------------|------------------------|--------------------|---------------|---------------|----------------|----------------|
| Low Channel 26791 (824.1MHz)    |                        |                   |                        |                    |               |               |                |                |
| 1648.20                         | -38.820                | H                 | -37.125                | 2.790              | 8.745         | -31.170       | -13            | -18.170        |
| 2472.30                         | -61.830                | H                 | -56.929                | 3.437              | 10.556        | -49.810       | -13            | -36.810        |
| 1648.20                         | -42.080                | V                 | -39.865                | 2.790              | 8.745         | -33.910       | -13            | -20.910        |
| 2472.30                         | -65.970                | V                 | -60.759                | 3.437              | 10.556        | -53.640       | -13            | -40.640        |
| Middle Channel 26915 (836.5MHz) |                        |                   |                        |                    |               |               |                |                |
| 1673.00                         | -39.030                | H                 | -37.457                | 2.812              | 8.819         | -31.450       | -13            | -18.450        |
| 2509.50                         | -63.330                | H                 | -58.515                | 3.463              | 10.608        | -51.370       | -13            | -38.370        |
| 1673.00                         | -41.860                | V                 | -39.717                | 2.812              | 8.819         | -33.710       | -13            | -20.710        |
| 2509.50                         | -65.740                | V                 | -60.565                | 3.463              | 10.608        | -53.420       | -13            | -40.420        |
| High Channel 27039 (848.9MHz)   |                        |                   |                        |                    |               |               |                |                |
| 1697.80                         | -38.430                | H                 | -36.938                | 2.835              | 8.893         | -30.880       | -13            | -17.880        |
| 2546.70                         | -63.650                | H                 | -58.828                | 3.489              | 10.637        | -51.680       | -13            | -38.680        |
| 1697.80                         | -39.600                | V                 | -37.508                | 2.835              | 8.893         | -31.450       | -13            | -18.450        |
| 2546.70                         | -66.560                | V                 | -61.368                | 3.489              | 10.637        | -54.220       | -13            | -41.220        |

|              |                                      |           |       |
|--------------|--------------------------------------|-----------|-------|
| Product      | ME910C1-WW                           |           |       |
| Test Item    | Radiated Spurious Emissions          |           |       |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90) |           |       |
| Date of Test | 2018/09/07                           | Test Site | CB4-H |

## NB-IoT\_Band26\_BPSK\_3.75K\_1RB0

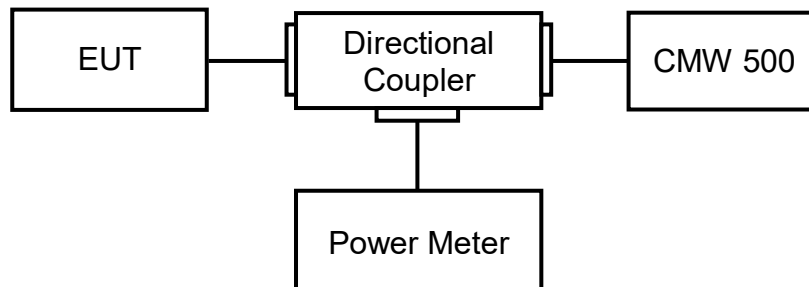
| Frequency (MHz)               | SA Reading (dBm) | Ant.Pol. (H/V) | SG Reading (dBm) | Cable Loss (dB) | Gain (dBi) | EIRP (dBm) | Limit (dBm) | Margin (dB) |
|-------------------------------|------------------|----------------|------------------|-----------------|------------|------------|-------------|-------------|
| Low Channel 26691 (814.1MHz)  |                  |                |                  |                 |            |            |             |             |
| 1628.40                       | -38.950          | H              | -37.163          | 2.772           | 8.685      | -31.250    | -13         | -18.250     |
| 2442.60                       | -63.930          | H              | -58.952          | 3.416           | 10.508     | -51.860    | -13         | -38.860     |
| 1628.40                       | -41.320          | V              | -39.053          | 2.772           | 8.685      | -33.140    | -13         | -20.140     |
| 2442.60                       | -65.630          | V              | -60.382          | 3.416           | 10.508     | -53.290    | -13         | -40.290     |
| Middle Channel 26740 (819MHz) |                  |                |                  |                 |            |            |             |             |
| 1638.00                       | -36.980          | H              | -35.243          | 2.781           | 8.714      | -29.310    | -13         | -16.310     |
| 2457.00                       | -64.480          | H              | -59.535          | 3.426           | 10.531     | -52.430    | -13         | -39.430     |
| 1638.00                       | -39.230          | V              | -36.993          | 2.781           | 8.714      | -31.060    | -13         | -18.060     |
| 2457.00                       | -65.430          | V              | -60.195          | 3.426           | 10.531     | -53.090    | -13         | -40.090     |
| High Channel 26789 (823.9MHz) |                  |                |                  |                 |            |            |             |             |
| 1647.60                       | -40.790          | H              | -39.104          | 2.789           | 8.743      | -33.150    | -13         | -20.150     |
| 2471.40                       | -65.810          | H              | -60.908          | 3.436           | 10.555     | -53.790    | -13         | -40.790     |
| 1647.60                       | -41.710          | V              | -39.504          | 2.789           | 8.743      | -33.550    | -13         | -20.550     |
| 2471.40                       | -66.050          | V              | -60.838          | 3.436           | 10.555     | -53.720    | -13         | -40.720     |

