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## TEST REPORT FOR RF TESTING

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Report No.: SRTC2018-9004(F)-18122402(C)

Product Name: LTE/WCDMA/GSM (GPRS) Multi-Mode

Digital Mobile Phone

Product Model: ZTE Blade V10 Vita

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

Specification: FCC CFR47 PART 2, 22H, 24E, 27L

FCC ID: SRQ-ZTEV10VITA

The State Radio\_monitoring\_center Testing Center (SRTC)

15th Building, No.30, Shixing Street, Shijingshan District,

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## 1. GENERAL INFORMATION

### 1.1 Notes of the test report

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The test results relate only to individual items of the samples which have been tested.

The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

### 1.2 Information about the testing laboratory

|                    |  |
|--------------------|--|
| Company:           | The State Radio_monitoring_center Testing Center (SRTC)              |
| Address:           | 15th Building, No.30 Shixing Street, Shijingshan District, P.R.China |
| City:              | Beijing  |
| Country or Region: | P.R.China  |
| Contacted person:  | Liu Jia  |
| Tel:               | +86 10 57996183  |
| Fax:               | +86 10 57996388  |
| Email:             | liujiarf@srhc.org.cn   |

### 1.3 Applicant's details

|                    |   |
|--------------------|---|
| Company:           | ZTE Corporation   |
| Address:           | ZTE Plaza, Keji Road South,Hi-Tech, Industrial Park, Nanshan District,Shenzhen, P.R.China |
| City:              | Shenzhen  |
| Country or Region: | P.R.China   |
| Contacted person:  | Gong Yu   |
| Tel:               | 86-21-68895397  |
| Fax:               | ---   |
| Email:             | gongyu@zte.com.cn   |

### 1.4 Manufacturer's details

|                    |   |
|--------------------|---|
| Company:           | ZTE Corporation   |
| Address:           | ZTE Plaza, Keji Road South,Hi-Tech, Industrial Park, Nanshan District,Shenzhen, P.R.China |
| City:              | Shenzhen  |
| Country or Region: | P.R.China   |
| Contacted person:  | Gong Yu   |
| Tel:               | 86-21-68895397  |
| Fax:               | ---   |
| Email:             | gongyu@zte.com.cn   |

## 1.5 Test Environment

|   |            |
|---|------------|
| Date of Receipt of test sample at SRTC: | 2018-12-24 |
| Testing Start Date:                     | 2018-12-24 |
| Testing End Date:                       | 2019-02-11 |

| Environmental Data: | Temperature (°C) | Humidity (%) |
|---------------------|------------------|--------------|
| Ambient             | 25               | 30           |
| Maximum Extreme     | 55               | ---          |
| Minimum Extreme     | -10              | ---          |

|  |      |
|--|------|
| Normal Supply Voltage (V d.c.):          | 3.85 |
| Maximum Extreme Supply Voltage (V d.c.): | 4.40 |
| Minimum Extreme Supply Voltage (V d.c.): | 3.60 |

## 2 DESCRIPTION OF THE EQUIPMENT UNDER TEST

### 2.1 Final Equipment Build Status

|                 |  |
|-----------------|--|
| Frequency Range | LTE Band 2: Tx:1850~1910MHz Rx:1930~1990MHz<br>LTE Band 4: Tx:1710~1755MHz Rx:2110~2155MHz<br>LTE Band 5: Tx:824~849 MHz Rx:869 ~894MHz<br>LTE Band 7: Tx:2500~2570MHz Rx:2620~2690MHz |
| Modulation Type | QPSK<br>16QAM<br>64QAM   |
| Duplex Mode     | FDD  |
| Antenna Type    | Fixed Internal Antenna   |
| Power Supply    | Battery/AC adapter   |
| HW Version      | ujyA   |
| SW Version      | TEL_MX_ZTE_Blade_V10_VitaV1.0  |
| IMEI            | 868486040002380  |

## 2.2 Summary table

| FCC Rule Part | Frequency Range(MHz) | EIRP/ERP (W) | Frequency Tolerance (ppm) | Emission Designator | Emission Bandwidth (MHz) | Measured 26dBC Bandwidth (MHz) | Communication Type |
|---------------|----------------------|--------------|---------------------------|---------------------|--------------------------|--------------------------------|--------------------|
| LTE BAND2     |                      |              |                           |                     |                          |                                |                    |
| 24E           | 1850.7-1909.3        | 0.056        | 0.010                     | 1M11G7D             | 1.4M                     | 1.307                          | QPSK               |
|               | 1850.7-1909.3        | 0.059        | 0.010                     | 1M11D7W             | 1.4M                     | 1.307                          | 16QAM              |
|               | 1850.7-1909.3        | 0.055        | 0.010                     | 1M11W7D             | 1.4M                     | 1.307                          | 64QAM              |
|               | 1851.5-1908.5        | 0.072        | 0.006                     | 2M77G7D             | 3M                       | 3.243                          | QPSK               |
|               | 1851.5-1908.5        | 0.056        | 0.006                     | 2M79D7W             | 3M                       | 3.243                          | 16QAM              |
|               | 1851.5-1908.5        | 0.056        | 0.006                     | 2M79W7D             | 3M                       | 3.243                          | 64QAM              |
|               | 1852.5-1907.5        | 0.072        | 0.008                     | 4M56G7D             | 5M                       | 5.275                          | QPSK               |
|               | 1852.5-1907.5        | 0.056        | 0.008                     | 4M56D7W             | 5M                       | 5.318                          | 16QAM              |
|               | 1852.5-1907.5        | 0.056        | 0.008                     | 4M56W7D             | 5M                       | 5.318                          | 64QAM              |
|               | 1855-1905            | 0.072        | 0.005                     | 9M2G7D              | 10M                      | 10.289                         | QPSK               |
|               | 1855-1905            | 0.065        | 0.005                     | 9M2D7W              | 10M                      | 10.289                         | 16QAM              |
|               | 1855-1905            | 0.058        | 0.005                     | 9M2W7D              | 10M                      | 10.289                         | 64QAM              |
|               | 1857.5-1902.5        | 0.066        | 0.006                     | 13M5G7D             | 15M                      | 15.239                         | QPSK               |
|               | 1857.5-1902.5        | 0.060        | 0.006                     | 13M5D7W             | 15M                      | 15.239                         | 16QAM              |
|               | 1857.5-1902.5        | 0.056        | 0.006                     | 13M5W7D             | 15M                      | 15.239                         | 64QAM              |
|               | 1860-1900            | 0.072        | 0.006                     | 18M0G7D             | 20M                      | 20.145                         | QPSK               |
| 1860-1900     | 0.065                | 0.006        | 18M0D7W                   | 20M                 | 20.145                   | 16QAM                          |                    |
| 1860-1900     | 0.055                | 0.006        | 18M0W7D                   | 20M                 | 20.145                   | 64QAM                          |                    |
| LTE BAND4     |                      |              |                           |                     |                          |                                |                    |
| 27L           | 1710.7-1754.3        | 0.046        | 0.009                     | 1M11G7D             | 1.4M                     | 1.336                          | QPSK               |
|               | 1710.7-1754.3        | 0.042        | 0.009                     | 1M11D7W             | 1.4M                     | 1.355                          | 16QAM              |
|               | 1710.7-1754.3        | 0.040        | 0.009                     | 1M11W7D             | 1.4M                     | 1.355                          | 64QAM              |
|               | 1711.5-1753.5        | 0.049        | 0.007                     | 2M80G7D             | 3M                       | 3.165                          | QPSK               |
|               | 1711.5-1753.5        | 0.041        | 0.007                     | 2M80D7W             | 3M                       | 3.399                          | 16QAM              |
|               | 1711.5-1753.5        | 0.038        | 0.007                     | 2M80W7D             | 3M                       | 3.399                          | 64QAM              |
|               | 1712.5-1752.5        | 0.050        | 0.006                     | 4M54G7D             | 5M                       | 5.275                          | QPSK               |
|               | 1712.5-1752.5        | 0.040        | 0.006                     | 4M54D7W             | 5M                       | 5.297                          | 16QAM              |
|               | 1712.5-1752.5        | 0.037        | 0.006                     | 4M54W7D             | 5M                       | 5.297                          | 64QAM              |
|               | 1715-1750            | 0.050        | 0.006                     | 9M1G7D              | 10M                      | 10.376                         | QPSK               |
|               | 1715-1750            | 0.047        | 0.006                     | 9M1D7W              | 10M                      | 10.203                         | 16QAM              |
|               | 1715-1750            | 0.044        | 0.006                     | 9M1W7D              | 10M                      | 10.203                         | 64QAM              |
|               | 1717.5-1747.5        | 0.049        | 0.006                     | 13M5G7D             | 15M                      | 15.174                         | QPSK               |
|               | 1717.5-1747.5        | 0.049        | 0.006                     | 13M5D7W             | 15M                      | 15.109                         | 16QAM              |
|               | 1717.5-1747.5        | 0.045        | 0.006                     | 13M5W7D             | 15M                      | 15.109                         | 64QAM              |
|               | 1720-1745            | 0.051        | 0.006                     | 18M0G7D             | 20M                      | 20.058                         | QPSK               |
| 1720-1745     | 0.048                | 0.006        | 18M1D7W                   | 20M                 | 19.884                   | 16QAM                          |                    |
| 1720-1745     | 0.045                | 0.006        | 18M1W7D                   | 20M                 | 19.884                   | 64QAM                          |                    |

| LTE BAND5 |               |        |        |         |        |        |       |
|-----------|---------------|--------|--------|---------|--------|--------|-------|
| 22H       | 824.7-848.3   | 0.023  | -0.031 | 1M11G7D | 1.4M   | 1.307  | QPSK  |
|           | 824.7-848.3   | 0.012  | -0.031 | 1M11D7W | 1.4M   | 1.386  | 16QAM |
|           | 824.7-848.3   | 0.011  | -0.031 | 1M11W7D | 1.4M   | 1.386  | 64QAM |
|           | 825.5-847.5   | 0.016  | -0.007 | 2M79G7D | 3M     | 3.243  | QPSK  |
|           | 825.5-847.5   | 0.013  | -0.007 | 2M77D7W | 3M     | 3.347  | 16QAM |
|           | 825.5-847.5   | 0.012  | -0.007 | 2M77W7D | 3M     | 3.347  | 64QAM |
|           | 826.5-846.5   | 0.016  | -0.019 | 4M54G7D | 5M     | 5.284  | QPSK  |
|           | 826.5-846.5   | 0.013  | -0.019 | 4M54D7W | 5M     | 5.318  | 16QAM |
|           | 826.5-846.5   | 0.011  | -0.019 | 4M54W7D | 5M     | 5.318  | 64QAM |
|           | 829-844       | 0.024  | -0.009 | 9M1G7D  | 10M    | 10.376 | QPSK  |
|           | 829-844       | 0.015  | -0.009 | 9M1D7W  | 10M    | 10.289 | 16QAM |
| 829-844   | 0.015         | -0.009 | 9M1W7D | 10M     | 10.289 | 64QAM  |       |
| LTE BAND7 |               |        |        |         |        |        |       |
| 27M       | 2502.5-2567.5 | 0.031  | 0.005  | 4M54G7D | 5M     | 5.188  | QPSK  |
|           | 2502.5-2567.5 | 0.025  | 0.005  | 4M54D7W | 5M     | 5.275  | 16QAM |
|           | 2502.5-2567.5 | 0.024  | 0.005  | 4M54W7D | 5M     | 5.275  | 64QAM |
|           | 2505-2565     | 0.030  | 0.002  | 9M1G7D  | 10M    | 10.333 | QPSK  |
|           | 2505-2565     | 0.029  | 0.002  | 9M1D7W  | 10M    | 10.333 | 16QAM |
|           | 2505-2565     | 0.027  | 0.002  | 9M1W7D  | 10M    | 10.333 | 64QAM |
|           | 2507.5-2562.5 | 0.031  | -0.004 | 13M5G7D | 15M    | 15.174 | QPSK  |
|           | 2507.5-2562.5 | 0.030  | -0.004 | 13M5D7W | 15M    | 15.109 | 16QAM |
|           | 2507.5-2562.5 | 0.026  | -0.004 | 13M5W7D | 15M    | 15.109 | 64QAM |
|           | 2510-2560     | 0.040  | 0.004  | 18M0G7D | 20M    | 19.884 | QPSK  |
|           | 2510-2560     | 0.032  | 0.004  | 18M0D7W | 20M    | 19.711 | 16QAM |
|           | 2510-2560     | 0.028  | 0.004  | 18M0W7D | 20M    | 19.711 | 64QAM |

### 2.3 Support Equipment

The following support equipment was used to exercise the EUT during testing:

|               |                                   |
|---------------|-----------------------------------|
| Equipment     | Battery                           |
| Manufacturer  | Zhongshan Tianmao Battery Co.,LTD |
| Model Number  | Li3931T44P8h806139                |
| Serial Number | ---                               |

### **3 REFERENCE SPECIFICATION**

The tests documented in this report were performed in accordance with ANSI C63.26:2015, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, KDB 971168 D02 v01, Part 22, Part 24, Part 27.

| Specification      | Version          | Title  |
|--------------------|------------------|--|
| ANSI C63.26:2015   | 11 December 2015 | American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services            |
| FCC CFR 47 Part 2  | 2018             | FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS                                |
| FCC CFR 47 Part 22 | 2018             | PUBLIC MOBILE SERVICES   |
| FCC CFR 47 Part 24 | 2018             | PERSONAL COMMUNICATIONS SERVICES   |
| FCC CFR 47 Part 27 | 2018             | MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES   |
| KDB 971168 D01     | v03r01           | MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS                                      |
| KDB 971168 D02     | v02r01           | MISCELLANEOUS AND BASIC REVIEW AND APPROVAL ITEMS FOR TRANSMITTING EQUIPMENT USED IN LICENSED RADIO SERVICES |
| ANSI C63.26        | 2015             | American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services            |
| KDB 971168 D01     | April 9, 2018    | MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS                                      |



## **4 KEY TO NOTES AND RESULT CODES**

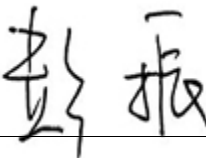

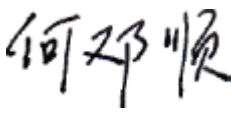
The following are the definition of the test result.

| Code | Meaning  |
|------|--|
| PASS | Test result shows that the requirements of the relevant specification have been met.     |
| FAIL | Test result shows that the requirements of the relevant specification have not been met. |
| N/T  | Test case is not tested.   |
| NTNV | Nominal voltage, Normal Temperature  |
| HV   | High voltage, Normal Temperature   |
| LV   | Low voltage, Normal Temperature  |
| HTHV | high voltage, High Temperature   |
| LTHV | High voltage, Low Temperature  |
| HTLV | Low voltage, High Temperature  |
| LTLV | Low voltage, Low Temperature   |

## 5 RESULT SUMMARY

The following table summarizes the test results obtained.

| No. | Test case   | FCC reference                         | Verdict |
|-----|---|---------------------------------------|---------|
| 1   | RF Power Output   | 2.1046                                | Pass    |
| 2   | Effective Radiated Power and Effective Isotropic Radiated Power | 22.913, 24.232, 27.50                 | Pass    |
| 3   | Occupied Bandwidth  | 2.1049                                | Pass    |
| 4   | Peak-Average Ratio  | 22.913, 24.232, 27.50                 | Pass    |
| 5   | Emission Bandwidth  | 2.1049                                | Pass    |
| 6   | Spurious Emissions at antenna terminals                         | 2.1051, 22.901, 22.917, 24.238, 27.53 | Pass    |
| 7   | Band Edges Compliance   | 2.1051, 22.359, 22.917, 24.238, 27.53 | Pass    |
| 8   | Frequency Stability   | 2.1055, 22.355, 24.235, 27.54         | Pass    |
| 9   | Radiated Spurious Emissions                                     | 2.1053, 22.917, 24.238, 27.53         | Pass    |

|  |   |
|--|---|
| This Test Report Is Issued by:<br>Mr. Peng Zhen<br> | Checked by:<br>Mr. Li Bin<br> |
| Tested by:<br>Mr. He Dengshun<br>                   | Issued date:<br><br>20190211  |

## 6 TEST RESULT

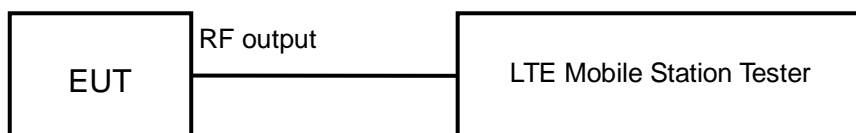
### 6.1 RF Power Output

Rule Part(s)  
 FCC: 2.1046

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. Then the test data can be read at the tester screen. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.

|        |        |
|--------|--------|
| Limits | ≤30dBm |
|--------|--------|

Test result:

The test results are shown in Appendix A.

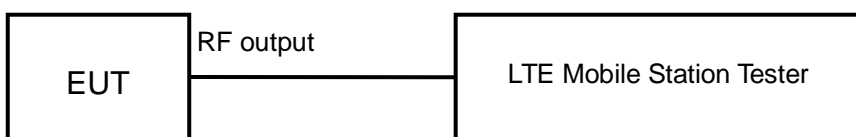
**6.2 Effective Radiated Power**

Rule Part(s)  
 FCC: 22.913, 24.232, 27.50

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 20.8°C      | 36.5%             | 100.9kPa |

Test setup:



**ERP/EIRP LIMIT**

This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15 \text{ (dB)}$ .

22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7Watts.

24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.

27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.

27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP

27.50 (h) The following power limits shall apply in the BRS and EBS: (2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Test result:

The test results are shown in Appendix A.

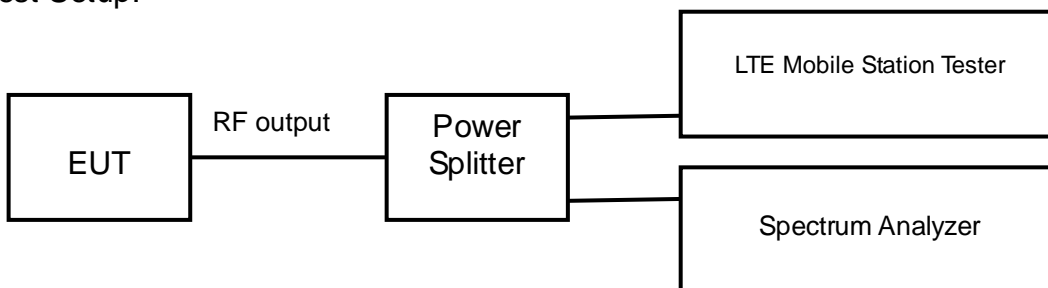
### 6.3 Occupied Bandwidth

Rule Part(s)  
 FCC: 2.1049

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The occupied bandwidth is measured using spectrum analyzer. RBW is set to 30kHz on spectrum analyzer. The bandwidth of 99% power can be read on spectrum analyzer.

The measurement will be conducted at three channels (Bottom, middle and top channels of LTE band)

Limits: No specific occupied bandwidth requirements in part 2.1049

Test result:

The test results are shown in Appendix A.

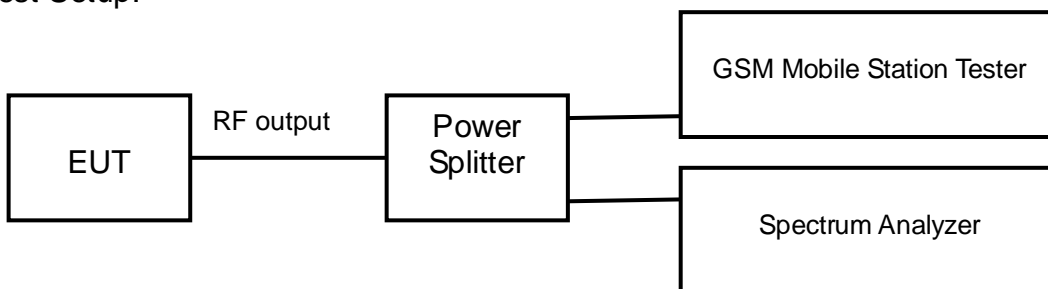
### 6.4 Emission Bandwidth

Rule Part(s)  
 FCC: 2.1049

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The emission bandwidth is measured using spectrum analyzer. RBW is set to 3 kHz on spectrum analyzer. The bandwidth of -26dB transmitter power can be read on spectrum analyzer.

Limits: No specific emission bandwidth requirements in part 22.917(b)

Test result:

The test results are shown in Appendix A.

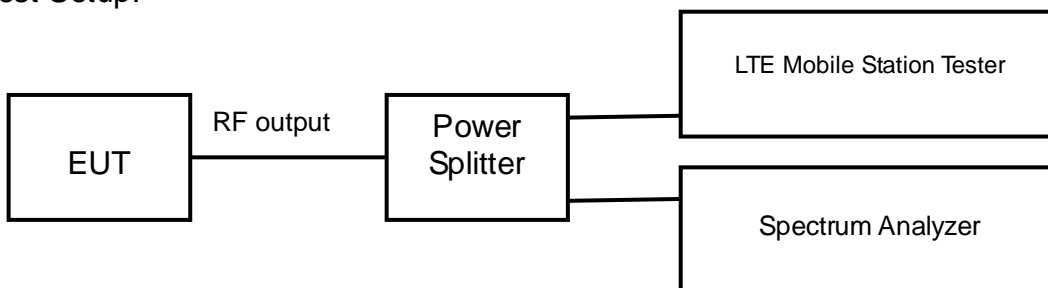
### 6.5 Peak-Average Ratio

Rule Part(s)  
FCC: 22.913, 24.232, 27.50

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The Peak-Average Ratio is measured using spectrum analyzer. RBW is set to 30 kHz on spectrum analyzer. The Peak-Average Ratio can be read on spectrum analyzer.

|        |       |
|--------|-------|
| Limits | ≤13dB |
|--------|-------|

Test result:

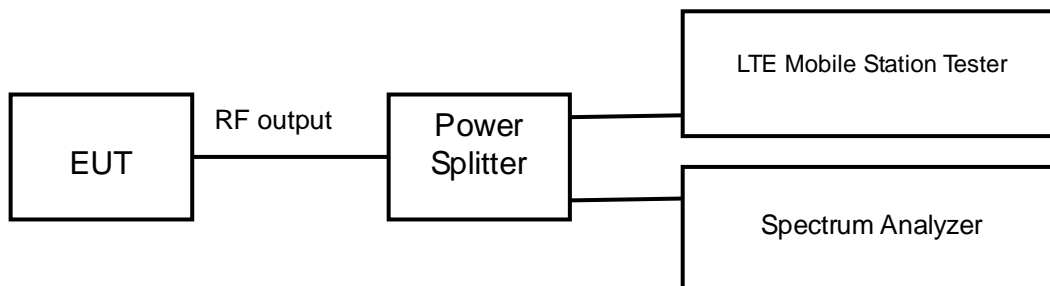
The test results are shown in Appendix A.

## 6.6 Spurious Emissions at antenna terminal

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 30MHz to 20GHz (higher than the 10th harmonic of the carrier). The peak detector is used and RBW is set to 1MHz on spectrum analyzer.

|        |         |
|--------|---------|
| Limits | ≤-13dBm |
|--------|---------|

Test result:

The test results are shown in Appendix A.



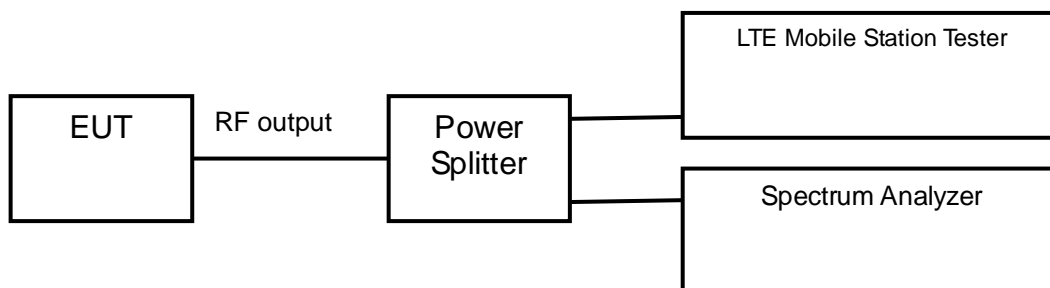
## 6.7 Band Edges Compliance

Rule Part(s)  
 FCC: 2.1051, 22.359, 22.917, 24.238, 27.53

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer. The peak detector is used and RBW is set to at least 1% of the emission bandwidth on spectrum analyzer.

|        |                      |
|--------|----------------------|
| Limits | $\leq -13\text{dBm}$ |
|--------|----------------------|

Test result:  
 The test results are shown in Appendix A.

## 6.8 Frequency Stability

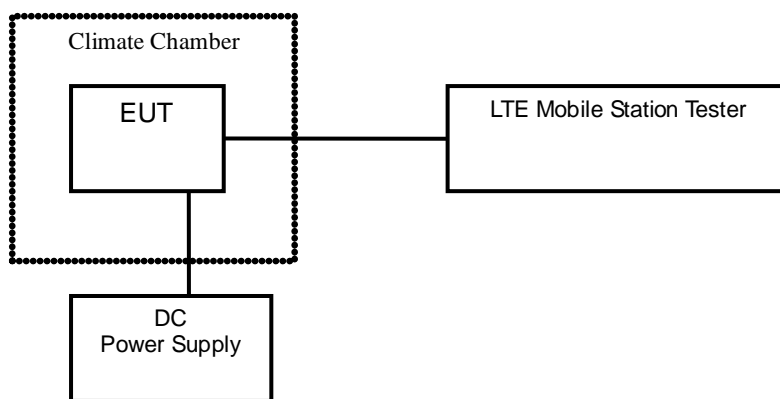
Rule Part(s)

FCC: 2.1055, 22.355, 24.235, 27.54

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 23°C        | 42%               | 101.9kPa |

Test setup:



Test Procedure:

A radio link shall be established between EUT and Tester. The tester will sample the transmitter RF output signal and measure its frequency. The temperature inside the climate chamber is varied from -30 to +50°C in 10°C step size, and also the DC power supply voltage to the EUT is varied from LV to HV. The measurement will be conducted at three channels No18100, No18300 and No18500 (Bottom, middle and top channels of LTE band I).

Limits: No specific frequency stability requirements in part 2.1055 and part 22.355.

Test result:

The test results are shown in Appendix A.

## 6.9 Radiated Spurious Emissions

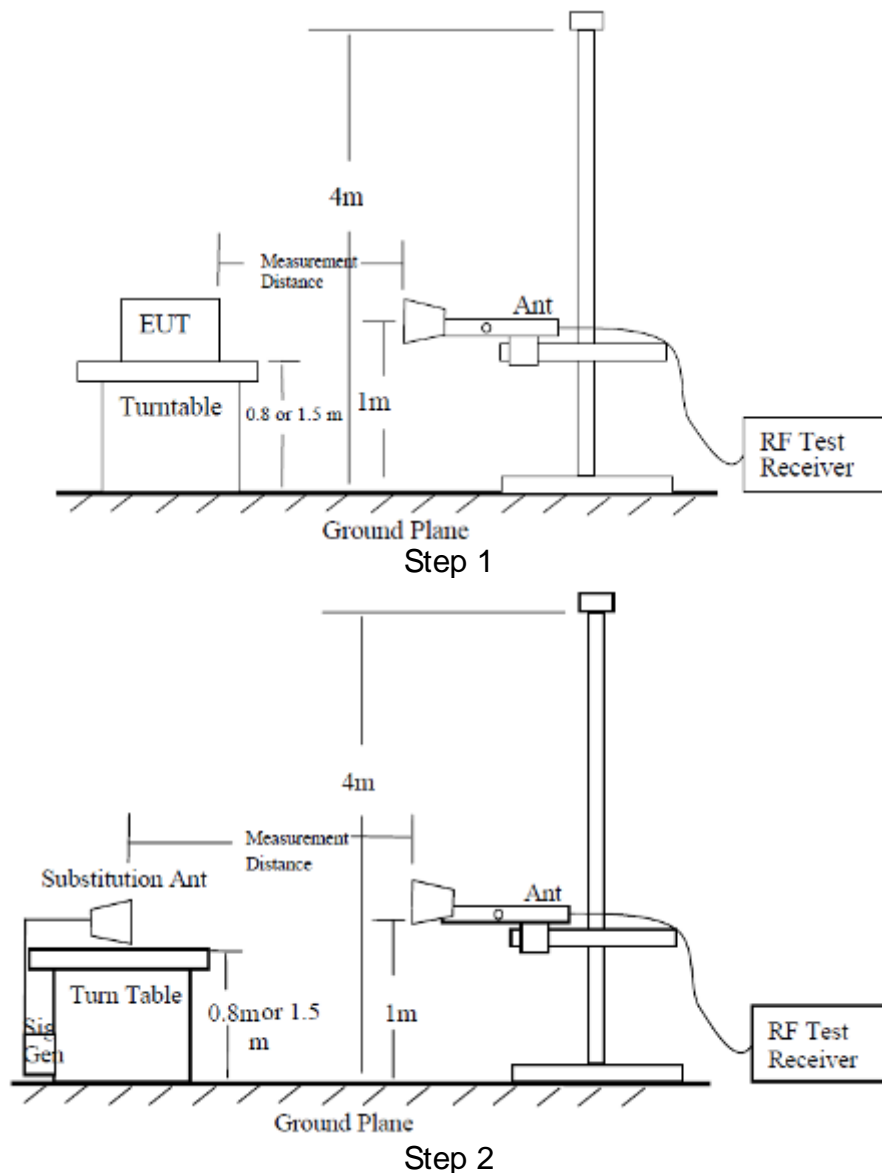
Rule Part(s)

FCC: 2.1053, 22.917, 24.238, 27.53

Ambient condition:

| Temperature | Relative humidity | Pressure |
|-------------|-------------------|----------|
| 20.8°C      | 36.5%             | 100.9kPa |

Test Setup:



Test procedure:

The measurements procedures in TIA-603C-2004 are used.

The spectrum was scanned from 30MHz to the 10th harmonic of the highest frequency generated within the equipment.

Step 1:

The measurement is carried out in the fully anechoic chamber. EUT was placed on a 2.4 meter high non-conductive table at a 3 meter test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 2.4m and varies in certain range to find the maximum power value. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer or receiver. The spectrum analyzer scans from 30MHz to 20GHz (higher than the 10th harmonic of the carrier). The peak detector is used and RBW is set to 1MHz on spectrum analyzer. Then the antenna height and turn table rotation is adjusted till the maximum power value is founded on spectrum analyzer or receiver. A notch filter is necessary in the band near to the carrier frequency. A high pass filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.

Step 2:

A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.

A power ( $P_{mea}$ ) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded ( $P_r$ ). The power of signal source ( $P_{mea}$ ) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

A "reference path loss" should be calculated after test. The attenuation of "reference path loss" is the cable loss between the Signal Source with the Substitution Antenna ( $P_{ca}$ ) and the Substitution Antenna Gain ( $G_a$ ).

Calculation procedure:

The data of cable loss and antenna gain has been calibrated in full testing frequency range before the testing.

The power of the Radiated Spurious Emissions is calculated by adding the cable loss and antenna gain. The basic equation with a sample calculation is as followed:

$$\text{Power(EIRP)} = P_{mea} + P_{ca} + G_a$$

This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP - 2.15 \text{ (dB)}$ .

Assumed the power of signal source record is -20dBm. A cable loss of -30dB, and an antenna gain of 11dB are added.

$$P = P_{mea} + P_{ca} + G_a = (-20\text{dBm}) + (-30\text{dB}) + (11\text{dB}) = -39\text{dBm}$$

Test result:

The test results are shown in Appendix B.

