



TESTING LABORATORY  
CERTIFICATE #4820.01



# FCC PART 22H, PART 24E, PART 27 MEASUREMENT AND TEST REPORT

For

## Bolt Modus Corp

Oficina N.33 Edificio Ofidepositos Central Calidonia - Distrito Federal  
Panama

**FCC ID: 2APW4ART2P**

|                                            |                                                                                                                                                                                                                                                             |
|--------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Type:</b><br>Original Report     | <b>Product Type:</b><br>4G Smart Phone                                                                                                                                                                                                                      |
| <b>Report Number:</b> SZ1210513-16948E-00C |                                                                                                                                                                                                                                                             |
| <b>Report Date:</b> 2021-07-01             |                                                                                                                                                                                                                                                             |
| <b>Reviewed By:</b>                        | Ivan Cao<br>Assistant Manager                                                                                                                                          |
| <b>Test Laboratory:</b>                    | Bay Area Compliance Laboratories Corp. (Dongguan)<br>No.12, Pulong East 1 <sup>st</sup> Road,<br>Tangxia Town, Dongguan, Guangdong, China<br>Tel: +86-769-86858888<br>Fax: +86-769-86858891<br><a href="http://www.baclcorp.com.cn">www.baclcorp.com.cn</a> |

## **TABLE OF CONTENTS**

|                                                                                                           |            |
|-----------------------------------------------------------------------------------------------------------|------------|
| <b>GENERAL INFORMATION.....</b>                                                                           | <b>4</b>   |
| PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT) .....                                                  | 4          |
| OBJECTIVE .....                                                                                           | 4          |
| TEST METHODOLOGY .....                                                                                    | 4          |
| MEASUREMENT UNCERTAINTY .....                                                                             | 5          |
| TEST FACILITY .....                                                                                       | 5          |
| DECLARATIONS.....                                                                                         | 5          |
| <b>SYSTEM TEST CONFIGURATION.....</b>                                                                     | <b>6</b>   |
| JUSTIFICATION .....                                                                                       | 6          |
| EQUIPMENT MODIFICATIONS .....                                                                             | 6          |
| SUPPORT EQUIPMENT LIST AND DETAILS .....                                                                  | 6          |
| CONFIGURATION OF TEST SETUP .....                                                                         | 7          |
| BLOCK DIAGRAM OF TEST SETUP .....                                                                         | 7          |
| <b>SUMMARY OF TEST RESULTS .....</b>                                                                      | <b>8</b>   |
| <b>FCC §1.1310 &amp; §2.1093- RF EXPOSURE .....</b>                                                       | <b>9</b>   |
| APPLICABLE STANDARD .....                                                                                 | 9          |
| TEST RESULT .....                                                                                         | 9          |
| <b>FCC §2.1047 - MODULATION CHARACTERISTIC .....</b>                                                      | <b>10</b>  |
| <b>FCC § 2.1046, § 22.913 (A) &amp; § 24.232 (C) &amp; § 27.50- RF OUTPUT POWER.....</b>                  | <b>11</b>  |
| APPLICABLE STANDARD .....                                                                                 | 11         |
| TEST PROCEDURE .....                                                                                      | 12         |
| TEST EQUIPMENT LIST AND DETAILS.....                                                                      | 17         |
| TEST DATA .....                                                                                           | 17         |
| <b>FCC §2.1049, §22.917, §22.905 &amp; §24.238 &amp; §27.53- OCCUPIED BANDWIDTH .....</b>                 | <b>32</b>  |
| APPLICABLE STANDARD .....                                                                                 | 32         |
| TEST PROCEDURE .....                                                                                      | 32         |
| TEST EQUIPMENT LIST AND DETAILS.....                                                                      | 32         |
| TEST DATA .....                                                                                           | 32         |
| <b>FCC §2.1051, §22.917(A) &amp; §24.238(A) &amp; §27.53 - SPURIOUS EMISSIONS AT ANTENNA TERMINALS ..</b> | <b>63</b>  |
| APPLICABLE STANDARD .....                                                                                 | 63         |
| TEST PROCEDURE .....                                                                                      | 63         |
| TEST EQUIPMENT LIST AND DETAILS.....                                                                      | 63         |
| TEST DATA .....                                                                                           | 63         |
| <b>FCC §2.1053, §22.917 &amp; §24.238 &amp; §27.53 - SPURIOUS RADIATED EMISSIONS .....</b>                | <b>90</b>  |
| APPLICABLE STANDARD .....                                                                                 | 90         |
| TEST PROCEDURE .....                                                                                      | 90         |
| TEST EQUIPMENT LIST AND DETAILS.....                                                                      | 91         |
| TEST DATA .....                                                                                           | 91         |
| <b>FCC §22.917(A) &amp; §24.238(A) &amp; §27.53 - BAND EDGES.....</b>                                     | <b>101</b> |
| APPLICABLE STANDARD .....                                                                                 | 101        |
| TEST PROCEDURE .....                                                                                      | 101        |
| TEST EQUIPMENT LIST AND DETAILS.....                                                                      | 101        |
| TEST DATA .....                                                                                           | 101        |

**FCC §2.1055, §22.355 & §24.235 & §27.54- FREQUENCY STABILITY.....122**

    APPLICABLE STANDARD .....122

    TEST PROCEDURE .....122

    TEST EQUIPMENT LIST AND DETAILS.....123

    TEST DATA .....123

## GENERAL INFORMATION

### Product Description for Equipment under Test (EUT)

|                                  |                |                                                                                                                                                    |
|----------------------------------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>EUT Name:</b>                 |                | 4G Smart Phone                                                                                                                                     |
| <b>EUT Model:</b>                |                | ART2PRO                                                                                                                                            |
| <b>Operation modes:</b>          |                | GSM Voice, GPRS/EDGE Data,<br>WCDMA( R99 (Voice+Data), HSDPA,HSUPA Data)<br>FDD-LTE                                                                |
| <b>Antenna Gain<sup>▲</sup>:</b> |                | GSM850/WCDMA B5:-1.31 dBi(-3.46dBd)<br>PCS1900/WCDMA B2/LTE B2: 0.24 dBi<br>LTE B4: 0.56 dBi<br>LTE B7: 2.88 dBi<br>LTE B12/17: -3.0 dBi(-5.15dBd) |
| <b>Modulation Type:</b>          |                | GMSK,8PSK, BPSK, QPSK, 16QAM                                                                                                                       |
| <b>Rated Input Voltage:</b>      |                | DC 3.85V from battery or DC 5V from adapter                                                                                                        |
| <b>Adapter Information</b>       | <b>Model:</b>  | CART2P                                                                                                                                             |
|                                  | <b>Input:</b>  | 100-240V 50/60Hz                                                                                                                                   |
|                                  | <b>Output:</b> | 5V 2A                                                                                                                                              |
| <b>Serial Number:</b>            |                | SZ1210513-16948E-RF-S1                                                                                                                             |
| <b>EUT Received Date:</b>        |                | 2021.05.13                                                                                                                                         |
| <b>EUT Received Status:</b>      |                | Good                                                                                                                                               |

### Objective

This report is prepared on behalf of **Bolt Modus Corp** in accordance with: Part 2-Subpart J, Part 22-Subpart H, Part 24-Subpart E, Part 27 of the Federal Communications Commission's rules.

The objective is to determine compliance with FCC Rules for output power, modulation characteristic, occupied bandwidth, spurious emissions at antenna terminal, spurious radiated emission, frequency stability and band edge.

### Test Methodology

All tests and measurements indicated in this document were performed in accordance with:

The Code of federal Regulations Title 47, Part 2, Part 22H, Part 24E, Part 27.

ANSI C63.26-2015, American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services

All emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Dongguan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

## Measurement Uncertainty

| Parameter                     | Measurement Uncertainty                      |
|-------------------------------|----------------------------------------------|
| Occupied Channel Bandwidth    | ±5 %                                         |
| RF output power, conducted    | ±0.61dB                                      |
| Unwanted Emissions, radiated  | 30MHz ~ 1GHz: 5.85 dB<br>1G~26.5GHz: 5.23 dB |
| Unwanted Emissions, conducted | ±1.5 dB                                      |
| Temperature                   | ±1 °C                                        |
| Humidity                      | ±5%                                          |
| DC and low frequency voltages | ±0.4%                                        |
| Duty Cycle                    | 1%                                           |

*Note: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.*

## Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Dongguan) to collect test data is located on the No.12, Pulong East 1<sup>st</sup> Road, Tangxia Town, Dongguan, Guangdong, China.

The lab has been recognized as the FCC accredited lab under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No. : 897218, the FCC Designation No. : CN1220.

The lab has been recognized by Innovation, Science and Economic Development Canada to test to Canadian radio equipment requirements, the CAB identifier: CN0022.

## Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol “▲”. Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

This report cannot be reproduced except in full, without prior written approval of the Company.

This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

This report may contain data that are not covered by the accreditation scope and shall be marked with an asterisk “★”.

## SYSTEM TEST CONFIGURATION

### Justification

The EUT was configured for testing according to ANSI C63.26-2015.

The test items were performed with the EUT operating at testing mode. The device operates on GSM Band 850/1900MHz, WCDMA Band 2/5, and LTE band 2/4/7/12/17, test was performed with channels as below table:

| Frequency Bands   | Bandwidth (MHz) | Test Frequency(MHz) |        |        |
|-------------------|-----------------|---------------------|--------|--------|
|                   |                 | Low                 | Middle | High   |
| GSM/GPRS/EDGE850  | 0.25            | 824.2               | 836.6  | 848.8  |
| GSM/GPRS/EDGE1900 | 0.25            | 1850.2              | 1880   | 1909.8 |
| WCDMA Band 2      | 4.2             | 1852.4              | 1880   | 1907.6 |
| WCDMA Band 5      | 4.2             | 826.4               | 836.6  | 846.6  |
| LTE Band 2        | 1.4             | 1850.7              | 1880   | 1909.3 |
|                   | 3               | 1851.5              | 1880   | 1908.5 |
|                   | 5               | 1852.5              | 1880   | 1907.5 |
|                   | 10              | 1855                | 1880   | 1905   |
|                   | 15              | 1857.5              | 1880   | 1902.5 |
|                   | 20              | 1860                | 1880   | 1900   |
| LTE Band 4        | 1.4             | 1710.7              | 1732.5 | 1754.3 |
|                   | 3               | 1711.5              | 1732.5 | 1753.5 |
|                   | 5               | 1712.5              | 1732.5 | 1752.5 |
|                   | 10              | 1715                | 1732.5 | 1750   |
|                   | 15              | 1717.5              | 1732.5 | 1747.5 |
|                   | 20              | 1720                | 1732.5 | 1745   |
| LTE Band 7        | 5               | 2502.5              | 2535   | 2567.5 |
|                   | 10              | 2505                | 2535   | 2565   |
|                   | 15              | 2507.5              | 2535   | 2562.5 |
|                   | 20              | 2510                | 2535   | 2560   |
| LTE Band 12       | 1.4             | 699.7               | 707.5  | 715.3  |
|                   | 3               | 700.5               | 707.5  | 714.5  |
|                   | 5               | 701.5               | 707.5  | 713.5  |
|                   | 10              | 704                 | 707.5  | 711    |
| LTE Band 17       | 5               | 706.5               | 710    | 713.5  |
|                   | 10              | 709                 | 710    | 711    |

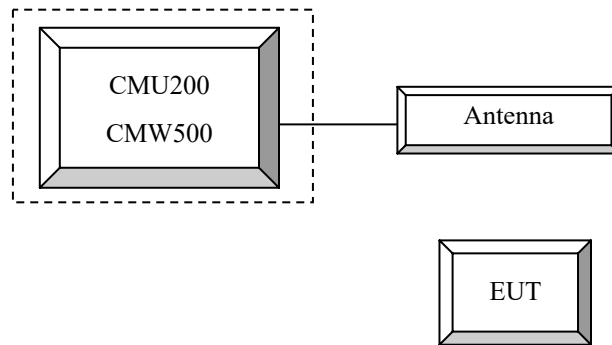
### Equipment Modifications

No modification was made to the EUT.

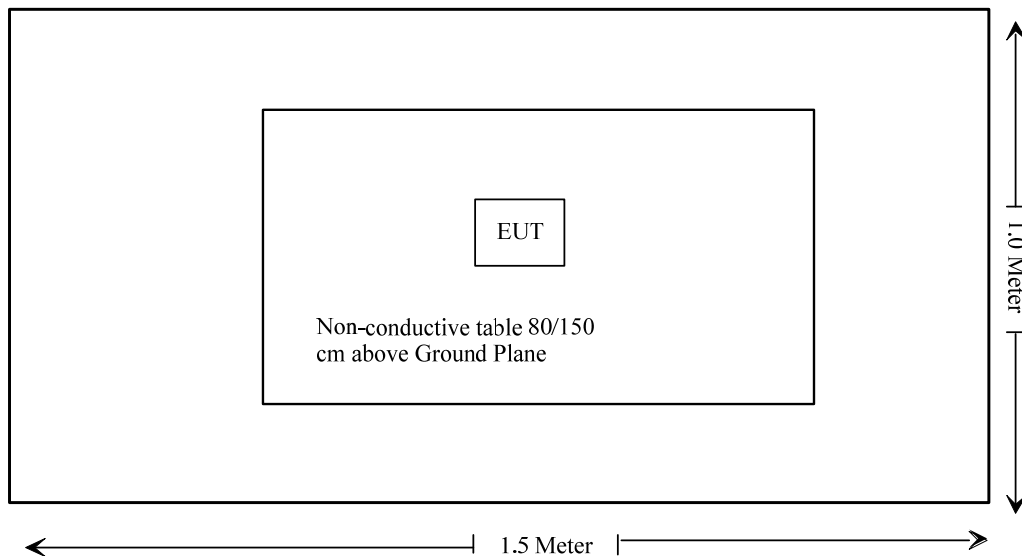
### Support Equipment List and Details

| Manufacturer | Description                          | Model   | Serial Number |
|--------------|--------------------------------------|---------|---------------|
| R&S          | Universal Radio Communication Tester | CMU200  | 106 891       |
| R&S          | Wideband Radio Communication Tester  | CMW500  | 147473        |
| Unknown      | ANTENNA                              | Unknown | /             |

## Configuration of Test Setup



## Block Diagram of Test Setup



---

**SUMMARY OF TEST RESULTS**

---

| Rules                                                 | Description of Test                                                    | Result         |
|-------------------------------------------------------|------------------------------------------------------------------------|----------------|
| FCC§1.1310, §2.1093                                   | RF Exposure                                                            | Compliance     |
| FCC§2.1046;<br>§ 22.913 (a); § 24.232 (c);<br>§27.50  | RF Output Power                                                        | Compliance     |
| FCC§ 2.1047                                           | Modulation Characteristics                                             | Not Applicable |
| FCC§ 2.1049; § 22.905<br>§ 22.917; § 24.238; §27.53   | Occupied Bandwidth                                                     | Compliance     |
| FCC§ 2.1051,<br>§ 22.917 (a); § 24.238 (a);<br>§27.53 | Spurious Emissions at Antenna Terminal                                 | Compliance     |
| FCC§ 2.1053<br>§ 22.917 (a); § 24.238 (a);<br>§27.53  | Field Strength of Spurious Radiation                                   | Compliance     |
| FCC§ 22.917 (a); § 24.238<br>(a); §27.53              | Out of band emission, Band Edge                                        | Compliance     |
| FCC§ 2.1055<br>§ 22.355; § 24.235; §27.54             | Frequency stability vs. temperature<br>Frequency stability vs. voltage | Compliance     |

## **FCC §1.1310 & §2.1093- RF EXPOSURE**

---

### **Applicable Standard**

FCC§1.1310 and §2.1093.

### **Test Result**

Compliance, please refer to the SAR report: RXZ210607008SA01.

---

## **FCC §2.1047 - MODULATION CHARACTERISTIC**

---

According to FCC § 2.1047(d), Part 22H & 24E, part 27 there is no specific requirement for digital modulation, therefore modulation characteristic is not presented.

---

**FCC § 2.1046, § 22.913 (a) & § 24.232 (c) & § 27.50- RF OUTPUT POWER**

---

**Applicable Standard**

According to FCC §2.1046 and §22.913 (a), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC §2.1046 and §24.232 (C), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §24.232 (d) Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to §27.50

(a)(3) Mobile and portable stations. (i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

(b)(10) Portable stations (hand-held devices) transmitting in the 746-757 MHz, 776-788 MHz, and 805-806 MHz bands are limited to 3 watts ERP.

(c) (10) Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

(d), (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

(h),(2) Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

## Test Procedure

### GSM/GPRS/EGPRS

Function: Menu select > GSM Mobile Station > GSM 850/1900

Press Connection control to choose the different menus

Press RESET > choose all the reset all settings

Connection Press Signal Off to turn off the signal and change settings

Network Support > GSM + GPRS or GSM + EGSM

Main Service > Packet Data

Service selection > Test Mode A – Auto Slot Config. off

MS Signal Press Slot Config Bottom on the right twice to select and change the number of time slots and power setting

> Slot configuration > Uplink/Gamma

> 33 dBm for GPRS 850

> 30 dBm for GPRS 1900

> 27 dBm for EGPRS 850

> 26 dBm for EGPRS 1900

BS Signal Enter the same channel number for TCH channel (test channel) and BCCH channel

Frequency Offset > + 0 Hz

Mode > BCCH and TCH

BCCH Level > -85 dBm (May need to adjust if link is not stable)

BCCH Channel > choose desire test channel [Enter the same channel number for TCH channel (test channel) and BCCH channel]

Channel Type > Off

P0 > 4 dB

Slot Config > Unchanged (if already set under MS signal)

TCH > choose desired test channel

Hopping > Off

Main Timeslot > 3

Network Coding Scheme > CS4 (GPRS) and MCS5 (EGPRS)

Bit Stream > 2E9-1 PSR Bit Stream

AF/RF Enter appropriate offsets for Ext. Att. Output and Ext. Att. Input

Connection Press Signal on to turn on the signal and change settings

### WCDMA-Release 99

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification. The EUT has a nominal maximum output power of 24dBm (+1.7/-3.7).

|                                   |                            |              |
|-----------------------------------|----------------------------|--------------|
| <b>WCDMA<br/>General Settings</b> | Loopback Mode              | Test Mode 1  |
|                                   | Rel99 RMC                  | 12.2kbps RMC |
|                                   | Power Control<br>Algorithm | Algorithm2   |
|                                   | $\beta_c / \beta_d$        | 8/15         |

**WCDMA HSDPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

|                               | Mode                            | HSDPA        | HSDPA | HSDPA | HSDPA |
|-------------------------------|---------------------------------|--------------|-------|-------|-------|
|                               | Subset                          | 1            | 2     | 3     | 4     |
| WCDMA<br>General<br>Settings  | Loopback Mode                   | Test Mode 1  |       |       |       |
|                               | Rel99 RMC                       | 12.2kbps RMC |       |       |       |
|                               | HSDPA FRC                       | H-Set1       |       |       |       |
|                               | Power Control Algorithm         | Algorithm2   |       |       |       |
|                               | $\beta_c$                       | 2/15         | 12/15 | 15/15 | 15/15 |
|                               | $\beta_d$                       | 15/15        | 15/15 | 8/15  | 4/15  |
|                               | $\beta_d$ (SF)                  | 64           |       |       |       |
|                               | $\beta_c / \beta_d$             | 2/15         | 12/15 | 15/8  | 15/4  |
|                               | $\beta_{hs}$                    | 4/15         | 24/15 | 30/15 | 30/15 |
|                               | MPR(dB)                         | 0            | 0     | 0.5   | 0.5   |
| HSDPA<br>Specific<br>Settings | DACK                            | 8            |       |       |       |
|                               | DNAK                            | 8            |       |       |       |
|                               | DCQI                            | 8            |       |       |       |
|                               | Ack-Nack repetition factor      | 3            |       |       |       |
|                               | CQI Feedback                    | 4ms          |       |       |       |
|                               | CQI Repetition Factor           | 2            |       |       |       |
|                               | $A_{hs} = \beta_{hs} / \beta_c$ | 30/15        |       |       |       |

**WCDMA HSUPA**

The following tests were conducted according to the test requirements outlines in section 5.2 of the 3GPP TS34.121-1 specification.

|                                | <b>Mode</b>                      | <b>HSUPA</b>                                                                                                                                 | <b>HSUPA</b>                                         | <b>HSUPA</b>                                                                                                                                 | <b>HSUPA</b> | <b>HSUPA</b> |
|--------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------|
|                                | <b>Subset</b>                    | <b>1</b>                                                                                                                                     | <b>2</b>                                             | <b>3</b>                                                                                                                                     | <b>4</b>     | <b>5</b>     |
| <b>WCDMA General Settings</b>  | Loopback Mode                    | Test Mode 1                                                                                                                                  |                                                      |                                                                                                                                              |              |              |
|                                | Rel99 RMC                        | 12.2kbps RMC                                                                                                                                 |                                                      |                                                                                                                                              |              |              |
|                                | HSDPA FRC                        | H-Set1                                                                                                                                       |                                                      |                                                                                                                                              |              |              |
|                                | HSUPA Test                       | HSUPA Loopback                                                                                                                               |                                                      |                                                                                                                                              |              |              |
|                                | Power Control Algorithm          | Algorithm2                                                                                                                                   |                                                      |                                                                                                                                              |              |              |
|                                | $\beta_c$                        | 11/15                                                                                                                                        | 6/15                                                 | 15/15                                                                                                                                        | 2/15         | 15/15        |
|                                | $\beta_d$                        | 15/15                                                                                                                                        | 15/15                                                | 9/15                                                                                                                                         | 15/15        | 0            |
|                                | $\beta_{ec}$                     | 209/225                                                                                                                                      | 12/15                                                | 30/15                                                                                                                                        | 2/15         | 5/15         |
|                                | $\beta_c / \beta_d$              | 11/15                                                                                                                                        | 6/15                                                 | 15/9                                                                                                                                         | 2/15         | -            |
|                                | $\beta_{hs}$                     | 22/15                                                                                                                                        | 12/15                                                | 30/15                                                                                                                                        | 4/15         | 5/15         |
|                                | CM(dB)                           | 1.0                                                                                                                                          | 3.0                                                  | 2.0                                                                                                                                          | 3.0          | 1.0          |
|                                | MPR(dB)                          | 0                                                                                                                                            | 2                                                    | 1                                                                                                                                            | 2            | 0            |
| <b>HSDPA Specific Settings</b> | DACK                             | 8                                                                                                                                            |                                                      |                                                                                                                                              |              |              |
|                                | DNAK                             | 8                                                                                                                                            |                                                      |                                                                                                                                              |              |              |
|                                | DCQI                             | 8                                                                                                                                            |                                                      |                                                                                                                                              |              |              |
|                                | Ack-Nack repetition factor       | 3                                                                                                                                            |                                                      |                                                                                                                                              |              |              |
|                                | CQI Feedback                     | 4ms                                                                                                                                          |                                                      |                                                                                                                                              |              |              |
|                                | CQI Repetition Factor            | 2                                                                                                                                            |                                                      |                                                                                                                                              |              |              |
|                                | $A_{hs} = \beta_{hs} / \beta_c$  | 30/15                                                                                                                                        |                                                      |                                                                                                                                              |              |              |
| <b>HSUPA Specific Settings</b> | DE-DPCCH                         | 6                                                                                                                                            | 8                                                    | 8                                                                                                                                            | 5            | 7            |
|                                | DHARQ                            | 0                                                                                                                                            | 0                                                    | 0                                                                                                                                            | 0            | 0            |
|                                | AG Index                         | 20                                                                                                                                           | 12                                                   | 15                                                                                                                                           | 17           | 21           |
|                                | ETFCI                            | 75                                                                                                                                           | 67                                                   | 92                                                                                                                                           | 71           | 81           |
|                                | Associated Max UL Data Rate kbps | 242.1                                                                                                                                        | 174.9                                                | 482.8                                                                                                                                        | 205.8        | 308.9        |
|                                | Reference E_FCI                  | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 | E-TFCI 11<br>E-TFCI PO4<br>E-TFCI 92<br>E-TFCI PO 18 | E-TFCI 11 E<br>E-TFCI PO 4<br>E-TFCI 67<br>E-TFCI PO 18<br>E-TFCI 71<br>E-TFCI PO23<br>E-TFCI 75<br>E-TFCI PO26<br>E-TFCI 81<br>E-TFCI PO 27 |              |              |
|                                |                                  |                                                                                                                                              |                                                      |                                                                                                                                              |              |              |

**HSPA+**

The following tests were conducted according to the test requirements in Table C.11.1.4 of 3GPP TS 34.121-1

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | $\beta_c$<br>(Note3) | $\beta_d$ | $\beta_{HS}$<br>(Note1) | $\beta_{ec}$ | $\beta_{ed}$<br>(2xSF2)<br>(Note 4)            | $\beta_{ed}$<br>(2xSF4)<br>(Note 4)            | CM<br>(dB)<br>(Note 2) | MPR<br>(dB)<br>(Note 2) | AG<br>Index<br>(Note 4) | E-TFCI<br>(Note 5) | E-TFCI<br>(boost) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------|-------------------------|--------------|------------------------------------------------|------------------------------------------------|------------------------|-------------------------|-------------------------|--------------------|-------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                    | 0         | 30/15                   | 30/15        | $\beta_{ed1}$ : 30/15<br>$\beta_{ed2}$ : 30/15 | $\beta_{ed3}$ : 24/15<br>$\beta_{ed4}$ : 24/15 | 3.5                    | 2.5                     | 14                      | 105                | 105               |
| <p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>.</p> <p>Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).</p> <p>Note 3: DPDCH is not configured, therefore the <math>\beta_c</math> is set to 1 and <math>\beta_d = 0</math> by default.</p> <p>Note 4: <math>\beta_{ed}</math> can not be set directly; it is set by Absolute Grant Value.</p> <p>Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.</p> |                      |           |                         |              |                                                |                                                |                        |                         |                         |                    |                   |

**DC-HSDPA**

The following tests were conducted according to the test requirements in Table C.8.1.12 of 3GPP TS 34.121-1

**Table C.8.1.12: Fixed Reference Channel H-Set 12**

| Parameter                                                                                                                                                                                                                                                                                                     | Unit      | Value |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|
| Nominal Avg. Inf. Bit Rate                                                                                                                                                                                                                                                                                    | kbps      | 60    |
| Inter-TTI Distance                                                                                                                                                                                                                                                                                            | TTI's     | 1     |
| Number of HARQ Processes                                                                                                                                                                                                                                                                                      | Processes | 6     |
| Information Bit Payload ( $N_{INF}$ )                                                                                                                                                                                                                                                                         | Bits      | 120   |
| Number Code Blocks                                                                                                                                                                                                                                                                                            | Blocks    | 1     |
| Binary Channel Bits Per TTI                                                                                                                                                                                                                                                                                   | Bits      | 960   |
| Total Available SML's in UE                                                                                                                                                                                                                                                                                   | SML's     | 19200 |
| Number of SML's per HARQ Proc.                                                                                                                                                                                                                                                                                | SML's     | 3200  |
| Coding Rate                                                                                                                                                                                                                                                                                                   |           | 0.15  |
| Number of Physical Channel Codes                                                                                                                                                                                                                                                                              | Codes     | 1     |
| Modulation                                                                                                                                                                                                                                                                                                    |           | QPSK  |
| <p>Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.</p> <p>Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used.</p> |           |       |

**LTE (FDD):**

The following tests were conducted according to the test requirements in 3GPP TS36.101

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (RB) |         |       |        |        |        | MPR (dB) |
|------------|-------------------------------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                                         | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                                             | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 64 QAM     | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS\_01".

**Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)**

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ ) | A-MPR (dB)    |
|--------------------------|---------------------------|--------------------------|-------------------------|-------------------------------|---------------|
| NS_01                    | 6.6.2.1.1                 | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                   | NA            |
| NS_03                    | 6.6.2.2.1                 | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                            | ≤ 1           |
|                          |                           |                          | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10                      | >6                            | ≤ 1           |
|                          |                           |                          | 15                      | >8                            | ≤ 1           |
|                          |                           |                          | 20                      | >10                           | ≤ 1           |
| NS_04                    | 6.6.2.2.2                 | 41                       | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10, 15, 20              | See Table 6.2.4-4             |               |
| NS_05                    | 6.6.3.3.1                 | 1                        | 10, 15, 20              | ≥ 50                          | ≤ 1           |
| NS_06                    | 6.6.2.2.3                 | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                   | n/a           |
| NS_07                    | 6.6.2.2.3                 | 13                       | 10                      | Table 6.2.4-2                 | Table 6.2.4-2 |
|                          | 6.6.3.3.2                 |                          |                         |                               |               |
| NS_08                    | 6.6.3.3.3                 | 19                       | 10, 15                  | > 44                          | ≤ 3           |
| NS_09                    | 6.6.3.3.4                 | 21                       | 10, 15                  | > 40                          | ≤ 1           |
|                          |                           |                          |                         | > 55                          | ≤ 2           |
| NS_10                    |                           | 20                       | 15, 20                  | Table 6.2.4-3                 | Table 6.2.4-3 |
| NS_11                    | 6.6.2.2.1                 | 23 <sup>1</sup>          | 1.4, 3, 5, 10           | Table 6.2.4-5                 | Table 6.2.4-5 |
| ..                       |                           |                          |                         |                               |               |
| NS_32                    | -                         | -                        | -                       | -                             | -             |

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

**Test Equipment List and Details**

| Manufacturer | Description                          | Model         | Serial Number | Calibration Date | Calibration Due Date |
|--------------|--------------------------------------|---------------|---------------|------------------|----------------------|
| R&S          | Wideband Radio Communication Tester  | CMW500        | 147473        | 2020-09-23       | 2021-09-22           |
| R&S          | Universal Radio Communication Tester | CMU200        | 106 891       | 2020-09-12       | 2021-09-12           |
| E-Microwave  | Blocking Control                     | EMDCB-00036   | 0E01201047    | Each time        | N/A                  |
| Unknown      | Attenuator                           | UNAT-3+       | 15529         | Each time        | N/A                  |
| yzjingcheng  | Coaxial Cable                        | KTRFBU-141-50 | 41010012      | Each time        | N/A                  |
| Unknown      | Coaxial Cable                        | C-SJ00-0010   | C0010/01      | Each time        | N/A                  |

**\* Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data****Environmental Conditions**

|                           |                       |
|---------------------------|-----------------------|
| <b>Temperature:</b>       | 24.2~27.5 °C          |
| <b>Relative Humidity:</b> | 47~70 %               |
| <b>ATM Pressure:</b>      | 100~100.8kPa          |
| <b>Tester:</b>            | Lay Lei               |
| <b>Test Date:</b>         | 2021.05.19~2021-06-07 |

Test Result: Compliance

**GSM/GPRS/EDGE****Conducted Output Power:**

| Band     | Channel No. | Conducted Peak Output Power (dBm) |                |                 |                 |                 |                 |                  |                  |                  |
|----------|-------------|-----------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|
|          |             | GSM                               | GPRS 1 TX Slot | GPRS 2 TX Slots | GPRS 3 TX Slots | GPRS 4 TX Slots | EGPRS 1 TX Slot | EGPRS 2 TX Slots | EGPRS 3 TX Slots | EGPRS 4 TX Slots |
| Cellular | 128         | 32.19                             | 32.97          | 30.77           | 28.82           | 27.73           | 27.15           | 25.53            | 23.27            | 22.02            |
|          | 190         | 32.22                             | 32.91          | 30.78           | 28.81           | 27.75           | 27.17           | 25.78            | 23.22            | 21.91            |
|          | 251         | 32.67                             | 32.96          | 30.76           | 28.82           | 27.81           | 27.19           | 25.76            | 23.25            | 21.81            |
| PCS      | 512         | 28.83                             | 24.51          | 22.72           | 20.76           | 20.06           | 26.92           | 25.48            | 23.17            | 21.92            |
|          | 661         | 29.31                             | 24.85          | 22.81           | 20.72           | 19.57           | 26.91           | 25.57            | 23.12            | 21.87            |
|          | 810         | 29.62                             | 27.58          | 24.85           | 22.61           | 21.07           | 26.52           | 25.29            | 22.74            | 21.51            |

**ERP/EIRP:**

| Band     | Mode | Channel | Conducted Power (dBm) | Antenna Gain (dBi/dBd) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|----------|------|---------|-----------------------|------------------------|-----------------|--------------|-------------|
| Cellular | GSM  | Low     | 32.97                 | -3.46                  | 0.2             | 29.31        | 38.45       |
|          |      | Middle  | 32.91                 | -3.46                  | 0.2             | 29.25        | 38.45       |
|          |      | High    | 32.96                 | -3.46                  | 0.2             | 29.3         | 38.45       |
|          | EDGE | Low     | 27.15                 | -3.46                  | 0.2             | 23.49        | 38.45       |
|          |      | Middle  | 27.17                 | -3.46                  | 0.2             | 23.51        | 38.45       |
|          |      | High    | 27.19                 | -3.46                  | 0.2             | 23.53        | 38.45       |
| PCS      | GSM  | Low     | 28.83                 | 0.24                   | 0.4             | 28.67        | 33          |
|          |      | Middle  | 29.31                 | 0.24                   | 0.4             | 29.15        | 33          |
|          |      | High    | 29.62                 | 0.24                   | 0.4             | 29.46        | 33          |
|          | EDGE | Low     | 26.92                 | 0.24                   | 0.4             | 26.76        | 33          |
|          |      | Middle  | 26.91                 | 0.24                   | 0.4             | 26.75        | 33          |
|          |      | High    | 26.52                 | 0.24                   | 0.4             | 26.36        | 33          |

**Note:**

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Result = Conducted Power - Cable loss + Antenna Gain
- 3) Antenna gain(dBd)= Antenna gain(dBi)-2.15

**WCDMA Band 2****Conducted Output Power and PAR:**

| Mode          | 3GPP Sub Test | Low Channel      |          | Middle Channel   |          | High Channel     |          |
|---------------|---------------|------------------|----------|------------------|----------|------------------|----------|
|               |               | Ave. Power (dBm) | PAR (dB) | Ave. Power (dBm) | PAR (dB) | Ave. Power (dBm) | PAR (dB) |
| Rel 99        | 1             | 22.82            | 2.87     | 22.82            | 2.90     | 22.75            | 2.75     |
| HSDPA         | 1             | 21.97            | 3.22     | 21.84            | 4.14     | 21.57            | 3.97     |
|               | 2             | 21.77            | 3.25     | 21.62            | 3.17     | 21.41            | 3.32     |
|               | 3             | 21.86            | 3.41     | 21.86            | 3.17     | 21.62            | 3.51     |
|               | 4             | 22.11            | 3.35     | 21.69            | 3.32     | 21.57            | 3.53     |
| HSUPA         | 1             | 22.24            | 3.30     | 22.08            | 3.65     | 21.18            | 3.19     |
|               | 2             | 21.92            | 3.17     | 21.88            | 3.31     | 21.55            | 3.73     |
|               | 3             | 22.08            | 3.41     | 21.68            | 3.28     | 21.71            | 3.98     |
|               | 4             | 22.01            | 3.29     | 21.54            | 3.41     | 21.22            | 3.56     |
|               | 5             | 22.09            | 3.31     | 21.58            | 3.31     | 21.77            | 3.62     |
| DC-HSDPA      | 1             | 22.11            | 3.58     | 21.41            | 3.31     | 21.84            | 3.62     |
|               | 2             | 22.12            | 3.31     | 21.82            | 3.39     | 21.61            | 3.31     |
|               | 3             | 22.19            | 3.02     | 21.63            | 3.41     | 21.82            | 3.48     |
|               | 4             | 22.21            | 3.37     | 21.84            | 3.37     | 21.54            | 3.15     |
| HSPA+ (16QAM) | 1             | 21.01            | 2.32     | 20.82            | 2.11     | 20.58            | 2.45     |

**EIRP:**

| Channel | Conducted Power (dBm) | Antenna Gain (dBi) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| Low     | 22.82                 | 0.24               | 0.4             | 22.66        | 33          |
| Middle  | 22.82                 | 0.24               | 0.4             | 22.66        | 33          |
| High    | 22.75                 | 0.24               | 0.4             | 22.59        | 33          |

**WCDMA Band 5****Conducted Output Power and PAR:**

| Mode          | 3GPP Sub Test | Low Channel      |          | Middle Channel   |          | High Channel     |          |
|---------------|---------------|------------------|----------|------------------|----------|------------------|----------|
|               |               | Ave. Power (dBm) | PAR (dB) | Ave. Power (dBm) | PAR (dB) | Ave. Power (dBm) | PAR (dB) |
| Rel 99        | 1             | 22.85            | 3.04     | 22.97            | 3.10     | 22.87            | 2.81     |
| HSDPA         | 1             | 21.77            | 3.80     | 21.98            | 3.45     | 21.82            | 4.25     |
|               | 2             | 21.71            | 3.21     | 21.99            | 3.12     | 21.86            | 3.32     |
|               | 3             | 21.79            | 3.11     | 21.82            | 3.13     | 21.81            | 3.56     |
|               | 4             | 21.61            | 3.45     | 21.73            | 3.14     | 21.85            | 3.01     |
| HSUPA         | 1             | 21.42            | 3.68     | 21.68            | 3.28     | 21.42            | 3.10     |
|               | 2             | 21.43            | 3.68     | 21.73            | 3.28     | 21.51            | 3.07     |
|               | 3             | 21.69            | 3.51     | 21.68            | 3.21     | 21.22            | 3.32     |
|               | 4             | 21.41            | 3.52     | 21.56            | 3.75     | 21.38            | 3.33     |
|               | 5             | 21.46            | 3.67     | 21.59            | 3.51     | 21.01            | 3.47     |
| DC-HSDPA      | 1             | 21.37            | 3.52     | 21.88            | 3.62     | 21.42            | 3.19     |
|               | 2             | 21.49            | 3.57     | 21.63            | 3.67     | 21.58            | 3.31     |
|               | 3             | 21.45            | 3.08     | 21.80            | 3.41     | 21.72            | 3.42     |
|               | 4             | 21.24            | 3.41     | 21.40            | 3.24     | 21.48            | 3.14     |
| HSPA+ (16QAM) | 1             | 20.71            | 3.21     | 20.45            | 3.31     | 20.11            | 3.28     |

**ERP:**

| Channel | Conducted Power (dBm) | Antenna Gain (dBd) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| Low     | 22.85                 | -3.46              | 0.2             | 19.19        | 33          |
| Middle  | 22.97                 | -3.46              | 0.2             | 19.31        | 33          |
| High    | 22.87                 | -3.46              | 0.2             | 19.21        | 33          |

**LTE Band 2****Conducted Output Power:**

| Channel Bandwidth | Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|-------------------|------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4MHz            | QPSK       | RB1#0                      | 22.85             | 23.16                | 23.11              |
|                   |            | RB1#3                      | 22.87             | 23.15                | 23.15              |
|                   |            | RB1#5                      | 22.90             | 23.15                | 23.13              |
|                   |            | RB3#0                      | 22.82             | 23.30                | 23.29              |
|                   |            | RB3#3                      | 22.82             | 23.18                | 23.30              |
|                   |            | RB6#0                      | 21.71             | 22.16                | 22.22              |
|                   | 16QAM      | RB1#0                      | 22.31             | 22.66                | 21.96              |
|                   |            | RB1#3                      | 22.33             | 22.65                | 21.98              |
|                   |            | RB1#5                      | 22.34             | 22.66                | 22.00              |
|                   |            | RB3#0                      | 21.74             | 22.18                | 22.27              |
|                   |            | RB3#3                      | 21.76             | 22.19                | 22.27              |
|                   |            | RB6#0                      | 20.90             | 21.31                | 21.46              |
| 3MHz              | QPSK       | RB1#0                      | 23.12             | 23.10                | 23.10              |
|                   |            | RB1#8                      | 23.13             | 23.10                | 23.20              |
|                   |            | RB1#14                     | 23.18             | 23.08                | 23.15              |
|                   |            | RB6#0                      | 22.38             | 22.06                | 22.19              |
|                   |            | RB6#9                      | 22.21             | 22.17                | 22.28              |
|                   |            | RB15#0                     | 22.27             | 22.20                | 22.13              |
|                   | 16QAM      | RB1#0                      | 22.11             | 22.32                | 22.92              |
|                   |            | RB1#8                      | 22.03             | 22.37                | 22.93              |
|                   |            | RB1#14                     | 21.92             | 22.33                | 22.89              |
|                   |            | RB6#0                      | 21.61             | 21.05                | 21.34              |
|                   |            | RB6#9                      | 21.50             | 21.06                | 21.33              |
|                   |            | RB15#0                     | 21.39             | 21.32                | 21.30              |
| 5MHz              | QPSK       | RB1#0                      | 22.29             | 22.22                | 22.11              |
|                   |            | RB1#13                     | 22.16             | 22.21                | 22.10              |
|                   |            | RB1#24                     | 22.19             | 22.22                | 22.65              |
|                   |            | RB15#0                     | 21.26             | 21.20                | 21.70              |
|                   |            | RB15#10                    | 21.15             | 21.22                | 21.64              |
|                   |            | RB25#0                     | 21.08             | 21.20                | 21.83              |
|                   | 16QAM      | RB1#0                      | 20.55             | 21.32                | 21.39              |
|                   |            | RB1#13                     | 20.38             | 21.36                | 21.39              |
|                   |            | RB1#24                     | 20.39             | 21.40                | 21.43              |
|                   |            | RB15#0                     | 20.48             | 20.14                | 20.82              |
|                   |            | RB15#10                    | 20.34             | 20.22                | 20.83              |
|                   |            | RB25#0                     | 20.38             | 20.24                | 20.61              |

|       |       |         |       |       |       |
|-------|-------|---------|-------|-------|-------|
| 10MHz | QPSK  | RB1#0   | 22.67 | 22.75 | 22.63 |
|       |       | RB1#25  | 22.60 | 22.76 | 22.65 |
|       |       | RB1#49  | 22.66 | 22.78 | 22.77 |
|       |       | RB25#0  | 21.68 | 21.63 | 21.64 |
|       |       | RB25#25 | 21.73 | 21.74 | 21.84 |
|       |       | RB50#0  | 21.74 | 21.70 | 21.85 |
|       | 16QAM | RB1#0   | 21.99 | 21.90 | 21.17 |
|       |       | RB1#25  | 21.94 | 21.95 | 21.26 |
|       |       | RB1#49  | 21.95 | 21.95 | 21.27 |
|       |       | RB25#0  | 20.79 | 20.94 | 20.87 |
|       |       | RB25#25 | 20.80 | 20.94 | 20.94 |
|       |       | RB50#0  | 20.88 | 20.84 | 20.79 |
| 15MHz | QPSK  | RB1#0   | 22.66 | 22.64 | 22.58 |
|       |       | RB1#38  | 22.61 | 22.72 | 22.54 |
|       |       | RB1#74  | 22.73 | 22.74 | 22.61 |
|       |       | RB36#0  | 21.73 | 21.71 | 21.62 |
|       |       | RB36#39 | 21.74 | 21.85 | 21.78 |
|       |       | RB75#0  | 21.72 | 21.64 | 21.71 |
|       | 16QAM | RB1#0   | 22.17 | 21.90 | 21.83 |
|       |       | RB1#38  | 22.13 | 21.98 | 21.91 |
|       |       | RB1#74  | 22.15 | 22.00 | 21.89 |
|       |       | RB36#0  | 20.79 | 20.87 | 20.79 |
|       |       | RB36#39 | 20.81 | 20.86 | 20.86 |
|       |       | RB75#0  | 20.80 | 20.73 | 20.74 |
| 20MHz | QPSK  | RB1#0   | 22.78 | 22.76 | 22.68 |
|       |       | RB1#50  | 22.70 | 22.83 | 22.79 |
|       |       | RB1#99  | 22.81 | 22.85 | 22.81 |
|       |       | RB50#0  | 21.76 | 21.80 | 21.73 |
|       |       | RB50#50 | 21.74 | 21.87 | 21.86 |
|       |       | RB100#0 | 21.80 | 21.75 | 21.69 |
|       | 16QAM | RB1#0   | 21.97 | 21.74 | 22.40 |
|       |       | RB1#50  | 21.92 | 21.73 | 22.43 |
|       |       | RB1#99  | 21.89 | 21.89 | 22.46 |
|       |       | RB50#0  | 20.87 | 21.23 | 20.80 |
|       |       | RB50#50 | 20.89 | 20.94 | 20.81 |
|       |       | RB100#0 | 20.75 | 20.84 | 20.87 |

**PAR:**

| Test Modulation |        | Channel Bandwidth | Low Channel (dB) | Middle Channel (dB) | High Channel (dB) | Limit (dB) |
|-----------------|--------|-------------------|------------------|---------------------|-------------------|------------|
| QPSK            | 1 RB   | 20 MHz            | 5.25             | 4.90                | 4.96              | 13.00      |
|                 | 100 RB |                   | 5.22             | 5.19                | 5.01              | 13.00      |
| 16QAM           | 1 RB   | 20 MHz            | 5.71             | 5.91                | 6.12              | 13.00      |
|                 | 100 RB |                   | 6.06             | 6.09                | 5.91              | 13.00      |

**EIRP:**

| Channel Bandwidth | Modulation | Channel | Conducted Power (dBm) | Antenna Gain (dBi) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|-------------------|------------|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| 1.4MHz            | QPSK       | Low     | 22.90                 | 0.24               | 0.40            | 22.74        | 33.00       |
|                   |            | Middle  | 23.30                 | 0.24               | 0.40            | <b>23.14</b> | 33.00       |
|                   |            | High    | 23.30                 | 0.24               | 0.40            | 23.14        | 33.00       |
|                   | 16QAM      | Low     | 22.34                 | 0.24               | 0.40            | 22.18        | 33.00       |
|                   |            | Middle  | 22.66                 | 0.24               | 0.40            | 22.50        | 33.00       |
|                   |            | High    | 22.27                 | 0.24               | 0.40            | 22.11        | 33.00       |
| 3MHz              | QPSK       | Low     | 23.18                 | 0.24               | 0.40            | 23.02        | 33.00       |
|                   |            | Middle  | 23.10                 | 0.24               | 0.40            | 22.94        | 33.00       |
|                   |            | High    | 23.20                 | 0.24               | 0.40            | 23.04        | 33.00       |
|                   | 16QAM      | Low     | 22.11                 | 0.24               | 0.40            | 21.95        | 33.00       |
|                   |            | Middle  | 22.37                 | 0.24               | 0.40            | 22.21        | 33.00       |
|                   |            | High    | 22.93                 | 0.24               | 0.40            | <b>22.77</b> | 33.00       |
| 5MHz              | QPSK       | Low     | 22.29                 | 0.24               | 0.40            | 22.13        | 33.00       |
|                   |            | Middle  | 22.22                 | 0.24               | 0.40            | 22.06        | 33.00       |
|                   |            | High    | 22.65                 | 0.24               | 0.40            | 22.49        | 33.00       |
|                   | 16QAM      | Low     | 20.55                 | 0.24               | 0.40            | 20.39        | 33.00       |
|                   |            | Middle  | 21.40                 | 0.24               | 0.40            | 21.24        | 33.00       |
|                   |            | High    | 21.43                 | 0.24               | 0.40            | 21.27        | 33.00       |
| 10MHz             | QPSK       | Low     | 22.67                 | 0.24               | 0.40            | 22.51        | 33.00       |
|                   |            | Middle  | 22.78                 | 0.24               | 0.40            | 22.62        | 33.00       |
|                   |            | High    | 22.77                 | 0.24               | 0.40            | 22.61        | 33.00       |
|                   | 16QAM      | Low     | 21.99                 | 0.24               | 0.40            | 21.83        | 33.00       |
|                   |            | Middle  | 21.95                 | 0.24               | 0.40            | 21.79        | 33.00       |
|                   |            | High    | 21.27                 | 0.24               | 0.40            | 21.11        | 33.00       |
| 15MHz             | QPSK       | Low     | 22.73                 | 0.24               | 0.40            | 22.57        | 33.00       |
|                   |            | Middle  | 22.74                 | 0.24               | 0.40            | 22.58        | 33.00       |
|                   |            | High    | 22.61                 | 0.24               | 0.40            | 22.45        | 33.00       |
|                   | 16QAM      | Low     | 22.17                 | 0.24               | 0.40            | 22.01        | 33.00       |
|                   |            | Middle  | 22.00                 | 0.24               | 0.40            | 21.84        | 33.00       |
|                   |            | High    | 21.91                 | 0.24               | 0.40            | 21.75        | 33.00       |
| 20MHz             | QPSK       | Low     | 22.81                 | 0.24               | 0.40            | 22.65        | 33.00       |
|                   |            | Middle  | 22.85                 | 0.24               | 0.40            | 22.69        | 33.00       |
|                   |            | High    | 22.81                 | 0.24               | 0.40            | 22.65        | 33.00       |
|                   | 16QAM      | Low     | 21.97                 | 0.24               | 0.40            | 21.81        | 33.00       |
|                   |            | Middle  | 21.89                 | 0.24               | 0.40            | 21.73        | 33.00       |
|                   |            | High    | 22.46                 | 0.24               | 0.40            | 22.30        | 33.00       |

## LTE Band 4

## Conducted Output Power:

| Channel Bandwidth | Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|-------------------|------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4MHz            | QPSK       | RB1#0                      | 22.49             | 22.49                | 22.67              |
|                   |            | RB1#3                      | 22.49             | 22.51                | 22.64              |
|                   |            | RB1#5                      | 22.52             | 22.46                | 22.63              |
|                   |            | RB3#0                      | 22.51             | 22.59                | 22.49              |
|                   |            | RB3#3                      | 22.54             | 22.56                | 22.56              |
|                   |            | RB6#0                      | 21.42             | 21.56                | 21.53              |
|                   | 16QAM      | RB1#0                      | 22.14             | 22.30                | 21.57              |
|                   |            | RB1#3                      | 22.14             | 22.25                | 21.62              |
|                   |            | RB1#5                      | 22.14             | 22.22                | 21.68              |
|                   |            | RB3#0                      | 21.60             | 21.48                | 21.53              |
|                   |            | RB3#3                      | 21.66             | 21.50                | 21.57              |
|                   |            | RB6#0                      | 20.73             | 20.60                | 20.94              |
| 3MHz              | QPSK       | RB1#0                      | 22.41             | 22.42                | 22.63              |
|                   |            | RB1#8                      | 22.36             | 22.47                | 22.57              |
|                   |            | RB1#14                     | 22.42             | 22.51                | 22.65              |
|                   |            | RB6#0                      | 21.44             | 21.52                | 21.43              |
|                   |            | RB6#9                      | 21.38             | 21.51                | 21.49              |
|                   |            | RB15#0                     | 21.52             | 21.50                | 21.50              |
|                   | 16QAM      | RB1#0                      | 21.90             | 22.22                | 21.58              |
|                   |            | RB1#8                      | 21.89             | 22.23                | 21.54              |
|                   |            | RB1#14                     | 21.86             | 22.25                | 21.67              |
|                   |            | RB6#0                      | 20.43             | 20.72                | 20.83              |
|                   |            | RB6#9                      | 20.45             | 20.70                | 20.88              |
|                   |            | RB15#0                     | 20.67             | 20.56                | 20.62              |
| 5MHz              | QPSK       | RB1#0                      | 22.43             | 22.51                | 22.32              |
|                   |            | RB1#13                     | 22.43             | 22.64                | 22.38              |
|                   |            | RB1#24                     | 22.42             | 22.60                | 22.33              |
|                   |            | RB15#0                     | 21.54             | 21.51                | 21.46              |
|                   |            | RB15#10                    | 21.39             | 21.47                | 21.56              |
|                   |            | RB25#0                     | 21.58             | 21.46                | 21.47              |
|                   | 16QAM      | RB1#0                      | 20.75             | 21.66                | 21.12              |
|                   |            | RB1#13                     | 20.73             | 21.61                | 21.05              |
|                   |            | RB1#24                     | 20.75             | 21.58                | 21.20              |
|                   |            | RB15#0                     | 20.65             | 20.55                | 20.66              |
|                   |            | RB15#10                    | 20.67             | 20.51                | 20.67              |
|                   |            | RB25#0                     | 20.65             | 20.53                | 20.50              |
| 10MHz             | QPSK       | RB1#0                      | 22.38             | 22.53                | 22.70              |
|                   |            | RB1#25                     | 22.44             | 22.48                | 22.65              |
|                   |            | RB1#49                     | 22.44             | 22.54                | 22.68              |
|                   |            | RB25#0                     | 21.43             | 21.47                | 21.48              |
|                   |            | RB25#25                    | 21.52             | 21.51                | 21.59              |
|                   |            | RB50#0                     | 21.51             | 21.46                | 21.59              |
|                   | 16QAM      | RB1#0                      | 21.67             | 21.65                | 21.06              |
|                   |            | RB1#25                     | 21.68             | 21.67                | 21.09              |
|                   |            | RB1#49                     | 21.67             | 21.65                | 21.17              |
|                   |            | RB25#0                     | 20.59             | 20.66                | 20.71              |
|                   |            | RB25#25                    | 20.60             | 21.04                | 20.71              |
|                   |            | RB50#0                     | 20.54             | 20.58                | 20.63              |

|       |       |         |       |       |       |
|-------|-------|---------|-------|-------|-------|
| 15MHz | QPSK  | RB1#0   | 22.34 | 22.53 | 22.61 |
|       |       | RB1#38  | 22.44 | 22.48 | 22.63 |
|       |       | RB1#74  | 22.43 | 22.53 | 22.69 |
|       |       | RB36#0  | 21.44 | 21.53 | 21.44 |
|       |       | RB36#39 | 21.53 | 21.54 | 21.60 |
|       |       | RB75#0  | 21.53 | 21.47 | 21.52 |
|       | 16QAM | RB1#0   | 21.70 | 21.71 | 21.83 |
|       |       | RB1#38  | 21.71 | 21.68 | 21.95 |
|       |       | RB1#74  | 21.72 | 21.72 | 21.91 |
|       |       | RB36#0  | 20.69 | 20.61 | 21.02 |
|       |       | RB36#39 | 20.75 | 20.68 | 20.68 |
|       |       | RB75#0  | 20.57 | 20.63 | 20.62 |
| 20MHz | QPSK  | RB1#0   | 22.57 | 22.45 | 22.54 |
|       |       | RB1#50  | 22.66 | 22.47 | 22.61 |
|       |       | RB1#99  | 22.69 | 22.55 | 22.73 |
|       |       | RB50#0  | 21.43 | 21.53 | 21.45 |
|       |       | RB50#50 | 21.57 | 21.64 | 21.55 |
|       |       | RB100#0 | 21.49 | 21.58 | 21.48 |
|       |       | RB1#0   | 21.43 | 21.94 | 22.11 |
|       | 16QAM | RB1#50  | 21.39 | 21.91 | 22.14 |
|       |       | RB1#99  | 21.47 | 21.98 | 22.12 |
|       |       | RB50#0  | 20.62 | 20.70 | 20.56 |
|       |       | RB50#50 | 20.61 | 20.65 | 20.65 |
|       |       | RB100#0 | 20.54 | 20.60 | 21.00 |

**PAR:**

| Test Modulation |        | Channel Bandwidth | Low Channel PAR (dB) | Middle Channel PAR (dB) | High Channel PAR (dB) | Limit (dB) |
|-----------------|--------|-------------------|----------------------|-------------------------|-----------------------|------------|
| QPSK            | 1 RB   | 20 MHz            | 5.33                 | 4.96                    | 4.96                  | 13         |
|                 | 100 RB |                   | 5.01                 | 5.19                    | 5.25                  | 13         |
| 16QAM           | 1 RB   | 20 MHz            | 5.65                 | 6.06                    | 5.97                  | 13         |
|                 | 100 RB |                   | 5.91                 | 6.09                    | 6.14                  | 13         |

**EIRP:**

| Channel Bandwidth | Modulation | Channel | Conducted Power (dBm) | Antenna Gain (dBi) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|-------------------|------------|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| 1.4MHz            | QPSK       | Low     | 22.54                 | 0.56               | 0.40            | 22.70        | 30.00       |
|                   |            | Middle  | 22.59                 | 0.56               | 0.40            | 22.75        | 30.00       |
|                   |            | High    | 22.67                 | 0.56               | 0.40            | 22.83        | 30.00       |
|                   | 16QAM      | Low     | 22.14                 | 0.56               | 0.40            | 22.30        | 30.00       |
|                   |            | Middle  | 22.30                 | 0.56               | 0.40            | <b>22.46</b> | 30.00       |
|                   |            | High    | 21.68                 | 0.56               | 0.40            | 21.84        | 30.00       |
| 3MHz              | QPSK       | Low     | 22.42                 | 0.56               | 0.40            | 22.58        | 30.00       |
|                   |            | Middle  | 22.51                 | 0.56               | 0.40            | 22.67        | 30.00       |
|                   |            | High    | 22.65                 | 0.56               | 0.40            | 22.81        | 30.00       |
|                   | 16QAM      | Low     | 21.90                 | 0.56               | 0.40            | 22.06        | 30.00       |
|                   |            | Middle  | 22.25                 | 0.56               | 0.40            | 22.41        | 30.00       |
|                   |            | High    | 21.67                 | 0.56               | 0.40            | 21.83        | 30.00       |
| 5MHz              | QPSK       | Low     | 22.43                 | 0.56               | 0.40            | 22.59        | 30.00       |
|                   |            | Middle  | 22.64                 | 0.56               | 0.40            | 22.80        | 30.00       |
|                   |            | High    | 22.38                 | 0.56               | 0.40            | 22.54        | 30.00       |
|                   | 16QAM      | Low     | 20.75                 | 0.56               | 0.40            | 20.91        | 30.00       |
|                   |            | Middle  | 21.66                 | 0.56               | 0.40            | 21.82        | 30.00       |
|                   |            | High    | 21.20                 | 0.56               | 0.40            | 21.36        | 30.00       |
| 10MHz             | QPSK       | Low     | 22.44                 | 0.56               | 0.40            | 22.60        | 30.00       |
|                   |            | Middle  | 22.54                 | 0.56               | 0.40            | 22.70        | 30.00       |
|                   |            | High    | 22.70                 | 0.56               | 0.40            | 22.86        | 30.00       |
|                   | 16QAM      | Low     | 21.68                 | 0.56               | 0.40            | 21.84        | 30.00       |
|                   |            | Middle  | 21.67                 | 0.56               | 0.40            | 21.83        | 30.00       |
|                   |            | High    | 21.17                 | 0.56               | 0.40            | 21.33        | 30.00       |
| 15MHz             | QPSK       | Low     | 22.44                 | 0.56               | 0.40            | 22.60        | 30.00       |
|                   |            | Middle  | 22.53                 | 0.56               | 0.40            | 22.69        | 30.00       |
|                   |            | High    | 22.69                 | 0.56               | 0.40            | 22.85        | 30.00       |
|                   | 16QAM      | Low     | 21.72                 | 0.56               | 0.40            | 21.88        | 30.00       |
|                   |            | Middle  | 21.72                 | 0.56               | 0.40            | 21.88        | 30.00       |
|                   |            | High    | 21.95                 | 0.56               | 0.40            | 22.11        | 30.00       |
| 20MHz             | QPSK       | Low     | 22.69                 | 0.56               | 0.40            | 22.85        | 30.00       |
|                   |            | Middle  | 22.55                 | 0.56               | 0.40            | 22.71        | 30.00       |
|                   |            | High    | 22.73                 | 0.56               | 0.40            | <b>22.89</b> | 30.00       |
|                   | 16QAM      | Low     | 21.47                 | 0.56               | 0.40            | 21.63        | 30.00       |
|                   |            | Middle  | 21.98                 | 0.56               | 0.40            | 22.14        | 30.00       |
|                   |            | High    | 22.14                 | 0.56               | 0.40            | 22.30        | 30.00       |

## LTE Band 7

## Conducted Output Power:

| Channel Bandwidth | Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|-------------------|------------|----------------------------|-------------------|----------------------|--------------------|
| 5 MHz             | QPSK       | RB1#0                      | 22.14             | 21.75                | 21.39              |
|                   |            | RB1#13                     | 22.11             | 21.73                | 21.42              |
|                   |            | RB1#24                     | 22.06             | 21.75                | 21.40              |
|                   |            | RB15#0                     | 21.12             | 20.72                | 20.53              |
|                   |            | RB15#10                    | 21.14             | 20.71                | 20.47              |
|                   |            | RB25#0                     | 21.08             | 20.75                | 20.53              |
|                   | 16QAM      | RB1#0                      | 20.40             | 20.74                | 20.12              |
|                   |            | RB1#13                     | 20.40             | 20.79                | 20.05              |
|                   |            | RB1#24                     | 20.39             | 20.75                | 20.07              |
|                   |            | RB15#0                     | 20.21             | 19.75                | 20.08              |
|                   |            | RB15#10                    | 20.12             | 19.63                | 19.59              |
|                   |            | RB25#0                     | 20.25             | 19.84                | 19.94              |
| 10 MHz            | QPSK       | RB1#0                      | 21.92             | 21.80                | 21.64              |
|                   |            | RB1#25                     | 21.97             | 21.67                | 21.56              |
|                   |            | RB1#49                     | 21.91             | 21.63                | 21.62              |
|                   |            | RB25#0                     | 21.00             | 20.77                | 20.54              |
|                   |            | RB25#25                    | 20.92             | 20.69                | 20.65              |
|                   |            | RB50#0                     | 21.13             | 20.74                | 20.66              |
|                   | 16QAM      | RB1#0                      | 21.24             | 20.94                | 20.13              |
|                   |            | RB1#25                     | 21.25             | 20.86                | 20.09              |
|                   |            | RB1#49                     | 21.16             | 20.90                | 20.04              |
|                   |            | RB25#0                     | 20.13             | 19.91                | 19.78              |
|                   |            | RB25#25                    | 20.07             | 19.83                | 20.16              |
|                   |            | RB50#0                     | 20.13             | 19.86                | 19.67              |
| 15 MHz            | QPSK       | RB1#0                      | 21.96             | 21.75                | 21.59              |
|                   |            | RB1#38                     | 21.88             | 21.65                | 21.56              |
|                   |            | RB1#74                     | 21.95             | 21.67                | 21.57              |
|                   |            | RB36#0                     | 21.12             | 20.74                | 20.65              |
|                   |            | RB36#39                    | 20.89             | 20.67                | 20.63              |
|                   |            | RB75#0                     | 20.98             | 20.75                | 20.56              |
|                   | 16QAM      | RB1#0                      | 21.34             | 21.10                | 20.99              |
|                   |            | RB1#38                     | 21.22             | 20.99                | 20.90              |
|                   |            | RB1#74                     | 21.24             | 21.01                | 20.90              |
|                   |            | RB36#0                     | 20.23             | 20.30                | 19.65              |
|                   |            | RB36#39                    | 20.19             | 19.81                | 20.10              |
|                   |            | RB75#0                     | 20.12             | 19.77                | 19.67              |
| 20MHz             | QPSK       | RB1#0                      | 22.16             | 21.84                | 21.70              |
|                   |            | RB1#50                     | 21.94             | 21.82                | 21.72              |
|                   |            | RB1#99                     | 21.90             | 21.77                | 21.72              |
|                   |            | RB50#0                     | 21.05             | 20.72                | 20.50              |
|                   |            | RB50#50                    | 20.99             | 20.72                | 20.56              |
|                   |            | RB100#0                    | 20.96             | 20.71                | 20.51              |
|                   | 16QAM      | RB1#0                      | 20.83             | 21.33                | 21.19              |
|                   |            | RB1#50                     | 20.68             | 21.22                | 21.14              |
|                   |            | RB1#99                     | 20.63             | 21.24                | 21.16              |
|                   |            | RB50#0                     | 20.17             | 20.46                | 19.62              |
|                   |            | RB50#50                    | 20.24             | 19.86                | 19.55              |
|                   |            | RB100#0                    | 20.52             | 19.70                | 19.70              |