## NB-IoT\_Band26\_QPSK\_15K\_3RB3

| Frequency<br>(MHz)            | SA<br>Reading<br>(dBm) | Ant.Pol.<br>(H/V) | SG<br>Reading<br>(dBm) | Cable<br>Loss (dB) | Gain<br>(dBi) | EIRP<br>(dBm) | Limit<br>(dBm) | Margin<br>(dB) |
|-------------------------------|------------------------|-------------------|------------------------|--------------------|---------------|---------------|----------------|----------------|
| Low Channel 26691 (814.1MHz)  |                        |                   |                        |                    |               |               |                |                |
| 1628.40                       | -38.750                | H                 | -36.963                | 2.772              | 8.685         | -31.050       | -13            | -18.050        |
| 2442.60                       | -64.390                | H                 | -59.412                | 3.416              | 10.508        | -52.320       | -13            | -39.320        |
| 1628.40                       | -40.860                | V                 | -38.593                | 2.772              | 8.685         | -32.680       | -13            | -19.680        |
| 2442.60                       | -64.700                | V                 | -59.452                | 3.416              | 10.508        | -52.360       | -13            | -39.360        |
| Middle Channel 26740 (819MHz) |                        |                   |                        |                    |               |               |                |                |
| 1638.00                       | -40.850                | H                 | -39.113                | 2.781              | 8.714         | -33.180       | -13            | -20.180        |
| 2457.00                       | -65.110                | H                 | -60.165                | 3.426              | 10.531        | -53.060       | -13            | -40.060        |
| 1638.00                       | -42.440                | V                 | -40.203                | 2.781              | 8.714         | -34.270       | -13            | -21.270        |
| 2457.00                       | -65.430                | V                 | -60.195                | 3.426              | 10.531        | -53.090       | -13            | -40.090        |
| High Channel 26789 (823.9MHz) |                        |                   |                        |                    |               |               |                |                |
| 1647.60                       | -38.210                | H                 | -36.524                | 2.789              | 8.743         | -30.570       | -13            | -17.570        |
| 2471.40                       | -64.430                | H                 | -59.528                | 3.436              | 10.555        | -52.410       | -13            | -39.410        |
| 1647.60                       | -40.840                | V                 | -38.634                | 2.789              | 8.743         | -32.680       | -13            | -19.680        |
| 2471.40                       | -65.890                | V                 | -60.678                | 3.436              | 10.555        | -53.560       | -13            | -40.560        |

## 7. Spurious Emissions at Antenna Terminals

### 7.1. Test Setup



### 7.2. Test Procedure

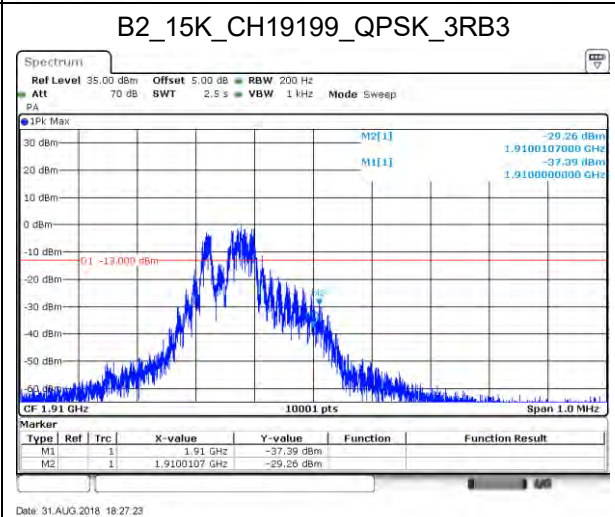
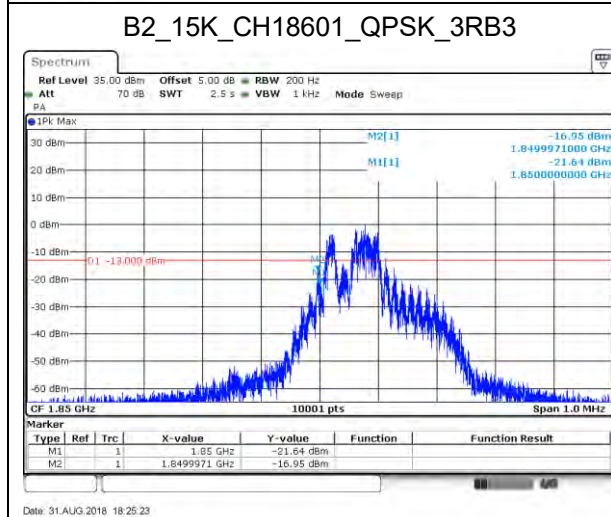
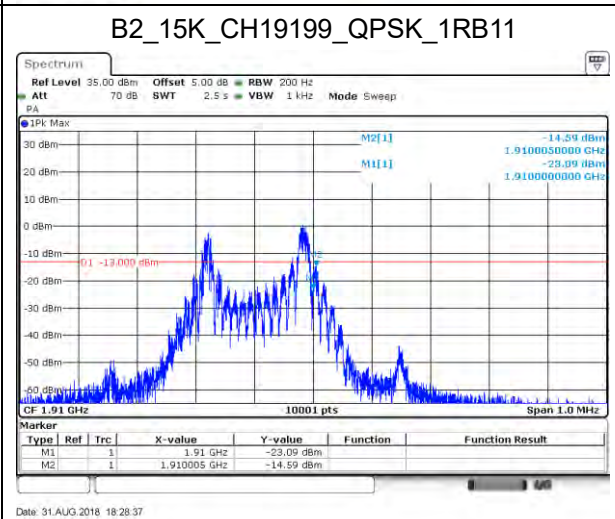
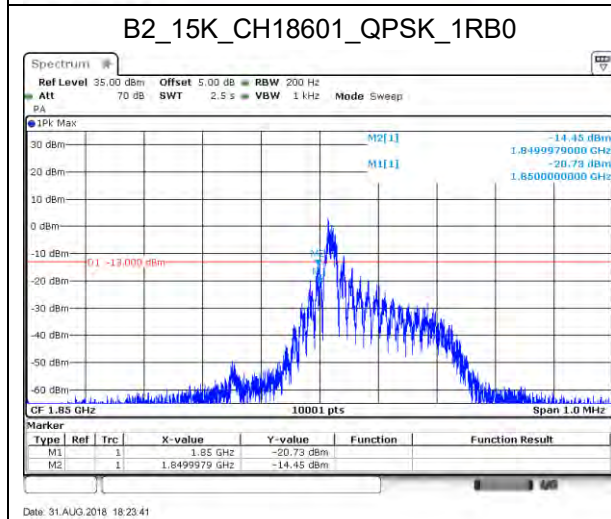
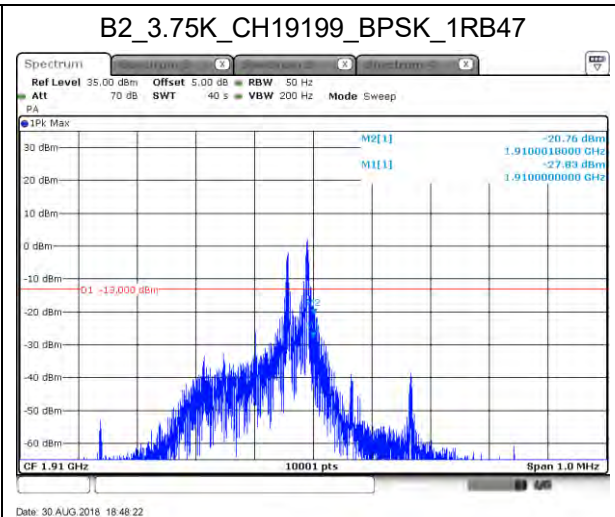
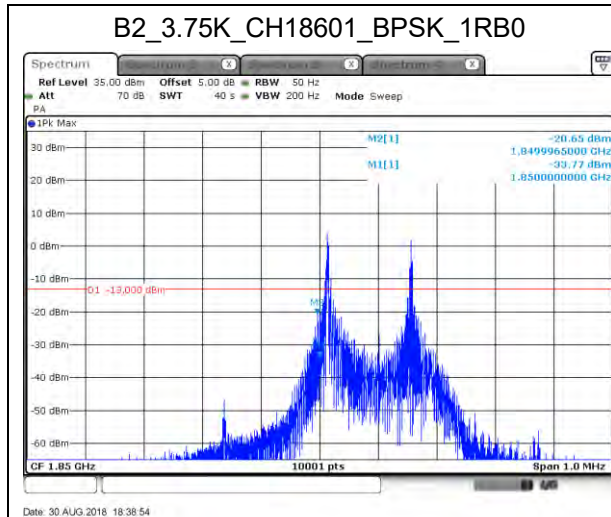
- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- EUT Communicate with CMW500, then select a channel for testing.
- Add a correction factor to the display of spectrum, and then test.
- The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