## 7 MEASUREMENT UNCERTAINTIES

| Items                 | Uncertainty    |         |
|-----------------------|----------------|---------|
| RF Power Output       | 0.6 dB         |         |
| Occupied Bandwidth    | 3 kHz          |         |
| Spurious Emissions    | 30MHz~1GHz     | 2.83 dB |
|                       | 1GHz~12.75GHz  | 2.50 dB |
|                       | 12.75GHz~25GHz | 2.75 dB |
| Band Edges Compliance | 1.2dB          |         |
| Frequency Stability   | 4 Hz           |         |

## **8 TEST EQUIPMENTS**

| No. | Name/Model                                     | Manufacturer | S/N          | Calibration Date | Calibration Due Date |
|-----|--|--------------|--------------|------------------|----------------------|
| 1   | MT8820C<br>Mobile Station Tester               | Anritsu      | 6201300660   | 2018.8.20        | 2019.8.19            |
| 2   | FSV40<br>Spectrum Analyzer                     | R&S          | 101065       | 2018.8.20        | 2019.8.19            |
| 2   | N9020A<br>Spectrum Analyzer                    | Agilent      | MY48010771   | 2017.08.20       | 2018.08.19           |
| 3   | 6007<br>Power Divider                          | Weinschel    | 6007-GJ-1    | 2018.08.20       | 2019.08.19           |
| 4   | DC Power Supply E3645A                         | Agilent      | MY40000741   | 2018.3.01        | 2019.2.28            |
| 5   | Temperature chamber SH241                      | ESPEC        | 92013758     | 2018.8.20        | 2019.8.19            |
| 6   | 12.65m×8.03m×7.50m<br>Fully-Anechoic Chamber   | FRANKONIA    | ----         | ----             | ----                 |
| 7   | 23.18m×16.88m×9.60m<br>Semi-Anechoic Chamber   | FRANKONIA    | ---          | ----             | ----                 |
| 8   | Turn table Diameter:1m                         | FRANKONIA    | ----         | ----             | ----                 |
| 9   | Turn table Diameter:5m                         | FRANKONIA    | ----         | ----             | ----                 |
| 10  | Antenna master FAC(MA4.0)                      | MATURO       | ----         | ----             | ----                 |
| 11  | Antenna master SAC(MA4.0)                      | MATURO       | ----         | ----             | ----                 |
| 12  | 9.080m×5.255m×3.525m<br>Shielding room         | FRANKONIA    | ----         | ----             | ----                 |
| 13  | HF 907 Double-Ridged<br>Waveguide Horn Antenna | R&S          | 100512       | 2018.08.20       | 2019.08.19           |
| 14  | HF 907 Double-Ridged<br>Waveguide Horn Antenna | R&S          | 100513       | 2018.08.20       | 2019.08.19           |
| 15  | HL562 Ultra log antenna                        | R&S          | 100016       | 2018.08.20       | 2019.08.19           |
| 16  | 3160-09 Receive antenna                        | SCHWARZ-BECK | 002058-002   | 2018.08.20       | 2019.08.19           |
| 17  | ESI 40 EMI test receiver                       | R&S          | 100015       | 2018.08.20       | 2019.08.19           |
| 18  | ESCS30 EMI test receiver                       | R&S          | 100029       | 2018.08.20       | 2019.08.19           |
| 19  | HL562 Receive antenna                          | R&S          | 100167       | 2018.08.20       | 2019.08.19           |
| 20  | ENV216 AMN                                     | R&S          | 3560.6550.12 | 2018.08.20       | 2019.08.19           |

### **APPENDIX A – TEST DATA OF CONDUCTED EMISSION**

Please refer to the attachment.

### **APPENDIX B – TEST DATA OF RADIATED EMISSION**

Please refer to the attachment.

## APPENDIX A – TEST DATA OF CONDUCTED EMISSION

### LTE Band 2

#### 1 RF Power Output

Test result:

Antenna Gain: -5.7dBi

| Modulation | Carrier frequency (MHz) | UL Channel | BW  | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|-----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1850.7                  | 18607      | 1.4 | 1       | 0         | 22.8                    | 17.1              |
|            |                         |            |     | 1       | 5         | 22.9                    | 17.2              |
|            |                         |            |     | 3       | 2         | 22.8                    | 17.1              |
|            |                         |            |     | 6       | 0         | 22.3                    | 16.6              |
|            | 1880                    | 18900      |     | 1       | 0         | 23.0                    | 17.3              |
|            |                         |            |     | 1       | 5         | 23.1                    | 17.4              |
|            |                         |            |     | 3       | 2         | 23.2                    | 17.5              |
|            |                         |            |     | 6       | 0         | 22.6                    | 16.9              |
|            | 1909.3                  | 19193      |     | 1       | 0         | 23.0                    | 17.3              |
|            |                         |            |     | 1       | 5         | 22.9                    | 17.2              |
|            |                         |            |     | 3       | 2         | 23.0                    | 17.3              |
|            |                         |            |     | 6       | 0         | 22.4                    | 16.7              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW  | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|-----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1850.7                  | 18607      | 1.4 | 1       | 0         | 22.8                    | 17.1              |
|            |                         |            |     | 1       | 5         | 22.8                    | 17.1              |
|            |                         |            |     | 3       | 2         | 22.5                    | 16.8              |
|            |                         |            |     | 6       | 0         | 21.6                    | 15.9              |
|            | 1880                    | 18900      |     | 1       | 0         | 23.4                    | 17.7              |
|            |                         |            |     | 1       | 5         | 23.3                    | 17.6              |
|            |                         |            |     | 3       | 2         | 22.5                    | 16.8              |
|            |                         |            |     | 6       | 0         | 21.8                    | 16.1              |
|            | 1909.3                  | 19193      |     | 1       | 0         | 22.1                    | 16.4              |
|            |                         |            |     | 1       | 5         | 22.1                    | 16.4              |
|            |                         |            |     | 3       | 2         | 22.3                    | 16.6              |
|            |                         |            |     | 6       | 0         | 21.8                    | 16.1              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW  | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|-----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1850.7                  | 18607      | 1.4 | 1       | 0         | 22.6                    | 16.9              |
|            |                         |            |     | 1       | 5         | 22.4                    | 16.7              |
|            |                         |            |     | 3       | 2         | 22.2                    | 16.5              |
|            |                         |            |     | 6       | 0         | 21.4                    | 15.7              |
|            | 1880                    | 18900      |     | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |     | 1       | 5         | 23.1                    | 17.4              |
|            |                         |            |     | 3       | 2         | 22.3                    | 16.6              |
|            |                         |            |     | 6       | 0         | 21.6                    | 15.9              |
|            | 1909.3                  | 19193      |     | 1       | 0         | 22.1                    | 16.4              |
|            |                         |            |     | 1       | 5         | 22.1                    | 16.4              |
|            |                         |            |     | 3       | 2         | 22.3                    | 16.6              |
|            |                         |            |     | 6       | 0         | 21.4                    | 15.7              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1851.5                  | 18615      | 3  | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 14        | 22.8                    | 17.1              |
|            |                         |            |    | 8       | 4         | 22.4                    | 16.7              |
|            |                         |            |    | 15      | 0         | 22.4                    | 16.7              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.8                    | 18.1              |
|            |                         |            |    | 1       | 14        | 23.9                    | 18.2              |
|            |                         |            |    | 8       | 4         | 22.8                    | 17.1              |
|            |                         |            |    | 15      | 0         | 22.9                    | 17.2              |
|            | 1908.5                  | 19185      |    | 1       | 0         | 24.3                    | 18.6              |
|            |                         |            |    | 1       | 14        | 24.3                    | 18.6              |
|            |                         |            |    | 8       | 4         | 23.3                    | 17.6              |
|            |                         |            |    | 15      | 0         | 23.3                    | 17.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1851.5                  | 18615      | 3  | 1       | 0         | 22.7                    | 17.0              |
|            |                         |            |    | 1       | 14        | 22.6                    | 16.9              |
|            |                         |            |    | 8       | 4         | 21.6                    | 15.9              |
|            |                         |            |    | 15      | 0         | 21.6                    | 15.9              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 14        | 23.2                    | 17.5              |
|            |                         |            |    | 8       | 4         | 22.0                    | 16.3              |
|            |                         |            |    | 15      | 0         | 22.0                    | 16.3              |
|            | 1908.5                  | 19185      |    | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 14        | 22.9                    | 17.2              |
|            |                         |            |    | 8       | 4         | 22.4                    | 16.7              |
|            |                         |            |    | 15      | 0         | 22.4                    | 16.7              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1851.5                  | 18615      | 3  | 1       | 0         | 22.4                    | 16.7              |
|            |                         |            |    | 1       | 14        | 22.3                    | 16.6              |
|            |                         |            |    | 8       | 4         | 21.3                    | 15.6              |
|            |                         |            |    | 15      | 0         | 21.2                    | 15.5              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 14        | 23.1                    | 17.4              |
|            |                         |            |    | 8       | 4         | 22.0                    | 16.3              |
|            |                         |            |    | 15      | 0         | 22.0                    | 16.3              |
|            | 1908.5                  | 19185      |    | 1       | 0         | 22.4                    | 16.7              |
|            |                         |            |    | 1       | 14        | 22.4                    | 16.7              |
|            |                         |            |    | 8       | 4         | 22.1                    | 16.4              |
|            |                         |            |    | 15      | 0         | 22.2                    | 16.5              |



| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1852.5                  | 18625      | 5  | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 24        | 22.8                    | 17.1              |
|            |                         |            |    | 12      | 6         | 22.4                    | 16.7              |
|            |                         |            |    | 25      | 0         | 22.4                    | 16.7              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.8                    | 18.1              |
|            |                         |            |    | 1       | 24        | 23.9                    | 18.2              |
|            |                         |            |    | 12      | 6         | 22.8                    | 17.1              |
|            |                         |            |    | 25      | 0         | 22.9                    | 17.2              |
|            | 1907.5                  | 19175      |    | 1       | 0         | 24.3                    | 18.6              |
|            |                         |            |    | 1       | 24        | 24.3                    | 18.6              |
|            |                         |            |    | 12      | 6         | 23.3                    | 17.6              |
|            |                         |            |    | 25      | 0         | 23.3                    | 17.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1852.5                  | 18625      | 5  | 1       | 0         | 22.7                    | 17.0              |
|            |                         |            |    | 1       | 24        | 22.6                    | 16.9              |
|            |                         |            |    | 12      | 6         | 21.6                    | 15.9              |
|            |                         |            |    | 25      | 0         | 21.6                    | 15.9              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 24        | 23.2                    | 17.5              |
|            |                         |            |    | 12      | 6         | 22.0                    | 16.3              |
|            |                         |            |    | 25      | 0         | 22.0                    | 16.3              |
|            | 1907.5                  | 19175      |    | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 24        | 22.9                    | 17.2              |
|            |                         |            |    | 12      | 6         | 22.4                    | 16.7              |
|            |                         |            |    | 25      | 0         | 22.4                    | 16.7              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1852.5                  | 18625      | 5  | 1       | 0         | 22.5                    | 16.8              |
|            |                         |            |    | 1       | 24        | 22.2                    | 16.5              |
|            |                         |            |    | 12      | 6         | 21.6                    | 15.9              |
|            |                         |            |    | 25      | 0         | 21.3                    | 15.6              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 24        | 23.1                    | 17.4              |
|            |                         |            |    | 12      | 6         | 22.0                    | 16.3              |
|            |                         |            |    | 25      | 0         | 22.0                    | 16.3              |
|            | 1907.5                  | 19175      |    | 1       | 0         | 22.4                    | 16.7              |
|            |                         |            |    | 1       | 24        | 22.6                    | 16.9              |
|            |                         |            |    | 12      | 6         | 22.4                    | 16.7              |
|            |                         |            |    | 25      | 0         | 22.2                    | 16.5              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1855                    | 18650      | 10 | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |    | 1       | 49        | 22.9                    | 17.2              |
|            |                         |            |    | 24      | 12        | 22.4                    | 16.7              |
|            |                         |            |    | 50      | 0         | 22.6                    | 16.9              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.8                    | 18.1              |
|            |                         |            |    | 1       | 49        | 22.7                    | 17.0              |
|            |                         |            |    | 24      | 12        | 22.9                    | 17.2              |
|            |                         |            |    | 50      | 0         | 23.0                    | 17.3              |
|            | 1905                    | 19150      |    | 1       | 0         | 24.2                    | 18.5              |
|            |                         |            |    | 1       | 49        | 24.3                    | 18.6              |
|            |                         |            |    | 24      | 12        | 23.2                    | 17.5              |
|            |                         |            |    | 50      | 0         | 23.2                    | 17.5              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1855                    | 18650      | 10 | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 49        | 22.8                    | 17.1              |
|            |                         |            |    | 24      | 12        | 21.6                    | 15.9              |
|            |                         |            |    | 50      | 0         | 21.6                    | 15.9              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.8                    | 18.1              |
|            |                         |            |    | 1       | 49        | 23.7                    | 18.0              |
|            |                         |            |    | 24      | 12        | 22.0                    | 16.3              |
|            |                         |            |    | 50      | 0         | 22.0                    | 16.3              |
|            | 1905                    | 19150      |    | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |    | 1       | 49        | 23.1                    | 17.4              |
|            |                         |            |    | 24      | 12        | 22.3                    | 16.6              |
|            |                         |            |    | 50      | 0         | 22.3                    | 16.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1855                    | 18650      | 10 | 1       | 0         | 22.4                    | 16.7              |
|            |                         |            |    | 1       | 49        | 22.8                    | 17.1              |
|            |                         |            |    | 24      | 12        | 21.5                    | 15.8              |
|            |                         |            |    | 50      | 0         | 21.3                    | 15.6              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 49        | 23.3                    | 17.6              |
|            |                         |            |    | 24      | 12        | 22.0                    | 16.3              |
|            |                         |            |    | 50      | 0         | 22.0                    | 16.3              |
|            | 1905                    | 19150      |    | 1       | 0         | 23.0                    | 17.3              |
|            |                         |            |    | 1       | 49        | 23.1                    | 17.4              |
|            |                         |            |    | 24      | 12        | 22.1                    | 16.4              |
|            |                         |            |    | 50      | 0         | 22.1                    | 16.4              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1857.5                  | 18675      | 15 | 1       | 0         | 23.7                    | 18.0              |
|            |                         |            |    | 1       | 74        | 23.9                    | 18.2              |
|            |                         |            |    | 40      | 18        | 23.0                    | 17.3              |
|            |                         |            |    | 75      | 0         | 22.9                    | 17.2              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.6                    | 17.9              |
|            |                         |            |    | 1       | 74        | 23.8                    | 18.1              |
|            |                         |            |    | 40      | 18        | 23.2                    | 17.5              |
|            |                         |            |    | 75      | 0         | 23.2                    | 17.5              |
|            | 1902.5                  | 19125      |    | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 74        | 22.8                    | 17.1              |
|            |                         |            |    | 40      | 18        | 22.5                    | 16.8              |
|            |                         |            |    | 75      | 0         | 22.3                    | 16.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1857.5                  | 18675      | 15 | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 74        | 23.2                    | 17.5              |
|            |                         |            |    | 40      | 18        | 22.1                    | 16.4              |
|            |                         |            |    | 75      | 0         | 22.1                    | 16.4              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.5                    | 17.8              |
|            |                         |            |    | 1       | 74        | 23.2                    | 17.5              |
|            |                         |            |    | 40      | 18        | 22.4                    | 16.7              |
|            |                         |            |    | 75      | 0         | 22.3                    | 16.6              |
|            | 1902.5                  | 19125      |    | 1       | 0         | 22.9                    | 17.2              |
|            |                         |            |    | 1       | 74        | 22.9                    | 17.2              |
|            |                         |            |    | 40      | 18        | 21.5                    | 15.8              |
|            |                         |            |    | 75      | 0         | 21.5                    | 15.8              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1857.5                  | 18675      | 15 | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |    | 1       | 74        | 23.1                    | 17.4              |
|            |                         |            |    | 40      | 18        | 22.1                    | 16.4              |
|            |                         |            |    | 75      | 0         | 22.1                    | 16.4              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 74        | 23.0                    | 17.3              |
|            |                         |            |    | 40      | 18        | 22.2                    | 16.5              |
|            |                         |            |    | 75      | 0         | 22.1                    | 16.4              |
|            | 1902.5                  | 19125      |    | 1       | 0         | 22.3                    | 16.6              |
|            |                         |            |    | 1       | 74        | 22.4                    | 16.7              |
|            |                         |            |    | 40      | 18        | 21.1                    | 15.4              |
|            |                         |            |    | 75      | 0         | 21.3                    | 15.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| QPSK       | 1860                    | 18700      | 20 | 1       | 0         | 23.2                    | 17.5              |
|            |                         |            |    | 1       | 99        | 22.9                    | 17.2              |
|            |                         |            |    | 50      | 25        | 22.5                    | 16.8              |
|            |                         |            |    | 100     | 0         | 22.6                    | 16.9              |
|            | 1880                    | 18900      |    | 1       | 0         | 24.0                    | 18.3              |
|            |                         |            |    | 1       | 99        | 24.1                    | 18.4              |
|            |                         |            |    | 50      | 25        | 23.0                    | 17.3              |
|            |                         |            |    | 100     | 0         | 22.9                    | 17.2              |
|            | 1900                    | 19100      |    | 1       | 0         | 24.3                    | 18.6              |
|            |                         |            |    | 1       | 99        | 24.2                    | 18.5              |
|            |                         |            |    | 50      | 25        | 23.1                    | 17.4              |
|            |                         |            |    | 100     | 0         | 23.2                    | 17.5              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 16QAM      | 1860                    | 18700      | 20 | 1       | 0         | 22.7                    | 17.0              |
|            |                         |            |    | 1       | 99        | 22.5                    | 16.8              |
|            |                         |            |    | 50      | 25        | 21.6                    | 15.9              |
|            |                         |            |    | 100     | 0         | 21.5                    | 15.8              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |    | 1       | 99        | 23.1                    | 17.4              |
|            |                         |            |    | 50      | 25        | 22.1                    | 16.4              |
|            |                         |            |    | 100     | 0         | 22.0                    | 16.3              |
|            | 1900                    | 19100      |    | 1       | 0         | 23.7                    | 18.0              |
|            |                         |            |    | 1       | 99        | 23.8                    | 18.1              |
|            |                         |            |    | 50      | 25        | 22.3                    | 16.6              |
|            |                         |            |    | 100     | 0         | 22.3                    | 16.6              |

| Modulation | Carrier frequency (MHz) | UL Channel | BW | RB Size | RB Offset | Conducted Average (dBm) | EIRP Average(dBm) |
|------------|-------------------------|------------|----|---------|-----------|-------------------------|-------------------|
| 64QAM      | 1860                    | 18700      | 20 | 1       | 0         | 22.3                    | 16.6              |
|            |                         |            |    | 1       | 99        | 22.5                    | 16.8              |
|            |                         |            |    | 50      | 25        | 21.2                    | 15.5              |
|            |                         |            |    | 100     | 0         | 21.5                    | 15.8              |
|            | 1880                    | 18900      |    | 1       | 0         | 23.0                    | 17.3              |
|            |                         |            |    | 1       | 99        | 23.1                    | 17.4              |
|            |                         |            |    | 50      | 25        | 22.1                    | 16.4              |
|            |                         |            |    | 100     | 0         | 22.0                    | 16.3              |
|            | 1900                    | 19100      |    | 1       | 0         | 23.1                    | 17.4              |
|            |                         |            |    | 1       | 99        | 23.1                    | 17.4              |
|            |                         |            |    | 50      | 25        | 22.3                    | 16.6              |
|            |                         |            |    | 100     | 0         | 22.1                    | 16.4              |

## 2 Occupied Bandwidth

### Test result

| Band | Carrier frequency (MHz) | Channel(Low) | BW  | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|-----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |     |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1850.7                  | 18607        | 1.4 | 6       | 0         | 1.100                        | Fig.1 | 1.112  | Fig.2 | 1.112  | Fig.3 |

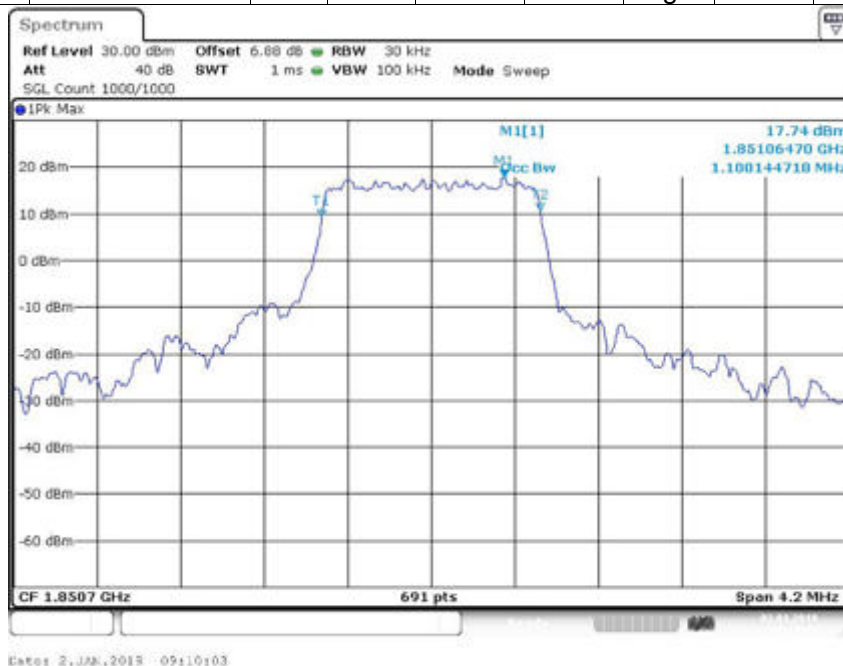


Fig.1

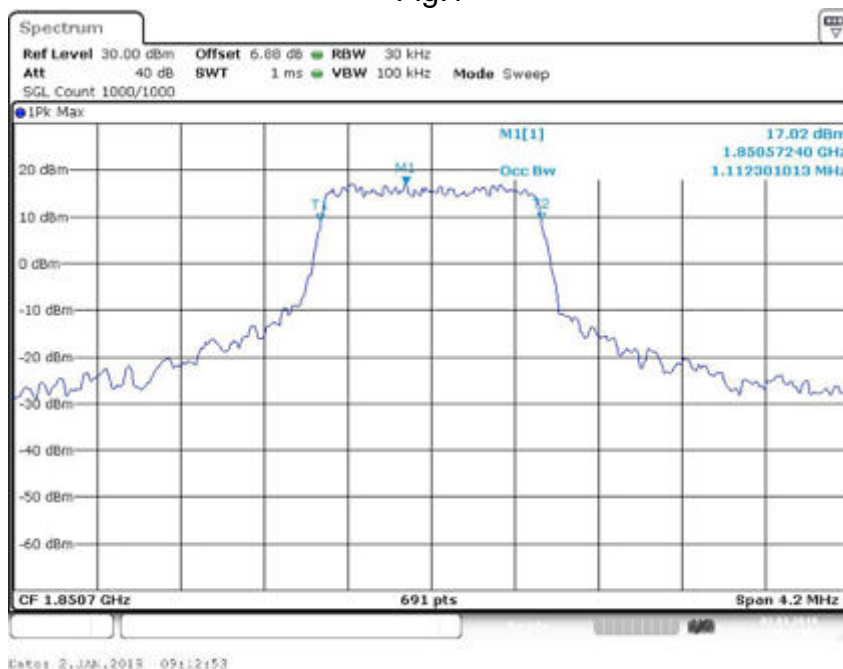


Fig.2

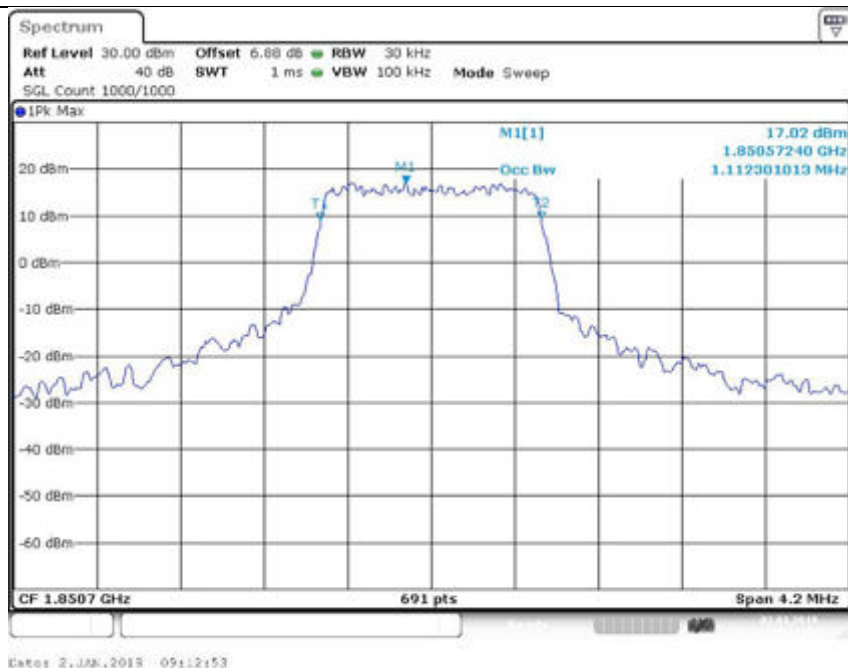


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW  | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|-----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |     |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 1.4 | 6       | 0         | 1.100                        | Fig.1 | 1.106  | Fig.2 | 1.106  | Fig.3 |

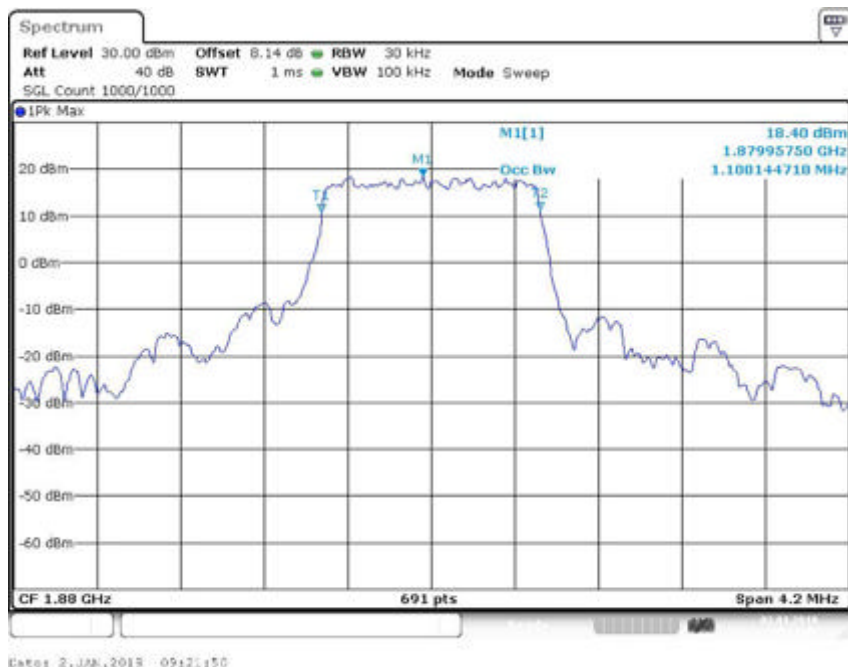


Fig.1

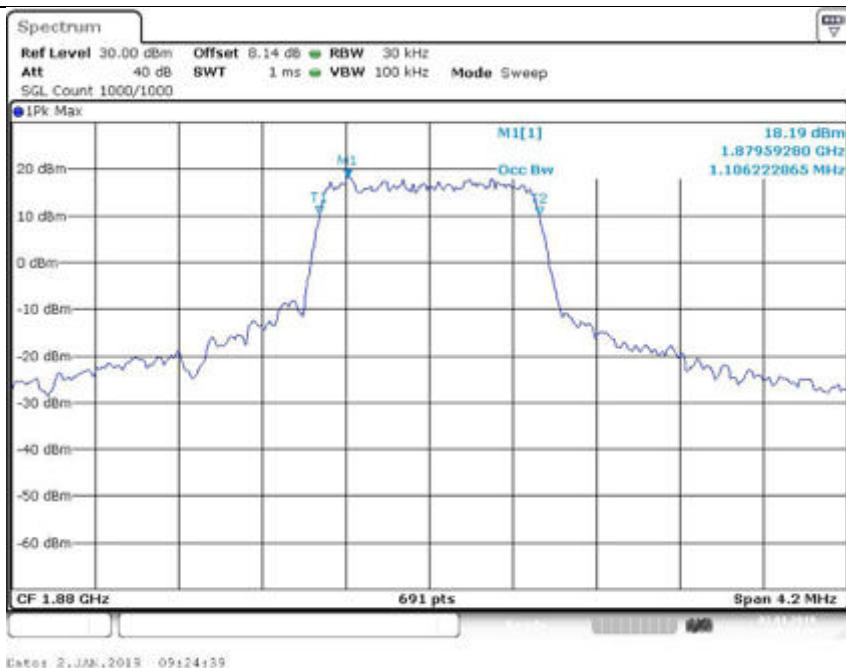


Fig.2

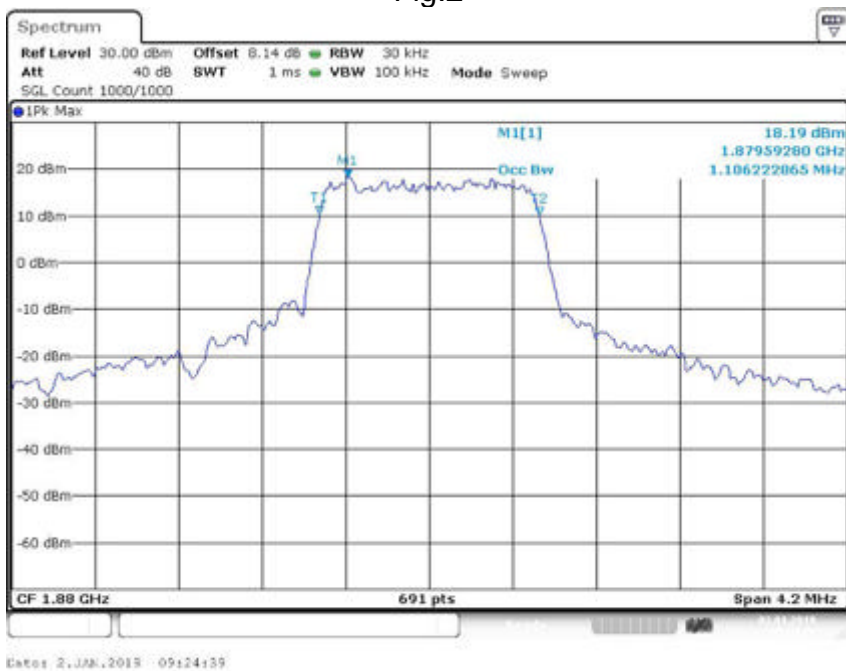


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW  | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|-----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |               |     |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1909.3                  | 19193         | 1.4 | 6       | 0         | 1.106                        | Fig.1 | 1.100  | Fig.2 | 1.100  | Fig.3 |