**EIRP:**

| Channel Bandwidth | Modulation | Channel | Conducted Power (dBm) | Antenna Gain (dBi) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|-------------------|------------|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| 5MHz              | QPSK       | Low     | 22.14                 | 2.88               | 0.70            | 24.32        | 33.00       |
|                   |            | Middle  | 21.75                 | 2.88               | 0.70            | 23.93        | 33.00       |
|                   |            | High    | 21.42                 | 2.88               | 0.70            | 23.60        | 33.00       |
|                   | 16QAM      | Low     | 20.40                 | 2.88               | 0.70            | 22.58        | 33.00       |
|                   |            | Middle  | 20.79                 | 2.88               | 0.70            | 22.97        | 33.00       |
|                   |            | High    | 20.12                 | 2.88               | 0.70            | 22.30        | 33.00       |
| 10MHz             | QPSK       | Low     | 21.97                 | 2.88               | 0.70            | 24.15        | 33.00       |
|                   |            | Middle  | 21.80                 | 2.88               | 0.70            | 23.98        | 33.00       |
|                   |            | High    | 21.64                 | 2.88               | 0.70            | 23.82        | 33.00       |
|                   | 16QAM      | Low     | 21.25                 | 2.88               | 0.70            | 23.43        | 33.00       |
|                   |            | Middle  | 20.94                 | 2.88               | 0.70            | 23.12        | 33.00       |
|                   |            | High    | 20.16                 | 2.88               | 0.70            | 22.34        | 33.00       |
| 15MHz             | QPSK       | Low     | 21.96                 | 2.88               | 0.70            | 24.14        | 33.00       |
|                   |            | Middle  | 21.75                 | 2.88               | 0.70            | 23.93        | 33.00       |
|                   |            | High    | 21.59                 | 2.88               | 0.70            | 23.77        | 33.00       |
|                   | 16QAM      | Low     | 21.34                 | 2.88               | 0.70            | <b>23.52</b> | 33.00       |
|                   |            | Middle  | 21.10                 | 2.88               | 0.70            | 23.28        | 33.00       |
|                   |            | High    | 20.99                 | 2.88               | 0.70            | 23.17        | 33.00       |
| 20MHz             | QPSK       | Low     | 22.16                 | 2.88               | 0.70            | <b>24.34</b> | 33.00       |
|                   |            | Middle  | 21.84                 | 2.88               | 0.70            | 24.02        | 33.00       |
|                   |            | High    | 21.72                 | 2.88               | 0.70            | 23.90        | 33.00       |
|                   | 16QAM      | Low     | 20.83                 | 2.88               | 0.70            | 23.01        | 33.00       |
|                   |            | Middle  | 21.33                 | 2.88               | 0.70            | 23.51        | 33.00       |
|                   |            | High    | 21.19                 | 2.88               | 0.70            | 23.37        | 33.00       |

## LTE Band 12

| Channel Bandwidth | Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|-------------------|------------|----------------------------|-------------------|----------------------|--------------------|
| 1.4MHz            | QPSK       | RB1#0                      | 22.25             | 22.13                | 22.28              |
|                   |            | RB1#3                      | 22.26             | 22.23                | 22.37              |
|                   |            | RB1#5                      | 22.20             | 22.20                | 22.31              |
|                   |            | RB3#0                      | 22.23             | 22.20                | 22.30              |
|                   |            | RB3#3                      | 22.21             | 22.29                | 22.31              |
|                   |            | RB6#0                      | 21.18             | 21.37                | 21.25              |
|                   | 16QAM      | RB1#0                      | 21.52             | 22.46                | 20.78              |
|                   |            | RB1#3                      | 21.55             | 22.05                | 20.79              |
|                   |            | RB1#5                      | 21.59             | 22.11                | 20.83              |
|                   |            | RB3#0                      | 21.18             | 21.21                | 21.30              |
|                   |            | RB3#3                      | 21.35             | 21.21                | 21.26              |
|                   |            | RB6#0                      | 20.27             | 20.26                | 21.05              |
| 3MHz              | QPSK       | RB1#0                      | 22.12             | 22.22                | 22.33              |
|                   |            | RB1#8                      | 22.23             | 22.22                | 22.38              |
|                   |            | RB1#14                     | 22.33             | 22.21                | 22.36              |
|                   |            | RB6#0                      | 21.20             | 21.72                | 21.16              |
|                   |            | RB6#9                      | 21.17             | 21.42                | 21.27              |
|                   |            | RB15#0                     | 21.18             | 21.36                | 21.22              |
|                   | 16QAM      | RB1#0                      | 21.45             | 22.40                | 20.94              |
|                   |            | RB1#8                      | 21.39             | 22.09                | 20.84              |
|                   |            | RB1#14                     | 21.46             | 22.09                | 20.91              |
|                   |            | RB6#0                      | 19.93             | 20.79                | 21.04              |
|                   |            | RB6#9                      | 20.19             | 20.25                | 21.10              |
|                   |            | RB15#0                     | 20.05             | 20.36                | 20.87              |
| 5MHz              | QPSK       | RB1#0                      | 22.23             | 22.23                | 22.19              |
|                   |            | RB1#13                     | 22.29             | 22.18                | 22.18              |
|                   |            | RB1#24                     | 22.25             | 22.48                | 22.23              |
|                   |            | RB15#0                     | 21.29             | 21.78                | 21.28              |
|                   |            | RB15#10                    | 21.19             | 21.45                | 21.21              |
|                   |            | RB25#0                     | 21.27             | 21.40                | 21.29              |
|                   | 16QAM      | RB1#0                      | 20.32             | 21.74                | 20.83              |
|                   |            | RB1#13                     | 20.28             | 21.29                | 20.87              |
|                   |            | RB1#24                     | 20.47             | 21.38                | 20.91              |
|                   |            | RB15#0                     | 20.15             | 20.65                | 20.23              |
|                   |            | RB15#10                    | 20.40             | 20.07                | 20.96              |
|                   |            | RB25#0                     | 20.33             | 20.29                | 20.78              |
| 10MHz             | QPSK       | RB1#0                      | 22.12             | 22.33                | 22.33              |
|                   |            | RB1#25                     | 22.21             | 22.23                | 22.48              |
|                   |            | RB1#49                     | 22.20             | 22.40                | 22.53              |
|                   |            | RB25#0                     | 21.17             | 21.79                | 21.27              |
|                   |            | RB25#25                    | 21.81             | 21.44                | 21.39              |
|                   |            | RB50#0                     | 21.26             | 21.42                | 21.37              |
|                   | 16QAM      | RB1#0                      | 21.09             | 21.30                | 21.26              |
|                   |            | RB1#25                     | 21.30             | 21.51                | 20.92              |
|                   |            | RB1#49                     | 21.33             | 21.49                | 20.94              |
|                   |            | RB25#0                     | 20.24             | 20.76                | 20.36              |
|                   |            | RB25#25                    | 20.77             | 20.35                | 20.90              |
|                   |            | RB50#0                     | 20.40             | 20.39                | 20.28              |

**ERP:**

| Channel Bandwidth | Modulation | Channel | Conducted Power (dBm) | Antenna Gain (dBd) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|-------------------|------------|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| 1.4MHz            | QPSK       | Low     | 22.26                 | -5.15              | 0.20            | 16.91        | 34.77       |
|                   |            | Middle  | 22.29                 | -5.15              | 0.20            | 16.94        | 34.77       |
|                   |            | High    | 22.37                 | -5.15              | 0.20            | 17.02        | 34.77       |
|                   | 16QAM      | Low     | 21.59                 | -5.15              | 0.20            | 16.24        | 34.77       |
|                   |            | Middle  | 22.46                 | -5.15              | 0.20            | <b>17.11</b> | 34.77       |
|                   |            | High    | 21.30                 | -5.15              | 0.20            | 15.95        | 34.77       |
| 3MHz              | QPSK       | Low     | 22.33                 | -5.15              | 0.20            | 16.98        | 34.77       |
|                   |            | Middle  | 22.22                 | -5.15              | 0.20            | 16.87        | 34.77       |
|                   |            | High    | 22.38                 | -5.15              | 0.20            | 17.03        | 34.77       |
|                   | 16QAM      | Low     | 21.46                 | -5.15              | 0.20            | 16.11        | 34.77       |
|                   |            | Middle  | 22.40                 | -5.15              | 0.20            | 17.05        | 34.77       |
|                   |            | High    | 21.10                 | -5.15              | 0.20            | 15.75        | 34.77       |
| 5MHz              | QPSK       | Low     | 22.29                 | -5.15              | 0.20            | 16.94        | 34.77       |
|                   |            | Middle  | 22.48                 | -5.15              | 0.20            | 17.13        | 34.77       |
|                   |            | High    | 22.23                 | -5.15              | 0.20            | 16.88        | 34.77       |
|                   | 16QAM      | Low     | 20.47                 | -5.15              | 0.20            | 15.12        | 34.77       |
|                   |            | Middle  | 21.74                 | -5.15              | 0.20            | 16.39        | 34.77       |
|                   |            | High    | 20.96                 | -5.15              | 0.20            | 15.61        | 34.77       |
| 10MHz             | QPSK       | Low     | 22.21                 | -5.15              | 0.20            | 16.86        | 34.77       |
|                   |            | Middle  | 22.40                 | -5.15              | 0.20            | 17.05        | 34.77       |
|                   |            | High    | 22.53                 | -5.15              | 0.20            | <b>17.18</b> | 34.77       |
|                   | 16QAM      | Low     | 21.33                 | -5.15              | 0.20            | 15.98        | 34.77       |
|                   |            | Middle  | 21.51                 | -5.15              | 0.20            | 16.16        | 34.77       |
|                   |            | High    | 21.26                 | -5.15              | 0.20            | 15.91        | 34.77       |

**LTE Band 17****Conducted Output Power:**

| Channel Bandwidth | Modulation | Resource Block & RB offset | Low Channel (dBm) | Middle Channel (dBm) | High Channel (dBm) |
|-------------------|------------|----------------------------|-------------------|----------------------|--------------------|
| 5MHz              | QPSK       | RB1#0                      | 22.33             | 22.18                | 22.19              |
|                   |            | RB1#13                     | 22.27             | 22.31                | 22.20              |
|                   |            | RB1#24                     | 22.29             | 22.32                | 22.28              |
|                   |            | RB15#0                     | 21.78             | 21.31                | 21.25              |
|                   |            | RB15#10                    | 21.48             | 21.28                | 21.38              |
|                   |            | RB25#0                     | 21.84             | 21.34                | 21.28              |
|                   | 16QAM      | RB1#0                      | 20.25             | 21.19                | 20.95              |
|                   |            | RB1#13                     | 20.87             | 21.29                | 20.88              |
|                   |            | RB1#24                     | 20.58             | 21.19                | 20.93              |
|                   |            | RB15#0                     | 20.79             | 20.21                | 20.27              |
|                   |            | RB15#10                    | 20.38             | 20.21                | 20.90              |
|                   |            | RB25#0                     | 20.92             | 20.29                | 20.74              |
| 10MHz             | QPSK       | RB1#0                      | 22.08             | 22.25                | 22.28              |
|                   |            | RB1#25                     | 22.03             | 22.32                | 22.47              |
|                   |            | RB1#49                     | 22.33             | 22.32                | 22.51              |
|                   |            | RB25#0                     | 21.78             | 21.42                | 21.24              |
|                   |            | RB25#25                    | 21.35             | 21.31                | 21.35              |
|                   |            | RB50#0                     | 21.37             | 21.36                | 21.33              |
|                   | 16QAM      | RB1#0                      | 21.23             | 21.88                | 21.29              |
|                   |            | RB1#25                     | 21.27             | 21.55                | 20.95              |
|                   |            | RB1#49                     | 21.24             | 21.47                | 20.90              |
|                   |            | RB25#0                     | 20.75             | 20.27                | 20.36              |
|                   |            | RB25#25                    | 20.26             | 20.30                | 20.90              |
|                   |            | RB50#0                     | 20.11             | 20.33                | 20.27              |

**ERP:**

| Channel Bandwidth | Modulation | Channel | Conducted Power (dBm) | Antenna Gain (dBd) | Cable Loss (dB) | Result (dBm) | Limit (dBm) |
|-------------------|------------|---------|-----------------------|--------------------|-----------------|--------------|-------------|
| 5MHz              | QPSK       | Low     | 22.33                 | -5.15              | 0.20            | 16.98        | 34.77       |
|                   |            | Middle  | 22.32                 | -5.15              | 0.20            | 16.97        | 34.77       |
|                   |            | High    | 22.28                 | -5.15              | 0.20            | 16.93        | 34.77       |
|                   | 16QAM      | Low     | 20.92                 | -5.15              | 0.20            | 15.57        | 34.77       |
|                   |            | Middle  | 21.29                 | -5.15              | 0.20            | 15.94        | 34.77       |
|                   |            | High    | 20.95                 | -5.15              | 0.20            | 15.60        | 34.77       |
| 10MHz             | QPSK       | Low     | 22.33                 | -5.15              | 0.20            | 16.98        | 34.77       |
|                   |            | Middle  | 22.32                 | -5.15              | 0.20            | 16.97        | 34.77       |
|                   |            | High    | 22.51                 | -5.15              | 0.20            | <b>17.16</b> | 34.77       |
|                   | 16QAM      | Low     | 21.27                 | -5.15              | 0.20            | 15.92        | 34.77       |
|                   |            | Middle  | 21.88                 | -5.15              | 0.20            | <b>16.53</b> | 34.77       |
|                   |            | High    | 21.29                 | -5.15              | 0.20            | 15.94        | 34.77       |

**Note:**

- 1) The unit of Antenna Gain is dBd for frequency below 1GHz, and the unit of Antenna Gain is dBi for frequency above 1GHz.
- 2) Result = Conducted Power - Cable loss + Antenna Gain
- 3) Antenna gain(dBd)= Antenna gain(dBi)-2.15

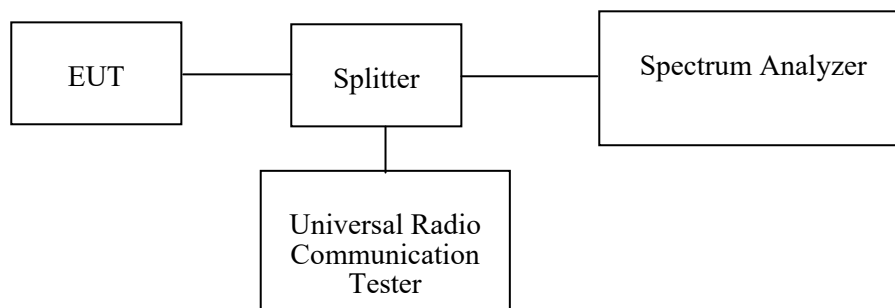
**FCC §2.1049, §22.917, §22.905 & §24.238 & §27.53- OCCUPIED BANDWIDTH****Applicable Standard**

FCC §2.1049, §22.917, §22.905, §24.238, §27.53

**Test Procedure**

The RF output of the transmitter was connected to the simulator and the spectrum analyzer through sufficient attenuation.

The 26 dB & 99% bandwidth was recorded.

**Test Equipment List and Details**

| Manufacturer | Description       | Model         | Serial Number | Calibration Date | Calibration Due Date |
|--------------|-------------------|---------------|---------------|------------------|----------------------|
| R&S          | Spectrum Analyzer | FSV40         | 101474        | 2021-01-09       | 2022-01-09           |
| yzjingcheng  | Coaxial Cable     | KTRFBU-141-50 | 41010012      | Each time        | N/A                  |
| Unknown      | Coaxial Cable     | C-SJ00-0010   | C0010/01      | Each time        | N/A                  |
| E-Microwave  | Two-way Splitter  | ODP-1-6-2S    | OE0120142     | Each Time        | N/A                  |
| E-Microwave  | Blocking Control  | EMDCB-00036   | 0E01201047    | Each time        | N/A                  |
| Unknown      | Attenuator        | UNAT-3+       | 15529         | Each time        | N/A                  |

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

**Test Data****Environmental Conditions**

|                           |                       |
|---------------------------|-----------------------|
| <b>Temperature:</b>       | 24.2~27.5 °C          |
| <b>Relative Humidity:</b> | 47~70 %               |
| <b>ATM Pressure:</b>      | 100~100.8kPa          |
| <b>Tester:</b>            | Lay Lei               |
| <b>Test Date:</b>         | 2021.05.19~2021-06-07 |

Test Mode: Transmitting

Test Result: Compliance. Please refer to the following table and plots.

**GSM:**

| Band     | Operation Mode | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|----------|----------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
|          |                | Low Channel                  | Middle Channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| Cellular | GPRS           | 0.246                        | 0.244          | 0.244        | 0.317                          | 0.321          | 0.317        |
|          | EDGE           | 0.244                        | 0.244          | 0.246        | 0.315                          | 0.315          | 0.309        |
| PCS      | GPRS           | 0.242                        | 0.244          | 0.246        | 0.313                          | 0.317          | 0.319        |
|          | EDGE           | 0.244                        | 0.246          | 0.244        | 0.315                          | 0.315          | 0.313        |

**WCDMA:**

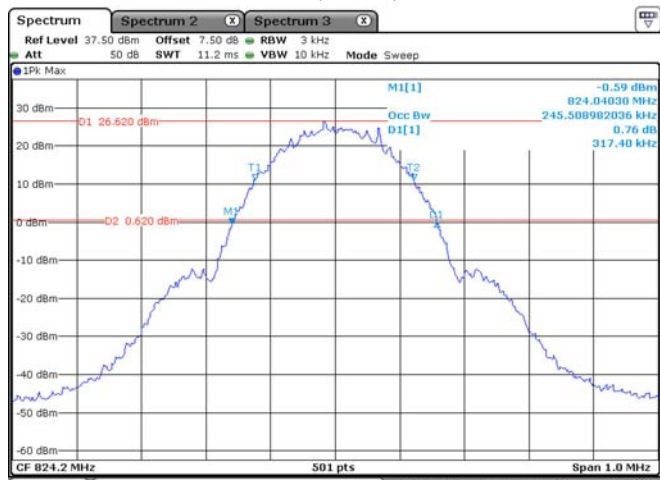
| Band     | Operation Mode | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|----------|----------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
|          |                | Low Channel                  | Middle Channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| Cellular | Rel 99         | 4.152                        | 4.172          | 4.172        | 4.731                          | 4.711          | 4.741        |
|          | HSDPA          | 4.172                        | 4.172          | 4.152        | 4.750                          | 4.731          | 4.731        |
|          | HSUPA          | 4.152                        | 4.152          | 4.152        | 4.731                          | 4.711          | 4.731        |
| PCS      | Rel 99         | 4.152                        | 4.172          | 4.172        | 4.731                          | 4.731          | 4.741        |
|          | HSDPA          | 4.152                        | 4.152          | 4.172        | 4.724                          | 4.717          | 4.721        |
|          | HSUPA          | 4.152                        | 4.172          | 4.172        | 4.721                          | 4.721          | 4.717        |

**LTE Bands:**

| Band       | Bandwidth (MHz) | Modulation mode | 99% Occupied Bandwidth (MHz) |                |              | 26 dB Occupied Bandwidth (MHz) |                |              |
|------------|-----------------|-----------------|------------------------------|----------------|--------------|--------------------------------|----------------|--------------|
|            |                 |                 | Low Channel                  | Middle Channel | High Channel | Low Channel                    | Middle Channel | High Channel |
| LTE Band 2 | 1.4 MHz         | QPSK            | 1.102                        | 1.096          | 1.102        | 1.254                          | 1.260          | 1.260        |
|            |                 | 16QAM           | 1.102                        | 1.102          | 1.096        | 1.260                          | 1.266          | 1.254        |
|            | 3 MHz           | QPSK            | 2.695                        | 2.695          | 2.695        | 3.000                          | 3.012          | 3.024        |
|            |                 | 16QAM           | 2.695                        | 2.683          | 2.695        | 3.012                          | 3.012          | 3.024        |
|            | 5 MHz           | QPSK            | 4.531                        | 4.511          | 4.511        | 5.000                          | 5.020          | 5.000        |
|            |                 | 16QAM           | 4.511                        | 4.551          | 4.551        | 4.980                          | 5.020          | 5.020        |
|            | 10 MHz          | QPSK            | 8.981                        | 8.942          | 8.942        | 9.760                          | 9.760          | 9.760        |
|            |                 | 16QAM           | 8.942                        | 8.981          | 8.942        | 9.760                          | 9.800          | 9.880        |
|            | 15 MHz          | QPSK            | 13.473                       | 13.473         | 13.533       | 15.060                         | 15.000         | 15.120       |
|            |                 | 16QAM           | 13.593                       | 13.533         | 13.533       | 15.060                         | 15.060         | 15.060       |
|            | 20 MHz          | QPSK            | 17.964                       | 18.044         | 17.964       | 19.680                         | 19.680         | 19.760       |
|            |                 | 16QAM           | 18.044                       | 17.964         | 17.964       | 19.760                         | 19.840         | 19.680       |
| LTE Band 4 | 1.4 MHz         | QPSK            | 1.102                        | 1.102          | 1.102        | 1.254                          | 1.254          | 1.260        |
|            |                 | 16QAM           | 1.108                        | 1.090          | 1.102        | 1.266                          | 1.254          | 1.260        |
|            | 3 MHz           | QPSK            | 2.707                        | 2.695          | 2.695        | 3.000                          | 3.000          | 3.012        |
|            |                 | 16QAM           | 2.707                        | 2.683          | 2.695        | 3.012                          | 3.000          | 3.024        |
|            | 5 MHz           | QPSK            | 4.531                        | 4.511          | 4.491        | 5.000                          | 5.000          | 5.000        |
|            |                 | 16QAM           | 4.531                        | 4.511          | 4.531        | 5.000                          | 5.020          | 5.000        |
|            | 10 MHz          | QPSK            | 8.981                        | 8.942          | 8.981        | 9.760                          | 9.760          | 9.760        |
|            |                 | 16QAM           | 8.942                        | 8.942          | 8.981        | 9.720                          | 9.760          | 9.800        |
|            | 15 MHz          | QPSK            | 13.533                       | 13.473         | 13.593       | 15.000                         | 15.000         | 15.180       |
|            |                 | 16QAM           | 13.533                       | 13.533         | 13.593       | 15.000                         | 15.060         | 15.060       |
|            | 20 MHz          | QPSK            | 17.964                       | 17.964         | 18.124       | 19.440                         | 19.600         | 19.840       |
|            |                 | 16QAM           | 17.884                       | 18.044         | 18.044       | 19.600                         | 19.840         | 19.840       |

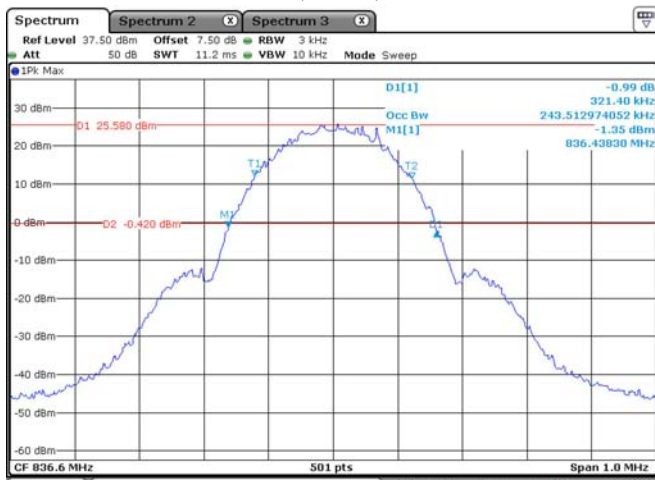
| Band        | Bandwidth (MHz) | Modulation mode | 99% Occupied Bandwidth(MHz) |                |              | 26 dB Occupied Bandwidth(MHz) |                |              |
|-------------|-----------------|-----------------|-----------------------------|----------------|--------------|-------------------------------|----------------|--------------|
|             |                 |                 | Low Channel                 | Middle Channel | High Channel | Low Channel                   | Middle Channel | High Channel |
| LTE Band 7  | 5 MHz           | QPSK            | 4.511                       | 4.511          | 4.511        | 5.000                         | 5.040          | 4.980        |
|             |                 | 16QAM           | 4.511                       | 4.531          | 4.551        | 5.020                         | 5.020          | 5.020        |
|             | 10 MHz          | QPSK            | 8.981                       | 8.942          | 8.981        | 9.800                         | 9.760          | 9.760        |
|             |                 | 16QAM           | 8.942                       | 8.942          | 8.981        | 9.760                         | 9.760          | 9.920        |
|             | 15 MHz          | QPSK            | 13.593                      | 13.533         | 13.533       | 15.060                        | 15.000         | 15.000       |
|             |                 | 16QAM           | 13.593                      | 13.533         | 13.533       | 15.060                        | 15.060         | 15.060       |
| LTE Band 12 | 1.4 MHz         | QPSK            | 1.096                       | 1.108          | 1.102        | 1.248                         | 1.260          | 1.260        |
|             |                 | 16QAM           | 1.108                       | 1.096          | 1.102        | 1.260                         | 1.254          | 1.260        |
|             | 3 MHz           | QPSK            | 2.695                       | 2.695          | 2.683        | 3.000                         | 3.012          | 3.024        |
|             |                 | 16QAM           | 2.683                       | 2.707          | 2.695        | 2.988                         | 3.024          | 3.024        |
|             | 5 MHz           | QPSK            | 4.511                       | 4.511          | 4.491        | 4.980                         | 5.000          | 4.960        |
|             |                 | 16QAM           | 4.511                       | 4.551          | 4.551        | 4.980                         | 5.040          | 5.000        |
| LTE Band 17 | 10 MHz          | QPSK            | 8.942                       | 8.981          | 8.981        | 9.760                         | 9.800          | 9.800        |
|             |                 | 16QAM           | 8.942                       | 8.981          | 8.981        | 9.760                         | 9.880          | 9.800        |
|             | 5 MHz           | QPSK            | 4.511                       | 4.511          | 4.511        | 5.000                         | 5.000          | 4.980        |
|             |                 | 16QAM           | 4.511                       | 4.531          | 4.531        | 5.000                         | 5.000          | 5.020        |
| LTE Band 17 | 10 MHz          | QPSK            | 8.981                       | 8.981          | 8.981        | 9.760                         | 9.760          | 9.800        |
|             |                 | 16QAM           | 8.981                       | 8.981          | 8.981        | 9.680                         | 9.840          | 9.800        |