### 7.3. Test Method

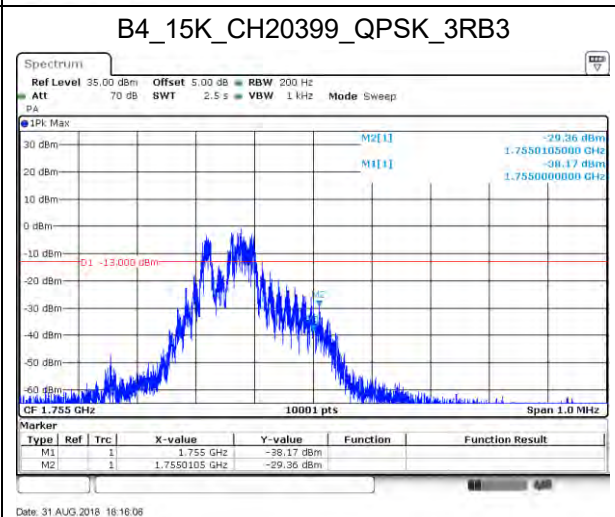
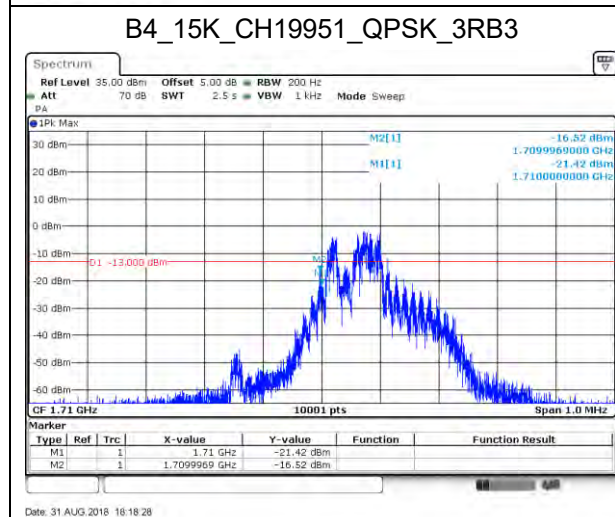
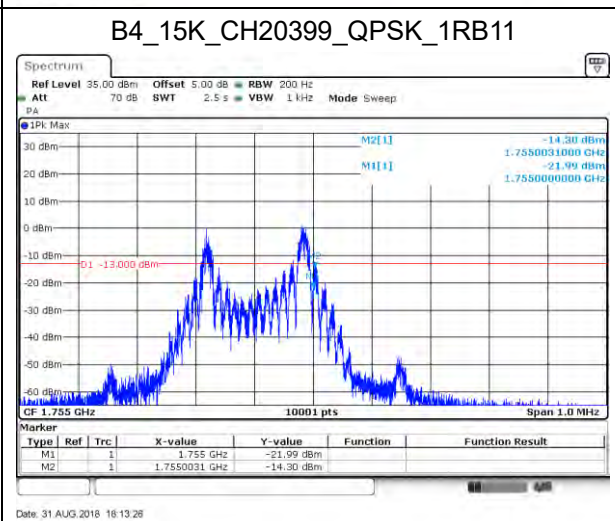
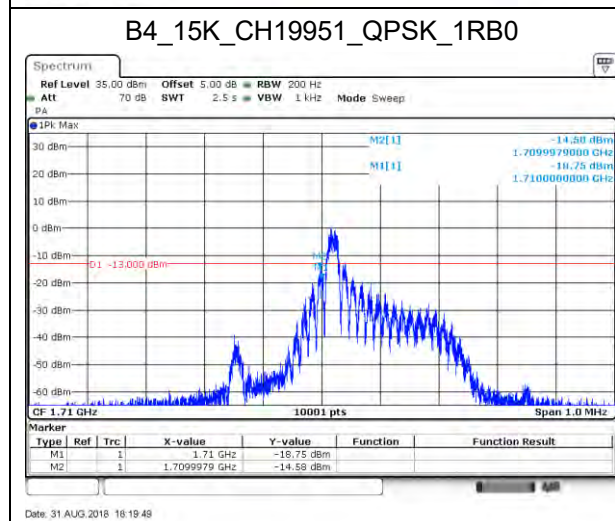
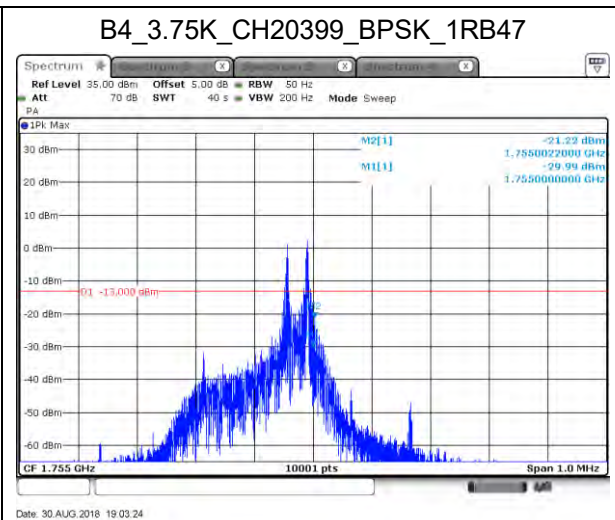
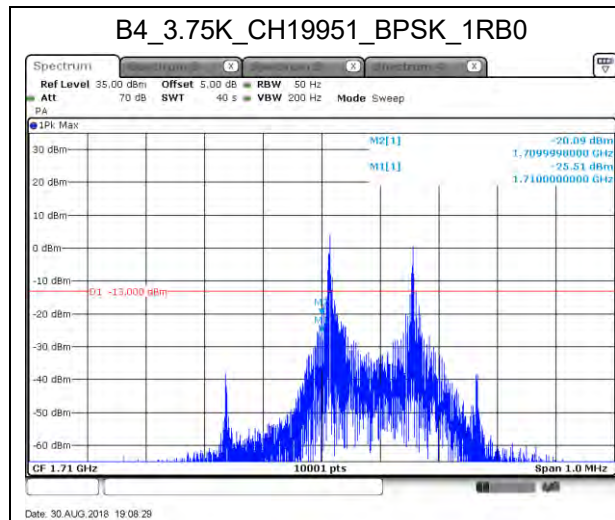
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 6.1  
ANSI C63.26-2015 Sub-clause 5.7