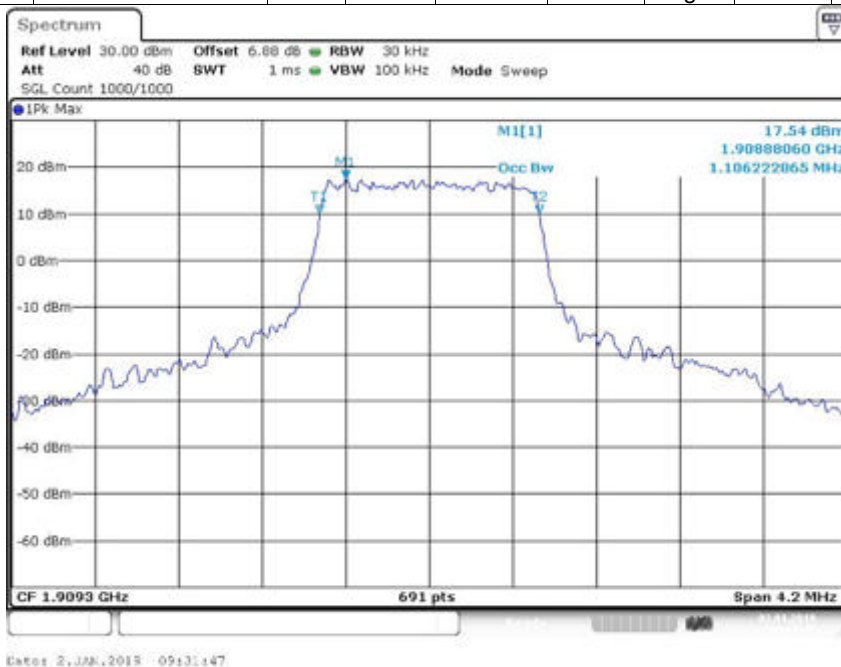


Fig.1

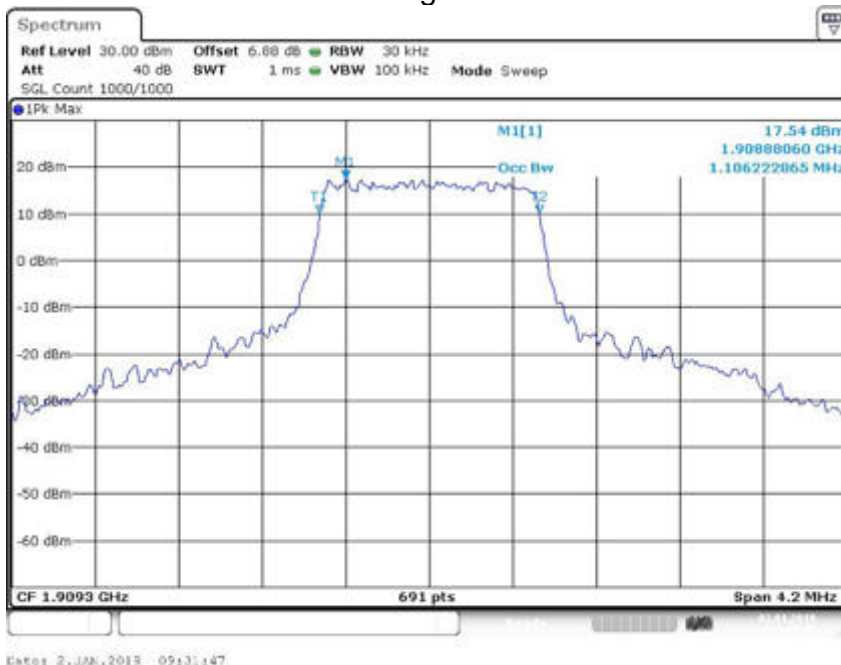


Fig.2



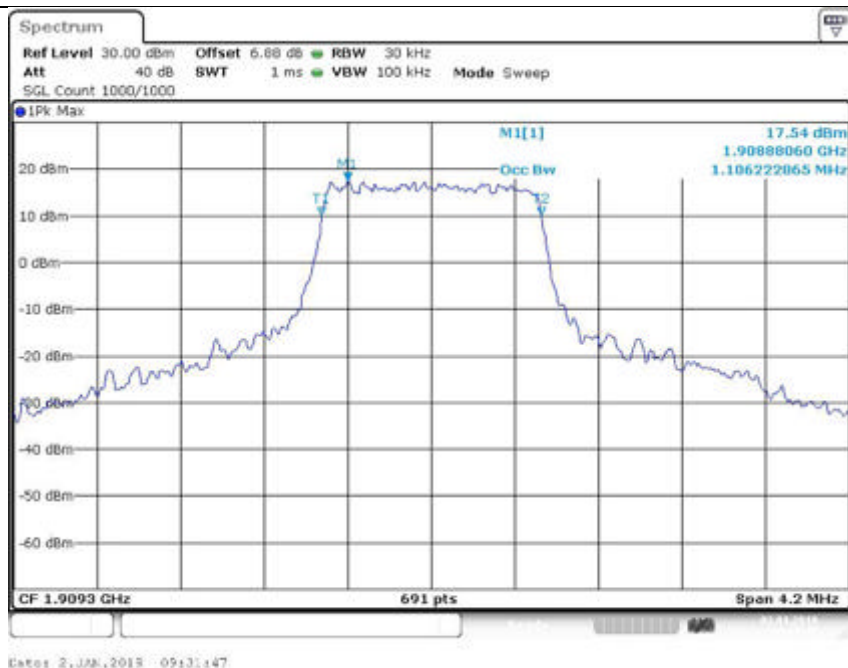


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1851.5                  | 18615        | 3  | 15      | 0         | 2.774                        | Fig.1 | 2.774  | Fig.2 | 2.774  | Fig.3 |

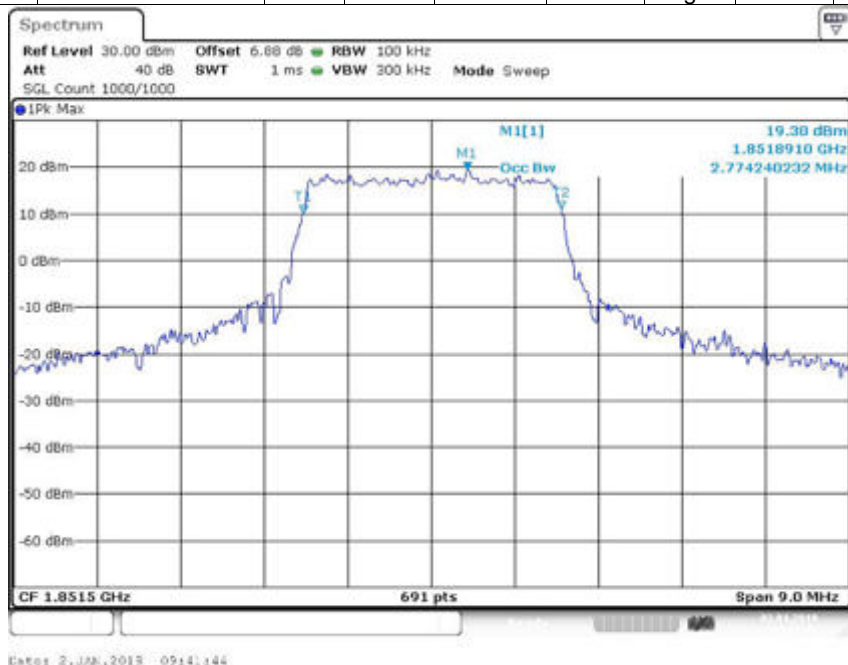


Fig.1

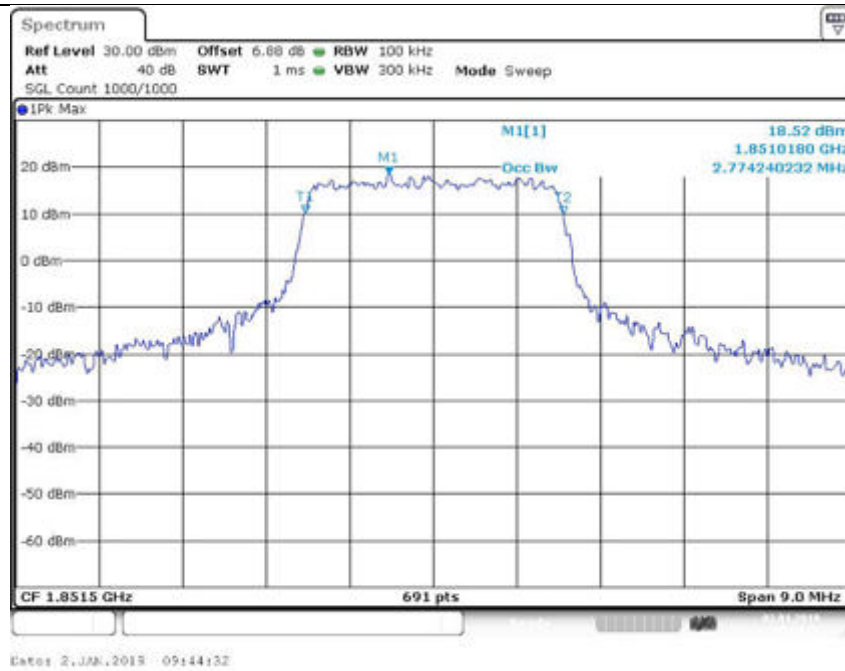


Fig.2

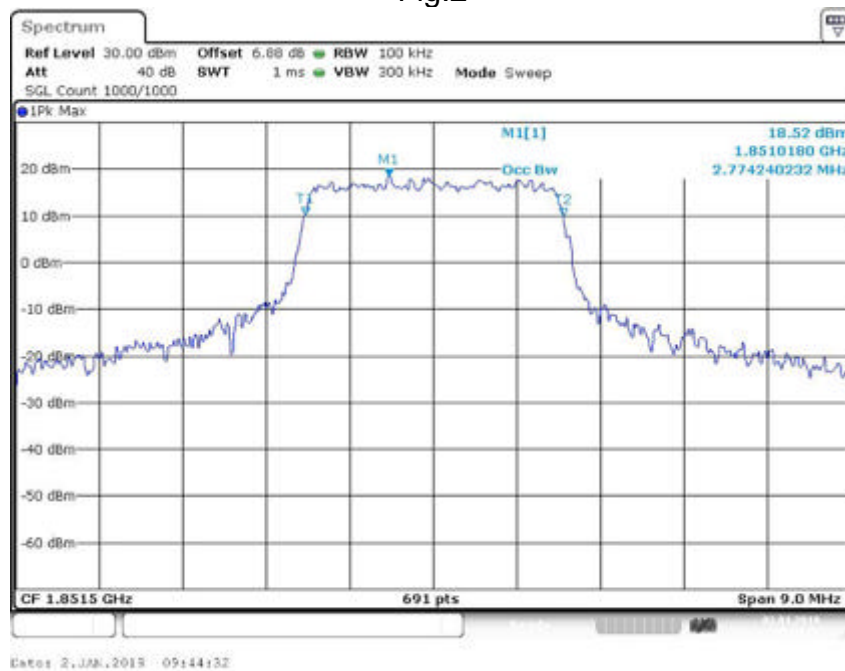


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 3  | 15      | 0         | 2.761                        | Fig.1 | 2.787  | Fig.2 | 2.787  | Fig.3 |

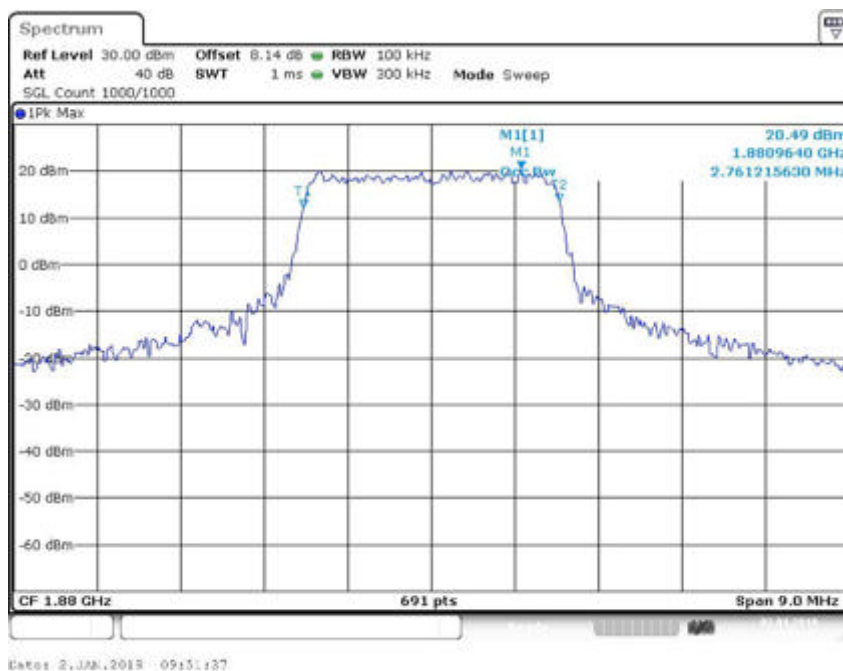


Fig.1

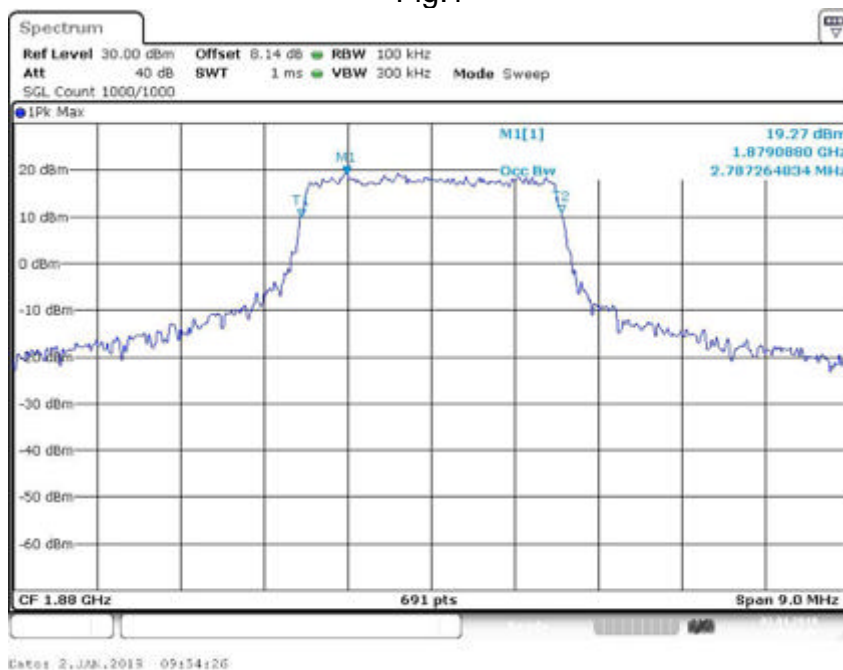


Fig.2

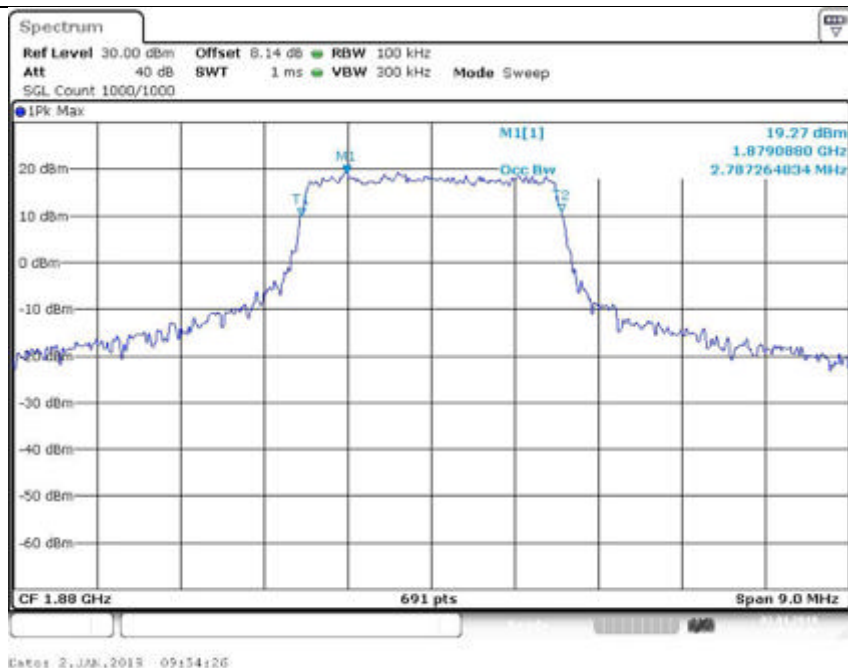


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1908.5                  | 19185         | 3  | 15      | 0         | 2.774                        | Fig.1 | 2.774  | Fig.2 | 2.774  | Fig.3 |

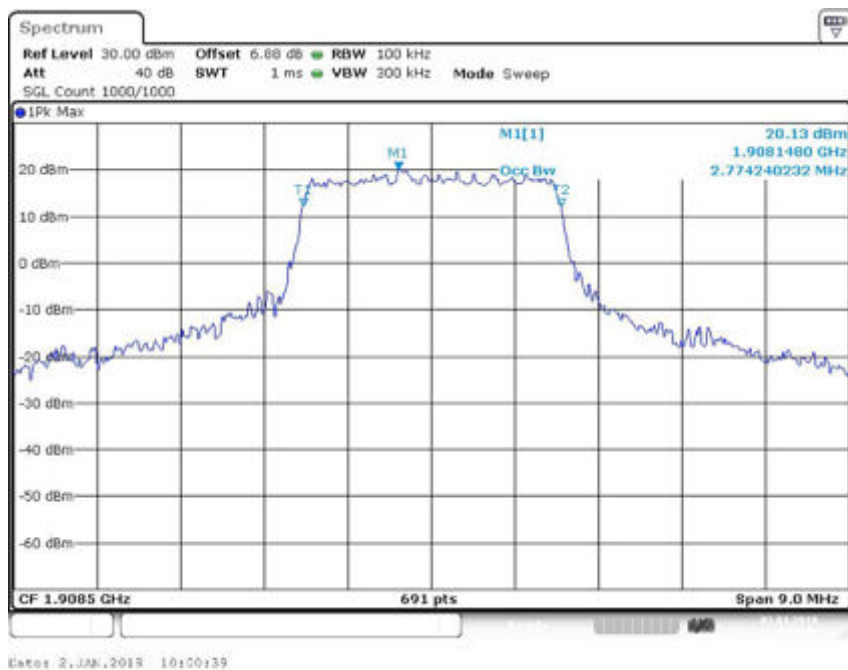


Fig.1

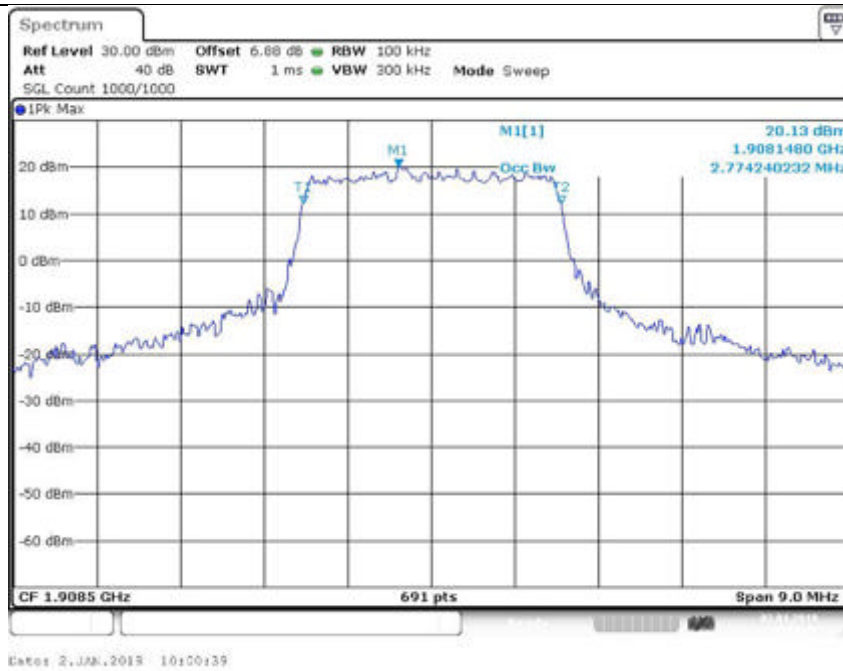


Fig.2

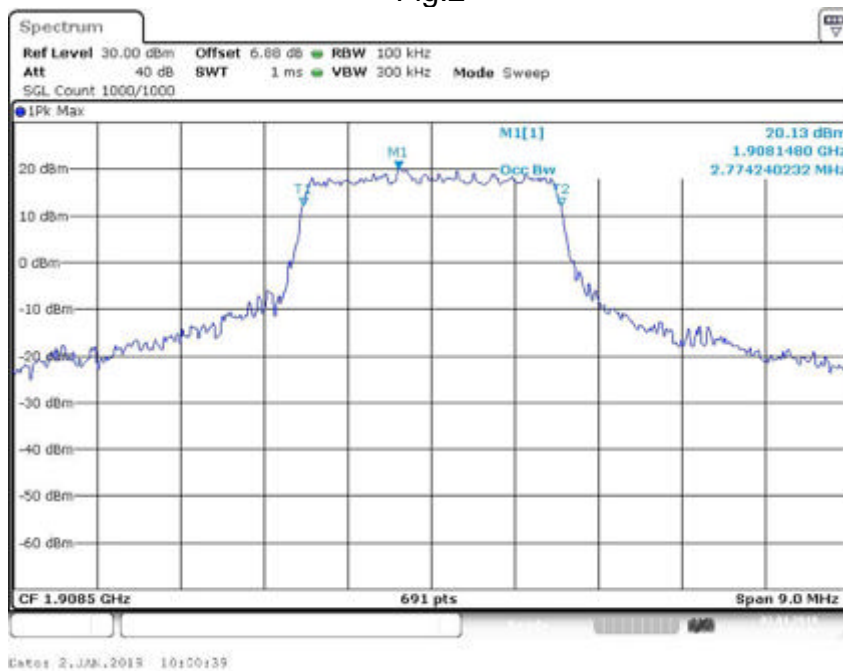


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 16-QAM |       |
| 2    | 1852.5                  | 18625        | 5  | 25      | 0         | 4.559                        | Fig.4 | 4.515  | Fig.8 | 4.515  | Fig.8 |

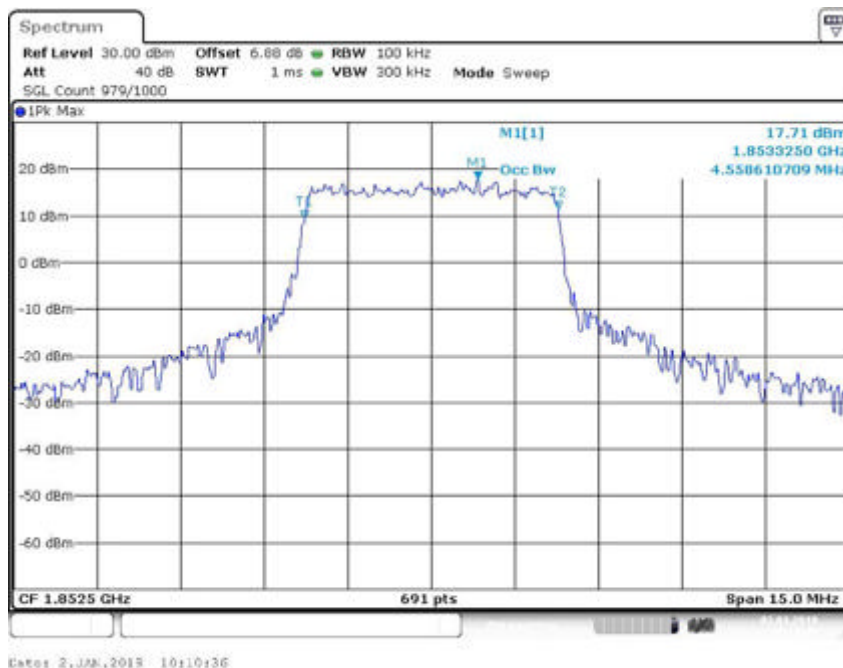


Fig.1

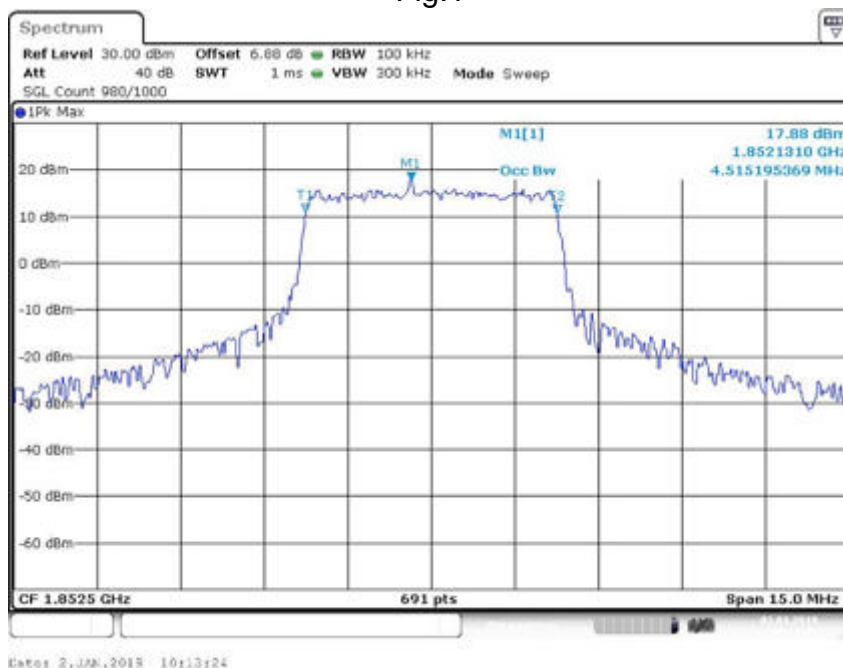


Fig.2

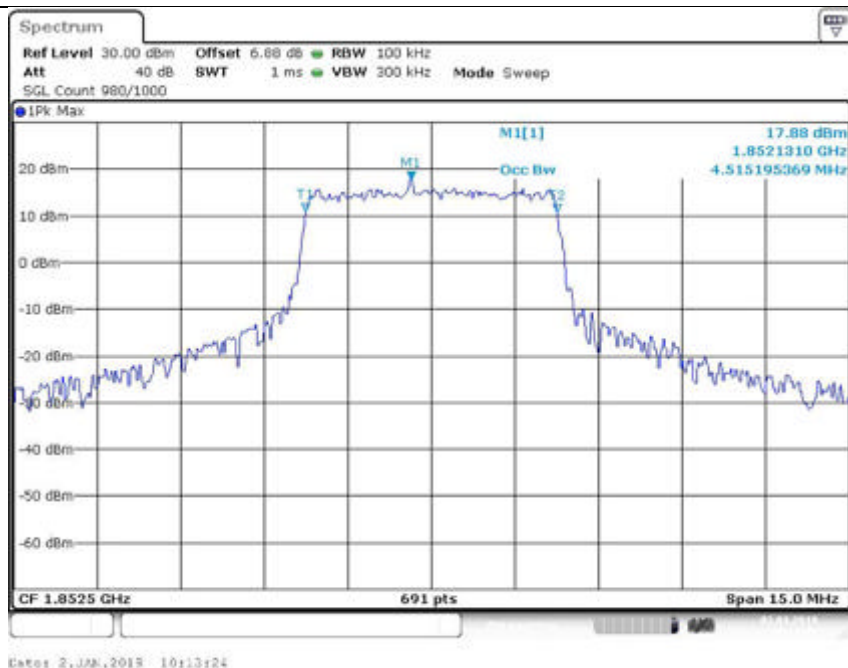


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 5  | 25      | 0         | 4.515                        | Fig.1 | 4.559  | Fig.2 | 4.559  | Fig.3 |

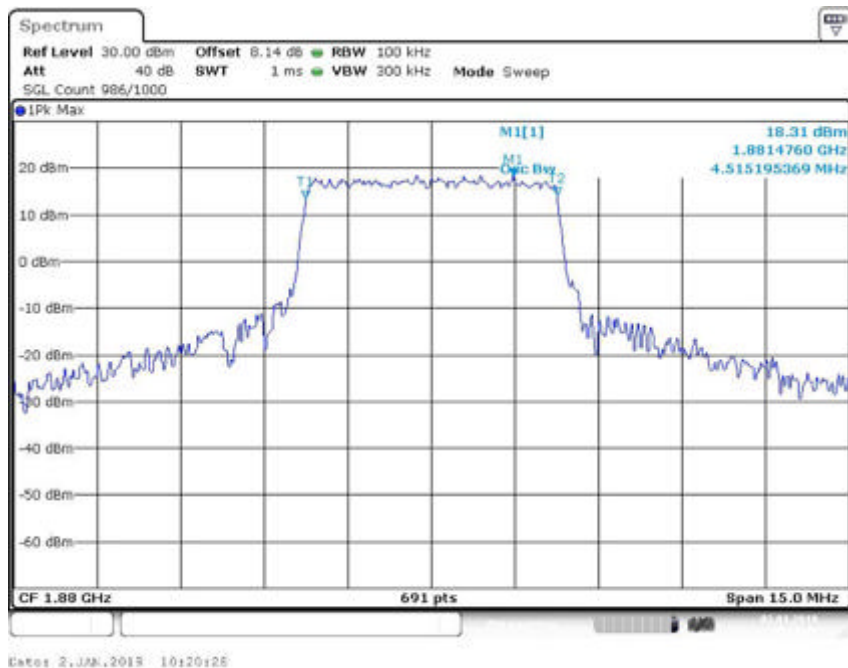


Fig.1



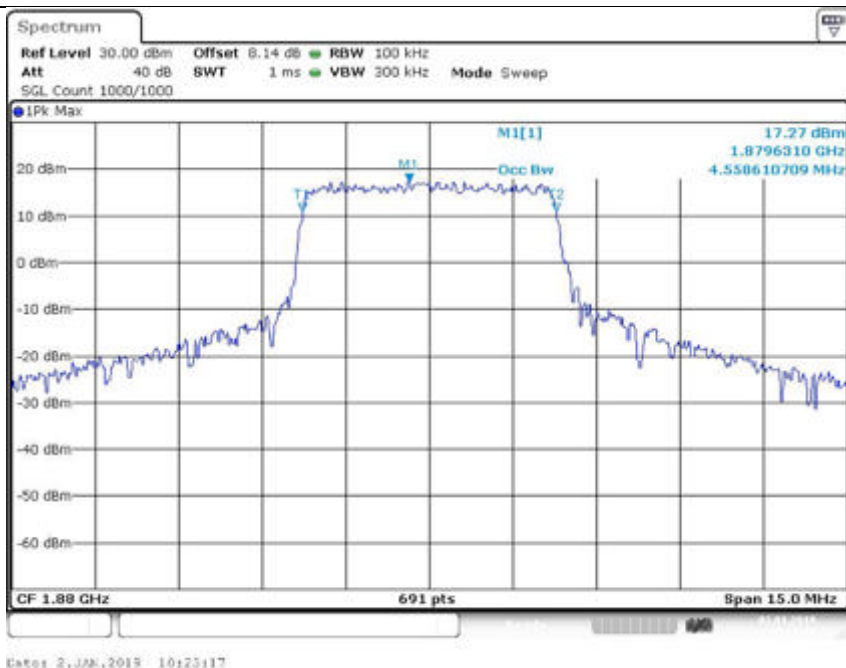


Fig.2

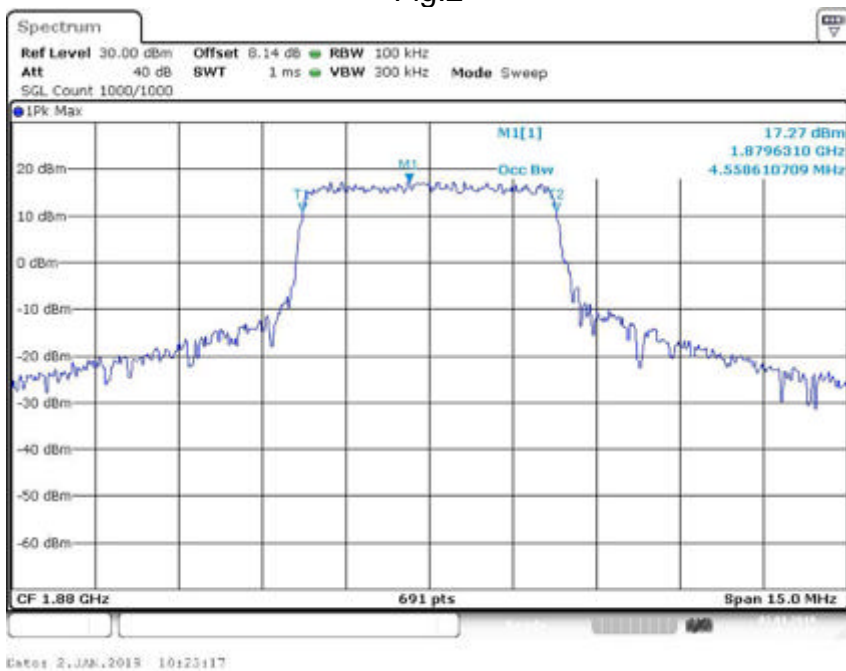


Fig.3



| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1907.5                  | 19175         | 5  | 25      | 0         | 4.515                        | Fig.1 | 4.515  | Fig.2 | 4.515  | Fig.3 |