### Cellular 850 Band, GSM, Low Channel



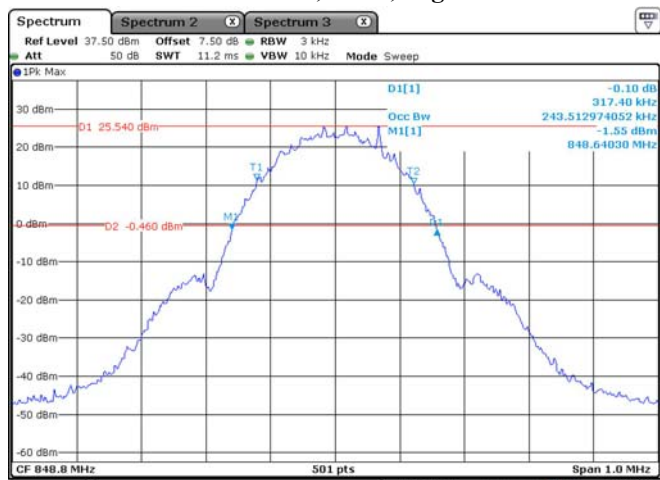
Date: 19.MAY.2021 09:19:03

### Cellular 850 Band, GSM, Middle Channel



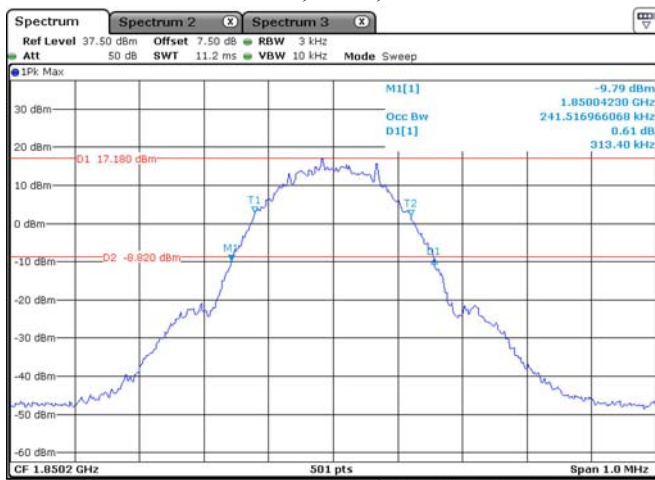
Date: 19.MAY.2021 09:58:49

### Cellular 850 Band, GSM, High Channel



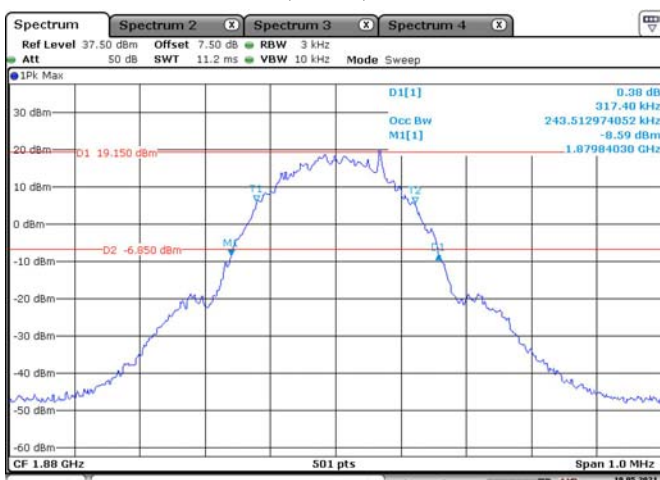
Date: 19.MAY.2021 10:09:03

### PCS 1900 Band, GSM, Low Channel



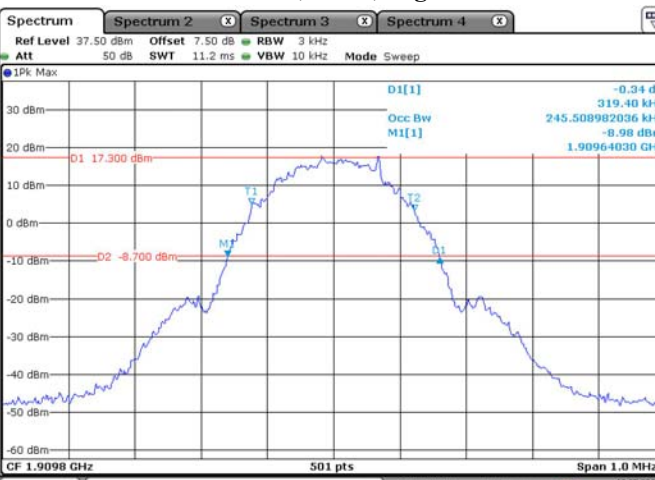
Date: 19.MAY.2021 13:08:44

### PCS 1900 Band, GSM, Middle Channel



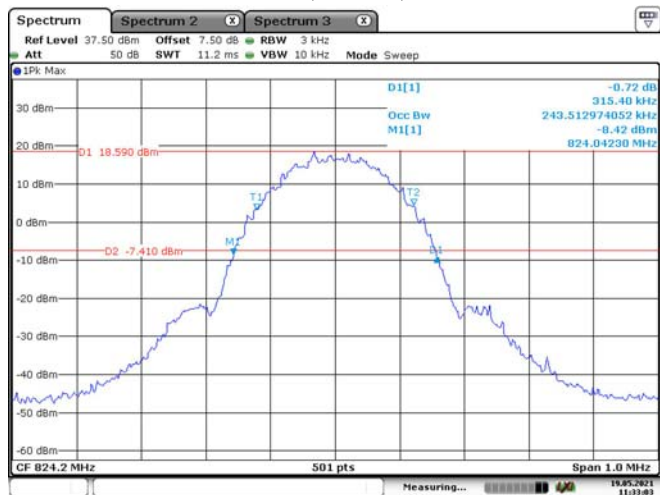
Date: 19.MAY.2021 19:17:08

### PCS 1900 Band, GSM, High Channel



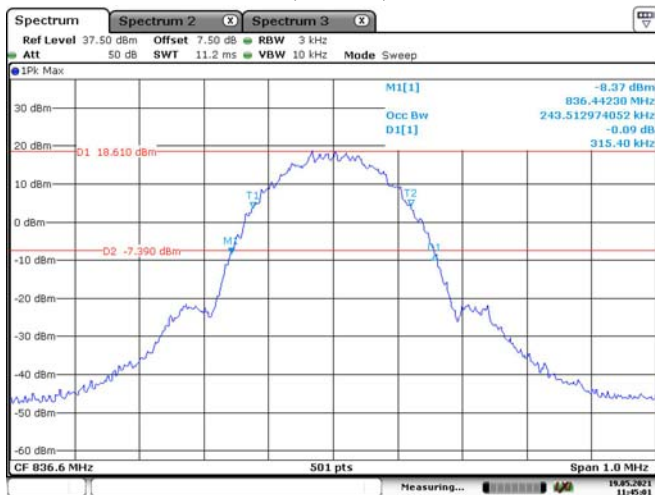
Date: 19.MAY.2021 19:25:39

## Cellular 850 Band, EDGE, Low Channel



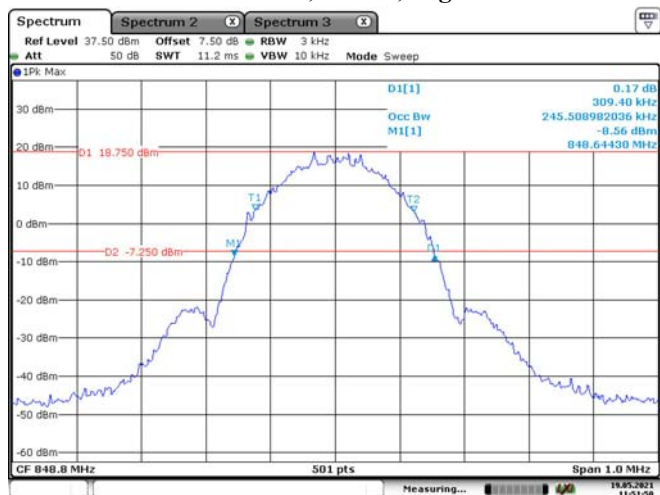
Date: 19.MAY.2021 11:33:04

## Cellular 850 Band, EDGE, Middle Channel



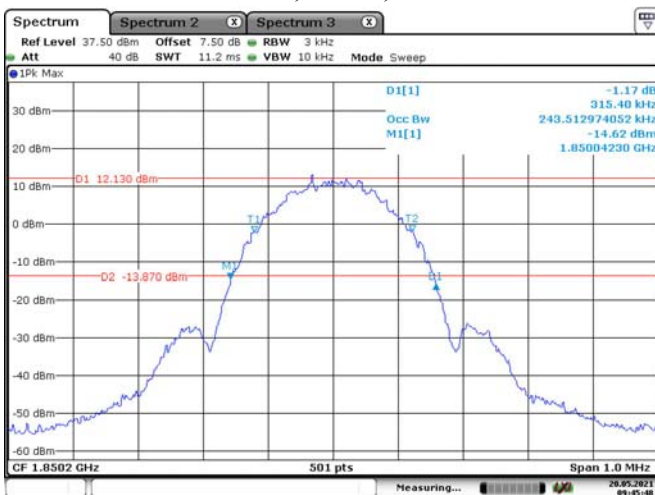
Date: 19.MAY.2021 11:45:01

## Cellular 850 Band, EDGE, High Channel



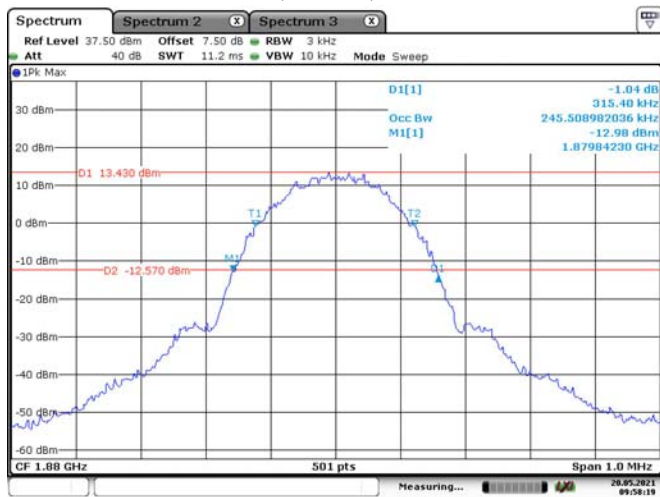
Date: 19.MAY.2021 11:51:50

## PCS 1900 Band, EDGE, Low Channel



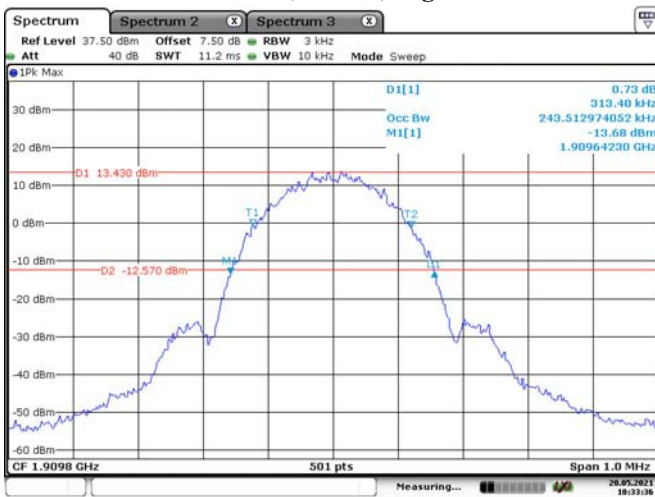
Date: 20.MAY.2021 09:45:48

## PCS 1900 Band, EDGE, Middle Channel



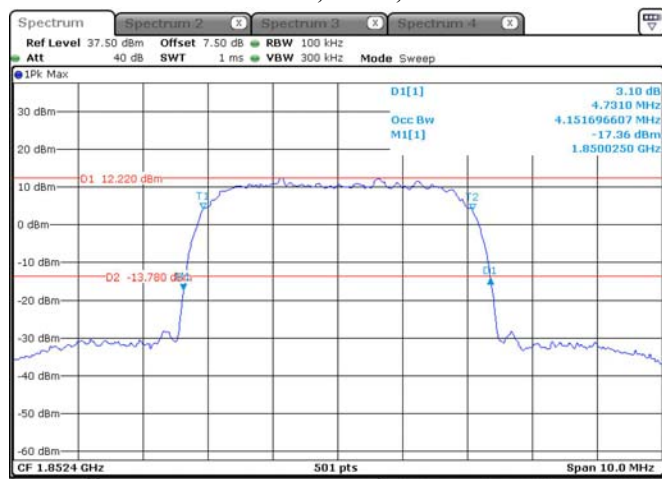
Date: 20.MAY.2021 09:58:20

## PCS 1900 Band, EDGE, High Channel



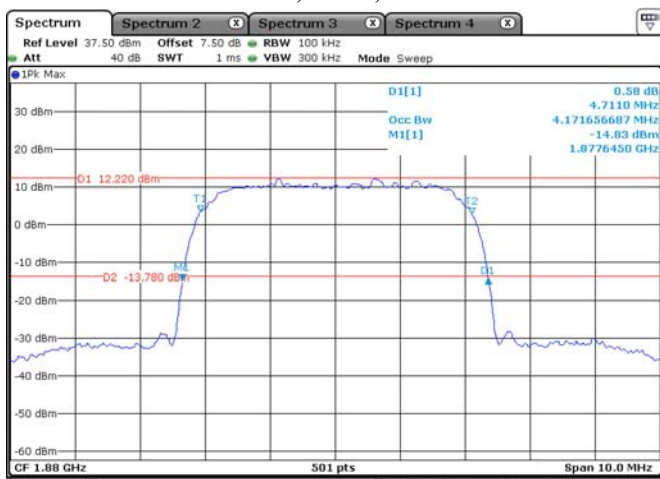
Date: 20.MAY.2021 10:33:36

## WCDMA Band II, Rel99, Low Channel



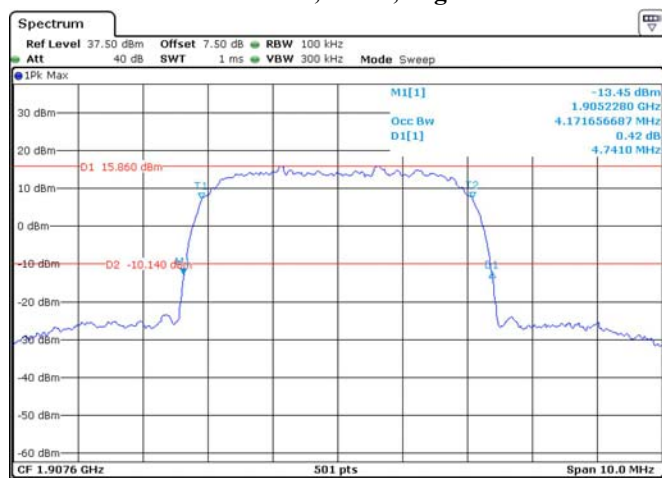
Date: 20.MAY.2021 11:38:25

## WCDMA Band II, Rel99, Middle Channel



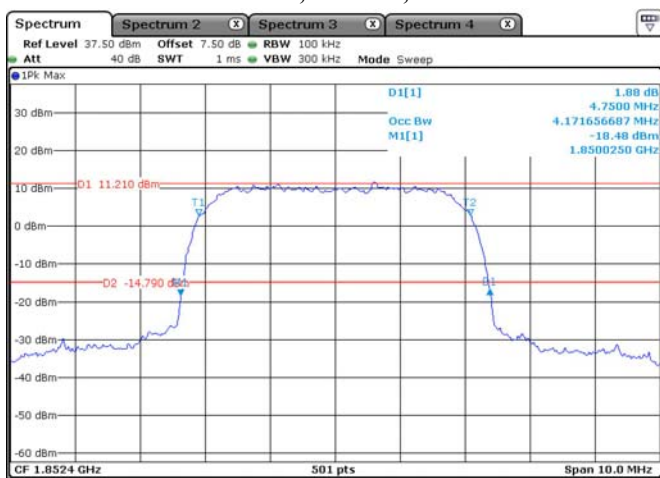
Date: 20.MAY.2021 11:49:30

## WCDMA Band II, Rel99, High Channel



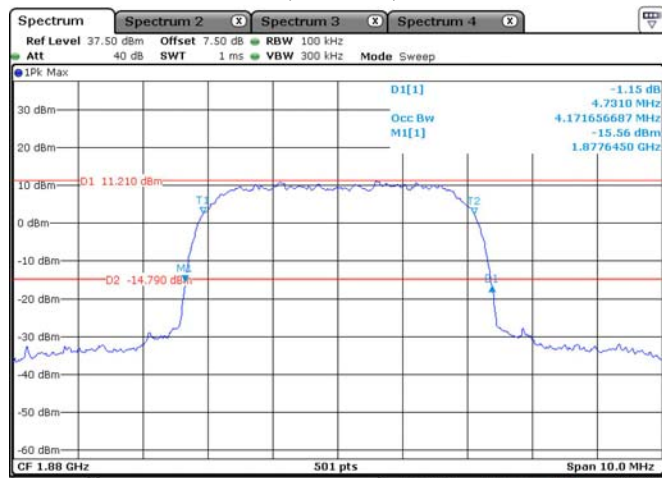
Date: 21.MAY.2021 09:02:12

## WCDMA Band II, HSDPA, Low Channel



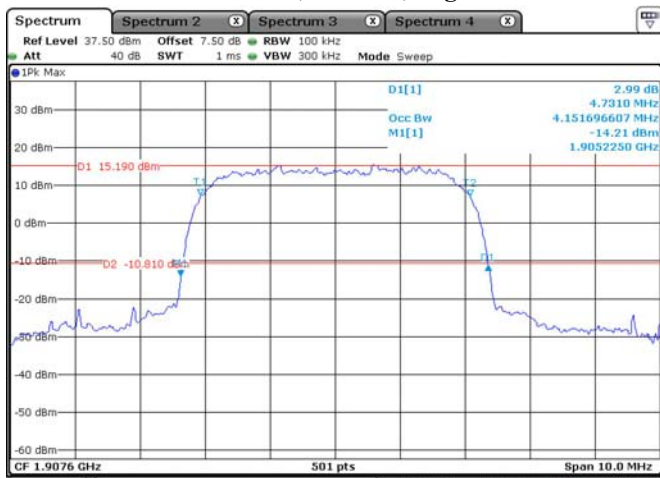
Date: 20.MAY.2021 13:31:27

## WCDMA Band II, HSDPA, Middle Channel



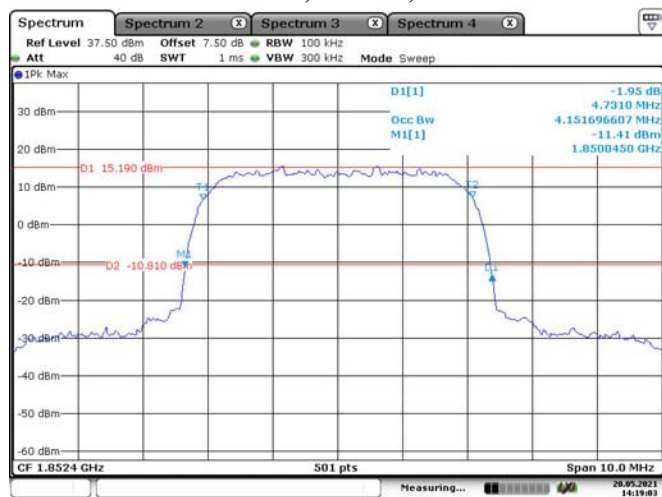
Date: 20.MAY.2021 13:38:30

## WCDMA Band II, HSDPA, High Channel



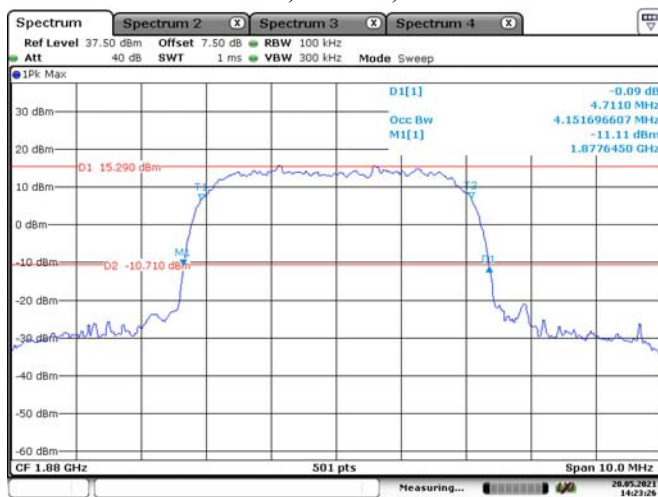
Date: 20.MAY.2021 13:45:20

## WCDMA Band II, HSUPA, Low Channel



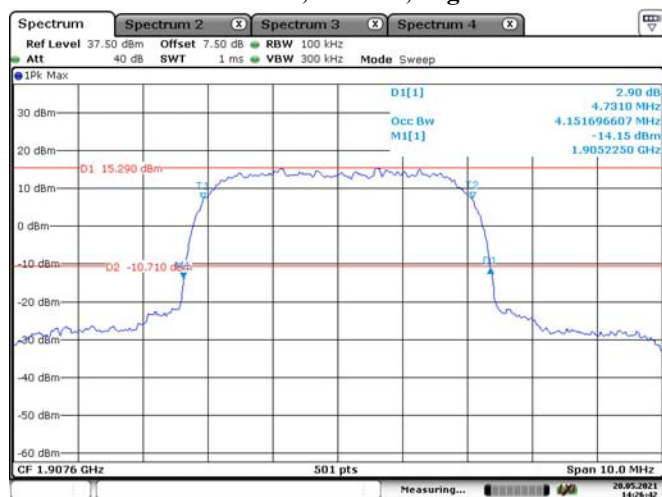
Date: 20.MAY.2021 14:19:04

## WCDMA Band II, HSUPA, Middle Channel



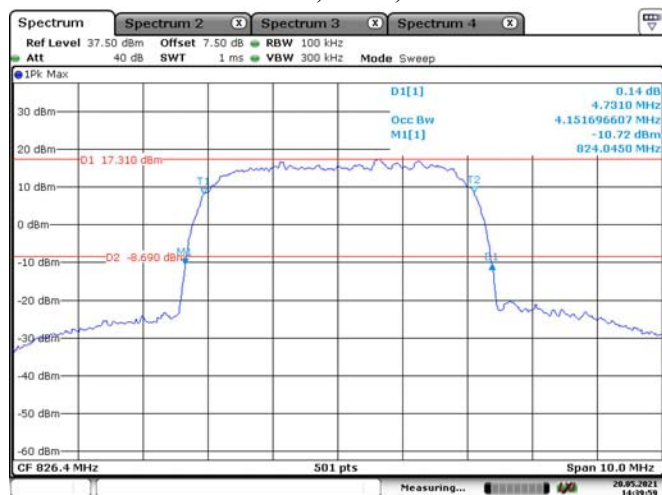
Date: 20.MAY.2021 14:23:27

## WCDMA Band II, HSUPA, High Channel

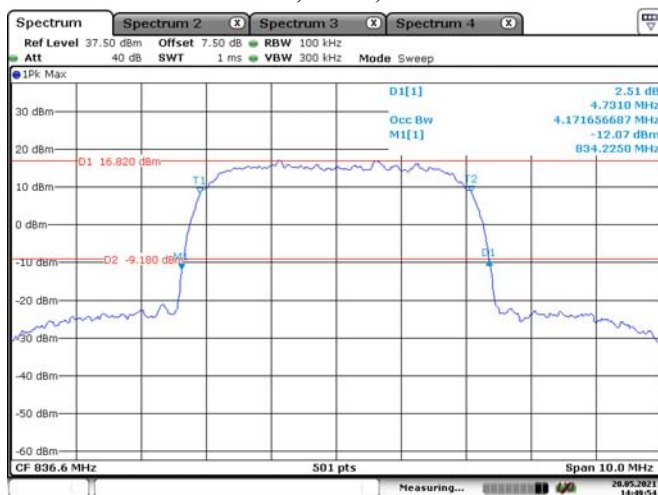


Date: 20.MAY.2021 14:26:42

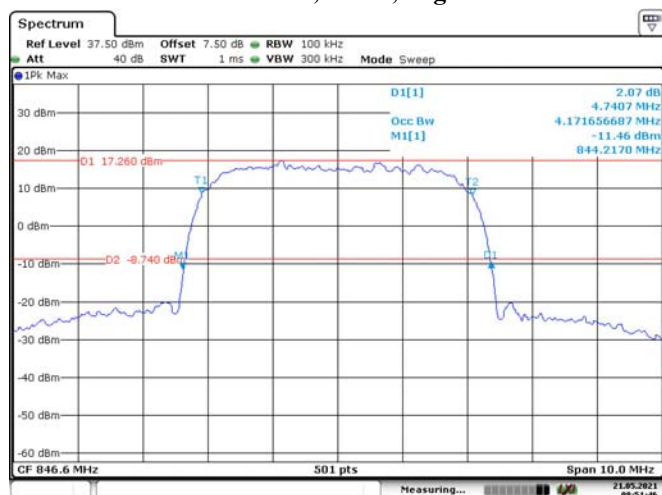
## WCDMA Band V, Rel99, Low Channel



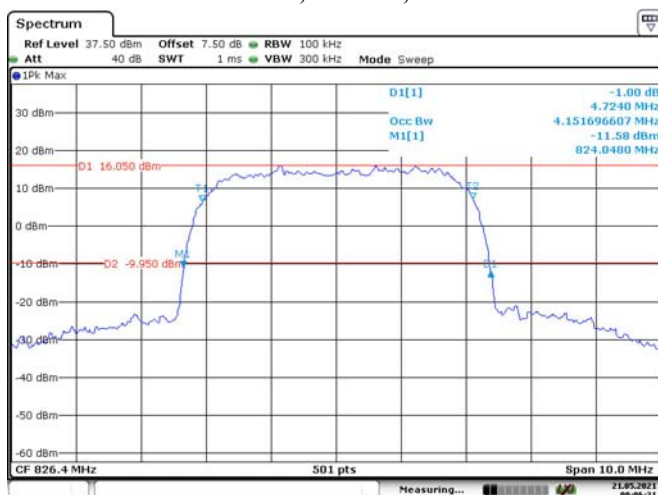
## WCDMA Band V, Rel99, Middle Channel



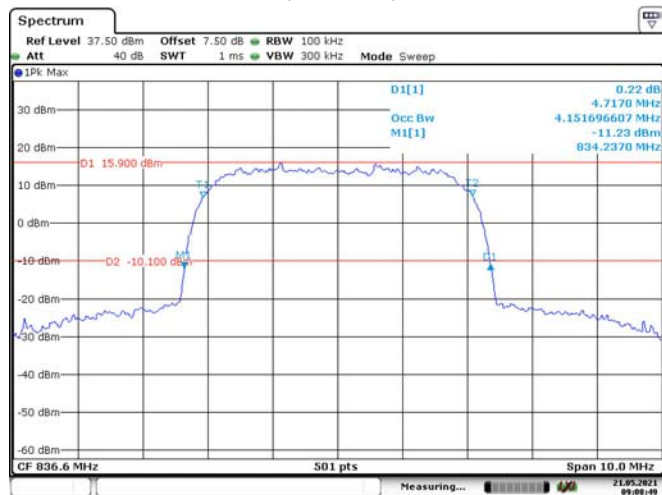
## WCDMA Band V, Rel99, High Channel



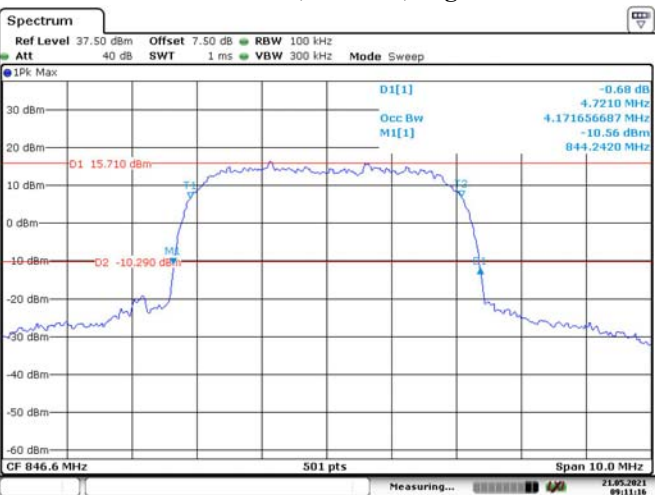
## WCDMA Band V, HSDPA, Low Channel



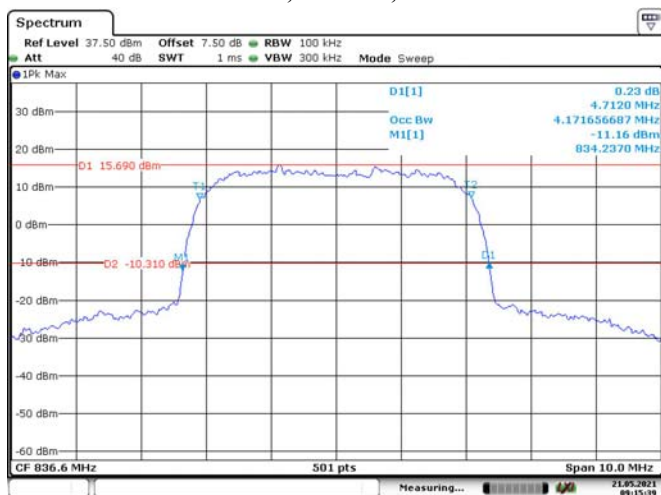
## WCDMA Band V, HSDPA, Middle Channel



## WCDMA Band V, HSDPA, High Channel



## WCDMA Band V, HSUPA, Middle Channel



Date: 21.MAY.2021 09:15:39

**Spectrum**

Ref Level 37.50 dBm Offset 7.50 dB RBW 100 kHz  
 Att 40 dB SWT 1 ms VBW 300 kHz Mode Sweep

1Pk Max

30 dBm  
 20 dBm  
 10 dBm  
 0 dBm  
 -10 dBm  
 -20 dBm  
 -30 dBm  
 -40 dBm  
 -50 dBm  
 -60 dBm