## 7.4. Test Result

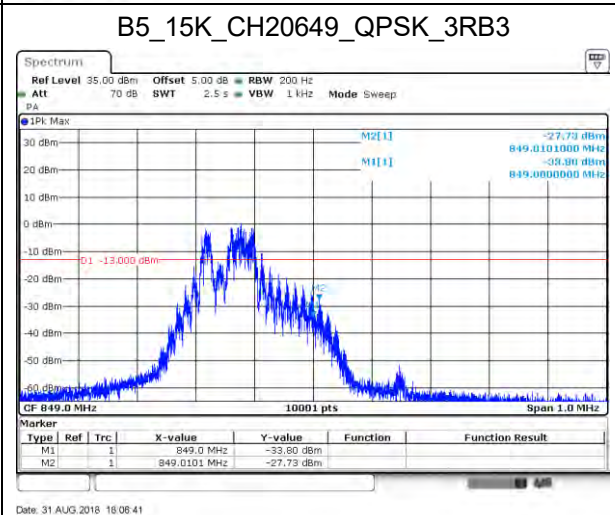
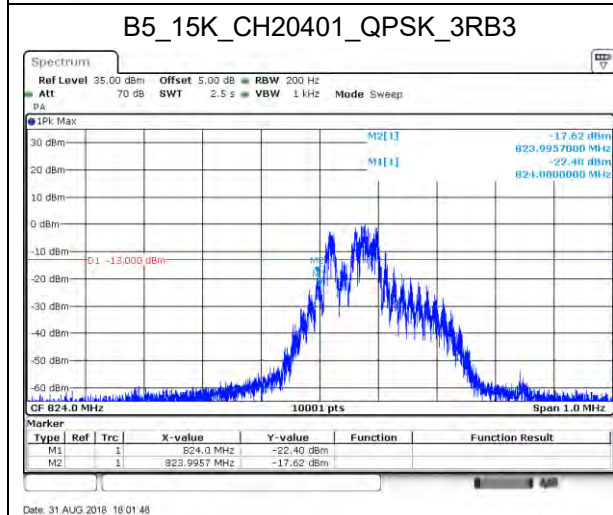
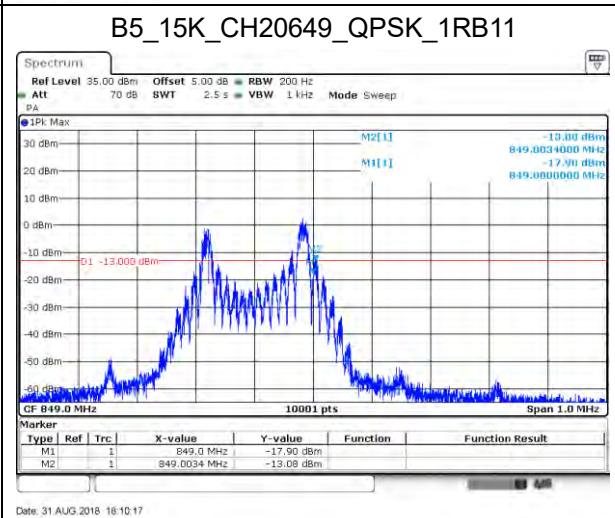
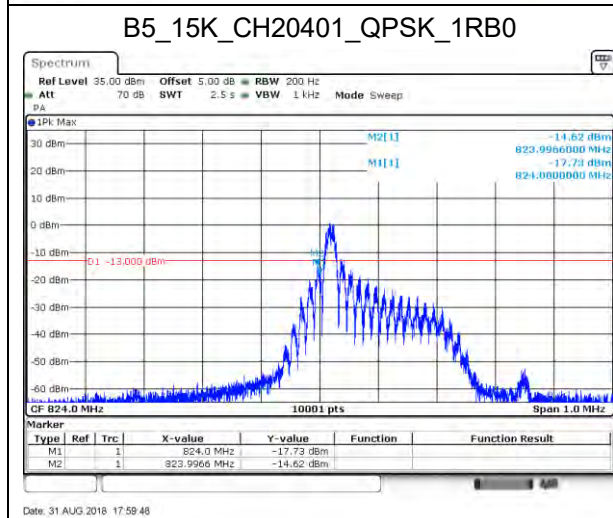
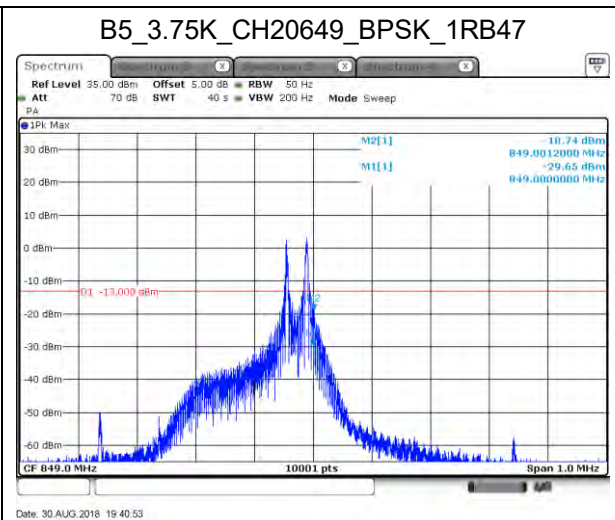
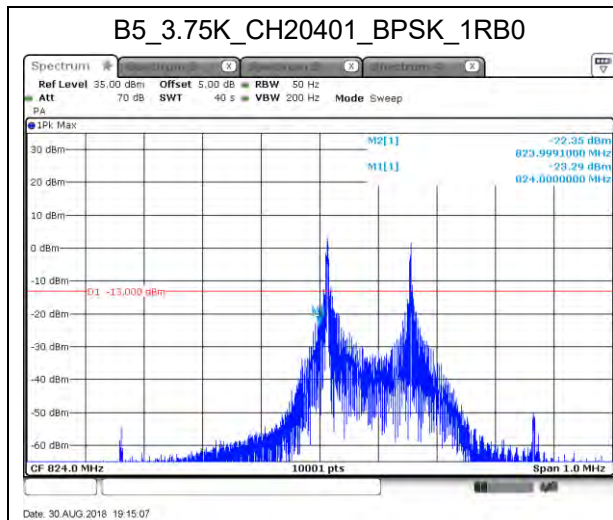
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | ME910C1-WW                              |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2               |           |        |
| Date of Test | 2018/08/30                              | Test Site | SR10-H |