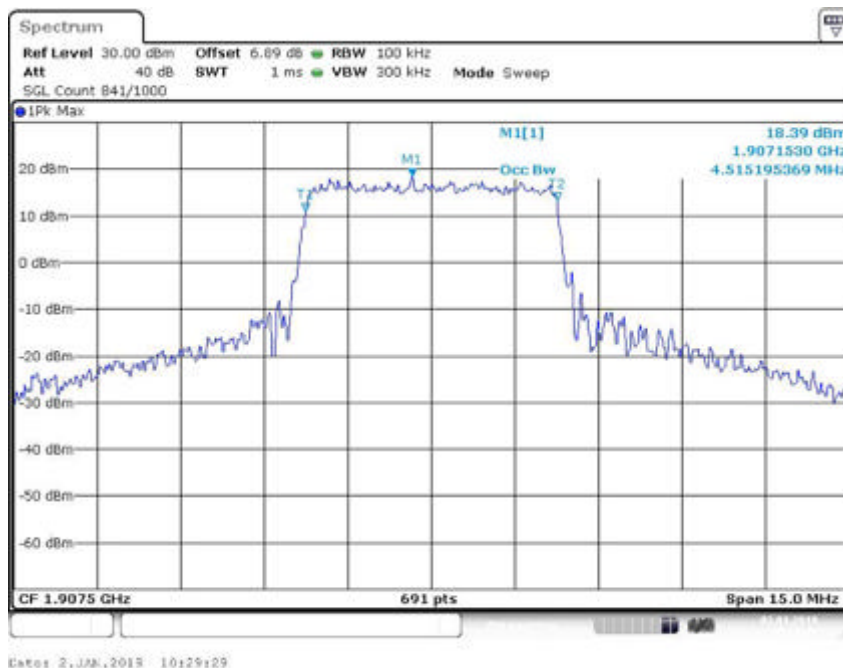


Fig.1

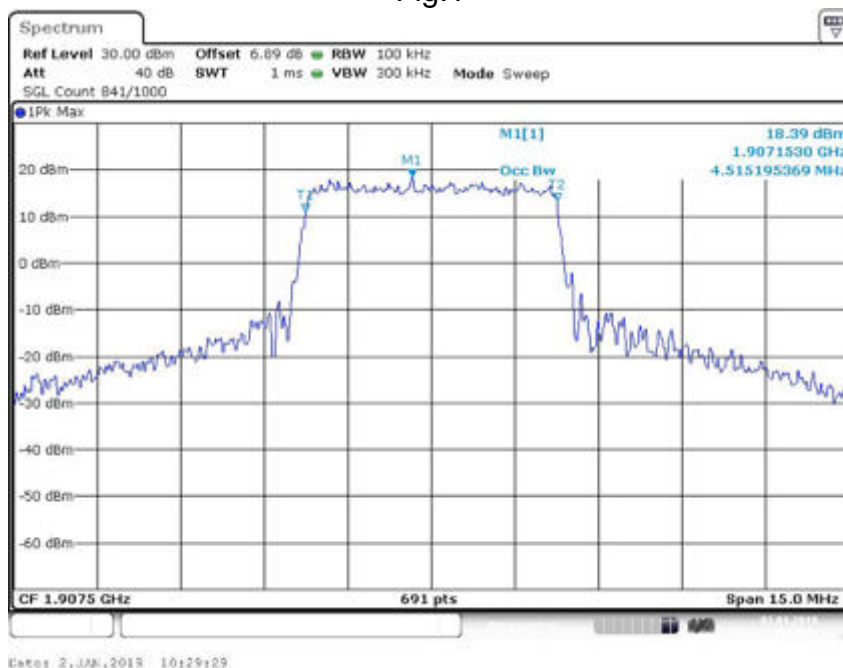


Fig.2

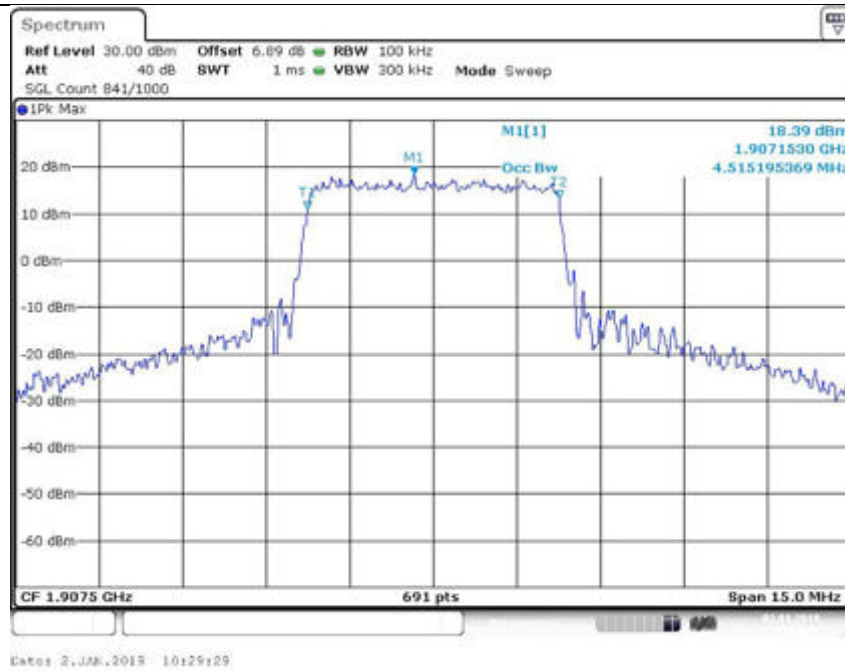


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1855                    | 18650        | 10 | 50      | 0         | 9.074                        | Fig.1 | 9.074  | Fig.2 | 9.074  | Fig.3 |

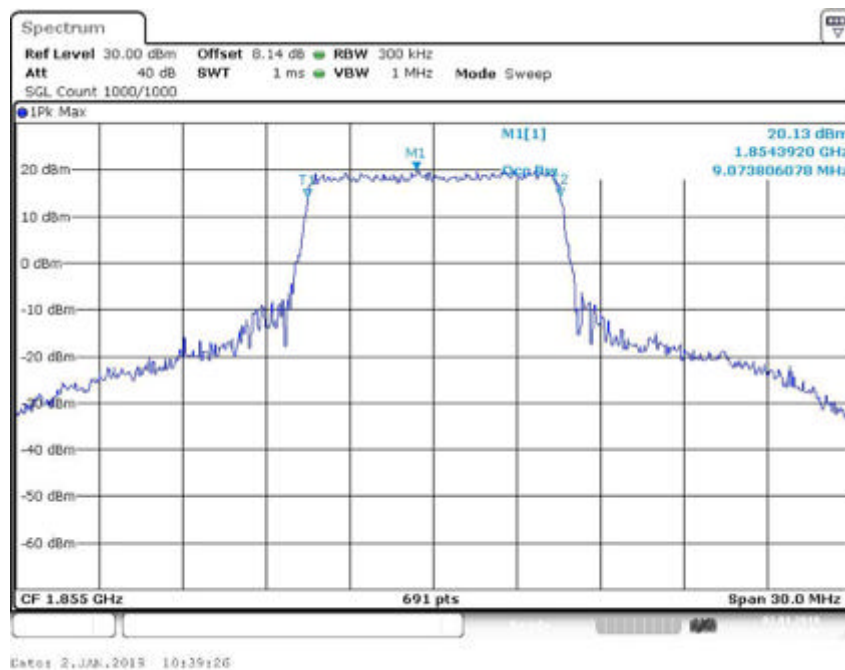


Fig.1

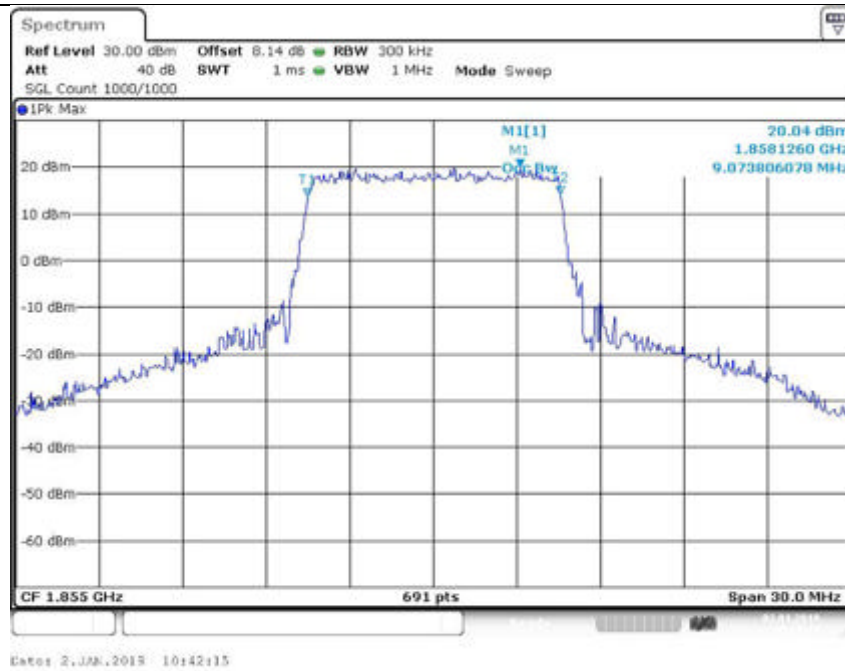


Fig.2

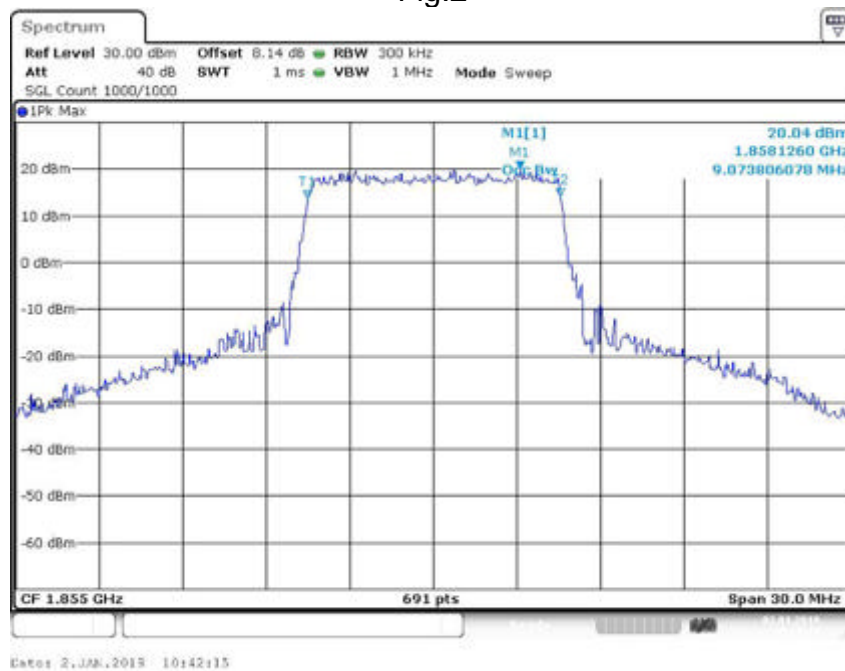


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 10 | 50      | 0         | 9.030                        | Fig.1 | 9.030  | Fig.2 | 9.030  | Fig.3 |

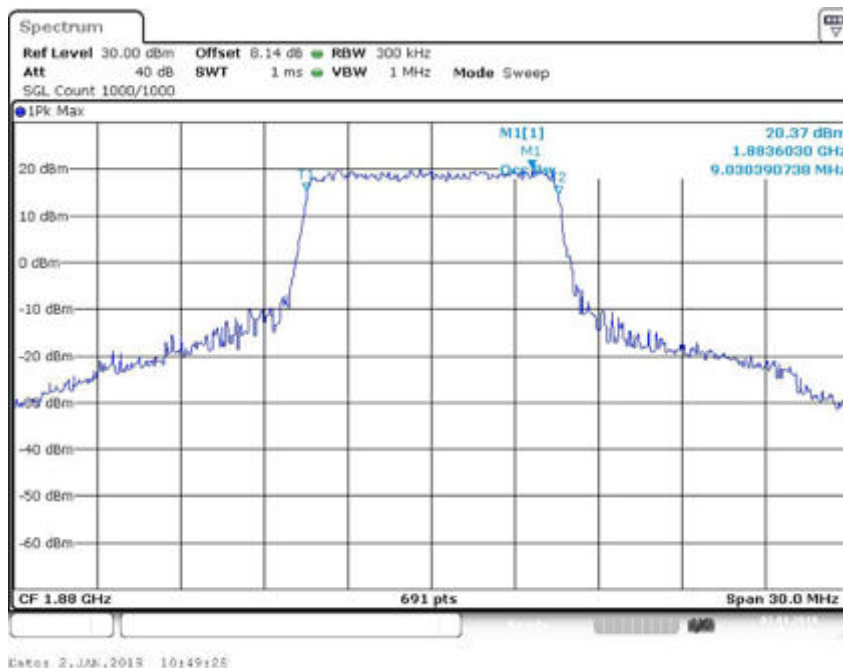


Fig.1

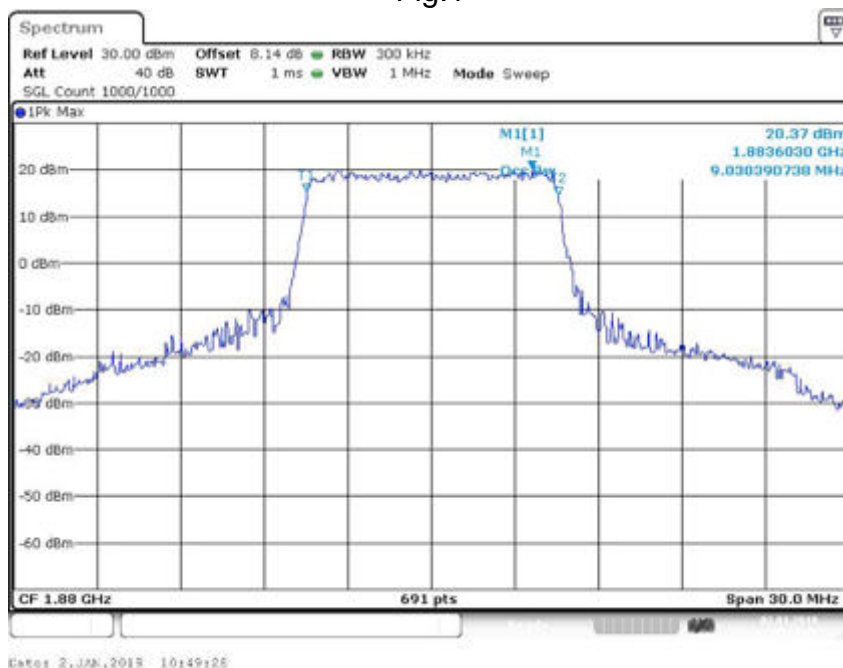


Fig.2

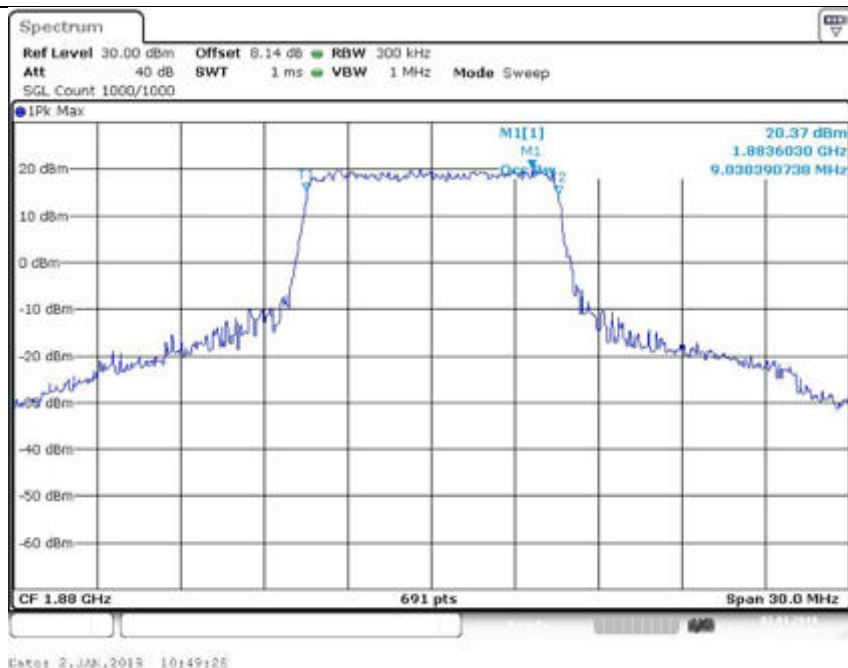


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1905                    | 19150         | 10 | 50      | 0         | 9.160                        | Fig.1 | 9.160  | Fig.2 | 9.160  | Fig.3 |

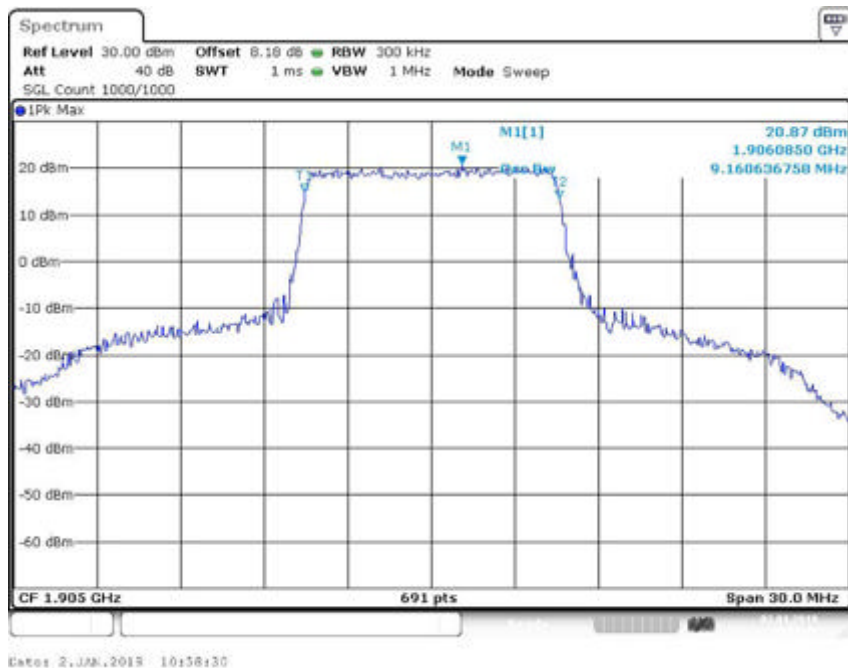


Fig.1

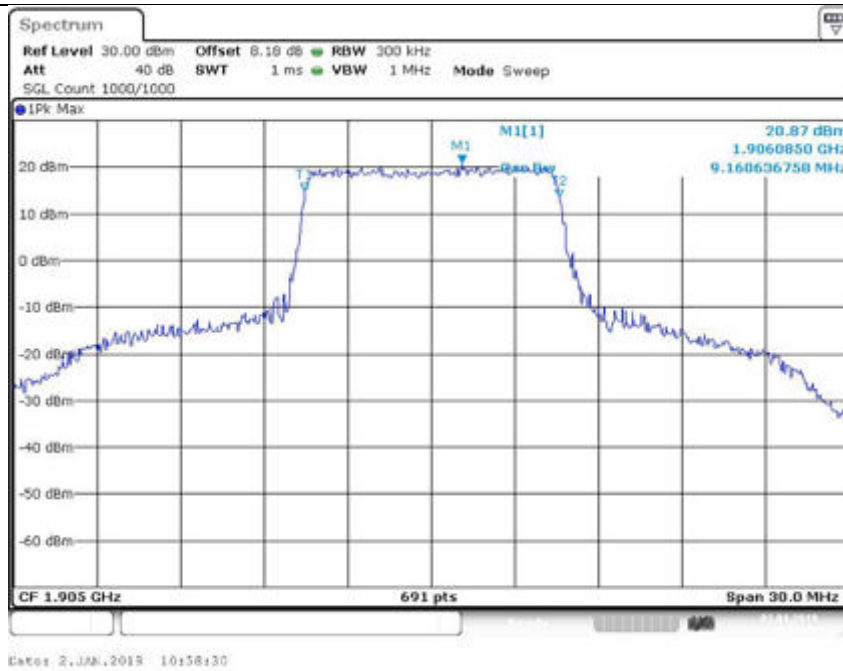


Fig.2

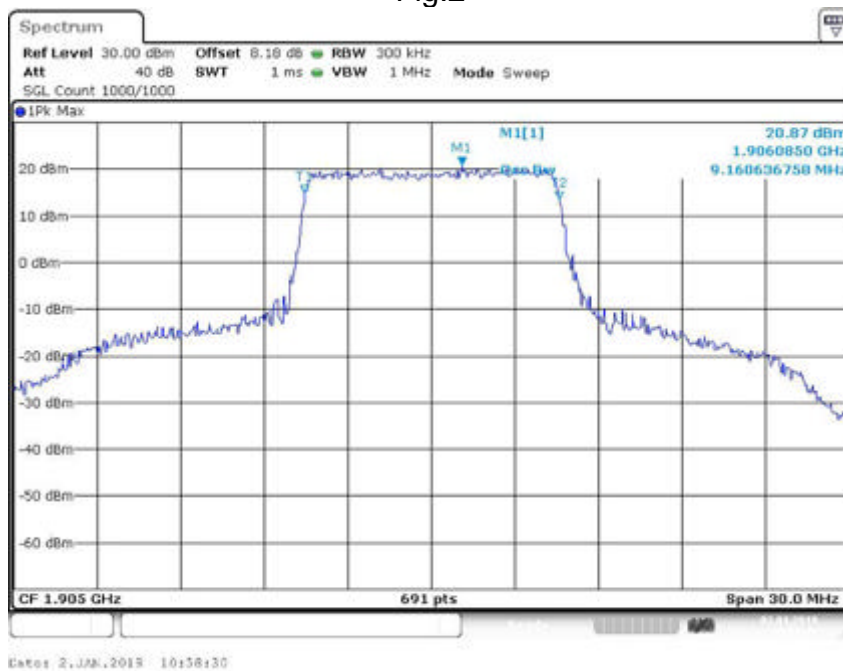


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1857.5                  | 18675        | 15 | 75      | 0         | 13.546                       | Fig.1 | 13.546 | Fig.2 | 13.546 | Fig.3 |

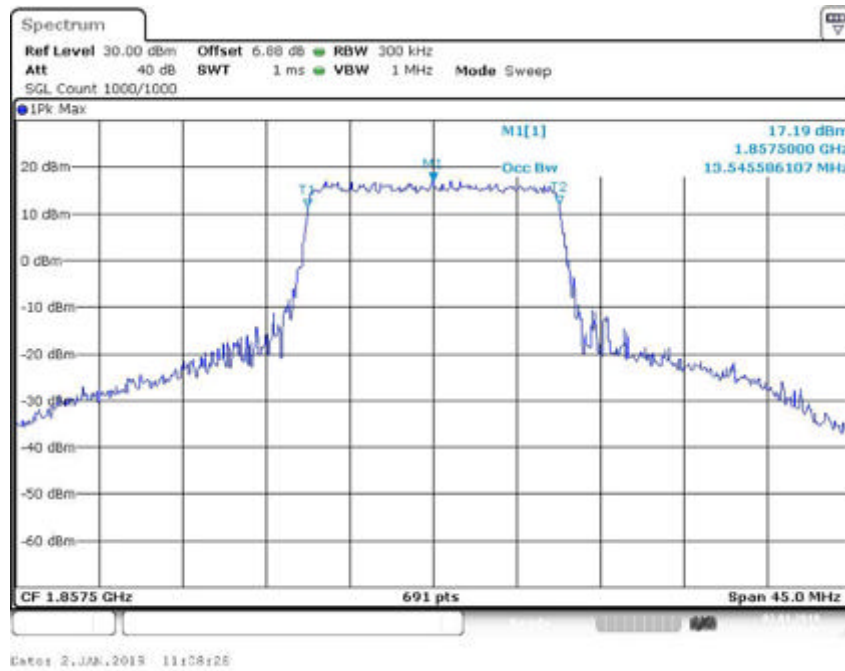


Fig.1

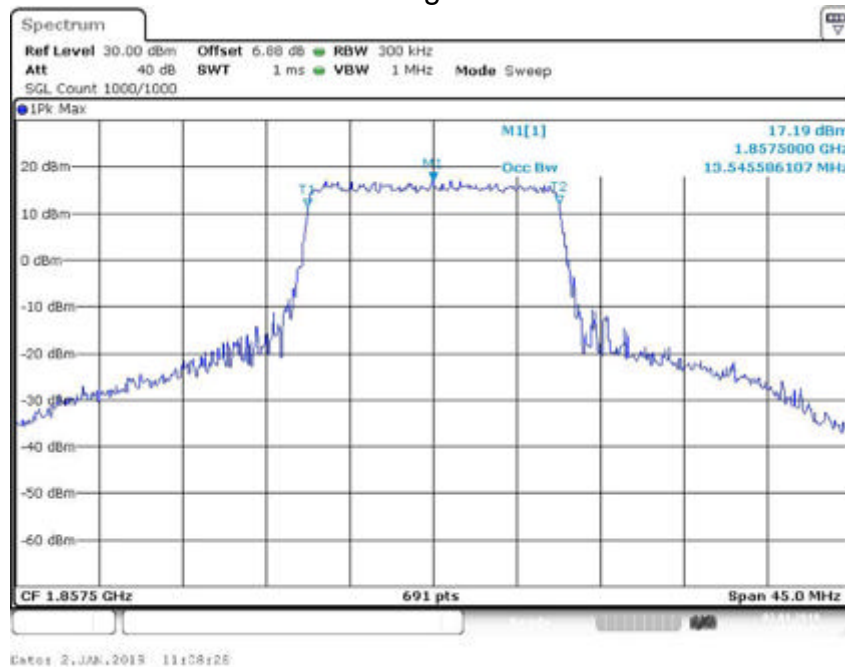


Fig.2



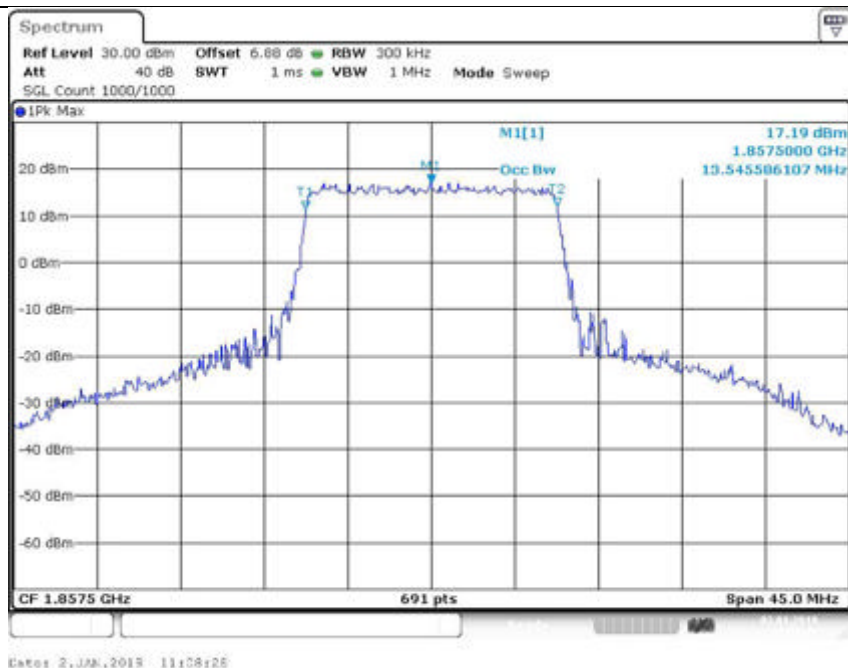


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |        |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|--------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         | 16-QAM | 64-QAM |       |        |       |
| 2    | 1880                    | 18900        | 15 | 75      | 0         | 13.546                       | Fig.1  | 13.480 | Fig.2 | 13.480 | Fig.3 |

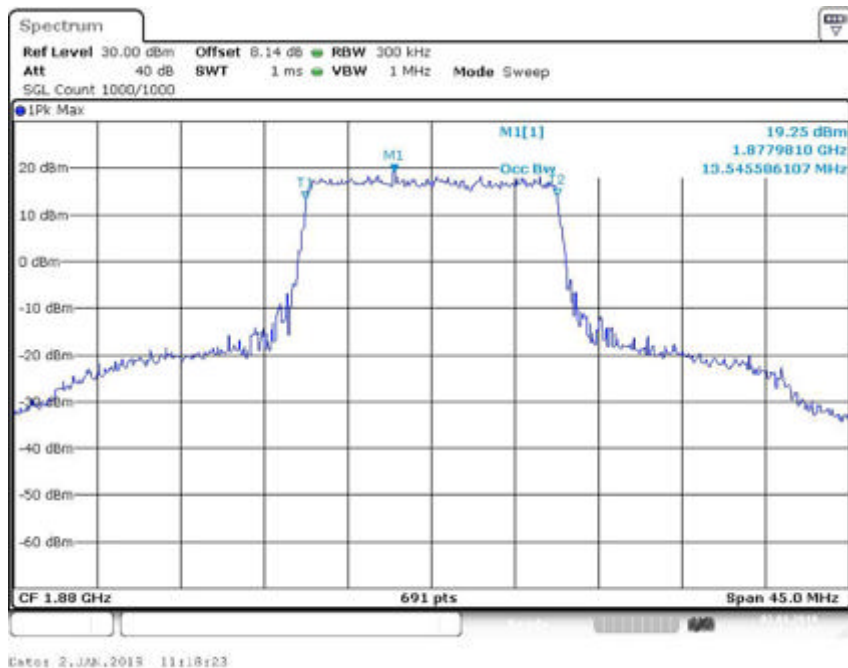


Fig.1



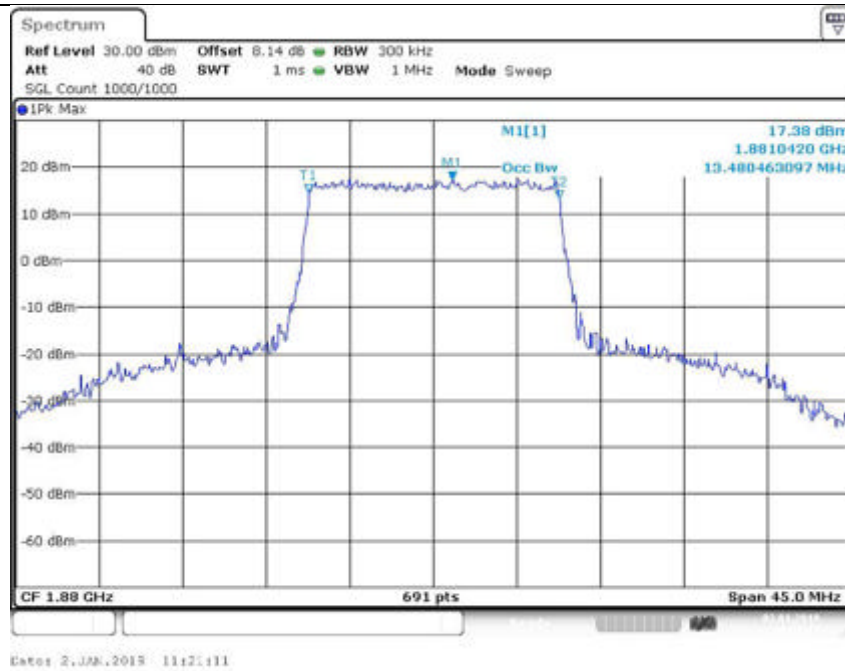


Fig.2

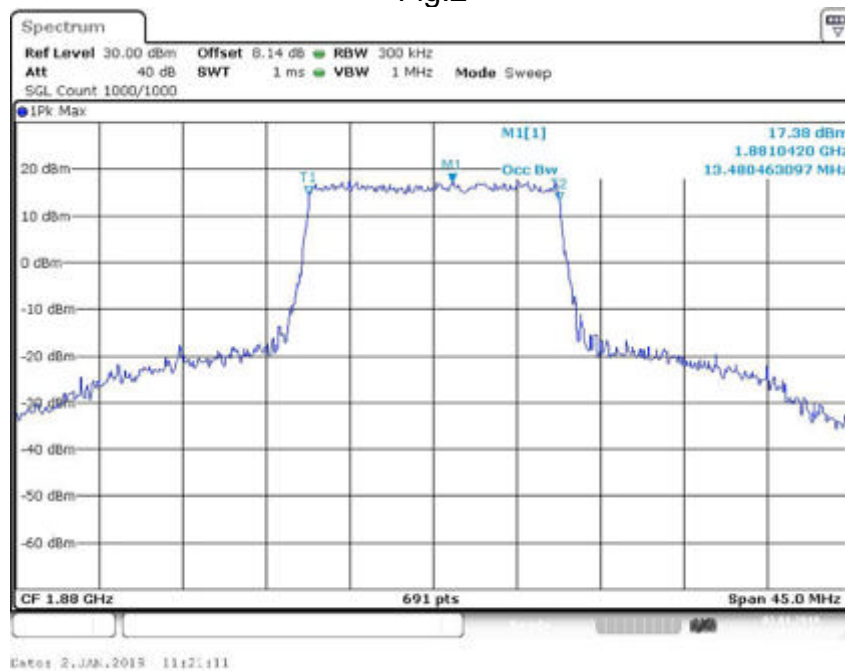


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |        |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|------------------------------|--------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                         | 16-QAM | 64-QAM |       |        |       |
| 2    | 1902.5                  | 19125         | 15 | 75      | 0         | 13.480                       | Fig.1  | 13.480 | Fig.2 | 13.480 | Fig.3 |