D1[1] -0.56 dB  
 Occ Bw 4.171656687 MHz  
 M1[1] -10.53 dBm  
 844.2370 MHz

D1 16.100 dBm  
 D2 -9.900 dBm

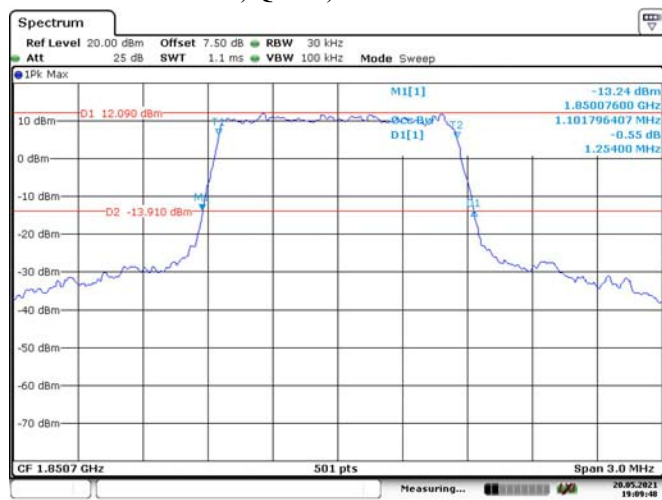
CF 846.6 MHz 501 pts Span 10.0 MHz

Measuring... 21.05.2021 10:13:40

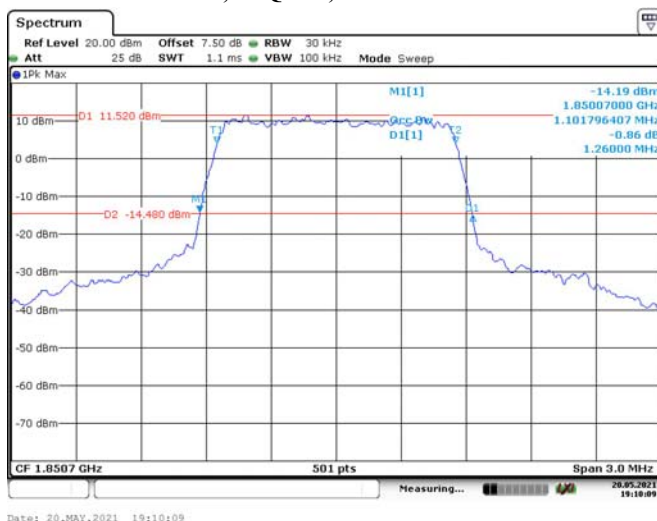
Date: 21.MAY.2021 09:17:05

## LTE Band 2

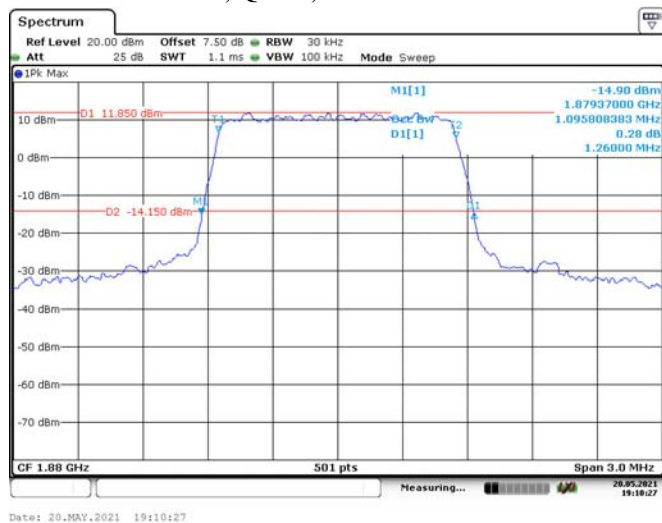
## 1.4M, QPSK, Low Channel



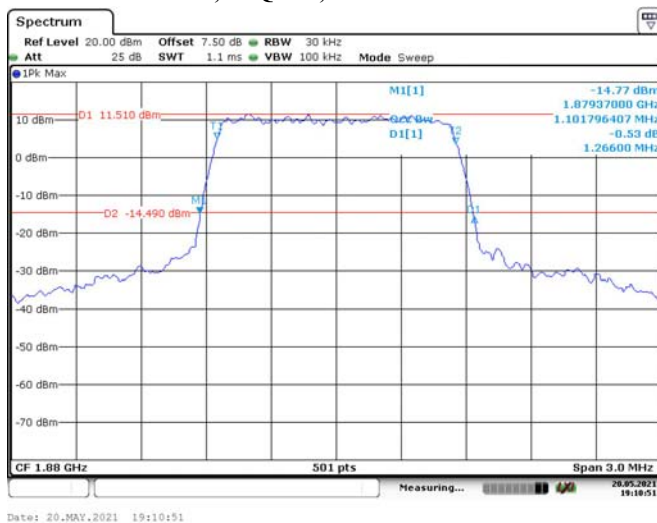
## 1.4M, 16QAM, Low Channel



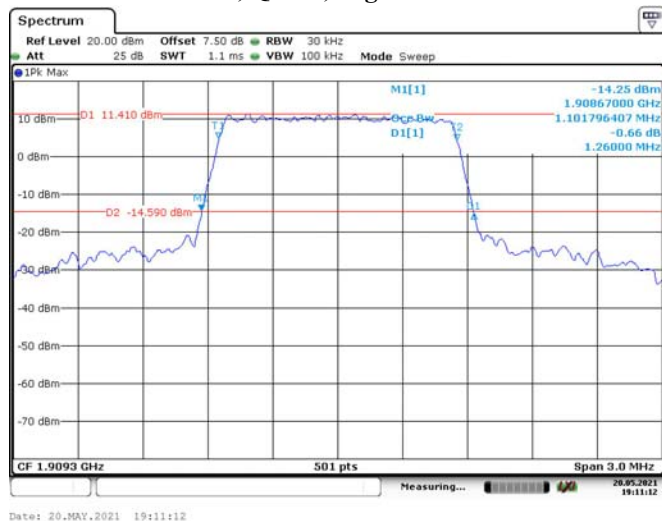
## 1.4M, QPSK, Middle Channel



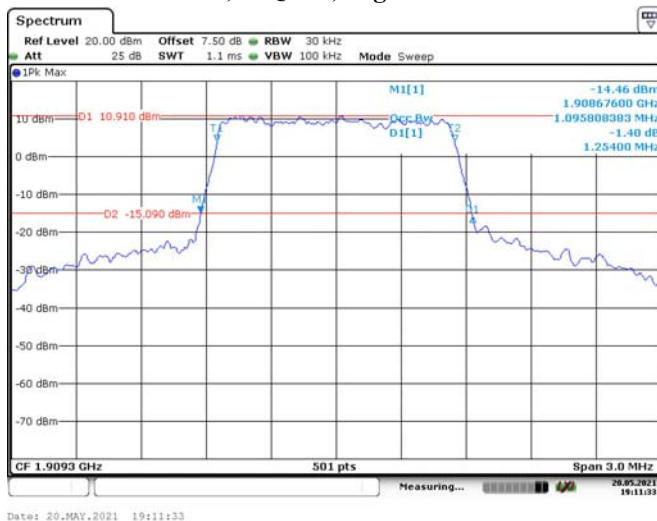
## 1.4M, 16QAM, Middle Channel



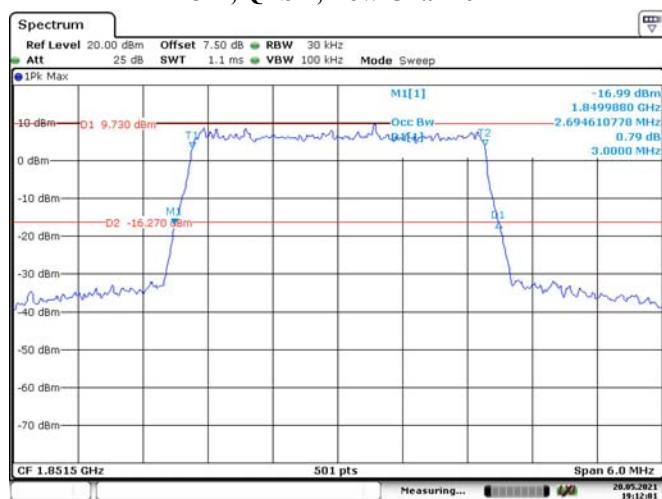
## 1.4M, QPSK, High Channel



## 1.4M, 16QAM, High Channel

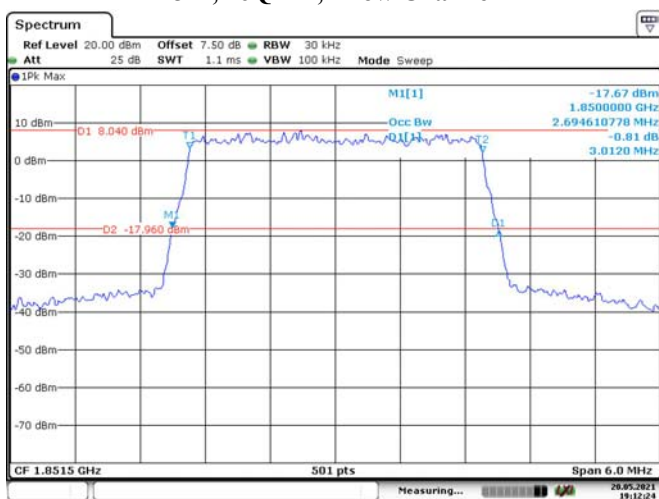


## 3M, QPSK, Low Channel



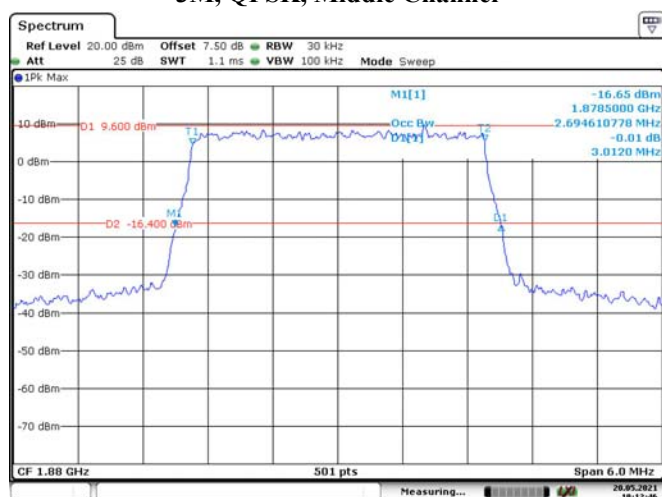
Date: 20.MAY.2021 19:12:01

## 3M, 16QAM, Low Channel



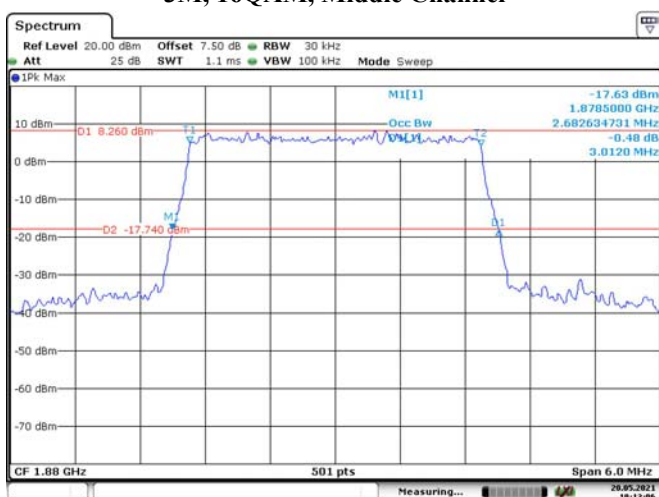
Date: 20.MAY.2021 19:12:24

## 3M, QPSK, Middle Channel



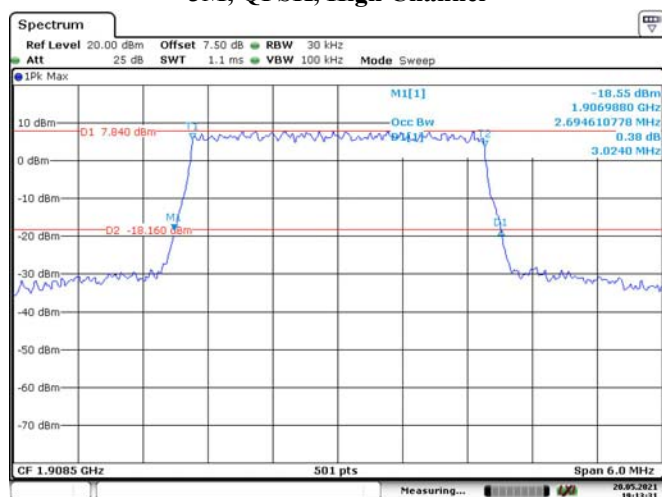
Date: 20.MAY.2021 19:12:46

## 3M, 16QAM, Middle Channel



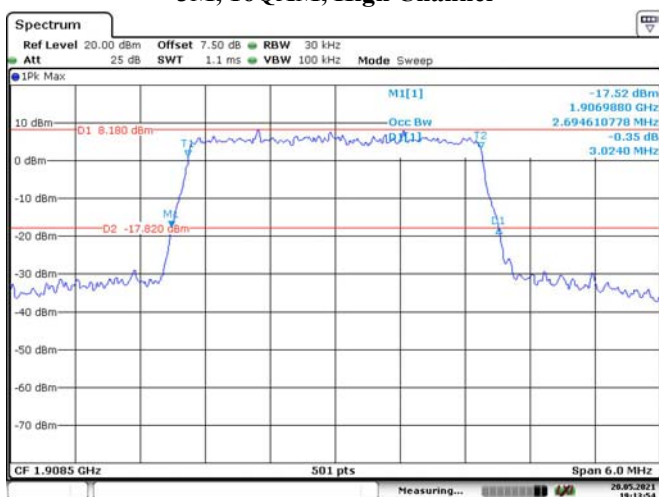
Date: 20.MAY.2021 19:13:06

## 3M, QPSK, High Channel



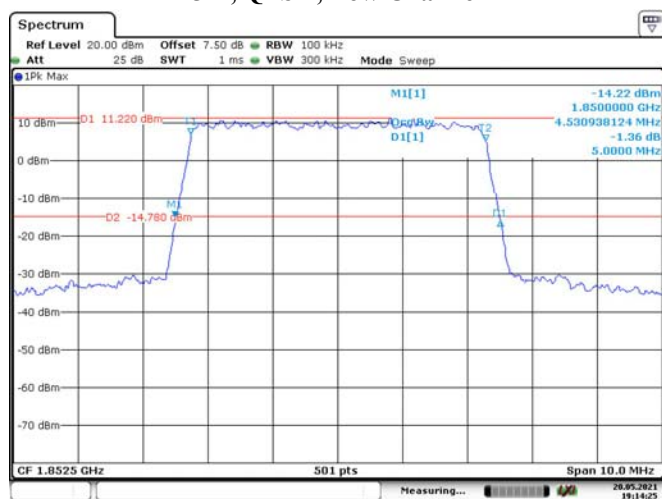
Date: 20.MAY.2021 19:13:31

## 3M, 16QAM, High Channel



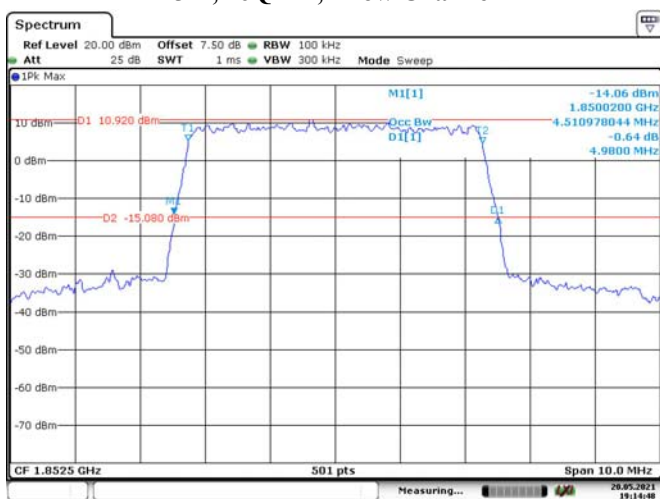
Date: 20.MAY.2021 19:13:54

### 5M, QPSK, Low Channel



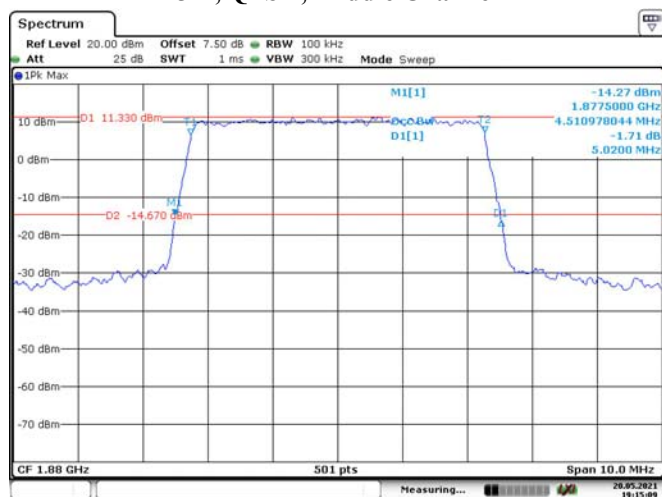
Date: 20.MAY.2021 19:14:24

### 5M, 16QAM, Low Channel



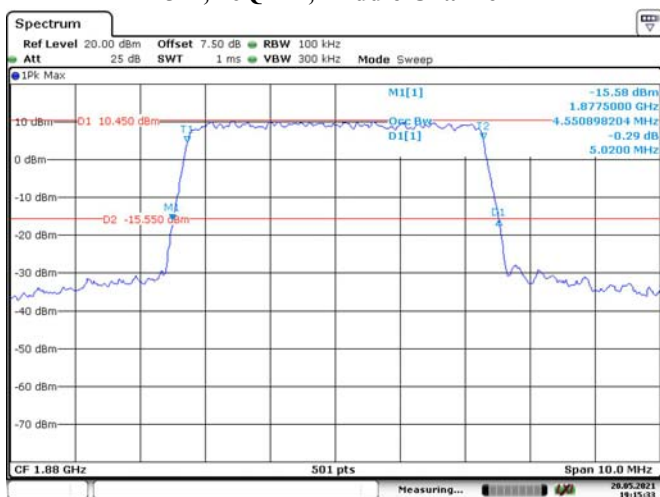
Date: 20.MAY.2021 19:14:48

### 5M, QPSK, Middle Channel



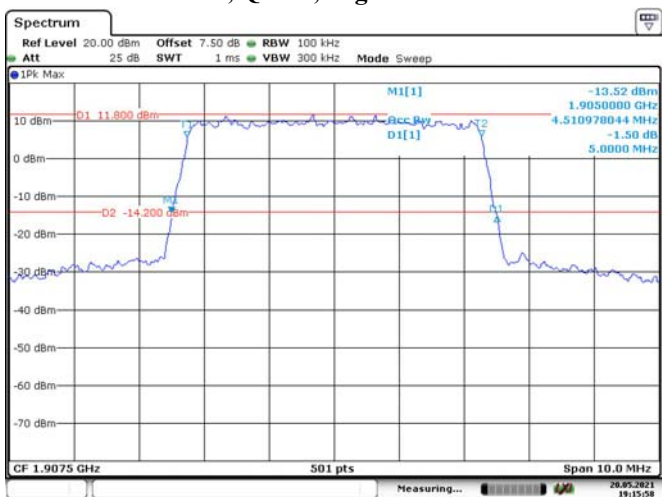
Date: 20.MAY.2021 19:15:09

### 5M, 16QAM, Middle Channel



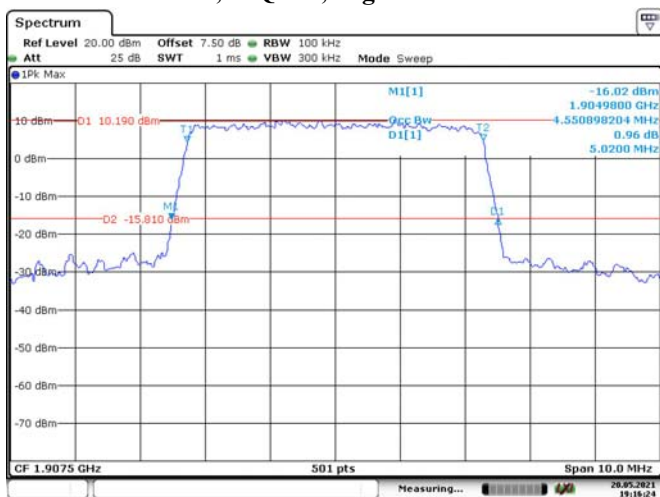
Date: 20.MAY.2021 19:15:33

### 5M, QPSK, High Channel



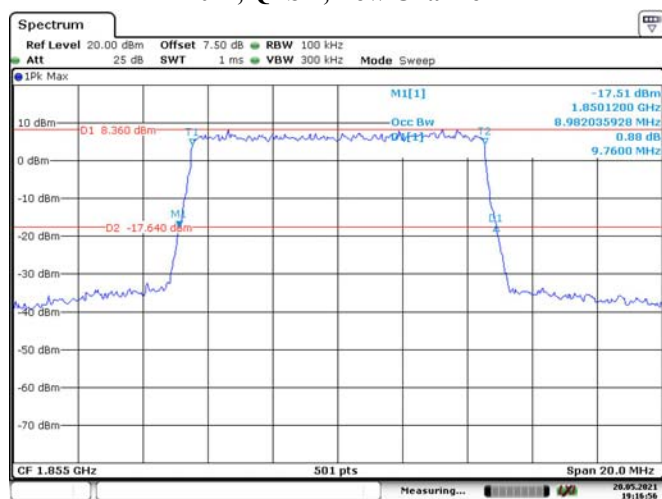
Date: 20.MAY.2021 19:15:58

### 5M, 16QAM, High Channel



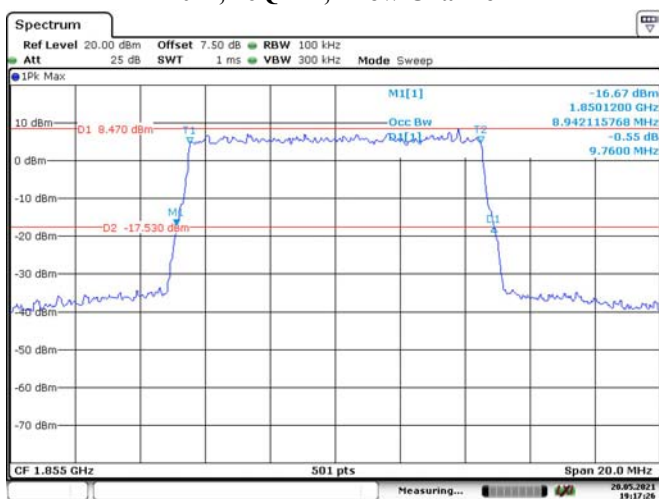
Date: 20.MAY.2021 19:16:24

## 10M, QPSK, Low Channel



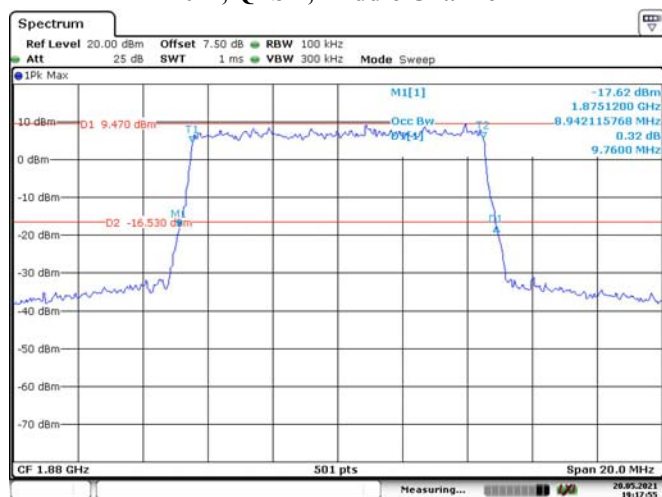
Date: 20.MAY.2021 19:16:56

## 10M, 16QAM, Low Channel



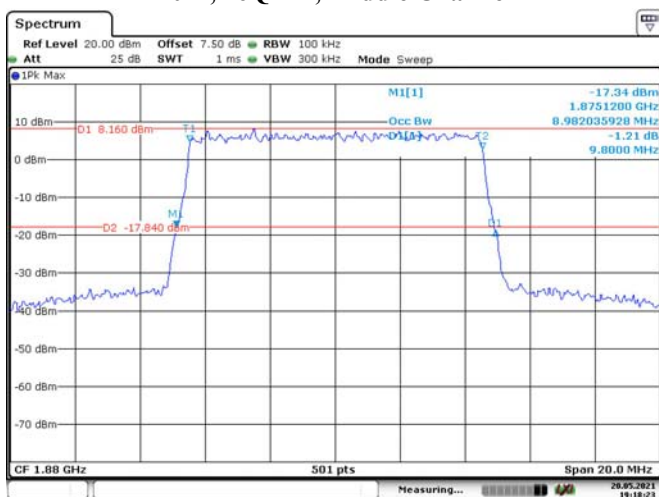
Date: 20.MAY.2021 19:17:26

## 10M, QPSK, Middle Channel



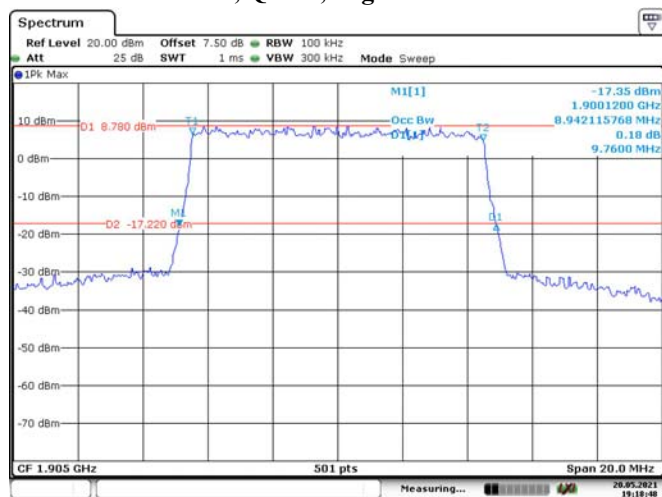
Date: 20.MAY.2021 19:17:55

## 10M, 16QAM, Middle Channel



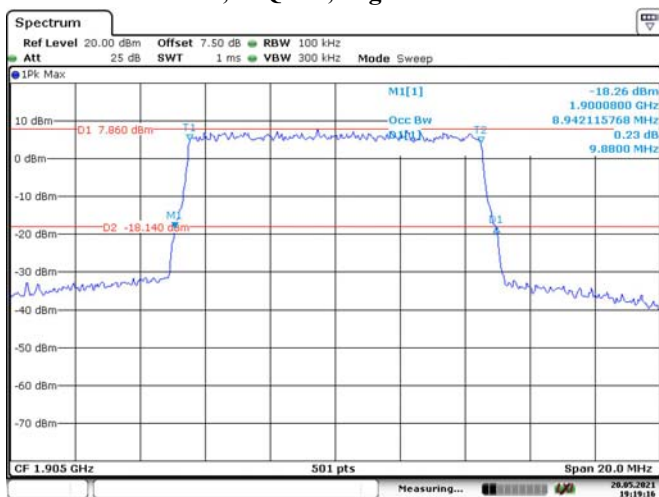
Date: 20.MAY.2021 19:18:23