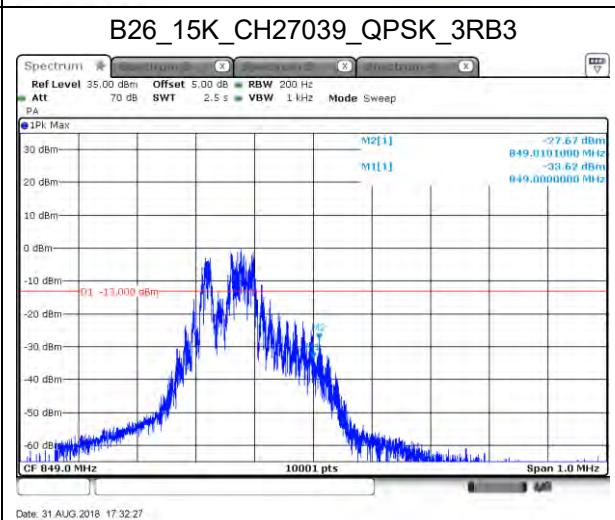
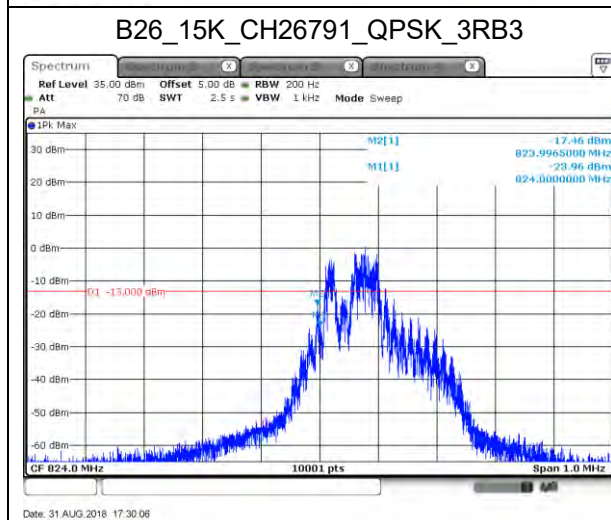
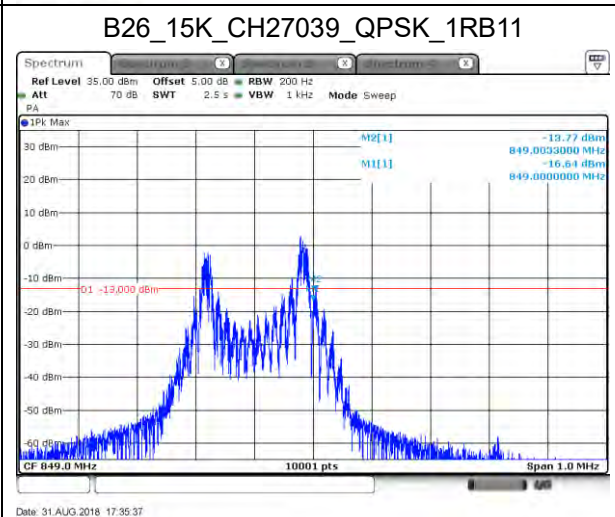
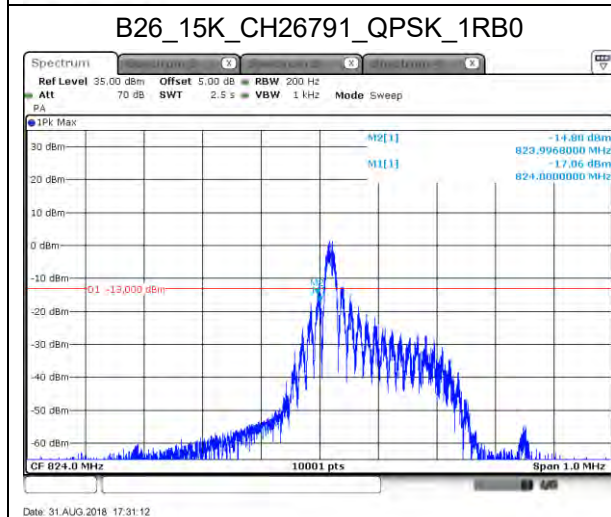
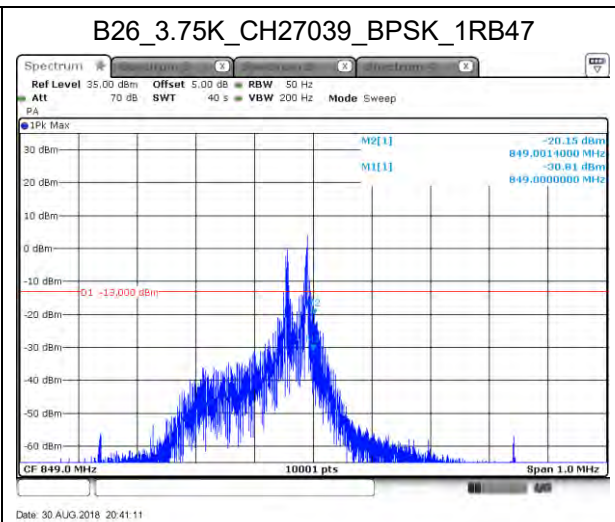
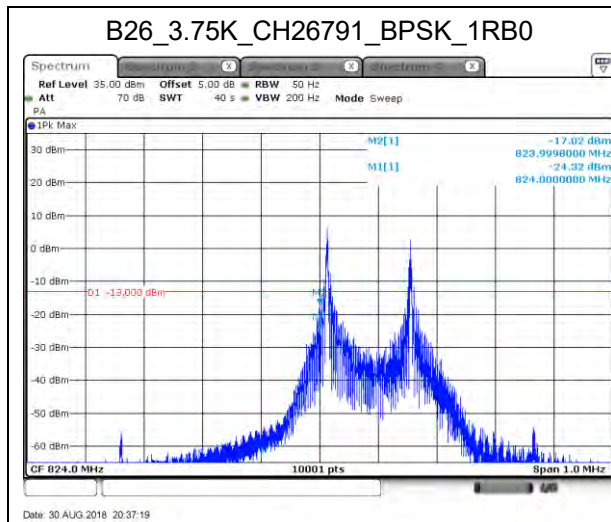
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | ME910C1-WW                              |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4               |           |        |
| Date of Test | 2018/08/30                              | Test Site | SR10-H |