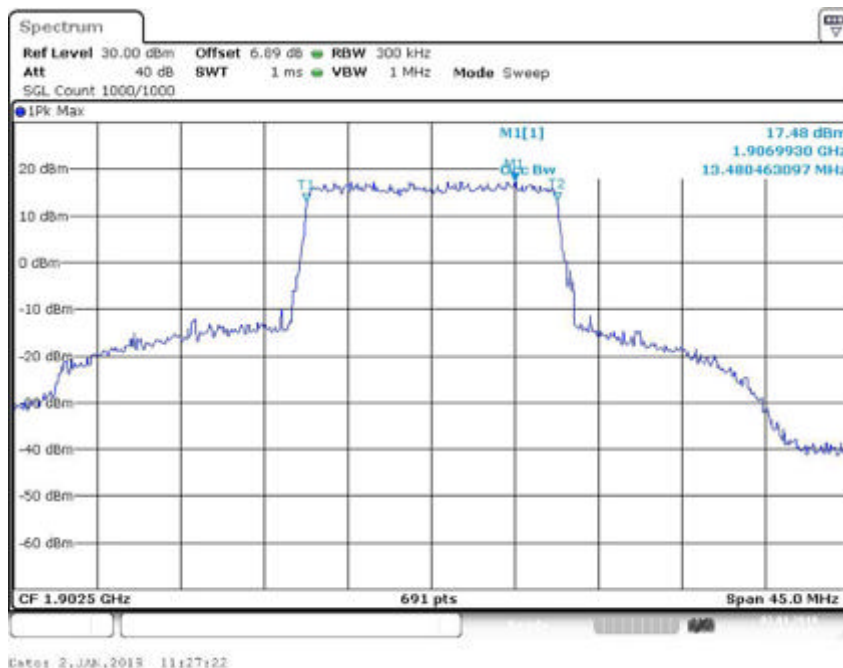


Fig.1

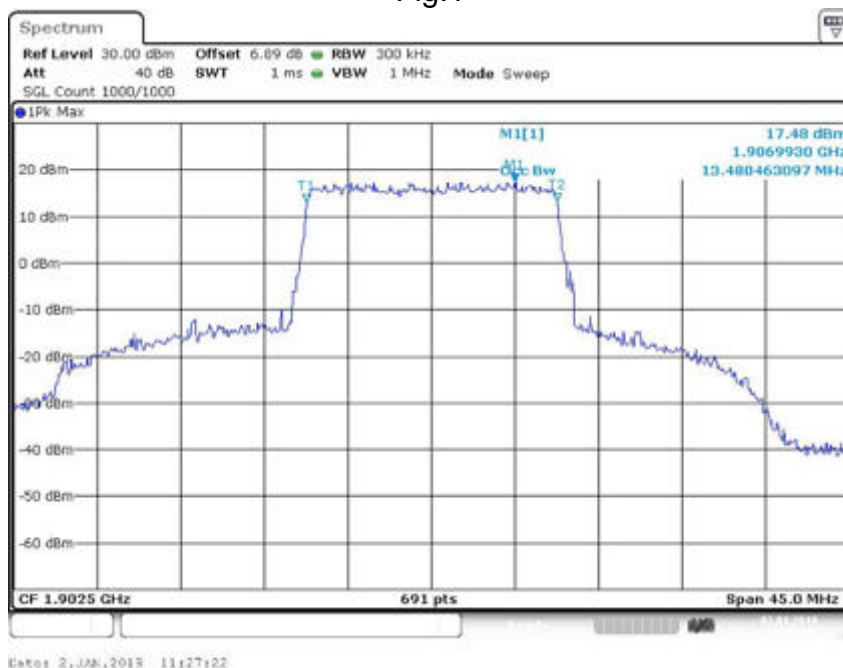


Fig.1

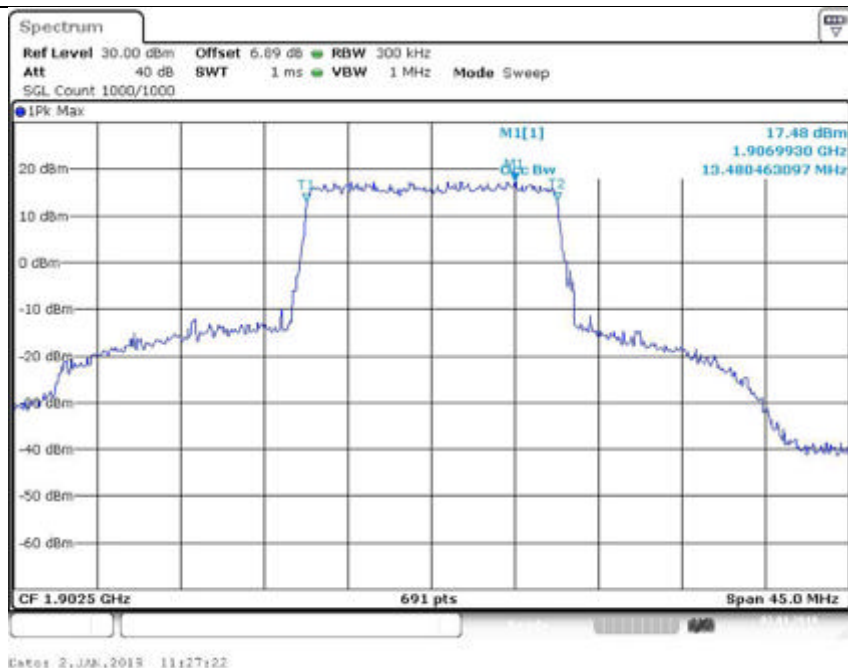


Fig.2

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1860                    | 18700        | 20 | 100     | 0         | 17.974                       | Fig.1 | 17.974 | Fig.2 | 17.974 | Fig.3 |

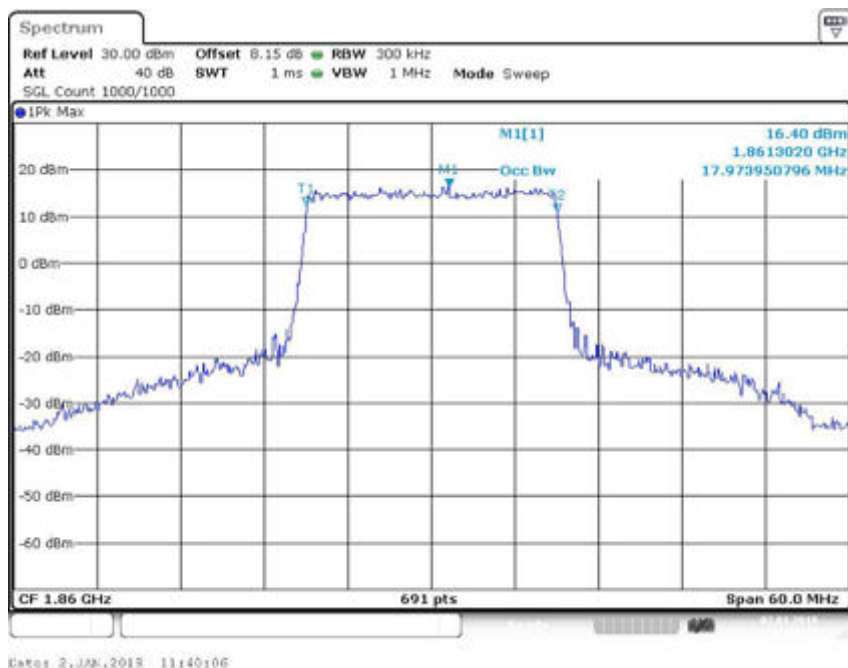


Fig.1

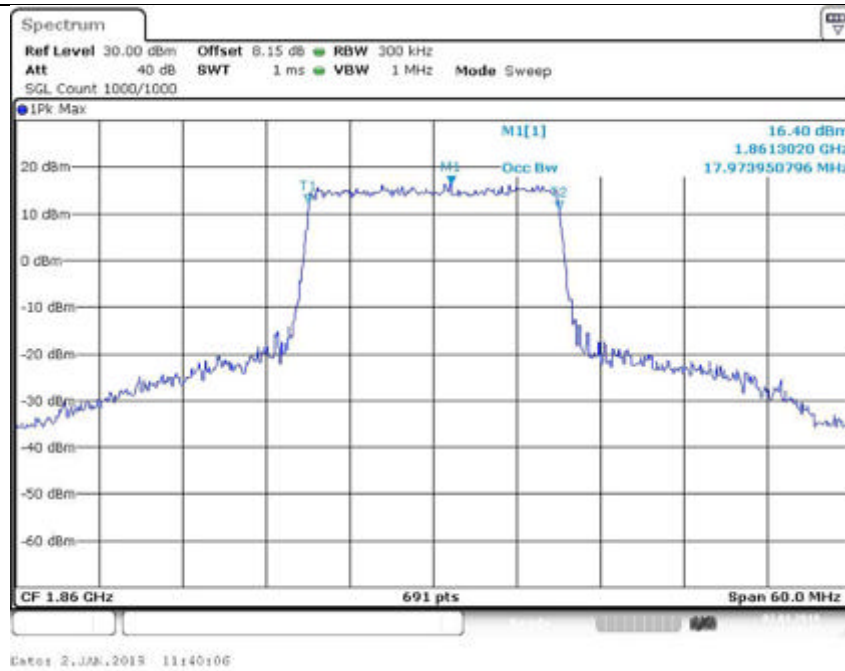


Fig.2

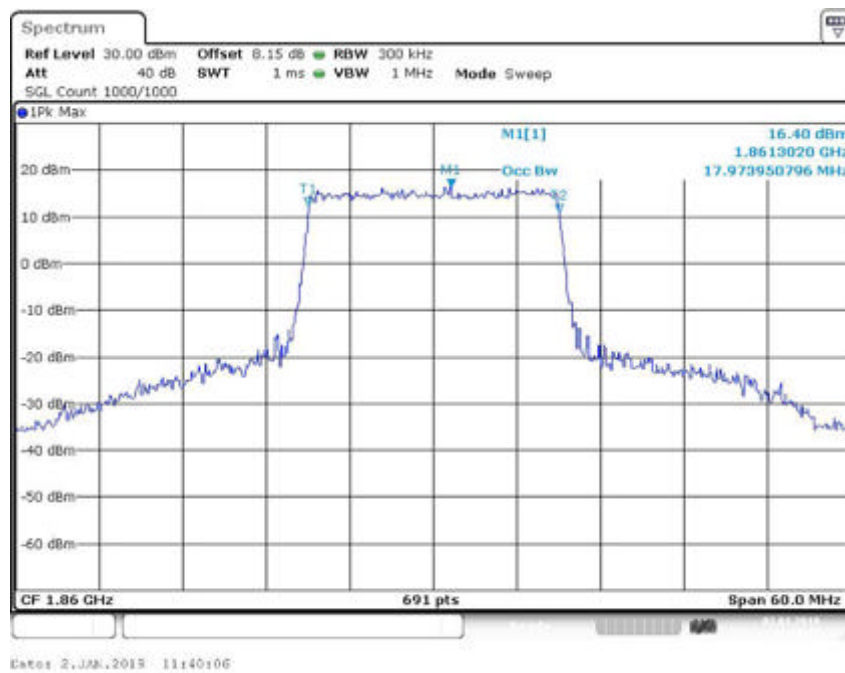


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 20 | 100     | 0         | 17.887                       | Fig.4 | 17.974 | Fig.8 | 17.887 | Fig.4 |

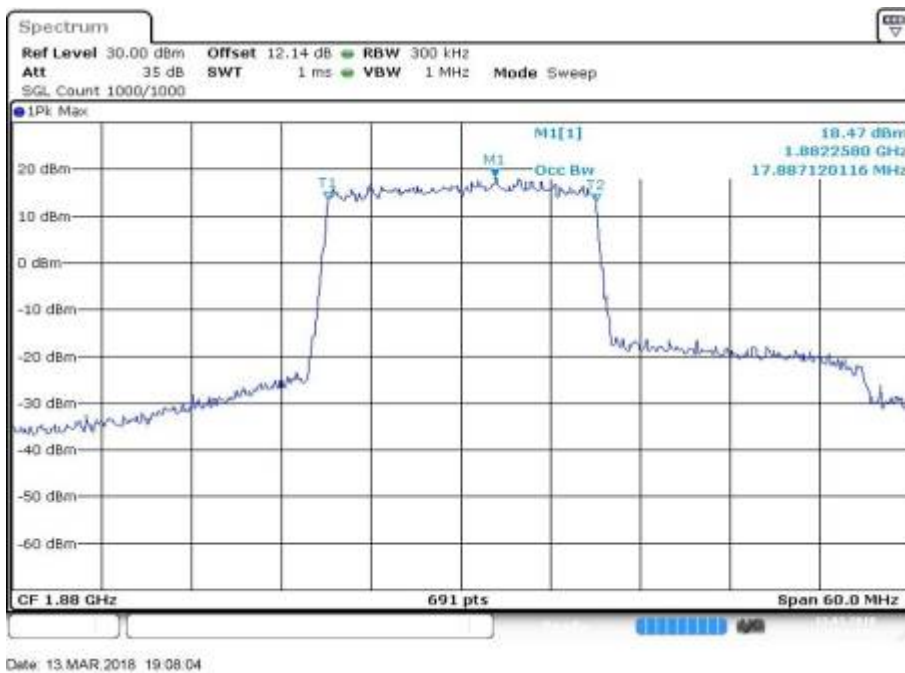


Fig.4

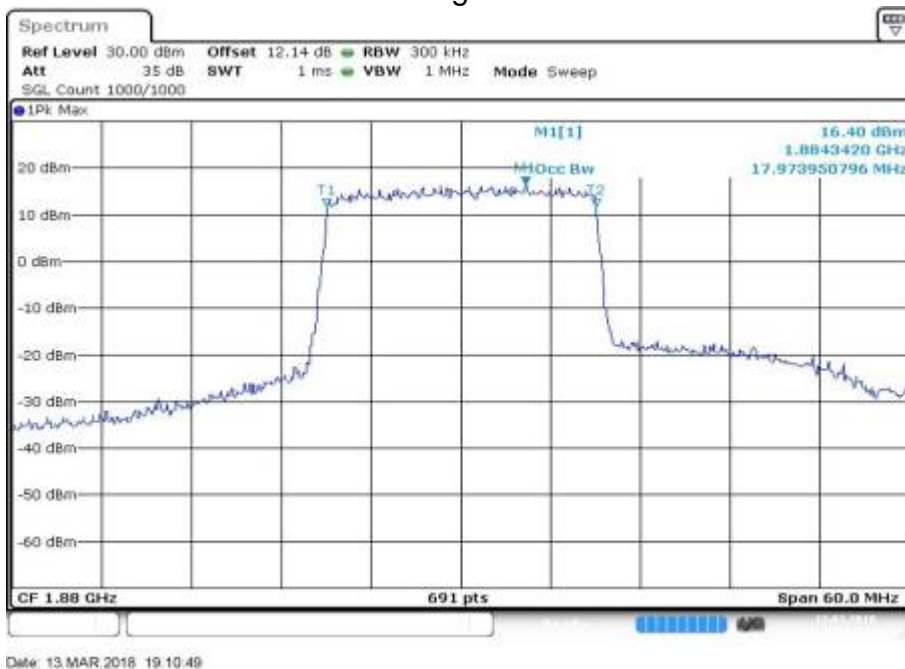


Fig.8

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of 99% Power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|------------------------------|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                         |       | 16-QAM |       | 64-QAM |       |
| 2    | 1900                    | 19100         | 20 | 100     | 0         | 17.974                       | Fig.1 | 17.974 | Fig.2 | 17.974 | Fig.3 |

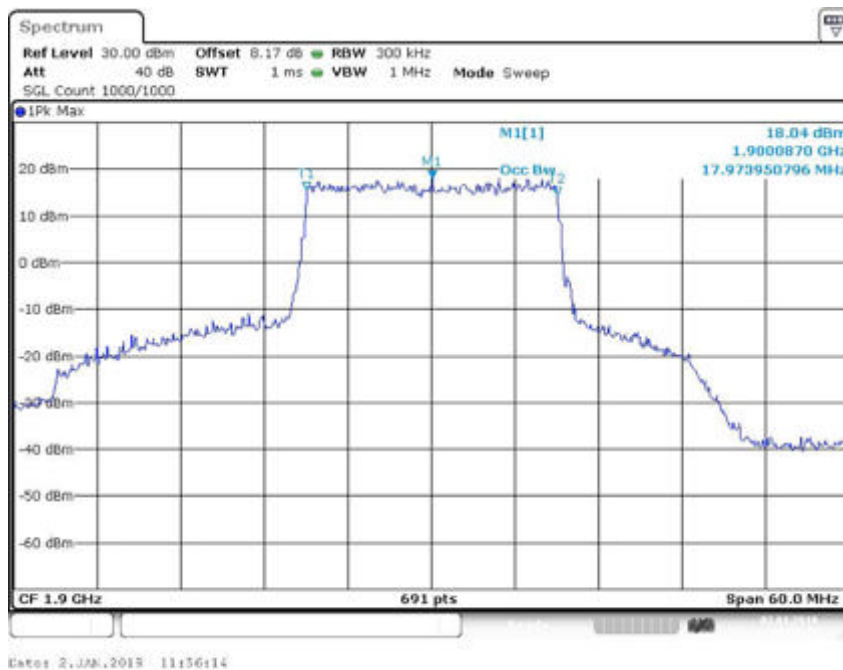


Fig.1

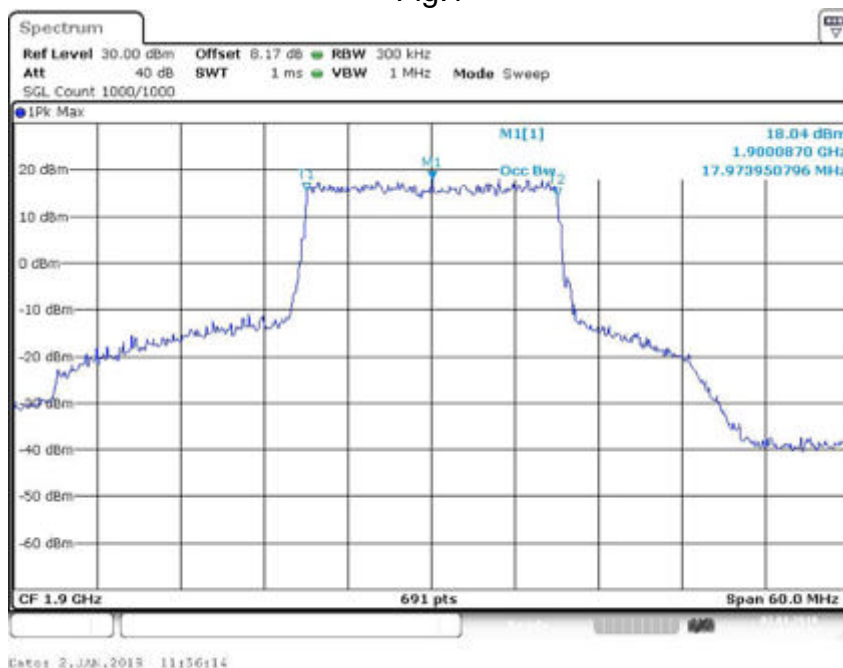


Fig.2

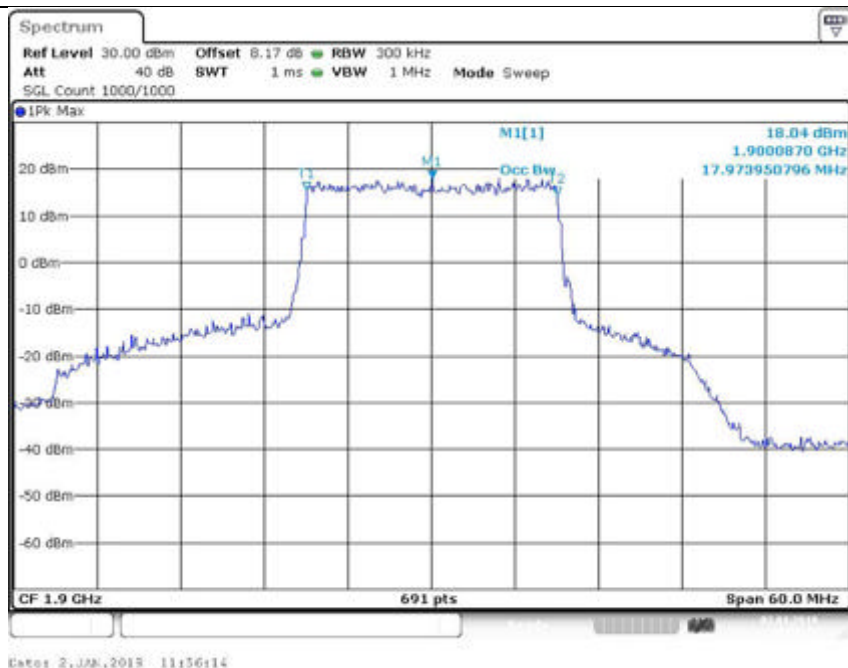


Fig.3



### 3 Emission Bandwidth

| Band | Carrier frequency (MHz) | Channel(Low) | BW  | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|-----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |     |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1850.7                  | 18607        | 1.4 | 6       | 0         | 1.2946                                     | Fig.1 | 1.2946 | Fig.2 | 1.2946 | Fig.3 |



Fig.1



Fig.2





Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW  | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |        |        |       |        |       |
|------|-------------------------|--------------|-----|---------|-----------|--|--------|--------|-------|--------|-------|
|      |                         |              |     |         |           | QPSK                                       | 16-QAM | 64-QAM |       |        |       |
| 2    | 1880                    | 18900        | 1.4 | 6       | 0         | 1.2886                                     | Fig.1  | 1.2886 | Fig.2 | 1.2886 | Fig.3 |



Fig.1



Fig.2

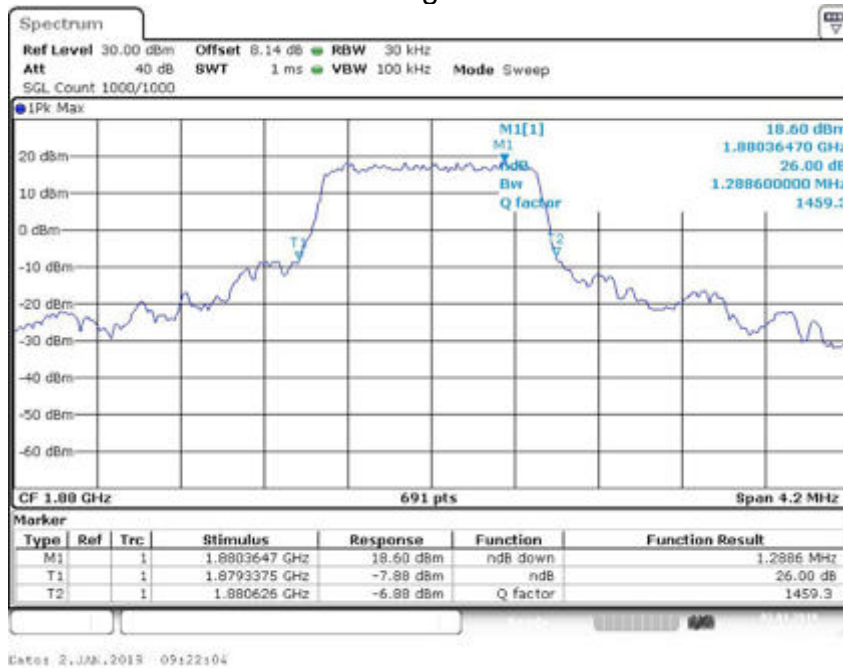


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW  | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|-----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |               |     |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1909.3                  | 19193         | 1.4 | 6       | 0         | 1.3068                                     | Fig.1 | 1.3068 | Fig.2 | 1.3068 | Fig.3 |

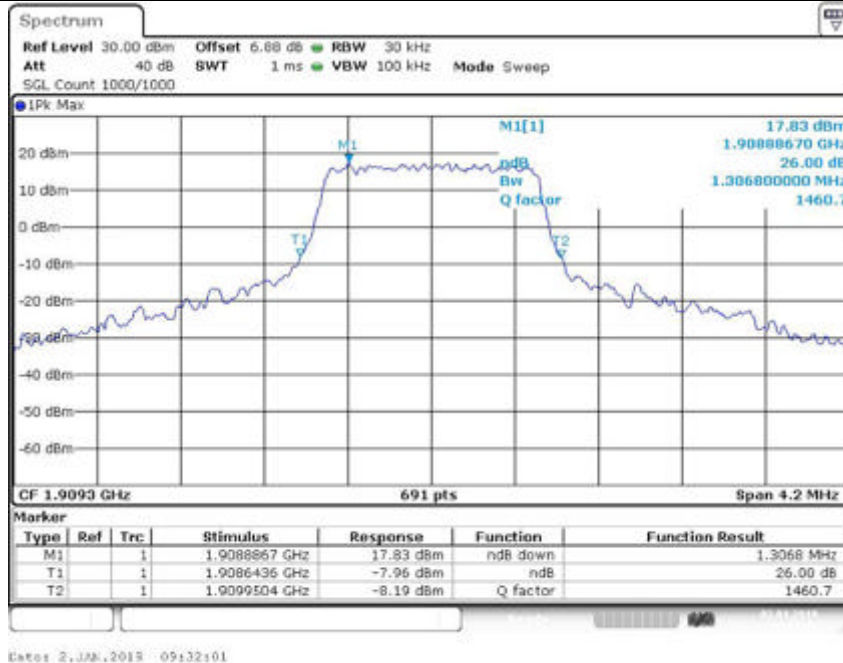


Fig.1

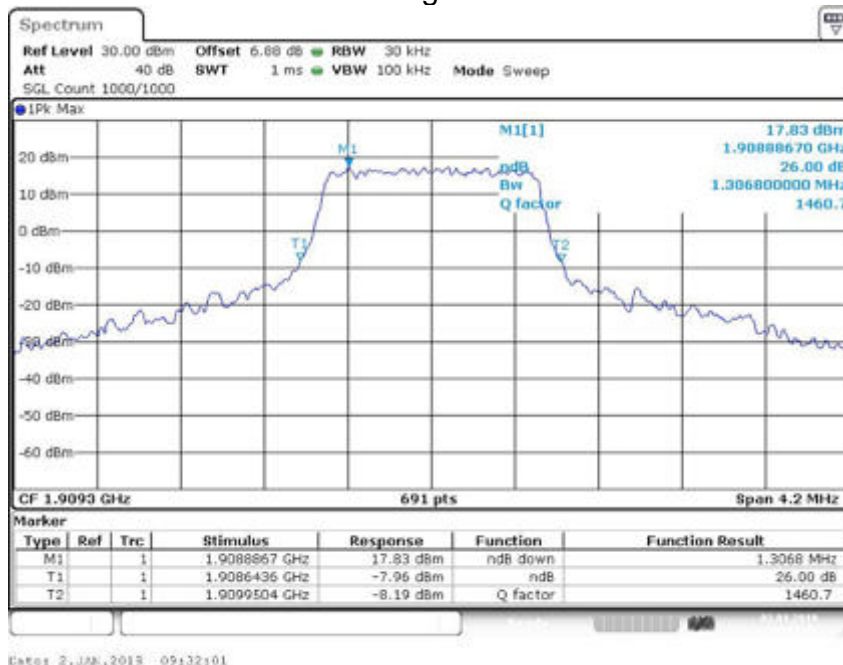


Fig.2

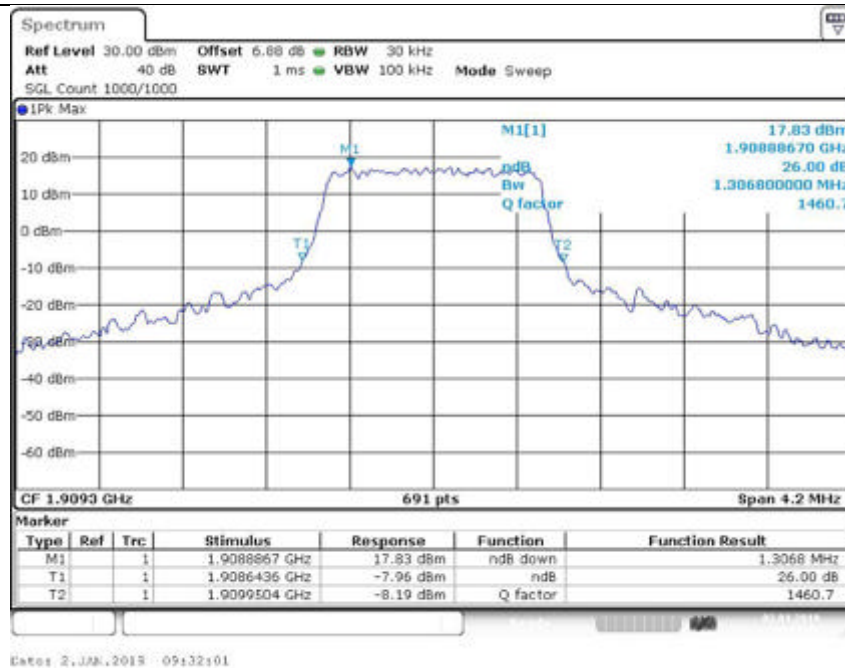


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1851.5                  | 18615        | 3  | 15      | 0         | 3.191                                      | Fig.1 | 3.191  | Fig.2 | 3.191  | Fig.3 |