## 10M, QPSK, High Channel



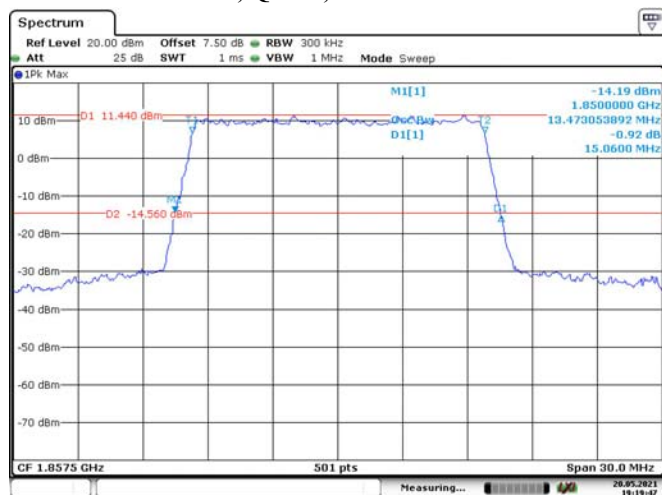
Date: 20.MAY.2021 19:18:48

## 10M, 16QAM, High Channel



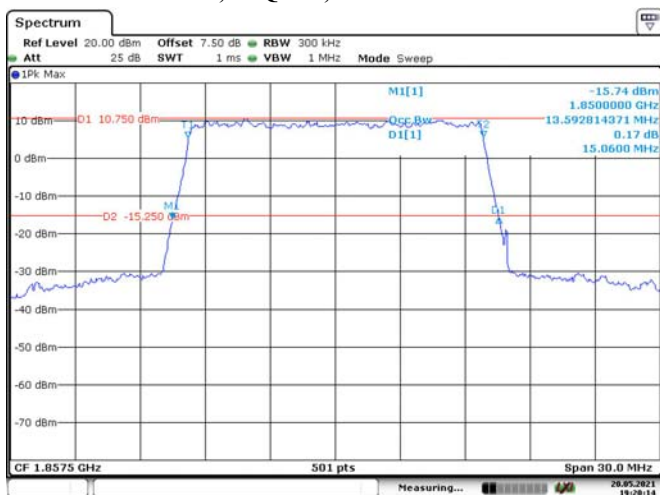
Date: 20.MAY.2021 19:19:16

## 15M, QPSK, Low Channel



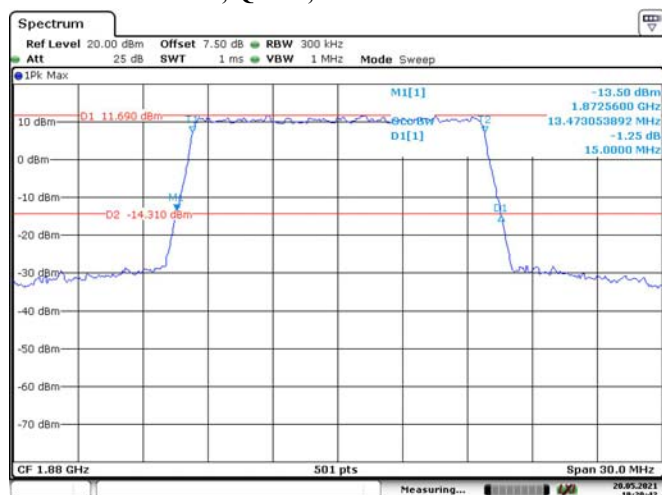
Date: 20.MAY.2021 19:19:47

## 15M, 16QAM, Low Channel



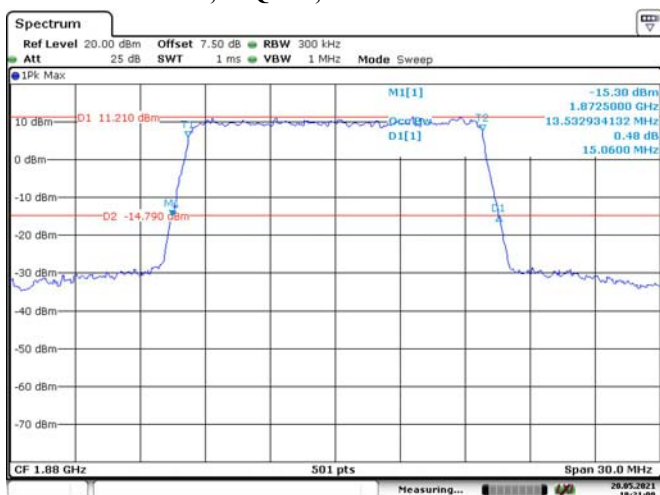
Date: 20.MAY.2021 19:20:14

## 15M, QPSK, Middle Channel



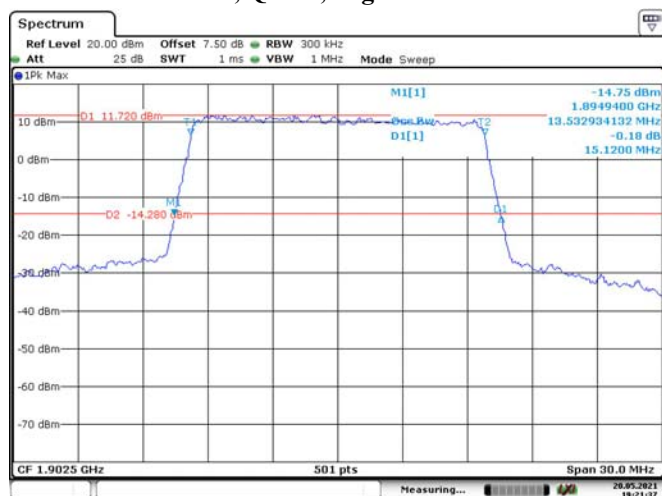
Date: 20.MAY.2021 19:20:42

## 15M, 16QAM, Middle Channel



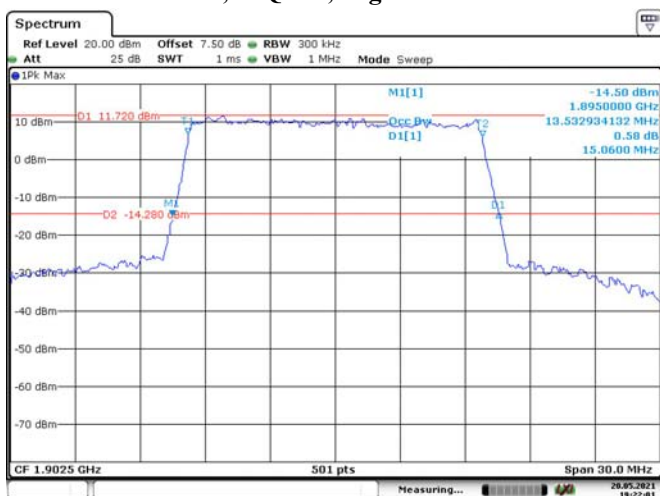
Date: 20.MAY.2021 19:21:09

## 15M, QPSK, High Channel



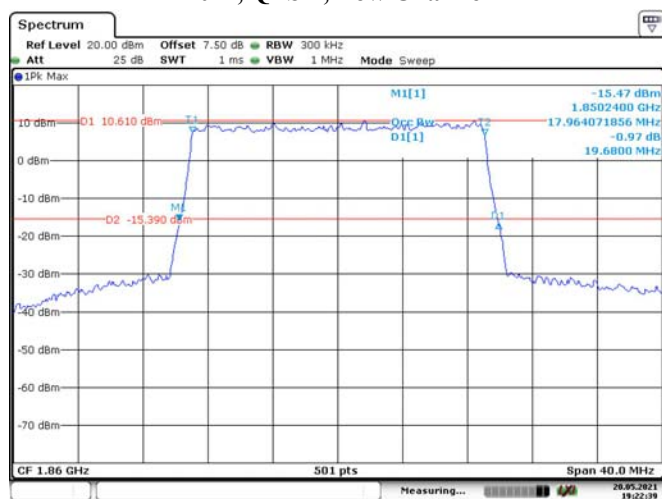
Date: 20.MAY.2021 19:21:37

## 15M, 16QAM, High Channel



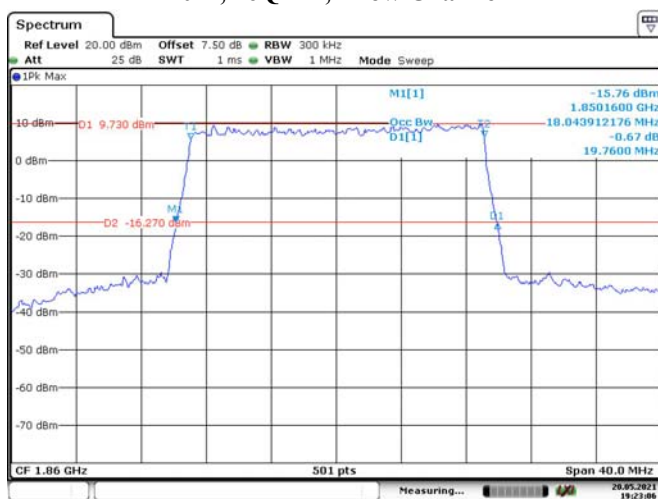
Date: 20.MAY.2021 19:22:01

## 20M, QPSK, Low Channel



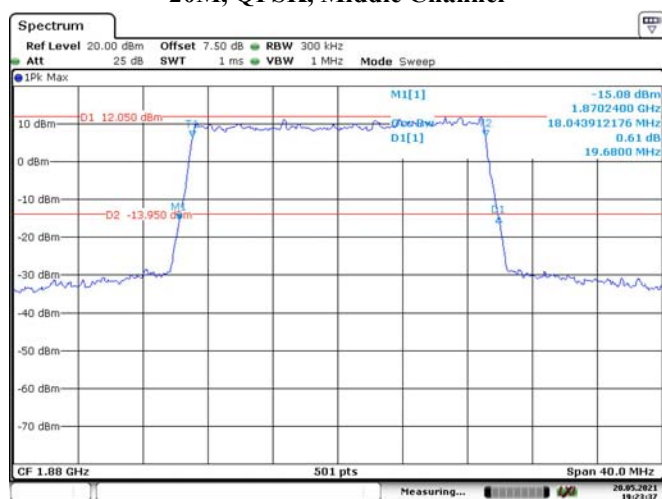
Date: 20.MAY.2021 19:22:39

## 20M, 16QAM, Low Channel



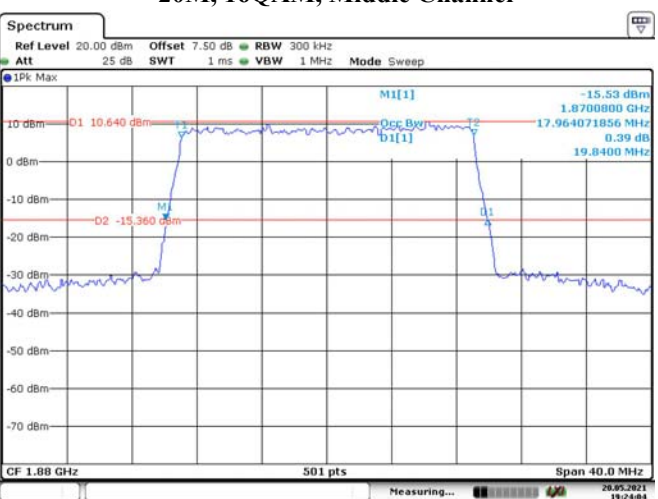
Date: 20.MAY.2021 19:23:06

## 20M, QPSK, Middle Channel



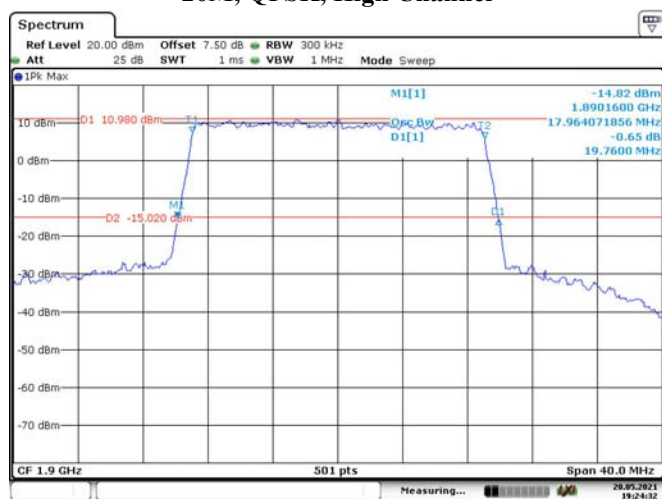
Date: 20.MAY.2021 19:23:37

## 20M, 16QAM, Middle Channel



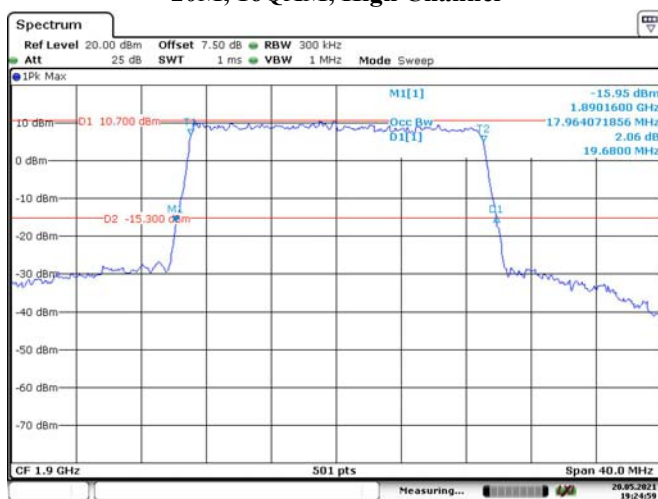
Date: 20.MAY.2021 19:24:04

## 20M, QPSK, High Channel



Date: 20.MAY.2021 19:24:32

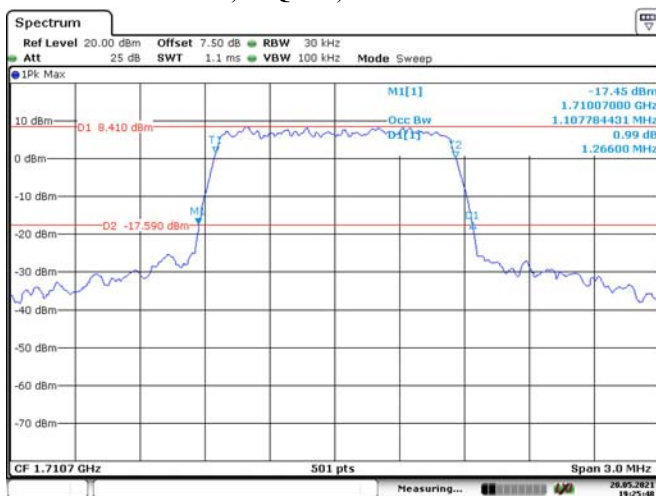
## 20M, 16QAM, High Channel



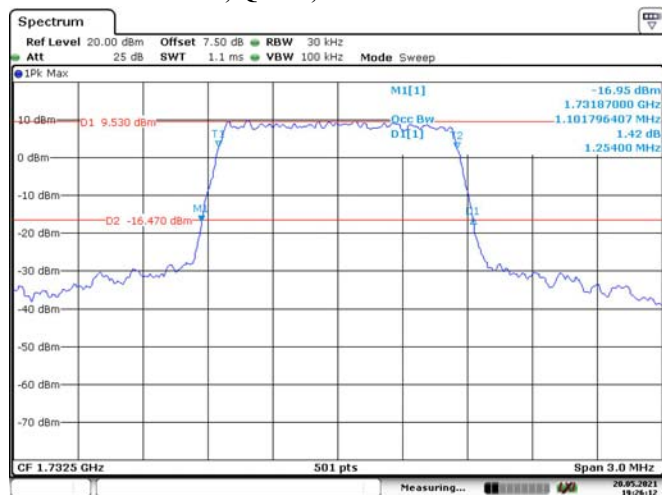
Date: 20.MAY.2021 19:24:58

**LTE Band 4:****1.4M, QPSK, Low Channel**

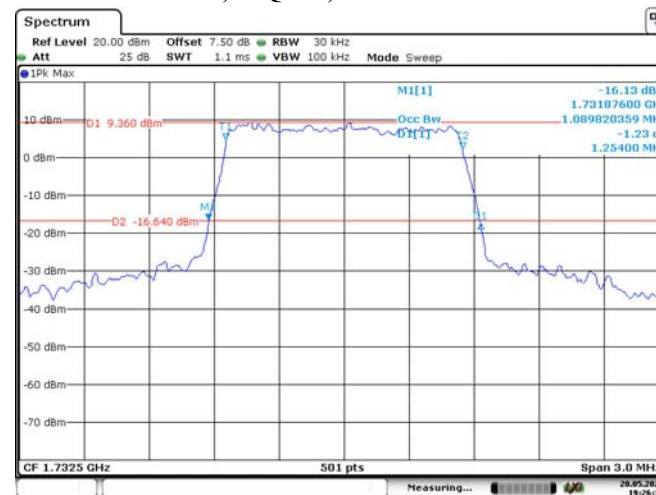
Date: 20.MAY.2021 19:25:24

**1.4M, 16QAM, Low Channel**

Date: 20.MAY.2021 19:25:48

**1.4M, QPSK, Middle Channel**

Date: 20.MAY.2021 19:26:12

**1.4M, 16QAM, Middle Channel**

Date: 20.MAY.2021 19:26:39

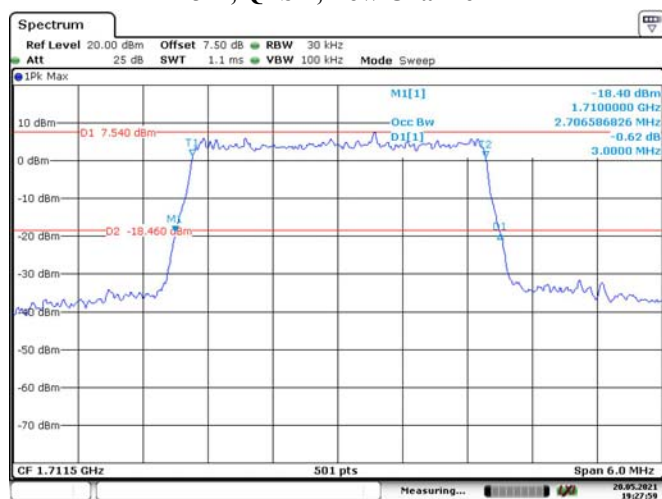
**1.4M, QPSK, High Channel**

Date: 20.MAY.2021 19:27:00

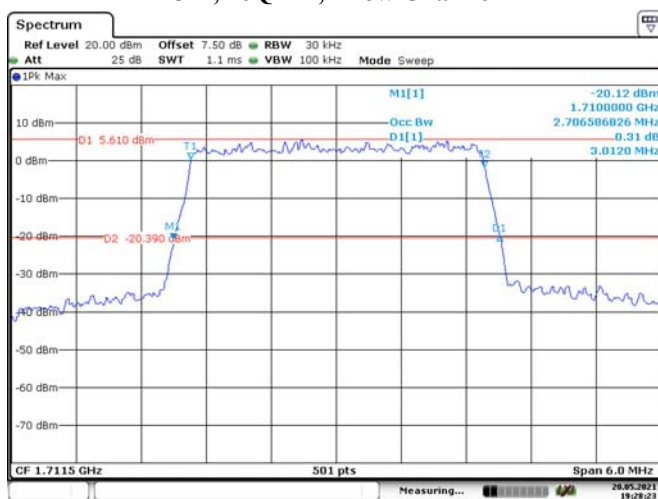
**1.4M, 16QAM, High Channel**

Date: 20.MAY.2021 19:27:24

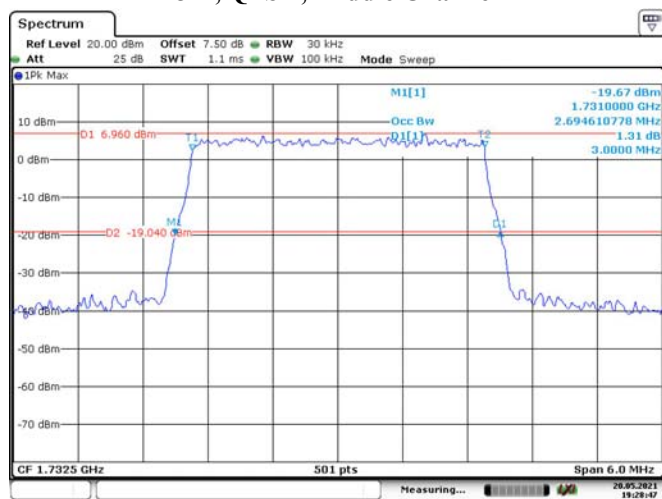
## 3M, QPSK, Low Channel



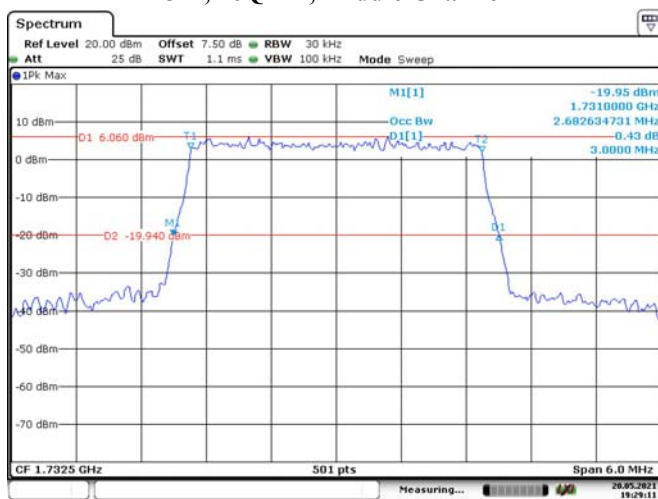
## 3M, 16QAM, Low Channel



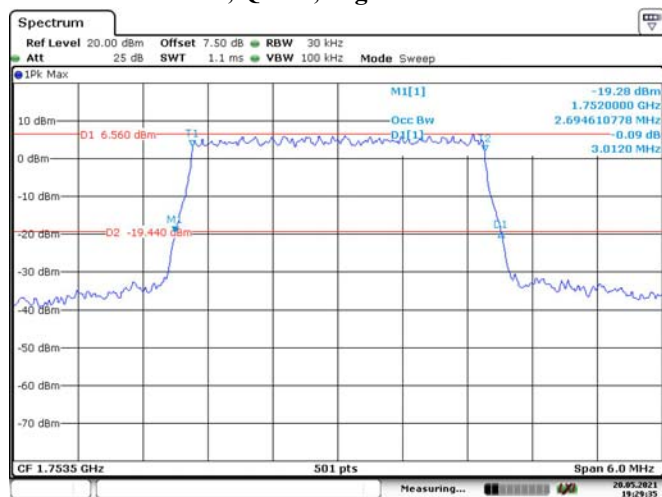
## 3M, QPSK, Middle Channel



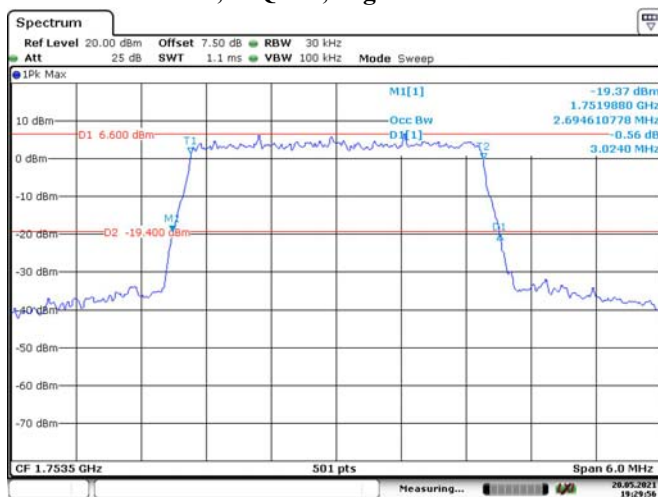
## 3M, 16QAM, Middle Channel



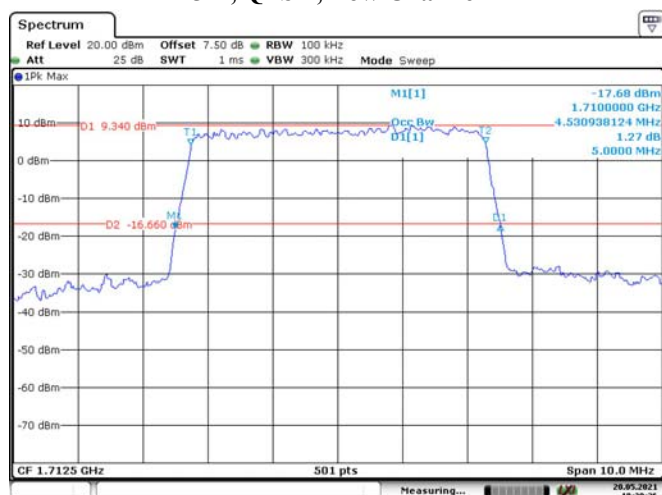
## 3M, QPSK, High Channel



## 3M, 16QAM, High Channel

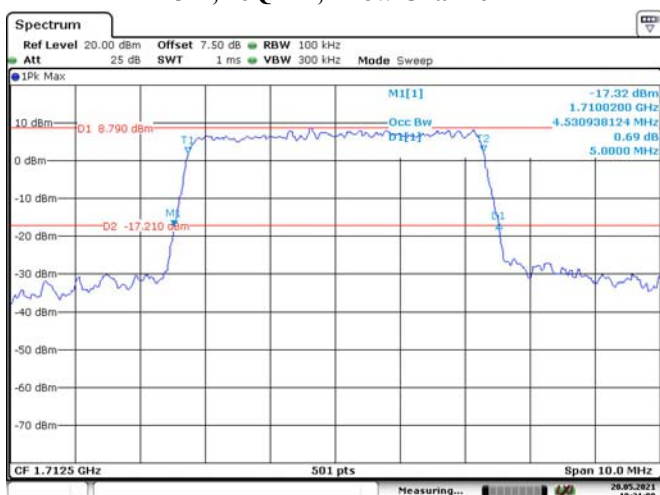


## 5M, QPSK, Low Channel



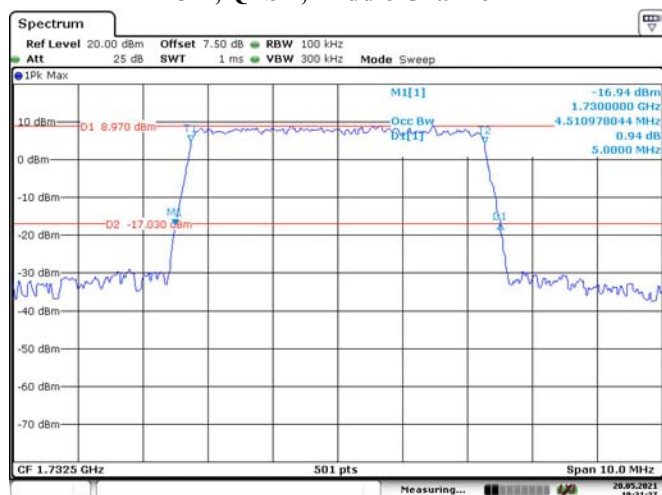