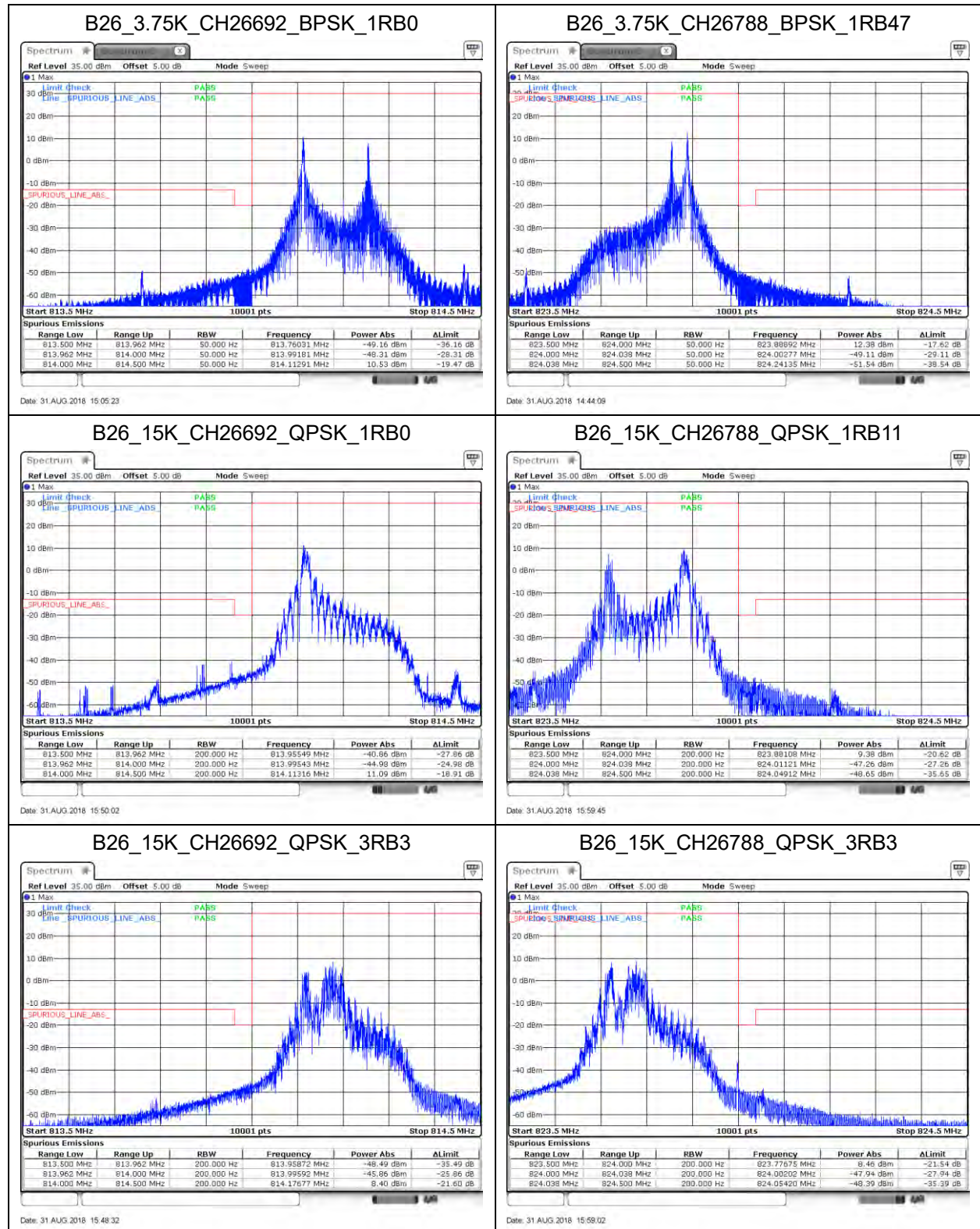
|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | ME910C1-WW                              |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5               |           |        |
| Date of Test | 2018/08/30                              | Test Site | SR10-H |



|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | ME910C1-WW                              |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22)    |           |        |
| Date of Test | 2018/08/30                              | Test Site | SR10-H |