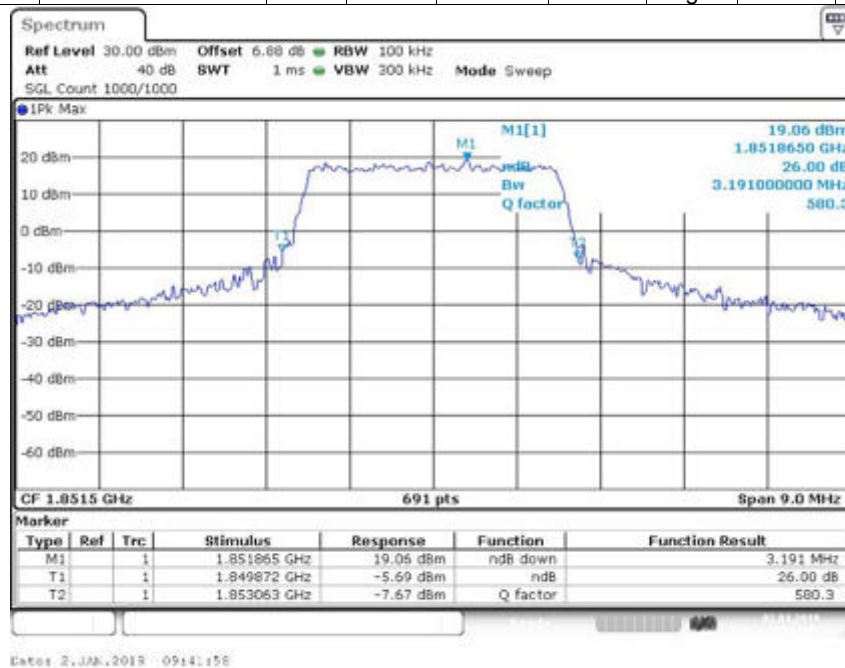


Fig.1

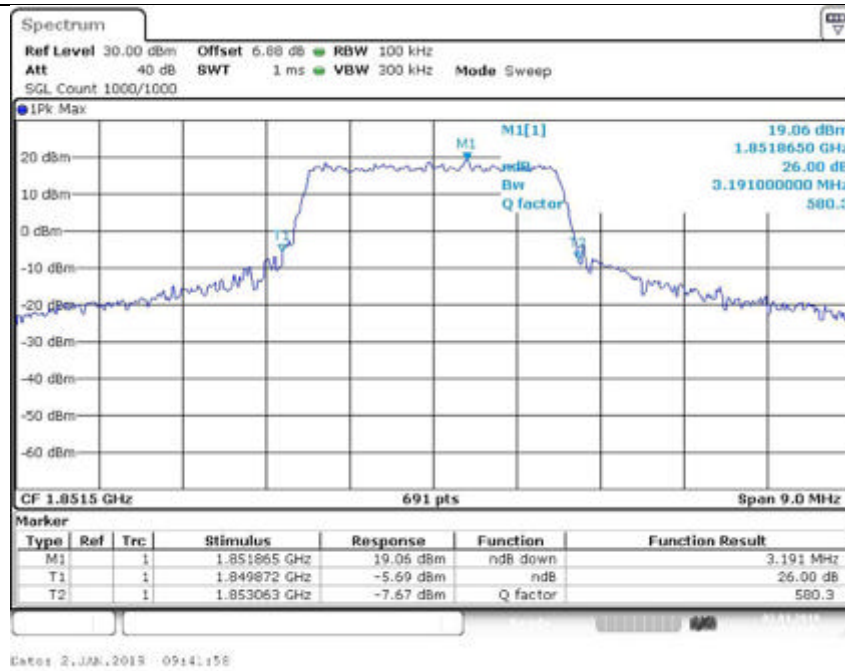


Fig.2

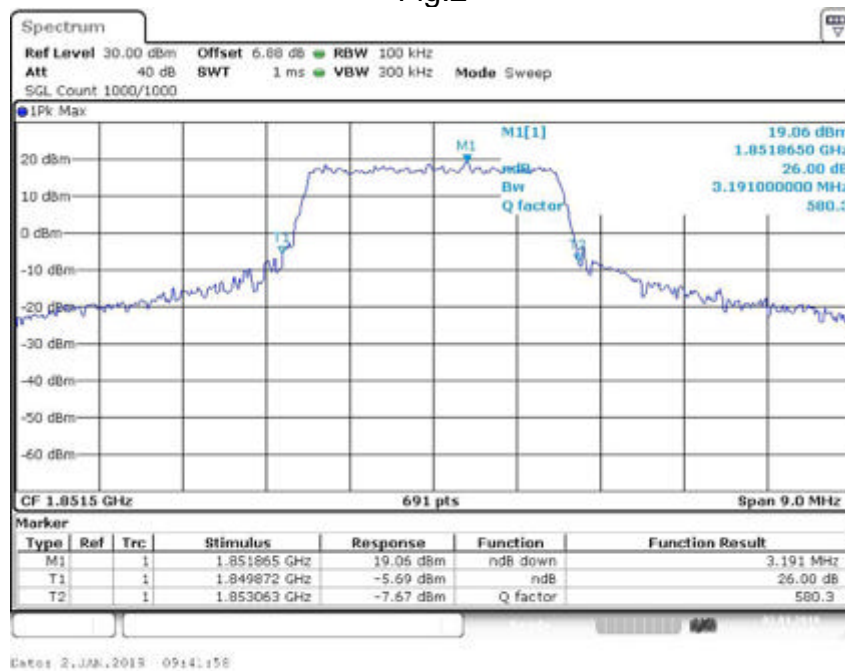


Fig.3



| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 3  | 15      | 0         | 3.243                                      | Fig.1 | 3.243  | Fig.2 | 3.243  | Fig.3 |

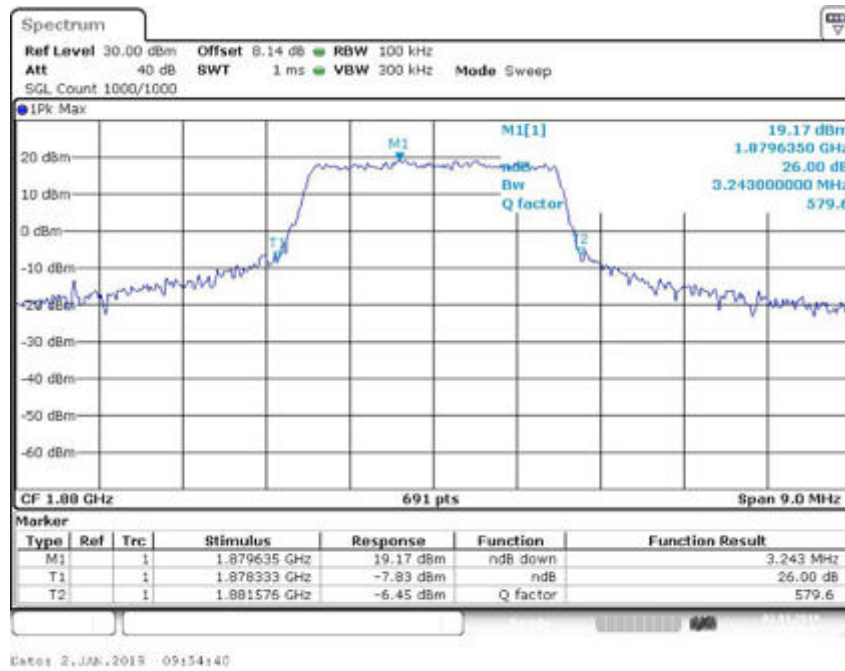


Fig.1

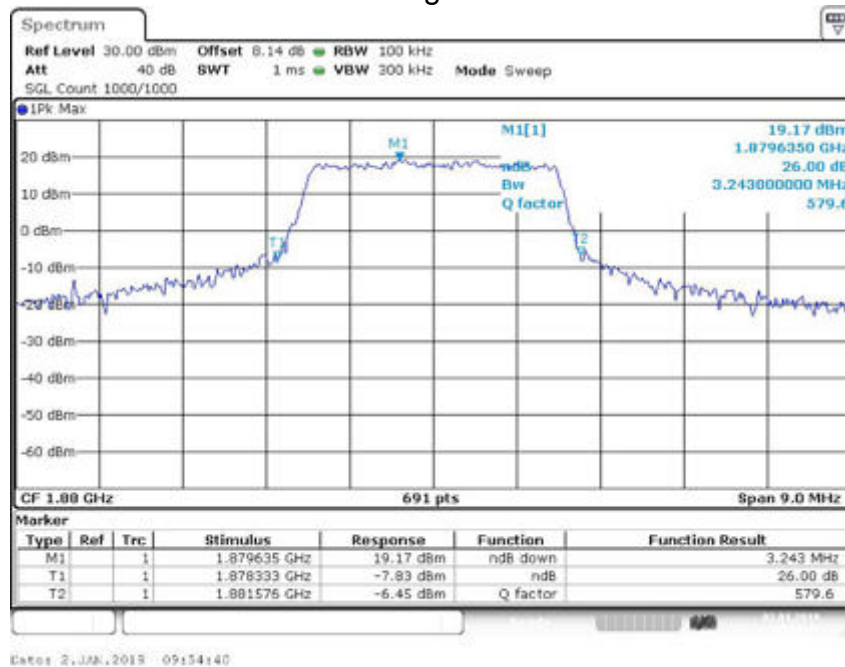


Fig.2

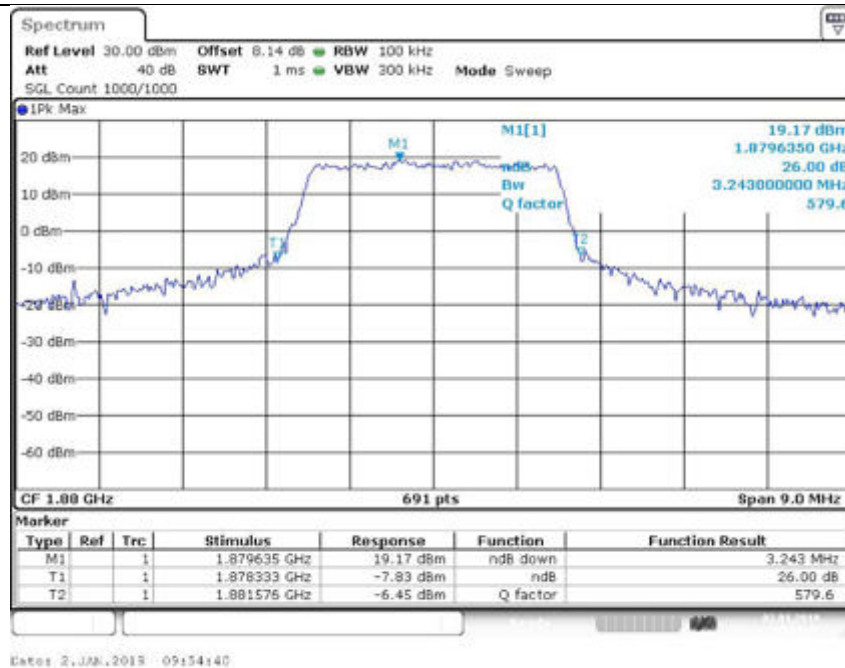


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1908.5                  | 19185         | 3  | 15      | 0         | 3.152                                      | Fig.1 | 3.152  | Fig.2 | 3.152  | Fig.3 |

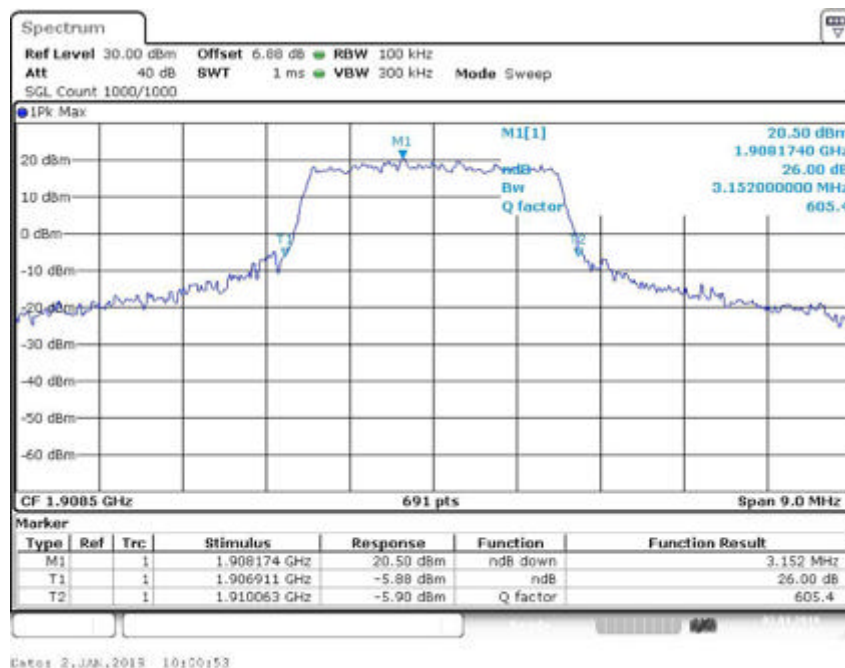


Fig.1

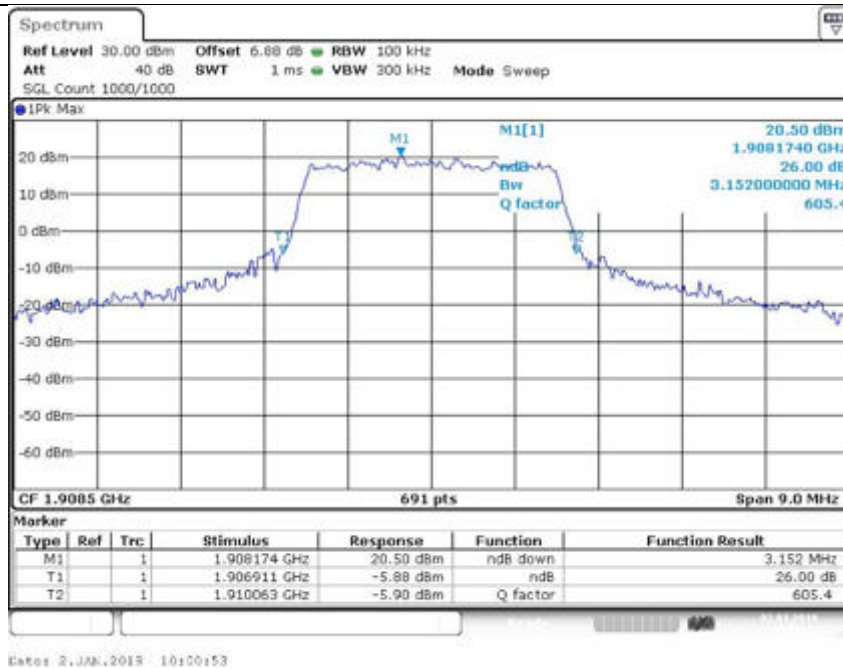


Fig.2

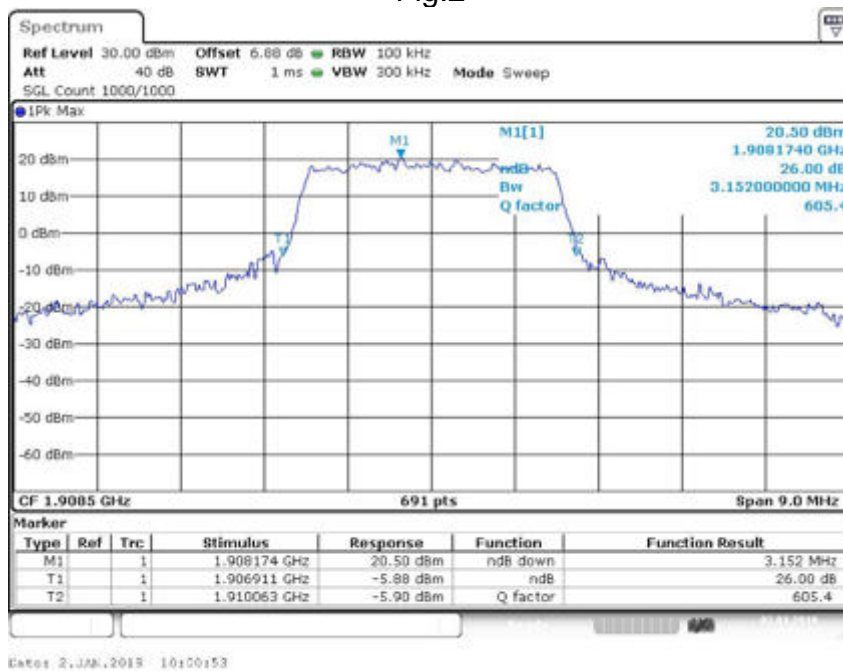


Fig.3



| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 16-QAM |       |
| 2    | 1852.5                  | 18625        | 5  | 25      | 0         | 5.123                                      | Fig.1 | 5.188  | Fig.2 | 5.188  | Fig.3 |

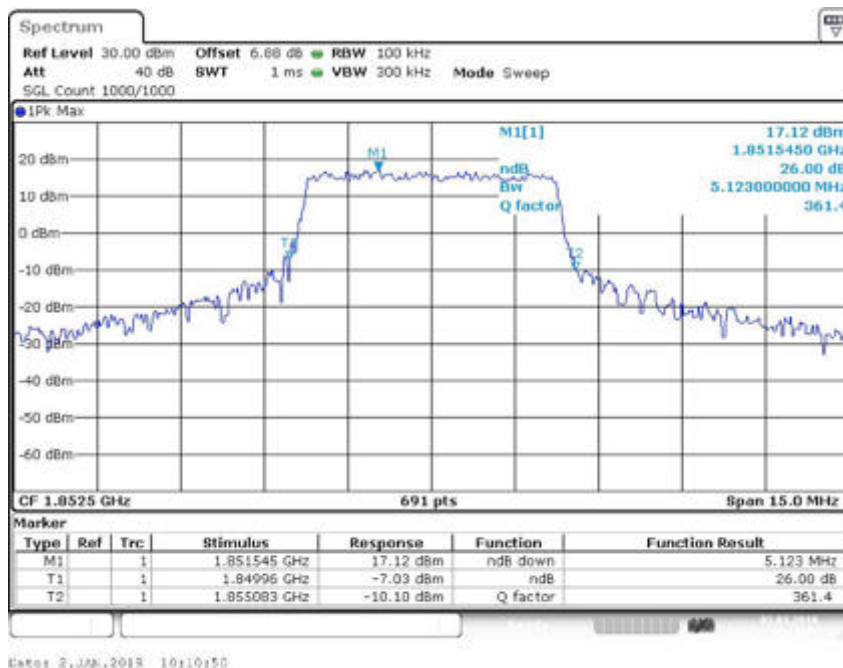


Fig.1

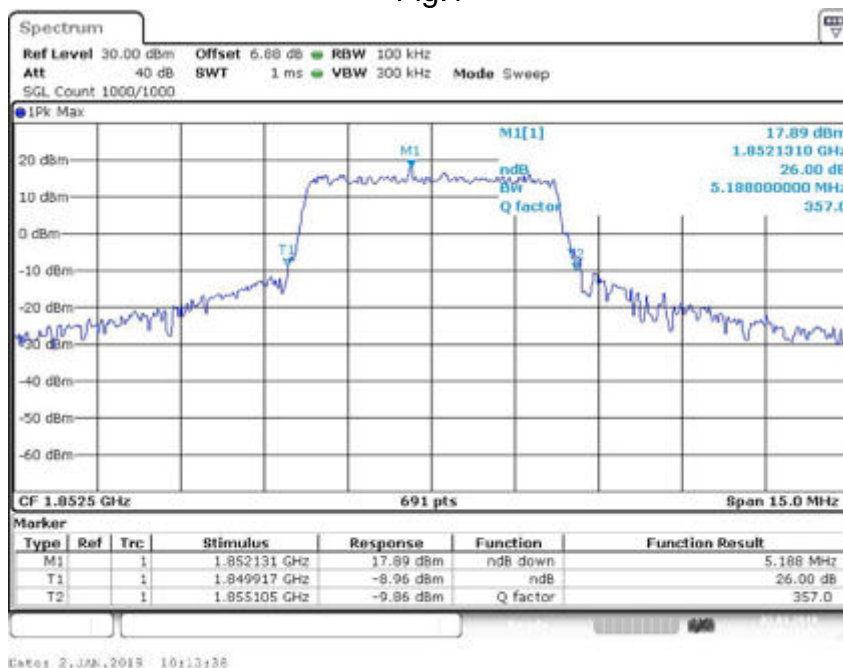


Fig.2

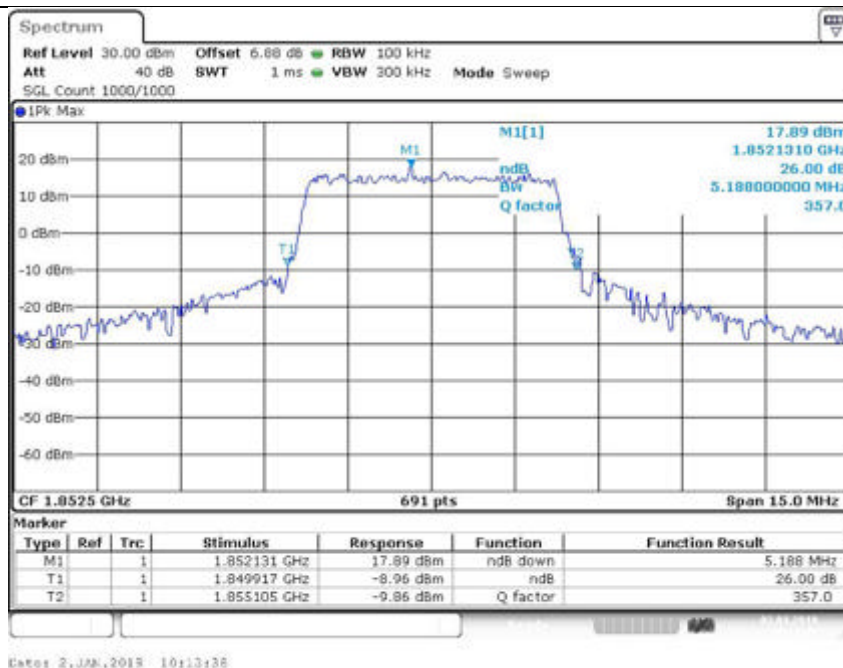


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 5  | 25      | 0         | 5.08                                       | Fig.1 | 5.318  | Fig.2 | 5.318  | Fig.3 |

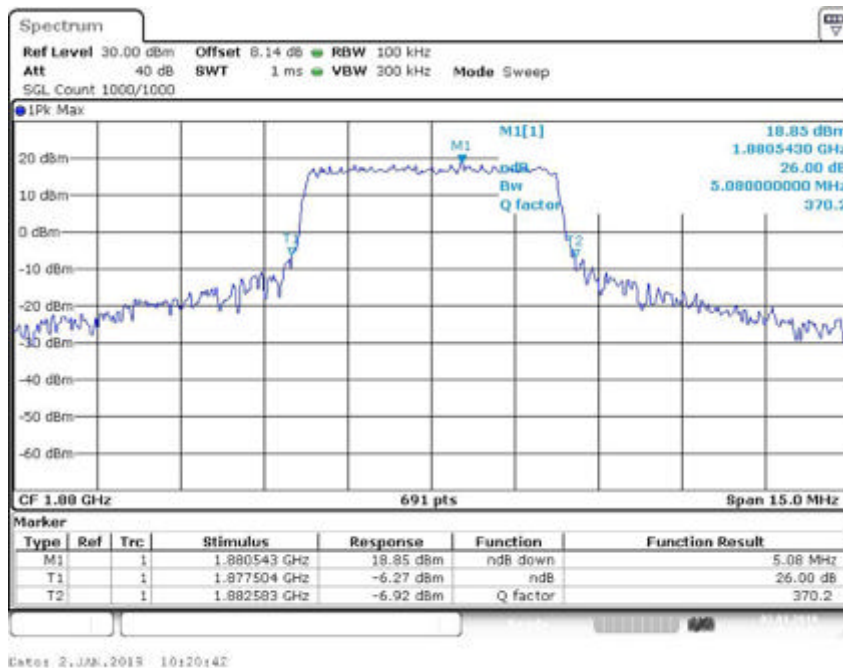


Fig.1

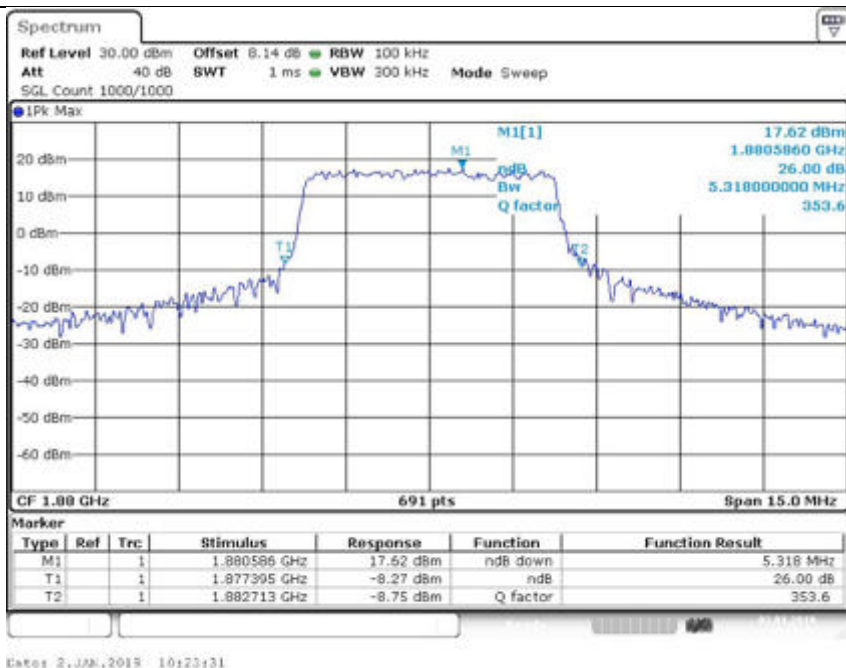


Fig.2

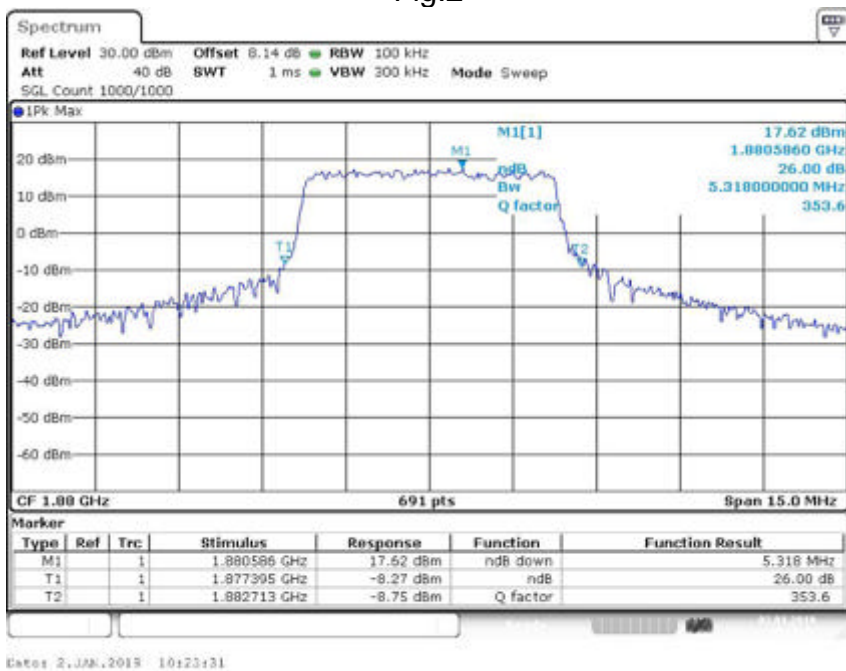


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1907.5                  | 19175         | 5  | 25      | 0         | 5.275                                      | Fig.1 | 5.275  | Fig.2 | 5.275  | Fig.3 |

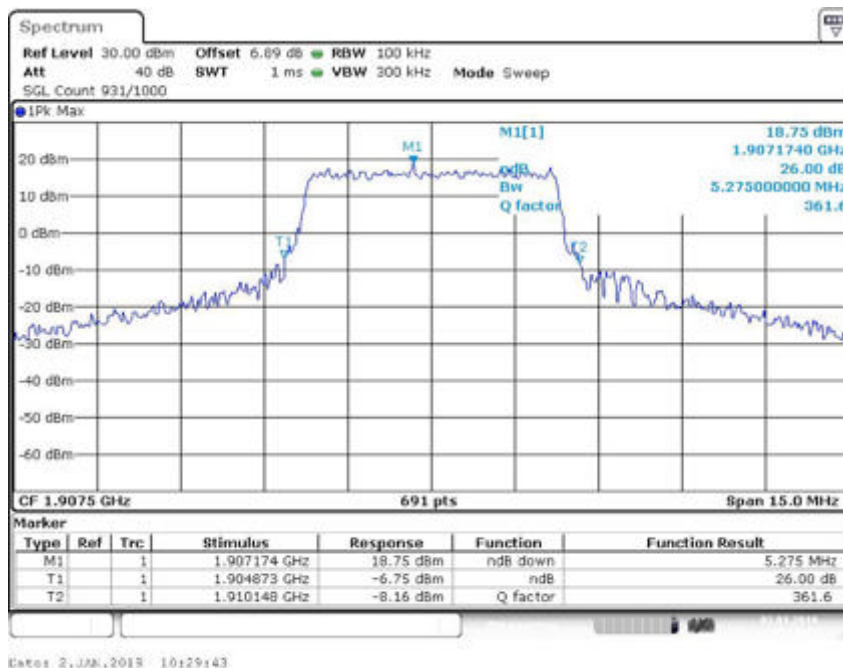


Fig.1

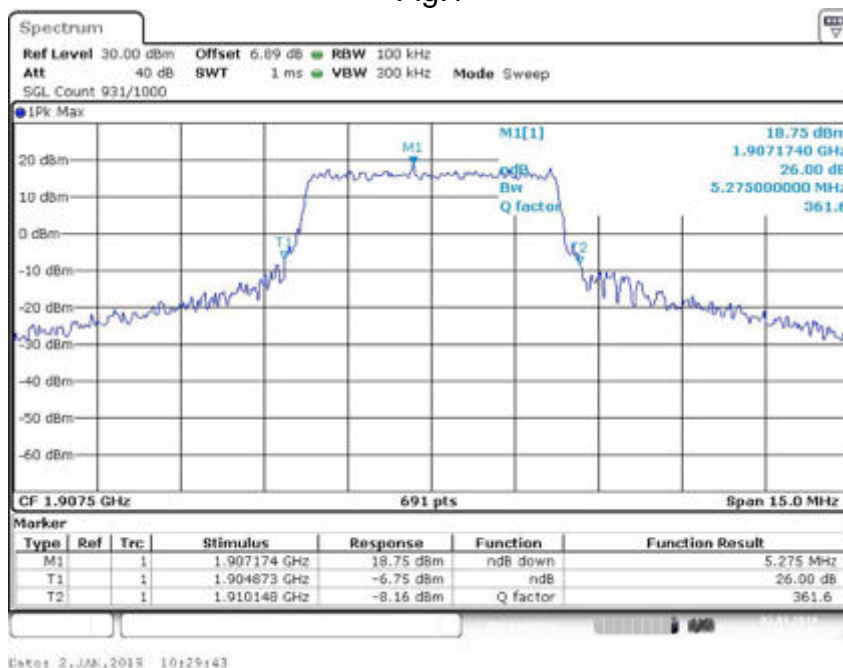


Fig.2

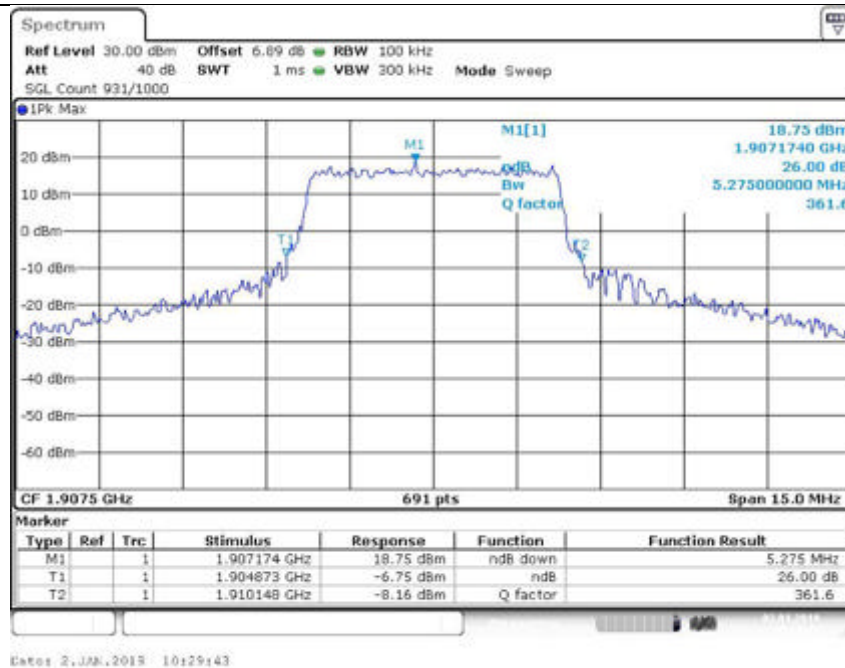


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1855                    | 18650        | 10 | 50      | 0         | 10.289                                     | Fig.1 | 10.159 | Fig.2 | 10.159 | Fig.3 |