Date: 20.MAY.2021 19:30:36

## 5M, 16QAM, Low Channel



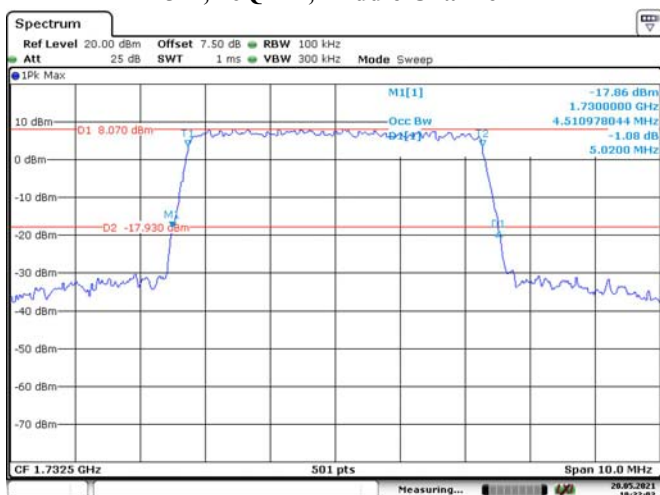
Date: 20.MAY.2021 19:31:09

## 5M, QPSK, Middle Channel



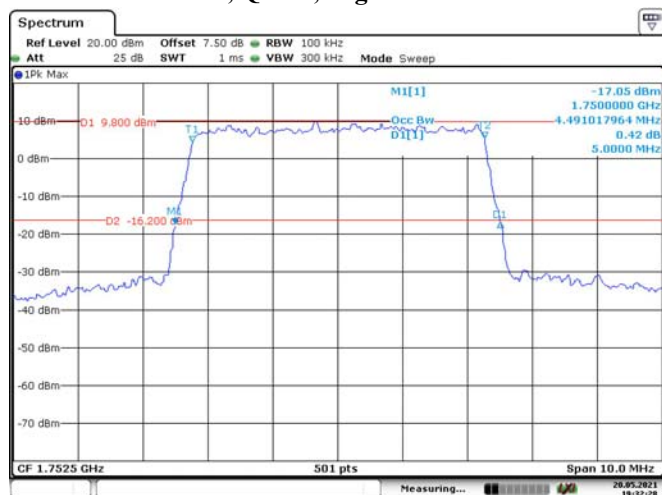
Date: 20.MAY.2021 19:31:37

## 5M, 16QAM, Middle Channel



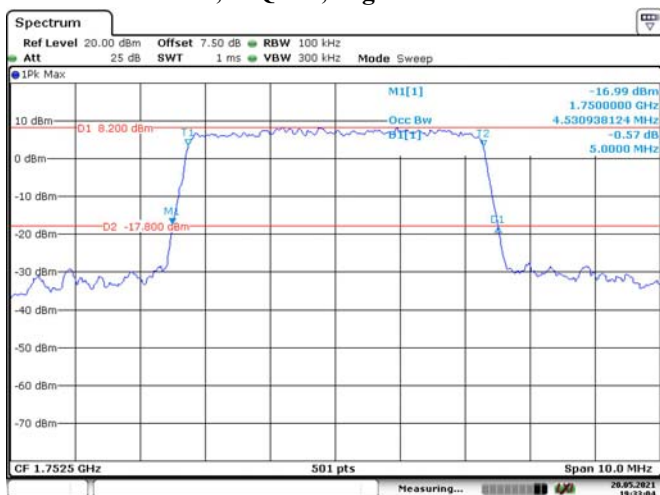
Date: 20.MAY.2021 19:32:03

## 5M, QPSK, High Channel



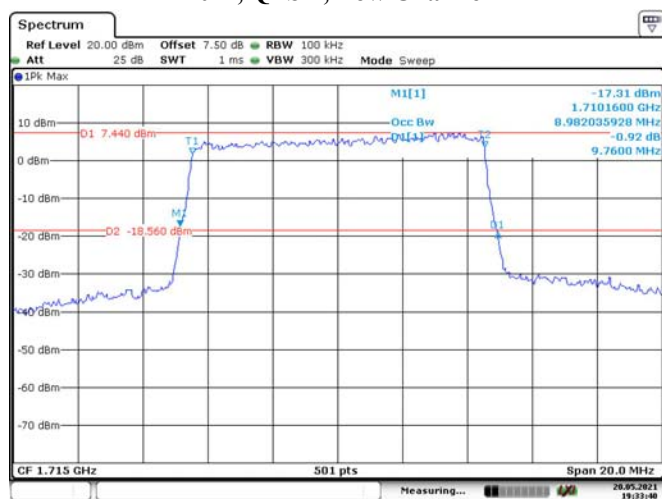
Date: 20.MAY.2021 19:32:28

## 5M, 16QAM, High Channel

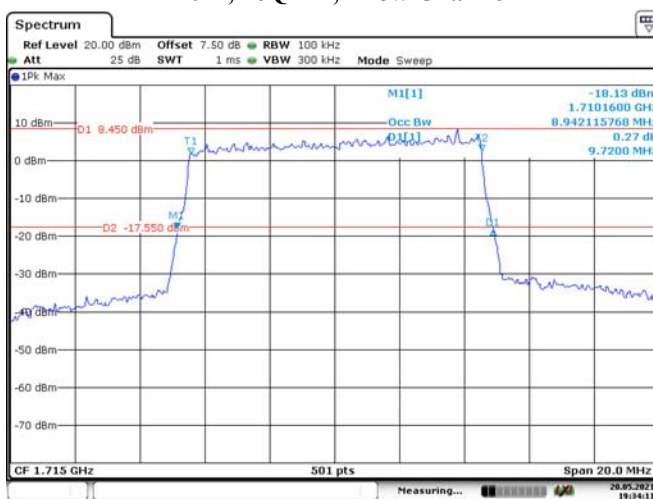


Date: 20.MAY.2021 19:33:04

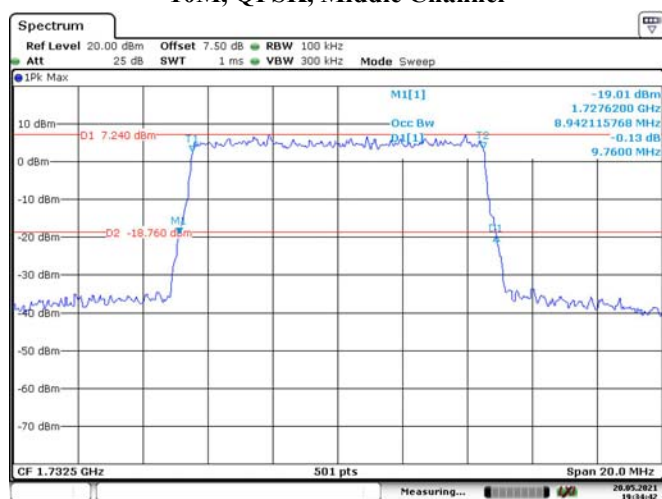
## 10M, QPSK, Low Channel



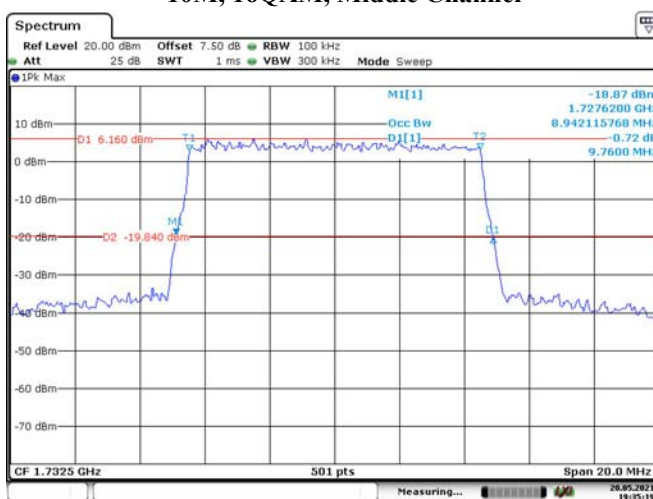
## 10M, 16QAM, Low Channel



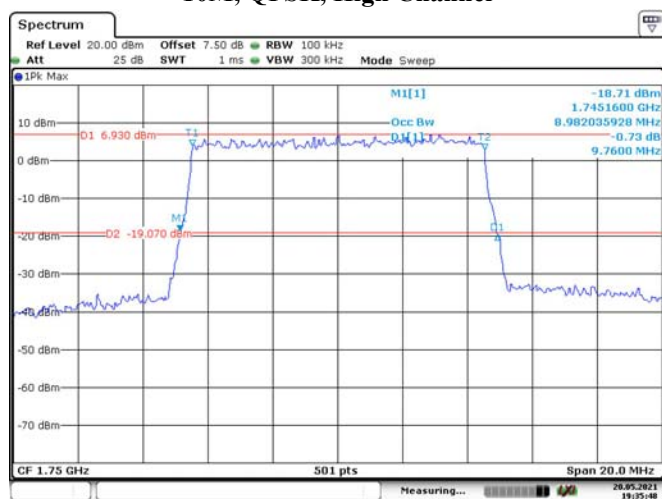
## 10M, QPSK, Middle Channel



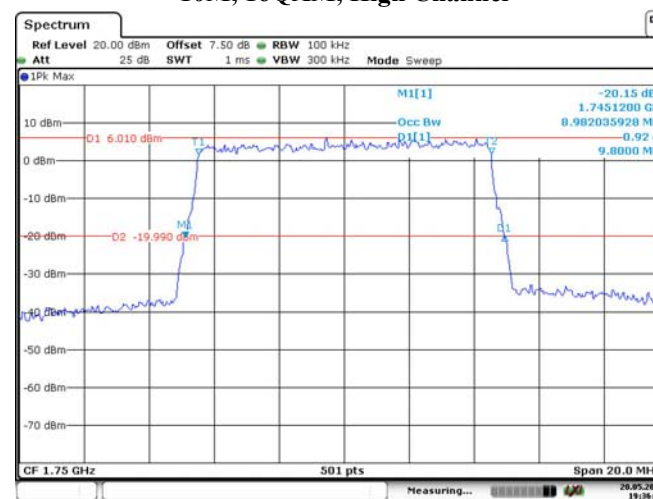
## 10M, 16QAM, Middle Channel



## 10M, QPSK, High Channel



## 10M, 16QAM, High Channel

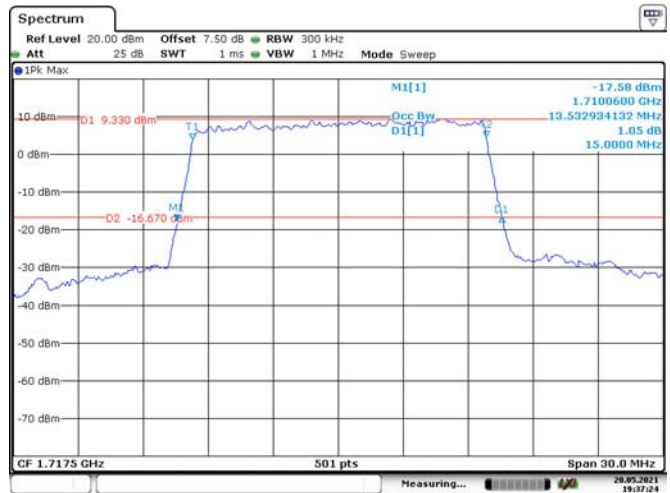


## 15M, QPSK, Low Channel



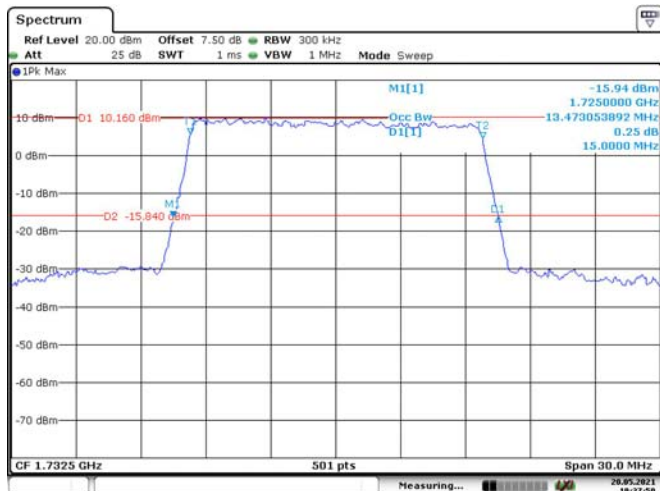
Date: 20.MAY.2021 19:36:54

## 15M, 16QAM, Low Channel



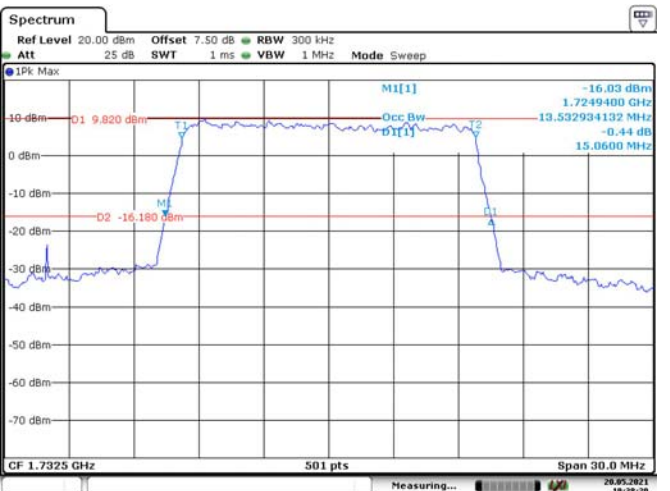
Date: 20.MAY.2021 19:37:24

## 15M, QPSK, Middle Channel



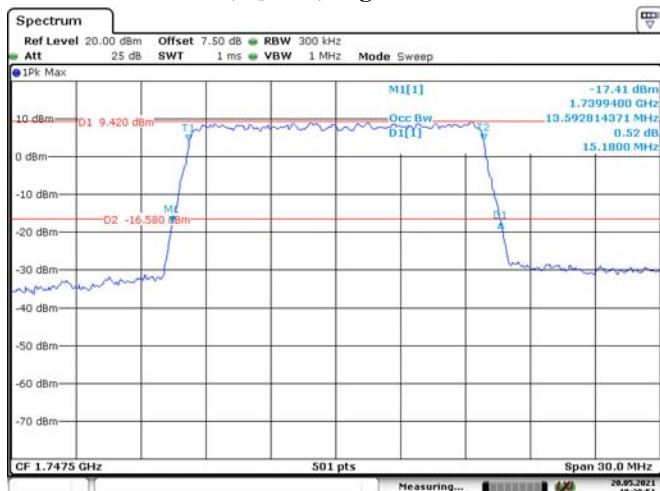
Date: 20.MAY.2021 19:37:50

## 15M, 16QAM, Middle Channel



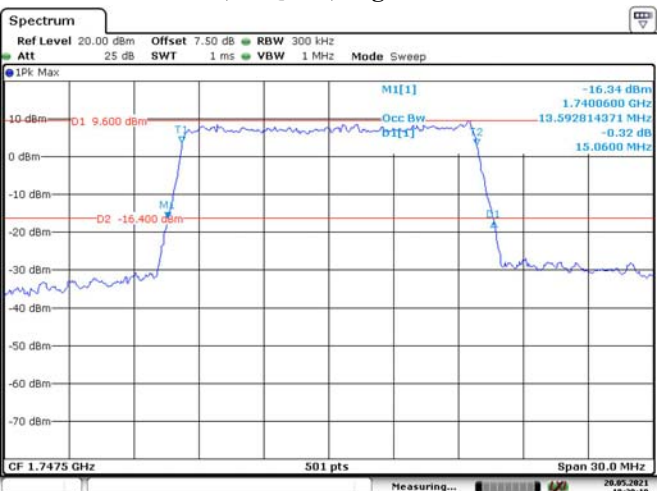
Date: 20.MAY.2021 19:38:20

## 15M, QPSK, High Channel



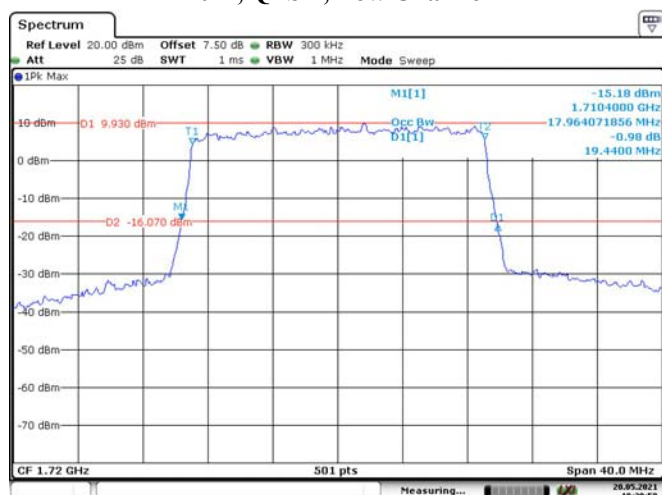
Date: 20.MAY.2021 19:38:51

## 15M, 16QAM, High Channel

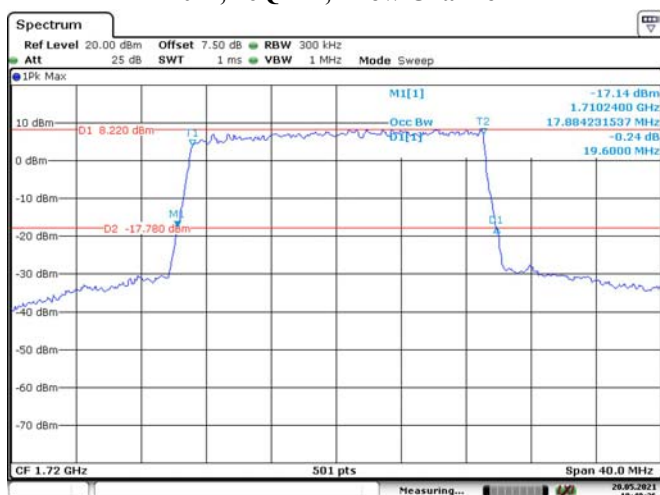


Date: 20.MAY.2021 19:39:18

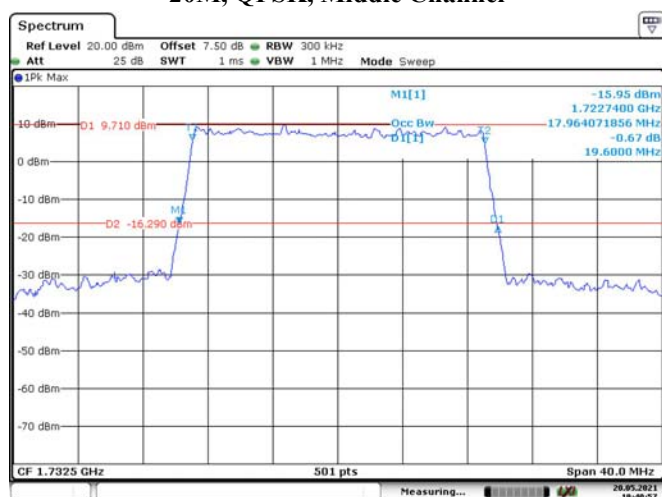
## 20M, QPSK, Low Channel



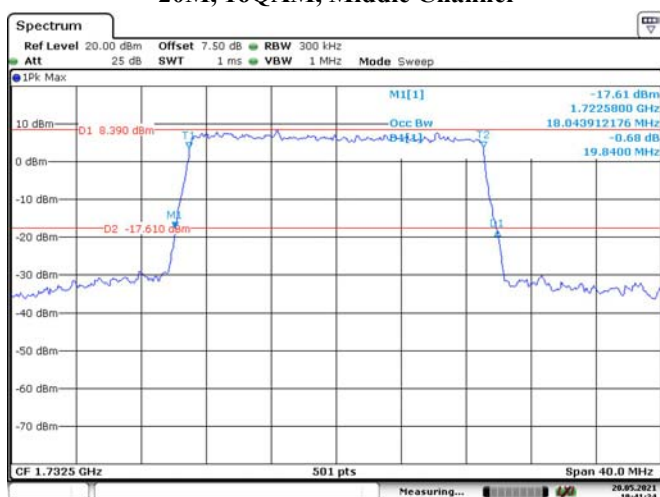
## 20M, 16QAM, Low Channel



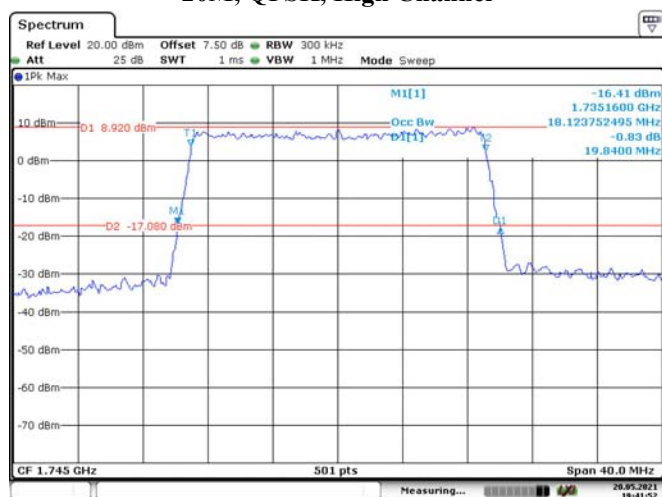
## 20M, QPSK, Middle Channel



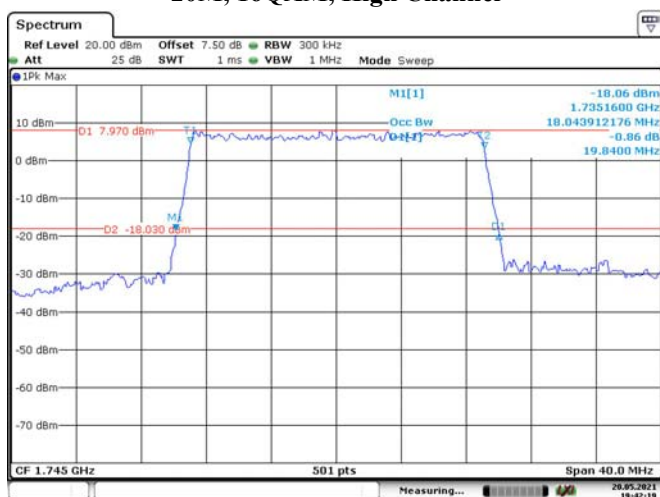
## 20M, 16QAM, Middle Channel

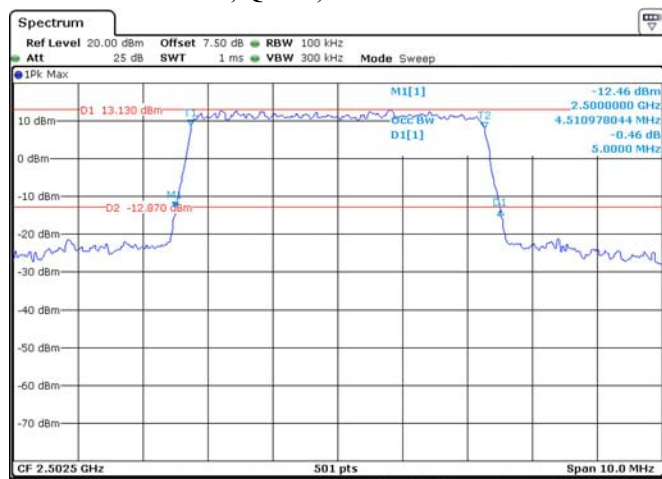
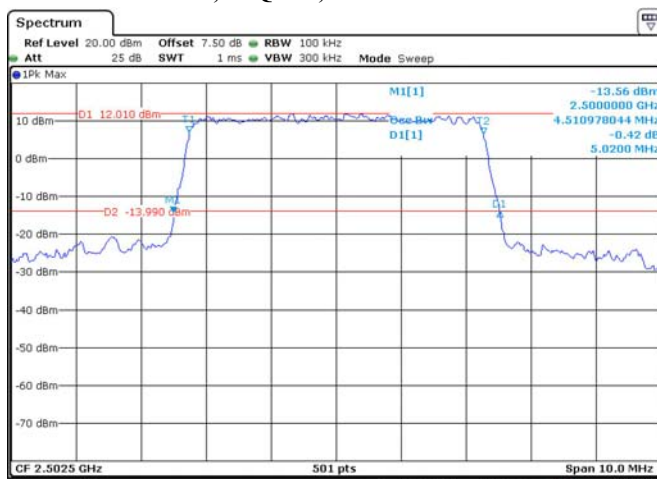
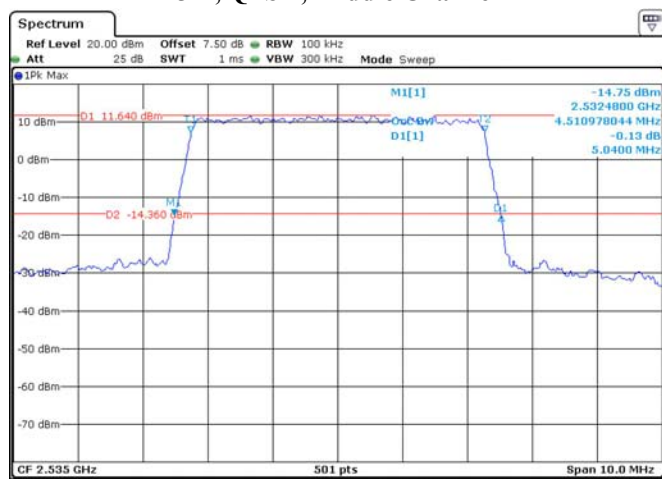
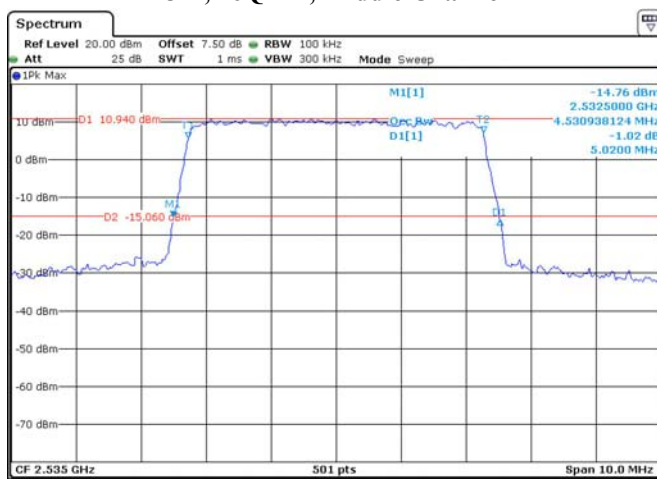
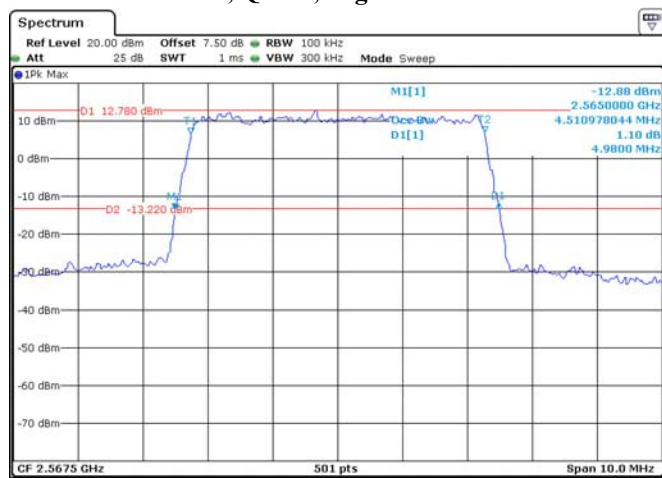
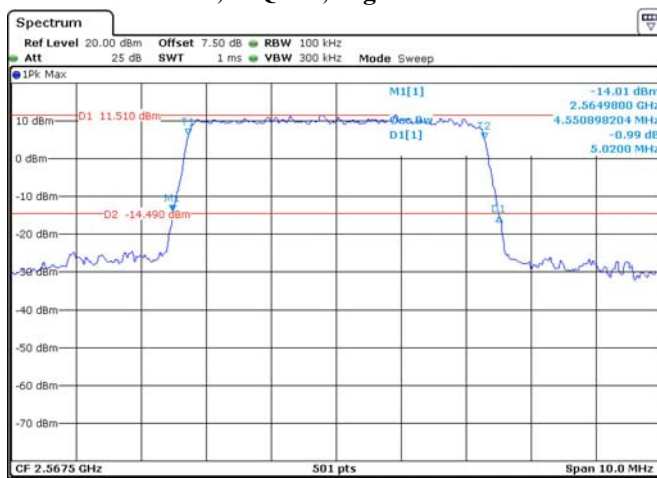


## 20M, QPSK, High Channel

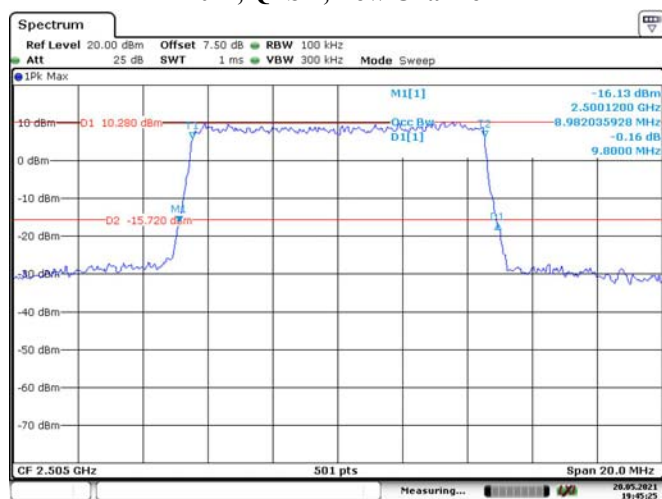


## 20M, 16QAM, High Channel



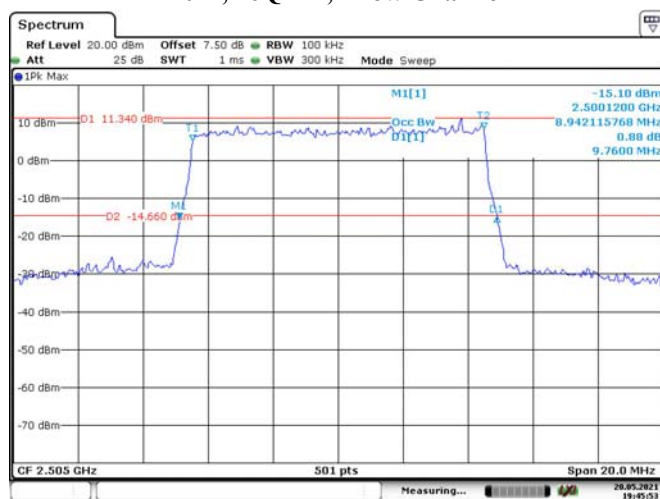
**LTE Band 7:****5M, QPSK, Low Channel****5M, 16QAM, Low Channel****5M, QPSK, Middle Channel****5M, 16QAM, Middle Channel****5M, QPSK, High Channel****5M, 16QAM, High Channel**