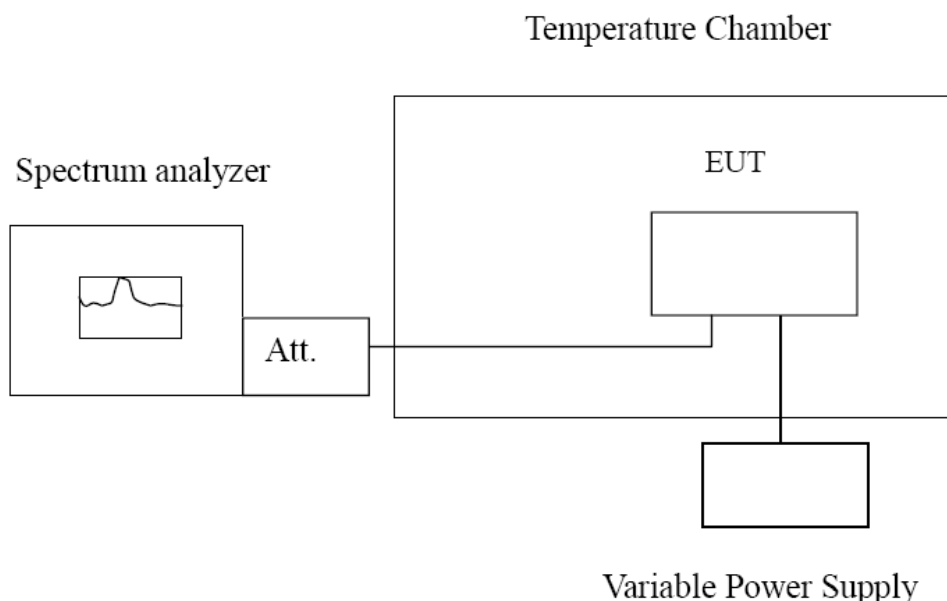


|              |                                         |           |        |
|--------------|-----------------------------------------|-----------|--------|
| Product      | ME910C1-WW                              |           |        |
| Test Item    | Spurious Emissions at Antenna Terminals |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90)    |           |        |
| Date of Test | 2018/08/30                              | Test Site | SR10-H |



## 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      | ME910C1-WW                                                 |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 1: LTE_NB-IoT_Band 2                                  |           |        |
| Date of Test | 2018/09/04                                                 | Test Site | SR10-H |

NB-IoT Band 2\_1850.1MHz

##### Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | -5                   | 0.0074                |
| 3.8           | 4                    | -0.0059               |
| 3.4           | -21                  | 0.0312                |

##### Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 21                   | -0.0312               |
| -20         | 2                    | -0.0030               |
| -10         | -2                   | 0.0029                |
| 0           | 4                    | -0.0058               |
| 10          | 8                    | -0.0119               |
| 20          | 16                   | -0.0238               |
| 30          | 3                    | -0.0045               |
| 40          | -7                   | 0.0103                |
| 50          | -23                  | 0.0331                |

## NB-IoT Band 2\_1880MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | 4                    | -0.0058               |
| 3.4           | -15                  | 0.0216                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 20                   | -0.0288               |
| -20         | -18                  | 0.0259                |
| -10         | -20                  | 0.0288                |
| 0           | 25                   | -0.0359               |
| 10          | -24                  | 0.0345                |
| 20          | 10                   | -0.0144               |
| 30          | -41                  | 0.0590                |
| 40          | 19                   | -0.0273               |
| 50          | -10                  | 0.0144                |

## NB-IoT Band 2\_1900MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | -18                  | 0.0265                |
| 3.8           | -23                  | 0.0338                |
| 3.4           | 8                    | -0.0118               |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -31                  | 0.0456                |
| -20         | -25                  | 0.0367                |
| -10         | 8                    | -0.0118               |
| 0           | 2                    | -0.0029               |
| 10          | -18                  | 0.0265                |
| 20          | -24                  | 0.0353                |
| 30          | -23                  | 0.0338                |
| 40          | 12                   | -0.0176               |
| 50          | -21                  | 0.0309                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | ME910C1-WW                                                 |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 2: LTE_NB-IoT_Band 4                                  |           |        |
| Date of Test | 2018/09/04                                                 | Test Site | SR10-H |

NB-IoT Band 4\_1720MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | -13                  | 0.0193                |
| 3.8           | 7                    | -0.0104               |
| 3.4           | 11                   | -0.0163               |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 10                   | -0.0149               |
| -20         | 3                    | -0.0045               |
| -10         | -32                  | 0.0475                |
| 0           | 18                   | -0.0267               |
| 10          | -38                  | 0.0565                |
| 20          | 21                   | -0.0312               |
| 30          | 18                   | -0.0267               |
| 40          | 16                   | -0.0238               |
| 50          | -22                  | 0.0327                |

## NB-IoT Band 4\_1732.5MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | -11                  | 0.0158                |
| 3.4           | -2                   | 0.0029                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -36                  | 0.0518                |
| -20         | -18                  | 0.0259                |
| -10         | -27                  | 0.0388                |
| 0           | 7                    | -0.0101               |
| 10          | -15                  | 0.0216                |
| 20          | -38                  | 0.0546                |
| 30          | -2                   | 0.0029                |
| 40          | 23                   | -0.0331               |
| 50          | 17                   | -0.0244               |

## NB-IoT Band 4\_1745MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | 5                    | -0.0072               |
| 3.4           | -6                   | 0.0086                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -21                  | 0.0309                |
| -20         | -6                   | 0.0088                |
| -10         | 4                    | -0.0059               |
| 0           | -6                   | 0.0088                |
| 10          | 7                    | -0.0104               |
| 20          | -18                  | 0.0267                |
| 30          | 19                   | -0.0279               |
| 40          | -7                   | 0.0103                |
| 50          | 3                    | -0.0044               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | ME910C1-WW                                                 |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 3: LTE_NB-IoT_Band 5                                  |           |        |
| Date of Test | 2018/09/04                                                 | Test Site | SR10-H |