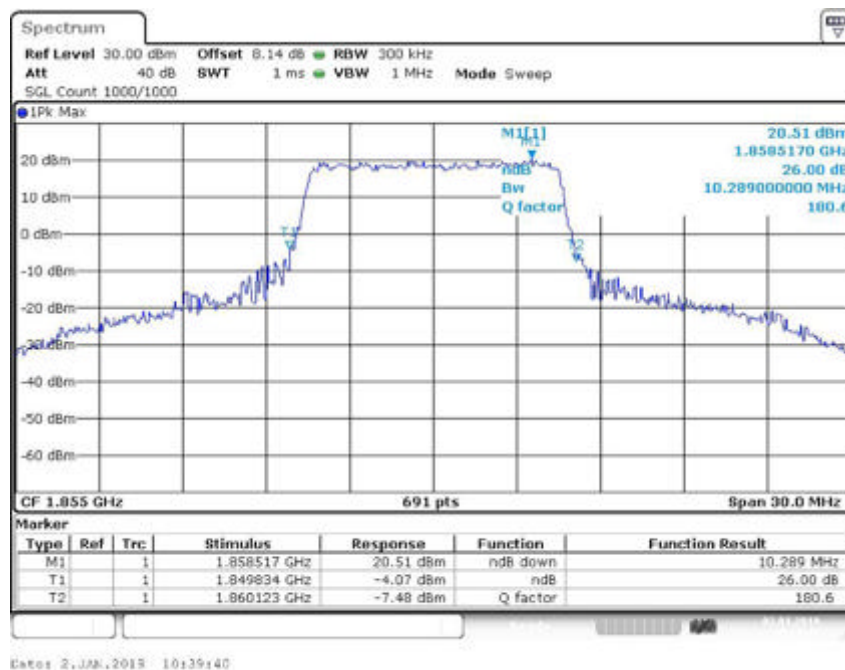


Fig.1



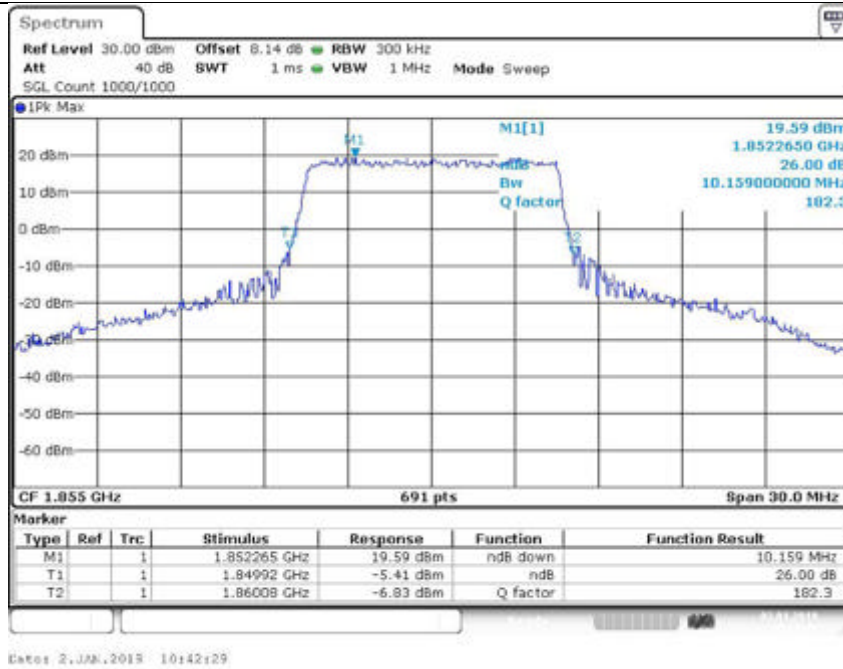


Fig.2

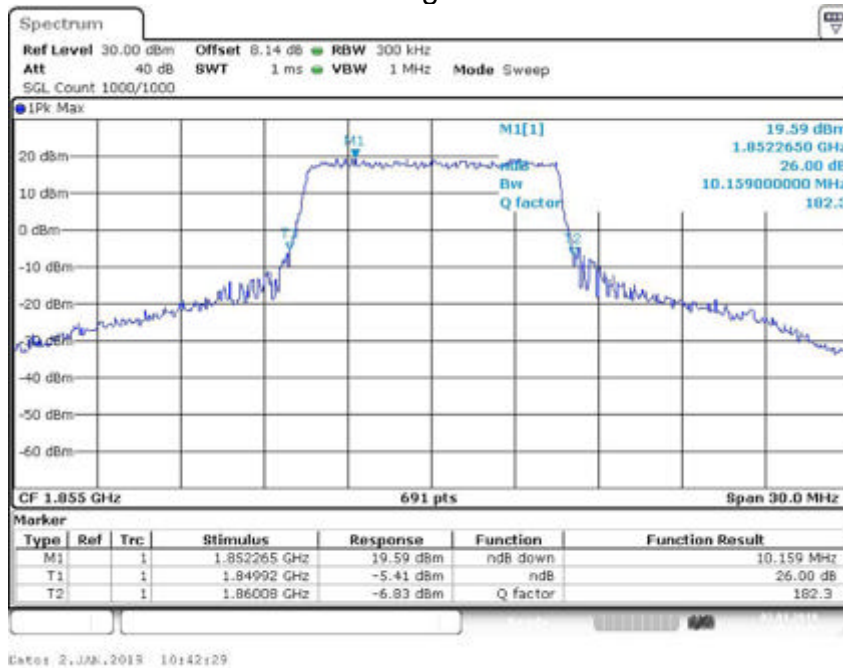


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 10 | 50      | 0         | 10.203                                     | Fig.1 | 10.116 | Fig.2 | 10.116 | Fig.3 |

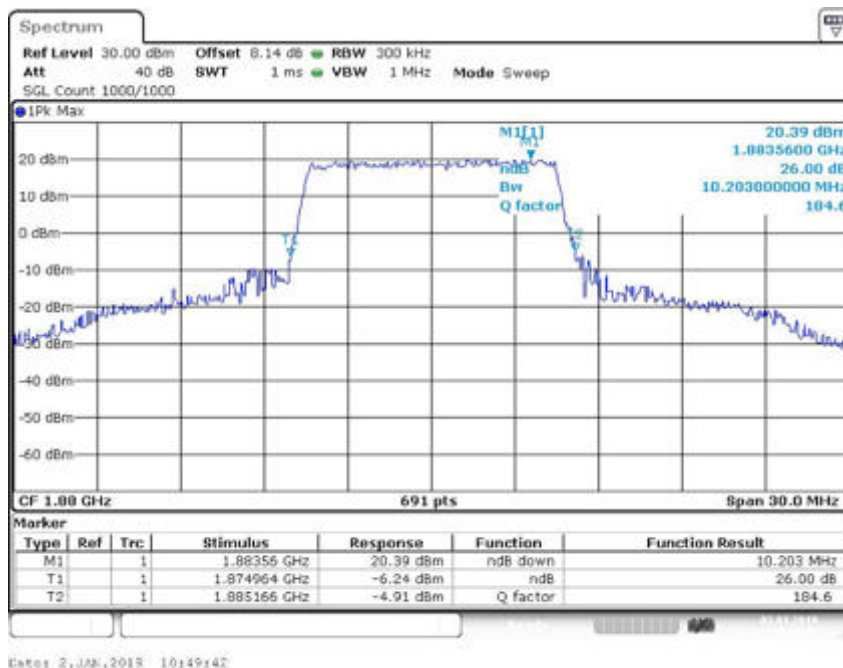


Fig.1

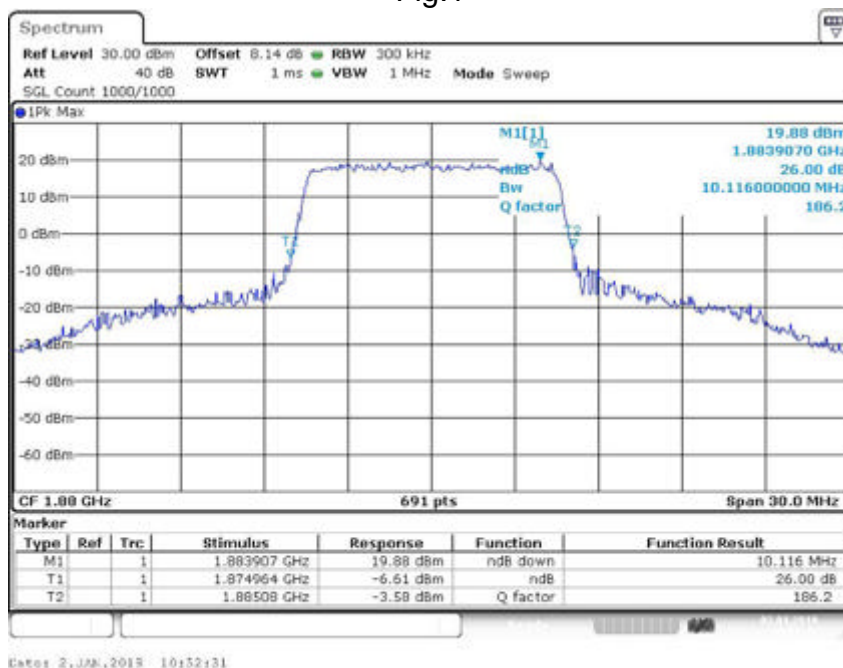


Fig.2

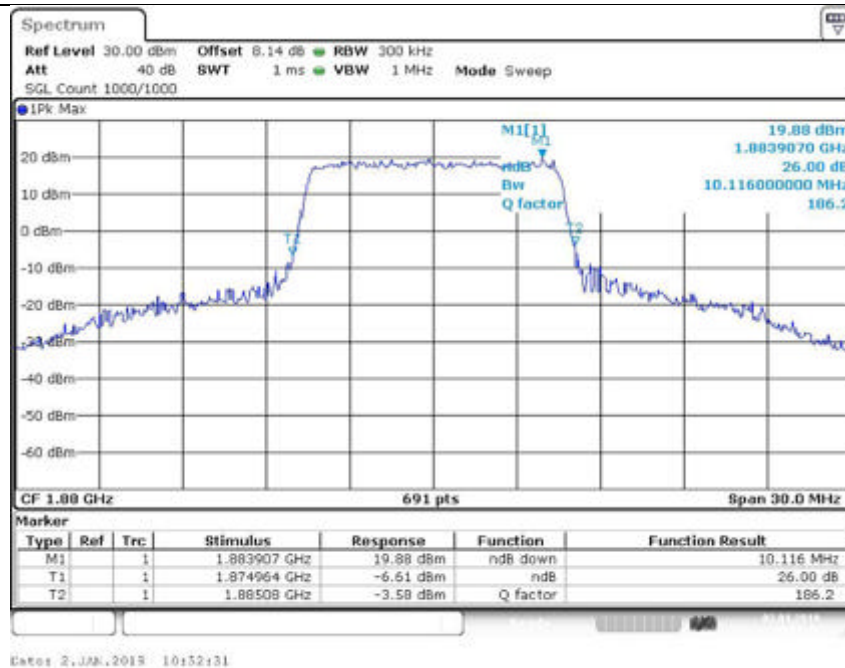


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1905                    | 19150         | 10 | 50      | 0         | 10.289                                     | Fig.1 | 10.289 | Fig.2 | 10.289 | Fig.3 |

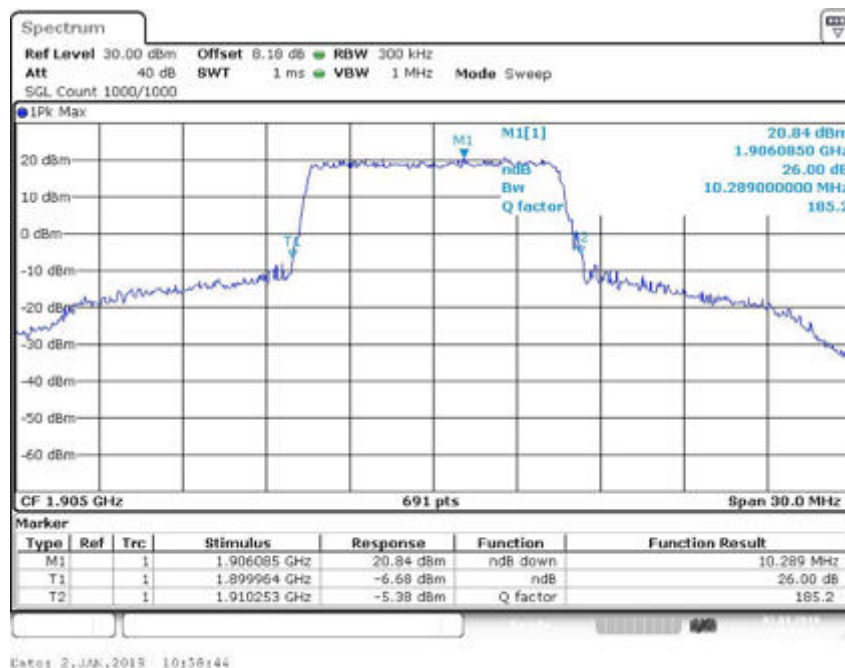


Fig.1



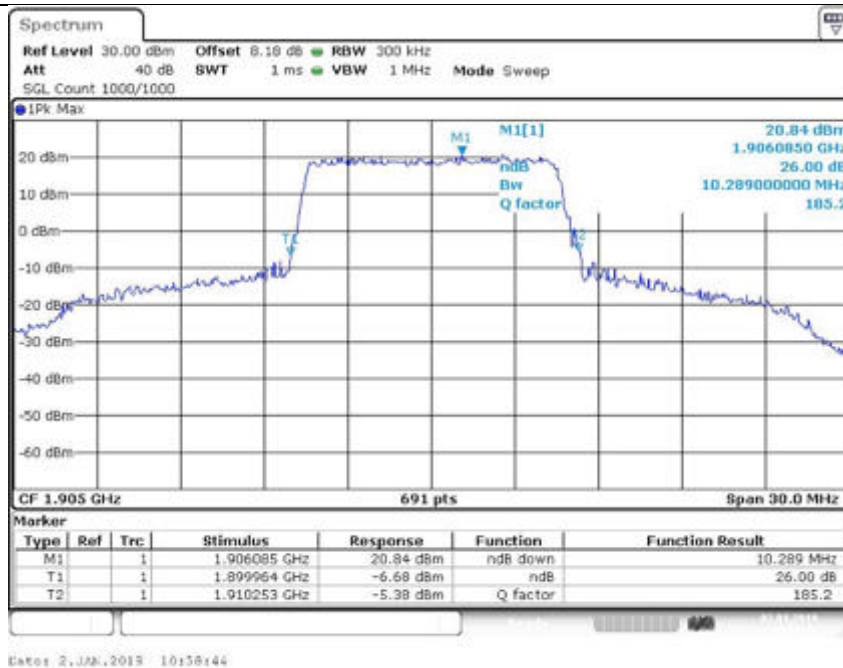


Fig.2

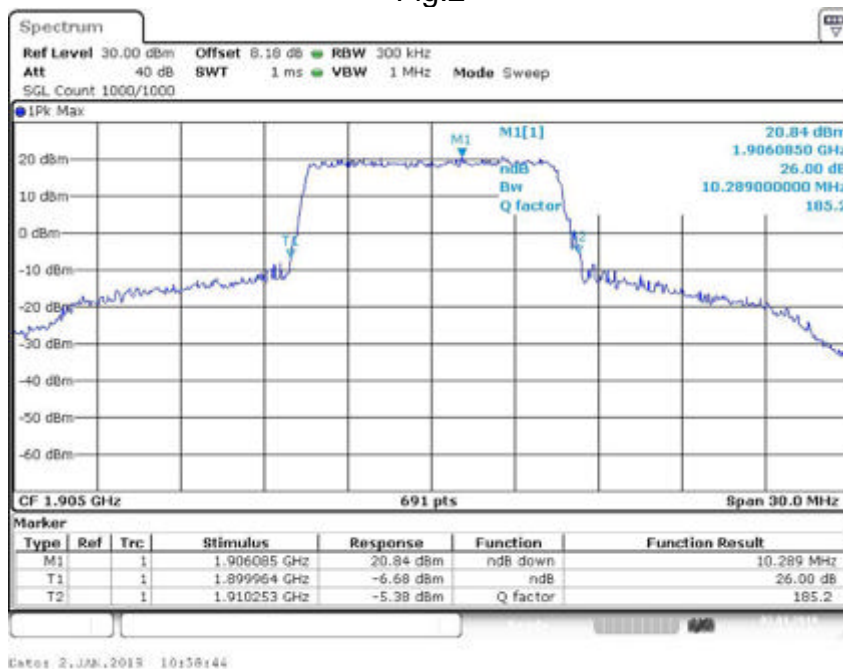


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |        |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|--------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       | 16-QAM | 64-QAM |       |        |       |
| 2    | 1857.5                  | 18675        | 15 | 75      | 0         | 15.174                                     | Fig.1  | 14.848 | Fig.2 | 14.848 | Fig.3 |

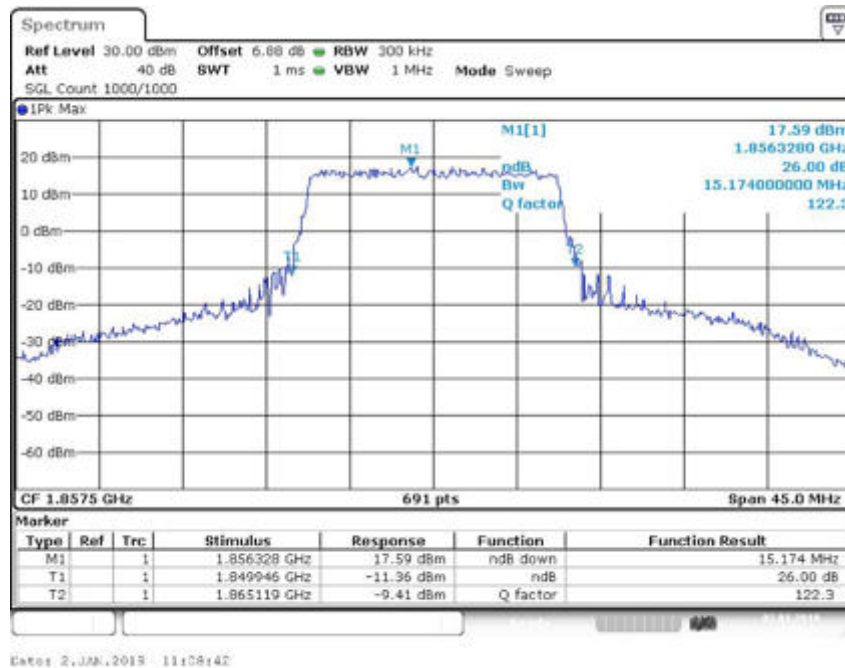


Fig.1

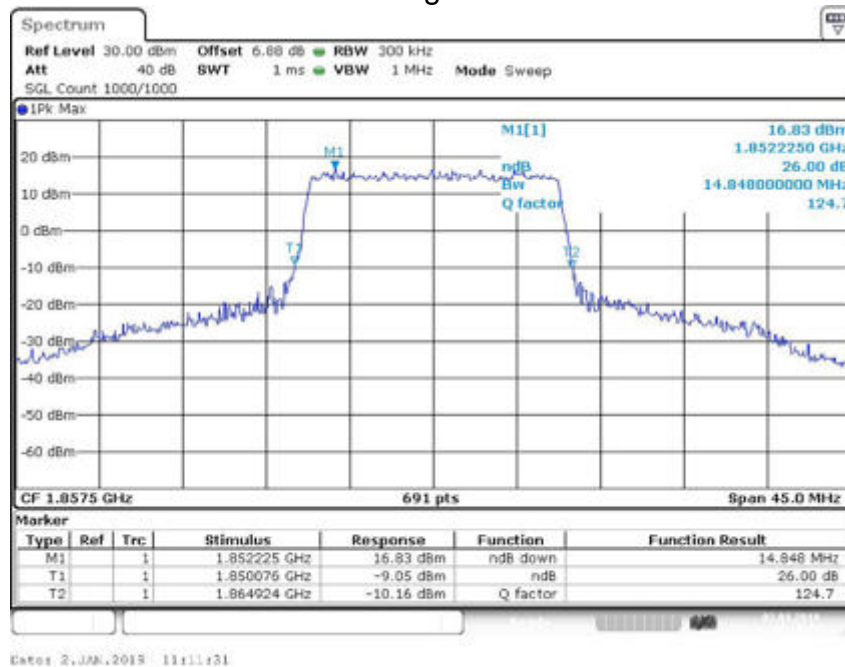


Fig.2

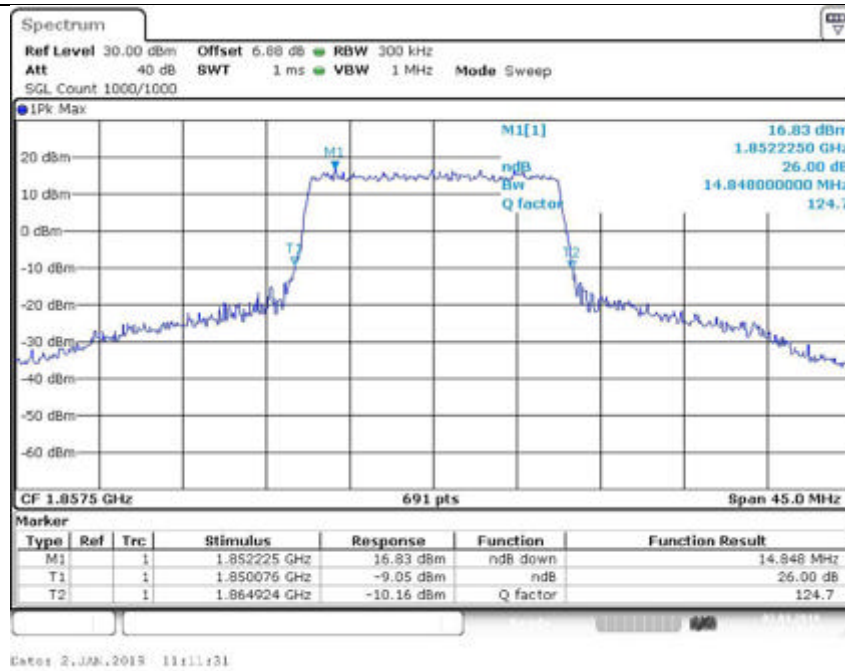


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       | Fig.1 | 16-QAM | Fig.2 | 64-QAM | Fig.3 |
| 2    | 1880                    | 18900        | 15 | 75      | 0         | 15.239                                     | Fig.1 | 14.978 | Fig.2 | 14.978 | Fig.3 |

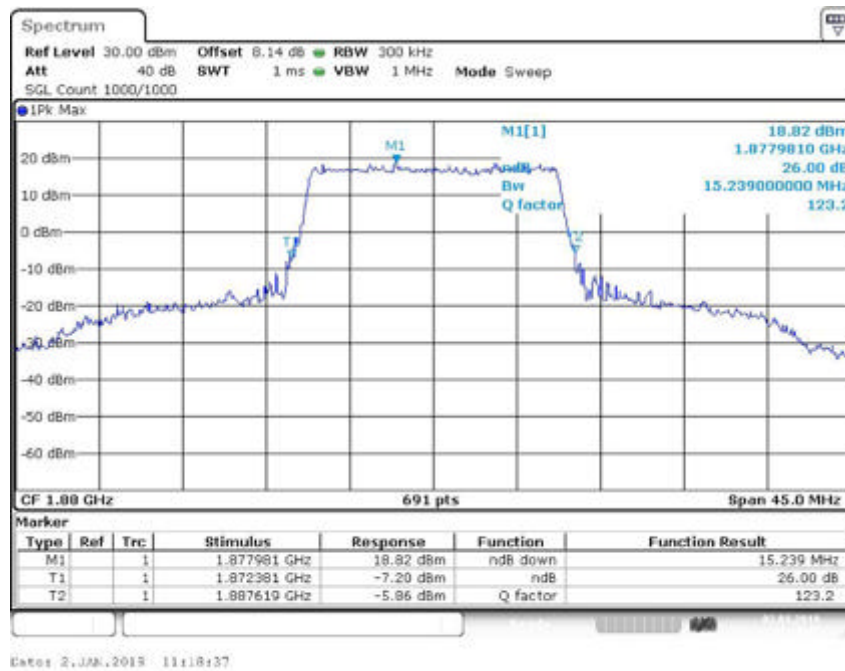


Fig.1

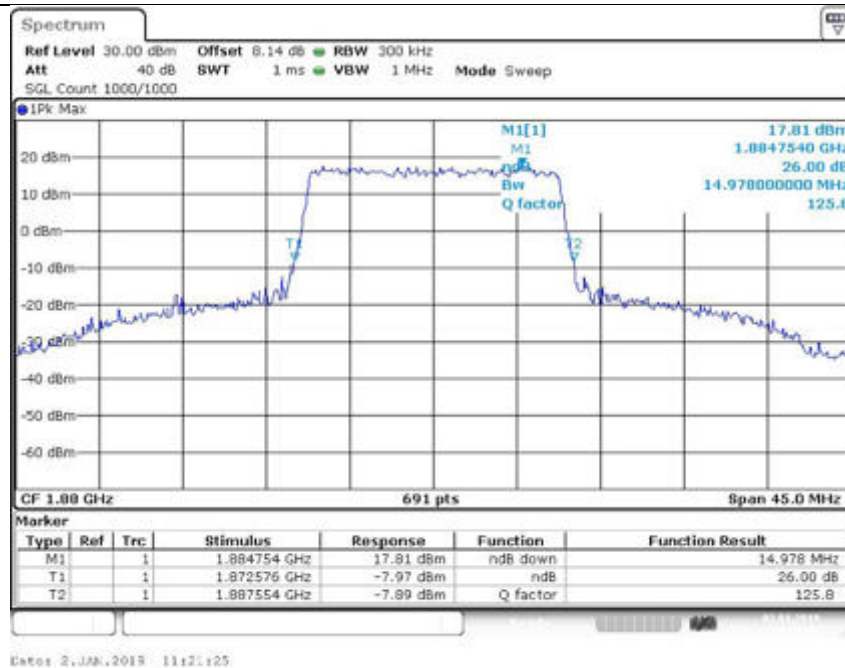


Fig.2

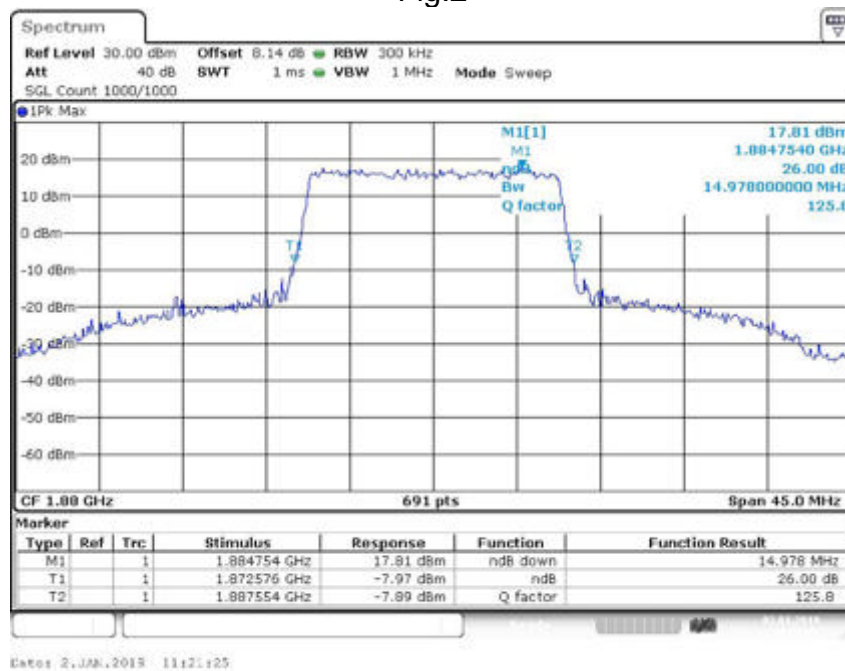


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |        |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|--|--------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                                       | 16-QAM | 64-QAM |       |        |       |
| 2    | 1902.5                  | 19125         | 15 | 75      | 0         | 15.239                                     | Fig.1  | 15.239 | Fig.2 | 15.239 | Fig.3 |