## 10M, QPSK, Low Channel



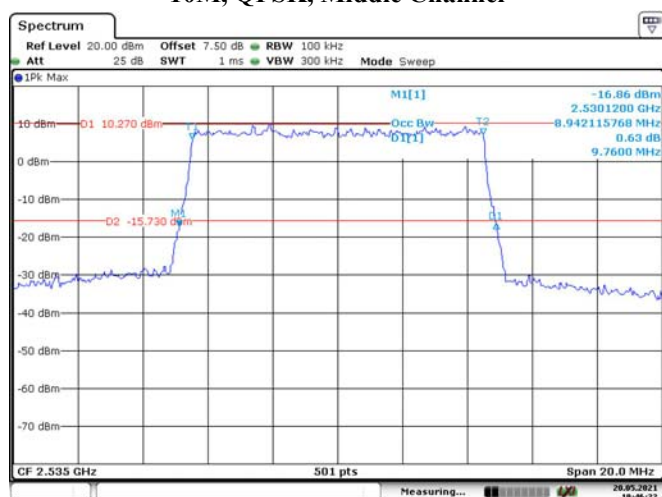
Date: 20.MAY.2021 19:45:25

## 10M, 16QAM, Low Channel



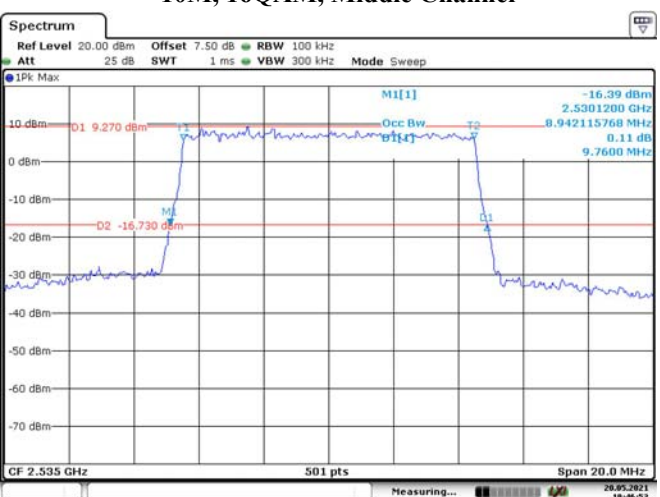
Date: 20.MAY.2021 19:45:53

## 10M, QPSK, Middle Channel



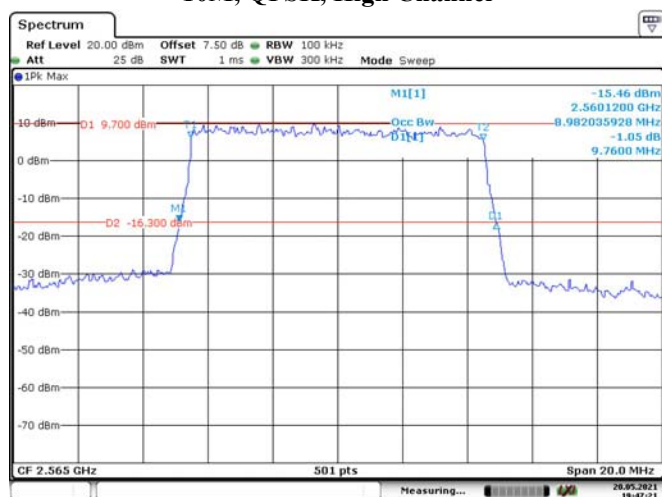
Date: 20.MAY.2021 19:46:22

## 10M, 16QAM, Middle Channel



Date: 20.MAY.2021 19:46:53

## 10M, QPSK, High Channel



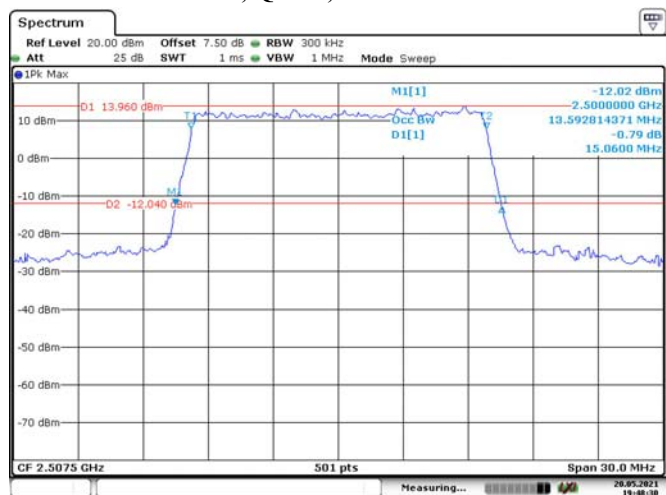
Date: 20.MAY.2021 19:47:21

## 10M, 16QAM, High Channel



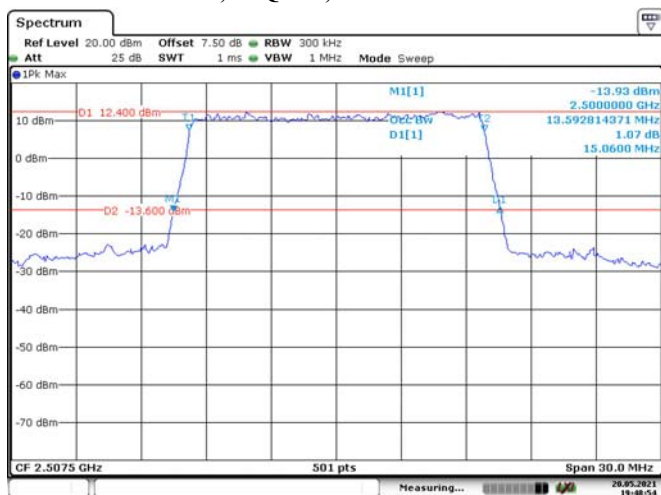
Date: 20.MAY.2021 19:47:58

## 15M, QPSK, Low Channel



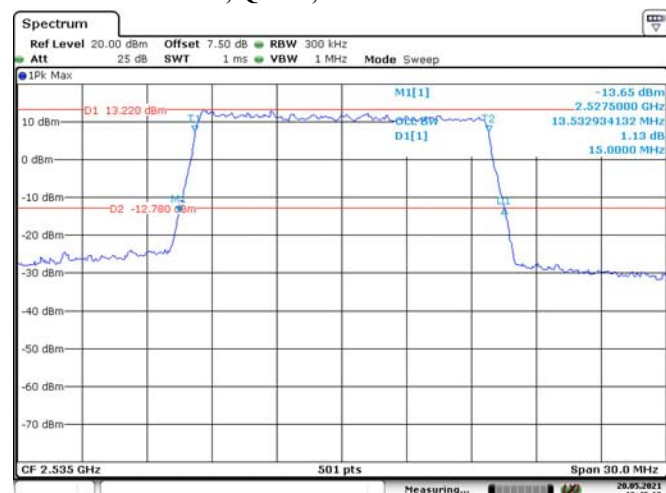
Date: 20.MAY.2021 19:48:30

## 15M, 16QAM, Low Channel



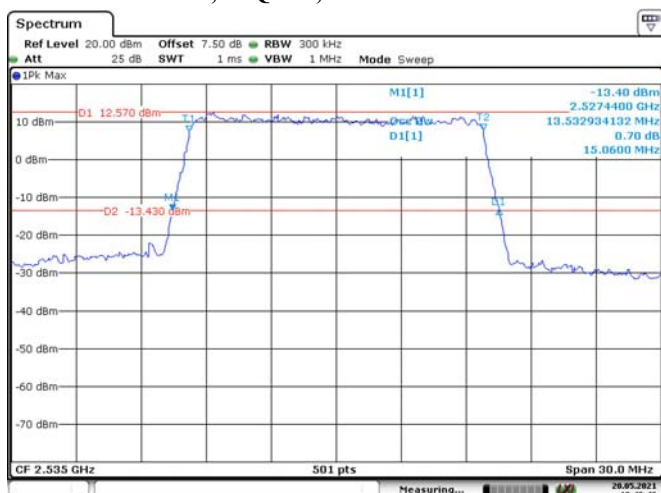
Date: 20.MAY.2021 19:48:54

## 15M, QPSK, Middle Channel



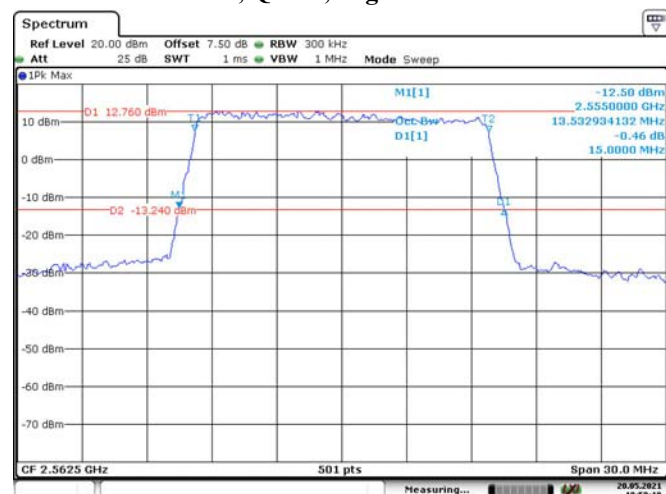
Date: 20.MAY.2021 19:49:19

## 15M, 16QAM, Middle Channel



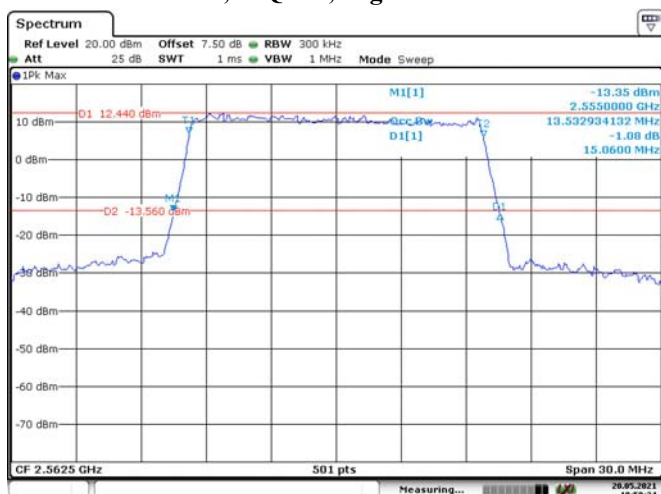
Date: 20.MAY.2021 19:49:43

## 15M, QPSK, High Channel



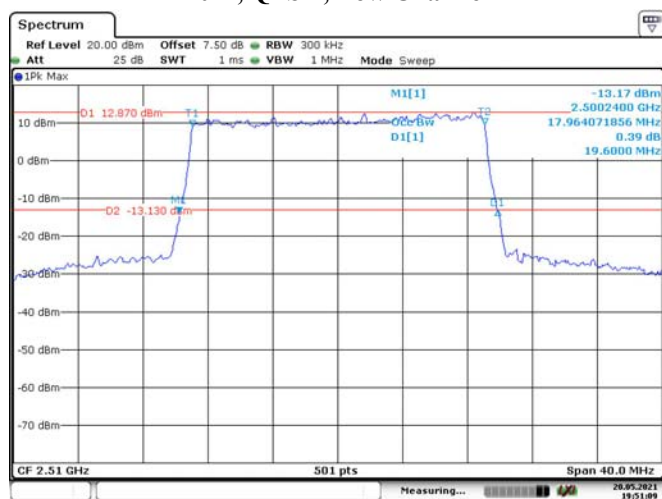
Date: 20.MAY.2021 19:50:10

## 15M, 16QAM, High Channel

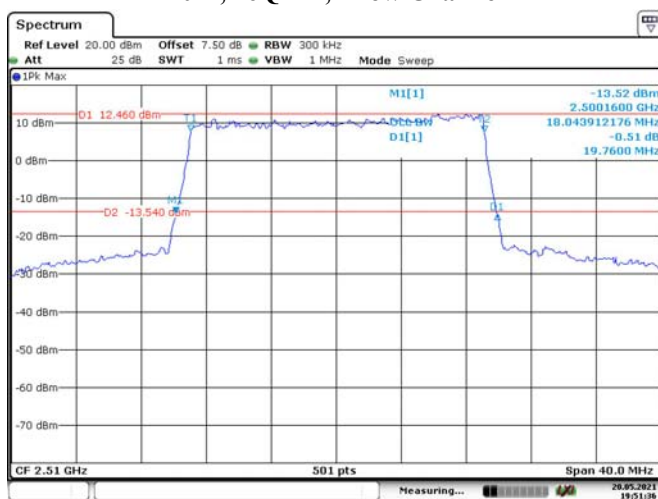


Date: 20.MAY.2021 19:50:34

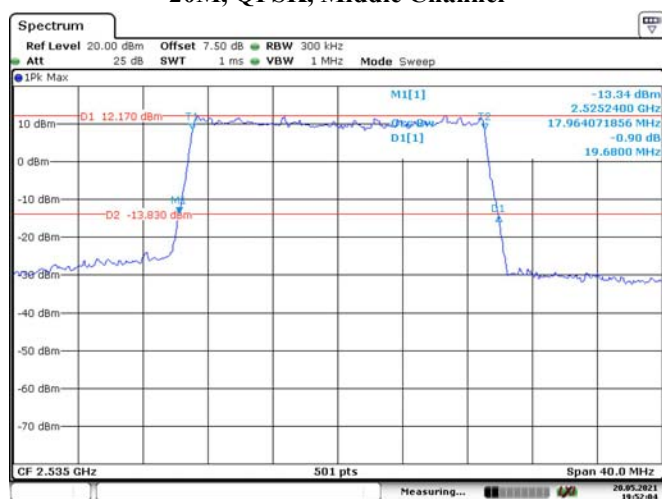
## 20M, QPSK, Low Channel



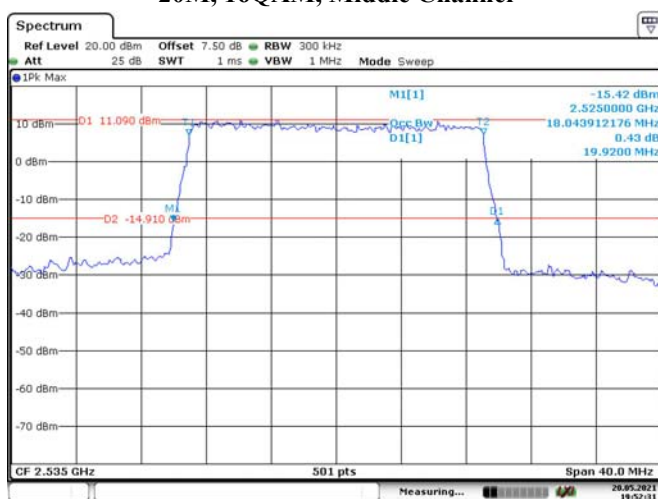
## 20M, 16QAM, Low Channel



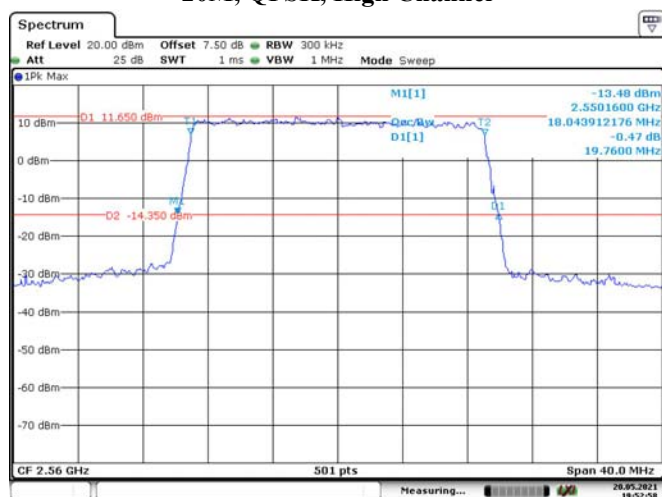
## 20M, QPSK, Middle Channel



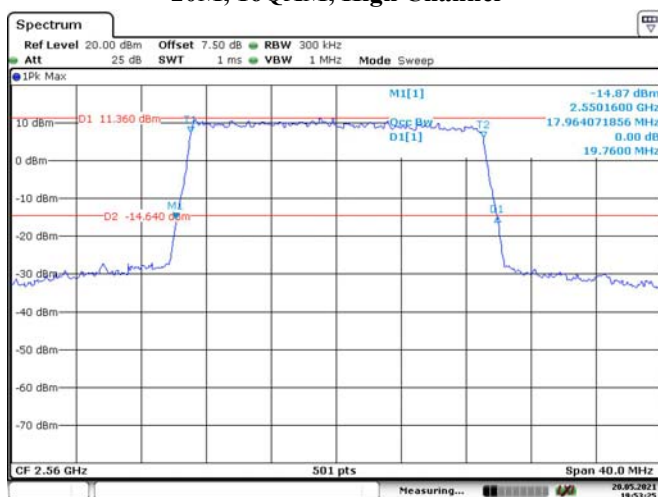
## 20M, 16QAM, Middle Channel

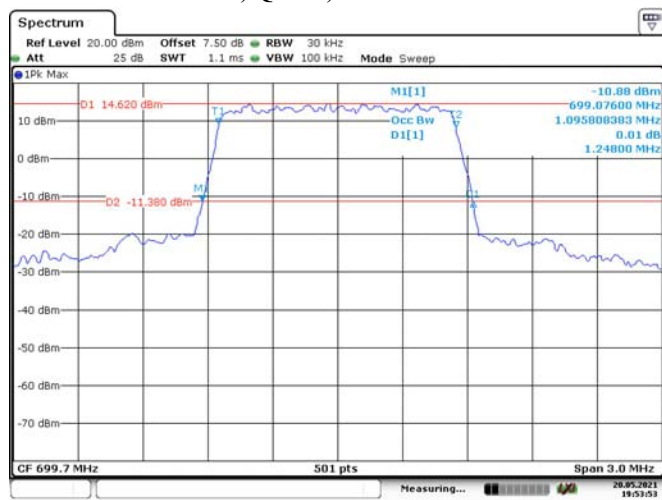
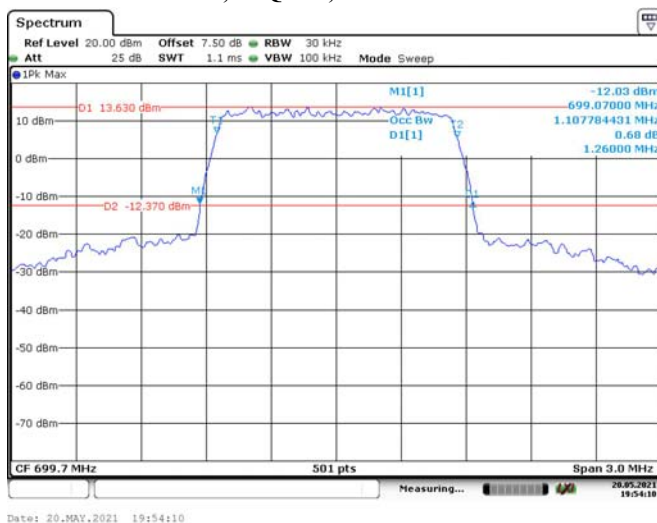
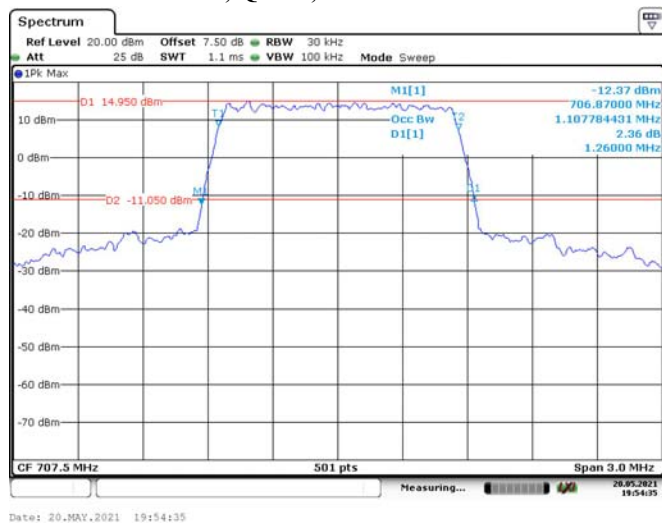
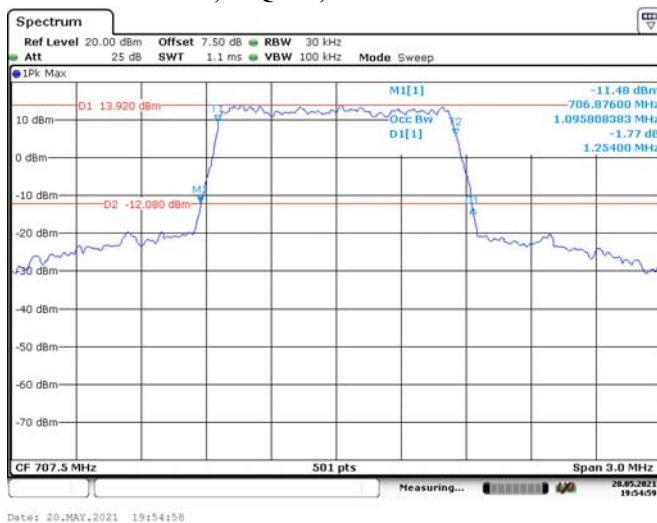
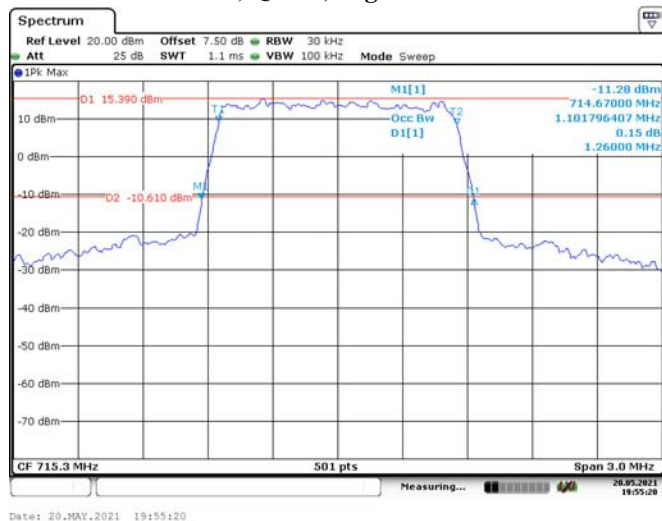
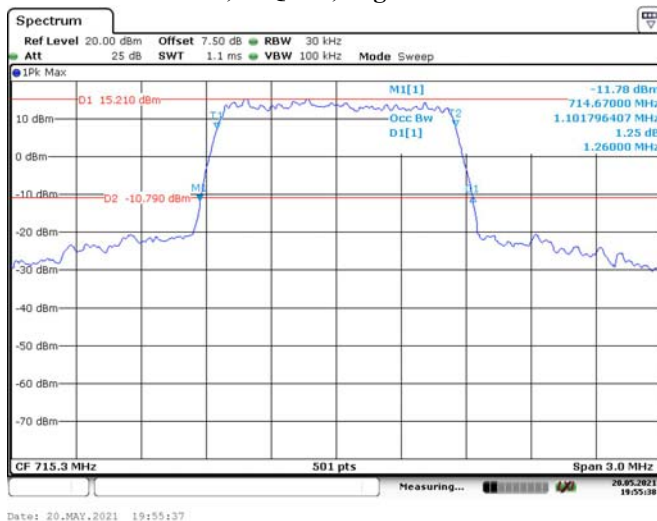


## 20M, QPSK, High Channel

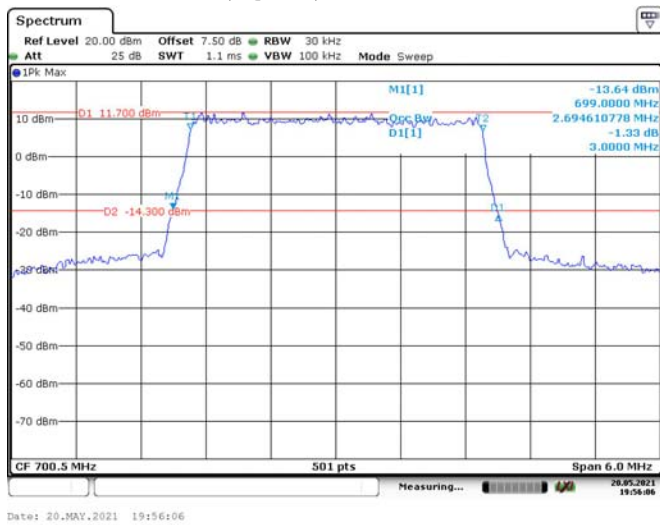


## 20M, 16QAM, High Channel

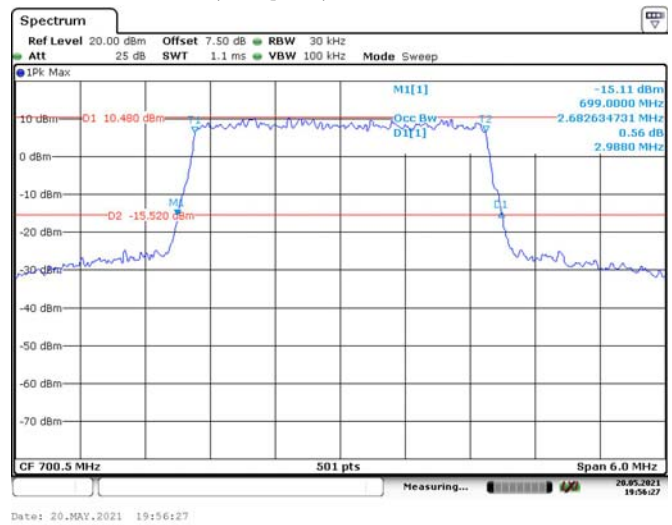


**LTE Band 12:****1.4M, QPSK, Low Channel****1.4M, 16QAM, Low Channel****1.4M, QPSK, Middle Channel****1.4M, 16QAM, Middle Channel****1.4M, QPSK, High Channel****1.4M, 16QAM, High Channel**

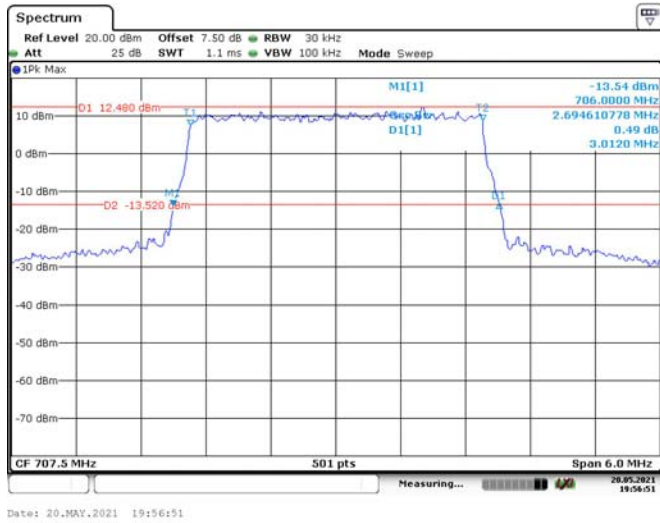
## 3M, QPSK, Low Channel



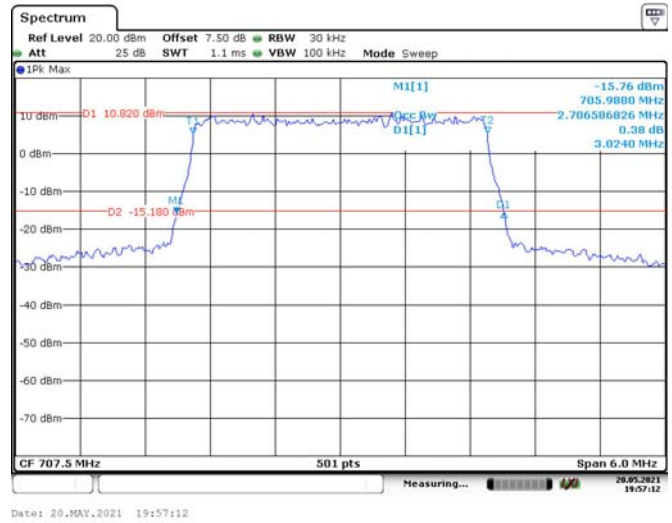
## 3M, 16QAM, Low Channel



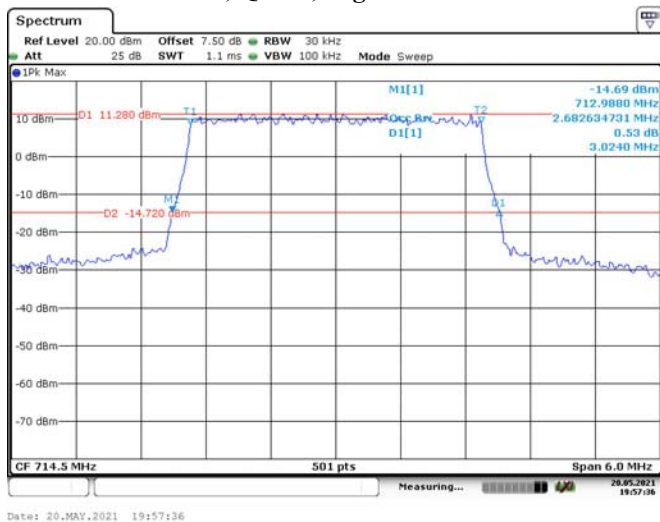
## 3M, QPSK, Middle Channel



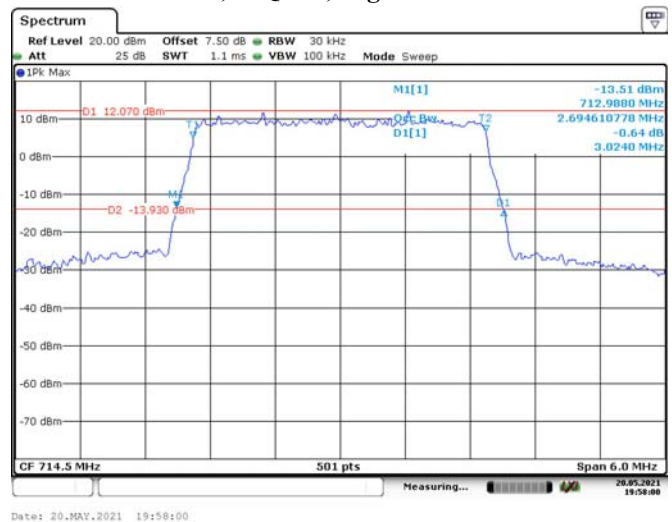
## 3M, 16QAM, Middle Channel



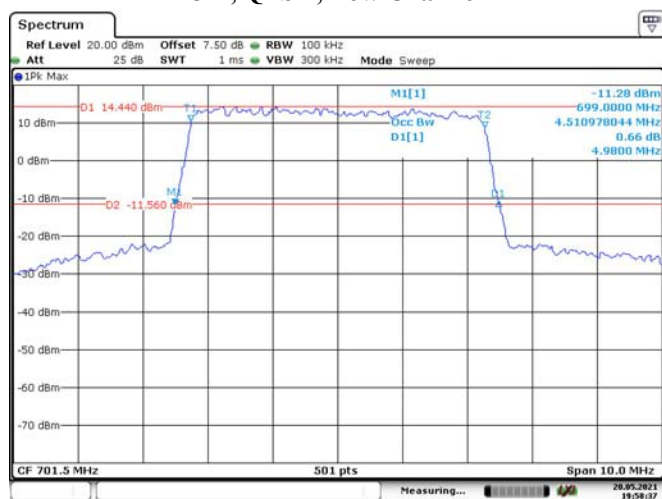
## 3M, QPSK, High Channel



## 3M, 16QAM, High Channel

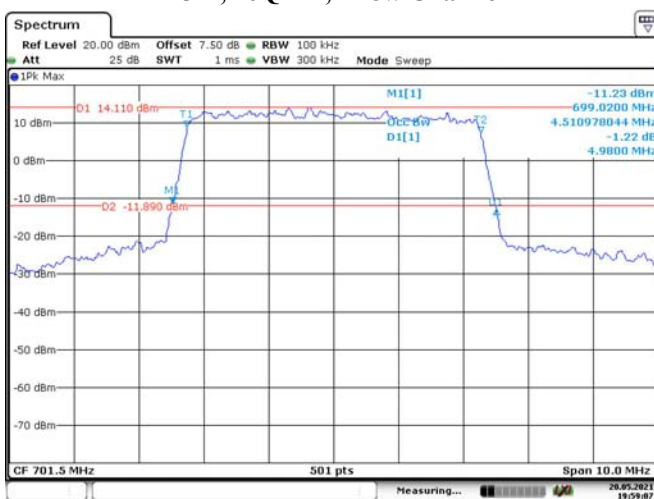


## 5M, QPSK, Low Channel



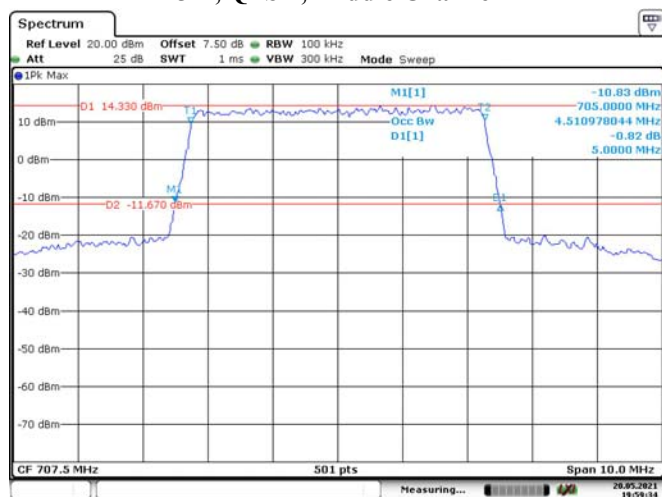
Date: 20.MAY.2021 19:58:37

## 5M, 16QAM, Low Channel



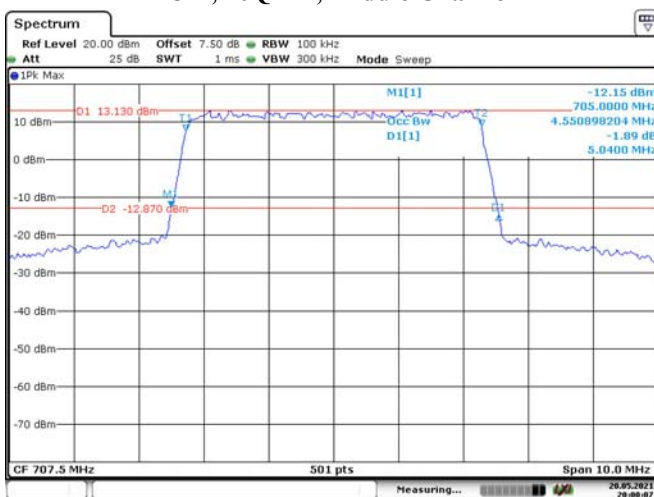
Date: 20.MAY.2021 19:59:07

## 5M, QPSK, Middle Channel



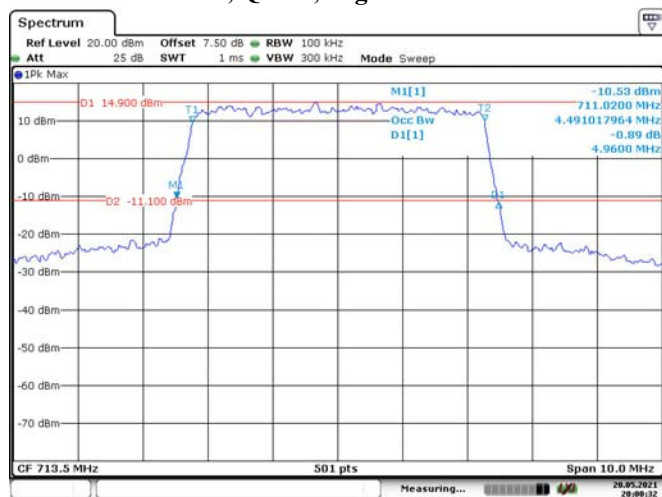
Date: 20.MAY.2021 19:59:34

## 5M, 16QAM, Middle Channel



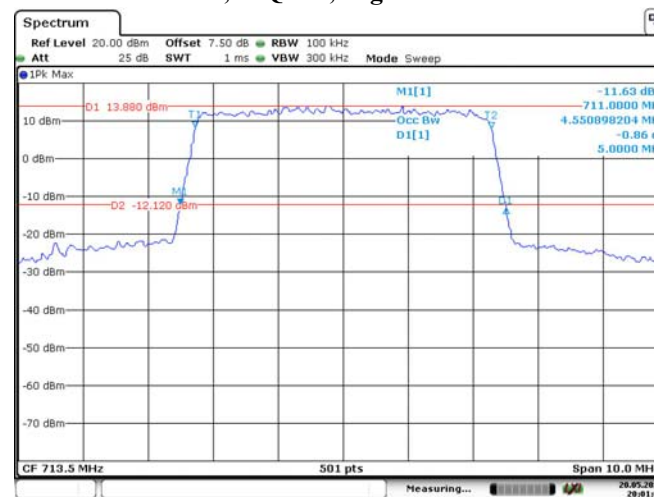
Date: 20.MAY.2021 20:00:07

## 5M, QPSK, High Channel



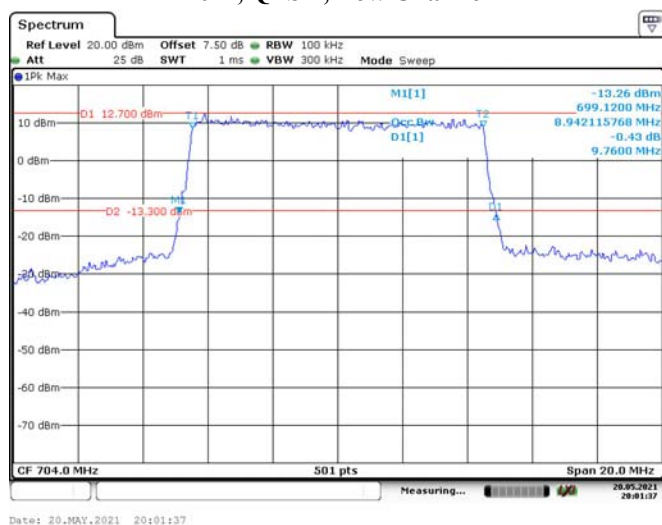
Date: 20.MAY.2021 20:00:32

## 5M, 16QAM, High Channel

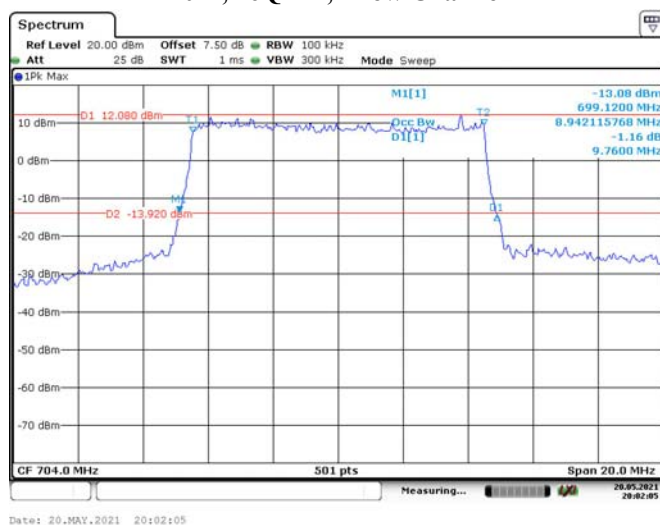


Date: 20.MAY.2021 20:01:01

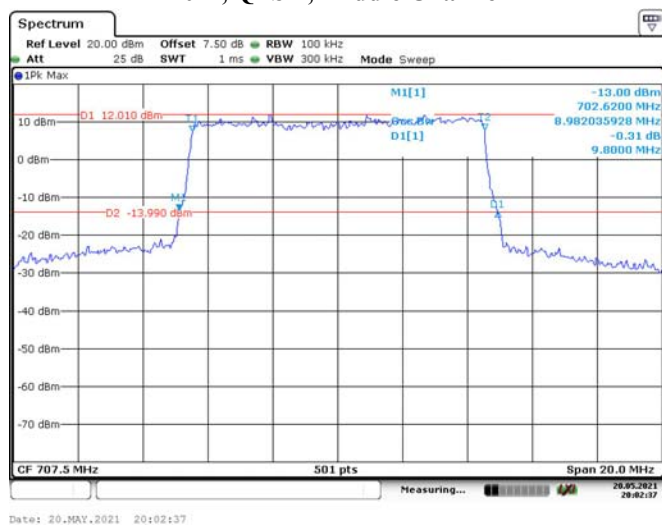
### 10M, QPSK, Low Channel



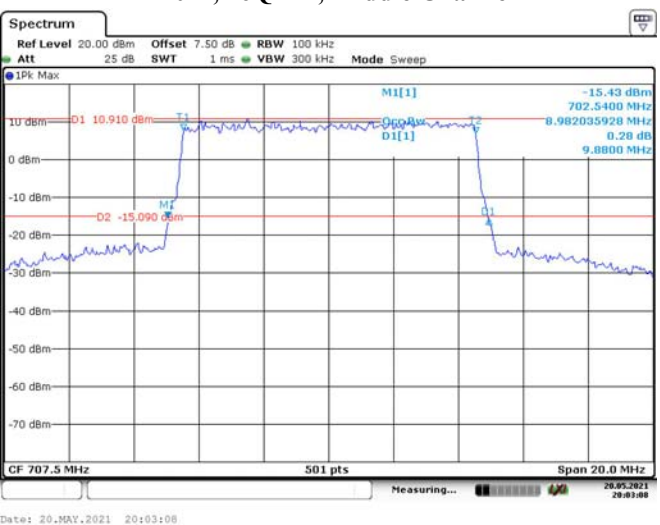
### 10M, 16QAM, Low Channel



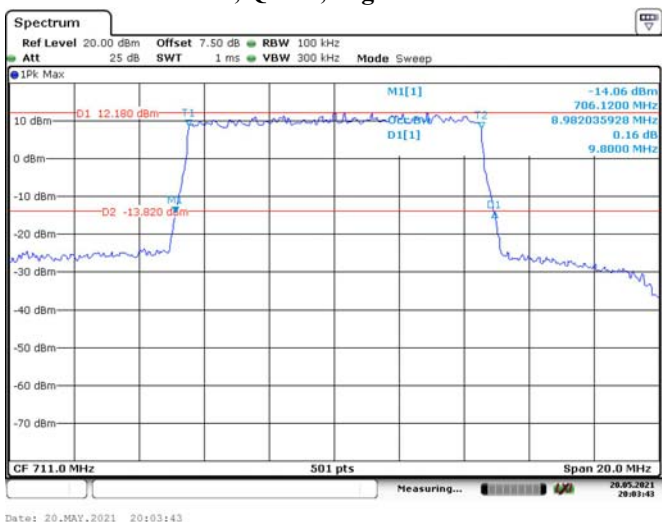
### 10M, QPSK, Middle Channel



### 10M, 16QAM, Middle Channel



### 10M, QPSK, High Channel



### 10M, 16QAM, High Channel