NB-IoT Band 5\_829MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 1                    | -0.0014               |
| 3.8           | -4                   | 0.0058                |
| 3.4           | -13                  | 0.0187                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -10                  | 0.0144                |
| -20         | -30                  | 0.0431                |
| -10         | -13                  | 0.0187                |
| 0           | 14                   | -0.0201               |
| 10          | -28                  | 0.0403                |
| 20          | -10                  | 0.0144                |
| 30          | 16                   | -0.0230               |
| 40          | -25                  | 0.0359                |
| 50          | -24                  | 0.0345                |

## NB-IoT Band 5\_836.5MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | -15                  | 0.0216                |
| 3.4           | -15                  | 0.0216                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 5                    | -0.0072               |
| -20         | 13                   | -0.0187               |
| -10         | 19                   | -0.0273               |
| 0           | 14                   | -0.0201               |
| 10          | 8                    | -0.0115               |
| 20          | 8                    | -0.0115               |
| 30          | -27                  | 0.0388                |
| 40          | -6                   | 0.0088                |
| 50          | 18                   | -0.0259               |

## NB-IoT Band 5\_844MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 15                   | -0.0223               |
| 3.8           | 16                   | -0.0238               |
| 3.4           | -18                  | 0.0267                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -36                  | 0.0518                |
| -20         | -32                  | 0.0460                |
| -10         | 23                   | -0.0331               |
| 0           | 24                   | -0.0345               |
| 10          | -30                  | 0.0431                |
| 20          | -25                  | 0.0359                |
| 30          | -7                   | 0.0101                |
| 40          | -37                  | 0.0532                |
| 50          | 2                    | -0.0029               |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | ME910C1-WW                                                 |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 22)                       |           |        |
| Date of Test | 2018/09/04                                                 | Test Site | SR10-H |

NB-IoT Band 26\_824.1MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | -5                   | 0.0072                |
| 3.4           | -41                  | 0.0590                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -2                   | 0.0029                |
| -20         | 11                   | -0.0162               |
| -10         | -41                  | 0.0602                |
| 0           | -3                   | 0.0044                |
| 10          | -6                   | 0.0088                |
| 20          | -26                  | 0.0382                |
| 30          | 9                    | -0.0132               |
| 40          | 4                    | -0.0059               |
| 50          | 16                   | -0.0235               |

NB-IoT Band 26\_836.5MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 3                    | -0.0045               |
| 3.8           | 3                    | -0.0045               |
| 3.4           | 5                    | -0.0074               |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 25                   | -0.0371               |
| -20         | -22                  | 0.0327                |
| -10         | -33                  | 0.0490                |
| 0           | -11                  | 0.0163                |
| 10          | 25                   | -0.0371               |
| 20          | 14                   | -0.0208               |
| 30          | -34                  | 0.0505                |
| 40          | 19                   | -0.0282               |
| 50          | 22                   | -0.0327               |

## NB-IoT Band 26\_848.9MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 7                    | -0.0103               |
| 3.8           | 7                    | -0.0103               |
| 3.4           | -32                  | 0.0470                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 24                   | -0.0353               |
| -20         | -4                   | 0.0059                |
| -10         | 11                   | -0.0162               |
| 0           | -26                  | 0.0382                |
| 10          | 12                   | -0.0176               |
| 20          | 24                   | -0.0353               |
| 30          | -20                  | 0.0294                |
| 40          | 4                    | -0.0059               |
| 50          | -5                   | 0.0073                |

|              |                                                            |           |        |
|--------------|------------------------------------------------------------|-----------|--------|
| Product      | ME910C1-WW                                                 |           |        |
| Test Item    | Frequency Stability Under Temperature & Voltage Variations |           |        |
| Test Mode    | Mode 4: LTE_NB-IoT_Band 26 (Part 90)                       |           |        |
| Date of Test | 2018/09/04                                                 | Test Site | SR10-H |

NB-IoT Band 26\_814.2MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 19                   | -0.0282               |
| 3.8           | 19                   | -0.0282               |
| 3.4           | -7                   | 0.0104                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | -20                  | 0.0294                |
| -20         | -34                  | 0.0500                |
| -10         | -10                  | 0.0147                |
| 0           | -33                  | 0.0485                |
| 10          | -2                   | 0.0029                |
| 20          | 7                    | -0.0103               |
| 30          | 7                    | -0.0103               |
| 40          | -24                  | 0.0353                |
| 50          | -41                  | 0.0602                |

## NB-IoT Band 26\_819MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 5                    | -0.0072               |
| 3.8           | -10                  | 0.0144                |
| 3.4           | -15                  | 0.0216                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 3                    | -0.0043               |
| -20         | -39                  | 0.0561                |
| -10         | 11                   | -0.0158               |
| 0           | -33                  | 0.0474                |
| 10          | 21                   | -0.0302               |
| 20          | 2                    | -0.0029               |
| 30          | -7                   | 0.0101                |
| 40          | -31                  | 0.0446                |
| 50          | -15                  | 0.0216                |

## NB-IoT Band 26\_823.8MHz

## Voltage

| Voltage (VDC) | Frequency Error (Hz) | Frequency Error (ppm) |
|---------------|----------------------|-----------------------|
| 4.2           | 18                   | -0.0259               |
| 3.8           | -6                   | 0.0088                |
| 3.4           | -3                   | 0.0043                |

## Temperature

| Temperature | Frequency Error (Hz) | Frequency Error (ppm) |
|-------------|----------------------|-----------------------|
| -30         | 21                   | -0.0302               |
| -20         | 23                   | -0.0331               |
| -10         | 7                    | -0.0101               |
| 0           | 15                   | -0.0216               |
| 10          | -24                  | 0.0345                |
| 20          | 9                    | -0.0129               |
| 30          | 8                    | -0.0115               |
| 40          | -29                  | 0.0417                |
| 50          | 21                   | -0.0302               |