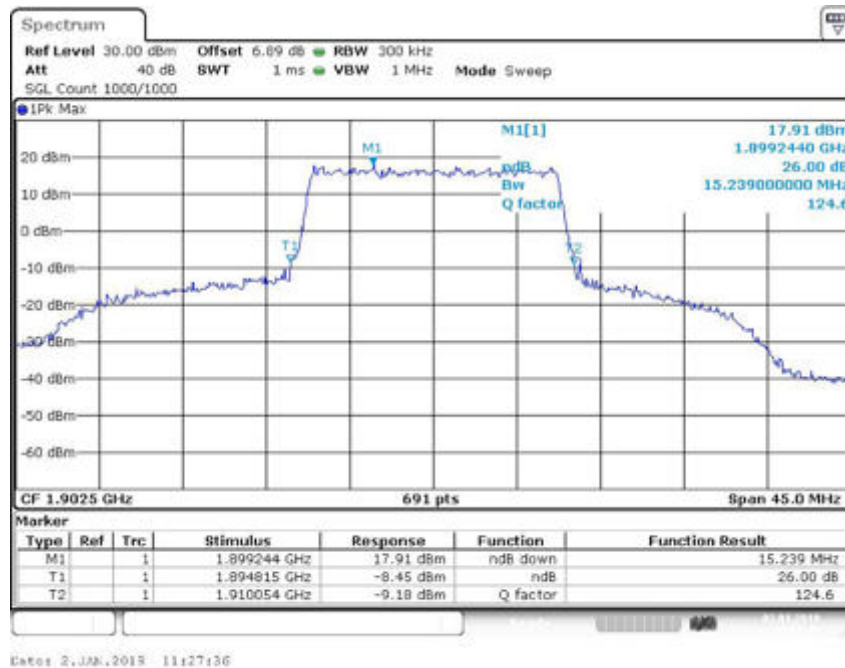


Fig.1

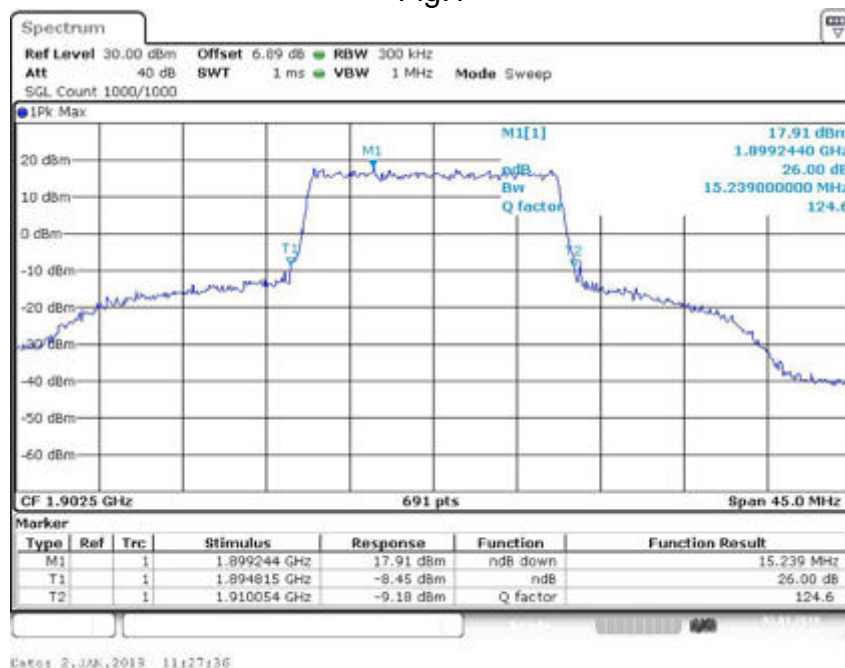


Fig.2



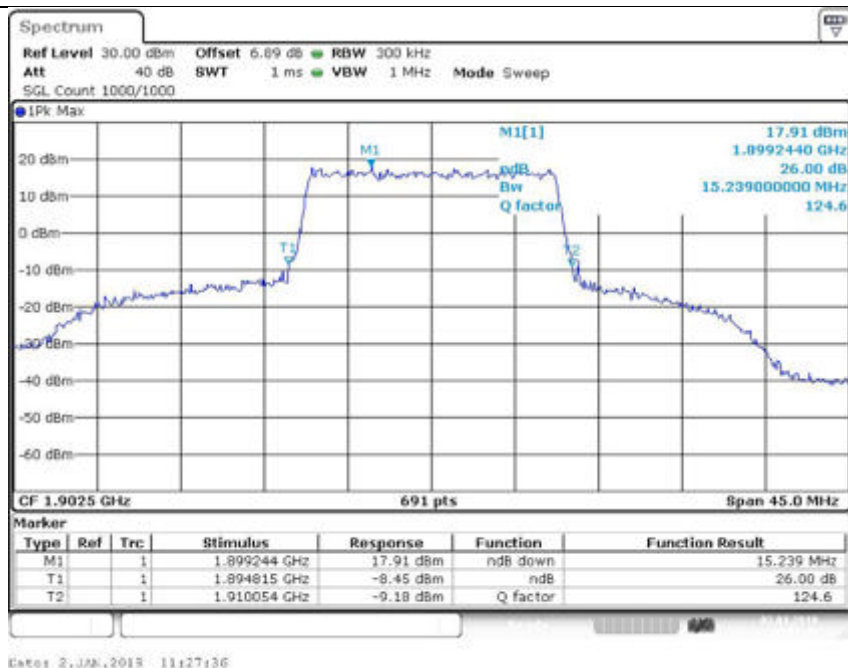


Fig.3

| Band | Carrier frequency (MHz) | Channel(Low) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1860                    | 18700        | 20 | 100     | 0         | 19.711                                     | Fig.1 | 19.711 | Fig.2 | 19.711 | Fig.3 |

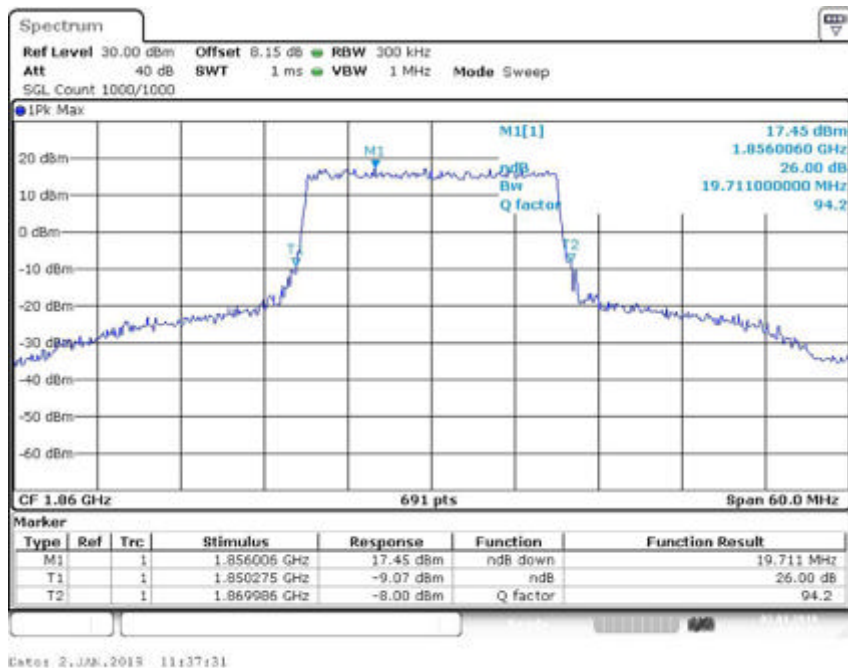


Fig.1

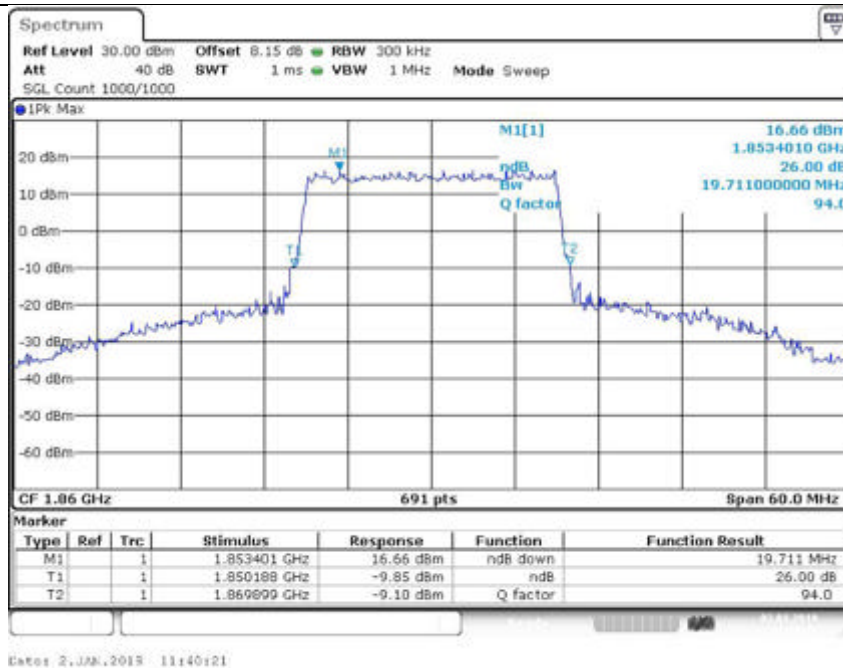


Fig.2

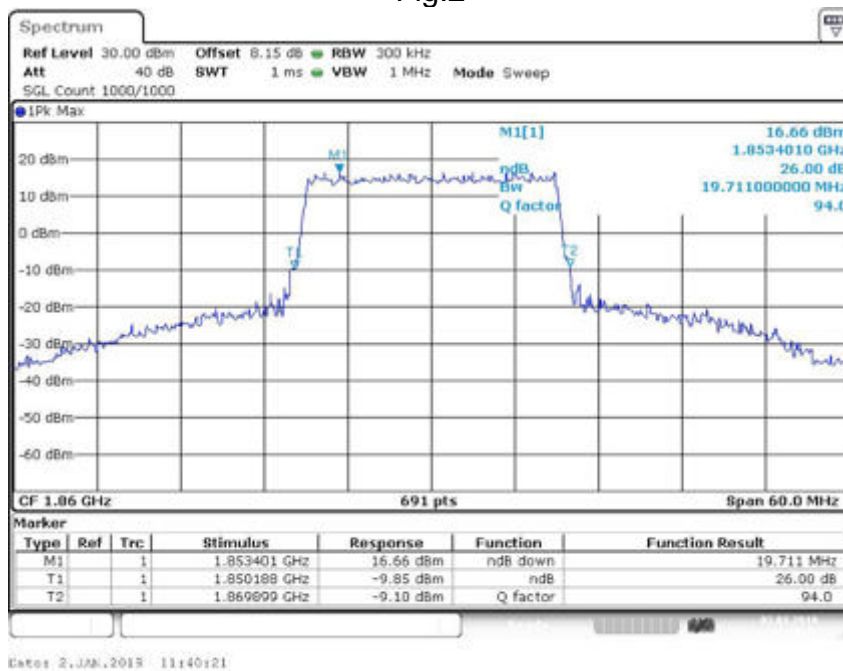


Fig.3

| Band | Carrier frequency (MHz) | Channel(Mid) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|--------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |              |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1880                    | 18900        | 20 | 100     | 0         | 19.537                                     | Fig.1 | 19.797 | Fig.2 | 19.797 | Fig.3 |

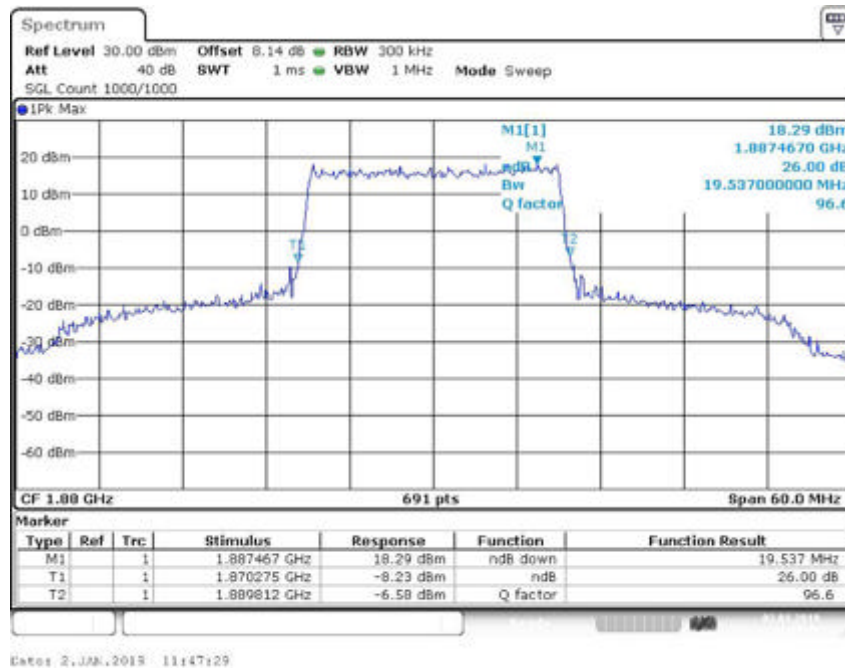


Fig.1

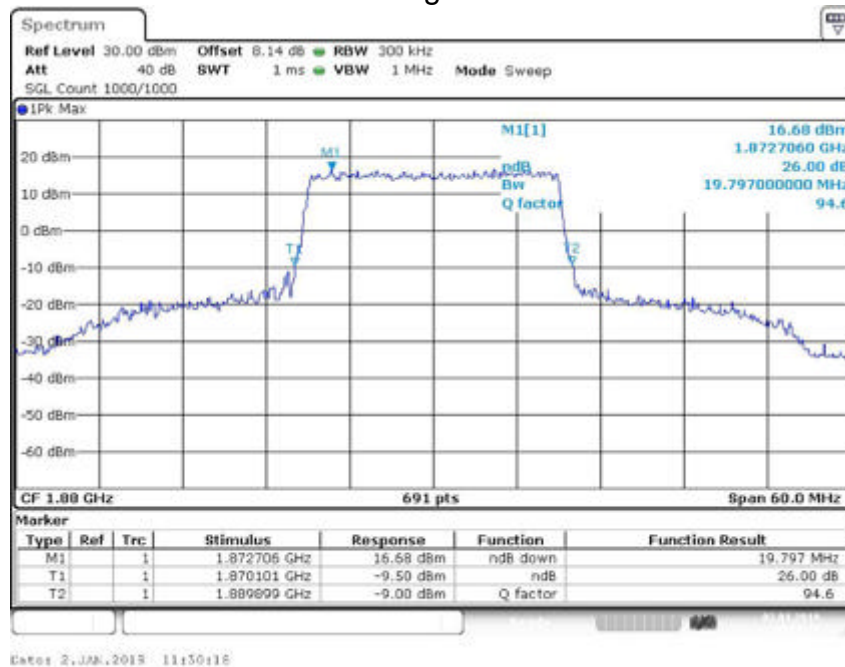


Fig.2



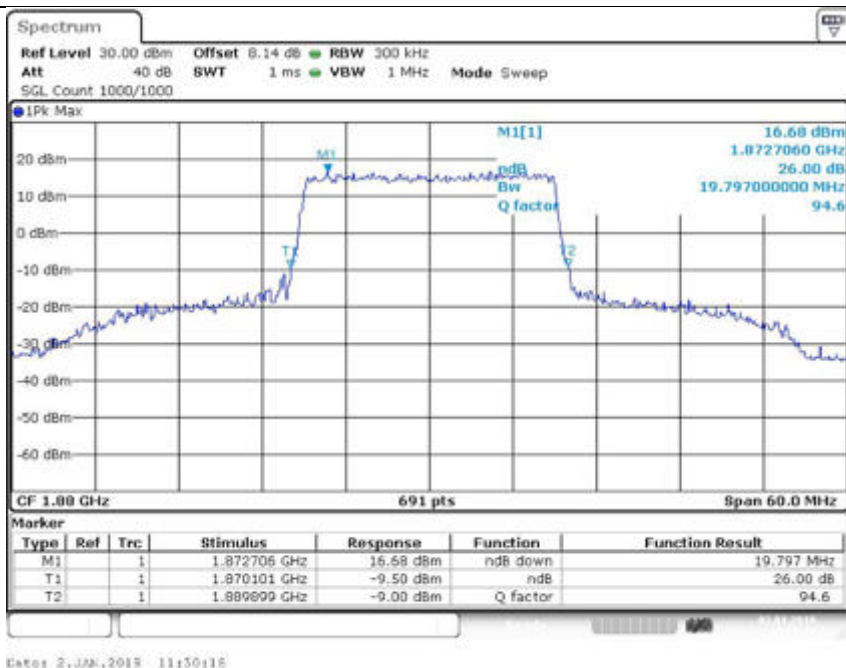


Fig.3

| Band | Carrier frequency (MHz) | Channel(High) | BW | RB Size | RB Offset | Bandwidth of -26dB transmitter power (MHz) |       |        |       |        |       |
|------|-------------------------|---------------|----|---------|-----------|--|-------|--------|-------|--------|-------|
|      |                         |               |    |         |           | QPSK                                       |       | 16-QAM |       | 64-QAM |       |
| 2    | 1900                    | 19100         | 20 | 100     | 0         | 20.145                                     | Fig.1 | 20.145 | Fig.2 | 20.145 | Fig.3 |

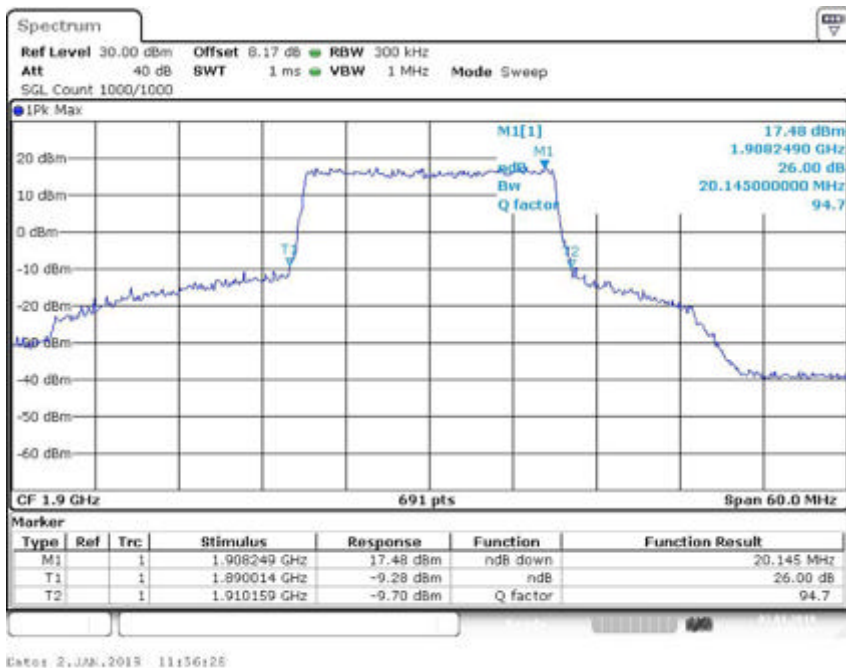


Fig.1

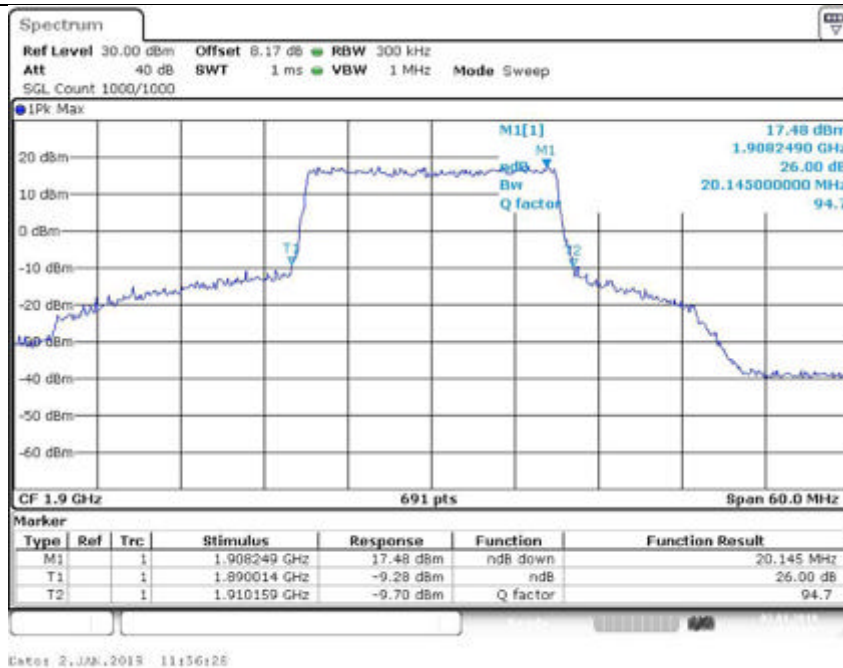


Fig.2

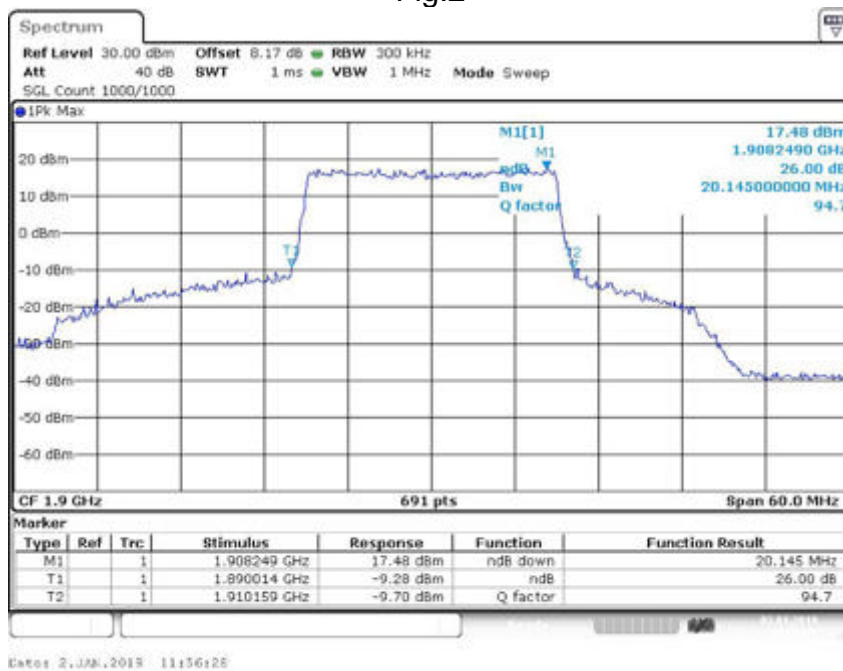
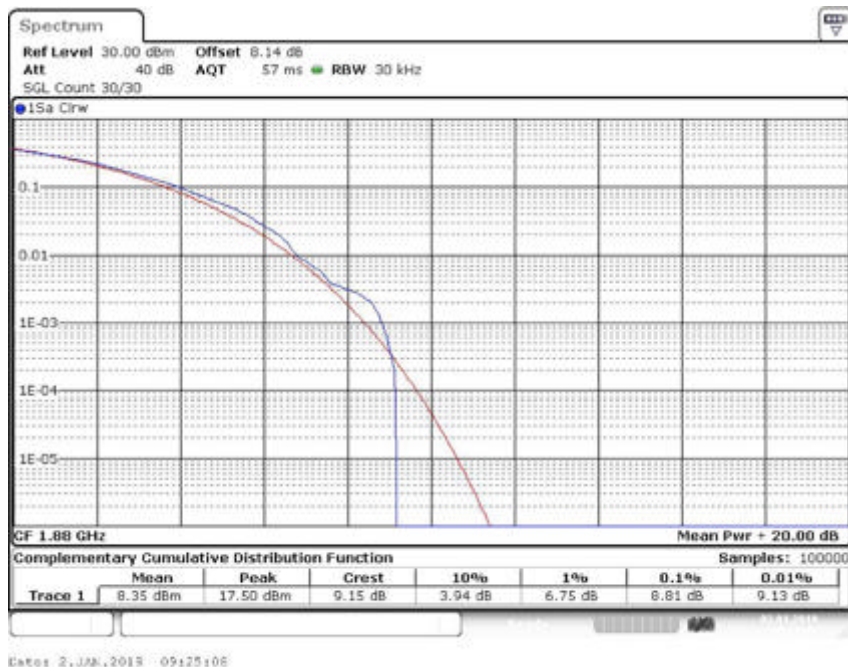


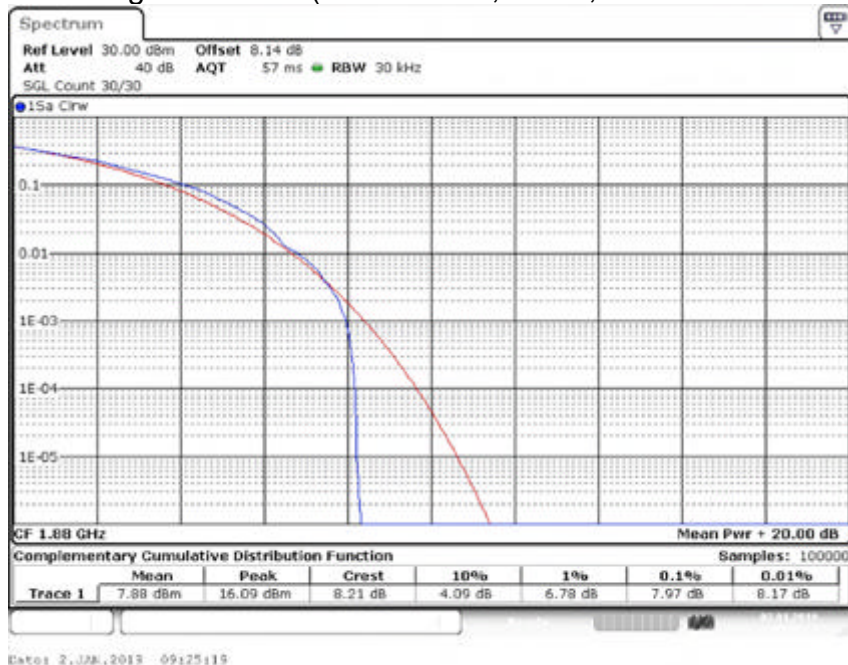
Fig.3

### 4 Peak-Average Ratio

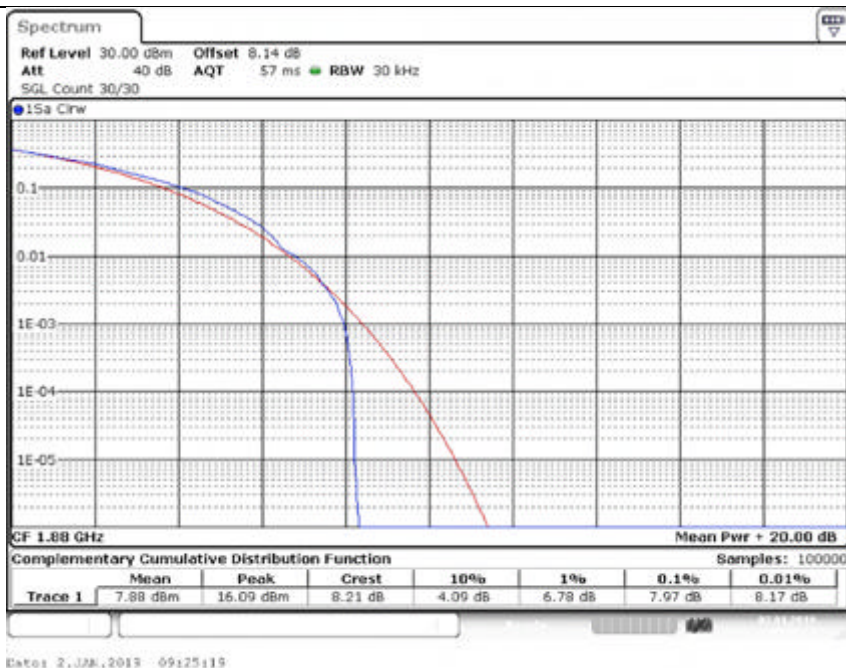
Test result:



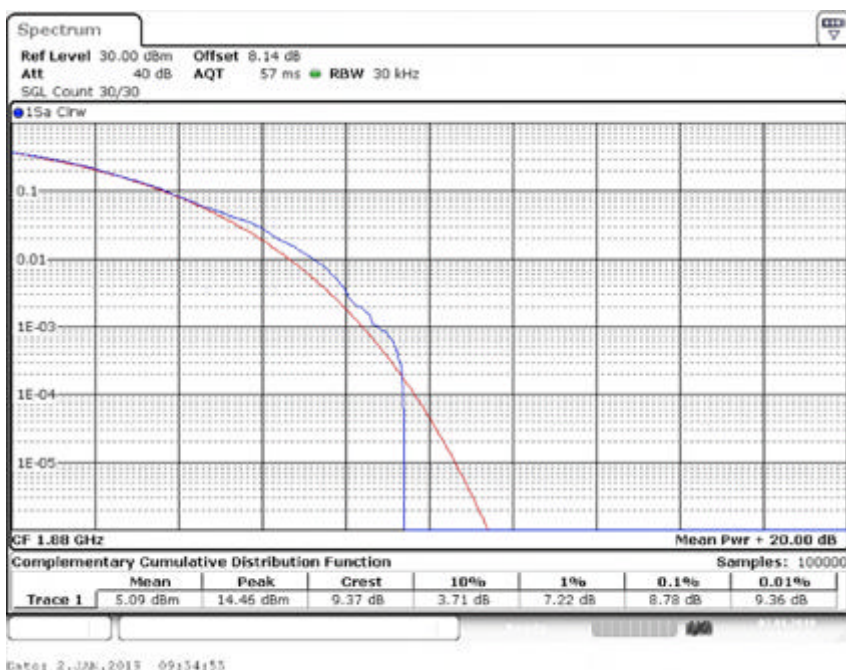
Peak-Average Ratio Plot(1.4MHz BW,QPSK,Band 2-mid Channel)



Peak-Average Ratio Plot(1.4MHz BW,16QAM,Band 2-mid Channel)

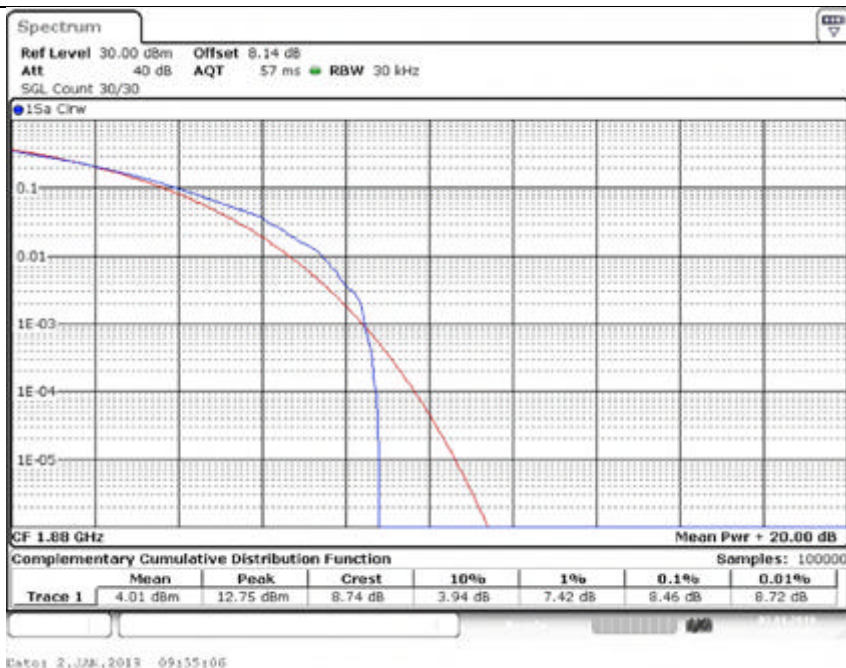


Peak-Average Ratio Plot(1.4MHz BW,64QAM,Band 2-mid Channel)

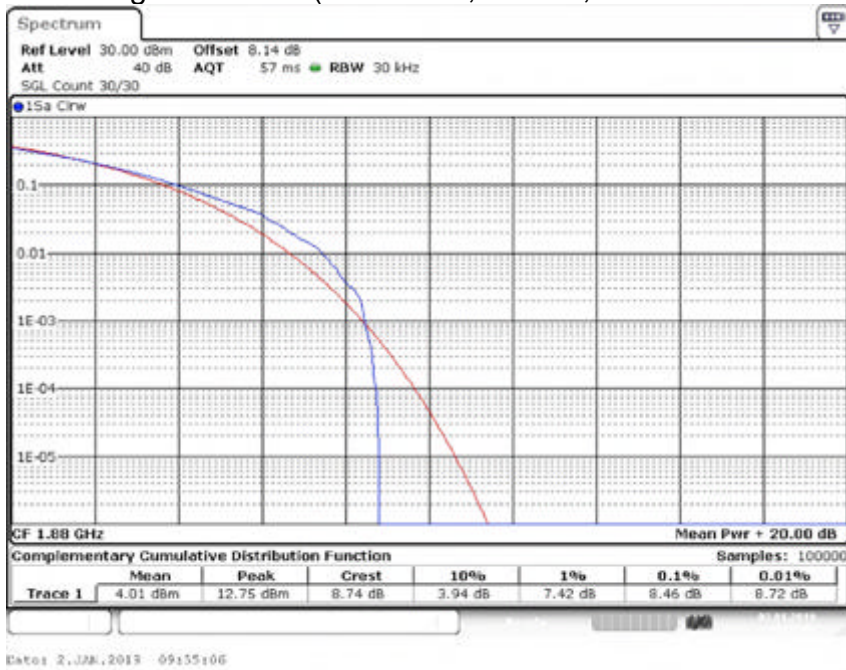


Peak-Average Ratio Plot(3MHz BW,QPSK,Band 2-mid Channel)





Peak-Average Ratio Plot(3MHz BW,16QAM,Band 2-mid Channel)



Peak-Average Ratio Plot(3MHz BW,64QAM,Band 2-mid Channel)